



# SAR TEST REPORT

**Applicant** Huawei Technologies Co., Ltd.  
**FCC ID** QISLIO-LX9  
**Product** Smart Phone  
**Model** LIO-L29, LIO-L09  
**Report No.** R1910H0225-S1V2  
**Issue Date** January 21, 2020

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **IEEE 1528-2013, ANSI C95.1: 1992/IEEE C95.1: 1991**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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# 1 Test Laboratory

## 1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

## 1.2 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.  
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## 1.3 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

## 2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for the EUT are as follows:

Table 1: Highest Reported SAR

Mode	Highest Reported SAR (W/kg)			
	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	Product Specific 10-g SAR (Separation 0mm)
GSM 850	0.54	0.36	0.49	N/A
GSM 1900	<b>0.75</b>	0.27	0.27	N/A
WCDMA Band II	0.68	0.63	0.81	2.32
WCDMA Band IV	0.70	0.62	0.76	1.86
WCDMA Band V	0.74	0.55	0.51	N/A
LTE FDD 2	0.73	0.57	0.76	<b>2.56</b>
LTE FDD 4	0.67	0.68	0.87	2.13
LTE FDD 5	0.61	0.57	0.54	N/A
LTE FDD 7	0.69	<b>0.94</b>	<b>0.97</b>	2.45
LTE FDD 12	0.60	0.31	0.31	N/A
LTE FDD 26	0.59	0.53	0.53	N/A
LTE TDD 41	0.56	0.53	0.60	2.52
Wi-Fi (2.4G)	0.63	0.20	0.72	N/A
Wi-Fi (5G)	0.65	0.15	0.27	1.16
Bluetooth	0.32	0.19	0.40	N/A
Date of Testing:	July 19, 2019~ August 11, 2019			

Note: 1) The highest Reported SAR for head, body-worn, hotspot, Product Specific 10-g SAR and simultaneous transmission exposure conditions are 0.75 W/kg, 0.94 W/kg, 0.97 W/kg, 2.56 W/kg and 1.45 W/kg.

2) Stand-alone SAR evaluation is not required for Bluetooth, more details information see section 10.2

3) For body worn operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and that positions the handset a minimum of 15mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

4) According to TCB workshop October, 2014 RF Exposure Procedures Update (Overlapping LTE Bands):

a) Main and Second Antenna SAR for LTE Band 17 (Frequency range: 704-716 MHz) is covered by



LTE Band 12 (Frequency range 699-716 MHz) due to similar frequency range, same maximum tune up limit and same channel bandwidth.

Main and Second Antenna SAR for LTE Band 38 (Frequency range: 2570 ~ 2620 MHz) is covered by LTE Band 41 (Frequency range 2496 ~ 2690 MHz) due to similar frequency range, same maximum tune up limit and same channel bandwidth.

The device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits according to the FCC rule § 2.1093, the ANSI C95.1: 1992/IEEE C95.1: 1991, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528-2013.

### 3 Description of Equipment under Test

#### Client Information

<b>Applicant</b>	Huawei Technologies Co., Ltd.
<b>Applicant address</b>	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.China
<b>Manufacturer</b>	Huawei Technologies Co., Ltd.
<b>Manufacturer address</b>	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.China

#### General Technologies

Application Purpose:	Original Grant
EUT Stage:	Identical Prototype
Model:	LIO-L29, LIO-L09
SN:	YDM0119625000040 (Battery 1) YDM0119625000072 (Battery 2) YDM0119625000079 (Battery 3)
Hardware Version:	HL1LIONM
Software Version:	10.0.0.152(C432E152R4P1)
Antenna Type:	Internal Antenna
Device Class:	B
Wi-Fi Hotspot:	Wi-Fi 2.4G Wi-Fi 5G U-NII-1& U-NII-2A (only 802.11ac 160M) Wi-Fi 5G U-NII-3
Power Class:	GSM 850:4 GSM 1900:1 UMTS Band II/IV/V:3 LTE FDD 2/4/5/7/12/17/26:3 LTE TDD 38/41:3
Power Level:	GSM 850:level 5 GSM 1900:level 0 UMTS Band II/IV/V:all up bits LTE FDD 2/4/5/7/12/17/26:max power LTE TDD 38/41:max power
<b>EUT Accessory</b>	
Battery 1	Manufacturer: HUAWEI Technologies Co., Ltd. (SCUD) Model: HB555591EEW
Battery 2	Manufacturer: HUAWEI Technologies Co., Ltd. (Sunwoda, ATL)



	Model: HB555591EEW
Battery 3	Manufacturer: HUAWEl Technologies Co., Ltd. (Sunwoda, Murata) Model: HB555591EEW
Earphone 1	Manufacturer: Jiangxi Lianchuang Hongsheng Electronic Co. ,LTD Model: MEND1632B729001
Earphone 2	Manufacturer: Jiangxi Lianchuang Hongsheng Electronic Co. ,LTD Model: MEND1632B729000
Earphone 3	Manufacturer: GoerTek Inc Model: WINDY-C
Earphone 4	Manufacturer: Boluo County Quancheng Electronic Co.,ltd Model: 1331-3301-6001-TC-296
Earphone 5	Manufacturer: Foster Electric Co.,(GuangZhou)LTD.Sales Dep. Model: 618017
Wireless charging base	Model: CP61
Protected Cover	Model: Protected Cover(Non-metallic)

LIO-L29 is dual SIM smart phone. LIO-L09 is single SIM smart phone. The model LIO-L29 and LIO-L09 are identical except for LIO-L09 support single SIM card which deleted by software.

**LIO-L29, LIO-L09 (Report No.: 1910H0225-S1V2) is a variant model of LIO-L29, LIO-L09 (Report No.: R1908H0163-S1V2). Test values partial duplicated from Original for variant. 2 BT PHY mode Output Power is added in this report. The detailed product change description please refers to the difference statement of LIO-L29.**

**LIO-L29, LIO-L09 (Report No.: R1908H0163-S1V2) is a variant model of LIO-L29, LIO-L09 (Report No.: R1907H0137-S1V2). Test values duplicated from Original for variant. There is no test for variant in this report. The detailed product change description please refers to the difference statement.**

**Note: This revised report (Report No.: R1910H0225-S1V2) supersedes and replaces the previously issued report (Report No.: R1910H0225-S1V1). Please discard or destroy the previously issued report and dispose of it accordingly.**





## Wireless Technology and Frequency Range

Wireless Technology		Modulation	Operating mode	Tx (MHz)
GSM	850	Voice(GMSK) GPRS(GMSK)	<input type="checkbox"/> Multi-slot Class:8-1UP <input type="checkbox"/> Multi-slot Class:10-2UP	824 ~ 849
	1900	EGPRS(GMSK,8PSK)	<input checked="" type="checkbox"/> Multi-slot Class:12-4UP <input type="checkbox"/> Multi-slot Class:33-4UP	1850 ~ 1910
Does this device support DTM (Dual Transfer Mode)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
UMTS	Band II	QPSK, 16QAM	HSDPA UE Category:14 HSUPA UE Category:6	1850 ~ 1910
	Band IV			1710 ~ 1755
	Band V			824 ~ 849
LTE	FDD 2	QPSK, 16QAM, 64QAM	Rel.13 /Category 19	1850 ~ 1910
	FDD 4			1710 ~ 1755
	FDD 5			824 ~ 849
	FDD 7			2500 ~ 2570
	FDD 12			699 ~ 716
	FDD 17			704 ~ 716
	FDD 26			814 ~ 849
	TDD 38			2570 ~ 2620
	TDD 41			2496 ~ 2690
	Does this device support Carrier Aggregation (CA) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Does this device support SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Bluetooth	2.4G	Version 5.1 LE		2402 ~2480
Wi-Fi	2.4G	DSSS,OFDM	802.11b/g/n HT20	2412 ~ 2462
		OFDM	802.11n HT40	2422 ~ 2452
	5G	OFDM	802.11a/n HT20/ HT40/ ac VHT20/ VHT40/ VHT80/ VHT160	5150 ~ 5350 5470 ~ 5850
Does this device support MIMO <input checked="" type="checkbox"/> Yes (2TX, 2RX) <input type="checkbox"/> No				
NFC	13.56MHz			
Wireless Charging	110kHz-148kHz			



## 4 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE 1528- 2013, ANSI C95.1: 1992/IEEE C95.1: 1991, the following FCC Published RF exposure KDB procedures:

248227 D01 802.11Wi-Fi SAR v02r02  
447498 D01 General RF Exposure Guidance v06  
648474 D04 Handset SAR v01r03  
690783 D01 SAR Listings on Grants v01r03  
865664 D01 SAR measurement 100 MHz to 6 GHz v01r04  
865664 D02 RF Exposure Reporting v01r02  
941225 D01 3G SAR Procedures v03r01  
941225 D05 SAR for LTE Devices v02r05  
941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02  
941225 D06 Hotspot Mode v02r01  
616217 D04 SAR for laptop and tablets v01r02

## 5 Operational Conditions during Test

### 5.1 Test Positions

#### 5.1.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2013 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate(SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

For Head SAR test, full SAR test is performed with the normal audio receiver position per IEEE 1528-2013 as above. Additional Head SAR spot check tests are also performed with the best acoustic position based on the Head SAR worst case of each Tx antenna to ensure SAR compliance.

#### 5.1.2 Body Worn Configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.

Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is  $> 1.2$  W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and

microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

### 5.1.3 Phablet SAR test considerations

For smart phones, with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, that can provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets and support voice calls next to the ear, unless it is confirmed otherwise through KDB inquiries, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance.

a) The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

b) The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  mm from that surface or edge, in direct contact with a flat phantom, for product specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. The 1-g SAR at 5 mm for UMPC mini-tablets is not required. When hotspot mode applies, product specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold. The normal tablet procedures in KDB Publication 616217 are required when the overall diagonal dimension of the device is > 20.0 cm. Hotspot mode SAR is not required when normal tablet procedures are applied. Product specific 10-g SAR is also not required for the front (top) surface of larger form factor full size tablets. The more conservative normal tablet SAR results can be used to support phablet mode product specific 10-g SAR.

c) The simultaneous transmission operating configurations applicable to voice and data transmissions for both phone and mini-tablet modes must be taken into consideration separately for 1-g and 10-g SAR to determine the simultaneous transmission SAR test exclusion and measurement requirements for the relevant wireless modes and exposure conditions.

## 5.2 Measurement Variability

Per FCC KDB Publication 865664 D01, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

- 1) When the original highest measured SAR is  $\geq 0.80$  W/kg, the measurement was repeated once.
- 2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was  $> 1.20$  or when the original or repeated measurement was  $\geq 1.45$  W/kg ( $\sim 10\%$  from the 1-g SAR limit).
- 3) A third repeated measurement was performed only if the original, first or second repeated measurement was  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .
- 4) Repeated measurements are not required when the original highest measured SAR is  $< 0.80$  W/kg

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

## 5.3 Test Configuration

### 5.3.1 GSM Test Configuration

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Output power of reductions:

**Table 2: The allowed power reduction in the multi-slot configuration**

Number of timeslots in uplink assignment	Permissible nominal reduction of maximum output power,(dB)
1	0
2	0 to 3,0
3	1,8 to 4,8
4	3,0 to 6,0

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. GSM voice and GPRS data use GMSK, which is a constant amplitude modulation with minimal peak to average power difference within the time-slot burst. For EDGE, GMSK is used for MCS 1 – MCS 4 and 8-PSK is used for MCS 5 – MCS 9; where 8-PSK has an inherently higher peak-to-average power ratio. The GMSK and 8-PSK EDGE configurations are considered separately for SAR compliance. The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance. The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode.

### 5.3.2 UMTS Test Configuration

#### 5.3.2.1 3G SAR Test Reduction Procedure

The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations modes according to output power, exposure conditions and device operating capabilities. Maximum output power is verified by applying the applicable versions of 3GPP TS 34.121.

#### 5.3.2.2 Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest SAR configuration in 12.2 kbps RMC for head exposure.

#### 5.3.2.3 Body-worn accessory SAR

SAR for body-worn accessory configurations is measured using a 12.2 kbps RMC with TPC bits

configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the EUT with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the EUT, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC

**5.3.2.4 Release 5 HSDPA Test Configuration**

The 3G SAR test reduction procedure is applied to HSDPA body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures in the “Release 5 HSDPA Data Devices” section of this document, for the highest SAR body-worn accessory exposure configuration in 12.2 kbps RMC. EUT with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

HSDPA should be configured according to the UE category of a test device. The number of HSDSCH/ HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors( $\beta_c, \beta_d$ ), and HS-DPCCH power offset parameters ( $\Delta_{ACK}, \Delta_{NACK}, \Delta_{CQI}$ ) should be set according to values indicated in the Table below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

**Table 3: Subtests for UMTS Release 5 HSDPA**

Sub-set	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{hs}$ (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1:  $\Delta_{ACK}, \Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$   
 Note2: CM=1 for  $\beta_c/\beta_d = 12/15, \beta_{hs}/\beta_c = 24/15$ .  
 Note3: For subtest 2 the  $\beta_c\beta_d$  ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC (TFC1,TF1) to  $\beta_c=11/15$  and  $\beta_d=15/15$ .

**5.3.2.5 Release 6 HSUPA Test Configuration**

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures in the “Release 6 HSPA Data Devices” section of this document, for the highest body-worn accessory exposure SAR configuration in 12.2 kbps RMC.





When VOIP is applicable for next to the ear head exposure in HSPA, the 3G SAR test reduction procedure is applied to HSPA with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body-worn accessory measurements is tested for next to the ear head exposure.

Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the  $\beta$  values indicated in Table 2 and other applicable procedures described in the 'WCDMA EUT and 'Release 5 HSDPA Data Devices' sections of this document

**Table 4: Sub-Test 5 Setup for Release 6 HSUPA**

Sub-set	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{hs}^{(1)}$	$\beta_{ec}$	$\beta_{ed}$	$\beta_{ed}$ (SF)	$\beta_{ed}$ (codes)	CM <sup>(2)</sup> (dB)	MPR (dB)	AG <sup>(4)</sup> Index	E-TFCI
1	11/15 <sup>(3)</sup>	15/15 <sup>(3)</sup>	64	11/15 <sup>(3)</sup>	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}$ 47/15 $\beta_{ed2}$ 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 <sup>(4)</sup>	15/15 <sup>(4)</sup>	64	15/15 <sup>(4)</sup>	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1:  $\Delta_{ACK}, \Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15, \beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: For subtest 5 the  $\beta_c/\beta_d$  ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 14/15$  and  $\beta_d = 15/15$ .

Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.

Note 6:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

**Table 5: HSUPA UE category**

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI (ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6	4	8	2	2 SF2 & 2 SF4	11484	5.76





(No DPDCH)	4	4	10		20000	2.00
7	4	8	2	2 SF2 & 2 SF4	22996	?
(No DPDCH)	4	4	10		20000	?
NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4. UE Categories 1 to 6 supports QPSK only. UE Category 7 supports QPSK and 16QAM. (TS25.306-7.3.0)						

### 5.3.2.6 HSPA and DC-HSDPA Test Configuration

SAR test exclusion may apply to 3GPP Rel. 6 HSPA and Rel. 8 DC-HSDPA. When SAR measurement is required for HSPA or DC-HSDPA, a KDB inquiry is required to confirm that the wireless mode configurations in the test setup have remained stable throughout the SAR measurements. Without prior KDB confirmation to determine the SAR results are acceptable, a PAG is required for equipment approval.

SAR test exclusion for HSPA and DC-HSDPA is determined according to the following:

- 1) The HSPA procedures are applied to configure 3GPP Rel. 6 HSPA devices in the required sub-test mode(s) to determine SAR test exclusion.
- 2) SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.
- 3) Regardless of whether a PBA is required, the following information must be verified and included in the SAR report for devices supporting HSPA or DC-HSDPA:
  - a) The output power measurement results and applicable release version(s) of 3GPP TS 34.121.
  - i) Power measurement difficulties due to test equipment setup or availability must be resolved between the grantee and its test lab.
  - b) The power measurement results are in agreement with the individual device implementation and specifications. When Enhanced MPR (E-MPR) applies, the normal MPR targets may be modified according to the Cubic Metric (CM) measured by the device, which must be taken into consideration.
  - c) The UE category, operating parameters, such as the  $\beta$  and  $\Delta$  values used to configure the device for testing, power setback procedures described in 3GPP TS 34.121 for the power measurements, and HSPA channel conditions (active and stable) for the entire duration of the measurement according to the required E-TFCI and AG index values.
- 4) When SAR measurement is required, the test configurations, procedures and power measurement results must be clearly described to confirm that the required test parameters are used, including E-TFCI and AG index stability and output power conditions.

**Table 6: HS-DSCH UE category**

**Table 5.1a: FDD HS-DSCH physical layer categories**

HS-DSCH category	Maximum number of HS-DSCH codes received	Minimum inter-TTI interval	Maximum number of bits of an HS-DSCH transport block received within an HS-DSCH TTI NOTE 1	Total number of soft channel bits	Supported modulations without MIMO operation or dual cell operation	Supported modulations with MIMO operation and without dual cell operation	Supported modulations with dual cell operation	
Category 1	5	3	7298	19200	QPSK, 16QAM	Not applicable (MIMO not supported)	Not applicable (dual cell operation not supported)	
Category 2	5	3	7298	28800				
Category 3	5	2	7298	28800				
Category 4	5	2	7298	38400				
Category 5	5	1	7298	57600				
Category 6	5	1	7298	67200				
Category 7	10	1	14411	115200				
Category 8	10	1	14411	134400				
Category 9	15	1	20251	172800				
Category 10	15	1	27952	172800				
Category 11	5	2	3630	14400				QPSK
Category 12	5	1	3630	28800				QPSK, 16QAM, 64QAM
Category 13	15	1	35280	259200				QPSK, 16QAM
Category 14	15	1	42192	259200				QPSK, 16QAM
Category 15	15	1	23370	345600	QPSK, 16QAM			
Category 16	15	1	27952	345600	QPSK, 16QAM			
Category 17 NOTE 2	15	1	35280	259200	QPSK, 16QAM, 64QAM	-		
			23370	345600	-	QPSK, 16QAM		
Category 18 NOTE 3	15	1	42192	259200	QPSK, 16QAM, 64QAM	-		
			27952	345600	-	QPSK, 16QAM		
Category 19	15	1	35280	518400	QPSK, 16QAM, 64QAM			
Category 20	15	1	42192	518400	QPSK, 16QAM, 64QAM			
Category 21	15	1	23370	345600	-	-	QPSK, 16QAM	
Category 22	15	1	27952	345600				
Category 23	15	1	35280	518400				
Category 24	15	1	42192	518400			QPSK, 16QAM, 64QAM	

**5.3.3 LTE Test Configuration**

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

**A) Spectrum Plots for RB Configurations**

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

**B) MPR**

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer

target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

### **C)A-MPR**

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

### **D) Largest channel bandwidth standalone SAR test requirements**

#### 1) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is  $\leq 0.8$  W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is  $> 1.45$  W/kg, SAR is required for all three RB offset configurations for that required test channel.

#### 2) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

#### 3) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.

#### 4) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is  $> \frac{1}{2}$  dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is  $> 1.45$  W/kg.

### **E) Other channel bandwidth standalone SAR test requirements**

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is  $> \frac{1}{2}$  dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the *reported* SAR of a configuration for the largest channel bandwidth is  $> 1.45$  W/kg.

### **5.3.4 Additional requirements for TDD LTE specification**

For Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

TDD LTE Band supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table: Uplink-downlink configurations for uplink-downlink configurations and Table: Configuration of special subframe (lengths of DwPTS/GP/UpPTS) for Special subframe configurations.

Figure 1: Frame structure type 2

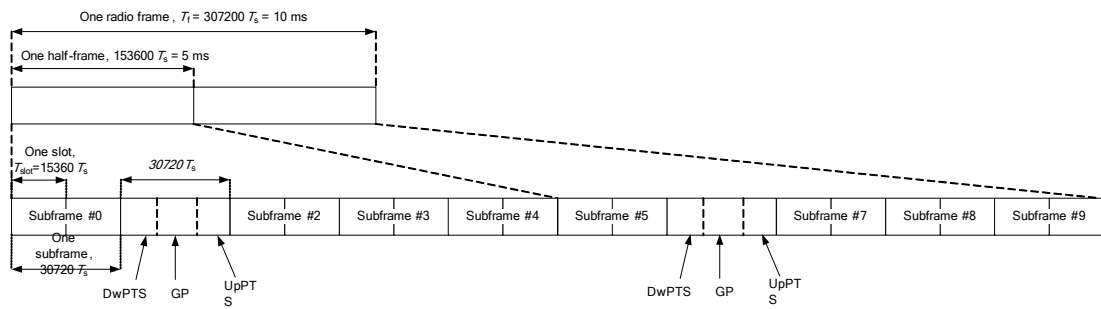


Table 7: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$20480 \cdot T_s$				
6	$19760 \cdot T_s$	$23040 \cdot T_s$				
7	$21952 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$12800 \cdot T_s$	-	-
8	$24144 \cdot T_s$					
9	$13168 \cdot T_s$					

Table 8: Uplink-downlink configurations

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

According to Figure 1, one radio frame is configured by 10 subframes, which consist of Uplink-subframe, Downlink-subframe and Special subframe. For TDD-LTE, the Duty Cycle should be calculated on Uplink-subframes and Special subframes, due to Special subframe containing both Uplink transmissions. So for one radio frame, Duty Cycle can be calculated with formula as below. The count of Uplink subframes are according to Table: Uplink-downlink configurations:

$$\text{Duty cycle} = (30720T_s \cdot \text{Ups} + \text{Uplink Component} \cdot \text{Specials}) / (307200T_s)$$

About the uplink component of Special subframes, we can figure out by Table: Configuration of

special subframe (lengths of DwPTS/GP/UpPTS):

$$\text{Uplink Component} = \text{UpPTS}$$

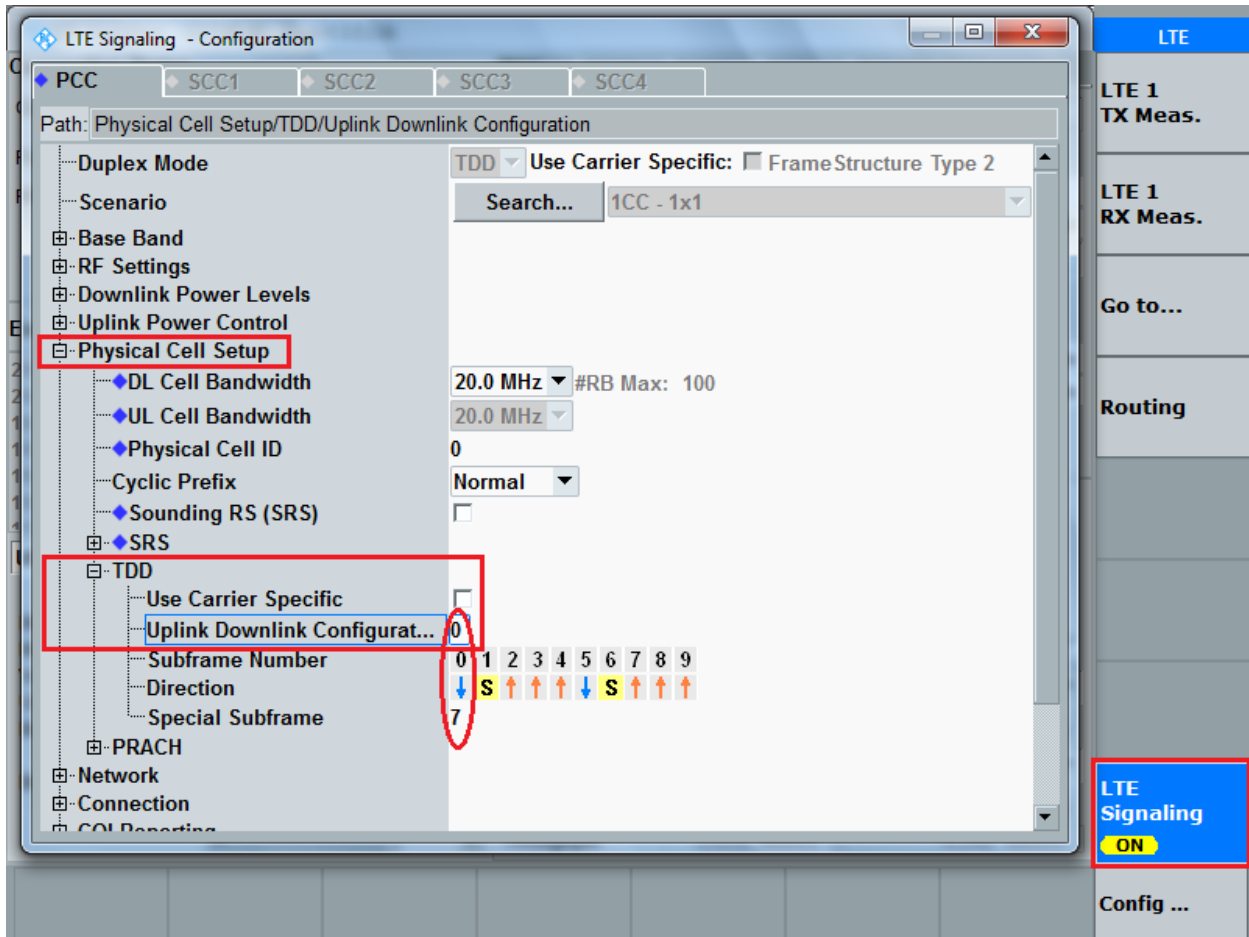
In conclusion, for the TDD LTE Band, Duty Cycle can be calculated with formula as below .all these sets are ok when we test, or we can set as below.

$$\text{Duty cycle} = \frac{[(30720Ts * \text{Ups}) + \text{UpPTS} * \text{Specials}]}{(307200Ts)}$$

And we can get different Duty cycles under different configurations:

Uplink-downlink configuration	Subframe number			Configuration of special subframe							
				Normal cyclic prefix in downlink				Extended cyclic prefix in downlink			
	D	S	U	Normal cyclic prefix in uplink		Extended cyclic prefix in uplink		Normal cyclic prefix in uplink		Extended cyclic prefix in uplink	
				configuration 0~4	configuration 5~9	configuration 0~4	configuration 5~9	configuration 0~3	configuration 4~7	configuration 0~3	configuration 4~7
0	2	2	6	61.43%	62.85%	61.67%	63.33%	61.43%	62.85%	61.67%	63.33%
1	4	2	4	41.43%	42.85%	41.67%	43.33%	41.43%	42.85%	41.67%	43.33%
2	6	2	2	21.43%	22.85%	21.67%	23.33%	21.43%	22.85%	21.67%	23.33%
3	6	1	3	30.71%	31.43%	30.83%	31.67%	30.71%	31.43%	30.83%	31.67%
4	7	1	2	20.71%	21.43%	20.83%	21.67%	20.71%	21.43%	20.83%	21.67%
5	8	1	1	10.71%	11.43%	10.83%	11.67%	10.71%	11.43%	10.83%	11.67%
6	3	2	5	51.43%	52.85%	51.67%	53.33%	51.43%	52.85%	51.67%	53.33%

SAR test Plan: For TDD LTE, SAR should be tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7 for Frame structure type





### 5.3.5 Wi-Fi Test Configuration

For Wi-Fi SAR testing, a communication link is set up with some command for Wi-Fi mode test. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Per KDB248227 D01, a minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

#### 5.3.5.1 Initial Test Position Procedure

For exposure condition with multiple test position, such as handsets operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all position in an exposure condition. The test position with the highest extrapolated(peak) SAR is used as the initial test position. When reported SAR for the initial test position is  $\leq 0.4\text{W/kg}$ , no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is  $\leq 0.8\text{W/kg}$  or all test position are measured. For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is  $> 0.8\text{ W/kg}$ , SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is  $\leq 1.2\text{ W/kg}$  or all required channels are tested.

#### 5.3.5.2 Initial Test Configuration Procedure

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required (see section 5.3.2 of KDB248227 D01). SAR test reduction of subsequent highest output test channels is based on the reported SAR of the initial test configuration.

For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.

When the reported SAR of the initial test configuration is  $> 0.8\text{ W/kg}$ , SAR measurement is required for the subsequent next highest measured output power channel(s) in the initial test configuration until the reported SAR is  $\leq 1.2\text{ W/kg}$  or all required channels are tested.

#### 5.3.5.3 Sub Test Configuration Procedure

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units.

When the highest reported SAR for the initial test configuration, according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg, SAR is not required for that subsequent test configuration.

#### **5.3.5.4 Wi-Fi 2.4G SAR Test Procedures**

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions.

##### **A) 802.11b DSSS SAR Test Requirements**

SAR is measured for 2.4 GHz 802.11b DSSS using either a fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

- 1) When the reported SAR of the highest measured maximum output power channel (section 3.1 of KDB248227 D01) for the exposure configuration is  $\leq 0.8$  W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is  $> 0.8$  W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is  $> 1.2$  W/kg, SAR is required for the third channel; i.e., all channels require testing.

##### **B) 2.4GHz 802.11g/n OFDM SAR Test Exclusion Requirements**

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3 of KDB248227 D01). SAR is not required for the following 2.4 GHz OFDM conditions.

- 1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
- 2) When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg.

##### **C) SAR Test Requirements for OFDM configurations**

When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

#### **5.3.5.5 U-NII-1 and U-NII-2A Bands**

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR



procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following:

- 1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.
- 2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is  $\leq 1.2$  W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR
- 3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is  $> 1.2$  W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channels operating at a reduced maximum power and also qualifies for SAR test exclusion.

#### 5.3.5.6 U-NII-2C and U-NII-3 Bands

The frequency range covered by these bands is 380 MHz (5.47 - 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. when Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 - 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification to avoid SAR requirements. 10 TDWR restriction does not apply under the new rules; all channels that operate at 5.60 - 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 - 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels.<sup>11</sup> When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.



**5.3.5.7 OFDM Transmission Mode SAR Test Channel Selection Requirements**

For 2.4 GHz and 5 GHz bands, When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations (for example 802.11a, 802.11n and 802.11ac, or 802.11g and 802.11n, with the same channel bandwidth, modulation, and data rate, etc), the lower order 802.11 mode (i.e., 802.11a is chosen over 802.11n then 802.11ac, or 802.11g is chosen over 802.11n) is used for SAR measurement. When the maximum output power are the same for multiple test channel, either according to the default or additional power measurement requirement, SAR is measured using the channel closest to the middle of the frequency band or aggregated band, When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

**5.3.5.8 MIMO SAR Considerations**

Per KDB248227 D01, simultaneous transmission provisions in KDB Publication 447498 should be used to determine simultaneous transmission SAR test exclusion for Wi-Fi MIMO. If the sum of 1-g SAR single transmission SAR measurement is <1.6W/kg, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation.

**5.3.6 Bluetooth Test Configuration**

The device is a mobile phone. It supports a BT high power feature in specific wireless modes and operating configurations. The maximum power of BT is different on different scenarios. The BT of this device has two different operating modes:

- 1) Low power level mode (power level B, maximum duty cycle 100%) as default mode;
- 2) High power level mode (power level A, maximum duty cycle 100%) in specific wireless modes and operating configurations when the mobile phone is connected to an external audio device; Note: For this device, power level B is S power level A

Based on the BT high power mode detection technique description above, the different exposure conditions related to BT high power mode(Power level A) are listed as below table:

Operating modes	Max power level	Maximum duty cycle	Exposure condition Required for SAR testing	
			Head (Audio Receiver on)	Body-worn/Hotspot/Product Specific 10-g
Low power level mode	power level B	100%	<b>Yes</b> <b>(See Below Note 1)</b>	<b>Yes</b> <b>(See Below Note 1)</b>
High power level mode	power level A	100%	<b>N/A</b> <b>(See Below Note 2)</b>	Yes

**Note 1:** The BT SAR results at low power level B is still required because the simultaneous transmission possibilities for BT at lower power level B and high power level A are different. The BT SAR results at low power level B should be used to evaluation the simultaneous transmission SAR

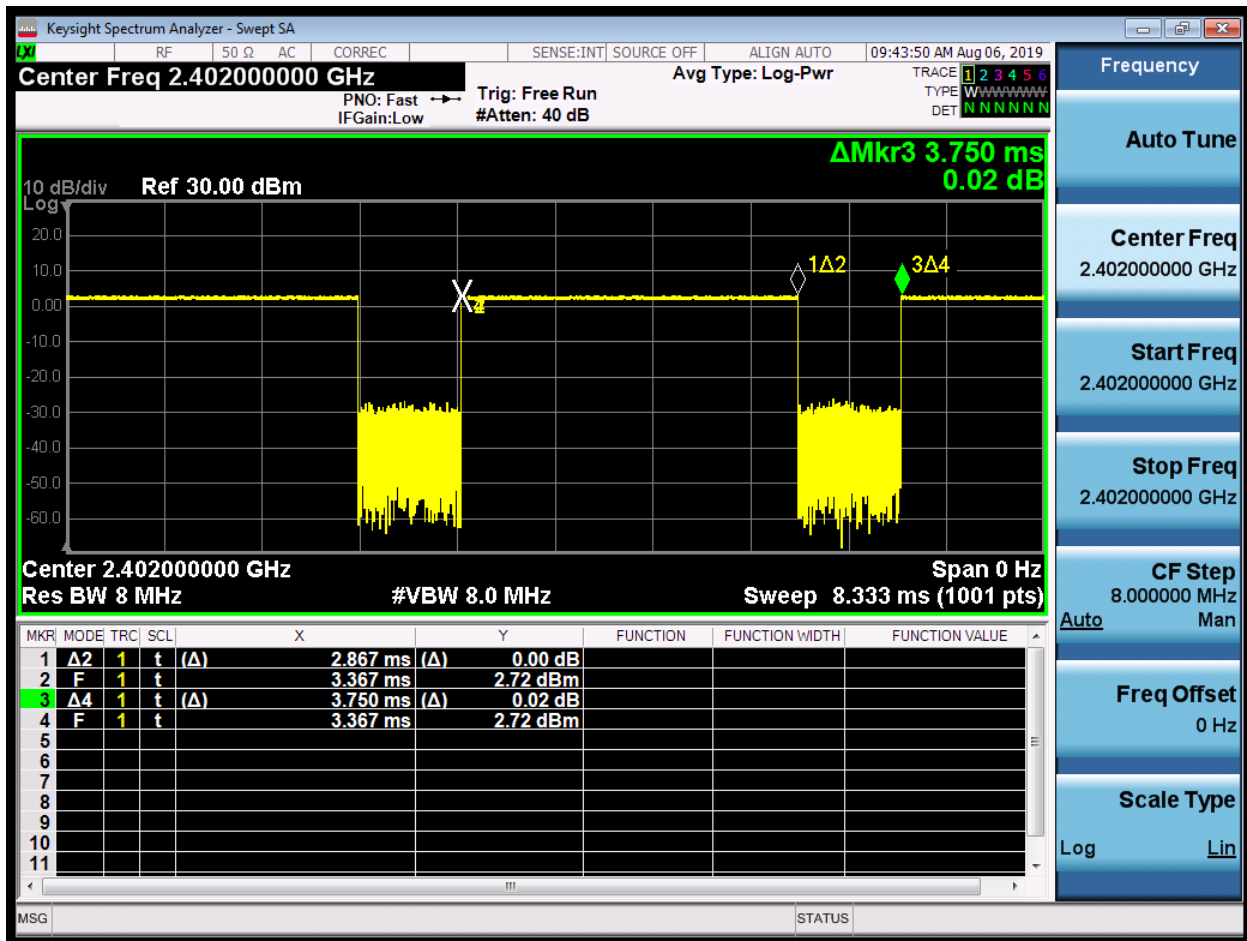


conditions not supported by BT higher power level A(Refer to Section 9 for details).

**Note 2:** High power level mode (power level A, maximum duty cycle 100%) is not applicable for Head exposure condition(Audio Receiver on) by design.

**Note 3:** Both the power level A and B results will be tested and provided in the SAR report to validate the power reduction function works.

The SAR measurement takes full account of the BT duty cycle and is reflected in the report, and the duty factor of the device is as follow:



Note: Duty factor= Ton (ms)/ T(on+off) (ms)=2.867/3.750=76.5%

### 5.3.7 LTE CA and downlink 4 x 4 MIMO specification

#### 5.3.7.1 LTE CA combinations specification

The device supports downlink and uplink LTE Carrier Aggregation (CA) for Intra-band and inter-band.

a) The LTE release and version numbers of the 3GPP documents used to implement the specific device(s): Release 13, 3GPP TS 36.211 V13.3.0 (2016-09)

b) The associated 3GPP release and version numbers required for power measurements and RF test setup conditions:

Release 15,3GPP TS 36.521-1 V15.3.1 (2018-09)



Release 15,3GPP TS 36.101 V15.4.0 (2018-09)

- 1) The device supports Intra-band uplink LTE CA for CA\_7C, CA\_38C, CA\_41C with two component carriers in the uplink.
- 2) The device supports Intra-band and inter-band downlink LTE CA(See the table below)
- 3) The device does not support full CA features on 3GPP Release 15 or higher. All other uplink communications are identical to the release 8 specifications. Other LTE Rel.10 or higher features are not supported, including Enhanced SC-FDMA, Uplink MIMO or other antenna diversity configurations, Wi-Fi offloading using LTE-U, LAA or LWA related protocols etc.

Intra-band contiguous CA operating bands

E-UTRA CA configuration / Bandwidth combination set							
E-UTRA CA configuration	Uplink CA configurations (NOTE 3)	Component carriers in order of increasing carrier frequency				Maximum aggregated bandwidth [MHz]	Bandwidth combination set
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_1C	CA_1C	15	15			40	0
		20	20				
CA_2C	NA	5	20			40	0
		10	15, 20				
		15	10, 15, 20				
		20	5, 10, 15, 20				
CA_3C	CA_3C	5, 10, 15	20			40	0
		20	5, 10, 15, 20				
CA_5B	NA	5, 10	10			20	0
		10	5				
CA_7C	CA_7C	15	15			40	0
		20	20				
		10	20				
		15	15, 20			40	1
		20	10, 15, 20				
		15	10, 15			40	2
		20	15, 20				
CA_12B	NA	5, 10				15	0
CA_38C	CA_38C	15	15			40	0
		20	20				
CA_39C	CA_39C	5,10,15	20			35	0
		20	5, 10, 15				
CA_40C (NOTE 4)	CA_40C	10	20			40	0
		15	15				
		20	10, 20				



		10, 15	20				
		15	15			40	1
		20	10, 15, 20				
CA_40D (NOTE 4)	CA_40C	10	20	15		60	0
		10	15, 20	20			
		15	20	10, 15			
		15	10, 15, 20	20			
		20	15, 20	10			
		20	10, 15, 20	15, 20			
CA_41C	CA_41C	10	20			40	0
		15	15, 20				
		20	10, 15, 20				
		5, 10	20			40	1
		15	15, 20				
		20	5, 10, 15, 20				
		10	15, 20			40	2
		15	10, 15, 20				
		20	10, 15, 20				
		10	20			40	3
20	20						
CA_41D	CA_41C	10	20	15		60	0
		10	15, 20	20			
		15	20	10, 15			
		15	10, 15, 20	20			
		20	15, 20	10			
		20	10, 15, 20	15, 20			

NOTE 1: The CA configuration refers to an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.

NOTE 2: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.

NOTE 3: Uplink CA configurations are the configurations supported by the present release of specifications.

NOTE 4: The B40 CA combinations cannot support FCC authentication.

E-UTRA CA configurations and bandwidth combination sets defined for non-contiguous intra-band CA (with two sub-blocks)

		E-UTRA CA configuration / Bandwidth combination set						
E-UTRACA configuration	Uplink CA configurations (NOTE 1)	Component carriers in order of increasing carrier frequency					Maximum aggregated bandwidth [MHz]	Bandwidth combination set
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_1A-1A	-	5, 10, 15,	5, 10, 15,				40	0



		20	20								
CA_3A-3A	-	5, 10, 15, 20	5, 10, 15, 20							40	0
		5, 10	5, 10, 15, 20							30	1
		5	3							10	2
		3, 5	5								
CA_4A-4A	CA_4A-4A	5, 10, 15, 20	5, 10, 15, 20							40	0
		5, 10	5, 10							20	1
CA_7A-7A	-	5	15							40	0
		10	10, 15								
		15	15, 20								
		20	20								
		5, 10, 15, 20	5, 10, 15, 20							40	1
		5, 10, 15, 20	5, 10							30	2
		10, 15, 20	10, 15, 20							40	3

NOTE 1: Uplink CA configurations are the configurations supported by the present release of specifications.

NOTE 2: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band is paired with the uplink operating band (external) of the carrier aggregation configuration that is supporting the configured Pcell.

inter-band CA (two bands)

E-UTRA CA configuration / Bandwidth combination set											
E-UTRA CA Configuration	Uplink CA configurations (NOTE 4)	E-UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set	
CA_1A-3A	-	1			Yes	Yes	Yes	Yes	40	0	
		3			Yes	Yes	Yes	Yes			
		1			Yes	Yes	Yes	Yes	40	1	
		3		Yes	Yes	Yes	Yes	Yes			
CA_1A-1A-3A	-	1	See CA_1A-1A Bandwidth combination set 0 in Table 5.4.2A.1-3						60	0	
		3			Yes	Yes	Yes	Yes			
CA_1A-3A-3A	-	1			Yes	Yes	Yes	Yes	60	0	
		3	See CA_3A-3A Bandwidth Combination Set 0 in Table 5.4.2A.1-3								
CA_1A-3C	CA_3C	1			Yes	Yes	Yes	Yes	60	0	
		3	See CA_3C Bandwidth Combination Set								



			0 in Table 5.4.2A.1-1								
CA_1A-1A-3C	-	1	See CA_1A-1A Bandwidth Combination Set 0 in Table 5.4.2A.1-3						80	0	
		3	See CA_3C Bandwidth combination set 0 in Table 5.4.2A.1-1								
CA_1A-5A	-	1			Yes			20	0		
		5			Yes						
		1			Yes	Yes	Yes	Yes	30	1	
		5			Yes	Yes					
CA_1A-1A-5A	-	1	See CA_1A-1A Bandwidth combination set 0 in Table 5.4.2A.1-3						50	0	
		5			Yes	Yes					
CA_1A-7A	-	1			Yes	Yes	Yes	Yes	40	0	
		7				Yes	Yes	Yes			
		1			Yes	Yes	Yes	Yes	40	1	
		7			Yes	Yes	Yes	Yes			
CA_1A-7A-7A	-	1			Yes	Yes	Yes	Yes	60	0	
		7	See CA_7A-7A Bandwidth Combination Set 3 in Table 5.4.2A.1-3								
	-	1			Yes	Yes	Yes	Yes	60	1	
		7	See CA_7A-7A Bandwidth Combination Set 1 in Table 5.4.2A.1-3								
CA_1A-7C	CA_7C	1			Yes	Yes	Yes	Yes	60	0	
		7	See CA_7C Bandwidth Combination Set 2 in Table 5.4.2A.1-1								
		-	1			Yes	Yes	Yes	Yes	60	1
			7	See CA_7C Bandwidth Combination Set 1 in Table 5.4.2A.1-1							
CA_1A-8A	-	1			Yes	Yes	Yes	Yes	30	0	
		8			Yes	Yes					
		-	1			Yes	Yes			20	1
			8			Yes	Yes				
		-	1			Yes	Yes	Yes	Yes	30	2
			8		Yes	Yes	Yes				
CA_1A-18A	-	1			Yes	Yes	Yes	Yes	35	0	
		18			Yes	Yes	Yes				
		-	1			Yes	Yes			20	1
			18			Yes	Yes				
CA_1A-19A	-	1			Yes	Yes	Yes	Yes	35	0	
		19			Yes	Yes	Yes				
CA_1A-20A	-	1			Yes	Yes	Yes	Yes	40	0	
		20			Yes	Yes	Yes	Yes			
CA_1A-26A	-	1			Yes	Yes	Yes	Yes	35	0	
		26			Yes	Yes	Yes				



		1			Yes	Yes			20	1
		26			Yes	Yes				
CA_1A-28A	-	1			Yes	Yes	Yes	Yes	40	0
		28			Yes	Yes	Yes	Yes		
		1			Yes	Yes			20	1
		28			Yes	Yes				
CA_1A-1A-28A	-	1	See CA_1A-1A Bandwidth combination set 0 in Table 5.4.2A.1-3						60	0
		28			Yes	Yes	Yes	Yes		
CA_1A-32A	-	1			Yes	Yes	Yes	Yes	40	0
		32			Yes	Yes	Yes	Yes		
CA_1A-38A	-	1			Yes	Yes	Yes	Yes	40	0
		38			Yes	Yes	Yes	Yes		
CA_1C-3A	-	1	See CA_1C Bandwidth combination set 1 in Table 5.4.2A.1-1						60	0
		3			Yes	Yes	Yes	Yes		
CA_2A-4A	-	2	Yes	Yes	Yes	Yes	Yes	Yes	40	0
		4			Yes	Yes	Yes	Yes		
		2			Yes	Yes			20	1
		4			Yes	Yes				
		2			Yes	Yes	Yes	Yes	40	2
		4			Yes	Yes	Yes	Yes		
CA_2A-4A-4A	-	2			Yes	Yes	Yes	Yes	60	0
		4	See CA_4A-4A Bandwidth Combination Set 0 in Table 5.4.2A.1-3							
CA_2A-5A	-	2			Yes	Yes	Yes	Yes	30	0
		5			Yes	Yes				
		2			Yes	Yes			20	1
		5			Yes	Yes				
CA_2A-7A	-	2			Yes	Yes	Yes	Yes	40	0
		7			Yes	Yes	Yes	Yes		
CA_2A-7A-7A	-	2			Yes	Yes	Yes	Yes	60	0
		7	See the CA_7A-7A Bandwidth combination set 1 in Table 5.4.2A.1-3							
CA_2A-7C	-	2			Yes	Yes	Yes	Yes	60	0
		7	See the CA_7C Bandwidth combination set 1 in Table 5.4.2A.1-1							
CA_2A-12A	-	2			Yes	Yes	Yes	Yes	30	0
		12			Yes	Yes				
		2			Yes	Yes	Yes	Yes	30	1
		12		Yes	Yes	Yes				
		2			Yes	Yes			20	2
		12			Yes	Yes				



CA_2A-12B	-	2			Yes	Yes	Yes	Yes	35	0
		12	See CA_12B Bandwidth Combination Set 0 in Table 5.4.2A.1-1							
CA_2A-17A	-	2			Yes	Yes			20	0
		17			Yes	Yes				
CA_2A-28A	-	2			Yes	Yes	Yes	Yes	40	0
		28			Yes	Yes	Yes	Yes		
CA_3A-5A	-	3				Yes	Yes	Yes	30	0
		5			Yes	Yes				
		3				Yes			20	1
		5			Yes	Yes				
		3			Yes	Yes	Yes	Yes	30	2
		5			Yes	Yes				
		3			Yes	Yes	Yes	Yes	30	3
		5		Yes	Yes	Yes				
		3		Yes	Yes	Yes			20	4
5		Yes	Yes	Yes						
CA_3C-5A	-	3	See CA_3C Bandwidth Combination Set 0 in Table 5.4.2A.1-1						50	0
		5			Yes	Yes				
CA_3A-7A	-	3			Yes	Yes	Yes	Yes	40	0
		7				Yes	Yes	Yes		
		3			Yes	Yes	Yes	Yes	40	1
		7			Yes	Yes	Yes	Yes		
CA_3A-3A-7A	-	3	See CA_3A-3A Bandwidth Combination Set 0 in Table 5.4.2A.1-3						60	0
		7			Yes	Yes	Yes	Yes		
		3	See CA_3A-3A Bandwidth Combination Set 1 in Table 5.4.2A.1-3						50	1
		7			Yes	Yes	Yes	Yes		
CA_3A-3A-7A-7A	-	3	See CA_3A-3A Bandwidth Combination Set 0 in table 5.4.2A.1-3						80	0
		7	See CA_7A-7A Bandwidth Combination Set 1 in table 5.4.2A.1-3							
		3	See CA_3A-3A Bandwidth Combination Set 1 in table 5.4.2A.1-3						60	1
		7	See CA_7A-7A Bandwidth Combination Set 2 in table 5.4.2A.1-3							
CA_3A-7A-7A	-	3			Yes	Yes	Yes	Yes	60	0
		7	See CA_7A-7A Bandwidth combination set 1 in table 5.4.2A.1-3							
		3			Yes	Yes	Yes	Yes	50	1
		7	See CA_7A-7A Bandwidth combination set 2 in table 5.4.2A.1-3							





CA_3A-7C	CA_7C	3			Yes	Yes	Yes	Yes	60	0
		7	See CA_7C Bandwidth combination set 1 in table 5.4.2A.1-1							
		3			Yes	Yes	Yes	Yes	60	1
		7	See CA_7C Bandwidth combination set 2 in table 5.4.2A.1-1							
CA_3C-7A	CA_3C	3	See CA_3C Bandwidth Combination Set 0 in table 5.4.2A.1-1				60	0		
		7			Yes	Yes			Yes	Yes
CA_3C-7C	CA_3C, CA_7C	3	See CA_3C Bandwidth Combination Set 0 in Table 5.4.2A.1-1				80	0		
		7	See CA_7C Bandwidth Combination Set 2 in Table 5.4.2A.1-1							
		3	See CA_3C Bandwidth Combination Set 0 in Table 5.4.2A.1-1				80	1		
		7	See CA_7C Bandwidth Combination Set 1 in Table 5.4.2A.1-1							
CA_3A-8A	-	3			Yes	Yes	Yes	30	0	
		8			Yes	Yes				
		3			Yes			20	1	
		8			Yes	Yes				
		3			Yes	Yes	Yes	Yes	30	2
		8		Yes	Yes	Yes				
		3			Yes	Yes	Yes	Yes	30	3
		8			Yes	Yes				
CA_3A-3A-8A	-	3	See CA_3A-3A Bandwidth Combination Set 0 in table 5.4.2A.1-3				50	0		
		8			Yes	Yes				
		3	See CA_3A-3A Bandwidth Combination Set 1 in table 5.4.2A.1-3				40	1		
		8			Yes	Yes				
CA_3A-18A	-	3			Yes	Yes	Yes	Yes	35	0
		18			Yes	Yes	Yes			
CA_3A-19A	-	3			Yes	Yes	Yes	Yes	35	0
		19			Yes	Yes	Yes			
CA_3A-20A	-	3			Yes	Yes	Yes	Yes	30	0
		20			Yes	Yes				
		3			Yes	Yes	Yes	Yes	40	1
		20			Yes	Yes	Yes	Yes		
CA_3A-3A-20A	-	3	See CA_3A-3A Bandwidth Combination Set 0 in Table 5.4.2A.1-3				60	0		
		20			Yes	Yes			Yes	Yes
CA_3A-26A	-	3			Yes	Yes	Yes	Yes	35	0
		26			Yes	Yes	Yes			



		3			Yes	Yes			20	1
		26			Yes	Yes				
CA_3A-28A	-	3			Yes	Yes	Yes	Yes	40	0
		28			Yes	Yes	Yes	Yes		
		3		Yes	Yes	Yes	Yes	Yes	40	1
		28			Yes	Yes	Yes	Yes		
CA_3A-3A-28A	-	3	See CA_3A-3A Bandwidth Combination Set 0 in Table 5.4.2A.1-3						60	0
		28			Yes	Yes	Yes	Yes		
CA_3C-28A	-	3	See CA_3C Bandwidth Combination Set 0 in Table 5.4.2A.1-1						60	0
		28			Yes	Yes	Yes	Yes		
CA_3A-32A	-	3			Yes	Yes	Yes	Yes	40	0
		32			Yes	Yes	Yes	Yes		
CA_3C-32A	-	3	See the CA_3C Bandwidth combination Set 0 in Table 5.4.2A.1-1						60	0
		32			Yes	Yes	Yes	Yes		
CA_3A-38A	-	3			Yes	Yes	Yes	Yes	40	0
		38			Yes	Yes	Yes	Yes		
CA_3C-38A	-	3	See CA_3C Bandwidth combination set 0 in Table 5.4.2A.1-1						60	0
		38			Yes	Yes	Yes	Yes		
CA_3A-41A	-	3			Yes	Yes	Yes	Yes	40	0
		41			Yes	Yes	Yes	Yes		
		3		Yes	Yes	Yes	Yes	Yes	40	1
		41			Yes	Yes	Yes	Yes		
CA_3A-41C	CA_41C	3			Yes	Yes	Yes	Yes	60	0
		41	See CA_41C Bandwidth Combination Set 0 in Table 5.4.2A.1-1							
CA_4A-5A	-	4			Yes	Yes			20	0
		5			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	1
		5			Yes	Yes				
CA_4A-4A-5A	-	4	See CA_4A-4A Bandwidth Combination Set 0 in table 5.4.2A.1-3						50	0
		5			Yes	Yes				
CA_4A-7A	-	4			Yes	Yes			30	0
		7			Yes	Yes	Yes	Yes		
		4			Yes	Yes	Yes	Yes	40	1
		7			Yes	Yes	Yes	Yes		
CA_4A-4A-7A	-	4			Yes	Yes			40	0
		4			Yes	Yes				
		7			Yes	Yes	Yes	Yes	60	1
		4			Yes	Yes	Yes	Yes		



		4			Yes	Yes	Yes	Yes		
		7			Yes	Yes	Yes	Yes		
CA_4A-7A-7A	-	4			Yes	Yes	Yes	Yes	60	0
		7	See the CA_7A-7A Bandwidth combination set 1 in Table 5.4.2A.1-3							
CA_4A-7C	-	4			Yes	Yes	Yes	Yes	60	0
		7	See CA_7CBandwidth Combination Set 1in Table 5.4.2A.1-1							
CA_4A-12A	-	4	Yes	Yes	Yes	Yes			20	0
		12			Yes	Yes				
		4	Yes	Yes	Yes	Yes	Yes	Yes	30	1
		12			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	2
		12		Yes	Yes	Yes				
		4			Yes	Yes			20	3
		12			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	4
		12			Yes	Yes				
		4			Yes	Yes	Yes		20	5
		12			Yes					
CA_4A-4A-12A	-	4	See CA_4A-4A Bandwidth Combination Set 0 in Table 5.4.2A.1-3						50	0
		12			Yes	Yes				
CA_4A-12B	-	4			Yes	Yes	Yes	Yes	35	0
		12	See CA_12B Bandwidth Combination Set 0 in Table 5.4.2A.1-1							
CA_4A-17A	-	4			Yes	Yes			20	0
		17			Yes	Yes				
CA_4A-28A	-	4			Yes	Yes	Yes	Yes	40	0
		28			Yes	Yes	Yes	Yes		
CA_5A-7A	-	5	Yes	Yes	Yes	Yes			30	0
		7				Yes	Yes	Yes		
		5			Yes	Yes			30	1
		7				Yes	Yes	Yes		
CA_5A-7A-7A	-	5			Yes	Yes			50	0
		7	See CA_7A-7A Bandwidth Combination Set 3in Table 5.4.2A.1-3							
CA_5A-7C	-	5			Yes	Yes			50	0
		7	See CA_7C Bandwidth Combination Set 1 in Table 5.4.2A.1-1							
CA_5A-40A	-	5			Yes	Yes			30	0
		40			Yes	Yes	Yes	Yes		
		5		Yes	Yes	Yes			30	1
		40			Yes	Yes	Yes	Yes		



CA_7A-8A	-	7				Yes	Yes	Yes	30	0
		8		Yes	Yes	Yes				
		7				Yes	Yes	Yes	30	1
		8			Yes	Yes				
		7			Yes	Yes	Yes	Yes	30	2
		8			Yes	Yes				
CA_7A-7A-8A	-	7	See CA_7A-7A Bandwidth Combination Set 1 in Table 5.4.2A.1-3						50	0
		8			Yes	Yes				
		7	See CA_7A-7A Bandwidth Combination Set 2 in Table 5.4.2A.1-3						40	1
		8			Yes	Yes				
CA_7A-12A	-	7			Yes	Yes	Yes	Yes	30	0
		12			Yes	Yes				
CA_7A-20A	-	7				Yes	Yes	Yes	30	0
		20			Yes	Yes				
		7				Yes	Yes	Yes	40	1
		20			Yes	Yes	Yes	Yes		
		7			Yes	Yes	Yes	Yes	40	2
		20			Yes	Yes	Yes	Yes		
CA_7C-20A	-	7	See CA_7C Bandwidth Combination Set 1 in table 5.4.2A.1-1						60	0
		20			Yes	Yes	Yes	Yes		
CA_7A-28A	-	7			Yes	Yes	Yes	Yes	35	0
		28			Yes	Yes	Yes			
		7			Yes	Yes	Yes	Yes	40	1
		28			Yes	Yes	Yes	Yes		
CA_7C-28A	CA_7C	7	See CA_7C bandwidth combination set 2 in table 5.4.2A.1-1						60	0
		28			Yes	Yes	Yes	Yes		
		7	See CA_7C Bandwidth Combination Set 1 in Table 5.4.2A.1-1						60	1
		28			Yes	Yes	Yes	Yes		
CA_7A-32A	-	7				Yes	Yes	Yes	40	0
		32			Yes	Yes	Yes	Yes		
CA_8A-38A	-	8			Yes	Yes			30	0
		38			Yes	Yes	Yes	Yes		
CA_8A-39A	-	8	Yes	Yes	Yes	Yes			30	0
		39			Yes	Yes	Yes	Yes		
CA_8A-40A	-	8			Yes	Yes			30	0
		40			Yes	Yes	Yes	Yes		
	-	8		Yes	Yes	Yes			30	1
		40			Yes	Yes	Yes	Yes		



CA_20A-32A	-	20			Yes	Yes			30	0
		32			Yes	Yes	Yes	Yes		
		20			Yes	Yes	Yes	Yes	40	1
		32			Yes	Yes	Yes	Yes		
CA_28A-38A	-	28			Yes	Yes	Yes	Yes	40	0
		38			Yes	Yes	Yes	Yes		
CA_28A-40A	-	28			Yes	Yes	Yes	Yes	40	0
		40			Yes	Yes	Yes	Yes		
CA_28A-40C	-	28			Yes	Yes	Yes	Yes	60	0
		40	See CA_40C Bandwidth Combination set 1 in Table 5.4.2A.1-1							
CA_28A-40D	-	28			Yes	Yes	Yes	Yes	80	0
		40	See CA_40D Bandwidth Combination Set 0 in Table 5.4.2A.1-1							
CA_28A-41A	-	28			Yes	Yes			30	0
		41			Yes	Yes	Yes	Yes		
		28			Yes	Yes	Yes	Yes	40	1
		41			Yes	Yes	Yes	Yes		
CA_28A-41C	-	28			Yes	Yes			50	0
		41	See CA_41C Bandwidth Combination set 0 in Table 5.4.2A.1-1							

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.4.2A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.

NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set.

NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.

NOTE 4: Uplink CA configurations are the configurations supported by the present release of specifications.

NOTE 5: For TDD inter-band Carrier Aggregation only non-simultaneous Rx/Tx uplink CA configurations can be supported by UE supporting corresponding DL CA configuration without simultaneous Rx/Tx.

NOTE 6: Void

NOTE 7: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within [6dB].

NOTE 8: For the corresponding CA configuration, UE may not support Pcell transmissions in this E-UTRA band.

NOTE 9: Requirements for this band configuration are applicable for 8Rx.

inter-band CA (three bands)

E-UTRA CA configuration / Bandwidth combination set											
E-UTRA Configuration	CA	Uplink CA configurations (NOTE 5)	E-UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_1A-3A-5A	-		1			Yes	Yes	Yes	Yes	50	0
			3			Yes	Yes	Yes	Yes		
			5			Yes	Yes				
			1			Yes	Yes			40	1



		3			Yes	Yes	Yes	Yes		
		5			Yes	Yes				
CA_1A-3A-3A-7A-7A	-	1			Yes	Yes	Yes	Yes	100	0
		3	See the CA_3A-3A Bandwidth combination set 0 in Table below							
		7	See the CA_7A-7A Bandwidth combination set 1 in Table below							
CA_1A-3C-5A	-	1			Yes	Yes	Yes	Yes	70	0
		3	See CA_3C Bandwidth combination set 0 in 36.101 Table 5.6A.1-1							
		5			Yes	Yes				
CA_1A-3A-7A	-	1			Yes	Yes	Yes	Yes	60	0
		3			Yes	Yes	Yes	Yes		
		7				Yes	Yes	Yes		
		1			Yes	Yes	Yes	Yes	60	1
		3			Yes	Yes	Yes	Yes		
		7			Yes	Yes	Yes	Yes		
CA_1A-3A-3A-7A	-	1			Yes	Yes	Yes	Yes	80	0
		3	See the CA_3A-3A Bandwidth combination set 0 in the Table 5.6A.1-3							
		7			Yes	Yes	Yes	Yes		
CA_1A-3A-7A-7A	-	1			Yes	Yes	Yes	Yes	80	0
		3			Yes	Yes	Yes	Yes		
		7	See CA_7A-7A Bandwidth Combination Set 3 in Table 5.6A.1-3							
		1			Yes	Yes	Yes	Yes	80	1
		3			Yes	Yes	Yes	Yes		
		7	See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3							
CA_1A-3A-7C	CA_7C	1			Yes	Yes	Yes	Yes	80	0
		3				Yes	Yes	Yes		
		7	See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1							
		1			Yes	Yes	Yes	Yes	80	1
		3			Yes	Yes	Yes	Yes		
		7	See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1							
CA_1A-3C-7A	CA_3C	1			Yes	Yes	Yes	Yes	80	0
		3	See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1							
		7				Yes	Yes	Yes		
		1			Yes	Yes	Yes	Yes	80	1
		3	See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1							



		7			Yes	Yes	Yes	Yes		
CA_1A-3C-7C	CA_3C, CA_7C	1			Yes	Yes	Yes	Yes	100	0
		3	See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1							
		7	See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1							
CA_1A-3A-8A	-	1			Yes	Yes	Yes	Yes	50	0
		3			Yes	Yes	Yes	Yes		
		8		Yes	Yes	Yes				
		1			Yes	Yes			40	1
		3			Yes	Yes	Yes	Yes		
		8		Yes	Yes	Yes				
		1			Yes	Yes	Yes		40	2
		3			Yes	Yes	Yes			
		8		Yes	Yes	Yes				
		1			Yes	Yes	Yes	Yes	50	3
3			Yes	Yes	Yes	Yes				
8			Yes	Yes						
CA_1A-3C-8A	CA_3C	1			Yes	Yes	Yes	Yes	70	0
		3	See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1							
		8		Yes	Yes	Yes				
CA_1A-3A-3A-8A	-	1			Yes	Yes	Yes	Yes	70	0
		3	See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3							
		8			Yes	Yes				
CA_1A-3A-19A	-	1			Yes	Yes	Yes	Yes	55	0
		3			Yes	Yes	Yes	Yes		
		19			Yes	Yes	Yes			
CA_1A-3A-20A	-	1			Yes	Yes	Yes	Yes	60	0
		3			Yes	Yes	Yes	Yes		
		20			Yes	Yes	Yes	Yes		
CA_1A-3C-20A	-	1			Yes	Yes	Yes	Yes	80	0
		3	See CA_3C Bandwidth combination set 0 in 36.101 Table 5.6A.1-1							
		20			Yes	Yes	Yes	Yes		
CA_1A-3A-28A	-	1			Yes	Yes	Yes	Yes	60	0
		3			Yes	Yes	Yes	Yes		
		28			Yes	Yes	Yes	Yes		
CA_1A-3C-28A	-	1			Yes	Yes	Yes	Yes	80	0
		3	See CA_3C Bandwidth combination set 0 in 36.101 Table 5.6A.1-1							
		28			Yes	Yes	Yes	Yes		
CA_1A-3A-32A	-	1			Yes	Yes	Yes	Yes	60	0



		3			Yes	Yes	Yes	Yes		
		32			Yes	Yes	Yes	Yes		
CA_1A-3A-38A	-	1			Yes	Yes	Yes	Yes	60	0
		3			Yes	Yes	Yes	Yes		
		38			Yes	Yes	Yes	Yes		
CA_1A-5A-7A	-	1			Yes	Yes			40	0
		5			Yes	Yes				
		7				Yes	Yes	Yes		
		1			Yes	Yes	Yes	Yes	50	1
		5			Yes	Yes				
		7				Yes	Yes	Yes		
CA_1A-7A-8A	-	1			Yes	Yes	Yes	Yes	50	0
		7				Yes	Yes	Yes		
		8			Yes	Yes				
		1			Yes	Yes	Yes	Yes	50	1
		7			Yes	Yes	Yes	Yes		
		8			Yes	Yes				
CA_1A-7A-20A	-	1			Yes	Yes	Yes	Yes	50	0
		7				Yes	Yes	Yes		
		20			Yes	Yes				
		1			Yes	Yes	Yes	Yes	60	1
		7				Yes	Yes	Yes		
		20			Yes	Yes	Yes	Yes		
		1			Yes	Yes	Yes	Yes	60	2
		7			Yes	Yes	Yes	Yes		
20			Yes	Yes	Yes	Yes				
CA_1A-7C-20A	-	1			Yes	Yes	Yes	Yes	80	0
		7			See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1					
		20			Yes	Yes	Yes	Yes		
CA_1A-7A-28A	-	1			Yes	Yes	Yes	Yes	55	0
		7				Yes	Yes	Yes		
		28			Yes	Yes	Yes			
		1			Yes	Yes	Yes	Yes	60	1
		7				Yes	Yes	Yes		
		28				Yes	Yes	Yes		
		1			Yes	Yes	Yes	Yes	60	2
		7				Yes	Yes	Yes		
28			Yes	Yes	Yes	Yes				
CA_1A-7C-28A	CA_7C	1			Yes	Yes	Yes	Yes	80	0
		7			See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1					
		28				Yes	Yes	Yes		





CA_1A-7A-32A	-	1			Yes	Yes	Yes	Yes	60	0
		7				Yes	Yes	Yes		
		32			Yes	Yes	Yes	Yes		
CA_1A-8A-38A	-	1			Yes	Yes	Yes	Yes	50	0
		8			Yes	Yes				
		38			Yes	Yes	Yes	Yes		
CA_1A-20A-32A	-	1			Yes	Yes	Yes	Yes	50	0
		20			Yes	Yes				
		32			Yes	Yes	Yes	Yes		
CA_2A-4A-5A	-	2			Yes	Yes	Yes	Yes	50	0
		4			Yes	Yes	Yes	Yes		
		5			Yes	Yes				
CA_2A-4A-7A	-	2			Yes	Yes	Yes	Yes	60	0
		4			Yes	Yes	Yes	Yes		
		7			Yes	Yes	Yes	Yes		
CA_2A-4A-7C	-	2			Yes	Yes	Yes	Yes	80	0
		4			Yes	Yes	Yes	Yes		
		7	See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1							
CA_2A-4A-7A-7A	-	2			Yes	Yes	Yes	Yes	80	0
		4			Yes	Yes	Yes	Yes		
		7	See the CA_7A-7A Bandwidth combination set 1 in Table 5.6A.1-3							
CA_2A-4A-12A	-	2			Yes	Yes	Yes	Yes	50	0
		4			Yes	Yes	Yes	Yes		
		12			Yes	Yes				
CA_2A-4A-28A	-	2			Yes	Yes	Yes	Yes	60	0
		4			Yes	Yes	Yes	Yes		
		28			Yes	Yes	Yes	Yes		
CA_2A-7A-12A	-	2			Yes	Yes	Yes	Yes	50	0
		7			Yes	Yes	Yes	Yes		
		12			Yes	Yes				
CA_2A-7A-28A	-	2			Yes	Yes	Yes	Yes	60	0
		7			Yes	Yes	Yes	Yes		
		28			Yes	Yes	Yes	Yes		
CA_3A-7A-8A	-	3			Yes	Yes	Yes		40	0
		7				Yes	Yes			
		8			Yes	Yes				
		3			Yes	Yes	Yes	Yes	50	1
		7				Yes	Yes	Yes		
		8			Yes	Yes				
		3			Yes	Yes	Yes	Yes	50	2
7			Yes	Yes	Yes	Yes				



		8			Yes	Yes					
CA_3A-5A-7A	-	3				Yes	Yes	Yes	50	0	
		5			Yes	Yes					
		7				Yes	Yes	Yes			
CA_3C-7A-8A	-	3	See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1							70	0
		7			Yes	Yes	Yes	Yes			
		8			Yes	Yes					
CA_3A-3A-7A-8A	-	3	See CA_3A-3A Bandwidth Combination Set 0 in Table 5.6A.1-3							70	0
		7			Yes	Yes	Yes	Yes			
		8			Yes	Yes					
		3	See CA_3A-3A Bandwidth Combination Set 1 in Table 5.6A.1-3							60	1
		7			Yes	Yes	Yes	Yes			
		8			Yes	Yes					
CA_3A-3A-7A-7A-8A	-	3	See CA_3A-3A Bandwidth Combination Set 0 in table 5.6A.1-3							90	0
		7	See CA_7A-7A Bandwidth Combination Set 1 in table 5.6A.1-3								
		8			Yes	Yes					
		3	See CA_3A-3A Bandwidth Combination Set 1 in table 5.6A.1-3							70	1
		7	See CA_7A-7A Bandwidth Combination Set 2 in table 5.6A.1-3								
		8			Yes	Yes					
CA_3A-7A-7A-8A	-	3			Yes	Yes	Yes	Yes	70	0	
		7	See CA_7A-7A Bandwidth Combination Set 1 in Table 5.6A.1-3								
		8			Yes	Yes					
		3			Yes	Yes	Yes	Yes	60	1	
		7	See CA_7A-7A Bandwidth Combination Set 2 in Table 5.6A.1-3								
		8			Yes	Yes					
CA_3A-7A-8A	-	3			Yes	Yes	Yes		40	0	
		7				Yes	Yes				
		8			Yes	Yes					
		3			Yes	Yes	Yes	Yes	50	1	
		7				Yes	Yes	Yes			
		8			Yes	Yes					
		3			Yes	Yes	Yes	Yes	50	2	
		7			Yes	Yes	Yes	Yes			
8			Yes	Yes							
CA_3A-7A-20A	-	3			Yes	Yes	Yes	Yes	60	0	



		7				Yes	Yes	Yes				
		20			Yes	Yes	Yes	Yes				
		3			Yes	Yes	Yes	Yes	60	1		
		7			Yes	Yes	Yes	Yes				
		20			Yes	Yes	Yes	Yes				
		3			See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1						80	0
		7			Yes	Yes	Yes	Yes				
		20			Yes	Yes	Yes	Yes				
CA_3C-7A-20A	-	3			See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1				80	1		
		7			Yes	Yes	Yes	Yes				
		20			Yes	Yes	Yes	Yes				
CA_3A-7C-20A	-	3			Yes	Yes	Yes	Yes	80	0		
		7			See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1							
		20			Yes	Yes	Yes	Yes				
CA_3A-7A-28A	-	3			Yes	Yes	Yes	Yes	60	0		
		7			Yes	Yes	Yes	Yes				
		28			Yes	Yes	Yes	Yes				
CA_3A-7C-28A	CA_7C	3				Yes	Yes	Yes	80	0		
		7			See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1							
		28			Yes	Yes	Yes	Yes				
		3				Yes	Yes	Yes	80	1		
		7			See CA_7C Bandwidth Combination Set 1 in Table 5.6A.1-1							
		28			Yes	Yes	Yes	Yes				
CA_3C-7A-28A	-	3			See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1				80	0		
		7			Yes	Yes	Yes	Yes				
		28			Yes	Yes	Yes	Yes				
CA_3C-7C-28A	-	3			See CA_3C Bandwidth Combination Set 0 in Table 5.6A.1-1				100	0		
		7			See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1							
		28			Yes	Yes	Yes	Yes				
CA_3A-7A-32A	-	3			Yes	Yes	Yes	Yes	60	0		
		7			Yes	Yes	Yes	Yes				
		32			Yes	Yes	Yes	Yes				
CA_3C-7A-32A	-	3			See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1				80	0		
		7			Yes	Yes	Yes	Yes				
		32			Yes	Yes	Yes	Yes				



CA_3A-8A-38A	-	3			Yes	Yes	Yes	Yes	50	0	
		8			Yes	Yes					
		38			Yes	Yes	Yes	Yes			
CA_3C-8A-38A	-	3	See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1						70	0	
		8			Yes	Yes					
		38			Yes	Yes	Yes	Yes			
		8		Yes	Yes	Yes					
		40			Yes	Yes	Yes	Yes			
		20				Yes	Yes	Yes			
28			Yes	Yes	Yes	Yes					
CA_3A-20A-32A	-	3			Yes	Yes	Yes	Yes	60	0	
		20			Yes	Yes	Yes	Yes			
		32			Yes	Yes	Yes	Yes			
		28			Yes	Yes	Yes	Yes			
		38			Yes	Yes	Yes	Yes			
CA_3A-28A-38A	-	3			Yes	Yes	Yes	Yes	60	0	
		28			Yes	Yes	Yes	Yes			
		38			Yes	Yes	Yes	Yes			
CA_4A-7A-12A	-	4			Yes	Yes			40	0	
		7			Yes	Yes	Yes	Yes			
		12			Yes	Yes					
		4			Yes	Yes	Yes	Yes	50		1
		7			Yes	Yes	Yes	Yes			
		12			Yes	Yes					
CA_7A-20A-32A	-	7				Yes	Yes	Yes	60	0	
		20			Yes	Yes	Yes	Yes			
		32			Yes	Yes	Yes	Yes			
CA_7A-28A-38A14	-	7				Yes	Yes	Yes	60	0	
		28			Yes	Yes	Yes	Yes			
		38			Yes	Yes	Yes	Yes			

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.

NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set.

NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.

NOTE 4: A terminal which supports a DL CA configuration shall support all the lower order fallback DL CA combinations and it shall support at least one bandwidth combination set for each of the constituent lower order DL combinations containing all the bandwidths specified within each specific combination set of the upper order DL combination.

NOTE 5: Uplink CA configurations are the configurations supported by the present release of specifications.

NOTE 6: If the UE supports any uplink CA configuration for corresponding downlink CA configuration it shall support this uplink CA configuration.

NOTE 7: UL carrier shall be supported in Band 3 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within [6dB].

NOTE 8: UL carrier shall be supported in Band 20 only. Power imbalance between downlink carriers on Band 7 and Band 38 is



assumed to be within [6dB]

NOTE 9: UL carrier is only supported on Band 1 or Band 3 not Band 41 because the fall back mode 1UL/2DL CA\_1A-41A has the limitation that UL carrier is only supported on Band 1.

NOTE 10: UL carrier is only supported on Band 1 or Band 42 not Band 41 because the fall back mode 1UL/2DL CA\_1A-41A has the limitation that UL carrier is only supported on Band 1.

NOTE 11: UL carrier is only supported on Band 1 or Band 5 not Band 41 because the fall back mode 1UL/2DL CA\_1A-41A has the limitation that UL carrier is only supported on Band 1.

NOTE 12: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within [6dB].

NOTE 13: UL carrier shall be supported in Band 8 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within [6dB].

NOTE 14: UL carrier shall be supported in Band 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within [6dB].

NOTE 15: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within [6dB].

E-UTRA CA configurations and bandwidth combination sets defined for inter-band CA (four bands)

E-UTRA CA configuration / Bandwidth combination set												
E-UTRA Configuration	CA	Uplink CA configurations (NOTE 5)	E-UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set	
CA_1A-3A-7A-8A	-		1			Yes	Yes	Yes	Yes	70	0	
			3			Yes	Yes	Yes	Yes			
			7				Yes	Yes	Yes			
			8			Yes	Yes					
			1			Yes	Yes	Yes	Yes	70		1
			3			Yes	Yes	Yes	Yes			
			7			Yes	Yes	Yes	Yes			
			8			Yes	Yes					
CA_1A-3C-7A-8A	-		1			Yes	Yes	Yes	Yes	90	0	
			3	See the CA_3C Bandwidth combination set 0 in Table 5.6A.1-1								
			7			Yes	Yes	Yes	Yes			
			8			Yes	Yes					
CA_1A-3A-7A-20A	-		1			Yes	Yes	Yes	Yes	80	0	
			3			Yes	Yes	Yes	Yes			
			7				Yes	Yes	Yes			
			20			Yes	Yes	Yes	Yes			
			1			Yes	Yes	Yes	Yes	80		1
			3			Yes	Yes	Yes	Yes			
			7			Yes	Yes	Yes	Yes			
			20			Yes	Yes	Yes	Yes			
CA_1A-3C-7A-20A	-		1			Yes	Yes	Yes	Yes	100	0	
			3	See CA_3C in Table 5.6A.1-1 of 36.101 Bandwidth combination set 0								



		7			Yes	Yes	Yes	Yes				
		20			Yes	Yes	Yes	Yes				
CA_1A-3A-7C-20A	-	1			Yes	Yes	Yes	Yes	100	0		
		3			Yes	Yes	Yes	Yes				
		7	See CA_7C Bandwidth combination set 1 in Table 5.6A.1-1									
		20			Yes	Yes	Yes	Yes				
CA_1A-3A-7A-28A	-	1			Yes	Yes	Yes	Yes	80	0		
		3				Yes	Yes	Yes				
		7				Yes	Yes	Yes				
		28				Yes	Yes	Yes				
		CA_1A-3A-7A-28A	-	1			Yes	Yes	Yes	Yes	80	1
				3			Yes	Yes	Yes	Yes		
				7				Yes	Yes	Yes		
				28			Yes	Yes	Yes	Yes		
CA_1A-3A-7C-28A	CA_7C	1			Yes	Yes	Yes	Yes	100	0		
		3				Yes	Yes	Yes				
		7	See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1									
		28				Yes	Yes	Yes				
CA_1A-3A-7A-32A	-	1			Yes	Yes	Yes	Yes	80	0		
		3			Yes	Yes	Yes	Yes				
		7				Yes	Yes	Yes				
		32			Yes	Yes	Yes	Yes				
CA_1A-3A-8A-38A	-	1			Yes	Yes	Yes	Yes	70	0		
		3			Yes	Yes	Yes	Yes				
		8			Yes	Yes						
		38			Yes	Yes	Yes	Yes				
CA_1A-3A-20A-32A	-	1			Yes	Yes	Yes	Yes	80	0		
		3			Yes	Yes	Yes	Yes				
		20				Yes	Yes	Yes				
		32			Yes	Yes	Yes	Yes				
		CA_1A-3A-20A-32A	-	1			Yes	Yes	Yes		55	1
				3			Yes	Yes	Yes			
				20			Yes					
				32			Yes	Yes	Yes	Yes		
CA_1A-7A-20A-32A	-	1			Yes	Yes	Yes	Yes	70	0		
		7				Yes	Yes	Yes				
		20			Yes	Yes						
		32			Yes	Yes	Yes	Yes				
CA_2A-4A-7A-12A	-	2			Yes	Yes	Yes	Yes	70	0		
		4			Yes	Yes	Yes	Yes				
		7			Yes	Yes	Yes	Yes				



		12			Yes	Yes				
CA_3A-7A-20A-32A	-	3			Yes	Yes	Yes	Yes	80	0
		7				Yes	Yes	Yes		
		20			Yes	Yes	Yes	Yes		
		32			Yes	Yes	Yes	Yes		
CA_3A-7A-8A-38A9	-	3			Yes	Yes	Yes	Yes	70	0
		7				Yes	Yes	Yes		
		8			Yes	Yes				
		38			Yes	Yes	Yes	Yes		
CA_3C-7A-8A-38A1	-	3	See CA_3C Bandwidth combination set 0 in Table 5.6A.1-1						90	0
		7				Yes	Yes	Yes		
		8			Yes	Yes				
		38			Yes	Yes	Yes	Yes		
CA_3A-7A-28A-38A9	-	3			Yes	Yes	Yes	Yes	80	0
		7				Yes	Yes	Yes		
		28			Yes	Yes	Yes	Yes		
		38			Yes	Yes	Yes	Yes		

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.

NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set.

NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.

NOTE 4: A terminal which supports a DL CA configuration shall support all the lower order fallback DL CA combinations and it shall support at least one bandwidth combination set for each of the constituent lower order DL combinations containing all the bandwidths specified within each specific combination set of the upper order DL combination.

NOTE 5: Uplink CA configurations are the configurations supported by the present release of specifications.

NOTE 6: If the UE supports any uplink CA configuration for corresponding downlink CA configuration it shall support this uplink CA configuration.

NOTE 7: Power imbalance between downlink carriers on Band 20 and Band 28 is assumed to be within [6dB].

NOTE 8: UL carrier is only supported on Band 1, Band 3 or Band 5 not Band 41 because the fall back mode 2DL/1UL CA\_1A-41A has the limitation that UL carrier is only supported on Band 1.

NOTE 9: UL carrier shall be supported in Band 3, 8 or 28 only. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within [6dB].

### 5.3.7.2 Test procedure for downlink CA

According to 201804 FCC RF Exposure TCB workshop slides, the guidance does not consider Intra-band DL CA and inter-band DL CA separately.

In applying the power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the CA configuration with the largest aggregated DL CA bandwidth in each frequency band group need consideration (independently for contiguous and non-contiguous CA). When the same frequency band is used for both contiguous and non-contiguous CA, power may be measured using the configuration with the largest aggregated bandwidth “and” maximum output power among the



contiguous and non-contiguous CA configurations, otherwise, these are considered separately. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need consideration.

*the configurations that require power measurements are in the table as below:*

Index	2CCs	Restriction	Covered by	Index	3CCs	Restriction	Covered by	Index	4CCs	Restriction	Covered by	Index	5CCs	Restriction	Covered by
2CCs#1	CA_2C		No	3CCs#1	CA_41D		No	4CCs#1	CA_2A-2A-66C		5CCs#1	5CCs#1	CA_2A-2A-5A-66C		No
2CCs#2	CA_5B		No	3CCs#2	CA_66D		No	4CCs#2	CA_7A-7A-66A-66A		No	5CCs#2	CA_2A-2A-7A-12A-66A		No
2CCs#3	CA_7C		3CCs#7	3CCs#3	CA_2A-4A-4A		No	4CCs#3	CA_7C-66A-66A		No	5CCs#3	CA_2A-7A-12B-66A		No
2CCs#4	CA_12B		3CCs#10	3CCs#4	CA_2A-2A-5A		4CCs#7	4CCs#4	CA_2A-4A-7A-7A		No				
2CCs#5	CA_38C		No	3CCs#5	CA_2A-2A-7A		4CCs#8	4CCs#5	CA_2A-4A-7C		No				
2CCs#6	CA_41C		No	3CCs#6	CA_2A-7A-7A		4CCs#4	4CCs#6	CA_2A-4A-12A-12A		No				
2CCs#7	CA_66B		No	3CCs#7	CA_2A-7C		4CCs#5	4CCs#7	CA_2A-2A-5A-66A		No				
2CCs#8	CA_66C		3CCs#11	3CCs#8	CA_2A-2A-12A		4CCs#8	4CCs#8	CA_2A-2A-7A-12A		5CCs#2				
2CCs#9	CA_2A-2A		3CCs#4	3CCs#9	CA_2A-12A-12A		4CCs#6	4CCs#9	CA_2A-2A-7A-66A		5CCs#2				
2CCs#10	CA_4A-4A		3CCs#3	3CCs#10	CA_2A-12B		4CCs#12	4CCs#10	CA_2A-2A-12A-66A		5CCs#2				
2CCs#11	CA_7A-7A		3CCs#6	3CCs#11	CA_2A-66C		4CCs#1	4CCs#11	CA_2A-5A-66C		5CCs#1				
2CCs#12	CA_12A-12A		3CCs#9	3CCs#12	CA_2A-2A-66A		4CCs#7	4CCs#12	CA_2A-7A-12B		5CCs#3				
2CCs#13	CA_66A-66A		3CCs#13	3CCs#13	CA_2A-66A-66A		4CCs#14	4CCs#13	CA_2A-7A-7A-66A		No				
2CCs#14	CA_2A-4A		3CCs#3	3CCs#14	CA_4A-4A-5A		No	4CCs#14	CA_2A-7A-66A-66A		No				
2CCs#15	CA_2A-5A		3CCs#4	3CCs#15	CA_4A-4A-7A		No	4CCs#15	CA_2A-12B-66A		5CCs#3				
2CCs#16	CA_2A-7A		3CCs#5	3CCs#16	CA_4A-7C		4CCs#5	4CCs#16	CA_7A-12B-66A		5CCs#3				
2CCs#17	CA_2A-12A		3CCs#8	3CCs#17	CA_4A-7A-7A		4CCs#4	4CCs#17	CA_2A-4A-7A-12A		No				
2CCs#18	CA_2A-17A		No	3CCs#18	CA_4A-4A-12A		No	4CCs#18	CA_2A-7A-12A-66A		5CCs#2				
2CCs#19	CA_2A-66A		3CCs#12	3CCs#19	CA_4A-12A-12A		4CCs#6								
2CCs#20	CA_4A-5A		3CCs#14	3CCs#20	CA_4A-12B		No								
2CCs#21	CA_4A-7A		3CCs#15	3CCs#21	CA_5A-7C		No								
2CCs#22	CA_4A-12A		3CCs#18	3CCs#22	CA_5A-7A-7A		No								
2CCs#23	CA_4A-17A		No	3CCs#23	CA_5A-66C		4CCs#11								
2CCs#24	CA_5A-7A		3CCs#22	3CCs#24	CA_7A-12B		4CCs#12								
2CCs#25	CA_5A-66A		3CCs#33	3CCs#25	CA_7C-66A		4CCs#3								
2CCs#26	CA_7A-12A		3CCs#34	3CCs#26	CA_7A-7A-66A		4CCs#2								
2CCs#27	CA_7A-66A		3CCs#26	3CCs#27	CA_7A-66A-66A		4CCs#2								
2CCs#28	CA_12A-66A		3CCs#28	3CCs#28	CA_12A-66A-66A		No								
				3CCs#29	CA_12B-66A		4CCs#15								
				3CCs#30	CA_2A-4A-5A		No								
				3CCs#31	CA_2A-4A-7A		4CCs#4								
				3CCs#32	CA_2A-4A-12A		4CCs#6								
				3CCs#33	CA_2A-5A-66A		4CCs#7								
				3CCs#34	CA_2A-7A-12A		4CCs#8								
				3CCs#35	CA_2A-7A-66A		4CCs#9								
				3CCs#36	CA_2A-12A-66A		4CCs#10								
				3CCs#37	CA_4A-7A-12A		4CCs#17								

Refer to section 9.3 of this report for detailed DL CA conducted power measurement results

**5.3.7.3 Test procedure for Intra-band uplink CA**

For Intra-band uplink LTE CA measurement(Uplink CA 7C, CA 38C, CA 41C), the following procedure according to 201711 FCC RF Exposure TCB workshop slides is applied.

1)Maximum output power is measured for each UL CA configuration for the required test channels described in KDB 941225 D05( Rel. 8).

- UL PCC configuration is determined by the required test channel.
- SCC and subsequent CCs are added alternatively to either side of the PCC or within the transmission band for channels at the ends of a frequency band.

2)SAR for UL CA is required in each exposure condition and frequency band combination.

3) For this device, as the maximum output for Intra-band uplink LTE CA (Uplink CA 7C, CA 38C,CA 41C)is ≤ standalone LTE mode(without CA).

- PCC is configured according to the highest standalone SAR configuration tested.
- SCC and subsequent CCs are configured according to procedures used for power measurement and parameters (BW, RB etc.)similar to that used for the PCC.

4)When the reported SAR for UL CA configuration, described above, is >1.2 W/kg, UL CA SAR is also required for all required test channels(PCC, based).





5) UL CA SAR is also required for standalone SAR configurations >1.2 W/kg when they are scaled to the UL CA power level

Refer to section 9.3 of this report for detailed UL CA conducted power measurement results.

#### 5.3.7.4 LTE Downlink 4 x 4 MIMO specification and Test procedure

LTE B4/B7/B38 of this device support downlink 4\*4 MIMO band, the information are tabulated below:

Model Name	LIO-L29
LTE Band support DL 4*4MIMO	B4/B7/B38
<b>Intra-band contiguous CA With DL 4*4MIMO</b>	<b>4*4MIMO Band</b>
CA_4C	B4(single card only)
CA_7C	B7(single card only)
CA_7D	B7(single card only)
CA_38C	B38(single card only)
<b>Inter-band CA (two bands) With DL 4*4MIMO</b>	<b>4*4MIMO Band</b>
CA_1A-3A	B1,B3(single card only) B1/B3(double card only)
CA_1C-3A	B1,B3(single card only )
CA_1A-3C	B1,B3(single card only )
CA_1A-1A-3A	B3(single card only )
CA_1A-3A-3A	B1 (single card only )
CA_1C-3C	B3(single card only )
CA_1A-1A-3C	B3(single card only )
CA_1A-3D	B1,B3 (single card only )
CA_1C-3D	B1/ B3(single card only )
CA_1A-5A	B1(single card only )B1(double card only)
CA_1A-7A	B1,B7(single card only) B1/B7(double card only)
CA_1C-7A	B1,B7(single card only )
CA_1A-7C	B1,B7(single card only )
CA_1A-8A	B1
CA_1A-18A	B1
CA_1A-19A	B1
CA_1A-20A	B1
CA_1A-26A	B1
CA_1A-28A	B1
CA_1A-32A	B1(single card only )
CA_1A-38A	B1/ B38(single card only )B1(double card only)
CA_1A-38C	B1/ B38 (single card only )
CA_3A-5A	B3
CA_3C-5A	B3(single card only )
CA_3A-7A	B3,B7(single card only ) B3/B7(double card only)
CA_3C-7A	B3,B7(single card only )
CA_3A-3A-7A	B7(single card only )
CA_3A-7C	B3,B7(single card only )
CA_3A-7A-7A	B3(single card only )



CA_3C-7C	B3(single card only )
CA_3A-8A	B3
CA_3C-8A	B3(single card only )
CA_3A-19A	B3
CA_3A-20A	B3
CA_3C-20A	B3(single card only )
CA_3A-26A	B3
CA_3A-28A	B3
CA_3C-28A	B3(single card only )
CA_3A-32A	B3
CA_3C-32A	B3(single card only )
CA_3A-38A	B3/ B38
CA_3C-38A	B3/ B38 (single card only )
CA_3A-3A-38A	B38 (single card only )
CA_3A-38C	B3(single card only )
CA_3C-38C	B3/ B38 (single card only )
CA_3A-41A	B3
CA_3A-41C	B3(single card only )
CA_4A-5A	B4
CA_4A-7A	B4, B7(single card only ) B4/B7(double card only)
CA_4C-7A	B4, B7(single card only )
CA_4A-4A-7A	B4/ B7(single card only )
CA_4A-7C	B4, B7(single card only )
CA_4A-12A	B4
CA_4A-12B	B4(single card only )
CA_4A-17A	B4
CA_4A-28A	B4
CA_5A-7A	B7
CA_5A-7C	B7(single card only )
CA_7A-8A	B7
CA_7A-12A	B7
CA_7A-20A	B7
CA_7C-20A	B7(single card only )
CA_7A-28A	B7
CA_7C-28A	B7(single card only )
CA_7A-32A	B7(single card only )
CA_8A-38A	B38
CA_28A-38A	B38
<b>Inter-band CA (Three bands) With DL 4*4MIMO</b>	<b>4*4MIMO Band</b>
CA_1A-3A-5A	B1,B3(single card only )
CA_1A-1A-3A-5A	B3(single card only )
CA_1A-3C-5A	B1,B3(single card only )
CA_1A-1A-3C-5A	B3(single card only )



CA_1A-3A-7A	B1,B3,B7(single card only )
CA_1C-3A-7A	B1,B3,B7 (single card only )
CA_1A-3C-7A	B1,B3,B7 (single card only )
CA_1A-3A-3A-7A	B7(single card only )
CA_1A-3A-7C	B1,B3,B7 (single card only )
CA_1A-3A-7A-7A	B3(single card only )
CA_1C-3C-7A	(B1,B7)/(B3,B7)(single card only )
CA_1A-3C-7C	(B1,B3)/(B1,B7)(single card only )
CA_1A-3A-8A	B1,B3(single card only )
CA_1C-3A-8A	B1,B3(single card only )
CA_1A-1A-3A-8A	B3(single card only )
CA_1A-3C-8A	B1,B3(single card only )
CA_1A-3A-3A-8A	B1(single card only )
CA_1A-3A-19A	B1,B3(single card only )
CA_1A-3A-20A	B1,B3(single card only )
CA_1A-3C-20A	B1,B3(single card only )
CA_1A-3A-28A	B1,B3(single card only )
CA_1A-1A-3A-28A	B3(single card only )
CA_1A-3C-28A	B1,B3(single card only )
CA_1A-1A-3C-28A	B3(single card only )
CA_1A-3A-32A	B1/B3(single card only )
CA_1A-3A-38A	(B1,B3)/B38(single card only )
CA_1A-3C-38A	(B1,B3)/B38 (single card only )
CA_1A-3A-38C	(B1,B3)/B38 (single card only )
CA_1A-3C-38C	(B1,B3)/B38 (single card only )
CA_1A-5A-7A	B1,B7(single card only )
CA_1A-7A-8A	B1,B7(single card only )
CA_1A-7A-20A	B1,B7(single card only )
CA_1A-7C-20A	B1,B7(single card only )
CA_1A-7A-28A	B1,B7(single card only )
CA_1A-7C-28A	B1,B7(single card only )
CA_1A-8A-38A	B1/B38(single card only )
CA_1A-20A-38A	B1/B38(single card only )
CA_1A-28A-38A	B1/B38(single card only )
CA_3A-5A-7A	B3,B7(single card only )
CA_3A-7A-8A	B3,B7(single card only )
CA_3C-7A-8A	B3,B7(single card only )
CA_3A-3A-7A-8A	B7(single card only )
CA_3A-7A-7A-8A	B3(single card only )
CA_3A-7A-20A	B3,B7(single card only )
CA_3C-7A-20A	B3,B7(single card only )
CA_3A-3A-7A-20A	B7(single card only )
CA_3A-7C-20A	B3,B7(single card only )



CA_3A-7A-7A-20A	B3(single card only )
CA_3A-7A-28A	B3,B7(single card only )
CA_3C-7A-28A	B3,B7(single card only )
CA_3A-7C-28A	B3,B7(single card only )
CA_3C-7C-28A	B3/B7(single card only )
CA_3A-7A-32A	B3,B7(single card only )
CA_3C-7A-32A	B3,B7(single card only )
CA_3A-7A-38A	B3(single card only )
CA_3A-7A-38C	B3(single card only )
CA_3A-8A-38A	B3/B38(single card only )
CA_3C-8A-38A	B3/B38(single card only )
CA_3A-20A-32A	B3(single card only )
CA_3A-20A-38A	B3/B38(single card only )
CA_3A-28A-38A	B3/B38(single card only )
CA_4A-7A-12A	B4,B7(single card only )
CA_7A-20A-32A	B7(single card only )
<b>Inter-band CA (Four bands) With DL 4*4MIMO</b>	<b>4*4MIMO Band</b>
CA_1A-3A-7A-8A	(B1,B3)/(B1,B7)/(B3,B7)(single card only)
CA_1A-3C-7A-8A	(B1,B3)/(B1,B7)/(B3,B7)(single card only)
CA_1A-3A-3A-7A-8A	B7(single card only)
CA_1A-3A-7A-20A	(B1,B3)/(B1,B7)/(B3,B7)(single card only)
CA_1A-3C-7A-20A	(B1,B3)/(B1,B7)/(B3,B7)(single card only)
CA_1A-3A-7A-28A	(B1,B3)/(B1,B7)/(B3,B7)(single card only)
CA_1A-3A-7C-28A	(B1,B3)/(B1,B7)/(B3,B7)(single card only)
CA_1A-3A-7A-32A	B3(single card only)
CA_1A-3A-7A-38A	B3(single card only)
CA_1A-3A-7A-38C	B3(single card only)
CA_1A-3A-8A-38A	(B1,B3)/B38(single card only)
CA_1A-3A-20A-32A	B3(single card only)
CA_1A-3A-20A-38A	B1,B3(single card only)
CA_3A-7A-8A-38A	B3(single card only)
CA_3C-7A-8A-38A	B3(single card only)
CA_3A-7A-20A-32A	B3,B7(single card only)
CA_3A-7A-20A-38A	B3(single card only)
CA_3A-7A-28A-38A	B3(single card only)
<b>Inter-band CA (Five bands) With DL 4*4MIMO</b>	<b>4*4MIMO Band</b>
CA_1A-3A-7A-20A-32A	B3(single card only)
CA_1A-3A-7A-28A-38A	B3(single card only)

According to 201705 FCC RF Exposure TCB workshop slides, SAR test exclusion for LTE DL 4x4 MIMO should be determined by UL power measurements with and without DL MIMO using the highest UL output power configuration without DL MIMO to confirm that UL output with DL MIMO is < ¼ dB higher. For DL MIMO with carrier aggregation, the same SAR test exclusion procedure



should be considered.

For LTE DL 4x4 MIMO with carrier aggregation, the same SAR test exclusion procedure should be considered: In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need consideration. the configurations that require power measurements are in the table as below:

Index	2CCs	Restriction	Covered by	Index	3CCs	Restriction	Covered by	Index	4CCs	Restriction	Covered by	Index	5CCs	Restriction	Covered by
2CCs#1	CA_2C		No	3CCs#1	CA_66D		No	4CCs#1	CA_2A-2A-66C		No	5CCs#1	CA_2A-2A-5A-66C		No
2CCs#2	CA_7C		No	3CCs#2	CA_2A-2A-7A		No	4CCs#2	CA_7C-66A-66A		No	5CCs#2	CA_2A-2A-7A-12A-66A		No
2CCs#3	CA_66B		No	3CCs#3	CA_2A-7C		No	4CCs#3	CA_2A-4A-7C		No	5CCs#3	CA_2A-7A-12B-66A		No
2CCs#4	CA_66C		No	3CCs#4	CA_2A-7A-7A		No	4CCs#4	CA_2A-4A-7A		No				
2CCs#5	CA_2A-4A		No	3CCs#5	CA_2A-12B		No	4CCs#5	CA_2A-4A-12A-12A		No				
2CCs#6	CA_2A-5A		No	3CCs#6	CA_2A-12A-12A		No	4CCs#6	CA_2A-2A-5A-66A		No				
2CCs#7	CA_2A-7A		No	3CCs#7	CA_2A-2A-66A		No	4CCs#7	CA_2A-5A-66C		No	5CCs#1			
2CCs#8	CA_2A-12A		No	3CCs#8	CA_2A-66C		No	4CCs#8	CA_2A-2A-7A-12A		No	5CCs#2			
2CCs#9	CA_2A-17A		No	3CCs#9	CA_4A-4A-7A		No	4CCs#9	CA_2A-7A-12B		No	5CCs#3			
2CCs#10	CA_2A-66A		No	3CCs#10	CA_4A-7C		No	4CCs#10	CA_2A-2A-7A-66A		No	5CCs#2			
2CCs#11	CA_4A-5A		No	3CCs#11	CA_4A-12B		No	4CCs#11	CA_2A-7A-7A-66A		No				
2CCs#12	CA_4A-7A		No	3CCs#12	CA_4A-12A-12A		No	4CCs#12	CA_2A-7A-66A-66A		No				
2CCs#13	CA_4A-12A		No	3CCs#13	CA_5A-7C		No	4CCs#13	CA_2A-2A-12A-66A		No	5CCs#2			
2CCs#14	CA_4A-17A		No	3CCs#14	CA_5A-66C		No	4CCs#14	CA_2A-12B-66A		No	5CCs#3			
2CCs#15	CA_5A-7A		No	3CCs#15	CA_7A-12B		No	4CCs#15	CA_7A-12B-66A		No	5CCs#3			
2CCs#16	CA_5A-66A		No	3CCs#16	CA_7C-66A		No	4CCs#16	CA_2A-4A-7A-12A		No				
2CCs#17	CA_7A-12A		No	3CCs#17	CA_7A-66A-66A		No	4CCs#17	CA_2A-7A-12A-66A		No	5CCs#2			
2CCs#18	CA_7A-66A		No	3CCs#18	CA_12B-66A		No	4CCs#14							
2CCs#19	CA_12A-66A		No	3CCs#19	CA_2A-4A-5A		No								
				3CCs#20	CA_2A-4A-7A		No								
				3CCs#21	CA_2A-4A-12A		No								
				3CCs#22	CA_2A-5A-66A		No								
				3CCs#23	CA_2A-7A-12A		No								
				3CCs#24	CA_2A-7A-66A		No								
				3CCs#25	CA_2A-12A-66A		No								
				3CCs#26	CA_4A-7A-12A		No								
				3CCs#27	CA_7A-12A-66A		No								

Refer to section 9.3 of this report for detailed DL 4\*4 MIMO conducted power measurement results.

### 5.3.8 Power Reduction Configuration

This device uses the following power reduction features to reduce the transmit power and ensure SAR compliance. These power reduction features are implemented using a single fixed level of reduction through static table look-up for some wireless operating modes or frequency bands and triggered by a single event or operation. The published RF exposure KDB procedures are applicable to the specific implementation and applied for testing. So PAG is not required for these features.

- 1) A fixed level power reduction is applied for some frequency bands when hotspot mode becomes active. When the hotspot is disabled, the power value will be recovered.
- 2) A fixed level power reduction is applied for some frequency bands when 2G/3G/4G and WIFI transmit simultaneously.
- 3) This device uses the receiver to indicate whether the user is making a voice call in head scenario or not. The selection between head and body power levels is based on the receiver detection mechanism. A fixed level power reduction is applied for some frequency bands when the audio receiver is on.
- 4) This device uses the mobile country code (MCC) detection mechanism to indicate whether the users in CE countries and FCC countries in Wi-Fi bands. The selection between different power levels is based on the country code detection mechanism. It can determine the countries where users are and set the relevant power level for Wi-Fi antennas accordingly.

Antenna	MCC OF CE COUNTRY (CE standard)	MCC OF FCC COUNTRY (FCC standard)
WiFi 2.4G Core0	Power Level A3	Power Level B3
WiFi 2.4G Core1	Power Level A4	Power Level B4



WiFi 5G Core0	Power Level A5	Power Level B5
WiFi 5G Core1	Power Level A6	Power Level B6

5) This device uses a proximity sensor to reduce the maximum output power of 2G/3G/4G main transmitting antenna in selected wireless modes and operating configurations to ensure SAR compliance. The procedures in KDB 616217 are applied to determine proximity sensor triggering distances, and sensor coverage for normal and tilt positions.

**5.3.8.1 Power reduction triggered by specific use conditions (2G&3G&4G Second Antenna)**

The following tables summarize the key power reduction information of 2G/3G/4G second antenna triggered by specific use conditions. The detailed full power and reduced conducted power measurement results are provided in Section 9 of this report.

Second antenna	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC
Power Reduction Scenario	GSM 850	GSM 1900	WCDM A B2	WCDM A B4	WCDM A B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B12	LTE B17	LTE B26	LTE B38	LTE B40	LTE B41
Receiver on	6.00	3.00	7.50	6.00	6.50	6.50	6.00	7.50	9.00	4.50	4.50	7.00	6.00	7.00	6.50
Receiver off	3.00	0.00	2.00	1.00	0.00	2.00	1.50	0.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00
Receiver on+WiFi connect/ P2P/ Hotspot	9.50	5.00	10.50	9.50	9.50	9.00	9.50	11.50	12.50	7.00	7.00	11.00	8.50	10.00	9.00
Receiver off+WiFi connect/P2P/Hotspot	6.50	2.00	5.00	4.50	3.00	4.50	5.00	4.00	5.50	2.50	2.50	4.00	2.50	4.00	2.50

Second antenna mas	FCC	FCC	FCC	FCC	FCC	FCC
Power Reduction Scenario	LTE B2	LTE B4	LTE B7	LTE B38	LTE B40	LTE B41
Receiver on	0.00	0.00	0.00	0.00	0.00	0.00
Receiver off	0.00	0.00	0.00	0.00	0.00	0.00
Receiver on+WiFi connect/P2P/Hotspot	3.00	2.00	0.00	0.00	0.00	0.00
Receiver off+WiFi connect/P2P/Hotspot	3.00	2.00	0.00	0.00	0.00	0.00

Note: For Head SAR test of 2G/3G/4G Second Antenna, standalone Head SAR should be evaluated with audio receiver on. The audio receiver only works in voice mode when the user is making a call in head scenario, lacking of the third-party VoIP server and the unstandardized VOIP operating characteristic, therefore, a test script tool is used to trigger the receiver on during the test. The test script is only used to trigger audio receiver on and simulate voice and VOIP usage scene. It can be ensured that the unmodified settings in production units, including maximum output power, amplifier gain and other RF performance or tuning parameters, are used for SAR measurement.

### 5.3.8.2 Country code detection mechanism

The device uses the mobile country code (MCC) to indicate whether the users in CE countries or FCC countries. The selection between CE countries and FCC countries power levels is based on the country code detection mechanism. It can determine the countries where users are and set the relevant power level for Wi-Fi antennas accordingly.

Wi-Fi Antenna Power Level																
Band	Antenna	MCC of CE countries						Band	Antenna	MCC of FCC countries						
		Mode	CH	Tune up (dBm)		WiFi conducted power validation results (dBm)				Mode	CH	Tune up (dBm)		WiFi conducted power validation results (dBm)		
				Receiver on	Receiver off	Receiver on	Receiver off					Receiver on	Receiver off	Receiver on	Receiver off	
WiFi 2.4G	ANT 1	802.11b	1~13	16.00	18.50	14.71	17.52	WiFi 2.4G	ANT 1	802.11b	3~9	14.00	18.50	12.68	17.36	
												1&11	14.00	17.50	12.47	15.72
		802.11g (20M)	1~13	16.00	18.00	14.62	16.77			802.11g (20M)	3~9	14.00	18.00	12.49	16.24	
												1&11	11.50	11.50	9.95	10.06
			802.11n (20M)	1~13	16.00	17.50	14.57		16.68	802.11n (20M)	3~9	14.00	17.50	12.55	15.77	
											1&11	11.50	11.50	10.07	9.83	
			802.11n (40M)	3~9	16.00	17.00	14.48		15.60	802.11n (40M)	3~7	8.00	8.00	6.47	6.38	
											9	6.50	6.50	4.92	4.86	
		ANT 2	802.11b	1~13	16.00	18.00	14.67		16.68	802.11b	3~9	14.00	18.00	12.72	16.73	
											1&11	14.00	17.50	12.51	16.04	
	802.11g (20M)		1~13	16.00	17.50	14.51	16.45		802.11g (20M)	3~9	14.00	17.50	12.35	16.11		
											1&11	11.50	11.50	9.89	10.15	
		802.11n (20M)	1~13	16.00	17.00	14.66	15.85	802.11n (20M)	3~9	14.00	17.50	12.67	15.54			
									1&11	11.50	11.50	9.96	9.87			
		802.11n (40M)	3~9	16.00	16.50	14.51	14.97	802.11n (40M)	3~9	8.00	8.00	6.41	6.44			
									1&11	6.50	6.50	4.97	4.89			
	MIMO	802.11g (20M)	1~13	19.01	20.77	17.58	19.93	802.11g (20M)	3~9	17.01	20.77	15.43	19.19			
									1&11	14.51	14.51	12.93	13.12			
802.11n (20M)		1~13	19.01	20.27	17.63	19.30	802.11n (20M)	3~9	17.01	20.27	15.62	18.67				
									1&11	14.51	14.51	13.03	12.92			
		802.11n (40M)	3~9	19.01	19.77	17.51	18.31	802.11n (40M)	3~7	11.01	11.01	9.39	9.44			
									9	9.51	9.51	7.96	7.89			
WiFi5G U-NII-1&2A	ANT 1	802.11a	36~64	16.50	16.50	15.26	15.42	WiFi5G U-NII-1	ANT 1	802.11a	36	11.50	11.50	9.74	9.67	
												48~64	13.00	15.00	11.43	13.24
		802.11n (20M)	36~64	16.00	16.00	14.79	14.99			802.11n (20M)	36	11.50	11.50	9.75	9.89	
												48~64	13.00	15.00	11.42	13.32
		802.11n (40M)	38~62	16.00	16.00	14.71	14.65			802.11n (40M)	38	8.50	8.50	5.21	5.01	
												46	13.00	15.00	10.76	13.38
		802.11ac (20M)	36~64	16.00	16.00	15.03	14.95			802.11ac (20M)	36	11.50	11.50	9.98	9.97	
												40~48	13.00	15.00	11.32	13.42
	802.11ac (40M)	38~62	15.50	16.00	14.76	14.76	802.11ac (40M)		38	8.50	8.50	5.02	4.97			
										46	13.00	15.00	11.36	13.47		
	802.11ac (80M)	42~58	15.5	15.5	13.99	13.99	802.11ac (80M)		42	6.00	6.00	4.39	4.89			
	802.11ac (160M)	50	13.5	13.5	12.01	12.05	802.11ac (160M)		50	6.00	6.00	4.26	4.53			
		ANT 2	802.11a	36~64	16.50	16.50	15.23		15.23	802.11a	36	11.50	11.50	10.78	10.76	
											48~64	13.00	15.00	12.12	13.62	
	802.11n (20M)		36~64	16.00	16.00	15.12	15.02		802.11n (20M)	36	11.50	11.50	10.59	10.73		
											48~64	13.00	15.00	11.88	13.66	
	802.11n (40M)		38~62	16.00	16.00	15.11	14.85		802.11n (40M)	38	8.50	8.50	7.39	7.35		
											46	13.00	15.00	11.62	13.59	
802.11ac (20M)	36~64	16.00	16.00	15.12	14.97	802.11ac (20M)	36	11.50	11.50	10.52	10.25					
								40~48	13.00	15.00	11.78	13.65				
802.11ac (40M)	38~62	15.50	16.00	14.87	14.81	802.11ac (40M)	38	8.50	8.50	7.32	7.37					
								46	13.00	15.00	11.59	13.51				





		802.11ac (80M)	42~58	15.5	15.5	14.12	14.29			802.11ac (80M)	42	6.00	6.00	5.01	5.25
		802.11ac (160M)	50	13.5	13.5	12.23	12.12			802.11ac (160M)	50	6.00	6.00	5.12	5.21
	MIMO	802.11a	36~64	19.51	19.51	18.20	18.34		MIMO	802.11a	36	14.51	14.51	13.30	13.26
			48~64	16.01	18.01	14.95	16.45				48~64	16.01	18.01	14.67	16.60
		802.11n (20M)	36~64	19.01	19.01	17.97	18.02		MIMO	802.11n (20M)	36	14.51	14.51	13.20	13.38
			48~64	16.01	18.01	14.67	16.60				48~64	16.01	18.01	14.67	16.60
		802.11n (40M)	38~62	19.01	19.01	17.92	17.76		MIMO	802.11n (40M)	38	11.51	11.51	9.45	9.35
			46	16.01	18.01	14.22	16.50				46	16.01	18.01	14.22	16.50
		802.11ac (20M)	36~64	19.01	19.01	18.09	17.97		MIMO	802.11ac (20M)	36	14.51	14.51	13.27	13.12
			40~48	16.01	18.01	14.59	16.61				40~48	16.01	18.01	14.59	16.61
	802.11ac (40M)	38~62	18.51	19.01	17.83	17.80		MIMO	802.11ac (40M)	38	11.51	11.51	9.33	9.34	
		46	16.01	18.01	14.49	16.50				46	16.01	18.01	14.49	16.50	
	802.11ac (80M)	42~58	18.51	18.51	17.09	17.15			802.11ac (80M)	42	9.01	9.01	7.72	8.08	
	802.11ac (160M)	50	16.51	16.51	15.13	15.1			802.11ac (160M)	50	9.01	9.01	7.72	7.89	

WiFi5G U-NII-2C	ANT 1	802.11a	36~64	16.50	16.50	15.55	15.26		ANT 1	802.11a	52~60	13.00	15.00	11.43	13.36		
												64	11.50	11.50	10.02	9.75	
		802.11n (20M)	36~64	16.00	16.00	14.77	15.55					802.11n (20M)	52~60	13.00	15.00	11.50	13.4
													64	11.50	11.50	9.98	9.81
		802.11n (40M)	38~62	16.00	16.00	14.66	14.71					802.11n (40M)	54	13.00	15.00	11.44	13.41
													62	8.50	8.50	6.11	6.11
		802.11ac (20M)	36~64	16.00	16.00	15.53	14.97					802.11ac (20M)	52~60	13.00	15.00	11.56	13.45
													64	11.50	11.50	10.06	10.01
	802.11ac (40M)	38~62	15.50	16.00	14.75	14.69			802.11ac (40M)	54	13.00	15.00	11.58	13.37			
										62	8.50	8.50	6.15	6.13			
	802.11ac (80M)	42~58	15.5	15.5	14.16	14.22			802.11ac (80M)	42	6.00	6.00	4.56	4.59			
	802.11ac (160M)	50	13.5	13.5	12.03	11.89											
	ANT 2	802.11a	36~64	16.50	16.50	15.48	15.29		ANT 2	802.11a	52~60	13.00	15.00	11.73	13.62		
												64	11.50	11.50	10.68	9.98	
		802.11n (20M)	36~64	16.00	16.00	14.86	14.91					802.11n (20M)	52~60	13.00	15.00	11.71	13.65
													64	11.50	11.50	10.85	10.57
		802.11n (40M)	38~62	16.00	16.00	15.45	14.78					802.11n (40M)	54	13.00	15.00	11.86	13.48
													62	8.50	8.50	7.52	7.15
		802.11ac (20M)	36~64	16.00	16.00	15.13	14.90					802.11ac (20M)	52~60	13.00	15.00	11.89	13.61
													64	11.50	11.50	10.95	10.55
	802.11ac (40M)	38~62	15.50	16.00	14.91	14.55			802.11ac (40M)	54	13.00	15.00	11.84	13.40			
										62	8.50	8.50	7.21	7.46			
	802.11ac (80M)	42~58	15.5	15.5	14.07	13.99			802.11ac (80M)	42	6.00	6.00	4.64	4.63			
	802.11ac (160M)	50	13.5	13.5	12.11	12.06											
	MIMO	802.11a	36~64	19.51	19.51	18.53	18.24		MIMO	802.11a	52~60	16.01	18.01	14.59	16.50		
												64	14.51	14.51	13.37	12.88	
		802.11n (20M)	36~64	19.01	19.01	17.83	18.21					802.11n (20M)	52~60	16.01	18.01	14.61	16.54
													64	14.51	14.51	13.45	13.22
802.11n (40M)		38~62	19.01	19.01	18.02	17.76					802.11n (40M)	54	16.01	18.01	14.67	16.46	
												62	11.51	11.51	9.88	9.67	
802.11ac (20M)		36~64	19.01	19.01	18.08	17.95					802.11ac (20M)	52~60	16.01	18.01	14.70	16.52	
												64	14.51	14.51	13.54	13.30	
802.11ac (40M)	38~62	18.51	19.01	17.84	17.61			802.11ac (40M)	54	16.01	18.01	14.72	16.40				
									62	11.51	11.51	9.72	9.86				
802.11ac (80M)	42~58	18.51	18.51	17.13	17.12			802.11ac (80M)	42	9.01	9.01	7.61	7.62				
802.11ac (160M)	50	16.51	16.51	15.08	14.99												

								WiFi5G U-NII-2C	ANT 1	802.11a	100	11.50	11.50	10.05	9.81
											104~140	13.00	15.00	11.65	13.49
										802.11n (20M)	100	11.50	11.50	9.97	9.86
											104~140	13.00	15.00	11.78	13.62
										802.11n (40M)	102	8.50	8.50	7.53	7.63
											110~134	13.00	15.00	11.60	13.70
										802.11ac (20M)	100	11.50	11.50	10.06	10.04
											104~140	13.00	15.00	11.83	13.72
										802.11ac (40M)	102	8.50	8.50	7.55	7.12





WiFi5G U-NII-3	ANT 2	802.11ac (80M)	110~134	13.00	15.00	11.63	13.74
			106	6.00	6.00	4.49	4.49
			122	13.00	15.00	11.53	13.47
		802.11ac (160M)	114	6.00	6	4.66	4.51
			802.11a	100	11.50	11.50	10.41
		104~140		13.00	15.00	12.11	13.59
		802.11n (20M)	100	11.50	11.50	10.52	10.42
			104~140	13.00	15.00	12.20	13.61
		802.11n (40M)	102	8.50	8.50	7.43	7.34
			110~134	13.00	15.00	11.89	13.72
		802.11ac (20M)	100	11.50	11.50	10.05	10.32
			104~140	13.00	15.00	12.07	13.98
	802.11ac (40M)	102	8.50	8.50	7.25	7.23	
		110~134	13.00	15.00	11.94	13.79	
	802.11ac (80M)	106	6.00	6.00	4.58	4.58	
		122	13.00	15.00	11.93	13.35	
	802.11ac (160M)	114	6.00	6	4.82	4.42	
		802.11a	100	14.51	14.51	13.24	13.06
	104~140		16.01	18.01	14.82	16.52	
	802.11n (20M)	100	14.51	14.51	13.26	13.16	
		104~140	16.01	18.01	15.01	16.62	
	802.11n (40M)	102	11.51	11.51	10.49	10.50	
		110~134	16.01	18.01	14.76	16.72	
	802.11ac (20M)	100	14.51	14.51	13.07	13.19	
		104~140	16.01	18.01	14.96	16.86	
	802.11ac (40M)	102	11.51	11.51	10.41	10.19	
		110~134	16.01	18.01	14.80	16.78	
	802.11ac (80M)	106	9.01	9.01	7.55	7.55	
		122	16.01	18.01	14.74	16.42	
	802.11ac (160M)	114	9.01	9.01	7.75	7.48	
		ANT 1	802.11a	149~165	13.00	15.00	11.55
	802.11n (20M)		149~165	13.00	15.00	11.54	13.59
	802.11n (40M)		151~159	13.00	15.00	11.47	13.51
	802.11ac (20M)		149~165	13.00	15.00	11.53	13.64
	802.11ac (40M)		151~159	13.00	15.00	11.58	13.57
	802.11ac (80M)		155	13.00	15.00	11.56	13.47
	ANT 2	802.11a	149~165	13.00	15.00	12.11	13.68
		802.11n (20M)	149~165	13.00	15.00	12.21	13.78
		802.11n (40M)	151~159	13.00	15.00	11.97	13.72
		802.11ac (20M)	149~165	13.00	15.00	12.14	13.86
		802.11ac (40M)	151~159	13.00	15.00	12.20	13.68
		802.11ac (80M)	155	13.00	15.00	12.08	13.88
MIMO	802.11a	149~165	16.01	18.01	14.79	16.66	
	802.11n (20M)	149~165	16.01	18.01	14.86	16.70	
	802.11n (40M)	151~159	16.01	18.01	14.73	16.63	
	802.11ac (20M)	149~165	16.01	18.01	14.86	16.76	
	802.11ac (40M)	151~159	16.01	18.01	14.90	16.64	
	802.11ac (80M)	155	16.01	18.01	14.84	16.69	

Note:

1)For FCC SAR test, Wi-Fi SAR test should be evaluated at the power level of FCC mobile country code for each exposure conditions of WIFI .

