



# SAR TEST REPORT

**Applicant**      Xiaomi Communications Co., Ltd.  
**FCC ID**            2AFZZ1119AL  
**Product**          Mobile Phone  
**Brand**             Redmi  
**Model**             21061119AL  
**Report No.**       R2105A0397-S1V2  
**Issue Date**      July 9, 2021

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.

*Yurui Zhao*

*Prepared by: Yurui Zhao*

*Guangchang Fan*

*Approved by: Guangchang Fan*

**TA Technology (Shanghai) Co., Ltd.**

*No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China*

*TEL: +86-021-50791141/2/3*

*FAX: +86-021-50791141/2/3-8000*

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Version	Revision description	Issue Date
Rev.0	Initial issue of report.	July 1, 2021
Rev.1	Update FCC ID	July 5, 2021
Rev.2	Update description in Page 25	July 9, 2021
Note: This revised report (Report No. R2105A0397-S1V2) supersedes and replaces the previously issued report (Report No. R2105A0397-S1V1). Please discard or destroy the previously issued report and dispose of it accordingly.		



## 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 Test facility

#### **FCC (Designation number: CN1179, Test Firm Registration Number: 446626)**

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

#### **A2LA (Certificate Number: 3857.01)**

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

### 1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.  
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China  
City: Shanghai  
Post code: 201201  
Country: P. R. China  
Contact: Fan Guangchang  
Telephone: +86-021-50791141/2/3  
Fax: +86-021-50791141/2/3-8000  
Website: <http://www.ta-shanghai.com>  
E-mail: [fanguangchang@ta-shanghai.com](mailto:fanguangchang@ta-shanghai.com)



## 1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 $\Omega$
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	0.82	0.26	0.40	NA
GSM 1900	1.02	0.24	0.96	NA
WCDMA Band II	0.97	0.55	1.02	2.08
WCDMA Band IV	0.91	0.55	0.94	1.85
WCDMA Band V	0.82	0.28	0.54	NA
LTE FDD 2	<b>1.09</b>	0.69	<b>1.09</b>	1.40
LTE FDD 4	1.04	0.59	0.74	1.94
LTE FDD 5	0.90	0.36	0.47	NA
LTE FDD 7	1.01	<b>1.07</b>	0.82	1.99
LTE FDD 12	0.67	0.28	0.43	NA
LTE TDD 38	1.05	1.05	0.92	1.82
LTE TDD 41	1.04	1.07	0.75	1.44
LTE FDD 66	1.07	0.68	0.98	<b>2.43</b>
Wi-Fi (2.4G)	0.42	0.21	0.33	NA
Wi-Fi (5G)	0.60	0.37	0.45	1.45
BT	0.14	0.02	0.02	NA

Date of Testing: March 30, 2021 ~June 23, 2021

Date of Sample Received: March 25, 2021

Note: 1. The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg and 4.0 W/kg) specified in ANSI C95.1: 1992/IEEE C95.1: 1991, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.

2.All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.

Note: 1) 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.



Table 2: Highest Simultaneous Transmission SAR

Exposure Configuration	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	Product Specific 10-g SAR (Separation 0mm)
Highest Simultaneous Transmission SAR (W/kg)	1.592	1.467	1.372	3.443
Note: The detail for simultaneous transmission consideration is described in chapter 10.3.				

21061119AL (Report No.: R2105A0397-S1V1) is a variant model of 21061119AG (Report No.: R2105A0395-S1). Test values duplicated from Original for variant. This report adds the LTE 12/17/66 frequency band. The detailed product change description please refers to the Product Change Description.

Tested band refer to the following table.

Band	Original	Variant
GSM 850	Pass	Only tested with worst case of Original
GSM 1900	Pass	Only tested with worst case of Original
WCDMA Band II	Pass	Only tested with worst case of Original
WCDMA Band IV	Pass	Only tested with worst case of Original
WCDMA Band V	Pass	Only tested with worst case of Original
LTE FDD 2	Pass	Only tested with worst case of Original
LTE FDD 4	Pass	Only tested with worst case of Original
LTE FDD 5	Pass	Only tested with worst case of Original
LTE FDD 7	Pass	Only tested with worst case of Original
LTE FDD 12	/	PASS
LTE TDD 38	Pass	Only tested with worst case of Original
LTE TDD 41	Pass	Only tested with worst case of Original
LTE FDD 66	/	PASS
Wi-Fi (2.4G)	Pass	Only tested with worst case of Original
Wi-Fi (5G)	Pass	Only tested with worst case of Original
BT	Pass	Only tested with worst case of Original



### 3 Description of Equipment under Test

#### Client Information

Applicant	Xiaomi Communications Co., Ltd.
Applicant address	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
Manufacturer	Xiaomi Communications Co., Ltd.
Manufacturer address	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

#### General Technologies

Application Purpose	Class II Permissive Change
EUT Stage	Identical Prototype
Model	21061119AL
IMEI	IMEI 1: 863461050011766 IMEI 2: 863461050011774
Hardware Version	P1.1
Software Version	MIUI12.5
Antenna Type	PIFA Antenna
Device Class	B
Memory	4+64G; 6+128 G; 4+128 G
Wi-Fi Hotspot	Wi-Fi 2.4G Wi-Fi 5G U-NII-1&U-NII-3
Power Class	GSM 850: 4 GSM 1900: 1 UMTS Band II/IV/V: 3 LTE FDD 2/4/5/7/12/17/66: 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 2/4/5/7/12/17/66: max power LTE TDD 38/41: max power

Note: The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.

**Wireless Technology and Frequency Range**

Wireless Technology		Modulation	Operating mode	Tx (MHz)
GSM	850	Voice(GMSK) GPRS(GMSK) EGPRS(GMSK,8PSK)	<input type="checkbox"/> Multi-slot Class:8-1UP <input type="checkbox"/> Multi-slot Class:10-2UP <input checked="" type="checkbox"/> Multi-slot Class:12-4UP <input type="checkbox"/> Multi-slot Class:33-4UP	824 ~ 849
	1900			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: Rel. 8 HSUPA: Rel. 8	1850 ~ 1910
	Band IV			1710 ~ 1755
	Band V			824 ~ 849
LTE	FDD 2	QPSK, 16QAM, 64QAM	Rel.11, Category 7	1850 ~ 1910
	FDD 4			1710 ~ 1755
	FDD 5			824 ~ 849
	FDD 7			2500 ~ 2570
	FDD 12			699 ~ 716
	FDD 17			704 ~ 716
	TDD 38			2570 ~ 2620
	TDD 41			2535 ~ 2655
	FDD 66			1710 ~ 1780
	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				
BT	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	5150 ~ 5250
				5250 ~ 5350 5470 ~ 5725 5725 ~ 5850
Does this device support MIMO <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				



## 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:

IEC 62209-1

### Reference Standards

KDB 248227 D01 802.11Wi-Fi SAR v02r02

KDB 447498 D01 General RF Exposure Guidance v06

KDB 648474 D04 Handset SAR v01r03

KDB 690783 D01 SAR Listings on Grants v01r03

KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04

KDB 865664 D02 RF Exposure Reporting v01r02

KDB 941225 D01 3G SAR Procedures v03r01

KDB 941225 D05 SAR for LTE Devices v02r05

KDB 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02

KDB 941225 D06 Hotspot Mode v02r01

## 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".

#### 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 (~ 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 3: 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 4: 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

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  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ .  
 Note 3: 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 5: 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:  $\beta_{ed}$  cannot be set directly; it is set by Absolute Grant Value.

**Table 6: HSUPA UE category**

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCHTTI (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 (No DPDCH)	4	8	2	2 SF2 & 2	11484	5.76
	4	4	10	SF4	20000	2.00
7 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	22996	?
	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, 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, 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. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (uplink) HSPA+ with 12.2 kbps RMC as the primary mode. Power is measured for HSPA+ that supports uplink 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.

3) 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.

4) Regardless of whether a PBA is required, the following information must be verified and included in the SAR report for devices supporting HSPA, HSPA+ or DC-HSDPA:

a) The output power measurement results and applicable release version(s) of 3GPP TS 34.121.

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/HSPA+ channel conditions (active and stable) for the entire duration of the measurement according to the required E-TFCI and AG index values.

5) 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 7: HS-DSCH UE category**

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	Not applicable (dual cell operation not supported)	
Category 12	5	1	3630	28800	QPSK, 16QAM, 64QAM		
Category 13	15	1	35280	259200			
Category 14	15	1	42192	259200	QPSK, 16QAM		
Category 15	15	1	23370	345600			
Category 16	15	1	27952	345600	QPSK, 16QAM, 64QAM		-
Category 17 NOTE 2	15	1	35280	259200			
			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. 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.

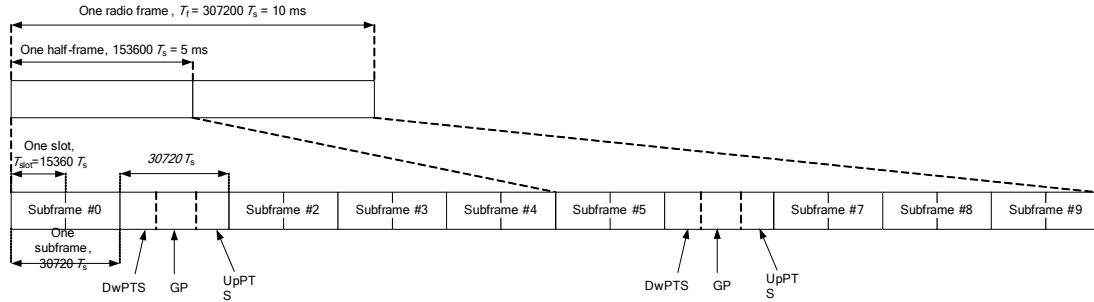


Figure 1: Frame structure type 2

**Table 8: 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	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$	-	-	-	-	-
9	$13168 \cdot T_s$	-	-	-	-	-

**Table 9: 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:

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

About the uplink component of Special subframes, we can figure out by Table: Configuration of special subframe (lengths of DwPTS/GP/UpPTS):

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

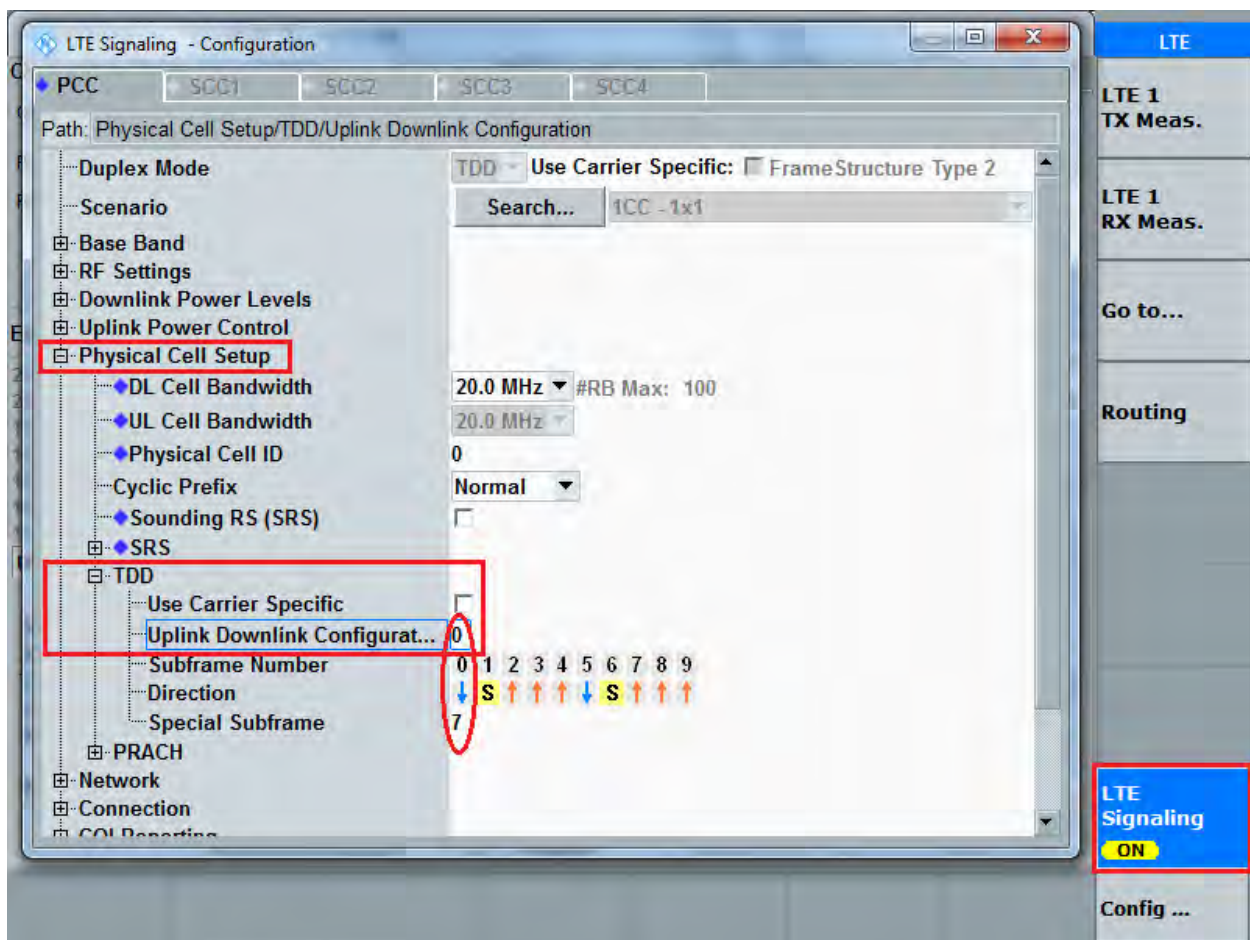
In conclusion, for the TDD LTE Band, Duty Cycle can be calculated with formula as below. All these sets are ok when we test, or we can set as below.

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

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

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; These are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the *initial test position(s)* by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The *initial test position(s)* is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s). When the *reported SAR* for the *initial test position* is:

- $\leq 0.4$  W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the *initial test position* to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the *reported SAR* is  $\leq 0.8$  W/kg or all required test positions are tested.
  - ◇ For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
  - ◇ When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported SAR* is  $> 0.8$  W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported SAR* is  $\leq 1.2$  W/kg or all required test channels are considered.
  - ◇ The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.

To determine the initial test position, Area Scans were performed to determine the position with the Maximum Value of SAR (measured). The position that produced the highest Maximum Value of SAR is considered the worst case position; thus used as the initial test position.

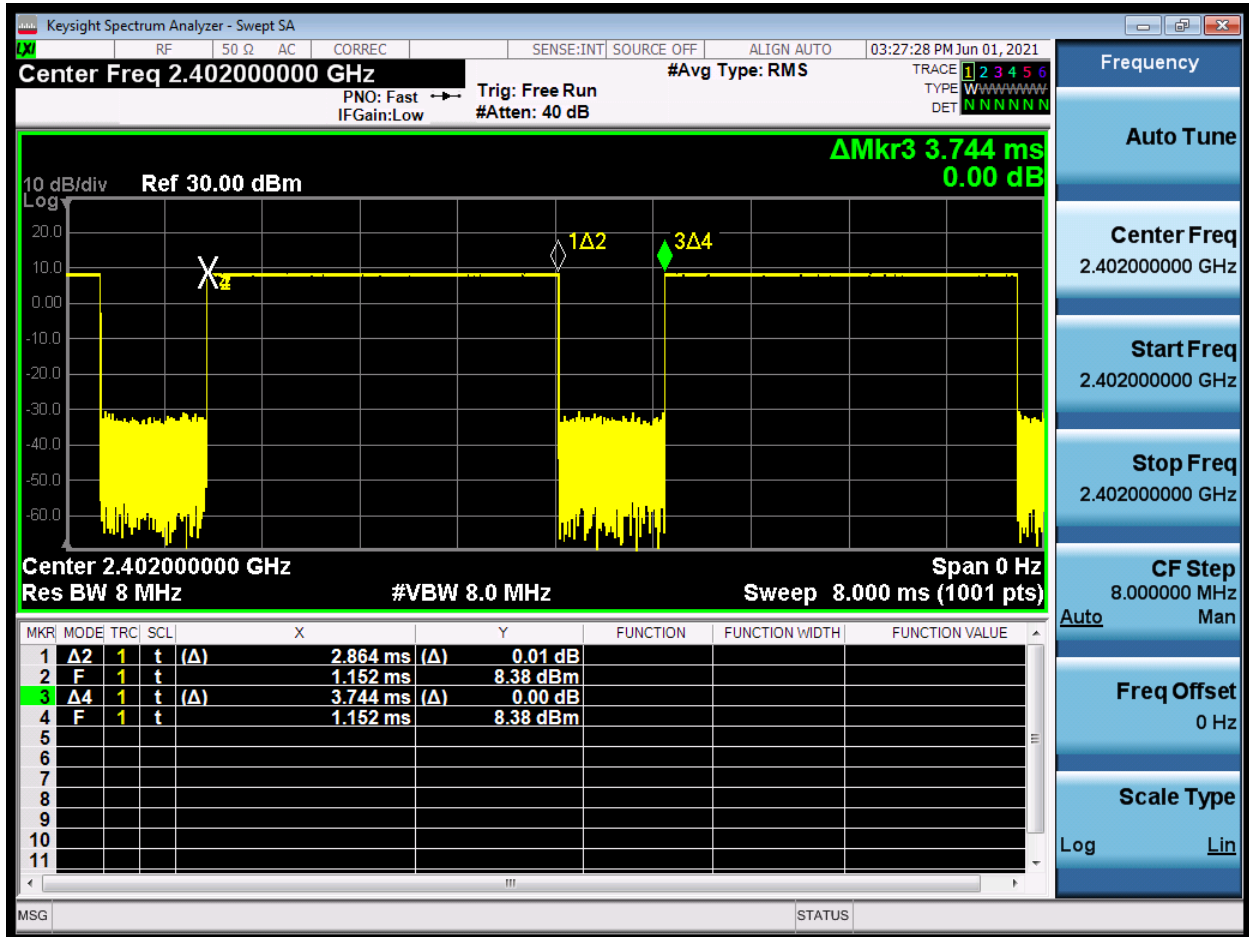
A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.



### 5.3.6 BT Test Configuration

For BT SAR testing, BT engineering testing software installed on the EUT can provide continuous transmitting RF signal with maximum output power. And the CBT control the EUT operating with hopping off and data rate set for DH5.

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)=2.864/3.744=76.5%



### 5.3.7 LTE CA specification

The CA test refers to the LTE maximum bandwidth, maximum modulation method and maximum power RB for testing. The power flatness is within 0.5.

The device supports LTE advanced Rel. 11, Carrier Aggregation (CA) on downlink for Intra band and inter-band. Uplink CA is supported for Intra band only, more details information is provided in tables below:

#### 1) CA Intra band contiguous

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]	Channel bandwidths for carrier [MHz]		
CA_7C	CA_7C	15	15				40	0
		20	20					
		10	20				40	1
		15	15, 20					
		20	10, 15, 20					
				15	10, 15			40
		20	15, 20					
CA_38C	CA_38C	15	15				40	0
		20	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: 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.

### 5.3.8 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 exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of Main Antenna and Second 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 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)	Power level
GSM 1900	Back side	0mm≤distance≤16mm	1	DSI-3/DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	/	0	DSI-2
	Bottom Edge	0mm≤distance≤16mm	1	DSI-3/DSI-4
		16mm<distance	0	DSI-2
WCDMA B2	Back side	0mm≤distance≤16mm	3.5	DSI-3/DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	/	0	DSI-2
	Bottom Edge	0mm≤distance≤16mm	3.5	DSI-3/DSI-4
		16mm<distance	0	DSI-2
WCDMA B4	Back side	0mm≤distance≤16mm	4	DSI-3/DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	/	0	DSI-2
	Bottom Edge	0mm≤distance≤16mm	4	DSI-3/DSI-4
		16mm<distance	0	DSI-2
LTE B2	Back side	0mm≤distance≤16mm	3.5	DSI-3/DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	/	0	DSI-2
	Bottom Edge	0mm≤distance≤16mm	3.5	DSI-3/DSI-4
		16mm<distance	0	DSI-2



LTE B4	Back side	0mm≤distance≤16mm	4.5	DSI-3/DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	/	0	DSI-2
	Bottom Edge	0mm≤distance≤16mm	4.5	DSI-3/DSI-4
		16mm<distance	0	DSI-2
LTE B7	Back side	0mm≤distance≤16mm	1	DSI-3/DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	/	0	DSI-2
	Bottom Edge	0mm≤distance≤16mm	1	DSI-3/DSI-4
		16mm<distance	0	DSI-2
LTE B66	Back side	0mm≤distance≤16mm	2.5	DSI-3/DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	/	0	DSI-2
	Bottom Edge	0mm≤distance≤16mm	2.5	DSI-3/DSI-4
		16mm<distance	0	DSI-2
Second Antenna				
Band	Test position	Sensor Trigger Distance range (DUT to Phantom)	Power reduction amount(dB)	Power level
WCDMA B2	Back side	0mm≤distance≤16mm	1	DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	0mm≤distance≤16mm	1	DSI-4
		16mm<distance	0	DSI-2
	Bottom edge	/	0	DSI-2
LTE B2	Back side	0mm≤distance≤16mm	2	DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	0mm≤distance≤16mm	2	DSI-4



		16mm<distance	0	DSI-2
	Bottom edge	/	0	DSI-2
LTE B7	Back side	0mm≤distance≤16mm	5.5	DSI-4
		16mm<distance	1.5	DSI-2
	Front side	/	1.5	DSI-2
	Left edge	/	1.5	DSI-2
	Right edge	/	1.5	DSI-2
	Top edge	0mm≤distance≤16mm	5.5	DSI-4
		16mm<distance	1.5	DSI-2
	Bottom edge	/	1.5	DSI-2
LTE B38	Back side	0mm≤distance≤16mm	4	DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	0mm≤distance≤16mm	4	DSI-4
		16mm<distance	0	DSI-2
	Bottom edge	/	0	DSI-2
LTE B41	Back side	0mm≤distance≤16mm	5	DSI-4
		16mm<distance	0	DSI-2
	Front side	/	0	DSI-2
	Left edge	/	0	DSI-2
	Right edge	/	0	DSI-2
	Top edge	0mm≤distance≤16mm	5	DSI-4
		16mm<distance	0	DSI-2
	Bottom edge	/	0	DSI-2

Maximum transmit power reduce process follow below strategy when mobile connect network.

position	Audio Receiver	SAR sensor (BOT)	SAR sensor (TOP)	TX Power reduce
Body	Off	Near/Far	Near	DSI 4
	Off	Near	Far	DSI 3
	Off	Far	Far	DSI 2
Head	On	/	/	DSI 1

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

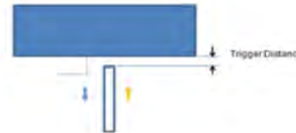
### 5.3.9 Procedures for determining proximity sensor triggering distances

The device was tested by the test lab to determine the proximity sensor triggering distances for the backside, top side and bottom edge 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 (Back side)

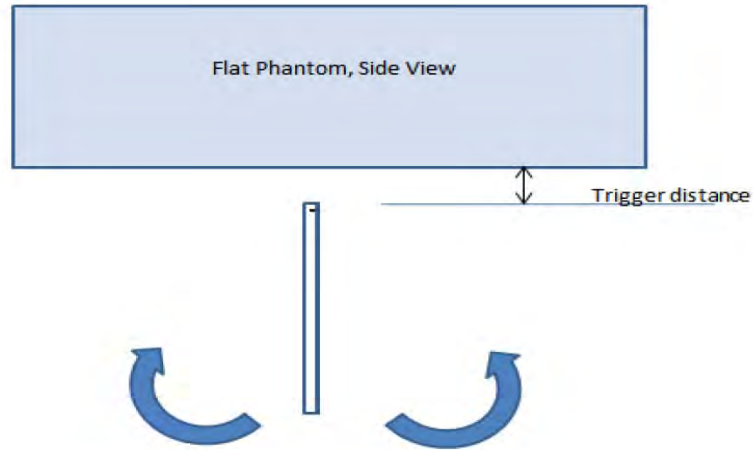


Picture: Proximity sensor triggering distances assessment (Top/Bottom edge)

**Table: Summary of Trigger Distances**

Band	Trigger distance-Back Side		Trigger distance-Bottom Edge		Trigger distance-Top Edge	
	Moving toward Phantom	Moving away from Phantom	Moving toward Phantom	Moving away from Phantom	Moving toward Phantom	Moving away from Phantom
GSM 1900	16	16	16	16	16	16
WCDMA B2	16	16	16	16	16	16
WCDMA B4	16	16	16	16	16	16
LTE B2	16	16	16	16	16	16
LTE B4	16	16	16	16	16	16
LTE B7	16	16	16	16	16	16
LTE B38	16	16	16	16	16	16
LTE B41	16	16	16	16	16	16





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

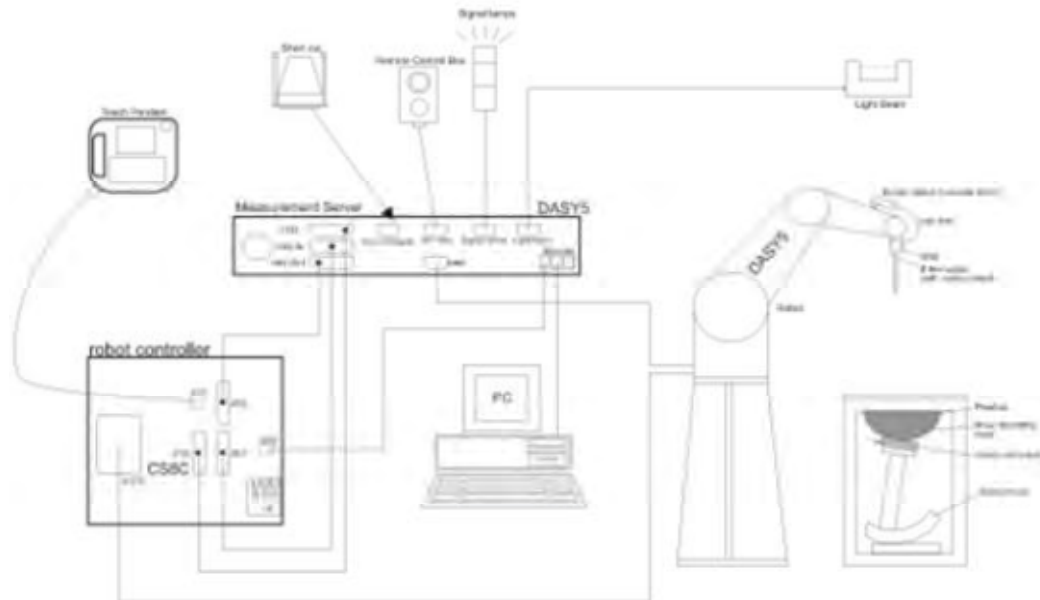
Band(MHz)	Position	Minimum trigger distance at which power reduction was maintained over $\pm 45^\circ$	Power Reduction Status										
			-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°
GSM 1900	Bottom edge	16mm	on	on	on	on	on	on	on	on	on	on	on
WCDMA B2	Bottom edge	16mm	on	on	on	on	on	on	on	on	on	on	on
WCDMA B4	Bottom edge	16mm	on	on	on	on	on	on	on	on	on	on	on
LTE B2	Bottom edge	16mm	on	on	on	on	on	on	on	on	on	on	on
LTE B4	Bottom edge	16mm	on	on	on	on	on	on	on	on	on	on	on
LTE B7	Bottom edge	16mm	on	on	on	on	on	on	on	on	on	on	on
WCDMA B2	Top edge	16mm	on	on	on	on	on	on	on	on	on	on	on
LTE B2	Top edge	16mm	on	on	on	on	on	on	on	on	on	on	on
LTE B7	Top edge	16mm	on	on	on	on	on	on	on	on	on	on	on
LTE B38	Top edge	16mm	on	on	on	on	on	on	on	on	on	on	on
LTE B41	Top edge	16mm	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.



$$\text{SAR} = C \Delta T / \Delta t$$

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

Or

$$\text{SAR} = |E|^2 \sigma / \rho$$

Where:  $\sigma$  = Simulated tissue conductivity,  
 $\rho$  = Tissue density ( $\text{kg}/\text{m}^3$ ).