2)The detailed full power and reduced conducted power measurement results are provided in Section 9 of this report

**5.3.8.3 Power reduction Specification of 2G&3G&4G Main antenna**

The following tables summarize the key power reduction information of 2G/3G/4G main antenna. The detailed full power and reduced conducted power measurement results are provided in Section 9 of this report.

Main antenna	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC
Power Reduction Scenario	GSM 850	GSM 1900	WCDM A B2	WCDM A B4	WCDM A B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B12	LTE B17	LTE B26	LTE B38	LTE B40	LTE B41
Receiver on	0.00	0.00	0.50	0.50	0.00	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Receiver off+SAR sensor on Level D1/2	0.00	0.00	2.00	2.50	0.00	2.00	2.50	0.00	3.50	0.00	0.00	0.00	1.00	0.00	1.00
Receiver off+SAR sensor on Level D3/7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Receiver on+WiFi connect/P2P	0.00	1.50	3.00	3.00	0.00	3.00	2.50	0.00	1.00	0.00	0.00	0.00	1.50	2.50	1.50
Receiver off+SAR sensor on Level D1/2+WiFi connect/P2P	0.00	1.50	4.50	5.00	0.00	4.50	4.50	0.00	4.50	0.00	0.00	0.00	2.50	2.50	2.50
Receiver off+SAR sensor on Level D3/7+WiFi connect/ P2P	0.00	1.50	2.50	2.50	0.00	2.50	2.00	0.00	1.00	0.00	0.00	0.00	1.50	2.50	1.50
Receiver on+Hotspot	/	/	4.00	4.00	0.00	4.00	3.00	0.00	4.50	0.00	0.00	0.00	3.50	2.50	3.50
Receiver off+SAR sensor on Level D1/2+Hotspot	0.00	1.50	5.50	6.00	0.00	5.50	5.00	0.00	8.00	0.00	0.00	0.00	4.50	2.50	4.50
Receiver off+SAR sensor on Level D3/7+Hotspot	0.00	1.50	3.50	3.50	0.00	3.50	2.50	0.00	4.50	0.00	0.00	0.00	3.50	2.50	3.50

**5.3.9 Proximity sensor Configuration**

Due to the operating configurations and exposure conditions required by the device, the proximity sensor is used to indicate when the device is held close to a user's body/hotspot exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of main antenna to ensure SAR compliance. It is also set an output power leveled to the lowest one to make sure that in any case of SAR sensor hardware failure, the SAR requirements can still be satisfied.

The following tables summarize the key power reduction information for proximity sensor. The test procedures in KDB 616217 should be applied to determine proximity sensor triggering distances, and sensor coverage for normal and tilt positions. To ensure all production units are compliant, it is generally necessary to reduce the triggering distance determined from the triggering tests by 1 mm, or more if it is necessary, and use the smallest distance for movements to and from the phantom, minus 1 mm, as the sensor triggering distance for determining the SAR measurement distance.

Main antenna					
Band	Test position	Sensor Trigger Distance range (DUT to Phantom)	Power reduction amount (dB)	Max Power level (dBm)	Power level
WCDMA B2	Bottom side	0mm ≤ distance ≤ 9mm	2	22.5	level D1&D2



	Back side	9mm < distance	0	24.5	level D3&D7
		0mm ≤ distance ≤ 4mm	2	22.5	level D1&D2
	Front side	4mm < distance	0	24.5	level D3&D7
		0mm ≤ distance ≤ 4mm	2	22.5	level D1&D2
	Left side	4mm < distance	0	24.5	level D3&D7
	Right side	ALL	0	24.5	level D3&D7
	Top side	ALL	0	24.5	level D3&D7
WCDMA B4	Bottom side	0mm ≤ distance ≤ 9mm	2.5	22.5	level D1&D2
		9mm < distance	0	25	level D3&D7
	Back side	0mm ≤ distance ≤ 4mm	2.5	22.5	level D1&D2
		4mm < distance	0	25	level D3&D7
	Front side	0mm ≤ distance ≤ 4mm	2.5	22.5	level D1&D2
		4mm < distance	0	25	level D3&D7
	Left side	ALL	0	25	level D3&D7
	Right side	ALL	0	25	level D3&D7
Top side	ALL	0	25	level D3&D7	
LTE B2	Bottom side	0mm ≤ distance ≤ 9mm	2	22.5	level D1&D2
		9mm < distance	0	24.5	level D3&D7
	Back side	0mm ≤ distance ≤ 4mm	2	22.5	level D1&D2
		4mm < distance	0	24.5	level D3&D7
	Front side	0mm ≤ distance ≤ 4mm	2	22.5	level D1&D2
		4mm < distance	0	24.5	level D3&D7
	Left side	ALL	0	24.5	level D3&D7
	Right side	ALL	0	24.5	level D3&D7
Top side	ALL	0	24.5	level D3&D7	
LTE B4	Bottom side	0mm ≤ distance ≤ 9mm	2.5	22	level D1&D2
		9mm < distance	0	24.5	level D3&D7
	Back side	0mm ≤ distance ≤ 4mm	2.5	22	level D1&D2
		4mm < distance	0	24.5	level D3&D7
	Front side	0mm ≤ distance ≤ 4mm	2.5	22	level D1&D2
		4mm < distance	0	24.5	level D3&D7
	Left side	ALL	0	24.5	level D3&D7
	Right side	ALL	0	24.5	level D3&D7
Top side	ALL	0	24.5	level D3&D7	
LTE B7	Bottom side	0mm ≤ distance ≤ 9mm	3.5	21	level D1&D2
		9mm < distance	0	24.5	level D3&D7
	Back side	0mm ≤ distance ≤ 4mm	3.5	21	level D1&D2
		4mm < distance	0	24.5	level D3&D7
	Front side	0mm ≤ distance ≤ 4mm	3.5	21	level D1&D2



		4mm < distance	0	24.5	level D3&D7
	Left side	ALL	0	24.5	level D3&D7
	Right side	ALL	0	24.5	level D3&D7
	Top side	ALL	0	24.5	level D3&D7
LTE B38	Bottom side	0mm ≤ distance ≤ 9mm	1	24	level D1&D2
		9mm < distance	0	25	level D3&D7
	Back side	0mm ≤ distance ≤ 4mm	1	24	level D1&D2
		4mm < distance	0	25	level D3&D7
	Front side	0mm ≤ distance ≤ 4mm	1	24	level D1&D2
		4mm < distance	0	25	level D3&D7
	Left side	ALL	0	25	level D3&D7
	Right side	ALL	0	25	level D3&D7
Top side	ALL	0	25	level D3&D7	
LTE B41	Bottom side	0mm ≤ distance ≤ 9mm	1	24	level D1&D2
		9mm < distance	0	25	level D3&D7
	Back side	0mm ≤ distance ≤ 4mm	1	24	level D1&D2
		4mm < distance	0	25	level D3&D7
	Front side	0mm ≤ distance ≤ 4mm	1	24	level D1&D2
		4mm < distance	0	25	level D3&D7
	Left side	ALL	0	25	level D3&D7
	Right side	ALL	0	25	level D3&D7
Top side	ALL	0	25	level D3&D7	

**Note:**

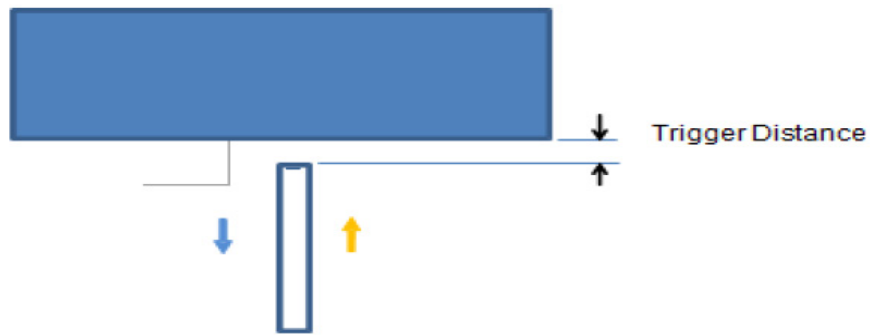
To ensure all production units are compliant, the smallest separation distance determined by the sensor triggering and sensor coverage for normal and tilt positions for all usage conditions and applicable sides, minus 1 mm, must be used as the test separation distance for additional SAR testing of each higher power stage.

For the other sides or other frequency bands of the device, SAR is still tested at the maximum full power level with sensor off.

**1) Procedures for determining proximity sensor triggering distances**

The device was tested by the test lab to determine the proximity sensor triggering distances for the front side, back side and bottom side of the device. To ensure all production units are compliant, the smallest separation distance determined by the sensor triggering minus 1 mm, must be used as the test separation distance for SAR testing.

The Proximity sensor triggering distance measurement method are as below:



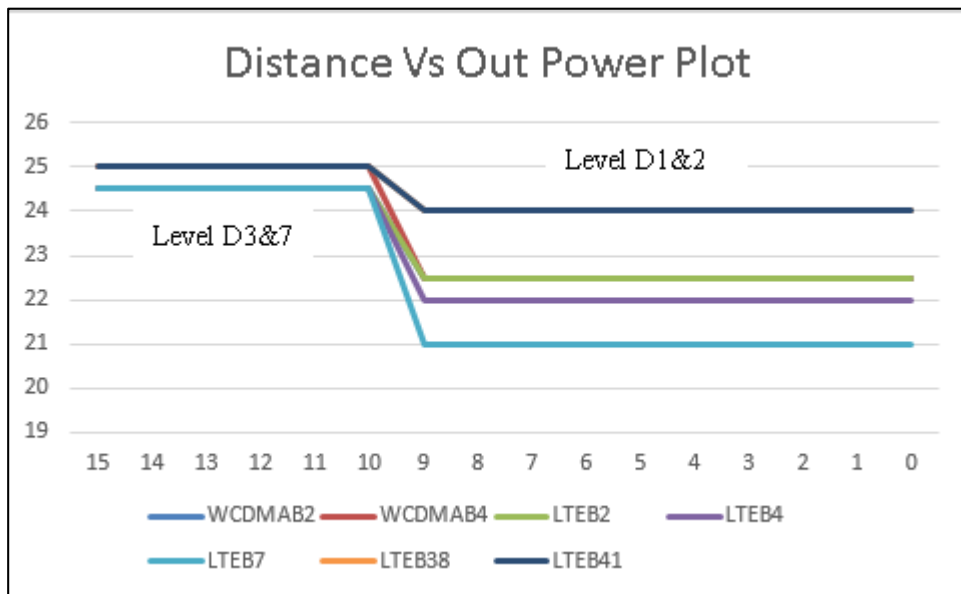
Picture: Proximity sensor triggering distances assessment (bottom)



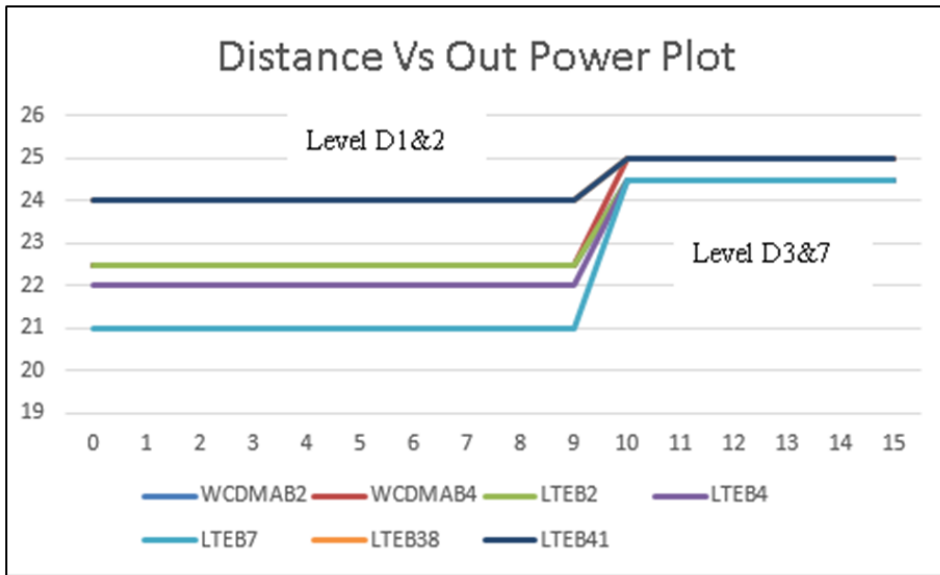
Picture: Proximity sensor triggering distances assessment (Front/Back side)

The detailed conducted power measurement data to determine the triggering distances is as below:

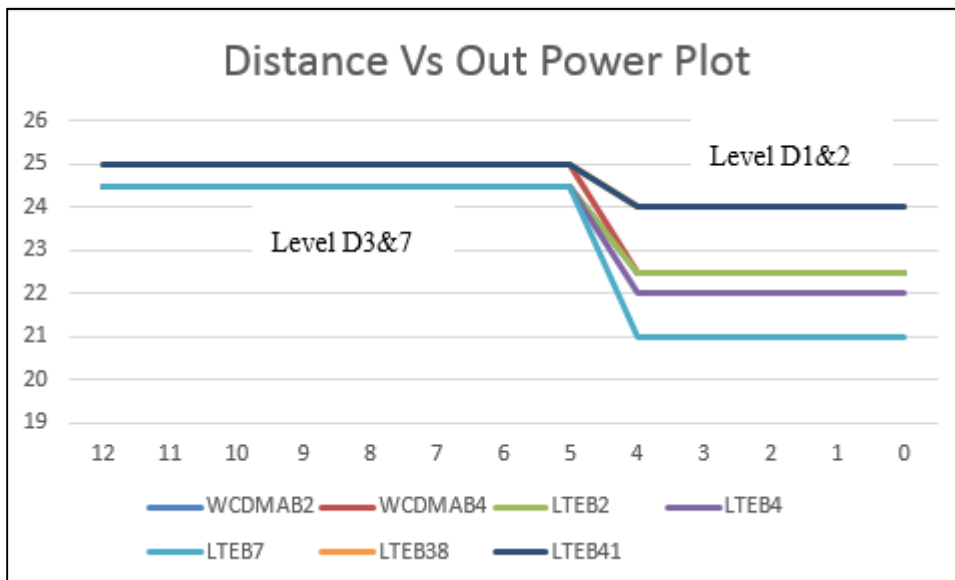
**The DUT (bottom side) is moved towards the flat phantom:**



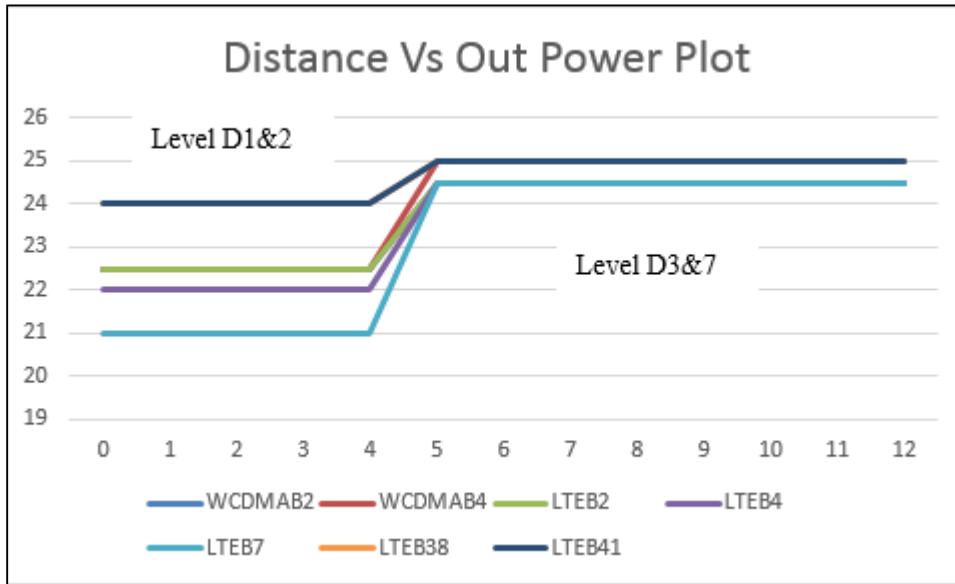
The DUT (bottom side) is moved away from the flat phantom:



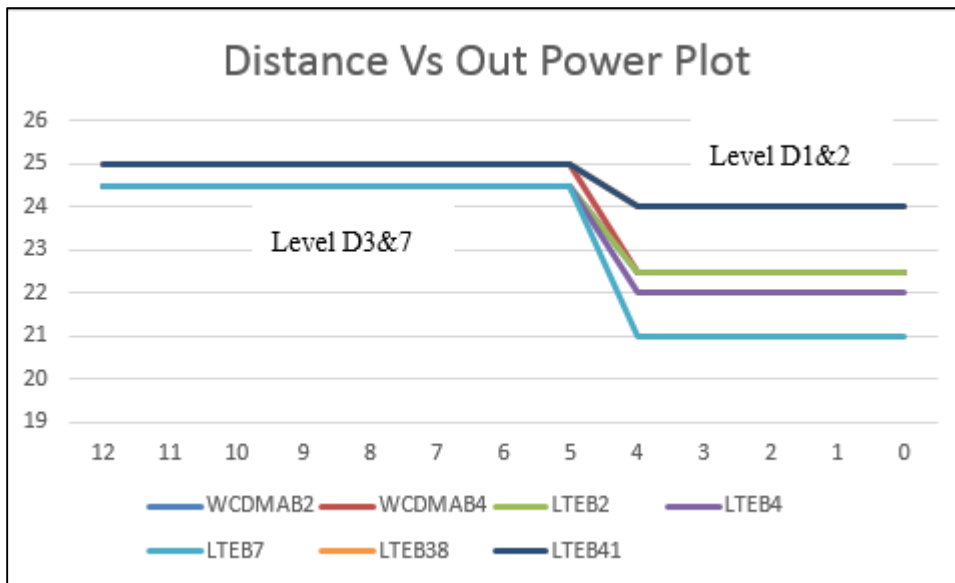
The DUT (Back side) is moved towards the flat phantom:



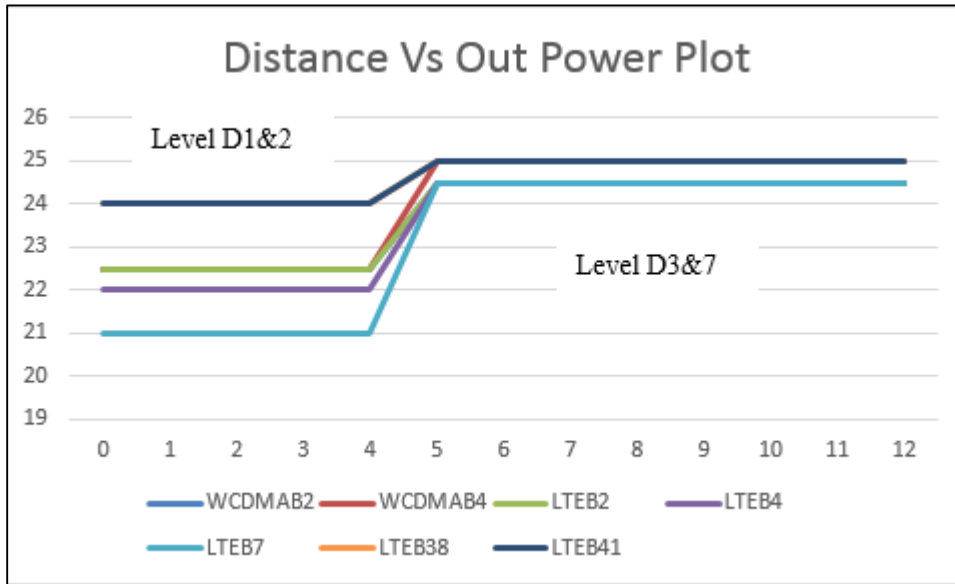
The DUT (back side) is moved away from the flat phantom:



The DUT (Front side) is moved towards the flat phantom:



The DUT (Front side) is moved away from the flat phantom:



The detailed conducted power measurement data to determine the triggering distances is as below:

Table: Reduced power (Moving toward phantom)

Band	Position	Power Reduction Status(dBm)									
		15	12	11	10	9	8	7	6	5	4
UMTS Band 2	Bottom Edge	23.61	23.61	23.61	23.61	23.61	21.52	21.52	21.52	21.52	21.52
UMTS Band 4	Bottom Edge	24.27	24.27	24.27	24.27	24.27	21.74	21.74	21.74	21.74	21.74
LTE Band 2	Bottom Edge	23.25	23.25	23.25	23.25	23.25	21.34	21.34	21.34	21.34	21.34
LTE Band 4	Bottom Edge	23.75	23.75	23.75	23.75	23.75	21.04	21.04	21.04	21.04	21.04
LTE Band 7	Bottom Edge	23.86	23.86	23.86	23.86	23.86	20.40	20.40	20.40	20.40	20.40
LTE Band 41	Bottom Edge	24.56	24.56	24.56	24.56	24.56	23.92	23.92	23.92	23.92	23.92

Band	Position	Power Reduction Status(dBm)							
		10	7	6	5	4	3	2	1
UMTS Band 2	Back Side	23.61	23.61	23.61	23.61	23.61	21.52	21.52	21.52
UMTS Band 4	Back Side	24.27	24.27	24.27	24.27	24.27	21.74	21.74	21.74
LTE Band 2	Back Side	23.25	23.25	23.25	23.25	23.25	21.34	21.34	21.34
LTE Band 4	Back Side	23.75	23.75	23.75	23.75	23.75	21.04	21.04	21.04
LTE Band 7	Back Side	23.86	23.86	23.86	23.86	23.86	20.40	20.40	20.40
LTE Band 41	Back Side	24.56	24.56	24.56	24.56	24.56	23.92	23.92	23.92

Band	Position	Power Reduction Status(dBm)							
		10	7	6	5	4	3	2	1
UMTS Band 2	Front Side	23.61	23.61	23.61	23.61	23.61	21.52	21.52	21.52
UMTS Band 4	Front Side	24.27	24.27	24.27	24.27	24.27	21.74	21.74	21.74
LTE Band 2	Front Side	23.25	23.25	23.25	23.25	23.25	21.34	21.34	21.34





LTE Band 4	Front Side	23.75	23.75	23.75	23.75	23.75	21.04	21.04	21.04
LTE Band 7	Front Side	23.86	23.86	23.86	23.86	23.86	20.40	20.40	20.40
LTE Band 41	Front Side	24.56	24.56	24.56	24.56	24.56	23.92	23.92	23.92

Table: Full power (Moving away from phantom)

Band	Position	Power Reduction Status(dBm)									
		4	5	6	7	8	9	10	11	12	15
UMTS Band 2	Bottom Edge	21.52	21.52	21.52	21.52	21.52	23.61	23.61	23.61	23.61	23.61
UMTS Band 4	Bottom Edge	21.74	21.74	21.74	21.74	21.74	24.27	24.27	24.27	24.27	24.27
LTE Band 2	Bottom Edge	21.34	21.34	21.34	21.34	21.34	23.25	23.25	23.25	23.25	23.25
LTE Band 4	Bottom Edge	21.04	21.04	21.04	21.04	21.04	23.75	23.75	23.75	23.75	23.75
LTE Band 7	Bottom Edge	20.40	20.40	20.40	20.40	20.40	23.86	23.86	23.86	23.86	23.86
LTE Band 41	Bottom Edge	23.92	23.92	23.92	23.92	23.92	24.56	24.56	24.56	24.56	24.56

Band	Position	Power Reduction Status(dBm)							
		1	2	3	4	5	6	7	10
UMTS Band 2	Back Side	21.52	21.52	21.52	23.61	23.61	23.61	23.61	23.61
UMTS Band 4	Back Side	21.74	21.74	21.74	24.27	24.27	24.27	24.27	24.27
LTE Band 2	Back Side	21.34	21.34	21.34	23.25	23.25	23.25	23.25	23.25
LTE Band 4	Back Side	21.04	21.04	21.04	23.75	23.75	23.75	23.75	23.75
LTE Band 7	Back Side	20.40	20.40	20.40	23.86	23.86	23.86	23.86	23.86
LTE Band 41	Back Side	23.92	23.92	23.92	24.56	24.56	24.56	24.56	24.56

Band	Position	Power Reduction Status(dBm)							
		1	2	3	4	5	6	7	10
UMTS Band 2	Front Side	21.52	21.52	21.52	23.61	23.61	23.61	23.61	23.61
UMTS Band 4	Front Side	21.74	21.74	21.74	24.27	24.27	24.27	24.27	24.27
LTE Band 2	Front Side	21.34	21.34	21.34	23.25	23.25	23.25	23.25	23.25
LTE Band 4	Front Side	21.04	21.04	21.04	23.75	23.75	23.75	23.75	23.75
LTE Band 7	Front Side	20.40	20.40	20.40	23.86	23.86	23.86	23.86	23.86
LTE Band 41	Front Side	23.92	23.92	23.92	24.56	24.56	24.56	24.56	24.56

**2) Procedures for determining antenna and proximity sensor coverage**

According to the antenna and sensors location figure: Proximity sensor is a floating metal sheet, which cannot fully overwrite the 2G/3G/4G main antenna. So the proximity sensor coverage need to be assessed for the frequency bands and test positions supporting proximity sensor power reduction per KDB 616217:

- a) All the sides/edges (bottom side, front side and back side of the device) is positioned at a test separation distance less than or equal to the distance required for sensor triggering, with both the

antenna and sensor pad located at least 20 mm laterally outside the edge (boundary) of the phantom, along the direction of maximum antenna and sensor offset.

Each applicable edge should be positioned perpendicularly to the phantom to determine sensor coverage. For antennas and/or sensors located near the corner of a tablet, both adjacent edges must be considered.

b) The similar sequence of steps applied to determine sensor triggering distance are used to verify the sensor coverage by moving the DUT(sensor and antenna) horizontally toward the phantom while maintaining the same vertical separation between the side or edge and the phantom.

c) After the exact location where triggering of power reduction is determined, with respect to the sensor and antenna, the DUT movement should be continued, in 3 mm increments, until both the sensor and antenna(s) are fully under the phantom and at least 20 mm inside the phantom edge.

d) The process is then repeated from the opposite direction, starting at the other end of the maximum antenna and sensor offset, by rotating the DUT 180° along the vertical axis.

e) The triggering points should be documented graphically, with the antenna and sensor clearly identified, along with all relevant dimensions.

f) If the subsequently measured peak SAR location for the antenna is not between the triggering points, established by the sensor coverage tests from opposite ends of the antenna and sensor, additional SAR tests may be required for conditions where only part of the surface or edge of the DUT corresponding to the antenna is in proximity to the user and the sensor may not be triggering as desired.

The proximity sensor coverage measurement method are as below:

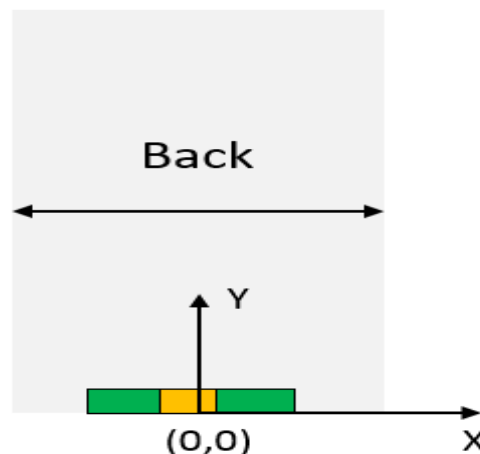


Figure: Plane coordinate system definition on the DUT

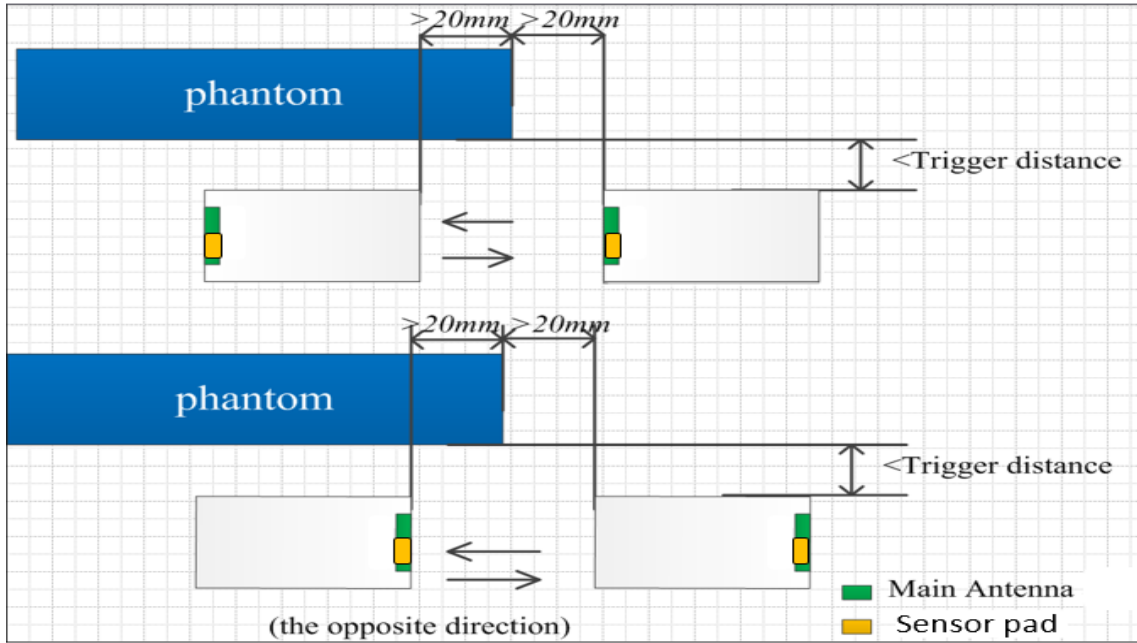


Figure: proximity sensor coverage assesment (Y coordinate direction)

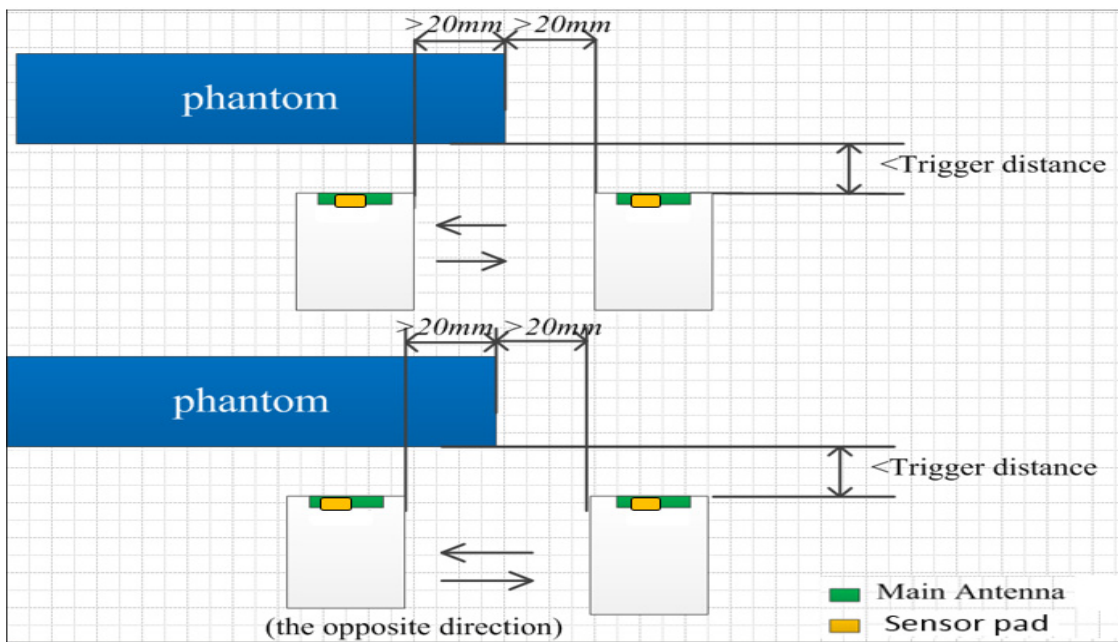
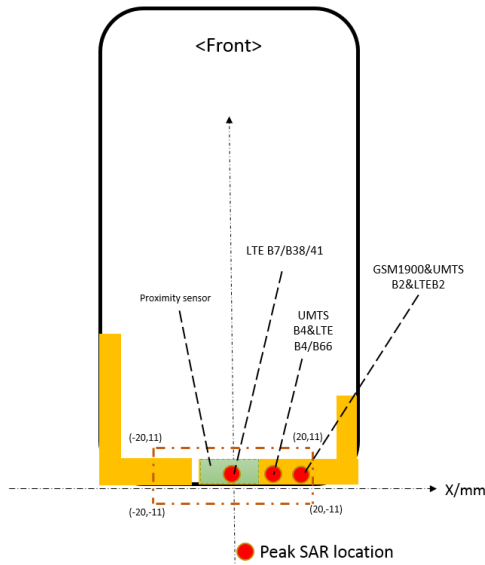
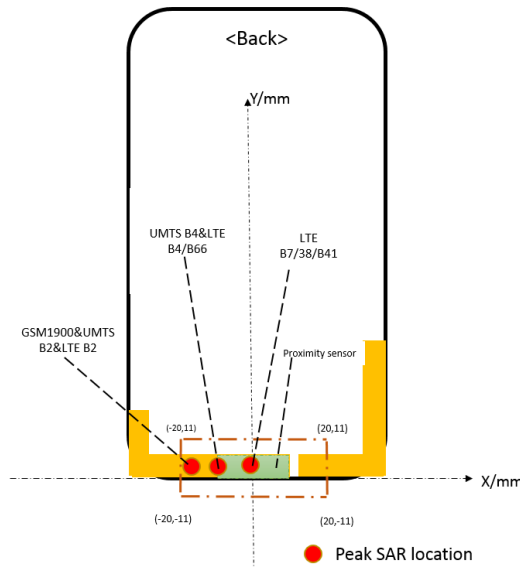


Figure: proximity sensor coverage assesment (X coordinate direction)

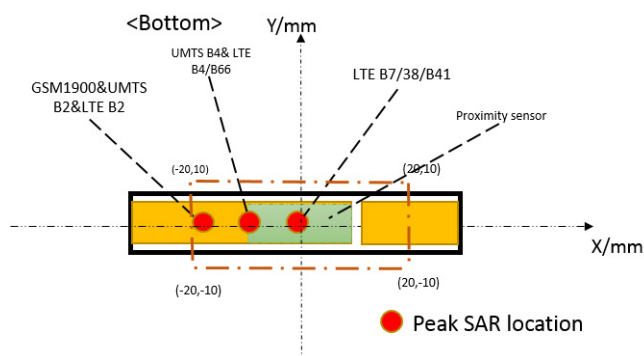
sensor coverage assesment results(Front side):



sensor coverage assesment results(Back side):



sensor coverage assesment results(Bottom side):

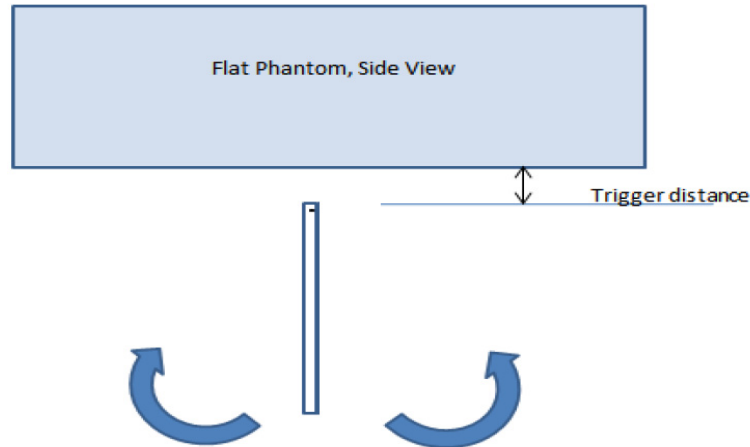


Conclusion: As the subsequently measured peak SAR location for the antenna is between the triggering points, additional SAR tests are not required for proximity sensor coverage per KDB 616217.

**3) Procedures for determining device tilt angle influences to proximity sensor triggering**

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with Bottom side parallel to the base of the flat phantom for each band.

The EUT was rotated about Bottom side for angles up to +/- 45°. If the output power increased during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedure was repeated until the power remained reduced for all angles up to +/- 45°.



**Figure 8: proximity sensor coverage assesment(Bottom side)**

**Table: Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering(Bottom side)**

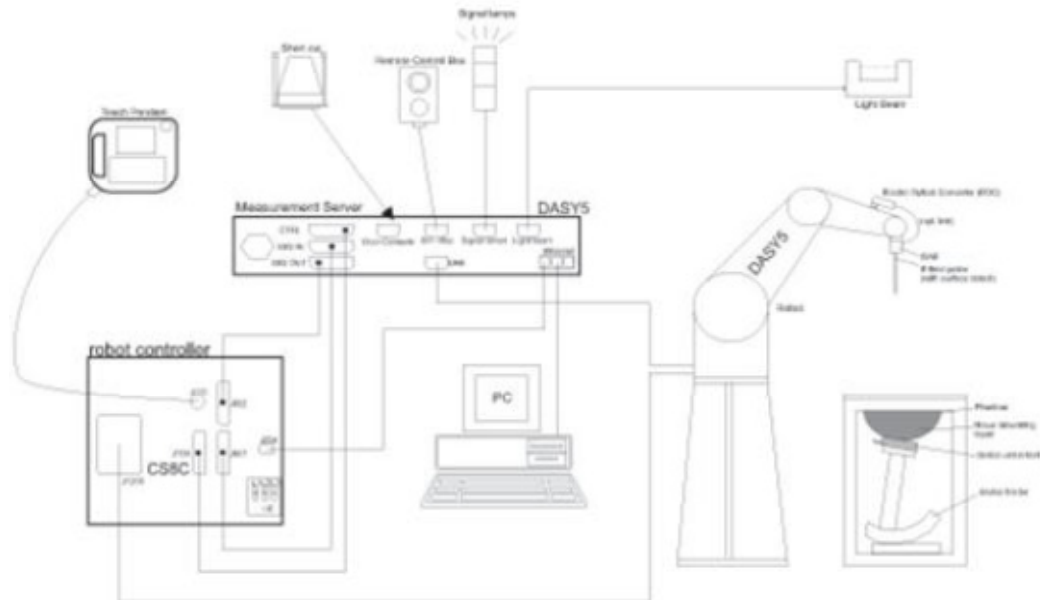
Band(MHz)	Minimum trigger distance at which power reduction was maintained over ±45°	Power Reduction Status											
		-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°	
UMTS Band II	9mm	on	on	on	on	on	on	on	on	on	on	on	on
UMTS Band IV	9mm	on	on	on	on	on	on	on	on	on	on	on	on
LTE Band 2	9mm	on	on	on	on	on	on	on	on	on	on	on	on
LTE Band 4	9mm	on	on	on	on	on	on	on	on	on	on	on	on
LTE Band 7	9mm	on	on	on	on	on	on	on	on	on	on	on	on
LTE Band 38	9mm	on	on	on	on	on	on	on	on	on	on	on	on
LTE Band 41	9mm	on	on	on	on	on	on	on	on	on	on	on	on

**Conclusion:** It can be ensured that the proximity sensor can be valid triggered for the DUT tilt coverage exposure condition.

## 6 SAR Measurements System Configuration

### 6.1 SAR Measurement Set-up

The DASY system for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

## 6.2 DASY5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

### EX3DV4 Probe Specification

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to > 6 GHz Linearity: $\pm 0.2$ dB (30 MHz to 6 GHz)
Directivity	$\pm 0.3$ dB in HSL (rotation around probe axis) $\pm 0.5$ dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 $\mu$ W/g to > 100 mW/g Linearity: $\pm 0.2$ dB (noise: typically < 1 $\mu$ W/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure Scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.



### E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than  $\pm 10\%$ . The spherical isotropy was evaluated and found to be better than  $\pm 0.25$  dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies below 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR=C\Delta T/\Delta t$$

Where:  $\Delta t$  = Exposure time (30 seconds),  
 C = Heat capacity of tissue (brain or muscle),  
 $\Delta T$  = Temperature increase due to RF exposure.

Or

$$SAR=IEI^2\sigma/\rho$$

Where:  $\sigma$  = Simulated tissue conductivity,  
 $\rho$  = Tissue density (kg/m<sup>3</sup>).

### 6.3 SAR Measurement Procedure

#### Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

#### Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

	≤3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: ΔxArea, ΔyArea	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	



### Zoom Scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

			≤3GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{zoom} \Delta y_{zoom}$			≤2GHz: ≤8mm 2 – 3GHz: ≤5mm*	3 – 4GHz: ≤5mm* 4 – 6GHz: ≤4mm*
Maximum zoom scan spatial resolution, normal to phantom surface	Uniform grid: $\Delta z_{zoom}(n)$		≤5mm	3 – 4GHz: ≤4mm 4 – 5GHz: ≤3mm 5 – 6GHz: ≤2mm
	Graded grid	$\Delta z_{zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	≤4mm	3 – 4GHz: ≤3mm 4 – 5GHz: ≤2.5mm 5 – 6GHz: ≤2mm
		$\Delta z_{zoom}(n > 1)$ : between subsequent points	≤1.5 • $\Delta z_{zoom}(n-1)$	
Minimum zoom scan volume	X, y, z		≥30mm	3 – 4GHz: ≥28mm 4 – 5GHz: ≥25mm 5 – 6GHz: ≥22mm
<p>Note: <math>\delta</math> is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.</p> <p>* When zoom scan is required and the <u>reported</u> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4W/kg, ≤8mm, ≤7mm and ≤5mm zoom scan resolution may be applied, respectively, for 2GHz to 3GHz, 3GHz to 4GHz and 4GHz to 6GHz.</p>				

### Volume Scan Procedures

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

### Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASYS measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.



## 7 Main Test Equipment

Name of Equipment	Manufacturer	Type/Model	Serial Number	Last Cal.	Cal. Due Date
Network analyzer	Agilent	E5071B	MY42404014	2019-05-19	2020-05-18
Dielectric Probe Kit	HP	85070E	US44020115	2019-05-19	2020-05-18
Power meter	Agilent	E4417A	GB41291714	2019-05-19	2020-05-18
Power sensor	Agilent	N8481H	MY50350004	2019-05-19	2020-05-18
Power sensor	Agilent	E9327A	US40441622	2019-05-19	2020-05-18
Dual directional coupler	Agilent	778D-012	50519	2019-05-19	2020-05-18
Dual directional coupler	Agilent	777D	50146	2019-05-19	2020-05-18
Amplifier	INDEXSAR	IXA-020	0401	2019-05-19	2020-05-18
Wideband radio communication tester	R&S	CMW 500	113645	2019-05-19	2020-05-18
BT Base Station Simulator	R&S	CBT	100271	2019-05-19	2020-05-18
E-field Probe	SPEAG	EX3DV4	3677	2019-06-19	2020-06-18
DAE	SPEAG	DAE4	1291	2018-12-04	2019-12-03
Validation Kit 750MHz	SPEAG	D750V3	1045	2017-08-27	2020-08-26
Validation Kit 835MHz	SPEAG	D835V2	4d020	2017-08-28	2020-08-27
Validation Kit 1750MHz	SPEAG	D1750V2	1033	2017-01-10	2020-01-09
Validation Kit 1900MHz	SPEAG	D1900V2	5d060	2017-08-26	2020-08-25
Validation Kit 2450MHz	SPEAG	D2450V2	786	2017-08-29	2020-08-28
Validation Kit 2600MHz	SPEAG	D2600V2	1025	2018-05-02	2021-05-01
Validation Kit 5GHz	SPEAG	D5GHzV2	1151	2017-01-05	2020-01-04
Temperature Probe	Tianjin jinming	JM222	AA1009129	2019-05-19	2020-05-18
Hygrothermograph	Anymetr	NT-311	20150731	2019-05-19	2020-05-18
Software for Test	Speag	DASY5	52.8.8.1222	/	/
Softwarefor Tissue	Agilent	85070	E06.01.36	/	/

## 8 Tissue Dielectric Parameter Measurements & System Verification

### 8.1 Tissue Verification

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within  $\pm 2^\circ\text{C}$  of the temperature when the tissue parameters are characterized. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance.

#### Target values

Frequency (MHz)	Water (%)	Salt (%)	Sugar (%)	Glycol (%)	Preventol (%)	Cellulose (%)	$\epsilon_r$	$\sigma(\text{s/m})$	
Head	750	41.448	1.452	56	0	0.1	1.0	41.9	0.89
	835	41.45	1.45	56	0	0.1	1.0	41.5	0.90
	1750	55.24	0.31	0	44.45	0	0	40.1	1.37
	1900	55.242	0.306	0	44.452	0	0	40.0	1.40
	2450	62.7	0.5	0	36.8	0	0	39.2	1.80
	2600	55.242	0.306	0	44.452	0	0	39.0	1.96
Body	750	52.49	1.41	45	0	0.1	1.0	55.5	0.96
	835	52.5	1.4	45	0	0.1	1.0	55.2	0.97
	1750	69.91	0.12	0	29.97	0	0	53.4	1.49
	1900	69.91	0.13	0	29.96	0	0	53.3	1.52
	2450	73.2	0.1	0	26.7	0	0	52.7	1.95
	2600	72.6	0.1	0	27.3	0	0	52.5	2.16
Frequency (MHz)	Water (%)	Diethylenglycol monohexylether			Triton X-100		$\epsilon_r$	$\sigma(\text{s/m})$	
Head	5250	65.53	17.24			17.23		35.9	4.71
	5600	65.53	17.24			17.23		35.5	5.07
	5750	65.53	17.24			17.23		35.4	5.22
Body	5250	72.52	13.74			13.74		48.9	5.36
	5600	72.52	13.74			13.74		48.5	5.77
	5750	72.52	13.74			13.74		48.3	5.94



## Measurements results

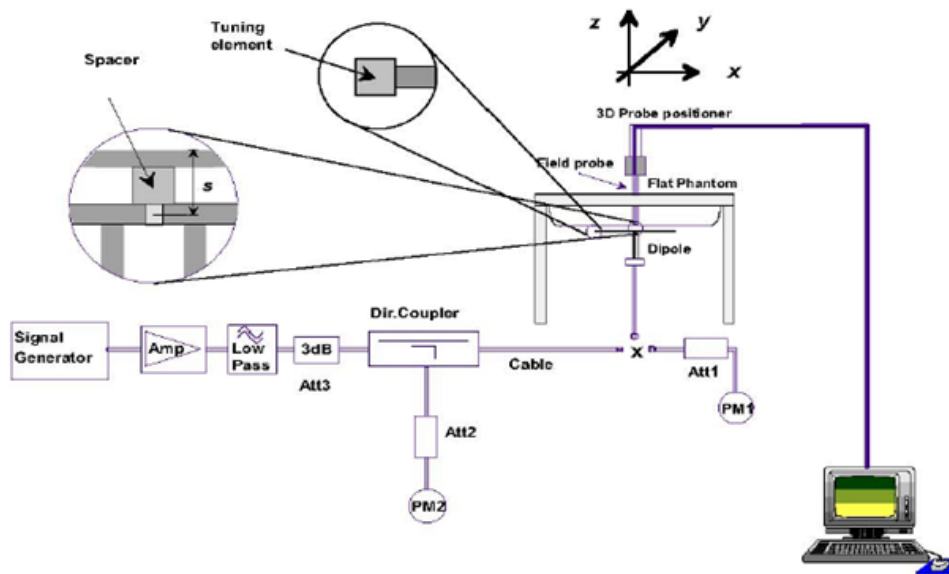
Frequency (MHz)	Test Date	Temp °C	Measured Dielectric Parameters		Target Dielectric Parameters		Limit (Within ±5%)		
			$\epsilon_r$	$\sigma$ (s/m)	$\epsilon_r$	$\sigma$ (s/m)	Dev $\epsilon_r$ (%)	Dev $\sigma$ (%)	
750	Head	7/20/2019	21.5	42.3	0.88	41.9	0.89	0.95	-1.12
		8/4/2019	21.5	42.0	0.87	41.9	0.89	0.24	-2.25
	Body	7/20/2019	21.5	56.9	0.95	55.5	0.96	2.52	-1.04
		8/1/2019	21.5	54.5	0.96	55.5	0.96	-1.80	0.00
835	Head	7/19/2019	21.5	41.4	0.88	41.5	0.90	-0.24	-2.22
		8/4/2019	21.5	41.3	0.87	41.5	0.90	-0.48	-3.33
		8/5/2019	21.5	41.4	0.88	41.5	0.90	-0.24	-2.22
	Body	7/23/2019	21.5	54.2	0.96	55.2	0.97	-1.81	-1.03
		7/31/2019	21.5	54.6	0.95	55.2	0.97	-1.09	-2.06
1750	Head	7/20/2019	21.5	40.2	1.34	40.1	1.37	0.25	-2.19
		7/30/2019	21.5	40.1	1.34	40.1	1.37	0.00	-2.19
		8/6/2019	21.5	39.3	1.37	40.1	1.37	-2.00	0.00
	Body	7/25/2019	21.5	51.9	1.46	53.4	1.49	-2.81	-2.01
		7/30/2019	21.5	52.5	1.51	53.4	1.49	-1.69	1.34
1900	Head	8/3/2019	21.5	40.1	1.41	40.0	1.40	0.25	0.71
		8/6/2019	21.5	40.2	1.43	40.0	1.40	0.50	2.14
	Body	7/24/2019	21.5	52.6	1.51	53.3	1.52	-1.31	-0.66
		7/28/2019	21.5	52.8	1.51	53.3	1.52	-0.94	-0.66
2450	Head	7/27/2019	21.5	38.8	1.80	39.2	1.80	-1.02	0.00
	Body	7/27/2019	21.5	52.6	1.97	52.7	1.95	-0.19	1.03
2600	Head	7/26/2019	21.5	38.2	2.01	39.0	1.96	-2.05	2.55
		7/29/2019	21.5	38.4	1.94	39.0	1.96	-1.54	-1.02
		8/5/2019	21.5	38.3	1.99	39.0	1.96	-1.79	1.53
	Body	7/21/2019	21.5	51.5	2.23	52.5	2.16	-1.90	3.24
		7/22/2019	21.5	51.7	2.21	52.5	2.16	-1.52	2.31
		8/1/2019	21.5	51.5	2.24	52.5	2.16	-1.90	3.70
		8/2/2019	21.5	51.6	2.23	52.5	2.16	-1.71	3.24
5250	Head	8/7/2019	21.5	35.5	4.80	35.9	4.71	-1.11	1.91
	Body	8/9/2019	21.5	48.1	5.32	48.9	5.36	-1.64	-0.75
5600	Head	8/8/2019	21.5	34.2	5.21	35.5	5.07	-3.66	2.76
	Body	8/11/2019	21.5	47.9	5.78	48.5	5.77	-1.24	0.17
5750	Head	8/10/2019	21.5	34.9	5.21	35.4	5.22	-1.41	-0.19
	Body	8/10/2019	21.5	47.6	6.14	48.3	5.94	-1.45	3.37

Note: The depth of tissue-equivalent liquid in a phantom must be  $\geq 15.0$  cm for SAR measurements  $\leq 3$  GHz and  $\geq 10.0$  cm for measurements  $> 3$  GHz.

## 8.2 System Performance Check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulates were measured using the dielectric probe kit and the network analyzer. A system check measurement for every day was made following the determination of the dielectric parameters of the Tissue simulates, using the dipole validation kit. The dipole antenna was placed under the flat section of the twin SAM phantom.

System check is performed regularly on all frequency bands where tests are performed with the DASY system.



Picture 1 System Performance Check setup



Picture 2 Setup Photo

**Justification for Extended SAR Dipole Calibrations**

Usage of SAR dipoles calibrated less than 3 years ago but more than 1 year ago were confirmed in maintaining return loss ( $< -20$  dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibrations in KDB 865664 D01:

Dipole		Date of Measurement	Return Loss(dB)	$\Delta$ %	Impedance ( $\Omega$ )	$\Delta\Omega$
Dipole D750V3 SN: 1045	Head Liquid	8/27/2017	-28.5	/	52.5	/
		8/26/2018	-27.6	3.36	53.2	0.7
	Body Liquid	8/27/2017	-24.2	/	47.5	/
		8/26/2018	-24.0	0.83	45.6	1.9
Dipole D835V2 SN: 4d020	Head Liquid	8/28/2017	-31.9	/	50.3	/
		8/27/2018	-29.0	9.09	46.6	-3.7
	Body Liquid	8/28/2017	-24.8	/	46.8	/
		8/27/2018	-27.4	-10.48	48.1	1.3
Dipole D1750V2 SN: 1033	Head Liquid	1/10/2017	-40.3	/	49.8	/
		1/9/2018	-40.0	0.74	49.9	0.1
		1/8/2019	-40.2	-0.50	49.6	0.3
	Body Liquid	1/10/2017	-35.0	/	44.7	/
		1/9/2018	-34.7	0.86	44.9	-0.2
		1/8/2019	-35.2	-1.44	44.6	0.3
Dipole D1900V2 SN: 5d060	Head Liquid	8/26/2017	-23.4	/	52.0	/
		8/25/2018	-24.7	-5.56	54.4	2.4
	Body Liquid	8/26/2017	-21.4	/	52.7	/
		8/25/2018	-24.6	-14.95	55.6	2.9
Dipole D2450V2 SN: 786	Head Liquid	8/29/2017	-25.5	/	53.4	/
		8/28/2018	-23.0	9.80	57.2	3.8
	Body Liquid	8/29/2017	-23.6	/	51.0	/
		8/28/2018	-23.7	-0.42	55.2	4.2
Dipole D2600V2 SN: 1025	Head Liquid	5/2/2018	-22.0	/	48.1	/
		5/1/2019	-22.5	-2.2	48.7	0.6
	Body Liquid	5/2/2018	-21.9	/	46.6	/
		5/1/2019	-21.8	0.5	46.9	-0.3
Dipole D5GHzV2 SN: 1151 (5250MHz)	Head Liquid	1/5/2017	-24.5	/	48.4	/
		1/4/2018	-23.8	2.86	50.0	1.6
		1/3/2019	-24.3	-2.10	49.3	0.7
	Body Liquid	1/5/2017	-24.7	/	50.4	/
		1/4/2018	-23.8	3.64	50.0	0.4
		1/3/2019	-23.4	1.68	50.4	-0.4
Dipole D5GHzV2 SN: 1151 (5600MHz)	Head Liquid	1/5/2017	-22.8	/	55.5	/
		1/4/2018	-21.5	5.70	55.6	0.1
		1/3/2019	-21.8	-1.40	55.3	0.3
	Body Liquid	1/5/2017	-23.3	/	57.2	/
		1/4/2018	-22.5	3.43	55.6	1.6
		1/3/2019	-22.8	-1.33	56.4	-0.8
Dipole D5GHzV2 SN: 1151 (5750MHz)	Head Liquid	1/5/2017	-26.5	/	52.4	/
		1/4/2018	-26.8	-1.13	52.5	0.1
		1/3/2019	-26.9	-0.37	52.1	0.4
	Body	1/5/2017	-24.9	/	56.0	/



	Liquid	1/4/2018	-25.2	-1.20	56.4	-0.4
		1/3/2019	-25.7	-1.98	56.7	-0.3

**System Check results**

Frequency (MHz)	Test Date	Temp °C	250mW Measured SAR <sub>1g</sub> (W/kg)	1W Normalized SAR <sub>1g</sub> (W/kg)	1W Target SAR <sub>1g</sub> (W/kg)	Δ % (Limit± 10%)	Plot No.	
750	Head	7/20/2019	21.5	2.13	8.52	8.34	2.16	1
		8/4/2019	21.5	2.10	8.40	8.34	0.72	2
	Body	7/20/2019	21.5	2.22	8.88	8.78	1.14	3
		8/1/2019	21.5	2.17	8.68	8.78	-1.14	4
835	Head	7/19/2019	21.5	2.44	9.76	9.45	3.28	5
		8/4/2019	21.5	2.46	9.84	9.45	4.13	6
		8/5/2019	21.5	2.50	10.00	9.45	5.82	7
	Body	7/23/2019	21.5	2.41	9.64	9.75	-1.13	8
		7/31/2019	21.5	2.42	9.68	9.75	-0.72	9
1750	Head	7/20/2019	21.5	8.95	35.80	37.20	-3.76	10
		7/30/2019	21.5	9.11	36.44	37.20	-2.04	11
		8/6/2019	21.5	8.92	35.68	37.2	-4.09	12
	Body	7/25/2019	21.5	9.24	36.96	37.60	-1.70	13
7/30/2019		21.5	9.40	37.60	37.60	0.00	14	
1900	Head	8/3/2019	21.5	9.88	39.52	40.10	-1.45	15
		8/6/2019	21.5	9.85	39.40	40.10	-1.75	16
	Body	7/24/2019	21.5	9.93	39.72	39.50	0.56	17
7/28/2019		21.5	9.91	39.64	39.50	0.35	18	
2450	Head	7/27/2019	21.5	13.66	54.64	52.60	3.88	19
	Body	7/27/2019	21.5	12.52	50.08	50.80	-1.42	20
2600	Head	7/26/2019	21.5	13.90	55.60	54.10	2.77	21
		7/29/2019	21.5	13.88	55.52	54.10	2.62	22
		8/5/2019	21.5	13.94	55.76	54.10	3.07	23
	Body	7/21/2019	21.5	13.50	54.00	54.50	-0.92	24
		7/22/2019	21.5	13.55	54.20	54.50	-0.55	25
		8/1/2019	21.5	13.66	54.64	54.50	0.26	26
		8/2/2019	21.5	13.64	54.56	54.50	0.11	27
Frequency (MHz)	Test Date	Temp °C	100mW Measured SAR <sub>1g</sub> (W/kg)	1W Normalized SAR <sub>1g</sub> (W/kg)	1W Target SAR <sub>1g</sub> (W/kg)	Δ % (Limit± 10%)	Plot No.	
5250	Head	8/7/2019	21.5	7.87	78.70	78.40	0.38	28
	Body	8/9/2019	21.5	7.46	74.60	75.60	-1.32	29



5600	Head	8/8/2019	21.5	7.67	76.70	81.50	-5.89	30
	Body	8/11/2019	21.5	8.10	81.00	80.20	1.00	31
5750	Head	8/10/2019	21.5	7.66	76.60	80.50	-4.84	32
	Body	8/10/2019	21.5	7.15	71.50	74.60	-4.16	33

Note: Target Values used derive from the calibration certificate Data Storage and Evaluation.



### 8.3 SAR System Validation

Per FCC KDB 865664 D02v01, SAR system verification is required to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles are used with the required tissue-equivalent media for system validation, according to the procedures outlined in FCC KDB 865664 D01 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point must be validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

a tabulated summary of the system validation status, measurement frequencies, SAR probes, calibrated signal type(s) and tissue dielectric parameters has been included.

Frequency [MHz]	Date	Probe SN	Probe Type	Probe Cal Point		PERM (Er)	COND ( $\Sigma$ )	CW Validation			Mod. Validation		
								Sensitivity	Probe Linearity	Probe Isotropy	Mod. Type	Duty Factor	PAR
750	6/25/2019	3677	EX3DV4	750	Head	42.81	0.85	PASS	PASS	PASS	FDD	PASS	N/A
835	6/25/2019	3677	EX3DV4	835	Head	42.22	0.90	PASS	PASS	PASS	GMSK	PASS	N/A
1750	6/25/2019	3677	EX3DV4	1750	Head	39.91	1.32	PASS	PASS	PASS	NA	N/A	N/A
1900	6/25/2019	3677	EX3DV4	1900	Head	39.43	1.42	PASS	PASS	PASS	GMSK	PASS	N/A
2450	6/25/2019	3677	EX3DV4	2450	Head	38.19	1.83	PASS	PASS	PASS	OFDM	PASS	PASS
2600	6/25/2019	3677	EX3DV4	2600	Head	37.60	1.99	PASS	PASS	PASS	TDD	PASS	N/A
5250	6/25/2019	3677	EX3DV4	5250	Head	35.36	4.83	PASS	PASS	PASS	OFDM	N/A	PASS
5600	6/25/2019	3677	EX3DV4	5600	Head	34.43	5.29	PASS	PASS	PASS	OFDM	N/A	PASS
5750	6/25/2019	3677	EX3DV4	5750	Head	34.07	5.47	PASS	PASS	PASS	OFDM	N/A	PASS
750	6/25/2019	3677	EX3DV4	750	Body	55.35	0.99	PASS	PASS	PASS	FDD	PASS	N/A
835	6/25/2019	3677	EX3DV4	835	Body	54.88	0.98	PASS	PASS	PASS	GMSK	PASS	N/A
1750	6/25/2019	3677	EX3DV4	1750	Body	51.24	1.44	PASS	PASS	PASS	NA	N/A	N/A
1900	6/25/2019	3677	EX3DV4	1900	Body	50.98	1.56	PASS	PASS	PASS	GMSK	PASS	N/A
2450	6/25/2019	3677	EX3DV4	2450	Body	50.59	1.95	PASS	PASS	PASS	OFDM	PASS	PASS
2600	6/25/2019	3677	EX3DV4	2600	Body	50.14	2.13	PASS	PASS	PASS	TDD	PASS	N/A
5250	6/25/2019	3677	EX3DV4	5250	Body	47.37	5.44	PASS	PASS	PASS	OFDM	N/A	PASS
5600	6/25/2019	3677	EX3DV4	5600	Body	46.42	5.99	PASS	PASS	PASS	OFDM	N/A	PASS
5750	6/25/2019	3677	EX3DV4	5750	Body	46.02	6.23	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664D01v01 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5dB), such as OFDM according to KDB 865664.

## 9 Normal and Maximum Output Power

KDB 447498 D01 at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

### 9.1 GSM Mode

#### Main- Antenna

GSM 850		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	128 /824.2	190 /836.6	251 /848.8		MAX	128 /824.2	190 /836.6	251 /848.8
GSM	CS	34.00	33.61	33.72	33.70	9.03	24.97	24.58	24.69	24.67
GPRS/ EGPRS (GMSK)	1 Tx Slot	34.00	33.64	33.64	33.73	9.03	24.97	24.61	24.61	24.70
	2 Tx Slots	32.00	31.60	31.82	31.71	6.02	<b>25.98</b>	<b>25.58</b>	<b>25.80</b>	<b>25.69</b>
	3 Tx Slots	30.00	29.47	29.67	29.68	4.26	25.74	25.21	25.41	25.42
	4 Tx Slots	28.00	27.50	27.70	27.64	3.01	24.99	24.49	24.69	24.63
EGPRS (8PSK)	1 Tx Slot	27.50	26.54	26.65	26.69	9.03	18.47	17.51	17.62	17.66
	2 Tx Slots	25.50	24.47	24.62	24.63	6.02	19.48	18.45	18.60	18.61
	3 Tx Slots	23.50	22.32	22.46	22.54	4.26	19.24	18.06	18.20	18.28
	4 Tx Slots	21.50	20.43	20.64	20.67	3.01	18.49	17.42	17.63	17.66
GSM 1900 (Receiver on) (Receiver off+SAR sensor on Level D1/2) (Receiver off+SAR sensor on Level D3/7)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	31.00	30.48	30.46	30.53	9.03	21.97	21.45	21.43	21.50
GPRS/ EGPRS (GMSK)	1 Tx Slot	31.00	30.49	30.48	30.46	9.03	21.97	21.46	21.45	21.43
	2 Tx Slots	29.00	28.35	28.35	28.67	6.02	<b>22.98</b>	<b>22.33</b>	<b>22.33</b>	<b>22.65</b>
	3 Tx Slots	27.00	26.29	26.23	26.58	4.26	22.74	22.03	21.97	22.32
	4 Tx Slots	25.00	24.22	24.18	24.45	3.01	21.99	21.21	21.17	21.44
EGPRS (8PSK)	1 Tx Slot	26.50	26.43	26.38	26.41	9.03	17.47	17.40	17.35	17.38
	2 Tx Slots	24.50	23.85	23.75	24.15	6.02	18.48	17.83	17.73	18.13
	3 Tx Slots	22.50	21.84	21.71	21.88	4.26	18.24	17.58	17.45	17.62
	4 Tx Slots	20.50	19.99	19.68	19.97	3.01	17.49	16.98	16.67	16.96
GSM 1900 (Receiver on+WiFi connect/P2P) (Receiver off+SAR sensor on Level D1/2+WiFi)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8



connect/P2P) (Receiver off+SAR sensor on Level D3/7+WiFi connect/P2P) (Receiver off+SAR sensor on Level D1/2+Hotspot) (Receiver off+SAR sensor on Level D3/7+Hotspot)										
GSM	CS	29.50	29.00	29.06	29.32	9.03	20.47	19.97	20.03	20.29
GPRS/ EGPRS (GMSK)	1 Tx Slot	29.50	29.10	29.12	29.33	9.03	20.47	20.07	20.09	20.30
	2 Tx Slots	27.50	26.92	26.98	27.12	6.02	<b>21.48</b>	<b>20.90</b>	<b>20.96</b>	<b>21.10</b>
	3 Tx Slots	25.50	24.82	24.83	25.15	4.26	21.24	20.56	20.57	20.89
	4 Tx Slots	23.50	22.80	22.77	23.07	3.01	20.49	19.79	19.76	20.06
EGPRS (8PSK)	1 Tx Slot	25.00	24.32	24.47	24.52	9.03	15.97	15.29	15.44	15.49
	2 Tx Slots	23.00	22.28	22.26	22.39	6.02	16.98	16.26	16.24	16.37
	3 Tx Slots	21.00	20.25	20.35	20.35	4.26	16.74	15.99	16.09	16.09
	4 Tx Slots	19.00	18.34	18.21	18.49	3.01	15.99	15.33	15.20	15.48
Notes: The worst-case configuration and mode for SAR testing is determined to be as follows: 1. Standalone: GSM 850 GMSK (GPRS) mode with 2 time slots for Max power, GSM 1900 GMSK (GPRS) mode with 2 time slots for Max power, based on the output power measurements above..										



**Second – Antenna**

GSM 850 (Receiver on)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	128 /824.2	190 /836.6	251 /848.8		MAX	128 /824.2	190 /836.6	251 /848.8
GSM	CS	28.20	27.71	27.68	27.58	9.03	19.17	18.68	18.65	18.55
GPRS/ EGPRS (GMSK)	1 Tx Slot	28.20	27.75	27.71	27.55	9.03	19.17	18.72	18.68	18.52
	2 Tx Slots	26.20	25.56	25.44	25.35	6.02	<b>20.18</b>	<b>19.54</b>	<b>19.42</b>	<b>19.33</b>
	3 Tx Slots	24.20	23.45	23.43	23.23	4.26	19.94	19.19	19.17	18.97
	4 Tx Slots	22.20	21.60	21.42	21.28	3.01	19.19	18.59	18.41	18.27
EGPRS (8PSK)	1 Tx Slot	21.70	20.67	20.70	20.65	9.03	12.67	11.64	11.67	11.62
	2 Tx Slots	19.70	18.87	18.77	18.64	6.02	13.68	12.85	12.75	12.62
	3 Tx Slots	17.70	16.94	16.41	16.38	4.26	13.44	12.68	12.15	12.12
	4 Tx Slots	15.70	14.74	14.72	14.75	3.01	12.69	11.73	11.71	11.74
GSM 850 (Receiver off)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	128 /824.2	190 /836.6	251 /848.8		MAX	128 /824.2	190 /836.6	251 /848.8
GSM	CS	31.20	30.58	30.51	30.37	9.03	22.17	21.55	21.48	21.34
GPRS/ EGPRS (GMSK)	1 Tx Slot	31.20	30.64	30.51	30.39	9.03	22.17	21.61	21.48	21.36
	2 Tx Slots	29.20	28.44	28.38	28.26	6.02	<b>23.18</b>	<b>22.42</b>	<b>22.36</b>	<b>22.24</b>
	3 Tx Slots	27.20	27.00	26.31	26.24	4.26	22.94	22.74	22.05	21.98
	4 Tx Slots	25.20	24.47	24.33	24.06	3.01	22.19	21.46	21.32	21.05
EGPRS (8PSK)	1 Tx Slot	24.70	23.19	23.23	23.22	9.03	15.67	14.16	14.20	14.19
	2 Tx Slots	22.70	21.11	21.57	21.38	6.02	16.68	15.09	15.55	15.36
	3 Tx Slots	20.70	19.57	19.54	19.32	4.26	16.44	15.31	15.28	15.06
	4 Tx Slots	18.70	17.65	17.45	17.39	3.01	15.69	14.64	14.44	14.38
GSM 850 (Receiver on+WiFi connect / P2P / Hotspot)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	128 /824.2	190 /836.6	251 /848.8		MAX	128 /824.2	190 /836.6	251 /848.8
GSM	CS	24.70	24.21	24.15	24.04	9.03	15.67	15.18	15.12	15.01
GPRS/ EGPRS (GMSK)	1 Tx Slot	24.70	24.20	24.16	23.99	9.03	15.67	15.17	15.13	14.96
	2 Tx Slots	22.70	22.16	22.10	22.01	6.02	<b>16.68</b>	<b>16.14</b>	<b>16.08</b>	<b>15.99</b>
	3 Tx Slots	20.70	20.15	20.13	19.93	4.26	16.44	15.89	15.87	15.67
	4 Tx Slots	18.70	18.30	18.12	17.98	3.01	15.69	15.29	15.11	14.97
EGPRS (8PSK)	1 Tx Slot	18.20	17.26	17.32	17.31	9.03	9.17	8.23	8.29	8.28
	2 Tx Slots	16.20	15.48	15.38	15.44	6.02	10.18	9.46	9.36	9.42
	3 Tx Slots	14.20	13.68	13.65	13.93	4.26	9.94	9.42	9.39	9.67
	4 Tx Slots	12.20	11.89	11.84	11.95	3.01	9.19	8.88	8.83	8.94



GSM 850 (Receiver off + WiFi connect / P2P / Hotspot)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	128 /824.2	190 /836.6	251 /848.8		MAX	128 /824.2	190 /836.6	251 /848.8
GSM	CS	27.70	27.21	27.19	27.07	9.03	18.67	18.18	18.16	18.04
GPRS/ EGPRS (GMSK)	1 Tx Slot	27.70	27.20	27.19	27.11	9.03	18.67	18.17	18.16	18.08
	2 Tx Slots	25.70	25.11	25.07	24.87	6.02	<b>19.68</b>	<b>19.09</b>	<b>19.05</b>	<b>18.85</b>
	3 Tx Slots	23.70	23.00	22.95	22.81	4.26	19.44	18.74	18.69	18.55
	4 Tx Slots	21.70	21.06	20.92	20.83	3.01	18.69	18.05	17.91	17.82
EGPRS (8PSK)	1 Tx Slot	21.20	20.01	20.24	20.23	9.03	12.17	10.98	11.21	11.20
	2 Tx Slots	19.20	18.16	18.20	18.35	6.02	13.18	12.14	12.18	12.33
	3 Tx Slots	17.20	16.10	16.43	16.18	4.26	12.94	11.84	12.17	11.92
	4 Tx Slots	15.20	14.13	14.42	14.39	3.01	12.19	11.12	11.41	11.38
GSM 1900 (Receiver on)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	28.20	27.21	27.26	27.37	9.03	19.17	18.18	18.23	18.34
GPRS/ EGPRS (GMSK)	1 Tx Slot	28.20	27.18	27.21	27.35	9.03	19.17	18.15	18.18	18.32
	2 Tx Slots	26.20	25.10	25.11	25.21	6.02	<b>20.18</b>	<b>19.08</b>	<b>19.09</b>	<b>19.19</b>
	3 Tx Slots	24.20	22.98	22.94	23.20	4.26	19.94	18.72	18.68	18.94
	4 Tx Slots	22.20	21.06	21.08	21.23	3.01	19.19	18.05	18.07	18.22
EGPRS (8PSK)	1 Tx Slot	23.70	22.55	22.44	22.73	9.03	14.67	13.52	13.41	13.70
	2 Tx Slots	21.70	20.45	20.48	20.64	6.02	15.68	14.43	14.46	14.62
	3 Tx Slots	19.70	18.51	18.42	18.60	4.26	15.44	14.25	14.16	14.34
	4 Tx Slots	17.70	16.45	16.60	16.78	3.01	14.69	13.44	13.59	13.77
GSM 1900 (Receiver off)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	31.20	30.54	30.55	30.53	9.03	22.17	21.51	21.52	21.50
GPRS/ EGPRS (GMSK)	1 Tx Slot	31.20	30.54	30.54	30.60	9.03	22.17	21.51	21.51	21.57
	2 Tx Slots	29.20	28.35	28.36	28.68	6.02	<b>23.18</b>	<b>22.33</b>	<b>22.34</b>	<b>22.66</b>
	3 Tx Slots	27.20	26.20	26.23	26.48	4.26	22.94	21.94	21.97	22.22
	4 Tx Slots	25.20	24.19	24.15	24.44	3.01	22.19	21.18	21.14	21.43
EGPRS (8PSK)	1 Tx Slot	26.70	25.73	25.74	26.07	9.03	17.67	16.70	16.71	17.04
	2 Tx Slots	24.70	23.31	23.36	23.69	6.02	18.68	17.29	17.34	17.67
	3 Tx Slots	22.70	21.22	21.60	22.04	4.26	18.44	16.96	17.34	17.78
	4 Tx Slots	20.70	19.51	19.42	19.55	3.01	17.69	16.50	16.41	16.54
GSM 1900		Burst-Averaged output power(dBm)				Division	Frame-Averaged output power(dBm)			



(Receiver on+WiFi connect / P2P / Hotspot)		Tune-up	Channel/Frenqucy(MHz)			Factors	Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	26.20	25.28	25.20	25.38	9.03	17.17	16.25	16.17	16.35
GPRS/ EGPRS (GMSK)	1 Tx Slot	26.20	25.22	25.24	25.40	9.03	17.17	16.19	16.21	16.37
	2 Tx Slots	24.20	23.11	23.13	23.33	6.02	<b>18.18</b>	<b>17.09</b>	<b>17.11</b>	<b>17.31</b>
	3 Tx Slots	22.20	21.12	21.14	21.31	4.26	17.94	16.86	16.88	17.05
	4 Tx Slots	20.20	19.30	19.20	19.45	3.01	17.19	16.29	16.19	16.44
EGPRS (8PSK)	1 Tx Slot	21.70	20.54	20.51	20.82	9.03	12.67	11.51	11.48	11.79
	2 Tx Slots	19.70	18.63	18.54	18.75	6.02	13.68	12.61	12.52	12.73
	3 Tx Slots	17.70	16.63	16.68	16.84	4.26	13.44	12.37	12.42	12.58
	4 Tx Slots	15.70	14.69	14.76	14.92	3.01	12.69	11.68	11.75	11.91
GSM 1900 (Receiver off + WiFi connect / P2P / Hotspot)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	29.20	28.58	28.67	29.03	9.03	20.17	19.55	19.64	20.00
GPRS/ EGPRS (GMSK)	1 Tx Slot	29.20	28.48	28.77	29.05	9.03	20.17	19.45	19.74	20.02
	2 Tx Slots	27.20	26.48	26.58	26.92	6.02	<b>21.18</b>	<b>20.46</b>	<b>20.56</b>	<b>20.90</b>
	3 Tx Slots	25.20	24.36	24.47	24.95	4.26	20.94	20.10	20.21	20.69
	4 Tx Slots	23.20	22.28	22.46	22.87	3.01	20.19	19.27	19.45	19.86
EGPRS (8PSK)	1 Tx Slot	24.70	23.92	23.99	24.42	9.03	15.67	14.89	14.96	15.39
	2 Tx Slots	22.70	21.70	21.71	21.97	6.02	16.68	15.68	15.69	15.95
	3 Tx Slots	20.70	19.81	19.68	20.14	4.26	16.44	15.55	15.42	15.88
	4 Tx Slots	18.70	17.71	17.75	18.15	3.01	15.69	14.70	14.74	15.14

Notes: The worst-case configuration and mode for SAR testing is determined to be as follows:  
 1. Standalone: GSM 850 GMSK (GPRS) mode with 2 time slots for Max power, GSM 1900 GMSK (GPRS) mode with 2 time slots for Max power, based on the output power measurements above..

## 9.2 WCDMA Mode

The following tests were completed according to the test requirements outlined in the 3GPP TS34.121 specification.

### Main- Antenna

WCDMA		Band II(dBm) (Receiver on)				Band II(dBm) (Receiver off+sensor on D1/2)				Band II(dBm) (Receiver off+sensor on D3/7)			
Tx Channel		9262	9400	9538	Tune-up	9262	9400	9538	Tune-up	9262	9400	9538	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit
RMC	12.2kbps	23.22	23.09	23.24	24.00	21.67	21.52	21.71	22.50	23.74	23.61	23.72	24.50
AMR	12.2kbps	23.12	23.00	23.11	24.00	21.57	21.43	21.58	22.50	23.64	23.52	23.59	24.50
HSDPA	Sub 1	22.64	22.51	22.66	23.50	21.09	20.94	21.13	22.00	23.16	23.03	23.14	24.00
	Sub 2	22.63	22.50	22.65	23.50	21.08	20.93	21.12	22.00	23.15	23.02	23.13	24.00
	Sub 3	22.12	21.99	22.14	22.20	20.57	20.42	20.61	20.70	22.64	22.51	22.62	22.70
	Sub 4	22.11	21.98	22.13	22.20	20.56	20.41	20.60	20.70	22.63	22.50	22.61	22.70
HSUPA	Sub 1	22.60	22.47	22.62	24.00	21.05	20.90	21.09	22.50	23.12	22.99	23.10	24.50
	Sub 2	22.39	22.26	22.41	24.00	20.84	20.69	20.88	22.50	22.91	22.78	22.89	24.50
	Sub 3	22.87	22.75	22.90	24.00	21.32	21.18	21.37	22.50	23.39	23.27	23.38	24.50
	Sub 4	22.36	22.24	22.39	24.00	20.81	20.67	20.86	22.50	22.88	22.76	22.87	24.50
	Sub 5	22.55	22.43	22.58	24.00	21.00	20.86	21.05	22.50	23.07	22.95	23.06	24.50
DC-HSDPA	Sub 1	22.36	22.25	22.38	23.50	20.81	20.68	20.85	22.00	22.88	22.77	22.86	24.00
	Sub 2	22.35	22.24	22.37	23.50	20.80	20.67	20.84	22.00	22.87	22.76	22.85	24.00
	Sub 3	21.55	21.35	21.50	22.20	19.98	19.76	19.95	20.70	22.03	21.83	21.94	22.70
	Sub 4	21.54	21.34	21.49	22.20	19.97	19.75	19.94	20.70	22.02	21.82	21.93	22.70

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".





WCDMA		Band II(dBm) (Receiver on+WiFi connect/P2P)				Band II(dBm) (Receiver off+sensor D1/2+WiFi connect/P2P)				Band II(dBm) (Receiver off+sensor D3/7+WiFi connect/P2P)			
Tx Channel		9262	9400	9538	Tune-up	9262	9400	9538	Tune-up	9262	9400	9538	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit
RMC	12.2kbps	20.71	20.63	20.75	21.50	19.19	19.02	19.21	20.00	21.20	21.02	21.24	22.00
AMR	12.2kbps	20.61	20.54	20.62	21.50	19.09	18.93	19.08	20.00	21.10	20.93	21.11	22.00
HSDPA	Sub 1	20.13	20.05	20.17	21.00	18.61	18.44	18.63	19.50	20.62	20.44	20.66	21.50
	Sub 2	20.12	20.04	20.16	21.00	18.60	18.43	18.62	19.50	20.61	20.43	20.65	21.50
	Sub 3	19.61	19.53	19.65	19.70	18.09	17.92	18.11	18.20	20.10	19.92	20.14	20.20
	Sub 4	19.60	19.52	19.64	19.70	18.08	17.91	18.10	18.20	20.09	19.91	20.13	20.20
HSUPA	Sub 1	20.09	20.01	20.13	21.50	18.57	18.40	18.59	20.00	20.58	20.40	20.62	22.00
	Sub 2	19.88	19.80	19.92	21.50	18.36	18.19	18.38	20.00	20.37	20.19	20.41	22.00
	Sub 3	20.36	20.29	20.41	21.50	18.84	18.68	18.87	20.00	20.85	20.68	20.90	22.00
	Sub 4	19.85	19.78	19.90	21.50	18.33	18.17	18.36	20.00	20.34	20.17	20.39	22.00
	Sub 5	20.04	19.97	20.09	21.50	18.52	18.36	18.55	20.00	20.53	20.36	20.58	22.00
DC-HSDPA	Sub 1	19.85	19.79	19.89	21.00	18.33	18.18	18.35	19.50	20.34	20.18	20.38	21.50
	Sub 2	19.84	19.78	19.88	21.00	18.32	18.17	18.34	19.50	20.33	20.17	20.37	21.50
	Sub 3	19.02	18.87	18.99	19.70	17.47	17.23	17.42	18.20	19.51	19.26	19.48	20.20
	Sub 4	19.01	18.86	18.98	19.70	17.46	17.22	17.41	18.20	19.50	19.25	19.47	20.20

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA		Band II(dBm) (Receiver on+Hotspot)				Band II(dBm) (Receiver off+sensor D1/2+Hotspot)				Band II(dBm) (Receiver off+sensor D3/7+Hotspot)			
Tx Channel		9262	9400	9538	Tune-up	9262	9400	9538	Tune-up	9262	9400	9538	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit
RMC	12.2kbps	19.72	19.61	19.75	20.50	18.16	17.98	18.22	19.00	20.16	20.02	20.22	21.00
AMR	12.2kbps	19.62	19.52	19.62	20.50	18.06	17.89	18.09	19.00	20.06	19.93	20.09	21.00
HSDPA	Sub 1	19.14	19.03	19.17	20.00	17.58	17.40	17.64	18.50	19.58	19.44	19.64	20.50
	Sub 2	19.13	19.02	19.16	20.00	17.57	17.39	17.63	18.50	19.57	19.43	19.63	20.50
	Sub 3	18.62	18.51	18.65	18.70	17.06	16.88	17.12	17.20	19.06	18.92	19.12	19.20
	Sub 4	18.61	18.50	18.64	18.70	17.05	16.87	17.11	17.20	19.05	18.91	19.11	19.20
HSUPA	Sub 1	19.10	18.99	19.13	20.50	17.54	17.36	17.60	19.00	19.54	19.40	19.60	21.00
	Sub 2	18.89	18.78	18.92	20.50	17.33	17.15	17.39	19.00	19.33	19.19	19.39	21.00
	Sub 3	19.37	19.27	19.41	20.50	17.81	17.64	17.88	19.00	19.51	19.38	19.58	21.00
	Sub 4	18.86	18.76	18.90	20.50	17.30	17.13	17.37	19.00	19.30	19.17	19.37	21.00
	Sub 5	19.05	18.95	19.09	20.50	17.49	17.32	17.56	19.00	19.49	19.36	19.56	21.00
DC-	Sub 1	18.86	18.77	18.89	20.00	17.30	17.14	17.36	18.50	19.30	19.18	19.36	20.50





HSDPA	Sub 2	18.85	18.76	18.88	20.00	17.29	17.13	17.35	18.50	19.29	19.17	19.35	20.50
	Sub 3	18.03	17.85	17.99	18.70	16.49	16.24	16.48	17.20	18.44	18.23	18.43	19.20
	Sub 4	18.02	17.84	17.98	18.70	16.48	16.23	16.47	17.20	18.43	18.22	18.42	19.20

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA		Band IV(dBm) (Receiver on)				Band IV(dBm) (Receiver off+sensor on D1/2)				Band IV(dBm) (Receiver off+sensor on D3/7)			
Tx Channel		1312	1413	1513	Tune-up	1312	1413	1513	Tune-up	1312	1413	1513	Tune-up
Frequency(MHz)		1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit
RMC	12.2kbps	23.77	23.74	23.65	24.50	21.74	21.74	21.66	22.50	24.28	24.27	24.20	25.00
AMR	12.2kbps	23.67	23.65	23.52	24.50	21.64	21.65	21.53	22.50	24.18	24.18	24.07	25.00
HSDPA	Sub 1	23.19	23.16	23.07	24.00	21.16	21.16	21.08	22.00	23.70	23.69	23.62	24.50
	Sub 2	23.18	23.15	23.06	24.00	21.15	21.15	21.07	22.00	23.69	23.68	23.61	24.50
	Sub 3	22.67	22.64	22.55	22.70	20.64	20.64	20.56	20.70	23.18	23.17	23.10	23.20
	Sub 4	22.66	22.63	22.54	22.70	20.63	20.63	20.55	20.70	23.17	23.16	23.09	23.20
HSUPA	Sub 1	23.15	23.12	23.03	24.50	21.12	21.12	21.04	22.50	23.66	23.65	23.58	25.00
	Sub 2	23.14	23.11	23.02	24.50	20.81	20.81	20.73	22.50	23.35	23.34	23.27	25.00
	Sub 3	22.62	22.60	22.51	24.50	20.59	20.60	20.52	22.50	23.13	23.13	23.06	25.00
	Sub 4	23.11	23.09	23.00	24.50	20.78	20.79	20.71	22.50	23.32	23.32	23.25	25.00
	Sub 5	23.10	23.08	22.99	24.50	21.07	21.08	21.00	22.50	23.61	23.61	23.54	25.00
DC-HSDPA	Sub 1	22.91	22.90	22.79	24.00	20.88	20.90	20.80	22.00	23.42	23.43	23.34	24.50
	Sub 2	22.90	22.89	22.78	24.00	20.87	20.89	20.79	22.00	23.41	23.42	23.33	24.50
	Sub 3	22.16	22.06	21.97	22.70	20.09	20.02	19.94	20.70	22.67	22.59	22.52	23.20
	Sub 4	22.15	22.05	21.96	22.70	20.08	20.01	19.93	20.70	22.66	22.58	22.51	23.20

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA		Band IV(dBm) (Receiver on+WiFi connect/P2P)				Band IV(dBm) (Receiver off+sensor D1/2+WiFi connect/P2P)				Band IV(dBm) (Receiver off+sensor D3/7+WiFi connect/P2P)			
Tx Channel		1312	1413	1513	Tune-up	1312	1413	1513	Tune-up	1312	1413	1513	Tune-up
Frequency(MHz)		1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit
RMC	12.2kbps	21.21	21.25	21.12	22.00	19.25	19.19	19.16	20.00	21.74	21.73	21.65	22.50
AMR	12.2kbps	21.11	21.16	20.99	22.00	19.15	19.10	19.03	20.00	21.64	21.64	21.52	22.50
HSDPA	Sub 1	20.63	20.67	20.54	21.50	18.67	18.61	18.58	19.50	21.16	21.15	21.07	22.00
	Sub 2	20.62	20.66	20.53	21.50	18.66	18.60	18.57	19.50	21.15	21.14	21.06	22.00
	Sub 3	20.11	20.15	20.02	20.20	18.15	18.09	18.06	18.20	20.64	20.63	20.55	20.70
	Sub 4	20.10	20.14	20.01	20.20	18.14	18.08	18.05	18.20	20.63	20.62	20.54	20.70
HSUPA	Sub 1	20.59	20.63	20.50	22.00	18.63	18.57	18.54	20.00	21.12	21.11	21.03	22.50



	Sub 2	20.28	20.32	20.19	22.00	18.32	18.26	18.23	20.00	20.81	20.80	20.72	22.50
	Sub 3	20.06	20.11	19.98	22.00	18.10	18.05	18.02	20.00	20.59	20.59	20.51	22.50
	Sub 4	20.25	20.30	20.17	22.00	18.29	18.24	18.21	20.00	20.78	20.78	20.70	22.50
	Sub 5	20.54	20.59	20.46	22.00	18.58	18.53	18.50	20.00	21.07	21.07	20.99	22.50
DC-HSDPA	Sub 1	20.35	20.41	20.26	21.50	18.39	18.35	18.30	19.50	20.88	20.89	20.79	22.00
	Sub 2	20.34	20.40	20.25	21.50	18.38	18.34	18.29	19.50	20.87	20.88	20.78	22.00
	Sub 3	19.54	19.51	19.38	20.20	17.64	17.51	17.48	18.20	20.09	20.01	19.93	20.70
	Sub 4	19.53	19.50	19.37	20.20	17.63	17.50	17.47	18.20	20.08	20.00	19.92	20.70

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA		Band IV(dBm) (Receiver on+Hotspot)				Band IV(dBm) (Receiver off+sensor D1/2+Hotspot)				Band IV(dBm) (Receiver off+sensor D3/7+Hotspot)			
Tx Channel		1312	1413	1513	Tune-up	1312	1413	1513	Tune-up	1312	1413	1513	Tune-up
Frequency(MHz)		1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit
RMC	12.2kbps	20.19	20.19	20.12	21.00	18.20	18.16	18.11	19.00	20.74	20.72	20.64	21.50
AMR	12.2kbps	20.09	20.10	19.99	21.00	18.10	18.07	17.98	19.00	20.64	20.63	20.51	21.50
HSDPA	Sub 1	19.61	19.61	19.54	20.50	17.62	17.58	17.53	18.50	20.16	20.14	20.06	21.00
	Sub 2	19.60	19.60	19.53	20.50	17.61	17.57	17.52	18.50	20.15	20.13	20.05	21.00
	Sub 3	19.09	19.09	19.02	19.20	17.10	17.06	17.01	17.20	19.64	19.62	19.54	19.70
	Sub 4	19.08	19.08	19.01	19.20	17.09	17.05	17.00	17.20	19.63	19.61	19.53	19.70
HSUPA	Sub 1	19.57	19.57	19.50	21.00	17.58	17.54	17.49	19.00	20.12	20.10	20.02	21.50
	Sub 2	19.26	19.26	19.19	21.00	17.27	17.23	17.18	19.00	19.81	19.79	19.71	21.50
	Sub 3	19.04	19.05	18.98	21.00	17.05	17.02	17.03	19.00	19.59	19.58	19.50	21.50
	Sub 4	19.23	19.24	19.17	21.00	17.24	17.21	17.16	19.00	19.78	19.77	19.69	21.50
	Sub 5	19.52	19.53	19.46	21.00	17.53	17.50	17.45	19.00	20.07	20.06	19.98	21.50
DC-HSDPA	Sub 1	19.33	19.35	19.26	20.50	17.34	17.32	17.25	18.50	19.88	19.88	19.78	21.00
	Sub 2	19.32	19.34	19.25	20.50	17.33	17.31	17.24	18.50	19.87	19.87	19.77	21.00
	Sub 3	18.52	18.45	18.38	19.20	16.57	16.46	16.41	17.20	19.13	19.04	18.96	19.70
	Sub 4	18.51	18.44	18.37	19.20	16.56	16.45	16.40	17.20	19.12	19.03	18.95	19.70

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA		Band V(dBm)			
Tx Channel		9262	9400	9538	Tune-up Limit
Frequency(MHz)		1852.4	1880	1907.6	
RMC	12.2kbps	24.35	24.31	24.34	25.00
AMR	12.2kbps	24.25	24.22	24.21	25.00



HSDPA	Sub 1	23.77	23.73	23.76	24.50
	Sub 2	23.76	23.72	23.75	24.50
	Sub 3	22.75	22.71	22.74	23.20
	Sub 4	22.74	22.70	22.73	23.20
HSUPA	Sub 1	23.73	23.69	23.72	25.00
	Sub 2	23.52	23.48	23.51	25.00
	Sub 3	23.20	23.17	23.20	25.00
	Sub 4	23.49	23.46	23.49	25.00
	Sub 5	23.68	23.65	23.68	25.00
DC-HSDPA	Sub 1	23.49	23.47	23.48	24.50
	Sub 2	23.48	23.46	23.47	24.50
	Sub 3	22.86	22.75	22.78	23.20
	Sub 4	22.85	22.74	22.77	23.20

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

**Second - Antenna**

WCDMA		Band II(dBm) (Receiver on)				Band IV(dBm) (Receiver on)				Band V(dBm) (Receiver on)			
Tx Channel		9262	9400	9538	Tune-up	1312	1413	1513	Tune-up	4132	4183	4233	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1712.4	1732.6	1752.6	Limit	826.4	836.6	846.6	Limit
RMC	12.2kbps	16.11	15.98	16.35	17.20	17.67	17.96	18.17	19.20	17.59	17.60	17.57	18.70
AMR	12.2kbps	16.01	15.89	16.22	17.20	17.57	17.87	18.04	19.20	17.49	17.51	17.44	18.70
HSDPA	Sub 1	15.53	15.40	15.77	16.70	17.09	17.38	17.59	18.70	17.01	17.02	16.99	18.20
	Sub 2	15.52	15.39	15.76	16.70	17.08	17.37	17.58	18.70	17.00	17.01	16.98	18.20
	Sub 3	15.01	14.88	15.25	15.40	16.57	16.86	17.07	17.40	16.49	16.50	16.47	16.90
	Sub 4	15.00	14.87	15.24	15.40	16.56	16.85	17.06	17.40	16.48	16.49	16.46	16.90
HSUPA	Sub 1	15.49	15.36	15.73	17.20	18.05	17.34	17.55	19.20	16.97	16.98	16.95	18.70
	Sub 2	15.48	15.35	15.72	17.20	18.04	17.33	17.54	19.20	16.96	16.97	16.94	18.70
	Sub 3	15.96	15.84	16.21	17.20	17.52	17.82	18.03	19.20	17.44	17.46	17.43	18.70
	Sub 4	15.45	15.33	15.70	17.20	18.01	17.31	17.52	19.20	16.93	16.95	16.92	18.70
	Sub 5	15.44	15.32	15.69	17.20	18.00	17.30	17.51	19.20	16.92	16.94	16.91	18.70
DC-HSDPA	Sub 1	15.25	15.14	15.49	16.70	16.81	17.12	17.31	18.70	16.73	16.76	16.71	18.20
	Sub 2	15.24	15.13	15.48	16.70	16.80	17.11	17.30	18.70	16.72	16.75	16.70	18.20
	Sub 3	14.82	14.62	14.99	15.40	16.38	16.60	16.81	17.40	16.30	16.24	16.21	16.90
	Sub 4	14.81	14.61	14.98	15.40	16.37	16.59	16.55	17.40	16.29	16.23	16.20	16.90

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".



WCDMA		Band II(dBm) (Receiver off)				Band IV(dBm) (Receiver off)				Band V(dBm) (Receiver off)			
Tx Channel		9262	9400	9538	Tune-up	1312	1413	1513	Tune-up	4132	4183	4233	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1712.4	1732.6	1752.6	Limit	826.4	836.6	846.6	Limit
RMC	12.2kbps	21.68	21.44	21.84	22.70	22.98	23.13	23.39	24.20	24.11	24.10	24.15	25.20
AMR	12.2kbps	21.58	21.35	21.71	22.70	22.88	23.04	23.26	24.20	24.01	24.01	24.02	25.20
HSDPA	Sub 1	21.10	20.86	21.26	22.20	22.40	22.55	22.81	23.70	23.53	23.52	23.57	24.70
	Sub 2	21.09	20.85	21.25	22.20	22.39	22.54	22.80	23.70	23.52	23.51	23.56	24.70
	Sub 3	20.58	20.34	20.74	20.90	21.88	22.03	22.29	22.40	23.01	23.00	23.05	23.40
	Sub 4	20.57	20.33	20.73	20.90	21.87	22.02	22.28	22.40	23.00	22.99	23.04	23.40
HSUPA	Sub 1	21.06	20.82	21.22	22.70	22.36	22.51	22.77	24.20	23.49	23.48	23.53	25.20
	Sub 2	21.05	20.81	21.21	22.70	22.35	22.50	22.76	24.20	23.48	23.47	23.52	25.20
	Sub 3	21.53	21.30	21.70	22.70	22.83	22.99	23.25	24.20	23.96	23.96	24.01	25.20
	Sub 4	21.02	20.79	21.19	22.70	22.32	22.48	22.74	24.20	23.45	23.45	23.50	25.20
	Sub 5	21.01	20.78	21.18	22.70	22.31	22.47	22.73	24.20	23.44	23.44	23.49	25.20
DC-HSDPA	Sub 1	20.82	20.60	20.98	22.20	22.12	22.29	22.53	23.70	23.25	23.26	23.29	24.70
	Sub 2	20.81	20.59	20.97	22.20	22.11	22.28	22.52	23.70	23.24	23.25	23.28	24.70
	Sub 3	20.39	20.08	20.48	20.90	21.69	21.77	22.03	22.40	22.62	22.54	22.59	23.40
	Sub 4	20.38	20.07	20.47	20.90	21.68	21.76	21.85	22.40	22.61	22.53	22.58	23.40

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".



WCDMA		Band II(dBm) (Receiver on+WiFi connect/P2P/Hotspot)				Band IV(dBm) (Receiver on+WiFi connect/P2P/Hotspot)				Band V(dBm) (Receiver on+WiFi connect/P2P/Hotspot)			
Tx Channel		9262	9400	9538	Tune-up	1312	1413	1513	Tune-up	4132	4183	4233	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1712.4	1732.6	1752.6	Limit	826.4	836.6	846.6	Limit
RMC	12.2kbps	13.10	12.92	13.28	14.20	15.31	15.52	15.53	15.70	14.96	14.63	14.60	15.70
AMR	12.2kbps	13.00	12.83	13.15	14.20	15.21	15.43	15.40	15.70	14.86	14.54	14.47	15.70
HSDPA	Sub 1	12.52	12.34	12.70	13.70	14.73	14.94	14.95	15.20	14.38	14.05	14.02	15.20
	Sub 2	12.51	12.33	12.69	13.70	14.72	14.93	14.94	15.20	14.37	14.04	14.01	15.20
	Sub 3	12.00	11.82	12.18	12.40	13.21	13.42	13.43	13.90	13.86	13.53	13.50	13.90
	Sub 4	11.99	11.81	12.17	12.40	13.20	13.41	13.42	13.90	13.85	13.52	13.49	13.90
HSUPA	Sub 1	12.48	12.30	12.66	14.20	14.69	14.90	14.91	15.70	14.34	14.01	13.98	15.70
	Sub 2	12.47	12.29	12.65	14.20	13.98	13.89	13.90	15.70	14.33	14.00	13.97	15.70
	Sub 3	12.95	12.78	13.14	14.20	14.16	14.38	14.39	15.70	13.81	13.49	13.46	15.70
	Sub 4	12.44	12.27	12.63	14.20	13.95	13.87	13.88	15.70	14.30	13.98	13.95	15.70
	Sub 5	12.43	12.26	12.62	14.20	14.64	14.86	14.87	15.70	14.29	13.97	13.94	15.70
DC- HSDPA	Sub 1	12.24	12.08	12.42	13.70	14.45	14.68	14.67	15.20	14.10	13.79	13.74	15.20
	Sub 2	12.23	12.07	12.41	13.70	14.44	14.67	14.66	15.20	14.09	13.78	13.73	15.20
	Sub 3	11.81	11.56	11.92	12.40	13.02	13.16	13.17	13.90	13.32	13.47	13.44	13.90
	Sub 4	11.80	11.55	11.91	12.40	13.01	13.15	13.16	13.90	13.38	13.46	13.43	13.90

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".



WCDMA		Band II(dBm) (Receiver off+WiFi connect/P2P/Hotspot)				Band IV(dBm) (Receiver off+WiFi connect/P2P/Hotspot)				Band V(dBm) (Receiver off+WiFi connect/P2P/Hotspot)			
Tx Channel		9262	9400	9538	Tune-up	1312	1413	1513	Tune-up	4132	4183	4233	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1712.4	1732.6	1752.6	Limit	826.4	836.6	846.6	Limit
RMC	12.2kbps	18.71	18.57	18.86	19.70	19.38	19.55	19.76	20.70	21.10	21.07	21.12	22.20
AMR	12.2kbps	18.61	18.48	18.73	19.70	19.28	19.46	19.63	20.70	21.00	20.98	20.99	22.20
HSDPA	Sub 1	18.13	17.99	18.28	19.20	18.80	18.97	19.18	20.20	20.52	20.49	20.54	21.70
	Sub 2	18.12	17.98	18.27	19.20	18.79	18.96	19.17	20.20	20.51	20.48	20.53	21.70
	Sub 3	17.61	17.47	17.76	17.90	18.28	18.45	18.66	18.90	20.00	19.97	20.02	20.40
	Sub 4	17.60	17.46	17.75	17.90	18.27	18.44	18.65	18.90	19.99	19.96	20.01	20.40
HSUPA	Sub 1	18.09	17.95	18.24	19.70	18.76	18.93	19.14	20.70	20.48	20.45	20.50	22.20
	Sub 2	18.08	17.94	18.23	19.70	18.75	18.92	19.13	20.70	20.47	20.44	20.49	22.20
	Sub 3	18.56	18.43	18.72	19.70	19.23	19.41	19.62	20.70	20.95	20.93	20.98	22.20
	Sub 4	18.05	17.92	18.21	19.70	18.72	18.90	19.11	20.70	20.44	20.42	20.47	22.20
	Sub 5	18.04	17.91	18.20	19.70	18.71	18.89	19.10	20.70	20.43	20.41	20.46	22.20
DC-HSDPA	Sub 1	17.85	17.73	18.00	19.20	18.52	18.71	18.90	20.20	20.24	20.23	20.26	21.70
	Sub 2	17.84	17.72	17.99	19.20	18.51	18.70	18.89	20.20	20.23	20.22	20.25	21.70
	Sub 3	17.42	17.21	17.50	17.90	18.09	18.19	18.40	18.90	19.81	19.71	19.76	20.40
	Sub 4	17.41	17.20	17.49	17.90	18.08	18.18	18.39	18.90	19.80	19.70	19.75	20.40

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

### 9.3 LTE Mode

#### 9.3.1 LTE Single Carrier

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3**

Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3

#### Main-Antenna

LTE FDD Band 2 (Receiver on)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	23.00	22.96	22.66	24.00
		1	2	23.32	23.08	22.78	24.00
		1	5	23.28	22.94	22.72	24.00
		3	0	23.12	23.10	22.92	24.00
		3	2	23.05	22.92	22.94	24.00
		3	3	23.16	22.83	23.02	24.00
		6	0	22.16	22.01	22.03	23.50
	16QAM	1	0	22.36	22.21	22.06	23.50
		1	2	22.34	22.29	22.07	23.50
		1	5	22.37	22.20	22.03	23.50
		3	0	22.10	22.06	22.04	23.50
		3	2	22.20	21.93	22.89	23.50
		3	3	22.22	21.91	21.90	23.50
		6	0	21.12	20.97	21.09	22.50
	64QAM	1	0	21.40	21.52	21.60	22.50
		1	2	21.43	21.53	21.61	22.50
		1	5	21.45	21.57	21.57	22.50
		3	0	21.25	21.37	21.40	22.50
		3	2	21.38	21.34	21.47	22.50
		3	3	21.43	21.34	21.44	22.50
		6	0	20.41	20.47	20.46	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	





3MHz	QPSK	1	0	23.02	23.00	22.69	24.00
		1	7	23.30	23.11	22.82	24.00
		1	14	23.31	22.99	22.76	24.00
		8	0	22.22	22.22	22.05	23.50
		8	4	22.17	22.02	22.06	23.50
		8	7	22.26	21.94	22.12	23.50
		15	0	22.16	22.05	22.06	23.50
	16QAM	1	0	22.39	22.23	22.09	23.50
		1	7	22.37	22.29	22.11	23.50
		1	14	22.39	22.24	22.06	23.50
		8	0	21.21	21.19	21.16	22.50
		8	4	21.31	21.06	22.01	22.50
		8	7	21.32	21.03	21.03	22.50
		15	0	21.15	21.01	21.12	22.50
	64QAM	1	0	21.43	21.54	21.63	22.50
		1	7	21.46	21.53	21.63	22.50
		1	14	21.47	21.56	21.60	22.50
		8	0	20.36	20.50	20.52	21.50
		8	4	20.49	20.47	20.59	21.50
		8	7	20.53	20.46	20.57	21.50
		15	0	20.44	20.51	20.49	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	22.99	22.98	22.65	24.00
		1	13	23.28	23.07	22.79	24.00
		1	24	23.28	22.94	22.72	24.00
		12	0	22.19	22.17	22.01	23.50
		12	6	22.15	21.98	22.01	23.50
		12	13	22.24	21.92	22.08	23.50
		25	0	22.16	22.04	22.04	23.50
	16QAM	1	0	22.36	22.19	22.06	23.50
		1	13	22.34	22.27	22.08	23.50
		1	24	22.36	22.22	22.02	23.50
		12	0	21.19	21.15	21.13	22.50
		12	6	21.28	21.01	21.97	22.50
		12	13	21.29	20.98	20.99	22.50
		25	0	21.13	20.97	21.07	22.50
	64QAM	1	0	21.40	21.54	21.60	22.50
		1	13	21.43	21.55	21.60	22.50
		1	24	21.48	21.54	21.56	22.50
		12	0	20.34	20.46	20.53	21.50
		12	6	20.46	20.42	20.55	21.50
		12	13	20.50	20.41	20.53	21.50





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18650/1855	18900/1880	19150/1905		
				25	0	20.42		20.47
10MHz	QPSK	1	0	23.01	22.99	22.68	24.00	
		1	25	23.31	23.12	22.83	24.00	
		1	49	23.30	22.98	22.75	24.00	
		25	0	22.22	22.22	22.05	23.50	
		25	13	22.18	22.03	22.05	23.50	
		25	25	22.26	21.96	22.13	23.50	
		50	0	22.20	22.06	22.08	23.50	
	16QAM	1	0	22.38	22.22	22.08	23.50	
		1	25	22.37	22.31	22.11	23.50	
		1	49	22.39	22.24	22.05	23.50	
		25	0	21.22	21.20	21.17	22.50	
		25	13	21.30	21.05	22.00	22.50	
		25	25	21.32	21.03	21.03	22.50	
		50	0	21.16	21.02	21.11	22.50	
	64QAM	1	0	21.42	21.53	21.62	22.50	
		1	25	21.46	21.55	21.63	22.50	
		1	49	21.47	21.56	21.59	22.50	
		25	0	20.37	20.51	20.53	21.50	
		25	13	20.48	20.46	20.58	21.50	
		25	25	20.53	20.46	20.57	21.50	
		50	0	20.45	20.52	20.48	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18675/1857.5	18900/1880	19125/1902.5	
					23.00	22.95	22.66	
15MHz	QPSK	1	0	23.29	23.11	22.80	24.00	
		1	38	23.27	22.93	22.71	24.00	
		1	74	23.27	22.93	22.71	24.00	
		36	0	22.20	22.18	22.02	23.50	
		36	18	22.15	21.98	22.01	23.50	
		36	39	22.23	21.93	22.09	23.50	
		75	0	22.18	22.02	22.03	23.50	
	16QAM	1	0	22.33	22.20	22.06	23.50	
		1	38	22.35	22.28	22.09	23.50	
		1	74	22.36	22.20	22.02	23.50	
		36	0	21.19	21.18	21.14	22.50	
		36	18	21.27	21.00	21.96	22.50	
		36	39	21.30	20.99	21.00	22.50	
		75	0	21.13	20.97	21.07	22.50	
	64QAM	1	0	21.37	21.51	21.60	22.50	
		1	38	21.44	21.52	21.61	22.50	
		1	74	21.48	21.55	21.60	22.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	36	0	20.36	20.53	20.54	21.50
		36	18	20.46	20.43	20.57	21.50
		36	39	20.51	20.42	20.54	21.50
		75	0	20.42	20.47	20.44	21.50
		1	0	22.97	22.91	22.63	24.00
		1	50	23.28	23.07	22.78	24.00
		1	99	23.25	22.92	22.68	24.00
	16QAM	50	0	22.17	22.13	21.98	23.50
		50	25	22.13	21.94	21.98	23.50
		50	50	22.20	21.88	22.05	23.50
		100	0	22.15	21.97	21.99	23.50
		1	0	22.12	22.16	22.01	23.50
		1	50	22.31	22.26	22.05	23.50
		1	99	22.34	22.17	22.00	23.50
	64QAM	50	0	21.16	21.14	21.11	22.50
		50	25	21.24	20.98	21.93	22.50
		50	50	21.27	20.94	20.96	22.50
		100	0	21.11	20.93	21.04	22.50
		1	0	21.35	21.47	21.55	22.50
		1	50	21.40	21.50	21.57	22.50
		1	99	21.42	21.49	21.54	22.50
	50	0	20.31	20.45	20.47	21.50	
	50	25	20.42	20.39	20.51	21.50	
	50	50	20.48	20.37	20.50	21.50	
	100	0	20.40	20.43	20.41	21.50	

LTE FDD Band 2 (Receiver off+SAR sensor on Level D1/2)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.18	22.17	22.01	22.50
		1	2	22.30	21.98	22.10	22.50
		1	5	22.37	22.06	21.96	22.50
		3	0	22.25	22.24	22.06	22.50
		3	2	22.13	22.07	22.03	22.50
		3	3	22.29	22.00	22.00	22.50
		6	0	21.26	21.08	21.16	22.50
	16QAM	1	0	21.53	21.20	21.17	22.50
		1	2	21.51	21.23	21.09	22.50
		1	5	21.56	21.20	21.00	22.50
		3	0	22.01	22.06	21.97	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18615/1851.5	18900/1880	19185/1908.5		
		3	2	22.11	22.01	21.97	22.50	
		3	3	22.21	21.88	21.97	22.50	
		6	0	21.13	20.99	21.03	22.50	
	64QAM	1	0	21.35	21.40	21.46	22.50	
		1	2	21.37	21.34	21.42	22.50	
		1	5	21.39	21.37	21.37	22.50	
		3	0	21.29	21.21	21.13	22.50	
		3	2	21.45	21.46	21.54	22.50	
		3	3	21.28	21.34	21.43	22.50	
		6	0	20.35	20.45	20.42	21.50	
3MHz	QPSK	1	0	21.20	21.21	21.04	22.50	
		1	7	21.28	21.01	21.14	22.50	
		1	14	21.40	21.11	21.00	22.50	
		8	0	21.35	21.36	21.19	22.50	
		8	4	21.25	21.17	21.15	22.50	
		8	7	21.39	21.11	21.10	22.50	
		15	0	21.26	21.12	21.19	22.50	
	16QAM	1	0	21.56	21.22	21.20	22.50	
		1	7	21.54	21.23	21.13	22.50	
		1	14	21.58	21.24	21.03	22.50	
		8	0	21.12	21.19	21.09	22.50	
		8	4	21.22	21.14	21.09	22.50	
		8	7	21.31	21.00	21.10	22.50	
		15	0	21.16	21.03	21.06	22.50	
	64QAM	1	0	21.38	21.42	21.49	22.50	
		1	7	21.40	21.34	21.44	22.50	
		1	14	21.41	21.36	21.40	22.50	
		8	0	20.40	20.34	20.25	21.50	
		8	4	20.56	20.59	20.66	21.50	
		8	7	20.38	20.46	20.56	21.50	
		15	0	20.38	20.49	20.45	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	21.17	21.19	21.00	22.50
			1	13	21.26	20.97	21.11	22.50
			1	24	21.37	21.06	20.96	22.50
			12	0	21.32	21.31	21.15	22.50
			12	6	21.23	21.13	21.10	22.50
12			13	21.37	21.09	21.06	22.50	
25			0	21.26	21.11	21.17	22.50	
16QAM		1	0	21.53	21.18	21.17	22.50	



		1	13	21.51	21.21	21.10	22.50	
		1	24	21.55	21.22	20.99	22.50	
		12	0	21.10	21.15	21.06	22.50	
		12	6	21.19	21.09	21.05	22.50	
		12	13	21.28	20.95	21.06	22.50	
		25	0	21.14	20.99	21.01	22.50	
	64QAM	1	0	21.35	21.42	21.46	22.50	
		1	13	21.37	21.36	21.41	22.50	
		1	24	21.42	21.34	21.36	22.50	
		12	0	20.38	20.30	20.26	21.50	
		12	6	20.53	20.54	20.62	21.50	
		12	13	20.35	20.41	20.52	21.50	
			25	0	20.36	20.45	20.40	21.50
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
18650/1855					18900/1880	19150/1905		
10MHz	QPSK	1	0	21.19	21.20	21.03	22.50	
		1	25	21.29	21.02	21.15	22.50	
		1	49	21.39	21.10	20.99	22.50	
		25	0	21.35	21.36	21.19	22.50	
		25	13	21.26	21.18	21.14	22.50	
		25	25	21.39	21.13	21.11	22.50	
		50	0	21.30	21.13	21.21	22.50	
	16QAM	1	0	21.55	21.21	21.19	22.50	
		1	25	21.54	21.25	21.13	22.50	
		1	49	21.58	21.24	21.02	22.50	
		25	0	21.13	21.20	21.10	22.50	
		25	13	21.21	21.13	21.08	22.50	
		25	25	21.31	21.00	21.10	22.50	
		50	0	21.17	21.04	21.05	22.50	
	64QAM	1	0	21.37	21.41	21.48	22.50	
		1	25	21.40	21.36	21.44	22.50	
		1	49	21.41	21.36	21.39	22.50	
		25	0	20.41	20.35	20.26	21.50	
		25	13	20.55	20.58	20.65	21.50	
		25	25	20.38	20.46	20.56	21.50	
		50	0	20.39	20.50	20.44	21.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18675/1857.5	18900/1880	19125/1902.5		
15MHz	QPSK	1	0	21.18	21.16	21.01	22.50	
		1	38	21.27	21.01	21.12	22.50	
		1	74	21.36	21.05	20.95	22.50	
		36	0	21.33	21.32	21.16	22.50	
		36	18	21.23	21.13	21.10	22.50	



		36	39	21.36	21.10	21.07	22.50
		75	0	21.28	21.09	21.16	22.50
	16QAM	1	0	21.50	21.19	21.17	22.50
		1	38	21.52	21.22	21.11	22.50
		1	74	21.55	21.20	20.99	22.50
		36	0	21.10	21.18	21.07	22.50
		36	18	21.18	21.08	21.04	22.50
		36	39	21.29	20.96	21.07	22.50
		75	0	21.14	20.99	21.01	22.50
		64QAM	1	0	21.32	21.39	21.46
	1		38	21.38	21.33	21.42	22.50
	1		74	21.42	21.35	21.40	22.50
	36		0	20.40	20.37	20.27	21.50
	36		18	20.53	20.55	20.64	21.50
	36		39	20.36	20.42	20.53	21.50
	75		0	20.36	20.45	20.40	21.50
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
18700/1860					18900/1880	19100/1900	
20MHz	QPSK	1	0	21.15	21.12	20.98	22.50
		1	50	21.26	20.97	21.10	22.50
		1	99	21.34	21.04	20.92	22.50
		50	0	21.30	21.27	21.12	22.50
		50	25	21.21	21.09	21.07	22.50
		50	50	21.33	21.05	21.03	22.50
		100	0	21.25	21.04	21.12	22.50
	16QAM	1	0	21.24	21.15	21.12	22.50
		1	50	21.48	21.20	21.07	22.50
		1	99	21.53	21.17	20.97	22.50
		50	0	21.07	21.14	21.04	22.50
		50	25	21.15	21.06	21.01	22.50
		50	50	21.26	20.91	21.03	22.50
		100	0	21.12	20.95	20.98	22.50
	64QAM	1	0	21.30	21.35	21.41	22.50
		1	50	21.34	21.31	21.38	22.50
		1	99	21.36	21.29	21.34	22.50
		50	0	20.35	20.29	20.20	21.50
		50	25	20.49	20.51	20.58	21.50
		50	50	20.33	20.37	20.49	21.50
		100	0	20.34	20.41	20.37	21.50

LTE FDD Band 2 (Receiver off+SAR sensor on Level D3/7)				Conducted Power(dBm)		Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		



				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	23.00	23.12	22.69	24.50
		1	2	23.29	23.11	22.79	24.50
		1	5	23.21	22.94	22.78	24.50
		3	0	23.11	23.10	22.87	24.50
		3	2	23.06	23.09	22.93	24.50
		3	3	23.13	22.83	23.02	24.50
		6	0	22.16	21.95	22.00	23.50
	16QAM	1	0	22.26	22.16	21.86	23.50
		1	2	22.24	22.10	21.69	23.50
		1	5	22.28	22.09	21.67	23.50
		3	0	22.01	22.09	21.95	23.50
		3	2	21.94	22.07	22.02	23.50
		3	3	22.13	21.88	21.95	23.50
		6	0	21.10	20.99	21.04	22.50
	64QAM	1	0	21.26	21.36	21.40	22.50
		1	2	21.18	21.30	21.33	22.50
		1	5	21.20	21.34	21.30	22.50
		3	0	21.21	22.24	21.23	22.50
		3	2	21.38	22.21	21.29	22.50
		3	3	22.31	22.21	21.29	22.50
		6	0	20.32	20.34	20.33	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	23.02	23.16	22.72	24.50
		1	7	23.27	23.14	22.83	24.50
		1	14	23.24	22.99	22.82	24.50
		8	0	22.21	22.22	22.00	23.50
		8	4	22.18	22.19	22.05	23.50
		8	7	22.23	21.94	22.12	23.50
		15	0	22.16	21.99	22.03	23.50
	16QAM	1	0	22.29	22.18	21.89	23.50
		1	7	22.27	22.10	21.73	23.50
		1	14	22.30	22.13	21.70	23.50
		8	0	21.12	21.22	21.07	22.50
		8	4	21.05	21.20	21.14	22.50
		8	7	21.23	21.00	21.08	22.50
		15	0	21.13	21.03	21.07	22.50
	64QAM	1	0	21.29	21.38	21.43	22.50
		1	7	21.21	21.30	21.35	22.50
		1	14	21.22	21.33	21.33	22.50
		8	0	20.32	21.37	20.35	21.50
		8	4	20.49	21.34	20.41	21.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18625/1852.5	18900/1880	19175/1907.5		
5MHz	QPSK	8	7	21.41	21.33	20.42	21.50	
		15	0	20.35	20.38	20.36	21.50	
		1	0	22.99	23.14	22.68	24.50	
		1	13	23.25	23.10	22.80	24.50	
		1	24	23.21	22.94	22.78	24.50	
		12	0	22.18	22.17	21.96	23.50	
		12	6	22.16	22.15	22.00	23.50	
	16QAM	12	13	22.21	21.92	22.08	23.50	
		25	0	22.16	21.98	22.01	23.50	
		1	0	22.26	22.14	21.86	23.50	
		1	13	22.24	22.08	21.70	23.50	
		1	24	22.27	22.11	21.66	23.50	
		12	0	21.10	21.18	21.04	22.50	
		12	6	21.02	21.15	21.10	22.50	
	64QAM	12	13	21.20	20.95	21.04	22.50	
		25	0	21.11	20.99	21.02	22.50	
		1	0	21.26	21.38	21.40	22.50	
		1	13	21.18	21.32	21.32	22.50	
		1	24	21.23	21.31	21.29	22.50	
		12	0	20.30	21.33	20.36	21.50	
		12	6	20.46	21.29	20.37	21.50	
	10MHz	QPSK	12	13	21.38	21.28	20.38	21.50
			25	0	20.33	20.34	20.31	21.50
			1	0	23.01	23.15	22.71	24.50
1			25	23.28	23.15	22.84	24.50	
1			49	23.23	22.98	22.81	24.50	
25			0	22.21	22.22	22.00	23.50	
25			13	22.19	22.20	22.04	23.50	
16QAM		25	25	22.23	21.96	22.13	23.50	
		50	0	22.20	22.00	22.05	23.50	
		1	0	22.28	22.17	21.88	23.50	
		1	25	22.27	22.12	21.73	23.50	
		1	49	22.30	22.13	21.69	23.50	
		25	0	21.13	21.23	21.08	22.50	
		25	13	21.04	21.19	21.13	22.50	
64QAM		25	25	21.23	21.00	21.08	22.50	
		50	0	21.14	21.04	21.06	22.50	
		1	0	21.28	21.37	21.42	22.50	
			1	25	21.21	21.32	21.35	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18675/1857.5	18900/1880	19125/1902.5		
		1	49	21.22	21.33	21.32	22.50	
		25	0	20.33	21.38	20.36	21.50	
		25	13	20.48	21.33	20.40	21.50	
		25	25	21.41	21.33	20.42	21.50	
		50	0	20.36	20.39	20.35	21.50	
15MHz	QPSK	1	0	23.00	23.11	22.69	24.50	
		1	38	23.26	23.14	22.81	24.50	
15MHz	QPSK	1	74	23.20	22.93	22.77	24.50	
		36	0	22.19	22.18	21.97	23.50	
		36	18	22.16	22.15	22.00	23.50	
		36	39	22.20	21.93	22.09	23.50	
		75	0	22.18	21.96	22.00	23.50	
		16QAM	1	0	22.23	22.15	21.86	23.50
			1	38	22.25	22.09	21.71	23.50
	1		74	22.27	22.09	21.66	23.50	
	36		0	21.10	21.21	21.05	22.50	
	36		18	21.01	21.14	21.09	22.50	
	36		39	21.21	20.96	21.05	22.50	
	75		0	21.11	20.99	21.02	22.50	
	64QAM	1	0	21.23	21.35	21.40	22.50	
		1	38	21.19	21.29	21.33	22.50	
		1	74	21.23	6.00	21.33	22.50	
		36	0	20.32	21.40	20.37	21.50	
		36	18	20.46	21.30	20.39	21.50	
		36	39	21.39	21.29	20.39	21.50	
		75	0	20.33	20.34	20.31	21.50	
	20MHz	QPSK	1	0	22.97	23.07	22.66	24.50
			1	50	23.25	23.10	22.79	24.50
20MHz	QPSK	1	99	23.18	22.92	22.74	24.50	
		50	0	22.16	22.13	21.93	23.50	
		50	25	22.14	22.11	21.97	23.50	
		50	50	22.17	21.88	22.05	23.50	
		100	0	22.15	21.91	21.96	23.50	
		16QAM	1	0	21.99	22.11	21.81	23.50
			1	50	22.21	22.07	21.67	23.50
	1		99	22.25	22.06	21.64	23.50	
	50		0	21.07	21.17	21.02	22.50	
	50		25	20.98	21.12	21.06	22.50	
	50	50	21.18	20.91	21.01	22.50		
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
18700/1860					18900/1880	19100/1900		





	64QAM	100	0	21.09	20.95	20.99	22.50
		1	0	21.21	21.31	21.35	22.50
		1	50	21.15	21.27	21.29	22.50
		1	99	21.17	21.26	21.27	22.50
		50	0	20.27	21.32	20.30	21.50
		50	25	20.42	21.26	20.33	21.50
		50	50	21.36	21.24	20.35	21.50
		100	0	20.31	20.30	20.28	21.50

LTE FDD Band 2 (Receiver on+WiFi connect/P2P)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	21.14	21.15	20.83	21.50
		1	2	21.23	21.22	21.29	21.50
		1	5	21.33	21.15	21.18	21.50
		3	0	21.21	21.13	20.98	21.50
		3	2	21.20	21.06	21.11	21.50
		3	3	21.25	20.99	21.16	21.50
		6	0	20.24	20.09	20.16	21.50
	16QAM	1	0	19.99	20.17	20.17	21.50
		1	2	19.97	20.18	20.20	21.50
		1	5	19.93	19.99	20.24	21.50
		3	0	21.11	21.04	21.00	21.50
		3	2	21.09	20.81	21.01	21.50
		3	3	21.06	20.89	20.98	21.50
		6	0	20.09	19.95	20.11	21.50
	64QAM	1	0	20.13	20.22	20.02	21.50
		1	2	20.14	20.08	20.10	21.50
		1	5	20.18	20.17	20.16	21.50
		3	0	21.11	21.02	21.04	21.50
		3	2	21.12	21.09	21.05	21.50
		3	3	21.08	21.15	21.09	21.50
		6	0	20.13	20.14	20.14	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	20.16	20.19	19.86	21.50
		1	7	20.21	20.25	20.33	21.50
		1	14	20.36	20.20	20.22	21.50
		8	0	20.31	20.25	20.11	21.50
		8	4	20.32	20.16	20.23	21.50
		8	7	20.35	20.10	20.26	21.50
		15	0	20.24	20.13	20.19	21.50



	16QAM	1	0	20.02	20.19	20.20	21.50
		1	7	20.00	20.18	20.24	21.50
		1	14	19.95	20.03	20.27	21.50
		8	0	20.22	20.17	20.12	21.50
		8	4	20.20	19.94	20.13	21.50
		8	7	20.16	20.01	20.11	21.50
		15	0	20.12	19.99	20.14	21.50
	64QAM	1	0	20.16	20.24	20.05	21.50
		1	7	20.17	20.08	20.12	21.50
		1	14	20.20	20.16	20.19	21.50
		8	0	20.22	20.15	20.16	21.50
		8	4	20.23	20.22	20.17	21.50
		8	7	20.18	20.27	20.22	21.50
		15	0	20.16	20.18	20.17	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	20.13	20.17	19.82	21.50
		1	13	20.19	20.21	20.30	21.50
		1	24	20.33	20.15	20.18	21.50
		12	0	20.28	20.20	20.07	21.50
		12	6	20.30	20.12	20.18	21.50
		12	13	20.33	20.08	20.22	21.50
		25	0	20.24	20.12	20.17	21.50
	16QAM	1	0	19.99	20.15	20.17	21.50
		1	13	19.97	20.16	20.21	21.50
		1	24	19.92	20.01	20.23	21.50
		12	0	20.20	20.13	20.09	21.50
		12	6	20.17	19.89	20.09	21.50
		12	13	20.13	19.96	20.07	21.50
		25	0	20.10	19.95	20.09	21.50
	64QAM	1	0	20.13	20.24	20.02	21.50
		1	13	20.14	20.10	20.09	21.50
		1	24	20.21	20.14	20.15	21.50
		12	0	20.20	20.11	20.17	21.50
		12	6	20.20	20.17	20.13	21.50
		12	13	20.15	20.22	20.18	21.50
		25	0	20.14	20.14	20.12	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	20.15	20.18	19.85	21.50
		1	25	20.22	20.26	20.34	21.50
		1	49	20.35	20.19	20.21	21.50
		25	0	20.31	20.25	20.11	21.50



		25	13	20.33	20.17	20.22	21.50	
		25	25	20.35	20.12	20.27	21.50	
		50	0	20.28	20.14	20.21	21.50	
	16QAM		1	0	20.01	20.18	20.19	21.50
			1	25	20.00	20.20	20.24	21.50
			1	49	19.95	20.03	20.26	21.50
			25	0	20.23	20.18	20.13	21.50
			25	13	20.19	19.93	20.12	21.50
			25	25	20.16	20.01	20.11	21.50
			50	0	20.13	20.00	20.13	21.50
			64QAM		1	0	20.15	20.23
	1	25			20.17	20.10	20.12	21.50
	1	49			20.20	20.16	20.18	21.50
	25	0			20.23	20.16	20.17	21.50
	25	13			20.22	20.21	20.16	21.50
	25	25			20.18	20.27	20.22	21.50
50	0	20.17			20.19	20.16	21.50	
Bandwidth	Modulation	RB size			RB offset	Channel/Frequency (MHz)		
			18675/1857.5	18900/1880		19125/1902.5		
15MHz	QPSK	1	0	20.14	20.14	19.83	21.50	
		1	38	20.20	20.25	20.31	21.50	
		1	74	20.32	20.14	20.17	21.50	
		36	0	20.29	20.21	20.08	21.50	
		36	18	20.30	20.12	20.18	21.50	
		36	39	20.32	20.09	20.23	21.50	
		75	0	20.26	20.10	20.16	21.50	
	16QAM		1	0	19.96	20.16	20.17	21.50
			1	38	19.98	20.17	20.22	21.50
			1	74	19.92	19.99	20.23	21.50
			36	0	20.20	20.16	20.10	21.50
			36	18	20.16	19.88	20.08	21.50
			36	39	20.14	19.97	20.08	21.50
			75	0	20.10	19.95	20.09	21.50
	64QAM		1	0	20.10	20.21	20.02	21.50
			1	38	20.15	20.07	20.10	21.50
			1	74	20.21	20.15	20.19	21.50
			36	0	20.22	20.18	20.18	21.50
			36	18	20.20	20.18	20.15	21.50
			36	39	20.16	20.23	20.19	21.50
			75	0	20.14	20.14	20.12	21.50
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18700/1860	18900/1880	19100/1900	
	20MHz	QPSK	1	0	20.11	20.10	19.80	21.50



		1	50	20.19	20.21	20.29	21.50
		1	99	20.30	20.13	20.14	21.50
		50	0	20.26	20.16	20.04	21.50
		50	25	20.28	20.08	20.15	21.50
		50	50	20.29	20.04	20.19	21.50
		100	0	20.23	20.05	20.12	21.50
	16QAM	1	0	19.87	20.12	20.12	21.50
		1	50	19.94	20.15	20.18	21.50
		1	99	19.90	19.96	20.21	21.50
		50	0	20.17	20.12	20.07	21.50
		50	25	20.13	19.86	20.05	21.50
		50	50	20.11	19.92	20.04	21.50
	64QAM	100	0	20.08	19.91	20.06	21.50
		1	0	20.08	20.17	19.97	21.50
		1	50	20.11	20.05	20.06	21.50
		1	99	20.15	20.09	20.13	21.50
		50	0	20.17	20.10	20.11	21.50
		50	25	20.16	20.14	20.09	21.50
		50	50	20.13	20.18	20.15	21.50
	100	0	20.12	20.10	20.09	21.50	

LTE FDD Band 2 (Receiver off+sensor D1/2+WiFi connect/P2P)				Conducted Power(dBm)			Tune-up Limit	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				18607/1850.7	18900/1880	19193/1909.3		
1.4MHz	QPSK	1	0	19.59	19.62	19.47	20.00	
		1	2	19.69	19.65	19.51	20.00	
		1	5	19.73	19.58	19.66	20.00	
		3	0	19.72	19.74	19.64	20.00	
		3	2	19.7	19.62	19.68	20.00	
		3	3	19.78	19.46	19.66	20.00	
	16QAM	6	0	19.79	19.56	19.66	20.00	
		1	0	19.41	19.78	19.67	20.00	
		1	2	19.39	19.82	19.79	20.00	
		1	5	19.70	19.63	19.77	20.00	
		3	0	19.59	19.63	19.47	20.00	
		3	2	19.57	19.57	19.59	20.00	
	64QAM	3	3	19.63	19.46	19.53	20.00	
		6	0	19.64	19.44	19.53	20.00	
		1	0	19.55	19.66	19.54	20.00	
		1	2	19.56	19.65	19.58	20.00	
			1	5	19.50	19.66	19.58	20.00
			3	0	19.55	19.42	19.53	20.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18615/1851.5	18900/1880	19185/1908.5		
3MHz	QPSK	3	2	19.59	19.42	19.47	20.00	
		3	3	19.53	19.33	19.32	20.00	
		6	0	19.47	19.46	19.49	20.00	
		1	0	19.61	19.66	19.50	20.00	
		1	7	19.67	19.68	19.55	20.00	
		1	14	19.76	19.63	19.70	20.00	
		8	0	19.82	19.86	19.77	20.00	
	16QAM	8	4	19.82	19.72	19.80	20.00	
		8	7	19.88	19.57	19.76	20.00	
		15	0	19.79	19.60	19.69	20.00	
		1	0	19.44	19.80	19.70	20.00	
		1	7	19.42	19.82	19.83	20.00	
		1	14	19.72	19.67	19.80	20.00	
		8	0	19.70	19.76	19.59	20.00	
	64QAM	8	4	19.68	19.70	19.71	20.00	
		8	7	19.73	19.58	19.66	20.00	
		15	0	19.67	19.48	19.56	20.00	
		1	0	19.58	19.68	19.57	20.00	
		1	7	19.59	19.65	19.60	20.00	
		1	14	19.52	19.65	19.61	20.00	
		8	0	19.66	19.55	19.65	20.00	
	5MHz	QPSK	8	4	19.70	19.55	19.59	20.00
			8	7	19.63	19.45	19.45	20.00
			15	0	19.50	19.50	19.52	20.00
			1	0	19.58	19.64	19.46	20.00
			1	13	19.65	19.64	19.52	20.00
			1	24	19.73	19.58	19.66	20.00
12			0	19.79	19.81	19.73	20.00	
16QAM		12	6	19.80	19.68	19.75	20.00	
		12	13	19.86	19.55	19.72	20.00	
		25	0	19.79	19.59	19.67	20.00	
		1	0	19.41	19.76	19.67	20.00	
		1	13	19.39	19.80	19.80	20.00	
		1	24	19.69	19.65	19.76	20.00	
		12	0	19.68	19.72	19.56	20.00	
64QAM	12	6	19.65	19.65	19.67	20.00		
	12	13	19.70	19.53	19.62	20.00		
	25	0	19.65	19.44	19.51	20.00		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18650/1855	18900/1880	19150/1905		
		1	13	19.56	19.67	19.57	20.00	
		1	24	19.53	19.63	19.57	20.00	
		12	0	19.64	19.51	19.66	20.00	
		12	6	19.67	19.50	19.55	20.00	
		12	13	19.60	19.40	19.41	20.00	
		25	0	19.48	19.46	19.47	20.00	
10MHz	QPSK	1	0	19.60	19.65	19.49	20.00	
		1	25	19.68	19.69	19.56	20.00	
		1	49	19.75	19.62	19.69	20.00	
		25	0	19.82	19.86	19.77	20.00	
		25	13	19.83	19.73	19.79	20.00	
		25	25	19.88	19.59	19.77	20.00	
		50	0	19.83	19.61	19.71	20.00	
	16QAM	1	0	19.43	19.79	19.69	20.00	
		1	25	19.42	19.84	19.83	20.00	
		1	49	19.72	19.67	19.79	20.00	
		25	0	19.71	19.77	19.60	20.00	
		25	13	19.67	19.69	19.70	20.00	
		25	25	19.73	19.58	19.66	20.00	
		50	0	19.68	19.49	19.55	20.00	
	64QAM	1	0	19.57	19.67	19.56	20.00	
		1	25	19.59	19.67	19.60	20.00	
		1	49	19.52	19.65	19.60	20.00	
		25	0	19.67	19.56	19.66	20.00	
		25	13	19.69	19.54	19.58	20.00	
		25	25	19.63	19.45	19.45	20.00	
		50	0	19.51	19.51	19.51	20.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18675/1857.5	18900/1880	19125/1902.5	
	15MHz	QPSK	1	0	19.59	19.61	19.47	20.00
1			38	19.66	19.68	19.53	20.00	
1			74	19.72	19.57	19.65	20.00	
36			0	19.80	19.82	19.74	20.00	
36			18	19.80	19.68	19.75	20.00	
36			39	19.85	19.56	19.73	20.00	
75			0	19.81	19.57	19.66	20.00	
16QAM		1	0	19.38	19.77	19.67	20.00	
		1	38	19.40	19.81	19.81	20.00	
		1	74	19.69	19.63	19.76	20.00	
		36	0	19.68	19.75	19.57	20.00	
		36	18	19.64	19.64	19.66	20.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18700/1860	18900/1880	19100/1900		
20MHz	64QAM	36	39	19.71	19.54	19.63	20.00	
		75	0	19.65	19.44	19.51	20.00	
		1	0	19.52	19.65	19.54	20.00	
		1	38	19.57	19.64	19.58	20.00	
		1	74	19.53	19.64	19.61	20.00	
		36	0	19.66	19.58	19.67	20.00	
		36	18	19.67	19.51	19.57	20.00	
		36	39	19.61	19.41	19.42	20.00	
		75	0	19.48	19.46	19.47	20.00	
	20MHz	QPSK	1	0	19.56	19.57	19.44	20.00
			1	50	19.65	19.64	19.51	20.00
			1	99	19.70	19.56	19.62	20.00
			50	0	19.77	19.77	19.70	20.00
			50	25	19.78	19.64	19.72	20.00
			50	50	19.82	19.51	19.69	20.00
			100	0	19.78	19.52	19.62	20.00
		16QAM	1	0	19.35	19.73	19.62	20.00
			1	50	19.36	19.79	19.77	20.00
1			99	19.67	19.60	19.74	20.00	
50			0	19.65	19.71	19.54	20.00	
50			25	19.61	19.62	19.63	20.00	
50			50	19.68	19.49	19.59	20.00	
100			0	19.63	19.40	19.48	20.00	
64QAM		1	0	19.50	19.61	19.49	20.00	
		1	50	19.53	19.62	19.54	20.00	
		1	99	19.47	19.58	19.55	20.00	
		50	0	19.61	19.50	19.60	20.00	
	50	25	19.63	19.47	19.51	20.00		
	50	50	19.58	19.36	19.38	20.00		
	100	0	19.46	19.42	19.44	20.00		

LTE FDD Band 2 (Receiver off+sensor D3/7+WiFi connect/P2P)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	21.81	21.84	21.58	22.00
		1	2	21.86	21.75	21.6	22.00
		1	5	21.97	21.68	21.54	22.00
		3	0	21.82	21.91	21.64	22.00
		3	2	21.75	21.71	21.61	22.00
		3	3	21.92	21.63	21.64	22.00



	16QAM	6	0	20.92	20.75	20.81	22.00
		1	0	21.08	20.95	20.49	22.00
		1	2	21.06	20.87	20.45	22.00
		1	5	21.10	20.92	20.34	22.00
		3	0	21.75	21.78	21.53	22.00
		3	2	21.82	21.60	21.55	22.00
		3	3	21.85	21.51	21.52	22.00
		6	0	20.75	20.57	20.76	22.00
	64QAM	1	0	20.96	21.06	21.07	22.00
		1	2	20.92	20.90	21.01	22.00
		1	5	20.99	21.08	20.99	22.00
		3	0	21.81	21.89	21.81	22.00
		3	2	21.82	21.74	20.91	22.00
		3	3	21.75	21.86	21.72	22.00
6		0	20.84	20.89	20.91	21.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	20.83	20.88	20.61	22.00
		1	7	21.04	20.78	20.64	22.00
		1	14	21.00	20.73	20.58	22.00
		8	0	20.92	21.03	20.77	22.00
		8	4	20.87	20.81	20.73	22.00
		8	7	21.02	20.74	20.74	22.00
		15	0	20.92	20.79	20.84	22.00
	16QAM	1	0	21.11	20.97	20.52	22.00
		1	7	21.09	20.87	20.49	22.00
		1	14	21.12	20.96	20.37	22.00
		8	0	20.86	20.91	20.65	22.00
		8	4	20.93	20.73	20.67	22.00
		8	7	20.95	20.63	20.65	22.00
		15	0	20.78	20.61	20.79	22.00
	64QAM	1	0	20.99	21.08	21.10	22.00
		1	7	20.95	20.90	21.03	22.00
		1	14	21.01	21.07	21.02	22.00
		8	0	20.92	21.02	20.93	21.50
		8	4	20.93	20.87	20.03	21.50
		8	7	20.85	20.98	20.85	21.50
		15	0	20.87	20.93	20.94	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	20.80	20.86	20.57	22.00
		1	13	21.02	20.74	20.61	22.00
		1	24	20.97	20.68	20.54	22.00





		12	0	20.89	20.98	20.73	22.00	
		12	6	20.85	20.77	20.68	22.00	
		12	13	21.00	20.72	20.70	22.00	
		25	0	20.92	20.78	20.82	22.00	
	16QAM	1	0	21.08	20.93	20.49	22.00	
		1	13	21.06	20.85	20.46	22.00	
		1	24	21.09	20.94	20.33	22.00	
		12	0	20.84	20.87	20.62	22.00	
		12	6	20.90	20.68	20.63	22.00	
		12	13	20.92	20.58	20.61	22.00	
		25	0	20.76	20.57	20.74	22.00	
	64QAM	1	0	20.96	21.08	21.07	22.00	
		1	13	20.92	20.92	21.00	22.00	
		1	24	21.02	21.05	20.98	22.00	
		12	0	20.90	20.98	20.94	21.50	
		12	6	20.90	20.82	19.99	21.50	
		12	13	20.82	20.93	20.81	21.50	
		25	0	20.85	20.89	20.89	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18650/1855	18900/1880	19150/1905	
	10MHz	QPSK	1	0	20.82	20.87	20.60	22.00
1			25	21.05	20.79	20.65	22.00	
1			49	20.99	20.72	20.57	22.00	
25			0	20.92	21.03	20.77	22.00	
25			13	20.88	20.82	20.72	22.00	
25			25	21.02	20.76	20.75	22.00	
50			0	20.96	20.80	20.86	22.00	
16QAM		1	0	21.10	20.96	20.51	22.00	
		1	25	21.09	20.89	20.49	22.00	
		1	49	21.12	20.96	20.36	22.00	
		25	0	20.87	20.92	20.66	22.00	
		25	13	20.92	20.72	20.66	22.00	
		25	25	20.95	20.63	20.65	22.00	
		50	0	20.79	20.62	20.78	22.00	
64QAM		1	0	20.98	21.07	21.09	22.00	
		1	25	20.95	20.92	21.03	22.00	
		1	49	21.01	21.07	21.01	22.00	
		25	0	20.93	21.03	20.94	21.50	
		25	13	20.92	20.86	20.02	21.50	
		25	25	20.85	20.98	20.85	21.50	
		50	0	20.88	20.94	20.93	21.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18675/1857.5	18900/1880	19125/1902.5		



15MHz	QPSK	1	0	20.81	20.83	20.58	22.00
		1	38	21.03	20.78	20.62	22.00
		1	74	20.96	20.67	20.53	22.00
		36	0	20.90	20.99	20.74	22.00
		36	18	20.85	20.77	20.68	22.00
		36	39	20.99	20.73	20.71	22.00
		75	0	20.94	20.76	20.81	22.00
	16QAM	1	0	21.05	20.94	20.49	22.00
		1	38	21.07	20.86	20.47	22.00
		1	74	21.09	20.92	20.33	22.00
		36	0	20.84	20.90	20.63	22.00
		36	18	20.89	20.67	20.62	22.00
		36	39	20.93	20.59	20.62	22.00
		75	0	20.76	20.57	20.74	22.00
	64QAM	1	0	20.93	21.05	21.07	22.00
		1	38	20.93	20.89	21.01	22.00
		1	74	21.02	21.06	21.02	22.00
		36	0	20.92	21.05	20.95	21.50
		36	18	20.90	20.83	20.01	21.50
		36	39	20.83	20.94	20.82	21.50
		75	0	20.85	20.89	20.89	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	20.78	20.79	20.55	22.00
		1	50	21.02	20.74	20.60	22.00
		1	99	20.94	20.66	20.50	22.00
		50	0	20.87	20.94	20.70	22.00
		50	25	20.83	20.73	20.65	22.00
		50	50	20.96	20.68	20.67	22.00
		100	0	20.91	20.71	20.77	22.00
	16QAM	1	0	20.84	20.90	20.44	22.00
		1	50	21.03	20.84	20.43	22.00
		1	99	21.07	20.89	20.31	22.00
		50	0	20.81	20.86	20.60	22.00
		50	25	20.86	20.65	20.59	22.00
		50	50	20.90	20.54	20.58	22.00
		100	0	20.74	20.53	20.71	22.00
	64QAM	1	0	20.91	21.01	21.02	22.00
		1	50	20.89	20.87	20.97	22.00
		1	99	20.96	21.00	20.96	22.00
		50	0	20.87	20.97	20.88	21.50
		50	25	20.86	20.79	19.95	21.50
		50	50	20.80	20.89	20.78	21.50



		100	0	20.83	20.85	20.86	21.50
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LTE FDD Band 2 (Receiver on+Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	20.09	20.15	20.26	20.50
		1	2	20.34	20.13	20.28	20.50
		1	5	20.26	20.15	20.35	20.50
		3	0	20.23	20.27	20.35	20.50
		3	2	20.17	20.17	20.42	20.50
		3	3	20.40	20.00	20.40	20.50
		6	0	19.27	19.11	19.48	20.50
	16QAM	1	0	19.03	19.28	19.06	20.50
		1	2	19.01	19.19	19.16	20.50
		1	5	19.03	19.32	19.10	20.50
		3	0	20.15	20.14	20.26	20.50
		3	2	20.22	19.88	20.21	20.50
		3	3	20.24	19.97	20.25	20.50
		6	0	19.22	19.00	19.28	20.50
	64QAM	1	0	19.40	19.39	19.36	20.50
		1	2	19.44	19.43	19.30	20.50
		1	5	19.66	19.50	19.43	20.50
		3	0	20.20	20.28	20.25	20.50
		3	2	20.33	20.30	20.24	20.50
		3	3	20.46	20.27	20.24	20.50
		6	0	19.37	19.36	19.32	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	19.11	19.19	19.29	20.50
		1	7	19.32	19.16	19.32	20.50
		1	14	19.29	19.20	19.39	20.50
		8	0	19.33	19.39	19.48	20.50
		8	4	19.29	19.27	19.54	20.50
		8	7	19.50	19.11	19.50	20.50
		15	0	19.27	19.15	19.51	20.50
	16QAM	1	0	19.06	19.30	19.09	20.50
		1	7	19.04	19.19	19.20	20.50
		1	14	19.05	19.36	19.13	20.50
		8	0	19.26	19.27	19.38	20.50
		8	4	19.33	19.01	19.33	20.50
		8	7	19.34	19.09	19.38	20.50
		15	0	19.25	19.04	19.31	20.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18625/1852.5	18900/1880	19175/1907.5		
	64QAM	1	0	19.43	19.41	19.39	20.50	
		1	7	19.47	19.43	19.32	20.50	
		1	14	19.68	19.49	19.46	20.50	
		8	0	19.31	19.41	19.37	20.50	
		8	4	19.44	19.43	19.36	20.50	
		8	7	19.56	19.39	19.37	20.50	
		15	0	19.40	19.40	19.35	20.50	
5MHz	QPSK	1	0	19.08	19.17	19.25	20.50	
		1	13	19.30	19.12	19.29	20.50	
		1	24	19.26	19.15	19.35	20.50	
		12	0	19.30	19.34	19.44	20.50	
		12	6	19.27	19.23	19.49	20.50	
		12	13	19.48	19.09	19.46	20.50	
		25	0	19.27	19.14	19.49	20.50	
	16QAM	1	0	19.03	19.26	19.06	20.50	
		1	13	19.01	19.17	19.17	20.50	
		1	24	19.02	19.34	19.09	20.50	
		12	0	19.24	19.23	19.35	20.50	
		12	6	19.30	18.96	19.29	20.50	
		12	13	19.31	19.04	19.34	20.50	
		25	0	19.23	19.00	19.26	20.50	
	64QAM	1	0	19.40	19.41	19.36	20.50	
		1	13	19.44	19.45	19.29	20.50	
		1	24	19.69	19.47	19.42	20.50	
		12	0	19.29	19.37	19.38	20.50	
		12	6	19.41	19.38	19.32	20.50	
		12	13	19.53	19.34	19.33	20.50	
		25	0	19.38	19.36	19.30	20.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18650/1855	18900/1880	19150/1905	
	10MHz	QPSK	1	0	19.10	19.18	19.28	20.50
			1	25	19.33	19.17	19.33	20.50
			1	49	19.28	19.19	19.38	20.50
			25	0	19.33	19.39	19.48	20.50
			25	13	19.30	19.28	19.53	20.50
25			25	19.50	19.13	19.51	20.50	
50			0	19.31	19.16	19.53	20.50	
16QAM		1	0	19.05	19.29	19.08	20.50	
		1	25	19.04	19.21	19.20	20.50	
		1	49	19.05	19.36	19.12	20.50	
		25	0	19.27	19.28	19.39	20.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18675/1857.5	18900/1880	19125/1902.5		
	64QAM	25	13	19.32	19.00	19.32	20.50	
		25	25	19.34	19.09	19.38	20.50	
		50	0	19.26	19.05	19.30	20.50	
		1	0	19.42	19.40	19.38	20.50	
		1	25	19.47	19.45	19.32	20.50	
		1	49	19.68	19.49	19.45	20.50	
		25	0	19.32	19.42	19.38	20.50	
		25	13	19.43	19.42	19.35	20.50	
		25	25	19.56	19.39	19.37	20.50	
		50	0	19.41	19.41	19.34	20.50	
15MHz	QPSK	1	0	19.09	19.14	19.26	20.50	
		1	38	19.31	19.16	19.30	20.50	
		1	74	19.25	19.14	19.34	20.50	
		36	0	19.31	19.35	19.45	20.50	
		36	18	19.27	19.23	19.49	20.50	
		36	39	19.47	19.10	19.47	20.50	
		75	0	19.29	19.12	19.48	20.50	
	16QAM	1	0	19.00	19.27	19.06	20.50	
		1	38	19.02	19.18	19.18	20.50	
		1	74	19.02	19.32	19.09	20.50	
		36	0	19.24	19.26	19.36	20.50	
		36	18	19.29	18.95	19.28	20.50	
		36	39	19.32	19.05	19.35	20.50	
		75	0	19.23	19.00	19.26	20.50	
	64QAM	1	0	19.37	19.38	19.36	20.50	
		1	38	19.45	19.42	19.30	20.50	
		1	74	19.69	19.48	19.46	20.50	
		36	0	19.31	19.44	19.39	20.50	
		36	18	19.41	19.39	19.34	20.50	
		36	39	19.54	19.35	19.34	20.50	
		75	0	19.38	19.36	19.30	20.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18700/1860	18900/1880	19100/1900	
	20MHz	QPSK	1	0	19.06	19.10	19.23	20.50
1			50	19.30	19.12	19.28	20.50	
1			99	19.23	19.13	19.31	20.50	
50			0	19.28	19.30	19.41	20.50	
50			25	19.25	19.19	19.46	20.50	
50			50	19.44	19.05	19.43	20.50	
100			0	19.26	19.07	19.44	20.50	
16QAM		1	0	19.02	19.23	19.01	20.50	



		1	50	18.98	19.16	19.14	20.50
		1	99	19.00	19.29	19.07	20.50
		50	0	19.21	19.22	19.33	20.50
		50	25	19.26	18.93	19.25	20.50
		50	50	19.29	19.00	19.31	20.50
		100	0	19.21	18.96	19.23	20.50
	64QAM	1	0	19.35	19.34	19.31	20.50
		1	50	19.41	19.40	19.26	20.50
		1	99	19.63	19.42	19.40	20.50
		50	0	19.26	19.36	19.32	20.50
		50	25	19.37	19.35	19.28	20.50
		50	50	19.51	19.30	19.30	20.50
		100	0	19.36	19.32	19.27	20.50

LTE FDD Band 2 (Receiver off+sensor D1/2+Hotspot)				Conducted Power(dBm)			Tune-up Limit	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				18607/1850.7	18900/1880	19193/1909.3		
1.4MHz	QPSK	1	0	18.94	18.95	18.96	19.00	
		1	2	18.00	18.02	17.88	19.00	
		1	5	18.07	17.87	17.83	19.00	
		3	0	18.96	18.92	18.84	19.00	
		3	2	18.99	18.91	18.91	19.00	
		3	3	18.91	18.80	18.98	19.00	
		6	0	18.03	17.94	18.05	19.00	
	16QAM	1	0	18.06	18.13	17.96	19.00	
		1	2	18.04	18.20	18.05	19.00	
		1	5	18.03	18.05	18.03	19.00	
		3	0	18.84	18.86	18.76	19.00	
		3	2	18.92	18.89	18.92	19.00	
		3	3	18.90	18.79	18.93	19.00	
		6	0	17.99	17.86	17.94	19.00	
	64QAM	1	0	18.06	18.07	18.25	19.00	
		1	2	18.06	17.82	18.07	19.00	
		1	5	18.02	18.18	17.90	19.00	
		3	0	18.83	18.85	18.89	19.00	
		3	2	18.92	18.91	18.95	19.00	
		3	3	18.90	18.93	18.97	19.00	
		6	0	17.89	17.94	17.97	19.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
	3MHz	QPSK	1	0	18615/1851.5	18900/1880	19185/1908.5	
			1	7	17.98	18.05	17.92	19.00



		1	14	18.10	17.92	17.87	19.00	
		8	0	18.06	18.18	17.97	19.00	
		8	4	18.11	18.01	18.03	19.00	
		8	7	18.17	17.91	18.08	19.00	
		15	0	18.03	17.98	18.08	19.00	
	16QAM	1	0	18.09	18.15	17.99	19.00	
		1	7	18.07	18.20	18.09	19.00	
		1	14	18.05	18.09	18.06	19.00	
		8	0	17.95	18.18	17.88	19.00	
		8	4	18.03	18.02	18.04	19.00	
		8	7	18.00	17.91	18.06	19.00	
		15	0	18.02	17.90	17.97	19.00	
	64QAM	1	0	18.09	18.09	18.28	19.00	
		1	7	18.09	17.82	18.09	19.00	
		1	14	18.04	18.17	17.93	19.00	
		8	0	17.94	18.22	18.01	19.00	
		8	4	18.03	18.23	18.07	19.00	
		8	7	18.00	18.23	18.10	19.00	
		15	0	17.92	17.98	18.00	19.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	17.84	17.96	17.71	19.00	
		1	13	17.96	18.01	17.89	19.00	
		1	24	18.07	17.87	17.83	19.00	
		12	0	18.03	18.13	17.93	19.00	
		12	6	18.09	17.97	17.98	19.00	
		12	13	18.15	17.89	18.04	19.00	
		25	0	18.03	17.97	18.06	19.00	
	16QAM	1	0	18.06	18.11	17.96	19.00	
		1	13	18.04	18.18	18.06	19.00	
		1	24	18.02	18.07	18.02	19.00	
		12	0	17.93	18.14	17.85	19.00	
		12	6	18.00	17.97	18.00	19.00	
		12	13	17.97	17.86	18.02	19.00	
		25	0	18.00	17.86	17.92	19.00	
	64QAM	1	0	18.06	18.09	18.25	19.00	
		1	13	18.06	17.84	18.06	19.00	
		1	24	18.05	18.15	17.89	19.00	
		12	0	17.92	18.18	18.02	19.00	
		12	6	18.00	18.18	18.03	19.00	
		12	13	17.97	18.18	18.06	19.00	
		25	0	17.90	17.94	17.95	19.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up	



Bandwidth	Modulation	RB size	RB offset	18650/1855	18900/1880	19150/1905	Limit
				18675/1857.5	18900/1880	19125/1902.5	Tune-up Limit
10MHz	QPSK	1	0	17.86	17.97	17.74	19.00
		1	25	17.99	18.06	17.93	19.00
		1	49	18.09	17.91	17.86	19.00
		25	0	18.06	18.18	17.97	19.00
		25	13	18.12	18.02	18.02	19.00
		25	25	18.17	17.93	18.09	19.00
		50	0	18.07	17.99	18.10	19.00
	16QAM	1	0	18.08	18.14	17.98	19.00
		1	25	18.07	18.22	18.09	19.00
		1	49	18.05	18.09	18.05	19.00
		25	0	17.96	18.19	17.89	19.00
		25	13	18.02	18.01	18.03	19.00
		25	25	18.00	17.91	18.06	19.00
		50	0	18.03	17.91	17.96	19.00
	64QAM	1	0	18.08	18.08	18.27	19.00
		1	25	18.09	17.84	18.09	19.00
		1	49	18.04	18.17	17.92	19.00
		25	0	17.95	18.23	18.02	19.00
		25	13	18.02	18.22	18.06	19.00
		25	25	18.00	18.23	18.10	19.00
		50	0	17.93	17.99	17.99	19.00
15MHz	QPSK	1	0	17.85	17.93	17.72	19.00
		1	38	17.97	18.05	17.90	19.00
		1	74	18.06	17.86	17.82	19.00
		36	0	18.04	18.14	17.94	19.00
		36	18	18.09	17.97	17.98	19.00
		36	39	18.14	17.90	18.05	19.00
		75	0	18.05	17.95	18.05	19.00
	16QAM	1	0	18.03	18.12	17.96	19.00
		1	38	18.05	18.19	18.07	19.00
		1	74	18.02	18.05	18.02	19.00
		36	0	17.93	18.17	17.86	19.00
		36	18	17.99	17.96	17.99	19.00
		36	39	17.98	17.87	18.03	19.00
		75	0	18.00	17.86	17.92	19.00
	64QAM	1	0	18.03	18.06	18.25	19.00
		1	38	18.07	17.81	18.07	19.00
		1	74	18.05	18.16	17.93	19.00
		36	0	17.94	18.25	18.03	19.00
		36	18	18.00	18.19	18.05	19.00





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
				36	39	17.98	
75	0	17.90	17.94	17.95	19.00		
20MHz	QPSK	1	0	17.82	17.89	17.69	19.00
		1	50	17.96	18.01	17.88	19.00
		1	99	18.04	17.85	17.79	19.00
		50	0	18.01	18.09	17.90	19.00
		50	25	18.07	17.93	17.95	19.00
		50	50	18.11	17.85	18.01	19.00
		100	0	18.02	17.90	18.01	19.00
	16QAM	1	0	18.02	18.08	17.91	19.00
		1	50	18.01	18.17	18.03	19.00
		1	99	18.00	18.02	18.00	19.00
		50	0	17.90	18.13	17.83	19.00
		50	25	17.96	17.94	17.96	19.00
		50	50	17.95	17.82	17.99	19.00
		100	0	17.98	17.82	17.89	19.00
	64QAM	1	0	18.01	18.02	18.20	19.00
		1	50	18.03	17.79	18.03	19.00
		1	99	17.99	18.10	17.87	19.00
		50	0	17.89	18.17	17.96	19.00
		50	25	17.96	18.15	17.99	19.00
		50	50	17.95	18.14	18.03	19.00
		100	0	17.88	17.90	17.92	19.00

LTE FDD Band 2 (Receiver off+sensor D3/7+Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	20.66	20.82	20.75	21.00
		1	2	20.92	20.81	20.89	21.00
		1	5	20.86	20.83	20.78	21.00
		3	0	20.97	20.87	20.85	21.00
		3	2	20.91	20.80	20.92	21.00
		3	3	20.88	20.77	20.97	21.00
		6	0	20.91	20.81	20.99	21.00
	16QAM	1	0	20.85	20.84	20.75	21.00
		1	2	20.68	20.87	20.78	21.00
		1	5	19.85	20.73	20.72	21.00
		3	0	20.85	20.90	20.83	21.00
		3	2	20.81	20.80	20.86	21.00
		3	3	20.77	20.71	20.87	21.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18615/1851.5	18900/1880	19185/1908.5		
	64QAM	6	0	20.88	20.76	20.90	21.00	
		1	0	20.93	20.92	20.90	21.00	
		1	2	20.82	20.66	20.80	21.00	
		1	5	20.83	20.70	20.79	21.00	
		3	0	20.83	20.83	20.77	21.00	
		3	2	20.69	20.76	20.81	21.00	
		3	3	20.70	20.81	20.73	21.00	
		6	0	20.83	20.76	20.78	21.00	
3MHz	QPSK	1	0	20.68	20.86	20.78	21.00	
		1	7	20.92	20.83	20.93	21.00	
		1	14	20.89	20.88	20.82	21.00	
		8	0	20.78	20.94	20.92	21.00	
		8	4	20.94	20.88	20.98	21.00	
		8	7	20.92	20.82	20.85	21.00	
		15	0	20.93	20.85	20.76	21.00	
	16QAM	1	0	20.88	20.86	20.78	21.00	
		1	7	20.88	20.89	20.82	21.00	
		1	14	19.87	20.77	20.75	21.00	
		8	0	20.90	20.94	20.86	21.00	
		8	4	20.86	20.87	20.92	21.00	
		8	7	20.81	20.77	20.94	21.00	
		15	0	20.91	20.80	20.93	21.00	
	64QAM	1	0	20.96	20.94	20.93	21.00	
		1	7	20.85	20.68	20.84	21.00	
		1	14	20.85	20.74	20.82	21.00	
		8	0	20.88	20.87	20.80	21.00	
		8	4	20.74	20.83	20.87	21.00	
		8	7	20.74	20.87	20.80	21.00	
		15	0	20.85	20.82	20.83	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	20.65	20.84	20.74	21.00
1			13	20.90	20.79	20.90	21.00	
1			24	20.86	20.83	20.78	21.00	
12			0	20.98	20.89	20.88	21.00	
12			6	20.92	20.84	20.93	21.00	
12			13	20.90	20.80	20.97	21.00	
25			0	20.91	20.84	21.00	21.00	
16QAM		1	0	20.85	20.82	20.75	21.00	
		1	13	20.75	20.87	20.79	21.00	
		1	24	19.84	20.75	20.71	21.00	



		12	0	20.88	20.90	20.83	21.00
		12	6	20.83	20.82	20.88	21.00
		12	13	20.78	20.72	20.90	21.00
		25	0	20.89	20.76	20.88	21.00
	64QAM	1	0	20.93	20.90	20.90	21.00
		1	13	20.82	20.66	20.81	21.00
		1	24	20.82	20.72	20.78	21.00
		12	0	20.86	20.83	20.77	21.00
		12	6	20.71	20.78	20.83	21.00
		12	13	20.71	20.82	20.76	21.00
25	0	20.83	20.78	20.78	21.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	20.05	20.36	20.14	21.00
		1	25	20.30	20.38	20.29	21.00
		1	49	20.23	20.27	20.22	21.00
		25	0	20.11	20.10	20.12	21.00
		25	13	20.15	20.22	20.18	21.00
		25	25	20.07	20.17	20.30	21.00
		50	0	20.10	20.16	20.13	21.00
	16QAM	1	0	20.42	20.73	20.45	21.00
		1	25	20.51	20.68	20.57	21.00
		1	49	20.62	20.65	20.53	21.00
		25	0	20.13	20.19	20.21	21.00
		25	13	20.23	20.16	20.08	21.00
		25	25	20.05	20.08	20.16	21.00
		50	0	20.15	20.07	20.11	21.00
	64QAM	1	0	20.12	20.03	20.10	21.00
		1	25	20.01	20.05	20.16	21.00
		1	49	20.18	20.01	20.20	21.00
		25	0	19.98	20.03	20.13	21.00
		25	13	20.02	20.06	20.11	21.00
		25	25	20.07	20.10	20.21	21.00
		50	0	20.15	20.16	20.19	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	20.66	20.81	20.75	21.00
		1	38	20.91	20.83	20.91	21.00
		1	74	20.85	20.82	20.77	21.00
		36	0	20.99	20.90	20.89	21.00
		36	18	20.92	20.84	20.93	21.00
		36	39	20.89	20.81	20.98	21.00
		75	0	20.94	20.82	20.99	21.00



	16QAM	1	0	20.82	20.83	20.75	21.00
		1	38	20.65	20.88	20.80	21.00
		1	74	19.84	20.73	20.71	21.00
		36	0	20.88	20.93	20.84	21.00
		36	18	20.82	20.81	20.87	21.00
		36	39	20.79	20.73	20.91	21.00
		75	0	20.89	20.76	20.88	21.00
	64QAM	1	0	20.90	20.91	20.90	21.00
		1	38	20.83	20.67	20.82	21.00
		1	74	20.82	20.70	20.78	21.00
		36	0	20.86	20.86	20.78	21.00
		36	18	20.70	20.77	20.82	21.00
		36	39	20.72	20.83	20.77	21.00
		75	0	20.83	20.78	20.78	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	20.63	20.77	20.72	21.00
		1	50	20.90	20.79	20.89	21.00
		1	99	20.83	20.81	20.74	21.00
		50	0	20.96	20.85	20.85	21.00
		50	25	20.90	20.80	20.90	21.00
		50	50	20.86	20.76	20.94	21.00
		100	0	20.91	20.77	20.95	21.00
	16QAM	1	0	20.80	20.79	20.70	21.00
		1	50	20.98	20.86	20.76	21.00
		1	99	19.82	20.70	20.69	21.00
		50	0	20.85	20.89	20.81	21.00
		50	25	20.79	20.79	20.84	21.00
		50	50	20.76	20.68	20.87	21.00
		100	0	20.87	20.72	20.85	21.00
	64QAM	1	0	20.88	20.87	20.85	21.00
		1	50	20.79	20.65	20.78	21.00
		1	99	20.80	20.67	20.76	21.00
		50	0	20.83	20.82	20.75	21.00
		50	25	20.67	20.75	20.79	21.00
		50	50	20.69	20.78	20.73	21.00
		100	0	20.81	20.74	20.75	21.00

LTE FDD Band 4 (Receiver on)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	23.64	23.55	23.60	24.00



		1	2	23.39	23.22	23.34	24.00	
		1	5	23.58	23.28	23.45	24.00	
		3	0	23.85	23.78	23.81	24.00	
		3	2	23.84	23.77	23.79	24.00	
		3	3	23.83	23.65	23.78	24.00	
		6	0	22.98	22.82	22.82	23.50	
	16QAM	1	0	23.23	23.08	23.12	23.50	
		1	2	23.21	23.05	23.21	23.50	
		1	5	23.13	23.03	23.23	23.50	
		3	0	22.87	22.75	22.65	23.50	
		3	2	22.69	22.72	22.69	23.50	
		3	3	22.77	22.66	22.54	23.50	
	64QAM	6	0	21.79	21.76	21.77	22.50	
		1	0	22.26	22.47	22.41	22.50	
		1	2	22.19	22.38	22.35	22.50	
		1	5	22.31	22.36	22.33	22.50	
		3	0	22.19	22.22	22.11	22.50	
		3	2	22.16	22.07	22.18	22.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					19965/1711.5	20175/1732.5	20385/1753.5	
	3MHz	QPSK	1	0	23.66	23.59	23.63	24.00
1			7	23.37	23.25	23.38	24.00	
1			14	23.61	23.33	23.49	24.00	
8			0	23.16	22.90	22.94	23.50	
8			4	22.96	22.87	22.91	23.50	
8			7	22.93	22.76	22.88	23.50	
15			0	22.98	22.86	22.85	23.50	
16QAM		1	0	23.26	23.10	23.15	23.50	
		1	7	23.24	23.05	23.25	23.50	
		1	14	23.15	23.07	23.26	23.50	
		8	0	21.98	21.88	21.77	22.50	
		8	4	21.80	21.85	21.81	22.50	
		8	7	21.87	21.78	21.67	22.50	
		15	0	21.82	21.80	21.80	22.50	
64QAM		1	0	22.29	22.49	22.43	22.50	
		1	7	22.22	22.38	22.42	22.50	
		1	14	22.33	22.35	22.36	22.50	
		8	0	21.30	21.35	21.23	21.50	
		8	4	21.27	21.20	21.30	21.50	
		8	7	21.22	21.19	21.25	21.50	
		15	0	21.33	21.22	21.30	21.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	23.63	23.57	23.59	24.00
		1	13	23.35	23.21	23.35	24.00
		1	24	23.58	23.28	23.45	24.00
		12	0	23.13	22.85	22.90	23.50
		12	6	22.94	22.83	22.86	23.50
		12	13	22.91	22.74	22.84	23.50
		25	0	22.98	22.85	22.83	23.50
	16QAM	1	0	23.23	23.06	23.12	23.50
		1	13	23.21	23.03	23.22	23.50
		1	24	23.12	23.05	23.22	23.50
		12	0	21.96	21.84	21.74	22.50
		12	6	21.77	21.80	21.77	22.50
		12	13	21.84	21.73	21.63	22.50
		25	0	21.80	21.76	21.75	22.50
	64QAM	1	0	22.26	22.46	22.43	22.50
		1	13	22.19	22.40	22.39	22.50
		1	24	22.34	22.33	22.32	22.50
		12	0	21.28	21.31	21.24	21.50
		12	6	21.24	21.15	21.26	21.50
		12	13	21.19	21.14	21.21	21.50
		25	0	21.31	21.18	21.25	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	23.65	23.58	23.62	24.00
		1	25	23.38	23.26	23.39	24.00
		1	49	23.60	23.32	23.48	24.00
		25	0	23.16	22.90	22.94	23.50
		25	13	22.97	22.88	22.90	23.50
		25	25	22.93	22.78	22.89	23.50
		50	0	23.02	22.87	22.87	23.50
	16QAM	1	0	23.25	23.09	23.14	23.50
		1	25	23.24	23.07	23.25	23.50
		1	49	23.15	23.07	23.25	23.50
		25	0	21.99	21.89	21.78	22.50
		25	13	21.79	21.84	21.80	22.50
		25	25	21.87	21.78	21.67	22.50
		50	0	21.83	21.81	21.79	22.50
	64QAM	1	0	22.28	22.48	22.42	22.50
		1	25	22.22	22.40	22.42	22.50
		1	49	22.33	22.35	22.35	22.50
		25	0	21.31	21.36	21.24	21.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20025/1717.5	20175/1732.5	20325/1747.5		
		25	13	21.26	21.19	21.29	21.50	
		25	25	21.22	21.19	21.25	21.50	
		50	0	21.34	21.23	21.29	21.50	
15MHz	QPSK	1	0	23.64	23.54	23.60	24.00	
		1	38	23.36	23.25	23.36	24.00	
		1	74	23.57	23.27	23.44	24.00	
		36	0	23.14	22.86	22.91	23.50	
		36	18	22.94	22.83	22.86	23.50	
		36	39	22.90	22.75	22.85	23.50	
		75	0	23.00	22.83	22.82	23.50	
	16QAM	1	0	23.20	23.07	23.12	23.50	
		1	38	23.22	23.04	23.23	23.50	
		1	74	23.12	23.03	23.22	23.50	
		36	0	21.96	21.87	21.75	22.50	
		36	18	21.76	21.79	21.76	22.50	
		36	39	21.85	21.74	21.64	22.50	
		75	0	21.80	21.76	21.75	22.50	
	64QAM	1	0	22.23	22.46	22.42	22.50	
		1	38	22.20	22.37	22.40	22.50	
		1	74	22.34	22.34	22.36	22.50	
		36	0	21.30	21.38	21.25	21.50	
		36	18	21.24	21.16	21.28	21.50	
		36	39	21.20	21.15	21.22	21.50	
		75	0	21.31	21.18	21.25	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20050/1720	20175/1732.5	20300/1745	
	20MHz	QPSK	1	0	23.61	23.50	23.57	24.00
1			50	23.35	23.21	23.34	24.00	
1			99	23.55	23.26	23.41	24.00	
50			0	23.11	22.81	22.87	23.50	
50			25	22.92	22.79	22.83	23.50	
50			50	22.87	22.70	22.81	23.50	
100			0	22.97	22.78	22.78	23.50	
16QAM		1	0	23.45	23.03	23.07	23.50	
		1	50	23.18	23.02	23.19	23.50	
		1	99	23.10	23.00	23.20	23.50	
		50	0	21.93	21.83	21.72	22.50	
		50	25	21.73	21.77	21.73	22.50	
		50	50	21.82	21.69	21.60	22.50	
		100	0	21.78	21.72	21.72	22.50	
64QAM		1	0	22.21	22.42	22.45	22.50	



		1	50	22.16	22.35	22.36	22.50
		1	99	22.28	22.28	22.30	22.50
		50	0	21.25	21.30	21.18	21.50
		50	25	21.20	21.12	21.22	21.50
		50	50	21.17	21.10	21.18	21.50
		100	0	21.29	21.14	21.22	21.50

LTE FDD Band 4 (Receiver off+SAR sensor on Level D1/2) (Receiver on+WiFi connect/P2P) (Receiver off+sensor D3/7+Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	20.96	21.01	21.03	22.00
		1	2	20.83	20.74	20.80	22.00
		1	5	21.03	21.06	21.07	22.00
		3	0	21.75	21.67	21.62	22.00
		3	2	21.71	21.73	21.68	22.00
		3	3	21.79	21.73	21.76	22.00
		6	0	20.83	20.72	20.81	22.00
	16QAM	1	0	20.98	21.05	20.88	22.00
		1	2	20.96	20.87	20.85	22.00
		1	5	21.06	20.97	21.08	22.00
		3	0	21.70	21.69	21.58	22.00
		3	2	21.75	21.67	21.56	22.00
		3	3	21.77	21.65	21.65	22.00
		6	0	20.79	20.69	20.74	22.00
	64QAM	1	0	20.75	21.03	21.01	22.00
		1	2	20.76	21.03	20.83	22.00
		1	5	20.78	21.05	21.02	22.00
		3	0	20.62	20.72	20.76	22.00
		3	2	20.67	20.74	20.81	22.00
		3	3	20.85	20.81	20.83	22.00
		6	0	19.88	19.89	19.95	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	20.98	21.05	21.06	22.00
		1	7	20.81	20.77	20.84	22.00
		1	14	21.06	21.11	21.11	22.00
		8	0	20.85	20.79	20.75	22.00
		8	4	20.83	20.83	20.80	22.00
		8	7	20.89	20.84	20.86	22.00
		15	0	20.83	20.76	20.84	22.00





	16QAM	1	0	21.01	21.07	20.91	22.00	
		1	7	20.99	20.87	20.89	22.00	
		1	14	21.08	21.01	21.11	22.00	
		8	0	20.81	20.82	20.70	22.00	
		8	4	20.86	20.80	20.68	22.00	
		8	7	20.87	20.77	20.78	22.00	
		15	0	20.82	20.73	20.77	22.00	
	64QAM	1	0	20.78	21.05	21.04	22.00	
		1	7	20.79	21.03	20.85	22.00	
		1	14	20.80	21.04	21.05	22.00	
		8	0	19.73	19.85	19.88	21.50	
		8	4	19.78	19.87	19.93	21.50	
		8	7	19.95	19.93	19.96	21.50	
		15	0	19.91	19.93	19.98	21.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19975/1712.5	20175/1732.5	20375/1752.5		
5MHz	QPSK	1	0	20.95	21.03	21.02	22.00	
		1	13	20.79	20.73	20.81	22.00	
		1	24	21.03	21.06	21.07	22.00	
		12	0	20.82	20.74	20.71	22.00	
		12	6	20.81	20.79	20.75	22.00	
		12	13	20.87	20.82	20.82	22.00	
		25	0	20.83	20.75	20.82	22.00	
	16QAM	1	0	20.98	21.03	20.88	22.00	
		1	13	20.96	20.85	20.86	22.00	
		1	24	21.05	20.99	21.07	22.00	
		12	0	20.79	20.78	20.67	22.00	
		12	6	20.83	20.75	20.64	22.00	
		12	13	20.84	20.72	20.74	22.00	
		25	0	20.80	20.69	20.72	22.00	
	64QAM	1	0	20.75	21.05	21.01	22.00	
		1	13	20.76	21.05	20.82	22.00	
		1	24	20.81	21.02	21.01	22.00	
		12	0	19.71	19.81	19.89	21.50	
		12	6	19.75	19.82	19.89	21.50	
		12	13	19.92	19.88	19.92	21.50	
		25	0	19.89	19.89	19.93	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20000/1715	20175/1732.5	20350/1750	
	10MHz	QPSK	1	0	20.97	21.04	21.05	22.00
			1	25	20.82	20.78	20.85	22.00
			1	49	21.05	21.10	21.10	22.00
			25	0	20.85	20.79	20.75	22.00



	16QAM	25	13	20.84	20.84	20.79	22.00
		25	25	20.89	20.86	20.87	22.00
		50	0	20.87	20.77	20.86	22.00
		1	0	21.00	21.06	20.90	22.00
		1	25	20.99	20.89	20.89	22.00
		1	49	21.08	21.01	21.10	22.00
		25	0	20.82	20.83	20.71	22.00
		25	13	20.85	20.79	20.67	22.00
		25	25	20.87	20.77	20.78	22.00
	64QAM	50	0	20.83	20.74	20.76	22.00
		1	0	20.77	21.04	21.03	22.00
		1	25	20.79	21.05	20.85	22.00
		1	49	20.80	21.04	21.04	22.00
		25	0	19.74	19.86	19.89	21.50
		25	13	19.77	19.86	19.92	21.50
		25	25	19.95	19.93	19.96	21.50
<b>15MHz</b>	QPSK	50	0	19.92	19.94	19.97	21.50
		1	0	20.96	21.00	21.03	22.00
		1	38	20.80	20.77	20.82	22.00
		1	74	21.02	21.05	21.06	22.00
		36	0	20.83	20.75	20.72	22.00
		36	18	20.81	20.79	20.75	22.00
		36	39	20.86	20.83	20.83	22.00
	16QAM	75	0	20.85	20.73	20.81	22.00
		1	0	20.95	21.04	20.88	22.00
		1	38	20.97	20.86	20.87	22.00
		1	74	21.05	20.97	21.07	22.00
		36	0	20.79	20.81	20.68	22.00
		36	18	20.82	20.74	20.63	22.00
		36	39	20.85	20.73	20.75	22.00
	64QAM	75	0	20.80	20.69	20.72	22.00
		1	0	20.72	21.02	21.01	22.00
1		38	20.77	21.02	20.83	22.00	
1		74	20.81	21.03	21.05	22.00	
36		0	19.73	19.88	19.90	21.50	
36		18	19.75	19.83	19.91	21.50	
36		39	19.93	19.89	19.93	21.50	
<b>20MHz</b>	QPSK	75	0	19.89	19.89	19.93	21.50
		1	0	20.93	20.96	21.00	22.00
		1	0	20.93	20.96	21.00	22.00
		1	0	20.93	20.96	21.00	22.00



		1	50	20.79	20.73	20.80	22.00
		1	99	21.00	21.04	21.03	22.00
		50	0	20.80	20.70	20.68	22.00
		50	25	20.79	20.75	20.72	22.00
		50	50	20.83	20.78	20.79	22.00
		100	0	20.82	20.68	20.77	22.00
	16QAM	1	0	21.04	21.00	20.83	22.00
		1	50	20.93	20.84	20.83	22.00
		1	99	21.03	20.94	21.05	22.00
		50	0	20.76	20.77	20.65	22.00
		50	25	20.79	20.72	20.60	22.00
		50	50	20.82	20.68	20.71	22.00
	64QAM	100	0	20.78	20.65	20.69	22.00
		1	0	20.70	20.98	20.96	22.00
		1	50	20.73	21.00	20.79	22.00
		1	99	20.75	20.97	20.99	22.00
		50	0	19.68	19.80	19.83	21.50
		50	25	19.71	19.79	19.85	21.50
		50	50	19.90	19.84	19.89	21.50
	100	0	19.87	19.85	19.90	21.50	

LTE FDD Band 4 (Receiver off+SAR sensor on Level D3/7)				Conducted Power(dBm)			Tune-up Limit	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				19957/1710.7	20175/1732.5	20393/1754.3		
1.4MHz	QPSK	1	0	23.55	23.80	23.48	24.50	
		1	2	23.51	23.51	23.26	24.50	
		1	5	23.68	23.62	23.57	24.50	
		3	0	23.50	23.53	23.20	24.50	
		3	2	23.39	23.43	23.26	24.50	
		3	3	23.39	23.37	23.32	24.50	
	16QAM	6	0	22.40	22.36	22.38	23.50	
		1	0	22.38	22.59	22.61	23.50	
		1	2	22.36	22.37	22.39	23.50	
		1	5	22.50	22.48	22.48	23.50	
		3	0	22.30	22.25	22.17	23.50	
		3	2	22.34	22.20	22.19	23.50	
	64QAM	3	3	22.35	22.20	22.20	23.50	
		6	0	21.24	21.14	21.38	22.50	
		1	0	21.40	21.45	21.54	22.50	
		1	2	21.40	21.48	21.51	22.50	
		1	5	21.43	21.46	21.44	22.50	
			3	0	21.28	21.29	21.37	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19965/1711.5	20175/1732.5	20385/1753.5		
3MHz	QPSK	3	2	21.38	21.31	21.38	22.50	
		3	3	21.30	21.35	21.29	22.50	
		6	0	20.41	20.49	20.44	21.50	
		1	0	23.57	23.84	23.51	24.50	
		1	7	23.49	23.54	23.30	24.50	
		1	14	23.71	23.67	23.61	24.50	
		8	0	22.60	22.65	22.33	23.50	
	16QAM	8	4	22.51	22.53	22.38	23.50	
		8	7	22.49	22.48	22.42	23.50	
		15	0	22.40	22.40	22.41	23.50	
		1	0	22.41	22.61	22.64	23.50	
		1	7	22.39	22.37	22.43	23.50	
		1	14	22.52	22.52	22.51	23.50	
		8	0	21.41	21.38	21.29	22.50	
	64QAM	8	4	21.45	21.33	21.31	22.50	
		8	7	21.45	21.32	21.33	22.50	
		15	0	21.27	21.18	21.41	22.50	
		1	0	21.43	21.47	21.57	22.50	
		1	7	21.43	21.48	21.53	22.50	
		1	14	21.45	21.45	21.47	22.50	
		8	0	20.39	20.42	20.49	21.50	
	5MHz	QPSK	8	4	20.49	20.44	20.50	21.50
			8	7	20.40	20.47	20.42	21.50
			15	0	20.44	20.53	20.47	21.50
			1	0	23.54	23.82	23.47	24.50
			1	13	23.47	23.50	23.27	24.50
			1	24	23.68	23.62	23.57	24.50
12			0	22.57	22.60	22.29	23.50	
16QAM		12	6	22.49	22.49	22.33	23.50	
		12	13	22.47	22.46	22.38	23.50	
		25	0	22.40	22.39	22.39	23.50	
		1	0	22.38	22.57	22.61	23.50	
		1	13	22.36	22.35	22.40	23.50	
		1	24	22.49	22.50	22.47	23.50	
		12	0	21.39	21.34	21.26	22.50	
64QAM	12	6	21.42	21.28	21.27	22.50		
	12	13	21.42	21.27	21.29	22.50		
	25	0	21.25	21.14	21.36	22.50		
1	0	21.40	21.47	21.54	22.50			



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		
		1	13	21.40	21.50	21.50	22.50	
		1	24	21.46	21.43	21.43	22.50	
		12	0	20.37	20.38	20.50	21.50	
		12	6	20.46	20.39	20.46	21.50	
		12	13	20.37	20.42	20.38	21.50	
		25	0	20.42	20.49	20.42	21.50	
10MHz	QPSK	1	0	23.56	23.83	23.50	24.50	
		1	25	23.50	23.55	23.31	24.50	
		1	49	23.70	23.66	23.60	24.50	
		25	0	22.60	22.65	22.33	23.50	
		25	13	22.52	22.54	22.37	23.50	
		25	25	22.49	22.50	22.43	23.50	
	16QAM	50	0	22.44	22.41	22.43	23.50	
		1	0	22.40	22.60	22.63	23.50	
		1	25	22.39	22.39	22.43	23.50	
		1	49	22.52	22.52	22.50	23.50	
		25	0	21.42	21.39	21.30	22.50	
		25	13	21.44	21.32	21.30	22.50	
	64QAM	25	25	21.45	21.32	21.33	22.50	
		50	0	21.28	21.19	21.40	22.50	
		1	0	21.42	21.46	21.56	22.50	
		1	25	21.43	21.50	21.53	22.50	
		1	49	21.45	21.45	21.46	22.50	
		25	0	20.40	20.43	20.50	21.50	
	15MHz	QPSK	25	13	20.48	20.43	20.49	21.50
			25	25	20.40	20.47	20.42	21.50
			50	0	20.45	20.54	20.46	21.50
			1	0	23.55	23.79	23.48	24.50
			1	38	23.48	23.54	23.28	24.50
			1	74	23.67	23.61	23.56	24.50
16QAM		36	0	22.58	22.61	22.30	23.50	
		36	18	22.49	22.49	22.33	23.50	
		36	39	22.46	22.47	22.39	23.50	
		75	0	22.42	22.37	22.38	23.50	
		1	0	22.35	22.58	22.61	23.50	
		1	38	22.37	22.36	22.41	23.50	
		1	74	22.49	22.48	22.47	23.50	
		36	0	21.39	21.37	21.27	22.50	
		36	18	21.41	21.27	21.26	22.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20050/1720	20175/1732.5	20300/1745		
20MHz	64QAM	36	39	21.43	21.28	21.30	22.50	
		75	0	21.25	21.14	21.36	22.50	
		1	0	21.37	21.44	21.54	22.50	
		1	38	21.41	21.47	21.51	22.50	
		1	74	21.46	21.44	21.47	22.50	
		36	0	20.39	20.45	20.51	21.50	
		36	18	20.46	20.40	20.48	21.50	
		36	39	20.38	20.43	20.39	21.50	
		75	0	20.42	20.49	20.42	21.50	
	20MHz	QPSK	1	0	23.52	23.75	23.45	24.50
			1	50	23.47	23.50	23.26	24.50
			1	99	23.65	23.60	23.53	24.50
			50	0	22.55	22.56	22.26	23.50
			50	25	22.47	22.45	22.30	23.50
			50	50	22.43	22.42	22.35	23.50
			100	0	22.39	22.32	22.34	23.50
		16QAM	1	0	22.45	22.54	22.56	23.50
			1	50	22.33	22.34	22.37	23.50
1			99	22.47	22.45	22.45	23.50	
50			0	21.36	21.33	21.24	22.50	
50			25	21.38	21.25	21.23	22.50	
50			50	21.40	21.23	21.26	22.50	
100			0	21.23	21.10	21.33	22.50	
64QAM		1	0	21.35	21.40	21.49	22.50	
		1	50	21.37	21.45	21.47	22.50	
		1	99	21.40	21.38	21.41	22.50	
		50	0	20.34	20.37	20.44	21.50	
	50	25	20.42	20.36	20.42	21.50		
	50	50	20.35	20.38	20.35	21.50		
	100	0	20.40	20.45	20.39	21.50		

LTE FDD Band 4 (Receiver off+sensor D1/2+WiFi connect/P2P)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	19.86	19.85	19.83	20.00
		1	2	19.66	19.60	19.63	20.00
		1	5	19.67	19.77	19.76	20.00
		3	0	19.70	19.67	19.56	20.00
		3	2	19.51	19.59	19.57	20.00
		3	3	19.50	19.53	19.52	20.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
	16QAM	6	0	19.59	19.70	19.73	20.00
		1	0	19.88	19.77	19.85	20.00
		1	2	19.86	19.81	19.84	20.00
		1	5	19.89	19.91	19.79	20.00
		3	0	19.61	19.53	19.59	20.00
		3	2	19.44	19.56	19.49	20.00
		3	3	19.37	19.62	19.60	20.00
		6	0	19.47	19.57	19.59	20.00
	64QAM	1	0	19.95	19.70	19.96	20.00
		1	2	19.76	19.56	19.71	20.00
		1	5	19.76	19.56	19.86	20.00
		3	0	19.55	19.64	19.47	20.00
		3	2	19.45	19.51	19.53	20.00
		3	3	19.44	19.62	19.60	20.00
3MHz	QPSK	1	0	19.88	19.89	19.86	20.00
		1	7	19.64	19.63	19.67	20.00
		1	14	19.70	19.82	19.80	20.00
		8	0	19.80	19.79	19.69	20.00
		8	4	19.63	19.69	19.69	20.00
		8	7	19.60	19.64	19.62	20.00
		15	0	19.59	19.74	19.76	20.00
	16QAM	1	0	19.91	19.79	19.88	20.00
		1	7	19.89	19.81	19.88	20.00
		1	14	19.91	19.95	19.82	20.00
		8	0	19.72	19.66	19.71	20.00
		8	4	19.55	19.69	19.61	20.00
		8	7	19.47	19.74	19.73	20.00
		15	0	19.50	19.61	19.62	20.00
	64QAM	1	0	19.98	19.72	19.99	20.00
		1	7	19.79	19.56	19.73	20.00
		1	14	19.78	19.55	19.89	20.00
		8	0	19.66	19.77	19.59	20.00
		8	4	19.55	19.59	19.65	20.00
		8	7	19.54	19.74	19.73	20.00
		15	0	19.51	19.68	19.74	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
5MHz	QPSK	1	0	19.85	19.87	19.82	20.00
		1	13	19.62	19.59	19.64	20.00
		1	24	19.67	19.77	19.76	20.00



		12	0	19.77	19.74	19.65	20.00	
		12	6	19.61	19.65	19.64	20.00	
		12	13	19.58	19.62	19.58	20.00	
		25	0	19.59	19.73	19.74	20.00	
	16QAM	1	0	19.88	19.75	19.85	20.00	
		1	13	19.86	19.79	19.85	20.00	
		1	24	19.88	19.93	19.78	20.00	
		12	0	19.70	19.62	19.68	20.00	
		12	6	19.52	19.64	19.57	20.00	
		12	13	19.44	19.69	19.69	20.00	
		25	0	19.48	19.57	19.57	20.00	
		64QAM	1	0	19.95	19.72	19.96	20.00
	1		13	19.76	19.58	19.70	20.00	
	1		24	19.79	19.53	19.85	20.00	
	12		0	19.64	19.73	19.60	20.00	
	12		6	19.52	19.54	19.61	20.00	
	12		13	19.51	19.69	19.69	20.00	
	25		0	19.49	19.64	19.69	20.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20000/1715	20175/1732.5	20350/1750	
	10MHz	QPSK	1	0	19.87	19.88	19.85	20.00
1			25	19.65	19.64	19.68	20.00	
1			49	19.69	19.81	19.79	20.00	
25			0	19.80	19.79	19.69	20.00	
25			13	19.64	19.70	19.68	20.00	
25			25	19.60	19.66	19.63	20.00	
50			0	19.63	19.75	19.78	20.00	
16QAM		1	0	19.90	19.78	19.87	20.00	
		1	25	19.89	19.83	19.88	20.00	
		1	49	19.91	19.95	19.81	20.00	
		25	0	19.73	19.67	19.72	20.00	
		25	13	19.54	19.68	19.60	20.00	
		25	25	19.47	19.74	19.73	20.00	
		50	0	19.51	19.62	19.61	20.00	
64QAM		1	0	19.97	19.71	19.98	20.00	
		1	25	19.79	19.58	19.73	20.00	
		1	49	19.78	19.55	19.88	20.00	
		25	0	19.67	19.78	19.60	20.00	
		25	13	19.54	19.58	19.64	20.00	
		25	25	19.54	19.74	19.73	20.00	
		50	0	19.52	19.69	19.73	20.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20025/1717.5	20175/1732.5	20325/1747.5		





15MHz	QPSK	1	0	19.86	19.84	19.83	20.00
		1	38	19.63	19.63	19.65	20.00
		1	74	19.66	19.76	19.75	20.00
		36	0	19.78	19.75	19.66	20.00
		36	18	19.61	19.65	19.64	20.00
		36	39	19.57	19.63	19.59	20.00
		75	0	19.61	19.71	19.73	20.00
	16QAM	1	0	19.85	19.76	19.85	20.00
		1	38	19.87	19.80	19.86	20.00
		1	74	19.88	19.91	19.78	20.00
		36	0	19.70	19.65	19.69	20.00
		36	18	19.51	19.63	19.56	20.00
		36	39	19.45	19.70	19.70	20.00
		75	0	19.48	19.57	19.57	20.00
	64QAM	1	0	19.92	19.69	19.96	20.00
		1	38	19.77	19.55	19.71	20.00
		1	74	19.79	19.54	19.89	20.00
		36	0	19.66	19.80	19.61	20.00
		36	18	19.52	19.55	19.63	20.00
		36	39	19.52	19.70	19.70	20.00
		75	0	19.49	19.64	19.69	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	19.83	19.80	19.80	20.00
		1	50	19.62	19.59	19.63	20.00
		1	99	19.64	19.75	19.72	20.00
		50	0	19.75	19.70	19.62	20.00
		50	25	19.59	19.61	19.61	20.00
		50	50	19.54	19.58	19.55	20.00
		100	0	19.58	19.66	19.69	20.00
	16QAM	1	0	19.94	19.72	19.80	20.00
		1	50	19.83	19.78	19.82	20.00
		1	99	19.86	19.88	19.76	20.00
		50	0	19.67	19.61	19.66	20.00
		50	25	19.48	19.61	19.53	20.00
		50	50	19.42	19.65	19.66	20.00
		100	0	19.46	19.53	19.54	20.00
	64QAM	1	0	19.90	19.65	19.91	20.00
		1	50	19.73	19.53	19.67	20.00
		1	99	19.73	19.48	19.83	20.00
		50	0	19.61	19.72	19.54	20.00
		50	25	19.48	19.51	19.57	20.00
		50	50	19.49	19.65	19.66	20.00



		100	0	19.47	19.60	19.66	20.00
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LTE FDD Band 4 (Receiver off+sensor D3/7+WiFi connect/P2P)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	21.55	21.47	21.36	22.50
		1	2	21.44	21.33	21.31	22.50
		1	5	21.57	21.40	21.51	22.50
		3	0	22.34	22.29	22.25	22.50
		3	2	22.28	22.32	22.29	22.50
		3	3	22.33	22.23	22.37	22.50
		6	0	21.42	21.27	21.31	22.50
	16QAM	1	0	21.51	21.60	21.46	22.50
		1	2	21.49	21.50	21.37	22.50
		1	5	21.52	21.48	21.45	22.50
		3	0	22.19	22.27	22.16	22.50
		3	2	22.23	22.27	22.25	22.50
		3	3	22.24	22.21	22.21	22.50
		6	0	21.34	21.29	21.29	22.50
	64QAM	1	0	21.55	21.50	21.47	22.50
		1	2	21.46	21.49	21.45	22.50
		1	5	21.50	21.58	21.46	22.50
		3	0	21.51	21.32	21.31	22.50
		3	2	21.55	21.36	21.31	22.50
		3	3	21.56	21.33	21.31	22.50
		6	0	20.67	20.61	20.68	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	21.57	21.51	21.39	22.50
		1	7	21.42	21.36	21.35	22.50
		1	14	21.60	21.45	21.55	22.50
		8	0	21.44	21.41	21.38	22.50
		8	4	21.40	21.42	21.41	22.50
		8	7	21.43	21.34	21.47	22.50
		15	0	21.42	21.31	21.34	22.50
	16QAM	1	0	21.54	21.62	21.49	22.50
		1	7	21.52	21.50	21.41	22.50
		1	14	21.54	21.52	21.48	22.50
		8	0	21.30	21.40	21.28	22.50
		8	4	21.34	21.40	21.37	22.50
		8	7	21.34	21.33	21.34	22.50
		15	0	21.37	21.33	21.32	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19975/1712.5	20175/1732.5	20375/1752.5		
	64QAM	1	0	21.58	21.52	21.50	22.50	
		1	7	21.49	21.49	21.47	22.50	
		1	14	21.52	21.57	21.49	22.50	
		8	0	20.62	20.45	20.43	21.50	
		8	4	20.66	20.49	20.43	21.50	
		8	7	20.66	20.45	20.44	21.50	
		15	0	20.70	20.65	20.71	21.50	
5MHz	QPSK	1	0	21.54	21.49	21.35	22.50	
		1	13	21.40	21.32	21.32	22.50	
		1	24	21.57	21.40	21.51	22.50	
		12	0	21.41	21.36	21.34	22.50	
		12	6	21.38	21.38	21.36	22.50	
		12	13	21.41	21.32	21.43	22.50	
		25	0	21.42	21.30	21.32	22.50	
	16QAM	1	0	21.51	21.58	21.46	22.50	
		1	13	21.49	21.48	21.38	22.50	
		1	24	21.51	21.50	21.44	22.50	
		12	0	21.28	21.36	21.25	22.50	
		12	6	21.31	21.35	21.33	22.50	
		12	13	21.31	21.28	21.30	22.50	
		25	0	21.35	21.29	21.27	22.50	
	64QAM	1	0	21.55	21.52	21.47	22.50	
		1	13	21.46	21.51	21.44	22.50	
		1	24	21.53	21.55	21.45	22.50	
		12	0	20.60	20.41	20.44	21.50	
		12	6	20.63	20.44	20.39	21.50	
		12	13	20.63	20.40	20.40	21.50	
		25	0	20.68	20.61	20.66	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20000/1715	20175/1732.5	20350/1750	
	10MHz	QPSK	1	0	21.56	21.50	21.38	22.50
			1	25	21.43	21.37	21.36	22.50
			1	49	21.59	21.44	21.54	22.50
			25	0	21.44	21.41	21.38	22.50
			25	13	21.41	21.43	21.40	22.50
25			25	21.43	21.36	21.48	22.50	
50			0	21.46	21.32	21.36	22.50	
16QAM		1	0	21.53	21.61	21.48	22.50	
		1	25	21.52	21.52	21.41	22.50	
		1	49	21.54	21.52	21.47	22.50	
		25	0	21.31	21.41	21.29	22.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20025/1717.5	20175/1732.5	20325/1747.5		
	64QAM	25	13	21.33	21.39	21.36	22.50	
		25	25	21.34	21.33	21.34	22.50	
		50	0	21.38	21.34	21.31	22.50	
		1	0	21.57	21.51	21.49	22.50	
		1	25	21.49	21.51	21.47	22.50	
		1	49	21.52	21.57	21.48	22.50	
		25	0	20.63	20.46	20.44	21.50	
		25	13	20.65	20.48	20.42	21.50	
		25	25	20.66	20.45	20.44	21.50	
		50	0	20.71	20.66	20.70	21.50	
15MHz	QPSK	1	0	21.55	21.46	21.36	22.50	
		1	38	21.41	21.36	21.33	22.50	
		1	74	21.56	21.39	21.50	22.50	
		36	0	21.42	21.37	21.35	22.50	
		36	18	21.38	21.38	21.36	22.50	
		36	39	21.40	21.33	21.44	22.50	
		75	0	21.44	21.28	21.31	22.50	
	16QAM	1	0	21.48	21.59	21.46	22.50	
		1	38	21.50	21.49	21.39	22.50	
		1	74	21.51	21.48	21.44	22.50	
		36	0	21.28	21.39	21.26	22.50	
		36	18	21.30	21.34	21.32	22.50	
		36	39	21.32	21.29	21.31	22.50	
		75	0	21.35	21.29	21.27	22.50	
	64QAM	1	0	21.52	21.49	21.47	22.50	
		1	38	21.47	21.48	21.45	22.50	
		1	74	21.53	21.56	21.49	22.50	
		36	0	20.62	20.48	20.45	21.50	
		36	18	20.63	20.45	20.41	21.50	
		36	39	20.64	20.41	20.41	21.50	
		75	0	20.68	20.61	20.66	21.50	
	20MHz	QPSK	1	0	21.52	21.42	21.33	22.50
			1	50	21.40	21.32	21.31	22.50
	1		99	21.54	21.38	21.47	22.50	
	50		0	21.39	21.32	21.31	22.50	
	50		25	21.36	21.34	21.33	22.50	
	50		50	21.37	21.28	21.40	22.50	
	100		0	21.41	21.23	21.27	22.50	
16QAM	1	0	21.58	21.55	21.41	22.50		



		1	50	21.46	21.47	21.35	22.50
		1	99	21.49	21.45	21.42	22.50
		50	0	21.25	21.35	21.23	22.50
		50	25	21.27	21.32	21.29	22.50
		50	50	21.29	21.24	21.27	22.50
		100	0	21.33	21.25	21.24	22.50
	64QAM	1	0	21.50	21.45	21.42	22.50
		1	50	21.43	21.46	21.41	22.50
		1	99	21.47	21.50	21.43	22.50
		50	0	20.57	20.40	20.38	21.50
		50	25	20.59	20.41	20.35	21.50
		50	50	20.61	20.36	20.37	21.50
		100	0	20.66	20.57	20.63	21.50

LTE FDD Band 4 (Receiver on+Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	20.91	21.04	20.99	21.50
		1	2	20.84	20.66	20.72	21.50
		1	5	20.75	20.75	20.92	21.50
		3	0	20.92	21.37	21.30	21.50
		3	2	21.34	21.39	21.31	21.50
		3	3	21.39	21.36	21.33	21.50
		6	0	21.44	20.75	20.83	21.50
	16QAM	1	0	20.99	20.68	20.89	21.50
		1	2	20.97	21.01	20.83	21.50
		1	5	20.97	20.93	20.67	21.50
		3	0	21.30	21.01	21.49	21.50
		3	2	21.36	21.29	20.91	21.50
		3	3	21.14	21.36	21.26	21.50
		6	0	20.59	20.69	20.81	21.50
	64QAM	1	0	20.70	21.04	20.76	21.50
		1	2	20.86	20.79	20.77	21.50
		1	5	20.66	20.68	20.85	21.50
		3	0	21.30	20.69	20.79	21.50
		3	2	20.88	21.01	20.75	21.50
		3	3	21.21	21.02	20.89	21.50
		6	0	20.63	20.68	20.69	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	20.93	21.08	21.02	21.50



		1	7	20.82	20.69	20.76	21.50
		1	14	20.78	20.80	20.96	21.50
		8	0	20.78	20.81	20.87	21.50
		8	4	20.75	20.74	20.77	21.50
		8	7	20.73	20.70	20.85	21.50
		15	0	20.72	20.79	20.86	21.50
	16QAM	1	0	21.02	20.70	20.96	21.50
		1	7	21.00	21.01	20.87	21.50
		1	14	20.99	20.97	20.70	21.50
		8	0	20.69	20.72	20.76	21.50
		8	4	20.73	20.66	20.83	21.50
		8	7	20.73	20.64	20.95	21.50
	64QAM	15	0	20.62	20.73	20.84	21.50
		1	0	20.73	21.06	20.79	21.50
		1	7	20.89	20.79	20.80	21.50
		1	14	20.68	20.67	20.88	21.50
		8	0	20.71	20.74	20.71	21.50
		8	4	20.69	20.67	20.65	21.50
		8	7	20.62	20.63	20.72	21.50
	15	0	20.66	20.72	20.72	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
19975/1712.5					20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	20.90	21.06	20.98	21.50
		1	13	20.80	20.65	20.73	21.50
		1	24	20.75	20.75	20.92	21.50
		12	0	20.75	20.76	20.83	21.50
		12	6	20.73	20.70	20.72	21.50
		12	13	20.71	20.68	20.81	21.50
		25	0	20.72	20.78	20.84	21.50
	16QAM	1	0	20.99	20.66	20.93	21.50
		1	13	20.97	20.99	20.84	21.50
		1	24	20.96	20.95	20.66	21.50
		12	0	20.67	20.68	20.73	21.50
		12	6	20.70	20.61	20.79	21.50
		12	13	20.70	20.59	20.91	21.50
		25	0	20.60	20.69	20.79	21.50
	64QAM	1	0	20.70	21.06	20.76	21.50
		1	13	20.86	20.81	20.77	21.50
		1	24	20.69	20.65	20.84	21.50
		12	0	20.69	20.70	20.72	21.50
		12	6	20.66	20.62	20.61	21.50
		12	13	20.59	20.58	20.68	21.50
		25	0	20.64	20.68	20.67	21.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	20.92	21.07	21.01	21.50
		1	25	20.83	20.70	20.77	21.50
		1	49	20.77	20.79	20.95	21.50
		25	0	20.78	20.81	20.87	21.50
		25	13	20.76	20.75	20.76	21.50
		25	25	20.73	20.72	20.86	21.50
		50	0	20.76	20.80	20.88	21.50
	16QAM	1	0	21.01	20.69	20.95	21.50
		1	25	21.00	21.03	20.87	21.50
		1	49	20.99	20.97	20.69	21.50
		25	0	20.70	20.73	20.77	21.50
		25	13	20.72	20.65	20.82	21.50
		25	25	20.73	20.64	20.95	21.50
		50	0	20.63	20.74	20.83	21.50
	64QAM	1	0	20.72	21.05	20.78	21.50
		1	25	20.89	20.81	20.80	21.50
		1	49	20.68	20.67	20.87	21.50
		25	0	20.72	20.75	20.72	21.50
		25	13	20.68	20.66	20.64	21.50
		25	25	20.62	20.63	20.72	21.50
		50	0	20.67	20.73	20.71	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	20.91	21.03	20.99	21.50
		1	38	20.81	20.69	20.74	21.50
		1	74	20.74	20.74	20.91	21.50
		36	0	20.76	20.77	20.84	21.50
		36	18	20.73	20.70	20.72	21.50
		36	39	20.70	20.69	20.82	21.50
		75	0	20.74	20.76	20.83	21.50
	16QAM	1	0	20.96	20.67	20.93	21.50
		1	38	20.98	21.00	20.85	21.50
		1	74	20.96	20.93	20.66	21.50
		36	0	20.67	20.71	20.74	21.50
		36	18	20.69	20.60	20.78	21.50
		36	39	20.71	20.60	20.92	21.50
		75	0	20.60	20.69	20.79	21.50
	64QAM	1	0	20.67	21.03	20.76	21.50
		1	38	20.87	20.78	20.78	21.50
		1	74	20.69	20.66	20.88	21.50
		36	0	20.71	20.77	20.73	21.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	36	18	20.66	20.63	20.63	21.50
		36	39	20.60	20.59	20.69	21.50
		75	0	20.64	20.68	20.67	21.50
		1	0	20.88	20.99	20.96	21.50
		1	50	20.80	20.65	20.72	21.50
		1	99	20.72	20.73	20.88	21.50
		50	0	20.73	20.72	20.80	21.50
	50	25	20.71	20.66	20.69	21.50	
	50	50	20.67	20.64	20.78	21.50	
	100	0	20.71	20.71	20.79	21.50	
	16QAM	1	0	20.73	20.63	20.88	21.50
		1	50	20.94	20.98	20.81	21.50
		1	99	20.94	20.90	20.64	21.50
		50	0	20.64	20.67	20.71	21.50
		50	25	20.66	20.58	20.75	21.50
		50	50	20.68	20.55	20.88	21.50
		100	0	20.58	20.65	20.76	21.50
	64QAM	1	0	20.65	20.99	20.71	21.50
		1	50	20.83	20.76	20.74	21.50
		1	99	20.63	20.60	20.82	21.50
		50	0	20.66	20.69	20.66	21.50
		50	25	20.62	20.59	20.57	21.50
		50	50	20.57	20.54	20.65	21.50
		100	0	20.62	20.64	20.64	21.50

LTE FDD Band 4 (Receiver off+sensor D1/2+Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	19.37	19.36	19.28	19.50
		1	2	19.16	19.12	19.10	19.50
		1	5	19.17	19.26	19.27	19.50
		3	0	19.16	19.24	19.16	19.50
		3	2	19.11	19.12	19.01	19.50
		3	3	19.12	19.08	19.12	19.50
		6	0	19.18	19.23	19.34	19.50
	16QAM	1	0	19.05	19.18	19.48	19.50
		1	2	19.03	19.24	19.28	19.50
		1	5	19.25	19.05	19.10	19.50
		3	0	19.04	19.02	19.09	19.50





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19965/1711.5	20175/1732.5	20385/1753.5		
	64QAM	3	2	19.15	19.04	19.11	19.50	
		3	3	19.09	19.05	19.06	19.50	
		6	0	19.07	19.18	19.08	19.50	
		1	0	19.19	19.14	19.30	19.50	
		1	2	19.20	19.26	19.26	19.50	
		1	5	19.21	19.26	19.14	19.50	
		3	0	19.04	19.18	19.09	19.50	
		3	2	19.07	19.02	19.12	19.50	
		3	3	19.08	19.02	19.04	19.50	
		6	0	19.08	19.04	19.19	19.50	
3MHz	QPSK	1	0	19.39	19.40	19.31	19.50	
		1	7	19.14	19.15	19.14	19.50	
		1	14	19.20	19.31	19.31	19.50	
		8	0	19.26	19.36	19.29	19.50	
		8	4	19.23	19.22	19.13	19.50	
		8	7	19.22	19.19	19.22	19.50	
		15	0	19.18	19.27	19.37	19.50	
	16QAM	1	0	19.08	19.20	19.44	19.50	
		1	7	19.06	19.24	19.32	19.50	
		1	14	19.27	19.09	19.13	19.50	
		8	0	19.15	19.15	19.21	19.50	
		8	4	19.26	19.17	19.23	19.50	
		8	7	19.19	19.17	19.19	19.50	
		15	0	19.10	19.22	19.11	19.50	
	64QAM	1	0	19.22	19.16	19.33	19.50	
		1	7	19.23	19.26	19.28	19.50	
		1	14	19.23	19.25	19.17	19.50	
		8	0	19.15	19.31	19.21	19.50	
		8	4	19.18	19.15	19.24	19.50	
		8	7	19.18	19.14	19.17	19.50	
		15	0	19.11	19.08	19.22	19.50	
	5MHz	QPSK	1	0	19.36	19.38	19.27	19.50
			1	13	19.12	19.11	19.11	19.50
	1		24	19.17	19.26	19.27	19.50	
12	0		19.23	19.31	19.25	19.50		
12	6		19.21	19.18	19.08	19.50		
12	13		19.20	19.17	19.18	19.50		
25	0		19.18	19.26	19.35	19.50		
16QAM	1	0	19.05	19.16	19.48	19.50		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		
		1	13	19.03	19.22	19.29	19.50	
		1	24	19.24	19.07	19.09	19.50	
		12	0	19.13	19.11	19.18	19.50	
		12	6	19.23	19.12	19.19	19.50	
		12	13	19.16	19.12	19.15	19.50	
		25	0	19.08	19.18	19.06	19.50	
	64QAM	1	0	19.19	19.16	19.30	19.50	
		1	13	19.20	19.28	19.25	19.50	
		1	24	19.24	19.23	19.13	19.50	
		12	0	19.13	19.27	19.22	19.50	
		12	6	19.15	19.10	19.20	19.50	
		12	13	19.15	19.09	19.13	19.50	
			25	0	19.09	19.04	19.17	19.50
	10MHz	QPSK	1	0	19.38	19.39	19.30	19.50
1			25	19.15	19.16	19.15	19.50	
1			49	19.19	19.30	19.30	19.50	
25			0	19.26	19.36	19.29	19.50	
25			13	19.24	19.23	19.12	19.50	
25			25	19.22	19.21	19.23	19.50	
50			0	19.22	19.28	19.39	19.50	
16QAM		1	0	19.07	19.19	19.50	19.50	
		1	25	19.06	19.26	19.32	19.50	
		1	49	19.27	19.09	19.12	19.50	
		25	0	19.16	19.16	19.22	19.50	
		25	13	19.25	19.16	19.22	19.50	
		25	25	19.19	19.17	19.19	19.50	
		50	0	19.11	19.23	19.10	19.50	
64QAM		1	0	19.21	19.15	19.32	19.50	
		1	25	19.23	19.28	19.28	19.50	
		1	49	19.23	19.25	19.16	19.50	
		25	0	19.16	19.32	19.22	19.50	
		25	13	19.17	19.14	19.23	19.50	
		25	25	19.18	19.14	19.17	19.50	
		50	0	19.12	19.09	19.21	19.50	
Bandwidth		Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20025/1717.5	20175/1732.5	20325/1747.5	
15MHz		QPSK	1	0	19.37	19.35	19.28	19.50
			1	38	19.13	19.15	19.12	19.50
			1	74	19.16	19.25	19.26	19.50
			36	0	19.24	19.32	19.26	19.50
			36	18	19.21	19.18	19.08	19.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20050/1720	20175/1732.5	20300/1745		
20MHz	16QAM	36	39	19.19	19.18	19.19	19.50	
		75	0	19.20	19.24	19.34	19.50	
		1	0	19.02	19.17	19.48	19.50	
		1	38	19.04	19.23	19.30	19.50	
		1	74	19.24	19.05	19.09	19.50	
		36	0	19.13	19.14	19.19	19.50	
		36	18	19.22	19.11	19.18	19.50	
		36	39	19.17	19.13	19.16	19.50	
		75	0	19.08	19.18	19.06	19.50	
		64QAM	1	0	19.16	19.13	19.30	19.50
			1	38	19.21	19.25	19.26	19.50
			1	74	19.24	19.24	19.17	19.50
			36	0	19.15	19.34	19.23	19.50
			36	18	19.15	19.11	19.22	19.50
	36		39	19.16	19.10	19.14	19.50	
	75		0	19.09	19.04	19.17	19.50	
	20MHz	QPSK	1	0	19.34	19.31	19.25	19.50
			1	50	19.12	19.11	19.10	19.50
			1	99	19.14	19.24	19.23	19.50
			50	0	19.21	19.27	19.22	19.50
			50	25	19.19	19.14	19.05	19.50
			50	50	19.16	19.13	19.15	19.50
			100	0	19.17	19.19	19.30	19.50
		16QAM	1	0	19.15	19.13	19.43	19.50
			1	50	19.00	19.21	19.26	19.50
			1	99	19.22	19.02	19.07	19.50
			50	0	19.10	19.10	19.16	19.50
			50	25	19.19	19.09	19.15	19.50
50			50	19.14	19.08	19.12	19.50	
100			0	19.06	19.14	19.03	19.50	
64QAM		1	0	19.14	19.09	19.25	19.50	
		1	50	19.17	19.23	19.22	19.50	
		1	99	19.18	19.18	19.11	19.50	
		50	0	19.10	19.26	19.16	19.50	
		50	25	19.11	19.07	19.16	19.50	
		50	50	19.13	19.05	19.10	19.50	
		100	0	19.07	19.00	19.14	19.50	

LTE FDD Band 5				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			



				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	24.22	24.31	24.20	25.50
		1	2	24.21	24.32	24.22	25.50
		1	5	24.12	24.29	24.18	25.50
		3	0	24.07	24.11	24.12	25.50
		3	2	24.10	24.22	24.15	25.50
		3	3	24.18	24.39	24.17	25.50
		6	0	23.25	23.42	23.23	24.50
	16QAM	1	0	23.51	23.07	23.39	24.50
		1	2	23.49	23.44	23.37	24.50
		1	5	23.41	23.49	23.42	24.50
		3	0	23.08	23.10	23.16	24.50
		3	2	23.19	23.26	23.14	24.50
		3	3	23.32	23.37	23.11	24.50
		6	0	22.25	22.40	22.27	23.50
	64QAM	1	0	22.41	22.51	22.54	23.50
		1	2	22.38	22.46	22.51	23.50
		1	5	22.44	22.47	22.54	23.50
		3	0	22.17	22.30	22.38	23.50
		3	2	22.34	22.37	22.32	23.50
		3	3	22.41	22.41	22.28	23.50
		6	0	21.25	21.33	21.35	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	24.24	24.35	24.23	25.50
		1	7	24.19	24.35	24.26	25.50
		1	14	24.15	24.34	24.22	25.50
		8	0	23.17	23.23	23.25	24.50
		8	4	23.22	23.32	23.27	24.50
		8	7	23.28	23.50	23.27	24.50
		15	0	23.25	23.46	23.26	24.50
	16QAM	1	0	23.54	23.09	23.42	24.50
		1	7	23.52	23.44	23.41	24.50
		1	14	23.43	23.53	23.45	24.50
		8	0	22.19	22.23	22.28	23.50
		8	4	22.30	22.39	22.26	23.50
		8	7	22.42	22.49	22.24	23.50
		15	0	22.28	22.44	22.30	23.50
	64QAM	1	0	22.44	22.53	22.57	23.50
		1	7	22.41	22.46	22.53	23.50
		1	14	22.46	22.46	22.57	23.50
		8	0	21.28	21.43	21.50	22.50
		8	4	21.45	21.50	21.44	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20425/826.5	20525/836.5	20625/846.5		
5MHz	QPSK	8	7	21.51	21.53	21.41	22.50	
		15	0	21.28	21.37	21.38	22.50	
		1	0	24.21	24.33	24.19	25.50	
		1	13	24.17	24.31	24.23	25.50	
		1	24	24.12	24.29	24.18	25.50	
		12	0	23.14	23.18	23.21	24.50	
		12	6	23.20	23.28	23.22	24.50	
	16QAM	12	13	23.26	23.48	23.23	24.50	
		25	0	23.25	23.45	23.24	24.50	
		1	0	23.51	23.05	23.39	24.50	
		1	13	23.49	23.42	23.38	24.50	
		1	24	23.40	23.51	23.41	24.50	
		12	0	22.17	22.19	22.25	23.50	
		12	6	22.27	22.34	22.22	23.50	
	64QAM	12	13	22.39	22.44	22.20	23.50	
		25	0	22.26	22.40	22.25	23.50	
		1	0	22.41	22.53	22.54	23.50	
		1	13	22.38	22.48	22.50	23.50	
		1	24	22.47	22.44	22.53	23.50	
		12	0	21.26	21.39	21.51	22.50	
		12	6	21.42	21.45	21.40	22.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20450/829	20525/836.5	20600/844	
	10MHz	QPSK	12	13	23.26	23.48	23.23	24.50
25			0	23.25	23.45	23.24	24.50	
1			0	24.19	24.26	24.17	25.50	
1			25	24.17	24.31	24.22	25.50	
1			49	24.09	24.27	24.14	25.50	
25			0	23.12	23.14	23.18	24.50	
25			13	23.18	23.24	23.19	24.50	
16QAM		25	25	23.22	23.44	23.20	24.50	
		50	0	23.24	23.38	23.19	24.50	
		1	0	23.56	23.02	23.34	24.50	
		1	25	23.46	23.41	23.35	24.50	
		1	49	23.38	23.46	23.39	24.50	
		25	0	22.14	22.18	22.23	23.50	
		25	13	22.23	22.31	22.18	23.50	
64QAM		25	25	22.37	22.40	22.17	23.50	
		50	0	22.24	22.36	22.22	23.50	
		1	0	22.36	22.46	22.49	23.50	
		1	25	22.35	22.43	22.47	23.50	



		1	49	22.41	22.39	22.51	23.50
		25	0	21.23	21.38	21.45	22.50
		25	13	21.38	21.42	21.36	22.50
		25	25	21.46	21.44	21.34	22.50
		50	0	21.24	21.29	21.30	22.50

LTE FDD Band 7 (Receiver on) (Receiver off+SAR sensor on Level D3/7)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	23.36	23.55	23.73	24.50
		1	13	23.22	23.25	23.79	24.50
		1	24	23.38	23.59	23.90	24.50
		12	0	22.13	23.30	22.95	23.50
		12	6	22.37	23.34	22.94	23.50
		12	13	22.42	23.39	22.99	23.50
		25	0	22.38	22.36	23.03	23.50
	16QAM	1	0	22.64	22.60	22.91	23.50
		1	13	22.62	22.40	22.82	23.50
		1	24	22.69	22.63	23.17	23.50
		12	0	21.27	21.22	21.82	22.50
		12	6	21.22	21.23	21.96	22.50
		12	13	21.22	21.27	21.96	22.50
		25	0	21.16	21.21	21.89	22.50
	64QAM	1	0	21.31	21.44	21.51	22.50
		1	13	21.37	21.38	21.55	22.50
		1	24	21.42	21.47	21.49	22.50
		12	0	20.53	20.45	20.48	21.50
		12	6	20.58	20.50	20.50	21.50
		12	13	20.48	20.41	20.41	21.50
		25	0	20.41	20.39	20.39	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	23.38	23.56	23.76	24.50
		1	25	23.25	23.30	23.83	24.50
		1	49	23.40	23.63	23.93	24.50
		25	0	22.16	23.35	22.99	23.50
		25	13	22.40	23.39	22.98	23.50
		25	25	22.44	23.43	23.04	23.50
		50	0	22.42	22.38	23.07	23.50
	16QAM	1	0	22.66	22.63	22.93	23.50
		1	25	22.65	22.44	22.85	23.50



		1	49	22.72	22.65	23.20	23.50
		25	0	21.30	21.27	21.86	22.50
		25	13	21.24	21.27	21.99	22.50
		25	25	21.25	21.32	22.00	22.50
		50	0	21.19	21.26	21.93	22.50
	64QAM	1	0	21.33	21.43	21.53	22.50
		1	25	21.40	21.38	21.58	22.50
		1	49	21.41	21.49	21.52	22.50
		25	0	20.56	20.50	20.48	21.50
		25	13	20.60	20.54	20.53	21.50
		25	25	20.51	20.46	20.45	21.50
		50	0	20.44	20.44	20.43	21.50
		<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>	
				20825/2507.5	21100/2535	21375/2562.5	
<b>15MHz</b>	QPSK	1	0	23.37	23.52	23.74	24.50
		1	38	23.23	23.29	23.80	24.50
		1	74	23.37	23.58	23.89	24.50
		36	0	22.14	23.31	22.96	23.50
		36	18	22.37	23.34	22.94	23.50
		36	39	22.41	23.40	23.00	23.50
		75	0	22.40	22.34	23.02	23.50
	16QAM	1	0	22.61	22.61	22.91	23.50
		1	38	22.63	22.41	22.83	23.50
		1	74	22.69	22.61	23.17	23.50
		36	0	21.27	21.25	21.83	22.50
		36	18	21.21	21.22	21.95	22.50
		36	39	21.23	21.28	21.97	22.50
		75	0	21.16	21.21	21.89	22.50
	64QAM	1	0	21.28	21.41	21.51	22.50
		1	38	21.38	21.35	21.56	22.50
		1	74	21.42	21.48	21.53	22.50
		36	0	20.55	20.52	20.49	21.50
		36	18	20.58	20.51	20.52	21.50
		36	39	20.49	20.42	20.42	21.50
		75	0	20.41	20.39	20.39	21.50
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			<b>Tune-up Limit</b>
				20850/2510	21100/2535	21350/2560	
<b>20MHz</b>	QPSK	1	0	23.34	23.48	23.71	24.50
		1	50	23.22	23.25	23.78	24.50
		1	99	23.35	23.57	23.86	24.50
		50	0	22.11	23.26	22.92	23.50
		50	25	22.35	23.30	22.91	23.50
		50	50	22.38	23.35	22.96	23.50



	16QAM	100	0	22.37	22.29	22.98	23.50
		1	0	22.40	22.57	22.86	23.50
		1	50	22.59	22.39	22.79	23.50
		1	99	22.67	22.58	23.15	23.50
		50	0	21.24	21.21	21.80	22.50
		50	25	21.18	21.20	21.92	22.50
		50	50	21.20	21.23	21.93	22.50
		100	0	21.14	21.17	21.86	22.50
	64QAM	1	0	21.26	21.37	21.46	22.50
		1	50	21.34	21.33	21.52	22.50
		1	99	21.36	21.42	21.47	22.50
		50	0	20.50	20.44	20.42	21.50
		50	25	20.54	20.47	20.46	21.50
		50	50	20.46	20.37	20.38	21.50
100		0	20.39	20.35	20.36	21.50	

LTE FDD Band 7 (Receiver off+SAR sensor on Level D1/2)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	20.32	20.31	20.35	21.00
		1	13	20.28	20.14	20.17	21.00
		1	24	20.36	20.35	20.44	21.00
		12	0	20.31	20.38	20.35	21.00
		12	6	20.35	20.27	20.34	21.00
		12	13	20.39	20.38	20.43	21.00
		25	0	20.35	20.29	20.52	21.00
	16QAM	1	0	20.74	20.57	20.67	21.00
		1	13	20.72	20.53	20.43	21.00
		1	24	20.75	20.84	20.79	21.00
		12	0	20.33	20.23	20.47	21.00
		12	6	20.43	20.27	20.43	21.00
		12	13	20.37	20.24	20.52	21.00
		25	0	20.39	20.27	20.44	21.00
	64QAM	1	0	20.66	20.40	20.57	21.00
		1	13	20.27	20.32	20.64	21.00
		1	24	20.85	20.47	20.77	21.00
		12	0	20.54	20.23	20.45	21.00
		12	6	20.43	20.23	20.48	21.00
		12	13	20.37	20.28	20.59	21.00
		25	0	20.34	20.23	20.30	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	





10MHz	QPSK	1	0	20.34	20.32	20.38	21.00
		1	25	20.31	20.19	20.21	21.00
		1	49	20.38	20.39	20.47	21.00
		25	0	20.34	20.43	20.39	21.00
		25	13	20.38	20.32	20.38	21.00
		25	25	20.41	20.42	20.48	21.00
		50	0	20.39	20.31	20.56	21.00
	16QAM	1	0	20.76	20.60	20.69	21.00
		1	25	20.75	20.57	20.46	21.00
		1	49	20.78	20.86	20.82	21.00
		25	0	20.36	20.28	20.51	21.00
		25	13	20.45	20.31	20.46	21.00
		25	25	20.40	20.29	20.56	21.00
		50	0	20.42	20.32	20.48	21.00
	64QAM	1	0	20.68	20.39	20.59	21.00
		1	25	20.30	20.32	20.67	21.00
		1	49	20.84	20.49	20.80	21.00
		25	0	20.57	20.28	20.45	21.00
		25	13	20.45	20.27	20.51	21.00
		25	25	20.40	20.33	20.63	21.00
		50	0	20.37	20.28	20.34	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	20.33	20.28	20.36	21.00
		1	38	20.29	20.18	20.18	21.00
		1	74	20.35	20.34	20.43	21.00
		36	0	20.32	20.39	20.36	21.00
		36	18	20.35	20.27	20.34	21.00
		36	39	20.38	20.39	20.44	21.00
		75	0	20.37	20.27	20.51	21.00
	16QAM	1	0	20.71	20.58	20.67	21.00
		1	38	20.73	20.54	20.44	21.00
		1	74	20.75	20.82	20.79	21.00
		36	0	20.33	20.26	20.48	21.00
		36	18	20.42	20.26	20.42	21.00
		36	39	20.38	20.25	20.53	21.00
		75	0	20.39	20.27	20.44	21.00
	64QAM	1	0	20.63	20.37	20.57	21.00
		1	38	20.28	20.29	20.65	21.00
		1	74	20.85	20.48	20.81	21.00
		36	0	20.56	20.30	20.46	21.00
		36	18	20.43	20.24	20.50	21.00
		36	39	20.38	20.29	20.60	21.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
				75	0	20.34	
20MHz	QPSK	1	0	20.30	20.24	20.33	21.00
		1	50	20.28	20.14	20.16	21.00
		1	99	20.33	20.33	20.40	21.00
		50	0	20.29	20.34	20.32	21.00
		50	25	20.33	20.23	20.31	21.00
		50	50	20.35	20.34	20.40	21.00
		100	0	20.34	20.22	20.47	21.00
	16QAM	1	0	20.65	20.54	20.62	21.00
		1	50	20.69	20.52	20.40	21.00
		1	99	20.73	20.79	20.77	21.00
		50	0	20.30	20.22	20.45	21.00
		50	25	20.39	20.24	20.39	21.00
		50	50	20.35	20.20	20.49	21.00
		100	0	20.37	20.23	20.41	21.00
	64QAM	1	0	20.61	20.33	20.52	21.00
		1	50	20.24	20.27	20.61	21.00
		1	99	20.79	20.42	20.75	21.00
		50	0	20.51	20.22	20.39	21.00
		50	25	20.39	20.20	20.44	21.00
		50	50	20.35	20.24	20.56	21.00
		100	0	20.32	20.19	20.27	21.00

LTE FDD Band 7 (Receiver on+WiFi connect/P2P) (Receiver off+sensor D3/7+WiFi connect/P2P)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	23.02	22.88	23.20	23.50
		1	13	22.97	22.86	23.23	23.50
		1	24	23.09	23.27	23.31	23.50
		12	0	22.99	22.12	22.48	23.50
		12	6	22.98	22.20	22.39	23.50
		12	13	23.06	22.36	22.60	23.50
		25	0	22.01	22.22	22.64	23.50
	16QAM	1	0	22.18	22.14	22.37	23.50
		1	13	22.16	22.05	22.40	23.50
		1	24	22.37	22.44	22.66	23.50
		12	0	21.25	21.10	21.37	22.50
		12	6	20.85	20.87	21.51	22.50
		12	13	20.85	20.89	21.48	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20800/2505	21100/2535	21400/2565		
	64QAM	25	0	20.94	20.82	21.49	22.50	
		1	0	20.94	21.05	21.02	22.50	
		1	13	20.90	21.02	20.97	22.50	
		1	24	21.05	20.96	20.97	22.50	
		12	0	19.92	19.97	20.07	21.50	
		12	6	20.05	20.05	20.02	21.50	
		12	13	20.07	20.10	20.05	21.50	
		25	0	20.01	20.07	20.00	21.50	
10MHz	QPSK	1	0	23.04	22.89	23.23	23.50	
		1	25	23.00	22.91	23.27	23.50	
		1	49	23.11	23.31	23.34	23.50	
		25	0	23.02	22.17	22.52	23.50	
		25	13	23.01	22.25	22.43	23.50	
		25	25	23.08	22.40	22.65	23.50	
		50	0	22.05	22.24	22.68	23.50	
	16QAM	1	0	22.20	22.17	22.39	23.50	
		1	25	22.19	22.09	22.43	23.50	
		1	49	22.40	22.46	22.69	23.50	
		25	0	21.28	21.15	21.41	22.50	
		25	13	20.87	20.91	21.54	22.50	
		25	25	20.88	20.94	21.52	22.50	
		50	0	20.97	20.87	21.53	22.50	
	64QAM	1	0	20.96	21.04	21.04	22.50	
		1	25	20.93	21.02	21.00	22.50	
		1	49	21.04	20.98	21.00	22.50	
		25	0	19.95	20.02	20.07	21.50	
		25	13	20.07	20.09	20.05	21.50	
		25	25	20.10	20.15	20.09	21.50	
		50	0	20.04	20.12	20.04	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20825/2507.5	21100/2535	21375/2562.5	
	15MHz	QPSK	1	0	23.03	22.85	23.21	23.50
1			38	22.98	22.90	23.24	23.50	
1			74	23.08	23.26	23.30	23.50	
36			0	23.00	22.13	22.49	23.50	
36			18	22.98	22.20	22.39	23.50	
36			39	23.05	22.37	22.61	23.50	
75			0	22.03	22.20	22.63	23.50	
16QAM		1	0	22.15	22.15	22.37	23.50	
		1	38	22.17	22.06	22.41	23.50	
		1	74	22.37	22.42	22.66	23.50	



		36	0	21.25	21.13	21.38	22.50
		36	18	20.84	20.86	21.50	22.50
		36	39	20.86	20.90	21.49	22.50
		75	0	20.94	20.82	21.49	22.50
	64QAM	1	0	20.91	21.02	21.02	22.50
		1	38	20.91	20.99	20.98	22.50
		1	74	21.05	20.97	21.01	22.50
		36	0	19.94	20.04	20.08	21.50
		36	18	20.05	20.06	20.04	21.50
		36	39	20.08	20.11	20.06	21.50
		75	0	20.01	20.07	20.00	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	23.00	22.81	23.18	23.50
		1	50	22.97	22.86	23.22	23.50
		1	99	23.06	23.25	23.27	23.50
		50	0	22.97	22.08	22.45	23.50
		50	25	22.96	22.16	22.36	23.50
		50	50	23.02	22.32	22.57	23.50
		100	0	22.00	22.15	22.59	23.50
	16QAM	1	0	22.29	22.11	22.32	23.50
		1	50	22.13	22.04	22.37	23.50
		1	99	22.35	22.39	22.64	23.50
		50	0	21.22	21.09	21.35	22.50
		50	25	20.81	20.84	21.47	22.50
		50	50	20.83	20.85	21.45	22.50
		100	0	20.92	20.78	21.46	22.50
	64QAM	1	0	20.89	20.98	20.97	22.50
		1	50	20.87	20.97	20.94	22.50
		1	99	20.99	20.91	20.95	22.50
		50	0	19.89	19.96	20.01	21.50
		50	25	20.01	20.02	19.98	21.50
		50	50	20.05	20.06	20.02	21.50
		100	0	19.99	20.03	19.97	21.50

LTE FDD Band 7 (Receiver off+sensor D1/2+WiFi connect /P2P) (Receiver on+Hotspot) (Receiver off+sensor D3/7+Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				5MHz	QPSK	1	0



		1	13	18.55	18.42	18.64	20.00	
		1	24	18.86	18.75	18.79	20.00	
		12	0	18.52	18.58	18.76	20.00	
		12	6	18.58	18.56	18.81	20.00	
		12	13	18.72	18.60	18.92	20.00	
		25	0	18.66	18.64	18.84	20.00	
	16QAM	1	0	18.59	18.65	18.91	20.00	
		1	13	18.57	18.48	18.83	20.00	
		1	24	18.83	18.75	19.14	20.00	
		12	0	18.41	18.47	18.73	20.00	
		12	6	18.29	18.59	18.69	20.00	
		12	13	18.55	18.49	18.70	20.00	
	64QAM	25	0	18.61	18.50	18.87	20.00	
		1	0	18.55	18.71	18.73	20.00	
		1	13	18.56	18.76	18.76	20.00	
		1	24	18.43	18.80	18.69	20.00	
		12	0	18.41	18.60	18.66	20.00	
		12	6	18.36	18.59	18.62	20.00	
	<b>10MHz</b>	QPSK	12	13	18.31	18.56	18.56	20.00
			25	0	18.42	18.52	18.52	20.00
			1	0	18.83	18.76	18.74	20.00
1			25	18.58	18.47	18.68	20.00	
1			49	18.88	18.79	18.82	20.00	
25			0	18.55	18.63	18.80	20.00	
16QAM		25	13	18.61	18.61	18.85	20.00	
		25	25	18.74	18.64	18.97	20.00	
		50	0	18.70	18.66	18.88	20.00	
		1	0	18.61	18.68	18.93	20.00	
		1	25	18.60	18.52	18.86	20.00	
		1	49	18.86	18.77	19.17	20.00	
64QAM		25	0	18.44	18.52	18.77	20.00	
		25	13	18.31	18.63	18.72	20.00	
		25	25	18.58	18.54	18.74	20.00	
		50	0	18.64	18.55	18.91	20.00	
		1	0	18.57	18.70	18.75	20.00	
		1	25	18.59	18.76	18.79	20.00	
			1	49	18.42	18.82	18.72	20.00
			25	0	18.44	18.65	18.66	20.00
			25	13	18.38	18.63	18.65	20.00
	25		25	18.34	18.61	18.60	20.00	
	50		0	18.45	18.57	18.56	20.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20800/2505	21100/2535	21400/2565		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	18.82	18.72	18.72	20.00
		1	38	18.56	18.46	18.65	20.00
		1	74	18.85	18.74	18.78	20.00
		36	0	18.53	18.59	18.77	20.00
		36	18	18.58	18.56	18.81	20.00
		36	39	18.71	18.61	18.93	20.00
		75	0	18.68	18.62	18.83	20.00
	16QAM	1	0	18.56	18.66	18.91	20.00
		1	38	18.58	18.49	18.84	20.00
		1	74	18.83	18.73	19.14	20.00
		36	0	18.41	18.50	18.74	20.00
		36	18	18.28	18.58	18.68	20.00
		36	39	18.56	18.50	18.71	20.00
		75	0	18.61	18.50	18.87	20.00
	64QAM	1	0	18.52	18.68	18.73	20.00
		1	38	18.57	18.73	18.77	20.00
		1	74	18.43	18.81	18.73	20.00
		36	0	18.43	18.67	18.67	20.00
		36	18	18.36	18.60	18.64	20.00
		36	39	18.32	18.57	18.57	20.00
		75	0	18.42	18.52	18.52	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	18.79	18.68	18.69	20.00
		1	50	18.55	18.42	18.63	20.00
		1	99	18.83	18.73	18.75	20.00
		50	0	18.50	18.54	18.73	20.00
		50	25	18.56	18.52	18.78	20.00
		50	50	18.68	18.56	18.89	20.00
		100	0	18.65	18.57	18.79	20.00
	16QAM	1	0	18.66	18.62	18.86	20.00
		1	50	18.54	18.47	18.80	20.00
		1	99	18.81	18.70	19.12	20.00
		50	0	18.38	18.46	18.71	20.00
		50	25	18.25	18.56	18.65	20.00
		50	50	18.53	18.45	18.67	20.00
		100	0	18.59	18.46	18.84	20.00
	64QAM	1	0	18.50	18.64	18.68	20.00
		1	50	18.53	18.71	18.73	20.00
		1	99	18.37	18.75	18.67	20.00
		50	0	18.38	18.59	18.60	20.00