### 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.

	$\leq 3$ GHz	$> 3$ GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	$5 \pm 1$ mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	$\leq 2$ GHz: $\leq 15$ mm $2 - 3$ GHz: $\leq 12$ mm	$3 - 4$ GHz: $\leq 12$ mm $4 - 6$ GHz: $\leq 10$ 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 $\leq$ 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 DASY 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	2021-05-15	2022-05-14
Dielectric Probe Kit	HP	85070E	US44020115	2021-05-15	2022-05-14
Power meter	Agilent	E4417A	GB41291714	2021-05-15	2022-05-14
Power sensor	Agilent	N8481H	MY50350004	2021-05-15	2022-05-14
Power sensor	Agilent	E9327A	US40441622	2021-05-15	2022-05-14
Dual directional coupler	Agilent	778D-012	50519	/	/
Dual directional coupler	Agilent	777D	50146	/	/
Amplifier	INDEXSAR	IXA-020	0401	2021-05-15	2022-05-14
Wireless communication tester	Anritsu	MT8820C	6201342015	2020-12-13	2021-12-12
Wireless communication tester	Key sight	E5515C	MY48360988	2020-12-13	2021-12-12
Wideband radio communication tester	R&S	CMW 500	113645	2021-05-15	2022-05-14
Base Station Simulator	R&S	CMW270	100673	2021-05-15	2022-05-14
E-field Probe	SPEAG	EX3DV4	3677	2020-07-06	2021-07-05
DAE	SPEAG	DAE4	1317	2021-02-23	2022-02-22
Validation Kit 750MHz	SPEAG	D750V3	1045	2020-08-28	2023-08-27
Validation Kit 835MHz	SPEAG	D835V2	4d020	2020-08-28	2023-08-27
Validation Kit 1750MHz	SPEAG	D1750V2	1033	2020-02-25	2023-02-24
Validation Kit 1900MHz	SPEAG	D1900V2	5d060	2020-08-27	2023-08-26
Validation Kit 2450MHz	SPEAG	D2450V2	786	2020-08-27	2023-08-26
Validation Kit 2600MHz	SPEAG	D2600V2	1025	2021-04-23	2024-04-22
Validation Kit 5GHz	SPEAG	D5GHzV2	1151	2020-02-27	2023-02-26
Temperature Probe	Tianjin jinming	JM222	381	2021-05-15	2022-05-14
Hygrothermograph	Anymetr	HTC - 1	TY2020A001	2021-05-15	2022-05-14
Twin SAM Phantom	Speag	SAM1	1534	/	/
Software for Test	Speag	DASY52	/	/	/



Software for Tissue	Agilent	85070	/	/	/
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## 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 ± 2°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 24 hours of use; or earlier if the dielectric parameters can become out of tolerance.

#### Target values

Frequency (MHz)	Water (%)	Salt (%)	Sugar (%)	Glycol (%)	Preventol (%)	Cellulose (%)	$\epsilon_r$	$\sigma$ (s/m)
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
Frequency (MHz)	Water (%)	Diethylenglycol monohexylether			Triton X-100		$\epsilon_r$	$\sigma$ (s/m)
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

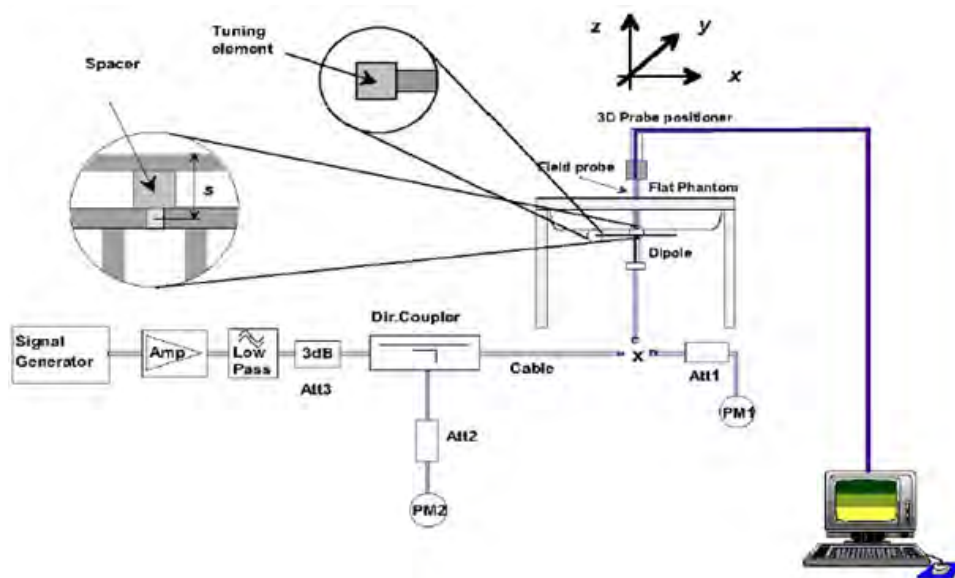
**Measurements results**

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	5/28/2021	21.5	42.3	0.88	41.9	0.89	0.95	-1.12
835	6/5/2021	21.5	41.3	0.89	41.5	0.90	-0.48	-1.11
	6/7/2021	21.5	41.4	0.92	41.5	0.90	-0.24	2.22
1750	6/1/2021	21.5	40.2	1.35	40.1	1.37	0.25	-1.46
	6/2/2021	21.5	40.1	1.34	40.1	1.37	0.00	-2.19
	6/14/2021	21.5	40.2	1.36	40.1	1.37	0.25	-0.73
1900	5/30/2021	21.5	40.1	1.41	40.0	1.40	0.25	0.71
	5/31/2021	21.5	40.2	1.43	40.0	1.40	0.50	2.14
2450	6/11/2021	21.5	38.6	1.81	39.2	1.80	-1.53	0.56
2600	6/3/2021	21.5	38.9	2.01	39.0	1.96	-0.26	2.55
	6/4/2021	21.5	38.5	1.94	39.0	1.96	-1.28	-1.02
	6/8/2021	21.5	38.7	1.99	39.0	1.96	-0.77	1.53
	6/9/2021	21.5	38.6	1.95	39.0	1.96	-1.03	-0.51
	6/10/2021	21.5	38.8	1.96	39.0	1.96	-0.51	0.00
5250	6/13/2021	21.5	35.5	4.80	35.9	4.71	-1.11	1.91
5600	6/23/2021	21.5	34.9	5.08	35.5	5.07	-1.69	0.20
5750	6/23/2021	21.5	35.2	5.21	35.4	5.22	-0.56	-0.19
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 D1750V2 SN: 1033	Head Liquid	2/25/2020	-38.3	/	48.8	/
		2/26/2021	-40.0	-1.7	49.9	1.1
Dipole D5GHzV2 SN: 1151 (5250MHz)	Head Liquid	2/27/2020	-23.4	/	52.4	/
		2/26/2021	-23.8	-0.4	50.0	-2.4
Dipole D5GHzV2 SN: 1151 (5600MHz)	Head Liquid	2/27/2020	-22.6	/	57.0	/
		2/26/2021	-21.5	1.1	55.6	-1.4
Dipole D5GHzV2 SN: 1151 (5750MHz)	Head Liquid	2/27/2020	-25.0	/	55.9	/
		2/26/2021	-26.8	-1.8	52.5	-3.4

**System Check results**

Frequency (MHz)	Test Date	Temp $^{\circ}\text{C}$	250mW /100mW Measured SAR <sub>1g</sub> (W/kg)	1W Normalized SAR <sub>1g</sub> (W/kg)	1W Target SAR <sub>1g</sub> (W/kg)	$\Delta$ % (Limit $\pm 10\%$ )	Plot No.
750	5/28/2021	21.5	2.13	8.52	8.37	1.79	1
835	6/5/2021	21.5	2.46	9.84	9.65	1.97	2
	6/7/2021	21.5	2.43	9.72	9.65	0.73	3
1750	6/1/2021	21.5	8.95	35.80	35.90	-0.28	4
	6/2/2021	21.5	9.11	36.44	35.90	1.50	5
	6/14/2021	21.5	8.96	35.84	35.90	-0.17	6
1900	5/30/2021	21.5	9.88	39.52	39.50	0.05	7
	5/31/2021	21.5	9.85	39.40	39.50	-0.25	8
2450	6/11/2021	21.5	13.7	54.80	52.30	4.78	9
2600	6/3/2021	21.5	13.9	55.60	56.10	-0.89	10
	6/4/2021	21.5	13.88	55.52	56.10	-1.03	11
	6/8/2021	21.5	13.94	55.76	56.10	-0.61	12
	6/9/2021	21.5	13.9	55.60	56.10	-0.89	13
	6/10/2021	21.5	13.9	55.60	56.10	-0.89	14
5250	6/13/2021	21.5	7.87	78.70	78.00	0.90	15
5600	6/23/2021	21.5	7.67	76.70	80.50	-4.72	16
5750	6/23/2021	21.5	7.66	76.60	77.40	-1.03	17

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 (Σ)	CW Validation			Mod. Validation		
								Sensitivity	Probe Linearity	Probe Isotropy	Mod. Type	Duty Factor	PAR
750	7/6/2020	3677	EX3DV4	750	Head	42.81	0.85	PASS	PASS	PASS	FDD	PASS	N/A
835	7/6/2020	3677	EX3DV4	835	Head	42.22	0.90	PASS	PASS	PASS	GMSK	PASS	N/A
1750	7/6/2020	3677	EX3DV4	1750	Head	39.91	1.32	PASS	PASS	PASS	NA	N/A	N/A
1900	7/6/2020	3677	EX3DV4	1900	Head	39.43	1.42	PASS	PASS	PASS	GMSK	PASS	N/A
2450	7/6/2020	3677	EX3DV4	2450	Head	38.19	1.83	PASS	PASS	PASS	OFDM	PASS	PASS
2600	7/6/2020	3677	EX3DV4	2600	Head	37.60	1.99	PASS	PASS	PASS	TDD	PASS	N/A
5250	7/6/2020	3677	EX3DV4	5250	Head	35.36	4.83	PASS	PASS	PASS	OFDM	N/A	PASS
5600	7/6/2020	3677	EX3DV4	5600	Head	34.43	5.29	PASS	PASS	PASS	OFDM	N/A	PASS
5750	7/6/2020	3677	EX3DV4	5750	Head	34.07	5.47	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 Full Power & DSI-1&DSI-2 &DSI-3 &DSI-4		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	33.50	32.77	32.95	32.89	9.03	24.47	23.74	23.92	23.86
GPRS/ EGPRS (GMSK)	1 Tx Slot	33.50	32.65	32.92	32.86	9.03	24.47	23.62	23.89	23.83
	2 Tx Slots	32.50	32.17	32.12	32.18	6.02	26.48	26.15	26.10	26.16
	3 Tx Slots	30.50	30.24	30.34	30.42	4.26	26.24	25.98	26.08	26.16
	4 Tx Slots	29.50	29.18	29.23	29.30	3.01	<b>26.49</b>	26.17	26.22	26.29
EGPRS (8PSK)	1 Tx Slot	27.50	26.68	26.71	26.91	9.03	18.47	17.65	17.68	17.88
	2 Tx Slots	26.50	25.34	25.51	25.11	6.02	20.48	19.32	19.49	19.09
	3 Tx Slots	24.50	23.16	23.20	23.40	4.26	20.24	18.90	18.94	19.14
	4 Tx Slots	23.50	22.05	22.13	22.22	3.01	20.49	19.04	19.12	19.21
GSM 1900 Full Power & DSI-1&DSI-2		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	30.50	29.65	29.46	29.63	9.03	21.47	20.62	20.43	20.60
GPRS/ EGPRS (GMSK)	1 Tx Slot	30.50	29.66	29.45	29.65	9.03	21.47	20.63	20.42	20.62
	2 Tx Slots	29.50	28.97	28.79	28.97	6.02	23.48	22.95	22.77	22.95
	3 Tx Slots	27.50	27.28	27.10	27.30	4.26	23.24	23.02	22.84	23.04
	4 Tx Slots	26.50	26.22	26.04	26.23	3.01	<b>23.49</b>	23.21	23.03	23.22
EGPRS (8PSK)	1 Tx Slot	27.00	26.13	26.01	26.10	9.03	17.97	17.10	16.98	17.07
	2 Tx Slots	26.00	24.96	24.84	24.93	6.02	19.98	18.94	18.82	18.91
	3 Tx Slots	24.00	22.74	22.55	22.68	4.26	19.74	18.48	18.29	18.42
	4 Tx Slots	23.00	21.63	21.44	21.50	3.01	19.99	18.62	18.43	18.49
GSM 1900 DSI-3 &DSI-4		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	29.50	28.62	28.45	28.80	9.03	20.47	19.59	19.42	19.77
GPRS/	1 Tx Slot	29.50	28.68	28.44	28.39	9.03	20.47	19.65	19.41	19.36



EGPRS (GMSK)	2 Tx Slots	28.50	27.78	27.53	27.40	6.02	22.48	21.76	21.51	21.38
	3 Tx Slots	26.50	26.42	26.48	26.41	4.26	22.24	22.16	22.22	22.15
	4 Tx Slots	25.50	24.76	24.85	24.68	3.01	<b>22.49</b>	21.75	21.84	21.67
EGPRS (8PSK)	1 Tx Slot	27.00	26.10	26.01	25.99	9.03	17.97	17.07	16.98	16.96
	2 Tx Slots	26.00	24.88	24.90	25.02	6.02	19.98	18.86	18.88	19.00
	3 Tx Slots	24.00	22.70	22.60	22.78	4.26	19.74	18.44	18.34	18.52
	4 Tx Slots	23.00	21.53	21.51	21.69	3.01	19.99	18.52	18.50	18.68

Notes: The worst-case configuration and mode for SAR testing is determined to be as follows:

1. Standalone: GSM 850 GMSK (GPRS) mode with 4 time slots for Max power, GSM 1900 GMSK (GPRS) mode with 4 time slots for Max power, based on the output power measurements above.



**Second – Antenna**

GSM 850 Full Power & DSI-1&DSI-2 &DSI-3 &DSI-4		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	33.50	32.86	32.95	32.88	9.03	24.47	23.83	23.92	23.85
GPRS/ EGPRS (GMSK)	1 Tx Slot	33.50	32.84	32.91	32.86	9.03	24.47	23.81	23.88	23.83
	2 Tx Slots	32.50	32.13	32.21	32.15	6.02	26.48	26.11	26.19	26.13
	3 Tx Slots	30.50	30.41	30.46	30.43	4.26	26.24	26.15	26.20	26.17
	4 Tx Slots	29.50	29.30	29.39	29.32	3.01	<b>26.49</b>	26.29	26.38	26.31
EGPRS (8PSK)	1 Tx Slot	27.50	26.73	26.69	26.65	9.03	18.47	17.70	17.66	17.62
	2 Tx Slots	26.50	25.51	25.44	25.41	6.02	20.48	19.49	19.42	19.39
	3 Tx Slots	24.50	23.27	23.11	23.05	4.26	20.24	19.01	18.85	18.79
	4 Tx Slots	23.50	22.10	22.14	22.07	3.01	20.49	19.09	19.13	19.06
GSM 1900 Full Power & DSI-1 & DSI-2 & DSI-4		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	30.50	29.19	29.07	29.35	9.03	21.47	20.16	20.04	20.32
GPRS/ EGPRS (GMSK)	1 Tx Slot	30.50	29.19	29.08	29.35	9.03	21.47	20.16	20.05	20.32
	2 Tx Slots	29.50	28.49	28.38	28.67	6.02	23.48	22.47	22.36	22.65
	3 Tx Slots	27.50	26.78	26.69	26.99	4.26	23.24	22.52	22.43	22.73
	4 Tx Slots	26.50	25.73	25.63	25.93	3.01	<b>23.49</b>	22.72	22.62	22.92
EGPRS (8PSK)	1 Tx Slot	27.00	25.64	25.53	25.83	9.03	17.97	16.61	16.50	16.80
	2 Tx Slots	26.00	24.43	24.29	24.60	6.02	19.98	18.41	18.27	18.58
	3 Tx Slots	24.00	22.19	22.08	22.32	4.26	19.74	17.93	17.82	18.06
	4 Tx Slots	23.00	21.10	21.01	21.23	3.01	19.99	18.09	18.00	18.22

Notes: The worst-case configuration and mode for SAR testing is determined to be as follows:  
 1. Standalone: GSM 850 GMSK (GPRS) mode with 4 time slots for Max power, GSM 1900 GMSK (GPRS) mode with 4 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) Full Power & DSI-1 & DSI-2				Band IV(dBm) Full Power & DSI-1 & DSI-2				Band V(dBm) Full Power & DSI-1 & DSI-2 & DSI-3 & DSI-4			
		Tx Channel	9262	9400	9538	Tune-up	1312	1413	1513	Tune-up	4132	4183	4233
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	24.14	24.19	<b>24.21</b>	25.00	<b>24.31</b>	24.27	24.25	25.00	24.27	24.31	<b>24.36</b>	25.00
AMR	12.2kbps	24.12	24.21	24.15	25.00	24.37	24.23	24.09	25.00	24.25	24.23	24.52	25.00
HSDPA	Sub 1	23.48	23.81	23.83	24.50	23.93	23.79	23.79	24.50	23.89	23.81	23.94	24.50
	Sub 2	23.50	23.79	23.85	24.50	23.81	23.69	23.83	24.50	23.77	23.93	23.92	24.50
	Sub 3	23.30	23.11	23.15	24.00	23.17	23.31	23.23	24.00	23.21	23.39	23.24	24.00
	Sub 4	23.22	23.17	23.35	24.00	23.31	23.35	23.39	24.00	23.29	23.29	23.26	24.00
HSUPA	Sub 1	23.72	23.85	23.67	24.50	23.79	23.63	23.73	24.50	23.81	23.79	24.02	24.50
	Sub 2	22.60	22.73	22.69	23.50	22.81	22.75	22.89	23.50	22.87	22.91	22.88	23.50
	Sub 3	23.26	23.25	23.15	24.00	23.39	23.17	23.39	24.00	23.31	23.35	23.34	24.00
	Sub 4	22.78	22.65	22.71	23.50	22.89	22.81	22.67	23.50	22.87	22.91	23.00	23.50
	Sub 5	23.52	23.73	23.77	24.50	23.81	23.77	23.89	24.50	23.69	23.65	23.84	24.50
DC-HSDPA	Sub 1	23.74	23.65	23.67	24.50	23.71	23.71	23.91	24.50	23.83	23.75	23.88	24.50
	Sub 2	23.76	23.53	23.85	24.50	23.95	23.69	23.89	24.50	23.91	23.93	23.98	24.50
	Sub 3	23.26	23.09	23.35	24.00	23.27	23.25	23.33	24.00	23.13	23.41	23.36	24.00
	Sub 4	23.06	23.21	23.07	24.00	23.29	23.35	23.11	24.00	23.21	23.19	23.28	24.00
HSPA+	16QAM	23.38	23.33	23.35	24.00	23.67	23.53	23.39	24.00	23.51	23.35	23.46	24.00

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) DSI-3&DSI-4				Band IV(dBm) DSI-3&DSI-4			
Tx Channel		9262	9400	9538	Tune-up	1312	1413	1513	Tune-u
Frequency(MHz)		1852.4	1880	1907.6	Limit	1712.4	1732.6	1752.6	p Limit
RMC	12.2kbps	20.65	<b>20.70</b>	20.69	21.50	<b>19.99</b>	19.97	19.94	21.00
AMR	12.2kbps	20.77	20.78	20.71	21.50	20.11	19.97	19.78	21.00
HSDPA	Sub 1	20.27	20.26	20.07	21.00	19.59	19.37	19.40	20.50
	Sub 2	20.21	20.30	20.35	21.00	19.43	19.63	19.60	20.50
	Sub 3	19.71	19.70	19.71	20.50	19.05	18.83	18.92	20.00
	Sub 4	19.79	19.54	19.63	20.50	19.01	19.01	18.90	20.00
HSUPA	Sub 1	20.07	20.32	20.09	21.00	19.55	19.47	19.32	20.50
	Sub 2	19.15	19.08	19.13	20.00	18.51	18.49	18.60	19.50
	Sub 3	19.55	19.62	19.73	20.50	18.93	18.99	18.90	20.00
	Sub 4	19.27	19.26	19.17	20.00	18.59	18.37	18.50	19.50
	Sub 5	20.29	20.24	20.33	21.00	19.59	19.33	19.40	20.50
DC-HSDPA	Sub 1	20.07	20.08	20.09	21.00	19.59	19.37	19.60	20.50
	Sub 2	20.23	20.04	20.19	21.00	19.39	19.61	19.52	20.50
	Sub 3	19.57	19.64	19.59	20.50	19.09	19.05	18.94	20.00
	Sub 4	19.81	19.72	19.53	20.50	18.85	19.07	19.10	20.00
HSPA+	16QAM	19.93	20.04	19.89	20.50	19.13	19.05	19.12	20.00

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) Full Power & DSI-2				Band IV(dBm) Full Power & DSI-2 & DSI-4				Band V(dBm) Full Power & DSI-1 & DSI-2 & DSI-4			
		Tx Channel	9262	9400	9538	Tune-up	1312	1413	1513	Tune-up	4132	4183	4233
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	<b>23.97</b>	23.92	23.94	25.00	<b>24.12</b>	24.08	24.05	25.00	24.19	24.26	<b>24.28</b>	25.00
AMR	12.2kbps	24.09	24.06	24.04	25.00	24.16	24.22	23.89	25.00	24.31	24.10	24.40	25.00
HSDPA	Sub 1	23.53	23.46	23.60	24.50	23.60	23.62	23.59	24.50	23.63	23.60	23.88	24.50
	Sub 2	23.49	23.50	23.32	24.50	23.72	23.48	23.63	24.50	23.85	23.66	23.84	24.50
	Sub 3	22.97	23.04	22.88	24.00	23.08	23.20	22.91	24.00	23.35	23.36	23.22	24.00
	Sub 4	22.85	22.90	22.94	24.00	23.16	23.10	23.07	24.00	23.27	23.34	23.20	24.00
HSUPA	Sub 1	23.33	23.38	23.34	24.50	23.56	23.66	23.63	24.50	23.83	23.70	23.90	24.50
	Sub 2	22.43	22.34	22.60	23.50	22.60	22.68	22.57	23.50	22.75	22.64	22.84	23.50
	Sub 3	22.95	22.88	23.10	24.00	23.18	23.22	23.15	24.00	23.09	23.22	23.14	24.00
	Sub 4	22.35	22.50	22.54	23.50	22.56	22.64	22.71	23.50	22.59	22.82	22.70	23.50
	Sub 5	23.49	23.38	23.56	24.50	23.78	23.62	23.69	24.50	23.53	23.90	23.72	24.50
DC-HSDPA	Sub 1	23.33	23.58	23.52	24.50	23.58	23.68	23.69	24.50	23.83	23.72	23.92	24.50
	Sub 2	23.61	23.40	23.34	24.50	23.64	23.74	23.41	24.50	23.71	23.78	23.74	24.50
	Sub 3	23.01	22.86	22.78	24.00	23.18	23.22	23.01	24.00	23.21	23.26	23.22	24.00
	Sub 4	22.89	23.02	23.10	24.00	23.04	23.00	22.93	24.00	23.17	23.30	23.16	24.00
HSPA+	16QAM	23.19	23.06	23.16	24.00	23.42	23.40	23.09	24.00	23.51	23.52	23.44	24.00