		50	25	18.32	18.56	18.58	20.00
		50	50	18.29	18.52	18.53	20.00
		100	0	18.40	18.48	18.49	20.00

LTE FDD Band 7 (Receiver off+sensor D1/2+Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	15.70	15.74	15.63	16.50
		1	13	15.64	15.58	15.61	16.50
		1	24	15.77	15.66	15.86	16.50
		12	0	15.67	15.69	15.57	16.50
		12	6	15.78	15.65	15.68	16.50
		12	13	15.75	15.61	15.72	16.50
		25	0	15.74	15.65	15.68	16.50
	16QAM	1	0	16.02	15.75	15.50	16.50
		1	13	16.00	15.83	15.99	16.50
		1	24	15.91	15.99	15.50	16.50
		12	0	15.73	15.58	15.58	16.50
		12	6	15.72	15.58	15.61	16.50
		12	13	15.64	15.70	15.66	16.50
		25	0	15.69	15.63	15.63	16.50
	64QAM	1	0	15.81	15.81	15.50	16.50
		1	13	15.75	15.78	15.51	16.50
		1	24	15.90	15.82	15.73	16.50
		12	0	15.73	15.59	15.61	16.50
		12	6	15.72	15.50	15.63	16.50
		12	13	15.72	15.61	15.71	16.50
		25	0	15.69	15.58	15.59	16.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	15.72	15.75	15.66	16.50
		1	25	15.67	15.63	15.65	16.50
		1	49	15.79	15.70	15.89	16.50
		25	0	15.70	15.74	15.61	16.50
		25	13	15.81	15.70	15.72	16.50
		25	25	15.77	15.65	15.77	16.50
		50	0	15.78	15.67	15.72	16.50
	16QAM	1	0	16.04	15.78	15.52	16.50
		1	25	16.03	15.87	16.02	16.50
		1	49	15.94	16.01	15.53	16.50
		25	0	15.76	15.63	15.62	16.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
	64QAM	25	13	15.74	15.62	15.64	16.50
		25	25	15.67	15.75	15.70	16.50
		50	0	15.72	15.68	15.67	16.50
		1	0	15.83	15.80	15.52	16.50
		1	25	15.78	15.78	15.54	16.50
		1	49	15.89	15.84	15.76	16.50
		25	0	15.76	15.64	15.61	16.50
		25	13	15.74	15.54	15.66	16.50
		25	25	15.75	15.66	15.75	16.50
		50	0	15.72	15.63	15.63	16.50
15MHz	QPSK	1	0	15.71	15.71	15.64	16.50
		1	38	15.65	15.62	15.62	16.50
		1	74	15.76	15.65	15.85	16.50
		36	0	15.68	15.70	15.58	16.50
		36	18	15.78	15.65	15.68	16.50
		36	39	15.74	15.62	15.73	16.50
		75	0	15.76	15.63	15.67	16.50
	16QAM	1	0	15.99	15.76	15.50	16.50
		1	38	16.01	15.84	16.00	16.50
		1	74	15.91	15.97	15.50	16.50
		36	0	15.73	15.61	15.59	16.50
		36	18	15.71	15.57	15.60	16.50
		36	39	15.65	15.71	15.67	16.50
		75	0	15.69	15.63	15.63	16.50
	64QAM	1	0	15.78	15.78	15.50	16.50
		1	38	15.76	15.75	15.52	16.50
		1	74	15.90	15.83	15.77	16.50
		36	0	15.75	15.66	15.62	16.50
		36	18	15.72	15.51	15.65	16.50
		36	39	15.73	15.62	15.72	16.50
		75	0	15.69	15.58	15.59	16.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	15.68	15.67	15.61	16.50
		1	50	15.64	15.58	15.60	16.50
		1	99	15.74	15.64	15.82	16.50
		50	0	15.65	15.65	15.54	16.50
		50	25	15.76	15.61	15.65	16.50
		50	50	15.71	15.57	15.69	16.50
		100	0	15.73	15.58	15.63	16.50
	16QAM	1	0	15.83	15.72	15.45	16.50





		1	50	15.97	15.82	15.96	16.50
		1	99	15.89	15.94	15.48	16.50
		50	0	15.70	15.57	15.56	16.50
		50	25	15.68	15.55	15.57	16.50
		50	50	15.62	15.66	15.63	16.50
		100	0	15.67	15.59	15.60	16.50
	64QAM	1	0	15.76	15.74	15.45	16.50
		1	50	15.72	15.73	15.48	16.50
		1	99	15.84	15.77	15.71	16.50
		50	0	15.70	15.58	15.55	16.50
		50	25	15.68	15.47	15.59	16.50
		50	50	15.70	15.57	15.68	16.50
		100	0	15.67	15.54	15.56	16.50

LTE FDD Band 12				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	23.57	23.49	23.53	25.00
		1	2	23.67	23.51	23.72	25.00
		1	5	23.74	23.85	23.85	25.00
		3	0	23.46	23.54	23.60	25.00
		3	2	23.35	23.53	23.52	25.00
		3	3	23.53	23.60	23.81	25.00
		6	0	22.55	22.58	22.76	24.00
	16QAM	1	0	22.89	22.97	22.93	24.00
		1	2	22.87	22.89	22.68	24.00
		1	5	22.79	22.96	22.75	24.00
		3	0	22.62	22.46	22.62	24.00
		3	2	22.57	22.65	22.62	24.00
		3	3	22.53	22.72	22.68	24.00
		6	0	21.55	21.40	21.61	23.00
	64QAM	1	0	21.58	21.62	22.55	23.00
		1	2	21.59	21.52	21.50	23.00
		1	5	21.58	21.64	21.51	23.00
		3	0	21.96	21.51	21.45	23.00
		3	2	21.96	21.93	21.93	23.00
		3	3	21.75	21.83	21.55	23.00
		6	0	20.59	20.67	20.61	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	23.59	23.53	23.56	25.00
		1	7	23.65	23.54	23.76	25.00



		1	14	23.77	23.90	23.89	25.00	
		8	0	22.56	22.66	22.73	24.00	
		8	4	22.47	22.63	22.64	24.00	
		8	7	22.63	22.71	22.91	24.00	
		15	0	22.55	22.62	22.79	24.00	
	16QAM	1	0	22.92	22.99	22.96	24.00	
		1	7	22.90	22.89	22.64	24.00	
		1	14	22.81	23.00	22.71	24.00	
		8	0	21.49	21.59	21.74	23.00	
		8	4	21.50	21.78	21.74	23.00	
		8	7	21.63	21.84	21.81	23.00	
		15	0	21.58	21.44	21.64	23.00	
	64QAM	1	0	21.61	22.64	22.58	23.00	
		1	7	21.62	22.52	21.52	23.00	
		1	14	21.60	21.63	21.54	23.00	
		8	0	21.07	20.55	21.57	22.00	
		8	4	21.07	21.06	21.05	22.00	
		8	7	21.03	20.95	20.53	22.00	
		15	0	21.06	21.04	20.58	22.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	23.56	23.51	23.52	25.00	
		1	13	23.63	23.50	23.73	25.00	
		1	24	23.74	23.85	23.85	25.00	
		12	0	22.53	22.61	22.69	24.00	
		12	6	22.45	22.59	22.59	24.00	
		12	13	22.61	22.69	22.87	24.00	
		25	0	22.55	22.61	22.77	24.00	
	16QAM	1	0	22.89	22.95	22.93	24.00	
		1	13	22.87	22.87	22.62	24.00	
		1	24	22.78	22.98	22.70	24.00	
		12	0	21.47	21.55	21.71	23.00	
		12	6	21.47	21.73	21.70	23.00	
		12	13	21.60	21.79	21.77	23.00	
		25	0	21.56	21.40	21.59	23.00	
	64QAM	1	0	21.58	21.64	22.55	23.00	
		1	13	21.59	21.54	21.49	23.00	
		1	24	21.61	21.61	21.50	23.00	
		12	0	21.05	20.51	21.58	22.00	
		12	6	21.04	21.01	21.01	22.00	
		12	13	21.02	20.90	20.69	22.00	
		25	0	20.98	20.98	20.54	22.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up	



				23060/704	23095/707.5	23130/711	Limit
10MHz	QPSK	1	0	23.54	23.44	23.50	25.00
		1	25	23.63	23.50	23.72	25.00
		1	49	23.71	23.83	23.81	25.00
		25	0	22.51	22.57	22.66	24.00
		25	13	22.43	22.55	22.56	24.00
		25	25	22.57	22.65	22.84	24.00
		50	0	22.54	22.54	22.72	24.00
	16QAM	1	0	22.77	22.92	22.88	24.00
		1	25	22.84	22.86	22.71	24.00
		1	49	22.76	22.93	22.72	24.00
		25	0	21.44	21.54	21.69	23.00
		25	13	21.43	21.70	21.66	23.00
		25	25	21.58	21.75	21.74	23.00
		50	0	21.54	21.36	21.56	23.00
	64QAM	1	0	21.53	21.57	21.50	23.00
		1	25	21.56	21.49	21.46	23.00
		1	49	21.55	21.56	21.48	23.00
		25	0	21.02	20.53	21.52	22.00
		25	13	21.00	20.98	20.97	22.00
		25	25	21.07	20.86	20.67	22.00
		50	0	20.95	21.05	20.58	22.00

LTE FDD Band 17				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	24.30	24.25	24.20	25.00
		1	13	24.21	24.30	24.28	25.00
		1	24	24.22	24.29	24.40	25.00
		12	0	23.12	23.20	23.23	24.00
		12	6	23.03	23.19	23.03	24.00
		12	13	23.23	23.23	23.21	24.00
		25	0	23.14	23.23	23.21	24.00
	16QAM	1	0	23.32	23.31	23.45	24.00
		1	13	23.30	23.25	23.51	24.00
		1	24	23.45	23.25	23.19	24.00
		12	0	22.13	22.16	22.12	23.00
		12	6	22.13	22.15	22.11	23.00
		12	13	22.11	22.10	22.19	23.00
		25	0	22.13	22.16	21.99	23.00
	64QAM	1	0	22.03	22.08	22.11	23.00
1		13	22.02	22.08	22.12	23.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23780/709	23790/710	23800/711		
10MHz	QPSK	1	24	22.10	22.17	22.12	23.00	
		12	0	21.20	21.14	21.05	22.00	
		12	6	21.27	21.23	21.10	22.00	
		12	13	21.02	21.13	21.06	22.00	
		25	0	21.34	21.01	21.43	22.00	
	16QAM	16QAM	1	0	24.28	24.18	24.18	25.00
			1	25	24.21	24.30	24.27	25.00
			1	49	24.19	24.27	24.36	25.00
			25	0	23.10	23.16	23.20	24.00
			25	13	23.01	23.15	23.00	24.00
			25	25	23.19	23.19	23.18	24.00
			50	0	23.13	23.16	23.16	24.00
	64QAM	64QAM	1	0	23.33	23.28	23.40	24.00
			1	25	23.27	23.24	23.48	24.00
			1	49	23.43	23.20	23.17	24.00
			25	0	22.10	22.15	22.10	23.00
			25	13	22.09	22.12	22.07	23.00
			25	25	22.09	22.06	22.16	23.00
			50	0	22.11	22.12	21.96	23.00
	64QAM	64QAM	1	0	21.98	22.01	22.06	23.00
			1	25	21.99	22.03	22.09	23.00
			1	49	22.04	22.12	22.10	23.00
			25	0	21.17	21.13	20.99	22.00
			25	13	21.23	21.20	21.06	22.00
			25	25	21.00	21.09	21.03	22.00
50			0	21.32	20.97	21.40	22.00	

LTE FDD Band 26				Conducted Power(dBm)			Tune-up Limit	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				26697/814.7	26865/831.5	27033/848.3		
1.4MHz	QPSK	1	0	23.44	23.66	23.54	25.00	
		1	2	23.68	23.50	23.54	25.00	
		1	5	23.49	23.56	23.44	25.00	
		3	0	23.59	23.52	23.44	25.00	
		3	2	23.46	23.47	23.48	25.00	
		3	3	23.59	23.54	23.47	25.00	
		6	0	22.57	22.58	22.55	24.00	
	16QAM	16QAM	1	0	22.91	22.66	22.42	24.00
			1	2	22.89	22.54	23.21	24.00
			1	5	22.94	22.76	22.75	24.00



	64QAM	3	0	22.53	22.52	22.44	24.00
		3	2	22.56	22.48	22.60	24.00
		3	3	22.64	22.53	22.51	24.00
		6	0	21.60	21.62	21.57	23.00
		1	0	21.66	21.61	21.60	23.00
		1	2	21.60	21.46	21.54	23.00
		1	5	21.57	21.57	21.50	23.00
		3	0	21.40	21.45	21.28	23.00
		3	2	21.45	21.49	21.74	23.00
		3	3	21.46	21.55	21.55	23.00
6	0	20.68	20.67	20.70	22.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	23.46	23.70	23.57	25.00
		1	7	23.66	23.53	23.58	25.00
		1	14	23.52	23.61	23.48	25.00
		8	0	22.69	22.64	22.57	24.00
		8	4	22.58	22.57	22.60	24.00
		8	7	22.69	22.65	22.57	24.00
		15	0	22.57	22.62	22.58	24.00
	16QAM	1	0	22.94	22.68	22.45	24.00
		1	7	22.92	22.54	23.25	24.00
		1	14	22.96	22.80	22.78	24.00
		8	0	21.64	21.65	21.56	23.00
		8	4	21.67	21.61	21.72	23.00
		8	7	21.74	21.65	21.64	23.00
		15	0	21.63	21.66	21.60	23.00
	64QAM	1	0	21.69	21.63	21.63	23.00
		1	7	21.63	21.46	21.56	23.00
		1	14	21.59	21.56	21.53	23.00
		8	0	20.51	20.58	20.40	22.00
		8	4	20.56	20.62	20.86	22.00
		8	7	20.56	20.67	20.68	22.00
		15	0	20.71	20.71	20.73	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26715/816.5	26865/831.5	27015/846.5	
5MHz	QPSK	1	0	23.43	23.68	23.53	25.00
		1	13	23.64	23.49	23.55	25.00
		1	24	23.49	23.56	23.44	25.00
		12	0	22.66	22.59	22.53	24.00
		12	6	22.56	22.53	22.55	24.00
		12	13	22.67	22.63	22.53	24.00
		25	0	22.57	22.61	22.56	24.00



	16QAM	1	0	22.91	22.64	22.42	24.00
		1	13	22.89	22.52	23.22	24.00
		1	24	22.93	22.78	22.74	24.00
		12	0	21.62	21.61	21.53	23.00
		12	6	21.64	21.56	21.68	23.00
		12	13	21.71	21.60	21.60	23.00
		25	0	21.61	21.62	21.55	23.00
	64QAM	1	0	21.66	21.63	21.60	23.00
		1	13	21.60	21.48	21.53	23.00
		1	24	21.60	21.54	21.49	23.00
		12	0	20.49	20.54	20.41	22.00
		12	6	20.53	20.57	20.82	22.00
		12	13	20.53	20.62	20.64	22.00
		25	0	20.69	20.67	20.68	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	1	0	23.44	23.65	23.54	25.00
		1	25	23.65	23.53	23.56	25.00
		1	49	23.48	23.55	23.43	25.00
		25	0	22.67	22.60	22.54	24.00
		25	13	22.56	22.53	22.55	24.00
		25	25	22.66	22.64	22.54	24.00
		50	0	22.59	22.59	22.55	24.00
	16QAM	1	0	22.88	22.65	22.42	24.00
		1	25	22.90	22.53	23.23	24.00
		1	49	22.93	22.76	22.74	24.00
		25	0	21.62	21.64	21.54	23.00
		25	13	21.63	21.55	21.67	23.00
		25	25	21.72	21.61	21.61	23.00
		50	0	21.61	21.62	21.55	23.00
	64QAM	1	0	21.63	21.60	21.60	23.00
		1	25	21.61	21.45	21.54	23.00
		1	49	21.60	21.55	21.53	23.00
		25	0	20.51	20.61	20.42	22.00
		25	13	20.53	20.58	20.84	22.00
		25	25	20.54	20.63	20.65	22.00
		50	0	20.69	20.67	20.68	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26775/822.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	23.41	23.61	23.51	25.00
		1	38	23.64	23.49	23.54	25.00
		1	74	23.46	23.54	23.40	25.00
		36	0	22.64	22.55	22.50	24.00



		36	18	22.54	22.49	22.52	24.00	
		36	39	22.63	22.59	22.50	24.00	
		75	0	22.56	22.54	22.51	24.00	
	16QAM	1	0	22.75	22.61	22.37	24.00	
		1	38	22.86	22.51	23.19	24.00	
		1	74	22.91	22.73	22.72	24.00	
		36	0	21.59	21.60	21.51	23.00	
		36	18	21.60	21.53	21.64	23.00	
		36	39	21.69	21.56	21.57	23.00	
		75	0	21.59	21.58	21.52	23.00	
		64QAM	1	0	21.61	21.56	21.55	23.00
			1	38	21.57	21.43	21.50	23.00
	1		74	21.54	21.49	21.47	23.00	
	36		0	20.46	20.53	20.35	22.00	
	36		18	20.49	20.54	20.78	22.00	
	36		39	20.51	20.58	20.61	22.00	
	75		0	20.67	20.63	20.65	22.00	

LTE TDD Band 38 (Receiver on) (Receiver off+SAR sensor on Level D3/7)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	23.48	23.71	23.67	25.00
		1	13	23.53	23.55	23.54	25.00
		1	24	23.74	23.61	23.76	25.00
		12	0	22.90	22.65	22.83	24.00
		12	6	22.87	22.66	22.74	24.00
		12	13	22.85	22.68	22.70	24.00
		25	0	22.79	22.66	22.73	24.00
	16QAM	1	0	22.78	22.79	22.90	24.00
		1	13	22.76	22.74	22.72	24.00
		1	24	22.90	22.75	22.91	24.00
		12	0	21.82	21.69	22.14	23.00
		12	6	21.86	21.65	21.93	23.00
		12	13	21.87	21.70	21.84	23.00
		25	0	21.78	21.67	21.80	23.00
	64QAM	1	0	21.65	21.75	21.75	23.00
		1	13	21.70	21.70	21.87	23.00
		1	24	21.77	21.90	21.84	23.00
		12	0	20.86	20.85	20.73	22.00
		12	6	20.97	20.82	20.76	22.00
		12	13	20.85	20.85	20.66	22.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
				25	0	20.88	
10MHz	QPSK	1	0	23.50	23.72	23.70	25.00
		1	25	23.56	23.60	23.58	25.00
		1	49	23.76	23.65	23.79	25.00
		25	0	22.93	22.70	22.87	24.00
		25	13	22.90	22.71	22.78	24.00
		25	25	22.87	22.72	22.75	24.00
		50	0	22.83	22.68	22.77	24.00
	16QAM	1	0	22.80	22.82	22.92	24.00
		1	25	22.79	22.78	22.75	24.00
		1	49	22.93	22.77	22.94	24.00
		25	0	21.85	21.74	22.18	23.00
		25	13	21.88	21.69	21.96	23.00
		25	25	21.90	21.75	21.88	23.00
		50	0	21.81	21.72	21.84	23.00
	64QAM	1	0	21.67	21.74	21.77	23.00
		1	25	21.73	21.70	21.90	23.00
		1	49	21.76	21.92	21.87	23.00
		25	0	20.89	20.90	20.73	22.00
		25	13	20.99	20.86	20.79	22.00
		25	25	20.88	20.90	20.70	22.00
		50	0	20.91	20.89	20.89	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
				25	0	20.88	
15MHz	QPSK	1	0	23.49	23.68	23.68	25.00
		1	38	23.54	23.59	23.55	25.00
		1	74	23.73	23.60	23.75	25.00
		36	0	22.91	22.66	22.84	24.00
		36	18	22.87	22.66	22.74	24.00
		36	39	22.84	22.69	22.71	24.00
		75	0	22.81	22.64	22.72	24.00
	16QAM	1	0	22.75	22.80	22.90	24.00
		1	38	22.77	22.75	22.73	24.00
		1	74	22.90	22.73	22.91	24.00
		36	0	21.82	21.72	22.15	23.00
		36	18	21.85	21.64	21.92	23.00
		36	39	21.88	21.71	21.85	23.00
		75	0	21.78	21.67	21.80	23.00
	64QAM	1	0	21.62	21.72	21.75	23.00
		1	38	21.71	21.67	21.88	23.00
		1	74	21.77	21.91	21.88	23.00





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	36	0	20.88	20.92	20.74	22.00
		36	18	20.97	20.83	20.78	22.00
		36	39	20.86	20.86	20.67	22.00
		75	0	20.88	20.84	20.85	22.00
	16QAM	1	0	23.46	23.64	23.65	25.00
		1	50	23.53	23.55	23.53	25.00
		1	99	23.71	23.59	23.72	25.00
		50	0	22.88	22.61	22.80	24.00
		50	25	22.85	22.62	22.71	24.00
		50	50	22.81	22.64	22.67	24.00
		100	0	22.78	22.59	22.68	24.00
	64QAM	1	0	22.72	22.76	22.85	24.00
		1	50	22.73	22.73	22.69	24.00
		1	99	22.88	22.70	22.89	24.00
		50	0	21.79	21.68	22.12	23.00
		50	25	21.82	21.62	21.89	23.00
		50	50	21.85	21.66	21.81	23.00
		100	0	21.76	21.63	21.77	23.00
	64QAM	1	0	21.60	21.68	21.70	23.00
		1	50	21.67	21.65	21.84	23.00
		1	99	21.71	21.85	21.82	23.00
		50	0	20.83	20.84	20.67	22.00
		50	25	20.93	20.79	20.72	22.00
		50	50	20.83	20.81	20.63	22.00
		100	0	20.86	20.80	20.82	22.00

LTE TDD Band 38 (Receiver off+SAR sensor on Level D1/2)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	23.12	23.02	22.96	24.00
		1	13	23.13	22.87	22.93	24.00
		1	24	23.29	22.95	23.09	24.00
		12	0	23.20	22.98	23.11	24.00
		12	6	23.18	23.04	22.94	24.00
		12	13	23.16	23.11	22.98	24.00
		25	0	23.29	23.02	23.08	24.00
	16QAM	1	0	23.01	22.93	22.99	24.00
		1	13	22.99	22.94	23.14	24.00
		1	24	23.36	22.26	23.14	24.00
		12	0	22.02	22.06	22.15	23.00



		12	6	22.06	22.12	22.15	23.00
		12	13	22.17	22.04	22.01	23.00
		25	0	22.16	22.00	21.85	23.00
	64QAM	1	0	21.92	21.87	21.95	23.00
		1	13	21.93	21.89	21.90	23.00
		1	24	21.97	21.97	21.94	23.00
		12	0	20.76	20.91	20.88	22.00
		12	6	20.79	20.92	20.88	22.00
		12	13	20.87	20.87	20.82	22.00
25	0	20.81	20.88	20.89	22.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	23.14	23.03	22.99	24.00
		1	25	23.16	22.92	22.97	24.00
		1	49	23.31	22.99	23.12	24.00
		25	0	23.23	23.03	23.15	24.00
		25	13	23.21	23.09	22.98	24.00
		25	25	23.18	23.15	23.03	24.00
		50	0	23.33	23.04	23.12	24.00
	16QAM	1	0	23.03	22.96	23.01	24.00
		1	25	23.02	22.98	23.17	24.00
		1	49	23.39	22.28	23.17	24.00
		25	0	22.05	22.11	22.19	23.00
		25	13	22.08	22.16	22.18	23.00
		25	25	22.20	22.09	22.05	23.00
		50	0	22.19	22.05	21.89	23.00
	64QAM	1	0	21.94	21.86	21.97	23.00
		1	25	21.96	21.89	21.93	23.00
		1	49	21.96	21.99	21.97	23.00
		25	0	20.79	20.96	20.88	22.00
		25	13	20.81	20.96	20.91	22.00
		25	25	20.90	20.92	20.86	22.00
		50	0	20.84	20.93	20.93	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	23.13	22.99	22.97	24.00
		1	38	23.14	22.91	22.94	24.00
		1	74	23.28	22.94	23.08	24.00
		36	0	23.21	22.99	23.12	24.00
		36	18	23.18	23.04	22.94	24.00
		36	39	23.15	23.12	22.99	24.00
		75	0	23.31	23.00	23.07	24.00
	16QAM	1	0	22.98	22.94	22.99	24.00



		1	38	23.00	22.95	23.15	24.00
		1	74	23.36	22.24	23.14	24.00
		36	0	22.02	22.09	22.16	23.00
		36	18	22.05	22.11	22.14	23.00
		36	39	22.18	22.05	22.02	23.00
		75	0	22.16	22.00	21.85	23.00
		75	0	22.16	22.00	21.85	23.00
	64QAM	1	0	21.89	21.84	21.95	23.00
		1	38	21.94	21.86	21.91	23.00
		1	74	21.97	21.98	21.98	23.00
		36	0	20.78	20.98	20.89	22.00
		36	18	20.79	20.93	20.90	22.00
		36	39	20.88	20.88	20.83	22.00
		75	0	20.81	20.88	20.89	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	23.10	22.95	22.94	24.00
		1	50	23.13	22.87	22.92	24.00
		1	99	23.26	22.93	23.05	24.00
		50	0	23.18	22.94	23.08	24.00
		50	25	23.16	23.00	22.91	24.00
		50	50	23.12	23.07	22.95	24.00
		100	0	23.28	22.95	23.03	24.00
	16QAM	1	0	22.98	22.90	22.94	24.00
		1	50	22.96	22.93	23.11	24.00
		1	99	23.34	22.21	23.12	24.00
		50	0	21.99	22.05	22.13	23.00
		50	25	22.02	22.09	22.11	23.00
		50	50	22.15	22.00	21.98	23.00
		100	0	22.14	21.96	21.82	23.00
	64QAM	1	0	21.87	21.80	21.90	23.00
		1	50	21.90	21.84	21.87	23.00
		1	99	21.91	21.92	21.92	23.00
		50	0	20.73	20.90	20.82	22.00
		50	25	20.75	20.89	20.84	22.00
		50	50	20.85	20.83	20.79	22.00
		100	0	20.79	20.84	20.86	22.00

LTE TDD Band 38 (Receiver on+WiFi connect/P2P) (Receiver off+sensor D3/7+WiFi connect/P2P)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				5MHz	QPSK	1	0



		1	13	22.39	22.34	22.35	23.50	
		1	24	22.57	22.29	22.47	23.50	
		12	0	22.63	22.57	22.47	23.50	
		12	6	22.62	22.54	22.23	23.50	
		12	13	22.67	22.53	22.43	23.50	
		25	0	22.68	22.55	22.42	23.50	
	16QAM	1	0	22.52	22.46	22.41	23.50	
		1	13	22.50	22.36	22.70	23.50	
		1	24	22.55	22.38	22.77	23.50	
		12	0	22.51	22.16	22.05	23.00	
		12	6	22.41	22.06	22.02	23.00	
		12	13	22.14	22.06	21.99	23.00	
	64QAM	25	0	22.15	22.11	21.96	23.00	
		1	0	22.14	22.27	22.31	23.00	
		1	13	22.15	22.23	22.33	23.00	
		1	24	22.30	22.29	22.30	23.00	
		12	0	20.70	20.89	20.95	22.00	
		12	6	20.79	20.82	20.91	22.00	
	10MHz	QPSK	12	13	20.82	20.82	20.94	22.00
			25	0	20.95	20.94	21.01	22.00
			1	0	22.47	22.49	22.38	23.50
1			25	22.42	22.39	22.39	23.50	
1			49	22.59	22.33	22.50	23.50	
25			0	22.66	22.62	22.51	23.50	
25			13	22.65	22.59	22.27	23.50	
16QAM		25	25	22.69	22.57	22.48	23.50	
	50	0	22.72	22.57	22.46	23.50		
	1	0	22.54	22.49	22.43	23.50		
	1	25	22.53	22.40	22.73	23.50		
	1	49	22.58	22.40	22.80	23.50		
	25	0	22.54	22.21	22.09	23.00		
	25	13	22.43	22.10	22.05	23.00		
64QAM	25	25	22.17	22.11	22.03	23.00		
	50	0	22.18	22.16	22.00	23.00		
	1	0	22.16	22.26	22.33	23.00		
	1	25	22.18	22.23	22.36	23.00		
	1	49	22.29	22.31	22.33	23.00		
	25	0	20.73	20.94	20.95	22.00		
	25	13	20.81	20.86	20.94	22.00		
		25	25	20.85	20.87	20.98	22.00	
		50	0	20.98	20.99	21.05	22.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				37800/2575	38000/2595	38200/2615		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	22.46	22.45	22.36	23.50
		1	38	22.40	22.38	22.36	23.50
		1	74	22.56	22.28	22.46	23.50
		36	0	22.64	22.58	22.48	23.50
		36	18	22.62	22.54	22.23	23.50
		36	39	22.66	22.54	22.44	23.50
		75	0	22.70	22.53	22.41	23.50
	16QAM	1	0	22.49	22.47	22.41	23.50
		1	38	22.51	22.37	22.71	23.50
		1	74	22.55	22.36	22.77	23.50
		36	0	22.51	22.19	22.06	23.00
		36	18	22.40	22.05	22.01	23.00
		36	39	22.15	22.07	22.00	23.00
		75	0	22.15	22.11	21.96	23.00
	64QAM	1	0	22.11	22.24	22.31	23.00
		1	38	22.16	22.20	22.34	23.00
		1	74	22.30	22.30	22.34	23.00
		36	0	20.72	20.96	20.96	22.00
		36	18	20.79	20.83	20.93	22.00
		36	39	20.83	20.83	20.95	22.00
		75	0	20.95	20.94	21.01	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	22.43	22.41	22.33	23.50
		1	50	22.39	22.34	22.34	23.50
		1	99	22.54	22.27	22.43	23.50
		50	0	22.61	22.53	22.44	23.50
		50	25	22.60	22.50	22.20	23.50
		50	50	22.63	22.49	22.40	23.50
		100	0	22.67	22.48	22.37	23.50
	16QAM	1	0	22.40	22.43	22.36	23.50
		1	50	22.47	22.35	22.67	23.50
		1	99	22.53	22.33	22.75	23.50
		50	0	22.48	22.15	22.03	23.00
		50	25	22.37	22.03	21.98	23.00
		50	50	22.12	22.02	21.96	23.00
		100	0	22.13	22.07	21.93	23.00
	64QAM	1	0	22.09	22.20	22.26	23.00
		1	50	22.12	22.18	22.30	23.00
		1	99	22.24	22.24	22.28	23.00
		50	0	20.67	20.88	20.89	22.00



		50	25	20.75	20.79	20.87	22.00
		50	50	20.80	20.78	20.91	22.00
		100	0	20.93	20.90	20.98	22.00

LTE TDD Band 38 (Receiver off+sensor D1/2+WiFi connect/P2P)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	21.50	21.62	21.39	22.50
		1	13	21.60	21.43	21.32	22.50
		1	24	21.80	21.49	21.57	22.50
		12	0	21.54	21.56	21.44	22.50
		12	6	21.53	21.54	21.36	22.50
		12	13	21.66	21.42	21.45	22.50
		25	0	21.57	21.50	21.35	22.50
	16QAM	1	0	21.83	21.40	21.39	22.50
		1	13	21.81	21.22	21.48	22.50
		1	24	21.98	21.41	21.58	22.50
		12	0	21.71	21.35	21.43	22.50
		12	6	21.57	21.49	21.24	22.50
		12	13	21.45	21.54	21.28	22.50
		25	0	21.54	21.66	21.63	22.50
	64QAM	1	0	21.70	21.74	21.75	22.50
		1	13	21.65	21.69	21.74	22.50
		1	24	21.65	21.68	21.58	22.50
		12	0	21.06	21.13	21.07	22.00
		12	6	21.11	21.09	20.02	22.00
		12	13	21.07	21.04	19.03	22.00
		25	0	19.86	19.89	19.90	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	21.52	21.63	21.42	22.50
		1	25	21.63	21.48	21.36	22.50
		1	49	21.82	21.53	21.60	22.50
		25	0	21.57	21.61	21.48	22.50
		25	13	21.56	21.59	21.40	22.50
		25	25	21.68	21.46	21.50	22.50
		50	0	21.61	21.52	21.39	22.50
	16QAM	1	0	21.85	21.43	21.41	22.50
		1	25	21.84	21.26	21.51	22.50
		1	49	22.01	21.43	21.61	22.50
		25	0	21.74	21.40	21.47	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				37825/2577.5	38000/2595	38175/2612.5		
	64QAM	25	13	21.59	21.53	21.27	22.50	
		25	25	21.48	21.59	21.32	22.50	
		50	0	21.57	21.71	21.67	22.50	
		1	0	21.72	21.73	21.77	22.50	
		1	25	21.68	21.69	21.77	22.50	
		1	49	21.64	21.70	21.61	22.50	
		25	0	21.09	21.18	21.07	22.00	
		25	13	21.13	21.13	20.05	22.00	
		25	25	21.10	21.09	19.07	22.00	
		50	0	19.89	19.94	19.94	22.00	
15MHz	QPSK	1	0	21.51	21.59	21.40	22.50	
		1	38	21.61	21.47	21.33	22.50	
		1	74	21.79	21.48	21.56	22.50	
		36	0	21.55	21.57	21.45	22.50	
		36	18	21.53	21.54	21.36	22.50	
		36	39	21.65	21.43	21.46	22.50	
		75	0	21.59	21.48	21.34	22.50	
	16QAM	1	0	21.80	21.41	21.39	22.50	
		1	38	21.82	21.23	21.49	22.50	
		1	74	21.98	21.39	21.58	22.50	
		36	0	21.71	21.38	21.44	22.50	
		36	18	21.56	21.48	21.23	22.50	
		36	39	21.46	21.55	21.29	22.50	
		75	0	21.54	21.66	21.63	22.50	
	64QAM	1	0	21.67	21.71	21.75	22.50	
		1	38	21.66	21.66	21.75	22.50	
		1	74	21.65	21.69	21.62	22.50	
		36	0	21.08	21.20	21.08	22.00	
		36	18	21.11	21.10	20.04	22.00	
		36	39	21.08	21.05	19.04	22.00	
		75	0	19.86	19.89	19.90	22.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					37850/2580	38000/2595	38150/2610	
	20MHz	QPSK	1	0	21.48	21.55	21.37	22.50
1			50	21.60	21.43	21.31	22.50	
1			99	21.77	21.47	21.53	22.50	
50			0	21.52	21.52	21.41	22.50	
50			25	21.51	21.50	21.33	22.50	
50			50	21.62	21.38	21.42	22.50	
100			0	21.56	21.43	21.30	22.50	
16QAM		1	0	21.81	21.37	21.34	22.50	



		1	50	21.78	21.21	21.45	22.50
		1	99	21.96	21.36	21.56	22.50
		50	0	21.68	21.34	21.41	22.50
		50	25	21.53	21.46	21.20	22.50
		50	50	21.43	21.50	21.25	22.50
		100	0	21.52	21.62	21.60	22.50
	64QAM	1	0	21.65	21.67	21.70	22.50
		1	50	21.62	21.64	21.71	22.50
		1	99	21.59	21.63	21.56	22.50
		50	0	21.03	21.12	21.01	22.00
		50	25	21.07	21.06	19.98	22.00
		50	50	21.05	21.00	19.00	22.00
		100	0	19.84	19.85	19.87	22.00

LTE TDD Band 38 (Receiver on+Hotspot) (Receiver off+sensor D3/7+Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	20.34	20.53	20.29	21.50
		1	13	20.29	20.47	20.28	21.50
		1	24	20.46	20.54	20.44	21.50
		12	0	20.52	20.61	20.50	21.50
		12	6	20.58	20.58	20.48	21.50
		12	13	20.69	20.57	20.45	21.50
		25	0	20.60	20.56	20.42	21.50
	16QAM	1	0	20.57	20.66	20.44	21.50
		1	13	20.55	20.72	20.38	21.50
		1	24	20.59	20.75	20.47	21.50
		12	0	20.69	20.65	20.40	21.50
		12	6	20.67	20.62	20.39	21.50
		12	13	20.58	20.56	20.37	21.50
		25	0	20.60	20.47	20.41	21.50
	64QAM	1	0	20.68	20.75	20.73	21.50
		1	13	20.63	20.93	20.79	21.50
		1	24	20.90	21.00	20.72	21.50
		12	0	20.85	20.79	20.72	21.50
		12	6	20.81	20.78	20.67	21.50
		12	13	20.75	20.09	20.57	21.50
		25	0	20.72	20.78	20.80	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
10MHz	QPSK	1	0	37800/2575	38000/2595	38200/2615	





		1	25	20.30	20.48	20.29	21.50	
		1	49	20.45	20.53	20.43	21.50	
		25	0	20.52	20.61	20.50	21.50	
		25	13	20.59	20.59	20.47	21.50	
		25	25	20.69	20.59	20.46	21.50	
		50	0	20.64	20.57	20.44	21.50	
	16QAM	1	0	20.56	20.65	20.43	21.50	
		1	25	20.55	20.74	20.38	21.50	
		1	49	20.59	20.75	20.46	21.50	
		25	0	20.70	20.66	20.41	21.50	
		25	13	20.66	20.61	20.38	21.50	
		25	25	20.58	20.56	20.37	21.50	
	64QAM	50	0	20.61	20.48	20.40	21.50	
		1	0	20.67	20.74	20.72	21.50	
		1	25	20.63	20.95	20.79	21.50	
		1	49	20.90	21.00	20.71	21.50	
		25	0	20.86	20.80	20.73	21.50	
		25	13	20.80	20.77	20.66	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					37825/2577.5	38000/2595	38175/2612.5	
	15MHz	QPSK	1	0	20.32	20.48	20.26	21.50
1			38	20.28	20.47	20.26	21.50	
1			74	20.42	20.48	20.39	21.50	
36			0	20.50	20.57	20.47	21.50	
36			18	20.56	20.54	20.43	21.50	
36			39	20.66	20.56	20.42	21.50	
75			0	20.62	20.53	20.39	21.50	
16QAM		1	0	20.51	20.63	20.41	21.50	
		1	38	20.53	20.71	20.36	21.50	
		1	74	20.56	20.71	20.43	21.50	
		36	0	20.67	20.64	20.38	21.50	
		36	18	20.63	20.56	20.34	21.50	
		36	39	20.56	20.52	20.34	21.50	
		75	0	20.58	20.43	20.36	21.50	
64QAM		1	0	20.62	20.72	20.70	21.50	
		1	38	20.61	20.92	20.77	21.50	
		1	74	20.91	20.99	20.72	21.50	
		36	0	20.85	20.82	20.74	21.50	
		36	18	20.78	20.74	20.65	21.50	
		36	39	20.73	20.05	20.54	21.50	
		75	0	20.70	20.74	20.75	21.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	20.29	20.44	20.23	21.50
		1	50	20.27	20.43	20.24	21.50
		1	99	20.40	20.47	20.36	21.50
		50	0	20.47	20.52	20.43	21.50
		50	25	20.54	20.50	20.40	21.50
		50	50	20.63	20.51	20.38	21.50
		100	0	20.59	20.48	20.35	21.50
	16QAM	1	0	20.61	20.59	20.36	21.50
		1	50	20.49	20.69	20.32	21.50
		1	99	20.54	20.68	20.41	21.50
		50	0	20.64	20.60	20.35	21.50
		50	25	20.60	20.54	20.31	21.50
		50	50	20.53	20.47	20.30	21.50
		100	0	20.56	20.39	20.33	21.50
	64QAM	1	0	20.60	20.68	20.65	21.50
		1	50	20.57	20.90	20.73	21.50
		1	99	20.85	20.93	20.66	21.50
		50	0	20.80	20.74	20.67	21.50
		50	25	20.74	20.70	20.59	21.50
		50	50	20.70	20.00	20.50	21.50
		100	0	20.68	20.70	20.72	21.50

LTE TDD Band 38 (Receiver off+sensor D1/2+Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	19.51	19.48	19.31	20.50
		1	13	19.42	19.27	19.18	20.50
		1	24	19.81	19.50	19.40	20.50
		12	0	19.57	19.43	19.37	20.50
		12	6	19.48	19.30	19.46	20.50
		12	13	19.69	19.49	19.47	20.50
		25	0	19.67	19.47	19.56	20.50
	16QAM	1	0	19.85	19.46	19.31	20.50
		1	13	19.83	19.31	19.32	20.50
		1	24	19.89	19.51	19.33	20.50
		12	0	19.67	19.49	19.40	20.50
		12	6	19.75	19.44	19.49	20.50
		12	13	19.70	19.61	19.54	20.50
		25	0	19.67	19.68	19.60	20.50
	64QAM	1	0	19.64	19.64	19.69	20.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				37800/2575	38000/2595	38200/2615		
		1	13	19.63	19.43	19.65	20.50	
		1	24	19.67	19.73	19.61	20.50	
		12	0	19.49	19.72	19.62	20.50	
		12	6	19.59	19.58	19.62	20.50	
		12	13	19.65	19.50	19.65	20.50	
		25	0	19.60	19.60	19.58	20.50	
10MHz	QPSK	1	0	19.53	19.49	19.34	20.50	
		1	25	19.45	19.32	19.22	20.50	
		1	49	19.83	19.54	19.43	20.50	
		25	0	19.60	19.48	19.41	20.50	
		25	13	19.51	19.35	19.50	20.50	
		25	25	19.71	19.53	19.52	20.50	
	16QAM	50	0	19.71	19.49	19.60	20.50	
		1	0	19.87	19.49	19.33	20.50	
		1	25	19.86	19.35	19.35	20.50	
		1	49	19.92	19.53	19.36	20.50	
		25	0	19.70	19.54	19.44	20.50	
		25	13	19.77	19.48	19.52	20.50	
	64QAM	25	25	19.73	19.66	19.58	20.50	
		50	0	19.70	19.73	19.64	20.50	
		1	0	19.66	19.63	19.71	20.50	
		1	25	19.66	19.43	19.68	20.50	
		1	49	19.66	19.75	19.64	20.50	
		25	0	19.52	19.77	19.62	20.50	
	15MHz	QPSK	25	13	19.61	19.62	19.65	20.50
			25	25	19.68	19.55	19.69	20.50
			50	0	19.63	19.65	19.62	20.50
1			0	19.52	19.45	19.32	20.50	
1			38	19.43	19.31	19.19	20.50	
1			74	19.80	19.49	19.39	20.50	
36			0	19.58	19.44	19.38	20.50	
16QAM		36	18	19.48	19.30	19.46	20.50	
		36	39	19.68	19.50	19.48	20.50	
		75	0	19.69	19.45	19.55	20.50	
		1	0	19.82	19.47	19.31	20.50	
		1	38	19.84	19.32	19.33	20.50	
		1	74	19.89	19.49	19.33	20.50	
		36	0	19.67	19.52	19.41	20.50	
		36	18	19.74	19.43	19.48	20.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				37850/2580	38000/2595	38150/2610		
15MHz	64QAM	36	39	19.71	19.62	19.55	20.50	
		75	0	19.67	19.68	19.60	20.50	
		1	0	19.61	19.61	19.69	20.50	
		1	38	19.64	19.40	19.66	20.50	
		1	74	19.67	19.74	19.65	20.50	
		36	0	19.51	19.79	19.63	20.50	
		36	18	19.59	19.59	19.64	20.50	
		36	39	19.66	19.51	19.66	20.50	
		75	0	19.60	19.60	19.58	20.50	
	QPSK	1	0	19.49	19.41	19.29	20.50	
		1	50	19.42	19.27	19.17	20.50	
		1	99	19.78	19.48	19.36	20.50	
		50	0	19.55	19.39	19.34	20.50	
		50	25	19.46	19.26	19.43	20.50	
		50	50	19.65	19.45	19.44	20.50	
		100	0	19.66	19.40	19.51	20.50	
		16QAM	1	0	19.63	19.43	19.26	20.50
			1	50	19.80	19.30	19.29	20.50
1	99		19.87	19.46	19.31	20.50		
50	0		19.64	19.48	19.38	20.50		
50	25		19.71	19.41	19.45	20.50		
50	50		19.68	19.57	19.51	20.50		
64QAM	100	0	19.65	19.64	19.57	20.50		
	1	0	19.59	19.57	19.64	20.50		
	1	50	19.60	19.38	19.62	20.50		
	1	99	19.61	19.68	19.59	20.50		
	50	0	19.46	19.71	19.56	20.50		
	50	25	19.55	19.55	19.58	20.50		
	50	50	19.63	19.46	19.62	20.50		
100	0	19.58	19.56	19.55	20.50			

LTE TDD Band 41 (Receiver on) (Receiver off+SAR sensor on Level D3/7)				Conducted Power(dBm)					Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					
				39675/2498.5	40148/2545.8	40620/2593	41093/2640.3	41565/2687.5	
5MHz	QPSK	1	0	24.20	24.38	24.58	24.49	24.08	25.00
		1	13	24.15	24.17	24.21	24.28	23.81	25.00
		1	24	24.31	24.52	24.37	24.56	24.09	25.00



		12	0	23.12	23.29	23.32	23.30	23.16	24.00	
		12	6	23.16	23.21	23.28	23.33	23.12	24.00	
		12	13	23.20	23.30	23.24	23.38	23.15	24.00	
		25	0	23.19	23.27	23.27	23.34	23.17	24.00	
	16QAM	1	0	23.24	23.60	23.61	23.63	23.44	24.00	
		1	13	23.22	23.50	23.39	23.55	23.24	24.00	
		1	24	23.51	23.71	23.47	23.75	23.38	24.00	
		12	0	22.09	22.19	22.19	22.26	22.18	23.00	
		12	6	22.15	22.19	22.18	22.27	22.17	23.00	
		12	13	22.15	22.23	22.13	22.32	22.18	23.00	
		25	0	22.09	22.22	22.25	22.21	22.20	23.00	
	64QAM	1	0	22.22	22.16	22.11	22.25	22.35	23.00	
		1	13	22.44	22.42	22.26	22.24	22.26	23.00	
		1	24	22.51	22.40	22.27	22.36	22.22	23.00	
		12	0	21.45	21.42	21.29	21.37	21.62	22.00	
		12	6	21.40	21.37	21.50	21.43	21.51	22.00	
		12	13	21.39	21.43	21.38	21.39	21.40	22.00	
		25	0	21.44	21.39	21.57	21.54	21.45	22.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
					39700/2501	40160/2547	40620/2593	41080/2639	41540/2685	
	10MHz	QPSK	1	0	24.22	24.39	24.61	24.50	24.11	25.00
1			25	24.18	24.22	24.25	24.33	23.85	25.00	
1			49	24.33	24.56	24.40	24.60	24.12	25.00	
25			0	23.15	23.34	23.36	23.35	23.20	24.00	
25			13	23.19	23.26	23.32	23.38	23.16	24.00	
25			25	23.22	23.34	23.29	23.42	23.20	24.00	
50			0	23.23	23.29	23.31	23.36	23.21	24.00	
16QAM		1	0	23.26	23.63	23.63	23.66	23.46	24.00	
		1	25	23.25	23.54	23.42	23.59	23.27	24.00	
		1	49	23.54	23.73	23.50	23.77	23.41	24.00	
		25	0	22.12	22.24	22.23	22.31	22.22	23.00	
		25	13	22.17	22.23	22.21	22.31	22.20	23.00	
		25	25	22.18	22.28	22.17	22.37	22.22	23.00	
		50	0	22.12	22.27	22.29	22.26	22.24	23.00	
64QAM		1	0	22.24	22.15	22.13	22.24	22.37	23.00	
		1	25	22.47	22.42	22.29	22.24	22.29	23.00	
		1	49	22.50	22.42	22.30	22.38	22.25	23.00	
		25	0	21.48	21.47	21.29	21.42	21.62	22.00	
		25	13	21.42	21.41	21.53	21.47	21.54	22.00	
		25	25	21.42	21.48	21.42	21.44	21.44	22.00	
		50	0	21.47	21.44	21.61	21.59	21.49	22.00	
Bandwidth	Modulation	RB	RB	Channel/Frequency (MHz)					Tune-up	



		size	offset	39725/ 2503.5	40173/ 2548.3	40620/ 2593	41068/ 2637.8	41515/ 2682.5	Limit
15MHz	QPSK	1	0	24.21	24.35	24.59	24.46	24.09	25.00
		1	38	24.16	24.21	24.22	24.32	23.82	25.00
		1	74	24.30	24.51	24.36	24.55	24.08	25.00
		36	0	23.13	23.30	23.33	23.31	23.17	24.00
		36	18	23.16	23.21	23.28	23.33	23.12	24.00
		36	39	23.19	23.31	23.25	23.39	23.16	24.00
		75	0	23.21	23.25	23.26	23.32	23.16	24.00
	16QAM	1	0	23.21	23.61	23.61	23.64	23.44	24.00
		1	38	23.23	23.51	23.40	23.56	23.25	24.00
		1	74	23.51	23.69	23.47	23.73	23.38	24.00
		36	0	22.09	22.22	22.20	22.29	22.19	23.00
		36	18	22.14	22.18	22.17	22.26	22.16	23.00
		36	39	22.16	22.24	22.14	22.33	22.19	23.00
		75	0	22.09	22.22	22.25	22.21	22.20	23.00
	64QAM	1	0	22.19	22.13	22.11	22.22	22.35	23.00
		1	38	22.45	22.39	22.27	22.21	22.27	23.00
		1	74	22.51	22.41	22.31	22.37	22.26	23.00
		36	0	21.47	21.49	21.30	21.44	21.63	22.00
		36	18	21.40	21.38	21.52	21.44	21.53	22.00
		36	39	21.40	21.44	21.39	21.40	21.41	22.00
		75	0	21.44	21.39	21.57	21.54	21.45	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39750/ 2506	40185/ 2549.5	40620/ 2593	41055/ 2636.5	41490/ 2680	
20MHz	QPSK	1	0	24.18	24.31	24.56	24.42	24.06	25.00
		1	50	24.15	24.17	24.20	24.28	23.80	25.00
		1	99	24.28	24.50	24.33	24.54	24.05	25.00
		50	0	23.10	23.25	23.29	23.26	23.13	24.00
		50	25	23.14	23.17	23.25	23.29	23.09	24.00
		50	50	23.16	23.26	23.21	23.34	23.12	24.00
		100	0	23.18	23.20	23.22	23.27	23.12	24.00
	16QAM	1	0	23.33	23.57	23.56	23.60	23.39	24.00
		1	50	23.19	23.49	23.36	23.54	23.21	24.00
		1	99	23.49	23.66	23.45	23.70	23.36	24.00
		50	0	22.06	22.18	22.17	22.25	22.16	23.00
		50	25	22.11	22.16	22.14	22.24	22.13	23.00
		50	50	22.13	22.19	22.10	22.28	22.15	23.00
		100	0	22.07	22.18	22.22	22.17	22.17	23.00
	64QAM	1	0	22.17	22.09	22.06	22.18	22.30	23.00
		1	50	22.41	22.37	22.23	22.19	22.23	23.00
		1	99	22.45	22.35	22.25	22.31	22.20	23.00



		50	0	21.42	21.41	21.23	21.36	21.56	22.00
		50	25	21.36	21.34	21.46	21.40	21.47	22.00
		50	50	21.37	21.39	21.35	21.35	21.37	22.00
		100	0	21.42	21.35	21.54	21.50	21.42	22.00

LTE TDD Band 41 (Receiver off+SAR sensor on Level D1/2)				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39675/ 2498.5	40148/ 2545.8	40620/ 2593	41093/ 2640.3	41565/ 2687.5	
5MHz	QPSK	1	0	23.87	23.37	23.40	23.19	23.40	24.00
		1	13	23.77	23.14	23.18	22.89	23.18	24.00
		1	24	23.95	23.37	23.38	23.18	23.38	24.00
		12	0	22.83	23.19	23.30	22.99	23.30	24.00
		12	6	23.03	23.21	23.29	22.98	23.29	24.00
		12	13	23.14	23.23	23.27	23.00	23.27	24.00
		25	0	22.97	23.20	23.16	23.05	23.16	24.00
	16QAM	1	0	23.26	23.36	23.31	23.02	23.31	24.00
		1	13	23.24	23.27	23.12	22.72	23.12	24.00
		1	24	23.19	23.54	23.17	22.66	23.17	24.00
		12	0	22.10	22.02	22.08	22.15	22.08	23.00
		12	6	22.17	22.24	22.25	22.12	22.25	23.00
		12	13	22.23	22.41	22.37	22.05	22.37	23.00
		25	0	22.07	22.26	22.24	22.09	22.24	23.00
	64QAM	1	0	22.20	22.20	22.41	22.42	22.22	23.00
		1	13	22.21	22.21	22.36	22.26	22.24	23.00
		1	24	22.40	22.20	21.97	22.10	21.98	23.00
		12	0	21.41	21.21	21.32	21.29	21.31	22.00
		12	6	21.41	21.21	21.39	21.37	21.27	22.00
		12	13	21.56	21.36	21.23	21.45	21.27	22.00
		25	0	21.59	21.39	21.35	21.39	21.43	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
10MHz	QPSK	1	0	23.89	23.38	23.43	23.25	23.20	24.00
		1	25	23.80	23.19	23.22	23.13	22.94	24.00
		1	49	23.97	23.41	23.41	23.32	23.22	24.00
		25	0	22.86	23.24	23.34	22.93	23.04	24.00
		25	13	23.06	23.26	23.33	23.09	23.03	24.00
		25	25	23.16	23.27	23.32	23.17	23.04	24.00
		50	0	23.01	23.22	23.20	23.24	23.07	24.00
	16QAM	1	0	23.28	23.39	23.33	23.34	23.05	24.00
		1	25	23.27	23.31	23.15	23.33	22.76	24.00



		1	49	23.22	23.56	23.20	23.51	22.68	24.00
		25	0	22.13	22.07	22.12	22.15	22.20	23.00
		25	13	22.19	22.28	22.28	22.16	22.16	23.00
		25	25	22.26	22.46	22.41	22.17	22.10	23.00
		50	0	22.10	22.31	22.28	22.24	22.14	23.00
	64QAM	1	0	22.22	22.22	22.40	22.41	22.24	23.00
		1	25	22.24	22.24	22.36	22.26	22.27	23.00
		1	49	22.39	22.19	21.99	22.12	22.01	23.00
		25	0	21.44	21.24	21.37	21.34	21.31	22.00
		25	13	21.43	21.23	21.43	21.41	21.30	22.00
		25	25	21.59	21.39	21.28	21.50	21.31	22.00
		50	0	21.62	21.42	21.40	21.44	21.47	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39725/2503.5	40173/2548.3	40620/2593	41068/2637.8	41515/2682.5	
15MHz	QPSK	1	0	23.88	23.34	23.41	23.24	23.16	24.00
		1	38	23.78	23.18	23.19	23.11	22.93	24.00
		1	74	23.94	23.36	23.37	23.29	23.17	24.00
		36	0	22.84	23.20	23.31	22.91	23.00	24.00
		36	18	23.03	23.21	23.29	23.06	22.98	24.00
		36	39	23.13	23.24	23.28	23.14	23.01	24.00
		75	0	22.99	23.18	23.15	23.22	23.03	24.00
	16QAM	1	0	23.23	23.37	23.31	23.29	23.03	24.00
		1	38	23.25	23.28	23.13	23.31	22.73	24.00
		1	74	23.19	23.52	23.17	23.48	22.64	24.00
		36	0	22.10	22.05	22.09	22.12	22.18	23.00
		36	18	22.16	22.23	22.24	22.13	22.11	23.00
		36	39	22.24	22.42	22.38	22.15	22.06	23.00
		75	0	22.07	22.26	22.24	22.21	22.09	23.00
	64QAM	1	0	22.17	22.38	22.41	22.39	22.22	23.00
		1	38	22.22	22.33	22.17	22.23	22.25	23.00
		1	74	22.20	21.98	21.96	22.11	22.02	23.00
		36	0	21.23	21.39	21.37	21.36	21.32	22.00
		36	18	21.21	21.40	21.32	21.38	21.29	22.00
		36	39	21.37	21.24	21.19	21.46	21.28	22.00
		75	0	21.39	21.35	21.36	21.39	21.43	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39750/2506	40185/2549.5	40620/2593	41055/2636.5	41490/2680	
20MHz	QPSK	1	0	23.85	23.30	23.38	23.21	23.12	24.00
		1	50	23.77	23.14	23.17	23.10	22.92	24.00
		1	99	23.92	23.35	23.34	23.27	23.16	24.00
		50	0	22.81	23.15	23.27	22.88	22.95	24.00





		50	25	23.01	23.17	23.26	23.04	22.94	24.00	
		50	50	23.10	23.19	23.24	23.11	22.96	24.00	
		100	0	22.96	23.13	23.11	23.19	22.98	24.00	
	16QAM		1	0	23.29	23.33	23.26	23.36	22.99	24.00
			1	50	23.21	23.26	23.09	23.27	23.08	24.00
			1	99	23.17	23.49	23.15	23.46	23.05	24.00
			50	0	22.07	22.01	22.06	22.09	22.14	23.00
			50	25	22.13	22.21	22.21	22.10	22.09	23.00
			50	50	22.21	22.37	22.34	22.12	22.01	23.00
	64QAM		100	0	22.05	22.22	22.21	22.19	22.05	23.00
			1	0	22.15	22.34	22.36	22.35	22.17	23.00
			1	50	22.18	22.31	22.13	22.21	22.21	23.00
			1	99	22.14	21.92	21.90	22.05	21.96	23.00
			50	0	21.18	21.31	21.30	21.28	21.25	22.00
			50	25	21.17	21.36	21.26	21.34	21.23	22.00
			50	50	21.34	21.19	21.15	21.41	21.24	22.00
			100	0	21.37	21.31	21.33	21.35	21.40	22.00

LTE TDD Band 41 (Receiver on+WiFi connect/P2P) (Receiver off+sensor D3/7+WiFi connect/P2P)				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39675/ 2498.5	40148/ 2545.8	40620/ 2593	41093/ 2640.3	41565/ 2687.5	
5MHz	QPSK	1	0	23.23	22.95	22.50	22.72	22.79	23.50
		1	13	23.07	22.87	22.35	22.59	22.64	23.50
		1	24	23.32	23.00	22.64	22.85	22.98	23.50
		12	0	23.26	22.94	22.50	22.70	22.77	23.50
		12	6	23.21	22.98	22.49	22.69	22.79	23.50
		12	13	23.30	23.06	22.57	22.82	22.86	23.50
		25	0	23.22	23.03	22.55	22.69	22.78	23.50
	16QAM	1	0	23.22	22.87	22.64	22.62	22.80	23.50
		1	13	23.20	22.88	22.51	22.60	22.70	23.50
		1	24	23.25	22.94	22.63	22.67	22.83	23.50
		12	0	22.76	22.32	21.95	22.17	22.23	23.00
		12	6	22.68	22.38	22.00	22.20	22.27	23.00
		12	13	22.64	22.48	21.93	22.26	22.44	23.00
		25	0	22.72	22.47	22.01	22.17	22.34	23.00
	64QAM	1	0	22.74	22.54	22.38	22.40	22.60	23.00
		1	13	22.71	22.43	22.37	22.32	22.32	23.00
		1	24	22.69	22.60	22.23	22.43	22.44	23.00
		12	0	21.70	21.35	21.37	21.55	21.41	22.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39700/2501	40160/2547	40620/2593	41080/2639	41540/2685	
		12	6	21.74	21.41	21.38	21.60	21.47	22.00
		12	13	21.77	21.45	21.50	21.62	21.46	22.00
		25	0	21.69	21.47	21.33	21.49	21.54	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39700/2501	40160/2547	40620/2593	41080/2639	41540/2685	
10MHz	QPSK	1	0	23.25	22.96	22.53	22.74	22.80	23.50
		1	25	23.10	22.92	22.39	22.62	22.69	23.50
		1	49	23.34	23.04	22.67	22.87	23.02	23.50
		25	0	23.29	22.99	22.54	22.73	22.82	23.50
		25	13	23.24	23.03	22.53	22.72	22.84	23.50
		25	25	23.32	23.10	22.62	22.84	22.90	23.50
		50	0	23.26	23.05	22.59	22.73	22.80	23.50
	16QAM	1	0	23.24	22.90	22.66	22.64	22.83	23.50
		1	25	23.23	22.92	22.54	22.63	22.74	23.50
		1	49	23.28	22.96	22.66	22.70	22.85	23.50
		25	0	22.79	22.37	21.99	22.20	22.28	23.00
		25	13	22.70	22.42	22.03	22.22	22.31	23.00
		25	25	22.67	22.53	21.97	22.29	22.49	23.00
		50	0	22.75	22.52	22.05	22.20	22.39	23.00
	64QAM	1	0	22.76	22.53	22.40	22.42	22.59	23.00
		1	25	22.74	22.43	22.40	22.35	22.32	23.00
		1	49	22.68	22.62	22.26	22.42	22.46	23.00
		25	0	21.73	21.40	21.37	21.58	21.46	22.00
		25	13	21.76	21.45	21.41	21.62	21.51	22.00
		25	25	21.80	21.50	21.54	21.65	21.51	22.00
		50	0	21.72	21.52	21.37	21.52	21.59	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39725/2503.5	40173/2548.3	40620/2593	41068/2637.8	41515/2682.5	
15MHz	QPSK	1	0	23.24	22.92	22.51	22.73	22.76	23.50
		1	38	23.08	22.91	22.36	22.60	22.68	23.50
		1	74	23.31	22.99	22.63	22.84	22.97	23.50
		36	0	23.27	22.95	22.51	22.71	22.78	23.50
		36	18	23.21	22.98	22.49	22.69	22.79	23.50
		36	39	23.29	23.07	22.58	22.81	22.87	23.50
		75	0	23.24	23.01	22.54	22.71	22.76	23.50
	16QAM	1	0	23.19	22.88	22.64	22.59	22.81	23.50
		1	38	23.21	22.89	22.52	22.61	22.71	23.50
		1	74	23.25	22.92	22.63	22.67	22.81	23.50
		36	0	22.76	22.35	21.96	22.17	22.26	23.00
		36	18	22.67	22.37	21.99	22.19	22.26	23.00
		36	39	22.65	22.49	21.94	22.27	22.45	23.00
		36	39	22.65	22.49	21.94	22.27	22.45	23.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39750/2506	40185/2549.5	40620/2593	41055/2636.5	41490/2680	
	64QAM	75	0	22.72	22.47	22.01	22.17	22.34	23.00
		1	0	22.71	22.51	22.38	22.37	22.57	23.00
		1	38	22.72	22.40	22.38	22.33	22.29	23.00
		1	74	22.69	22.61	22.27	22.43	22.45	23.00
		36	0	21.72	21.42	21.38	21.57	21.48	22.00
		36	18	21.74	21.42	21.40	21.60	21.48	22.00
		36	39	21.78	21.46	21.51	21.63	21.47	22.00
		75	0	21.69	21.47	21.33	21.49	21.54	22.00
20MHz	QPSK	1	0	23.21	22.88	22.48	22.70	22.72	23.50
		1	50	23.07	22.87	22.34	22.59	22.64	23.50
		1	99	23.29	22.98	22.60	22.82	22.96	23.50
		50	0	23.24	22.90	22.47	22.68	22.73	23.50
		50	25	23.19	22.94	22.46	22.67	22.75	23.50
		50	50	23.26	23.02	22.54	22.78	22.82	23.50
		100	0	23.21	22.96	22.50	22.68	22.71	23.50
	16QAM	1	0	23.19	22.84	22.59	22.65	22.77	23.50
		1	50	23.17	22.87	22.48	22.57	22.69	23.50
		1	99	23.23	22.89	22.61	22.65	22.78	23.50
		50	0	22.73	22.31	21.93	22.14	22.22	23.00
		50	25	22.64	22.35	21.96	22.16	22.24	23.00
		50	50	22.62	22.44	21.90	22.24	22.40	23.00
		100	0	22.70	22.43	21.98	22.15	22.30	23.00
	64QAM	1	0	22.69	22.47	22.33	22.35	22.53	23.00
		1	50	22.68	22.38	22.34	22.29	22.27	23.00
		1	99	22.63	22.55	22.21	22.37	22.39	23.00
		50	0	21.67	21.34	21.31	21.52	21.40	22.00
		50	25	21.70	21.38	21.34	21.56	21.44	22.00
		50	50	21.75	21.41	21.47	21.60	21.42	22.00
		100	0	21.67	21.43	21.30	21.47	21.50	22.00

LTE TDD Band 41 (Receiver off+sensor D1/2+WiFi connect/P2P)				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39675/2498.5	40148/2545.8	40620/2593	41093/2640.3	41565/2687.5	
5MHz	QPSK	1	0	21.39	21.63	21.87	21.58	21.47	22.50
		1	13	21.31	21.45	21.57	21.33	21.12	22.50
		1	24	21.62	21.79	21.79	21.61	21.51	22.50
		12	0	21.34	21.52	21.70	21.53	21.38	22.50



	16QAM	12	6	21.48	21.58	21.64	21.52	21.35	22.50
		12	13	21.55	21.64	21.62	21.52	21.36	22.50
		25	0	21.42	21.53	21.67	21.45	21.42	22.50
		1	0	21.25	21.70	22.03	21.36	21.62	22.50
		1	13	21.23	21.53	21.79	21.34	21.37	22.50
		1	24	21.49	21.94	21.85	21.54	21.69	22.50
		12	0	21.43	21.56	21.60	21.50	21.36	22.50
		12	6	21.52	21.56	21.58	21.53	21.36	22.50
		12	13	21.56	21.58	21.58	21.55	21.38	22.50
	25	0	21.40	21.55	21.63	21.48	21.41	22.50	
	64QAM	1	0	21.41	21.44	21.56	21.67	21.55	22.50
		1	13	21.71	21.66	21.61	21.60	21.51	22.50
		1	24	21.71	21.68	21.53	21.62	21.54	22.50
		12	0	21.12	21.11	21.18	21.18	21.12	22.00
		12	6	21.32	21.22	21.19	21.24	21.20	22.00
		12	13	21.07	21.30	21.26	21.11	21.05	22.00
		25	0	21.11	21.20	21.09	21.00	21.03	22.00
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
39700/2501					40160/2547	40620/2593	41080/2639	41540/2685	
10MHz	QPSK	1	0	21.41	21.64	21.90	21.60	21.48	22.50
		1	25	21.34	21.50	21.61	21.36	21.17	22.50
		1	49	21.64	21.83	21.82	21.63	21.55	22.50
		25	0	21.37	21.57	21.74	21.56	21.43	22.50
		25	13	21.51	21.63	21.68	21.55	21.40	22.50
		25	25	21.57	21.68	21.67	21.54	21.40	22.50
		50	0	21.46	21.55	21.71	21.49	21.44	22.50
	16QAM	1	0	21.27	21.73	22.05	21.38	21.65	22.50
		1	25	21.26	21.57	21.82	21.37	21.41	22.50
		1	49	21.52	21.96	21.88	21.57	21.71	22.50
		25	0	21.46	21.61	21.64	21.53	21.41	22.50
		25	13	21.54	21.60	21.61	21.55	21.40	22.50
		25	25	21.59	21.63	21.62	21.58	21.43	22.50
		50	0	21.43	21.60	21.67	21.51	21.46	22.50
	64QAM	1	0	21.43	21.43	21.58	21.69	21.54	22.50
		1	25	21.74	21.66	21.64	21.63	21.51	22.50
		1	49	21.70	21.70	21.56	21.61	21.56	22.50
		25	0	21.15	21.16	21.18	21.21	21.17	22.00
		25	13	21.34	21.26	21.22	21.26	21.24	22.00
		25	25	21.10	21.35	21.30	21.14	21.10	22.00
		50	0	21.14	21.25	21.13	21.03	21.08	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39725/	40173/	40620/	41068/	41515/	



Bandwidth	Modulation	RB size	RB offset	2503.5	2548.3	2593	2637.8	2682.5	Tune-up Limit
				39750/2506	40185/2549.5	40620/2593	41055/2636.5	41490/2680	
15MHz	QPSK	1	0	21.40	21.60	21.88	21.59	21.44	22.50
		1	38	21.32	21.49	21.58	21.34	21.16	22.50
		1	74	21.61	21.78	21.78	21.60	21.50	22.50
		36	0	21.35	21.53	21.71	21.54	21.39	22.50
		36	18	21.48	21.58	21.64	21.52	21.35	22.50
		36	39	21.54	21.65	21.63	21.51	21.37	22.50
		75	0	21.44	21.51	21.66	21.47	21.40	22.50
	16QAM	1	0	21.22	21.71	22.03	21.33	21.63	22.50
		1	38	21.24	21.54	21.80	21.35	21.38	22.50
		1	74	21.49	21.92	21.85	21.54	21.67	22.50
		36	0	21.43	21.59	21.61	21.50	21.39	22.50
		36	18	21.51	21.55	21.57	21.52	21.35	22.50
		36	39	21.57	21.59	21.59	21.56	21.39	22.50
		75	0	21.40	21.55	21.63	21.48	21.41	22.50
	64QAM	1	0	21.38	21.41	21.56	21.64	21.52	22.50
		1	38	21.72	21.63	21.62	21.61	21.48	22.50
		1	74	21.71	21.69	21.57	21.62	21.55	22.50
		36	0	21.14	21.18	21.19	21.20	21.19	22.00
		36	18	21.32	21.23	21.21	21.24	21.21	22.00
		36	39	21.08	21.31	21.27	21.12	21.06	22.00
		75	0	21.11	21.20	21.09	21.00	21.03	22.00
20MHz	QPSK	1	0	21.37	21.56	21.85	21.56	21.40	22.50
		1	50	21.31	21.45	21.56	21.33	21.12	22.50
		1	99	21.59	21.77	21.75	21.58	21.49	22.50
		50	0	21.32	21.48	21.67	21.51	21.34	22.50
		50	25	21.46	21.54	21.61	21.50	21.31	22.50
		50	50	21.51	21.60	21.59	21.48	21.32	22.50
		100	0	21.41	21.46	21.62	21.44	21.35	22.50
	16QAM	1	0	21.28	21.67	21.98	21.58	21.59	22.50
		1	50	21.20	21.52	21.76	21.31	21.36	22.50
		1	99	21.47	21.89	21.83	21.52	21.64	22.50
		50	0	21.40	21.55	21.58	21.47	21.35	22.50
		50	25	21.48	21.53	21.54	21.49	21.33	22.50
		50	50	21.54	21.54	21.55	21.53	21.34	22.50
		100	0	21.38	21.51	21.60	21.46	21.37	22.50
	64QAM	1	0	21.36	21.37	21.51	21.62	21.48	22.50
		1	50	21.68	21.61	21.58	21.57	21.46	22.50
		1	99	21.65	21.63	21.51	21.56	21.49	22.50
		50	0	21.09	21.10	21.12	21.15	21.11	22.00



		50	25	21.28	21.19	21.15	21.20	21.17	22.00
		50	50	21.05	21.26	21.23	21.09	21.01	22.00
		100	0	21.09	21.16	21.06	20.98	20.99	22.00

LTE TDD Band 41 (Receiver on+Hotspot) (Receiver off+sensor D3/7+Hotspot)				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39675/ 2498.5	40148/ 2545.8	40620/ 2593	41093/ 2640.3	41565/ 2687.5	
5MHz	QPSK	1	0	21.23	20.79	20.57	20.58	20.67	21.50
		1	13	21.04	20.85	20.44	20.54	20.58	21.50
		1	24	21.33	21.00	20.69	20.67	20.77	21.50
		12	0	21.17	20.90	20.55	20.59	20.68	21.50
		12	6	21.09	20.91	20.56	20.62	20.73	21.50
		12	13	21.25	20.98	20.54	20.69	20.77	21.50
		25	0	21.26	20.89	20.56	20.61	20.73	21.50
	16QAM	1	0	21.25	20.86	20.56	20.60	20.75	21.50
		1	13	21.23	20.86	20.53	20.58	20.66	21.50
		1	24	21.47	20.98	20.71	20.68	20.85	21.50
		12	0	21.13	20.86	20.52	20.52	20.57	21.50
		12	6	21.16	20.89	20.50	20.59	20.63	21.50
		12	13	21.25	20.96	20.57	20.62	20.78	21.50
		25	0	21.11	20.83	20.51	20.60	20.72	21.50
	64QAM	1	0	21.17	20.83	20.71	20.71	20.75	21.50
		1	13	21.14	20.81	20.68	20.71	20.71	21.50
		1	24	21.22	20.90	20.76	20.68	20.87	21.50
		12	0	21.17	20.85	20.55	20.57	20.57	21.50
		12	6	21.20	20.85	20.50	20.56	20.61	21.50
		12	13	21.21	20.94	20.55	20.63	20.81	21.50
		25	0	21.10	20.81	20.47	20.52	20.69	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39700/ 2501	40160/ 2547	40620/ 2593	41080/ 2639	41540/ 2685	
10MHz	QPSK	1	0	21.25	20.80	20.60	20.60	20.68	21.50
		1	25	21.07	20.90	20.48	20.57	20.63	21.50
		1	49	21.35	21.04	20.72	20.69	20.81	21.50
		25	0	21.20	20.95	20.59	20.62	20.73	21.50
		25	13	21.12	20.96	20.60	20.65	20.78	21.50
		25	25	21.27	21.02	20.59	20.71	20.81	21.50
		50	0	21.30	20.91	20.60	20.65	20.75	21.50
	16QAM	1	0	21.27	20.89	20.58	20.62	20.78	21.50
		1	25	21.26	20.90	20.56	20.61	20.70	21.50



		1	49	21.50	21.00	20.74	20.71	20.87	21.50
		25	0	21.16	20.91	20.56	20.55	20.62	21.50
		25	13	21.18	20.93	20.53	20.61	20.67	21.50
		25	25	21.28	21.01	20.61	20.65	20.83	21.50
		50	0	21.14	20.88	20.55	20.63	20.77	21.50
	64QAM	1	0	21.19	20.82	20.73	20.73	20.74	21.50
		1	25	21.17	20.81	20.71	20.74	20.71	21.50
		1	49	21.21	20.92	20.79	20.67	20.89	21.50
		25	0	21.20	20.90	20.55	20.60	20.62	21.50
		25	13	21.22	20.89	20.53	20.58	20.65	21.50
		25	25	21.24	20.99	20.59	20.66	20.86	21.50
	50	0	21.13	20.86	20.51	20.55	20.74	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
39725/2503.5					40173/2548.3	40620/2593	41068/2637.8	41515/2682.5	
15MHz	QPSK	1	0	21.24	20.76	20.58	20.59	20.64	21.50
		1	38	21.05	20.89	20.45	20.55	20.62	21.50
		1	74	21.32	20.99	20.68	20.66	20.76	21.50
		36	0	21.18	20.91	20.56	20.60	20.69	21.50
		36	18	21.09	20.91	20.56	20.62	20.73	21.50
		36	39	21.24	20.99	20.55	20.68	20.78	21.50
		75	0	21.28	20.87	20.55	20.63	20.71	21.50
	16QAM	1	0	21.22	20.87	20.56	20.57	20.76	21.50
		1	38	21.24	20.87	20.54	20.59	20.67	21.50
		1	74	21.47	20.96	20.71	20.68	20.83	21.50
		36	0	21.13	20.89	20.53	20.52	20.60	21.50
		36	18	21.15	20.88	20.49	20.58	20.62	21.50
		36	39	21.26	20.97	20.58	20.63	20.79	21.50
		75	0	21.11	20.83	20.51	20.60	20.72	21.50
	64QAM	1	0	21.14	20.80	20.71	20.68	20.72	21.50
		1	38	21.15	20.78	20.69	20.72	20.68	21.50
		1	74	21.22	20.91	20.80	20.68	20.88	21.50
		36	0	21.19	20.92	20.56	20.59	20.64	21.50
		36	18	21.20	20.86	20.52	20.56	20.62	21.50
		36	39	21.22	20.95	20.56	20.64	20.82	21.50
		75	0	21.10	20.81	20.47	20.52	20.69	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39750/2506	40185/2549.5	40620/2593	41055/2636.5	41490/2680	
20MHz	QPSK	1	0	21.21	20.72	20.55	20.56	20.60	21.50
		1	50	21.04	20.85	20.43	20.54	20.58	21.50
		1	99	21.30	20.98	20.65	20.64	20.75	21.50
		50	0	21.15	20.86	20.52	20.57	20.64	21.50



		50	25	21.07	20.87	20.53	20.60	20.69	21.50			
		50	50	21.21	20.94	20.51	20.65	20.73	21.50			
		100	0	21.25	20.82	20.51	20.60	20.66	21.50			
	16QAM		1	0	21.37	20.83	20.51	20.57	20.72	21.50		
			1	50	21.20	20.85	20.50	20.55	20.65	21.50		
			1	99	21.45	20.93	20.69	20.66	20.80	21.50		
			50	0	21.10	20.85	20.50	20.49	20.56	21.50		
			50	25	21.12	20.86	20.46	20.55	20.60	21.50		
			50	50	21.23	20.92	20.54	20.60	20.74	21.50		
			100	0	21.09	20.79	20.48	20.58	20.68	21.50		
			64QAM		1	0	21.12	20.76	20.66	20.66	20.68	21.50
					1	50	21.11	20.76	20.65	20.68	20.66	21.50
	1	99			21.16	20.85	20.74	20.62	20.82	21.50		
		50		0	21.14	20.84	20.49	20.54	20.56	21.50		
		50		25	21.16	20.82	20.46	20.52	20.58	21.50		
		50		50	21.19	20.90	20.52	20.61	20.77	21.50		
		100		0	21.08	20.77	20.44	20.50	20.65	21.50		

LTE TDD Band 41 (Receiver off+sensor D1/2+Hotspot)				Conducted Power(dBm)					Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					
				39675/ 2498.5	40148/ 2545.8	40620/ 2593	41093/ 2640.3	41565/ 2687.5	
5MHz	QPSK	1	0	19.45	19.70	19.74	19.57	19.44	20.50
		1	13	19.31	19.55	19.55	19.44	19.14	20.50
		1	24	19.58	19.81	19.59	19.71	19.47	20.50
		12	0	19.40	19.51	19.71	19.52	19.38	20.50
		12	6	19.12	19.61	19.68	19.49	19.30	20.50
		12	13	19.49	19.65	19.64	19.54	19.38	20.50
		25	0	19.36	19.62	19.68	19.52	19.34	20.50
	16QAM	1	0	19.28	19.69	19.84	19.63	19.59	20.50
		1	13	19.26	19.52	19.50	19.61	19.26	20.50
		1	24	19.50	19.84	19.65	19.82	19.54	20.50
		12	0	19.38	19.55	19.76	19.47	19.32	20.50
		12	6	19.42	19.65	19.73	19.51	19.37	20.50
		12	13	19.47	19.69	19.64	19.53	19.41	20.50
		25	0	19.35	19.54	19.68	19.53	19.33	20.50
	64QAM	1	0	19.40	19.72	19.74	19.70	19.44	20.50
		1	13	19.65	19.74	19.50	19.54	19.67	20.50
		1	24	19.51	19.84	19.75	19.62	19.53	20.50
		12	0	19.57	19.75	19.50	19.68	19.59	20.50
		12	6	19.73	19.50	19.66	19.60	19.59	20.50
		12	13	19.63	19.55	19.57	19.53	19.65	20.50





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39700/2501	40160/2547	40620/2593	41080/2639	41540/2685	
10MHz	QPSK	25	0	19.51	19.56	19.59	19.59	19.66	20.50
		1	0	19.47	19.71	19.77	19.59	19.45	20.50
		1	25	19.34	19.60	19.59	19.47	19.19	20.50
		1	49	19.60	19.85	19.62	19.73	19.51	20.50
		25	0	19.43	19.56	19.75	19.55	19.43	20.50
		25	13	19.15	19.66	19.72	19.52	19.35	20.50
		25	25	19.51	19.69	19.69	19.56	19.42	20.50
	50	0	19.40	19.64	19.72	19.56	19.36	20.50	
	16QAM	1	0	19.30	19.72	19.86	19.65	19.62	20.50
		1	25	19.29	19.56	19.53	19.64	19.30	20.50
		1	49	19.53	19.86	19.68	19.85	19.56	20.50
		25	0	19.41	19.60	19.80	19.50	19.37	20.50
		25	13	19.44	19.69	19.76	19.53	19.41	20.50
		25	25	19.50	19.74	19.68	19.56	19.46	20.50
		50	0	19.38	19.59	19.72	19.56	19.38	20.50
	64QAM	1	0	19.42	19.71	19.76	19.72	19.43	20.50
		1	25	19.68	19.74	19.53	19.57	19.67	20.50
		1	49	19.50	19.86	19.78	19.61	19.55	20.50
		25	0	19.60	19.80	19.50	19.71	19.64	20.50
		25	13	19.75	19.54	19.69	19.62	19.63	20.50
		25	25	19.66	19.60	19.61	19.56	19.70	20.50
50		0	19.54	19.61	19.63	19.62	19.71	20.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39725/2503.5	40173/2548.3	40620/2593	41068/2637.8	41515/2682.5	
15MHz	QPSK	1	0	19.46	19.67	19.75	19.58	19.41	20.50
		1	38	19.32	19.59	19.56	19.45	19.18	20.50
		1	74	19.57	19.80	19.58	19.70	19.46	20.50
		36	0	19.41	19.52	19.72	19.53	19.39	20.50
		36	18	19.12	19.61	19.68	19.49	19.30	20.50
		36	39	19.48	19.66	19.65	19.53	19.39	20.50
		75	0	19.38	19.60	19.67	19.54	19.32	20.50
	16QAM	1	0	19.25	19.70	19.84	19.60	19.60	20.50
		1	38	19.27	19.53	19.51	19.62	19.27	20.50
		1	74	19.50	19.82	19.65	19.82	19.52	20.50
		36	0	19.38	19.58	19.77	19.47	19.35	20.50
		36	18	19.41	19.64	19.72	19.50	19.36	20.50
		36	39	19.48	19.70	19.65	19.54	19.42	20.50
		75	0	19.35	19.54	19.68	19.53	19.33	20.50
	64QAM	1	0	19.37	19.69	19.74	19.67	19.41	20.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39750/2506	40185/2549.5	40620/2593	41055/2636.5	41490/2680	
		1	38	19.66	19.71	19.51	19.55	19.64	20.50
		1	74	19.51	19.85	19.79	19.62	19.54	20.50
		36	0	19.59	19.82	19.51	19.70	19.66	20.50
		36	18	19.73	19.51	19.68	19.60	19.60	20.50
		36	39	19.64	19.56	19.58	19.54	19.66	20.50
		75	0	19.51	19.56	19.59	19.59	19.66	20.50
20MHz	QPSK	1	0	19.43	19.63	19.72	19.55	19.37	20.50
		1	50	19.31	19.55	19.54	19.44	19.14	20.50
		1	99	19.55	19.79	19.55	19.68	19.45	20.50
		50	0	19.38	19.47	19.68	19.50	19.34	20.50
		50	25	19.10	19.57	19.65	19.47	19.26	20.50
		50	50	19.45	19.61	19.61	19.50	19.34	20.50
		100	0	19.35	19.55	19.63	19.51	19.27	20.50
	16QAM	1	0	19.29	19.66	19.79	19.73	19.56	20.50
		1	50	19.23	19.51	19.47	19.58	19.25	20.50
		1	99	19.48	19.79	19.63	19.80	19.49	20.50
		50	0	19.35	19.54	19.74	19.44	19.31	20.50
		50	25	19.38	19.62	19.69	19.47	19.34	20.50
		50	50	19.45	19.65	19.61	19.51	19.37	20.50
		100	0	19.33	19.50	19.65	19.51	19.29	20.50
	64QAM	1	0	19.35	19.65	19.69	19.65	19.37	20.50
		1	50	19.62	19.69	19.47	19.51	19.62	20.50
		1	99	19.45	19.79	19.73	19.56	19.48	20.50
		50	0	19.54	19.74	19.44	19.65	19.58	20.50
		50	25	19.69	19.47	19.62	19.56	19.56	20.50
		50	50	19.61	19.51	19.54	19.51	19.61	20.50
		100	0	19.49	19.52	19.56	19.57	19.62	20.50



Second - Antenna

LTE FDD Band 2 (Receiver on)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	16.56	16.56	16.68	17.70
		1	2	16.76	16.77	16.69	17.70
		1	5	16.72	16.80	16.84	17.70
		3	0	16.82	16.84	16.78	17.70
		3	2	16.85	16.80	16.82	17.70
		3	3	16.85	16.82	16.97	17.70
		6	0	16.80	16.79	17.03	17.70
	16QAM	1	0	16.45	16.59	16.83	17.70
		1	2	16.46	16.84	16.90	17.70
		1	5	16.61	16.89	16.95	17.70
		3	0	16.71	16.79	16.87	17.70
		3	2	16.74	16.76	16.88	17.70
		3	3	16.75	16.75	16.90	17.70
		6	0	16.55	16.74	16.93	17.70
	64QAM	1	0	16.56	16.73	16.85	17.70
		1	2	16.50	16.68	16.76	17.70
		1	5	16.56	16.54	16.73	17.70
		3	0	16.70	16.64	16.67	17.70
		3	2	16.73	16.73	16.02	17.70
		3	3	16.74	16.55	16.63	17.70
		6	0	16.60	16.56	16.58	17.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	16.58	16.60	16.71	17.70
		1	7	16.76	16.79	16.73	17.70
		1	14	16.75	16.85	16.88	17.70
		8	0	16.86	16.91	16.85	17.70
		8	4	16.88	16.88	16.88	17.70
		8	7	16.89	16.87	17.01	17.70
		15	0	16.82	16.83	17.06	17.70
	16QAM	1	0	16.48	16.61	16.86	17.70
		1	7	16.49	16.86	16.94	17.70
		1	14	16.63	16.93	16.98	17.70
		8	0	16.76	16.83	16.90	17.70
		8	4	16.79	16.83	16.94	17.70
		8	7	16.79	16.81	16.97	17.70
		15	0	16.58	16.78	16.96	17.70
	64QAM	1	0	16.59	16.75	16.88	17.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18625/1852.5	18900/1880	19175/1907.5		
		1	7	16.53	16.70	16.80	17.70	
		1	14	16.58	16.58	16.76	17.70	
		8	0	16.75	16.68	16.70	17.70	
		8	4	16.78	16.80	16.08	17.70	
		8	7	16.78	16.61	16.70	17.70	
		15	0	16.62	16.62	16.63	17.70	
5MHz	QPSK	1	0	16.55	16.58	16.67	17.70	
		1	13	16.74	16.75	16.70	17.70	
		1	24	16.72	16.80	16.84	17.70	
		12	0	16.83	16.86	16.81	17.70	
		12	6	16.86	16.84	16.83	17.70	
		12	13	16.87	16.85	16.97	17.70	
		25	0	16.80	16.82	17.04	17.70	
	16QAM	1	0	16.45	16.57	16.83	17.70	
		1	13	16.46	16.84	16.91	17.70	
		1	24	16.60	16.91	16.94	17.70	
		12	0	16.74	16.79	16.87	17.70	
		12	6	16.76	16.78	16.90	17.70	
		12	13	16.76	16.76	16.93	17.70	
		25	0	16.56	16.74	16.91	17.70	
	64QAM	1	0	16.56	16.71	16.85	17.70	
		1	13	16.50	16.68	16.77	17.70	
		1	24	16.55	16.56	16.72	17.70	
		12	0	16.73	16.64	16.67	17.70	
		12	6	16.75	16.75	16.04	17.70	
		12	13	16.75	16.56	16.66	17.70	
		25	0	16.60	16.58	16.58	17.70	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18650/1855	18900/1880	19150/1905	
	10MHz	QPSK	1	0	16.56	16.57	16.69	17.70
1			25	16.75	16.79	16.72	17.70	
1			49	16.73	16.82	16.86	17.70	
25			0	16.84	16.90	16.83	17.70	
25			13	16.88	16.87	16.86	17.70	
25			25	16.87	16.85	17.01	17.70	
50			0	16.80	16.83	17.05	17.70	
16QAM		1	0	16.44	16.55	16.83	17.70	
		1	25	16.48	16.87	16.89	17.70	
		1	49	16.61	16.89	16.96	17.70	
		25	0	16.72	16.83	16.88	17.70	
		25	13	16.75	16.77	16.91	17.70	



		25	25	16.78	16.80	16.92	17.70
		50	0	16.55	16.76	16.91	17.70
	64QAM	1	0	16.56	16.70	16.86	17.70
		1	25	16.52	16.70	16.77	17.70
		1	49	16.55	16.53	16.73	17.70
		25	0	16.75	16.68	16.66	17.70
		25	13	16.73	16.76	16.03	17.70
		25	25	16.76	16.57	16.69	17.70
		50	0	16.62	16.61	16.59	17.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	16.56	16.55	16.68	17.70
		1	38	16.75	16.79	16.71	17.70
		1	74	16.71	16.79	16.83	17.70
		36	0	16.84	16.87	16.82	17.70
		36	18	16.86	16.84	16.83	17.70
		36	39	16.86	16.86	16.98	17.70
		75	0	16.83	16.80	17.03	17.70
	16QAM	1	0	16.42	16.58	16.83	17.70
		1	38	16.47	16.85	16.92	17.70
		1	74	16.60	16.89	16.94	17.70
		36	0	16.74	16.82	16.88	17.70
		36	18	16.75	16.77	16.89	17.70
		36	39	16.77	16.77	16.94	17.70
		75	0	16.56	16.74	16.91	17.70
	64QAM	1	0	16.53	16.72	16.85	17.70
		1	38	16.51	16.69	16.78	17.70
		1	74	16.55	16.54	16.72	17.70
		36	0	16.73	16.67	16.68	17.70
		36	18	16.74	16.74	16.03	17.70
		36	39	16.76	16.57	16.67	17.70
		75	0	16.60	16.58	16.58	17.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	16.53	16.51	16.65	17.70
		1	50	16.74	16.75	16.69	17.70
		1	99	16.69	16.78	16.80	17.70
		50	0	16.81	16.82	16.78	17.70
		50	25	16.84	16.80	16.80	17.70
		50	50	16.83	16.81	16.94	17.70
		100	0	16.80	16.75	16.99	17.70
	16QAM	1	0	16.40	16.54	16.78	17.70
		1	50	16.43	16.83	16.88	17.70



		1	99	16.58	16.86	16.92	17.70
		50	0	16.71	16.78	16.85	17.70
		50	25	16.72	16.75	16.86	17.70
		50	50	16.74	16.72	16.90	17.70
		100	0	16.54	16.70	16.88	17.70
	64QAM	1	0	16.51	16.68	16.80	17.70
		1	50	16.47	16.67	16.74	17.70
		1	99	16.53	16.51	16.70	17.70
		50	0	16.70	16.63	16.65	17.70
		50	25	16.71	16.72	16.00	17.70
		50	50	16.73	16.52	16.63	17.70
		100	0	16.58	16.54	16.55	17.70

LTE FDD Band 2 (Receiver off)				Conducted Power(dBm)			Tune-up Limit	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				18607/1850.7	18900/1880	19193/1909.3		
1.4MHz	QPSK	1	0	21.31	21.35	21.41	22.20	
		1	2	21.37	21.44	21.48	22.20	
		1	5	21.45	21.48	21.49	22.20	
		3	0	21.85	22.02	21.99	22.20	
		3	2	21.83	21.97	22.05	22.20	
		3	3	21.88	21.90	22.12	22.20	
		6	0	21.40	21.45	21.72	22.20	
	16QAM	1	0	21.33	21.38	21.53	22.20	
		1	2	21.31	21.40	21.61	22.20	
		1	5	21.32	21.46	21.67	22.20	
		3	0	21.81	21.93	22.01	22.20	
		3	2	21.87	21.93	22.03	22.20	
		3	3	21.91	21.91	22.03	22.20	
		6	0	21.43	21.42	21.62	22.20	
	64QAM	1	0	21.50	21.52	21.61	22.20	
		1	2	21.46	21.40	21.24	22.20	
		1	5	21.43	21.53	21.45	22.20	
		3	0	20.97	20.98	21.00	21.20	
		3	2	20.95	20.97	20.92	21.20	
		3	3	20.96	20.93	20.94	21.20	
		6	0	20.56	20.52	20.58	21.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
	3MHz	QPSK	1	0	18615/1851.5	18900/1880	19185/1908.5	22.20
			1	7	21.33	21.39	21.44	22.20
				21.35	21.47	21.52	22.20	



		1	14	21.48	21.53	21.53	22.20	
		8	0	21.45	21.64	21.62	22.20	
		8	4	21.45	21.57	21.67	22.20	
		8	7	21.48	21.51	21.72	22.20	
		15	0	21.40	21.49	21.75	22.20	
	16QAM	1	0	21.36	21.40	21.56	22.20	
		1	7	21.34	21.40	21.65	22.20	
		1	14	21.34	21.50	21.70	22.20	
		8	0	21.42	21.56	21.63	22.20	
		8	4	21.48	21.56	21.65	22.20	
		8	7	21.51	21.53	21.66	22.20	
		15	0	21.46	21.46	21.65	22.20	
	64QAM	1	0	21.53	21.54	21.64	22.20	
		1	7	21.49	21.40	21.26	22.20	
		1	14	21.45	21.52	21.48	22.20	
		8	0	20.58	20.61	20.62	21.20	
		8	4	20.56	20.60	20.54	21.20	
		8	7	20.56	20.55	20.57	21.20	
		15	0	20.59	20.56	20.61	21.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	21.30	21.37	21.40	22.20	
		1	13	21.33	21.43	21.49	22.20	
		1	24	21.45	21.48	21.49	22.20	
		12	0	21.42	21.59	21.58	22.20	
		12	6	21.43	21.53	21.62	22.20	
		12	13	21.46	21.49	21.68	22.20	
		25	0	21.40	21.48	21.73	22.20	
	16QAM	1	0	21.33	21.36	21.53	22.20	
		1	13	21.31	21.38	21.62	22.20	
		1	24	21.31	21.48	21.66	22.20	
		12	0	21.40	21.52	21.60	22.20	
		12	6	21.45	21.51	21.61	22.20	
		12	13	21.48	21.48	21.62	22.20	
		25	0	21.44	21.42	21.60	22.20	
	64QAM	1	0	21.50	21.54	21.61	22.20	
		1	13	21.46	21.42	21.23	22.20	
		1	24	21.46	21.50	21.44	22.20	
		12	0	20.56	20.57	20.63	21.20	
		12	6	20.53	20.55	20.50	21.20	
		12	13	20.53	20.50	20.53	21.20	
		25	0	20.57	20.52	20.56	21.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up	



Bandwidth	Modulation	RB size	RB offset	18650/1855	18900/1880	19150/1905	Limit
				18675/1857.5	18900/1880	19125/1902.5	Tune-up Limit
10MHz	QPSK	1	0	21.32	21.38	21.43	22.20
		1	25	21.36	21.48	21.53	22.20
		1	49	21.47	21.52	21.52	22.20
		25	0	21.45	21.64	21.62	22.20
		25	13	21.46	21.58	21.66	22.20
		25	25	21.48	21.53	21.73	22.20
		50	0	21.44	21.50	21.77	22.20
	16QAM	1	0	21.35	21.39	21.55	22.20
		1	25	21.34	21.42	21.65	22.20
		1	49	21.34	21.50	21.69	22.20
		25	0	21.43	21.57	21.64	22.20
		25	13	21.47	21.55	21.64	22.20
		25	25	21.51	21.53	21.66	22.20
		50	0	21.47	21.47	21.64	22.20
	64QAM	1	0	21.52	21.53	21.63	22.20
		1	25	21.49	21.42	21.26	22.20
		1	49	21.45	21.52	21.47	22.20
		25	0	20.59	20.62	20.63	21.20
		25	13	20.55	20.59	20.53	21.20
		25	25	20.56	20.55	20.57	21.20
		50	0	20.60	20.57	20.60	21.20
15MHz	QPSK	1	0	21.31	21.34	21.41	22.20
		1	38	21.34	21.47	21.50	22.20
		1	74	21.44	21.47	21.48	22.20
		36	0	21.43	21.60	21.59	22.20
		36	18	21.43	21.53	21.62	22.20
		36	39	21.45	21.50	21.69	22.20
		75	0	21.42	21.46	21.72	22.20
	16QAM	1	0	21.30	21.37	21.53	22.20
		1	38	21.32	21.39	21.63	22.20
		1	74	21.31	21.46	21.66	22.20
		36	0	21.40	21.55	21.61	22.20
		36	18	21.44	21.50	21.60	22.20
		36	39	21.49	21.49	21.63	22.20
		75	0	21.44	21.42	21.60	22.20
	64QAM	1	0	21.47	21.51	21.61	22.20
		1	38	21.47	21.39	21.24	22.20
		1	74	21.46	21.51	21.48	22.20
		36	0	20.58	20.64	20.64	21.20
		36	18	20.53	20.56	20.52	21.20





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
				36	39	20.54	
75	0	20.57	20.52	20.56	21.20		
20MHz	QPSK	1	0	21.28	21.30	21.38	22.20
		1	50	21.33	21.43	21.48	22.20
		1	99	21.42	21.46	21.45	22.20
		50	0	21.40	21.55	21.55	22.20
		50	25	21.41	21.49	21.59	22.20
		50	50	21.42	21.45	21.65	22.20
		100	0	21.39	21.41	21.68	22.20
	16QAM	1	0	21.35	21.33	21.48	22.20
		1	50	21.28	21.37	21.59	22.20
		1	99	21.29	21.43	21.64	22.20
		50	0	21.37	21.51	21.58	22.20
		50	25	21.41	21.48	21.57	22.20
		50	50	21.46	21.44	21.59	22.20
		100	0	21.42	21.38	21.57	22.20
	64QAM	1	0	21.45	21.47	21.56	22.20
		1	50	21.43	21.37	21.20	22.20
		1	99	21.40	21.45	21.42	22.20
		50	0	20.53	20.56	20.57	21.20
		50	25	20.49	20.52	20.46	21.20
		50	50	20.51	20.46	20.50	21.20
		100	0	20.55	20.48	20.53	21.20

LTE FDD Band 2 (Receiver on+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	14.05	13.98	13.97	15.20
		1	2	14.23	14.16	14.23	15.20
		1	5	14.07	14.11	14.17	15.20
		3	0	14.22	14.20	14.29	15.20
		3	2	14.18	14.13	14.22	15.20
		3	3	14.16	14.15	14.45	15.20
		6	0	14.24	14.10	14.44	15.20
	16QAM	1	0	14.17	13.98	14.10	15.20
		1	2	14.31	14.22	14.29	15.20
		1	5	14.18	14.16	14.21	15.20
		3	0	14.15	14.14	14.27	15.20
		3	2	14.11	14.11	14.20	15.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18615/1851.5	18900/1880	19185/1908.5		
	64QAM	3	3	14.09	14.15	14.38	15.20	
		6	0	14.20	14.05	14.42	15.20	
		1	0	14.20	14.30	14.25	15.20	
		1	2	14.15	14.22	14.18	15.20	
		1	5	14.31	14.25	14.16	15.20	
		3	0	14.07	14.10	14.09	15.20	
		3	2	14.03	14.19	14.23	15.20	
		3	3	14.13	14.18	14.16	15.20	
		6	0	14.16	14.05	14.12	15.20	
3MHz	QPSK	1	0	14.07	14.02	14.00	15.20	
		1	7	14.23	14.18	14.27	15.20	
		1	14	14.10	14.16	14.21	15.20	
		8	0	14.26	14.27	14.36	15.20	
		8	4	14.21	14.21	14.28	15.20	
		8	7	14.20	14.20	14.49	15.20	
		15	0	14.26	14.14	14.47	15.20	
	16QAM	1	0	14.20	14.00	14.13	15.20	
		1	7	14.34	14.24	14.33	15.20	
		1	14	14.20	14.20	14.24	15.20	
		8	0	14.20	14.18	14.30	15.20	
		8	4	14.16	14.18	14.26	15.20	
		8	7	14.13	14.21	14.45	15.20	
		15	0	14.23	14.09	14.45	15.20	
	64QAM	1	0	14.23	14.32	14.28	15.20	
		1	7	14.18	14.24	14.22	15.20	
		1	14	14.33	14.29	14.19	15.20	
		8	0	14.12	14.14	14.12	15.20	
		8	4	14.08	14.26	14.29	15.20	
		8	7	14.17	14.24	14.23	15.20	
		15	0	14.18	14.11	14.17	15.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	14.04	14.00	13.96	15.20
1			13	14.21	14.14	14.24	15.20	
1			24	14.07	14.11	14.17	15.20	
12			0	14.23	14.22	14.32	15.20	
12			6	14.19	14.17	14.23	15.20	
12			13	14.18	14.18	14.45	15.20	
25			0	14.24	14.13	14.45	15.20	
16QAM		1	0	14.17	13.96	14.10	15.20	
		1	13	14.31	14.22	14.30	15.20	



		1	24	14.17	14.18	14.20	15.20			
		12	0	14.18	14.14	14.27	15.20			
		12	6	14.13	14.13	14.22	15.20			
		12	13	14.10	14.16	14.41	15.20			
		25	0	14.21	14.05	14.40	15.20			
		1	0	14.20	14.28	14.25	15.20			
		1	13	14.15	14.22	14.19	15.20			
	64QAM	1	24	14.30	14.27	14.15	15.20			
		12	0	14.10	14.10	14.09	15.20			
		12	6	14.05	14.21	14.25	15.20			
		12	13	14.14	14.19	14.19	15.20			
		25	0	14.16	14.07	14.12	15.20			
		<b>Bandwidth</b>		<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			<b>Tune-up Limit</b>
						18650/1855	18900/1880	19150/1905		
10MHz	QPSK	1	0	14.05	13.99	13.98	15.20			
		1	25	14.22	14.18	14.26	15.20			
		1	49	14.08	14.13	14.19	15.20			
		25	0	14.24	14.26	14.34	15.20			
		25	13	14.21	14.20	14.26	15.20			
		25	25	14.18	14.18	14.49	15.20			
		50	0	14.24	14.14	14.46	15.20			
	16QAM	1	0	14.16	13.94	14.10	15.20			
		1	25	14.33	14.25	14.28	15.20			
		1	49	14.18	14.16	14.22	15.20			
		25	0	14.16	14.18	14.28	15.20			
		25	13	14.12	14.12	14.23	15.20			
		25	25	14.12	14.20	14.40	15.20			
		50	0	14.20	14.07	14.40	15.20			
	64QAM	1	0	14.20	14.27	14.26	15.20			
		1	25	14.17	14.24	14.19	15.20			
		1	49	14.30	14.24	14.16	15.20			
		25	0	14.12	14.14	14.08	15.20			
		25	13	14.03	14.22	14.24	15.20			
		25	25	14.15	14.20	14.22	15.20			
		50	0	14.18	14.10	14.13	15.20			
<b>Bandwidth</b>		<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			<b>Tune-up Limit</b>		
				18675/1857.5	18900/1880	19125/1902.5				
15MHz	QPSK	1	0	14.05	13.97	13.97	15.20			
		1	38	14.22	14.18	14.25	15.20			
		1	74	14.06	14.10	14.16	15.20			
		36	0	14.24	14.23	14.33	15.20			
		36	18	14.19	14.17	14.23	15.20			
		36	39	14.17	14.19	14.46	15.20			



	16QAM	75	0	14.27	14.11	14.44	15.20
		1	0	14.14	13.97	14.10	15.20
		1	38	14.32	14.23	14.31	15.20
		1	74	14.17	14.16	14.20	15.20
		36	0	14.18	14.17	14.28	15.20
		36	18	14.12	14.12	14.21	15.20
		36	39	14.11	14.17	14.42	15.20
	64QAM	75	0	14.21	14.05	14.40	15.20
		1	0	14.17	14.29	14.25	15.20
		1	38	14.16	14.23	14.20	15.20
		1	74	14.30	14.25	14.15	15.20
		36	0	14.10	14.13	14.10	15.20
		36	18	14.04	14.20	14.24	15.20
		36	39	14.15	14.20	14.20	15.20
75	0	14.16	14.07	14.12	15.20		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	14.02	13.93	13.94	15.20
		1	50	14.21	14.14	14.23	15.20
		1	99	14.04	14.09	14.13	15.20
		50	0	14.21	14.18	14.29	15.20
		50	25	14.17	14.13	14.20	15.20
		50	50	14.14	14.14	14.42	15.20
		100	0	14.24	14.06	14.40	15.20
	16QAM	1	0	14.12	13.93	14.05	15.20
		1	50	14.28	14.21	14.27	15.20
		1	99	14.15	14.13	14.18	15.20
		50	0	14.15	14.13	14.25	15.20
		50	25	14.09	14.10	14.18	15.20
		50	50	14.08	14.12	14.38	15.20
		100	0	14.19	14.01	14.37	15.20
	64QAM	1	0	14.15	14.25	14.20	15.20
		1	50	14.12	14.21	14.16	15.20
		1	99	14.28	14.22	14.13	15.20
		50	0	14.07	14.09	14.07	15.20
		50	25	14.01	14.18	14.21	15.20
		50	50	14.12	14.15	14.16	15.20
		100	0	14.14	14.03	14.09	15.20

LTE FDD Band 2 (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			



				18607/1850.7	18900/1880	19193/1909.3		
1.4MHz	QPSK	1	0	18.68	18.56	18.82	19.70	
		1	2	18.92	18.78	18.93	19.70	
		1	5	18.85	18.91	18.88	19.70	
		3	0	18.87	18.87	19.07	19.70	
		3	2	18.82	18.84	19.07	19.70	
		3	3	18.87	18.80	19.06	19.70	
		6	0	18.86	18.84	19.15	19.70	
	16QAM	1	0	18.64	18.61	19.04	19.70	
		1	2	18.84	18.67	19.05	19.70	
		1	5	18.71	18.89	19.04	19.70	
		3	0	18.83	18.80	19.02	19.70	
		3	2	18.84	18.81	19.04	19.70	
		3	3	18.81	18.87	19.04	19.70	
		6	0	18.82	18.87	19.15	19.70	
	64QAM	1	0	18.92	18.72	19.03	19.70	
		1	2	18.93	18.66	18.97	19.70	
		1	5	18.94	18.73	18.96	19.70	
		3	0	18.78	18.65	18.90	19.70	
		3	2	18.77	18.67	18.95	19.70	
		3	3	18.70	18.65	18.92	19.70	
		6	0	18.76	18.77	18.73	19.70	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18615/1851.5	18900/1880	19185/1908.5	
	3MHz	QPSK	1	0	18.70	18.60	18.85	19.70
1			7	18.92	18.80	18.97	19.70	
1			14	18.88	18.96	18.92	19.70	
8			0	18.91	18.94	19.14	19.70	
8			4	18.85	18.92	19.13	19.70	
8			7	18.91	18.85	19.10	19.70	
15			0	18.88	18.88	19.18	19.70	
16QAM		1	0	18.67	18.63	19.07	19.70	
		1	7	18.87	18.69	19.09	19.70	
		1	14	18.73	18.93	19.07	19.70	
		8	0	18.88	18.84	19.05	19.70	
		8	4	18.89	18.88	19.10	19.70	
		8	7	18.85	18.93	19.11	19.70	
		15	0	18.85	18.91	19.18	19.70	
64QAM		1	0	18.95	18.74	19.06	19.70	
		1	7	18.96	18.68	19.01	19.70	
		1	14	18.96	18.77	18.99	19.70	
		8	0	18.83	18.69	18.93	19.70	
		8	4	18.82	18.74	19.01	19.70	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18625/1852.5	18900/1880	19175/1907.5		
5MHz	QPSK	8	7	18.74	18.71	18.99	19.70	
		15	0	18.78	18.83	18.78	19.70	
		1	0	18.67	18.58	18.81	19.70	
		1	13	18.90	18.76	18.94	19.70	
		1	24	18.85	18.91	18.88	19.70	
		12	0	18.88	18.89	19.10	19.70	
		12	6	18.83	18.88	19.08	19.70	
	16QAM	12	13	18.89	18.83	19.06	19.70	
		25	0	18.86	18.87	19.16	19.70	
		1	0	18.64	18.59	19.04	19.70	
		1	13	18.84	18.67	19.06	19.70	
		1	24	18.70	18.91	19.03	19.70	
		12	0	18.86	18.80	19.02	19.70	
		12	6	18.86	18.83	19.06	19.70	
	64QAM	12	13	18.82	18.88	19.07	19.70	
		25	0	18.83	18.87	19.13	19.70	
		1	0	18.92	18.70	19.03	19.70	
		1	13	18.93	18.66	18.98	19.70	
		1	24	18.93	18.75	18.95	19.70	
		12	0	18.81	18.65	18.90	19.70	
		12	6	18.79	18.69	18.97	19.70	
	10MHz	QPSK	12	13	18.71	18.66	18.95	19.70
			25	0	18.76	18.79	18.73	19.70
			1	0	18.68	18.57	18.83	19.70
1			25	18.91	18.80	18.96	19.70	
1			49	18.86	18.93	18.90	19.70	
25			0	18.89	18.93	19.12	19.70	
25			13	18.85	18.91	19.11	19.70	
16QAM		25	25	18.89	18.83	19.10	19.70	
		50	0	18.86	18.88	19.17	19.70	
		1	0	18.63	18.57	19.04	19.70	
		1	25	18.86	18.70	19.04	19.70	
		1	49	18.71	18.89	19.05	19.70	
		25	0	18.84	18.84	19.03	19.70	
		25	13	18.85	18.82	19.07	19.70	
64QAM		25	25	18.84	18.92	19.06	19.70	
		50	0	18.82	18.89	19.13	19.70	
		1	0	18.92	18.69	19.04	19.70	
			1	25	18.95	18.68	18.98	19.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18675/1857.5	18900/1880	19125/1902.5		
		1	49	18.93	18.72	18.96	19.70	
		25	0	18.83	18.69	18.89	19.70	
		25	13	18.77	18.70	18.96	19.70	
		25	25	18.72	18.67	18.98	19.70	
		50	0	18.78	18.82	18.74	19.70	
15MHz	QPSK	1	0	18.68	18.55	18.82	19.70	
		1	38	18.91	18.80	18.95	19.70	
		1	74	18.84	18.90	18.87	19.70	
		36	0	18.89	18.90	19.11	19.70	
		36	18	18.83	18.88	19.08	19.70	
		36	39	18.88	18.84	19.07	19.70	
		75	0	18.89	18.85	19.15	19.70	
	16QAM	1	0	18.61	18.60	19.04	19.70	
		1	38	18.85	18.68	19.07	19.70	
		1	74	18.70	18.89	19.03	19.70	
		36	0	18.86	18.83	19.03	19.70	
		36	18	18.85	18.82	19.05	19.70	
		36	39	18.83	18.89	19.08	19.70	
		75	0	18.83	18.87	19.13	19.70	
	64QAM	1	0	18.89	18.71	19.03	19.70	
		1	38	18.94	18.67	18.99	19.70	
		1	74	18.93	18.73	18.95	19.70	
		36	0	18.81	18.68	18.91	19.70	
		36	18	18.78	18.68	18.96	19.70	
		36	39	18.72	18.67	18.96	19.70	
		75	0	18.76	18.79	18.73	19.70	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18700/1860	18900/1880	19100/1900	
	20MHz	QPSK	1	0	18.65	18.51	18.79	19.70
1			50	18.90	18.76	18.93	19.70	
1			99	18.82	18.89	18.84	19.70	
50			0	18.86	18.85	19.07	19.70	
50			25	18.81	18.84	19.05	19.70	
50			50	18.85	18.79	19.03	19.70	
100			0	18.86	18.80	19.11	19.70	
16QAM		1	0	18.59	18.56	18.99	19.70	
		1	50	18.81	18.66	19.03	19.70	
		1	99	18.68	18.86	19.01	19.70	
		50	0	18.83	18.79	19.00	19.70	
		50	25	18.82	18.80	19.02	19.70	
		50	50	18.80	18.84	19.04	19.70	



		100	0	18.81	18.83	19.10	19.70
	64QAM	1	0	18.87	18.67	18.98	19.70
		1	50	18.90	18.65	18.95	19.70
		1	99	18.91	18.70	18.93	19.70
		50	0	18.78	18.64	18.88	19.70
		50	25	18.75	18.66	18.93	19.70
		50	50	18.69	18.62	18.92	19.70
		100	0	18.74	18.75	18.70	19.70

LTE FDD Band 4 (Receiver on)				Conducted Power(dBm)			Tune-up Limit	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				19957/1710.7	20175/1732.5	20393/1754.3		
1.4MHz	QPSK	1	0	17.49	17.55	17.58	18.20	
		1	2	17.41	17.43	17.48	18.20	
		1	5	17.40	17.48	17.43	18.20	
		3	0	17.36	17.44	17.36	18.20	
		3	2	17.37	17.41	17.40	18.20	
		3	3	17.36	17.41	17.38	18.20	
		6	0	17.33	17.44	17.37	18.20	
	16QAM	1	0	17.36	17.48	17.49	18.20	
		1	2	17.26	17.39	17.44	18.20	
		1	5	17.28	17.40	17.41	18.20	
		3	0	17.34	17.35	17.33	18.20	
		3	2	17.30	17.34	17.35	18.20	
		3	3	17.37	17.39	17.29	18.20	
		6	0	17.31	17.36	17.30	18.20	
	64QAM	1	0	17.30	17.33	17.41	18.20	
		1	2	17.32	17.59	17.31	18.20	
		1	5	17.36	17.35	17.31	18.20	
		3	0	17.38	17.36	17.52	18.20	
		3	2	17.30	17.37	17.40	18.20	
		3	3	17.43	17.54	17.39	18.20	
		6	0	17.45	17.48	17.52	18.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					19965/1711.5	20175/1732.5	20385/1753.5	
	3MHz	QPSK	1	0	17.51	17.59	17.61	18.20
1			7	17.41	17.45	17.52	18.20	
1			14	17.43	17.53	17.47	18.20	
8			0	17.40	17.51	17.43	18.20	
8			4	17.40	17.49	17.46	18.20	
8			7	17.40	17.46	17.42	18.20	
15			0	17.35	17.48	17.40	18.20	





	16QAM	1	0	17.39	17.50	17.52	18.20
		1	7	17.29	17.41	17.48	18.20
		1	14	17.30	17.44	17.44	18.20
		8	0	17.39	17.39	17.36	18.20
		8	4	17.35	17.41	17.41	18.20
		8	7	17.41	17.45	17.36	18.20
		15	0	17.34	17.40	17.33	18.20
	64QAM	1	0	17.33	17.35	17.44	18.20
		1	7	17.35	17.61	17.35	18.20
		1	14	17.38	17.39	17.34	18.20
		8	0	17.43	17.40	17.55	18.20
		8	4	17.35	17.44	17.46	18.20
		8	7	17.47	17.60	17.46	18.20
		15	0	17.47	17.54	17.57	18.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	17.48	17.57	17.57	18.20
		1	13	17.39	17.41	17.49	18.20
		1	24	17.40	17.48	17.43	18.20
		12	0	17.37	17.46	17.39	18.20
		12	6	17.38	17.45	17.41	18.20
		12	13	17.38	17.44	17.38	18.20
		25	0	17.33	17.47	17.38	18.20
	16QAM	1	0	17.36	17.46	17.49	18.20
		1	13	17.26	17.39	17.45	18.20
		1	24	17.27	17.42	17.40	18.20
		12	0	17.37	17.35	17.33	18.20
		12	6	17.32	17.36	17.37	18.20
		12	13	17.38	17.40	17.32	18.20
		25	0	17.32	17.36	17.28	18.20
	64QAM	1	0	17.30	17.31	17.41	18.20
		1	13	17.32	17.59	17.32	18.20
		1	24	17.35	17.37	17.30	18.20
		12	0	17.41	17.36	17.52	18.20
		12	6	17.32	17.39	17.42	18.20
		12	13	17.44	17.55	17.42	18.20
		25	0	17.45	17.50	17.52	18.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	17.25	17.36	17.14	18.20
		1	25	17.30	17.38	17.29	18.20
		1	49	17.23	17.27	17.22	18.20
		25	0	17.11	17.10	17.12	18.20



	16QAM	25	13	17.15	17.22	17.18	18.20
		25	25	17.07	17.17	17.30	18.20
		50	0	17.10	17.16	17.13	18.20
		1	0	17.02	17.33	17.05	18.20
		1	25	17.11	17.28	17.17	18.20
		1	49	17.22	17.25	17.13	18.20
		25	0	17.13	17.19	17.21	18.20
		25	13	17.23	17.16	17.08	18.20
		25	25	17.05	17.08	17.16	18.20
	50	0	17.15	17.07	17.11	18.20	
	64QAM	1	0	17.12	17.03	17.10	18.20
		1	25	17.00	17.05	17.16	18.20
		1	49	17.18	17.01	17.20	18.20
		25	0	16.98	17.03	17.13	18.20
		25	13	17.02	17.06	17.11	18.20
		25	25	17.07	17.10	17.21	18.20
50		0	17.15	17.16	17.19	18.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	17.49	17.54	17.58	18.20
		1	38	17.40	17.45	17.50	18.20
		1	74	17.39	17.47	17.42	18.20
		36	0	17.38	17.47	17.40	18.20
		36	18	17.38	17.45	17.41	18.20
		36	39	17.37	17.45	17.39	18.20
		75	0	17.36	17.45	17.37	18.20
	16QAM	1	0	17.33	17.47	17.49	18.20
		1	38	17.27	17.40	17.46	18.20
		1	74	17.27	17.40	17.40	18.20
		36	0	17.37	17.38	17.34	18.20
		36	18	17.31	17.35	17.36	18.20
		36	39	17.39	17.41	17.33	18.20
		75	0	17.32	17.36	17.28	18.20
	64QAM	1	0	17.27	17.32	17.41	18.20
		1	38	17.33	17.60	17.33	18.20
		1	74	17.35	17.35	17.30	18.20
		36	0	17.41	17.39	17.53	18.20
		36	18	17.31	17.38	17.41	18.20
		36	39	17.45	17.56	17.43	18.20
		75	0	17.45	17.50	17.52	18.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	17.46	17.50	17.55	18.20