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) DSI-1				Band II(dBm) DSI-4				Band IV(dBm) DSI-1			
Tx Channel		9262	9400	9538	Tune-up Limit	9262	9400	9538	Tune-up Limit	1312	1413	1513	Tune-up Limit
Frequency(MHz)		1852.4	1880	1907.6		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
RMC	12.2kbps	21.18	<b>21.25</b>	21.11	22.00	<b>22.99</b>	22.97	22.93	24.00	21.58	<b>21.62</b>	21.59	22.50
AMR	12.2kbps	21.06	21.05	21.07	22.00	22.91	22.95	22.83	24.00	21.64	21.74	21.59	22.50
HSDPA	Sub 1	20.36	20.27	20.53	21.50	22.43	22.33	22.31	23.50	21.06	21.24	20.95	22.00
	Sub 2	20.40	20.43	20.29	21.50	22.47	22.55	22.55	23.50	21.06	21.18	21.23	22.00
	Sub 3	19.98	19.77	19.83	21.00	21.85	21.93	21.93	23.00	20.66	20.50	20.69	21.50
	Sub 4	20.06	20.09	20.01	21.00	22.13	21.97	22.01	23.00	20.56	20.56	20.43	21.50
HSUPA	Sub 1	20.40	20.31	20.25	21.50	22.63	22.53	22.35	23.50	21.22	21.28	21.03	22.00
	Sub 2	19.40	19.39	19.31	20.50	21.35	21.33	21.39	22.50	20.08	20.20	20.21	21.00
	Sub 3	20.02	20.07	19.83	21.00	22.13	22.03	22.03	23.00	20.44	20.64	20.57	21.50
	Sub 4	19.36	19.51	19.57	20.50	21.51	21.39	21.51	22.50	20.14	20.08	20.01	21.00
	Sub 5	20.54	20.47	20.49	21.50	22.59	22.49	22.59	23.50	20.98	21.24	21.21	22.00
DC-HSDPA	Sub 1	20.58	20.31	20.53	21.50	22.51	22.39	22.53	23.50	21.14	21.10	21.07	22.00
	Sub 2	20.56	20.57	20.57	21.50	22.53	22.59	22.45	23.50	20.92	21.00	21.07	22.00
	Sub 3	19.84	20.09	19.91	21.00	22.05	22.13	21.85	23.00	20.74	20.66	20.45	21.50
	Sub 4	19.94	19.83	20.03	21.00	22.13	22.13	22.09	23.00	20.62	20.74	20.59	21.50
HSPA+	16QAM	20.16	20.11	20.05	21.00	22.15	22.29	22.05	23.00	20.78	20.76	20.75	21.50

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

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 Full Power &DSI-1&DSI-2				Maximum Output 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	24.07	24.12	24.03	25.50
		1	2	24.26	24.29	24.25	25.50
		1	5	23.99	23.97	23.97	25.50
		3	0	24.11	24.17	24.19	25.50
		3	2	24.12	24.21	24.21	25.50
		3	3	24.09	24.11	24.13	25.50
		6	0	23.12	23.22	23.27	24.50
	16QAM	1	0	23.53	23.40	23.31	24.50
		1	2	23.51	23.59	23.55	24.50
		1	5	23.25	23.22	23.25	24.50
		3	0	23.09	23.11	23.19	24.50
		3	2	23.16	23.17	23.22	24.50
		3	3	23.10	23.14	23.09	24.50
		6	0	22.13	22.23	22.28	23.50
	64QAM	1	0	22.42	22.38	22.34	23.50
		1	2	22.34	22.42	22.28	23.50
		1	5	22.27	22.39	22.38	23.50
		3	0	22.13	22.17	22.14	23.50
		3	2	22.04	22.28	22.15	23.50
		3	3	22.06	22.21	22.26	23.50
		6	0	21.21	21.22	21.29	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	



3MHz	QPSK	1	0	24.09	24.16	24.06	25.50
		1	7	24.24	24.32	24.29	25.50
		1	14	24.02	24.02	24.01	25.50
		8	0	23.21	23.29	23.32	24.50
		8	4	23.24	23.31	23.33	24.50
		8	7	23.19	23.22	23.23	24.50
		15	0	23.12	23.26	23.30	24.50
	16QAM	1	0	23.56	23.42	23.34	24.50
		1	7	23.54	23.59	23.59	24.50
		1	14	23.27	23.26	23.28	24.50
		8	0	22.20	22.24	22.31	23.50
		8	4	22.27	22.30	22.34	23.50
		8	7	22.20	22.26	22.22	23.50
		15	0	22.16	22.27	22.31	23.50
	64QAM	1	0	22.45	22.40	22.37	23.50
		1	7	22.37	22.42	22.30	23.50
		1	14	22.29	22.38	22.41	23.50
		8	0	21.24	21.30	21.26	22.50
		8	4	21.15	21.41	21.27	22.50
		8	7	21.16	21.33	21.39	22.50
		15	0	21.24	21.26	21.32	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	24.06	24.14	24.02	25.50
		1	13	24.22	24.28	24.26	25.50
		1	24	23.99	23.97	23.97	25.50
		12	0	23.18	23.24	23.28	24.50
		12	6	23.22	23.27	23.28	24.50
		12	13	23.17	23.20	23.19	24.50
		25	0	23.12	23.25	23.28	24.50
	16QAM	1	0	23.53	23.38	23.31	24.50
		1	13	23.51	23.57	23.56	24.50
		1	24	23.24	23.24	23.24	24.50
		12	0	22.18	22.20	22.28	23.50
		12	6	22.24	22.25	22.30	23.50
		12	13	22.17	22.21	22.18	23.50
		25	0	22.14	22.23	22.26	23.50
	64QAM	1	0	22.42	22.40	22.34	23.50
		1	13	22.34	22.44	22.27	23.50
		1	24	22.30	22.36	22.37	23.50
		12	0	21.22	21.26	21.27	22.50
		12	6	21.12	21.36	21.23	22.50
		12	13	21.13	21.28	21.35	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
				25	0	21.22	
10MHz	QPSK	1	0	24.08	24.15	24.05	25.50
		1	25	24.25	24.33	24.30	25.50
		1	49	24.01	24.01	24.00	25.50
		25	0	23.21	23.29	23.32	24.50
		25	13	23.25	23.32	23.32	24.50
		25	25	23.19	23.24	23.24	24.50
		50	0	23.16	23.27	23.32	24.50
	16QAM	1	0	23.55	23.41	23.33	24.50
		1	25	23.54	23.61	23.59	24.50
		1	49	23.27	23.26	23.27	24.50
		25	0	22.21	22.25	22.32	23.50
		25	13	22.26	22.29	22.33	23.50
		25	25	22.20	22.26	22.22	23.50
		50	0	22.17	22.28	22.30	23.50
	64QAM	1	0	22.44	22.39	22.36	23.50
		1	25	22.37	22.44	22.30	23.50
		1	49	22.29	22.38	22.40	23.50
		25	0	21.25	21.31	21.27	22.50
		25	13	21.14	21.40	21.26	22.50
		25	25	21.16	21.33	21.39	22.50
		50	0	21.25	21.27	21.31	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
				24.07	24.11	24.03	
15MHz	QPSK	1	0	24.23	24.32	24.27	25.50
		1	38	23.98	23.96	23.96	25.50
		1	74	23.19	23.25	23.29	24.50
		36	0	23.22	23.27	23.28	24.50
		36	18	23.16	23.21	23.20	24.50
		36	39	23.14	23.23	23.27	24.50
		75	0	23.50	23.39	23.31	24.50
	16QAM	1	0	23.52	23.58	23.57	24.50
		1	38	23.24	23.22	23.24	24.50
		1	74	22.18	22.23	22.29	23.50
		36	0	22.23	22.24	22.29	23.50
		36	18	22.18	22.22	22.19	23.50
		36	39	22.14	22.23	22.26	23.50
		75	0	22.39	22.37	22.34	23.50
	64QAM	1	0	22.35	22.41	22.28	23.50
		1	38	22.30	22.37	22.41	23.50
		1	74	22.30	22.37	22.41	23.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz		36	0	21.24	21.33	21.28	22.50
		36	18	21.12	21.37	21.25	22.50
		36	39	21.14	21.29	21.36	22.50
		75	0	21.22	21.22	21.27	22.50
	QPSK	1	0	24.04	24.07	24.00	25.50
		1	50	<b>24.22</b>	<b>24.28</b>	<b>24.25</b>	25.50
		1	99	23.96	23.95	23.93	25.50
		50	0	23.16	23.20	<b>23.25</b>	24.50
		50	25	<b>23.20</b>	<b>23.23</b>	<b>23.25</b>	24.50
		50	50	23.13	23.16	23.16	24.50
		100	0	23.11	23.18	<b>23.23</b>	24.50
	16QAM	1	0	23.33	23.35	23.26	24.50
		1	50	23.48	23.56	23.53	24.50
		1	99	23.22	23.19	23.22	24.50
		50	0	22.15	22.19	22.26	23.50
		50	25	22.20	22.22	22.26	23.50
		50	50	22.15	22.17	22.15	23.50
		100	0	22.12	22.19	22.23	23.50
	64QAM	1	0	22.37	22.33	22.29	23.50
		1	50	22.31	22.39	22.24	23.50
		1	99	22.24	22.31	22.35	23.50
		50	0	21.19	21.25	21.21	22.50
		50	25	21.08	21.33	21.19	22.50
		50	50	21.11	21.24	21.32	22.50
		100	0	21.20	21.18	21.24	22.50

LTE FDD Band 2 DSI-3&DSI-4				Maximum Output 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	20.67	20.75	20.66	22.00
		1	2	20.87	20.95	20.91	22.00
		1	5	20.58	20.61	20.63	22.00
		3	0	20.78	20.82	20.86	22.00
		3	2	20.83	20.84	20.86	22.00
		3	3	20.75	20.78	20.79	22.00
		6	0	20.73	20.84	20.86	22.00
	16QAM	1	0	21.02	21.09	21.01	22.00
		1	2	21.21	21.21	21.24	22.00
		1	5	20.94	20.92	20.88	22.00
		3	0	20.77	20.83	20.91	22.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18615/1851.5	18900/1880	19185/1908.5		
		3	2	20.84	20.87	20.89	22.00	
		3	3	20.78	20.83	20.79	22.00	
		6	0	20.76	20.84	20.91	22.00	
	64QAM	1	0	20.70	20.76	20.82	22.00	
		1	2	20.70	20.74	20.84	22.00	
		1	5	20.66	20.72	20.78	22.00	
		3	0	20.67	20.68	20.75	22.00	
		3	2	20.59	20.64	20.77	22.00	
		3	3	20.65	20.73	20.76	22.00	
		6	0	20.63	20.68	20.75	22.00	
3MHz	QPSK	1	0	20.69	20.79	20.69	22.00	
		1	7	20.87	20.97	20.95	22.00	
		1	14	20.61	20.66	20.67	22.00	
		8	0	20.82	20.89	20.93	22.00	
		8	4	20.86	20.92	20.92	22.00	
		8	7	20.79	20.83	20.83	22.00	
		15	0	20.75	20.88	20.89	22.00	
	16QAM	1	0	21.05	21.11	21.04	22.00	
		1	7	21.24	21.23	21.28	22.00	
		1	14	20.96	20.96	20.91	22.00	
		8	0	20.82	20.87	20.94	22.00	
		8	4	20.89	20.94	20.95	22.00	
		8	7	20.82	20.89	20.86	22.00	
		15	0	20.79	20.88	20.94	22.00	
	64QAM	1	0	20.73	20.78	20.85	22.00	
		1	7	20.73	20.76	20.88	22.00	
		1	14	20.68	20.76	20.81	22.00	
		8	0	20.72	20.72	20.78	22.00	
		8	4	20.64	20.71	20.83	22.00	
		8	7	20.69	20.79	20.83	22.00	
		15	0	20.65	20.74	20.80	22.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	20.66	20.77	20.65	22.00
			1	13	20.85	20.93	20.92	22.00
			1	24	20.58	20.61	20.63	22.00
			12	0	20.79	20.84	20.89	22.00
			12	6	20.84	20.88	20.87	22.00
12			13	20.77	20.81	20.79	22.00	
25			0	20.73	20.87	20.87	22.00	
16QAM		1	0	21.02	21.07	21.01	22.00	



		1	13	21.21	21.21	21.25	22.00
		1	24	20.93	20.94	20.87	22.00
		12	0	20.80	20.83	20.91	22.00
		12	6	20.86	20.89	20.91	22.00
		12	13	20.79	20.84	20.82	22.00
		25	0	20.77	20.84	20.89	22.00
	64QAM	1	0	20.70	20.74	20.82	22.00
		1	13	20.70	20.74	20.85	22.00
		1	24	20.65	20.74	20.77	22.00
		12	0	20.70	20.68	20.75	22.00
		12	6	20.61	20.66	20.79	22.00
		12	13	20.66	20.74	20.79	22.00
	25	0	20.63	20.70	20.75	22.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
18650/1855					18900/1880	19150/1905	
10MHz	QPSK	1	0	20.67	20.76	20.67	22.00
		1	25	20.86	20.97	20.94	22.00
		1	49	20.59	20.63	20.65	22.00
		25	0	20.80	20.88	20.91	22.00
		25	13	20.86	20.91	20.90	22.00
		25	25	20.77	20.81	20.83	22.00
		50	0	20.73	20.88	20.88	22.00
	16QAM	1	0	21.01	21.05	21.01	22.00
		1	25	21.23	21.24	21.23	22.00
		1	49	20.94	20.92	20.89	22.00
		25	0	20.78	20.87	20.92	22.00
		25	13	20.85	20.88	20.92	22.00
		25	25	20.81	20.88	20.81	22.00
		50	0	20.76	20.86	20.89	22.00
	64QAM	1	0	20.70	20.73	20.83	22.00
		1	25	20.72	20.76	20.85	22.00
		1	49	20.65	20.71	20.78	22.00
		25	0	20.72	20.72	20.74	22.00
		25	13	20.59	20.67	20.78	22.00
		25	25	20.67	20.75	20.82	22.00
		50	0	20.65	20.73	20.76	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	20.67	20.74	20.66	22.00
		1	38	20.86	20.97	20.93	22.00
		1	74	20.57	20.60	20.62	22.00
		36	0	20.80	20.85	20.90	22.00
		36	18	20.84	20.88	20.87	22.00



		36	39	20.76	20.82	20.80	22.00
		75	0	20.76	20.85	20.86	22.00
	16QAM	1	0	20.99	21.08	21.01	22.00
		1	38	21.22	21.22	21.26	22.00
		1	74	20.93	20.92	20.87	22.00
		36	0	20.80	20.86	20.92	22.00
		36	18	20.85	20.88	20.90	22.00
		36	39	20.80	20.85	20.83	22.00
		75	0	20.77	20.84	20.89	22.00
		64QAM	1	0	20.67	20.75	20.82
	1		38	20.71	20.75	20.86	22.00
	1		74	20.65	20.72	20.77	22.00
	36		0	20.70	20.71	20.76	22.00
	36		18	20.60	20.65	20.78	22.00
	36		39	20.67	20.75	20.80	22.00
	75		0	20.63	20.70	20.75	22.00
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
18700/1860					18900/1880	19100/1900	
20MHz	QPSK	1	0	20.64	20.70	20.63	22.00
		1	50	<b>20.85</b>	<b>21.13</b>	<b>20.91</b>	22.00
		1	99	20.55	20.59	20.59	22.00
		50	0	20.77	20.80	<b>20.86</b>	22.00
		50	25	<b>20.82</b>	<b>20.84</b>	20.84	22.00
		50	50	20.73	20.77	20.76	22.00
		100	0	20.73	20.80	<b>20.82</b>	22.00
	16QAM	1	0	20.97	21.04	20.96	22.00
		1	50	21.18	21.20	21.22	22.00
		1	99	20.91	20.89	20.85	22.00
		50	0	20.77	20.82	20.89	22.00
		50	25	20.82	20.86	20.87	22.00
		50	50	20.77	20.80	20.79	22.00
		100	0	20.75	20.80	20.86	22.00
	64QAM	1	0	20.65	20.71	20.77	22.00
		1	50	20.67	20.73	20.82	22.00
		1	99	20.63	20.69	20.75	22.00
		50	0	20.67	20.67	20.73	22.00
		50	25	20.57	20.63	20.75	22.00
		50	50	20.64	20.70	20.76	22.00
		100	0	20.61	20.66	20.72	22.00





LTE FDD Band 4 Full Power & DSI-1&DSI-2				Maximum Output 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	23.98	23.98	23.91	25.50
		1	2	24.14	24.09	24.03	25.50
		1	5	23.78	23.80	23.75	25.50
		3	0	24.13	24.03	24.00	25.50
		3	2	24.04	24.06	24.05	25.50
		3	3	24.04	24.01	23.92	25.50
		6	0	23.12	23.06	23.04	24.50
	16QAM	1	0	23.41	23.24	23.20	24.50
		1	2	23.39	23.33	23.24	24.50
		1	5	23.03	23.02	22.98	24.50
		3	0	23.13	22.97	22.96	24.50
		3	2	23.07	23.02	23.03	24.50
		3	3	23.02	23.03	22.87	24.50
		6	0	22.13	22.06	22.03	23.50
	64QAM	1	0	22.42	22.23	22.26	23.50
		1	2	22.34	22.40	22.33	23.50
		1	5	22.31	22.47	22.21	23.50
		3	0	22.15	22.03	22.02	23.50
		3	2	22.20	22.16	22.13	23.50
		3	3	22.30	22.25	22.19	23.50
		6	0	21.28	21.23	21.25	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	24.00	24.02	23.94	25.50
		1	7	24.12	24.12	24.07	25.50
		1	14	23.81	23.85	23.79	25.50
		8	0	23.23	23.15	23.13	24.50
		8	4	23.16	23.16	23.17	24.50
		8	7	23.14	23.12	23.02	24.50
		15	0	23.12	23.10	23.07	24.50
	16QAM	1	0	23.44	23.26	23.23	24.50
		1	7	23.42	23.33	23.28	24.50
		1	14	23.05	23.06	23.01	24.50
		8	0	22.24	22.10	22.08	23.50
		8	4	22.18	22.15	22.15	23.50
		8	7	22.12	22.15	22.00	23.50
		15	0	22.16	22.10	22.06	23.50
	64QAM	1	0	22.45	22.25	22.29	23.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19975/1712.5	20175/1732.5	20375/1752.5		
		1	7	22.37	22.40	22.35	23.50	
		1	14	22.33	22.46	22.24	23.50	
		8	0	21.26	21.16	21.14	22.50	
		8	4	21.31	21.29	21.25	22.50	
		8	7	21.40	21.37	21.32	22.50	
		15	0	21.31	21.27	21.28	22.50	
5MHz	QPSK	1	0	23.97	24.00	23.90	25.50	
		1	13	24.10	24.08	24.04	25.50	
		1	24	23.78	23.80	23.75	25.50	
		12	0	23.20	23.10	23.09	24.50	
		12	6	23.14	23.12	23.12	24.50	
		12	13	23.12	23.10	22.98	24.50	
	16QAM	25	0	23.12	23.09	23.05	24.50	
		1	0	23.41	23.22	23.20	24.50	
		1	13	23.39	23.31	23.25	24.50	
		1	24	23.02	23.04	22.97	24.50	
		12	0	22.22	22.06	22.05	23.50	
		12	6	22.15	22.10	22.11	23.50	
	64QAM	12	13	22.09	22.10	21.96	23.50	
		25	0	22.14	22.06	22.01	23.50	
		1	0	22.42	22.25	22.26	23.50	
		1	13	22.34	22.42	22.32	23.50	
		1	24	22.34	22.44	22.20	23.50	
		12	0	21.24	21.12	21.15	22.50	
	10MHz	QPSK	12	6	21.28	21.24	21.21	22.50
			12	13	21.37	21.32	21.28	22.50
			25	0	21.29	21.23	21.23	22.50
			1	0	23.99	24.01	23.93	25.50
			1	25	24.13	24.13	24.08	25.50
			1	49	23.80	23.84	23.78	25.50
16QAM		25	0	23.23	23.15	23.13	24.50	
		25	13	23.17	23.17	23.16	24.50	
		25	25	23.14	23.14	23.03	24.50	
		50	0	23.16	23.11	23.09	24.50	
		1	0	23.43	23.25	23.22	24.50	
		1	25	23.42	23.35	23.28	24.50	
		1	49	23.05	23.06	23.00	24.50	
		25	0	22.25	22.11	22.09	23.50	
		25	13	22.17	22.14	22.14	23.50	
		25	13	22.17	22.14	22.14	23.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20025/1717.5	20175/1732.5	20325/1747.5		
	64QAM	25	25	22.12	22.15	22.00	23.50	
		50	0	22.17	22.11	22.05	23.50	
		1	0	22.44	22.24	22.28	23.50	
		1	25	22.37	22.42	22.35	23.50	
		1	49	22.33	22.46	22.23	23.50	
		25	0	21.27	21.17	21.15	22.50	
		25	13	21.30	21.28	21.24	22.50	
		25	25	21.40	21.37	21.32	22.50	
		50	0	21.32	21.28	21.27	22.50	
15MHz	QPSK	1	0	23.98	23.97	23.91	25.50	
		1	38	24.11	24.12	24.05	25.50	
		1	74	23.77	23.79	23.74	25.50	
		36	0	23.21	23.11	23.10	24.50	
		36	18	23.14	23.12	23.12	24.50	
		36	39	23.11	23.11	22.99	24.50	
		75	0	23.14	23.07	23.04	24.50	
	16QAM	1	0	23.38	23.23	23.20	24.50	
		1	38	23.40	23.32	23.26	24.50	
		1	74	23.02	23.02	22.97	24.50	
		36	0	22.22	22.09	22.06	23.50	
		36	18	22.14	22.09	22.10	23.50	
		36	39	22.10	22.11	21.97	23.50	
		75	0	22.14	22.06	22.01	23.50	
	64QAM	1	0	22.39	22.22	22.26	23.50	
		1	38	22.35	22.39	22.33	23.50	
		1	74	22.34	22.45	22.24	23.50	
		36	0	21.26	21.19	21.16	22.50	
		36	18	21.28	21.25	21.23	22.50	
		36	39	21.38	21.33	21.29	22.50	
		75	0	21.29	21.23	21.23	22.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20050/1720	20175/1732.5	20300/1745	
	20MHz	QPSK	1	0	23.95	23.93	23.88	25.50
1			50	<b>24.10</b>	<b>24.08</b>	<b>24.03</b>	25.50	
1			99	23.75	23.78	23.71	25.50	
50			0	<b>23.18</b>	23.06	23.06	24.50	
50			25	23.12	<b>23.08</b>	<b>23.09</b>	24.50	
50			50	23.08	23.06	22.95	24.50	
100			0	<b>23.11</b>	23.02	23.00	24.50	
16QAM		1	0	23.16	23.19	23.15	24.50	
		1	50	23.36	23.30	23.22	24.50	



		1	99	23.00	22.99	22.95	24.50
		50	0	22.19	22.05	22.03	23.50
		50	25	22.11	22.07	22.07	23.50
		50	50	22.07	22.06	21.93	23.50
		100	0	22.12	22.02	21.98	23.50
	64QAM	1	0	22.37	22.18	22.21	23.50
		1	50	22.31	22.37	22.29	23.50
		1	99	22.28	22.39	22.18	23.50
		50	0	21.21	21.11	21.09	22.50
		50	25	21.24	21.21	21.17	22.50
		50	50	21.35	21.28	21.25	22.50
		100	0	21.27	21.19	21.20	22.50

LTE FDD Band 4 DSI-3&DSI-4				Maximum Output 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	19.81	19.80	19.78	21.00
		1	2	19.97	19.96	19.90	21.00
		1	5	19.60	19.63	19.61	21.00
		3	0	19.99	19.89	19.85	21.00
		3	2	19.92	19.88	19.91	21.00
		3	3	19.87	19.86	19.80	21.00
		6	0	19.91	19.86	19.84	21.00
	16QAM	1	0	20.12	20.14	20.07	21.00
		1	2	20.31	20.20	20.18	21.00
		1	5	19.94	19.92	19.87	21.00
		3	0	19.98	19.90	19.87	21.00
		3	2	19.96	19.90	19.90	21.00
		3	3	19.89	19.89	19.77	21.00
		6	0	19.92	19.86	19.85	21.00
	64QAM	1	0	20.06	20.12	19.87	21.00
		1	2	19.97	19.99	20.03	21.00
		1	5	19.88	19.96	20.02	21.00
		3	0	19.98	19.88	19.94	21.00
		3	2	20.04	19.78	19.99	21.00
		3	3	19.94	19.82	19.99	21.00
		6	0	19.91	19.83	19.88	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
3MHz	QPSK	1	0	19.83	19.84	19.81	21.00
		1	7	19.97	19.98	19.94	21.00
		1	14	19.63	19.68	19.65	21.00



		8	0	20.03	19.96	19.92	21.00	
		8	4	19.95	19.96	19.97	21.00	
		8	7	19.91	19.91	19.84	21.00	
		15	0	19.93	19.90	19.87	21.00	
	16QAM	1	0	20.15	20.16	20.10	21.00	
		1	7	20.34	20.22	20.22	21.00	
		1	14	19.96	19.96	19.90	21.00	
		8	0	20.03	19.94	19.90	21.00	
		8	4	20.01	19.97	19.96	21.00	
		8	7	19.93	19.95	19.84	21.00	
		15	0	19.95	19.90	19.88	21.00	
	64QAM	1	0	20.09	20.14	19.90	21.00	
		1	7	20.00	20.01	20.07	21.00	
		1	14	19.90	20.00	20.05	21.00	
		8	0	20.03	19.92	19.97	21.00	
		8	4	20.09	19.85	20.05	21.00	
		8	7	19.98	19.88	20.06	21.00	
		15	0	19.93	19.89	19.93	21.00	
	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	19.80	19.82	19.77	21.00
1			13	19.95	19.94	19.91	21.00	
1			24	19.60	19.63	19.61	21.00	
12			0	20.00	19.91	19.88	21.00	
12			6	19.93	19.92	19.92	21.00	
12			13	19.89	19.89	19.80	21.00	
25			0	19.91	19.89	19.85	21.00	
16QAM		1	0	20.12	20.12	20.07	21.00	
		1	13	20.31	20.20	20.19	21.00	
		1	24	19.93	19.94	19.86	21.00	
		12	0	20.01	19.90	19.87	21.00	
		12	6	19.98	19.92	19.92	21.00	
		12	13	19.90	19.90	19.80	21.00	
		25	0	19.93	19.86	19.83	21.00	
64QAM		1	0	20.06	20.10	19.87	21.00	
		1	13	19.97	19.99	20.04	21.00	
		1	24	19.87	19.98	20.01	21.00	
		12	0	20.01	19.88	19.94	21.00	
		12	6	20.06	19.80	20.01	21.00	
		12	13	19.95	19.83	20.02	21.00	
		25	0	19.91	19.85	19.88	21.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		