		1	50	17.39	17.41	17.48	18.20
		1	99	17.37	17.46	17.39	18.20
		50	0	17.35	17.42	17.36	18.20
		50	25	17.36	17.41	17.38	18.20
		50	50	17.34	17.40	17.35	18.20
		100	0	17.33	17.40	17.33	18.20
	16QAM	1	0	17.31	17.43	17.44	18.20
		1	50	17.23	17.38	17.42	18.20
		1	99	17.25	17.37	17.38	18.20
		50	0	17.34	17.34	17.31	18.20
		50	25	17.28	17.33	17.33	18.20
		50	50	17.36	17.36	17.29	18.20
	64QAM	100	0	17.30	17.32	17.25	18.20
		1	0	17.25	17.28	17.36	18.20
		1	50	17.29	17.58	17.29	18.20
		1	99	17.33	17.32	17.28	18.20
		50	0	17.38	17.35	17.50	18.20
		50	25	17.28	17.36	17.38	18.20
		50	50	17.42	17.51	17.39	18.20
	100	0	17.43	17.46	17.49	18.20	

LTE FDD Band 4 (Receiver off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	21.93	22.06	22.11	22.70
		1	2	21.82	21.99	21.98	22.70
		1	5	21.78	22.01	22.01	22.70
		3	0	22.62	22.33	22.35	22.70
		3	2	22.55	22.41	22.39	22.70
		3	3	22.61	22.55	22.60	22.70
		6	0	21.72	21.86	22.04	22.70
	16QAM	1	0	21.74	21.85	21.90	22.70
		1	2	21.72	21.72	21.95	22.70
		1	5	21.77	21.75	21.93	22.70
		3	0	22.19	22.29	22.46	22.70
		3	2	22.15	22.24	22.45	22.70
		3	3	22.13	22.31	22.38	22.70
		6	0	21.17	21.34	21.42	22.20
	64QAM	1	0	21.42	21.43	21.34	22.20
		1	2	21.52	21.39	21.41	22.20
		1	5	21.27	21.44	21.54	22.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19965/1711.5	20175/1732.5	20385/1753.5		
		3	0	21.19	21.28	21.31	22.20	
		3	2	21.47	21.44	21.41	22.20	
		3	3	21.24	21.36	21.42	22.20	
		6	0	20.55	20.52	20.65	21.20	
3MHz	QPSK	1	0	21.95	22.10	22.14	22.70	
		1	7	21.80	22.02	22.02	22.70	
		1	14	21.81	22.06	22.05	22.70	
		8	0	21.72	21.98	22.08	22.70	
		8	4	21.67	21.93	22.07	22.70	
		8	7	21.71	21.89	22.03	22.70	
		15	0	21.72	21.90	22.07	22.70	
	16QAM	1	0	21.77	21.87	21.93	22.70	
		1	7	21.75	21.72	21.99	22.70	
		1	14	21.79	21.79	21.96	22.70	
		8	0	21.30	21.42	21.58	22.20	
		8	4	21.26	21.37	21.57	22.20	
		8	7	21.23	21.43	21.51	22.20	
		15	0	21.20	21.38	21.45	22.20	
	64QAM	1	0	21.45	21.45	21.37	22.20	
		1	7	21.55	21.39	21.43	22.20	
		1	14	21.29	21.43	21.57	22.20	
		8	0	20.30	20.41	20.43	21.20	
		8	4	20.58	20.57	20.53	21.20	
		8	7	20.34	20.48	20.55	21.20	
		15	0	20.58	20.56	20.68	21.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					19975/1712.5	20175/1732.5	20375/1752.5	
	5MHz	QPSK	1	0	21.92	22.08	22.10	22.70
1			13	21.78	21.98	21.99	22.70	
1			24	21.78	22.01	22.01	22.70	
12			0	21.69	21.93	22.04	22.70	
12			6	21.65	21.89	22.02	22.70	
12			13	21.69	21.87	21.99	22.70	
25			0	21.72	21.89	22.05	22.70	
16QAM		1	0	21.74	21.83	21.90	22.70	
		1	13	21.72	21.70	21.96	22.70	
		1	24	21.76	21.77	21.92	22.70	
		12	0	21.28	21.38	21.55	22.20	
		12	6	21.23	21.32	21.53	22.20	
		12	13	21.20	21.38	21.47	22.20	
		25	0	21.18	21.34	21.40	22.20	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		
	64QAM	1	0	21.42	21.45	21.34	22.20	
		1	13	21.52	21.41	21.40	22.20	
		1	24	21.30	21.41	21.53	22.20	
		12	0	20.28	20.37	20.44	21.20	
		12	6	20.55	20.52	20.49	21.20	
		12	13	20.31	20.43	20.51	21.20	
		25	0	20.56	20.52	20.63	21.20	
10MHz	QPSK	1	0	21.94	22.09	22.13	22.70	
		1	25	21.81	22.03	22.03	22.70	
		1	49	21.80	22.05	22.04	22.70	
		25	0	21.72	21.98	22.08	22.70	
		25	13	21.68	21.94	22.06	22.70	
		25	25	21.71	21.91	22.04	22.70	
		50	0	21.76	21.91	22.09	22.70	
	16QAM	1	0	21.76	21.86	21.92	22.70	
		1	25	21.75	21.74	21.99	22.70	
		1	49	21.79	21.79	21.95	22.70	
		25	0	21.31	21.43	21.59	22.20	
		25	13	21.25	21.36	21.56	22.20	
		25	25	21.23	21.43	21.51	22.20	
		50	0	21.21	21.39	21.44	22.20	
	64QAM	1	0	21.44	21.44	21.36	22.20	
		1	25	21.55	21.41	21.43	22.20	
		1	49	21.29	21.43	21.56	22.20	
		25	0	20.31	20.42	20.44	21.20	
		25	13	20.57	20.56	20.52	21.20	
		25	25	20.34	20.48	20.55	21.20	
		50	0	20.59	20.57	20.67	21.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20025/1717.5	20175/1732.5	20325/1747.5	
	15MHz	QPSK	1	0	21.93	22.05	22.11	22.70
			1	38	21.79	22.02	22.00	22.70
			1	74	21.77	22.00	22.00	22.70
			36	0	21.70	21.94	22.05	22.70
			36	18	21.65	21.89	22.02	22.70
36			39	21.68	21.88	22.00	22.70	
75			0	21.74	21.87	22.04	22.70	
16QAM		1	0	21.71	21.84	21.90	22.70	
		1	38	21.73	21.71	21.97	22.70	
		1	74	21.76	21.75	21.92	22.70	
		36	0	21.28	21.41	21.56	22.20	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
	64QAM	36	18	21.22	21.31	21.52	22.20
		36	39	21.21	21.39	21.48	22.20
		75	0	21.18	21.34	21.40	22.20
		1	0	21.39	21.42	21.34	22.20
		1	38	21.53	21.38	21.41	22.20
		1	74	21.30	21.42	21.57	22.20
		36	0	20.30	20.44	20.45	21.20
		36	18	20.55	20.53	20.51	21.20
		36	39	20.32	20.44	20.52	21.20
		75	0	20.56	20.52	20.63	21.20
20MHz	QPSK	1	0	21.90	22.01	22.08	22.70
		1	50	21.78	21.98	21.98	22.70
		1	99	21.75	21.99	21.97	22.70
		50	0	21.67	21.89	22.01	22.70
		50	25	21.63	21.85	21.99	22.70
		50	50	21.65	21.83	21.96	22.70
		100	0	21.71	21.82	22.00	22.70
	16QAM	1	0	21.55	21.80	21.85	22.70
		1	50	21.69	21.69	21.93	22.70
		1	99	21.74	21.72	21.90	22.70
		50	0	21.25	21.37	21.53	22.20
		50	25	21.19	21.29	21.49	22.20
		50	50	21.18	21.34	21.44	22.20
		100	0	21.16	21.30	21.37	22.20
	64QAM	1	0	21.37	21.38	21.29	22.20
		1	50	21.49	21.36	21.37	22.20
		1	99	21.24	21.36	21.51	22.20
		50	0	20.25	20.36	20.38	21.20
		50	25	20.51	20.49	20.45	21.20
		50	50	20.29	20.39	20.48	21.20
		100	0	20.54	20.48	20.60	21.20

LTE FDD Band 4 (Receiver on+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	13.90	13.99	13.98	14.70
		1	2	13.88	13.93	13.93	14.70
		1	5	13.87	13.95	13.92	14.70
		3	0	13.84	13.89	13.89	14.70



		3	2	13.80	13.85	13.90	14.70
		3	3	13.80	13.85	13.89	14.70
		6	0	13.81	13.86	13.93	14.70
	16QAM	1	0	13.82	13.98	13.97	14.70
		1	2	13.82	13.89	13.86	14.70
		1	5	13.75	13.89	13.81	14.70
		3	0	13.76	13.86	13.78	14.70
		3	2	13.76	13.82	13.77	14.70
		3	3	13.74	13.81	13.72	14.70
		6	0	13.76	13.80	13.78	14.70
		64QAM	1	0	13.79	13.86	13.81
	1		2	13.64	13.76	13.67	14.70
	1		5	13.65	13.62	13.71	14.70
	3		0	13.82	13.70	13.77	14.70
	3		2	13.82	13.79	13.81	14.70
	3		3	13.82	13.72	13.75	14.70
	6		0	13.81	13.79	13.82	14.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	13.92	14.03	14.01	14.70
		1	7	13.88	13.95	13.97	14.70
		1	14	13.90	14.00	13.96	14.70
		8	0	13.88	13.96	13.96	14.70
		8	4	13.83	13.93	13.96	14.70
		8	7	13.84	13.90	13.93	14.70
		15	0	13.83	13.90	13.96	14.70
	16QAM	1	0	13.85	14.00	14.00	14.70
		1	7	13.85	13.91	13.90	14.70
		1	14	13.77	13.93	13.84	14.70
		8	0	13.81	13.90	13.81	14.70
		8	4	13.81	13.89	13.83	14.70
		8	7	13.78	13.87	13.79	14.70
		15	0	13.79	13.84	13.81	14.70
	64QAM	1	0	13.82	13.88	13.84	14.70
		1	7	13.67	13.78	13.71	14.70
		1	14	13.67	13.66	13.74	14.70
		8	0	13.87	13.74	13.80	14.70
		8	4	13.87	13.86	13.87	14.70
		8	7	13.86	13.78	13.82	14.70
		15	0	13.83	13.85	13.87	14.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	13.89	14.01	13.97	14.70



		1	13	13.86	13.91	13.94	14.70	
		1	24	13.87	13.95	13.92	14.70	
		12	0	13.85	13.91	13.92	14.70	
		12	6	13.81	13.89	13.91	14.70	
		12	13	13.82	13.88	13.89	14.70	
		25	0	13.81	13.89	13.94	14.70	
	16QAM	1	0	13.82	13.96	13.97	14.70	
		1	13	13.82	13.89	13.87	14.70	
		1	24	13.74	13.91	13.80	14.70	
		12	0	13.79	13.86	13.78	14.70	
		12	6	13.78	13.84	13.79	14.70	
		12	13	13.75	13.82	13.75	14.70	
	64QAM	25	0	13.77	13.80	13.76	14.70	
		1	0	13.79	13.84	13.81	14.70	
		1	13	13.64	13.76	13.68	14.70	
		1	24	13.64	13.64	13.70	14.70	
		12	0	13.85	13.70	13.77	14.70	
		12	6	13.84	13.81	13.83	14.70	
	<b>10MHz</b>	QPSK	12	13	13.83	13.73	13.78	14.70
			25	0	13.81	13.81	13.82	14.70
			1	0	13.91	14.02	14.00	14.70
1			25	13.89	13.96	13.98	14.70	
1			49	13.89	13.99	13.95	14.70	
25			0	13.88	13.96	13.96	14.70	
16QAM		25	13	13.84	13.94	13.95	14.70	
		25	25	13.84	13.92	13.94	14.70	
		50	0	13.86	13.91	13.98	14.70	
		1	0	13.86	13.99	13.99	14.70	
		1	25	13.85	13.93	13.90	14.70	
		1	49	13.77	13.93	13.83	14.70	
64QAM		25	0	13.82	13.91	13.82	14.70	
		25	13	13.80	13.88	13.82	14.70	
		25	25	13.78	13.87	13.79	14.70	
		50	0	13.80	13.85	13.80	14.70	
		1	0	13.81	13.87	13.83	14.70	
		1	25	13.67	13.80	13.71	14.70	
			1	49	13.67	13.66	13.73	14.70
			25	0	13.88	13.75	13.81	14.70
			25	13	13.86	13.85	13.86	14.70
	25		25	13.86	13.78	13.82	14.70	
	50		0	13.84	13.86	13.86	14.70	
	50		0	13.84	13.86	13.86	14.70	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	13.90	13.98	13.98	14.70
		1	38	13.87	13.95	13.95	14.70
		1	74	13.86	13.94	13.91	14.70
		36	0	13.86	13.92	13.93	14.70
		36	18	13.81	13.89	13.91	14.70
		36	39	13.81	13.89	13.90	14.70
		75	0	13.84	13.87	13.93	14.70
	16QAM	1	0	13.79	13.97	13.97	14.70
		1	38	13.83	13.90	13.88	14.70
		1	74	13.74	13.89	13.80	14.70
		36	0	13.79	13.89	13.79	14.70
		36	18	13.77	13.83	13.78	14.70
		36	39	13.76	13.83	13.76	14.70
		75	0	13.77	13.80	13.76	14.70
	64QAM	1	0	13.76	13.85	13.81	14.70
		1	38	13.65	13.77	13.69	14.70
		1	74	13.64	13.62	13.70	14.70
		36	0	13.85	13.73	13.78	14.70
		36	18	13.83	13.80	13.82	14.70
		36	39	13.84	13.74	13.79	14.70
		75	0	13.81	13.81	13.82	14.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	13.87	13.94	13.95	14.70
		1	50	13.86	13.91	13.93	14.70
		1	99	13.84	13.93	13.88	14.70
		50	0	13.83	13.87	13.89	14.70
		50	25	13.79	13.85	13.88	14.70
		50	50	13.78	13.84	13.86	14.70
		100	0	13.81	13.82	13.89	14.70
	16QAM	1	0	13.77	13.93	13.92	14.70
		1	50	13.79	13.88	13.84	14.70
		1	99	13.72	13.86	13.78	14.70
		50	0	13.76	13.85	13.76	14.70
		50	25	13.74	13.81	13.75	14.70
		50	50	13.73	13.78	13.72	14.70
		100	0	13.75	13.76	13.73	14.70
	64QAM	1	0	13.74	13.81	13.76	14.70
		1	50	13.61	13.75	13.65	14.70
		1	99	13.62	13.59	13.68	14.70
		50	0	13.82	13.69	13.75	14.70



		50	25	13.80	13.78	13.79	14.70
		50	50	13.81	13.69	13.75	14.70
		100	0	13.79	13.77	13.79	14.70

LTE FDD Band 4 (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	18.50	18.57	18.60	19.20
		1	2	18.38	18.49	18.55	19.20
		1	5	18.48	18.59	18.51	19.20
		3	0	18.43	18.57	18.48	19.20
		3	2	18.40	18.53	18.48	19.20
		3	3	18.45	18.51	18.54	19.20
		6	0	18.40	18.56	18.51	19.20
	16QAM	1	0	18.56	18.58	18.60	19.20
		1	2	18.47	18.44	18.46	19.20
		1	5	18.40	18.45	18.40	19.20
		3	0	18.38	18.52	18.55	19.20
		3	2	18.36	18.45	18.45	19.20
		3	3	18.33	18.42	18.38	19.20
		6	0	18.36	18.42	18.42	19.20
	64QAM	1	0	18.44	18.48	18.49	19.20
		1	2	18.45	18.38	18.41	19.20
		1	5	18.44	18.54	18.50	19.20
		3	0	18.44	18.52	18.55	19.20
		3	2	18.39	18.45	18.45	19.20
		3	3	18.54	18.45	18.37	19.20
		6	0	18.53	18.51	18.53	19.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
3MHz	QPSK	1	0	18.52	18.61	18.63	19.20
		1	7	18.38	18.51	18.59	19.20
		1	14	18.51	18.64	18.55	19.20
		8	0	18.47	18.64	18.55	19.20
		8	4	18.43	18.61	18.54	19.20
		8	7	18.49	18.56	18.58	19.20
		15	0	18.42	18.60	18.54	19.20
	16QAM	1	0	18.59	18.60	18.63	19.20
		1	7	18.50	18.46	18.50	19.20
		1	14	18.42	18.49	18.43	19.20
		8	0	18.43	18.56	18.58	19.20
		8	4	18.41	18.52	18.51	19.20
		8	7	18.49	18.56	18.58	19.20
		15	0	18.42	18.60	18.54	19.20
		15	7	18.43	18.56	18.58	19.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19975/1712.5	20175/1732.5	20375/1752.5		
	64QAM	8	7	18.37	18.48	18.45	19.20	
		15	0	18.39	18.46	18.45	19.20	
		1	0	18.47	18.50	18.52	19.20	
		1	7	18.48	18.40	18.45	19.20	
		1	14	18.46	18.58	18.53	19.20	
		8	0	18.49	18.56	18.58	19.20	
		8	4	18.44	18.52	18.51	19.20	
		8	7	18.58	18.51	18.44	19.20	
		15	0	18.55	18.57	18.58	19.20	
5MHz	QPSK	1	0	18.49	18.59	18.59	19.20	
		1	13	18.36	18.47	18.56	19.20	
		1	24	18.48	18.59	18.51	19.20	
		12	0	18.44	18.59	18.51	19.20	
		12	6	18.41	18.57	18.49	19.20	
		12	13	18.47	18.54	18.54	19.20	
		25	0	18.40	18.59	18.52	19.20	
	16QAM	1	0	18.56	18.56	18.60	19.20	
		1	13	18.47	18.44	18.47	19.20	
		1	24	18.39	18.47	18.39	19.20	
		12	0	18.41	18.52	18.55	19.20	
		12	6	18.38	18.47	18.47	19.20	
		12	13	18.34	18.43	18.41	19.20	
		25	0	18.37	18.42	18.40	19.20	
	64QAM	1	0	18.44	18.46	18.49	19.20	
		1	13	18.45	18.38	18.42	19.20	
		1	24	18.43	18.56	18.49	19.20	
		12	0	18.47	18.52	18.55	19.20	
		12	6	18.41	18.47	18.47	19.20	
		12	13	18.55	18.46	18.40	19.20	
		25	0	18.53	18.53	18.53	19.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20000/1715	20175/1732.5	20350/1750	
	10MHz	QPSK	1	0	18.51	18.60	18.62	19.20
1			25	18.39	18.52	18.60	19.20	
1			49	18.50	18.63	18.54	19.20	
25			0	18.47	18.64	18.55	19.20	
25			13	18.44	18.62	18.53	19.20	
25			25	18.49	18.58	18.59	19.20	
50			0	18.45	18.61	18.56	19.20	
16QAM		1	0	18.51	18.59	18.62	19.20	
		1	25	18.50	18.48	18.50	19.20	



		1	49	18.42	18.49	18.42	19.20	
		25	0	18.44	18.57	18.59	19.20	
		25	13	18.40	18.51	18.50	19.20	
		25	25	18.37	18.48	18.45	19.20	
		50	0	18.40	18.47	18.44	19.20	
	64QAM	1	0	18.46	18.49	18.51	19.20	
		1	25	18.48	18.42	18.45	19.20	
		1	49	18.46	18.58	18.52	19.20	
		25	0	18.50	18.57	18.59	19.20	
		25	13	18.43	18.51	18.50	19.20	
		25	25	18.58	18.51	18.44	19.20	
		50	0	18.56	18.58	18.57	19.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20025/1717.5	20175/1732.5	20325/1747.5		
15MHz	QPSK	1	0	18.50	18.56	18.60	19.20	
		1	38	18.37	18.51	18.57	19.20	
		1	74	18.47	18.58	18.50	19.20	
		36	0	18.45	18.60	18.52	19.20	
		36	18	18.41	18.57	18.49	19.20	
		36	39	18.46	18.55	18.55	19.20	
		75	0	18.43	18.57	18.51	19.20	
	16QAM	1	0	18.53	18.57	18.60	19.20	
		1	38	18.48	18.45	18.48	19.20	
		1	74	18.39	18.45	18.39	19.20	
		36	0	18.41	18.55	18.56	19.20	
		36	18	18.37	18.46	18.46	19.20	
		36	39	18.35	18.44	18.42	19.20	
		75	0	18.37	18.42	18.40	19.20	
	64QAM	1	0	18.41	18.47	18.49	19.20	
		1	38	18.46	18.39	18.43	19.20	
		1	74	18.43	18.54	18.49	19.20	
		36	0	18.47	18.55	18.56	19.20	
		36	18	18.40	18.46	18.46	19.20	
		36	39	18.56	18.47	18.41	19.20	
		75	0	18.53	18.53	18.53	19.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	18.47	18.52	18.57	19.20	
		1	50	18.36	18.47	18.55	19.20	
		1	99	18.45	18.57	18.47	19.20	
		50	0	18.42	18.55	18.48	19.20	
		50	25	18.39	18.53	18.46	19.20	
		50	50	18.43	18.50	18.51	19.20	



	16QAM	100	0	18.40	18.52	18.47	19.20
		1	0	18.51	18.53	18.55	19.20
		1	50	18.44	18.43	18.44	19.20
		1	99	18.37	18.42	18.37	19.20
		50	0	18.38	18.51	18.53	19.20
		50	25	18.34	18.44	18.43	19.20
		50	50	18.32	18.39	18.38	19.20
		100	0	18.35	18.38	18.37	19.20
	64QAM	1	0	18.39	18.43	18.44	19.20
		1	50	18.42	18.37	18.39	19.20
		1	99	18.41	18.51	18.47	19.20
		50	0	18.44	18.51	18.53	19.20
		50	25	18.37	18.44	18.43	19.20
		50	50	18.53	18.42	18.37	19.20
100		0	18.51	18.49	18.50	19.20	

LTE FDD Band 5 (Receiver on)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	17.40	17.38	17.18	18.20
		1	2	17.25	17.37	17.20	18.20
		1	5	17.19	17.12	17.16	18.20
		3	0	17.30	17.25	17.19	18.20
		3	2	17.27	17.19	17.14	18.20
		3	3	17.27	17.21	17.18	18.20
		6	0	17.27	17.25	17.21	18.20
	16QAM	1	0	17.27	17.19	17.25	18.20
		1	2	17.21	17.11	17.18	18.20
		1	5	17.20	17.21	17.24	18.20
		3	0	17.22	17.16	17.12	18.20
		3	2	17.24	17.20	17.17	18.20
		3	3	17.07	17.15	17.08	18.20
		6	0	17.15	17.13	17.08	18.20
	64QAM	1	0	17.20	17.15	17.16	18.20
		1	2	17.22	17.16	17.24	18.20
		1	5	17.21	17.24	17.09	18.20
		3	0	17.15	17.11	17.16	18.20
		3	2	17.17	17.15	17.22	18.20
		3	3	17.09	17.13	17.16	18.20
		6	0	17.11	17.16	17.12	18.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up



				20415/825.5	20525/836.5	20635/847.5	Limit
3MHz	QPSK	1	0	17.42	17.42	17.21	18.20
		1	7	17.25	17.39	17.24	18.20
		1	14	17.22	17.17	17.20	18.20
		8	0	17.34	17.32	17.26	18.20
		8	4	17.30	17.27	17.20	18.20
		8	7	17.31	17.26	17.22	18.20
		15	0	17.29	17.29	17.24	18.20
	16QAM	1	0	17.30	17.21	17.28	18.20
		1	7	17.24	17.13	17.22	18.20
		1	14	17.22	17.25	17.27	18.20
		8	0	17.27	17.20	17.15	18.20
		8	4	17.29	17.27	17.23	18.20
		8	7	17.11	17.21	17.15	18.20
		15	0	17.18	17.17	17.11	18.20
	64QAM	1	0	17.23	17.17	17.19	18.20
		1	7	17.25	17.18	17.28	18.20
		1	14	17.23	17.28	17.12	18.20
		8	0	17.20	17.15	17.19	18.20
		8	4	17.22	17.22	17.28	18.20
		8	7	17.13	17.19	17.23	18.20
		15	0	17.13	17.22	17.17	18.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	17.39	17.40	17.17	18.20
		1	13	17.23	17.35	17.21	18.20
		1	24	17.19	17.12	17.16	18.20
		12	0	17.31	17.27	17.22	18.20
		12	6	17.28	17.23	17.15	18.20
		12	13	17.29	17.24	17.18	18.20
		25	0	17.27	17.28	17.22	18.20
	16QAM	1	0	17.27	17.17	17.25	18.20
		1	13	17.21	17.11	17.19	18.20
		1	24	17.19	17.23	17.23	18.20
		12	0	17.25	17.16	17.12	18.20
		12	6	17.26	17.22	17.19	18.20
		12	13	17.08	17.16	17.11	18.20
		25	0	17.16	17.13	17.06	18.20
	64QAM	1	0	17.20	17.13	17.16	18.20
		1	13	17.22	17.16	17.25	18.20
		1	24	17.20	17.26	17.08	18.20
		12	0	17.18	17.11	17.16	18.20
		12	6	17.19	17.17	17.24	18.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
				12	13	17.10	
25	0	17.11	17.18	17.12	18.20		
10MHz	QPSK	1	0	17.37	17.33	17.15	18.20
		1	25	17.23	17.35	17.20	18.20
		1	49	17.16	17.10	17.12	18.20
		25	0	17.29	17.23	17.19	18.20
		25	13	17.26	17.19	17.12	18.20
		25	25	17.25	17.20	17.15	18.20
		50	0	17.27	17.21	17.17	18.20
	16QAM	1	0	17.22	17.14	17.20	18.20
		1	25	17.18	17.10	17.16	18.20
		1	49	17.17	17.18	17.21	18.20
		25	0	17.22	17.15	17.10	18.20
		25	13	17.22	17.19	17.15	18.20
		25	25	17.06	17.12	17.08	18.20
		50	0	17.14	17.09	17.03	18.20
	64QAM	1	0	17.15	17.10	17.11	18.20
		1	25	17.19	17.15	17.22	18.20
		1	49	17.18	17.21	17.06	18.20
		25	0	17.15	17.10	17.14	18.20
		25	13	17.15	17.14	17.20	18.20
		25	25	17.08	17.10	17.16	18.20
		50	0	17.09	17.14	17.09	18.20

LTE FDD Band 5 (Receiver off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	24.56	24.70	24.44	25.70
		1	2	24.66	24.60	24.40	25.70
		1	5	24.46	24.39	24.28	25.70
		3	0	24.13	24.15	23.93	25.70
		3	2	24.01	24.11	23.88	25.70
		3	3	24.04	24.10	23.93	25.70
		6	0	23.50	23.52	23.36	24.70
	16QAM	1	0	23.69	23.72	23.75	24.70
		1	2	23.43	23.49	23.51	24.70
		1	5	23.54	23.62	23.63	24.70
		3	0	23.14	23.12	23.01	24.70
		3	2	23.08	23.19	22.96	24.70
		3	3	23.08	23.13	22.95	24.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20415/825.5	20525/836.5	20635/847.5		
	64QAM	6	0	22.66	22.71	22.44	23.70	
		1	0	22.73	22.49	22.48	23.70	
		1	2	22.63	22.46	22.40	23.70	
		1	5	22.64	22.52	22.50	23.70	
		3	0	22.10	21.96	21.91	23.70	
		3	2	22.21	21.95	22.01	23.70	
		3	3	22.02	22.12	22.10	23.70	
		6	0	21.55	21.64	21.67	22.70	
3MHz	QPSK	1	0	24.58	24.74	24.47	25.70	
		1	7	24.66	24.62	24.44	25.70	
		1	14	24.49	24.44	24.32	25.70	
		8	0	23.67	23.72	23.50	24.70	
		8	4	23.54	23.69	23.44	24.70	
		8	7	23.58	23.65	23.47	24.70	
		15	0	23.52	23.56	23.39	24.70	
	16QAM	1	0	23.72	23.74	23.78	24.70	
		1	7	23.46	23.51	23.55	24.70	
		1	14	23.56	23.66	23.66	24.70	
		8	0	22.69	22.66	22.54	23.70	
		8	4	22.63	22.76	22.52	23.70	
		8	7	22.62	22.69	22.52	23.70	
		15	0	22.69	22.75	22.47	23.70	
	64QAM	1	0	22.76	22.51	22.51	23.70	
		1	7	22.66	22.48	22.44	23.70	
		1	14	22.66	22.56	22.53	23.70	
		8	0	21.65	21.50	21.44	22.70	
		8	4	21.76	21.52	21.57	22.70	
		8	7	21.56	21.68	21.67	22.70	
		15	0	21.57	21.70	21.72	22.70	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20425/826.5	20525/836.5	20625/846.5	
	5MHz	QPSK	1	0	24.55	24.72	24.43	25.70
1			13	24.64	24.58	24.41	25.70	
1			24	24.46	24.39	24.28	25.70	
12			0	23.64	23.67	23.46	24.70	
12			6	23.52	23.65	23.39	24.70	
12			13	23.56	23.63	23.43	24.70	
25			0	23.50	23.55	23.37	24.70	
16QAM		1	0	23.69	23.70	23.75	24.70	
		1	13	23.43	23.49	23.52	24.70	
		1	24	23.53	23.64	23.62	24.70	





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20450/829	20525/836.5	20600/844		
10MHz	64QAM	12	0	22.67	22.62	22.51	23.70	
		12	6	22.60	22.71	22.48	23.70	
		12	13	22.59	22.64	22.48	23.70	
		25	0	22.67	22.71	22.42	23.70	
		1	0	22.73	22.47	22.48	23.70	
		1	13	22.63	22.46	22.41	23.70	
		1	24	22.63	22.54	22.49	23.70	
		12	0	21.63	21.46	21.41	22.70	
		12	6	21.73	21.47	21.53	22.70	
	12	13	21.53	21.63	21.63	22.70		
	25	0	21.55	21.66	21.67	22.70		
	10MHz	QPSK	1	0	24.53	24.65	24.41	25.70
			1	25	24.64	24.58	24.40	25.70
			1	49	24.43	24.37	24.24	25.70
			25	0	23.62	23.63	23.43	24.70
			25	13	23.50	23.61	23.36	24.70
			25	25	23.52	23.59	23.40	24.70
			50	0	23.50	23.48	23.32	24.70
		16QAM	1	0	23.64	23.67	23.70	24.70
1			25	23.40	23.48	23.49	24.70	
1			49	23.51	23.59	23.60	24.70	
25			0	22.64	22.61	22.49	23.70	
25			13	22.56	22.68	22.44	23.70	
25			25	22.57	22.60	22.45	23.70	
50			0	22.65	22.67	22.39	23.70	
64QAM		1	0	22.68	22.44	22.43	23.70	
		1	25	22.60	22.45	22.38	23.70	
		1	49	22.61	22.49	22.47	23.70	
		25	0	21.60	21.45	21.39	22.70	
		25	13	21.69	21.44	21.49	22.70	
		25	25	21.51	21.59	21.60	22.70	
		50	0	21.53	21.62	21.64	22.70	

LTE FDD Band 5 (Receiver on+WIFI connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	13.24	13.31	13.23	14.20
		1	2	13.32	13.25	13.24	14.20
		1	5	13.28	13.31	13.14	14.20



		3	0	13.33	13.27	13.17	14.20	
		3	2	13.32	13.22	13.17	14.20	
		3	3	13.31	13.16	13.10	14.20	
		6	0	13.31	13.20	13.22	14.20	
	16QAM	1	0	13.42	13.50	13.46	14.20	
		1	2	13.45	13.40	13.37	14.20	
		1	5	13.37	13.36	13.39	14.20	
		3	0	13.17	13.15	13.21	14.20	
		3	2	13.25	13.17	13.13	14.20	
		3	3	13.15	13.13	13.12	14.20	
		6	0	13.16	13.17	13.22	14.20	
	64QAM	1	0	13.29	13.23	13.34	14.20	
		1	2	13.30	13.20	13.23	14.20	
		1	5	13.34	13.29	13.28	14.20	
		3	0	13.22	13.21	13.28	14.20	
		3	2	13.28	13.28	13.19	14.20	
		3	3	13.05	13.21	13.20	14.20	
		6	0	13.16	13.17	13.09	14.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20415/825.5	20525/836.5	20635/847.5	
	3MHz	QPSK	1	0	13.26	13.35	13.26	14.20
1			7	13.32	13.27	13.28	14.20	
1			14	13.31	13.36	13.18	14.20	
8			0	13.37	13.34	13.24	14.20	
8			4	13.35	13.30	13.23	14.20	
8			7	13.35	13.21	13.14	14.20	
15			0	13.33	13.24	13.25	14.20	
16QAM		1	0	13.45	13.52	13.49	14.20	
		1	7	13.48	13.42	13.41	14.20	
		1	14	13.39	13.40	13.42	14.20	
		8	0	13.22	13.19	13.24	14.20	
		8	4	13.30	13.24	13.19	14.20	
		8	7	13.19	13.19	13.19	14.20	
		15	0	13.19	13.21	13.25	14.20	
64QAM		1	0	13.32	13.25	13.37	14.20	
		1	7	13.33	13.22	13.27	14.20	
		1	14	13.36	13.33	13.31	14.20	
		8	0	13.27	13.25	13.31	14.20	
		8	4	13.33	13.35	13.25	14.20	
		8	7	13.09	13.27	13.27	14.20	
		15	0	13.18	13.23	13.14	14.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20425/826.5	20525/836.5	20625/846.5		



5MHz	QPSK	1	0	13.23	13.33	13.22	14.20
		1	13	13.30	13.23	13.25	14.20
		1	24	13.28	13.31	13.14	14.20
		12	0	13.34	13.29	13.20	14.20
		12	6	13.33	13.26	13.18	14.20
		12	13	13.33	13.19	13.10	14.20
		25	0	13.31	13.23	13.23	14.20
	16QAM	1	0	13.42	13.48	13.46	14.20
		1	13	13.45	13.40	13.38	14.20
		1	24	13.36	13.38	13.38	14.20
		12	0	13.20	13.15	13.21	14.20
		12	6	13.27	13.19	13.15	14.20
		12	13	13.16	13.14	13.15	14.20
		25	0	13.17	13.17	13.20	14.20
	64QAM	1	0	13.29	13.21	13.34	14.20
		1	13	13.30	13.20	13.24	14.20
		1	24	13.33	13.31	13.27	14.20
		12	0	13.25	13.21	13.28	14.20
		12	6	13.30	13.30	13.21	14.20
		12	13	13.06	13.22	13.23	14.20
		25	0	13.16	13.19	13.09	14.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	13.21	13.26	13.20	14.20
		1	25	13.30	13.23	13.24	14.20
		1	49	13.25	13.29	13.10	14.20
		25	0	13.32	13.25	13.17	14.20
		25	13	13.31	13.22	13.15	14.20
		25	25	13.29	13.15	13.07	14.20
		50	0	13.31	13.16	13.18	14.20
	16QAM	1	0	13.37	13.45	13.41	14.20
		1	25	13.42	13.39	13.35	14.20
		1	49	13.34	13.33	13.36	14.20
		25	0	13.17	13.14	13.19	14.20
		25	13	13.23	13.16	13.11	14.20
		25	25	13.14	13.10	13.12	14.20
		50	0	13.15	13.13	13.17	14.20
	64QAM	1	0	13.24	13.18	13.29	14.20
		1	25	13.27	13.19	13.21	14.20
		1	49	13.31	13.26	13.25	14.20
		25	0	13.22	13.20	13.26	14.20
		25	13	13.26	13.27	13.17	14.20
		25	25	13.04	13.18	13.20	14.20



		50	0	13.14	13.15	13.06	14.20
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LTE FDD Band 5 (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	20.73	20.81	20.77	21.70
		1	2	20.81	20.82	20.70	21.70
		1	5	20.79	20.66	20.56	21.70
		3	0	20.82	20.72	20.54	21.70
		3	2	20.87	20.75	20.52	21.70
		3	3	20.74	20.78	20.59	21.70
		6	0	20.83	20.85	20.63	21.70
	16QAM	1	0	20.90	20.87	20.86	21.70
		1	2	20.93	20.88	20.86	21.70
		1	5	20.72	20.81	20.77	21.70
		3	0	20.73	20.70	20.62	21.70
		3	2	20.72	20.74	20.57	21.70
		3	3	20.78	20.72	20.50	21.70
		6	0	20.75	20.73	20.54	21.70
	64QAM	1	0	20.81	20.84	20.87	21.70
		1	2	20.81	20.69	20.82	21.70
		1	5	20.83	20.69	20.72	21.70
		3	0	20.69	20.72	20.73	21.70
		3	2	20.67	20.74	20.77	21.70
		3	3	20.67	20.73	20.66	21.70
		6	0	20.81	20.69	20.75	21.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	20.75	20.85	20.80	21.70
		1	7	20.81	20.84	20.74	21.70
		1	14	20.82	20.71	20.60	21.70
		8	0	20.86	20.79	20.61	21.70
		8	4	20.90	20.83	20.58	21.70
		8	7	20.78	20.83	20.63	21.70
		15	0	20.85	20.89	20.66	21.70
	16QAM	1	0	20.93	20.89	20.89	21.70
		1	7	20.96	20.90	20.90	21.70
		1	14	20.74	20.85	20.80	21.70
		8	0	20.78	20.74	20.65	21.70
		8	4	20.77	20.81	20.63	21.70
		8	7	20.82	20.78	20.57	21.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20425/826.5	20525/836.5	20625/846.5		
	64QAM	15	0	20.78	20.77	20.57	21.70	
		1	0	20.84	20.86	20.90	21.70	
		1	7	20.84	20.71	20.86	21.70	
		1	14	20.85	20.73	20.75	21.70	
		8	0	20.74	20.76	20.76	21.70	
		8	4	20.72	20.81	20.83	21.70	
		8	7	20.71	20.79	20.73	21.70	
		15	0	20.83	20.75	20.80	21.70	
5MHz	QPSK	1	0	20.72	20.83	20.76	21.70	
		1	13	20.79	20.80	20.71	21.70	
		1	24	20.79	20.66	20.56	21.70	
		12	0	20.83	20.74	20.57	21.70	
		12	6	20.88	20.79	20.53	21.70	
		12	13	20.76	20.81	20.59	21.70	
		25	0	20.83	20.88	20.64	21.70	
	16QAM	1	0	20.90	20.85	20.86	21.70	
		1	13	20.93	20.88	20.87	21.70	
		1	24	20.71	20.83	20.76	21.70	
		12	0	20.76	20.70	20.62	21.70	
		12	6	20.74	20.76	20.59	21.70	
		12	13	20.79	20.73	20.53	21.70	
		25	0	20.76	20.73	20.52	21.70	
	64QAM	1	0	20.81	20.82	20.87	21.70	
		1	13	20.81	20.69	20.83	21.70	
		1	24	20.82	20.71	20.71	21.70	
		12	0	20.72	20.72	20.73	21.70	
		12	6	20.69	20.76	20.79	21.70	
		12	13	20.68	20.74	20.69	21.70	
		25	0	20.81	20.71	20.75	21.70	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20450/829	20525/836.5	20600/844	
	10MHz	QPSK	1	0	20.70	20.76	20.74	21.70
1			25	20.79	20.80	20.70	21.70	
1			49	20.76	20.64	20.52	21.70	
25			0	20.81	20.70	20.54	21.70	
25			13	20.86	20.75	20.50	21.70	
25			25	20.72	20.77	20.56	21.70	
50			0	20.83	20.81	20.59	21.70	
16QAM		1	0	20.85	20.82	20.81	21.70	
		1	25	20.90	20.87	20.84	21.70	
		1	49	20.69	20.78	20.74	21.70	



		25	0	20.73	20.69	20.60	21.70
		25	13	20.70	20.73	20.55	21.70
		25	25	20.77	20.69	20.50	21.70
		50	0	20.74	20.69	20.49	21.70
	64QAM	1	0	20.76	20.79	20.82	21.70
		1	25	20.78	20.68	20.80	21.70
		1	49	20.80	20.66	20.69	21.70
		25	0	20.69	20.71	20.71	21.70
		25	13	20.65	20.73	20.75	21.70
		25	25	20.66	20.70	20.66	21.70
		50	0	20.79	20.67	20.72	21.70

LTE FDD Band 7 (Receiver on)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	14.62	14.68	14.38	15.70
		1	13	14.52	14.36	14.16	15.70
		1	24	14.62	14.41	14.30	15.70
		12	0	14.58	14.45	14.24	15.70
		12	6	14.50	14.41	14.22	15.70
		12	13	14.50	14.33	14.16	15.70
		25	0	14.55	14.41	14.19	15.70
	16QAM	1	0	14.79	14.60	14.56	15.70
		1	13	14.65	14.42	14.30	15.70
		1	24	14.79	14.41	14.44	15.70
		12	0	14.56	14.42	14.17	15.70
		12	6	14.54	14.38	14.15	15.70
		12	13	14.51	14.31	14.08	15.70
		25	0	14.53	14.34	14.12	15.70
	64QAM	1	0	14.46	14.18	14.56	15.70
		1	13	14.38	14.12	14.44	15.70
		1	24	14.29	14.10	14.37	15.70
		12	0	14.08	14.75	14.59	15.70
		12	6	14.13	14.65	14.45	15.70
		12	13	14.53	14.81	14.39	15.70
		25	0	14.43	14.39	14.71	15.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	14.64	14.69	14.41	15.70
		1	25	14.55	14.41	14.20	15.70



		1	49	14.64	14.45	14.33	15.70	
		25	0	14.61	14.50	14.28	15.70	
		25	13	14.53	14.46	14.26	15.70	
		25	25	14.52	14.37	14.21	15.70	
		50	0	14.60	14.43	14.23	15.70	
	16QAM	1	0	14.69	14.63	14.58	15.70	
		1	25	14.68	14.46	14.33	15.70	
		1	49	14.82	14.43	14.47	15.70	
		25	0	14.59	14.47	14.21	15.70	
		25	13	14.56	14.42	14.18	15.70	
		25	25	14.54	14.36	14.12	15.70	
		50	0	14.56	14.39	14.16	15.70	
	64QAM	1	0	14.48	14.21	14.58	15.70	
		1	25	14.41	14.16	14.47	15.70	
		1	49	14.32	14.12	14.40	15.70	
		25	0	14.11	14.80	14.63	15.70	
		25	13	14.15	14.69	14.48	15.70	
		25	25	14.56	14.86	14.43	15.70	
		50	0	14.46	14.44	14.75	15.70	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	14.63	14.65	14.39	15.70	
		1	38	14.53	14.40	14.17	15.70	
		1	74	14.61	14.40	14.29	15.70	
		36	0	14.59	14.46	14.25	15.70	
		36	18	14.50	14.41	14.22	15.70	
		36	39	14.49	14.34	14.17	15.70	
		75	0	14.58	14.39	14.18	15.70	
	16QAM	1	0	14.76	14.61	14.56	15.70	
		1	38	14.66	14.43	14.31	15.70	
		1	74	14.79	14.39	14.44	15.70	
		36	0	14.56	14.45	14.18	15.70	
		36	18	14.53	14.37	14.14	15.70	
		36	39	14.52	14.32	14.09	15.70	
		75	0	14.53	14.34	14.12	15.70	
	64QAM	1	0	14.43	14.19	14.56	15.70	
		1	38	14.39	14.13	14.45	15.70	
		1	74	14.29	14.08	14.37	15.70	
		36	0	14.08	14.78	14.60	15.70	
		36	18	14.12	14.64	14.44	15.70	
		36	39	14.54	14.82	14.40	15.70	
		75	0	14.43	14.39	14.71	15.70	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up	



				20850/2510	21100/2535	21350/2560	Limit
20MHz	QPSK	1	0	14.60	14.61	14.36	15.70
		1	50	14.52	14.36	14.15	15.70
		1	99	14.59	14.39	14.26	15.70
		50	0	14.56	14.41	14.21	15.70
		50	25	14.48	14.37	14.19	15.70
		50	50	14.46	14.29	14.13	15.70
		100	0	14.55	14.34	14.14	15.70
	16QAM	1	0	14.74	14.57	14.51	15.70
		1	50	14.62	14.41	14.27	15.70
		1	99	14.77	14.36	14.42	15.70
		50	0	14.53	14.41	14.15	15.70
		50	25	14.50	14.35	14.11	15.70
		50	50	14.49	14.27	14.05	15.70
		100	0	14.51	14.30	14.09	15.70
	64QAM	1	0	14.41	14.15	14.51	15.70
		1	50	14.35	14.11	14.41	15.70
		1	99	14.27	14.05	14.35	15.70
		50	0	14.05	14.74	14.57	15.70
		50	25	14.09	14.62	14.41	15.70
		50	50	14.51	14.77	14.36	15.70
		100	0	14.41	14.35	14.68	15.70

LTE FDD Band 7 (Receiver off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	21.90	22.25	22.17	22.70
		1	13	21.76	21.90	22.09	22.70
		1	24	22.13	21.99	22.32	22.70
		12	0	21.98	22.02	22.02	22.70
		12	6	21.97	21.97	22.00	22.70
		12	13	22.07	21.94	22.13	22.70
		25	0	22.07	21.92	22.16	22.70
	16QAM	1	0	22.29	22.19	22.26	22.70
		1	13	22.27	22.02	22.31	22.70
		1	24	22.14	22.07	22.43	22.70
		12	0	22.08	21.91	22.00	22.70
		12	6	22.05	21.91	21.99	22.70
		12	13	22.09	21.91	22.09	22.70
		25	0	22.15	21.81	22.14	22.70
	64QAM	1	0	21.95	22.14	21.92	22.70





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20800/2505	21100/2535	21400/2565		
		1	13	21.91	22.29	22.04	22.70	
		1	24	22.12	22.17	22.04	22.70	
		12	0	21.13	21.10	21.15	21.70	
		12	6	21.16	21.08	21.16	21.70	
		12	13	21.16	21.21	21.16	21.70	
		25	0	21.13	21.13	21.16	21.70	
10MHz	QPSK	1	0	21.92	22.26	22.20	22.70	
		1	25	21.79	21.95	22.13	22.70	
		1	49	22.15	22.03	22.35	22.70	
		25	0	22.01	22.07	22.06	22.70	
		25	13	22.00	22.02	22.04	22.70	
		25	25	22.09	21.98	22.18	22.70	
	16QAM	50	0	22.11	21.94	22.20	22.70	
		1	0	22.31	22.22	22.28	22.70	
		1	25	22.30	22.06	22.34	22.70	
		1	49	22.17	22.09	22.46	22.70	
		25	0	22.11	21.96	22.04	22.70	
		25	13	22.07	21.95	22.02	22.70	
	64QAM	25	25	22.12	21.96	22.13	22.70	
		50	0	22.18	21.86	22.18	22.70	
		1	0	21.97	22.13	21.94	22.70	
		1	25	21.94	22.29	22.07	22.70	
		1	49	22.11	22.19	22.07	22.70	
		25	0	21.16	21.15	21.15	21.70	
	15MHz	QPSK	25	13	21.18	21.12	21.19	21.70
			25	25	21.19	21.26	21.20	21.70
			50	0	21.16	21.18	21.20	21.70
1			0	21.91	22.22	22.18	22.70	
1			38	21.77	21.94	22.10	22.70	
1			74	22.12	21.98	22.31	22.70	
36			0	21.99	22.03	22.03	22.70	
16QAM		36	18	21.97	21.97	22.00	22.70	
		36	39	22.06	21.95	22.14	22.70	
		75	0	22.09	21.90	22.15	22.70	
		1	0	22.26	22.20	22.26	22.70	
		1	38	22.28	22.03	22.32	22.70	
		1	74	22.14	22.05	22.43	22.70	
		36	0	22.08	21.94	22.01	22.70	
		36	18	22.04	21.90	21.98	22.70	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
		36	39	22.10	21.92	22.10	22.70
		75	0	22.15	21.81	22.14	22.70
	64QAM	1	0	21.92	22.11	21.92	22.70
		1	38	21.92	22.26	22.05	22.70
		1	74	22.12	22.18	22.08	22.70
		36	0	21.15	21.17	21.16	21.70
		36	18	21.16	21.09	21.18	21.70
		36	39	21.17	21.22	21.17	21.70
		75	0	21.13	21.13	21.16	21.70
		20MHz	QPSK	1	0	21.88	22.18
1	50			21.76	21.90	22.08	22.70
1	99			22.10	21.97	22.28	22.70
50	0			21.96	21.98	21.99	22.70
50	25			21.95	21.93	21.97	22.70
50	50			22.03	21.90	22.10	22.70
100	0			22.06	21.85	22.11	22.70
16QAM	1		0	22.31	22.16	22.21	22.70
	1		50	22.24	22.01	22.28	22.70
	1		99	22.12	22.02	22.41	22.70
	50		0	22.05	21.90	21.98	22.70
	50		25	22.01	21.88	21.95	22.70
	50		50	22.07	21.87	22.06	22.70
	100		0	22.13	21.77	22.11	22.70
64QAM	1		0	21.90	22.07	21.87	22.70
	1		50	21.88	22.24	22.01	22.70
	1		99	22.06	22.12	22.02	22.70
	50		0	21.10	21.09	21.09	21.70
	50		25	21.12	21.05	21.12	21.70
	50		50	21.14	21.17	21.13	21.70
	100		0	21.11	21.09	21.13	21.70

LTE FDD Band 7 (Receiver on+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	11.00	11.02	10.73	12.20
		1	13	10.90	10.76	10.59	12.20
		1	24	11.04	10.77	10.72	12.20
		12	0	10.93	10.88	10.65	12.20
		12	6	10.90	10.86	10.63	12.20



		12	13	10.98	10.80	10.62	12.20
		25	0	10.90	10.78	10.61	12.20
	16QAM	1	0	11.20	11.10	10.62	12.20
		1	13	11.10	10.87	10.57	12.20
		1	24	11.18	10.92	10.67	12.20
		12	0	10.86	10.88	10.60	12.20
		12	6	10.89	10.82	10.61	12.20
		12	13	10.91	10.74	10.58	12.20
	64QAM	25	0	10.85	10.79	10.51	12.20
		1	0	10.62	10.72	10.64	12.20
		1	13	10.57	11.17	10.90	12.20
		1	24	10.67	10.88	10.89	12.20
		12	0	10.61	10.86	10.81	12.20
		12	6	10.61	10.68	10.91	12.20
12		13	10.89	10.62	10.82	12.20	
25	0	10.81	10.61	10.73	12.20		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	11.01	11.01	10.75	12.20
		1	25	10.91	10.80	10.61	12.20
		1	49	11.05	10.79	10.74	12.20
		25	0	10.94	10.92	10.67	12.20
		25	13	10.92	10.89	10.66	12.20
		25	25	10.98	10.80	10.66	12.20
		50	0	10.90	10.79	10.62	12.20
	16QAM	1	0	11.19	11.08	10.62	12.20
		1	25	11.12	10.90	10.55	12.20
		1	49	11.19	10.90	10.69	12.20
		25	0	10.84	10.92	10.61	12.20
		25	13	10.88	10.81	10.62	12.20
		25	25	10.93	10.78	10.57	12.20
		50	0	10.84	10.81	10.51	12.20
	64QAM	1	0	10.62	10.71	10.65	12.20
		1	25	10.59	11.19	10.90	12.20
		1	49	10.67	10.85	10.90	12.20
		25	0	10.63	10.90	10.80	12.20
		25	13	10.59	10.69	10.90	12.20
		25	25	10.90	10.63	10.85	12.20
		50	0	10.83	10.64	10.74	12.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	11.01	10.99	10.74	12.20
		1	38	10.91	10.80	10.60	12.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	16QAM	1	74	11.03	10.76	10.71	12.20
		36	0	10.94	10.89	10.66	12.20
		36	18	10.90	10.86	10.63	12.20
		36	39	10.97	10.81	10.63	12.20
		75	0	10.93	10.76	10.60	12.20
		1	0	11.17	11.11	10.62	12.20
		1	38	11.11	10.88	10.58	12.20
	64QAM	1	74	11.18	10.90	10.67	12.20
		36	0	10.86	10.91	10.61	12.20
		36	18	10.88	10.81	10.60	12.20
		36	39	10.92	10.75	10.59	12.20
		75	0	10.85	10.79	10.51	12.20
		1	0	10.59	10.73	10.64	12.20
		1	38	10.58	11.18	10.91	12.20
	QPSK	1	74	10.67	10.86	10.89	12.20
		36	0	10.61	10.89	10.82	12.20
		36	18	10.60	10.67	10.90	12.20
		36	39	10.90	10.63	10.83	12.20
		75	0	10.81	10.61	10.73	12.20
		1	0	11.15	11.07	10.57	12.20
		1	50	11.07	10.86	10.54	12.20
	16QAM	1	99	11.16	10.87	10.65	12.20
		50	0	10.83	10.87	10.58	12.20
		50	25	10.85	10.79	10.57	12.20
		50	50	10.89	10.70	10.55	12.20
		100	0	10.83	10.75	10.48	12.20
		1	0	10.57	10.69	10.59	12.20
		1	50	10.54	11.16	10.87	12.20
64QAM	1	99	10.65	10.83	10.87	12.20	
	50	0	10.58	10.85	10.79	12.20	
	50	25	10.57	10.65	10.87	12.20	
	50	50	10.87	10.58	10.79	12.20	
	100	0	10.79	10.57	10.70	12.20	

LTE FDD Band 7 (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	18.20	18.37	18.09	19.20
		1	13	18.24	18.08	17.90	19.20
		1	24	18.34	18.08	17.98	19.20
		12	0	18.17	18.05	17.61	19.20
		12	6	18.18	18.04	17.62	19.20
		12	13	17.63	17.97	17.85	19.20
		25	0	18.12	18.04	17.72	19.20
	16QAM	1	0	18.44	18.23	17.92	19.20
		1	13	18.15	18.10	17.78	19.20
		1	24	17.53	18.07	17.65	19.20
		12	0	17.65	18.34	17.55	19.20
		12	6	17.69	18.24	17.64	19.20
		12	13	17.47	17.98	17.61	19.20
		25	0	17.51	17.88	17.46	19.20
	64QAM	1	0	18.07	18.15	18.14	19.20
		1	13	18.36	17.63	18.36	19.20
		1	24	18.23	17.70	18.23	19.20
		12	0	17.97	17.46	17.96	19.20
		12	6	18.24	17.90	17.49	19.20
		12	13	18.11	17.79	17.52	19.20
		25	0	18.04	17.67	18.05	19.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	18.21	18.36	18.11	19.20
		1	25	18.25	18.12	17.92	19.20
		1	49	18.35	18.10	18.00	19.20
		25	0	18.18	18.09	17.63	19.20
		25	13	18.20	18.07	17.65	19.20
		25	25	17.63	17.97	17.89	19.20
		50	0	18.12	18.05	17.73	19.20
	16QAM	1	0	18.43	18.21	17.92	19.20
		1	25	18.17	18.13	17.76	19.20
		1	49	17.54	18.05	17.67	19.20
		25	0	17.63	18.38	17.56	19.20
		25	13	17.68	18.23	17.65	19.20
		25	25	17.49	18.02	17.60	19.20
		50	0	17.50	17.90	17.46	19.20
	64QAM	1	0	18.07	18.14	18.15	19.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20825/2507.5	21100/2535	21375/2562.5		
		1	25	18.38	17.65	18.36	19.20	
		1	49	18.23	17.67	18.24	19.20	
		25	0	17.99	17.50	17.95	19.20	
		25	13	18.22	17.91	17.48	19.20	
		25	25	18.12	17.80	17.55	19.20	
		50	0	18.06	17.70	18.06	19.20	
15MHz	QPSK	1	0	18.21	18.34	18.10	19.20	
		1	38	18.25	18.12	17.91	19.20	
		1	74	18.33	18.07	17.97	19.20	
		36	0	18.18	18.06	17.62	19.20	
		36	18	18.18	18.04	17.62	19.20	
		36	39	17.62	17.98	17.86	19.20	
	16QAM	75	0	18.15	18.02	17.71	19.20	
		1	0	18.41	18.24	17.92	19.20	
		1	38	18.16	18.11	17.79	19.20	
		1	74	17.53	18.05	17.65	19.20	
		36	0	17.65	18.37	17.56	19.20	
		36	18	17.68	18.23	17.63	19.20	
	64QAM	36	39	17.48	17.99	17.62	19.20	
		75	0	17.51	17.88	17.46	19.20	
		1	0	18.04	18.16	18.14	19.20	
		1	38	18.37	17.64	18.37	19.20	
		1	74	18.23	17.68	18.23	19.20	
		36	0	17.97	17.49	17.97	19.20	
	20MHz	QPSK	36	18	18.23	17.89	17.48	19.20
			36	39	18.12	17.80	17.53	19.20
			75	0	18.04	17.67	18.05	19.20
			1	0	18.18	18.30	18.07	19.20
			1	50	18.24	18.08	17.89	19.20
			1	99	18.31	18.06	17.94	19.20
16QAM		50	0	18.15	18.01	17.58	19.20	
		50	25	18.16	18.00	17.59	19.20	
		50	50	17.59	17.93	17.82	19.20	
		100	0	18.12	17.97	17.67	19.20	
		1	0	18.39	18.20	17.87	19.20	
		1	50	18.12	18.09	17.75	19.20	
		1	99	17.51	18.02	17.63	19.20	
		50	0	17.62	18.33	17.53	19.20	
		50	25	17.65	18.21	17.60	19.20	
		50	25	17.65	18.21	17.60	19.20	



		50	50	17.45	17.94	17.58	19.20
		100	0	17.49	17.84	17.43	19.20
	64QAM	1	0	18.02	18.12	18.09	19.20
		1	50	18.33	17.62	18.33	19.20
		1	99	18.21	17.65	18.21	19.20
		50	0	17.94	17.45	17.94	19.20
		50	25	18.20	17.87	17.45	19.20
		50	50	18.09	17.75	17.49	19.20
		100	0	18.02	17.63	18.02	19.20

LTE FDD Band 12 (Receiver on)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	19.96	19.85	19.96	20.70
		1	2	20.00	19.96	20.03	20.70
		1	5	19.91	19.95	20.05	20.70
		3	0	19.88	19.89	19.96	20.70
		3	2	19.90	19.88	19.99	20.70
		3	3	19.92	19.90	20.04	20.70
		6	0	19.94	19.90	20.07	20.70
	16QAM	1	0	20.16	19.96	20.06	20.70
		1	2	20.19	20.06	20.24	20.70
		1	5	20.21	20.09	20.16	20.70
		3	0	19.84	19.87	19.93	20.70
		3	2	19.87	19.85	19.95	20.70
		3	3	19.88	19.88	19.95	20.70
		6	0	19.89	19.84	20.03	20.70
	64QAM	1	0	20.16	19.96	20.06	20.70
		1	2	19.88	19.83	19.94	20.70
		1	5	20.09	20.03	20.16	20.70
		3	0	19.84	19.87	19.93	20.70
		3	2	19.90	19.81	20.00	20.70
		3	3	19.98	19.98	20.05	20.70
		6	0	19.77	19.76	19.86	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	19.98	19.89	19.99	20.70
		1	7	20.00	19.98	20.07	20.70
		1	14	19.94	20.00	20.09	20.70
		8	0	19.92	19.96	20.03	20.70



		8	4	19.93	19.96	20.05	20.70
		8	7	19.96	19.95	20.08	20.70
		15	0	19.96	19.94	20.10	20.70
	16QAM	1	0	20.19	19.98	20.09	20.70
		1	7	20.22	20.08	20.28	20.70
		1	14	20.23	20.13	20.19	20.70
		8	0	19.89	19.91	19.96	20.70
		8	4	19.92	19.92	20.01	20.70
		8	7	19.92	19.94	20.02	20.70
	64QAM	15	0	19.92	19.88	20.06	20.70
		1	0	20.19	19.98	20.09	20.70
		1	7	19.91	19.85	19.98	20.70
		1	14	20.11	20.07	20.19	20.70
		8	0	19.89	19.91	19.96	20.70
		8	4	19.95	19.88	20.06	20.70
8		7	20.02	20.04	20.12	20.70	
		15	0	19.79	19.82	19.91	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	19.95	19.87	19.95	20.70
		1	13	19.98	19.94	20.04	20.70
		1	24	19.91	19.95	20.05	20.70
		12	0	19.89	19.91	19.99	20.70
		12	6	19.91	19.92	20.00	20.70
		12	13	19.94	19.93	20.04	20.70
		25	0	19.94	19.93	20.08	20.70
	16QAM	1	0	20.16	19.94	20.06	20.70
		1	13	20.19	20.06	20.25	20.70
		1	24	20.20	20.11	20.15	20.70
		12	0	19.87	19.87	19.93	20.70
		12	6	19.89	19.87	19.97	20.70
		12	13	19.89	19.89	19.98	20.70
		25	0	19.90	19.84	20.01	20.70
	64QAM	1	0	20.16	19.94	20.06	20.70
		1	13	19.88	19.83	19.95	20.70
		1	24	20.08	20.05	20.15	20.70
		12	0	19.87	19.87	19.93	20.70
		12	6	19.92	19.83	20.02	20.70
		12	13	19.99	19.99	20.08	20.70
		25	0	19.77	19.78	19.86	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	19.93	19.80	19.93	20.70





		1	25	19.98	19.94	20.03	20.70
		1	49	19.88	19.93	20.01	20.70
		25	0	19.87	19.87	19.96	20.70
		25	13	19.89	19.88	19.97	20.70
		25	25	19.90	19.89	20.01	20.70
		50	0	19.94	19.86	20.03	20.70
	16QAM	1	0	20.11	19.91	20.01	20.70
		1	25	20.16	20.05	20.22	20.70
		1	49	20.18	20.06	20.13	20.70
		25	0	19.84	19.86	19.91	20.70
		25	13	19.85	19.84	19.93	20.70
		25	25	19.87	19.85	19.95	20.70
	64QAM	50	0	19.88	19.80	19.98	20.70
		1	0	20.11	19.91	20.01	20.70
		1	25	19.85	19.82	19.92	20.70
		1	49	20.06	20.00	20.13	20.70
		25	0	19.84	19.86	19.91	20.70
		25	13	19.88	19.80	19.98	20.70
		25	25	19.97	19.95	20.05	20.70
	50	0	19.75	19.74	19.83	20.70	

LTE FDD Band 12 (Receiver off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	24.40	24.37	24.44	25.20
		1	2	24.44	24.42	24.69	25.20
		1	5	24.50	24.60	24.69	25.20
		3	0	23.67	23.76	23.78	24.20
		3	2	23.69	23.80	23.81	24.20
		3	3	23.66	23.81	23.88	24.20
		6	0	23.45	23.50	23.68	24.20
	16QAM	1	0	23.63	23.61	23.63	24.20
		1	2	23.61	23.50	23.79	24.20
		1	5	23.58	23.54	23.86	24.20
		3	0	22.65	22.72	22.63	23.20
		3	2	22.62	22.66	22.71	23.20
		3	3	22.58	22.73	22.76	23.20
		6	0	22.25	22.43	22.54	23.20
	64QAM	1	0	22.39	22.43	22.50	23.20
		1	2	22.34	22.36	22.45	23.20
		1	5	22.28	22.38	22.45	23.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23025/700.5	23095/707.5	23165/714.5		
		3	0	21.61	21.62	21.61	22.20	
		3	2	21.65	21.67	21.72	22.20	
		3	3	21.67	21.83	21.68	22.20	
		6	0	21.44	21.45	21.44	22.20	
3MHz	QPSK	1	0	24.42	24.41	24.47	25.20	
		1	7	24.42	24.45	24.73	25.20	
		1	14	23.39	24.65	24.73	25.20	
		8	0	23.47	23.58	23.61	24.20	
		8	4	23.51	23.60	23.63	24.20	
		8	7	23.46	23.62	23.68	24.20	
		15	0	23.45	23.54	23.71	24.20	
	16QAM	1	0	23.66	23.63	23.66	24.20	
		1	7	23.64	23.50	23.83	24.20	
		1	14	23.60	23.58	23.89	24.20	
		8	0	22.46	22.55	22.45	23.20	
		8	4	22.43	22.49	22.53	23.20	
		8	7	22.38	22.55	22.59	23.20	
		15	0	22.28	22.47	22.57	23.20	
	64QAM	1	0	22.42	22.45	22.53	23.20	
		1	7	22.37	22.36	22.47	23.20	
		1	14	22.30	22.37	22.48	23.20	
		8	0	21.42	21.45	21.43	22.20	
		8	4	21.46	21.50	21.54	22.20	
		8	7	21.47	21.65	21.51	22.20	
		15	0	21.47	21.49	21.47	22.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23035/701.5	23095/707.5	23155/713.5	
	5MHz	QPSK	1	0	24.39	24.39	24.43	25.20
1			13	24.40	24.41	24.70	25.20	
1			24	23.36	24.60	24.69	25.20	
12			0	23.44	23.53	23.57	24.20	
12			6	23.49	23.56	23.58	24.20	
12			13	23.44	23.60	23.64	24.20	
25			0	23.45	23.53	23.69	24.20	
16QAM		1	0	23.63	23.59	23.63	24.20	
		1	13	23.61	23.48	23.80	24.20	
		1	24	23.57	23.56	23.85	24.20	
		12	0	22.44	22.51	22.42	23.20	
		12	6	22.40	22.44	22.49	23.20	
		12	13	22.35	22.50	22.55	23.20	
		25	0	22.26	22.43	22.52	23.20	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23060/704	23095/707.5	23130/711		
10MHz	64QAM	1	0	22.39	22.45	22.50	23.20	
		1	13	22.34	22.38	22.44	23.20	
		1	24	22.31	22.35	22.44	23.20	
		12	0	21.40	21.41	21.44	22.20	
		12	6	21.43	21.45	21.50	22.20	
		12	13	21.44	21.60	21.47	22.20	
		25	0	21.45	21.45	21.42	22.20	
	QPSK	1	0	24.37	24.32	24.41	25.20	
		1	25	24.40	24.41	24.69	25.20	
		1	49	23.33	24.58	24.65	25.20	
		25	0	23.42	23.49	23.54	24.20	
		25	13	23.47	23.52	23.55	24.20	
		25	25	23.40	23.56	23.61	24.20	
		50	0	23.44	23.46	23.64	24.20	
		16QAM	1	0	23.62	23.56	23.58	24.20
			1	25	23.58	23.47	23.77	24.20
			1	49	23.55	23.51	23.83	24.20
			25	0	22.41	22.50	22.40	23.20
			25	13	22.36	22.41	22.45	23.20
			25	25	22.33	22.46	22.52	23.20
			50	0	22.24	22.39	22.49	23.20
64QAM	1	0	22.34	22.38	22.45	23.20		
	1	25	22.31	22.33	22.41	23.20		
	1	49	22.25	22.30	22.42	23.20		
	25	0	21.37	21.40	21.38	22.20		
	25	13	21.39	21.42	21.46	22.20		
	25	25	21.42	21.56	21.44	22.20		
	50	0	21.43	21.41	21.39	22.20		

LTE FDD Band 12 (Receiver on+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	17.41	17.51	17.48	18.20
		1	2	17.48	17.57	17.52	18.20
		1	5	17.38	17.52	17.58	18.20
		3	0	17.67	17.76	17.79	18.20
		3	2	17.66	17.79	17.79	18.20
		3	3	17.72	17.77	17.81	18.20
		6	0	17.49	17.53	17.49	18.20



	16QAM	1	0	17.80	17.53	17.64	18.20	
		1	2	17.78	17.61	17.71	18.20	
		1	5	17.72	17.52	17.63	18.20	
		3	0	17.61	17.70	17.69	18.20	
		3	2	17.65	17.71	17.73	18.20	
		3	3	17.66	17.71	17.74	18.20	
		6	0	17.39	17.43	17.44	18.20	
	64QAM	1	0	17.53	17.51	17.51	18.20	
		1	2	17.49	17.50	17.48	18.20	
		1	5	17.47	17.58	17.42	18.20	
		3	0	17.82	17.91	17.69	18.20	
		3	2	17.75	17.85	18.01	18.20	
		3	3	17.73	17.73	17.93	18.20	
		6	0	17.46	17.65	17.63	18.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23025/700.5	23095/707.5	23165/714.5		
3MHz	QPSK	1	0	17.43	17.55	17.51	18.20	
		1	7	17.46	17.60	17.56	18.20	
		1	14	17.41	17.57	17.62	18.20	
		8	0	17.47	17.58	17.62	18.20	
		8	4	17.48	17.59	17.61	18.20	
		8	7	17.52	17.58	17.61	18.20	
		15	0	17.49	17.57	17.52	18.20	
	16QAM	1	0	17.83	17.55	17.67	18.20	
		1	7	17.81	17.61	17.75	18.20	
		1	14	17.74	17.56	17.66	18.20	
		8	0	17.42	17.53	17.51	18.20	
		8	4	17.46	17.54	17.55	18.20	
		8	7	17.46	17.53	17.57	18.20	
		15	0	17.42	17.47	17.47	18.20	
	64QAM	1	0	17.56	17.53	17.54	18.20	
		1	7	17.52	17.50	17.50	18.20	
		1	14	17.49	17.57	17.45	18.20	
		8	0	17.63	17.74	17.51	18.20	
		8	4	17.56	17.68	17.83	18.20	
		8	7	17.53	17.55	17.76	18.20	
		15	0	17.49	17.69	17.66	18.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23035/701.5	23095/707.5	23155/713.5	
	5MHz	QPSK	1	0	17.40	17.53	17.47	18.20
			1	13	17.44	17.56	17.53	18.20
			1	24	17.38	17.52	17.58	18.20
			12	0	17.44	17.53	17.58	18.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23060/704	23095/707.5	23130/711		
10MHz	16QAM	12	6	17.46	17.55	17.56	18.20	
		12	13	17.50	17.56	17.57	18.20	
		25	0	17.49	17.56	17.50	18.20	
		1	0	17.80	17.51	17.64	18.20	
		1	13	17.78	17.59	17.72	18.20	
		1	24	17.71	17.54	17.62	18.20	
		12	0	17.40	17.49	17.48	18.20	
		12	6	17.43	17.49	17.51	18.20	
		12	13	17.43	17.48	17.53	18.20	
	25	0	17.40	17.43	17.42	18.20		
	64QAM	1	0	17.53	17.53	17.51	18.20	
		1	13	17.49	17.52	17.47	18.20	
		1	24	17.50	17.55	17.41	18.20	
		12	0	17.61	17.70	17.52	18.20	
		12	6	17.53	17.63	17.79	18.20	
		12	13	17.50	17.50	17.72	18.20	
		25	0	17.47	17.65	17.61	18.20	
		QPSK	1	0	17.38	17.46	17.45	18.20
			1	25	17.44	17.56	17.52	18.20
	1		49	17.35	17.50	17.54	18.20	
	25		0	17.42	17.49	17.55	18.20	
	25		13	17.44	17.51	17.53	18.20	
	25		25	17.46	17.52	17.54	18.20	
	50		0	17.48	17.49	17.45	18.20	
	16QAM	1	0	17.70	17.48	17.59	18.20	
		1	25	17.75	17.58	17.69	18.20	
		1	49	17.69	17.49	17.60	18.20	
		25	0	17.37	17.48	17.46	18.20	
25		13	17.39	17.46	17.47	18.20		
25		25	17.41	17.44	17.50	18.20		
50		0	17.38	17.39	17.39	18.20		
64QAM	1	0	17.48	17.46	17.46	18.20		
	1	25	17.46	17.47	17.44	18.20		
	1	49	17.44	17.50	17.39	18.20		
	25	0	17.58	17.69	17.46	18.20		
	25	13	17.49	17.60	17.75	18.20		
	25	25	17.48	17.46	17.69	18.20		
	50	0	17.45	17.61	17.58	18.20		

LTE FDD Band 12 (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	21.75	21.83	21.82	22.70
		1	2	21.82	21.82	22.04	22.70
		1	5	21.88	22.00	22.05	22.70
		3	0	21.94	21.93	22.06	22.70
		3	2	21.92	21.95	22.12	22.70
		3	3	21.98	22.05	22.17	22.70
		6	0	21.85	21.84	22.02	22.70
	16QAM	1	0	22.15	21.83	21.97	22.70
		1	2	22.13	21.85	22.13	22.70
		1	5	22.15	22.00	22.30	22.70
		3	0	21.93	21.97	22.02	22.70
		3	2	21.96	22.05	22.11	22.70
		3	3	21.98	22.11	22.10	22.70
		6	0	21.72	21.93	21.97	22.70
	64QAM	1	0	21.93	21.90	21.89	22.70
		1	2	21.82	21.83	21.94	22.70
		1	5	21.89	21.91	21.97	22.70
		3	0	21.49	21.55	21.59	22.20
		3	2	21.57	21.55	21.55	22.20
		3	3	21.60	21.60	21.52	22.20
		6	0	21.46	21.50	21.42	22.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	21.77	21.87	21.85	22.70
		1	7	21.80	21.85	22.08	22.70
		1	14	21.91	22.05	22.09	22.70
		8	0	21.84	21.85	21.99	22.70
		8	4	21.84	21.85	22.04	22.70
		8	7	21.88	21.96	22.07	22.70
		15	0	21.85	21.88	22.05	22.70
	16QAM	1	0	22.18	21.85	22.00	22.70
		1	7	22.16	21.85	22.17	22.70
		1	14	22.17	22.04	22.33	22.70
		8	0	21.84	21.90	21.94	22.70
		8	4	21.87	21.98	22.03	22.70
		8	7	21.88	22.03	22.03	22.70
		15	0	21.75	21.97	22.00	22.70
	64QAM	1	0	21.96	21.92	21.92	22.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23035/701.5	23095/707.5	23155/713.5		
		1	7	21.85	21.83	21.96	22.70	
		1	14	21.91	21.90	22.00	22.70	
		8	0	21.40	21.48	21.51	22.20	
		8	4	21.48	21.48	21.47	22.20	
		8	7	21.50	21.52	21.45	22.20	
		15	0	21.49	21.54	21.45	22.20	
5MHz	QPSK	1	0	21.74	21.85	21.81	22.70	
		1	13	21.78	21.81	22.05	22.70	
		1	24	21.88	22.00	22.05	22.70	
		12	0	21.81	21.80	21.95	22.70	
		12	6	21.82	21.81	21.99	22.70	
		12	13	21.86	21.94	22.03	22.70	
		25	0	21.85	21.87	22.03	22.70	
	16QAM	1	0	22.15	21.81	21.97	22.70	
		1	13	22.13	21.83	22.14	22.70	
		1	24	22.14	22.02	22.29	22.70	
		12	0	21.82	21.86	21.91	22.70	
		12	6	21.84	21.93	21.99	22.70	
		12	13	21.85	21.98	21.99	22.70	
		25	0	21.73	21.93	21.95	22.70	
	64QAM	1	0	21.93	21.92	21.89	22.70	
		1	13	21.82	21.85	21.93	22.70	
		1	24	21.92	21.88	21.96	22.70	
		12	0	21.38	21.44	21.52	22.20	
		12	6	21.45	21.43	21.43	22.20	
		12	13	21.47	21.47	21.41	22.20	
		25	0	21.47	21.50	21.40	22.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23060/704	23095/707.5	23130/711	
	10MHz	QPSK	1	0	21.72	21.78	21.79	22.70
1			25	21.78	21.81	22.04	22.70	
1			49	21.85	21.98	22.01	22.70	
25			0	21.79	21.76	21.92	22.70	
25			13	21.80	21.77	21.96	22.70	
25			25	21.82	21.90	22.00	22.70	
50			0	21.84	21.80	21.98	22.70	
16QAM		1	0	21.93	21.78	21.92	22.70	
		1	25	22.10	21.82	22.11	22.70	
		1	49	22.12	21.97	22.27	22.70	
		25	0	21.79	21.85	21.89	22.70	
		25	13	21.80	21.90	21.95	22.70	



		25	25	21.83	21.94	21.96	22.70
		50	0	21.71	21.89	21.92	22.70
	64QAM	1	0	21.88	21.85	21.84	22.70
		1	25	21.79	21.80	21.90	22.70
		1	49	21.86	21.83	21.94	22.70
		25	0	21.35	21.43	21.46	22.20
		25	13	21.41	21.40	21.39	22.20
		25	25	21.45	21.43	21.38	22.20
		50	0	21.45	21.46	21.37	22.20

LTE FDD Band 17 (Receiver on)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	19.61	19.69	19.67	20.70
		1	13	19.69	19.64	19.67	20.70
		1	24	19.77	19.72	19.72	20.70
		12	0	19.70	16.68	19.65	20.70
		12	6	19.74	19.70	19.78	20.70
		12	13	19.77	19.71	19.74	20.70
		25	0	19.66	19.78	19.74	20.70
	16QAM	1	0	19.74	19.79	19.79	20.70
		1	13	19.75	19.71	19.74	20.70
		1	24	19.81	19.74	19.77	20.70
		12	0	19.70	19.65	19.70	20.70
		12	6	19.69	19.74	19.68	20.70
		12	13	19.70	19.70	19.75	20.70
		25	0	19.62	19.57	19.58	20.70
	64QAM	1	0	19.71	19.70	19.73	20.70
		1	13	19.73	19.72	19.68	20.70
		1	24	19.74	19.78	19.71	20.70
		12	0	19.72	19.66	19.69	20.70
		12	6	19.71	19.65	19.69	20.70
		12	13	19.63	19.74	19.66	20.70
		25	0	19.67	19.67	19.69	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
10MHz	QPSK	1	0	23780/709	23790/710	23800/711	20.70
		1	25	19.59	19.62	19.65	20.70
		1	49	19.69	19.64	19.66	20.70





		25	0	19.68	16.64	19.62	20.70
		25	13	19.72	19.66	19.75	20.70
		25	25	19.73	19.67	19.71	20.70
		50	0	19.66	19.71	19.69	20.70
	16QAM	1	0	19.69	19.76	19.74	20.70
		1	25	19.72	19.70	19.71	20.70
		1	49	19.79	19.69	19.75	20.70
		25	0	19.67	19.64	19.68	20.70
		25	13	19.65	19.71	19.64	20.70
		25	25	19.68	19.66	19.72	20.70
		50	0	19.60	19.53	19.55	20.70
	64QAM	1	0	19.66	19.67	19.68	20.70
		1	25	19.70	19.71	19.65	20.70
		1	49	19.72	19.73	19.69	20.70
		25	0	19.69	19.65	19.67	20.70
		25	13	19.67	19.62	19.65	20.70
		25	25	19.61	19.70	19.63	20.70
		50	0	19.65	19.63	19.66	20.70

LTE FDD Band 17 (Receiver off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	24.13	24.19	24.18	25.20
		1	13	24.26	24.27	24.23	25.20
		1	24	24.22	24.22	24.25	25.20
		12	0	23.23	23.26	23.26	24.20
		12	6	23.30	23.28	23.28	24.20
		12	13	23.22	23.23	23.23	24.20
		25	0	23.15	23.24	23.23	24.20
	16QAM	1	0	23.26	23.27	23.28	24.20
		1	13	23.28	23.27	23.31	24.20
		1	24	23.30	23.30	23.29	24.20
		12	0	22.24	22.24	22.22	23.20
		12	6	22.28	22.21	22.23	23.20
		12	13	22.14	22.18	22.16	23.20
		25	0	22.16	22.19	22.14	23.20
	64QAM	1	0	22.29	22.22	22.40	23.20
		1	13	22.30	22.24	22.38	23.20
		1	24	22.28	22.22	22.33	23.20
		12	0	21.50	21.37	21.40	22.20
		12	6	21.38	21.29	21.31	22.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
				12	13	21.39	
25	0	21.34	21.43	21.38	22.20		
10MHz	QPSK	1	0	24.11	24.12	24.16	25.20
		1	25	24.26	24.27	24.22	25.20
		1	49	24.19	24.20	24.21	25.20
		25	0	23.21	23.22	23.23	24.20
		25	13	23.28	23.24	23.25	24.20
		25	25	23.18	23.19	23.20	24.20
		50	0	23.15	23.17	23.18	24.20
	16QAM	1	0	23.21	23.24	23.23	24.20
		1	25	23.25	23.26	23.28	24.20
		1	49	23.28	23.25	23.27	24.20
		25	0	22.21	22.23	22.20	23.20
		25	13	22.24	22.18	22.19	23.20
		25	25	22.12	22.14	22.13	23.20
		50	0	22.14	22.15	22.11	23.20
	64QAM	1	0	22.24	22.19	22.35	23.20
		1	25	22.27	22.23	22.35	23.20
		1	49	22.26	22.17	22.31	23.20
		25	0	21.47	21.36	21.38	22.20
		25	13	21.34	21.26	21.27	22.20
		25	25	21.37	21.29	21.33	22.20
		50	0	21.32	21.39	21.35	22.20

LTE FDD Band 17 (Receiver on+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	17.15	17.40	17.31	18.20
		1	13	17.20	17.29	17.31	18.20
		1	24	17.24	17.29	17.30	18.20
		12	0	17.27	17.25	17.23	18.20
		12	6	17.30	17.33	17.26	18.20
		12	13	17.28	17.29	17.31	18.20
		25	0	17.25	17.41	17.29	18.20
	16QAM	1	0	17.39	17.34	17.42	18.20
		1	13	17.34	17.35	17.42	18.20
		1	24	17.28	17.33	17.31	18.20
		12	0	17.30	17.31	17.28	18.20
		12	6	17.28	17.28	13.24	18.20
		12	13	17.22	17.25	13.30	18.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
	64QAM	25	0	17.26	17.26	17.26	18.20
		1	0	17.38	17.27	17.31	18.20
		1	13	17.31	17.33	17.28	18.20
		1	24	17.32	17.29	17.23	18.20
		12	0	17.34	17.35	17.28	18.20
		12	6	17.29	17.33	17.37	18.20
		12	13	17.29	17.32	17.34	18.20
		25	0	17.26	17.30	17.23	18.20
10MHz	QPSK	1	0	17.13	17.33	17.29	18.20
		1	25	17.20	17.29	17.30	18.20
		1	49	17.21	17.27	17.26	18.20
		25	0	17.25	17.21	17.20	18.20
		25	13	17.28	17.29	17.23	18.20
		25	25	17.24	17.25	17.28	18.20
		50	0	17.25	17.34	17.24	18.20
	16QAM	1	0	17.34	17.31	17.37	18.20
		1	25	17.31	17.34	17.39	18.20
		1	49	17.26	17.28	17.29	18.20
		25	0	17.27	17.30	17.26	18.20
		25	13	17.24	17.25	13.20	18.20
		25	25	17.20	17.21	13.27	18.20
		50	0	17.24	17.22	17.23	18.20
	64QAM	1	0	17.33	17.24	17.26	18.20
		1	25	17.28	17.32	17.25	18.20
		1	49	17.30	17.24	17.21	18.20
		25	0	17.31	17.34	17.26	18.20
		25	13	17.25	17.30	17.33	18.20
		25	25	17.27	17.28	17.31	18.20
		50	0	17.24	17.26	17.20	18.20

LTE FDD Band 17 (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	21.62	21.68	21.67	22.70
		1	13	21.69	21.72	21.71	22.70
		1	24	21.67	21.67	21.77	22.70
		12	0	21.65	21.72	21.69	22.70
		12	6	21.67	21.75	21.67	22.70
		12	13	21.71	21.67	21.77	22.70



	16QAM	25	0	21.71	21.72	21.73	22.70
		1	0	21.86	21.80	21.79	22.70
		1	13	21.84	21.85	21.92	22.70
		1	24	21.79	21.85	21.81	22.70
		12	0	21.70	21.64	21.64	22.70
		12	6	21.69	21.67	21.73	22.70
		12	13	21.70	21.70	21.73	22.70
		25	0	21.66	21.65	21.63	22.70
	64QAM	1	0	21.80	21.70	21.78	22.70
		1	13	21.72	21.67	21.73	22.70
		1	24	21.73	21.59	21.73	22.70
		12	0	21.76	21.58	21.70	22.20
		12	6	21.79	21.64	21.56	22.20
		12	13	21.71	21.63	21.63	22.20
		25	0	21.69	21.67	21.68	22.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	21.60	21.61	21.65	22.70
		1	25	21.69	21.72	21.70	22.70
		1	49	21.64	21.65	21.73	22.70
		25	0	21.63	21.68	21.66	22.70
		25	13	21.65	21.71	21.64	22.70
		25	25	21.67	21.63	21.74	22.70
		50	0	21.70	21.65	21.68	22.70
	16QAM	1	0	21.78	21.77	21.74	22.70
		1	25	21.81	21.84	21.89	22.70
		1	49	21.77	21.80	21.79	22.70
		25	0	21.67	21.63	21.62	22.70
		25	13	21.65	21.64	21.69	22.70
		25	25	21.68	21.66	21.70	22.70
		50	0	21.64	21.61	21.60	22.70
	64QAM	1	0	21.75	21.63	21.73	22.70
		1	25	21.69	21.62	21.70	22.70
		1	49	21.67	21.54	21.71	22.70
		25	0	21.73	21.57	21.64	22.20
		25	13	21.75	21.61	21.52	22.20
		25	25	21.69	21.59	21.60	22.20
		50	0	21.67	21.63	21.65	22.20



LTE FDD Band 26 (Receiver on)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	17.19	17.18	17.08	18.20
		1	2	17.30	17.23	17.18	18.20
		1	5	17.08	17.04	17.10	18.20
		3	0	17.28	17.33	17.23	18.20
		3	2	17.23	17.32	17.23	18.20
		3	3	17.30	17.22	17.21	18.20
		6	0	17.18	17.18	17.20	18.20
	16QAM	1	0	17.11	17.27	17.10	18.20
		1	2	17.09	17.33	17.30	18.20
		1	5	17.13	17.17	17.08	18.20
		3	0	17.17	17.18	17.23	18.20
		3	2	17.20	17.18	17.24	18.20
		3	3	17.18	17.18	17.23	18.20
		6	0	17.07	17.11	17.13	18.20
	64QAM	1	0	17.16	17.18	17.20	18.20
		1	2	17.15	17.13	17.20	18.20
		1	5	17.21	17.18	17.11	18.20
		3	0	17.16	17.19	17.15	18.20
		3	2	17.20	17.23	17.20	18.20
		3	3	17.18	17.23	17.15	18.20
		6	0	17.14	17.19	17.10	18.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	17.21	17.22	17.11	18.20
		1	7	17.28	17.26	17.22	18.20
		1	14	17.11	17.09	17.14	18.20
		8	0	17.23	17.30	17.21	18.20
		8	4	17.20	17.27	17.20	18.20
		8	7	17.25	17.18	17.16	18.20
		15	0	17.18	17.22	17.23	18.20
	16QAM	1	0	17.14	17.29	17.13	18.20
		1	7	17.12	17.33	17.34	18.20
		1	14	17.15	17.21	17.11	18.20
		8	0	17.13	17.16	17.20	18.20
		8	4	17.16	17.16	17.21	18.20
		8	7	17.13	17.15	17.21	18.20
		15	0	17.10	17.15	17.16	18.20
	64QAM	1	0	17.19	17.20	17.23	18.20
		1	7	17.18	17.13	17.22	18.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				26715/816.5	26865/831.5	27015/846.5		
5MHz	QPSK	1	14	17.23	17.17	17.14	18.20	
		8	0	17.12	17.17	17.12	18.20	
		8	4	17.16	17.21	17.17	18.20	
		8	7	17.13	17.20	17.13	18.20	
		15	0	17.17	17.23	17.13	18.20	
		16QAM	1	0	17.18	17.20	17.07	18.20
			1	13	17.26	17.22	17.19	18.20
	1		24	17.08	17.04	17.10	18.20	
	12		0	17.20	17.25	17.17	18.20	
	12		6	17.18	17.23	17.15	18.20	
	12		13	17.23	17.16	17.12	18.20	
	25		0	17.18	17.21	17.21	18.20	
	64QAM	1	0	17.11	17.25	17.10	18.20	
		1	13	17.09	17.31	17.31	18.20	
		1	24	17.12	17.19	17.07	18.20	
		12	0	17.11	17.12	17.17	18.20	
		12	6	17.13	17.11	17.17	18.20	
		12	13	17.10	17.10	17.17	18.20	
		25	0	17.08	17.11	17.11	18.20	
	QPSK	1	0	17.16	17.20	17.20	18.20	
		1	13	17.15	17.15	17.19	18.20	
1		24	17.24	17.15	17.10	18.20		
12		0	17.10	17.13	17.13	18.20		
12		6	17.13	17.16	17.13	18.20		
12		13	17.10	17.15	17.09	18.20		
25		0	17.15	17.19	17.08	18.20		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				26750/820	26865/831.5	26990/844		
10MHz	QPSK	1	0	17.20	17.21	17.10	18.20	
		1	25	17.29	17.27	17.23	18.20	
		1	49	17.10	17.08	17.13	18.20	
		25	0	17.23	17.30	17.21	18.20	
		25	13	17.21	17.28	17.19	18.20	
		25	25	17.25	17.20	17.17	18.20	
		50	0	17.22	17.23	17.25	18.20	
	16QAM	1	0	17.13	17.28	17.12	18.20	
		1	25	17.12	17.35	17.34	18.20	
		1	49	17.15	17.21	17.10	18.20	
		25	0	17.14	17.17	17.21	18.20	
		25	13	17.15	17.15	17.20	18.20	
		25	25	17.13	17.15	17.21	18.20	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26775/822.5	26865/831.5	26965/841.5	
	64QAM	50	0	17.11	17.16	17.15	18.20
		1	0	17.18	17.19	17.22	18.20
		1	25	17.18	17.15	17.22	18.20
		1	49	17.23	17.17	17.13	18.20
		25	0	17.13	17.18	17.13	18.20
		25	13	17.15	17.20	17.16	18.20
		25	25	17.13	17.20	17.13	18.20
		50	0	17.18	17.24	17.12	18.20
15MHz	QPSK	1	0	17.16	17.13	17.05	18.20
		1	38	17.26	17.22	17.18	18.20
		1	74	17.05	17.02	17.06	18.20
		36	0	17.18	17.21	17.14	18.20
		36	18	17.16	17.19	17.12	18.20
		36	39	17.19	17.12	17.09	18.20
		75	0	17.17	17.14	17.16	18.20
	16QAM	1	0	17.20	17.22	17.05	18.20
		1	38	17.06	17.30	17.28	18.20
		1	74	17.10	17.14	17.05	18.20
		36	0	17.08	17.11	17.15	18.20
		36	18	17.09	17.08	17.13	18.20
		36	39	17.08	17.06	17.14	18.20
		75	0	17.06	17.07	17.08	18.20
	64QAM	1	0	17.11	17.13	17.15	18.20
		1	38	17.12	17.10	17.16	18.20
		1	74	17.18	17.10	17.08	18.20
		36	0	17.07	17.12	17.07	18.20
		36	18	17.09	17.13	17.09	18.20
		36	39	17.08	17.11	17.06	18.20
		75	0	17.13	17.15	17.05	18.20

LTE FDD Band 26 (Receiver off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	23.74	24.13	24.09	25.20
		1	2	23.74	24.25	24.05	25.20
		1	5	24.06	24.10	24.06	25.20
		3	0	23.26	23.32	23.20	24.20
		3	2	23.21	23.30	23.20	24.20
		3	3	23.24	23.19	23.19	24.20
		6	0	23.21	23.23	23.26	24.20



	16QAM	1	0	23.08	23.45	23.18	24.20	
		1	2	23.06	23.60	23.12	24.20	
		1	5	23.16	23.37	23.12	24.20	
		3	0	22.18	22.13	22.18	23.20	
		3	2	22.18	22.13	22.18	23.20	
		3	3	22.13	22.14	22.20	23.20	
		6	0	22.12	22.18	22.13	23.20	
	64QAM	1	0	22.20	22.13	22.21	23.20	
		1	2	22.15	22.13	22.21	23.20	
		1	5	22.16	22.26	22.22	23.20	
		3	0	21.23	21.20	21.15	22.20	
		3	2	21.27	21.27	21.30	22.20	
		3	3	21.19	21.22	21.20	22.20	
		6	0	21.15	21.19	21.22	22.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				26705/815.5	26865/831.5	27025/847.5		
3MHz	QPSK	1	0	23.76	24.17	24.12	25.20	
		1	7	23.72	24.28	24.09	25.20	
		1	14	24.09	24.15	24.10	25.20	
		8	0	23.28	23.36	23.25	24.20	
		8	4	23.25	23.32	23.24	24.20	
		8	7	23.26	23.22	23.21	24.20	
		15	0	23.21	23.27	23.29	24.20	
	16QAM	1	0	23.11	23.47	23.21	24.20	
		1	7	23.09	23.60	23.16	24.20	
		1	14	23.18	23.41	23.15	24.20	
		8	0	22.21	22.18	22.22	23.20	
		8	4	22.21	22.18	22.22	23.20	
		8	7	22.15	22.18	22.25	23.20	
		15	0	22.15	22.22	22.16	23.20	
	64QAM	1	0	22.23	22.15	22.24	23.20	
		1	7	22.18	22.13	22.23	23.20	
		1	14	22.18	22.25	22.25	23.20	
		8	0	21.26	21.25	21.19	22.20	
		8	4	21.30	21.32	21.34	22.20	
		8	7	21.21	21.26	21.25	22.20	
		15	0	21.18	21.23	21.25	22.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					26715/816.5	26865/831.5	27015/846.5	
	5MHz	QPSK	1	0	23.73	24.15	24.08	25.20
			1	13	23.70	24.24	24.06	25.20
			1	24	24.06	24.10	24.06	25.20
			12	0	23.25	23.31	23.21	24.20





	16QAM	12	6	23.23	23.28	23.19	24.20
		12	13	23.24	23.20	23.17	24.20
		25	0	23.21	23.26	23.27	24.20
		1	0	23.08	23.43	23.18	24.20
		1	13	23.06	23.58	23.13	24.20
		1	24	23.15	23.39	23.11	24.20
		12	0	22.19	22.14	22.19	23.20
		12	6	22.18	22.13	22.18	23.20
		12	13	22.12	22.13	22.21	23.20
	25	0	22.13	22.18	22.11	23.20	
	64QAM	1	0	22.20	22.15	22.21	23.20
		1	13	22.15	22.15	22.20	23.20
		1	24	22.19	22.23	22.21	23.20
		12	0	21.24	21.21	21.20	22.20
		12	6	21.27	21.27	21.30	22.20
		12	13	21.18	21.21	21.21	22.20
25		0	21.16	21.19	21.20	22.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	1	0	23.75	24.16	24.11	25.20
		1	25	23.73	24.29	24.10	25.20
		1	49	24.08	24.14	24.09	25.20
		25	0	23.28	23.36	23.25	24.20
		25	13	23.26	23.33	23.23	24.20
		25	25	23.26	23.24	23.22	24.20
		50	0	23.25	23.28	23.31	24.20
	16QAM	1	0	23.10	23.46	23.20	24.20
		1	25	23.09	23.62	23.16	24.20
		1	49	23.18	23.41	23.14	24.20
		25	0	22.22	22.19	22.23	23.20
		25	13	22.20	22.17	22.21	23.20
		25	25	22.15	22.18	22.25	23.20
		50	0	22.16	22.23	22.15	23.20
	64QAM	1	0	22.22	22.14	22.23	23.20
		1	25	22.18	22.15	22.23	23.20
		1	49	22.18	22.25	22.24	23.20
		25	0	21.27	21.26	21.20	22.20
		25	13	21.29	21.31	21.33	22.20
		25	25	21.21	21.26	21.25	22.20
		50	0	21.19	21.24	21.24	22.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26775/822.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	23.71	24.08	24.06	25.20



		1	38	23.70	24.24	24.05	25.20
		1	74	24.03	24.08	24.02	25.20
		36	0	23.23	23.27	23.18	24.20
		36	18	23.21	23.24	23.16	24.20
		36	39	23.20	23.16	23.14	24.20
		75	0	23.20	23.19	23.22	24.20
		1	0	23.24	23.40	23.13	24.20
	16QAM	1	38	23.03	23.57	23.10	24.20
		1	74	23.13	23.34	23.09	24.20
		36	0	22.16	22.13	22.17	23.20
		36	18	22.14	22.10	22.14	23.20
		36	39	22.10	22.09	22.18	23.20
		75	0	22.11	22.14	22.08	23.20
		64QAM	1	0	22.15	22.08	22.16
	1		38	22.12	22.10	22.17	23.20
	1		74	22.13	22.18	22.19	23.20
	36		0	21.21	21.20	21.14	22.20
	36		18	21.23	21.24	21.26	22.20
	36		39	21.16	21.17	21.18	22.20
	75		0	21.14	21.15	21.17	22.20

LTE FDD Band 26 (Receiver on+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	13.14	13.09	13.01	14.20
		1	2	13.18	13.16	13.14	14.20
		1	5	13.12	13.02	13.05	14.20
		3	0	13.14	13.15	13.07	14.20
		3	2	13.07	13.10	13.07	14.20
		3	3	13.09	13.03	12.99	14.20
		6	0	13.11	13.15	13.09	14.20
	16QAM	1	0	13.07	13.20	13.32	14.20
		1	2	13.05	13.17	13.26	14.20
		1	5	13.15	13.13	13.29	14.20
		3	0	13.07	13.01	12.94	14.20
		3	2	13.06	13.03	12.96	14.20
		3	3	13.02	13.04	12.88	14.20
		6	0	13.06	13.06	13.03	14.20
	64QAM	1	0	13.20	13.26	13.18	14.20
		1	2	13.17	13.27	13.14	14.20
		1	5	13.13	13.33	13.10	14.20
		3	0	13.03	12.93	13.02	14.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				26705/815.5	26865/831.5	27025/847.5		
3MHz	QPSK	3	2	13.08	13.10	13.07	14.20	
		3	3	13.03	13.09	13.07	14.20	
		6	0	13.01	13.11	13.14	14.20	
		1	0	13.16	13.13	13.04	14.20	
		1	7	13.16	13.19	13.18	14.20	
		1	14	13.15	13.07	13.09	14.20	
		8	0	13.24	13.27	13.20	14.20	
	16QAM	8	4	13.19	13.20	13.19	14.20	
		8	7	13.19	13.14	13.09	14.20	
		15	0	13.11	13.19	13.12	14.20	
		1	0	13.10	13.22	13.35	14.20	
		1	7	13.08	13.17	13.30	14.20	
		1	14	13.17	13.17	13.32	14.20	
		8	0	13.18	13.14	13.06	14.20	
	64QAM	8	4	13.17	13.16	13.08	14.20	
		8	7	13.12	13.16	13.01	14.20	
		15	0	13.09	13.10	13.06	14.20	
		1	0	13.23	13.28	13.21	14.20	
		1	7	13.20	13.27	13.16	14.20	
		1	14	13.15	13.32	13.13	14.20	
		8	0	13.14	13.06	13.14	14.20	
	5MHz	QPSK	8	4	13.19	13.23	13.19	14.20
			8	7	13.13	13.21	13.20	14.20
			15	0	13.04	13.15	13.17	14.20
			1	0	13.13	13.11	13.00	14.20
			1	13	13.14	13.15	13.15	14.20
			1	24	13.12	13.02	13.05	14.20
12			0	13.21	13.22	13.16	14.20	
16QAM		12	6	13.17	13.16	13.14	14.20	
		12	13	13.17	13.12	13.05	14.20	
		25	0	13.11	13.18	13.10	14.20	
		1	0	13.07	13.18	13.32	14.20	
		1	13	13.05	13.15	13.27	14.20	
		1	24	13.14	13.15	13.28	14.20	
		12	0	13.16	13.10	13.03	14.20	
64QAM	12	6	13.14	13.11	13.04	14.20		
	12	13	13.09	13.11	12.97	14.20		
	25	0	13.07	13.06	13.01	14.20		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
		1	13	13.17	13.29	13.13	14.20
		1	24	13.16	13.30	13.09	14.20
		12	0	13.12	13.02	13.15	14.20
		12	6	13.16	13.18	13.15	14.20
		12	13	13.10	13.16	13.16	14.20
		25	0	13.02	13.11	13.12	14.20
10MHz	QPSK	1	0	13.15	13.12	13.03	14.20
		1	25	13.17	13.20	13.19	14.20
		1	49	13.14	13.06	13.08	14.20
		25	0	13.24	13.27	13.20	14.20
		25	13	13.20	13.21	13.18	14.20
		25	25	13.19	13.16	13.10	14.20
		50	0	13.15	13.20	13.14	14.20
	16QAM	1	0	13.09	13.21	13.34	14.20
		1	25	13.08	13.19	13.30	14.20
		1	49	13.17	13.17	13.31	14.20
		25	0	13.19	13.15	13.07	14.20
		25	13	13.16	13.15	13.07	14.20
		25	25	13.12	13.16	13.01	14.20
		50	0	13.10	13.11	13.05	14.20
	64QAM	1	0	13.22	13.27	13.20	14.20
		1	25	13.20	13.29	13.16	14.20
		1	49	13.15	13.32	13.12	14.20
		25	0	13.15	13.07	13.15	14.20
		25	13	13.18	13.22	13.18	14.20
		25	25	13.13	13.21	13.20	14.20
		50	0	13.05	13.16	13.16	14.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26775/822.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	13.11	13.04	12.98	14.20
		1	38	13.14	13.15	13.14	14.20
		1	74	13.09	13.00	13.01	14.20
		36	0	13.19	13.18	13.13	14.20
		36	18	13.15	13.12	13.11	14.20
		36	39	13.13	13.08	13.02	14.20
		75	0	13.10	13.11	13.05	14.20
	16QAM	1	0	13.17	13.15	13.27	14.20
		1	38	13.02	13.14	13.24	14.20
		1	74	13.12	13.10	13.26	14.20
		36	0	13.13	13.09	13.01	14.20
		36	18	13.10	13.08	13.00	14.20



		36	39	13.07	13.07	12.94	14.20
		75	0	13.05	13.02	12.98	14.20
	64QAM	1	0	13.15	13.21	13.13	14.20
		1	38	13.14	13.24	13.10	14.20
		1	74	13.10	13.25	13.07	14.20
		36	0	13.09	13.01	13.09	14.20
		36	18	13.12	13.15	13.11	14.20
		36	39	13.08	13.12	13.13	14.20
		75	0	13.00	13.07	13.09	14.20

LTE FDD Band 26 (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	20.17	20.16	20.08	21.20
		1	2	20.21	20.21	20.12	21.20
		1	5	20.19	20.07	20.05	21.20
		3	0	20.11	20.09	20.13	21.20
		3	2	20.06	20.11	20.13	21.20
		3	3	20.17	20.11	20.12	21.20
		6	0	20.12	20.22	20.22	21.20
	16QAM	1	0	20.24	20.11	20.36	21.20
		1	2	20.22	20.27	20.53	21.20
		1	5	20.21	20.00	20.32	21.20
		3	0	20.13	20.10	19.98	21.20
		3	2	20.13	20.11	20.00	21.20
		3	3	20.08	20.07	19.95	21.20
		6	0	20.09	20.10	20.11	21.20
	64QAM	1	0	20.12	20.10	20.09	21.20
		1	2	20.09	20.06	20.09	21.20
		1	5	20.04	20.08	20.07	21.20
		3	0	19.93	19.89	19.87	21.20
		3	2	19.98	19.96	19.95	21.20
		3	3	19.99	19.97	19.92	21.20
		6	0	20.04	20.02	20.07	21.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
3MHz	QPSK	1	0	26705/815.5	26865/831.5	27025/847.5	
		1	7	20.19	20.24	20.16	21.20
		1	14	20.22	20.12	20.09	21.20
		8	0	20.21	20.21	20.26	21.20
		8	4	20.18	20.21	20.25	21.20
		8	7	20.27	20.22	20.22	21.20



	16QAM	15	0	20.12	20.26	20.25	21.20
		1	0	20.27	20.13	20.39	21.20
		1	7	20.25	20.27	20.57	21.20
		1	14	20.23	20.04	20.35	21.20
		8	0	20.24	20.23	20.10	21.20
		8	4	20.24	20.24	20.12	21.20
		8	7	20.18	20.19	20.08	21.20
		15	0	20.12	20.14	20.14	21.20
	64QAM	1	0	20.15	20.12	20.12	21.20
		1	7	20.12	20.06	20.11	21.20
		1	14	20.06	20.07	20.10	21.20
		8	0	20.04	20.02	19.99	21.20
		8	4	20.09	20.09	20.07	21.20
		8	7	20.09	20.09	20.05	21.20
15		0	20.07	20.06	20.10	21.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26715/816.5	26865/831.5	27015/846.5	
5MHz	QPSK	1	0	20.16	20.18	20.07	21.20
		1	13	20.17	20.20	20.13	21.20
		1	24	20.19	20.07	20.05	21.20
		12	0	20.18	20.16	20.22	21.20
		12	6	20.16	20.17	20.20	21.20
		12	13	20.25	20.20	20.18	21.20
		25	0	20.12	20.25	20.23	21.20
	16QAM	1	0	20.24	20.09	20.36	21.20
		1	13	20.22	20.25	20.54	21.20
		1	24	20.20	20.02	20.31	21.20
		12	0	20.22	20.19	20.07	21.20
		12	6	20.21	20.19	20.08	21.20
		12	13	20.15	20.14	20.04	21.20
		25	0	20.10	20.10	20.09	21.20
	64QAM	1	0	20.12	20.12	20.09	21.20
		1	13	20.09	20.08	20.08	21.20
		1	24	20.07	20.05	20.06	21.20
		12	0	20.02	19.98	20.00	21.20
		12	6	20.06	20.04	20.03	21.20
		12	13	20.06	20.04	20.01	21.20
		25	0	20.05	20.02	20.05	21.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	1	0	20.18	20.19	20.10	21.20
		1	25	20.20	20.25	20.17	21.20
		1	49	20.21	20.11	20.08	21.20



		25	0	20.21	20.21	20.26	21.20	
		25	13	20.19	20.22	20.24	21.20	
		25	25	20.27	20.24	20.23	21.20	
		50	0	20.16	20.27	20.27	21.20	
	16QAM	1	0	20.26	20.12	20.38	21.20	
		1	25	20.25	20.29	20.57	21.20	
		1	49	20.23	20.04	20.34	21.20	
		25	0	20.25	20.24	20.11	21.20	
		25	13	20.23	20.23	20.11	21.20	
		25	25	20.18	20.19	20.08	21.20	
	64QAM	50	0	20.13	20.15	20.13	21.20	
		1	0	20.14	20.11	20.11	21.20	
		1	25	20.12	20.08	20.11	21.20	
		1	49	20.06	20.07	20.09	21.20	
		25	0	20.05	20.03	20.00	21.20	
		25	13	20.08	20.08	20.06	21.20	
		25	25	20.09	20.09	20.05	21.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					26775/822.5	26865/831.5	26965/841.5	
		15MHz	QPSK	1	0	20.14	20.11	20.05
1				38	20.17	20.20	20.12	21.20
1				74	20.16	20.05	20.01	21.20
36				0	20.16	20.12	20.19	21.20
36				18	20.14	20.13	20.17	21.20
36				39	20.21	20.16	20.15	21.20
75	0			20.11	20.18	20.18	21.20	
16QAM	1		0	20.15	20.06	20.31	21.20	
	1		38	20.19	20.24	20.51	21.20	
	1		74	20.18	19.97	20.29	21.20	
	36		0	20.19	20.18	20.05	21.20	
	36		18	20.17	20.16	20.04	21.20	
	36		39	20.13	20.10	20.01	21.20	
	75		0	20.08	20.06	20.06	21.20	
64QAM	1		0	20.07	20.05	20.04	21.20	
	1		38	20.06	20.03	20.05	21.20	
	1		74	20.01	20.00	20.04	21.20	
	36		0	19.99	19.97	19.94	21.20	
	36		18	20.02	20.01	19.99	21.20	
	36		39	20.04	20.00	19.98	21.20	
	75	0	20.03	19.98	20.02	21.20		



LTE TDD Band 38 (Receiver on)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	18.25	18.12	18.24	19.20
		1	13	18.24	18.29	18.30	19.20
		1	24	18.37	18.34	18.13	19.20
		12	0	18.38	18.28	18.24	19.20
		12	6	18.32	18.29	18.18	19.20
		12	13	18.33	18.32	18.10	19.20
		25	0	18.49	18.36	18.15	19.20
	16QAM	1	0	18.44	18.30	18.26	19.20
		1	13	18.42	18.37	18.31	19.20
		1	24	18.34	18.51	18.34	19.20
		12	0	18.36	18.10	18.25	19.20
		12	6	18.43	18.35	18.25	19.20
		12	13	18.52	18.51	18.04	19.20
		25	0	18.46	18.30	18.36	19.20
	64QAM	1	0	18.37	18.29	18.26	19.20
		1	13	18.26	18.35	18.26	19.20
		1	24	18.25	18.23	18.25	19.20
		12	0	18.24	18.26	18.33	19.20
		12	6	18.23	18.27	18.33	19.20
		12	13	18.29	18.34	18.26	19.20
		25	0	18.27	18.40	18.28	19.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	18.27	18.13	18.27	19.20
		1	25	18.27	18.34	18.34	19.20
		1	49	18.39	18.38	18.16	19.20
		25	0	18.41	18.33	18.28	19.20
		25	13	18.35	18.34	18.22	19.20
		25	25	18.35	18.36	18.15	19.20
		50	0	18.53	18.38	18.19	19.20
	16QAM	1	0	18.46	18.33	18.28	19.20
		1	25	18.45	18.41	18.34	19.20
		1	49	18.37	18.53	18.37	19.20
		25	0	18.39	18.15	18.29	19.20
		25	13	18.45	18.39	18.28	19.20
		25	25	18.55	18.56	18.08	19.20
		50	0	18.49	18.35	18.40	19.20
	64QAM	1	0	18.39	18.28	18.28	19.20
		1	25	18.29	18.35	18.29	19.20





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				37825/2577.5	38000/2595	38175/2612.5		
		1	49	18.24	18.25	18.28	19.20	
		25	0	18.27	18.31	18.33	19.20	
		25	13	18.25	18.31	18.36	19.20	
		25	25	18.32	18.39	18.30	19.20	
		50	0	18.30	18.45	18.32	19.20	
15MHz	QPSK	1	0	18.26	18.29	18.25	19.20	
		1	38	18.25	18.33	18.31	19.20	
		1	74	18.36	18.33	18.12	19.20	
		36	0	18.39	18.29	18.25	19.20	
		36	18	18.32	18.29	18.18	19.20	
		36	39	18.32	18.33	18.11	19.20	
		75	0	18.51	18.34	18.14	19.20	
	16QAM	1	0	18.41	18.31	18.26	19.20	
		1	38	18.43	18.38	18.32	19.20	
		1	74	18.34	18.49	18.34	19.20	
		36	0	18.36	18.13	18.26	19.20	
		36	18	18.42	18.34	18.24	19.20	
		36	39	18.53	18.52	18.05	19.20	
		75	0	18.46	18.30	18.36	19.20	
	64QAM	1	0	18.34	18.26	18.26	19.20	
		1	38	18.27	18.32	18.27	19.20	
		1	74	18.25	18.24	18.29	19.20	
		36	0	18.26	18.33	18.34	19.20	
		36	18	18.23	18.28	18.35	19.20	
		36	39	18.30	18.35	18.27	19.20	
		75	0	18.27	18.40	18.28	19.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					37850/2580	38000/2595	38150/2610	
	20MHz	QPSK	1	0	18.23	18.05	18.22	19.20
			1	50	18.24	18.29	18.29	19.20
			1	99	18.34	18.32	18.09	19.20
			50	0	18.36	18.24	18.21	19.20
			50	25	18.30	18.25	18.15	19.20
50			50	18.29	18.28	18.07	19.20	
100			0	18.48	18.29	18.10	19.20	
16QAM		1	0	18.21	18.27	18.21	19.20	
		1	50	18.39	18.36	18.28	19.20	
		1	99	18.32	18.46	18.32	19.20	
		50	0	18.33	18.26	18.23	19.20	
		50	25	18.39	18.32	18.21	19.20	
		50	50	18.50	18.47	18.01	19.20	



	64QAM	100	0	18.44	18.26	18.33	19.20
		1	0	18.32	18.22	18.21	19.20
		1	50	18.23	18.30	18.23	19.20
		1	99	18.19	18.18	18.23	19.20
		50	0	18.21	18.25	18.27	19.20
		50	25	18.19	18.24	18.29	19.20
		50	50	18.27	18.30	18.23	19.20
		100	0	18.25	18.36	18.25	19.20

LTE TDD Band 38 (Receiver off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	24.29	24.45	24.38	25.20
		1	13	24.36	24.40	24.52	25.20
		1	24	24.59	24.54	24.32	25.20
		12	0	23.51	23.40	23.59	24.20
		12	6	23.54	23.44	23.38	24.20
		12	13	23.59	23.52	23.29	24.20
		25	0	23.61	23.54	23.45	24.20
	16QAM	1	0	23.64	23.40	23.51	24.20
		1	13	23.62	23.48	23.60	24.20
		1	24	23.82	23.74	23.51	24.20
		12	0	22.55	22.69	22.54	23.20
		12	6	22.57	22.56	22.47	23.20
		12	13	22.57	22.53	22.41	23.20
		25	0	22.46	22.49	22.34	23.20
	64QAM	1	0	22.47	22.48	22.45	23.20
		1	13	22.42	22.43	22.48	23.20
		1	24	22.52	22.44	22.42	23.20
		12	0	21.45	21.40	21.55	22.20
		12	6	21.47	21.49	21.45	22.20
		12	13	21.51	21.52	21.45	22.20
		25	0	21.47	21.51	21.49	22.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	24.31	24.46	24.41	25.20
		1	25	24.39	24.45	24.56	25.20
		1	49	24.61	24.58	24.35	25.20
		25	0	23.54	23.45	23.63	24.20
		25	13	23.57	23.49	23.42	24.20
		25	25	23.61	23.56	23.34	24.20



	16QAM	50	0	23.65	23.56	23.49	24.20
		1	0	23.66	23.43	23.53	24.20
		1	25	23.65	23.52	23.63	24.20
		1	49	23.85	23.76	23.54	24.20
		25	0	22.58	22.74	22.58	23.20
		25	13	22.59	22.60	22.50	23.20
		25	25	22.60	22.58	22.45	23.20
		50	0	22.49	22.54	22.38	23.20
	64QAM	1	0	22.49	22.47	22.47	23.20
		1	25	22.45	22.43	22.51	23.20
		1	49	22.51	22.46	22.45	23.20
		25	0	21.48	21.45	21.55	22.20
		25	13	21.49	21.53	21.48	22.20
		25	25	21.54	21.57	21.49	22.20
50		0	21.50	21.56	21.53	22.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	24.30	24.42	24.39	25.20
		1	38	24.37	24.44	24.53	25.20
		1	74	24.58	24.53	24.31	25.20
		36	0	23.52	23.41	23.60	24.20
		36	18	23.54	23.44	23.38	24.20
		36	39	23.58	23.53	23.30	24.20
		75	0	23.63	23.52	23.44	24.20
	16QAM	1	0	23.61	23.41	23.51	24.20
		1	38	23.63	23.49	23.61	24.20
		1	74	23.82	23.72	23.51	24.20
		36	0	22.55	22.72	22.55	23.20
		36	18	22.56	22.55	22.46	23.20
		36	39	22.58	22.54	22.42	23.20
		75	0	22.46	22.49	22.34	23.20
	64QAM	1	0	22.44	22.45	22.45	23.20
		1	38	22.43	22.40	22.49	23.20
		1	74	22.52	22.45	22.46	23.20
		36	0	21.47	21.47	21.56	22.20
		36	18	21.47	21.50	21.47	22.20
		36	39	21.52	21.53	21.46	22.20
		75	0	21.47	21.51	21.49	22.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	24.27	24.38	24.36	25.20
		1	50	24.36	24.40	24.51	25.20
		1	99	24.56	24.52	24.28	25.20



		50	0	23.49	23.36	23.56	24.20
		50	25	23.52	23.40	23.35	24.20
		50	50	23.55	23.48	23.26	24.20
		100	0	23.60	23.47	23.40	24.20
	16QAM	1	0	23.41	23.37	23.46	24.20
		1	50	23.59	23.47	23.57	24.20
		1	99	23.80	23.69	23.49	24.20
		50	0	22.52	22.68	22.52	23.20
		50	25	22.53	22.53	22.43	23.20
		50	50	22.55	22.49	22.38	23.20
		100	0	22.44	22.45	22.31	23.20
	64QAM	1	0	22.42	22.41	22.40	23.20
		1	50	22.39	22.38	22.45	23.20
		1	99	22.46	22.39	22.40	23.20
		50	0	21.42	21.39	21.49	22.20
		50	25	21.43	21.46	21.41	22.20
		50	50	21.49	21.48	21.42	22.20
		100	0	21.45	21.47	21.46	22.20