10MHz	QPSK	1	0	19.81	19.81	19.79	21.00
		1	25	19.96	19.98	19.93	21.00
		1	49	19.61	19.65	19.63	21.00
		25	0	20.01	19.95	19.90	21.00
		25	13	19.95	19.95	19.95	21.00
		25	25	19.89	19.89	19.84	21.00
		50	0	19.91	19.90	19.86	21.00
	16QAM	1	0	20.11	20.10	20.07	21.00
		1	25	20.33	20.23	20.17	21.00
		1	49	19.94	19.92	19.88	21.00
		25	0	19.99	19.94	19.88	21.00
		25	13	19.97	19.91	19.93	21.00
		25	25	19.92	19.94	19.79	21.00
		50	0	19.92	19.88	19.83	21.00
	64QAM	1	0	20.06	20.09	19.88	21.00
		1	25	19.99	20.01	20.04	21.00
		1	49	19.87	19.95	20.02	21.00
		25	0	20.03	19.92	19.93	21.00
		25	13	20.04	19.81	20.00	21.00
		25	25	19.96	19.84	20.05	21.00
		50	0	19.93	19.88	19.89	21.00
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	19.81	19.79	19.78	21.00
		1	38	19.96	19.98	19.92	21.00
		1	74	19.59	19.62	19.60	21.00
		36	0	20.01	19.92	19.89	21.00
		36	18	19.93	19.92	19.92	21.00
		36	39	19.88	19.90	19.81	21.00
		75	0	19.94	19.87	19.84	21.00
	16QAM	1	0	20.09	20.13	20.07	21.00
		1	38	20.32	20.21	20.20	21.00
		1	74	19.93	19.92	19.86	21.00
		36	0	20.01	19.93	19.88	21.00
		36	18	19.97	19.91	19.91	21.00
		36	39	19.91	19.91	19.81	21.00
		75	0	19.93	19.86	19.83	21.00
	64QAM	1	0	20.03	20.11	19.87	21.00
		1	38	19.98	20.00	20.05	21.00
		1	74	19.87	19.96	20.01	21.00
		36	0	20.01	19.91	19.95	21.00
		36	18	20.05	19.79	20.00	21.00
		36	39	19.96	19.84	20.03	21.00



Bandwidth	Modulation	75	0	19.91	19.85	19.88	21.00
		RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	19.80	19.77	19.77	21.00
		1	50	<b>19.97</b>	<b>19.96</b>	<b>19.92</b>	21.00
		1	99	19.59	19.63	19.59	21.00
		50	0	<b>20.00</b>	19.89	19.87	21.00
		50	25	19.93	<b>19.90</b>	<b>19.91</b>	21.00
		50	50	19.87	19.87	19.79	21.00
		100	0	<b>19.93</b>	19.84	19.82	21.00
	16QAM	1	0	20.09	20.11	20.04	21.00
		1	50	20.30	20.21	20.18	21.00
		1	99	19.93	19.91	19.86	21.00
		50	0	20.00	19.91	19.87	21.00
		50	25	19.96	19.91	19.90	21.00
		50	50	19.90	19.88	19.79	21.00
		100	0	19.93	19.84	19.82	21.00
	64QAM	1	0	20.03	20.09	19.84	21.00
		1	50	19.96	20.00	20.03	21.00
		1	99	19.87	19.95	20.01	21.00
		50	0	20.00	19.89	19.94	21.00
		50	25	20.04	19.79	19.99	21.00
		50	50	19.95	19.81	20.01	21.00
		100	0	19.91	19.83	19.87	21.00

LTE FDD Band 5 Full Power & DSI-1 & DSI-2 & DSI-3 & DSI-4				Maximum Output 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	24.43	24.50	24.48	25.50
		1	2	24.56	24.54	24.56	25.50
		1	5	24.49	24.51	24.45	25.50
		3	0	23.61	23.66	23.65	25.50
		3	2	23.60	23.68	23.65	25.50
		3	3	23.67	23.72	23.58	25.50
		6	0	23.62	23.72	23.64	24.50
	16QAM	1	0	23.93	23.76	23.81	24.50
		1	2	23.91	23.84	23.86	24.50
		1	5	23.77	23.82	23.74	24.50
		3	0	22.63	22.61	22.62	24.50
		3	2	22.62	22.66	22.65	24.50
		3	3	22.64	22.71	22.57	24.50
		6	0	22.62	22.67	22.62	23.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
	64QAM	1	0	22.49	22.50	22.48	23.50
		1	2	22.51	22.53	22.51	23.50
		1	5	22.53	22.45	22.51	23.50
		3	0	21.59	21.57	21.67	23.50
		3	2	21.66	21.64	21.68	23.50
		3	3	21.61	21.56	21.60	23.50
		6	0	21.65	21.67	21.68	22.50
3MHz	QPSK	1	0	24.45	24.51	24.51	25.50
		1	7	24.59	24.59	24.60	25.50
		1	14	24.51	24.55	24.48	25.50
		8	0	23.64	23.71	23.69	24.50
		8	4	23.63	23.73	23.69	24.50
		8	7	23.69	23.76	23.63	24.50
		15	0	23.66	23.74	23.68	24.50
	16QAM	1	0	23.95	23.79	23.83	24.50
		1	7	23.94	23.88	23.89	24.50
		1	14	23.80	23.84	23.77	24.50
		8	0	22.66	22.66	22.66	23.50
		8	4	22.64	22.70	22.68	23.50
		8	7	22.67	22.76	22.61	23.50
		15	0	22.65	22.72	22.66	23.50
	64QAM	1	0	22.51	22.49	22.50	23.50
		1	7	22.54	22.53	22.54	23.50
		1	14	22.52	22.47	22.54	23.50
		8	0	21.62	21.62	21.67	22.50
		8	4	21.68	21.68	21.71	22.50
		8	7	21.64	21.61	21.64	22.50
		15	0	21.68	21.72	21.72	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	1	0	24.44	24.47	24.49	25.50
		1	13	24.57	24.58	24.57	25.50
		1	24	24.48	24.50	24.44	25.50
		12	0	23.62	23.67	23.66	24.50
		12	6	23.60	23.68	23.65	24.50
		12	13	23.66	23.73	23.59	24.50
		25	0	23.64	23.70	23.63	24.50
	16QAM	1	0	23.90	23.77	23.81	24.50
		1	13	23.92	23.85	23.87	24.50
		1	24	23.77	23.80	23.74	24.50
		12	0	22.63	22.64	22.63	23.50





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20450/829	20525/836.5	20600/844		
10MHz	64QAM	12	6	22.61	22.65	22.64	23.50	
		12	13	22.65	22.72	22.58	23.50	
		25	0	22.62	22.67	22.62	23.50	
		1	0	22.46	22.47	22.48	23.50	
		1	13	22.52	22.50	22.52	23.50	
		1	24	22.53	22.46	22.55	23.50	
		12	0	21.61	21.64	21.68	22.50	
		12	6	21.66	21.65	21.70	22.50	
		12	13	21.62	21.57	21.61	22.50	
	25	0	21.65	21.67	21.68	22.50		
	10MHz	QPSK	1	0	24.41	24.43	24.46	25.50
			1	25	<b>24.56</b>	<b>24.54</b>	<b>24.55</b>	25.50
			1	49	24.46	24.49	24.41	25.50
			25	0	23.59	23.62	<b>23.62</b>	24.50
			25	13	23.58	23.64	<b>23.62</b>	24.50
			25	25	<b>23.63</b>	<b>23.68</b>	23.55	24.50
			50	0	23.61	<b>23.65</b>	23.59	24.50
		16QAM	1	0	23.73	23.73	23.76	24.50
1			25	23.88	23.83	23.83	24.50	
1			49	23.75	23.77	23.72	24.50	
25			0	22.60	22.60	22.60	23.50	
25			13	22.58	22.63	22.61	23.50	
25			25	22.62	22.67	22.54	23.50	
50			0	22.60	22.63	22.59	23.50	
64QAM		1	0	22.44	22.43	22.43	23.50	
		1	25	22.48	22.48	22.48	23.50	
		1	49	22.47	22.40	22.49	23.50	
		25	0	21.56	21.56	21.61	22.50	
	25	13	21.62	21.61	21.64	22.50		
	25	25	21.59	21.52	21.57	22.50		
	50	0	21.63	21.63	21.65	22.50		

LTE FDD Band 7 Full Power & DSI-1& DSI-2				Maximum Output 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	23.75	23.73	23.62	25.00
		1	13	23.97	23.91	23.87	25.00
		1	24	23.75	23.67	23.65	25.00
		12	0	22.94	22.93	22.89	24.00
		12	6	23.02	23.02	22.98	24.00



		12	13	23.01	22.96	22.88	24.00
		25	0	22.94	22.99	22.91	24.00
	16QAM	1	0	23.21	22.91	22.85	24.00
			13	23.19	23.13	23.05	24.00
		1	24	22.95	22.90	22.77	24.00
		12	0	21.93	21.87	21.83	23.00
		12	6	22.03	21.98	21.92	23.00
		12	13	21.97	21.95	21.82	23.00
		25	0	21.92	21.92	21.82	23.00
		64QAM	1	0	21.84	21.87	21.90
	13			21.95	21.99	22.10	23.00
	1		24	22.14	22.10	22.22	23.00
	12		0	20.60	20.63	20.75	22.00
	12		6	20.56	20.61	20.74	22.00
	12		13	20.71	20.71	20.86	22.00
	25		0	20.51	20.68	20.79	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	23.77	23.74	23.65	25.00
		1	25	24.00	23.96	23.91	25.00
		1	49	23.77	23.71	23.68	25.00
		25	0	22.97	22.98	22.93	24.00
		25	13	23.05	23.07	23.02	24.00
		25	25	23.03	23.00	22.93	24.00
		50	0	22.98	23.01	22.95	24.00
	16QAM	1	0	23.23	22.94	22.87	24.00
			25	23.22	23.17	23.08	24.00
		1	49	22.98	22.92	22.80	24.00
		25	0	21.96	21.92	21.87	23.00
		25	13	22.05	22.02	21.95	23.00
		25	25	22.00	22.00	21.86	23.00
		50	0	21.95	21.97	21.86	23.00
	64QAM	1	0	21.86	21.86	21.92	23.00
			25	21.98	21.99	22.13	23.00
		1	49	22.13	22.12	22.25	23.00
		25	0	20.63	20.68	20.75	22.00
		25	13	20.58	20.65	20.77	22.00
		25	25	20.74	20.76	20.90	22.00
		50	0	20.54	20.73	20.83	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	23.76	23.70	23.63	25.00
		1	38	23.98	23.95	23.88	25.00



		1	74	23.74	23.66	23.64	25.00	
		36	0	22.95	22.94	22.90	24.00	
		36	18	23.02	23.02	22.98	24.00	
		36	39	23.00	22.97	22.89	24.00	
		75	0	22.96	22.97	22.90	24.00	
	16QAM	1	0	23.18	22.92	22.85	24.00	
		1	38	23.20	23.14	23.06	24.00	
		1	74	22.95	22.88	22.77	24.00	
		36	0	21.93	21.90	21.84	23.00	
		36	18	22.02	21.97	21.91	23.00	
		36	39	21.98	21.96	21.83	23.00	
		75	0	21.92	21.92	21.82	23.00	
	64QAM	1	0	21.81	21.84	21.90	23.00	
		1	38	21.96	21.96	22.11	23.00	
		1	74	22.14	22.11	22.26	23.00	
		36	0	20.62	20.70	20.76	22.00	
		36	18	20.56	20.62	20.76	22.00	
		36	39	20.72	20.72	20.87	22.00	
		75	0	20.51	20.68	20.79	22.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	23.73	23.66	23.60	25.00	
		1	50	<b>23.97</b>	<b>23.91</b>	<b>23.86</b>	25.00	
		1	99	23.72	23.65	23.61	25.00	
		50	0	22.92	22.89	22.86	24.00	
		50	25	<b>23.00</b>	<b>22.98</b>	<b>22.95</b>	24.00	
		50	50	22.97	22.92	22.85	24.00	
		100	0	<b>22.93</b>	22.92	22.86	24.00	
	16QAM	1	0	22.94	22.88	22.80	24.00	
		1	50	23.16	23.12	23.02	24.00	
		1	99	22.93	22.85	22.75	24.00	
		50	0	21.90	21.86	21.81	23.00	
		50	25	21.99	21.95	21.88	23.00	
		50	50	21.95	21.91	21.79	23.00	
		100	0	21.90	21.88	21.79	23.00	
	64QAM	1	0	21.79	21.80	21.85	23.00	
		1	50	21.92	21.94	22.07	23.00	
		1	99	22.08	22.05	22.20	23.00	
		50	0	20.57	20.62	20.69	22.00	
		50	25	20.52	20.58	20.70	22.00	
		50	50	20.69	20.67	20.83	22.00	
		100	0	20.49	20.64	20.76	22.00	



LTE FDD Band 7 DSI-3 & DSI-4				Maximum Output 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	22.74	22.71	22.61	24.00
		1	13	22.96	22.93	22.89	24.00
		1	24	22.74	22.68	22.72	24.00
		12	0	22.84	22.86	22.83	24.00
		12	6	22.93	22.93	22.93	24.00
		12	13	22.92	22.90	22.85	24.00
		25	0	22.88	22.91	22.87	24.00
	16QAM	1	0	23.27	22.97	22.95	24.00
		1	13	23.25	23.17	23.15	24.00
		1	24	23.02	22.98	22.92	24.00
		12	0	22.85	22.82	22.81	24.00
		12	6	22.97	22.91	22.91	24.00
		12	13	22.93	22.90	22.84	24.00
		25	0	22.88	22.88	22.84	24.00
	64QAM	1	0	22.79	22.77	22.83	24.00
		1	13	22.94	22.90	22.84	24.00
		1	24	22.75	22.67	22.61	24.00
		12	0	22.82	22.73	22.80	24.00
		12	6	22.90	22.82	22.82	24.00
		12	13	22.84	22.82	22.74	24.00
		25	0	22.79	22.79	22.75	24.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	22.76	22.72	22.64	24.00
		1	25	22.99	22.98	22.93	24.00
		1	49	22.76	22.72	22.75	24.00
		25	0	22.87	22.91	22.87	24.00
		25	13	22.96	22.98	22.97	24.00
		25	25	22.94	22.94	22.90	24.00
		50	0	22.92	22.93	22.91	24.00
	16QAM	1	0	23.29	23.00	22.97	24.00
		1	25	23.28	23.21	23.18	24.00
		1	49	23.05	23.00	22.95	24.00
		25	0	22.88	22.87	22.85	24.00
		25	13	22.99	22.95	22.94	24.00
		25	25	22.96	22.95	22.88	24.00
		50	0	22.91	22.93	22.88	24.00
	64QAM	1	0	22.81	22.76	22.85	24.00
1		25	22.97	22.90	22.87	24.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20825/2507.5	21100/2535	21375/2562.5		
		1	49	22.74	22.69	22.64	24.00	
		25	0	22.85	22.78	22.80	24.00	
		25	13	22.92	22.86	22.85	24.00	
		25	25	22.87	22.87	22.78	24.00	
		50	0	22.82	22.84	22.79	24.00	
15MHz	QPSK	1	0	22.75	22.68	22.62	24.00	
		1	38	22.97	22.97	22.90	24.00	
		1	74	22.73	22.67	22.71	24.00	
		36	0	22.85	22.87	22.84	24.00	
		36	18	22.93	22.93	22.93	24.00	
		36	39	22.91	22.91	22.86	24.00	
		75	0	22.90	22.89	22.86	24.00	
	16QAM	1	0	23.24	22.98	22.95	24.00	
		1	38	23.26	23.18	23.16	24.00	
		1	74	23.02	22.96	22.92	24.00	
		36	0	22.85	22.85	22.82	24.00	
		36	18	22.96	22.90	22.90	24.00	
		36	39	22.94	22.91	22.85	24.00	
		75	0	22.88	22.88	22.84	24.00	
	64QAM	1	0	22.76	22.74	22.83	24.00	
		1	38	22.95	22.87	22.85	24.00	
		1	74	22.75	22.68	22.65	24.00	
		36	0	22.84	22.80	22.81	24.00	
		36	18	22.90	22.83	22.84	24.00	
		36	39	22.85	22.83	22.75	24.00	
		75	0	22.79	22.79	22.75	24.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20850/2510	21100/2535	21350/2560	
	20MHz	QPSK	1	0	23.00	22.92	22.87	24.00
			1	50	<b>23.24</b>	<b>23.21</b>	<b>23.16</b>	24.00
			1	99	22.99	22.94	22.96	24.00
			50	0	23.10	23.10	23.08	24.00
			50	25	<b>23.19</b>	<b>23.17</b>	<b>23.18</b>	24.00
50			50	23.16	23.14	23.10	24.00	
100			0	<b>23.15</b>	23.12	23.10	24.00	
16QAM		1	0	23.26	23.22	23.18	24.00	
		1	50	23.50	23.44	23.40	24.00	
		1	99	23.28	23.21	23.18	24.00	
		50	0	23.10	23.09	23.07	24.00	
		50	25	23.21	23.16	23.15	24.00	
		50	50	23.19	23.14	23.09	24.00	



	64QAM	100	0	23.14	23.12	23.09	24.00
		1	0	23.02	22.98	23.06	24.00
		1	50	23.19	23.13	23.09	24.00
		1	99	22.97	22.90	22.87	24.00
		50	0	23.07	23.00	23.02	24.00
		50	25	23.14	23.07	23.06	24.00
		50	50	23.10	23.06	22.99	24.00
		100	0	23.05	23.03	23.00	24.00

LTE FDD Band 12 (Full Power & DSI 1 & DSI 2 & DSI 3 & DSI 4)				Maximum Output 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	24.36	24.46	24.45	25.50
		1	2	24.66	24.54	24.53	25.50
		1	5	24.47	24.51	24.48	25.50
		3	0	24.56	24.55	24.47	25.50
		3	2	24.59	24.61	24.54	25.50
		3	3	24.60	24.54	24.43	25.50
		6	0	23.61	23.59	23.54	24.50
	16QAM	1	0	23.59	23.60	23.62	24.50
		1	2	23.57	23.54	23.56	24.50
		1	5	23.51	23.50	23.44	24.50
		3	0	23.34	23.38	23.34	24.50
		3	2	23.42	23.39	23.29	24.50
		3	3	23.38	23.39	23.32	24.50
		6	0	22.46	22.44	22.44	23.50
	64QAM	1	0	22.51	22.48	22.49	23.50
		1	2	22.47	22.44	22.42	23.50
		1	5	22.50	22.53	22.49	23.50
		3	0	22.31	22.28	22.31	23.50
		3	2	22.32	22.32	22.39	23.50
		3	3	22.45	22.38	22.40	23.50
		6	0	21.47	21.51	21.53	22.50
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	24.37	24.49	24.47	25.50
		1	7	24.65	24.58	24.58	25.50
		1	14	24.49	24.55	24.51	25.50
		8	0	23.66	23.67	23.60	24.50
		8	4	23.72	23.72	23.65	24.50
		8	7	23.70	23.67	23.54	24.50
		15	0	23.65	23.64	23.59	24.50



	16QAM	1	0	23.61	23.61	23.64	24.50	
		1	7	23.60	23.56	23.60	24.50	
		1	14	23.53	23.54	23.46	24.50	
		8	0	22.46	22.52	22.47	23.50	
		8	4	22.52	22.51	22.40	23.50	
		8	7	22.48	22.51	22.45	23.50	
		15	0	22.50	22.49	22.46	23.50	
	64QAM	1	0	22.53	22.49	22.51	23.50	
		1	7	22.50	22.46	22.44	23.50	
		1	14	22.52	22.52	22.51	23.50	
		8	0	21.43	21.42	21.44	22.50	
		8	4	21.42	21.44	21.50	22.50	
		8	7	21.55	21.50	21.53	22.50	
		15	0	21.51	21.56	21.55	22.50	
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	24.36	24.45	24.45	25.50	
		1	13	24.63	24.57	24.55	25.50	
		1	24	24.46	24.50	24.47	25.50	
		12	0	23.64	23.63	23.57	24.50	
		12	6	23.69	23.67	23.61	24.50	
		12	13	23.67	23.64	23.50	24.50	
		25	0	23.63	23.60	23.54	24.50	
	16QAM	1	0	23.56	23.59	23.62	24.50	
		1	13	23.58	23.53	23.58	24.50	
		1	24	23.50	23.50	23.43	24.50	
		12	0	22.43	22.50	22.44	23.50	
		12	6	22.49	22.46	22.36	23.50	
		12	13	22.46	22.47	22.42	23.50	
		25	0	22.47	22.44	22.42	23.50	
	64QAM	1	0	22.48	22.47	22.49	23.50	
		1	13	22.48	22.43	22.42	23.50	
		1	24	22.53	22.51	22.52	23.50	
		12	0	21.42	21.44	21.45	22.50	
		12	6	21.40	21.41	21.49	22.50	
		12	13	21.53	21.46	21.50	22.50	
		25	0	21.48	21.51	21.51	22.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23060/704	23095/707.5	23130/711	
	10MHz	QPSK	1	0	24.33	24.41	24.42	25.50
			1	25	<b>24.52</b>	<b>24.53</b>	<b>24.63</b>	25.50
			1	49	24.44	24.49	24.44	25.50
			25	0	23.61	23.58	23.53	24.50



		25	13	<b>23.67</b>	<b>23.63</b>	<b>23.58</b>	24.50
		25	25	23.64	23.59	23.46	24.50
		50	0	<b>23.60</b>	23.55	23.50	24.50
	16QAM	1	0	23.61	23.55	23.57	24.50
		1	25	23.54	23.51	23.54	24.50
		1	49	23.48	23.47	23.41	24.50
		25	0	22.40	22.46	22.41	23.50
		25	13	22.46	22.44	22.33	23.50
		25	25	22.43	22.42	22.38	23.50
		50	0	22.45	22.40	22.39	23.50
	64QAM	1	0	22.46	22.43	22.44	23.50
		1	25	22.44	22.41	22.38	23.50
		1	49	22.47	22.45	22.46	23.50
		25	0	21.37	21.36	21.38	22.50
		25	13	21.36	21.37	21.43	22.50
		25	25	21.50	21.41	21.46	22.50
		50	0	21.46	21.47	21.48	22.50

LTE FDD Band 17 (Full Power & DSI 1&DSI 2&DSI 3& DSI4)				Maximum Output 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	24.39	24.36	24.28	25.50
		1	13	24.44	24.42	24.48	25.50
		1	24	24.31	24.35	24.32	25.50
		12	0	23.40	23.36	23.40	24.50
		12	6	23.44	23.44	23.45	24.50
		12	13	23.48	23.42	23.41	24.50
		25	0	23.40	23.46	23.45	24.50
	16QAM	1	0	23.73	23.44	23.42	24.50
		1	13	23.71	23.61	23.64	24.50
		1	24	23.64	23.60	23.54	24.50
		12	0	22.44	22.45	22.39	23.50
		12	6	22.51	22.42	22.46	23.50
		12	13	22.47	22.49	22.37	23.50
		25	0	22.55	22.56	22.50	23.50
	64QAM	1	0	22.41	22.46	22.39	23.50
		1	13	22.38	22.41	22.32	23.50
		1	24	22.47	22.39	22.35	23.50
		12	0	21.65	21.57	21.58	22.50
		12	6	21.62	21.56	21.52	22.50
		12	13	21.56	21.54	21.62	22.50





Bandwidth	Modulation	25	0	21.49	21.50	21.46	22.50
		RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	24.37	24.29	24.26	25.50
		1	25	<b>24.44</b>	<b>24.42</b>	<b>24.47</b>	25.50
		1	49	24.28	24.33	24.28	25.50
		25	0	23.38	23.32	23.37	24.50
		25	13	23.42	<b>23.40</b>	<b>23.42</b>	24.50
		25	25	<b>23.44</b>	23.38	23.38	24.50
		50	0	23.39	23.39	<b>23.40</b>	24.50
	16QAM	1	0	23.61	23.41	23.37	24.50
		1	25	23.68	23.60	23.61	24.50
		1	49	23.62	23.55	23.52	24.50
		25	0	22.41	22.44	22.37	23.50
		25	13	22.47	22.39	22.42	23.50
		25	25	22.45	22.45	22.34	23.50
		50	0	22.53	22.52	22.47	23.50
	64QAM	1	0	22.36	22.39	22.34	23.50
		1	25	22.35	22.36	22.29	23.50
		1	49	22.41	22.34	22.33	23.50
		25	0	21.62	21.56	21.52	22.50
		25	13	21.58	21.53	21.48	22.50
		25	25	21.54	21.50	21.59	22.50
		50	0	21.47	21.46	21.43	22.50

LTE TDD Band 38 Full Power & DSI-1 & DSI-2 & DSI-3 & DSI-4				Maximum Output 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	24.24	24.21	24.17	25.50
		1	13	24.47	24.45	24.51	25.50
		1	24	24.24	24.24	24.37	25.50
		12	0	23.43	23.45	23.47	24.50
		12	6	23.47	23.45	23.57	24.50
		12	13	23.40	23.43	23.52	24.50
		25	0	23.42	23.50	23.55	24.50
	16QAM	1	0	23.71	23.33	23.37	24.50
		1	13	23.69	23.58	23.68	24.50
		1	24	23.39	23.46	23.49	24.50
		12	0	22.48	22.43	22.47	23.50
		12	6	22.50	22.46	22.58	23.50
		12	13	22.42	22.45	22.55	23.50