LTE TDD Band 38 (Receiver on+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	15.53	15.78	15.71	16.70
		1	13	15.60	15.68	15.84	16.70
		1	24	15.65	15.69	15.75	16.70
		12	0	15.83	15.82	15.66	16.70
		12	6	15.80	15.79	15.70	16.70
		12	13	15.83	15.75	15.52	16.70
		25	0	15.76	15.87	15.66	16.70
	16QAM	1	0	15.73	15.82	15.79	16.70
		1	13	15.71	15.74	15.88	16.70
		1	24	15.78	15.72	15.94	16.70
		12	0	15.84	15.75	15.78	16.70
		12	6	15.83	15.82	15.77	16.70
		12	13	15.76	15.92	15.72	16.70
		25	0	15.82	15.94	15.57	16.70
	64QAM	1	0	15.72	15.76	15.78	16.70
		1	13	15.78	15.84	15.81	16.70
		1	24	15.79	15.82	15.80	16.70
		12	0	15.81	15.81	15.87	16.70
		12	6	15.83	15.73	15.75	16.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				37800/2575	38000/2595	38200/2615		
10MHz	QPSK	12	13	15.70	15.73	15.85	16.70	
		25	0	15.74	15.80	15.81	16.70	
		1	0	15.55	15.79	15.74	16.70	
		1	25	15.63	15.73	15.88	16.70	
		1	49	15.67	15.73	15.78	16.70	
		25	0	15.86	15.87	15.70	16.70	
		25	13	15.83	15.84	15.74	16.70	
	16QAM	25	25	15.85	15.79	15.57	16.70	
		50	0	15.80	15.89	15.70	16.70	
		1	0	15.75	15.85	15.81	16.70	
		1	25	15.74	15.78	15.91	16.70	
		1	49	15.81	15.74	15.97	16.70	
		25	0	15.87	15.80	15.82	16.70	
		25	13	15.85	15.86	15.80	16.70	
	64QAM	25	25	15.79	15.97	15.76	16.70	
		50	0	15.85	15.99	15.61	16.70	
		1	0	15.74	15.75	15.80	16.70	
		1	25	15.81	15.84	15.84	16.70	
		1	49	15.78	15.84	15.83	16.70	
		25	0	15.84	15.86	15.87	16.70	
		25	13	15.85	15.77	15.78	16.70	
	15MHz	QPSK	25	25	15.73	15.78	15.89	16.70
			50	0	15.77	15.85	15.85	16.70
	15MHz		QPSK	1	0	15.54	15.75	15.72
1				38	15.61	15.72	15.85	16.70
1				74	15.64	15.68	15.74	16.70
36				0	15.84	15.83	15.67	16.70
36				18	15.80	15.79	15.70	16.70
36		39		15.82	15.76	15.53	16.70	
75		0		15.78	15.85	15.65	16.70	
16QAM		1	0	15.70	15.83	15.79	16.70	
		1	38	15.72	15.75	15.89	16.70	
		1	74	15.78	15.70	15.94	16.70	
		36	0	15.84	15.78	15.79	16.70	
		36	18	15.82	15.81	15.76	16.70	
		36	39	15.77	15.93	15.73	16.70	
		75	0	15.82	15.94	15.57	16.70	
64QAM	1	0	15.69	15.73	15.78	16.70		
	1	38	15.79	15.81	15.82	16.70		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	74	15.79	15.83	15.84	16.70
		36	0	15.83	15.88	15.88	16.70
		36	18	15.83	15.74	15.77	16.70
		36	39	15.71	15.74	15.86	16.70
		75	0	15.74	15.80	15.81	16.70
	16QAM	1	0	15.51	15.71	15.69	16.70
		1	50	15.60	15.68	15.83	16.70
		1	99	15.62	15.67	15.71	16.70
		50	0	15.81	15.78	15.63	16.70
		50	25	15.78	15.75	15.67	16.70
		50	50	15.79	15.71	15.49	16.70
		100	0	15.75	15.80	15.61	16.70
	64QAM	1	0	15.64	15.79	15.74	16.70
		1	50	15.68	15.73	15.85	16.70
		1	99	15.76	15.67	15.92	16.70
		50	0	15.81	15.74	15.76	16.70
		50	25	15.79	15.79	15.73	16.70
		50	50	15.74	15.88	15.69	16.70
		100	0	15.80	15.90	15.54	16.70
	64QAM	1	0	15.67	15.69	15.73	16.70
1		50	15.75	15.79	15.78	16.70	
1		99	15.73	15.77	15.78	16.70	
50		0	15.78	15.80	15.81	16.70	
50		25	15.79	15.70	15.71	16.70	
50		50	15.68	15.69	15.82	16.70	
100		0	15.72	15.76	15.78	16.70	

LTE TDD Band 38 (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	21.86	21.72	21.79	22.70
		1	13	21.96	21.95	21.93	22.70
		1	24	22.08	22.16	21.67	22.70
		12	0	22.00	21.99	22.02	22.70
		12	6	22.01	22.19	21.85	22.70
		12	13	21.95	22.05	21.77	22.70
	25	0	21.99	22.02	21.90	22.70	
	16QAM	1	0	22.06	21.78	21.82	22.70
		1	13	22.04	21.80	21.95	22.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit		
				37800/2575	38000/2595	38200/2615			
		1	24	22.05	22.06	21.65	22.70		
		12	0	21.95	21.99	22.01	22.70		
		12	6	21.98	21.95	21.86	22.70		
		12	13	22.01	22.00	21.76	22.70		
		25	0	22.08	22.06	21.75	22.70		
	64QAM	1	0	21.89	21.79	21.95	22.70		
		1	13	21.85	21.94	22.00	22.70		
		1	24	22.02	22.11	21.78	22.70		
		12	0	21.98	22.01	22.04	22.20		
		12	6	22.01	21.93	21.84	22.20		
		12	13	22.00	22.01	21.74	22.20		
		25	0	21.94	22.04	21.80	22.20		
		10MHz	QPSK	1	0	21.88	21.73	21.82	22.70
				1	25	21.99	22.00	21.97	22.70
1	49			22.10	22.20	21.70	22.70		
25	0			22.03	22.04	22.06	22.70		
25	13			22.04	22.24	21.89	22.70		
25	25			21.97	22.09	21.82	22.70		
50	0			22.03	22.04	21.94	22.70		
16QAM	1		0	22.08	21.81	21.84	22.70		
	1		25	22.07	21.84	21.98	22.70		
	1		49	22.08	22.08	21.68	22.70		
	25		0	21.98	22.04	22.05	22.70		
	25		13	22.00	21.99	21.89	22.70		
	25		25	22.04	22.05	21.80	22.70		
	50		0	22.11	22.11	21.79	22.70		
64QAM	1	0	21.91	21.78	21.97	22.70			
	1	25	21.88	21.94	22.03	22.70			
	1	49	22.01	22.13	21.81	22.70			
	25	0	22.01	22.06	22.04	22.20			
	25	13	22.03	21.97	21.87	22.20			
	25	25	22.03	22.06	21.78	22.20			
	50	0	21.97	22.09	21.84	22.20			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit		
				37825/2577.5	38000/2595	38175/2612.5			
15MHz	QPSK	1	0	21.87	21.69	21.80	22.70		
		1	38	21.97	21.99	21.94	22.70		
		1	74	22.07	22.15	21.66	22.70		
		36	0	22.01	22.00	22.03	22.70		
		36	18	22.01	22.19	21.85	22.70		
		36	39	21.94	22.06	21.78	22.70		



	16QAM	75	0	22.01	22.00	21.89	22.70
		1	0	22.03	21.79	21.82	22.70
		1	38	22.05	21.81	21.96	22.70
		1	74	22.05	22.04	21.65	22.70
		36	0	21.95	22.02	22.02	22.70
		36	18	21.97	21.94	21.85	22.70
		36	39	22.02	22.01	21.77	22.70
		75	0	22.08	22.06	21.75	22.70
	64QAM	1	0	21.86	21.76	21.95	22.70
		1	38	21.86	21.91	22.01	22.70
		1	74	22.02	22.12	21.82	22.70
		36	0	22.00	22.08	22.05	22.20
		36	18	22.01	21.94	21.86	22.20
		36	39	22.01	22.02	21.75	22.20
75		0	21.94	22.04	21.80	22.20	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	21.84	21.65	21.77	22.70
		1	50	21.96	21.95	21.92	22.70
		1	99	22.05	22.14	21.63	22.70
		50	0	21.98	21.95	21.99	22.70
		50	25	21.99	22.15	21.82	22.70
		50	50	21.91	22.01	21.74	22.70
		100	0	21.98	21.95	21.85	22.70
	16QAM	1	0	21.77	21.75	21.77	22.70
		1	50	22.01	21.79	21.92	22.70
		1	99	22.03	22.01	21.63	22.70
		50	0	21.92	21.98	21.99	22.70
		50	25	21.94	21.92	21.82	22.70
		50	50	21.99	21.96	21.73	22.70
		100	0	22.06	22.02	21.72	22.70
	64QAM	1	0	21.84	21.72	21.90	22.70
		1	50	21.82	21.89	21.97	22.70
		1	99	21.96	22.06	21.76	22.70
		50	0	21.95	22.00	21.98	22.20
		50	25	21.97	21.90	21.80	22.20
		50	50	21.98	21.97	21.71	22.20
		100	0	21.92	22.00	21.77	22.20

LTE TDD Band 41 (Receiver on)				Conducted Power(dBm)			
Bandwidth	Modulation	RB	RB	Channel/Frequency (MHz)			Tune-up





Bandwidth	Modulation	size	offset	39675/ 2498.5	40148/ 2545.8	40620/ 2593	41093/ 2640.3	41565/ 2687.5	Limit
				RB size	RB offset	Channel/Frequency (MHz)			
				39700/ 2501	40160/ 2547	40620/ 2593	41080/ 2639	41540/ 2685	
5MHz	QPSK	1	0	18.33	17.92	17.80	17.94	18.22	18.70
		1	13	18.20	17.56	17.67	17.91	18.08	18.70
		1	24	18.27	17.75	17.84	18.10	18.24	18.70
		12	0	18.27	17.81	17.74	17.95	18.13	18.70
		12	6	18.22	17.79	17.66	17.93	18.12	18.70
		12	13	17.98	17.83	17.73	17.96	18.27	18.70
		25	0	18.12	17.82	17.67	17.86	18.23	18.70
	16QAM	1	0	18.31	17.74	17.77	17.59	18.23	18.70
		1	13	18.29	17.64	17.65	17.57	18.24	18.70
		1	24	18.20	17.65	17.98	17.99	18.65	18.70
		12	0	18.23	17.85	17.84	18.01	18.16	18.70
		12	6	18.16	17.71	17.83	17.93	18.26	18.70
		12	13	18.25	17.93	17.77	17.97	18.21	18.70
		25	0	18.13	17.77	17.92	17.96	17.94	18.70
	64QAM	1	0	17.73	18.01	18.45	17.65	17.94	18.70
		1	13	17.99	17.66	17.81	17.87	17.90	18.70
		1	24	17.95	17.89	17.71	17.74	17.73	18.70
		12	0	17.74	17.73	17.88	17.91	17.91	18.70
		12	6	18.02	17.79	17.79	17.81	17.82	18.70
		12	13	17.92	17.62	17.72	17.88	17.89	18.70
		25	0	17.97	18.00	17.78	17.90	17.90	18.70
10MHz	QPSK	1	0	18.35	17.93	17.83	17.96	18.23	18.70
		1	25	18.23	17.61	17.71	17.94	18.13	18.70
		1	49	18.29	17.79	17.87	18.12	18.28	18.70
		25	0	18.30	17.86	17.78	17.98	18.18	18.70
		25	13	18.25	17.84	17.70	17.96	18.17	18.70
		25	25	18.00	17.87	17.78	17.98	18.31	18.70
		50	0	18.16	17.84	17.71	17.90	18.25	18.70
	16QAM	1	0	18.33	17.77	17.79	17.61	18.26	18.70
		1	25	18.32	17.68	17.68	17.60	18.28	18.70
		1	49	18.45	17.67	18.01	18.02	18.03	18.70
		25	0	18.26	17.90	17.88	18.04	18.21	18.70
		25	13	18.18	17.75	17.86	17.95	18.30	18.70
		25	25	18.28	17.98	17.81	18.00	18.26	18.70
		50	0	18.16	17.82	17.96	17.99	17.99	18.70
	64QAM	1	0	17.75	18.00	18.47	17.67	17.93	18.70
		1	25	18.02	17.66	17.84	17.90	17.90	18.70
		1	49	17.94	17.91	17.74	17.73	17.75	18.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit	
				39725/ 2503.5	40173/ 2548.3	40620/ 2593	41068/ 2637.8	41515/ 2682.5		
		25	0	17.77	17.78	17.88	17.94	17.96	18.70	
		25	13	18.04	17.83	17.82	17.83	17.86	18.70	
		25	25	17.95	17.67	17.76	17.91	17.94	18.70	
		50	0	18.00	18.05	17.82	17.93	17.95	18.70	
15MHz	QPSK	1	0	18.22	17.89	17.81	17.95	18.19	18.70	
		1	38	18.21	17.60	17.68	17.92	18.12	18.70	
		1	74	18.26	17.74	17.83	18.09	18.23	18.70	
		36	0	18.28	17.82	17.75	17.96	18.14	18.70	
		36	18	18.22	17.79	17.66	17.93	18.12	18.70	
		36	39	17.97	17.84	17.74	17.95	18.28	18.70	
		75	0	18.14	17.80	17.66	17.88	18.21	18.70	
	16QAM	1	0	18.28	17.75	17.77	17.56	18.24	18.70	
		1	38	18.30	17.65	17.66	17.58	18.25	18.70	
		1	74	18.42	17.63	17.98	17.99	18.63	18.70	
		36	0	18.23	17.88	17.85	18.01	18.19	18.70	
		36	18	18.15	17.70	17.82	17.92	18.25	18.70	
		36	39	18.26	17.94	17.78	17.98	18.22	18.70	
		75	0	18.13	17.77	17.92	17.96	17.94	18.70	
	64QAM	1	0	17.70	17.98	18.45	17.62	17.91	18.70	
		1	38	18.00	17.63	17.82	17.88	17.87	18.70	
		1	74	17.95	17.90	17.75	17.74	17.74	18.70	
		36	0	17.76	17.80	17.89	17.93	17.98	18.70	
		36	18	18.02	17.80	17.81	17.81	17.83	18.70	
		36	39	17.93	17.63	17.73	17.89	17.90	18.70	
		75	0	17.97	18.00	17.78	17.90	17.90	18.70	
			25	0	17.77	17.78	17.88	17.94	17.96	18.70
			50	0	18.00	18.05	17.82	17.93	17.95	18.70
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
					39750/ 2506	40185/ 2549.5	40620/ 2593	41055/ 2636.5	41490/ 2680	
	20MHz	QPSK	1	0	18.31	17.85	17.78	17.92	18.15	18.70
			1	50	18.20	17.56	17.66	17.91	18.08	18.70
			1	99	18.24	17.73	17.80	18.07	18.22	18.70
50			0	18.25	17.77	17.71	17.93	18.09	18.70	
50			25	18.20	17.75	17.63	17.91	18.08	18.70	
50			50	17.94	17.79	17.70	17.92	18.23	18.70	
100			0	18.11	17.75	17.62	17.85	18.16	18.70	
16QAM		1	0	18.37	17.71	17.72	17.82	18.20	18.70	
		1	50	18.26	17.63	17.62	17.54	18.23	18.70	
		1	99	18.40	17.60	17.96	17.97	18.60	18.70	
		50	0	18.20	17.84	17.82	17.98	18.15	18.70	
		50	25	18.12	17.68	17.79	17.89	18.23	18.70	



		50	50	18.23	17.89	17.74	17.95	18.17	18.70
		100	0	18.11	17.73	17.89	17.94	17.90	18.70
	64QAM	1	0	17.68	17.94	18.40	17.60	17.87	18.70
		1	50	17.96	17.61	17.78	17.84	17.85	18.70
		1	99	17.89	17.84	17.69	17.68	17.68	18.70
		50	0	17.71	17.72	17.82	17.88	17.90	18.70
		50	25	17.98	17.76	17.75	17.77	17.79	18.70
		50	50	17.90	17.58	17.69	17.86	17.85	18.70
		100	0	17.95	17.96	17.75	17.88	17.86	18.70

LTE TDD Band 41 (Receiver off)				Conducted Power(dBm)						
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit	
				39675/ 2498.5	40148/ 2545.8	40620/ 2593	41093/ 2640.3	41565/ 2687.5		
5MHz	QPSK	1	0	24.68	24.51	24.41	24.47	24.56	25.20	
		1	13	24.46	24.22	24.14	24.31	24.26	25.20	
		1	24	24.57	24.51	24.41	24.54	24.24	25.20	
		12	0	23.53	23.57	23.21	23.26	23.52	24.20	
		12	6	23.61	23.57	23.22	23.38	23.35	24.20	
		12	13	23.65	23.63	23.31	23.41	23.50	24.20	
		25	0	23.57	23.75	23.26	23.37	23.54	24.20	
	16QAM	1	0	23.58	23.73	23.60	23.49	23.56	24.20	
		1	13	23.56	23.48	23.50	23.47	23.14	24.20	
		1	24	23.64	23.61	23.65	23.60	23.46	24.20	
		12	0	22.70	22.52	22.30	22.28	22.42	23.20	
		12	6	22.70	22.51	22.30	22.51	22.33	23.20	
		12	13	22.66	22.51	22.42	22.51	22.49	23.20	
		25	0	22.71	22.61	22.34	22.49	22.45	23.20	
	64QAM	1	0	22.73	22.62	22.40	22.45	22.49	23.20	
		1	13	22.68	22.54	22.39	22.42	22.45	23.20	
		1	24	22.68	22.53	22.35	22.41	22.42	23.20	
		12	0	21.64	21.50	21.46	21.46	21.40	22.20	
		12	6	21.64	21.48	21.41	21.44	21.38	22.20	
		12	13	21.60	21.47	21.42	21.40	21.40	22.20	
		25	0	21.58	21.44	21.41	21.39	21.42	22.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
	10MHz	QPSK			39700/ 2501	40160/ 2547	40620/ 2593	41080/ 2639	41540/ 2685	
			1	0	24.70	24.52	24.44	24.49	24.57	25.20
1			25	24.49	24.27	24.18	24.34	24.31	25.20	
1			49	24.59	24.55	24.44	24.56	24.28	25.20	
25			0	23.56	23.62	23.25	23.29	23.57	24.20	



	16QAM	25	13	23.64	23.62	23.26	23.41	23.40	24.20
		25	25	23.67	23.67	23.36	23.43	23.54	24.20
		50	0	23.61	23.77	23.30	23.41	23.56	24.20
		1	0	23.60	23.76	23.62	23.51	23.59	24.20
		1	25	23.59	23.52	23.53	23.50	23.18	24.20
		1	49	23.67	23.63	23.68	23.63	23.48	24.20
		25	0	22.73	22.57	22.34	22.31	22.47	23.20
		25	13	22.72	22.55	22.33	22.53	22.37	23.20
		25	25	22.69	22.56	22.46	22.54	22.54	23.20
	50	0	22.74	22.66	22.38	22.52	22.50	23.20	
	64QAM	1	0	22.75	22.61	22.42	22.47	22.48	23.20
		1	25	22.71	22.54	22.42	22.45	22.45	23.20
		1	49	22.67	22.55	22.38	22.40	22.44	23.20
		25	0	21.67	21.55	21.46	21.49	21.45	22.20
		25	13	21.66	21.52	21.44	21.46	21.42	22.20
		25	25	21.63	21.52	21.46	21.43	21.45	22.20
		50	0	21.61	21.49	21.45	21.42	21.47	22.20
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
39725/ 2503.5					40173/ 2548.3	40620/ 2593	41068/ 2637.8	41515/ 2682.5	
15MHz	QPSK	1	0	24.69	24.48	24.42	24.48	24.53	25.20
		1	38	24.47	24.26	24.15	24.32	24.30	25.20
		1	74	24.56	24.50	24.40	24.53	24.23	25.20
		36	0	23.54	23.58	23.22	23.27	23.53	24.20
		36	18	23.61	23.57	23.22	23.38	23.35	24.20
		36	39	23.64	23.64	23.32	23.40	23.51	24.20
		75	0	23.59	23.73	23.25	23.39	23.52	24.20
	16QAM	1	0	23.55	23.74	23.60	23.46	23.57	24.20
		1	38	23.57	23.49	23.51	23.48	23.15	24.20
		1	74	23.64	23.59	23.65	23.60	23.44	24.20
		36	0	22.70	22.55	22.31	22.28	22.45	23.20
		36	18	22.69	22.50	22.29	22.50	22.32	23.20
		36	39	22.67	22.52	22.43	22.52	22.50	23.20
		75	0	22.71	22.61	22.34	22.49	22.45	23.20
	64QAM	1	0	22.70	22.59	22.40	22.42	22.46	23.20
		1	38	22.69	22.51	22.40	22.43	22.42	23.20
		1	74	22.68	22.54	22.39	22.41	22.43	23.20
		36	0	21.66	21.57	21.47	21.48	21.47	22.20
		36	18	21.64	21.49	21.43	21.44	21.39	22.20
		36	39	21.61	21.48	21.43	21.41	21.41	22.20
		75	0	21.58	21.44	21.41	21.39	21.42	22.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39750/	40185/	40620/	41055/	41490/	



				2506	2549.5	2593	2636.5	2680	
20MHz	QPSK	1	0	24.66	24.44	24.39	24.45	24.49	25.20
		1	50	24.46	24.22	24.13	24.31	24.26	25.20
		1	99	24.54	24.49	24.37	24.51	24.22	25.20
		50	0	23.51	23.53	23.18	23.24	23.48	24.20
		50	25	23.59	23.53	23.19	23.36	23.31	24.20
		50	50	23.61	23.59	23.28	23.37	23.46	24.20
		100	0	23.56	23.68	23.21	23.36	23.47	24.20
	16QAM	1	0	23.54	23.70	23.55	23.46	23.53	24.20
		1	50	23.53	23.47	23.47	23.44	23.13	24.20
		1	99	23.62	23.56	23.63	23.58	23.41	24.20
		50	0	22.67	22.51	22.28	22.25	22.41	23.20
		50	25	22.66	22.48	22.26	22.47	22.30	23.20
		50	50	22.64	22.47	22.39	22.49	22.45	23.20
		100	0	22.69	22.57	22.31	22.47	22.41	23.20
	64QAM	1	0	22.68	22.55	22.35	22.40	22.42	23.20
		1	50	22.65	22.49	22.36	22.39	22.40	23.20
		1	99	22.62	22.48	22.33	22.35	22.37	23.20
		50	0	21.61	21.49	21.40	21.43	21.39	22.20
		50	25	21.60	21.45	21.37	21.40	21.35	22.20
		50	50	21.58	21.43	21.39	21.38	21.36	22.20
		100	0	21.56	21.40	21.38	21.37	21.38	22.20

LTE TDD Band 41 (Receiver on+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39675/ 2498.5	40148/ 2545.8	40620/ 2593	41093/ 2640.3	41565/ 2687.5	
5MHz	QPSK	1	0	15.82	15.56	15.31	15.60	15.72	16.20
		1	13	15.73	15.23	15.15	15.39	15.66	16.20
		1	24	15.84	15.48	15.19	15.61	15.89	16.20
		12	0	15.75	15.35	15.23	15.39	15.82	16.20
		12	6	15.84	15.28	15.22	15.42	15.71	16.20
		12	13	15.85	15.41	15.11	15.47	15.83	16.20
		25	0	15.73	15.42	15.19	15.47	15.78	16.20
	16QAM	1	0	15.95	15.67	15.57	15.69	15.82	16.20
		1	13	15.93	15.54	15.36	15.67	15.89	16.20
		1	24	16.07	15.59	15.66	15.71	16.12	16.20
		12	0	15.85	15.36	15.19	15.41	15.75	16.20
		12	6	15.82	15.24	15.22	15.49	15.67	16.20
		12	13	15.83	15.32	15.24	15.46	15.81	16.20
		25	0	15.84	15.33	15.31	15.45	15.74	16.20
	64QAM	1	0	15.84	15.58	15.54	15.50	15.67	16.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit	
				39700/ 2501	40160/ 2547	40620/ 2593	41080/ 2639	41540/ 2685		
		1	13	15.78	15.50	15.49	15.46	15.60	16.20	
		1	24	15.79	15.48	15.47	15.46	15.54	16.20	
		12	0	15.74	15.41	15.48	15.42	15.47	16.20	
		12	6	15.69	15.41	15.43	15.41	15.45	16.20	
		12	13	15.65	15.41	15.37	15.34	15.44	16.20	
		25	0	15.62	15.37	15.33	15.31	15.41	16.20	
10MHz	QPSK	1	0	15.84	15.57	15.34	15.62	15.73	16.20	
		1	25	15.76	15.28	15.19	15.42	15.71	16.20	
		1	49	15.86	15.52	15.22	15.63	15.93	16.20	
		25	0	15.78	15.40	15.27	15.42	15.87	16.20	
		25	13	15.87	15.33	15.26	15.45	15.76	16.20	
		25	25	15.87	15.45	15.16	15.49	15.87	16.20	
		50	0	15.77	15.44	15.23	15.51	15.80	16.20	
	16QAM	1	0	15.97	15.70	15.59	15.71	15.85	16.20	
		1	25	15.96	15.58	15.39	15.70	15.93	16.20	
		1	49	16.10	15.61	15.69	15.74	16.14	16.20	
		25	0	15.88	15.41	15.23	15.44	15.80	16.20	
		25	13	15.84	15.28	15.25	15.51	15.71	16.20	
		25	25	15.86	15.37	15.28	15.49	15.86	16.20	
		50	0	15.87	15.38	15.35	15.48	15.79	16.20	
	64QAM	1	0	15.86	15.57	15.56	15.52	15.66	16.20	
		1	25	15.81	15.50	15.52	15.49	15.60	16.20	
		1	49	15.78	15.50	15.50	15.45	15.56	16.20	
		25	0	15.77	15.46	15.48	15.45	15.52	16.20	
		25	13	15.71	15.45	15.46	15.43	15.49	16.20	
		25	25	15.68	15.46	15.41	15.37	15.49	16.20	
		50	0	15.65	15.42	15.37	15.34	15.46	16.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
					39725/ 2503.5	40173/ 2548.3	40620/ 2593	41068/ 2637.8	41515/ 2682.5	
	15MHz	QPSK	1	0	15.83	15.53	15.32	15.61	15.69	16.20
1			38	15.74	15.27	15.16	15.40	15.70	16.20	
1			74	15.83	15.47	15.18	15.60	15.88	16.20	
36			0	15.76	15.36	15.24	15.40	15.83	16.20	
36			18	15.84	15.28	15.22	15.42	15.71	16.20	
36			39	15.84	15.42	15.12	15.46	15.84	16.20	
75			0	15.75	15.40	15.18	15.49	15.76	16.20	
16QAM		1	0	15.92	15.68	15.57	15.66	15.83	16.20	
		1	38	15.94	15.55	15.37	15.68	15.90	16.20	
	1	74	16.07	15.57	15.66	15.71	16.10	16.20		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit	
				39750/2506	40185/2549.5	40620/2593	41055/2636.5	41490/2680		
20MHz	64QAM	36	0	15.85	15.39	15.20	15.41	15.78	16.20	
		36	18	15.81	15.23	15.21	15.48	15.66	16.20	
		36	39	15.84	15.33	15.25	15.47	15.82	16.20	
		75	0	15.84	15.33	15.31	15.45	15.74	16.20	
		1	0	15.81	15.55	15.54	15.47	15.64	16.20	
		1	38	15.79	15.47	15.50	15.47	15.57	16.20	
		1	74	15.79	15.49	15.51	15.46	15.55	16.20	
		36	0	15.76	15.48	15.49	15.44	15.54	16.20	
		36	18	15.69	15.42	15.45	15.41	15.46	16.20	
	36	39	15.66	15.42	15.38	15.35	15.45	16.20		
	75	0	15.62	15.37	15.33	15.31	15.41	16.20		
	20MHz	QPSK	1	0	15.80	15.49	15.29	15.58	15.65	16.20
			1	50	15.73	15.23	15.14	15.39	15.66	16.20
			1	99	15.81	15.46	15.15	15.58	15.87	16.20
			50	0	15.73	15.31	15.20	15.37	15.78	16.20
			50	25	15.82	15.24	15.19	15.40	15.67	16.20
			50	50	15.81	15.37	15.08	15.43	15.79	16.20
			100	0	15.72	15.35	15.14	15.46	15.71	16.20
16QAM		1	0	15.88	15.64	15.52	15.55	15.79	16.20	
		1	50	15.90	15.53	15.33	15.64	15.88	16.20	
		1	99	16.05	15.54	15.64	15.69	16.07	16.20	
		50	0	15.82	15.35	15.17	15.38	15.74	16.20	
		50	25	15.78	15.21	15.18	15.45	15.64	16.20	
		50	50	15.81	15.28	15.21	15.44	15.77	16.20	
		100	0	15.82	15.29	15.28	15.43	15.70	16.20	
64QAM		1	0	15.79	15.51	15.49	15.45	15.60	16.20	
		1	50	15.75	15.45	15.46	15.43	15.55	16.20	
		1	99	15.73	15.43	15.45	15.40	15.49	16.20	
		50	0	15.71	15.40	15.42	15.39	15.46	16.20	
	50	25	15.65	15.38	15.39	15.37	15.42	16.20		
	50	50	15.63	15.37	15.34	15.32	15.40	16.20		
	100	0	15.60	15.33	15.30	15.29	15.37	16.20		

LTE TDD Band 41 (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39675/2498.5	40148/2545.8	40620/2593	41093/2640.3	41565/2687.5	
5MHz	QPSK	1	0	22.30	22.15	21.98	22.15	22.38	22.70
		1	13	22.17	21.94	21.84	21.98	22.12	22.70



		1	24	22.30	22.16	22.02	22.24	22.26	22.70	
		12	0	22.15	22.16	21.95	22.11	22.10	22.70	
		12	6	22.09	22.10	21.87	22.05	22.03	22.70	
		12	13	22.10	22.07	21.88	22.09	22.16	22.70	
		25	0	22.03	22.21	21.90	22.04	22.13	22.70	
	16QAM	1	0	22.12	22.31	22.13	22.12	22.12	22.70	
		1	13	22.10	22.22	22.12	22.10	22.03	22.70	
		1	24	22.30	22.38	22.38	22.35	22.19	22.70	
		12	0	22.11	22.11	21.96	22.02	22.18	22.70	
		12	6	22.06	22.00	21.85	21.99	21.98	22.70	
		12	13	22.03	22.08	21.84	22.10	22.12	22.70	
		25	0	21.97	22.22	21.85	22.05	22.08	22.70	
	64QAM	1	0	21.98	22.16	21.93	22.05	22.08	22.70	
		1	13	22.04	22.11	21.92	22.01	22.04	22.70	
		1	24	22.06	22.06	21.88	22.05	22.00	22.70	
		12	0	21.54	21.54	21.64	21.53	21.55	22.20	
		12	6	21.53	21.53	21.59	21.53	21.56	22.20	
		12	13	21.49	21.52	21.56	21.50	21.54	22.20	
		25	0	21.50	21.48	21.57	21.47	21.50	22.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
					39700/ 2501	40160/ 2547	40620/ 2593	41080/ 2639	41540/ 2685	
10MHz	QPSK	1	0	22.32	22.16	22.01	22.17	22.39	22.70	
		1	25	22.20	21.99	21.88	22.01	22.17	22.70	
		1	49	22.32	22.20	22.05	22.26	22.30	22.70	
		25	0	22.18	22.21	21.99	22.14	22.15	22.70	
		25	13	22.12	22.15	21.91	22.08	22.08	22.70	
		25	25	22.12	22.11	21.93	22.11	22.20	22.70	
		50	0	22.07	22.23	21.94	22.08	22.15	22.70	
	16QAM	1	0	22.14	22.34	22.15	22.14	22.15	22.70	
		1	25	22.13	22.26	22.15	22.13	22.07	22.70	
		1	49	22.33	22.40	22.41	22.38	22.21	22.70	
		25	0	22.14	22.16	22.00	22.05	22.23	22.70	
		25	13	22.08	22.04	21.88	22.01	22.02	22.70	
		25	25	22.06	22.13	21.88	22.13	22.17	22.70	
		50	0	22.00	22.27	21.89	22.08	22.13	22.70	
	64QAM	1	0	22.00	22.15	21.95	22.07	22.07	22.70	
		1	25	22.07	22.11	21.95	22.04	22.04	22.70	
		1	49	22.05	22.08	21.91	22.04	22.02	22.70	
		25	0	21.57	21.59	21.64	21.56	21.60	22.20	
		25	13	21.55	21.57	21.62	21.55	21.60	22.20	
		25	25	21.52	21.57	21.60	21.53	21.59	22.20	
		50	0	21.53	21.53	21.61	21.50	21.55	22.20	





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39725/ 2503.5	40173/ 2548.3	40620/ 2593	41068/ 2637.8	41515/ 2682.5	
15MHz	QPSK	1	0	22.31	22.12	21.99	22.16	22.35	22.70
		1	38	22.18	21.98	21.85	21.99	22.16	22.70
		1	74	22.29	22.15	22.01	22.23	22.25	22.70
		36	0	22.16	22.17	21.96	22.12	22.11	22.70
		36	18	22.09	22.10	21.87	22.05	22.03	22.70
		36	39	22.09	22.08	21.89	22.08	22.17	22.70
		75	0	22.05	22.19	21.89	22.06	22.11	22.70
	16QAM	1	0	22.09	22.32	22.13	22.09	22.13	22.70
		1	38	22.11	22.23	22.13	22.11	22.04	22.70
		1	74	22.30	22.36	22.38	22.35	22.17	22.70
		36	0	22.11	22.14	21.97	22.02	22.21	22.70
		36	18	22.05	21.99	21.84	21.98	21.97	22.70
		36	39	22.04	22.09	21.85	22.11	22.13	22.70
		75	0	21.97	22.22	21.85	22.05	22.08	22.70
	64QAM	1	0	21.95	22.13	21.93	22.02	22.05	22.70
		1	38	22.05	22.08	21.93	22.02	22.01	22.70
		1	74	22.06	22.07	21.92	22.05	22.01	22.70
		36	0	21.56	21.61	21.65	21.55	21.62	22.20
		36	18	21.53	21.54	21.61	21.53	21.57	22.20
		36	39	21.50	21.53	21.57	21.51	21.55	22.20
		75	0	21.50	21.48	21.57	21.47	21.50	22.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
20MHz	QPSK	1	0	22.28	22.08	21.96	22.13	22.31	22.70
		1	50	22.17	21.94	21.83	21.98	22.12	22.70
		1	99	22.27	22.14	21.98	22.21	22.24	22.70
		50	0	22.13	22.12	21.92	22.09	22.06	22.70
		50	25	22.07	22.06	21.84	22.03	21.99	22.70
		50	50	22.06	22.03	21.85	22.05	22.12	22.70
		100	0	22.02	22.14	21.85	22.03	22.06	22.70
	16QAM	1	0	22.26	22.28	22.08	22.31	22.09	22.70
		1	50	22.07	22.21	22.09	22.07	22.02	22.70
		1	99	22.28	22.33	22.36	22.33	22.14	22.70
		50	0	22.08	22.10	21.94	21.99	22.17	22.70
		50	25	22.02	21.97	21.81	21.95	21.95	22.70
		50	50	22.01	22.04	21.81	22.08	22.08	22.70
		100	0	21.95	22.18	21.82	22.03	22.04	22.70
	64QAM	1	0	21.93	22.09	21.88	22.00	22.01	22.70
		1	50	22.01	22.06	21.89	21.98	21.99	22.70



		1	99	22.00	22.01	21.86	21.99	21.95	22.70
		50	0	21.51	21.53	21.58	21.50	21.54	22.20
		50	25	21.49	21.50	21.55	21.49	21.53	22.20
		50	50	21.47	21.48	21.53	21.48	21.50	22.20
		100	0	21.48	21.44	21.54	21.45	21.46	22.20

MAS Antenna

LTE FDD Band 2 (Receiver on) (Receiver off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.56	22.61	22.07	23.70
		1	2	22.41	22.54	22.20	23.70
		1	5	22.21	22.28	22.17	23.70
		3	0	22.44	22.29	22.25	23.70
		3	2	22.26	22.23	22.20	23.70
		3	3	22.26	22.15	22.49	23.70
		6	0	21.41	21.25	21.54	22.70
	16QAM	1	0	21.80	21.62	21.60	22.70
		1	2	21.78	21.36	21.62	22.70
		1	5	21.52	21.21	21.46	22.70
		3	0	21.41	21.12	21.27	22.70
		3	2	21.26	21.27	21.36	22.70
		3	3	21.20	21.43	21.48	22.70
		6	0	20.44	20.40	20.48	21.70
	64QAM	1	0	20.41	20.24	20.32	21.70
		1	2	20.45	20.37	20.32	21.70
		1	5	20.34	20.36	20.22	21.70
		3	0	20.39	20.23	20.29	21.70
		3	2	20.34	20.38	20.28	21.70
		3	3	20.50	20.35	20.34	21.70
		6	0	19.48	19.48	19.44	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	22.58	22.65	22.10	23.70
		1	7	22.39	22.57	22.24	23.70
		1	14	22.24	22.33	22.21	23.70
		8	0	21.54	21.41	21.38	22.70
		8	4	21.38	21.33	21.32	22.70
		8	7	21.36	21.26	21.59	22.70
		15	0	21.41	21.29	21.57	22.70



	16QAM	1	0	21.83	21.64	21.63	22.70
		1	7	21.81	21.36	21.66	22.70
		1	14	21.54	21.25	21.49	22.70
		8	0	20.52	20.25	20.39	21.70
		8	4	20.37	20.40	20.48	21.70
		8	7	20.30	20.55	20.61	21.70
		15	0	20.47	20.44	20.51	21.70
	64QAM	1	0	20.44	20.26	20.35	21.70
		1	7	20.48	20.37	20.34	21.70
		1	14	20.36	20.35	20.25	21.70
		8	0	19.50	19.36	19.41	20.70
		8	4	19.45	19.51	19.40	20.70
		8	7	19.60	19.47	19.47	20.70
		15	0	19.51	19.52	19.47	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	22.55	22.63	22.06	23.70
		1	13	22.37	22.53	22.21	23.70
		1	24	22.21	22.28	22.17	23.70
		12	0	21.51	21.36	21.34	22.70
		12	6	21.36	21.29	21.27	22.70
		12	13	21.34	21.24	21.55	22.70
		25	0	21.41	21.28	21.55	22.70
	16QAM	1	0	21.80	21.60	21.60	22.70
		1	13	21.78	21.34	21.63	22.70
		1	24	21.51	21.23	21.45	22.70
		12	0	20.50	20.21	20.36	21.70
		12	6	20.34	20.35	20.44	21.70
		12	13	20.27	20.50	20.57	21.70
		25	0	20.45	20.40	20.46	21.70
	64QAM	1	0	20.41	20.26	20.32	21.70
		1	13	20.45	20.39	20.31	21.70
		1	24	20.37	20.33	20.21	21.70
		12	0	19.48	19.32	19.42	20.70
		12	6	19.42	19.46	19.36	20.70
		12	13	19.57	19.42	19.43	20.70
		25	0	19.49	19.48	19.42	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	22.57	22.64	22.09	23.70
		1	25	22.40	22.58	22.25	23.70
		1	49	22.23	22.32	22.20	23.70
		25	0	21.54	21.41	21.38	22.70



		25	13	21.39	21.34	21.31	22.70	
		25	25	21.36	21.28	21.60	22.70	
		50	0	21.45	21.30	21.59	22.70	
	16QAM		1	0	21.82	21.63	21.62	22.70
			1	25	21.81	21.38	21.66	22.70
			1	49	21.54	21.25	21.48	22.70
			25	0	20.53	20.26	20.40	21.70
			25	13	20.36	20.39	20.47	21.70
			25	25	20.30	20.55	20.61	21.70
			50	0	20.48	20.45	20.50	21.70
			64QAM		1	0	20.43	20.25
	1	25			20.48	20.39	20.34	21.70
	1	49			20.36	20.35	20.24	21.70
	25	0			19.51	19.37	19.42	20.70
	25	13			19.44	19.50	19.39	20.70
	25	25			19.60	19.47	19.47	20.70
50	0	19.52			19.53	19.46	20.70	
Bandwidth	Modulation	RB size			RB offset	Channel/Frequency (MHz)		
			18675/1857.5	18900/1880		19125/1902.5		
15MHz	QPSK	1	0	22.56	22.60	22.07	23.70	
		1	38	22.38	22.57	22.22	23.70	
		1	74	22.20	22.27	22.16	23.70	
		36	0	21.52	21.37	21.35	22.70	
		36	18	21.36	21.29	21.27	22.70	
		36	39	21.33	21.25	21.56	22.70	
		75	0	21.43	21.26	21.54	22.70	
	16QAM		1	0	21.77	21.61	21.60	22.70
			1	38	21.79	21.35	21.64	22.70
			1	74	21.51	21.21	21.45	22.70
			36	0	20.50	20.24	20.37	21.70
			36	18	20.33	20.34	20.43	21.70
			36	39	20.28	20.51	20.58	21.70
			75	0	20.45	20.40	20.46	21.70
	64QAM		1	0	20.38	20.23	20.32	21.70
			1	38	20.46	20.36	20.32	21.70
			1	74	20.37	20.34	20.25	21.70
			36	0	19.50	19.39	19.43	20.70
			36	18	19.42	19.47	19.38	20.70
			36	39	19.58	19.43	19.44	20.70
			75	0	19.49	19.48	19.42	20.70
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18700/1860	18900/1880	19100/1900	
	20MHz	QPSK	1	0	22.53	22.56	22.04	23.70



		1	50	22.37	22.53	22.20	23.70	
		1	99	22.18	22.26	22.13	23.70	
		50	0	21.49	21.32	21.31	22.70	
		50	25	21.34	21.25	21.24	22.70	
		50	50	21.30	21.20	21.52	22.70	
		100	0	21.40	21.21	21.50	22.70	
	16QAM	1	0	21.80	21.57	21.55	22.70	
		1	50	21.75	21.33	21.60	22.70	
		1	99	21.49	21.18	21.43	22.70	
		50	0	20.47	20.20	20.34	21.70	
		50	25	20.30	20.32	20.40	21.70	
		50	50	20.25	20.46	20.54	21.70	
	64QAM	100	0	20.43	20.36	20.43	21.70	
		1	0	20.36	20.19	20.27	21.70	
		1	50	20.42	20.34	20.28	21.70	
		1	99	20.31	20.28	20.19	21.70	
		50	0	19.45	19.31	19.36	20.70	
		50	25	19.38	19.43	19.32	20.70	
		50	50	19.55	19.38	19.40	20.70	
			100	0	19.47	19.44	19.39	20.70

LTE FDD Band 2 (Receiver on+WiFi connect/P2P/Hotspot) (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	19.49	19.35	19.46	20.70
		1	2	19.41	19.40	19.60	20.70
		1	5	19.16	19.50	19.46	20.70
		3	0	19.56	19.44	19.64	20.70
		3	2	19.30	19.39	19.68	20.70
		3	3	19.40	19.41	19.74	20.70
		6	0	19.26	19.25	19.66	20.70
	16QAM	1	0	19.28	19.28	19.20	20.70
		1	2	19.51	19.38	19.46	20.70
		1	5	19.21	19.45	19.30	20.70
		3	0	19.53	19.39	19.57	20.70
		3	2	19.45	19.27	19.59	20.70
		3	3	19.17	19.23	19.61	20.70
	64QAM	6	0	19.45	19.18	19.57	20.70
		1	0	19.33	19.50	19.36	20.70
		1	2	19.36	19.42	19.30	20.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18615/1851.5	18900/1880	19185/1908.5		
		1	5	19.40	19.39	19.42	20.70	
		3	0	19.46	19.58	19.38	20.70	
		3	2	19.41	19.48	19.24	20.70	
		3	3	19.44	19.45	19.41	20.70	
		6	0	19.34	19.40	19.46	20.70	
3MHz	QPSK	1	0	19.51	19.39	19.49	20.70	
		1	7	19.41	19.42	19.64	20.70	
		1	14	19.19	19.55	19.50	20.70	
		8	0	19.60	19.51	19.71	20.70	
		8	4	19.33	19.47	19.74	20.70	
		8	7	19.44	19.46	19.78	20.70	
		15	0	19.27	19.29	19.69	20.70	
	16QAM	1	0	19.56	19.30	19.23	20.70	
		1	7	19.54	19.40	19.50	20.70	
		1	14	19.23	19.49	19.33	20.70	
		8	0	19.58	19.43	19.60	20.70	
		8	4	19.50	19.34	19.65	20.70	
		8	7	19.21	19.29	19.68	20.70	
		15	0	19.48	19.22	19.60	20.70	
	64QAM	1	0	19.36	19.52	19.39	20.70	
		1	7	19.39	19.44	19.34	20.70	
		1	14	19.42	19.43	19.45	20.70	
		8	0	19.51	19.62	19.41	20.70	
		8	4	19.46	19.55	19.30	20.70	
		8	7	19.48	19.51	19.48	20.70	
		15	0	19.36	19.46	19.51	20.70	
	5MHz							
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	19.48	19.37	19.45	20.70
			1	13	19.39	19.38	19.61	20.70
			1	24	19.16	19.50	19.46	20.70
12			0	19.57	19.46	19.67	20.70	
12			6	19.31	19.43	19.69	20.70	
12			13	19.42	19.44	19.74	20.70	
25			0	19.27	19.28	19.67	20.70	
16QAM		1	0	19.53	19.26	19.20	20.70	
		1	13	19.51	19.38	19.47	20.70	
		1	24	19.20	19.47	19.29	20.70	
		12	0	19.56	19.39	19.57	20.70	
		12	6	19.47	19.29	19.61	20.70	
		12	13	19.18	19.24	19.64	20.70	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18650/1855	18900/1880	19150/1905		
	64QAM	25	0	19.46	19.18	19.55	20.70	
		1	0	19.33	19.52	19.36	20.70	
		1	13	19.36	19.46	19.31	20.70	
		1	24	19.43	19.41	19.41	20.70	
		12	0	19.49	19.58	19.42	20.70	
		12	6	19.43	19.50	19.26	20.70	
		12	13	19.45	19.46	19.44	20.70	
		25	0	19.34	19.42	19.46	20.70	
10MHz	QPSK	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18650/1855	18900/1880	19150/1905		
10MHz	QPSK	1	0	19.50	19.38	19.48	20.70	
		1	25	19.42	19.43	19.65	20.70	
		1	49	19.18	19.54	19.49	20.70	
		25	0	19.60	19.51	19.71	20.70	
		25	13	19.34	19.48	19.73	20.70	
		25	25	19.44	19.48	19.79	20.70	
		50	0	19.31	19.30	19.71	20.70	
	16QAM	1	0	19.55	19.29	19.22	20.70	
		1	25	19.54	19.42	19.50	20.70	
		1	49	19.23	19.49	19.32	20.70	
		25	0	19.59	19.44	19.61	20.70	
		25	13	19.49	19.33	19.64	20.70	
		25	25	19.21	19.29	19.68	20.70	
		50	0	19.49	19.23	19.59	20.70	
	64QAM	1	0	19.35	19.51	19.38	20.70	
		1	25	19.39	19.46	19.34	20.70	
		1	49	19.42	19.43	19.44	20.70	
		25	0	19.52	19.63	19.42	20.70	
		25	13	19.45	19.54	19.29	20.70	
		25	25	19.48	19.51	19.48	20.70	
		50	0	19.37	19.47	19.50	20.70	
	15MHz	QPSK	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18675/1857.5	18900/1880	19125/1902.5	
	15MHz	QPSK	1	0	19.49	19.34	19.46	20.70
1			38	19.40	19.42	19.62	20.70	
1			74	19.15	19.49	19.45	20.70	
36			0	19.58	19.47	19.68	20.70	
36			18	19.31	19.43	19.69	20.70	
36			39	19.41	19.45	19.75	20.70	
75			0	19.29	19.26	19.66	20.70	
16QAM		1	0	19.25	19.27	19.20	20.70	
		1	38	19.52	19.39	19.48	20.70	
		1	74	19.20	19.45	19.29	20.70	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18700/1860	18900/1880	19100/1900		
20MHz	64QAM	36	0	19.56	19.42	19.58	20.70	
		36	18	19.46	19.28	19.60	20.70	
		36	39	19.19	19.25	19.65	20.70	
		75	0	19.46	19.18	19.55	20.70	
	64QAM	1	0	19.30	19.49	19.36	20.70	
		1	38	19.37	19.43	19.32	20.70	
		1	74	19.39	19.39	19.41	20.70	
		36	0	19.49	19.61	19.39	20.70	
		36	18	19.42	19.49	19.25	20.70	
		36	39	19.46	19.47	19.45	20.70	
		75	0	19.34	19.42	19.46	20.70	
		20MHz	QPSK	1	0	19.46	19.30	19.43
	1			50	19.39	19.38	19.60	20.70
	1			99	19.13	19.48	19.42	20.70
50	0			19.55	19.42	19.64	20.70	
50	25			19.29	19.39	19.66	20.70	
50	50			19.38	19.40	19.71	20.70	
100	0			19.26	19.21	19.62	20.70	
16QAM	1		0	19.23	19.23	19.15	20.70	
	1		50	19.48	19.37	19.44	20.70	
	1		99	19.18	19.42	19.27	20.70	
	50		0	19.53	19.38	19.55	20.70	
	50		25	19.43	19.26	19.57	20.70	
	50		50	19.16	19.20	19.61	20.70	
	100		0	19.44	19.14	19.52	20.70	
64QAM	1		0	19.28	19.45	19.31	20.70	
	1		50	19.33	19.41	19.28	20.70	
	1		99	19.37	19.36	19.39	20.70	
	50		0	19.46	19.57	19.36	20.70	
	50		25	19.39	19.47	19.22	20.70	
	50		50	19.43	19.42	19.41	20.70	
	100		0	19.32	19.38	19.43	20.70	

LTE FDD Band 4 (Receiver on) (Receiver off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	23.09	22.87	23.03	23.70
		1	2	22.64	22.69	22.69	23.70





		1	5	22.71	22.76	22.75	23.70	
		3	0	22.60	22.72	22.68	23.70	
		3	2	22.51	22.53	22.63	23.70	
		3	3	22.60	22.76	22.55	23.70	
		6	0	21.61	21.72	21.70	22.70	
	16QAM	1	0	21.81	21.98	22.13	22.70	
		1	2	21.79	22.07	21.99	22.70	
		1	5	22.07	22.01	21.89	22.70	
		3	0	21.54	21.59	21.56	22.70	
		3	2	21.47	21.42	21.54	22.70	
		3	3	21.44	21.45	21.46	22.70	
		6	0	20.51	20.62	20.70	21.70	
	64QAM	1	0	20.53	20.60	20.65	21.70	
		1	2	20.48	20.59	20.62	21.70	
		1	5	20.44	20.61	20.58	21.70	
		3	0	20.60	20.59	20.55	21.70	
		3	2	20.55	20.52	20.57	21.70	
		3	3	20.52	20.52	20.54	21.70	
		6	0	19.59	19.61	19.63	20.70	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	23.11	22.91	23.06	23.70	
		1	7	22.62	22.72	22.73	23.70	
		1	14	22.74	22.81	22.79	23.70	
		8	0	21.70	21.84	21.81	22.70	
		8	4	21.63	21.63	21.75	22.70	
		8	7	21.70	21.87	21.65	22.70	
		15	0	21.61	21.76	21.73	22.70	
	16QAM	1	0	21.84	22.00	22.16	22.70	
		1	7	21.82	22.07	22.03	22.70	
		1	14	22.09	22.05	21.92	22.70	
		8	0	20.65	20.72	20.68	21.70	
		8	4	20.58	20.55	20.66	21.70	
		8	7	20.54	20.57	20.59	21.70	
		15	0	20.54	20.66	20.73	21.70	
	64QAM	1	0	20.56	20.62	20.68	21.70	
		1	7	20.51	20.59	20.64	21.70	
		1	14	20.46	20.60	20.61	21.70	
		8	0	19.71	19.72	19.67	20.70	
		8	4	19.66	19.65	19.69	20.70	
		8	7	19.62	19.64	19.67	20.70	
		15	0	19.62	19.65	19.66	20.70	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up	



				19975/1712.5	20175/1732.5	20375/1752.5	Limit
5MHz	QPSK	1	0	23.08	22.89	23.02	23.70
		1	13	22.60	22.68	22.70	23.70
		1	24	22.71	22.76	22.75	23.70
		12	0	21.67	21.79	21.77	22.70
		12	6	21.61	21.59	21.70	22.70
		12	13	21.68	21.85	21.61	22.70
		25	0	21.61	21.75	21.71	22.70
	16QAM	1	0	21.81	21.96	22.13	22.70
		1	13	21.79	22.05	22.00	22.70
		1	24	22.06	22.03	21.88	22.70
		12	0	20.63	20.68	20.65	21.70
		12	6	20.55	20.50	20.62	21.70
		12	13	20.51	20.52	20.55	21.70
		25	0	20.52	20.62	20.68	21.70
	64QAM	1	0	20.53	20.62	20.65	21.70
		1	13	20.48	20.61	20.61	21.70
		1	24	20.47	20.58	20.57	21.70
		12	0	19.69	19.68	19.68	20.70
		12	6	19.63	19.60	19.65	20.70
		12	13	19.59	19.59	19.63	20.70
		25	0	19.60	19.61	19.61	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	23.10	22.90	23.05	23.70
		1	25	22.63	22.73	22.74	23.70
		1	49	22.73	22.80	22.78	23.70
		25	0	21.70	21.84	21.81	22.70
		25	13	21.64	21.64	21.74	22.70
		25	25	21.70	21.89	21.66	22.70
		50	0	21.65	21.77	21.75	22.70
	16QAM	1	0	21.83	21.99	22.15	22.70
		1	25	21.82	22.09	22.03	22.70
		1	49	22.09	22.05	21.91	22.70
		25	0	20.66	20.73	20.69	21.70
		25	13	20.57	20.54	20.65	21.70
		25	25	20.54	20.57	20.59	21.70
		50	0	20.55	20.67	20.72	21.70
	64QAM	1	0	20.55	20.61	20.67	21.70
		1	25	20.51	20.61	20.64	21.70
		1	49	20.46	20.60	20.60	21.70
		25	0	19.72	19.73	19.68	20.70
		25	13	19.65	19.64	19.68	20.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20025/1717.5	20175/1732.5	20325/1747.5		
15MHz	QPSK	25	25	19.62	19.64	19.67	20.70	
		50	0	19.63	19.66	19.65	20.70	
		1	0	23.09	22.86	23.03	23.70	
		1	38	22.61	22.72	22.71	23.70	
		1	74	22.70	22.75	22.74	23.70	
		36	0	21.68	21.80	21.78	22.70	
		36	18	21.61	21.59	21.70	22.70	
	16QAM	36	39	21.67	21.86	21.62	22.70	
		75	0	21.63	21.73	21.70	22.70	
		1	0	21.78	21.97	22.13	22.70	
		1	38	21.80	22.06	22.01	22.70	
		1	74	22.06	22.01	21.88	22.70	
		36	0	20.63	20.71	20.66	21.70	
		36	18	20.54	20.49	20.61	21.70	
	64QAM	36	39	20.52	20.53	20.56	21.70	
		75	0	20.52	20.62	20.68	21.70	
		1	0	20.50	20.59	20.65	21.70	
		1	38	20.49	20.58	20.62	21.70	
		1	74	20.47	20.59	20.61	21.70	
		36	0	19.71	19.75	19.69	20.70	
		36	18	19.63	19.61	19.67	20.70	
	20MHz	QPSK	36	39	19.60	19.60	19.64	20.70
			75	0	19.60	19.61	19.61	20.70
			1	0	23.06	22.82	23.00	23.70
1			50	22.60	22.68	22.69	23.70	
1			99	22.68	22.74	22.71	23.70	
50			0	21.65	21.75	21.74	22.70	
50			25	21.59	21.55	21.67	22.70	
16QAM		50	50	21.64	21.81	21.58	22.70	
		100	0	21.60	21.68	21.66	22.70	
		1	0	22.35	21.93	22.08	22.70	
		1	50	21.76	22.04	21.97	22.70	
		1	99	22.04	21.98	21.86	22.70	
		50	0	20.60	20.67	20.63	21.70	
		50	25	20.51	20.47	20.58	21.70	
64QAM		50	50	20.49	20.48	20.52	21.70	
		100	0	20.50	20.58	20.65	21.70	
		1	0	20.48	20.55	20.60	21.70	
			1	50	20.45	20.56	20.58	21.70



		1	99	20.41	20.53	20.55	21.70
		50	0	19.66	19.67	19.62	20.70
		50	25	19.59	19.57	19.61	20.70
		50	50	19.57	19.55	19.60	20.70
		100	0	19.58	19.57	19.58	20.70

LTE FDD Band 4 (Receiver on+WiFi connect/P2P/Hotspot) (Receiver off+WiFi connect/P2P/Hotspot)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	20.80	20.88	20.70	21.70
		1	2	20.52	20.68	20.78	21.70
		1	5	20.66	20.77	20.90	21.70
		3	0	20.50	20.56	20.49	21.70
		3	2	20.64	20.68	20.56	21.70
		3	3	20.79	20.76	20.61	21.70
		6	0	20.71	20.58	20.85	21.70
	16QAM	1	0	20.71	20.50	20.80	21.70
		1	2	20.69	20.56	20.65	21.70
		1	5	20.88	20.49	20.78	21.70
		3	0	20.71	20.72	20.60	21.70
		3	2	20.62	20.66	20.58	21.70
		3	3	20.40	20.51	20.50	21.70
		6	0	20.69	20.67	20.74	21.70
	64QAM	1	0	20.71	20.65	20.75	21.70
		1	2	20.68	20.64	20.72	21.70
		1	5	20.72	20.71	20.70	21.70
		3	0	20.65	20.56	20.61	21.70
		3	2	20.74	20.54	20.61	21.70
		3	3	20.61	20.64	20.54	21.70
		6	0	19.64	19.72	19.82	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	20.82	20.92	20.73	21.70
		1	7	20.50	20.71	20.82	21.70
		1	14	20.69	20.82	20.94	21.70
		8	0	20.55	20.63	20.57	21.70
		8	4	20.71	20.73	20.63	21.70
		8	7	20.84	20.82	20.66	21.70
		15	0	20.71	20.62	20.88	21.70
	16QAM	1	0	20.74	20.52	20.83	21.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19975/1712.5	20175/1732.5	20375/1752.5		
		1	7	20.72	20.56	20.69	21.70	
		1	14	20.90	20.53	20.81	21.70	
		8	0	20.77	20.80	20.67	21.70	
		8	4	20.68	20.74	20.65	21.70	
		8	7	20.45	20.58	20.58	21.70	
		15	0	20.72	20.71	20.77	21.70	
	64QAM	1	0	20.74	20.67	20.78	21.70	
		1	7	20.71	20.64	20.74	21.70	
		1	14	20.74	20.70	20.73	21.70	
		8	0	19.76	19.69	19.73	20.70	
		8	4	19.85	19.67	19.73	20.70	
		8	7	19.71	19.76	19.67	20.70	
			15	0	19.67	19.76	19.85	20.70
	5MHz	QPSK	1	0	20.79	20.90	20.69	21.70
1			13	20.48	20.67	20.79	21.70	
1			24	20.66	20.77	20.90	21.70	
12			0	20.52	20.58	20.53	21.70	
12			6	20.69	20.69	20.58	21.70	
12			13	20.82	20.80	20.62	21.70	
25			0	20.71	20.61	20.86	21.70	
16QAM		1	0	20.71	20.48	20.80	21.70	
		1	13	20.69	20.54	20.66	21.70	
		1	24	20.87	20.51	20.77	21.70	
		12	0	20.75	20.76	20.64	21.70	
		12	6	20.65	20.69	20.61	21.70	
		12	13	20.42	20.53	20.54	21.70	
		25	0	20.70	20.67	20.72	21.70	
64QAM		1	0	20.71	20.67	20.75	21.70	
		1	13	20.68	20.66	20.71	21.70	
		1	24	20.75	20.68	20.69	21.70	
		12	0	19.74	19.65	19.74	20.70	
		12	6	19.82	19.62	19.69	20.70	
		12	13	19.68	19.71	19.63	20.70	
		25	0	19.65	19.72	19.80	20.70	
Bandwidth		Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20000/1715	20175/1732.5	20350/1750	
10MHz		QPSK	1	0	20.81	20.91	20.72	21.70
	1		25	20.51	20.72	20.83	21.70	
	1		49	20.68	20.81	20.93	21.70	
	25		0	20.55	20.63	20.57	21.70	
	25		13	20.72	20.74	20.62	21.70	



		25	25	20.84	20.84	20.67	21.70
		50	0	20.75	20.63	20.90	21.70
	16QAM	1	0	20.73	20.51	20.82	21.70
		1	25	20.72	20.58	20.69	21.70
		1	49	20.90	20.53	20.80	21.70
		25	0	20.78	20.81	20.68	21.70
		25	13	20.67	20.73	20.64	21.70
		25	25	20.45	20.58	20.58	21.70
		50	0	20.73	20.72	20.76	21.70
	64QAM	1	0	20.73	20.66	20.77	21.70
		1	25	20.71	20.66	20.74	21.70
		1	49	20.74	20.70	20.72	21.70
		25	0	19.77	19.70	19.74	20.70
		25	13	19.84	19.66	19.72	20.70
		25	25	19.71	19.76	19.67	20.70
		50	0	19.68	19.77	19.84	20.70
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
20025/1717.5					20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	20.80	20.87	20.70	21.70
		1	38	20.49	20.71	20.80	21.70
		1	74	20.65	20.76	20.89	21.70
		36	0	20.53	20.59	20.54	21.70
		36	18	20.69	20.69	20.58	21.70
		36	39	20.81	20.81	20.63	21.70
		75	0	20.73	20.59	20.85	21.70
	16QAM	1	0	20.68	20.49	20.80	21.70
		1	38	20.70	20.55	20.67	21.70
		1	74	20.87	20.49	20.77	21.70
		36	0	20.75	20.79	20.65	21.70
		36	18	20.64	20.68	20.60	21.70
		36	39	20.43	20.54	20.55	21.70
		75	0	20.70	20.67	20.72	21.70
	64QAM	1	0	20.68	20.64	20.75	21.70
		1	38	20.69	20.63	20.72	21.70
		1	74	20.75	20.69	20.73	21.70
		36	0	19.76	19.72	19.75	20.70
		36	18	19.82	19.63	19.71	20.70
		36	39	19.69	19.72	19.64	20.70
		75	0	19.65	19.72	19.80	20.70
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	20.77	20.83	20.67	21.70
		1	50	20.48	20.67	20.78	21.70



		1	99	20.63	20.75	20.86	21.70
		50	0	20.50	20.54	20.50	21.70
		50	25	20.67	20.65	20.55	21.70
		50	50	20.78	20.76	20.59	21.70
		100	0	20.70	20.54	20.81	21.70
	16QAM	1	0	20.91	20.45	20.75	21.70
		1	50	20.66	20.53	20.63	21.70
		1	99	20.85	20.46	20.75	21.70
		50	0	20.72	20.75	20.62	21.70
		50	25	20.61	20.66	20.57	21.70
		50	50	20.40	20.49	20.51	21.70
		100	0	20.68	20.63	20.69	21.70
	64QAM	1	0	20.66	20.60	20.70	21.70
		1	50	20.65	20.61	20.68	21.70
		1	99	20.69	20.63	20.67	21.70
		50	0	19.71	19.64	19.68	20.70
		50	25	19.78	19.59	19.65	20.70
		50	50	19.66	19.67	19.60	20.70
		100	0	19.63	19.68	19.77	20.70

LTE FDD Band 7				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	23.94	23.50	23.37	24.70
		1	13	23.54	23.81	23.29	24.70
		1	24	23.23	23.24	23.43	24.70
		12	0	22.66	22.83	22.19	23.70
		12	6	22.33	22.69	22.15	23.70
		12	13	22.18	22.88	22.40	23.70
		25	0	22.16	22.66	22.22	23.70
	16QAM	1	0	22.28	22.51	22.28	23.70
		1	13	22.26	22.66	22.25	23.70
		1	24	21.93	22.44	22.56	23.70
		12	0	21.95	21.70	21.06	22.70
		12	6	21.27	21.84	21.62	22.70
		12	13	21.03	21.68	21.66	22.70
		25	0	21.37	21.72	21.18	22.70
	64QAM	1	0	21.35	21.59	21.28	22.70
		1	13	21.34	21.55	21.28	22.70
		1	24	21.38	21.59	21.32	22.70
		12	0	20.33	20.52	20.69	21.70
		12	6	20.38	20.56	20.65	21.70



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20800/2505	21100/2535	21400/2565		
10MHz	QPSK	12	13	20.38	20.56	20.62	21.70	
		25	0	20.39	20.53	20.60	21.70	
		1	0	23.96	23.51	23.40	24.70	
		1	25	23.57	23.86	23.33	24.70	
		1	49	23.25	23.28	23.46	24.70	
		25	0	22.69	22.88	22.23	23.70	
		25	13	22.36	22.74	22.19	23.70	
	16QAM	25	25	22.20	22.92	22.45	23.70	
		50	0	22.20	22.68	22.26	23.70	
		1	0	22.30	22.54	22.30	23.70	
		1	25	22.29	22.70	22.28	23.70	
		1	49	21.96	22.46	22.59	23.70	
		25	0	21.98	21.75	21.10	22.70	
		25	13	21.29	21.88	21.65	22.70	
	64QAM	25	25	21.06	21.73	21.70	22.70	
		50	0	21.40	21.77	21.22	22.70	
		1	0	21.37	21.58	21.30	22.70	
		1	25	21.37	21.55	21.31	22.70	
		1	49	21.37	21.61	21.35	22.70	
		25	0	20.36	20.57	20.69	21.70	
		25	13	20.40	20.60	20.68	21.70	
	15MHz	QPSK	25	25	20.41	20.61	20.66	21.70
			50	0	20.42	20.58	20.64	21.70
	15MHz		QPSK	1	0	23.95	23.47	23.38
1				38	23.55	23.85	23.30	24.70
1				74	23.22	23.23	23.42	24.70
36				0	22.67	22.84	22.20	23.70
36				18	22.33	22.69	22.15	23.70
36		39		22.17	22.89	22.41	23.70	
75		0		22.18	22.64	22.21	23.70	
16QAM		1	0	22.25	22.52	22.28	23.70	
		1	38	22.27	22.67	22.26	23.70	
		1	74	21.93	22.42	22.56	23.70	
		36	0	21.95	21.73	21.07	22.70	
		36	18	21.26	21.83	21.61	22.70	
		36	39	21.04	21.69	21.67	22.70	
		75	0	21.37	21.72	21.18	22.70	
64QAM	1	0	21.32	21.56	21.28	22.70		
	1	38	21.35	21.52	21.29	22.70		





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	74	21.38	21.60	21.36	22.70
		36	0	20.35	20.59	20.70	21.70
		36	18	20.38	20.57	20.67	21.70
		36	39	20.39	20.57	20.63	21.70
		75	0	20.39	20.53	20.60	21.70
		1	0	23.92	23.43	23.35	24.70
		1	50	23.54	23.81	23.28	24.70
	16QAM	1	99	23.20	23.22	23.39	24.70
		50	0	22.64	22.79	22.16	23.70
		50	25	22.31	22.65	22.12	23.70
		50	50	22.14	22.84	22.37	23.70
		100	0	22.15	22.59	22.17	23.70
		1	0	23.20	22.48	22.23	23.70
		1	50	22.23	22.65	22.22	23.70
	64QAM	1	99	21.91	22.39	22.54	23.70
		50	0	21.92	21.69	21.04	22.70
		50	25	21.23	21.81	21.58	22.70
		50	50	21.01	21.64	21.63	22.70
		100	0	21.35	21.68	21.15	22.70
		1	0	21.30	21.52	21.23	22.70
		1	50	21.31	21.50	21.25	22.70
64QAM	1	99	21.32	21.54	21.30	22.70	
	50	0	20.30	20.51	20.63	21.70	
	50	25	20.34	20.53	20.61	21.70	
	50	50	20.36	20.52	20.59	21.70	
	100	0	20.37	20.49	20.57	21.70	

LTE TDD Band 38				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	23.65	23.67	24.03	25.20
		1	13	23.79	24.20	24.22	25.20
		1	24	24.14	24.05	23.89	25.20
		12	0	22.82	22.87	23.29	24.20
		12	6	22.92	22.99	23.13	24.20
		12	13	23.01	23.35	23.07	24.20
		25	0	22.90	23.01	23.10	24.20
	16QAM	1	0	23.14	22.73	23.14	24.20
		1	13	23.12	22.98	23.40	24.20
		1	24	23.12	23.30	23.25	24.20



		12	0	21.86	21.81	22.10	23.20
		12	6	21.97	22.01	22.11	23.20
		12	13	22.06	22.08	22.05	23.20
		25	0	22.15	21.98	22.14	23.20
	64QAM	1	0	22.17	22.05	22.15	23.20
		1	13	22.12	22.04	22.11	23.20
		1	24	22.13	22.03	22.07	23.20
		12	0	21.08	21.07	21.13	22.20
		12	6	21.05	21.06	21.08	22.20
		12	13	21.01	21.02	21.00	22.20
25	0	21.02	21.05	21.02	22.20		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	23.67	23.68	24.06	25.20
		1	25	23.82	24.25	24.26	25.20
		1	49	24.16	24.09	23.92	25.20
		25	0	22.85	22.92	23.33	24.20
		25	13	22.95	23.04	23.17	24.20
		25	25	23.03	23.39	23.12	24.20
		50	0	22.94	23.03	23.14	24.20
	16QAM	1	0	23.16	22.76	23.16	24.20
		1	25	23.15	23.02	23.43	24.20
		1	49	23.15	23.32	23.28	24.20
		25	0	21.89	21.86	22.14	23.20
		25	13	21.99	22.05	22.14	23.20
		25	25	22.09	22.13	22.09	23.20
		50	0	22.18	22.03	22.18	23.20
	64QAM	1	0	22.19	22.04	22.17	23.20
		1	25	22.15	22.04	22.14	23.20
		1	49	22.12	22.05	22.10	23.20
		25	0	21.11	21.12	21.13	22.20
		25	13	21.07	21.10	21.11	22.20
		25	25	21.04	21.07	21.04	22.20
		50	0	21.05	21.10	21.06	22.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	23.66	23.64	24.04	25.20
		1	38	23.80	24.24	24.23	25.20
		1	74	24.13	24.04	23.88	25.20
		36	0	22.83	22.88	23.30	24.20
		36	18	22.92	22.99	23.13	24.20
		36	39	23.00	23.36	23.08	24.20
		75	0	22.92	22.99	23.09	24.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
	16QAM	1	0	23.11	22.74	23.14	24.20
		1	38	23.13	22.99	23.41	24.20
		1	74	23.12	23.28	23.25	24.20
		36	0	21.86	21.84	22.11	23.20
		36	18	21.96	22.00	22.10	23.20
		36	39	22.07	22.09	22.06	23.20
		75	0	22.15	21.98	22.14	23.20
	64QAM	1	0	22.14	22.02	22.15	23.20
		1	38	22.13	22.01	22.12	23.20
		1	74	22.13	22.04	22.11	23.20
		36	0	21.10	21.14	21.14	22.20
		36	18	21.05	21.07	21.10	22.20
		36	39	21.02	21.03	21.01	22.20
		75	0	21.02	21.05	21.02	22.20
20MHz	QPSK	1	0	23.63	23.60	24.01	25.20
		1	50	23.79	24.20	24.21	25.20
		1	99	24.11	24.03	23.85	25.20
		50	0	22.80	22.83	23.26	24.20
		50	25	22.90	22.95	23.10	24.20
		50	50	22.97	23.31	23.04	24.20
		100	0	22.89	22.94	23.05	24.20
	16QAM	1	0	22.81	22.70	23.09	24.20
		1	50	23.09	22.97	23.37	24.20
		1	99	23.10	23.25	23.23	24.20
		50	0	21.83	21.80	22.08	23.20
		50	25	21.93	21.98	22.07	23.20
		50	50	22.04	22.04	22.02	23.20
		100	0	22.13	21.94	22.11	23.20
	64QAM	1	0	22.12	21.98	22.10	23.20
		1	50	22.09	21.99	22.08	23.20
		1	99	22.07	21.98	22.05	23.20
		50	0	21.05	21.06	21.07	22.20
		50	25	21.01	21.03	21.04	22.20
		50	50	20.99	20.98	20.97	22.20
		100	0	21.00	21.01	20.99	22.20

LTE TDD Band 41				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39675/2498.5	40148/2545.8	40620/2593	41093/2640.3	41565/2687.5	



5MHz	QPSK	1	0	24.57	24.71	24.30	24.59	24.87	25.20
		1	13	24.15	24.51	24.13	24.54	24.53	25.20
		1	24	24.17	24.50	24.45	24.84	23.68	25.20
		12	0	23.60	23.65	23.34	23.65	23.74	24.20
		12	6	23.52	23.49	23.26	23.64	23.76	24.20
		12	13	23.61	23.52	23.29	23.88	23.53	24.20
		25	0	23.53	23.65	23.30	23.72	23.88	24.20
	16QAM	1	0	23.69	23.87	23.64	23.92	24.07	24.20
		1	13	23.67	23.63	23.51	23.90	23.96	24.20
		1	24	23.61	23.85	23.73	24.10	23.26	24.20
		12	0	22.46	22.47	22.28	22.63	22.79	23.20
		12	6	22.60	22.40	22.24	22.63	22.87	23.20
		12	13	22.61	22.33	22.30	22.74	22.83	23.20
		25	0	22.63	22.48	22.28	22.63	22.99	23.20
	64QAM	1	0	22.63	22.52	22.35	22.67	22.90	23.20
		1	13	22.60	22.43	22.24	22.63	22.88	23.20
		1	24	22.66	22.44	22.33	22.71	22.84	23.20
		12	0	21.72	21.46	21.39	21.69	21.78	22.20
		12	6	21.74	21.42	21.42	21.71	21.81	22.20
		12	13	21.70	21.46	21.38	21.57	21.81	22.20
		25	0	21.68	21.47	21.53	21.53	21.73	22.20
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
				39700/2501	40160/2547	40620/2593	41080/2639	41540/2685	
10MHz	QPSK	1	0	24.59	24.72	24.33	24.61	24.88	25.20
		1	25	24.18	24.56	24.17	24.57	24.58	25.20
		1	49	24.19	24.54	24.48	24.86	23.72	25.20
		25	0	23.63	23.70	23.38	23.68	23.79	24.20
		25	13	23.55	23.54	23.30	23.67	23.81	24.20
		25	25	23.63	23.56	23.34	23.90	23.57	24.20
		50	0	23.57	23.67	23.34	23.76	23.90	24.20
	16QAM	1	0	23.71	23.90	23.66	23.94	24.10	24.20
		1	25	23.70	23.67	23.54	23.93	24.00	24.20
		1	49	23.64	23.87	23.76	24.13	23.28	24.20
		25	0	22.49	22.52	22.32	22.66	22.84	23.20
		25	13	22.62	22.44	22.27	22.65	22.91	23.20
		25	25	22.64	22.38	22.34	22.77	22.88	23.20
		50	0	22.66	22.53	22.32	22.66	23.04	23.20
	64QAM	1	0	22.65	22.51	22.37	22.69	22.89	23.20
		1	25	22.63	22.43	22.27	22.66	22.88	23.20
		1	49	22.65	22.46	22.36	22.70	22.86	23.20
		25	0	21.75	21.51	21.39	21.72	21.83	22.20
		25	13	21.76	21.46	21.45	21.73	21.85	22.20



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit	
				39725/2503.5	40173/2548.3	40620/2593	41068/2637.8	41515/2682.5		
		25	25	21.73	21.51	21.42	21.60	21.86	22.20	
		50	0	21.71	21.52	21.57	21.56	21.78	22.20	
15MHz	QPSK	1	0	24.58	24.68	24.31	24.60	24.84	25.20	
		1	38	24.16	24.55	24.14	24.55	24.57	25.20	
		1	74	24.16	24.49	24.44	24.83	23.67	25.20	
		36	0	23.61	23.66	23.35	23.66	23.75	24.20	
		36	18	23.52	23.49	23.26	23.64	23.76	24.20	
		36	39	23.60	23.53	23.30	23.87	23.54	24.20	
		75	0	23.55	23.63	23.29	23.74	23.86	24.20	
	16QAM	1	0	23.66	23.88	23.64	23.89	24.08	24.20	
		1	38	23.68	23.64	23.52	23.91	23.97	24.20	
		1	74	23.61	23.83	23.73	24.10	23.24	24.20	
		36	0	22.46	22.50	22.29	22.63	22.82	23.20	
		36	18	22.59	22.39	22.23	22.62	22.86	23.20	
		36	39	22.62	22.34	22.31	22.75	22.84	23.20	
		75	0	22.63	22.48	22.28	22.63	22.99	23.20	
	64QAM	1	0	22.60	22.49	22.35	22.64	22.87	23.20	
		1	38	22.61	22.40	22.25	22.64	22.85	23.20	
		1	74	22.66	22.45	22.37	22.71	22.85	23.20	
		36	0	21.74	21.53	21.40	21.71	21.85	22.20	
		36	18	21.74	21.43	21.44	21.71	21.82	22.20	
		36	39	21.71	21.47	21.39	21.58	21.82	22.20	
		75	0	21.68	21.47	21.53	21.53	21.73	22.20	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					Tune-up Limit
					39750/2506	40185/2549.5	40620/2593	41055/2636.5	41490/2680	
	20MHz	QPSK	1	0	24.55	24.64	24.28	24.57	24.80	25.20
1			50	24.15	24.51	24.12	24.54	24.53	25.20	
1			99	24.14	24.48	24.41	24.81	23.66	25.20	
50			0	23.58	23.61	23.31	23.63	23.70	24.20	
50			25	23.50	23.45	23.23	23.62	23.72	24.20	
50			50	23.57	23.48	23.26	23.84	23.49	24.20	
100			0	23.52	23.58	23.25	23.71	23.81	24.20	
16QAM		1	0	23.79	23.84	23.59	23.84	24.04	24.20	
		1	50	23.64	23.62	23.48	23.87	23.95	24.20	
		1	99	23.59	23.80	23.71	24.08	23.21	24.20	
		50	0	22.43	22.46	22.26	22.60	22.78	23.20	
		50	25	22.56	22.37	22.20	22.59	22.84	23.20	
		50	50	22.59	22.29	22.27	22.72	22.79	23.20	
		100	0	22.61	22.44	22.25	22.61	22.95	23.20	



	64QAM	1	0	22.58	22.45	22.30	22.62	22.83	23.20
		1	50	22.57	22.38	22.21	22.60	22.83	23.20
		1	99	22.60	22.39	22.31	22.65	22.79	23.20
		50	0	21.69	21.45	21.33	21.66	21.77	22.20
		50	25	21.70	21.39	21.38	21.67	21.78	22.20
		50	50	21.68	21.42	21.35	21.55	21.77	22.20
		100	0	21.66	21.43	21.50	21.51	21.69	22.20

**9.3.2 Conducted power measurements of Downlink LTE CA**

The following conducted power measurement results of downlink LTE carrier aggregation are provided to quantify downlink only carrier aggregation SAR test exclusion per KDB 941225 D05A.

Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼dB higher than the maximum output power measured when downlink carrier aggregation inactive.

Power test equipment: R&S Radio Communication Tester CMW500 was used.

The power measurements result are in the table as below:

Table: Conducted power measurement results of DL CA (Main Antenna, Receiver off+SAR sensor on Level D3/7)

DL LTE CA Class	PCC							SCC1			SCC2			Power		
	PCC Band	BW (MHz)	Modulation	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	BW (MHz)	SCC DL Channel	SCC Band	BW (MHz)	SCC DL Channel	LTE Tx Power (dBm)	DL LTE CA Tx Power (dBm)	Tune-up
CA_4C	4	20	QPSK	1	0	20175	2175	4	20	2373	/	/	/	23.75	23.43	24.5
CA_5B	5	10	QPSK	1	25	20525	2525	5	10	2624	/	/	/	24.31	23.69	25.5
CA_12B	12	10	QPSK	1	49	23095	5095	12	5	5167	/	/	/	23.83	23.25	25
CA_38C	38	20	QPSK	1	99	38150	38150	38	20	37952	/	/	/	23.72	23.46	25
CA_4A-5A	4	20	QPSK	1	0	20175	2175	5	10	2525	/	/	/	23.75	23.35	24.5
	5	10	QPSK	1	25	20525	2525	4	20	2175	/	/	/	24.31	24.02	25.5
CA_4A-17A	4	20	QPSK	1	0	20175	2175	17	10	5790	/	/	/	23.75	23.47	24.5
CA_4A-4A-7A	4	20	QPSK	1	0	20175	2175	4	10	2350	7	20	3100	23.75	23.26	24.5
	7	20	QPSK	1	99	21350	3350	4	20	2050	4	20	2300	23.86	23.27	24.5
CA_4A-12B	4	20	QPSK	1	0	20175	2175	12	5	5095	12	5	5143	23.75	23.41	24.5
CA_5A-7C	5	10	QPSK	1	25	20525	2525	7	20	3100	7	20	3298	24.31	24.03	25.5
	7	20	QPSK	1	99	21350	3350	7	20	3048	5	10	2525	23.86	23.42	24.5
CA_4A-7C	4	20	QPSK	1	0	20175	2175	7	20	3100	7	20	3298	23.75	23.34	24.5
	7	20	QPSK	1	99	21350	3350	7	20	3048	4	20	2175	23.86	23.43	24.5
CA_4A-7A-12A	4	20	QPSK	1	0	20175	2175	7	20	3100	12	10	5095	23.75	23.41	24.5
	7	20	QPSK	1	99	21350	3350	4	20	2175	12	10	5095	23.86	23.52	24.5
CA_7D	7	20	QPSK	1	99	21350	3350	7	20	3152	7	20	2954	23.86	23.57	24.5



Table: Conducted power measurement results of DL CA (Second Antenna, Receiver off)

DL LTE CA Class	PCC							SCC1			SCC2			Power		
	PCC Band	BW (MHz)	Modulation	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	BW (MHz)	SCC DL Channel	SCC Band	BW (MHz)	SCC DL Channel	LTE Tx Power (dBm)	DL LTE CA Tx Power (dBm)	Tune-up
CA_4C	4	20	QPSK	1	0	20300	2300	4	20	2102	/	/	/	22.08	21.86	22.7
CA_5B	5	10	QPSK	1	0	20525	2525	5	10	2624	/	/	/	24.65	24.23	25.7
CA_12B	12	10	QPSK	1	25	23130	5130	12	5	5058	/	/	/	24.69	24.31	25.2
CA_38C	38	20	QPSK	1	99	37850	37850	38	20	38048	/	/	/	24.56	24.18	25.2
CA_4A-5A	4	20	QPSK	1	0	20300	2300	5	10	2525	/	/	/	22.08	21.92	22.7
	5	10	QPSK	1	0	20525	2525	4	20	2175	/	/	/	24.65	24.32	25.7
CA_4A-17A	4	20	QPSK	1	0	20300	2300	17	10	5790	/	/	/	22.08	21.87	22.7
CA_4A-4A-7A	4	20	QPSK	1	0	20300	2300	4	20	2050	7	20	3100	22.08	21.94	22.7
	7	20	16QAM	1	99	21350	3350	4	20	2050	4	20	2300	22.28	21.89	22.7
CA_4A-12B	4	20	QPSK	1	0	20300	2300	12	5	5095	12	5	5143	22.08	21.79	22.7
CA_5A-7C	5	10	QPSK	1	0	20525	2525	7	20	3100	7	20	3298	24.65	24.18	25.7
	7	20	16QAM	1	99	21350	3350	7	20	3152	5	10	2525	22.28	21.96	22.7
CA_4A-7C	4	20	QPSK	1	0	20300	2300	7	20	3100	7	20	3298	22.08	21.79	22.7
	7	20	16QAM	1	99	21350	3350	7	20	3152	4	20	2175	22.28	21.85	22.7
CA_4A-7A-12A	4	20	QPSK	1	0	20300	2300	7	20	3100	12	10	5095	22.08	21.76	22.7
	7	20	16QAM	1	99	21350	3350	4	20	2175	12	10	5095	22.28	21.92	22.7
CA_7D	7	20	16QAM	1	99	21350	3350	7	20	3152	7	20	2954	22.28	21.69	22.7

Table: Conducted power measurement results of DL CA (Second MAS Antenna, Receiver off)

DL LTE CA Class	PCC							SCC1			SCC2			Power		
	PCC Band	BW (MHz)	Modulation	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	BW (MHz)	SCC DL Channel	SCC Band	BW (MHz)	SCC DL Channel	LTE Tx Power (dBm)	DL LTE CA Tx Power (dBm)	Tune-up
CA_4C	4	20	QPSK	1	0	20050	2050	4	20	2248	/	/	/	23.06	22.89	23.7
CA_38C	38	20	QPSK	1	50	38150	38150	38	20	37952	/	/	/	24.21	23.97	25.2
CA_41C	41	20	QPSK	1	99	41055	41055	41	20	40857	/	/	/	24.81	24.62	25.2
CA_7D	7	20	16QAM	1	99	20850	2850	7	20	3048	7	20	3246	23.92	23.62	24.7
CA_41D	41	20	QPSK	1	99	41055	41055	41	20	40857	41	20	40659	24.81	24.57	25.2
CA_4A-4A-7A	4	20	QPSK	1	0	20050	2050	4	20	2300	7	20	3100	23.06	22.78	23.7
	7	20	QPSK	1	0	20850	2850	4	20	2050	4	20	2300	23.92	23.65	24.7
CA_4A-7C	4	20	QPSK	1	0	20050	2050	7	20	3100	7	20	3298	23.06	22.79	23.7
	7	20	QPSK	1	0	20850	2850	7	20	3048	4	20	2175	23.92	23.52	24.7



### 9.3.3 Conducted power measurements of LTE Downlink 4x4 MIMO

Table: Conducted power measurement results of LTE Band 2/4/7 DL 4x4 MIMO (Main Antenna, Receiver off+SAR sensor on Level D3/7)

LTE Band	BW(MHz)	Channel	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx Power (dBm)	Single Antenna Tx. Power (dBm)	Tune-up
Band 4	20	20175	QPSK	1	0	23.48	23.75	24.5
Band 7	20	21350	QPSK	1	99	23.62	23.86	24.5
Band 38	20	38150	QPSK	1	99	23.57	23.72	25

Table: Conducted power measurement results of LTE DL 4x4 MIMO with CA(Main Antenna, Receiver off+SAR sensor on Level D3/7)

DL LTE CA Class	PCC								SCC1				SCC2				Power		
	PCC Band	PCC BW (MHz)	Modulation	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	DL Antenna Configuration	SCC Band	SCC BW (MHz)	SCC DL Channel	DL Antenna Configuration	SCC Band	SCC BW (MHz)	SCC DL Channel	DL Antenna Configuration	Without DL 4x4MIMO Tx Power	With DL 4x4MIMO Tx Power	Tune-up
CA_4C	4	20	QPSK	1	0	20175	2175	4*4 MIMO	4	20	2373	4*4 MIMO	/	/	/	/	23.75	22.78	24.5
CA_38C	38	20	QPSK	1	99	38150	38150	4*4 MIMO	38	20	37952	4*4 MIMO	/	/	/	/	23.72	23.36	25
CA_4A-5A	4	20	QPSK	1	0	20175	2175	4*4 MIMO	5	10	2525	2*2 MIMO	/	/	/	/	23.75	23.34	24.5
	5	10	QPSK	1	25	20525	2525	2*2 MIMO	4	20	2175	4*4 MIMO	/	/	/	/	24.31	24.17	25.5
CA_4A-17A	4	20	QPSK	1	0	20175	2175	4*4 MIMO	17	10	5790	2*2 MIMO	/	/	/	/	23.75	23.32	24.5
CA_4A-7C	4	20	QPSK	1	0	20175	2175	4*4 MIMO	7	20	3100	2*2 MIMO	7	20	3298	2*2 MIMO	23.75	23.25	24.5
	7	20	QPSK	1	99	21350	3350	2*2 MIMO	7	20	3152	2*2 MIMO	4	20	2175	4*4 MIMO	23.86	23.39	24.5
CA_4A-7A-12A	4	20	QPSK	1	0	20175	2175	4*4 MIMO	7	20	3100	2*2 MIMO	12	10	5095	2*2 MIMO	23.75	23.18	24.5
	7	20	QPSK	1	99	21350	3350	2*2 MIMO	4	20	2175	4*4 MIMO	12	10	5095	2*2 MIMO	23.86	23.41	24.5
CA_7D	7	20	QPSK	1	99	21350	3350	4*4 MIMO	7	20	3152	4*4 MIMO	7	20	2954	2*2 MIMO	23.86	23.65	24.5
CA_4A-4A-7A	4	20	QPSK	1	0	20175	2175	2*2 MIMO	4	20	2300	2*2 MIMO	7	20	3100	4*4 MIMO	23.75	23.38	24.5
	7	20	QPSK	1	99	21350	3350	4*4 MIMO	4	20	2050	2*2 MIMO	4	10	2350	2*2 MIMO	23.86	23.48	24.5
CA_4A-12B	4	20	QPSK	1	0	20175	2175	4*4 MIMO	12	5	5095	2*2 MIMO	12	5	5143	2*2 MIMO	23.75	23.33	24.5
CA_5A-7C	5	10	QPSK	1	25	20525	2525	2*2 MIMO	7	20	3100	4*4 MIMO	7	20	3298	4*4 MIMO	24.31	24.07	25.5
	7	20	QPSK	1	99	21350	3350	4*4 MIMO	7	20	3152	4*4 MIMO	5	10	2525	2*2 MIMO	23.86	23.55	24.5

Table: Conducted power measurement results of LTE Band 2/4/7 DL 4x4 MIMO (Second Antenna, Receiver off)

LTE Band	BW(MHz)	Channel	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx Power (dBm)	Single Antenna Tx. Power (dBm)	Tune-up
Band 4	20	20300	QPSK	1	0	21.86	22.08	22.7
Band 7	20	21350	16QAM	1	99	22.03	22.28	22.7
Band 38	20	37850	QPSK	1	99	24.23	24.56	25.2

Table: Conducted power measurement results of LTE DL 4x4 MIMO with CA(Second Antenna, Receiver off)

DL LTE CA Class	PCC								SCC1				SCC2				Power		
	PCC Band	PCC BW (MHz)	Modulation	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	DL Antenna Configuration	SCC Band	SCC BW (MHz)	SCC DL Channel	DL Antenna Configuration	SCC Band	SCC BW (MHz)	SCC DL Channel	DL Antenna Configuration	Without DL 4x4MIMO Tx Power	With DL 4x4MIMO Tx Power	Tune-up
CA_4C	4	20	QPSK	1	0	20300	2300	4*4 MIMO	4	20	2102	4*4 MIMO	/	/	/	/	21.68	21.22	22.2
CA_38C	38	20	QPSK	1	99	37850	37850	4*4 MIMO	38	20	38048	4*4 MIMO	/	/	/	/	24.56	24.18	25.2



CA_4A-5A	4	20	QPSK	1	0	20300	2300	4*4 MIMO	5	10	2525	2*2 MIMO	/	/	/	/	22.08	21.64	22.7
	5	10	QPSK	1	0	20525	2525	2*2 MIMO	4	20	2175	4*4 MIMO	/	/	/	/	24.65	24.25	25.7
CA_4A-17A	4	20	QPSK	1	0	20300	2300	4*4 MIMO	17	10	5790	2*2 MIMO	/	/	/	/	22.08	21.65	22.7
CA_4A-4A-7A	4	20	QPSK	1	0	20300	2300	2*2 MIMO	4	20	2050	2*2 MIMO	7	20	3100	4*4 MIMO	22.08	21.68	22.7
	7	20	16QAM	1	99	21350	3350	4*4 MIMO	4	20	2050	2*2 MIMO	4	10	2350	2*2 MIMO	22.28	21.92	22.7
CA_4A-12B	4	20	QPSK	1	0	20300	2300	4*4 MIMO	12	5	5095	2*2 MIMO	12	5	5143	2*2 MIMO	22.08	21.57	22.7
CA_5A-7C	5	10	QPSK	1	0	20525	2525	2*2 MIMO	7	20	3100	4*4 MIMO	7	20	3298	4*4 MIMO	24.65	24.17	25.7
	7	20	16QAM	1	99	21350	3350	4*4 MIMO	7	20	3152	4*4 MIMO	5	10	2525	2*2 MIMO	22.28	21.83	22.7
CA_4A-7C	4	20	QPSK	1	0	20300	2300	4*4 MIMO	7	20	3100	2*2 MIMO	7	20	3298	2*2 MIMO	22.08	21.47	22.7
	7	20	16QAM	1	99	21350	3350	2*2 MIMO	7	20	3152	2*2 MIMO	4	20	2175	4*4 MIMO	22.28	21.62	22.7
CA_4A-7A-12A	4	20	QPSK	1	0	20300	2300	4*4 MIMO	7	20	3100	2*2 MIMO	12	10	5095	2*2 MIMO	22.08	21.35	22.7
	7	20	16QAM	1	99	21350	3350	2*2 MIMO	4	20	2175	4*4 MIMO	12	10	5095	2*2 MIMO	22.28	21.53	22.7
CA_7D	7	20	16QAM	1	99	21350	3350	4*4 MIMO	7	20	3152	4*4 MIMO	7	20	2954	2*2 MIMO	22.28	21.86	22.7

Table: Conducted power measurement results of LTE Band 2/4/7 DL 4x4 MIMO (Second MAS Antenna, Receiver off)

LTE Band	BW(MHz)	Channel	Modulation	RB Size	RB Offset	4x4 DL MIMO Tx Power (dBm)	Single Antenna Tx. Power (dBm)	Tune-up
Band 4	20	20050	QPSK	1	0	22.87	23.06	23.7
Band 7	20	20850	QPSK	1	0	23.74	23.92	24.7
Band 38	20	38150	QPSK	1	50	23.97	24.21	25.2

Table: Conducted power measurement results of LTE DL 4x4 MIMO with CA(Second MAS Antenna, Receiver off)

DL LTE CA Class	PCC								SCC1				SCC2				Power		
	PCC Band	PCC BW (MHz)	Modulation	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	DL Antenna Configuration	SCC Band	SCC BW (MHz)	SCC DL Channel	DL Antenna Configuration	SCC Band	SCC BW (MHz)	SCC DL Channel	DL Antenna Configuration	Without DL 4x4MIMO Tx Power	With DL 4x4MIMO Tx Power	Tune-up
CA_4C	4	20	QPSK	1	0	20050	2050	4*4 MIMO	4	20	2248	4*4 MIMO	/	/	/	/	23.06	22.75	23.7
CA_38C	38	20	QPSK	1	50	38150	38150	4*4 MIMO	4	20	37952	4*4 MIMO	/	/	/	/	24.1	23.86	25.2
CA_4A-4A-7A	4	20	QPSK	1	0	20050	2050	2*2 MIMO	4	20	2300	2*2 MIMO	7	20	3100	4*4 MIMO	23.06	22.64	23.7
	7	20	QPSK	1	0	20850	2850	4*4 MIMO	4	20	2050	2*2 MIMO	4	10	2350	2*2 MIMO	23.92	23.51	24.7
CA_4A-7C	4	20	QPSK	1	0	20050	2050	4*4 MIMO	7	20	3100	2*2 MIMO	7	20	3298	2*2 MIMO	23.06	22.47	23.7
	7	20	QPSK	1	0	20850	2850	2*2 MIMO	7	20	3048	2*2 MIMO	4	20	2175	4*4 MIMO	23.92	23.34	24.7
CA_7D	7	20	QPSK	1	0	20850	2850	4*4 MIMO	7	20	3048	4*4 MIMO	7	20	3246	2*2 MIMO	23.92	23.56	24.7

### 9.3.4 Uplink LTE CA

For Intra-band uplink LTE CA measurement (Uplink CA\_7C, CA\_38C, CA\_41C), the following procedures applied:

Maximum output power is measured for each UL CA configuration for the required test channels:

- UL PCC configuration is determined by the required test channel
- SCC and subsequent CCs are added alternatively to either side of the PCC or within the transmission band for channels at the ends of a frequency band.

The MPR information for Intra-band uplink LTE CA is as below:

Table: MPR information for Uplink intra-band contiguous CA(QPSK and 16QAM)

For intra-band contiguous carrier aggregation the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2A.0-2 due to higher order modulation and contiguously allocated transmissions (resource blocks) is specified in Table 6.2.3A.1.3-1. In case the modulation format is different on different component carriers then the MPR is determined by the rules applied to higher order of those modulations.

Table 6.2.3A.1.3-1: Maximum Power Reduction (MPR) for Power Class 3								
Modulation	CA bandwidth Class B and C							MPR (dB)
	25 RB + 50 RB	50 RB + 50 RB	25 RB + 100 RB	50 RB + 100 RB	75 RB + 75 RB	75 RB + 100 RB	100 RB + 100 RB	
QPSK	> 8 and ≤ 25	> 12 and ≤ 50	> 8 and ≤ 25	> 12 and ≤ 50	> 16 and ≤ 75	> 16 and ≤ 75	> 18 and ≤ 100	≤ 1
QPSK	> 25	> 50	> 25	> 50	> 75	> 75	> 100	≤ 2
16 QAM	≤ 8	≤ 12	≤ 8	≤ 12	≤ 16	≤ 16	≤ 18	≤ 1
16 QAM	> 8 and ≤ 25	> 12 and ≤ 50	> 8 and ≤ 25	> 12 and ≤ 50	> 16 and ≤ 75	> 16 and ≤ 75	> 18 and ≤ 100	≤ 2
16 QAM	> 25	> 50	> 25	> 50	> 75	> 75	> 100	≤ 3

Table: MPR information for Uplink intra-band contiguous CA(64QAM)

For intra-band contiguous carrier aggregation the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2A.0-2 due to higher order modulation and contiguously aggregated transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3A.1.3-1. In case the modulation format is different on different component carriers then the MPR is determined by the rules applied to higher order of those modulations.

Table 6.2.3A.1.3-1: Maximum Power Reduction (MPR) for Power Class 3								
Modulation	CA bandwidth Class B and C							MPR (dB)
	25 RB + 50 RB	50 RB + 50 RB	25 RB + 100 RB	50 RB + 100 RB	75 RB + 75 RB	75 RB + 100 RB	100 RB + 100 RB	
64 QAM	≤ 8 and allocation wholly contained within a single CC	≤ 12 and allocation wholly contained within a single CC	≤ 8 and allocation wholly contained within a single CC	≤ 12 and allocation wholly contained within a single CC	≤ 16 and allocation wholly contained within a single CC	≤ 16 and allocation wholly contained within a single CC	≤ 18 and allocation wholly contained within a single CC	≤ 2
64 QAM	> 8 or allocation extends across two CC's	> 12 or allocation extends across two CC's	> 8 or allocation extends across two CC's	> 12 or allocation extends across two CC's	> 16 or allocation extends across two CC's	> 16 or allocation extends across two CC's	> 18 or allocation extends across two CC's	≤ 3

The UL CA conducted power measurements results are as below:

Table: Additional Conducted Power test results of UL intra-band CA

Antenna	CA Combination	Test Scenario	Modulation	PCC (UL)						SCC1 (UL)					Conducted Power (dbm)	Tune up (dbm)
				PCC Band	PCC BW (MHz)	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	SCC BW (MHz)	SCC UL Channel	SCC UL RB size	SCC UL RB offset		
Main Antenna	CA_7C	Receiver on Receiver off+Sensor D3&D7	QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	23.05	24.5
			QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	23.18	24.5
			QPSK	7	20	1	0	21100	3100	7	20	20902	1	99	23.07	24.5
			QPSK	7	20	1	0	21350	3350	7	20	21152	1	99	23.21	24.5
	CA_7C	Receiver off+Sensor D1&D2	QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	20.31	21
			QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	20.21	21



Antenna	CA Combanation	Test Scenario	Modulation	PCC (UL)					SCC1 (UL)					Conduct ed Power (dbm)	Tune up (dbm)		
				PCC Band	PCC BW (MHz)	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	SCC BW (MHz)	SCC UL Channel	SCC UL RB size			SCC UL RB offset	
Second Antenna	CA_7C	Receiver on+WiFi connect/P2P Receiver off+Sensor D3&7+WiFi connect/P2P	QPSK	7	20	1	0	21100	3100	7	20	20902	1	99	20.12	21	
			QPSK	7	20	1	0	21350	3350	7	20	21152	1	99	20.18	21	
			QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	22.88	23.5	
			QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	22.91	23.5	
	CA_7C	Receiver off+Sensor D1&2+WiFi connect/P2P Receiver on+Hotspot Receiver off+Sensor D3&7+Hotspot	QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	18.4	20	
			QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	18.31	20	
			QPSK	7	20	1	0	21100	3100	7	20	20902	1	99	18.12	20	
			QPSK	7	20	1	0	21350	3350	7	20	21152	1	99	18.16	20	
	CA_7C	Receiver off+Sensor D1&2+Hotspot	QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	15.57	16.5	
			QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	15.46	16.5	
			QPSK	7	20	1	0	21100	3100	7	20	20902	1	99	15.47	16.5	
			QPSK	7	20	1	0	21350	3350	7	20	21152	1	99	15.37	16.5	
	Second Antenna	CA_7C	Receiver on	QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	14.48	15.7
				QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	14.26	15.7
				QPSK	7	20	1	0	21100	3100	7	20	20902	1	99	14.52	15.7
				QPSK	7	20	1	0	21350	3350	7	20	21152	1	99	14.21	15.7
CA_7C		Receiver off	QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	21.97	22.7	
			QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	21.88	22.7	
			QPSK	7	20	1	0	21100	3100	7	20	20902	1	99	22.03	22.7	
			QPSK	7	20	1	0	21350	3350	7	20	21152	1	99	21.96	22.7	
CA_7C		Receiver on+WiFi connect/P2P/Hotspot	QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	10.84	12.2	
			QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	10.56	12.2	
			QPSK	7	20	1	0	21100	3100	7	20	20902	1	99	10.88	12.2	
			QPSK	7	20	1	0	21350	3350	7	20	21152	1	99	10.54	12.2	
CA_7C		Receiver off+WiFi connect/P2P/Hotspot	QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	17.92	19.2	
			QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	17.88	19.2	
			QPSK	7	20	1	0	21100	3100	7	20	20902	1	99	17.89	19.2	
			QPSK	7	20	1	0	21350	3350	7	20	21152	1	99	17.76	19.2	
MAS Antenna	CA_7C	Receiver on Receiver off Receiver on+WiFi connect/P2P/Hotspot Receiver off+WiFi connect/P2P/Hotspot	QPSK	7	20	1	99	20850	2850	7	20	21048	1	0	23.14	24.7	
			QPSK	7	20	1	99	21100	3100	7	20	21298	1	0	23.11	24.7	
			QPSK	7	20	1	0	21100	3100	7	20	20902	1	99	23.31	24.7	
			QPSK	7	20	1	0	21350	3350	7	20	21152	1	99	23.25	24.7	
Main Antenna	CA_38C	Receiver on Receiver off+Sensor D3&D7	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	23.68	25	
			QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	23.32	25	
	CA_38C	Receiver off+Sensor D1&D2	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	22.97	24	
			QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	22.67	24	
	CA_38C	Receiver on+WiFi connect/P2P Receiver off+Sensor D3&7+WiFi connect/P2P	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	22.36	23.5	
			QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	22.19	23.5	
	CA_38C	Receiver off+Sensor D1&2+WiFi connect/P2P	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	21.63	22.5	
			QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	21.17	22.5	
	CA_38C	Receiver on+Hotspot Receiver off+Sensor D3&7+Hotspot	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	19.84	21.5	
			QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	19.67	21.5	



Antenna	CA Combination	Test Scenario	Modulation	PCC (UL)						SCC1 (UL)						Conducted Power (dbm)	Tune up (dbm)
				PCC Band	PCC BW (MHz)	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	SCC BW (MHz)	SCC UL Channel	SCC UL RB size	SCC UL RB offset			
Second Antenna	CA_38C	Receiver off+Sensor D1&2+Hotspot	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	19.58	20.5	
			QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	19.11	20.5	
	CA_38C	Receiver on	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	18.14	19.2	
			QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	18.08	19.2	
	CA_38C	Receiver off	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	24.26	25.2	
			QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	24.16	25.2	
	CA_38C	Receiver on+WiFi connect/P2P/Hotspot	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	15.42	16.7	
			QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	15.45	16.7	
CA_38C	Receiver off+WiFi connect/P2P/Hotspot	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	21.95	22.7		
		QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	21.64	22.7		
MAS Antenna	CA_38C	Receiver on	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	23.98	25.2	
		Receiver off	QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	23.89	25.2	
CA_38C	Receiver on+WiFi connect/P2P/Hotspot	Receiver on+WiFi connect/P2P/Hotspot	QPSK	38	20	1	99	37850	37850	38	20	38048	1	0	23.98	25.2	
		Receiver off+WiFi connect/P2P/Hotspot	QPSK	38	20	1	0	38150	38150	38	20	37952	1	99	23.89	25.2	
Main Antenna	CA_41C	Receiver on Receiver off+Sensor D3&D7	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	23.98	25	
			QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	24.32	25	
			QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	24.11	25	
			QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	24.13	25	
			QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	24.43	25	
			QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	24.35	25	
			QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	24.21	25	
			QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	23.87	25	
	CA_41C	Receiver off+Sensor D1&D2	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	23.69	24	
			QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	23.12	24	
			QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	23.02	24	
			QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	23.01	24	
			QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	23.04	24	
			QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	22.94	24	
			QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	22.89	24	
			QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	22.89	24	
	CA_41C	Receiver on+WiFi connect/P2P Receiver off+Sensor D3&7+WiFi	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	23.02	23.5	
			QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	22.79	23.5	
			QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	22.67	23.5	
			QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	22.48	23.5	
			QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	22.33	23.5	
			QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	22.67	23.5	
			QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	22.54	23.5	
			QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	22.63	23.5	
	CA_41C	Receiver off+Sensor D1&2+WiFi connect/P2P	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	21.36	22.5	
			QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	21.57	22.5	
			QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	21.32	22.5	
			QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	21.54	22.5	
			QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	21.68	22.5	
	QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	21.24	22.5			



Second Antenna	CA_41C		QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	21.23	22.5
			QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	21.12	22.5
	CA_41C	Receiver on+Hotspot Receiver off+Sensor D3&7+Hotspot	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	21.12	21.5
			QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	20.88	21.5
			QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	20.65	21.5
			QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	20.54	21.5
			QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	20.32	21.5
			QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	20.51	21.5
			QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	20.38	21.5
			QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	20.47	21.5
	CA_41C	Receiver off+Sensor D1&2+Hotspot	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	19.32	20.5
			QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	19.65	20.5
			QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	19.46	20.5
			QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	19.32	20.5
			QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	19.51	20.5
			QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	19.32	20.5
			QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	19.31	20.5
			QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	19.14	20.5
	CA_41C	Receiver on	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	18.03	18.7
			QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	17.68	18.7
			QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	17.71	18.7
			QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	17.69	18.7
			QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	17.59	18.7
			QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	17.88	18.7
			QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	17.67	18.7
			QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	17.96	18.7
	CA_41C	Receiver off	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	24.36	25.2
			QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	24.21	25.2
QPSK			41	20	1	0	40185	40185	41	20	39987	1	99	24.24	25.2	
QPSK			41	20	1	99	40620	40620	41	20	40818	1	0	24.17	25.2	
QPSK			41	20	1	0	40620	40620	41	20	40422	1	99	24.2	25.2	
QPSK			41	20	1	99	41055	41055	41	20	41253	1	0	24.31	25.2	
QPSK			41	20	1	0	41055	41055	41	20	40857	1	99	24.22	25.2	
QPSK			41	20	1	0	41490	41490	41	20	41292	1	99	24.25	25.2	
CA_41C	Receiver on+WiFi connect/P2P/Hotspot	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	15.63	16.2	
		QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	15.12	16.2	
		QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	15.13	16.2	
		QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	14.99	16.2	
		QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	15.1	16.2	
		QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	15.21	16.2	
		QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	15.24	16.2	
		QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	15.31	16.2	
CA_41C	Receiver off+WiFi connect/P2P/Hotspot	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	21.94	22.7	
		QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	21.87	22.7	
		QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	21.67	22.7	
		QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	21.68	22.7	
		QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	21.74	22.7	





			QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	21.89	22.7
			QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	21.91	22.7
			QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	22.14	22.7
MAS Antenna	CA_41C	Receiver on Receiver off Receiver on+WiFi connect/P2P/Hotspot Receiver off+WiFi connect/P2P/Hotspot	QPSK	41	20	1	99	39750	39750	41	20	39948	1	0	23.96	25.2
			QPSK	41	20	1	99	40185	40185	41	20	40383	1	0	24.11	25.2
			QPSK	41	20	1	0	40185	40185	41	20	39987	1	99	24.23	25.2
			QPSK	41	20	1	99	40620	40620	41	20	40818	1	0	24.12	25.2
			QPSK	41	20	1	0	40620	40620	41	20	40422	1	99	24.01	25.2
			QPSK	41	20	1	99	41055	41055	41	20	41253	1	0	24.42	25.2
			QPSK	41	20	1	0	41055	41055	41	20	40857	1	99	24.15	25.2
			QPSK	41	20	1	0	41490	41490	41	20	41292	1	99	24.39	25.2

Note: For uplink CA, additional SAR test is only required on the uplink CA configurations with 2 component carriers downlink. Additional SAR test is not required for uplink CA configurations with 3~4 component carriers downlink because the highest UL CA output power configuration with 3~4 component carriers downlink is < ¼ dB higher than the same UL CA output power configuration with 2 component carriers downlink.

## 9.4 WLAN Mode

**FCC**
**Ant1**

Wi-Fi 2.4G (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	14.00	12.62
	6/2437	14.00	12.68
	11/2462	14.00	12.47
802.11g (6M)	1/2412	11.50	9.72
	3/2422	14.00	12.35
	6/2437	14.00	12.49
	9/2452	14.00	12.37
	11/2462	11.50	9.95
802.11n-HT20 (MCS0)	1/2412	11.50	9.84
	3/2422	14.00	12.46
	6/2437	14.00	12.55
	9/2452	14.00	12.43
	11/2462	11.50	10.07
802.11n-HT40 (MCS0)	3/2422	8.00	6.47
	6/2437	8.00	6.35
	7/2442	8.00	6.31
	9/2452	6.50	4.92

Note: Initial test configuration is 802.11b mode.

Wi-Fi 2.4G (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	17.50	16.18
	3/2422	18.50	17.24
	6/2437	18.50	17.36
	9/2452	18.50	17.13
	11/2462	17.50	15.72
802.11g (6M)	1/2412	11.50	9.85
	3/2422	18.00	16.15
	6/2437	18.00	16.24
	8/2447	18.00	16.09
	11/2462	11.50	10.06





802.11n-HT20 (MCS0)	1/2412	11.50	9.83
	3/2422	17.50	15.56
	6/2437	17.50	15.77
	8/2447	17.50	15.48
	11/2462	11.50	9.94
802.11n-HT40 (MCS0)	3/2422	8.00	6.38
	6/2437	8.00	6.41
	7/2442	8.00	6.31
	9/2452	6.50	4.86

Note: Initial test configuration is 802.11b mode.

Wi-Fi 5G (U-NII-1) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	11.50	9.74
	40/5200	13.00	11.75
	44/5220	13.00	11.24
	48/5240	13.00	11.43
802.11n-HT20 (MCS0)	36/5180	11.50	9.75
	40/5200	13.00	11.42
	44/5220	13.00	11.21
	48/5240	13.00	10.96
802.11n-HT40 (MCS0)	38/5190	8.50	5.21
	46/5230	13.00	10.76
802.11ac-VHT20 (6M)	36/5180	11.50	9.98
	40/5200	13.00	11.32
	44/5220	13.00	11.25
	48/5240	13.00	11.33
802.11ac-VHT40(MCS0)	38/5190	8.50	5.02
	46/5230	13.00	11.36
802.11ac-VHT80(MCS0)	42/5210	6.00	4.39
802.11ac-VHT160(MCS0)	50/5250	6.00	4.26

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.

Wi-Fi 5G(U-NII-1) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	11.50	9.67
	40/5200	15.00	13.26
	44/5220	15.00	13.15
	48/5240	15.00	13.24
802.11n-HT20 (MCS0)	36/5180	11.50	9.98
	40/5200	15.00	13.52
	44/5220	15.00	13.41
802.11n-HT40 (MCS0)	48/5240	15.00	13.32
	38/5190	8.50	5.01
802.11ac-VHT20 (6M)	46/5230	15.00	13.38
	36/5180	11.50	9.97
802.11ac-VHT20 (6M)	40/5200	15.00	13.55
	44/5220	15.00	13.42



	48/5240	15.00	13.30
802.11ac-VHT40(MCS0)	38/5190	8.50	4.97
	46/5230	15.00	13.47
802.11ac-VHT80(MCS0)	42/5210	6.00	4.89
802.11ac-VHT160(MCS0)	50/5250	6.00	4.53
Note. Initial test configuration is 802.11ac VHT20 mode, since the highest maximum output power.			

Wi-Fi 5G(U-NII-2A) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	52/5260	13.00	11.43
	56/5280	13.00	11.39
	60/5300	13.00	11.41
	64/5320	11.50	10.02
802.11n-HT20 (MCS0)	52/5260	13.00	11.50
	56/5280	13.00	11.47
	60/5300	13.00	11.49
	64/5320	11.50	9.98
802.11n-HT40 (MCS0)	54/5270	13.00	11.44
	62/5310	8.50	6.11
802.11ac-HT20 (6M)	52/5260	13.00	11.51
	56/5280	13.00	11.48
	60/5300	13.00	11.56
	64/5320	11.50	10.06
802.11ac-VHT40 (MCS0)	54/5270	13.00	11.58
	62/5310	8.50	6.15
802.11ac-VHT80 (MCS0)	58/5290	6.00	4.56

Note. Initial test configuration is 802.11n-HT40 mode, since the highest maximum output power.

Wi-Fi 5G(U-NII-2A) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	52/5260	15.00	13.18
	56/5280	15.00	13.25
	60/5300	15.00	13.36
	64/5320	11.50	9.75
802.11n-HT20	52/5260	15.00	13.29



(MCS0)	56/5280	15.00	13.34
	60/5300	15.00	13.40
	64/5320	11.50	9.81
802.11n-HT40 (MCS0)	54/5270	15.00	13.41
	62/5310	8.50	6.11
802.11ac-HT20 (6M)	52/5260	15.00	13.39
	56/5280	15.00	13.45
	60/5300	15.00	13.41
	64/5320	11.50	10.01
802.11ac-VHT40 (MCS0)	54/5270	15.00	13.37
	62/5310	8.50	6.13
802.11ac-VHT80 (MCS0)	58/5290	6.00	4.59

Note. Initial test configuration is 802.11n-HT40 mode, since the highest maximum output power.

Wi-Fi 5G(U-NII-2C) (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	11.50	10.05
	104/5520	13.00	11.34
	108/5540	13.00	11.35
	112/5560	13.00	11.47
	116/5580	13.00	11.51
	120/5600	13.00	11.38
	124/5620	13.00	11.44
	128/5640	13.00	11.49
	132/5660	13.00	11.65
	136/5680	13.00	11.38
802.11n-HT20 (MCS0)	100/5500	11.50	9.97
	104/5520	13.00	11.34
	108/5540	13.00	11.43
	112/5560	13.00	11.56
	116/5580	13.00	11.48
	120/5600	13.00	11.31
	124/5620	13.00	11.44
	128/5640	13.00	11.53
	132/5660	13.00	11.78
	136/5680	13.00	11.71



	140/5700	13.00	11.60
802.11n-HT40 (MCS0)	102/5510	8.50	7.53
	110/5550	13.00	11.47
	118/5590	13.00	11.58
	126/5630	13.00	11.37
	134/5670	13.00	11.60
	802.11ac-HT20 (6M)	100/5500	11.50
104/5520		13.00	11.21
108/5540		13.00	11.34
112/5560		13.00	11.42
116/5580		13.00	11.53
120/5600		13.00	11.47
124/5620		13.00	11.56
128/5640		13.00	11.43
132/5660		13.00	11.83
136/5680		13.00	11.57
140/5700		13.00	11.62
802.11ac-VHT40 (MCS0)		102/5510	8.50
	110/5550	13.00	11.47
	118/5590	13.00	11.52
	126/5630	13.00	11.54
	134/5670	13.00	11.63
802.11ac-VHT80 (MCS0)	106/5530	6.00	4.49
	122/5610	13.00	11.53
802.11ac VHT160(MCS0)	114/5570	6.00	4.66

Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.

Wi-Fi 5G(U-NII-2C) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	100/5500	11.50	9.81
	104/5520	15.00	13.27
	108/5540	15.00	13.34
	112/5560	15.00	13.36
	116/5580	15.00	13.49
	120/5600	15.00	13.47
	124/5620	15.00	13.41
	128/5640	15.00	13.54



	132/5660	15.00	13.42
	136/5680	15.00	13.33
	140/5700	15.00	13.37
802.11n-HT20 (MCS0)	100/5500	11.50	9.86
	104/5520	15.00	13.52
	108/5540	15.00	13.43
	112/5560	15.00	13.56
	116/5580	15.00	13.45
	120/5600	15.00	13.37
	124/5620	15.00	13.55
	128/5640	15.00	13.67
	132/5660	15.00	13.62
	136/5680	15.00	13.45
	140/5700	15.00	13.61
	802.11n-HT40 (MCS0)	102/5510	8.50
110/5550		15.00	13.52
118/5590		15.00	13.51
126/5630		15.00	13.68
134/5670		15.00	13.70
802.11ac-HT20 (6M)	100/5500	11.50	10.04
	104/5520	15.00	13.47
	108/5540	15.00	13.51
	112/5560	15.00	13.59
	116/5580	15.00	13.54
	120/5600	15.00	13.64
	124/5620	15.00	13.67
	128/5640	15.00	13.55
	132/5660	15.00	13.72
	136/5680	15.00	13.78
	140/5700	15.00	13.69
802.11ac-VHT40 (MCS0)	102/5510	8.50	7.12
	110/5550	15.00	13.49
	118/5590	15.00	13.48
	126/5630	15.00	13.57
	134/5670	15.00	13.74
802.11ac-VHT80 (MCS0)	106/5530	6.00	4.49
	122/5610	15.00	13.47
802.11ac VHT160(MCS0)	114/5570	6.00	4.51
Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output			



power, the largest channel bandwidth, and lowest order.

Wi-Fi 5G(U-NII-3) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	149/5745	13.00	11.50
	153/5765	13.00	11.48
	157/5785	13.00	11.55
	161/5805	13.00	11.51
	165/5825	13.00	11.43
802.11n-HT20 (MCS0)	149/5745	13.00	11.45
	153/5765	13.00	11.51
	157/5785	13.00	11.46
	161/5805	13.00	11.47
	165/5825	13.00	11.54
802.11n-HT40 (MCS0)	151/5755	13.00	11.47
	159/5795	13.00	11.43
802.11ac-HT20 (6M)	149/5745	13.00	11.48
	153/5765	13.00	11.45
	157/5785	13.00	11.47
	161/5805	13.00	11.52
	165/5825	13.00	11.53
802.11ac-HT40 (MCS0)	151/5755	13.00	11.58
	159/5795	13.00	11.40
802.11ac-HT80 (MCS0)	155/5775	13.00	11.56

Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.

Wi-Fi 5G(U-NII-3) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	149/5745	15.00	13.54
	153/5765	15.00	13.45
	157/5785	15.00	13.48
	161/5805	15.00	13.53
	165/5825	15.00	13.61
802.11n-HT20 (MCS0)	149/5745	15.00	13.54
	153/5765	15.00	13.55
	157/5785	15.00	13.48



	161/5805	15.00	13.53
	165/5825	15.00	13.59
802.11n-HT40 (MCS0)	151/5755	15.00	13.36
	159/5795	15.00	13.51
802.11ac-HT20 (6M)	149/5745	15.00	13.53
	153/5765	15.00	13.47
	157/5785	15.00	13.56
	161/5805	15.00	13.51
	165/5825	15.00	13.64
802.11ac-HT40 (MCS0)	151/5755	15.00	13.46
	159/5795	15.00	13.57
802.11ac-HT80 (MCS0)	155/5775	15.00	13.47

Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.





## Ant2

Wi-Fi 2.4G (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	14.00	12.64
	6/2437	14.00	12.72
	11/2462	14.00	12.51
802.11g (6M)	1/2412	11.50	9.97
	3/2422	14.00	12.27
	6/2437	14.00	12.35
	9/2452	14.00	12.32
	11/2462	11.50	9.89
802.11n-HT20 (MCS0)	1/2412	11.50	9.92
	3/2422	14.00	12.61
	6/2437	14.00	12.67
	9/2452	14.00	12.58
	11/2462	11.50	9.96
802.11n-HT40 (MCS0)	3/2422	8.00	6.53
	6/2437	8.00	6.41
	7/2442	8.00	6.44
	9/2452	6.50	4.97

Note: Initial test configuration is 802.11b mode.

Wi-Fi 2.4G (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	17.50	15.92
	3/2422	18.00	16.54
	6/2437	18.00	16.73
	9/2452	18.00	16.48
	11/2462	17.50	16.04
802.11g (6M)	1/2412	11.50	9.91
	3/2422	17.50	16.02
	6/2437	17.50	16.11
	8/2447	17.50	15.97
	11/2462	11.50	10.15
802.11n-HT20 (MCS0)	1/2412	11.50	9.76
	3/2422	17.00	15.36
	6/2437	17.00	15.54
	8/2447	17.00	15.28



	11/2462	11.50	9.87
802.11n-HT40 (MCS0)	3/2422	8.00	6.56
	6/2437	8.00	6.44
	7/2442	8.00	6.36
	9/2452	6.50	4.89
Note: Initial test configuration is 802.11b mode.			

Wi-Fi 5G (U-NII-1) (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	11.50	10.78
	40/5200	13.00	12.12
	44/5220	13.00	11.89
	48/5240	13.00	11.62
802.11n-HT20 (MCS0)	36/5180	11.50	10.59
	40/5200	13.00	11.88
	44/5220	13.00	11.89
	48/5240	13.00	11.69
802.11n-HT40 (MCS0)	38/5190	8.50	7.39
	46/5230	13.00	11.62
802.11ac-VHT20 (6M)	36/5180	11.50	10.52
	40/5200	13.00	11.78
	44/5220	13.00	11.89
	48/5240	13.00	11.52
802.11ac-VHT40(MCS0)	38/5190	8.50	7.32
	46/5230	13.00	11.59
802.11ac-VHT80(MCS0)	42/5210	6.00	5.01
802.11ac-VHT160(MCS0)	50/5250	6.00	5.12
Note. Initial test configuration is 802.11a mode, since the highest maximum output power.			



Wi-Fi 5G(U-NII-1) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	11.50	10.76
	40/5200	15.00	13.62
	44/5220	15.00	13.58
	48/5240	15.00	13.40
802.11n-HT20 (MCS0)	36/5180	11.50	10.73
	40/5200	15.00	13.66
	44/5220	15.00	13.62
	48/5240	15.00	13.53
802.11n-HT40 (MCS0)	38/5190	8.50	7.35
	46/5230	15.00	13.59
802.11ac-VHT20 (6M)	36/5180	11.50	10.25
	40/5200	15.00	13.65
	44/5220	15.00	13.70
	48/5240	15.00	13.55
802.11ac-VHT40(MCS0)	38/5190	8.50	7.37
	46/5230	15.00	13.51
802.11ac-VHT80(MCS0)	42/5210	6.00	5.25
802.11ac-VHT160(MCS0)	50/5250	6.00	5.21
Note. Initial test configuration is 802.11ac VHT20 mode, since the highest maximum output power.			

Wi-Fi 5G(U-NII-2A) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	52/5260	13.00	11.57
	56/5280	13.00	11.76
	60/5300	13.00	11.73
	64/5320	11.50	10.68
802.11n-HT20 (MCS0)	52/5260	13.00	11.62
	56/5280	13.00	11.69
	60/5300	13.00	11.71
	64/5320	11.50	10.85
802.11n-HT40 (MCS0)	54/5270	13.00	11.86
	62/5310	8.50	7.52
802.11ac-HT20 (6M)	52/5260	13.00	11.79
	56/5280	13.00	11.89
	60/5300	13.00	11.78



	64/5320	11.50	10.95
802.11ac-VHT40 (MCS0)	54/5270	13.00	11.84
	62/5310	8.50	7.21
802.11ac-VHT80 (MCS0)	58/5290	6.00	4.64
Note. Initial test configuration is 802.11n-HT40 mode, since the highest maximum output power.			

Wi-Fi 5G(U-NII-2A) (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	52/5260	15.00	13.56
	56/5280	15.00	13.47
	60/5300	15.00	13.62
	64/5320	11.50	9.98
802.11n-HT20 (MCS0)	52/5260	15.00	13.53
	56/5280	15.00	13.57
	60/5300	15.00	13.65
	64/5320	11.50	10.57
802.11n-HT40 (MCS0)	54/5270	15.00	13.48
	62/5310	8.50	7.15
802.11ac-HT20 (6M)	52/5260	15.00	13.53
	56/5280	15.00	13.47
	60/5300	15.00	13.61
	64/5320	11.50	10.55
802.11ac-VHT40 (MCS0)	54/5270	15.00	13.40
	62/5310	8.50	7.46
802.11ac-VHT80 (MCS0)	58/5290	6.00	4.63
Note. Initial test configuration is 802.11n-HT40 mode, since the highest maximum output power.			

Wi-Fi 5G(U-NII-2C) (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	11.50	10.41
	104/5520	13.00	11.42
	108/5540	13.00	11.45
	112/5560	13.00	11.36
	116/5580	13.00	11.62



	120/5600	13.00	11.52
	124/5620	13.00	11.51
	128/5640	13.00	11.57
	132/5660	13.00	11.88
	136/5680	13.00	11.54
	140/5700	13.00	12.11
802.11n-HT20 (MCS0)	100/5500	11.50	10.52
	104/5520	13.00	11.26
	108/5540	13.00	11.41
	112/5560	13.00	11.48
	116/5580	13.00	11.61
	120/5600	13.00	11.52
	124/5620	13.00	11.39
	128/5640	13.00	11.67
	132/5660	13.00	12.20
	136/5680	13.00	11.74
	140/5700	13.00	12.05
802.11n-HT40 (MCS0)	102/5510	8.50	7.43
	110/5550	13.00	11.49
	118/5590	13.00	11.64
	126/5630	13.00	11.59
	134/5670	13.00	11.89
802.11ac-HT20 (6M)	100/5500	11.50	10.05
	104/5520	13.00	11.41
	108/5540	13.00	11.38
	112/5560	13.00	11.52
	116/5580	13.00	11.65
	120/5600	13.00	11.51
	124/5620	13.00	11.64
	128/5640	13.00	11.68
	132/5660	13.00	12.07
	136/5680	13.00	11.82
	140/5700	13.00	12.03
802.11ac-VHT40 (MCS0)	102/5510	8.50	7.25
	110/5550	13.00	11.62
	118/5590	13.00	11.69
	126/5630	13.00	11.71
	134/5670	13.00	11.94
802.11ac-VHT80 (MCS0)	106/5530	6.00	4.58
	122/5610	13.00	11.93



802.11ac VHT160(MCS0)	114/5570	6.00	4.82
Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.			

Wi-Fi 5G(U-NII-2C) (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	11.50	10.28
	104/5520	15.00	13.41
	108/5540	15.00	13.38
	112/5560	15.00	13.53
	116/5580	15.00	13.51
	120/5600	15.00	13.49
	124/5620	15.00	13.64
	128/5640	15.00	13.42
	132/5660	15.00	13.59
	136/5680	15.00	13.45
802.11n-HT20 (MCS0)	100/5500	11.50	10.42
	104/5520	15.00	13.48
	108/5540	15.00	13.49
	112/5560	15.00	13.34
	116/5580	15.00	13.36
	120/5600	15.00	13.27
	124/5620	15.00	13.46
	128/5640	15.00	13.61
	132/5660	15.00	13.50
	136/5680	15.00	13.49
802.11n-HT40 (MCS0)	102/5510	8.50	7.34
	110/5550	15.00	13.42
	118/5590	15.00	13.39
	126/5630	15.00	13.65
	134/5670	15.00	13.72
802.11ac-HT20 (6M)	100/5500	11.50	10.32
	104/5520	15.00	13.54
	108/5540	15.00	13.62
	112/5560	15.00	13.47
	116/5580	15.00	13.51



	120/5600	15.00	13.58
	124/5620	15.00	13.73
	128/5640	15.00	13.78
	132/5660	15.00	13.98
	136/5680	15.00	13.69
	140/5700	15.00	13.85
802.11ac-VHT40 (MCS0)	102/5510	8.50	7.23
	110/5550	15.00	13.42
	118/5590	15.00	13.37
	126/5630	15.00	13.51
	134/5670	15.00	13.79
802.11ac-VHT80 (MCS0)	106/5530	6.00	4.58
	122/5610	15.00	13.35
802.11ac VHT160(MCS0)	114/5570	6.00	4.42
Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.			

Wi-Fi 5G(U-NII-3) (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	149/5745	13.00	12.02
	153/5765	13.00	11.83
	157/5785	13.00	11.98
	161/5805	13.00	11.95
	165/5825	13.00	12.11
802.11n-HT20 (MCS0)	149/5745	13.00	12.21
	153/5765	13.00	12.05
	157/5785	13.00	12.09
	161/5805	13.00	11.95
	165/5825	13.00	12.01
802.11n-HT40 (MCS0)	151/5755	13.00	11.95
	159/5795	13.00	11.97
802.11ac-HT20 (6M)	149/5745	13.00	12.12
	153/5765	13.00	12.14
	157/5785	13.00	12.10
	161/5805	13.00	12.02
	165/5825	13.00	12.14
802.11ac-HT40 (MCS0)	151/5755	13.00	12.18
	159/5795	13.00	12.20



802.11ac-HT80 (MCS0)	155/5775	13.00	12.08
Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.			

Wi-Fi 5G(U-NII-3) (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	149/5745	15.00	13.57
	153/5765	15.00	13.29
	157/5785	15.00	13.42
	161/5805	15.00	13.47
	165/5825	15.00	13.68
802.11n-HT20 (MCS0)	149/5745	15.00	13.71
	153/5765	15.00	13.63
	157/5785	15.00	13.66
	161/5805	15.00	13.72
	165/5825	15.00	13.78
802.11n-HT40 (MCS0)	151/5755	15.00	13.70
	159/5795	15.00	13.72
802.11ac-HT20 (6M)	149/5745	15.00	13.83
	153/5765	15.00	13.77
	157/5785	15.00	13.73
	161/5805	15.00	13.64
	165/5825	15.00	13.86
802.11ac-HT40 (MCS0)	151/5755	15.00	13.40
	159/5795	15.00	13.68
802.11ac-HT80 (MCS0)	155/5775	15.00	13.88
Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.			

**MIMO Ant1+Ant2**

Wi-Fi 2.4G (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11g (6M)	1/2412	14.51	12.86
	3/2422	17.01	15.32
	6/2437	17.01	15.43
	9/2452	17.01	15.36





	11/2462	14.51	12.93
802.11n-HT20 (MCS0)	1/2412	14.51	12.89
	3/2422	17.01	15.55
	6/2437	17.01	15.62
	9/2452	17.01	15.52
	11/2462	14.51	13.03
802.11n-HT40 (MCS0)	3/2422	11.01	9.51
	6/2437	11.01	9.39
	7/2442	11.01	9.39
	9/2452	9.51	7.96
Note: Initial test configuration is 802.11b mode.			

Wi-Fi 2.4G (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11g (6M)	1/2412	14.51	12.89
	3/2422	20.77	19.10
	6/2437	20.77	19.19
	8/2447	20.77	19.04
	11/2462	14.51	13.12
802.11n-HT20 (MCS0)	1/2412	14.51	12.81
	3/2422	20.27	18.47
	6/2437	20.27	18.67
	8/2447	20.27	18.39
	11/2462	14.51	12.92
802.11n-HT40 (MCS0)	3/2422	11.01	9.48
	6/2437	11.01	9.44
	7/2442	11.01	9.35
	9/2452	9.51	7.89
Note: Initial test configuration is 802.11b mode.			

Wi-Fi 5G(U-NII-1) (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	14.51	13.30
	40/5200	16.01	14.95
	44/5220	16.01	14.59
	48/5240	16.01	14.54



802.11n-HT20 (MCS0)	36/5180	14.51	13.20
	40/5200	16.01	14.67
	44/5220	16.01	14.57
	48/5240	16.01	14.35
802.11n-HT40 (MCS0)	38/5190	11.51	9.45
	46/5230	16.01	14.22
802.11ac-VHT20 (6M)	36/5180	14.51	13.27
	40/5200	16.01	14.57
	44/5220	16.01	14.59
	48/5240	16.01	14.44
802.11ac-VHT40(MCS0)	38/5190	11.51	9.33
	46/5230	16.01	14.49
802.11ac-VHT80(MCS0)	42/5210	9.01	7.72
802.11ac-VHT160(MCS0)	50/5250	9.01	7.72
Note. Initial test configuration is 802.11a mode, since the highest maximum output power.			

Wi-Fi 5G(U-NII-1) (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	14.51	13.26
	40/5200	18.01	16.45
	44/5220	18.01	16.38
	48/5240	18.01	16.33
802.11n-HT20 (MCS0)	36/5180	14.51	13.38
	40/5200	18.01	16.60
	44/5220	18.01	16.53
	48/5240	18.01	16.44
802.11n-HT40 (MCS0)	38/5190	11.51	9.35
	46/5230	18.01	16.50
802.11ac-VHT20 (6M)	36/5180	14.51	13.12
	40/5200	18.01	16.61
	44/5220	18.01	16.57
	48/5240	18.01	16.44
802.11ac-VHT40(MCS0)	38/5190	11.51	9.34
	46/5230	18.01	16.50
802.11ac-VHT80(MCS0)	42/5210	9.01	8.08
802.11ac-VHT160(MCS0)	50/5250	9.01	7.89



Note. Initial test configuration is 802.11ac VHT20 mode, since the highest maximum output power.

Wi-Fi 5G(U-NII-2A) (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	52/5260	16.01	14.51
	56/5280	16.01	14.59
	60/5300	16.01	14.58
	64/5320	14.51	13.37
802.11n-HT20 (MCS0)	52/5260	16.01	14.57
	56/5280	16.01	14.59
	60/5300	16.01	14.61
	64/5320	14.51	13.45
802.11n-HT40 (MCS0)	54/5270	16.01	14.67
	62/5310	11.51	9.88
802.11ac-HT20 (6M)	52/5260	16.01	14.66
	56/5280	16.01	14.70
	60/5300	16.01	14.68
	64/5320	14.51	13.54
802.11ac-VHT40 (MCS0)	54/5270	16.01	14.72
	62/5310	11.51	9.72
802.11ac-VHT80 (MCS0)	58/5290	9.01	7.61

Note. Initial test configuration is 802.11 ac-VHT 40 mode, since the highest maximum output power.

Wi-Fi 5G(U-NII-2A) (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	52/5260	18.01	16.38
	56/5280	18.01	16.37
	60/5300	18.01	16.50
	64/5320	14.51	12.88
802.11n-HT20 (MCS0)	52/5260	18.01	16.42
	56/5280	18.01	16.47
	60/5300	18.01	16.54
	64/5320	14.51	13.22
802.11n-HT40 (MCS0)	54/5270	18.01	16.46
	62/5310	11.51	9.67



802.11ac-HT20 (6M)	52/5260	18.01	16.47
	56/5280	18.01	16.47
	60/5300	18.01	16.52
	64/5320	14.51	13.30
802.11ac-VHT40 (MCS0)	54/5270	18.01	16.40
	62/5310	11.51	9.86
802.11ac-VHT80 (MCS0)	58/5290	9.01	7.62
Note. Initial test configuration is 802.11n-HT20 mode, since the highest maximum output power.			

Wi-Fi 5G(U-NII-2C) (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	14.51	13.24
	104/5520	16.01	14.39
	108/5540	16.01	14.41
	112/5560	16.01	14.43
	116/5580	16.01	14.58
	120/5600	16.01	14.46
	124/5620	16.01	14.49
	128/5640	16.01	14.54
	132/5660	16.01	14.78
	136/5680	16.01	14.47
802.11n-HT20 (MCS0)	100/5500	14.51	13.26
	104/5520	16.01	14.31
	108/5540	16.01	14.43
	112/5560	16.01	14.53
	116/5580	16.01	14.56
	120/5600	16.01	14.43
	124/5620	16.01	14.43
	128/5640	16.01	14.61
	132/5660	16.01	15.01
	136/5680	16.01	14.74
802.11n-HT40 (MCS0)	102/5510	11.51	10.49
	110/5550	16.01	14.49
	118/5590	16.01	14.62



	126/5630	16.01	14.49
	134/5670	16.01	14.76
802.11ac-HT20 (6M)	100/5500	14.51	13.07
	104/5520	16.01	14.32
	108/5540	16.01	14.37
	112/5560	16.01	14.48
	116/5580	16.01	14.60
	120/5600	16.01	14.50
	124/5620	16.01	14.61
	128/5640	16.01	14.57
	132/5660	16.01	14.96
	136/5680	16.01	14.71
	140/5700	16.01	14.84
802.11ac-VHT40 (MCS0)	102/5510	11.51	10.41
	110/5550	16.01	14.56
	118/5590	16.01	14.62
	126/5630	16.01	14.64
	134/5670	16.01	14.80
802.11ac-VHT80 (MCS0)	106/5530	9.01	7.55
	122/5610	16.01	14.74
802.11ac VHT160(MCS0)	114/5570	9.01	7.75

Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.

Wi-Fi 5G(U-NII-2C) (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	14.51	13.06
	104/5520	18.01	16.35
	108/5540	18.01	16.37
	112/5560	18.01	16.46
	116/5580	18.01	16.51
	120/5600	18.01	16.49
	124/5620	18.01	16.54
	128/5640	18.01	16.49
	132/5660	18.01	16.52
	136/5680	18.01	16.40
	140/5700	18.01	16.47
802.11n-HT20	100/5500	14.51	13.16



(MCS0)	104/5520	18.01	16.51
	108/5540	18.01	16.47
	112/5560	18.01	16.46
	116/5580	18.01	16.42
	120/5600	18.01	16.33
	124/5620	18.01	16.52
	128/5640	18.01	16.65
	132/5660	18.01	16.57
	136/5680	18.01	16.48
	140/5700	18.01	16.62
802.11n-HT40 (MCS0)	102/5510	11.51	10.50
	110/5550	18.01	16.48
	118/5590	18.01	16.46
	126/5630	18.01	16.68
	134/5670	18.01	16.72
802.11ac-HT20 (6M)	100/5500	14.51	13.19
	104/5520	18.01	16.52
	108/5540	18.01	16.58
	112/5560	18.01	16.54
	116/5580	18.01	16.54
	120/5600	18.01	16.62
	124/5620	18.01	16.71
	128/5640	18.01	16.68
	132/5660	18.01	16.86
	136/5680	18.01	16.75
	140/5700	18.01	16.78
802.11ac-VHT40 (MCS0)	102/5510	11.51	10.19
	110/5550	18.01	16.47
	118/5590	18.01	16.44
	126/5630	18.01	16.55
	134/5670	18.01	16.78
802.11ac-VHT80 (MCS0)	106/5530	9.01	7.55
	122/5610	18.01	16.42
802.11ac VHT160(MCS0)	114/5570	9.01	7.48
Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.			

Wi-Fi 5G(U-NII-3)	Channel	Maximum Output Power (dBm)
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(Receiver on)	/Frequency(MHz)	Tune-up	Meas.
Mode			
802.11a (6M)	149/5745	16.01	14.78
	153/5765	16.01	14.67
	157/5785	16.01	14.78
	161/5805	16.01	14.75
	165/5825	16.01	14.79
802.11n-HT20 (MCS0)	149/5745	16.01	14.86
	153/5765	16.01	14.80
	157/5785	16.01	14.80
	161/5805	16.01	14.73
	165/5825	16.01	14.79
802.11n-HT40 (MCS0)	151/5755	16.01	14.73
	159/5795	16.01	14.72
802.11ac-HT20 (6M)	149/5745	16.01	14.82
	153/5765	16.01	14.82
	157/5785	16.01	14.81
	161/5805	16.01	14.79
	165/5825	16.01	14.86
802.11ac-HT40 (MCS0)	151/5755	16.01	14.90
	159/5795	16.01	14.83
802.11ac-HT80 (MCS0)	155/5775	16.01	14.84

Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.

Wi-Fi 5G(U-NII-3) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	149/5745	18.01	16.57
	153/5765	18.01	16.38
	157/5785	18.01	16.46
	161/5805	18.01	16.51
	165/5825	18.01	16.66
802.11n-HT20 (MCS0)	149/5745	18.01	16.64
	153/5765	18.01	16.60
	157/5785	18.01	16.58
	161/5805	18.01	16.64
	165/5825	18.01	16.70
802.11n-HT40	151/5755	18.01	16.54



(MCS0)	159/5795	18.01	16.63
802.11ac-HT20 (6M)	149/5745	18.01	16.69
	153/5765	18.01	16.63
	157/5785	18.01	16.66
	161/5805	18.01	16.59
	165/5825	18.01	16.76
802.11ac-HT40 (MCS0)	151/5755	18.01	16.44
	159/5795	18.01	16.64
802.11ac-HT80 (MCS0)	155/5775	18.01	16.69
Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.			





CE

Ant1

Wi-Fi 2.4G (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	16.00	14.63
	7/2442	16.00	14.56
	13/2472	16.00	14.71
802.11g (6M)	1/2412	16.00	14.55
	7/2442	16.00	14.48
	13/2472	16.00	14.62
802.11n-HT20 (MCS0)	1/2412	16.00	14.68
	7/2442	16.00	14.61
	13/2472	16.00	14.57
802.11n-HT40 (MCS0)	3/2422	16.00	14.50
	7/2442	16.00	14.43
	11/2462	16.00	14.48

Wi-Fi 2.4G (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	18.50	17.52
	7/2442	18.50	17.26
	13/2472	18.50	17.82
802.11g (6M)	1/2412	18.00	17.09
	7/2442	18.00	16.77
	13/2472	18.00	17.34
802.11n-HT20 (MCS0)	1/2412	17.50	16.86
	7/2442	17.50	16.53
	13/2472	17.50	16.68
802.11n-HT40 (MCS0)	3/2422	17.00	15.66
	7/2442	17.00	15.49
	11/2462	17.00	15.60

Wi-Fi 5G(U-NII-1&2A) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	16.50	15.12
	48/5240	16.50	15.26
	52/5260	16.50	14.95



	64/5320	16.50	14.98
802.11n-HT20 (MCS0)	36/5180	16.00	14.79
	48/5240	16.00	14.51
	52/5260	16.00	14.44
	64/5320	16.00	14.50
802.11n-HT40 (MCS0)	38/5190	16.00	14.71
	46/5230	16.00	14.42
	54/5270	16.00	14.47
	62/5310	16.00	14.49
802.11ac-VHT20 (6M)	36/5180	16.00	15.03
	48/5240	16.00	14.55
	52/5260	16.00	14.51
	64/5320	16.00	14.50
802.11ac-VHT40(MCS0)	38/5190	15.50	14.76
	46/5230	15.50	14.39
	54/5270	15.50	14.49
	62/5310	15.50	14.47
802.11ac-VHT80(MCS0)	42/5210	15.50	13.99
	58/5290	15.50	13.95
802.11ac-VHT160(MCS0)	50/5250	13.50	12.01

Wi-Fi 5G(U-NII-1&2A) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	16.50	15.42
	48/5240	16.50	14.89
	52/5260	16.50	14.97
	64/5320	16.50	15.05
802.11n-HT20 (MCS0)	36/5180	16.00	14.99
	48/5240	16.00	14.44
	52/5260	16.00	14.50
	64/5320	16.00	14.39
802.11n-HT40 (MCS0)	38/5190	16.00	14.65
	46/5230	16.00	14.47
	54/5270	16.00	14.46
	62/5310	16.00	14.51
802.11ac-VHT20 (6M)	36/5180	16.00	14.95
	48/5240	16.00	14.40
	52/5260	16.00	14.54
	64/5320	16.00	14.42



802.11ac-VHT40(MCS0)	38/5190	16.00	14.76
	46/5230	16.00	14.45
	54/5270	16.00	14.48
	62/5310	16.00	14.49
802.11ac-VHT80(MCS0)	42/5210	15.50	13.99
	58/5290	15.50	14.01
802.11ac-VHT160(MCS0)	50/5250	13.50	12.05

Wi-Fi 5G(U-NII-2C) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	100/5500	16.50	14.82
	116/5580	16.50	15.11
	132/5660	16.50	15.55
	140/5700	16.50	15.32
802.11n-HT20 (MCS0)	100/5500	16.00	14.52
	116/5580	16.00	14.47
	132/5660	16.00	14.69
	140/5700	16.00	14.77
802.11n-HT40 (MCS0)	102/5510	16.00	14.55
	110/5550	16.00	14.57
	118/5590	16.00	14.66
	134/5670	16.00	14.51
802.11ac-HT20 (6M)	100/5500	16.00	15.53
	116/5580	16.00	14.48
	132/5660	16.00	15.01
	140/5700	16.00	14.89
802.11ac-VHT40 (MCS0)	102/5510	15.50	14.48
	110/5550	15.50	14.55
	118/5590	15.50	14.64
	134/5670	15.50	14.75
802.11ac-VHT80 (MCS0)	106/5530	15.50	14.14
	122/5610	15.50	14.16
802.11ac VHT160(MCS0)	114/5570	13.50	12.03

Wi-Fi 5G(U-NII-2C) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			



802.11a (6M)	100/5500	16.50	14.89
	116/5580	16.50	15.10
	132/5660	16.50	15.26
	140/5700	16.50	15.21
802.11n-HT20 (MCS0)	100/5500	16.00	14.45
	116/5580	16.00	15.55
	132/5660	16.00	15.49
	140/5700	16.00	14.78
802.11n-HT40 (MCS0)	102/5510	16.00	14.50
	110/5550	16.00	14.56
	118/5590	16.00	14.66
	134/5670	16.00	14.71
802.11ac-HT20 (6M)	100/5500	16.00	14.52
	116/5580	16.00	14.65
	132/5660	16.00	14.97
	140/5700	16.00	14.87
802.11ac-VHT40 (MCS0)	102/5510	16.00	14.56
	110/5550	16.00	14.61
	118/5590	16.00	14.65
	134/5670	16.00	14.69
802.11ac-VHT80 (MCS0)	106/5530	15.50	14.11
	122/5610	15.50	14.22
802.11ac VHT160(MCS0)	114/5570	13.50	11.89

**Ant2**

Wi-Fi 2.4G (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11b (1M)	1/2412	16.00	14.58
	7/2442	16.00	14.53
	13/2472	16.00	14.67
802.11g (6M)	1/2412	16.00	14.59
	7/2442	16.00	14.63
	13/2472	16.00	14.51
802.11n-HT20 (MCS0)	1/2412	16.00	14.49
	7/2442	16.00	14.52
	13/2472	16.00	14.66
802.11n-HT40	3/2422	16.00	14.53



(MCS0)	7/2442	16.00	14.47
	11/2462	16.00	14.51

Wi-Fi 2.4G (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	18.00	16.61
	7/2442	18.00	16.59
	13/2472	18.00	16.68
802.11g (6M)	1/2412	17.50	16.18
	7/2442	17.50	16.37
	13/2472	17.50	16.45
802.11n-HT20 (MCS0)	1/2412	17.00	15.87
	7/2442	17.00	15.98
	13/2472	17.00	15.85
802.11n-HT40 (MCS0)	3/2422	16.50	15.16
	7/2442	16.50	15.01
	11/2462	16.50	14.97

Wi-Fi 5G(U-NII-1&2A) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	16.50	15.23
	48/5240	16.50	15.12
	52/5260	16.50	14.88
	64/5320	16.50	15.10
802.11n-HT20 (MCS0)	36/5180	16.00	15.12
	48/5240	16.00	14.33
	52/5260	16.00	14.39
	64/5320	16.00	14.65
802.11n-HT40 (MCS0)	38/5190	16.00	15.11
	46/5230	16.00	14.48
	54/5270	16.00	14.56
	62/5310	16.00	14.73
802.11ac-VHT20 (6M)	36/5180	16.00	15.12
	48/5240	16.00	14.49
	52/5260	16.00	14.40
	64/5320	16.00	14.77
802.11ac-VHT40(MCS0)	38/5190	15.50	14.87
	46/5230	15.50	14.48



	54/5270	15.50	14.54
	62/5310	15.50	14.48
802.11ac-VHT80(MCS0)	42/5210	15.50	14.12
	58/5290	15.50	14.21
802.11ac-VHT160(MCS0)	50/5250	13.50	12.23

Wi-Fi 5G(U-NII-1&2A) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	16.50	15.23
	48/5240	16.50	14.87
	52/5260	16.50	15.01
	64/5320	16.50	14.98
802.11n-HT20 (MCS0)	36/5180	16.00	15.02
	48/5240	16.00	14.56
	52/5260	16.00	14.41
	64/5320	16.00	14.61
802.11n-HT40 (MCS0)	38/5190	16.00	14.85
	46/5230	16.00	14.49
	54/5270	16.00	14.56
	62/5310	16.00	14.61
802.11ac-VHT20 (6M)	36/5180	16.00	14.97
	48/5240	16.00	14.42
	52/5260	16.00	14.43
	64/5320	16.00	14.55
802.11ac-VHT40(MCS0)	38/5190	16.00	14.81
	46/5230	16.00	14.46
	54/5270	16.00	14.53
	62/5310	16.00	14.41
802.11ac-VHT80(MCS0)	42/5210	15.50	14.29
	58/5290	15.50	14.12
802.11ac-VHT160(MCS0)	50/5250	13.50	12.12

Wi-Fi 5G(U-NII-2C) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	100/5500	16.50	14.88
	116/5580	16.50	15.01
	132/5660	16.50	15.48



	140/5700	16.50	15.27
802.11n-HT20 (MCS0)	100/5500	16.00	14.32
	116/5580	16.00	14.48
	132/5660	16.00	14.78
	140/5700	16.00	14.86
802.11n-HT40 (MCS0)	102/5510	16.00	14.54
	110/5550	16.00	14.46
	118/5590	16.00	14.44
	134/5670	16.00	15.45
802.11ac-HT20 (6M)	100/5500	16.00	14.54
	116/5580	16.00	14.46
	132/5660	16.00	15.13
	140/5700	16.00	14.93
802.11ac-VHT40 (MCS0)	102/5510	15.50	14.51
	110/5550	15.50	14.43
	118/5590	15.50	14.42
	134/5670	15.50	14.91
802.11ac-VHT80 (MCS0)	106/5530	15.50	13.94
	122/5610	15.50	14.07
802.11ac VHT160(MCS0)	114/5570	13.50	12.11

Wi-Fi 5G(U-NII-2C) (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	16.50	14.92
	116/5580	16.50	14.95
	132/5660	16.50	15.29
	140/5700	16.50	15.24
802.11n-HT20 (MCS0)	100/5500	16.00	14.51
	116/5580	16.00	14.46
	132/5660	16.00	14.88
	140/5700	16.00	14.91
802.11n-HT40 (MCS0)	102/5510	16.00	14.55
	110/5550	16.00	14.47
	118/5590	16.00	14.51
	134/5670	16.00	14.78
802.11ac-HT20 (6M)	100/5500	16.00	14.57
	116/5580	16.00	14.39
	132/5660	16.00	14.90



	140/5700	16.00	14.79
802.11ac-VHT40 (MCS0)	102/5510	16.00	14.55
	110/5550	16.00	14.44
	118/5590	16.00	14.55
	134/5670	16.00	14.51
802.11ac-VHT80 (MCS0)	106/5530	15.50	13.96
	122/5610	15.50	13.99
802.11ac VHT160(MCS0)	114/5570	13.50	12.06

**MIMO Ant1+Ant2**

Wi-Fi 2.4G (Receiver on) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11g (6M)	1/2412	19.01	17.58
	7/2442	19.01	17.57
	13/2472	19.01	17.58
802.11n-HT20 (MCS0)	1/2412	19.01	17.60
	7/2442	19.01	17.58
	13/2472	19.01	17.63
802.11n-HT40 (MCS0)	3/2422	19.01	17.53
	7/2442	19.01	17.46
	11/2462	19.01	17.51

Wi-Fi 2.4G (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11g (6M)	1/2412	20.77	19.67
	7/2442	20.77	19.58
	13/2472	20.77	19.93
802.11n-HT20 (MCS0)	1/2412	20.27	19.40
	7/2442	20.27	19.27
	13/2472	20.27	19.30
802.11n-HT40 (MCS0)	3/2422	19.77	18.43
	7/2442	19.77	18.27
	11/2462	19.77	18.31

Wi-Fi 5G(U-NII-1&2A) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.





Mode			
802.11a (6M)	36/5180	19.51	18.19
	48/5240	19.51	18.20
	52/5260	19.51	17.93
	64/5320	19.51	18.05
802.11n-HT20 (MCS0)	36/5180	19.01	17.97
	48/5240	19.01	17.43
	52/5260	19.01	17.43
	64/5320	19.01	17.59
802.11n-HT40 (MCS0)	38/5190	19.01	17.92
	46/5230	19.01	17.46
	54/5270	19.01	17.53
	62/5310	19.01	17.62
802.11ac-VHT20 (6M)	36/5180	19.01	18.09
	48/5240	19.01	17.53
	52/5260	19.01	17.47
	64/5320	19.01	17.65
802.11ac-VHT40(MCS0)	38/5190	18.51	17.83
	46/5230	18.51	17.45
	54/5270	18.51	17.53
	62/5310	18.51	17.49
802.11ac-VHT80(MCS0)	42/5210	18.51	17.07
	58/5290	18.51	17.09
802.11ac-VHT160(MCS0)	50/5250	16.51	15.13

Wi-Fi 5G(U-NII-1&2A) (Receiver off) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	19.51	18.34
	48/5240	19.51	17.89
	52/5260	19.51	18.00
	64/5320	19.51	18.03
802.11n-HT20 (MCS0)	36/5180	19.01	18.02
	48/5240	19.01	17.51
	52/5260	19.01	17.47
	64/5320	19.01	17.51
802.11n-HT40 (MCS0)	38/5190	19.01	17.76
	46/5230	19.01	17.49
	54/5270	19.01	17.52
	62/5310	19.01	17.57



802.11ac-VHT20 (6M)	36/5180	19.01	17.97
	48/5240	19.01	17.42
	52/5260	19.01	17.50
	64/5320	19.01	17.50
802.11ac-VHT40(MCS0)	38/5190	19.01	17.80
	46/5230	19.01	17.47
	54/5270	19.01	17.52
	62/5310	19.01	17.46
802.11ac-VHT80(MCS0)	42/5210	18.51	17.15
	58/5290	18.51	17.08
802.11ac-VHT160(MCS0)	50/5250	16.51	15.10

Wi-Fi 5G(U-NII-2C) (Receiver on)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	100/5500	19.51	17.86
	116/5580	19.51	18.07
	132/5660	19.51	18.53
	140/5700	19.51	18.31
802.11n-HT20 (MCS0)	100/5500	19.01	17.43
	116/5580	19.01	17.49
	132/5660	19.01	17.75
	140/5700	19.01	17.83
802.11n-HT40 (MCS0)	102/5510	19.01	17.56
	110/5550	19.01	17.53
	118/5590	19.01	17.56
	134/5670	19.01	18.02
802.11ac-HT20 (6M)	100/5500	19.01	18.07
	116/5580	19.01	17.48
	132/5660	19.01	18.08
	140/5700	19.01	17.92
802.11ac-VHT40 (MCS0)	102/5510	18.51	17.51
	110/5550	18.51	17.50
	118/5590	18.51	17.54
	134/5670	18.51	17.84
802.11ac-VHT80 (MCS0)	106/5530	18.51	17.05
	122/5610	18.51	17.13
802.11ac VHT160(MCS0)	114/5570	16.51	15.08



Wi-Fi 5G(U-NII-2C) (Receiver off)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	100/5500	19.51	17.92
	116/5580	19.51	18.04
	132/5660	19.51	18.29
	140/5700	19.51	18.24
802.11n-HT20 (MCS0)	100/5500	19.01	17.49
	116/5580	19.01	18.05
	132/5660	19.01	18.21
	140/5700	19.01	17.86
802.11n-HT40 (MCS0)	102/5510	19.01	17.54
	110/5550	19.01	17.52
	118/5590	19.01	17.60
	134/5670	19.01	17.76
802.11ac-HT20 (6M)	100/5500	19.01	17.56
	116/5580	19.01	17.53
	132/5660	19.01	17.95
	140/5700	19.01	17.84
802.11ac-VHT40 (MCS0)	102/5510	19.01	17.57
	110/5550	19.01	17.54
	118/5590	19.01	17.61
	134/5670	19.01	17.61
802.11ac-VHT80 (MCS0)	106/5530	18.51	17.05
	122/5610	18.51	17.12
802.11ac VHT160(MCS0)	114/5570	16.51	14.99

### 9.5 Bluetooth Mode

Bluetooth Mode	Channel/Frequency(MHz)	Maximum Output Power (dBm)	Tune-up Limit (dBm)
<b>BDR (1Mbps) GFSK</b>	0/2402	8.35	10.00
	39/2441	9.65	10.50
	78/2480	9.28	10.20
<b>EDR2 (2Mbps) <math>\pi</math>/4DQPSK</b>	0/2402	6.55	8.10
	39/2441	6.82	8.60
	78/2480	6.61	8.30
<b>EDR3 (3Mbps) 8DPSK</b>	0/2402	6.48	8.10
	39/2441	6.64	8.60
	78/2480	6.32	8.30
<b>BLE (1Mbps) GFSK</b>	0/2402	5.72	7.60
	19/2440	7.57	8.10
	39/2480	7.36	7.80
<b>BDR HP (1Mbps) GFSK</b>	0/2402	16.45	17.7
	39/2441	16.04	17.00
	78/2480	14.68	16.50
<b>EDR2 HP (2Mbps) <math>\pi</math>/4DQPSK</b>	0/2402	14.43	15.80
	39/2441	14.32	15.10
	78/2480	12.58	14.60
<b>EDR3 (3Mbps) 8DPSK</b>	0/2402	14.57	15.80
	39/2441	14.26	15.10
	78/2480	12.77	14.60
Bluetooth Mode	Channel/Frequency(MHz)	Maximum Output Power (dBm)	Tune-up Limit (dBm)
<b>UHD 2M (4Mbps)</b>	0/2404	6.47	8.30
	19/2442	7.63	9.50
	37/2478	7.48	9.30
<b>UHD 4M (8Mbps)</b>	0/2404	6.42	7.80
	18/2440	7.85	9.00
	36/2476	6.87	8.80
<b>UHD 2M 8DPSK (6Mbps)</b>	0/2404	6.74	8.30
	19/2442	8.21	9.50
	37/2478	8.11	9.30
<b>BLE 1M GFSK</b>	0/2404	6.86	8.10
	18/2440	7.73	9.10
	37/2478	7.60	9.00
<b>BLE 2M GFSK</b>	0/2404	6.83	8.10
	18/2440	7.71	9.10
	37/2478	7.54	9.00



UHD 2M HP (4Mbps)	0/2404	14.87	16.50
	19/2442	14.56	16.00
	37/2478	13.62	15.30
UHD 4M HP (8Mbps)	0/2404	14.62	16.50
	18/2442	14.23	16.00
	36/2476	13.47	15.30
UHD 2M 8DPSK HP (6Mbps)	0/2404	14.32	16.10
	19/2442	13.76	15.60
	37/2478	12.87	14.90
BLE 1M HP GFSK	0/2404	15.82	16.50
	18/2440	15.03	16.00
	37/2478	13.56	15.30
BLE 2M HP GFSK	0/2404	15.72	16.30
	18/2440	14.99	15.80
	37/2478	13.53	15.10

## 10 Measured and Reported (Scaled) SAR Results

### 10.1 EUT Antenna Locations

The Detailed Antenna Locations refer to *R1910H0225 SAR Antenna Locations*

Overall (Length x Width): 157.97 mm x 73 mm						
Overall Diagonal: 173 mm/Display Diagonal: 168mm						
Distance of the Antenna to the EUT surface/edge						
Antenna	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
Main Antenna	<25mm	<25mm	<25mm	<25mm	>25mm	<25mm
Second Antenna, 5G Antenna 2	<25mm	<25mm	<25mm	>25mm	<25mm	>25mm
Second MAS Antenna	<25mm	<25mm	>25mm	<25mm	>25mm	>25mm
WIFI 2.4G/5G Antenna 1, Bluetooth	<25mm	<25mm	>25mm	<25mm	<25mm	>25mm
WIFI 2.4G Antenna 2	<25mm	<25mm	<25mm	>25mm	>25mm	>25mm
Hotspot mode, Positions for SAR tests						
Mode	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
Main Antenna	Yes	Yes	Yes	Yes	No	Yes
Second Antenna, 5G Antenna 2	Yes	Yes	Yes	No	Yes	No
Second MAS Antenna	Yes	Yes	No	Yes	No	No
WIFI 2.4G/5G Antenna 1, Bluetooth	Yes	Yes	No	Yes	Yes	No
WIFI 2.4G Antenna 2	Yes	Yes	Yes	No	No	No

Note: 1. Per KDB 941225 D06, when the overall device length and width are  $\geq 9\text{cm} \times 5\text{cm}$ , the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

2. For smart phones with an overall diagonal dimension is 173mm. Per KDB 648474 D04, for smart phones with a display diagonal dimension  $> 15.0\text{ cm}$  or an overall diagonal dimension  $> 16.0\text{ cm}$ , product specific 10-g SAR must be tested as a phablet to determine SAR compliance. For Phablet, Since hotspot mode 1-g *reported* SAR  $< 1.2\text{ W/kg}$ , product specific 10-g SAR is no required.

3. Per FCC KDB 447498 D01,

for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

a)  $\leq 0.8\text{ W/kg}$  or  $2.0\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is  $\leq 100\text{MHz}$

b)  $\leq 0.6\text{ W/kg}$  or  $1.5\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.

c)  $\leq 0.4\text{ W/kg}$  or  $1.0\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is  $\geq 200\text{ MHz}$ .

4. When the original highest measured SAR is  $\geq 0.80\text{ W/kg}$ , the measurement was repeated once.

5. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2\text{ W/kg}$ , no additional SAR evaluations using a headset cable were required.

## 10.2 Measured SAR Results

**Table 9: GSM 850 (Main-antenna)**

Test Position	Cover Type	Time slot	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on + WiFi connect/P2P)</b>											
Left Cheek	Standard	GSM	1:8.3	190/836.6	34.00	33.72	0.221	0.020	1.07	0.236	/
Left Tilt	Standard	GSM	1:8.3	190/836.6	34.00	33.72	0.127	-0.050	1.07	0.135	/
Right Cheek	Standard	GSM	1:8.3	190/836.6	34.00	33.72	0.236	0.024	1.07	0.252	34
Right Tilt	Standard	GSM	1:8.3	190/836.6	34.00	33.72	0.160	0.010	1.07	0.171	/
Right Cheek	SIM2	GSM	1:8.3	190/836.6	34.00	33.72	0.214	0.035	1.07	0.228	/
	Battery2	GSM	1:8.3	190/836.6	34.00	33.72	0.225	-0.020	1.07	0.240	/
	Battery3	GSM	1:8.3	190/836.6	34.00	33.72	0.229	0.025	1.07	0.244	/
<b>Head SAR (Test at the best acoustic position)</b>											
Right Cheek	Standard	GSM	1:8.3	190/836.6	34.00	33.72	0.283	0.047	1.07	0.302	35
Right Cheek	SIM2	GSM	1:8.3	190/836.6	34.00	33.72	0.272	-0.016	1.07	0.290	/
Right Cheek	Battery2	GSM	1:8.3	190/836.6	34.00	33.72	0.271	0.120	1.07	0.289	/
Right Cheek	Battery3	GSM	1:8.3	190/836.6	34.00	33.72	0.275	0.118	1.07	0.293	/
<b>Body-worn SAR (Distance 15mm)</b>											
<b>(Receiver off+sensor D1/2, Receiver off+sensor D3/7, Receiver off+sensor D1/2+WiFi connect/P2P, Receiver off+sensor D3/7+WiFi connect/P2P)</b>											
Back Side	Standard	GSM	1:8.3	190/836.6	34.00	33.72	0.234	-0.100	1.07	0.250	36
Front Side	Standard	GSM	1:8.3	190/836.6	34.00	33.72	0.175	0.050	1.07	0.187	/
Back Side	SIM2	GSM	1:8.3	190/836.6	34.00	33.72	0.228	0.010	1.07	0.243	/
Back Side	Battery2	GSM	1:8.3	190/836.6	34.00	33.72	0.217	0.017	1.07	0.231	/
Back Side	Battery3	GSM	1:8.3	190/836.6	34.00	33.72	0.225	0.023	1.07	0.240	/
<b>Hotspot SAR(Distance 10mm)</b>											
<b>(Receiver off+SAR sensor on Level D1/2+Hotspot, Receiver off+SAR sensor on Level D3/7+Hotspot)</b>											
Back Side	Standard	2Txslots	1:8.3	190/836.6	32.00	31.82	0.465	0.020	1.04	0.485	37
Front Side	Standard	2Txslots	1:8.3	190/836.6	32.00	31.82	0.342	0.150	1.04	0.356	/
Left Edge	Standard	2Txslots	1:8.3	190/836.6	32.00	31.82	0.220	-0.070	1.04	0.229	/
Right Edge	Standard	2Txslots	1:8.3	190/836.6	32.00	31.82	0.079	0.108	1.04	0.082	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	2Txslots	1:8.3	190/836.6	32.00	31.82	0.336	0.080	1.04	0.350	/
Back Side	SIM2	2Txslots	1:8.3	190/836.6	32.00	31.82	0.431	0.025	1.04	0.449	/
Back Side	Battery2	2Txslots	1:8.3	190/836.6	32.00	31.82	0.439	0.143	1.04	0.458	/
Back Side	Battery3	2Txslots	1:8.3	190/836.6	32.00	31.82	0.458	0.124	1.04	0.477	/

Note: 1.The value with blue color is the maximum SAR Value of each test band.

1. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.



2. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.





Table 10: GSM 1900(Main-antenna)

Test Position	Cover Type	Time slot	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (Receiver on + WiFi connect/P2P)</b>											
Left Cheek	Standard	GSM	1:8.3	661/1880	31.00	30.46	0.191	0.029	1.13	0.216	/
Left Tilt	Standard	GSM	1:8.3	661/1880	31.00	30.46	0.055	0.072	1.13	0.062	/
Right Cheek	Standard	GSM	1:8.3	661/1880	31.00	30.46	0.203	0.187	1.13	0.230	38
Right Tilt	Standard	GSM	1:8.3	661/1880	31.00	30.46	0.043	0.102	1.13	0.048	/
Right Cheek	SIM2	GSM	1:8.3	661/1880	31.00	30.46	0.164	0.021	1.13	0.186	/
	Battery2	GSM	1:8.3	661/1880	31.00	30.46	0.195	0.173	1.13	0.221	/
	Battery3	GSM	1:8.3	661/1880	31.00	30.46	0.189	0.105	1.13	0.214	/
<b>Head SAR (Test at the best acoustic position)</b>											
Right Cheek	Standard	GSM	1:8.3	661/1880	31.00	30.46	0.249	0.088	1.13	0.282	39
Right Cheek	SIM2	GSM	1:8.3	661/1880	31.00	30.46	0.215	0.013	1.13	0.243	/
Right Cheek	Battery2	GSM	1:8.3	661/1880	31.00	30.46	0.231	0.080	1.13	0.262	/
Right Cheek	Battery3	GSM	1:8.3	661/1880	31.00	30.46	0.236	0.064	1.13	0.267	/
<b>Body-worn SAR (Distance 15mm)</b>											
<b>(Receiver off+sensor D1/2, Receiver off+sensor D3/7, Receiver off+sensor D1/2+WiFi connect/P2P, Receiver off+sensor D3/7+WiFi connect/P2P)</b>											
Back Side	Standard	GSM	1:8.3	661/1880	31.00	30.46	0.238	0.031	1.13	0.270	40
Front Side	Standard	GSM	1:8.3	661/1880	31.00	30.46	0.162	-0.028	1.13	0.183	/
Back Side	SIM2	GSM	1:8.3	661/1880	31.00	30.46	0.174	0.160	1.13	0.197	/
Back Side	Battery2	GSM	1:8.3	661/1880	31.00	30.46	0.187	0.020	1.13	0.212	/
Back Side	Battery3	GSM	1:8.3	661/1880	31.00	30.46	0.192	0.026	1.13	0.217	/
<b>Hotspot SAR(Distance 10mm)</b>											
<b>(Receiver off+SAR sensor on Level D1/2+Hotspot, Receiver off+SAR sensor on Level D3/7+Hotspot)</b>											
Back Side	Standard	2Txslots	1:8.3	661/1880	27.50	26.98	0.078	0.030	1.13	0.087	/
Front Side	Standard	2Txslots	1:8.3	661/1880	27.50	26.98	0.071	0.060	1.13	0.080	/
Left Edge	Standard	2Txslots	1:8.3	661/1880	27.50	26.98	0.022	-0.070	1.13	0.025	/
Right Edge	Standard	2Txslots	1:8.3	661/1880	27.50	26.98	0.018	0.143	1.13	0.020	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	2Txslots	1:8.3	661/1880	27.50	26.98	0.133	-0.120	1.13	0.150	41
Bottom Edge	SIM2	2Txslots	1:8.3	661/1880	27.50	26.98	0.131	0.022	1.13	0.148	/
Bottom Edge	Battery2	2Txslots	1:8.3	661/1880	27.50	26.98	0.128	0.031	1.13	0.144	/
Bottom Edge	Battery3	2Txslots	1:8.3	661/1880	27.50	26.98	0.119	0.027	1.13	0.134	/

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2.When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

3.Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



Table 11: UMTS Band II (Main-antenna)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (Receiver on)</b>											
Left Cheek	Standard	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.291	0.183	1.23	0.359	/
Left Tilt	Standard	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.077	0.183	1.23	0.095	/
Right Cheek	Standard	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.351	0.062	1.23	0.433	42
Right Tilt	Standard	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.081	0.049	1.23	0.100	/
Right Cheek	SIM2	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.319	-0.032	1.23	0.393	/
Right Cheek	Battery2	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.325	-0.010	1.23	0.401	/
Right Cheek	Battery3	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.341	0.021	1.23	0.420	/
<b>Head SAR (Test at the best acoustic position)</b>											
Right Cheek	Standard	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.397	0.020	1.23	0.490	43
Right Cheek	SIM2	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.375	0.026	1.23	0.462	/
Right Cheek	Battery2	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.389	0.030	1.23	0.480	/
Right Cheek	Battery3	RMC 12.2K	1:1	9400/1880	24.00	23.09	0.392	0.034	1.23	0.483	/
<b>Body-worn SAR (Distance 15mm) (Receiver off+SAR sensor on Level D3/7)</b>											
Back Side	Standard	RMC 12.2K	1:1	9400/1880	24.50	23.61	0.514	0.020	1.23	0.631	44
Front Side	Standard	RMC 12.2K	1:1	9400/1880	24.50	23.61	0.467	0.020	1.23	0.573	/
Back Side	SIM2	RMC 12.2K	1:1	9400/1880	24.50	23.61	0.477	-0.058	1.23	0.585	/
Back Side	Battery2	RMC 12.2K	1:1	9400/1880	24.50	23.61	0.503	-0.037	1.23	0.617	/
Back Side	Battery3	RMC 12.2K	1:1	9400/1880	24.50	23.61	0.498	0.028	1.23	0.611	/
<b>Hotspot SAR(Distance 10mm) (Receiver off+SAR sensor on Level D3/7+Hotspot)</b>											
Back Side	Standard	RMC 12.2K	1:1	9400/1880	21.00	20.02	0.385	-0.030	1.25	0.482	/
Front Side	Standard	RMC 12.2K	1:1	9400/1880	21.00	20.02	0.366	0.000	1.25	0.459	/
Left Edge	Standard	RMC 12.2K	1:1	9400/1880	21.00	20.02	0.121	0.060	1.25	0.152	/
Right Edge	Standard	RMC 12.2K	1:1	9400/1880	21.00	20.02	0.054	-0.020	1.25	0.067	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	RMC 12.2K	1:1	9400/1880	21.00	20.02	0.645	0.180	1.25	0.808	45
Bottom Edge	Standard	RMC 12.2K	1:1	9262/1852.4	21.00	20.16	0.502	0.063	1.21	0.609	/
	Standard	RMC 12.2K	1:1	9538/1907.6	21.00	20.22	0.631	0.070	1.20	0.755	/
Bottom Edge	Repeated	RMC 12.2K	1:1	9400/1880	21.00	20.02	0.575	0.050	1.25	0.721	/
Bottom Edge	SIM2	RMC 12.2K	1:1	9400/1880	21.00	20.02	0.581	-0.032	1.25	0.728	/
Bottom Edge	Battery2	RMC 12.2K	1:1	9400/1880	21.00	20.02	0.564	0.090	1.25	0.707	/
Bottom Edge	Battery3	RMC 12.2K	1:1	9400/1880	21.00	20.02	0.580	0.150	1.25	0.727	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free



kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

### Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>1g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>1g</sub> (W/kg)	Ratio
Bottom Edge	9400/1880	0.645	0.575	1.12

Note: 1) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

### MAX Adjusted SAR

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/ Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR <sub>1g</sub> (mW/g)	Scaling Factor	Full power Report SAR <sub>1g</sub> (mW/g)	0mm SAR
Back Side	Standard	RMC 12.2K	1:1	9400/1880	24.50	21.00	0.482	2.24	1.080	No
Front Side	Standard	RMC 12.2K	1:1	9400/1880	24.50	21.00	0.459	2.24	1.027	No
Left Edge	Standard	RMC 12.2K	1:1	9400/1880	24.50	21.00	0.152	2.24	0.339	No
Right Edge	Standard	RMC 12.2K	1:1	9400/1880	24.50	21.00	0.067	2.24	0.151	No
Bottom Edge	Standard	RMC 12.2K	1:1	9400/1880	24.50	21.00	0.808	2.24	1.810	Yes

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)				Plot No.
							Measured SAR <sub>10g</sub>	Power Drift (dB)	Scaling Factor	Report SAR <sub>10g</sub>	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off+SAR sensor on Level D1/2)</b>											
Bottom Edge	Standard	RMC 12.2K	1:1	9400/1880	22.50	21.52	1.750	0.100	1.25	2.193	/
Bottom Edge	Standard	RMC 12.2K	1:1	9262/1852.4	22.50	21.67	1.790	-0.090	1.21	2.167	/
Bottom Edge	Standard	RMC 12.2K	1:1	9538/1907.6	22.50	21.71	1.930	-0.040	1.20	2.315	46
Bottom Edge	Reper	RMC 12.2K	1:1	9538/1907.6	22.50	21.71	1.920	-0.030	1.20	2.303	/
<b>Body SAR (Distance 8mm) Additional SAR test at a conservative distance (triggering distance minus 1mm)</b>											
Bottom Edge	Standard	RMC 12.2K	1:1	9400/1880	24.50	23.61	0.889	0.030	1.23	1.091	47

Note: 1.The value with blue color is the maximum SAR Value of each test band.

### Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>10g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>10g</sub> (W/kg)	Ratio
Bottom Edge	9538/1907.6	1.930	1.920	1.01

Note: 1) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.



Table 12: UMTS Band IV (Main-antenna)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (Receiver on)</b>											
Left Cheek	Standard	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.325	0.034	1.19	0.387	/
Left Tilt	Standard	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.112	0.021	1.19	0.133	/
Right Cheek	Standard	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.527	0.040	1.19	0.628	48
Right Tilt	Standard	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.122	0.100	1.19	0.145	/
Right Cheek	SIM2	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.524	0.027	1.19	0.624	/
Right Cheek	Battery2	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.514	0.032	1.19	0.612	/
Right Cheek	Battery3	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.518	0.025	1.19	0.617	/
<b>Head SAR (Test at the best acoustic position)</b>											
Right Cheek	Standard	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.554	0.010	1.19	0.660	49
Right Cheek	SIM2	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.506	0.020	1.19	0.603	/
Right Cheek	Battery2	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.531	-0.010	1.19	0.633	/
Right Cheek	Battery3	RMC 12.2K	1:1	1413/1732.6	24.50	23.74	0.539	0.022	1.19	0.642	/
<b>Body-worn SAR (Distance 15mm) (Receiver off+SAR sensor on Level D3/7)</b>											
Back Side	Standard	RMC 12.2K	1:1	1413/1732.6	25.00	24.27	0.521	0.010	1.18	0.616	50
Front Side	Standard	RMC 12.2K	1:1	1413/1732.6	25.00	24.27	0.501	-0.010	1.18	0.593	/
Back Side	SIM2	RMC 12.2K	1:1	1413/1732.6	25.00	24.27	0.506	-0.084	1.18	0.599	/
Back Side	Battery2	RMC 12.2K	1:1	1413/1732.6	25.00	24.27	0.517	0.058	1.18	0.612	/
Back Side	Battery3	RMC 12.2K	1:1	1413/1732.6	25.00	24.27	0.508	0.032	1.18	0.601	/
<b>Hotspot SAR(Distance 10mm) (Receiver off+SAR sensor on Level D3/7+Hotspot)</b>											
Back Side	Standard	RMC 12.2K	1:1	1413/1732.6	21.50	20.72	0.382	0.000	1.20	0.457	/
Front Side	Standard	RMC 12.2K	1:1	1413/1732.6	21.50	20.72	0.397	0.000	1.20	0.475	/
Left Edge	Standard	RMC 12.2K	1:1	1413/1732.6	21.50	20.72	0.164	0.040	1.20	0.196	/
Right Edge	Standard	RMC 12.2K	1:1	1413/1732.6	21.50	20.72	0.097	0.130	1.20	0.116	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
Bottom Edge	Standard	RMC 12.2K	1:1	1413/1732.6	21.50	20.72	0.632	0.150	1.20	0.756	51
Bottom Edge	SIM2	RMC 12.2K	1:1	1413/1732.6	21.50	20.72	0.585	0.013	1.20	0.700	/
Bottom Edge	Battery2	RMC 12.2K	1:1	1413/1732.6	21.50	20.72	0.542	0.090	1.20	0.649	/
Bottom Edge	Battery3	RMC 12.2K	1:1	1413/1732.6	21.50	20.72	0.538	0.140	1.20	0.644	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



MAX Adjusted SAR										
Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	Standard	RMC 12.2K	1:1	1413/1732.6	25.00	21.50	0.457	2.24	1.023	No
Front Side	Standard	RMC 12.2K	1:1	1413/1732.6	25.00	21.50	0.475	2.24	1.064	No
Left Edge	Standard	RMC 12.2K	1:1	1413/1732.6	25.00	21.50	0.196	2.24	0.439	No
Right Edge	Standard	RMC 12.2K	1:1	1413/1732.6	25.00	21.50	0.116	2.24	0.261	No
Bottom Edge	Standard	RMC 12.2K	1:1	1413/1732.6	25.00	21.50	0.756	2.24	1.693	Yes

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)				Plot No.
							Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR10g	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off+SAR sensor on Level D1/2)</b>											
Bottom Edge	Standard	RMC 12.2K	1:1	1413/1732.6	22.50	21.74	1.560	0.060	1.19	1.858	52
<b>Body SAR (Distance 8mm) (Receiver off+SAR sensor on Level D3/7)</b>											
Bottom Edge	Standard	RMC 12.2K	1:1	1413/1732.6	25.00	24.27	1.040	0.027	1.18	1.230	53

Note: 1.The value with blue color is the maximum SAR Value of each test band.



Table 13: UMTS Band V (Main-antenna)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>											
Left Cheek	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.163	0.047	1.17	0.191	/
Left Tilt	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.217	0.100	1.17	0.254	/
Right Cheek	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.219	0.035	1.17	0.257	54
Right Tilt	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.184	-0.090	1.17	0.216	/
Right Cheek	SIM2	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.208	0.130	1.17	0.244	/
Right Cheek	Battery2	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.211	0.040	1.17	0.247	/
Right Cheek	Battery3	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.209	0.011	1.17	0.245	/
<b>Head SAR Test at the best acoustic position</b>											
Right Cheek	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.296	-0.025	1.17	0.347	55
Right Cheek	SIM2	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.251	0.013	1.17	0.294	/
Right Cheek	Battery2	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.255	-0.027	1.17	0.299	/
Right Cheek	Battery3	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.268	0.016	1.17	0.314	/
<b>Hotspot SAR(Distance 10mm)</b>											
<b>(Receiver off+SAR sensor on Level D1/2+Hotspot, Receiver off+SAR sensor on Level D3/7+Hotspot)</b>											
Back Side	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.397	-0.020	1.17	0.465	56
Front Side	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.314	0.030	1.17	0.368	/
Left Edge	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.121	-0.010	1.17	0.142	/
Right Edge	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.111	0.010	1.17	0.130	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.271	-0.030	1.17	0.318	/
Back Side	SIM2	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.372	0.046	1.17	0.436	/
Back Side	Battery2	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.385	-0.120	1.17	0.451	/
Back Side	Battery3	RMC 12.2K	1:1	4183/836.6	25.00	24.31	0.379	0.026	1.17	0.444	/
<p>Note: 1.The value with blue color is the maximum SAR Value of each test band.</p> <p>2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is <math>\leq \frac{1}{4}</math> dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is <math>\leq 1.2</math> W/kg, SAR measurement is not required for the secondary mode.</p> <p>3.Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.</p>											





Table 14: LTE Band 2 (20MHz, Main-antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (QPSK) (Receiver on)</b>												
Left Cheek	Standard	1:1	1	50	18700/1860	24.00	23.28	0.393	0.090	1.18	0.464	57
Left Tilt	Standard	1:1	1	50	18700/1860	24.00	23.28	0.080	0.029	1.18	0.094	/
Right Cheek	Standard	1:1	1	50	18700/1860	24.00	23.28	0.368	0.027	1.18	0.434	/
Right Tilt	Standard	1:1	1	50	18700/1860	24.00	23.28	0.080	0.033	1.18	0.094	/
Left Cheek	Standard	1:1	50%	50	18700/1860	23.50	22.20	0.348	0.120	1.35	0.469	/
Left Tilt	Standard	1:1	50%	50	18700/1860	23.50	22.20	0.080	0.050	1.35	0.108	/
Right Cheek	Standard	1:1	50%	50	18700/1860	23.50	22.20	0.322	0.052	1.35	0.434	/
Right Tilt	Standard	1:1	50%	50	18700/1860	23.50	22.20	0.072	0.090	1.35	0.097	/
Left Cheek	SIM2	1:1	50%	50	18700/1860	23.50	22.20	0.339	0.060	1.35	0.457	/
Left Cheek	Battery2	1:1	50%	50	18700/1860	23.50	22.20	0.327	0.041	1.35	0.441	/
Left Cheek	Battery3	1:1	50%	50	18700/1860	23.50	22.20	0.385	0.074	1.35	0.519	/
<b>Head SAR (Receiver on) Test at the best acoustic position</b>												
Left Cheek	Standard	1:1	50%	50	18700/1860	23.50	22.20	0.428	0.047	1.35	0.577	58
Left Cheek	SIM2	1:1	50%	50	18700/1860	23.50	22.20	0.416	0.034	1.35	0.561	/
Left Cheek	Battery2	1:1	50%	50	18700/1860	23.50	22.20	0.423	0.046	1.35	0.571	/
Left Cheek	Battery3	1:1	50%	50	18700/1860	23.50	22.20	0.411	0.081	1.35	0.554	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off+SAR sensor on Level D3/7)</b>												
Back Side	Standard	1:1	1	50	18700/1860	24.50	23.25	0.425	-0.022	1.33	0.567	59
Front Side	Standard	1:1	1	50	18700/1860	24.50	23.25	0.356	-0.024	1.33	0.475	/
Back Side	Standard	1:1	50%	50	18700/1860	23.50	22.17	0.371	0.100	1.36	0.504	/
Front Side	Standard	1:1	50%	50	18700/1860	23.50	22.17	0.311	-0.020	1.36	0.422	/
Back Side	SIM2	1:1	1	50	18700/1860	24.50	23.25	0.406	0.120	1.33	0.541	/
Back Side	Battery2	1:1	1	50	18700/1860	24.50	23.25	0.413	-0.017	1.33	0.551	/
Back Side	Battery3	1:1	1	50	18700/1860	24.50	23.25	0.399	-0.030	1.33	0.532	/
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+SAR sensor on Level D3/7+Hotspot)</b>												
Back Side	Standard	1:1	1	50	18700/1860	21.00	20.90	0.425	0.010	1.02	0.435	/
Front Side	Standard	1:1	1	50	18700/1860	21.00	20.90	0.427	-0.070	1.02	0.437	/
Left Edge	Standard	1:1	1	50	18700/1860	21.00	20.90	0.118	0.032	1.02	0.121	/
Right Edge	Standard	1:1	1	50	18700/1860	21.00	20.90	0.105	0.074	1.02	0.107	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	1	50	18700/1860	21.00	20.90	0.708	0.150	1.02	0.724	/
Back Side	Standard	1:1	50%	0	18700/1860	21.00	20.96	0.372	-0.043	1.01	0.375	/
Front Side	Standard	1:1	50%	0	18700/1860	21.00	20.96	0.454	-0.022	1.01	0.458	/
Left Edge	Standard	1:1	50%	0	18700/1860	21.00	20.96	0.125	0.012	1.01	0.126	/
Right Edge	Standard	1:1	50%	0	18700/1860	21.00	20.96	0.098	0.016	1.01	0.099	/



Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	50%	0	18700/1860	21.00	20.96	0.752	0.080	1.01	0.759	60
Bottom Edge	SIM2	1:1	50%	0	18700/1860	21.00	20.96	0.735	0.100	1.01	0.742	/
Bottom Edge	Battery2	1:1	50%	0	18700/1860	21.00	20.96	0.497	-0.030	1.01	0.502	/
Bottom Edge	Battery3	1:1	50%	0	18700/1860	21.00	20.96	0.537	0.150	1.01	0.542	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 50\%$  limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	Standard	1:1	1	50	18700/1860	24.50	21.00	0.435	2.24	0.974	No
Front Side	Standard	1:1	1	50	18700/1860	24.50	21.00	0.437	2.24	0.978	No
Left Edge	Standard	1:1	1	50	18700/1860	24.50	21.00	0.121	2.24	0.270	No
Right Edge	Standard	1:1	1	50	18700/1860	24.50	21.00	0.107	2.24	0.241	No
Bottom Edge	Standard	1:1	1	50	18700/1860	24.50	21.00	0.724	2.24	1.622	Yes
Back Side	Standard	1:1	50%	0	18700/1860	24.50	21.00	0.375	2.24	0.841	No
Front Side	Standard	1:1	50%	50	18700/1860	24.50	21.00	0.458	2.24	1.026	No
Left Edge	Standard	1:1	50%	50	18700/1860	24.50	21.00	0.126	2.24	0.282	No
Right Edge	Standard	1:1	50%	50	18700/1860	24.50	21.00	0.099	2.24	0.221	No
Bottom Edge	Standard	1:1	50%	50	18700/1860	24.50	21.00	0.759	2.24	1.699	Yes

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.





Test Position	Cover Type	Duty Cycle	RB	offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)				Plot No.
								Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR10g	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off+SAR sensor on Level D1/2)</b>												
Bottom Edge	Standard	1:1	1	99	18700/1860	22.50	21.34	1.790	0.040	1.31	2.338	/
Bottom Edge	Standard	1:1	50%	50	18700/1860	22.50	21.33	1.880	0.039	1.31	2.461	/
Bottom Edge	SIM2	1:1	50%	50	18700/1860	22.50	21.33	1.799	0.043	1.31	2.355	/
Bottom Edge	Battery2	1:1	50%	50	18700/1860	22.50	21.33	1.950	0.055	1.31	2.553	61
Bottom Edge	Battery3	1:1	50%	50	18700/1860	22.50	21.33	1.910	0.029	1.31	2.501	/
Bottom Edge	Repeated	1:1	50%	50	18700/1860	22.50	21.33	1.946	0.047	1.31	2.548	/
Bottom Edge	Battery2	1:1	50%	0	18900/1880	22.50	21.27	1.920	0.011	1.33	2.549	/
Bottom Edge	Battery2	1:1	50%	0	19100/1900	22.50	21.12	1.860	0.033	1.37	2.556	/
Bottom Edge	Battery2	1:1	100%	0	18700/1860	22.50	21.25	1.830	-0.050	1.33	2.440	/
<b>Body SAR (Distance 8mm) (Receiver off+SAR sensor on Level D3/7)</b>												
Bottom Edge	Standard	1:1	1	50	18700/1860	24.50	23.25	0.855	0.180	1.33	1.140	/
Bottom Edge	Standard	1:1	50%	50	18700/1860	23.50	22.17	0.742	0.039	1.36	1.008	/
Bottom Edge	SIM2	1:1	1	50	18700/1860	24.50	23.25	0.796	0.127	1.33	1.061	/
Bottom Edge	Battery2	1:1	1	50	18700/1860	24.50	23.25	0.872	0.010	1.33	1.163	62
Bottom Edge	Battery3	1:1	1	50	18700/1860	24.50	23.25	0.827	0.000	1.33	1.103	/
Note: 1.The value with blue color is the maximum SAR Value of each test band.												

Measurement Variability				
Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>10g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>10g</sub> (W/kg)	Ratio
Bottom Edge	18700/1860	1.950	1.946	1.00
Note: 1) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit). 2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.				



Table 15: LTE Band 4 (20MHz, Main-antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (QPSK) (Receiver on)</b>												
Left Cheek	Standard	1:1	1	0	20050/1720	24.00	23.61	0.340	0.070	1.09	0.372	/
Left Tilt	Standard	1:1	1	0	20050/1720	24.00	23.61	0.144	0.020	1.09	0.158	/
Right Cheek	Standard	1:1	1	0	20050/1720	24.00	23.61	0.455	0.033	1.09	0.498	63
Right Tilt	Standard	1:1	1	0	20050/1720	24.00	23.61	0.080	0.040	1.09	0.088	/
Left Cheek	Standard	1:1	50%	0	20050/1720	23.50	23.11	0.285	0.032	1.09	0.312	/
Left Tilt	Standard	1:1	50%	0	20050/1720	23.50	23.11	0.125	0.150	1.09	0.137	/
Right Cheek	Standard	1:1	50%	0	20050/1720	23.50	23.11	0.380	0.084	1.09	0.416	/
Right Tilt	Standard	1:1	50%	0	20050/1720	23.50	23.11	0.079	0.020	1.09	0.086	/
Right Cheek	SIM2	1:1	1	0	20050/1720	24.00	23.61	0.449	0.050	1.09	0.491	/
Right Cheek	Battery2	1:1	1	0	20050/1720	24.00	23.61	0.427	0.170	1.09	0.467	/
Right Cheek	Battery3	1:1	1	0	20050/1720	24.00	23.61	0.436	0.039	1.09	0.477	/
<b>Head SAR (Receiver on) Test at the best acoustic position</b>												
Right Cheek	Standard	1:1	1	0	20050/1720	24.00	23.61	0.476	0.048	1.09	0.521	64
Right Cheek	SIM2	1:1	1	0	20050/1720	24.00	23.61	0.459	0.040	1.09	0.502	/
Right Cheek	Battery2	1:1	1	0	20050/1720	24.00	23.61	0.465	0.130	1.09	0.509	/
Right Cheek	Battery3	1:1	1	0	20050/1720	24.00	23.61	0.447	0.073	1.09	0.489	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off+SAR sensor on Level D3/7)</b>												
Back Side	Standard	1:1	1	0	20175/1732.5	24.50	23.75	0.571	-0.030	1.19	0.679	65
Front Side	Standard	1:1	1	0	20175/1732.5	24.50	23.75	0.350	0.020	1.19	0.416	/
Back Side	Standard	1:1	50%	0	20175/1732.8	23.50	22.56	0.332	-0.034	1.24	0.412	/
Front Side	Standard	1:1	50%	0	20175/1732.8	23.50	22.56	0.298	0.070	1.24	0.370	/
Back Side	SIM2	1:1	1	0	20175/1732.5	24.50	23.75	0.566	0.030	1.19	0.673	/
Back Side	Battery2	1:1	1	0	20175/1732.5	24.50	23.75	0.560	0.034	1.19	0.666	/
Back Side	Battery3	1:1	1	0	20175/1732.5	24.50	23.75	0.570	-0.080	1.19	0.677	/
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+SAR sensor on Level D3/7+Hotspot)</b>												
Back Side	Standard	1:1	1	99	20175/1732.5	22.00	21.04	0.461	0.030	1.25	0.575	/
Front Side	Standard	1:1	1	99	20175/1732.5	22.00	21.04	0.328	-0.090	1.25	0.409	/
Left Edge	Standard	1:1	1	99	20175/1732.5	22.00	21.04	0.205	-0.140	1.25	0.256	/
Right Edge	Standard	1:1	1	99	20175/1732.5	22.00	21.04	0.100	-0.050	1.25	0.124	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	1	99	20175/1732.5	22.00	21.04	0.608	0.030	1.25	0.758	/
Back Side	Standard	1:1	50%	50	20050/1720	22.00	20.83	0.445	-0.040	1.31	0.583	/
Front Side	Standard	1:1	50%	50	20050/1720	22.00	20.83	0.323	-0.070	1.31	0.423	/
Left Edge	Standard	1:1	50%	50	20050/1720	22.00	20.83	0.197	-0.170	1.31	0.258	/
Right Edge	Standard	1:1	50%	50	20050/1720	22.00	20.83	0.096	0.020	1.31	0.126	/



Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	50%	50	20050/1720	22.00	20.83	0.648	-0.190	1.31	0.848	/
	Standard	1:1	50%	50	20175/1732.5	22.00	20.78	0.610	-0.010	1.32	0.808	N/A
	Standard	1:1	50%	50	20300/1745	22.00	20.79	0.598	0.000	1.32	0.790	/
Bottom Edge	Standard	1:1	100%	0	20050/1720	22.00	20.82	0.577	-0.020	1.31	0.757	/
Bottom Edge	SIM2	1:1	50%	50	20050/1720	22.00	20.83	0.615	-0.070	1.31	0.805	/
Bottom Edge	Battery2	1:1	50%	50	20050/1720	22.00	20.83	0.636	-0.150	1.31	0.833	/
Bottom Edge	Battery3	1:1	50%	50	20050/1720	22.00	20.83	0.573	0.100	1.31	0.750	/
Bottom Edge	Mobile phone case (matte)	1:1	50%	50	20050/1720	22.00	20.83	0.580	0.132	1.31	0.759	/
Bottom Edge	Mobile phone case (transparent)	1:1	50%	50	20050/1720	22.00	20.83	0.596	0.170	1.31	0.780	/
Bottom Edge	Repeated	1:1	50%	50	20050/1720	22.00	20.83	0.665	-0.022	1.31	0.871	66

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB	offset	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	Standard	1:1	1	99	20175/1732.5	24.50	22.00	0.575	1.78	1.023	No
Front Side	Standard	1:1	1	99	20175/1732.5	24.50	22.00	0.409	1.78	0.728	No
Left Edge	Standard	1:1	1	99	20175/1732.5	24.50	22.00	0.256	1.78	0.455	No
Right Edge	Standard	1:1	1	99	20175/1732.5	24.50	22.00	0.124	1.78	0.221	No
Bottom Edge	Standard	1:1	1	99	20175/1732.5	24.50	22.00	0.949	1.78	1.688	Yes
Back Side	Standard	1:1	50%	50	20050/1720	24.50	22.00	0.583	1.78	1.036	No
Front Side	Standard	1:1	50%	50	20050/1720	24.50	22.00	0.423	1.78	0.752	No
Left Edge	Standard	1:1	50%	50	20050/1720	24.50	22.00	0.258	1.78	0.459	No
Right Edge	Standard	1:1	50%	50	20050/1720	24.50	22.00	0.126	1.78	0.223	No
Bottom Edge	Standard	1:1	50%	50	20050/1720	24.50	22.00	0.901	1.78	1.602	Yes

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.



Test Position	Cover Type	Duty Cycle	RB	off set	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)				Plot No.
								Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR10g	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off+SAR sensor on Level D1/2)</b>												
Bottom Edge	Standard	1:1	1	99	20175/1732.5	22.00	21.04	1.500	0.026	1.25	1.871	/
Bottom Edge	Standard	1:1	50%	50	20050/1720	22.00	20.83	1.530	0.024	1.31	2.003	/
Bottom Edge	SIM2	1:1	50%	50	20050/1720	22.00	20.83	1.478	0.031	1.31	1.935	/
Bottom Edge	Battery2	1:1	50%	50	20050/1720	22.00	20.83	1.630	0.140	1.31	2.134	67
Bottom Edge	Battery3	1:1	50%	50	20050/1720	22.00	20.83	1.460	0.130	1.31	1.911	/
Bottom Edge	Repeated	1:1	50%	50	20050/1720	22.00	20.83	1.623	0.145	1.31	2.125	/
Bottom Edge	Battery2	1:1	50%	50	20175/1732.5	22.00	20.78	1.540	-0.021	1.32	2.039	/
Bottom Edge	Battery2	1:1	50%	50	20300/1745	22.00	20.79	1.570	0.085	1.32	2.074	/
Bottom Edge	Battery2	1:1	100%	0	20050/1720	22.00	20.82	1.460	0.080	1.31	1.916	/
<b>Body SAR (Distance 8mm) (Receiver off+SAR sensor on Level D3/7)</b>												
Bottom Edge	Standard	1:1	1	0	20175/1732.5	24.50	23.75	0.863	0.152	1.19	1.026	68
Bottom Edge	Standard	1:1	50%	0	20175/1732.8	23.50	22.56	0.692	0.029	1.24	0.859	/
Bottom Edge	SIM2	1:1	1	0	20175/1732.5	24.50	23.75	0.779	0.021	1.19	0.926	/
Bottom Edge	Battery2	1:1	1	0	20175/1732.5	24.50	23.75	0.852	0.160	1.19	1.013	/
Bottom Edge	Battery3	1:1	1	0	20175/1732.5	24.50	23.75	0.811	-0.030	1.19	0.964	/
Note: 1.The value with blue color is the maximum SAR Value of each test band.												

Measurement Variability				
Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>10g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>10g</sub> (W/kg)	Ratio
Bottom Edge	20050/1720	1.630	1.623	1.00
Note: 1) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit). 2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.				



Table 16: LTE Band 5 (10MHz, Main-antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (QPSK) (Receiver on, Receiver on+WiFi connect/P2P, Receiver on+Hotspot)</b>												
Left Cheek	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.244	0.010	1.32	0.321	/
Left Tilt	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.166	-0.020	1.32	0.218	/
Right Cheek	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.304	-0.028	1.32	0.400	69
Right Tilt	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.201	0.070	1.32	0.264	/
Left Cheek	Standard	1:1	50%	25	20525/836.5	24.50	23.44	0.209	0.040	1.01	0.212	/
Left Tilt	Standard	1:1	50%	25	20525/836.5	24.50	23.44	0.129	0.020	1.01	0.131	/
Right Cheek	Standard	1:1	50%	25	20525/836.5	24.50	23.44	0.207	-0.045	1.01	0.210	/
Right Tilt	Standard	1:1	50%	25	20525/836.5	24.50	23.44	0.153	0.060	1.01	0.155	/
Left Cheek	SIM2	1:1	1	25	20525/836.5	25.50	24.31	0.235	-0.010	1.32	0.309	/
Left Cheek	Battery2	1:1	1	25	20525/836.5	25.50	24.31	0.240	-0.018	1.32	0.316	/
Left Cheek	Battery3	1:1	1	25	20525/836.5	25.50	24.31	0.300	-0.040	1.32	0.395	/
<b>Head SAR (Receiver on) Test at the best acoustic position</b>												
Right Cheek	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.234	0.025	1.32	0.308	70
Right Cheek	SIM2	1:1	1	25	20525/836.5	25.50	24.31	0.217	0.020	1.32	0.285	/
Right Cheek	Battery2	1:1	1	25	20525/836.5	25.50	24.31	0.228	0.070	1.32	0.300	/
Right Cheek	Battery3	1:1	1	25	20525/836.5	25.50	24.31	0.221	0.065	1.32	0.291	/
<b>Hotspot SAR(QPSK, Distance 10mm)</b>												
<b>(Receiver off+sensor on Level D1/2+Hotspot, Receiver off+sensor on Level D3/7+Hotspot)</b>												
Back Side	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.409	-0.030	1.32	0.538	71
Front Side	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.288	0.040	1.32	0.379	/
Left Edge	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.212	0.020	1.32	0.279	/
Right Edge	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.108	0.050	1.32	0.142	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	1	25	20525/836.5	25.50	24.31	0.278	0.010	1.32	0.366	/
Back Side	Standard	1:1	50%	25	20525/836.5	24.50	23.44	0.322	-0.050	1.01	0.326	/
Front Side	Standard	1:1	50%	25	20525/836.5	24.50	23.44	0.224	0.040	1.01	0.227	/
Left Edge	Standard	1:1	50%	25	20525/836.5	24.50	23.44	0.169	-0.010	1.01	0.171	/
Right Edge	Standard	1:1	50%	25	20525/836.5	24.50	23.44	0.085	0.070	1.01	0.086	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	50%	25	20525/836.5	24.50	23.44	0.215	0.000	1.01	0.218	/
Back Side	SIM2	1:1	1	25	20525/836.5	25.50	24.31	0.397	-0.050	1.32	0.522	/
Back Side	Battery2	1:1	1	25	20525/836.5	25.50	24.31	0.384	0.158	1.32	0.505	/
Back Side	Battery3	1:1	1	25	20525/836.5	25.50	24.31	0.406	-0.037	1.32	0.534	/

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are



≥ 50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



**Table 17: LTE Band 7 (20MHz, Main-antenna)**

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (QPSK) (Receiver on)</b>												
Left Cheek	Standard	1:1	1	99	21350/2560	24.50	23.86	0.507	0.100	1.16	0.588	72
Left Tilt	Standard	1:1	1	99	21350/2560	24.50	23.86	0.107	0.064	1.16	0.124	/
Right Cheek	Standard	1:1	1	99	21350/2560	24.50	23.86	0.310	0.100	1.16	0.359	/
Right Tilt	Standard	1:1	1	99	21350/2560	24.50	23.86	0.148	0.029	1.16	0.171	/
Left Cheek	Standard	1:1	50%	50	21100/2535	23.50	23.35	0.328	-0.100	1.04	0.340	/
Left Tilt	Standard	1:1	50%	50	21100/2535	23.50	23.35	0.082	0.032	1.04	0.085	/
Right Cheek	Standard	1:1	50%	50	21100/2535	23.50	23.35	0.215	-0.100	1.04	0.223	/
Right Tilt	Standard	1:1	50%	50	21100/2535	23.50	23.35	0.101	0.137	1.04	0.105	/
Left Cheek	SIM2	1:1	1	99	21350/2560	24.50	23.86	0.495	0.033	1.16	0.574	/
Left Cheek	Battery2	1:1	1	99	21350/2560	24.50	23.86	0.490	0.017	1.16	0.568	/
Left Cheek	Battery3	1:1	1	99	21350/2560	24.50	23.86	0.503	0.021	1.16	0.583	/
Left Cheek	Standard	1:1	1	0	21152/2540 (SCC)	24.50	23.21	0.424	-0.024	1.35	0.571	/
					21350/2560 (PCC)							
<b>Head SAR (Receiver on) Test at the best acoustic position</b>												
Left Cheek	Standard	1:1	1	99	21350/2560	24.50	23.86	0.598	0.175	1.16	0.693	73
Left Cheek	SIM2	1:1	1	99	21350/2560	24.50	23.86	0.572	0.130	1.16	0.663	/
Left Cheek	Battery2	1:1	1	99	21350/2560	24.50	23.86	0.586	0.020	1.16	0.679	/
Left Cheek	Battery3	1:1	1	99	21350/2560	24.50	23.86	0.592	0.150	1.16	0.686	/
Left Cheek	Standard	1:1	1	0	21152/2540 (SCC)	24.50	23.21	0.465	0.010	1.35	0.626	/
					21350/2560 (PCC)							
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off+SAR sensor on Level D3/7)</b>												
Back Side	Standard	1:1	1	99	20850/2510	24.50	23.35	0.692	-0.063	1.30	0.902	/
Back Side	Standard	1:1	1	99	21100/2535	24.50	23.57	0.734	-0.065	1.24	0.909	/
Back Side	Standard	1:1	1	99	21350/2560	24.50	23.86	0.766	0.031	1.16	0.888	74
Front Side	Standard	1:1	1	99	21350/2560	24.50	23.86	0.565	0.050	1.16	0.655	/
Back Side	Standard	1:1	50%	50	21100/2535	23.50	23.35	0.610	0.155	1.04	0.631	/
Front Side	Standard	1:1	50%	50	21100/2535	23.50	23.35	0.419	-0.067	1.04	0.434	/
Back Side	Standard	1:1	100%	0	21350/2560	23.50	22.98	0.599	-0.010	1.13	0.675	/
Back Side	SIM2	1:1	1	99	21100/2535	24.50	23.57	0.726	0.100	1.24	0.899	/
Back Side	Battery2	1:1	1	99	21100/2535	24.50	23.57	0.758	0.105	1.24	0.939	/
Back Side	Battery3	1:1	1	99	21100/2535	24.50	23.57	0.712	0.073	1.24	0.882	/



Back Side	Mobile phone case (matte)	1:1	1	99	21100/2535	24.50	23.57	0.664	0.087	1.24	0.823	/
Back Side	Mobile phone case (transparent)	1:1	1	99	21100/2535	24.50	23.57	0.654	0.082	1.24	0.810	/
Back Side	Standard	1:1	1	0	21152/2540 (SCC)	24.50	23.21	0.663	0.015	1.35	0.892	/
					21350/2560 (PCC)							

**Hotspot SAR(QPSK, Distance 10mm) (Receiver off+SAR sensor on Level D3/7+Hotspot)**

Back Side	Standard	1:1	1	99	20850/2510	20.00	18.83	0.430	-0.024	1.31	0.563	/
Front Side	Standard	1:1	1	99	20850/2510	20.00	18.83	0.313	-0.070	1.31	0.410	/
Left Edge	Standard	1:1	1	99	20850/2510	20.00	18.83	0.077	0.040	1.31	0.101	/
Right Edge	Standard	1:1	1	99	20850/2510	20.00	18.83	0.052	-0.075	1.31	0.068	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	1	99	21100/2535	20.00	18.73	0.677	0.048	1.34	0.907	/
Bottom Edge	Standard	1:1	1	99	21350/2560	20.00	18.75	0.727	0.052	1.33	0.969	75
Bottom Edge	Standard	1:1	1	99	20850/2510	20.00	18.83	0.651	-0.030	1.31	0.852	/
Back Side	Standard	1:1	50%	50	21350/2560	20.00	18.89	0.337	-0.040	1.29	0.435	/
Front Side	Standard	1:1	50%	50	21350/2560	20.00	18.89	0.256	-0.020	1.29	0.331	/
Left Edge	Standard	1:1	50%	50	21350/2560	20.00	18.89	0.051	-0.032	1.29	0.066	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	Standard	1:1	50%	50	21350/2560	20.00	18.89	0.033	-0.059	1.29	0.043	/
Bottom Edge	Standard	1:1	50%	50	20850/2510	20.00	18.68	0.632	-0.035	1.36	0.856	/
Bottom Edge	Standard	1:1	50%	50	21100/2535	20.00	18.56	0.664	-0.035	1.39	0.925	/
Bottom Edge	Standard	1:1	50%	50	21350/2560	20.00	18.89	0.694	-0.037	1.29	0.896	/
Bottom Edge	Standard	1:1	100%	0	21350/2560	20.00	18.79	0.611	-0.020	1.32	0.807	/
Bottom Edge	SIM2	1:1	1	99	21350/2560	20.00	18.75	0.674	0.057	1.33	0.899	/
Bottom Edge	Battery2	1:1	1	99	21350/2560	20.00	18.75	0.623	0.011	1.33	0.831	/
Bottom Edge	Battery3	1:1	1	99	21350/2560	20.00	18.75	0.651	0.046	1.33	0.868	/
Bottom Edge	Standard	1:1	1	99	21048/2529.8 (SCC)	20.00	18.40	0.641	34.000	1.45	0.927	/
					20850/2510 (PCC)							

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as





hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB	offset	Channel/ Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
<b>Product Specific 10-g SAR (Distance 0mm)</b>											
Back Side	Standard	1:1	1	99	20850/2510	24.50	20.00	0.430	-0.024	1.212	Yes
Front Side	Standard	1:1	1	99	20850/2510	24.50	20.00	0.313	-0.070	0.882	No
Left Edge	Standard	1:1	1	99	20850/2510	24.50	20.00	0.077	0.040	0.216	No
Right Edge	Standard	1:1	1	99	20850/2510	24.50	20.00	0.052	-0.075	0.147	No
Bottom Edge	Standard	1:1	1	99	20850/2510	24.50	20.00	0.651	-0.030	1.835	Yes
Back Side	Standard	1:1	50%	50	21350/2560	24.50	20.00	0.337	-0.040	0.950	No
Front Side	Standard	1:1	50%	50	21350/2560	24.50	20.00	0.256	-0.020	0.722	No
Left Edge	Standard	1:1	50%	50	21350/2560	24.50	20.00	0.051	-0.032	0.143	No
Right Edge	Standard	1:1	50%	50	21350/2560	24.50	20.00	0.033	-0.059	0.094	No
Bottom Edge	Standard	1:1	50%	25	20850/2510	24.50	20.00	0.694	-0.037	1.956	Yes

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.

Test Position	Cover Type	Duty Cycle	RB	off set	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)				Plot No.
								Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR10g	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off+SAR sensor on Level D1/2)</b>												
Back Side	Standard	1:1	1	99	21350/2560	21.00	20.40	1.540	0.024	1.15	1.768	/
Bottom Edge	Standard	1:1	1	99	21350/2560	21.00	20.40	1.900	0.068	1.15	2.181	/
Bottom Edge	Standard	1:1	50%	50	21350/2560	21.00	20.40	1.910	0.080	1.15	2.193	76
Bottom Edge	SIM2	1:1	50%	50	21350/2560	21.00	20.40	1.886	0.091	1.15	2.165	/
Bottom Edge	Battery2	1:1	50%	50	21350/2560	21.00	20.40	1.730	-0.470	1.15	1.986	/
Bottom Edge	Battery3	1:1	50%	50	21350/2560	21.00	20.40	1.660	0.141	1.15	1.906	/
Bottom Edge	Standard	1:1	1	99	21048/2529.8 (SCC)	21.00	20.31	1.310	-0.010	1.17	1.536	/
					20850/2510 (PCC)							
Bottom Edge	Standard	1:1	50%	50	20850/2510	21.00	20.35	1.770	-0.128	1.16	2.056	/
Bottom Edge	Standard	1:1	50%	50	21100/2535	21.00	20.34	1.790	-0.099	1.16	2.084	/
Bottom Edge	Standard	1:1	100%	0	21350/2560	21.00	20.47	1.770	-0.087	1.13	2.000	/
<b>Body SAR (Distance 3mm) (Receiver off+SAR sensor on Level D3/7)</b>												
Back Side	Standard	1:1	1	99	21350/2560	24.50	23.86	2.110	-0.062	1.16	2.445	77
Back Side	Repeated	1:1	1	99	21350/2560	24.50	23.86	2.100	-0.058	1.16	2.433	/



Back Side	SIM2	1:1	1	99	21350/2560	24.50	23.86	1.986	-0.071	1.16	2.301	/
Back Side	Battery2	1:1	1	99	21350/2560	24.50	23.86	0.162	0.030	1.16	0.188	/
Back Side	Battery3	1:1	1	99	21350/2560	24.50	23.86	2.040	0.100	1.16	2.364	/
Back Side	Standard	1:1	1	0	21152/2540 (SCC)	24.50	23.21	1.670	0.085	1.35	2.248	/
					21350/2560 (PCC)							
Back Side	Standard	1:1	1	99	20850/2510	24.50	23.35	1.690	0.040	1.30	2.202	/
Back Side	Standard	1:1	1	99	21100/2535	24.50	23.57	1.870	-0.040	1.24	2.317	/
Back Side	Standard	1:1	100%	0	21350/2560	23.50	22.98	1.620	0.072	1.13	1.826	/

**Body SAR (Distance 8mm) (Receiver off+SAR sensor on Level D3/7)**

Bottom Edge	Standard	1:1	1	99	21350/2560	24.50	23.86	1.480	0.020	1.16	1.715	/
Bottom Edge	Standard	1:1	1	99	21350/2560	24.50	23.86	1.400	0.010	1.16	1.622	/
Bottom Edge	Standard	1:1	50%	50	21100/2535	23.50	23.35	0.951	0.010	1.04	0.984	/
Bottom Edge	Standard	1:1	50%	50	21100/2535	23.50	23.35	0.932	-0.095	1.04	0.965	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

**Measurement Variability**

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>10g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>10g</sub> (W/kg)	Ratio
Back Side	21350/2560	2.110	2.100	1.00

Note: 1) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).  
 2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.



Table 18: LTE Band 12 (10MHz, Main-antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (QPSK) (Receiver on, Receiver on+WiFi connect/P2P, Receiver on+Hotspot)</b>												
Left Cheek	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.151	0.034	1.31	0.198	/
Left Tilt	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.143	0.020	1.31	0.187	/
Right Cheek	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.208	0.039	1.31	0.272	78
Right Tilt	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.165	0.160	1.31	0.216	/
Left Cheek	Standard	1:1	50%	25	23130/711	23.00	22.84	0.146	0.035	1.04	0.151	/
Left Tilt	Standard	1:1	50%	25	23130/711	23.00	22.84	0.145	0.190	1.04	0.150	/
Right Cheek	Standard	1:1	50%	25	23130/711	23.00	22.84	0.182	0.010	1.04	0.189	/
Right Tilt	Standard	1:1	50%	25	23130/711	23.00	22.84	0.137	0.100	1.04	0.142	/
Right Cheek	SIM2	1:1	1	49	23095/707.5	25.00	23.83	0.196	-0.130	1.31	0.257	/
Right Cheek	Battery2	1:1	1	49	23095/707.5	25.00	23.83	0.193	0.072	1.31	0.253	/
Right Cheek	Battery3	1:1	1	49	23095/707.5	25.00	23.83	0.201	0.062	1.31	0.263	/
<b>Head SAR (Receiver on) Test at the best acoustic position</b>												
Right Cheek	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.236	0.090	1.31	0.309	79
Right Cheek	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.152	0.027	1.31	0.199	/
Right Cheek	SIM2	1:1	1	49	23095/707.5	25.00	23.83	0.219	0.063	1.31	0.287	/
Right Cheek	Battery2	1:1	1	49	23095/707.5	25.00	23.83	0.225	0.050	1.31	0.295	/
Right Cheek	Battery3	1:1	1	49	23095/707.5	25.00	23.83	0.230	0.110	1.31	0.301	/
<b>Hotspot SAR(QPSK, Distance 10mm)</b>												
<b>(Receiver off+sensor on Level D1/2+Hotspot, Receiver off+sensor on Level D3/7+Hotspot)</b>												
Back Side	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.239	0.100	1.31	0.313	80
Front Side	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.203	0.010	1.31	0.266	/
Left Edge	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.185	0.050	1.31	0.242	/
Right Edge	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.121	0.030	1.31	0.158	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	1	49	23095/707.5	25.00	23.83	0.111	0.080	1.31	0.145	/
Back Side	Standard	1:1	50%	25	23130/711	23.00	22.84	0.196	-0.060	1.04	0.203	/
Front Side	Standard	1:1	50%	25	23130/711	23.00	22.84	0.166	-0.020	1.04	0.172	/
Left Edge	Standard	1:1	50%	25	23130/711	23.00	22.84	0.149	0.090	1.04	0.155	/
Right Edge	Standard	1:1	50%	25	23130/711	23.00	22.84	0.124	-0.010	1.04	0.129	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	50%	25	23130/711	23.00	22.84	0.089	0.054	1.04	0.092	/
Back Side	SIM2	1:1	1	49	23095/707.5	25.00	23.83	0.237	0.023	1.31	0.310	/
Back Side	Battery2	1:1	1	49	23095/707.5	25.00	23.83	0.228	-0.040	1.31	0.298	/
Back Side	Battery3	1:1	1	49	23095/707.5	25.00	23.83	0.235	0.020	1.31	0.308	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.



2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



Table 19: LTE Band 26 (15MHz, Main-antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (QPSK) (Receiver on, Receiver on+WiFi connect/P2P, Receiver on+Hotspot)</b>												
Left Cheek	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.205	0.110	1.37	0.280	/
Left Tilt	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.136	0.050	1.37	0.186	/
Right Cheek	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.223	0.024	1.37	0.305	81
Right Tilt	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.172	0.120	1.37	0.235	/
Left Cheek	Standard	1:1	50%	0	26765/821.5	23.00	22.64	0.178	-0.026	1.09	0.193	/
Left Tilt	Standard	1:1	50%	0	26765/821.5	23.00	22.64	0.107	0.110	1.09	0.116	/
Right Cheek	Standard	1:1	50%	0	26765/821.5	23.00	22.64	0.178	-0.040	1.09	0.193	/
Right Tilt	Standard	1:1	50%	0	26765/821.5	23.00	22.64	0.135	-0.010	1.09	0.147	/
Right Cheek	SIM2	1:1	1	38	26765/821.5	25.00	23.64	0.201	0.030	1.37	0.275	/
Right Cheek	Battery2	1:1	1	38	26765/821.5	25.00	23.64	0.198	-0.014	1.37	0.271	/
Right Cheek	Battery3	1:1	1	38	26765/821.5	25.00	23.64	0.200	0.100	1.37	0.274	/
<b>Head SAR (Receiver on) Test at the best acoustic position</b>												
Right Cheek	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.216	0.025	1.37	0.295	82
Right Cheek	SIM2	1:1	1	38	26765/821.5	25.00	23.64	0.208	0.020	1.37	0.284	/
Right Cheek	Battery2	1:1	1	38	26765/821.5	25.00	23.64	0.213	0.120	1.37	0.291	/
Right Cheek	Battery3	1:1	1	38	26765/821.5	25.00	23.64	0.211	0.030	1.37	0.289	/
<b>Hotspot SAR(QPSK, Distance 10mm)</b>												
<b>(Receiver off+sensor on Level D1/2+Hotspot, Receiver off+sensor on Level D3/7+Hotspot)</b>												
Back Side	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.388	-0.100	1.37	0.531	83
Front Side	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.263	0.030	1.37	0.360	/
Left Edge	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.183	-0.020	1.37	0.250	/
Right Edge	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.101	0.020	1.37	0.138	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	1	38	26765/821.5	25.00	23.64	0.224	0.010	1.37	0.306	/
Back Side	Standard	1:1	50%	0	26765/821.5	23.00	22.64	0.301	-0.020	1.09	0.327	/
Front Side	Standard	1:1	50%	0	26765/821.5	23.00	22.64	0.204	0.060	1.09	0.222	/
Left Edge	Standard	1:1	50%	0	26765/821.5	23.00	22.64	0.145	0.020	1.09	0.158	/
Right Edge	Standard	1:1	50%	0	26765/821.5	23.00	22.64	0.078	-0.050	1.09	0.085	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	50%	0	26765/821.5	23.00	22.64	0.174	-0.030	1.09	0.189	/
Back Side	SIM2	1:1	1	38	26765/821.5	25.00	23.64	0.374	-0.030	1.37	0.512	/
Back Side	Battery2	1:1	1	38	26765/821.5	25.00	23.64	0.381	0.131	1.37	0.521	/
Back Side	Battery3	1:1	1	38	26765/821.5	25.00	23.64	0.368	-0.045	1.37	0.503	/

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are



≥ 50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



**Table 20: LTE Band 41 (20MHz, Main-antenna)**

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (QPSK) (Receiver on)</b>												
Left Cheek	Standard	1:1	1	0	40620/2593	25.00	24.56	0.198	-0.041	1.11	0.219	84
Left Tilt	Standard	1:1	1	0	40620/2593	25.00	24.56	0.051	0.065	1.11	0.057	/
Right Cheek	Standard	1:1	1	0	40620/2593	25.00	24.56	0.171	-0.055	1.11	0.189	/
Right Tilt	Standard	1:1	1	0	40620/2593	25.00	24.56	0.098	0.020	1.11	0.108	/
Left Cheek	Standard	1:1	50%	50	41055/2636	24.00	23.34	0.136	0.042	1.16	0.158	/
Left Tilt	Standard	1:1	50%	50	41055/2636	24.00	23.34	0.039	0.055	1.16	0.045	/
Right Cheek	Standard	1:1	50%	50	41055/2636	24.00	23.34	0.132	0.037	1.16	0.154	/
Right Tilt	Standard	1:1	50%	50	41055/2636	24.00	23.34	0.081	0.165	1.16	0.094	/
Left Cheek	SIM2	1:1	1	0	40620/2593	25.00	24.56	0.179	0.032	1.11	0.198	/
Left Cheek	Battery2	1:1	1	0	40620/2593	25.00	24.56	0.183	0.021	1.11	0.203	/
Left Cheek	Battery3	1:1	1	0	40620/2593	25.00	24.56	0.190	-0.037	1.11	0.210	/
Left Cheek	Standard	1:1	1	0	40422/2573.2 (SCC)	25.00	24.43	0.127	0.032	1.14	0.145	/
					40620/2593 (PCC)							
<b>Head SAR (Receiver on) Test at the best acoustic position</b>												
Left Cheek	Standard	1:1	1	0	40620/2593	25.00	24.56	0.247	0.051	1.11	0.273	85
Left Cheek	SIM2	1:1	1	0	40620/2593	25.00	24.56	0.231	0.037	1.11	0.256	/
Left Cheek	Battery2	1:1	1	0	40620/2593	25.00	24.56	0.244	0.040	1.11	0.270	/
Left Cheek	Battery3	1:1	1	0	40620/2593	25.00	24.56	0.239	0.020	1.11	0.264	/
Left Cheek	Standard	1:1	1	0	40422/2573.2 (SCC)	25.00	24.43	0.184	-0.065	1.14	0.210	/
					40620/2593 (PCC)							
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off+SAR sensor on Level D3/7)</b>												
Back Side	Standard	1:1	1	0	40620/2593	25.00	24.56	0.482	0.041	1.11	0.533	86
Front Side	Standard	1:1	1	0	40620/2593	25.00	24.56	0.369	-0.036	1.11	0.408	/
Back Side	Standard	1:1	50%	50	41055/2636	24.00	23.34	0.390	0.060	1.16	0.454	/
Front Side	Standard	1:1	50%	50	41055/2636	24.00	23.34	0.303	0.063	1.16	0.353	/
Back Side	SIM2	1:1	1	0	40620/2593	25.00	24.56	0.459	0.037	1.11	0.508	/
Back Side	Battery2	1:1	1	0	40620/2593	25.00	24.56	0.475	0.030	1.11	0.526	/
Back Side	Battery3	1:1	1	0	40620/2593	25.00	24.56	0.477	0.069	1.11	0.528	/
Back Side	Standard	1:1	1	0	40422/2573.2 (SCC)	25.00	24.43	0.442	0.057	1.14	0.504	/
					40620/2593 (PCC)							



Hotspot SAR(QPSK, Distance 10mm) (Receiver off+SAR sensor on Level D3/7+Hotspot)												
Back Side	Standard	1:1	1	99	39750/2506	21.50	21.30	0.396	-0.023	1.05	0.415	/
Front Side	Standard	1:1	1	99	39750/2506	21.50	21.30	0.283	0.046	1.05	0.296	/
Left Edge	Standard	1:1	1	99	39750/2506	21.50	21.30	0.086	-0.032	1.05	0.090	/
Right Edge	Standard	1:1	1	99	39750/2506	21.50	21.30	0.045	0.010	1.05	0.047	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	1	99	39750/2506	21.50	21.30	0.556	-0.028	1.05	0.582	/
Back Side	Standard	1:1	50%	50	39750/2506	21.50	21.21	0.371	0.026	1.07	0.397	/
Front Side	Standard	1:1	50%	50	39750/2506	21.50	21.21	0.294	0.012	1.07	0.314	/
Left Edge	Standard	1:1	50%	50	39750/2506	21.50	21.21	0.093	-0.075	1.07	0.099	/
Right Edge	Standard	1:1	50%	50	39750/2506	21.50	21.21	0.037	0.058	1.07	0.040	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Standard	1:1	50%	50	39750/2506	21.50	21.21	0.558	-0.032	1.07	0.597	87
Bottom Edge	SIM2	1:1	50%	50	39750/2506	21.50	21.30	0.430	0.046	1.05	0.450	/
Bottom Edge	Battery2	1:1	50%	50	39750/2506	21.50	21.30	0.549	0.041	1.05	0.575	/
Bottom Edge	Battery3	1:1	50%	50	39750/2506	21.50	21.30	0.556	-0.020	1.05	0.582	/
Bottom Edge	Standard	1:1	1	99	39948/2525.	21.50	21.12	0.443	0.039	1.09	0.484	/
					8 (SCC)							
					39750/2506 (PCC)							

Note: 1. The value with blue color is the maximum SAR Value of each test band.  
 2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 50\%$  limit(1g).  
 3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB	offset	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Product Specific 10-g SAR (Distance 0mm)											
Back Side	Standard	1:1	1	99	39750/2506	25.00	21.50	0.415	2.24	0.928	No
Front Side	Standard	1:1	1	99	39750/2506	25.00	21.50	0.296	2.24	0.663	No
Left Edge	Standard	1:1	1	99	39750/2506	25.00	21.50	0.090	2.24	0.202	No
Right Edge	Standard	1:1	1	99	39750/2506	25.00	21.50	0.047	2.24	0.105	No
Bottom Edge	Standard	1:1	1	99	39750/2506	25.00	21.50	0.582	2.24	1.303	Yes
Back Side	Standard	1:1	50%	50	39750/2506	25.00	21.50	0.397	2.24	0.888	No
Front Side	Standard	1:1	50%	50	39750/2506	25.00	21.50	0.314	2.24	0.704	No
Left Edge	Standard	1:1	50%	50	39750/2506	25.00	21.50	0.099	2.24	0.223	No
Right Edge	Standard	1:1	50%	50	39750/2506	25.00	21.50	0.040	2.24	0.089	No
Bottom Edge	Standard	1:1	50%	50	39750/2506	25.00	21.50	0.597	2.24	1.335	Yes





Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.

Test Position	Cover Type	Duty Cycle	RB	off set	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)				Plot No.
								Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR10g	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off+SAR sensor on Level D1/2)</b>												
Bottom Edge	Standard	1:1	1	99	39750/2506	24.00	23.92	2.470	-0.070	1.02	2.516	88
Bottom Edge	Standard	1:1	50%	0	40620/2593	24.00	23.27	2.310	-0.050	1.18	2.733	/
Bottom Edge	Standard	1:1	1	99	39948/2525.8 (SCC)	24.00	23.69	2.450	-0.061	1.07	2.631	/
					39750/2506 (PCC)							
Bottom Edge	Repeated	1:1	50%	0	40620/2593	24.00	23.27	2.250	-0.100	1.18	2.662	/
Bottom Edge	Standard	1:1	50%	50	39750/2506	24.00	23.10	2.060	-0.079	1.18	2.437	/
Bottom Edge	Standard	1:1	50%	50	40185/2549.5	24.00	23.19	2.050	-0.075	1.18	2.425	/
Bottom Edge	Standard	1:1	100%	0	40185/2549.5	24.00	23.13	1.950	-0.103	1.18	2.307	/
<b>Body SAR (Distance 8mm) (Receiver off+SAR sensor on Level D3/7)</b>												
Bottom Edge	Standard	1:1	1	0	40620/2593	25.00	24.56	0.985	-0.080	1.11	1.090	89
Bottom Edge	Standard	1:1	50%	50	41055/2636	24.00	23.34	0.841	-0.100	1.16	0.979	/
Bottom Edge	Standard	1:1	1	0	40422/2573.2 (SCC)	25.00	24.43	0.763	0.022	1.14	0.870	/
					40620/2593 (PCC)							

Note: 1.The value with blue color is the maximum SAR Value of each test band.



**Table 21: GSM 850 (Second-antenna)**

Test Position	Cover Type	Time slot	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (Receiver on)</b>											
Left Cheek	Standard	GSM	1:8.3	190/836.6	28.20	27.68	0.203	0.130	1.13	0.229	/
Left Tilt	Standard	GSM	1:8.3	190/836.6	28.20	27.68	0.255	-0.010	1.13	0.287	/
Right Cheek	Standard	GSM	1:8.3	190/836.6	28.20	27.68	0.266	0.010	1.13	0.300	/
Right Tilt	Standard	GSM	1:8.3	190/836.6	28.20	27.68	0.475	0.050	1.13	0.535	90
Right Tilt	SIM2	GSM	1:8.3	190/836.6	28.20	27.68	0.453	0.039	1.13	0.511	/
Right Tilt	Battery2	GSM	1:8.3	190/836.6	28.20	27.68	0.446	0.051	1.13	0.503	/
Right Tilt	Battery3	GSM	1:8.3	190/836.6	28.20	27.68	0.458	0.036	1.13	0.516	/
<b>Head SAR Test at the best acoustic position</b>											
Right Tilt	Standard	GSM	1:8.3	190/836.6	28.20	27.68	0.481	-0.100	1.13	0.542	91
Right Tilt	SIM2	GSM	1:8.3	190/836.6	28.20	27.68	0.480	0.068	1.13	0.541	/
Right Tilt	Battery2	GSM	1:8.3	190/836.6	28.20	27.68	0.461	0.058	1.13	0.520	/
Right Tilt	Battery3	GSM	1:8.3	190/836.6	28.20	27.68	0.472	0.042	1.13	0.532	/
<b>Body-worn SAR (Distance 15mm) (Receiver off)</b>											
Back Side	Standard	GSM	1:8.3	190/836.6	31.20	30.51	0.243	-0.020	1.17	0.285	/
Front Side	Standard	GSM	1:8.3	190/836.6	31.20	30.51	0.303	-0.060	1.17	0.355	92
Front Side	SIM2	GSM	1:8.3	190/836.6	31.20	30.51	0.285	-0.030	1.17	0.334	/
Front Side	Battery2	GSM	1:8.3	190/836.6	31.20	30.51	0.290	-0.020	1.17	0.340	/
Front Side	Battery3	GSM	1:8.3	190/836.6	31.20	30.51	0.289	-0.025	1.17	0.339	/
<b>Hotspot SAR(Distance 10mm) (Receiver off+WiFi connect/P2P/Hotspot)</b>											
Back Side	Standard	2Txslots	1:8.3	190/836.6	25.70	25.07	0.224	-0.050	1.16	0.259	/
Front Side	Standard	2Txslots	1:8.3	190/836.6	25.70	25.07	0.269	0.022	1.16	0.311	93
Left Edge	Standard	2Txslots	1:8.3	190/836.6	25.70	25.07	0.085	0.040	1.16	0.099	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	Standard	2Txslots	1:8.3	190/836.6	25.70	25.07	0.169	0.030	1.16	0.195	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	SIM2	2Txslots	1:8.3	190/836.6	25.70	25.07	0.251	0.041	1.16	0.290	/
Front Side	Battery2	2Txslots	1:8.3	190/836.6	25.70	25.07	0.259	0.032	1.16	0.299	/
Front Side	Battery3	2Txslots	1:8.3	190/836.6	25.70	25.07	0.262	0.028	1.16	0.303	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.  
 2. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.  
 3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



MAX Adjusted SAR						
Test Position	Channel/Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	9400/1880	27.68	24.70	0.229	0.50	0.115
Left Tilt	9400/1880	27.68	24.70	0.287	0.50	0.145
Right Cheek	9400/1880	27.68	24.70	0.300	0.50	0.151
Right Tilt	9400/1880	27.68	24.70	0.542	0.50	0.273

MAX Adjusted SAR										
Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	Standard	2Txslots	1:8.3	190/836.6	29.20	25.70	0.259	2.24	0.580	No
Front Side	Standard	2Txslots	1:8.3	190/836.6	29.20	25.70	0.311	2.24	0.696	No
Left Edge	Standard	2Txslots	1:8.3	190/836.6	29.20	25.70	0.099	2.24	0.221	No
Top Edge	Standard	2Txslots	1:8.3	190/836.6	29.20	25.70	0.195	2.24	0.437	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 22: GSM 1900 (Second-antenna)

Test Position	Cover Type	Time slot	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (Receiver on)</b>											
Left Cheek	Standard	GSM	1:8.3	661/1880	28.20	27.26	0.124	0.062	1.24	0.154	/
Left Tilt	Standard	GSM	1:8.3	661/1880	28.20	27.26	0.206	0.020	1.24	0.256	/
Right Cheek	Standard	GSM	1:8.3	661/1880	28.20	27.26	0.277	0.030	1.24	0.344	/
Right Tilt	Standard	GSM	1:8.3	661/1880	28.20	27.26	0.583	0.023	1.24	0.724	94
Right Cheek	SIM2	GSM	1:8.3	661/1880	28.20	27.26	0.552	0.034	1.24	0.685	/
Right Cheek	Battery2	GSM	1:8.3	661/1880	28.20	27.26	0.569	0.021	1.24	0.707	/
Right Cheek	Battery3	GSM	1:8.3	661/1880	28.20	27.26	0.573	0.025	1.24	0.711	/
<b>Head SAR Test at the best acoustic position</b>											
Right Tilt	Standard	GSM	1:8.3	661/1880	28.20	27.26	0.600	0.010	1.24	0.745	95
Right Tilt	SIM2	GSM	1:8.3	661/1880	28.20	27.26	0.589	0.024	1.24	0.731	/
Right Tilt	Battery2	GSM	1:8.3	661/1880	28.20	27.26	0.596	0.067	1.24	0.740	/
Right Tilt	Battery3	GSM	1:8.3	661/1880	28.20	27.26	0.585	0.054	1.24	0.726	/
Right Tilt	Mobile phone case (matte)	GSM	1:8.3	661/1880	28.20	27.26	0.594	-0.038	1.24	0.738	/
Right Tilt	Mobile phone case (transparent)	GSM	1:8.3	661/1880	28.20	27.26	0.548	0.010	1.24	0.680	/
<b>Body-worn SAR (Distance 15mm) (Receiver off)</b>											
Back Side	Standard	GSM	1:8.3	661/1880	31.20	30.55	0.124	0.034	1.16	0.144	96
Front Side	Standard	GSM	1:8.3	661/1880	31.20	30.55	0.108	0.160	1.16	0.125	/
Back Side	SIM2	GSM	1:8.3	661/1880	31.20	30.55	0.118	0.180	1.16	0.137	/
Back Side	Battery2	GSM	1:8.3	661/1880	31.20	30.55	0.121	0.035	1.16	0.141	/
Back Side	Battery3	GSM	1:8.3	661/1880	31.20	30.55	0.121	0.035	1.16	0.141	/
<b>Hotspot SAR(Distance 10mm) (Receiver off+WiFi connect/P2P/Hotspot)</b>											
Back Side	Standard	2Txslots	1:8.3	661/1880	27.20	26.58	0.170	0.123	1.15	0.196	/
Front Side	Standard	2Txslots	1:8.3	661/1880	27.20	26.58	0.098	-0.090	1.15	0.113	/
Left Edge	Standard	2Txslots	1:8.3	661/1880	27.20	26.58	0.125	-0.194	1.15	0.144	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	Standard	2Txslots	1:8.3	661/1880	27.20	26.58	0.231	0.010	1.15	0.266	97
Top Edge	SIM2	2Txslots	1:8.3	661/1880	27.20	26.58	0.201	0.020	1.15	0.232	/
Top Edge	Battery2	2Txslots	1:8.3	661/1880	27.20	26.58	0.196	0.035	1.15	0.226	/
Top Edge	Battery3	2Txslots	1:8.3	661/1880	27.20	26.58	0.211	0.041	1.15	0.243	/



Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Note: 1. The value with blue color is the maximum SAR Value of each test band.  
 2. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.  
 3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR						
Test Position	Channel/Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	661/1880	27.26	26.20	0.154	0.78	0.121
Left Tilt	661/1880	27.26	26.20	0.256	0.78	0.201
Right Cheek	661/1880	27.26	26.20	0.344	0.78	0.269
Right Tilt	661/1880	27.26	26.20	0.745	0.78	0.584

MAX Adjusted SAR										
Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	Standard	2Txslots	1:8.3	661/1880	29.20	27.20	0.196	1.58	0.311	No
Front Side	Standard	2Txslots	1:8.3	661/1880	29.20	27.20	0.113	1.58	0.179	No
Left Edge	Standard	2Txslots	1:8.3	661/1880	29.20	27.20	0.144	1.58	0.229	No
Top Edge	Standard	2Txslots	1:8.3	661/1880	29.20	27.20	0.266	1.58	0.422	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 23: UMTS Band II (Second-antenna)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (Receiver on)</b>											
Left Cheek	Standard	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.109	-0.070	1.35	0.147	/
Left Tilt	Standard	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.200	0.090	1.35	0.270	/
Right Cheek	Standard	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.245	0.022	1.35	0.330	/
Right Tilt	Standard	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.412	0.080	1.35	0.556	98
Right Tilt	SIM2	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.399	0.020	1.35	0.538	/
Right Tilt	Battery2	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.405	0.039	1.35	0.546	/
Right Tilt	Battery3	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.389	0.012	1.35	0.525	/
<b>Head SAR Test at the best acoustic position</b>											
Right Tilt	Standard	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.503	0.027	1.35	0.679	99
Right Tilt	SIM2	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.488	0.063	1.35	0.658	/
Right Tilt	Battery2	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.495	0.032	1.35	0.668	/
Right Tilt	Battery3	RMC 12.2K	1:1	9400/1880	17.20	15.90	0.491	0.027	1.35	0.662	/
<b>Body-worn SAR (Distance 15mm) (Receiver off)</b>											
Back Side	Standard	RMC 12.2K	1:1	9400/1880	22.70	21.44	0.352	0.100	1.34	0.470	100
Front Side	Standard	RMC 12.2K	1:1	9400/1880	22.70	21.44	0.307	0.070	1.34	0.410	/
Back Side	SIM2	RMC 12.2K	1:1	9400/1880	22.70	21.44	0.335	0.025	1.34	0.448	/
Back Side	Battery2	RMC 12.2K	1:1	9400/1880	22.70	21.44	0.317	0.024	1.34	0.424	/
Back Side	Battery3	RMC 12.2K	1:1	9400/1880	22.70	21.44	0.345	0.034	1.34	0.461	/
<b>Hotspot SAR(Distance 10mm) (Receiver off+WiFi connect/P2P/Hotspot)</b>											
Back Side	Standard	RMC 12.2K	1:1	9400/1880	19.70	18.47	0.307	0.060	1.33	0.408	/
Front Side	Standard	RMC 12.2K	1:1	9400/1880	19.70	18.47	0.250	0.020	1.33	0.332	/
Left Edge	Standard	RMC 12.2K	1:1	9400/1880	19.70	18.47	0.139	0.010	1.33	0.185	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	Standard	RMC 12.2K	1:1	9400/1880	19.70	18.47	0.473	-0.020	1.33	0.628	101
Top Edge	SIM2	RMC 12.2K	1:1	9400/1880	19.70	18.47	0.447	0.100	1.33	0.593	/
Top Edge	Battery2	RMC 12.2K	1:1	9400/1880	19.70	18.47	0.450	0.120	1.33	0.597	/
Top Edge	Battery3	RMC 12.2K	1:1	9400/1880	19.70	18.47	0.462	0.107	1.33	0.613	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



MAX Adjusted SAR						
Test Position	Channel/Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	9400/1880	15.90	14.20	0.147	0.68	0.099
Left Tilt	9400/1880	15.90	14.20	0.270	0.68	0.183
Right Cheek	9400/1880	15.90	14.20	0.330	0.68	0.223
Right Tilt	9400/1880	15.90	14.20	0.679	0.68	0.459

MAX Adjusted SAR										
Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	Standard	RMC 12.2K	1:1	9400/1880	22.70	19.70	0.408	2.00	0.813	No
Front Side	Standard	RMC 12.2K	1:1	9400/1880	22.70	19.70	0.332	2.00	0.662	No
Left Edge	Standard	RMC 12.2K	1:1	9400/1880	22.70	19.70	0.185	2.00	0.368	No
Top Edge	Standard	RMC 12.2K	1:1	9400/1880	22.70	19.70	0.628	2.00	1.253	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 24: UMTS Band IV (Second-antenna)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (Receiver on)</b>											
Left Cheek	Standard	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.141	-0.020	1.33	0.188	/
Left Tilt	Standard	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.187	0.120	1.33	0.249	/
Right Cheek	Standard	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.272	0.039	1.33	0.362	/
Right Tilt	Standard	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.498	0.020	1.33	0.663	102
Right Tilt	SIM2	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.459	-0.015	1.33	0.611	/
Right Tilt	Battery2	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.483	0.010	1.33	0.643	/
Right Tilt	Battery3	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.487	0.005	1.33	0.648	/
<b>Head SAR Test at the best acoustic position</b>											
Right Tilt	Standard	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.524	0.060	1.33	0.697	103
Right Tilt	SIM2	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.508	0.012	1.33	0.676	/
Right Tilt	Battery2	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.516	0.085	1.33	0.687	/
Right Tilt	Battery3	RMC 12.2K	1:1	1413/1732.6	19.20	17.96	0.511	0.034	1.33	0.680	/
<b>Body-worn SAR (Distance 15mm) (Receiver off)</b>											
Back Side	Standard	RMC 12.2K	1:1	1413/1732.6	24.20	23.13	0.368	0.060	1.28	0.471	104
Front Side	Standard	RMC 12.2K	1:1	1413/1732.6	24.20	23.13	0.328	0.000	1.28	0.420	/
Back Side	SIM2	RMC 12.2K	1:1	1413/1732.6	24.20	23.13	0.347	0.130	1.28	0.444	/
Back Side	Battery2	RMC 12.2K	1:1	1413/1732.6	24.20	23.13	0.355	0.020	1.28	0.454	/
Back Side	Battery3	RMC 12.2K	1:1	1413/1732.6	24.20	23.13	0.359	0.027	1.28	0.459	/
<b>Hotspot SAR(Distance 10mm) (Receiver off+WiFi connect/P2P/Hotspot)</b>											
Back Side	Standard	RMC 12.2K	1:1	1413/1732.6	20.70	19.55	0.319	0.110	1.30	0.416	105
Front Side	Standard	RMC 12.2K	1:1	1413/1732.6	20.70	19.55	0.265	0.160	1.30	0.345	/
Left Edge	Standard	RMC 12.2K	1:1	1413/1732.6	20.70	19.55	0.117	0.080	1.30	0.152	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	Standard	RMC 12.2K	1:1	1413/1732.6	20.70	19.55	0.316	-0.030	1.30	0.412	/
Back Side	SIM2	RMC 12.2K	1:1	1413/1732.6	20.70	19.55	0.295	-0.024	1.30	0.384	/
Back Side	Battery2	RMC 12.2K	1:1	1413/1732.6	20.70	19.55	0.298	0.030	1.30	0.388	/
Back Side	Battery3	RMC 12.2K	1:1	1413/1732.6	20.70	19.55	0.301	0.028	1.30	0.392	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.