	64QAM	25	0	22.45	22.46	22.53	23.50
		1	0	22.33	22.36	22.35	23.50
		1	13	22.13	22.13	22.17	23.50
		1	24	22.36	22.28	22.34	23.50
		12	0	21.34	21.26	21.36	22.50
		12	6	21.34	21.31	21.38	22.50
		12	13	22.26	22.23	22.30	22.50
		25	0	21.37	21.41	21.47	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	24.26	24.22	24.20	25.50
		1	25	24.50	24.50	24.55	25.50
		1	49	24.26	24.28	24.40	25.50
		25	0	23.46	23.50	23.51	24.50
		25	13	23.50	23.50	23.61	24.50
		25	25	23.42	23.47	23.57	24.50
		50	0	23.46	23.52	23.59	24.50
	16QAM	1	0	23.73	23.36	23.39	24.50
		1	25	23.72	23.62	23.71	24.50
		1	49	23.42	23.48	23.52	24.50
		25	0	22.51	22.48	22.51	23.50
		25	13	22.52	22.50	22.61	23.50
		25	25	22.45	22.50	22.59	23.50
		50	0	22.48	22.51	22.57	23.50
	64QAM	1	0	22.35	22.35	22.37	23.50
		1	25	22.16	22.13	22.20	23.50
		1	49	22.35	22.30	22.37	23.50
		25	0	21.37	21.31	21.36	22.50
		25	13	21.36	21.35	21.41	22.50
		25	25	22.29	22.28	22.34	22.50
		50	0	21.40	21.46	21.51	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	24.25	24.18	24.18	25.50
		1	38	24.48	24.49	24.52	25.50
		1	74	24.23	24.23	24.36	25.50
		36	0	23.44	23.46	23.48	24.50
		36	18	23.47	23.45	23.57	24.50
		36	39	23.39	23.44	23.53	24.50
		75	0	23.44	23.48	23.54	24.50
	16QAM	1	0	23.68	23.34	23.37	24.50
		1	38	23.70	23.59	23.69	24.50
		1	74	23.39	23.44	23.49	24.50



		36	0	22.48	22.46	22.48	23.50
		36	18	22.49	22.45	22.57	23.50
		36	39	22.43	22.46	22.56	23.50
		75	0	22.45	22.46	22.53	23.50
	64QAM	1	0	22.30	22.33	22.35	23.50
		1	38	22.14	22.10	22.18	23.50
		1	74	22.36	22.29	22.38	23.50
		36	0	21.36	21.33	21.37	22.50
		36	18	21.34	21.32	21.40	22.50
		36	39	22.27	22.24	22.31	22.50
		75	0	21.37	21.41	21.47	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	24.22	24.14	24.15	25.50
		1	50	<b>24.47</b>	<b>24.45</b>	<b>24.50</b>	25.50
		1	99	24.21	24.22	24.33	25.50
		50	0	23.41	<b>23.41</b>	23.44	24.50
		50	25	<b>23.45</b>	<b>23.41</b>	<b>23.54</b>	24.50
		50	50	23.36	23.39	23.49	24.50
		100	0	23.41	23.43	<b>23.50</b>	24.50
	16QAM	1	0	23.40	23.30	23.32	24.50
		1	50	23.66	23.57	23.65	24.50
		1	99	23.37	23.41	23.47	24.50
		50	0	22.45	22.42	22.45	23.50
		50	25	22.46	22.43	22.54	23.50
		50	50	22.40	22.41	22.52	23.50
		100	0	22.43	22.42	22.50	23.50
	64QAM	1	0	22.28	22.29	22.30	23.50
		1	50	22.10	22.08	22.14	23.50
		1	99	22.30	22.23	22.32	23.50
		50	0	21.31	21.25	21.30	22.50
		50	25	21.30	21.28	21.34	22.50
		50	50	22.24	22.19	22.27	22.50
		100	0	21.35	21.37	21.44	22.50

LTE TDD Band 41 Full Power &DSI-1 &DSI-2&DSI-3&DSI-4				Maximum Output Power (dBm)				Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				40065/25	40385/25	40705/26	41215/26	
				37.5	69.5	01.5	52.5	
5MHz	QPSK	1	0	23.99	24.06	24.09	24.08	25.50
		1	13	24.35	24.32	24.30	24.33	25.50
		1	24	24.15	24.12	24.11	24.10	25.50



		12	0	23.24	23.22	23.32	23.20	24.50	
		12	6	23.26	23.33	23.34	23.31	24.50	
		12	13	23.32	23.30	23.29	23.29	24.50	
		25	0	23.29	23.27	23.34	23.35	24.50	
	16QAM	1	0	23.58	23.55	23.26	23.30	24.50	
		1	13	23.56	23.53	23.49	23.53	24.50	
		1	24	23.31	23.35	23.36	23.29	24.50	
		12	0	22.26	22.26	22.32	22.24	23.50	
		12	6	22.34	22.38	22.33	22.35	23.50	
		12	13	22.31	22.31	22.32	22.34	23.50	
		25	0	22.30	22.31	22.33	22.35	23.50	
	64QAM	1	0	22.14	22.21	22.10	22.20	23.50	
		1	13	22.17	22.31	22.24	22.13	23.50	
		1	24	22.34	22.37	22.07	22.24	23.50	
		12	0	21.22	21.14	21.24	21.42	22.50	
		12	6	21.33	21.23	21.20	21.28	22.50	
		12	13	21.35	21.28	21.14	21.34	22.50	
		25	0	21.33	21.30	21.23	21.43	22.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				Tune-up Limit
					40090/25 40	40390/25 70	40690/26 00	41190/26 50	
	10MHz	QPSK	1	0	24.01	24.08	24.10	24.11	25.50
1			25	24.38	24.35	24.35	24.37	25.50	
1			49	24.17	24.14	24.15	24.13	25.50	
25			0	23.27	23.25	23.37	23.24	24.50	
25			13	23.29	23.36	23.39	23.35	24.50	
25			25	23.34	23.32	23.33	23.34	24.50	
50			0	23.33	23.31	23.36	23.39	24.50	
16QAM		1	0	23.60	23.57	23.29	23.32	24.50	
		1	25	23.59	23.56	23.53	23.56	24.50	
		1	49	23.34	23.38	23.38	23.32	24.50	
		25	0	22.29	22.29	22.37	22.28	23.50	
		25	13	22.36	22.40	22.37	22.38	23.50	
		25	25	22.34	22.34	22.37	22.38	23.50	
		50	0	22.33	22.34	22.38	22.39	23.50	
64QAM		1	0	22.16	22.23	22.09	22.22	23.50	
		1	25	22.20	22.34	22.24	22.16	23.50	
		1	49	22.33	22.36	22.09	22.27	23.50	
		25	0	21.25	21.17	21.29	21.42	22.50	
		25	13	21.35	21.25	21.24	21.31	22.50	
		25	25	21.38	21.31	21.19	21.38	22.50	
		50	0	21.36	21.33	21.28	21.47	22.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				Tune-up	



				40115/25	40395/25	40685/25	2647.5/41	Limit
				42.5	70.5	99.5	140	
15MHz	QPSK	1	0	24.00	24.07	24.06	24.09	25.50
		1	38	24.36	24.33	24.34	24.34	25.50
		1	74	24.14	24.11	24.10	24.09	25.50
		36	0	23.25	23.23	23.33	23.21	24.50
		36	18	23.26	23.33	23.34	23.31	24.50
		36	39	23.31	23.29	23.30	23.30	24.50
		75	0	23.31	23.29	23.32	23.34	24.50
	16QAM	1	0	23.55	23.52	23.27	23.30	24.50
		1	38	23.57	23.54	23.50	23.54	24.50
		1	74	23.31	23.35	23.34	23.29	24.50
		36	0	22.26	22.26	22.35	22.25	23.50
		36	18	22.33	22.37	22.32	22.34	23.50
		36	39	22.32	22.32	22.33	22.35	23.50
		75	0	22.30	22.31	22.33	22.35	23.50
	64QAM	1	0	22.11	22.18	22.07	22.20	23.50
		1	38	22.18	22.32	22.21	22.14	23.50
		1	74	22.34	22.37	22.08	22.28	23.50
		36	0	21.24	21.16	21.31	21.43	22.50
		36	18	21.33	21.23	21.21	21.30	22.50
		36	39	21.36	21.29	21.15	21.35	22.50
		75	0	21.33	21.30	21.23	21.43	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				Tune-up Limit (dBm)
				40140/25 45	40400/25 71	40670/25 98	41140/26 45	
20MHz	QPSK	1	0	23.97	24.04	24.02	24.06	25.50
		1	50	<b>24.35</b>	<b>24.32</b>	<b>24.30</b>	<b>24.32</b>	25.50
		1	99	24.12	24.09	24.09	24.06	25.50
		50	0	23.22	23.20	23.28	23.17	24.50
		50	25	23.24	<b>23.31</b>	<b>23.30</b>	<b>23.28</b>	24.50
		50	50	<b>23.28</b>	23.26	23.25	23.26	24.50
		100	0	23.28	23.26	23.27	<b>23.30</b>	24.50
	16QAM	1	0	23.14	23.24	23.23	23.25	24.50
		1	50	23.53	23.50	23.48	23.50	24.50
		1	99	23.29	23.33	23.31	23.27	24.50
		50	0	22.23	22.23	22.31	22.22	23.50
		50	25	22.30	22.34	22.30	22.31	23.50
		50	50	22.29	22.29	22.28	22.31	23.50
		100	0	22.28	22.29	22.29	22.32	23.50
	64QAM	1	0	22.09	22.16	22.03	22.15	23.50
		1	50	22.14	22.28	22.19	22.10	23.50
		1	99	22.28	22.31	22.02	22.22	23.50



		50	0	21.19	21.11	21.23	21.36	22.50
		50	25	21.29	21.19	21.17	21.24	22.50
		50	50	21.33	21.26	21.10	21.31	22.50
		100	0	21.31	21.28	21.19	21.40	22.50

LTE FDD Band 66 (Full Power&DSI-1&DSI-2)				Maximum Output Power (dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				131979/1710. 7	132322/1745	132665/1779. 3	
1.4MHz	QPSK	1	0	23.94	23.83	23.76	23.94
		1	2	24.22	24.13	24.09	24.22
		1	5	23.95	23.89	23.96	23.95
		3	0	24.01	23.92	24.01	24.01
		3	2	23.87	23.89	23.91	23.87
		3	3	23.97	23.76	23.88	23.97
		6	0	23.05	22.92	23.01	23.05
	16QAM	1	0	23.46	23.13	23.08	23.46
		1	2	23.44	23.42	23.37	23.44
		1	5	23.23	23.20	23.18	23.23
		3	0	23.17	23.12	23.10	23.17
		3	2	23.01	22.96	22.94	23.01
		3	3	22.92	22.91	22.84	22.92
		6	0	22.07	22.06	22.04	22.07
	64QAM	1	0	23.24	23.22	23.17	23.24
		1	2	23.33	23.31	23.28	23.33
		1	5	23.21	23.27	23.16	23.21
		3	0	23.11	23.10	23.04	23.11
		3	2	23.18	23.16	23.11	23.18
		3	3	23.04	23.03	22.96	23.04
		6	0	21.09	21.08	21.06	21.09
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				131987/1711. 5	132322/1745	132657/1778. 5	
3MHz	QPSK	1	0	23.96	23.87	23.79	25.50
		1	7	24.20	24.16	24.13	25.50
		1	14	23.98	23.94	24.00	25.50
		8	0	23.11	23.04	23.14	24.50
		8	4	22.99	22.99	23.03	24.50
		8	7	23.07	22.87	22.98	24.50
		15	0	23.05	22.96	23.04	24.50



	16QAM	1	0	23.49	23.15	23.11	24.50
		1	7	23.47	23.42	23.41	24.50
		1	14	23.25	23.24	23.21	24.50
		8	0	22.28	22.25	22.22	23.50
		8	4	22.12	22.09	22.06	23.50
		8	7	22.02	22.03	21.97	23.50
		15	0	22.10	22.10	22.07	23.50
	64QAM	1	0	22.27	22.24	22.20	23.50
		1	7	22.36	22.31	22.30	23.50
		1	14	22.23	22.26	22.19	23.50
		8	0	21.22	21.23	21.16	22.50
		8	4	21.29	21.29	21.23	22.50
		8	7	21.14	21.15	21.09	22.50
		15	0	21.12	21.12	21.09	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	23.93	23.85	23.75	25.50
		1	13	24.18	24.12	24.10	25.50
		1	24	23.95	23.89	23.96	25.50
		12	0	23.08	22.99	23.10	24.50
		12	6	22.97	22.95	22.98	24.50
		12	13	23.05	22.85	22.94	24.50
		25	0	23.05	22.95	23.02	24.50
	16QAM	1	0	23.46	23.11	23.08	24.50
		1	13	23.44	23.40	23.38	24.50
		1	24	23.22	23.22	23.17	24.50
		12	0	22.26	22.21	22.19	23.50
		12	6	22.09	22.04	22.02	23.50
		12	13	21.99	21.98	21.93	23.50
		25	0	22.08	22.06	22.02	23.50
	64QAM	1	0	22.24	22.24	22.17	23.50
		1	13	22.33	22.33	22.27	23.50
		1	24	22.24	22.24	22.15	23.50
		12	0	21.20	21.19	21.17	22.50
		12	6	21.26	21.24	21.19	22.50
		12	13	21.11	21.10	21.05	22.50
		25	0	21.10	21.08	21.04	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	23.95	23.86	23.78	25.50
		1	25	24.21	24.17	24.14	25.50
		1	49	23.97	23.93	23.99	25.50



		25	0	23.11	23.04	23.14	24.50	
		25	13	23.00	23.00	23.02	24.50	
		25	25	23.07	22.89	22.99	24.50	
		50	0	23.09	22.97	23.06	24.50	
	16QAM	1	0	23.48	23.14	23.10	24.50	
		1	25	23.47	23.44	23.41	24.50	
		1	49	23.25	23.24	23.20	24.50	
		25	0	22.29	22.26	22.23	23.50	
		25	13	22.11	22.08	22.05	23.50	
		25	25	22.02	22.03	21.97	23.50	
		50	0	22.11	22.11	22.06	23.50	
	64QAM	1	0	22.26	22.23	22.19	23.50	
		1	25	22.36	22.33	22.30	23.50	
		1	49	22.23	22.26	22.18	23.50	
		25	0	21.23	21.24	21.17	22.50	
		25	13	21.28	21.28	21.22	22.50	
		25	25	21.14	21.15	21.09	22.50	
		50	0	21.13	21.13	21.08	22.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					132047/1717.5	132322/1745	132597/1772.5	
	15MHz	QPSK	1	0	23.94	23.82	23.76	25.50
1			38	24.19	24.16	24.11	25.50	
1			74	23.94	23.88	23.95	25.50	
36			0	23.09	23.00	23.11	24.50	
36			18	22.97	22.95	22.98	24.50	
36			39	23.04	22.86	22.95	24.50	
75			0	23.07	22.93	23.01	24.50	
16QAM		1	0	23.43	23.12	23.08	24.50	
		1	38	23.45	23.41	23.39	24.50	
		1	74	23.22	23.20	23.17	24.50	
		36	0	22.26	22.24	22.20	23.50	
		36	18	22.08	22.03	22.01	23.50	
		36	39	22.00	21.99	21.94	23.50	
		75	0	22.08	22.06	22.02	23.50	
64QAM		1	0	22.21	22.21	22.17	23.50	
		1	38	22.34	22.30	22.28	23.50	
		1	74	22.24	22.25	22.19	23.50	
		36	0	21.22	21.26	21.18	22.50	
		36	18	21.26	21.25	21.21	22.50	
		36	39	21.12	21.11	21.06	22.50	
		75	0	21.10	21.08	21.04	22.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up	





				132072/1720	132322/1745	132572/1770	Limit
<b>20MHz</b>	<b>QPSK</b>	1	0	23.91	23.78	23.73	25.50
		1	50	<b>24.18</b>	<b>24.12</b>	<b>24.09</b>	25.50
		1	99	23.92	23.87	23.92	25.50
		50	0	<b>23.06</b>	<b>22.95</b>	<b>23.07</b>	24.50
		50	25	22.95	22.91	22.95	24.50
		50	50	23.01	22.81	22.91	24.50
		100	0	<b>23.04</b>	22.88	22.97	24.50
	<b>16QAM</b>	1	0	23.10	23.08	23.03	24.50
		1	50	23.41	23.39	23.35	24.50
		1	99	23.20	23.17	23.15	24.50
		50	0	22.23	22.20	22.17	23.50
		50	25	22.05	22.01	21.98	23.50
		50	50	21.97	21.94	21.90	23.50
		100	0	22.06	22.02	21.99	23.50
	<b>64QAM</b>	1	0	22.19	22.17	22.12	23.50
		1	50	22.30	22.28	22.24	23.50
		1	99	22.18	22.19	22.13	23.50
		50	0	21.17	21.18	21.11	22.50
		50	25	21.22	21.21	21.15	22.50
		50	50	21.09	21.06	21.02	22.50
		100	0	21.08	21.04	21.01	22.50

<b>LTE FDD Band 66 DSI-3&amp;DSI-4</b>				<b>Maximum Output Power (dBm)</b>			<b>Tune-up Limit</b>
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			
				131979/1710. 7	132322/1745	132665/1779. 3	
<b>1.4MHz</b>	<b>QPSK</b>	1	0	21.76	21.76	21.88	23.00
		1	2	21.82	21.89	21.78	23.00
		1	5	21.75	21.69	21.96	23.00
		3	0	21.88	21.84	21.76	23.00
		3	2	21.85	21.78	21.93	23.00
		3	3	21.91	21.81	22.01	23.00
		6	0	21.81	21.76	21.90	23.00
	<b>16QAM</b>	1	0	21.98	21.96	21.94	23.00
		1	2	21.99	21.96	21.93	23.00
		1	5	22.08	22.07	22.05	23.00
		3	0	21.84	21.87	21.85	23.00
		3	2	21.85	21.84	21.82	23.00
		3	3	21.82	21.83	21.77	23.00
		6	0	21.84	21.88	21.87	23.00
<b>64QAM</b>	1	0	21.97	21.94	21.92	23.00	



		1	2	21.99	21.96	21.93	23.00
		1	5	21.99	21.99	21.97	23.00
		3	0	21.90	21.89	21.87	23.00
		3	2	21.90	21.90	21.88	23.00
		3	3	21.96	21.98	21.92	23.00
		6	0	21.95	21.93	21.92	23.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				1319871711. 5	132322/1745	132657/1778. 5	
3MHz	QPSK	1	0	21.78	21.80	21.91	23.00
		1	7	21.82	21.91	21.82	23.00
		1	14	21.78	21.74	22.00	23.00
		8	0	21.92	21.91	21.83	23.00
		8	4	21.88	21.86	21.99	23.00
		8	7	21.95	21.86	22.05	23.00
		15	0	21.83	21.80	21.93	23.00
	16QAM	1	0	22.01	21.98	21.97	23.00
		1	7	22.02	21.98	21.97	23.00
		1	14	22.10	22.11	22.08	23.00
		8	0	21.89	21.91	21.88	23.00
		8	4	21.90	21.91	21.88	23.00
		8	7	21.86	21.89	21.84	23.00
		15	0	21.87	21.92	21.90	23.00
	64QAM	1	0	22.00	21.96	21.95	23.00
		1	7	22.02	21.98	21.97	23.00
		1	14	22.01	22.03	22.00	23.00
		8	0	21.95	21.93	21.90	23.00
		8	4	21.95	21.97	21.94	23.00
		8	7	22.00	22.04	21.99	23.00
		15	0	21.97	21.99	21.97	23.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				131997/1712. 5	132322/1745	132647/1777. 5	
5MHz	QPSK	1	0	21.75	21.78	21.87	23.00
		1	13	21.80	21.87	21.79	23.00
		1	24	21.75	21.69	21.96	23.00
		12	0	21.89	21.86	21.79	23.00
		12	6	21.86	21.82	21.94	23.00
		12	13	21.93	21.84	22.01	23.00
		25	0	21.81	21.79	21.91	23.00
	16QAM	1	0	21.98	21.94	21.94	23.00
		1	13	21.99	21.96	21.94	23.00
		1	24	22.07	22.09	22.04	23.00



		12	0	21.87	21.87	21.85	23.00	
		12	6	21.87	21.86	21.84	23.00	
		12	13	21.83	21.84	21.80	23.00	
		25	0	21.85	21.88	21.85	23.00	
	64QAM	1	0	21.97	21.92	21.92	23.00	
		1	13	21.99	21.96	21.94	23.00	
		1	24	21.98	22.01	21.96	23.00	
		12	0	21.93	21.89	21.87	23.00	
		12	6	21.92	21.92	21.90	23.00	
		12	13	21.97	21.99	21.95	23.00	
25	0	21.95	21.95	21.92	23.00			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				132022/1715	132322/1745	132622/1775		
10MHz	QPSK	1	0	21.76	21.77	21.89	23.00	
		1	25	21.81	21.91	21.81	23.00	
		1	49	21.76	21.71	21.98	23.00	
		25	0	21.90	21.90	21.81	23.00	
		25	13	21.88	21.85	21.97	23.00	
		25	25	21.93	21.84	22.05	23.00	
		50	0	21.81	21.80	21.92	23.00	
	16QAM	1	0	21.97	21.92	21.94	23.00	
		1	25	22.01	21.99	21.92	23.00	
		1	49	22.08	22.07	22.06	23.00	
		25	0	21.85	21.91	21.86	23.00	
		25	13	21.86	21.85	21.85	23.00	
		25	25	21.85	21.88	21.79	23.00	
		50	0	21.84	21.90	21.85	23.00	
	64QAM	1	0	21.97	21.91	21.93	23.00	
		1	25	22.01	21.98	21.94	23.00	
		1	49	21.98	21.98	21.97	23.00	
		25	0	21.95	21.93	21.86	23.00	
		25	13	21.90	21.93	21.89	23.00	
		25	25	21.98	22.00	21.98	23.00	
		50	0	21.97	21.98	21.93	23.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					132047/1717.5	132322/1745	132597/1772.5	
	15MHz	QPSK	1	0	21.76	21.75	21.88	23.00
1			38	21.81	21.91	21.80	23.00	
1			74	21.74	21.68	21.95	23.00	
36			0	21.90	21.87	21.80	23.00	
36			18	21.86	21.82	21.94	23.00	
36			39	21.92	21.85	22.02	23.00	



	16QAM	75	0	21.84	21.77	21.90	23.00
		1	0	21.95	21.95	21.94	23.00
		1	38	22.00	21.97	21.95	23.00
		1	74	22.07	22.07	22.04	23.00
		36	0	21.87	21.90	21.86	23.00
		36	18	21.86	21.85	21.83	23.00
		36	39	21.84	21.85	21.81	23.00
	75	0	21.85	21.88	21.85	23.00	
	64QAM	1	0	21.94	21.93	21.92	23.00
		1	38	22.00	21.97	21.95	23.00
		1	74	21.98	21.99	21.96	23.00
		36	0	21.93	21.92	21.88	23.00
		36	18	21.91	21.91	21.89	23.00
		36	39	21.98	22.00	21.96	23.00
75		0	21.95	21.95	21.92	23.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	1	0	21.73	21.71	21.85	23.00
		1	50	<b>22.08</b>	<b>21.97</b>	21.78	23.00
		1	99	21.72	21.67	<b>22.12</b>	23.00
		50	0	21.87	<b>22.02</b>	21.76	23.00
		50	25	21.84	21.78	21.91	23.00
		50	50	<b>21.89</b>	21.80	<b>22.26</b>	23.00
		100	0	21.81	21.72	<b>21.86</b>	23.00
	16QAM	1	0	21.93	21.91	21.89	23.00
		1	50	21.96	21.95	21.91	23.00
		1	99	22.05	22.04	22.02	23.00
		50	0	21.84	21.86	21.83	23.00
		50	25	21.83	21.83	21.80	23.00
		50	50	21.81	21.80	21.77	23.00
		100	0	21.83	21.84	21.82	23.00
	64QAM	1	0	21.92	21.89	21.87	23.00
		1	50	21.96	21.95	21.91	23.00
		1	99	21.96	21.96	21.94	23.00
		50	0	21.90	21.88	21.85	23.00
		50	25	21.88	21.89	21.86	23.00
		50	50	21.95	21.95	21.92	23.00
		100	0	21.93	21.91	21.89	23.00



## Second - Antenna

LTE FDD Band 2 DSI-1				Maximum Output 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	20.63	20.60	20.56	22.00
		1	2	20.74	20.76	20.82	22.00
		1	5	20.42	20.45	20.56	22.00
		3	0	21.57	21.66	21.64	22.00
		3	2	21.58	21.68	21.73	22.00
		3	3	21.57	21.56	21.63	22.00
		6	0	20.60	20.68	20.76	22.00
	16QAM	1	0	20.90	20.78	20.74	22.00
		1	2	20.88	20.94	20.98	22.00
		1	5	20.59	20.64	20.70	22.00
		3	0	21.45	21.49	21.52	22.00
		3	2	21.51	21.53	21.61	22.00
		3	3	21.45	21.47	21.47	22.00
		6	0	20.48	20.58	20.63	22.00
	64QAM	1	0	20.84	20.79	20.81	22.00
		1	2	20.91	20.90	20.94	22.00
		1	5	20.76	20.78	20.75	22.00
		3	0	20.66	20.63	20.69	21.00
		3	2	20.76	20.74	20.79	21.00
		3	3	20.65	20.64	20.66	21.00
		6	0	19.68	19.69	19.77	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	20.65	20.64	20.59	22.00
		1	7	20.72	20.79	20.86	22.00
		1	14	20.45	20.50	20.60	22.00
		8	0	20.67	20.78	20.77	22.00
		8	4	20.70	20.78	20.85	22.00
		8	7	20.67	20.67	20.73	22.00
		15	0	20.60	20.72	20.79	22.00
	16QAM	1	0	20.93	20.80	20.77	22.00
		1	7	20.91	20.94	21.02	22.00
		1	14	20.61	20.68	20.73	22.00
		8	0	20.56	20.62	20.64	22.00
		8	4	20.62	20.66	20.73	22.00
		8	7	20.55	20.59	20.60	22.00
		15	0	20.51	20.62	20.66	22.00
	64QAM	1	0	20.87	20.81	20.84	22.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18625/1852.5	18900/1880	19175/1907.5		
		1	7	20.94	20.90	20.96	22.00	
		1	14	20.78	20.77	20.78	22.00	
		8	0	19.77	19.76	19.81	21.00	
		8	4	19.87	19.87	19.91	21.00	
		8	7	19.75	19.76	19.79	21.00	
		15	0	19.71	19.73	19.80	21.00	
5MHz	QPSK	1	0	20.62	20.62	20.55	22.00	
		1	13	20.70	20.75	20.83	22.00	
		1	24	20.42	20.45	20.56	22.00	
		12	0	20.64	20.73	20.73	22.00	
		12	6	20.68	20.74	20.80	22.00	
		12	13	20.65	20.65	20.69	22.00	
		25	0	20.60	20.71	20.77	22.00	
	16QAM	1	0	20.90	20.76	20.74	22.00	
		1	13	20.88	20.92	20.99	22.00	
		1	24	20.58	20.66	20.69	22.00	
		12	0	20.54	20.58	20.61	22.00	
		12	6	20.59	20.61	20.69	22.00	
		12	13	20.52	20.54	20.56	22.00	
		25	0	20.49	20.58	20.61	22.00	
	64QAM	1	0	20.84	20.81	20.81	22.00	
		1	13	20.91	20.92	20.93	22.00	
		1	24	20.79	20.75	20.74	22.00	
		12	0	19.75	19.72	19.82	21.00	
		12	6	19.84	19.82	19.87	21.00	
		12	13	19.72	19.71	19.75	21.00	
		25	0	19.69	19.69	19.75	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18650/1855	18900/1880	19150/1905	
	10MHz	QPSK	1	0	20.64	20.63	20.58	22.00
1			25	20.73	20.80	20.87	22.00	
1			49	20.44	20.49	20.59	22.00	
25			0	20.67	20.78	20.77	22.00	
25			13	20.71	20.79	20.84	22.00	
25			25	20.67	20.69	20.74	22.00	
50			0	20.64	20.73	20.81	22.00	
16QAM		1	0	21.04	20.91	20.88	22.00	
		1	25	20.91	20.96	21.02	22.00	
		1	49	20.61	20.68	20.72	22.00	
		25	0	20.57	20.63	20.65	22.00	
		25	13	20.61	20.65	20.72	22.00	



		25	25	20.55	20.59	20.60	22.00
		50	0	20.52	20.63	20.65	22.00
	64QAM	1	0	20.86	20.80	20.83	22.00
		1	25	20.94	20.92	20.96	22.00
		1	49	20.78	20.77	20.77	22.00
		25	0	19.78	19.77	19.82	21.00
		25	13	19.86	19.86	19.90	21.00
		25	25	19.75	19.76	19.79	21.00
		50	0	19.72	19.74	19.79	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	20.63	20.59	20.56	22.00
		1	38	20.71	20.79	20.84	22.00
		1	74	20.41	20.44	20.55	22.00
		36	0	20.65	20.74	20.74	22.00
		36	18	20.68	20.74	20.80	22.00
		36	39	20.64	20.66	20.70	22.00
		75	0	20.62	20.69	20.76	22.00
	16QAM	1	0	20.99	20.89	20.86	22.00
		1	38	20.89	20.93	21.00	22.00
		1	74	20.58	20.64	20.69	22.00
		36	0	20.54	20.61	20.62	22.00
		36	18	20.58	20.60	20.68	22.00
		36	39	20.53	20.55	20.57	22.00
		75	0	20.49	20.58	20.61	22.00
	64QAM	1	0	20.81	20.78	20.81	22.00
		1	38	20.92	20.89	20.94	22.00
		1	74	20.79	20.76	20.78	22.00
		36	0	19.77	19.79	19.83	21.00
		36	18	19.84	19.83	19.89	21.00
		36	39	19.73	19.72	19.76	21.00
		75	0	19.69	19.69	19.75	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	20.68	20.63	20.61	22.00
		1	50	<b>20.78</b>	<b>20.83</b>	<b>21.01</b>	22.00
		1	99	20.47	20.51	20.60	22.00
		50	0	20.70	20.77	20.78	22.00
		50	25	<b>20.74</b>	<b>20.78</b>	<b>20.85</b>	22.00
		50	50	20.69	20.69	20.74	22.00
		100	0	20.67	20.72	<b>20.80</b>	22.00
	16QAM	1	0	20.74	20.73	20.69	22.00
		1	50	20.85	20.91	20.96	22.00



		1	99	20.56	20.61	20.67	22.00
		50	0	20.51	20.57	20.59	22.00
		50	25	20.55	20.58	20.65	22.00
		50	50	20.50	20.50	20.53	22.00
		100	0	20.47	20.54	20.58	22.00
	64QAM	1	0	20.79	20.74	20.76	22.00
		1	50	20.88	20.87	20.90	22.00
		1	99	20.73	20.70	20.72	22.00
		50	0	19.72	19.71	19.76	21.00
		50	25	19.80	19.79	19.83	21.00
		50	50	19.70	19.67	19.72	21.00
		100	0	19.67	19.65	19.72	21.00

LTE FDD Band 2 DSI-4				Maximum Output 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	22.01	21.98	21.94	23.50
		1	2	22.12	22.14	22.20	23.50
		1	5	21.80	21.83	21.94	23.50
		3	0	22.95	23.04	23.02	23.50
		3	2	22.96	23.06	23.11	23.50
		3	3	22.95	22.94	23.01	23.50
		6	0	21.98	22.06	22.14	23.50
	16QAM	1	0	22.40	22.28	22.24	23.50
		1	2	22.38	22.44	22.48	23.50
		1	5	22.09	22.14	22.20	23.50
		3	0	22.95	22.99	23.02	23.50
		3	2	23.01	23.03	23.11	23.50
		3	3	22.95	22.97	22.97	23.50
		6	0	21.98	22.08	22.13	23.50
	64QAM	1	0	22.34	22.29	22.31	23.50
		1	2	22.41	22.40	22.44	23.50
		1	5	22.26	22.28	22.25	23.50
		3	0	22.16	22.13	22.19	23.50
		3	2	22.26	22.24	22.29	23.50
		3	3	22.15	22.14	22.16	23.50
		6	0	21.18	21.19	21.27	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
3MHz	QPSK	1	0	22.03	22.02	21.97	23.50
		1	7	22.10	22.17	22.24	23.50
		1	14	21.83	21.88	21.98	23.50





		8	0	22.05	22.16	22.15	23.50	
		8	4	22.08	22.16	22.23	23.50	
		8	7	22.05	22.05	22.11	23.50	
		15	0	21.98	22.10	22.17	23.50	
	16QAM	1	0	22.43	22.30	22.27	23.50	
		1	7	22.41	22.44	22.52	23.50	
		1	14	22.11	22.18	22.23	23.50	
		8	0	22.06	22.12	22.14	23.50	
		8	4	22.12	22.16	22.23	23.50	
		8	7	22.05	22.09	22.10	23.50	
		15	0	22.01	22.12	22.16	23.50	
	64QAM	1	0	22.37	22.31	22.34	23.50	
		1	7	22.44	22.40	22.46	23.50	
		1	14	22.28	22.27	22.28	23.50	
		8	0	21.27	21.26	21.31	22.50	
		8	4	21.37	21.37	21.41	22.50	
		8	7	21.25	21.26	21.29	22.50	
		15	0	21.21	21.23	21.30	22.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	22.00	22.00	21.93	23.50
1			13	22.08	22.13	22.21	23.50	
1			24	21.80	21.83	21.94	23.50	
12			0	22.02	22.11	22.11	23.50	
12			6	22.06	22.12	22.18	23.50	
12			13	22.03	22.03	22.07	23.50	
25			0	21.98	22.09	22.15	23.50	
16QAM		1	0	22.40	22.26	22.24	23.50	
		1	13	22.38	22.42	22.49	23.50	
		1	24	22.08	22.16	22.19	23.50	
		12	0	22.04	22.08	22.11	23.50	
		12	6	22.09	22.11	22.19	23.50	
		12	13	22.02	22.04	22.06	23.50	
		25	0	21.99	22.08	22.11	23.50	
64QAM		1	0	22.34	22.31	22.31	23.50	
		1	13	22.41	22.42	22.43	23.50	
		1	24	22.29	22.25	22.24	23.50	
		12	0	21.25	21.22	21.32	22.50	
		12	6	21.34	21.32	21.37	22.50	
		12	13	21.22	21.21	21.25	22.50	
		25	0	21.19	21.19	21.25	22.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18650/1855	18900/1880	19150/1905		



10MHz	QPSK	1	0	22.02	22.01	21.96	23.50
		1	25	22.11	22.18	22.25	23.50
		1	49	21.82	21.87	21.97	23.50
		25	0	22.05	22.16	22.15	23.50
		25	13	22.09	22.17	22.22	23.50
		25	25	22.05	22.07	22.12	23.50
		50	0	22.02	22.11	22.19	23.50
	16QAM	1	0	22.42	22.29	22.26	23.50
		1	25	22.41	22.46	22.52	23.50
		1	49	22.11	22.18	22.22	23.50
		25	0	22.07	22.13	22.15	23.50
		25	13	22.11	22.15	22.22	23.50
		25	25	22.05	22.09	22.10	23.50
		50	0	22.02	22.13	22.15	23.50
	64QAM	1	0	22.36	22.30	22.33	23.50
		1	25	22.44	22.42	22.46	23.50
		1	49	22.28	22.27	22.27	23.50
		25	0	21.28	21.27	21.32	22.50
		25	13	21.36	21.36	21.40	22.50
		25	25	21.25	21.26	21.29	22.50
		50	0	21.22	21.24	21.29	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	22.01	21.97	21.94	23.50
		1	38	22.09	22.17	22.22	23.50
		1	74	21.79	21.82	21.93	23.50
		36	0	22.03	22.12	22.12	23.50
		36	18	22.06	22.12	22.18	23.50
		36	39	22.02	22.04	22.08	23.50
		75	0	22.00	22.07	22.14	23.50
	16QAM	1	0	22.37	22.27	22.24	23.50
		1	38	22.39	22.43	22.50	23.50
		1	74	22.08	22.14	22.19	23.50
		36	0	22.04	22.11	22.12	23.50
		36	18	22.08	22.10	22.18	23.50
		36	39	22.03	22.05	22.07	23.50
		75	0	21.99	22.08	22.11	23.50
	64QAM	1	0	22.31	22.28	22.31	23.50
		1	38	22.42	22.39	22.44	23.50
		1	74	22.29	22.26	22.28	23.50
		36	0	21.27	21.29	21.33	22.50
		36	18	21.34	21.33	21.39	22.50
		36	39	21.23	21.22	21.26	22.50



Bandwidth	Modulation	75	0	21.19	21.19	21.25	22.50
		RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	21.98	21.93	21.91	23.50
		1	50	<b>22.08</b>	<b>22.13</b>	<b>22.20</b>	23.50
		1	99	21.77	21.81	21.90	23.50
		50	0	22.00	22.07	22.08	23.50
		50	25	<b>22.04</b>	<b>22.08</b>	<b>22.15</b>	23.50
		50	50	21.99	21.99	22.04	23.50
		100	0	21.97	22.02	<b>22.10</b>	23.50
	16QAM	1	0	22.24	22.23	22.19	23.50
		1	50	22.35	22.41	22.46	23.50
		1	99	22.06	22.11	22.17	23.50
		50	0	22.01	22.07	22.09	23.50
		50	25	22.05	22.08	22.15	23.50
		50	50	22.00	22.00	22.03	23.50
		100	0	21.97	22.04	22.08	23.50
	64QAM	1	0	22.29	22.24	22.26	23.50
		1	50	22.38	22.37	22.40	23.50
		1	99	22.23	22.20	22.22	23.50
		50	0	21.22	21.21	21.26	22.50
		50	25	21.30	21.29	21.33	22.50
		50	50	21.20	21.17	21.22	22.50
		100	0	21.17	21.15	21.22	22.50

LTE FDD Band 2 Full Power & DSI-2				Maximum Output 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	24.00	23.97	23.93	25.50
		1	2	24.13	24.13	24.17	25.50
		1	5	23.80	23.84	23.92	25.50
		3	0	23.98	24.06	24.03	25.50
		3	2	23.99	24.07	24.13	25.50
		3	3	23.98	23.96	24.04	25.50
		6	0	23.00	23.10	23.15	24.50
	16QAM	1	0	23.41	23.26	23.23	24.50
		1	2	23.39	23.41	23.47	24.50
		1	5	23.07	23.12	23.14	24.50
		3	0	22.95	23.02	23.04	24.50
		3	2	23.03	23.05	23.14	24.50
		3	3	22.96	22.99	23.00	24.50
		6	0	22.01	22.09	22.16	23.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
	64QAM	1	0	22.11	22.07	22.14	23.50
		1	2	22.19	22.17	22.21	23.50
		1	5	22.33	22.35	22.37	23.50
		3	0	22.10	22.04	22.10	23.50
		3	2	22.13	22.10	22.19	23.50
		3	3	22.13	22.10	22.16	23.50
		6	0	21.25	21.24	21.33	22.50
3MHz	QPSK	1	0	24.02	24.01	23.96	25.50
		1	7	24.11	24.16	24.21	25.50
		1	14	23.83	23.89	23.96	25.50
		8	0	23.08	23.18	23.16	24.50
		8	4	23.11	23.17	23.25	24.50
		8	7	23.08	23.07	23.14	24.50
		15	0	23.00	23.14	23.18	24.50
	16QAM	1	0	23.44	23.28	23.26	24.50
		1	7	23.42	23.41	23.51	24.50
		1	14	23.09	23.16	23.17	24.50
		8	0	22.06	22.15	22.16	23.50
		8	4	22.14	22.18	22.26	23.50
		8	7	22.06	22.11	22.13	23.50
		15	0	22.04	22.13	22.19	23.50
	64QAM	1	0	22.14	22.09	22.17	23.50
		1	7	22.22	22.17	22.23	23.50
		1	14	22.35	22.34	22.40	23.50
		8	0	21.21	21.17	21.22	22.50
		8	4	21.24	21.23	21.31	22.50
		8	7	21.23	21.22	21.29	22.50
		15	0	21.28	21.28	21.36	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	23.99	23.99	23.92	25.50
		1	13	24.09	24.12	24.18	25.50
		1	24	23.80	23.84	23.92	25.50
		12	0	23.05	23.13	23.12	24.50
		12	6	23.09	23.13	23.20	24.50
		12	13	23.06	23.05	23.10	24.50
		25	0	23.00	23.13	23.16	24.50
	16QAM	1	0	23.41	23.24	23.23	24.50
		1	13	23.39	23.39	23.48	24.50
		1	24	23.06	23.14	23.13	24.50
		12	0	22.04	22.11	22.13	23.50



		12	6	22.11	22.13	22.22	23.50
		12	13	22.03	22.06	22.09	23.50
		25	0	22.02	22.09	22.14	23.50
	64QAM	1	0	22.11	22.09	22.14	23.50
		1	13	22.19	22.19	22.20	23.50
		1	24	22.36	22.32	22.36	23.50
		12	0	21.19	21.13	21.23	22.50
		12	6	21.21	21.18	21.27	22.50
		12	13	21.20	21.17	21.25	22.50
25	0	21.26	21.24	21.31	22.50		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	24.01	24.00	23.95	25.50
		1	25	24.12	24.17	24.22	25.50
		1	49	23.82	23.88	23.95	25.50
		25	0	23.08	23.18	23.16	24.50
		25	13	23.12	23.18	23.24	24.50
		25	25	23.08	23.09	23.15	24.50
		50	0	23.04	23.15	23.20	24.50
	16QAM	1	0	23.43	23.27	23.25	24.50
		1	25	23.42	23.43	23.51	24.50
		1	49	23.09	23.16	23.16	24.50
		25	0	22.07	22.16	22.17	23.50
		25	13	22.13	22.17	22.25	23.50
		25	25	22.06	22.11	22.13	23.50
		50	0	22.05	22.14	22.18	23.50
	64QAM	1	0	22.13	22.08	22.16	23.50
		1	25	22.22	22.19	22.23	23.50
		1	49	22.35	22.34	22.39	23.50
		25	0	21.22	21.18	21.23	22.50
		25	13	21.23	21.22	21.30	22.50
		25	25	21.23	21.22	21.29	22.50
		50	0	21.29	21.29	21.35	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	24.00	23.96	23.93	25.50
		1	38	24.10	24.16	24.19	25.50
		1	74	23.79	23.83	23.91	25.50
		36	0	23.06	23.14	23.13	24.50
		36	18	23.09	23.13	23.20	24.50
		36	39	23.05	23.06	23.11	24.50
		75	0	23.02	23.11	23.15	24.50
	16QAM	1	0	23.38	23.25	23.23	24.50



		1	38	23.40	23.40	23.49	24.50
		1	74	23.06	23.12	23.13	24.50
		36	0	22.04	22.14	22.14	23.50
		36	18	22.10	22.12	22.21	23.50
		36	39	22.04	22.07	22.10	23.50
		75	0	22.02	22.09	22.14	23.50
		1	0	22.08	22.06	22.14	23.50
	64QAM	1	38	22.20	22.16	22.21	23.50
		1	74	22.36	22.33	22.40	23.50
		36	0	21.21	21.20	21.24	22.50
		36	18	21.21	21.19	21.29	22.50
		36	39	21.21	21.18	21.26	22.50
		75	0	21.26	21.24	21.31	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	23.97	23.92	23.90	25.50
		1	50	<b>24.09</b>	<b>24.12</b>	<b>24.17</b>	25.50
		1	99	23.77	23.82	23.88	25.50
		50	0	23.03	<b>23.09</b>	23.09	24.50
		50	25	<b>23.07</b>	<b>23.09</b>	<b>23.17</b>	24.50
		50	50	23.02	23.01	23.07	24.50
		100	0	22.99	23.06	<b>23.11</b>	24.50
	16QAM	1	0	23.23	23.21	23.18	24.50
		1	50	23.36	23.38	23.45	24.50
		1	99	23.04	23.09	23.11	24.50
		50	0	22.01	22.10	22.11	23.50
		50	25	22.07	22.10	22.18	23.50
		50	50	22.01	22.02	22.06	23.50
		100	0	22.00	22.05	22.11	23.50
	64QAM	1	0	22.06	22.02	22.09	23.50
		1	50	22.16	22.14	22.17	23.50
		1	99	22.30	22.27	22.34	23.50
		50	0	21.16	21.12	21.17	22.50
		50	25	21.17	21.15	21.23	22.50
		50	50	21.18	21.13	21.22	22.50
		100	0	21.24	21.20	21.28	22.50

LTE FDD Band 4 DSI-1				Maximum Output 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	21.03	21.04	21.02	22.50
		1	2	21.20	21.11	21.12	22.50



		1	5	20.86	20.87	20.85	22.50	
		3	0	22.14	22.11	22.06	22.50	
		3	2	22.06	22.11	22.11	22.50	
		3	3	22.06	22.04	22.02	22.50	
		6	0	21.14	21.12	21.11	22.50	
	16QAM	1	0	21.37	21.31	21.30	22.50	
		1	2	21.35	21.41	21.37	22.50	
		1	5	21.18	21.13	21.09	22.50	
		3	0	21.62	21.53	21.53	22.50	
		3	2	21.60	21.56	21.59	22.50	
		3	3	21.51	21.54	21.48	22.50	
		6	0	20.63	20.60	20.61	22.50	
	64QAM	1	0	20.76	20.73	20.74	22.50	
		1	2	20.79	20.72	20.77	22.50	
		1	5	20.78	20.86	20.83	22.50	
		3	0	20.54	20.51	20.53	21.50	
		3	2	20.59	20.61	20.60	21.50	
		3	3	20.72	20.57	20.61	21.50	
		6	0	19.69	19.67	19.75	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	21.05	21.08	21.05	22.50	
		1	7	21.18	21.14	21.16	22.50	
		1	14	20.89	20.92	20.89	22.50	
		8	0	21.24	21.23	21.19	22.50	
		8	4	21.18	21.21	21.23	22.50	
		8	7	21.16	21.15	21.12	22.50	
		15	0	21.14	21.16	21.14	22.50	
	16QAM	1	0	21.40	21.33	21.33	22.50	
		1	7	21.38	21.41	21.41	22.50	
		1	14	21.20	21.17	21.12	22.50	
		8	0	20.73	20.66	20.65	22.50	
		8	4	20.71	20.69	20.71	22.50	
		8	7	20.61	20.66	20.61	22.50	
		15	0	20.66	20.64	20.64	22.50	
	64QAM	1	0	20.79	20.75	20.77	22.50	
		1	7	20.82	20.72	20.79	22.50	
		1	14	20.80	20.85	20.86	22.50	
		8	0	19.65	19.60	19.65	21.50	
		8	4	19.70	19.74	19.72	21.50	
		8	7	19.82	19.69	19.74	21.50	
		15	0	19.72	19.71	19.78	21.50	
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	21.02	21.06	21.01	22.50
		1	13	21.16	21.10	21.13	22.50
		1	24	20.86	20.87	20.85	22.50
		12	0	21.21	21.18	21.15	22.50
		12	6	21.16	21.17	21.18	22.50
		12	13	21.14	21.13	21.08	22.50
		25	0	21.14	21.15	21.12	22.50
	16QAM	1	0	21.37	21.29	21.30	22.50
		1	13	21.35	21.39	21.38	22.50
		1	24	21.17	21.15	21.08	22.50
		12	0	20.71	20.62	20.62	22.50
		12	6	20.68	20.64	20.67	22.50
		12	13	20.58	20.61	20.57	22.50
		25	0	20.64	20.60	20.59	22.50
	64QAM	1	0	20.76	20.75	20.74	22.50
		1	13	20.79	20.74	20.76	22.50
		1	24	20.81	20.83	20.82	22.50
		12	0	19.63	19.56	19.66	21.50
		12	6	19.67	19.69	19.68	21.50
		12	13	19.79	19.64	19.70	21.50
		25	0	19.70	19.67	19.73	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	21.04	21.07	21.04	22.50
		1	25	21.19	21.15	21.17	22.50
		1	49	20.88	20.91	20.88	22.50
		25	0	21.24	21.23	21.19	22.50
		25	13	21.19	21.22	21.22	22.50
		25	25	21.16	21.17	21.13	22.50
		50	0	21.18	21.17	21.16	22.50
	16QAM	1	0	21.39	21.32	21.32	22.50
		1	25	21.38	21.43	21.41	22.50
		1	49	21.20	21.17	21.11	22.50
		25	0	20.74	20.67	20.66	22.50
		25	13	20.70	20.68	20.70	22.50
		25	25	20.61	20.66	20.61	22.50
		50	0	20.67	20.65	20.63	22.50
	64QAM	1	0	20.78	20.74	20.76	22.50
		1	25	20.82	20.74	20.79	22.50
		1	49	20.80	20.85	20.85	22.50
		25	0	19.66	19.61	19.66	21.50
		25	13	19.69	19.73	19.71	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	25	25	19.82	19.69	19.74	21.50	
		50	0	19.73	19.72	19.77	21.50	
		1	0	21.03	21.03	21.02	22.50	
		1	38	21.17	21.14	21.14	22.50	
		1	74	20.85	20.86	20.84	22.50	
		36	0	21.22	21.19	21.16	22.50	
		36	18	21.16	21.17	21.18	22.50	
	16QAM	36	39	21.13	21.14	21.09	22.50	
		75	0	21.16	21.13	21.11	22.50	
		1	0	21.34	21.30	21.30	22.50	
		1	38	21.36	21.40	21.39	22.50	
		1	74	21.17	21.13	21.08	22.50	
		36	0	20.71	20.65	20.63	22.50	
		36	18	20.67	20.63	20.66	22.50	
	64QAM	36	39	20.59	20.62	20.58	22.50	
		75	0	20.64	20.60	20.59	22.50	
		1	0	20.73	20.72	20.74	22.50	
		1	38	20.80	20.71	20.77	22.50	
		1	74	20.81	20.84	20.86	22.50	
		36	0	19.65	19.63	19.67	21.50	
		36	18	19.67	19.70	19.70	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	21.00	20.99	20.99	22.50
1			50	<b>21.16</b>	<b>21.10</b>	<b>21.12</b>	22.50	
1			99	20.83	20.85	20.81	22.50	
50			0	<b>21.19</b>	<b>21.14</b>	21.12	22.50	
50			25	21.14	21.13	<b>21.15</b>	22.50	
50			50	21.10	21.09	21.05	22.50	
100			0	<b>21.13</b>	21.08	21.07	22.50	
16QAM		1	0	21.21	21.26	21.25	22.50	
		1	50	21.32	21.38	21.35	22.50	
		1	99	21.15	21.10	21.06	22.50	
		50	0	20.68	20.61	20.60	22.50	
		50	25	20.64	20.61	20.63	22.50	
		50	50	20.56	20.57	20.54	22.50	
		100	0	20.62	20.56	20.56	22.50	
64QAM		1	0	20.71	20.68	20.69	22.50	
		1	50	20.76	20.69	20.73	22.50	



		1	99	20.75	20.78	20.80	22.50
		50	0	19.60	19.55	19.60	21.50
		50	25	19.63	19.66	19.64	21.50
		50	50	19.77	19.60	19.67	21.50
		100	0	19.68	19.63	19.70	21.50