MAX Adjusted SAR						
Test Position	Channel/Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	1413/1732.6	17.96	15.70	0.188	0.59	0.112
Left Tilt	1413/1732.6	17.96	15.70	0.249	0.59	0.148
Right Cheek	1413/1732.6	17.96	15.70	0.362	0.59	0.215
Right Tilt	1413/1732.6	17.96	15.70	0.697	0.59	0.414

MAX Adjusted SAR										
Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	Standard	RMC 12.2K	1:1	1413/1732.6	24.20	20.70	0.416	2.24	0.931	No
Front Side	Standard	RMC 12.2K	1:1	1413/1732.6	24.20	20.70	0.345	2.24	0.773	No
Left Edge	Standard	RMC 12.2K	1:1	1413/1732.6	24.20	20.70	0.152	2.24	0.341	No
Top Edge	Standard	RMC 12.2K	1:1	1413/1732.6	24.20	20.70	0.412	2.24	0.922	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 25: UMTS Band V (Second-antenna)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR (Receiver on)</b>											
Left Cheek	Standard	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.248	0.060	1.29	0.319	/
Left Tilt	Standard	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.422	-0.040	1.29	0.544	/
Right Cheek	Standard	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.363	0.140	1.29	0.468	/
Right Tilt	Standard	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.546	0.040	1.29	0.703	106
Right Tilt	SIM2	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.531	-0.076	1.29	0.684	/
Right Tilt	Battery2	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.538	0.056	1.29	0.693	/
Right Tilt	Battery3	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.541	0.062	1.29	0.697	/
<b>Head SAR Test at the best acoustic position</b>											
Right Tilt	Standard	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.577	0.030	1.29	0.743	107
Right Tilt	SIM2	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.558	0.021	1.29	0.719	/
Right Tilt	Battery2	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.566	0.023	1.29	0.729	/
Right Tilt	Battery3	RMC 12.2K	1:1	4183/836.6	18.70	17.60	0.569	0.032	1.29	0.733	/
<b>Body-worn SAR (Distance 15mm) (Receiver off)</b>											
Back Side	Standard	RMC 12.2K	1:1	4183/836.6	25.20	24.10	0.326	-0.050	1.29	0.420	108
Front Side	Standard	RMC 12.2K	1:1	4183/836.6	25.20	24.10	0.430	0.100	1.29	0.554	/
Front Side	SIM2	RMC 12.2K	1:1	4183/836.6	25.20	24.10	0.427	0.133	1.29	0.550	/
Front Side	Battery2	RMC 12.2K	1:1	4183/836.6	25.20	24.10	0.429	-0.034	1.29	0.553	/
Front Side	Battery3	RMC 12.2K	1:1	4183/836.6	25.20	24.10	0.418	0.026	1.29	0.538	/
<b>Hotspot SAR(Distance 10mm) (Receiver off+WiFi connect/P2P/Hotspot)</b>											
Back Side	Standard	RMC 12.2K	1:1	4183/836.6	22.20	21.07	0.391	0.070	1.30	0.507	109
Front Side	Standard	RMC 12.2K	1:1	4183/836.6	22.20	21.07	0.286	-0.060	1.30	0.371	/
Left Edge	Standard	RMC 12.2K	1:1	4183/836.6	22.20	21.07	0.124	-0.070	1.30	0.161	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	Standard	RMC 12.2K	1:1	4183/836.6	22.20	21.07	0.225	0.060	1.30	0.292	N/A
Back Side	SIM2	RMC 12.2K	1:1	4183/836.6	22.20	21.07	0.379	0.048	1.30	0.492	/
Back Side	Battery2	RMC 12.2K	1:1	4183/836.6	22.20	21.07	0.388	0.032	1.30	0.503	/
Back Side	Battery3	RMC 12.2K	1:1	4183/836.6	22.20	21.07	0.382	0.024	1.30	0.496	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



MAX Adjusted SAR						
Test Position	Channel/Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	4183/836.6	17.60	15.70	0.319	0.65	0.206
Left Tilt	4183/836.6	17.60	15.70	0.544	0.65	0.351
Right Cheek	4183/836.6	17.60	15.70	0.468	0.65	0.302
Right Tilt	4183/836.6	17.60	15.70	0.743	0.65	0.480

MAX Adjusted SAR										
Test Position	Cover Type	Channel Type	Duty Cycle	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	Standard	RMC 12.2K	1:1	4183/836.6	25.20	22.20	0.507	2.00	1.012	No
Front Side	Standard	RMC 12.2K	1:1	4183/836.6	25.20	22.20	0.371	2.00	0.740	No
Left Edge	Standard	RMC 12.2K	1:1	4183/836.6	25.20	22.20	0.161	2.00	0.321	No
Top Edge	Standard	RMC 12.2K	1:1	4183/836.6	25.20	22.20	0.292	2.00	0.582	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



**Table 26: LTE Band 2 (Second Antenna)**

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	99	19100/1900	17.70	16.80	0.128	0.086	1.23	0.157	/
Left Tilt	standard	1:1	1	99	19100/1900	17.70	16.80	0.207	-0.020	1.23	0.255	/
Right Cheek	standard	1:1	1	99	19100/1900	17.70	16.80	0.172	0.046	1.23	0.212	/
Right Tilt	standard	1:1	1	99	19100/1900	17.70	16.80	0.421	0.060	1.23	0.518	/
Left Cheek	standard	1:1	50%	50	19100/1900	17.70	16.94	0.140	-0.130	1.19	0.167	/
Left Tilt	standard	1:1	50%	50	19100/1900	17.70	16.94	0.230	0.010	1.19	0.274	/
Right Cheek	standard	1:1	50%	50	19100/1900	17.70	16.94	0.179	0.020	1.19	0.213	/
Right Tilt	standard	1:1	50%	50	19100/1900	17.70	16.94	0.446	0.028	1.19	0.531	110
Right Tilt	SIM2	1:1	50%	50	19100/1900	17.70	16.94	0.437	0.022	1.19	0.521	/
Right Tilt	Battery2	1:1	50%	50	19100/1900	17.70	16.94	0.429	0.034	1.19	0.511	/
Right Tilt	Battery3	1:1	50%	50	19100/1900	17.70	16.94	0.433	0.051	1.19	0.516	/
<b>Head SAR(Receiver on)(Test at the best acoustic position)</b>												
Right Tilt	Standard	1:1	50%	50	19100/1900	17.70	16.94	0.615	-0.050	1.19	0.733	111
Right Tilt	SIM2	1:1	50%	50	19100/1900	17.70	16.94	0.596	-0.080	1.19	0.710	/
Right Tilt	Battery2	1:1	50%	50	19100/1900	17.70	16.94	0.607	0.061	1.19	0.723	/
Right Tilt	Battery3	1:1	50%	50	19100/1900	17.70	16.94	0.594	0.033	1.19	0.708	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off)</b>												
Back Side	standard	1:1	1	50	19100/1900	22.20	21.48	0.193	0.030	1.18	0.228	/
Front Side	standard	1:1	1	50	19100/1900	22.20	21.48	0.168	-0.050	1.18	0.198	/
Back Side	standard	1:1	50%	50	19100/1900	22.20	21.65	0.196	0.000	1.14	0.222	112
Front Side	standard	1:1	50%	50	19100/1900	22.20	21.65	0.177	0.100	1.14	0.201	/
Back Side	SIM2	1:1	1	50	19100/1900	22.20	21.48	0.135	-0.056	1.18	0.159	/
Back Side	Battery2	1:1	1	50	19100/1900	22.20	21.48	0.187	0.021	1.18	0.221	/
Back Side	Battery3	1:1	1	50	19100/1900	22.20	21.48	0.176	0.016	1.18	0.208	/
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)</b>												
Back Side	standard	1:1	1	50	19100/1900	19.70	18.93	0.212	0.020	1.19	0.253	/
Front Side	standard	1:1	1	50	19100/1900	19.70	18.93	0.178	0.190	1.19	0.213	/
Left Edge	standard	1:1	1	50	19100/1900	19.70	18.93	0.089	-0.020	1.19	0.106	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	1	50	19100/1900	19.70	18.93	0.315	-0.190	1.19	0.376	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	0	19100/1900	19.70	19.07	0.223	0.040	1.16	0.258	/
Front Side	standard	1:1	50%	0	19100/1900	19.70	19.07	0.182	0.040	1.16	0.210	/
Left Edge	standard	1:1	50%	0	19100/1900	19.70	19.07	0.090	0.046	1.16	0.104	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Top Edge	standard	1:1	50%	0	19100/1900	19.70	19.07	0.318	-0.110	1.16	0.368	113
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	SIM2	1:1	1	50	19100/1900	19.70	18.93	0.274	0.061	1.19	0.327	/
Top Edge	Battery2	1:1	1	50	19100/1900	19.70	18.93	0.302	0.052	1.19	0.361	/
Top Edge	Battery3	1:1	1	50	19100/1900	19.70	18.93	0.297	0.044	1.19	0.355	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR								
Test Position	RB allocation	RB offset	Channel/ Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot of Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	1	99	19100/1900	16.80	15.20	0.157	0.69	0.109
Left Tilt	1	99	19100/1900	16.80	15.20	0.255	0.69	0.176
Right Cheek	1	99	19100/1900	16.80	15.20	0.212	0.69	0.147
Right Tilt	1	99	19100/1900	16.80	15.20	0.518	0.69	0.358
Left Cheek	50%	50	19100/1900	16.94	15.20	0.167	0.67	0.112
Left Tilt	50%	50	19100/1900	16.94	15.20	0.274	0.67	0.184
Right Cheek	50%	50	19100/1900	16.94	15.20	0.213	0.67	0.143
Right Tilt	50%	50	19100/1900	16.94	15.20	0.733	0.67	0.491

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	standard	1:1	1	50	19100/1900	22.20	19.70	0.253	1.78	0.450	No
Front Side	standard	1:1	1	50	19100/1900	22.20	19.70	0.213	1.78	0.378	No
Left Edge	standard	1:1	1	50	19100/1900	22.20	19.70	0.106	1.78	0.189	No
Top Edge	standard	1:1	1	50	19100/1900	22.20	19.70	0.376	1.78	0.669	No
Back Side	standard	1:1	50%	0	19100/1900	22.20	19.70	0.258	1.78	0.458	No
Front Side	standard	1:1	50%	0	19100/1900	22.20	19.70	0.210	1.78	0.374	No
Left Edge	standard	1:1	50%	0	19100/1900	22.20	19.70	0.104	1.78	0.186	No
Top Edge	standard	1:1	50%	0	19100/1900	22.20	19.70	0.368	1.78	0.654	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



**Table 27: LTE Band 4 (Second Antenna)**

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	0	20300/1745	18.20	17.55	0.154	0.051	1.16	0.179	/
Left Tilt	standard	1:1	1	0	20300/1745	18.20	17.55	0.177	0.060	1.16	0.206	/
Right Cheek	standard	1:1	1	0	20300/1745	18.20	17.55	0.248	0.028	1.16	0.288	/
Right Tilt	standard	1:1	1	0	20300/1745	18.20	17.55	0.422	-0.050	1.16	0.490	/
Left Cheek	standard	1:1	50%	0	20175/1732.5	18.20	17.42	0.145	0.070	1.20	0.174	/
Left Tilt	standard	1:1	50%	0	20175/1732.5	18.20	17.42	0.161	0.120	1.20	0.193	/
Right Cheek	standard	1:1	50%	0	20175/1732.5	18.20	17.42	0.228	0.010	1.20	0.273	/
Right Tilt	standard	1:1	50%	0	20175/1732.5	18.20	17.42	0.419	-0.010	1.20	0.501	114
Right Tilt	SIM2	1:1	50%	0	20175/1732.5	18.20	17.42	0.411	-0.025	1.20	0.492	/
Right Tilt	Battery2	1:1	50%	0	20175/1732.5	18.20	17.42	0.391	0.027	1.20	0.468	/
Right Tilt	Battery3	1:1	50%	0	20175/1732.5	18.20	17.42	0.387	0.022	1.20	0.463	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>												
Right Tilt	Standard	1:1	50%	0	20175/1732.5	18.20	17.42	0.559	-0.140	1.20	0.669	115
Right Tilt	SIM2	1:1	50%	0	20175/1732.5	18.20	17.42	0.526	0.032	1.20	0.629	/
Right Tilt	Battery2	1:1	50%	0	20175/1732.5	18.20	17.42	0.532	0.041	1.20	0.637	/
Right Tilt	Battery3	1:1	50%	0	20175/1732.5	18.20	17.42	0.541	0.032	1.20	0.647	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off)</b>												
Back Side	standard	1:1	1	0	20300/1745	22.70	22.08	0.183	0.034	1.15	0.211	/
Front Side	standard	1:1	1	0	20300/1745	22.70	22.08	0.201	0.050	1.15	0.232	116
Back Side	standard	1:1	50%	0	20300/1745	22.70	22.01	0.176	0.070	1.17	0.206	/
Front Side	standard	1:1	50%	0	20300/1745	22.70	22.01	0.192	0.070	1.17	0.225	/
Front Side	SIM2	1:1	1	0	20300/1745	22.70	22.08	0.187	-0.010	1.15	0.216	/
Front Side	Battery2	1:1	1	0	20300/1745	22.70	22.08	0.192	0.035	1.15	0.221	/
Front Side	Battery3	1:1	1	0	20300/1745	22.70	22.08	0.184	0.043	1.15	0.212	/
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)</b>												
Back Side	standard	1:1	1	0	20300/1745	19.20	18.57	0.165	0.050	1.16	0.191	/
Front Side	standard	1:1	1	0	20300/1745	19.20	18.57	0.139	-0.020	1.16	0.161	/
Left Edge	standard	1:1	1	0	20300/1745	19.20	18.57	0.072	0.030	1.16	0.083	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	1	0	20300/1745	19.20	18.57	0.212	-0.050	1.16	0.245	117
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	0	20175/1732.5	19.20	18.55	0.153	0.130	1.16	0.178	/
Front Side	standard	1:1	50%	0	20175/1732.5	19.20	18.55	0.134	0.080	1.16	0.156	/
Left Edge	standard	1:1	50%	0	20175/1732.5	19.20	18.55	0.072	0.150	1.16	0.084	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Top Edge	standard	1:1	50%	0	20175/1732.5	19.20	18.55	0.195	-0.028	1.16	0.226	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	SIM2	1:1	1	0	20300/1745	19.20	18.57	0.206	0.041	1.16	0.238	/
Top Edge	Battery2	1:1	1	0	20300/1745	19.20	18.57	0.199	0.029	1.16	0.230	/
Top Edge	Battery3	1:1	1	0	20300/1745	19.20	18.57	0.187	0.023	1.16	0.216	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR									
Test Position	RB allocation	RB offset	Channel/ Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot of Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)	
Left Cheek	1	0	20300/1745	17.55	14.70	0.179	0.52	0.093	
Left Tilt	1	0	20300/1745	17.55	14.70	0.206	0.52	0.107	
Right Cheek	1	0	20300/1745	17.55	14.70	0.288	0.52	0.149	
Right Tilt	1	0	20300/1745	17.55	14.70	0.490	0.52	0.254	
Left Cheek	50%	0	20175/1732.5	17.42	14.70	0.174	0.53	0.093	
Left Tilt	50%	0	20175/1732.5	17.42	14.70	0.193	0.53	0.103	
Right Cheek	50%	0	20175/1732.5	17.42	14.70	0.273	0.53	0.146	
Right Tilt	50%	0	20175/1732.5	17.42	14.70	0.669	0.53	0.358	

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	standard	1:1	1	0	20300/1745	22.70	19.20	0.191	2.24	0.427	No
Front Side	standard	1:1	1	0	20300/1745	22.70	19.20	0.161	2.24	0.360	No
Left Edge	standard	1:1	1	0	20300/1745	22.70	19.20	0.083	2.24	0.185	No
Top Edge	standard	1:1	1	0	20300/1745	22.70	19.20	0.245	2.24	0.549	No
Back Side	standard	1:1	50%	0	20175/1732.5	22.70	19.20	0.178	2.24	0.398	No
Front Side	standard	1:1	50%	0	20175/1732.5	22.70	19.20	0.156	2.24	0.348	No
Left Edge	standard	1:1	50%	0	20175/1732.5	22.70	19.20	0.084	2.24	0.187	No
Top Edge	standard	1:1	50%	0	20175/1732.5	22.70	19.20	0.226	2.24	0.507	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.





Table 28: LTE Band 5 (Second Antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	0	20450/829	18.20	17.37	0.190	0.040	1.21	0.230	/
Left Tilt	standard	1:1	1	0	20450/829	18.20	17.37	0.296	-0.040	1.21	0.358	/
Right Cheek	standard	1:1	1	0	20450/829	18.20	17.37	0.281	0.000	1.21	0.340	/
Right Tilt	standard	1:1	1	0	20450/829	18.20	17.37	0.506	-0.010	1.21	0.613	118
Left Cheek	standard	1:1	50%	0	20450/829	18.20	17.29	0.201	0.050	1.23	0.248	/
Left Tilt	standard	1:1	50%	0	20450/829	18.20	17.29	0.309	0.080	1.23	0.381	/
Right Cheek	standard	1:1	50%	0	20450/829	18.20	17.29	0.243	-0.038	1.23	0.300	/
Right Tilt	standard	1:1	50%	0	20450/829	18.20	17.29	0.468	-0.090	1.23	0.577	/
Right Tilt	SIM2	1:1	1	0	20450/829	18.20	17.37	0.498	-0.031	1.21	0.603	/
Right Tilt	Battery2	1:1	1	0	20450/829	18.20	17.37	0.501	-0.033	1.21	0.607	/
Right Tilt	Battery3	1:1	1	0	20450/829	18.20	17.37	0.488	0.104	1.21	0.591	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>												
Right Tilt	Standard	1:1	1	0	20450/829	18.20	17.37	0.489	0.100	1.21	0.592	119
Right Tilt	SIM2	1:1	1	0	20450/829	18.20	17.37	0.474	0.069	1.21	0.574	/
Right Tilt	Battery2	1:1	1	0	20450/829	18.20	17.37	0.481	0.021	1.21	0.582	/
Right Tilt	Battery3	1:1	1	0	20450/829	18.20	17.37	0.467	-0.071	1.21	0.565	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off)</b>												
Back Side	standard	1:1	1	0	20525/836.5	25.70	24.65	0.340	-0.120	1.27	0.433	/
Front Side	standard	1:1	1	0	20525/836.5	25.70	24.65	0.446	0.170	1.27	0.568	120
Back Side	standard	1:1	50%	0	20525/836.5	25.70	23.63	0.271	-0.038	1.61	0.436	/
Front Side	standard	1:1	50%	0	20525/836.5	25.70	23.63	0.368	0.060	1.61	0.593	/
Front Side	SIM2	1:1	1	0	20525/836.5	25.70	24.65	0.427	0.103	1.27	0.544	/
Front Side	Battery2	1:1	1	0	20525/836.5	25.70	24.65	0.439	0.031	1.27	0.559	/
Front Side	Battery3	1:1	1	0	20525/836.5	25.70	24.65	0.441	0.110	1.27	0.562	/
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)</b>												
Back Side	standard	1:1	1	25	20525/836.5	21.70	20.80	0.237	-0.021	1.23	0.292	/
Front Side	standard	1:1	1	25	20525/836.5	21.70	20.80	0.300	0.070	1.23	0.369	121
Left Edge	standard	1:1	1	25	20525/836.5	21.70	20.80	0.080	0.105	1.23	0.098	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	1	25	20525/836.5	21.70	20.80	0.131	0.033	1.23	0.161	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	13	20450/829	21.70	20.86	0.187	-0.060	1.21	0.227	/
Front Side	standard	1:1	50%	13	20450/829	21.70	20.86	0.285	0.051	1.21	0.346	/
Left Edge	standard	1:1	50%	13	20450/829	21.70	20.86	0.063	0.112	1.21	0.076	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A





Top Edge	standard	1:1	50%	13	20450/829	21.70	20.86	0.105	0.061	1.21	0.127	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	SIM2	1:1	1	25	20525/836.5	21.70	20.80	0.280	0.030	1.23	0.344	/
Back Side	Battery2	1:1	1	25	20525/836.5	21.70	20.80	0.284	-0.122	1.23	0.349	/
Back Side	Battery3	1:1	1	25	20525/836.5	21.70	20.80	0.278	0.063	1.23	0.342	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR								
Test Position	RB allocation	RB offset	Channel/ Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot of Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	1	0	20450/829	17.37	14.20	0.230	0.48	0.111
Left Tilt	1	0	20450/829	17.37	14.20	0.358	0.48	0.173
Right Cheek	1	0	20450/829	17.37	14.20	0.340	0.48	0.164
Right Tilt	1	0	20450/829	17.37	14.20	0.613	0.48	0.295
Left Cheek	50%	0	20450/829	17.29	14.20	0.248	0.49	0.122
Left Tilt	50%	0	20450/829	17.29	14.20	0.381	0.49	0.187
Right Cheek	50%	0	20450/829	17.29	14.20	0.300	0.49	0.147
Right Tilt	50%	0	20450/829	17.29	14.20	0.577	0.49	0.283

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	standard	1:1	1	25	20525/836.5	25.70	21.70	0.292	2.51	0.732	No
Front Side	standard	1:1	1	25	20525/836.5	25.70	21.70	0.369	2.51	0.927	No
Left Edge	standard	1:1	1	25	20525/836.5	25.70	21.70	0.098	2.51	0.247	No
Top Edge	standard	1:1	1	25	20525/836.5	25.70	21.70	0.161	2.51	0.405	No
Back Side	standard	1:1	50%	13	20450/829	25.70	21.70	0.227	2.51	0.570	No
Front Side	standard	1:1	50%	13	20450/829	25.70	21.70	0.346	2.51	0.869	No
Left Edge	standard	1:1	50%	13	20450/829	25.70	21.70	0.076	2.51	0.192	No
Top Edge	standard	1:1	50%	13	20450/829	25.70	21.70	0.127	2.51	0.320	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



**Table 29: LTE Band 7 (Second Antenna)**

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	0	21100/2535	15.70	14.61	0.069	-0.053	1.29	0.089	/
Left Tilt	standard	1:1	1	0	21100/2535	15.70	14.61	0.120	-0.053	1.29	0.154	/
Right Cheek	standard	1:1	1	0	21100/2535	15.70	14.61	0.168	-0.057	1.29	0.216	/
Right Tilt	standard	1:1	1	0	21100/2535	15.70	14.61	0.428	0.048	1.29	0.550	122
Left Cheek	standard	1:1	50%	0	20850/2510	15.70	14.56	0.075	0.044	1.30	0.098	/
Left Tilt	standard	1:1	50%	0	20850/2510	15.70	14.56	0.125	0.100	1.30	0.163	/
Right Cheek	standard	1:1	50%	0	20850/2510	15.70	14.56	0.176	0.050	1.30	0.229	/
Right Tilt	standard	1:1	50%	0	20850/2510	15.70	14.56	0.427	0.178	1.30	0.555	/
Right Tilt	SIM2	1:1	50%	0	20850/2510	15.70	14.56	0.415	0.033	1.30	0.540	/
Right Tilt	Battery2	1:1	50%	0	20850/2510	15.70	14.56	0.418	0.026	1.30	0.543	/
Right Tilt	Battery3	1:1	50%	0	20850/2510	15.70	14.56	0.425	0.045	1.30	0.553	/
Right Tilt	Standard	1:1	1	0	20902/2515.2 (SCC)	15.70	14.52	0.374	0.120	1.31	0.491	/
					21100/2535 (PCC)							
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>												
Right Tilt	Standard	1:1	50%	0	20850/2510	15.70	14.56	0.459	0.071	1.30	0.597	123
Right Tilt	SIM2	1:1	50%	0	20850/2510	15.70	14.56	0.447	0.059	1.30	0.581	/
Right Tilt	Battery2	1:1	50%	0	20850/2510	15.70	14.56	0.452	0.020	1.30	0.588	/
Right Tilt	Battery3	1:1	50%	0	20850/2510	15.70	14.56	0.436	0.061	1.30	0.567	/
Right Tilt	Standard	1:1	1	0	20902/2515.2 (SCC)	15.70	14.52	0.382	-0.075	1.31	0.501	/
					21100/2535 (PCC)							
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off)</b>												
Back Side	standard	1:1	1	99	21350/2560	22.70	22.28	0.143	0.081	1.10	0.158	/
Front Side	standard	1:1	1	99	21350/2560	22.70	22.28	0.123	-0.028	1.10	0.135	/
Back Side	standard	1:1	50%	50	21350/2560	22.70	22.10	0.171	0.046	1.15	0.196	124
Front Side	standard	1:1	50%	50	21350/2560	22.70	22.10	0.138	0.126	1.15	0.158	/
Back Side	SIM2	1:1	50%	50	21350/2560	22.70	22.10	0.163	0.049	1.15	0.187	/
Back Side	Battery2	1:1	50%	50	21350/2560	22.70	22.10	0.166	0.106	1.15	0.191	/
Back Side	Battery3	1:1	50%	50	21350/2560	22.70	22.10	0.157	0.120	1.15	0.180	/
Back Side	standard	1:1	1	0	20902/2515.2 (SCC)	22.70	22.03	0.085	0.130	1.17	0.099	/
					21100/2535 (PCC)							



Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)												
Back Side	standard	1:1	1	99	20850/2510	19.20	18.31	0.134	-0.122	1.23	0.164	125
Front Side	standard	1:1	1	99	20850/2510	19.20	18.31	0.121	-0.183	1.23	0.149	/
Left Edge	standard	1:1	1	99	20850/2510	19.20	18.31	0.070	-0.135	1.23	0.085	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	1	99	20850/2510	19.20	18.31	0.127	-0.130	1.23	0.156	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	25	20850/2510	19.20	18.16	0.129	-0.029	1.27	0.164	/
Front Side	standard	1:1	50%	25	20850/2510	19.20	18.16	0.112	-0.032	1.27	0.142	/
Left Edge	standard	1:1	50%	25	20850/2510	19.20	18.16	0.072	-0.026	1.27	0.091	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	50%	25	20850/2510	19.20	18.16	0.130	0.029	1.27	0.165	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	SIM2	1:1	50%	25	20850/2510	19.20	18.16	0.126	-0.110	1.27	0.160	/
Top Edge	Battery2	1:1	50%	25	20850/2510	19.20	18.16	0.130	0.120	1.27	0.165	/
Top Edge	Battery3	1:1	50%	25	20850/2510	19.20	18.16	0.124	-0.108	1.27	0.158	/
Top Edge	standard	1:1	1	99	21048/2529.	19.20	17.92	0.063	0.059	1.34	0.085	/
					8 (SCC) 20850/2510 (PCC)							

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR								
Test Position	RB allocation	RB offset	Channel/ Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot of Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	1	0	21100/2535	14.61	12.20	0.089	0.57	0.051
Left Tilt	1	0	21100/2535	14.61	12.20	0.154	0.57	0.088
Right Cheek	1	0	21100/2535	14.61	12.20	0.216	0.57	0.124
Right Tilt	1	0	21100/2535	14.61	12.20	0.550	0.57	0.316
Left Cheek	50%	0	20850/2510	14.56	12.20	0.098	0.58	0.057
Left Tilt	50%	0	20850/2510	14.56	12.20	0.163	0.58	0.095
Right Cheek	50%	0	20850/2510	14.56	12.20	0.229	0.58	0.133
Right Tilt	50%	0	20850/2510	14.56	12.20	0.597	0.58	0.347



MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	standard	1:1	1	99	20850/2510	22.70	19.20	0.164	2.24	0.368	No
Front Side	standard	1:1	1	99	20850/2510	22.70	19.20	0.149	2.24	0.332	No
Left Edge	standard	1:1	1	99	20850/2510	22.70	19.20	0.085	2.24	0.191	No
Top Edge	standard	1:1	1	99	20850/2510	22.70	19.20	0.156	2.24	0.349	No
Back Side	standard	1:1	50%	25	20850/2510	22.70	19.20	0.164	2.24	0.367	No
Front Side	standard	1:1	50%	25	20850/2510	22.70	19.20	0.142	2.24	0.319	No
Left Edge	standard	1:1	50%	25	20850/2510	22.70	19.20	0.091	2.24	0.205	No
Top Edge	standard	1:1	50%	25	20850/2510	22.70	19.20	0.165	2.24	0.370	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 30: LTE Band 12 (Second Antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	25	23130/711	20.70	20.30	0.160	0.040	1.10	0.175	/
Left Tilt	standard	1:1	1	25	23130/711	20.70	20.30	0.262	0.040	1.10	0.287	/
Right Cheek	standard	1:1	1	25	23130/711	20.70	20.30	0.216	0.090	1.10	0.237	/
Right Tilt	standard	1:1	1	25	23130/711	20.70	20.30	0.417	0.020	1.10	0.457	/
Left Cheek	standard	1:1	50%	25	23130/711	20.70	20.01	0.174	0.120	1.17	0.204	/
Left Tilt	standard	1:1	50%	25	23130/711	20.70	20.01	0.282	0.040	1.17	0.331	/
Right Cheek	standard	1:1	50%	25	23130/711	20.70	20.01	0.494	0.010	1.17	0.579	126
Right Tilt	standard	1:1	50%	25	23130/711	20.70	20.01	0.447	0.050	1.17	0.524	/
Right Cheek	SIM2	1:1	50%	25	23130/711	20.70	20.01	0.489	0.020	1.17	0.573	/
Right Cheek	Battery2	1:1	50%	25	23130/711	20.70	20.01	0.486	0.023	1.17	0.570	/
Right Cheek	Battery3	1:1	50%	25	23130/711	20.70	20.01	0.461	0.106	1.17	0.540	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>												
Right Cheek	Standard	1:1	50%	25	23130/711	20.70	20.01	0.502	0.130	1.17	0.588	127
Right Cheek	SIM2	1:1	50%	25	23130/711	20.70	20.01	0.493	0.022	1.17	0.578	/
Right Cheek	Battery2	1:1	50%	25	23130/711	20.70	20.01	0.499	0.130	1.17	0.585	/
Right Cheek	Battery3	1:1	50%	25	23130/711	20.70	20.01	0.486	0.047	1.17	0.570	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off)</b>												
Back Side	standard	1:1	1	25	23130/711	25.20	24.69	0.105	0.070	1.12	0.118	/
Front Side	standard	1:1	1	25	23130/711	25.20	24.69	0.118	0.170	1.12	0.133	128
Back Side	standard	1:1	50%	25	23130/711	24.20	23.61	0.090	0.100	1.15	0.103	/
Front Side	standard	1:1	50%	25	23130/711	24.20	23.61	0.101	0.150	1.15	0.116	/
Front Side	SIM2	1:1	1	25	23130/711	25.20	24.69	0.112	0.140	1.12	0.126	/
Front Side	Battery2	1:1	1	25	23130/711	25.20	24.69	0.115	0.021	1.12	0.129	/
Front Side	Battery3	1:1	1	25	23130/711	25.20	24.69	0.110	0.037	1.12	0.124	/
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)</b>												
Back Side	standard	1:1	1	25	23130/711	22.70	22.04	0.118	0.180	1.16	0.137	/
Front Side	standard	1:1	1	25	23130/711	22.70	22.04	0.140	0.023	1.16	0.163	/
Left Edge	standard	1:1	1	25	23130/711	22.70	22.04	0.044	0.023	1.16	0.052	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	1	25	23130/711	22.70	22.04	0.103	0.057	1.16	0.120	
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	25	23130/711	22.70	22.00	0.129	0.024	1.17	0.152	/
Front Side	standard	1:1	50%	25	23130/711	22.70	22.00	0.152	0.170	1.17	0.179	129
Left Edge	standard	1:1	50%	25	23130/711	22.70	22.00	0.048	0.150	1.17	0.057	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Top Edge	standard	1:1	50%	25	23130/711	22.70	22.00	0.111	0.052	1.17	0.130	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	SIM2	1:1	50%	25	23130/711	22.70	22.00	0.146	0.030	1.17	0.172	/
Front Side	Battery2	1:1	50%	25	23130/711	22.70	22.00	0.149	0.120	1.17	0.175	/
Front Side	Battery3	1:1	50%	25	23130/711	22.70	22.00	0.134	0.030	1.17	0.157	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 50\%$  limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR								
Test Position	RB allocation	RB offset	Channel/ Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot of Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	1	25	23130/711	20.30	18.20	0.175	0.62	0.108
Left Tilt	1	25	23130/711	20.30	18.20	0.287	0.62	0.177
Right Cheek	1	25	23130/711	20.30	18.20	0.237	0.62	0.146
Right Tilt	1	25	23130/711	20.30	18.20	0.457	0.62	0.282
Left Cheek	50%	25	23130/711	20.01	18.20	0.204	0.66	0.134
Left Tilt	50%	25	23130/711	20.01	18.20	0.331	0.66	0.218
Right Cheek	50%	25	23130/711	20.01	18.20	0.588	0.66	0.388
Right Tilt	50%	25	23130/711	20.01	18.20	0.524	0.66	0.345

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	standard	1:1	1	25	23130/711	25.20	22.70	0.137	1.78	0.244	No
Front Side	standard	1:1	1	25	23130/711	25.20	22.70	0.163	1.78	0.290	No
Left Edge	standard	1:1	1	25	23130/711	25.20	22.70	0.052	1.78	0.092	No
Top Edge	standard	1:1	1	25	23130/711	25.20	22.70	0.120	1.78	0.213	No
Back Side	standard	1:1	50%	25	23130/711	25.20	22.70	0.152	1.78	0.270	No
Front Side	standard	1:1	50%	25	23130/711	25.20	22.70	0.179	1.78	0.318	No
Left Edge	standard	1:1	50%	25	23130/711	25.20	22.70	0.057	1.78	0.101	No
Top Edge	standard	1:1	50%	25	23130/711	25.20	22.70	0.130	1.78	0.232	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 31: LTE Band 26(Second Antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	38	26765/821.5	18.20	17.26	0.182	-0.040	1.24	0.226	/
Left Tilt	standard	1:1	1	38	26765/821.5	18.20	17.26	0.293	0.030	1.24	0.364	/
Right Cheek	standard	1:1	1	38	26765/821.5	18.20	17.26	0.238	0.010	1.24	0.296	/
Right Tilt	standard	1:1	1	38	26765/821.5	18.20	17.26	0.402	0.020	1.24	0.499	/
Left Cheek	standard	1:1	50%	0	26865/831.5	18.20	17.21	0.213	0.080	1.26	0.268	/
Left Tilt	standard	1:1	50%	0	26865/831.5	18.20	17.21	0.336	0.000	1.26	0.422	/
Right Cheek	standard	1:1	50%	0	26865/831.5	18.20	17.21	0.269	-0.060	1.26	0.338	/
Right Tilt	standard	1:1	50%	0	26865/831.5	18.20	17.21	0.423	-0.030	1.26	0.531	130
Right Tilt	SIM2	1:1	50%	0	26865/831.5	18.20	17.21	0.418	-0.027	1.26	0.525	/
Right Tilt	Battery2	1:1	50%	0	26865/831.5	18.20	17.21	0.420	0.040	1.26	0.528	/
Right Tilt	Battery3	1:1	50%	0	26865/831.5	18.20	17.21	0.409	0.036	1.26	0.514	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>												
Right Tilt	Standard	1:1	50%	0	26865/831.5	18.20	17.21	0.467	-0.050	1.26	0.587	131
Right Tilt	SIM2	1:1	50%	0	26865/831.5	18.20	17.21	0.435	0.030	1.26	0.546	/
Right Tilt	Battery2	1:1	50%	0	26865/831.5	18.20	17.21	0.459	0.028	1.26	0.577	/
Right Tilt	Battery3	1:1	50%	0	26865/831.5	18.20	17.21	0.443	-0.027	1.26	0.556	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off)</b>												
Back Side	standard	1:1	1	38	26865/831.5	25.20	24.24	0.293	-0.060	1.25	0.365	/
Front Side	standard	1:1	1	38	26865/831.5	25.20	24.24	0.369	0.000	1.25	0.460	132
Back Side	standard	1:1	50%	0	26865/831.5	24.20	23.27	0.227	0.030	1.24	0.281	/
Front Side	standard	1:1	50%	0	26865/831.5	24.20	23.27	0.284	0.120	1.24	0.352	/
Front Side	SIM2	1:1	1	38	26865/831.5	25.20	24.24	0.346	0.110	1.25	0.432	/
Front Side	Battery2	1:1	1	38	26865/831.5	25.20	24.24	0.355	0.040	1.25	0.443	/
Front Side	Battery3	1:1	1	38	26865/831.5	25.20	24.24	0.350	0.083	1.25	0.437	/
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)</b>												
Back Side	standard	1:1	1	38	26865/831.5	21.20	20.20	0.212	0.060	1.26	0.267	/
Front Side	standard	1:1	1	38	26865/831.5	21.20	20.20	0.251	0.033	1.26	0.316	133
Left Edge	standard	1:1	1	38	26865/831.5	21.20	20.20	0.088	0.070	1.26	0.110	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	1	38	26865/831.5	21.20	20.20	0.187	0.039	1.26	0.235	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	39	26765/821.5	21.20	20.21	0.183	0.110	1.26	0.230	/
Front Side	standard	1:1	50%	39	26765/821.5	21.20	20.21	0.218	0.030	1.26	0.274	/
Left Edge	standard	1:1	50%	39	26765/821.5	21.20	20.21	0.076	0.140	1.26	0.095	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A





Top Edge	standard	1:1	50%	39	26765/821.5	21.20	20.21	0.168	0.036	1.26	0.211	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	SIM2	1:1	1	38	26865/831.5	21.20	20.20	0.238	0.070	1.26	0.300	/
Front Side	Battery2	1:1	1	38	26865/831.5	21.20	20.20	0.245	0.130	1.26	0.308	/
Front Side	Battery3	1:1	1	38	26865/831.5	21.20	20.20	0.231	0.054	1.26	0.291	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 50\%$  limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR									
Test Position	RB allocation	RB offset	Channel/ Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot of Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)	
Left Cheek	1	38	26765/821.5	17.26	14.20	0.226	0.49	0.112	
Left Tilt	1	38	26765/821.5	17.26	14.20	0.364	0.49	0.180	
Right Cheek	1	38	26765/821.5	17.26	14.20	0.296	0.49	0.146	
Right Tilt	1	38	26765/821.5	17.26	14.20	0.499	0.49	0.247	
Left Cheek	50%	0	26865/831.5	17.21	14.20	0.268	0.50	0.134	
Left Tilt	50%	0	26865/831.5	17.21	14.20	0.422	0.50	0.211	
Right Cheek	50%	0	26865/831.5	17.21	14.20	0.338	0.50	0.169	
Right Tilt	50%	0	26865/831.5	17.21	14.20	0.587	0.50	0.294	

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	standard	1:1	1	38	26865/831.5	25.20	21.20	0.267	2.51	0.670	No
Front Side	standard	1:1	1	38	26865/831.5	25.20	21.20	0.316	2.51	0.794	No
Left Edge	standard	1:1	1	38	26865/831.5	25.20	21.20	0.110	2.51	0.277	No
Top Edge	standard	1:1	1	38	26865/831.5	25.20	21.20	0.235	2.51	0.591	No
Back Side	standard	1:1	50%	39	26765/821.5	25.20	21.20	0.230	2.51	0.577	No
Front Side	standard	1:1	50%	39	26765/821.5	25.20	21.20	0.274	2.51	0.688	No
Left Edge	standard	1:1	50%	39	26765/821.5	25.20	21.20	0.095	2.51	0.239	No
Top Edge	standard	1:1	50%	39	26765/821.5	25.20	21.20	0.211	2.51	0.530	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.





**Table 32: LTE Band 41(Second Antenna)**

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	0	39750/2506	18.70	18.31	0.095	0.020	1.09	0.104	/
Left Tilt	standard	1:1	1	0	39750/2506	18.70	18.31	0.150	0.054	1.09	0.164	/
Right Cheek	standard	1:1	1	0	39750/2506	18.70	18.31	0.185	0.038	1.09	0.202	/
Right Tilt	standard	1:1	1	0	39750/2506	18.70	18.31	0.488	0.083	1.09	0.534	134
Left Cheek	standard	1:1	50%	0	39750/2506	18.70	18.25	0.085	0.027	1.11	0.094	/
Left Tilt	standard	1:1	50%	0	39750/2506	18.70	18.25	0.151	0.057	1.11	0.167	/
Right Cheek	standard	1:1	50%	0	39750/2506	18.70	18.25	0.193	0.034	1.11	0.214	/
Right Tilt	standard	1:1	50%	0	39750/2506	18.70	18.25	0.482	0.034	1.11	0.535	/
Right Tilt	SIM2	1:1	50%	0	39750/2506	18.70	18.25	0.476	0.031	1.11	0.528	/
Right Tilt	Battery2	1:1	50%	0	39750/2506	18.70	18.25	0.485	0.079	1.11	0.538	/
Right Tilt	Battery3	1:1	50%	0	39750/2506	18.70	18.25	0.472	0.047	1.11	0.524	/
Right Tilt	standard	1:1	1	99	39948/2525.8(SCC) 39750/2506(PCC)	18.70	18.03	0.348	0.062	1.17	0.406	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>												
Right Tilt	Standard	1:1	50%	0	39750/2506	18.70	18.25	0.507	-0.070	1.11	0.562	135
Right Tilt	SIM2	1:1	50%	0	39750/2506	18.70	18.25	0.415	0.023	1.11	0.460	/
Right Tilt	Battery2	1:1	50%	0	39750/2506	18.70	18.25	0.472	0.100	1.11	0.524	/
Right Tilt	Battery3	1:1	50%	0	39750/2506	18.70	18.25	0.495	-0.065	1.11	0.549	/
Right Tilt	Standard	1:1	1	99	39948/2525.8(SCC) 39750/2506(PCC)	18.70	18.03	0.361	-0.011	1.17	0.421	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off)</b>												
Back Side	standard	1:1	1	0	39750/2506	25.20	24.66	0.141	-0.036	1.13	0.160	136
Front Side	standard	1:1	1	0	39750/2506	25.20	24.66	0.117	-0.034	1.13	0.132	/
Back Side	standard	1:1	50%	50	39750/2506	24.20	23.61	0.118	-0.030	1.15	0.135	/
Front Side	standard	1:1	50%	50	39750/2506	24.20	23.61	0.098	-0.027	1.15	0.112	/
Back Side	SIM2	1:1	1	0	39750/2506	25.20	24.66	0.128	-0.015	1.13	0.145	/
Back Side	Battery2	1:1	1	0	39750/2506	25.20	24.66	0.136	0.033	1.13	0.154	/
Back Side	Battery3	1:1	1	0	39750/2506	25.20	24.66	0.131	-0.041	1.13	0.148	/
Back Side	standard	1:1	1	99	39948/2525.8(SCC) 39750/2506(PCC)	25.20	24.36	0.112	-0.075	1.21	0.136	/



Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)												
Back Side	standard	1:1	1	0	41490/2680	22.70	22.31	0.249	-0.100	1.09	0.272	/
Front Side	standard	1:1	1	0	41490/2680	22.70	22.31	0.253	-0.054	1.09	0.277	137
Left Edge	standard	1:1	1	0	41490/2680	22.70	22.31	0.082	-0.033	1.09	0.090	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	1	0	41490/2680	22.70	22.31	0.150	0.020	1.09	0.164	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	0	39750/2506	22.70	22.13	0.179	-0.024	1.14	0.204	/
Front Side	standard	1:1	50%	0	39750/2506	22.70	22.13	0.156	-0.031	1.14	0.178	/
Left Edge	standard	1:1	50%	0	39750/2506	22.70	22.13	0.093	-0.026	1.14	0.106	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	50%	0	39750/2506	22.70	22.13	0.186	-0.170	1.14	0.212	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	SIM2	1:1	1	0	41490/2680	22.70	22.31	0.238	-0.026	1.09	0.260	/
Front Side	Battery2	1:1	1	0	41490/2680	22.70	22.31	0.247	-0.041	1.09	0.270	/
Front Side	Battery3	1:1	1	0	41490/2680	22.70	22.31	0.250	-0.022	1.09	0.273	/
Front Side	standard	1:1	1	0	41292/2660. 2 (SCC)	22.70	22.14	0.126	0.034	1.14	0.143	/
					41490/2680 (PCC)							

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR								
Test Position	RB allocation	RB offset	Channel/ Frequency (MHz)	Receiver on Power (dBm)	Receiver on+WiFi connect/P2P/Hotspot of Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Simultaneously Transmission SAR 1g (mW/g)
Left Cheek	1	99	39750/2506	18.31	16.20	0.104	0.62	0.064
Left Tilt	1	99	39750/2506	18.31	16.20	0.164	0.62	0.101
Right Cheek	1	99	39750/2506	18.31	16.20	0.202	0.62	0.124
Right Tilt	1	99	39750/2506	18.31	16.20	0.534	0.62	0.329
Left Cheek	50%	50	39750/2506	18.25	16.20	0.094	0.62	0.059
Left Tilt	50%	50	39750/2506	18.25	16.20	0.167	0.62	0.104
Right Cheek	50%	50	39750/2506	18.25	16.20	0.214	0.62	0.133
Right Tilt	50%	50	39750/2506	18.25	16.20	0.562	0.62	0.351



MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	standard	1:1	1	0	41490/2680	25.20	22.70	0.272	1.78	0.484	No
Front Side	standard	1:1	1	0	41490/2680	25.20	22.70	0.277	1.78	0.492	No
Left Edge	standard	1:1	1	0	41490/2680	25.20	22.70	0.090	1.78	0.160	No
Top Edge	standard	1:1	1	0	41490/2680	25.20	22.70	0.164	1.78	0.292	No
Back Side	standard	1:1	50%	0	39750/2506	25.20	22.70	0.204	1.78	0.363	No
Front Side	standard	1:1	50%	0	39750/2506	25.20	22.70	0.178	1.78	0.316	No
Left Edge	standard	1:1	50%	0	39750/2506	25.20	22.70	0.106	1.78	0.189	No
Top Edge	standard	1:1	50%	0	39750/2506	25.20	22.70	0.212	1.78	0.377	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 33: LTE Band 2 (Second MAS Antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	0	18900/1880	23.70	22.56	0.106	0.060	1.30	0.138	/
Left Tilt	standard	1:1	1	0	18900/1880	23.70	22.56	0.030	0.060	1.30	0.039	/
Right Cheek	standard	1:1	1	0	18900/1880	23.70	22.56	0.059	0.118	1.30	0.077	/
Right Tilt	standard	1:1	1	0	18900/1880	23.70	22.56	0.039	0.057	1.30	0.051	/
Left Cheek	standard	1:1	50%	50	19100/1900	22.70	21.52	0.174	0.116	1.31	0.228	138
Left Tilt	standard	1:1	50%	50	19100/1900	22.70	21.52	0.045	0.070	1.31	0.059	/
Right Cheek	standard	1:1	50%	50	19100/1900	22.70	21.52	0.086	0.030	1.31	0.113	/
Right Tilt	standard	1:1	50%	50	19100/1900	22.70	21.52	0.057	0.082	1.31	0.075	/
Left Cheek	SIM2	1:1	50%	50	19100/1900	22.70	21.52	0.165	0.150	1.31	0.217	/
Left Cheek	Battery2	1:1	50%	50	19100/1900	22.70	21.52	0.171	0.023	1.31	0.224	/
Left Cheek	Battery3	1:1	50%	50	19100/1900	22.70	21.52	0.168	0.021	1.31	0.220	/
<b>Head SAR(Receiver on)(Test at the best acoustic position)</b>												
Left Cheek	Standard	1:1	50%	50	19100/1900	22.70	21.52	0.180	0.126	1.31	0.236	139
Left Cheek	SIM2	1:1	50%	50	19100/1900	22.70	21.52	0.146	0.037	1.31	0.192	/
Left Cheek	Battery2	1:1	50%	50	19100/1900	22.70	21.52	0.178	0.117	1.31	0.234	/
Left Cheek	Battery3	1:1	50%	50	19100/1900	22.70	21.52	0.172	0.103	1.31	0.226	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off)</b>												
Back Side	standard	1:1	1	0	18900/1880	23.70	22.56	0.035	-0.022	1.30	0.046	/
Front Side	standard	1:1	1	0	18900/1880	23.70	22.56	0.019	0.021	1.30	0.025	/
Back Side	standard	1:1	50%	50	19100/1900	22.70	21.52	0.051	0.042	1.31	0.067	140
Front Side	standard	1:1	50%	50	19100/1900	22.70	21.52	0.029	0.062	1.31	0.038	/
Back Side	SIM2	1:1	1	50	19100/1900	22.70	21.52	0.042	0.081	1.31	0.055	/
Back Side	Battery2	1:1	1	50	19100/1900	22.70	21.52	0.039	0.054	1.31	0.051	/
Back Side	Battery3	1:1	1	50	19100/1900	22.70	21.52	0.043	0.024	1.31	0.056	/
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)</b>												
Back Side	standard	1:1	1	50	19100/1900	20.70	19.60	0.068	0.030	1.29	0.088	/
Front Side	standard	1:1	1	50	19100/1900	20.70	19.60	0.032	0.107	1.29	0.042	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	1:1	1	50	19100/1900	20.70	19.60	0.072	0.027	1.29	0.093	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	50	19100/1900	20.70	19.71	0.070	0.040	1.26	0.087	/
Front Side	standard	1:1	50%	50	19100/1900	20.70	19.71	0.033	0.021	1.26	0.042	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	1:1	50%	50	19100/1900	20.70	19.71	0.075	0.039	1.26	0.094	141



Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	SIM2	1:1	1	50	19100/1900	20.70	19.71	0.067	0.025	1.26	0.084	/
Right Edge	Battery2	1:1	1	50	19100/1900	20.70	19.71	0.071	-0.031	1.26	0.089	/
Right Edge	Battery3	1:1	1	50	19100/1900	20.70	19.71	0.066	0.024	1.26	0.083	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 50\%$  limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

#### MAX Adjusted SAR

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	standard	1:1	1	50	19100/1900	23.70	20.70	0.088	2.00	0.176	No
Front Side	standard	1:1	1	50	19100/1900	23.70	20.70	0.042	2.00	0.083	No
Right Edge	standard	1:1	1	50	19100/1900	23.70	20.70	0.093	2.00	0.186	No
Back Side	standard	1:1	50%	50	19100/1900	23.70	20.70	0.087	2.00	0.174	No
Front Side	standard	1:1	50%	50	19100/1900	23.70	20.70	0.042	2.00	0.084	No
Right Edge	standard	1:1	50%	50	19100/1900	23.70	20.70	0.094	2.00	0.188	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 34: LTE Band 4 (Second MAS Antenna)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	0	20050/1720	23.70	23.06	0.052	0.022	1.16	0.060	/
Left Tilt	standard	1:1	1	0	20050/1720	23.70	23.06	0.012	0.028	1.16	0.014	/
Right Cheek	standard	1:1	1	0	20050/1720	23.70	23.06	0.027	0.166	1.16	0.031	/
Right Tilt	standard	1:1	1	0	20050/1720	23.70	23.06	0.011	0.066	1.16	0.013	/
Left Cheek	standard	1:1	50%	50	20175/1732.5	22.70	21.81	0.057	0.109	1.23	0.070	142
Left Tilt	standard	1:1	50%	50	20175/1732.5	22.70	21.81	0.013	0.120	1.23	0.016	/
Right Cheek	standard	1:1	50%	50	20175/1732.5	22.70	21.81	0.027	0.023	1.23	0.033	/
Right Tilt	standard	1:1	50%	50	20175/1732.5	22.70	21.81	0.015	0.066	1.23	0.018	/
Left Cheek	SIM2	1:1	50%	50	20175/1732.5	22.70	21.81	0.050	0.160	1.23	0.061	/
Left Cheek	Battery2	1:1	50%	50	20175/1732.5	22.70	21.81	0.053	0.011	1.23	0.065	/
Left Cheek	Battery3	1:1	50%	50	20175/1732.5	22.70	21.81	0.048	0.014	1.23	0.059	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>												
Left Cheek	Standard	1:1	50%	50	20175/1732.5	22.70	21.81	0.069	0.052	1.23	0.085	143
Left Cheek	SIM2	1:1	50%	50	20175/1732.5	22.70	21.81	0.058	0.113	1.23	0.071	/
Left Cheek	Battery2	1:1	50%	50	20175/1732.5	22.70	21.81	0.062	0.079	1.23	0.076	/
Left Cheek	Battery3	1:1	50%	50	20175/1732.5	22.70	21.81	0.058	0.061	1.23	0.071	/
<b>Body-worn SAR (QPSK, Distance 15mm) (Receiver off)</b>												
Back Side	standard	1:1	1	0	20050/1720	23.70	23.06	0.013	0.157	1.16	0.015	/
Front Side	standard	1:1	1	0	20050/1720	23.70	23.06	0.004	-0.148	1.16	0.005	/
Back Side	standard	1:1	50%	50	20175/1732.5	22.70	21.81	0.014	-0.043	1.23	0.017	144
Front Side	standard	1:1	50%	50	20175/1732.5	22.70	21.81	0.004	0.036	1.23	0.005	/
Back Side	SIM2	1:1	50%	50	20175/1732.5	22.70	21.81	0.014	-0.120	1.23	0.017	/
Back Side	Battery2	1:1	50%	50	20175/1732.5	22.70	21.81	0.013	0.050	1.23	0.016	/
Back Side	Battery3	1:1	50%	50	20175/1732.5	22.70	21.81	0.011	0.025	1.23	0.014	/
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)</b>												
Back Side	standard	1:1	1	99	20300/1745	21.70	20.86	0.049	0.037	1.21	0.059	/
Front Side	standard	1:1	1	99	20300/1745	21.70	20.86	0.020	0.135	1.21	0.024	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	1:1	1	99	20300/1745	21.70	20.86	0.055	0.037	1.21	0.067	145
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	50	20050/1720	21.70	20.78	0.026	0.069	1.24	0.032	/
Front Side	standard	1:1	50%	50	20050/1720	21.70	20.78	0.012	0.189	1.24	0.015	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	1:1	50%	50	20050/1720	21.70	20.78	0.035	0.034	1.24	0.043	/



Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	SIM2	1:1	1	99	20300/1745	21.70	20.86	0.050	0.130	1.21	0.061	/
Right Edge	Battery2	1:1	1	99	20300/1745	21.70	20.86	0.051	0.150	1.21	0.062	/
Right Edge	Battery3	1:1	1	99	20300/1745	21.70	20.86	0.046	0.023	1.21	0.056	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).

3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.

MAX Adjusted SAR											
Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Full power (dBm)	Tune-up (dBm)	Report SAR1g (mW/g)	Scaling Factor	Full power Report SAR1g (mW/g)	0mm SAR
Back Side	standard	1:1	1	99	20300/1745	23.70	21.70	0.059	1.58	0.094	No
Front Side	standard	1:1	1	99	20300/1745	23.70	21.70	0.024	1.58	0.038	No
Right Edge	standard	1:1	1	99	20300/1745	23.70	21.70	0.067	1.58	0.106	No
Back Side	standard	1:1	50%	50	20050/1720	23.70	21.70	0.032	1.58	0.051	No
Front Side	standard	1:1	50%	50	20050/1720	23.70	21.70	0.015	1.58	0.024	No
Right Edge	standard	1:1	50%	50	20050/1720	23.70	21.70	0.043	1.58	0.069	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



**Table 35: LTE Band 7 (Second MAS Antenna)**

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	0	20850/2510	24.70	23.92	0.217	0.024	1.20	0.260	146
Left Tilt	standard	1:1	1	0	20850/2510	24.70	23.92	0.063	0.053	1.20	0.075	/
Right Cheek	standard	1:1	1	0	20850/2510	24.70	23.92	0.175	0.076	1.20	0.209	/
Right Tilt	standard	1:1	1	0	20850/2510	24.70	23.92	0.030	-0.090	1.20	0.035	/
Left Cheek	standard	1:1	50%	50	21100/2535	23.70	22.84	0.208	0.061	1.22	0.254	/
Left Tilt	standard	1:1	50%	50	21100/2535	23.70	22.84	0.065	0.123	1.22	0.079	/
Right Cheek	standard	1:1	50%	50	21100/2535	23.70	22.84	0.163	0.039	1.22	0.199	/
Right Tilt	standard	1:1	50%	50	21100/2535	23.70	22.84	0.035	0.125	1.22	0.042	/
Left Cheek	SIM2	1:1	1	0	20850/2510	24.70	23.92	0.205	-0.080	1.20	0.245	/
Left Cheek	Battery2	1:1	1	0	20850/2510	24.70	23.92	0.175	0.025	1.20	0.209	/
Left Cheek	Battery3	1:1	1	0	20850/2510	24.70	23.92	0.184	0.028	1.20	0.220	/
Left Cheek	Standard	1:1	1	0	20902/2515.2 (SCC)	24.70	23.31	0.182	0.035	1.38	0.251	/
					21100/2535 (PCC)							
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>												
Left Cheek	Standard	1:1	1	0	20850/2510	24.70	23.92	0.212	-0.098	1.20	0.254	147
Left Cheek	SIM2	1:1	1	0	20850/2510	24.70	23.92	0.187	0.031	1.20	0.224	/
Left Cheek	Battery2	1:1	1	0	20850/2510	24.70	23.92	0.169	0.016	1.20	0.202	/
Left Cheek	Battery3	1:1	1	0	20850/2510	24.70	23.92	0.192	0.075	1.20	0.230	/
Left Cheek	Standard	1:1	1	0	20902/2515.2 (SCC)	24.70	23.31	0.164	0.021	1.38	0.226	/
					21100/2535 (PCC)							
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)</b>												
Back Side	standard	1:1	1	0	20850/2510	24.70	23.92	0.214	-0.030	1.20	0.256	/
Front Side	standard	1:1	1	0	20850/2510	24.70	23.92	0.084	0.032	1.20	0.101	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	1:1	1	0	20850/2510	24.70	23.92	0.329	0.046	1.20	0.394	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	50	21100/2535	23.70	22.84	0.232	0.076	1.22	0.283	/
Front Side	standard	1:1	50%	50	21100/2535	23.70	22.84	0.093	0.038	1.22	0.114	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	1:1	50%	50	21100/2535	23.70	22.84	0.364	0.030	1.22	0.444	148
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A





Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	SIM2	1:1	50%	50	21100/2535	23.70	22.84	0.315	-0.030	1.22	0.384	/
Right Edge	Battery2	1:1	50%	50	21100/2535	23.70	22.84	0.309	0.027	1.22	0.377	/
Right Edge	Battery3	1:1	50%	50	21100/2535	23.70	22.84	0.311	0.034	1.22	0.379	/
Right Edge	standard	1:1	1	0	20902/2515.	24.70	23.31	0.246	-0.081	1.38	0.339	/
					2(SCC) 21100/2535 (PCC)							

Note: 1. The value with blue color is the maximum SAR Value of each test band.  
 2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).  
 3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



**Table 36: LTE Band 41(Second MAS Antenna)**

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
								Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
<b>Head SAR(Receiver on)</b>												
Left Cheek	standard	1:1	1	99	41055/2636.5	25.20	24.81	0.141	0.090	1.09	0.154	/
Left Tilt	standard	1:1	1	99	41055/2636.5	25.20	24.81	0.072	0.176	1.09	0.079	/
Right Cheek	standard	1:1	1	99	41055/2636.5	25.20	24.81	0.102	0.088	1.09	0.112	/
Right Tilt	standard	1:1	1	99	41055/2636.5	25.20	24.81	0.050	0.127	1.09	0.055	/
Left Cheek	standard	1:1	50%	50	41055/2636.5	24.20	23.84	0.117	0.031	1.09	0.127	/
Left Tilt	standard	1:1	50%	50	41055/2636.5	24.20	23.84	0.046	0.081	1.09	0.049	/
Right Cheek	standard	1:1	50%	50	41055/2636.5	24.20	23.84	0.124	0.100	1.09	0.135	/
Right Tilt	standard	1:1	50%	50	41055/2636.5	24.20	23.84	0.085	0.051	1.09	0.092	/
Left Cheek	SIM2	1:1	1	99	41055/2636.5	25.20	24.81	0.157	0.027	1.09	0.172	149
Left Cheek	Battery2	1:1	1	99	41055/2636.5	25.20	24.81	0.151	0.053	1.09	0.165	/
Left Cheek	Battery3	1:1	1	99	41055/2636.5	25.20	24.81	0.148	0.034	1.09	0.162	/
Left Cheek	standard	1:1	1	99	41253/2656.3 (SCC)	25.20	24.42	0.076	0.045	1.20	0.091	/
					41055/2636.5 (PCC)							
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>												
Left Cheek	Standard	1:1	1	99	41055/2636.5	25.20	24.81	0.159	0.100	1.09	0.174	150
Left Cheek	SIM2	1:1	1	99	41055/2636.5	25.20	24.81	0.132	0.008	1.09	0.144	/
Left Cheek	Battery2	1:1	1	99	41055/2636.5	25.20	24.81	0.116	0.016	1.09	0.127	/
Left Cheek	Battery3	1:1	1	99	41055/2636.5	25.20	24.81	0.128	0.024	1.09	0.140	/
Left Cheek	Standard	1:1	1	99	41253/2656.3 (SCC)	25.20	24.42	0.093	0.011	1.20	0.111	/
					41055/2636.5 (PCC)							
<b>Hotspot SAR(QPSK, Distance 10mm) (Receiver off+ WiFi connect/P2P/Hotspot)</b>												
Back Side	standard	1:1	1	99	41055/2636.5	25.20	24.81	0.208	-0.160	1.09	0.228	/
Front Side	standard	1:1	1	99	41055/2636.5	25.20	24.81	0.065	-0.053	1.09	0.071	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	1:1	1	99	41055/2636.5	25.20	24.81	0.439	0.050	1.09	0.480	151
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	50	41055/2636.5	24.20	23.84	0.170	0.085	1.09	0.185	/
Front Side	standard	1:1	50%	50	41055/2636.5	24.20	23.84	0.052	-0.170	1.09	0.056	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	1:1	50%	50	41055/2636.5	24.20	23.84	0.358	-0.020	1.09	0.389	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	SIM2	1:1	1	99	41055/2636.5	25.20	24.81	0.432	-0.153	1.09	0.473	/
Right Edge	Battery2	1:1	1	99	41055/2636.5	25.20	24.81	0.435	-0.030	1.09	0.476	/
Right Edge	Battery3	1:1	1	99	41055/2636.5	25.20	24.81	0.427	0.013	1.09	0.467	/
Right Edge	standard	1:1	1	99	41253/2656.3 (SCC)	25.20	24.42	0.327	0.015	1.20	0.391	/
					41055/2636.5 (PCC)							

Note: 1. The value with blue color is the maximum SAR Value of each test band.  
 2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq$  50% limit(1g).  
 3. Accessories that do not contain RF transmitters and have been proven to increase the peak SAR by less than 5 %, such as hands-free kits, do not need SAR tests separate from the SAR tests attached to a main EUT configuration.



Table 37: Wi-Fi (2.4G)

## Antenna 1

Test Position	Cover Type	Mode 802.11b	Duty Cycle	Channel/Frequency (MHz)	Tune-up dBm	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
<b>Head SAR(Receiver on)</b>											
Left Cheek	standard	DSSS	1:1	6/2437	14.00	12.68	0.165	-0.060	1.36	0.224	/
Left Tilt	standard	DSSS	1:1	6/2437	14.00	12.68	0.361	-0.080	1.36	0.489	152
Right Cheek	standard	DSSS	1:1	6/2437	14.00	12.68	0.075	0.032	1.36	0.101	/
Right Tilt	standard	DSSS	1:1	6/2437	14.00	12.68	0.209	0.040	1.36	0.283	/
Left Tilt	Battery2	DSSS	1:1	6/2437	14.00	12.68	0.283	0.021	1.36	0.384	/
Left Tilt	Battery3	DSSS	1:1	6/2437	14.00	12.68	0.347	-0.052	1.36	0.470	/
<b>Head SAR(Receiver on)(Test at the best acoustic position)</b>											
Left Tilt	standard	DSSS	1:1	6/2437	14.00	12.68	0.467	0.027	1.36	0.633	153
Left Tilt	Battery2	DSSS	1:1	6/2437	14.00	12.68	0.392	0.033	1.36	0.531	/
Left Tilt	Battery3	DSSS	1:1	6/2437	14.00	12.68	0.453	-0.072	1.36	0.614	/
<b>Body worn(Distance 15mm) (Receiver off)</b>											
Back Side	standard	DSSS	1:1	6/2437	18.50	17.36	0.151	0.050	1.30	0.196	/
Front Side	standard	DSSS	1:1	6/2437	18.50	17.36	0.153	0.090	1.30	0.199	154
Front Side	Battery2	DSSS	1:1	6/2437	18.50	17.36	0.139	0.066	1.30	0.181	/
Front Side	Battery3	DSSS	1:1	6/2437	18.50	17.36	0.147	0.022	1.30	0.191	/
<b>Hotspot SAR(Distance 10mm) (Receiver off)</b>											
Back Side	standard	DSSS	1:1	6/2437	18.50	17.36	0.243	-0.087	1.30	0.316	/
Front Side	standard	DSSS	1:1	6/2437	18.50	17.36	0.243	-0.060	1.30	0.316	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	DSSS	1:1	6/2437	18.50	17.36	0.227	0.080	1.30	0.295	/
Top Edge	standard	DSSS	1:1	6/2437	18.50	17.36	0.554	0.099	1.30	0.720	155
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	Battery2	DSSS	1:1	6/2437	18.50	17.36	0.527	0.085	1.30	0.685	/
Top Edge	Battery3	DSSS	1:1	6/2437	18.50	17.36	0.501	-0.010	1.30	0.651	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.											



MAX Adjusted SAR							
Mode	Test Position	Channel/ Frequency (MHz)	MAX Reported SAR <sub>1g</sub> (W/kg)	802.11b Tune-up limit (dBm)	Tune-up limit (dBm)	Scaling Factor	Adjusted SAR <sub>1g</sub> (W/kg)
802.11g	Left Tilt	6/2437	0.633	14.00	14.00	1.00	0.633
802.11n HT20	Left Tilt	6/2437	0.633	14.00	14.00	1.00	0.633
802.11n HT40	Left Tilt	6/2437	0.633	14.00	8.00	0.25	0.159
802.11g	Top Edge	6/2437	0.720	18.50	18.00	0.89	0.642
802.11n HT20	Top Edge	6/2437	0.720	18.50	17.50	0.79	0.572
802.11n HT40	Top Edge	6/2437	0.720	18.50	8.00	0.09	0.064

Note: SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.



## Antenna 2

Test Position	Cover Type	Mode 802.11b	Duty Cycle	Channel/Frequency (MHz)	Tune-up dBm	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
<b>Head SAR(Receiver on)</b>											
Left Cheek	standard	DSSS	1:1	6/2437	14.00	12.72	0.021	0.054	1.34	0.028	/
Left Tilt	standard	DSSS	1:1	6/2437	14.00	12.72	0.015	0.099	1.34	0.020	/
Right Cheek	standard	DSSS	1:1	6/2437	14.00	12.72	0.113	0.024	1.34	0.152	156
Right Tilt	standard	DSSS	1:1	6/2437	14.00	12.72	0.056	0.099	1.34	0.075	/
Right Cheek	Battery2	DSSS	1:1	6/2437	14.00	12.72	0.108	-0.026	1.34	0.145	/
Right Cheek	Battery3	DSSS	1:1	6/2437	14.00	12.72	0.087	0.140	1.34	0.117	/
<b>Head SAR(Receiver on)(Test at the best acoustic position)</b>											
Right Cheek	standard	DSSS	1:1	6/2437	14.00	12.72	0.106	0.056	1.34	0.142	157
Right Cheek	Battery2	DSSS	1:1	6/2437	14.00	12.72	0.094	0.023	1.34	0.126	/
Right Cheek	Battery3	DSSS	1:1	6/2437	14.00	12.72	0.077	0.014	1.34	0.103	/
<b>Body worn(Distance 15mm) (Receiver off)</b>											
Back Side	standard	DSSS	1:1	6/2437	14.00	12.72	0.134	0.025	1.34	0.180	158
Front Side	standard	DSSS	1:1	6/2437	14.00	12.72	0.061	0.056	1.34	0.082	/
Back Side	Battery2	DSSS	1:1	6/2437	14.00	12.72	0.130	0.047	1.34	0.175	/
Back Side	Battery3	DSSS	1:1	6/2437	14.00	12.72	0.125	0.062	1.34	0.168	/
<b>Hotspot SAR(Distance 10mm) (Receiver off)</b>											
Back Side	standard	DSSS	1:1	6/2437	14.00	12.72	0.271	0.170	1.34	0.364	/
Front Side	standard	DSSS	1:1	6/2437	14.00	12.72	0.086	0.124	1.34	0.115	/
Left Edge	standard	DSSS	1:1	6/2437	14.00	12.72	0.363	0.150	1.34	0.487	159
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Left Edge	Battery2	DSSS	1:1	6/2437	14.00	12.72	0.351	0.035	1.34	0.471	/
Left Edge	Battery3	DSSS	1:1	6/2437	14.00	12.72	0.296	-0.027	1.34	0.397	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.



MAX Adjusted SAR							
Mode	Test Position	Channel/ Frequency (MHz)	MAX Reported SAR <sub>1g</sub> (W/kg)	802.11b Tune-up limit (dBm)	Tune-up limit (dBm)	Scaling Factor	Adjusted SAR <sub>1g</sub> (W/kg)
802.11g	Right Cheek	6/2437	0.152	14.00	14.00	1.00	0.152
802.11n HT20	Right Cheek	6/2437	0.152	14.00	14.00	1.00	0.152
802.11n HT40	Right Cheek	6/2437	0.152	14.00	8.00	0.25	0.038
802.11g	Left Edge	6/2437	0.487	18.00	17.50	0.89	0.434
802.11n HT20	Left Edge	6/2437	0.487	18.00	17.00	0.79	0.387
802.11n HT40	Left Edge	6/2437	0.487	18.00	8.00	0.10	0.049

Note: SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg.

**Table 38: Wi-Fi (5G,U-NII-2A)**

Per 248227, for band U-NII-1 and U-NII-2A, when the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

**Antenna 1**

Test Position	Cover Type	Mode 802.11n HT40	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
<b>Head SAR(Receiver on)</b>											
Left Cheek	standard	OFDM	1:1	54/5270	13.00	11.44	0.075	0.074	1.43	0.108	/
Left Tilt	standard	OFDM	1:1	54/5270	13.00	11.44	0.199	0.033	1.43	0.285	/
Right Cheek	standard	OFDM	1:1	54/5270	13.00	11.44	0.030	-0.114	1.43	0.043	/
Right Tilt	standard	OFDM	1:1	54/5270	13.00	11.44	0.059	0.060	1.43	0.085	/
Left Tilt	Battery2	OFDM	1:1	54/5270	13.00	11.44	0.124	0.110	1.43	0.178	/
Left Tilt	Battery3	OFDM	1:1	54/5270	13.00	11.44	0.195	-0.028	1.43	0.279	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>											
Left Tilt	standard	OFDM	1:1	54/5270	13.00	11.44	0.266	0.022	1.43	0.381	/
Left Tilt	Battery2	OFDM	1:1	54/5270	13.00	11.44	0.224	-0.034	1.43	0.321	/
Left Tilt	Battery3	OFDM	1:1	54/5270	13.00	11.44	0.257	0.075	1.43	0.368	/
<b>Body-worn SAR (Distance 15mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	54/5270	15.00	13.41	0.102	-0.069	1.44	0.147	160
Front Side	standard	OFDM	1:1	54/5270	15.00	13.41	0.029	-0.056	1.44	0.042	/
Back Side	Battery2	OFDM	1:1	54/5270	15.00	13.41	0.073	0.011	1.44	0.105	/
Back Side	Battery3	OFDM	1:1	54/5270	15.00	13.41	0.085	0.032	1.44	0.123	/
Test Position	Cover Type	Mode 802.11n HT40	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)				Plot No.
							Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR 10g	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	54/5270	15.00	13.41	0.331	0.037	1.44	0.477	/
Front Side	standard	OFDM	1:1	54/5270	15.00	13.41	0.311	0.027	1.44	0.448	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	OFDM	1:1	54/5270	15.00	13.41	0.219	-0.082	1.44	0.316	/
Top Edge	standard	OFDM	1:1	54/5270	15.00	13.41	0.698	0.020	1.44	1.007	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	Battery2	OFDM	1:1	54/5270	15.00	13.41	0.677	0.035	1.44	0.976	/
Top Edge	Battery3	OFDM	1:1	54/5270	15.00	13.41	0.692	-0.077	1.44	0.998	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.





## Antenna 2

Test Position	Cover Type	Mode 802.11n HT40	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
<b>Head SAR(Receiver on)</b>											
Left Cheek	standard	OFDM	1:1	54/5270	13.00	11.44	0.071	0.040	1.43	0.102	/
Left Tilt	standard	OFDM	1:1	54/5270	13.00	11.44	0.108	0.155	1.43	0.155	/
Right Cheek	standard	OFDM	1:1	54/5270	13.00	11.44	0.303	0.079	1.43	0.434	/
Right Tilt	standard	OFDM	1:1	54/5270	13.00	11.44	0.454	0.085	1.43	0.650	161
Right Tilt	Battery2	OFDM	1:1	54/5270	13.00	11.44	0.446	-0.020	1.43	0.639	/
Right Tilt	Battery3	OFDM	1:1	54/5270	13.00	11.44	0.418	0.063	1.43	0.599	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>											
Right Tilt	standard	OFDM	1:1	54/5270	13.00	11.44	0.404	-0.156	1.43	0.579	162
Right Tilt	Battery2	OFDM	1:1	54/5270	13.00	11.44	0.384	-0.010	1.43	0.550	/
Right Tilt	Battery3	OFDM	1:1	54/5270	13.00	11.44	0.375	-0.084	1.43	0.537	/
<b>Body-worn SAR (Distance 15mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	54/5270	15.00	13.41	0.056	-0.042	1.44	0.081	/
Front Side	standard	OFDM	1:1	54/5270	15.00	13.41	0.054	-0.021	1.44	0.078	/
Back Side	Battery2	OFDM	1:1	54/5270	15.00	13.41	0.052	-0.038	1.44	0.075	/
Back Side	Battery3	OFDM	1:1	54/5270	15.00	13.41	0.049	0.057	1.44	0.071	/
Test Position	Cover Type	Mode 802.11n HT40	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)				Plot No.
							Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR 10g	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	54/5270	15.00	13.41	0.177	0.024	1.44	0.255	/
Front Side	standard	OFDM	1:1	54/5270	15.00	13.41	0.392	0.045	1.44	0.565	/
Left Edge	N/A	N/A	N/A	54/5270	15.00	13.41	0.117	0.027	1.44	0.169	/
Right Edge	standard	OFDM	1:1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	OFDM	1:1	54/5270	15.00	13.41	0.174	0.061	1.44	0.251	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	Battery2	OFDM	1:1	54/5270	15.00	13.41	0.367	-0.024	1.44	0.529	/
Front Side	Battery3	OFDM	1:1	54/5270	15.00	13.41	0.381	0.015	1.44	0.549	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.



Table 39: Wi-Fi (5G,U-NII-2C)

## Antenna 1

Test Position	Cover Type	Mode 802.11ac VHT80	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
<b>Head SAR(Receiver on)</b>											
Left Cheek	standard	OFDM	1:1	122/5610	13.00	11.53	0.127	0.109	1.40	0.178	/
Left Tilt	standard	OFDM	1:1	122/5610	13.00	11.53	0.382	0.093	1.40	0.536	163
Right Cheek	standard	OFDM	1:1	122/5610	13.00	11.53	0.039	0.056	1.40	0.055	/
Right Tilt	standard	OFDM	1:1	122/5610	13.00	11.53	0.102	0.081	1.40	0.143	/
Left Tilt	Battery2	OFDM	1:1	122/5610	13.00	11.53	0.347	0.019	1.40	0.487	/
Left Tilt	Battery3	OFDM	1:1	122/5610	13.00	11.53	0.360	-0.083	1.40	0.505	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>											
Left Tilt	standard	OFDM	1:1	122/5610	13.00	11.53	0.446	-0.020	1.40	0.626	164
Left Tilt	Battery2	OFDM	1:1	122/5610	13.00	11.53	0.409	0.120	1.40	0.574	/
Left Tilt	Battery3	OFDM	1:1	122/5610	13.00	11.53	0.422	0.075	1.40	0.592	/
<b>Body-worn SAR (Distance 15mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	122/5610	15.00	13.47	0.001	0.113	1.42	0.002	/
Front Side	standard	OFDM	1:1	122/5610	15.00	13.47	0.006	0.048	1.42	0.008	/
Front Side	Battery2	OFDM	1:1	122/5610	15.00	13.47	0.005	0.022	1.42	0.007	/
Front Side	Battery3	OFDM	1:1	122/5610	15.00	13.47	0.005	0.100	1.42	0.007	/
Test Position	Cover Type	Mode 802.11ac VHT80	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 4.0 W/kg (mW/g)				Plot No.
							Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR 10g	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	122/5610	15.00	13.47	0.375	0.083	1.42	0.533	/
Front Side	standard	OFDM	1:1	122/5610	15.00	13.47	0.379	0.100	1.42	0.539	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	OFDM	1:1	122/5610	15.00	13.47	0.284	0.069	1.42	0.404	/
Top Edge	standard	OFDM	1:1	122/5610	15.00	13.47	0.818	0.022	1.42	1.163	165
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: 1. The value with blue color is the maximum SAR Value of each test band.



## Antenna 2

Test Position	Cover Type	Mode 802.11ac VHT80	Duty Cycle	Channel/Frequency (MHz)	Tune-up dBm	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
<b>Head SAR(Receiver on)</b>											
Left Cheek	standard	OFDM	1:1	122/5610	13.00	11.93	0.096	0.153	1.28	0.122	/
Left Tilt	standard	OFDM	1:1	122/5610	13.00	11.93	0.164	0.022	1.28	0.210	/
Right Cheek	standard	OFDM	1:1	122/5610	13.00	11.93	0.156	0.045	1.28	0.200	/
Right Tilt	standard	OFDM	1:1	122/5610	13.00	11.93	0.427	0.133	1.28	0.546	/
Right Tilt	Battery2	OFDM	1:1	122/5610	13.00	11.93	0.410	0.062	1.28	0.525	/
Right Tilt	Battery3	OFDM	1:1	122/5610	13.00	11.93	0.386	0.051	1.28	0.494	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>											
Right Tilt	standard	OFDM	1:1	122/5610	13.00	11.93	0.443	-0.042	1.28	0.567	/
Right Tilt	Battery2	OFDM	1:1	122/5610	13.00	11.93	0.418	-0.039	1.28	0.535	/
Right Tilt	Battery3	OFDM	1:1	122/5610	13.00	11.93	0.398	0.120	1.28	0.509	/
<b>Body-worn SAR (Distance 15mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	122/5610	15.00	13.35	0.059	-0.070	1.46	0.086	/
Front Side	standard	OFDM	1:1	122/5610	15.00	13.35	0.067	0.073	1.46	0.098	166
Front Side	Battery2	OFDM	1:1	122/5610	15.00	13.35	0.053	0.060	1.46	0.077	/
Front Side	Battery3	OFDM	1:1	122/5610	15.00	13.35	0.048	0.031	1.46	0.070	/
Test Position	Cover Type	Mode 802.11ac VHT80	Duty Cycle	Channel/Frequency (MHz)	Tune-up dBm	Measured power (dBm)	Limit of SAR 4.0 W/kg (mW/g)				Plot No.
							Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR 10g	
<b>Product Specific 10-g SAR (Distance 0mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	122/5610	15.00	13.35	0.258	0.086	1.46	0.377	/
Front Side	standard	OFDM	1:1	122/5610	15.00	13.35	0.447	0.100	1.46	0.654	167
Left Edge	standard	OFDM	1:1	122/5610	15.00	13.35	0.125	0.081	1.46	0.183	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	OFDM	1:1	122/5610	15.00	13.35	0.311	0.066	1.46	0.455	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	Battery2	OFDM	1:1	122/5610	15.00	13.35	0.419	0.069	1.46	0.613	/
Front Side	Battery3	OFDM	1:1	122/5610	15.00	13.35	0.388	0.081	1.46	0.567	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

**Table 40: Wi-Fi (5G,U-NII-3)**

**Antenna 1**

Test Position	Cover Type	Mode 802.11ac VHT80	Duty Cycle	Channel/Frequency (MHz)	Tune-up dBm	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
<b>Head SAR(Receiver on)</b>											
Left Cheek	standard	OFDM	1:1	155/5775	13.00	11.56	0.116	0.052	1.39	0.162	/
Left Tilt	standard	OFDM	1:1	155/5775	13.00	11.56	0.273	0.147	1.39	0.380	/
Right Cheek	standard	OFDM	1:1	155/5775	13.00	11.56	0.043	-0.052	1.39	0.060	/
Right Tilt	standard	OFDM	1:1	155/5775	13.00	11.56	0.063	0.058	1.39	0.087	/
Left Tilt	Battery2	OFDM	1:1	155/5775	13.00	11.56	0.254	0.130	1.39	0.354	/
Left Tilt	Battery3	OFDM	1:1	155/5775	13.00	11.56	0.237	0.098	1.39	0.330	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>											
Left Tilt	standard	OFDM	1:1	155/5775	13.00	11.56	0.384	0.031	1.39	0.535	/
Left Tilt	Battery2	OFDM	1:1	155/5775	13.00	11.56	0.367	0.036	1.39	0.511	/
Left Tilt	Battery3	OFDM	1:1	155/5775	13.00	11.56	0.372	0.020	1.39	0.518	/
<b>Hotspot SAR(Distance 10mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	155/5775	15.00	13.47	0.191	0.168	1.42	0.272	168
Front Side	standard	OFDM	1:1	155/5775	15.00	13.47	0.054	0.159	1.42	0.077	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	OFDM	1:1	155/5775	15.00	13.47	0.058	-0.034	1.42	0.082	/
Top Edge	standard	OFDM	1:1	155/5775	15.00	13.47	0.136	0.030	1.42	0.193	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery2	OFDM	1:1	155/5775	15.00	13.47	0.183	0.120	1.42	0.260	/
Back Side	Battery3	OFDM	1:1	155/5775	15.00	13.47	0.179	0.100	1.42	0.255	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.											



## Antenna 2

Test Position	Cover Type	Mode 802.11ac VHT80	Duty Cycle	Channel/Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
<b>Head SAR(Receiver on)</b>											
Left Cheek	standard	OFDM	1:1	155/5775	13.00	12.08	0.024	0.038	1.24	0.030	/
Left Tilt	standard	OFDM	1:1	155/5775	13.00	12.08	0.045	0.026	1.24	0.055	/
Right Cheek	standard	OFDM	1:1	155/5775	13.00	12.08	0.053	-0.185	1.24	0.066	/
Right Tilt	standard	OFDM	1:1	155/5775	13.00	12.08	0.131	0.169	1.24	0.162	/
Right Tilt	Battery2	OFDM	1:1	155/5775	13.00	12.08	0.122	0.150	1.24	0.151	/
Right Tilt	Battery3	OFDM	1:1	155/5775	13.00	12.08	0.119	0.069	1.24	0.147	/
<b>Head SAR(Receiver on) (Test at the best acoustic position)</b>											
Right Tilt	standard	OFDM	1:1	155/5775	13.00	12.08	0.148	0.066	1.24	0.183	/
Right Tilt	Battery2	OFDM	1:1	155/5775	13.00	12.08	0.135	0.053	1.24	0.167	/
Right Tilt	Battery3	OFDM	1:1	155/5775	13.00	12.08	0.128	0.039	1.24	0.158	/
<b>Hotspot SAR(Distance 10mm) (Receiver off)</b>											
Back Side	standard	OFDM	1:1	155/5775	15.00	13.88	0.143	-0.023	1.29	0.185	169
Front Side	standard	OFDM	1:1	155/5775	15.00	13.88	0.038	-0.069	1.29	0.049	/
Left Edge	standard	OFDM	1:1	155/5775	15.00	13.88	0.039	-0.128	1.29	0.050	/
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	OFDM	1:1	155/5775	15.00	13.88	0.091	-0.067	1.29	0.117	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery2	OFDM	1:1	155/5775	15.00	13.88	0.136	-0.027	1.29	0.176	/
Back Side	Battery3	OFDM	1:1	155/5775	15.00	13.88	0.124	0.150	1.29	0.160	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.											



**Table 41: Bluetooth**

Test Position	Cover Type	Mode	Duty Cycle	Channel/Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)				Plot No.
							Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
<b>Head SAR(Receiver on) (normal)</b>											
Left Cheek	standard	BDR	76.5%	39/2441	10.50	9.65	0.067	0.089	1.59	0.107	/
Left Tilt	standard	BDR	76.5%	39/2441	10.50	9.65	0.154	0.197	1.59	0.245	170
Right Cheek	standard	BDR	76.5%	39/2441	10.50	9.65	0.037	0.179	1.59	0.059	/
Right Tilt	standard	BDR	76.5%	39/2441	10.50	9.65	0.100	0.167	1.59	0.159	/
Left Tilt	Battery2	BDR	76.5%	39/2441	10.50	9.65	0.146	-0.074	1.59	0.232	/
Left Tilt	Battery3	BDR	76.5%	39/2441	10.50	9.65	0.152	0.033	1.59	0.242	/
<b>Head SAR(Receiver on) (Test at the best acoustic position) (normal)</b>											
Left Tilt	standard	BDR	76.5%	39/2441	10.50	9.65	0.198	-0.062	1.59	0.315	171
Left Tilt	Battery2	BDR	76.5%	39/2441	10.50	9.65	0.175	-0.024	1.59	0.278	/
Left Tilt	Battery3	BDR	76.5%	39/2441	10.50	9.65	0.186	0.013	1.59	0.296	/
<b>Hotspot SAR(Distance 10mm)(high)</b>											
Back Side	standard	BDR HP	76.5%	0/2402	17.70	16.45	0.106	-0.029	1.74	0.185	/
Front Side	standard	BDR HP	76.5%	0/2402	17.70	16.45	0.096	-0.107	1.74	0.168	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	BDR HP	76.5%	0/2402	17.70	16.45	0.075	-0.050	1.74	0.131	/
Top Edge	standard	BDR HP	76.5%	0/2402	17.70	16.45	0.229	0.160	1.74	0.399	172
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	Battery2	BDR HP	76.5%	0/2402	17.70	16.45	0.214	0.140	1.74	0.373	/
Top Edge	Battery3	BDR HP	76.5%	0/2402	17.70	16.45	0.208	0.176	1.74	0.363	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

Band	Configuration	Frequency (MHz)	Maximum Power (dBm)	Separation Distance (mm)	Estimated SAR (W/kg)
Bluetooth	Product Specific 10-g SAR	2480	17.70	5	0.989

For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 based on the formula below.  
 $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})^2 \cdot [\sqrt{f(\text{GHz})}]^2 \text{ W/kg}$   
 for test separation distances  $\leq 50$  mm; where  $x = 7.5$  for 1-g SAR, and  $x = 18.75$  for 10-g SAR.

### 10.3 Simultaneous Transmission Analysis

Simultaneous Transmission Configurations	Head	Body-worn	Hotspot	Product Specific 10-g SAR
GSM Voice(Ant1) + BT	Yes	Yes	N/A	Yes
GSM DATA(Ant 1) + BT	N/A	Yes	Yes	Yes
GSM Voice(Ant 2) + BT	Yes	Yes	N/A	Yes
GSM DATA (Ant 2)+ BT	N/A	Yes	Yes	Yes
UMTS (Ant 1) + BT	Yes	Yes	Yes	Yes
UMTS (Ant 2) + BT	Yes	Yes	Yes	Yes
LTE(Ant 1) + BT	Yes	Yes	Yes	Yes
LTE (Ant 2) + BT	Yes	Yes	Yes	Yes
LTE (MAS) + BT	Yes	Yes	Yes	Yes
GSM Voice(Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	N/A	Yes
GSM DATA(Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	N/A	Yes	Yes	Yes
GSM Voice(Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	N/A	Yes
GSM DATA (Ant 2)+ Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	N/A	Yes	Yes	Yes
UMTS (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
LTE (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
LTE (MAS) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
GSM Voice(Ant 1) + Wi-Fi 2.4G (Ant2) + BT	Yes	Yes	N/A	Yes
GSM DATA(Ant 1) + Wi-Fi 2.4G (Ant2) + BT	N/A	Yes	Yes	Yes
GSM Voice(Ant 2) + Wi-Fi 2.4G (Ant2) + BT	Yes	Yes	N/A	Yes
GSM DATA (Ant 2) + Wi-Fi 2.4G (Ant2) + BT	N/A	Yes	Yes	Yes
UMTS (Ant 1) + Wi-Fi 2.4G (Ant2) + BT	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 2.4G (Ant2) + BT	Yes	Yes	Yes	Yes
LTE (Ant 1) + Wi-Fi 2.4G (Ant2) + BT	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 2.4G (Ant2) + BT	Yes	Yes	Yes	Yes
LTE (MAS) + Wi-Fi 2.4G (Ant2) + BT	Yes	Yes	Yes	Yes
GSM Voice(Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	N/A	Yes
GSM DATA(Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	N/A	Yes	Yes	Yes
GSM Voice(Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	N/A	Yes
GSM DATA(Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	N/A	Yes	Yes	Yes
UMTS (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
LTE (Ant 1 ) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
LTE (MAS) + Wi-Fi 5G (Ant1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
GSM Voice(Ant 1) + Wi-Fi 5G (Ant1/ Ant2/ MIMO) + BT	Yes	Yes	N/A	Yes
GSM DATA(Ant 1) + Wi-Fi 5G (Ant1/ Ant2/ MIMO) + BT	N/A	Yes	Yes	Yes
GSM Voice(Ant 2) + Wi-Fi 5G (Ant1/ Ant2/ MIMO) + BT	Yes	Yes	N/A	Yes
GSM DATA (Ant 2)+ BT+ Wi-Fi 5G (Ant1/ Ant2/ MIMO)	N/A	Yes	Yes	Yes
UMTS (Ant 1) + Wi-Fi 5G (Ant1/ Ant2/ MIMO) + BT	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 5G (Ant1/ Ant2/ MIMO) + BT	Yes	Yes	Yes	Yes





LTE (Ant 1) + Wi-Fi 5G (Ant1/ Ant2/ MIMO) + BT	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 5G (Ant1/ Ant2/ MIMO) + BT	Yes	Yes	Yes	Yes
LTE (MAS) + Wi-Fi 5G (Ant1/ Ant2/ MIMO) + BT	Yes	Yes	Yes	Yes
GSM Voice(Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	Yes	Yes	N/A	Yes
GSM DATA(Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	N/A	Yes	Yes	Yes
GSM Voice(Ant 2) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	Yes	Yes	N/A	Yes
GSM DATA(Ant 2) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	N/A	Yes	Yes	Yes
UMTS (Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	Yes	Yes	Yes	Yes
LTE (Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	Yes	Yes	Yes	Yes
LTE (MAS) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	Yes	Yes	Yes	Yes
GSM DATA(Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)+ BT	N/A	Yes	Yes	Yes
GSM DATA(Ant 2) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)+BT	N/A	Yes	Yes	Yes
GSM Voice(Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)+ BT	Yes	Yes	N/A	Yes
GSM Voice (Ant 2) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)+BT	Yes	Yes	N/A	Yes
UMTS (Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)+BT	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)+BT	Yes	Yes	Yes	Yes
LTE (Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)+BT	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)+BT	Yes	Yes	Yes	Yes
LTE (MAS) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)+BT	Yes	Yes	Yes	Yes

## Note:

- 1) Wi-Fi 2.4G Ant 2 can transmit simultaneously with Bluetooth and Wi-Fi 2.4G Ant 1 can't transmit simultaneously with Bluetooth.
- 2) Wi-Fi 5G Ant 1 can transmit simultaneously with Bluetooth and Ant 2 also can transmit simultaneously with Bluetooth.
- 3) Wi-Fi 2.4G has two TX antennas. Wi-Fi 2.4G 802.11g/n support 2\*2 CDD/MIMO function.
- 4) Wi-Fi 5G has two TX antennas. Wi-Fi 5G 802.11 a/n/ac support 2\*2 CDD/MIMO function.
- 5) Wi-Fi 2.4G & Wi-Fi 5G can't work at same mode, but they can transmit simultaneously at different modes (Wi-Fi station/P-to-P) by using different Wi-Fi antennas. Only Wi-Fi 2.4G Ant 2 station mode and Wi-Fi 5G Ant 1 P-to-P mode or Wi-Fi 2.4G Ant 2 P-to-P mode and Wi-Fi 5G Ant 1 station mode can transmit simultaneously.
- 6) The Main Antenna (Ant 1) , Second Antenna (Ant 2) and Second MAS Antenna (MAS) can't transmit simultaneously.
- 7) For Wi-Fi 5G, U-NII-1 (20MHz, 40MHz, 80MHz ,160MHz Bandwidth ) U-NII-2A (20MHz, 40MHz, 80MHz,160MHz Bandwidth) and U-NII-2C (20MHz, 40MHz, 80MHz ,160MHz Bandwidth) bands does not support hotspot function.
- 8) When 2.4G hotspot + BT off, it works on Ant 1. When 2.4G hotspot + BT on, 2.4G hotspot works on Ant 2 and BT works on Ant 1.

**General Note:**

1. The Scaled SAR summation is calculated based on the same configuration and test position.
2. Per KDB 447498 D01, simultaneous transmission SAR is compliant if,
  - i) Scalar SAR summation < 1.6W/kg, simultaneously transmission SAR measurement is not necessary.
  - ii)  $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$ , and the peak separation distance is determined from the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
  - iii) If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary.





**The maximum SAR<sub>1g</sub> Value for Main-Antenna**

Test Position		Main antenna												Main antenna Max SAR	
		GSM 850	GSM 1900	UMTS Band II	UMTS Band IV	UMTS Band V	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 26	LTE Band 41		
Head	Left cheek	0.236	0.216	0.359	0.387	0.191	0.577	0.372	0.321	0.693	0.198	0.280	0.273	0.693	
	Left tilt	0.135	0.062	0.095	0.133	0.254	0.108	0.158	0.218	0.124	0.187	0.186	0.057	0.254	
	Right cheek	0.302	0.282	0.490	0.660	0.347	0.434	0.521	0.400	0.359	0.309	0.305	0.189	0.660	
	Right tilt	0.171	0.048	0.100	0.145	0.216	0.097	0.088	0.264	0.171	0.216	0.235	0.108	0.264	
Body Worn	Back side	0.250	0.270	0.631	0.616	0.465	0.567	0.679	0.538	0.939	0.313	0.531	0.533	0.939	
	Front side	0.187	0.183	0.573	0.593	0.368	0.475	0.416	0.379	0.655	0.266	0.360	0.408	0.655	
Hotspot	Back side	0.485	0.087	0.482	0.457	0.465	0.435	0.583	0.538	0.563	0.313	0.531	0.415	0.583	
	Front side	0.356	0.080	0.459	0.475	0.368	0.458	0.423	0.379	0.410	0.266	0.360	0.314	0.475	
	Left side	0.229	0.025	0.152	0.196	0.142	0.126	0.258	0.279	0.101	0.242	0.250	0.099	0.279	
	Right side	0.082	0.020	0.067	0.116	0.130	0.107	0.126	0.142	0.068	0.158	0.138	0.047	0.158	
	Top side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Bottom side	0.350	0.150	0.808	0.756	0.318	0.759	0.871	0.366	0.969	0.145	0.306	0.597	0.969	
Product Specific 10-g SAR	Back side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Front side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Left side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Right side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Top side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Bottom side	N/A	N/A	2.315	1.858	N/A	2.556	2.134	N/A	2.445	N/A	N/A	2.516	2.556	

**The maximum SAR<sub>1g</sub> Value for Second-Antenna**

Test Position		Second antenna												Second antenna Max SAR
		GSM 850	GSM 1900	UMTS Band II	UMTS Band IV	UMTS Band V	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 26	LTE Band 41	
Head	Left cheek	0.115	0.121	0.099	0.112	0.206	0.112	0.093	0.122	0.057	0.134	0.134	0.064	0.206
	Left tilt	0.145	0.201	0.183	0.148	0.351	0.184	0.107	0.187	0.095	0.218	0.211	0.104	0.351
	Right cheek	0.151	0.269	0.223	0.215	0.302	0.147	0.149	0.164	0.133	0.388	0.169	0.133	0.388
	Right tilt	0.273	0.584	0.459	0.414	0.480	0.491	0.358	0.295	0.347	0.345	0.294	0.351	0.584
Body Worn	Back side	0.285	0.144	0.470	0.471	0.420	0.228	0.211	0.433	0.196	0.118	0.365	0.160	0.471
	Front side	0.355	0.125	0.410	0.420	0.554	0.198	0.232	0.568	0.158	0.133	0.460	0.132	0.568
Hotspot	Back side	0.259	0.196	0.408	0.416	0.507	0.258	0.191	0.292	0.164	0.152	0.267	0.272	0.507
	Front side	0.311	0.113	0.332	0.345	0.371	0.213	0.161	0.369	0.149	0.179	0.316	0.277	0.371
	Left side	0.099	0.144	0.185	0.152	0.161	0.106	0.084	0.098	0.091	0.057	0.110	0.106	0.185
	Right side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
	Top side	0.195	0.266	0.628	0.412	0.292	0.376	0.245	0.161	0.165	0.130	0.235	0.212	0.628
	Bottom side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0



Product Specific 10-g SAR	Back side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Front side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Left side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Right side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Top side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Bottom side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**The maximum SAR<sub>1g</sub> Value for Second MAS Antenna**

Test Position		Main antenna				Main antenna Max SAR
		LTE Band 2	LTE Band 4	LTE Band 7	LTE Band 41	
Head	Left cheek	0.236	0.085	0.260	0.174	0.260
	Left tilt	0.059	0.016	0.079	0.079	0.079
	Right cheek	0.113	0.033	0.209	0.135	0.209
	Right tilt	0.075	0.018	0.042	0.092	0.092
Body Worn	Back side	0.067	0.017	0.283	0.228	0.283
	Front side	0.038	0.005	0.114	0.071	0.114
Hotspot	Back side	0.088	0.059	0.283	0.228	0.283
	Front side	0.042	0.024	0.114	0.071	0.114
	Left side	N/A	N/A	N/A	N/A	N/A
	Right side	0.094	0.067	0.444	0.480	0.480
	Top side	N/A	N/A	N/A	N/A	N/A
	Bottom side	N/A	N/A	N/A	N/A	N/A
Product Specific 10-g SAR	Back side	N/A	N/A	N/A	N/A	N/A
	Front side	N/A	N/A	N/A	N/A	N/A
	Left side	N/A	N/A	N/A	N/A	N/A
	Right side	N/A	N/A	N/A	N/A	N/A
	Top side	N/A	N/A	N/A	N/A	N/A
	Bottom side	N/A	N/A	N/A	N/A	N/A



SAR Simultaneous Tx Combination of Main antenna with WiFi/BT Scenario

Test Position		Main antenna MaxSAR	WiFi 2.4G Ant1 (Core0)	WiFi 2.4G Ant2 (Core1)	WiFi 2.4G MIMO	WiFi 5G Ant1 (Core0)	WiFi 5G Ant2 (Core1)	WiFi 5G MIMO	BT	Simultaneously Transmission SAR		
		1	2	3	4	5	6	7	8	1+max (2,3,4)	1+max (5,6,7)+8	1+3+5+8
Head	Left cheek	0.693	0.224	0.028	0.252	0.178	0.122	0.300	0.107	0.945	1.100	1.006
	Left tilt	0.254	0.633	0.020	0.653	0.626	0.210	0.836	0.315	0.907	1.405	1.215
	Right cheek	0.660	0.101	0.152	0.253	0.060	0.434	0.494	0.059	0.913	1.213	0.931
	Right tilt	0.264	0.283	0.075	0.358	0.143	0.650	0.793	0.159	0.622	1.216	0.641
Body Worn	Back side	0.939	0.196	0.180	0.376	0.147	0.086	0.233	0.185	1.315	1.357	1.451
	Front side	0.655	0.199	0.082	0.281	0.042	0.098	0.140	0.168	0.936	0.963	0.947
Hotspot	Back side	0.583	0.316	0.364	0.680	0.272	0.185	0.457	0.185	1.263	1.225	1.404
	Front side	0.475	0.316	0.115	0.431	0.077	0.049	0.126	0.168	0.906	0.769	0.835
	Left side	0.279	N/A	0.487	0.487	N/A	0.050	0.050	N/A	0.766	0.329	0.766
	Right side	0.158	0.295	N/A	0.295	0.082	N/A	0.082	0.131	0.453	0.371	0.371
	Top side	N/A	0.720	N/A	0.720	0.193	0.117	0.310	0.399	0.720	0.709	0.592
	Bottom side	0.969	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.969	0.969	0.969
Product Specific 10-g	Back side	N/A	N/A	N/A	N/A	0.533	0.377	0.910	0.989	0.000	1.899	1.522
	Front side	N/A	N/A	N/A	N/A	0.539	0.654	1.193	0.989	0.000	2.182	1.528
	Left side	N/A	N/A	N/A	N/A	N/A	0.183	0.183	N/A	0.000	0.183	0.000
	Right side	N/A	N/A	N/A	N/A	0.404	N/A	0.404	0.989	0.000	1.393	1.393
	Top side	N/A	N/A	N/A	N/A	1.163	0.455	1.618	0.989	0.000	2.607	2.152
	Bottom side	2.556	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.556	2.556	2.556



SAR Simultaneous Tx Combination of Second antenna with WiFi/BT Scenario

Test Position		Second antenna	WiFi 2.4G	WiFi 2.4G	WiFi 2.4G	WiFi 5G	WiFi 5G	WiFi 5G	BT	Simultaneously Transmission SAR		
		MaxSAR	Ant1 (Core0)	Ant2 (Core1)	MIMO	Ant1 (Core0)	Ant2 (Core1)	MIMO		1+max (2,3,4)	1+max (5,6,7)+8	1+3+5+8
		1	2	3	4	5	6	7	8			
Head	Left cheek	0.206	0.224	0.028	0.252	0.178	0.122	0.300	0.107	0.458	0.613	0.519
	Left tilt	0.351	0.633	0.020	0.653	0.626	0.210	0.836	0.315	1.004	1.502	1.312
	Right cheek	0.388	0.101	0.152	0.253	0.060	0.434	0.494	0.059	0.641	0.941	0.659
	Right tilt	0.584	0.283	0.075	0.358	0.143	0.650	0.793	0.159	0.942	1.536	0.961
Body Worn	Back side	0.471	0.196	0.180	0.376	0.147	0.086	0.233	0.185	0.847	0.889	0.983
	Front side	0.568	0.199	0.082	0.281	0.042	0.098	0.140	0.168	0.849	0.876	0.860
Hotspot	Back side	0.507	0.316	0.364	0.680	0.272	0.185	0.457	0.185	1.187	1.149	1.328
	Front side	0.371	0.316	0.115	0.431	0.077	0.049	0.126	0.168	0.802	0.665	0.731
	Left side	0.185	N/A	0.487	0.487	N/A	0.050	0.050	N/A	0.672	0.235	0.672
	Right side	0	0.295	N/A	0.295	0.082	N/A	0.082	0.131	0.295	0.213	0.213
	Top side	0.628	0.720	N/A	0.720	0.193	0.117	0.310	0.399	1.348	1.337	1.220
	Bottom side	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	0.000	0.000
Product Specific 10-g	Back side	N/A	N/A	N/A	N/A	0.533	0.377	0.910	0.989	0.000	1.899	1.522
	Front side	N/A	N/A	N/A	N/A	0.539	0.654	1.193	0.989	0.000	2.182	1.528
	Left side	N/A	N/A	N/A	N/A	N/A	0.183	0.183	N/A	0.000	0.183	0.000
	Right side	N/A	N/A	N/A	N/A	0.404	N/A	0.404	0.989	0.000	1.393	1.393
	Top side	N/A	N/A	N/A	N/A	1.163	0.455	1.618	0.989	0.000	2.607	2.152
	Bottom side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	0.000	0.000

SAR Simultaneous Tx Combination of Second MAS antenna with WiFi/BT Scenario

Test Position		Second MAS antenna	WiFi 2.4G	WiFi 2.4G	WiFi 2.4G	WiFi 5G	WiFi 5G	WiFi 5G	BT	Simultaneously Transmission SAR		
		MaxSAR	Ant1 (Core0)	Ant2 (Core1)	MIMO	Ant1 (Core0)	Ant2 (Core1)	MIMO		1+max (2,3,4)	1+max (5,6,7)+8	1+3+5+8
		1	2	3	4	5	6	7	8			
Head	Left cheek	0.260	0.224	0.028	0.252	0.178	0.122	0.300	0.107	0.512	0.667	0.573
	Left tilt	0.079	0.633	0.020	0.653	0.626	0.210	0.836	0.315	0.732	1.230	1.040
	Right cheek	0.209	0.101	0.152	0.253	0.060	0.434	0.494	0.059	0.462	0.762	0.480
	Right tilt	0.092	0.283	0.075	0.358	0.143	0.650	0.793	0.159	0.450	1.044	0.469
Body Worn	Back side	0.283	0.196	0.180	0.376	0.147	0.086	0.233	0.185	0.659	0.701	0.795
	Front side	0.114	0.199	0.082	0.281	0.042	0.098	0.140	0.168	0.395	0.422	0.406
Hotspot	Back side	0.283	0.316	0.364	0.680	0.272	0.185	0.457	0.185	0.963	0.925	1.104
	Front side	0.114	0.316	0.115	0.431	0.077	0.049	0.126	0.168	0.545	0.408	0.474
	Left side	N/A	N/A	0.487	0.487	N/A	0.050	0.050	N/A	0.487	0.050	0.487
	Right side	0.480	0.295	N/A	0.295	0.082	N/A	0.082	0.131	0.775	0.693	0.693



	Top side	N/A	0.720	N/A	0.720	0.193	0.117	0.310	0.399	0.720	0.709	0.592
	Bottom side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	0.000	0.000
Product Specific 10-g	Back side	N/A	N/A	N/A	N/A	0.533	0.377	0.910	0.989	0.000	1.899	1.522
	Front side	N/A	N/A	N/A	N/A	0.539	0.654	1.193	0.989	0.000	2.182	1.528
	Left side	N/A	N/A	N/A	N/A	N/A	0.183	0.183	N/A	0.000	0.183	0.000
	Right side	N/A	N/A	N/A	N/A	0.404	N/A	0.404	0.989	0.000	1.393	1.393
	Top side	N/A	N/A	N/A	N/A	1.163	0.455	1.618	0.989	0.000	2.607	2.152
	Bottom side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	0.000	0.000

**H-field strength test results test by Huawei Technologies Co., Ltd.**

Charge amount	Frequency Range (kHz)	Distance (cm)	Test Position	Test Results (A/m)	Limit (A/m)	Conclusion
10%	110~148	10cm	Back side	0.109	1.63	pass
10%	110~148	10cm	Front side	0.084	1.63	pass
10%	110~148	10cm	Left side	0.062	1.63	pass
10%	110~148	10cm	Right side	0.055	1.63	pass
10%	110~148	10cm	Top side	0.049	1.63	pass
10%	110~148	10cm	Bottom side	0.056	1.63	pass
50%	110~148	10cm	Back side	0.108	1.63	pass
50%	110~148	10cm	Front side	0.093	1.63	pass
50%	110~148	10cm	Left side	0.054	1.63	pass
50%	110~148	10cm	Right side	0.065	1.63	pass
50%	110~148	10cm	Top side	0.062	1.63	pass
50%	110~148	10cm	Bottom side	0.063	1.63	pass
90%	110~148	10cm	Back side	0.100	1.63	pass
90%	110~148	10cm	Front side	0.091	1.63	pass
90%	110~148	10cm	Left side	0.048	1.63	pass
90%	110~148	10cm	Right side	0.066	1.63	pass
90%	110~148	10cm	Top side	0.058	1.63	pass
90%	110~148	10cm	Bottom side	0.047	1.63	pass

The device also supports Tx wireless charging function. When the device is working on Tx wireless charging mode, other Tx antennas(2G/3G/4G/WIFI/BT) can still work. So this simultaneous transmission should also be considered.

Per KDB 447498D01, the following test exclusion conditions should be satisfied for all combinations of simultaneous transmission configurations:

The  $[\Sigma \text{ of (the highest measured or estimated SAR for each standalone antenna configuration, adjusted for maximum tune-up tolerance) / 1.6 W/kg} + [\Sigma \text{ of MPE ratios}]] \leq 1.0$ .

Similarly For Product Specific 10-g SAR, the test exclusion conditions should be:

The  $[\Sigma \text{ of (the highest measured or estimated SAR for each standalone antenna configuration, adjusted for maximum tune-up tolerance) / 4.0 W/kg} + [\Sigma \text{ of MPE ratios}]] \leq 1.0$ .



The RF exposure ratios for all combinations of simultaneous transmission configurations are calculated as below:

exposure condition	MAX Simultaneous Transmission SAR (W/kg)	SAR Limit (W/kg)	Max H-field (A/m)	MPE Limit (A/m)	RF exposure ratio ( $\leq 1.0$ )	Conclusion
Body-worn	1.451	1.6	0.109	1.63	0.974	PASS
Hotspot	1.404	1.6	0.109	1.63	0.944	PASS
Product Specific 10-g SAR	2.607	4.0	0.109	1.63	0.719	PASS

Simultaneous transmission RF exposure ratios for SAR & MPE(H-Field)

**Conclusion:**

According to the KDB 690783 D01 section 1) d) i), when the sum of 1-g SAR applies for simultaneous transmission SAR test exclusion, the highest sum of 1-g SAR according to the highest reported stand-alone SAR values is used, and the highest Reported SAR for simultaneous transmission exposure conditions is 1.451 W/kg



## 11 Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is  $< 1.5$  W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528- 2013 is not required in SAR reports submitted for equipment approval. This also applies to the 10-g SAR required for phablets in KDB Publication 648474.



## **ANNEX A: Test Layout**

(Please See R1910H0225 SAR ANNEX A Test Layout)

## **ANNEX B: System Check Results**

(Please See R1910H0225 SAR ANNEX B System Check Results & ANNEX C Highest Graph Results)

## **ANNEX C: Highest Graph Results**

(Please See R1910H0225 SAR ANNEX B System Check Results & ANNEX C Highest Graph Results)

## **ANNEX D: Probe Calibration Certificate**

(Please See R1910H0225 SAR ANNEX D-L Calibration Certificate)

## **ANNEX E: D750V3 Dipole Calibration Certificate**

(Please See R1910H0225 SAR ANNEX D-L Calibration Certificate)

## **ANNEX F: D835V2 Dipole Calibration Certificate**

(Please See R1910H0225 SAR ANNEX D-L Calibration Certificate)

## **ANNEX G: D1750V2 Dipole Calibration Certificate**

(Please See R1910H0225 SAR ANNEX D-L Calibration Certificate)

## **ANNEX H: D1900V2 Dipole Calibration Certificate**

(Please See R1910H0225 SAR ANNEX D-L Calibration Certificate)



## **ANNEX I: D2450V2 Dipole Calibration Certificate**

(Please See R1910H0225 SAR ANNEX D-L Calibration Certificate)

## **ANNEX J: D2600V2 Dipole Calibration Certificate**

(Please See R1910H0225 SAR ANNEX D-L Calibration Certificate)

## **ANNEX K: D5GHzV2 Dipole Calibration Certificate**

(Please See R1910H0225 SAR ANNEX D-L Calibration Certificate)

## **ANNEX L: DAE4 Calibration Certificate**

(Please See R1910H0225 SAR ANNEX D-L Calibration Certificate)

## **ANNEX M: The EUT Appearances and Test Configuration**

(Please See R1910H0225 SAR ANNEX M SAR Test Setup & R1910H0225 EUT Appearance)