LTE FDD Band 4 Full Power & DSI-2 & DSI-4				Maximum Output 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	24.03	24.04	23.98	25.50
		1	2	24.20	24.14	24.09	25.50
		1	5	23.85	23.87	23.82	25.50
		3	0	24.16	24.11	24.08	25.50
		3	2	24.09	24.12	24.13	25.50
		3	3	24.06	24.04	24.02	25.50
		6	0	23.16	23.13	23.13	24.50
	16QAM	1	0	23.45	23.29	23.25	24.50
		1	2	23.43	23.41	23.39	24.50
		1	5	23.11	23.11	23.07	24.50
		3	0	23.14	23.05	23.05	24.50
		3	2	23.12	23.08	23.10	24.50
		3	3	23.04	23.07	23.00	24.50
		6	0	22.15	22.12	22.12	23.50
	64QAM	1	0	22.28	22.24	22.22	23.50
		1	2	22.27	22.25	22.23	23.50
		1	5	22.33	22.31	22.30	23.50
		3	0	22.04	21.99	22.04	23.50
		3	2	22.14	22.05	22.15	23.50
		3	3	22.08	22.21	22.07	23.50
		6	0	21.18	21.20	21.20	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	24.05	24.08	24.01	25.50
		1	7	24.18	24.17	24.13	25.50
		1	14	23.88	23.92	23.86	25.50
		8	0	23.26	23.23	23.21	24.50
		8	4	23.21	23.22	23.25	24.50
		8	7	23.16	23.15	23.12	24.50
		15	0	23.16	23.17	23.16	24.50
	16QAM	1	0	23.48	23.31	23.28	24.50
		1	7	23.46	23.41	23.43	24.50
		1	14	23.13	23.15	23.10	24.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit		
				19975/1712.5	20175/1732.5	20375/1752.5			
	64QAM	8	0	22.25	22.18	22.17	23.50		
		8	4	22.23	22.21	22.22	23.50		
		8	7	22.14	22.19	22.13	23.50		
		15	0	22.18	22.16	22.15	23.50		
		1	0	22.31	22.26	22.25	23.50		
		1	7	22.30	22.25	22.25	23.50		
		1	14	22.35	22.30	22.33	23.50		
		8	0	21.15	21.12	21.16	22.50		
		8	4	21.25	21.18	21.27	22.50		
		8	7	21.18	21.33	21.20	22.50		
		15	0	21.21	21.24	21.23	22.50		
		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	24.02	24.06	23.97	25.50		
		1	13	24.16	24.13	24.10	25.50		
		1	24	23.85	23.87	23.82	25.50		
		12	0	23.23	23.18	23.17	24.50		
		12	6	23.19	23.18	23.20	24.50		
		12	13	23.14	23.13	23.08	24.50		
		25	0	23.16	23.16	23.14	24.50		
	16QAM	1	0	23.45	23.27	23.25	24.50		
		1	13	23.43	23.39	23.40	24.50		
		1	24	23.10	23.13	23.06	24.50		
		12	0	22.23	22.14	22.14	23.50		
		12	6	22.20	22.16	22.18	23.50		
		12	13	22.11	22.14	22.09	23.50		
		25	0	22.16	22.12	22.10	23.50		
	64QAM	1	0	22.28	22.26	22.22	23.50		
		1	13	22.27	22.27	22.22	23.50		
		1	24	22.36	22.28	22.29	23.50		
		12	0	21.13	21.08	21.17	22.50		
		12	6	21.22	21.13	21.23	22.50		
		12	13	21.15	21.28	21.16	22.50		
		25	0	21.19	21.20	21.18	22.50		
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
					20000/1715	20175/1732.5	20350/1750		
	10MHz	QPSK	1	0	24.04	24.07	24.00	25.50	
1			25	24.19	24.18	24.14	25.50		
1			49	23.87	23.91	23.85	25.50		
25			0	23.26	23.23	23.21	24.50		
25			13	23.22	23.23	23.24	24.50		
25			25	23.16	23.17	23.13	24.50		
50			0	23.20	23.18	23.18	24.50		



	16QAM	1	0	23.47	23.30	23.27	24.50
		1	25	23.46	23.43	23.43	24.50
		1	49	23.13	23.15	23.09	24.50
		25	0	22.26	22.19	22.18	23.50
		25	13	22.22	22.20	22.21	23.50
		25	25	22.14	22.19	22.13	23.50
		50	0	22.19	22.17	22.14	23.50
	64QAM	1	0	22.30	22.25	22.24	23.50
		1	25	22.30	22.27	22.25	23.50
		1	49	22.35	22.30	22.32	23.50
		25	0	21.16	21.13	21.17	22.50
		25	13	21.24	21.17	21.26	22.50
		25	25	21.18	21.33	21.20	22.50
		50	0	21.22	21.25	21.22	22.50
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	24.03	24.03	23.98	25.50
		1	38	24.17	24.17	24.11	25.50
		1	74	23.84	23.86	23.81	25.50
		36	0	23.24	23.19	23.18	24.50
		36	18	23.19	23.18	23.20	24.50
		36	39	23.13	23.14	23.09	24.50
		75	0	23.18	23.14	23.13	24.50
	16QAM	1	0	23.42	23.28	23.25	24.50
		1	38	23.44	23.40	23.41	24.50
		1	74	23.10	23.11	23.06	24.50
		36	0	22.23	22.17	22.15	23.50
		36	18	22.19	22.15	22.17	23.50
		36	39	22.12	22.15	22.10	23.50
		75	0	22.16	22.12	22.10	23.50
	64QAM	1	0	22.25	22.23	22.22	23.50
		1	38	22.28	22.24	22.23	23.50
		1	74	22.36	22.29	22.33	23.50
		36	0	21.15	21.15	21.18	22.50
		36	18	21.22	21.14	21.25	22.50
		36	39	21.16	21.29	21.17	22.50
		75	0	21.19	21.20	21.18	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	24.00	23.99	23.95	25.50
		1	50	<b>24.16</b>	<b>24.13</b>	<b>24.09</b>	25.50
		1	99	23.82	23.85	23.78	25.50
		50	0	<b>23.21</b>	<b>23.14</b>	23.14	24.50



		50	25	23.17	<b>23.14</b>	<b>23.17</b>	24.50			
		50	50	23.10	23.09	23.05	24.50			
		100	0	<b>23.15</b>	23.09	23.09	24.50			
	16QAM		1	0	23.22	23.24	23.20	24.50		
			1	50	23.40	23.38	23.37	24.50		
			1	99	23.08	23.08	23.04	24.50		
			50	0	22.20	22.13	22.12	23.50		
			50	25	22.16	22.13	22.14	23.50		
			50	50	22.09	22.10	22.06	23.50		
			100	0	22.14	22.08	22.07	23.50		
			64QAM		1	0	22.23	22.19	22.17	23.50
					1	50	22.24	22.22	22.19	23.50
	1	99			22.30	22.23	22.27	23.50		
	50	0			21.10	21.07	21.11	22.50		
	50	25			21.18	21.10	21.19	22.50		
	50	50			21.13	21.24	21.13	22.50		
	100	0			21.17	21.16	21.15	22.50		

LTE FDD Band 5 DSI-1				Maximum Output 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	24.21	24.28	24.26	25.50	
		1	2	24.36	24.32	24.28	25.50	
		1	5	24.25	24.25	24.22	25.50	
		3	0	24.40	24.48	24.42	25.50	
		3	2	24.40	24.49	24.46	25.50	
		3	3	24.47	24.49	24.40	25.50	
		6	0	23.49	23.54	23.51	24.50	
	16QAM		1	0	23.81	23.77	23.77	24.50
			1	2	23.79	23.82	23.82	24.50
			1	5	23.73	23.75	23.72	24.50
			3	0	23.42	23.44	23.43	24.50
			3	2	23.43	23.46	23.47	24.50
			3	3	23.48	23.49	23.37	24.50
			6	0	22.51	22.54	22.55	23.50
	64QAM		1	0	22.57	22.81	22.81	23.50
			1	2	22.63	22.54	22.86	23.50
			1	5	22.44	22.70	22.81	23.50
			3	0	22.56	22.65	22.60	23.50
			3	2	22.55	22.42	22.47	23.50
			3	3	22.56	22.56	22.60	23.50
			6	0	21.66	21.67	21.76	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	24.22	24.31	24.28	25.50
		1	7	24.35	24.36	24.33	25.50
		1	14	24.27	24.29	24.25	25.50
		8	0	23.50	23.60	23.55	24.50
		8	4	23.53	23.60	23.57	24.50
		8	7	23.57	23.62	23.51	24.50
		15	0	23.53	23.59	23.56	24.50
	16QAM	1	0	23.83	23.78	23.79	24.50
		1	7	23.82	23.84	23.86	24.50
		1	14	23.75	23.79	23.74	24.50
		8	0	22.54	22.58	22.56	23.50
		8	4	22.53	22.58	22.58	23.50
		8	7	22.58	22.61	22.50	23.50
		15	0	22.55	22.59	22.57	23.50
	64QAM	1	0	22.59	22.82	22.83	23.50
		1	7	22.66	22.56	22.88	23.50
		1	14	22.46	22.69	22.83	23.50
		8	0	21.68	21.79	21.73	22.50
		8	4	21.65	21.54	21.58	22.50
		8	7	21.66	21.68	21.73	22.50
		15	0	21.70	21.72	21.78	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	1	0	24.21	24.27	24.26	25.50
		1	13	24.33	24.35	24.30	25.50
		1	24	24.24	24.24	24.21	25.50
		12	0	23.48	23.56	23.52	24.50
		12	6	23.50	23.55	23.53	24.50
		12	13	23.54	23.59	23.47	24.50
		25	0	23.51	23.55	23.51	24.50
	16QAM	1	0	23.78	23.76	23.77	24.50
		1	13	23.80	23.81	23.84	24.50
		1	24	23.72	23.75	23.71	24.50
		12	0	22.51	22.56	22.53	23.50
		12	6	22.50	22.53	22.54	23.50
		12	13	22.56	22.57	22.47	23.50
		25	0	22.52	22.54	22.53	23.50
	64QAM	1	0	22.54	22.80	22.81	23.50
		1	13	22.64	22.53	22.86	23.50
		1	24	22.47	22.68	22.84	23.50
		12	0	21.67	21.81	21.74	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	12	6	21.63	21.51	21.57	22.50
		12	13	21.64	21.64	21.70	22.50
		25	0	21.67	21.67	21.74	22.50
		1	0	24.18	24.23	24.23	25.50
		1	25	<b>24.32</b>	<b>24.31</b>	<b>24.28</b>	25.50
		1	49	24.22	24.23	24.18	25.50
		25	0	23.45	23.51	23.48	24.50
	25	13	23.48	23.51	<b>23.50</b>	24.50	
	25	25	<b>23.51</b>	<b>23.54</b>	23.43	24.50	
	50	0	23.48	<b>23.50</b>	23.47	24.50	
	16QAM	1	0	23.69	23.72	23.72	24.50
		1	25	23.76	23.79	23.80	24.50
		1	49	23.70	23.72	23.69	24.50
		25	0	22.48	22.52	22.50	23.50
		25	13	22.47	22.51	22.51	23.50
		25	25	22.53	22.52	22.43	23.50
		50	0	22.50	22.50	22.50	23.50
	64QAM	1	0	22.52	22.76	22.76	23.50
		1	25	22.60	22.51	22.82	23.50
		1	49	22.41	22.62	22.78	23.50
		25	0	21.62	21.73	21.67	22.50
25		13	21.59	21.47	21.51	22.50	
25		25	21.61	21.59	21.66	22.50	
50		0	21.65	21.63	21.71	22.50	

LTE FDD Band 5 Full Power & DSI-2 & DSI-4				Maximum Output 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	24.34	24.36	24.37	25.50
		1	2	24.47	24.45	24.41	25.50
		1	5	24.39	24.37	24.33	25.50
		3	0	24.42	24.48	24.41	25.50
		3	2	24.39	24.52	24.44	25.50
		3	3	24.47	24.49	24.38	25.50
		6	0	23.51	23.55	23.50	24.50
	16QAM	1	0	23.83	23.69	23.70	24.50
		1	2	23.81	23.74	23.74	24.50
		1	5	23.69	23.71	23.62	24.50
		3	0	23.38	23.41	23.40	24.50
3		2	23.42	23.47	23.44	24.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
	64QAM	3	3	23.46	23.49	23.35	24.50
		6	0	22.50	22.53	22.51	23.50
		1	0	22.57	22.53	22.60	23.50
		1	2	22.71	22.69	22.75	23.50
		1	5	22.74	22.73	22.73	23.50
		3	0	22.48	22.38	22.40	23.50
		3	2	22.55	22.50	22.54	23.50
		3	3	22.66	22.63	22.64	23.50
		6	0	21.49	21.48	21.53	22.50
		3MHz	QPSK	1	0	24.35	24.39
1	7			24.46	24.49	24.46	25.50
1	14			24.41	24.41	24.36	25.50
8	0			23.52	23.60	23.54	24.50
8	4			23.52	23.63	23.55	24.50
8	7			23.57	23.62	23.49	24.50
15	0			23.55	23.60	23.55	24.50
16QAM	1		0	23.85	23.70	23.72	24.50
	1		7	23.84	23.76	23.78	24.50
	1		14	23.71	23.75	23.64	24.50
	8		0	22.50	22.55	22.53	23.50
	8		4	22.52	22.59	22.55	23.50
	8		7	22.56	22.61	22.48	23.50
	15		0	22.54	22.58	22.53	23.50
64QAM	1		0	22.59	22.54	22.62	23.50
	1		7	22.74	22.71	22.77	23.50
	1		14	22.76	22.72	22.75	23.50
	8		0	21.60	21.52	21.53	22.50
	8		4	21.65	21.62	21.65	22.50
	8		7	21.76	21.75	21.77	22.50
	15		0	21.53	21.53	21.55	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	1	0	24.34	24.35	24.37	25.50
		1	13	24.44	24.48	24.43	25.50
		1	24	24.38	24.36	24.32	25.50
		12	0	23.50	23.56	23.51	24.50
		12	6	23.49	23.58	23.51	24.50
		12	13	23.54	23.59	23.45	24.50
		25	0	23.53	23.56	23.50	24.50
	16QAM	1	0	23.80	23.68	23.70	24.50
		1	13	23.82	23.73	23.76	24.50





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20450/829	20525/836.5	20600/844		
10MHz	64QAM	1	24	23.68	23.71	23.61	24.50	
		12	0	22.47	22.53	22.50	23.50	
		12	6	22.49	22.54	22.51	23.50	
		12	13	22.54	22.57	22.45	23.50	
		25	0	22.51	22.53	22.49	23.50	
		1	0	22.54	22.52	22.60	23.50	
		1	13	22.72	22.68	22.75	23.50	
		1	24	22.77	22.71	22.76	23.50	
		12	0	21.59	21.54	21.54	22.50	
	12	6	21.63	21.59	21.64	22.50		
	12	13	21.74	21.71	21.74	22.50		
	25	0	21.50	21.48	21.51	22.50		
	10MHz	QPSK	1	0	24.31	24.31	24.34	25.50
			1	25	<b>24.43</b>	<b>24.44</b>	<b>24.41</b>	25.50
			1	49	24.36	24.35	24.29	25.50
			25	0	23.47	23.51	23.47	24.50
			25	13	23.47	<b>23.54</b>	<b>23.48</b>	24.50
			25	25	<b>23.51</b>	<b>23.54</b>	23.41	24.50
50			0	23.50	<b>23.51</b>	23.46	24.50	
16QAM		1	0	23.61	23.64	23.65	24.50	
		1	25	23.78	23.71	23.72	24.50	
		1	49	23.66	23.68	23.59	24.50	
		25	0	22.44	22.49	22.47	23.50	
		25	13	22.46	22.52	22.48	23.50	
		25	25	22.51	22.52	22.41	23.50	
		50	0	22.49	22.49	22.46	23.50	
64QAM		1	0	22.52	22.48	22.55	23.50	
		1	25	22.68	22.66	22.71	23.50	
		1	49	22.71	22.65	22.70	23.50	
		25	0	21.54	21.46	21.47	22.50	
	25	13	21.59	21.55	21.58	22.50		
	25	25	21.71	21.66	21.70	22.50		
	50	0	21.48	21.44	21.48	22.50		

LTE FDD Band 7 DSI-1				Maximum Output 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	16.56	16.57	16.57	18.00
		1	13	16.79	16.76	16.85	18.00
		1	24	16.58	16.56	16.71	18.00



		12	0	16.62	16.68	16.87	18.00	
		12	6	16.78	16.82	16.89	18.00	
		12	13	16.72	16.86	16.82	18.00	
		25	0	16.64	16.83	16.87	18.00	
	16QAM	1	0	16.92	16.88	16.94	18.00	
		1	13	17.18	17.12	17.22	18.00	
		1	24	17.00	16.96	17.06	18.00	
		12	0	16.65	16.68	16.88	18.00	
		12	6	16.79	16.83	16.91	18.00	
		12	13	16.71	16.88	16.83	18.00	
		25	0	16.66	16.82	16.89	18.00	
	64QAM	1	0	16.77	16.73	16.73	18.00	
		1	13	16.73	16.61	16.75	18.00	
		1	24	16.68	16.70	16.71	18.00	
		12	0	16.62	16.65	16.83	18.00	
		12	6	16.65	16.73	16.70	18.00	
		12	13	16.69	16.65	16.61	18.00	
		25	0	16.75	16.70	16.72	18.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20800/2505	21100/2535	21400/2565	
	10MHz	QPSK	1	0	16.57	16.56	16.59	18.00
1			25	16.80	16.80	16.87	18.00	
1			49	16.59	16.58	16.73	18.00	
25			0	16.63	16.72	16.89	18.00	
25			13	16.80	16.85	16.92	18.00	
25			25	16.72	16.86	16.86	18.00	
50			0	16.64	16.84	16.88	18.00	
16QAM		1	0	16.91	16.86	16.94	18.00	
		1	25	17.20	17.15	17.20	18.00	
		1	49	17.01	16.94	17.08	18.00	
		25	0	16.63	16.72	16.89	18.00	
		25	13	16.78	16.82	16.92	18.00	
		25	25	16.73	16.92	16.82	18.00	
		50	0	16.65	16.84	16.89	18.00	
64QAM		1	0	16.77	16.72	16.74	18.00	
		1	25	16.75	16.63	16.75	18.00	
		1	49	16.68	16.67	16.72	18.00	
		25	0	16.64	16.69	16.82	18.00	
		25	13	16.63	16.74	16.69	18.00	
		25	25	16.70	16.66	16.64	18.00	
		50	0	16.77	16.73	16.73	18.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20825/2507.5	21100/2535	21375/2562.5		



15MHz	QPSK	1	0	16.57	16.54	16.58	18.00
		1	38	16.80	16.80	16.86	18.00
		1	74	16.57	16.55	16.70	18.00
		36	0	16.63	16.69	16.88	18.00
		36	18	16.78	16.82	16.89	18.00
		36	39	16.71	16.87	16.83	18.00
		75	0	16.67	16.81	16.86	18.00
	16QAM	1	0	16.89	16.89	16.94	18.00
		1	38	17.19	17.13	17.23	18.00
		1	74	17.00	16.94	17.06	18.00
		36	0	16.65	16.71	16.89	18.00
		36	18	16.78	16.82	16.90	18.00
		36	39	16.72	16.89	16.84	18.00
		75	0	16.66	16.82	16.89	18.00
	64QAM	1	0	16.74	16.74	16.73	18.00
		1	38	16.74	16.62	16.76	18.00
		1	74	16.68	16.68	16.71	18.00
		36	0	16.62	16.68	16.84	18.00
		36	18	16.64	16.72	16.69	18.00
		36	39	16.70	16.66	16.62	18.00
		75	0	16.75	16.70	16.72	18.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	16.54	16.50	16.55	18.00
		1	50	<b>16.79</b>	<b>16.76</b>	<b>16.87</b>	18.00
		1	99	16.55	16.54	16.67	18.00
		50	0	16.60	16.64	16.84	18.00
		50	25	<b>16.76</b>	16.78	<b>16.86</b>	18.00
		50	50	16.68	<b>16.82</b>	16.79	18.00
		100	0	16.64	16.76	<b>16.82</b>	18.00
	16QAM	1	0	16.87	16.85	16.89	18.00
		1	50	17.15	17.11	17.19	18.00
		1	99	16.98	16.91	17.04	18.00
		50	0	16.62	16.67	16.86	18.00
		50	25	16.75	16.80	16.87	18.00
		50	50	16.69	16.84	16.80	18.00
		100	0	16.64	16.78	16.86	18.00
	64QAM	1	0	16.72	16.70	16.68	18.00
		1	50	16.70	16.60	16.72	18.00
		1	99	16.66	16.65	16.69	18.00
		50	0	16.59	16.64	16.81	18.00
		50	25	16.61	16.70	16.66	18.00
		50	50	16.67	16.61	16.58	18.00



		100	0	16.73	16.66	16.69	18.00
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LTE FDD Band 7 DSI-4				Maximum Output 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	18.06	18.07	18.07	19.50
		1	13	18.29	18.26	18.35	19.50
		1	24	18.08	18.06	18.21	19.50
		12	0	18.12	18.18	18.37	19.50
		12	6	18.28	18.32	18.39	19.50
		12	13	18.22	18.36	18.32	19.50
		25	0	18.14	18.33	18.37	19.50
	16QAM	1	0	18.42	18.38	18.44	19.50
		1	13	18.68	18.62	18.72	19.50
		1	24	18.50	18.46	18.56	19.50
		12	0	18.15	18.18	18.38	19.50
		12	6	18.29	18.33	18.41	19.50
		12	13	18.21	18.38	18.33	19.50
		25	0	18.16	18.32	18.39	19.50
	64QAM	1	0	18.27	18.23	18.23	19.50
		1	13	18.23	18.11	18.25	19.50
		1	24	18.18	18.20	18.21	19.50
		12	0	18.12	18.15	18.33	19.50
		12	6	18.15	18.23	18.20	19.50
		12	13	18.19	18.15	18.11	19.50
		25	0	18.25	18.20	18.22	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	18.07	18.06	18.09	19.50
		1	25	18.30	18.30	18.37	19.50
		1	49	18.09	18.08	18.23	19.50
		25	0	18.13	18.22	18.39	19.50
		25	13	18.30	18.35	18.42	19.50
		25	25	18.22	18.36	18.36	19.50
		50	0	18.14	18.34	18.38	19.50
	16QAM	1	0	18.41	18.36	18.44	19.50
		1	25	18.70	18.65	18.70	19.50
		1	49	18.51	18.44	18.58	19.50
		25	0	18.13	18.22	18.39	19.50
		25	13	18.28	18.32	18.42	19.50
		25	25	18.23	18.42	18.32	19.50
		50	0	18.15	18.34	18.39	19.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
	64QAM	1	0	18.27	18.22	18.24	19.50
		1	25	18.25	18.13	18.25	19.50
		1	49	18.18	18.17	18.22	19.50
		25	0	18.14	18.19	18.32	19.50
		25	13	18.13	18.24	18.19	19.50
		25	25	18.20	18.16	18.14	19.50
		50	0	18.27	18.23	18.23	19.50
15MHz	QPSK	1	0	18.07	18.04	18.08	19.50
		1	38	18.30	18.30	18.36	19.50
		1	74	18.07	18.05	18.20	19.50
		36	0	18.13	18.19	18.38	19.50
		36	18	18.28	18.32	18.39	19.50
		36	39	18.21	18.37	18.33	19.50
		75	0	18.17	18.31	18.36	19.50
	16QAM	1	0	18.39	18.39	18.44	19.50
		1	38	18.69	18.63	18.73	19.50
		1	74	18.50	18.44	18.56	19.50
		36	0	18.15	18.21	18.39	19.50
		36	18	18.28	18.32	18.40	19.50
		36	39	18.22	18.39	18.34	19.50
		75	0	18.16	18.32	18.39	19.50
	64QAM	1	0	18.24	18.24	18.23	19.50
		1	38	18.24	18.12	18.26	19.50
		1	74	18.18	18.18	18.21	19.50
		36	0	18.12	18.18	18.34	19.50
		36	18	18.14	18.22	18.19	19.50
		36	39	18.20	18.16	18.12	19.50
		75	0	18.25	18.20	18.22	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	18.04	18.02	18.05	19.50
		1	50	<b>18.29</b>	<b>18.26</b>	<b>18.34</b>	19.50
		1	99	18.05	18.04	18.17	19.50
		50	0	18.10	18.14	18.34	19.50
		50	25	<b>18.26</b>	18.28	<b>18.36</b>	19.50
		50	50	18.18	<b>18.32</b>	18.29	19.50
		100	0	18.14	18.26	<b>18.32</b>	19.50
	16QAM	1	0	18.37	18.35	18.39	19.50
		1	50	18.65	18.61	18.69	19.50
		1	99	18.48	18.41	18.54	19.50
		50	0	18.12	18.17	18.36	19.50



		50	25	18.25	18.30	18.37	19.50
		50	50	18.19	18.34	18.30	19.50
		100	0	18.14	18.28	18.36	19.50
	64QAM	1	0	18.22	18.20	18.18	19.50
		1	50	18.20	18.10	18.22	19.50
		1	99	18.16	18.15	18.19	19.50
		50	0	18.09	18.14	18.31	19.50
		50	25	18.11	18.20	18.16	19.50
		50	50	18.17	18.11	18.08	19.50
		100	0	18.23	18.16	18.19	19.50

LTE FDD Band 7 DSI-2				Maximum Output 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	21.98	22.02	22.00	23.50
		1	13	22.26	22.25	22.31	23.50
		1	24	22.02	22.04	22.14	23.50
		12	0	22.14	22.17	22.34	23.50
		12	6	22.26	22.32	22.37	23.50
		12	13	22.18	22.35	22.32	23.50
		25	0	22.11	22.29	22.34	23.50
	16QAM	1	0	22.57	22.23	22.28	23.50
		1	13	22.55	22.47	22.53	23.50
		1	24	22.30	22.27	22.32	23.50
		12	0	21.63	21.64	21.81	23.50
		12	6	21.76	21.79	21.84	23.50
		12	13	21.69	21.85	21.80	23.50
		25	0	21.63	21.76	21.79	23.50
	64QAM	1	0	21.89	21.87	21.92	23.50
		1	13	21.97	21.97	22.00	23.50
		1	24	21.95	21.88	21.90	23.50
		12	0	20.78	20.68	20.74	22.50
		12	6	20.82	20.77	20.81	22.50
		12	13	20.85	20.82	20.85	22.50
		25	0	20.71	20.69	20.72	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
10MHz	QPSK			20800/2505	21100/2535	21400/2565	
		1	0	22.00	22.03	22.03	23.50
		1	25	22.29	22.30	22.35	23.50
		1	49	22.04	22.08	22.17	23.50
		25	0	22.17	22.22	22.38	23.50
		25	13	22.29	22.37	22.41	23.50



		25	25	22.20	22.39	22.37	23.50
		50	0	22.15	22.31	22.38	23.50
	16QAM	1	0	22.59	22.26	22.30	23.50
		1	25	22.58	22.51	22.56	23.50
		1	49	22.33	22.29	22.35	23.50
		25	0	21.66	21.69	21.85	23.50
		25	13	21.78	21.83	21.87	23.50
		25	25	21.72	21.90	21.84	23.50
		50	0	21.66	21.81	21.83	23.50
		64QAM	1	0	21.91	21.86	21.94
	1		25	22.00	21.97	22.03	23.50
	1		49	21.94	21.90	21.93	23.50
	25		0	20.81	20.73	20.74	22.50
	25		13	20.84	20.81	20.84	22.50
	25		25	20.88	20.87	20.89	22.50
	50		0	20.74	20.74	20.76	22.50
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
20825/2507.5					21100/2535	21375/2562.5	
15MHz	QPSK	1	0	21.99	21.99	22.01	23.50
		1	38	22.27	22.29	22.32	23.50
		1	74	22.01	22.03	22.13	23.50
		36	0	22.15	22.18	22.35	23.50
		36	18	22.26	22.32	22.37	23.50
		36	39	22.17	22.36	22.33	23.50
		75	0	22.13	22.27	22.33	23.50
	16QAM	1	0	22.54	22.24	22.28	23.50
		1	38	22.56	22.48	22.54	23.50
		1	74	22.30	22.25	22.32	23.50
		36	0	21.63	21.67	21.82	23.50
		36	18	21.75	21.78	21.83	23.50
		36	39	21.70	21.86	21.81	23.50
		75	0	21.63	21.76	21.79	23.50
	64QAM	1	0	21.86	21.84	21.92	23.50
		1	38	21.98	21.94	22.01	23.50
		1	74	21.95	21.89	21.94	23.50
		36	0	20.80	20.75	20.75	22.50
		36	18	20.82	20.78	20.83	22.50
		36	39	20.86	20.83	20.86	22.50
		75	0	20.71	20.69	20.72	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	21.96	21.95	21.98	23.50
		1	50	<b>22.26</b>	<b>22.25</b>	<b>22.59</b>	23.50



		1	99	21.99	22.02	22.10	23.50
		50	0	22.12	22.13	22.31	23.50
		50	25	<b>22.24</b>	22.28	<b>22.34</b>	23.50
		50	50	22.14	<b>22.31</b>	22.29	23.50
		100	0	22.10	22.22	<b>22.29</b>	23.50
	16QAM	1	0	22.19	22.20	22.23	23.50
		1	50	22.52	22.46	22.50	23.50
		1	99	22.28	22.22	22.30	23.50
		50	0	21.60	21.63	21.79	23.50
		50	25	21.72	21.76	21.80	23.50
		50	50	21.67	21.81	21.77	23.50
		100	0	21.61	21.72	21.76	23.50
	64QAM	1	0	21.84	21.80	21.87	23.50
		1	50	21.94	21.92	21.97	23.50
		1	99	21.89	21.83	21.88	23.50
		50	0	20.75	20.67	20.68	22.50
		50	25	20.78	20.74	20.77	22.50
		50	50	20.83	20.78	20.82	22.50
		100	0	20.69	20.65	20.69	22.50

LTE FDD Band 7 Full Power				Maximum Output 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	23.49	23.52	23.49	25.00
		1	13	23.73	23.71	23.82	25.00
		1	24	23.55	23.52	23.62	25.00
		12	0	22.66	22.70	22.86	24.00
		12	6	22.79	22.82	22.89	24.00
		12	13	22.71	22.89	22.86	24.00
		25	0	22.66	22.81	22.88	24.00
	16QAM	1	0	23.01	22.74	22.75	24.00
		1	13	22.99	22.97	23.02	24.00
		1	24	22.75	22.77	22.76	24.00
		12	0	21.65	21.65	21.82	23.00
		12	6	21.79	21.81	21.86	23.00
		12	13	21.70	21.88	21.79	23.00
		25	0	21.65	21.78	21.80	23.00
	64QAM	1	0	21.77	21.72	21.74	23.00
		1	13	22.04	22.01	22.01	23.00
		1	24	21.91	21.85	21.88	23.00
		12	0	20.65	20.62	20.75	22.00
		12	6	20.80	20.76	20.81	22.00





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20800/2505	21100/2535	21400/2565		
10MHz	QPSK	12	13	20.71	20.69	20.73	22.00	
		25	0	20.75	20.73	20.76	22.00	
		1	0	23.51	23.53	23.52	25.00	
		1	25	23.76	23.76	23.86	25.00	
		1	49	23.57	23.56	23.65	25.00	
		25	0	22.69	22.75	22.90	24.00	
		25	13	22.82	22.87	22.93	24.00	
	16QAM	25	25	22.73	22.93	22.91	24.00	
		50	0	22.70	22.83	22.92	24.00	
		1	0	23.03	22.77	22.77	24.00	
		1	25	23.02	23.01	23.05	24.00	
		1	49	22.78	22.79	22.79	24.00	
		25	0	21.68	21.70	21.86	23.00	
		25	13	21.81	21.85	21.89	23.00	
	64QAM	25	25	21.73	21.93	21.83	23.00	
		50	0	21.68	21.83	21.84	23.00	
		1	0	21.79	21.71	21.76	23.00	
		1	25	22.07	22.01	22.04	23.00	
		1	49	21.90	21.87	21.91	23.00	
		25	0	20.68	20.67	20.75	22.00	
		25	13	20.82	20.80	20.84	22.00	
	15MHz	QPSK	25	25	20.74	20.74	20.77	22.00
			50	0	20.78	20.78	20.80	22.00
			1	0	23.50	23.49	23.50	25.00
1			38	23.74	23.75	23.83	25.00	
1			74	23.54	23.51	23.61	25.00	
36			0	22.67	22.71	22.87	24.00	
36			18	22.79	22.82	22.89	24.00	
16QAM		36	39	22.70	22.90	22.87	24.00	
		75	0	22.68	22.79	22.87	24.00	
		1	0	22.98	22.75	22.75	24.00	
		1	38	23.00	22.98	23.03	24.00	
		1	74	22.75	22.75	22.76	24.00	
		36	0	21.65	21.68	21.83	23.00	
		36	18	21.78	21.80	21.85	23.00	
64QAM		36	39	21.71	21.89	21.80	23.00	
		75	0	21.65	21.78	21.80	23.00	
		1	0	21.74	21.69	21.74	23.00	
			1	38	22.05	21.98	22.02	23.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20850/2510	21100/2535	21350/2560		
20MHz	QPSK	1	74	21.91	21.86	21.92	23.00	
		36	0	20.67	20.69	20.76	22.00	
		36	18	20.80	20.77	20.83	22.00	
		36	39	20.72	20.70	20.74	22.00	
		75	0	20.75	20.73	20.76	22.00	
	16QAM	16QAM	1	0	23.47	23.45	23.47	25.00
			1	50	<b>23.73</b>	<b>23.71</b>	<b>23.81</b>	25.00
			1	99	23.52	23.50	23.58	25.00
			50	0	22.64	22.66	22.83	24.00
			50	25	<b>22.77</b>	22.78	<b>22.86</b>	24.00
			50	50	22.67	<b>22.85</b>	22.83	24.00
			100	0	22.65	22.74	<b>22.83</b>	24.00
	64QAM	64QAM	1	0	22.69	22.71	22.70	24.00
			1	50	22.96	22.96	22.99	24.00
			1	99	22.73	22.72	22.74	24.00
			50	0	21.62	21.64	21.80	23.00
			50	25	21.75	21.78	21.82	23.00
			50	50	21.68	21.84	21.76	23.00
			100	0	21.63	21.74	21.77	23.00
	64QAM	64QAM	1	0	21.72	21.65	21.69	23.00
			1	50	22.01	21.96	21.98	23.00
			1	99	21.85	21.80	21.86	23.00
			50	0	20.62	20.61	20.69	22.00
			50	25	20.76	20.73	20.77	22.00
			50	50	20.69	20.65	20.70	22.00
100			0	20.73	20.69	20.73	22.00	

LTE FDD Band 12 Full Power DSI-1 & DSI 2& DSI 4				Maximum Output 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	24.03	24.11	24.01	25.50	
		1	2	24.24	24.28	24.19	25.50	
		1	5	24.18	24.21	24.14	25.50	
		3	0	24.06	24.23	24.02	25.50	
		3	2	24.00	24.15	24.06	25.50	
		3	3	24.09	24.23	24.26	25.50	
		6	0	22.99	23.13	23.19	24.50	
	16QAM	16QAM	1	0	23.38	23.27	23.29	24.50
			1	2	23.36	23.37	23.33	24.50
			1	5	23.34	23.32	23.40	24.50



		3	0	23.40	23.39	23.33	24.50
		3	2	23.40	23.40	23.37	24.50
		3	3	23.30	23.39	23.37	24.50
		6	0	22.43	22.40	22.42	23.50
	64QAM	1	0	22.38	22.46	22.48	23.50
		1	2	22.45	22.55	22.51	23.50
		1	5	22.34	22.53	22.49	23.50
		3	0	22.41	22.54	22.53	23.50
		3	2	22.46	22.56	22.53	23.50
		3	3	22.27	22.43	22.34	23.50
6	0	21.45	21.61	21.57	22.50		
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	24.05	24.15	24.04	25.50
		1	7	24.22	24.31	24.23	25.50
		1	14	24.21	24.26	24.18	25.50
		8	0	23.16	23.35	23.15	24.50
		8	4	23.12	23.25	23.18	24.50
		8	7	23.19	23.34	23.36	24.50
		15	0	22.99	23.17	23.22	24.50
	16QAM	1	0	23.41	23.29	23.32	24.50
		1	7	23.39	23.37	23.37	24.50
		1	14	23.36	23.36	23.43	24.50
		8	0	22.51	22.52	22.45	23.50
		8	4	22.51	22.53	22.49	23.50
		8	7	22.40	22.51	22.50	23.50
		15	0	22.46	22.44	22.45	23.50
	64QAM	1	0	22.41	22.48	22.51	23.50
		1	7	22.48	22.55	22.53	23.50
		1	14	22.36	22.52	22.52	23.50
		8	0	21.52	21.67	21.65	22.50
		8	4	21.57	21.69	21.65	22.50
		8	7	21.37	21.55	21.47	22.50
		15	0	21.48	21.65	21.60	22.50
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	24.02	24.13	24.00	25.50
		1	13	24.20	24.27	24.20	25.50
		1	24	24.18	24.21	24.14	25.50
		12	0	23.13	23.30	23.11	24.50
		12	6	23.10	23.21	23.13	24.50
		12	13	23.17	23.32	23.32	24.50
		25	0	22.99	23.16	23.20	24.50



	16QAM	1	0	23.38	23.25	23.29	24.50
		1	13	23.36	23.35	23.34	24.50
		1	24	23.33	23.34	23.39	24.50
		12	0	22.49	22.48	22.42	23.50
		12	6	22.48	22.48	22.45	23.50
		12	13	22.37	22.46	22.46	23.50
		25	0	22.44	22.40	22.40	23.50
	64QAM	1	0	22.38	22.48	22.48	23.50
		1	13	22.45	22.57	22.50	23.50
		1	24	22.37	22.50	22.48	23.50
		12	0	21.50	21.63	21.66	22.50
		12	6	21.54	21.64	21.61	22.50
		12	13	21.34	21.50	21.43	22.50
		25	0	21.46	21.61	21.55	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	24.00	24.06	23.98	25.50
		1	25	<b>24.28</b>	<b>24.27</b>	<b>24.19</b>	25.50
		1	49	24.15	24.19	24.10	25.50
		25	0	23.11	23.26	23.08	24.50
		25	13	23.08	23.17	23.10	24.50
		25	25	<b>23.13</b>	<b>23.28</b>	<b>23.29</b>	24.50
		50	0	22.98	23.09	<b>23.15</b>	24.50
	16QAM	1	0	23.21	23.22	23.24	24.50
		1	25	23.33	23.34	23.31	24.50
		1	49	23.31	23.29	23.37	24.50
		25	0	22.46	22.47	22.40	23.50
		25	13	22.44	22.45	22.41	23.50
		25	25	22.35	22.42	22.43	23.50
		50	0	22.42	22.36	22.37	23.50
	64QAM	1	0	22.33	22.41	22.43	23.50
		1	25	22.42	22.52	22.47	23.50
		1	49	22.31	22.45	22.46	23.50
		25	0	21.47	21.62	21.60	22.50
		25	13	21.50	21.61	21.57	22.50
		25	25	21.32	21.46	21.40	22.50
		50	0	21.44	21.57	21.52	22.50

LTE FDD Band 17 Full Power DSI-1 & DSI 2& DSI 4				Maximum Output 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	24.12	24.20	24.21	25.50



		1	13	24.31	24.32	24.24	25.50		
		1	24	24.23	24.12	24.24	25.50		
		12	0	23.23	23.32	23.26	24.50		
		12	6	23.29	23.30	23.39	24.50		
		12	13	23.32	23.34	23.28	24.50		
		25	0	23.31	23.30	23.33	24.50		
	16QAM	1	0	23.46	23.24	23.30	24.50		
		1	13	23.44	23.60	23.60	24.50		
		1	24	23.52	23.56	23.50	24.50		
		12	0	22.45	22.37	22.46	23.50		
		12	6	22.49	22.46	22.39	23.50		
		12	13	22.46	22.44	22.38	23.50		
	64QAM	25	0	22.54	22.51	22.44	23.50		
		1	0	22.40	22.40	22.32	23.50		
		1	13	22.31	22.34	22.29	23.50		
		1	24	22.39	22.39	22.29	23.50		
		12	0	21.49	21.50	21.47	22.50		
		12	6	21.53	21.47	21.47	22.50		
	<b>10MHz</b>	QPSK	12	13	21.47	21.46	21.36	22.50	
			25	0	21.44	21.41	21.38	22.50	
							Channel/Frequency (MHz)		
<b>Bandwidth</b>			<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	23780/709	23790/710	23800/711	<b>Tune-up Limit</b>
16QAM			1	0	24.10	24.13	24.19	25.50	
			1	25	<b>24.31</b>	<b>24.32</b>	<b>24.23</b>	25.50	
		1	49	24.20	24.10	24.20	25.50		
		25	0	23.21	23.28	23.23	24.50		
		25	13	23.27	23.26	<b>23.36</b>	24.50		
		25	25	<b>23.28</b>	<b>23.30</b>	23.25	24.50		
64QAM		50	0	<b>23.30</b>	23.23	23.28	24.50		
		1	0	23.33	23.21	23.25	24.50		
		1	25	23.41	23.59	23.57	24.50		
		1	49	23.50	23.51	23.48	24.50		
		25	0	22.42	22.36	22.44	23.50		
		25	13	22.45	22.43	22.35	23.50		
64QAM		25	25	22.44	22.40	22.35	23.50		
		50	0	22.52	22.47	22.41	23.50		
		1	0	22.35	22.33	22.27	23.50		
		1	25	22.28	22.29	22.26	23.50		
		1	49	22.33	22.34	22.27	23.50		
	25	0	21.46	21.49	21.41	22.50			
64QAM	25	13	21.49	21.44	21.43	22.50			
	25	25	21.45	21.42	21.33	22.50			
	50	0	21.42	21.37	21.35	22.50			



LTE TDD Band 38 Full Power& DSI-2				Maximum Output 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	24.13	24.13	24.13	25.50
		1	13	24.39	24.38	24.47	25.50
		1	24	24.13	24.23	24.32	25.50
		12	0	23.36	23.33	23.37	24.50
		12	6	23.37	23.38	23.48	24.50
		12	13	23.31	23.40	23.47	24.50
		25	0	23.34	23.42	23.47	24.50
	16QAM	1	0	23.59	23.26	23.33	24.50
		1	13	23.57	23.59	23.65	24.50
		1	24	23.30	23.42	23.56	24.50
		12	0	22.39	22.33	22.39	23.50
		12	6	22.40	22.39	22.49	23.50
		12	13	22.32	22.42	22.50	23.50
		25	0	22.36	22.40	22.47	23.50
	64QAM	1	0	22.12	22.08	22.10	23.50
		1	13	22.24	22.22	22.16	23.50
		1	24	22.11	22.03	22.04	23.50
		12	0	21.19	21.19	21.26	22.50
		12	6	21.27	21.22	21.29	22.50
		12	13	21.12	21.16	21.20	22.50
		25	0	21.21	21.25	21.19	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
10MHz	QPSK	1	0	24.15	24.14	24.16	25.50
		1	25	24.42	24.43	24.51	25.50
		1	49	24.15	24.27	24.35	25.50
		25	0	23.39	23.38	23.41	24.50
		25	13	23.40	23.43	23.52	24.50
		25	25	23.33	23.44	23.52	24.50
		50	0	23.38	23.44	23.51	24.50
	16QAM	1	0	23.61	23.29	23.35	24.50
		1	25	23.60	23.63	23.68	24.50
		1	49	23.33	23.44	23.59	24.50
		25	0	22.42	22.38	22.43	23.50
		25	13	22.42	22.43	22.52	23.50
		25	25	22.35	22.47	22.54	23.50
		50	0	22.39	22.45	22.51	23.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
	64QAM	1	0	22.14	22.07	22.12	23.50
		1	25	22.27	22.22	22.19	23.50
		1	49	22.10	22.05	22.07	23.50
		25	0	21.22	21.24	21.26	22.50
		25	13	21.29	21.26	21.32	22.50
		25	25	21.15	21.21	21.24	22.50
		50	0	21.24	21.30	21.23	22.50
15MHz	QPSK	1	0	24.14	24.10	24.14	25.50
		1	38	24.40	24.42	24.48	25.50
		1	74	24.12	24.22	24.31	25.50
		36	0	23.37	23.34	23.38	24.50
		36	18	23.37	23.38	23.48	24.50
		36	39	23.30	23.41	23.48	24.50
		75	0	23.36	23.40	23.46	24.50
	16QAM	1	0	23.56	23.27	23.33	24.50
		1	38	23.58	23.60	23.66	24.50
		1	74	23.30	23.40	23.56	24.50
		36	0	22.39	22.36	22.40	23.50
		36	18	22.39	22.38	22.48	23.50
		36	39	22.33	22.43	22.51	23.50
		75	0	22.36	22.40	22.47	23.50
	64QAM	1	0	22.09	22.05	22.10	23.50
		1	38	22.25	22.19	22.17	23.50
		1	74	22.11	22.04	22.08	23.50
		36	0	21.21	21.26	21.27	22.50
		36	18	21.27	21.23	21.31	22.50
		36	39	21.13	21.17	21.21	22.50
		75	0	21.21	21.25	21.19	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	24.11	24.06	24.11	25.50
		1	50	<b>24.39</b>	<b>24.52</b>	<b>24.66</b>	25.50
		1	99	24.10	24.21	24.28	25.50
		50	0	23.34	23.29	23.34	24.50
		50	25	<b>23.35</b>	23.34	<b>23.45</b>	24.50
		50	50	23.27	<b>23.36</b>	23.44	24.50
		100	0	23.33	23.35	<b>23.42</b>	24.50
	16QAM	1	0	23.28	23.23	23.28	24.50
		1	50	23.54	23.58	23.62	24.50
		1	99	23.28	23.37	23.54	24.50
		50	0	22.36	22.32	22.37	23.50



		50	25	22.36	22.36	22.45	23.50
		50	50	22.30	22.38	22.47	23.50
		100	0	22.34	22.36	22.44	23.50
	64QAM	1	0	22.07	22.01	22.05	23.50
		1	50	22.21	22.17	22.13	23.50
		1	99	22.05	21.98	22.02	23.50
		50	0	21.16	21.18	21.20	22.50
		50	25	21.23	21.19	21.25	22.50
		50	50	21.10	21.12	21.17	22.50
		100	0	21.19	21.21	21.16	22.50

LTE TDD Band 38 DSI-1				Maximum Output 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	18.18	18.18	18.19	19.50
		1	13	18.47	18.43	18.56	19.50
		1	24	18.24	18.29	18.39	19.50
		12	0	18.34	18.31	18.35	19.50
		12	6	18.37	18.38	18.47	19.50
		12	13	18.29	18.36	18.45	19.50
		25	0	18.32	18.37	18.43	19.50
	16QAM	1	0	18.41	18.35	18.43	19.50
		1	13	18.67	18.65	18.76	19.50
		1	24	18.40	18.53	18.57	19.50
		12	0	18.38	18.31	18.40	19.50
		12	6	18.42	18.41	18.52	19.50
		12	13	18.34	18.41	18.51	19.50
		25	0	18.37	18.39	18.44	19.50
	64QAM	1	0	18.15	18.05	18.13	19.50
		1	13	18.11	18.06	18.14	19.50
		1	24	18.14	18.15	18.15	19.50
		12	0	18.19	18.19	18.07	19.50
		12	6	18.24	18.12	18.10	19.50
		12	13	18.24	18.19	18.20	19.50
		25	0	18.15	18.15	18.18	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	18.19	18.17	18.21	19.50
		1	25	18.48	18.47	18.58	19.50
		1	49	18.25	18.31	18.41	19.50
		25	0	18.35	18.35	18.37	19.50
		25	13	18.39	18.41	18.50	19.50





		25	25	18.29	18.36	18.49	19.50
		50	0	18.32	18.38	18.44	19.50
	16QAM	1	0	18.40	18.33	18.43	19.50
			25	18.69	18.68	18.74	19.50
		1	49	18.41	18.51	18.59	19.50
			25	0	18.36	18.35	18.41
		25	13	18.41	18.40	18.53	19.50
			25	25	18.36	18.45	18.50
		50	0	18.36	18.41	18.44	19.50
			0	18.15	18.04	18.14	19.50
	64QAM	1	25	18.13	18.08	18.14	19.50
			49	18.14	18.12	18.16	19.50
		25	0	18.21	18.23	18.06	19.50
			13	18.22	18.13	18.09	19.50
		25	25	18.25	18.20	18.23	19.50
			0	18.17	18.18	18.19	19.50
<b>Bandwidth</b>		<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>		
				37825/2577.5	38000/2595	38175/2612.5	
<b>15MHz</b>	QPSK	1	0	18.19	18.15	18.20	19.50
		1	38	18.48	18.47	18.57	19.50
		1	74	18.23	18.28	18.38	19.50
		36	0	18.35	18.32	18.36	19.50
		36	18	18.37	18.38	18.47	19.50
		36	39	18.28	18.37	18.46	19.50
		75	0	18.35	18.35	18.42	19.50
	16QAM	1	0	18.38	18.36	18.43	19.50
			38	18.68	18.66	18.77	19.50
		1	74	18.40	18.51	18.57	19.50
			36	0	18.38	18.34	18.41
		36	18	18.41	18.40	18.51	19.50
			39	18.35	18.42	18.52	19.50
		75	0	18.37	18.39	18.44	19.50
	64QAM	1	0	18.12	18.06	18.13	19.50
			38	18.12	18.07	18.15	19.50
		1	74	18.14	18.13	18.15	19.50
			36	0	18.19	18.22	18.08
		36	18	18.23	18.11	18.09	19.50
			39	18.25	18.20	18.21	19.50
		75	0	18.15	18.15	18.18	19.50
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			<b>Tune-up Limit</b>
				37850/2580	38000/2595	38150/2610	
<b>20MHz</b>	QPSK	1	0	18.16	18.11	18.17	19.50
		1	50	<b>18.42</b>	<b>18.47</b>	<b>18.52</b>	19.50



		1	99	18.21	18.27	18.35	19.50
		50	0	18.32	18.27	18.32	19.50
		50	25	<b>18.35</b>	<b>18.34</b>	<b>18.44</b>	19.50
		50	50	18.25	18.32	18.42	19.50
		100	0	18.32	18.30	<b>18.38</b>	19.50
	16QAM	1	0	18.36	18.32	18.38	19.50
		1	50	18.64	18.64	18.73	19.50
		1	99	18.38	18.48	18.55	19.50
		50	0	18.35	18.30	18.38	19.50
		50	25	18.38	18.38	18.48	19.50
		50	50	18.32	18.37	18.48	19.50
		100	0	18.35	18.35	18.41	19.50
	64QAM	1	0	18.10	18.02	18.08	19.50
		1	50	18.08	18.05	18.11	19.50
		1	99	18.12	18.10	18.13	19.50
		50	0	18.16	18.18	18.05	19.50
		50	25	18.20	18.09	18.06	19.50
		50	50	18.22	18.15	18.17	19.50
		100	0	18.13	18.11	18.15	19.50

LTE TDD Band 38 DSI-4				Maximum Output 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	20.18	20.18	20.19	21.50
		1	13	20.47	20.43	20.56	21.50
		1	24	20.24	20.29	20.39	21.50
		12	0	20.34	20.31	20.35	21.50
		12	6	20.37	20.38	20.47	21.50
		12	13	20.29	20.36	20.45	21.50
		25	0	20.32	20.37	20.43	21.50
	16QAM	1	0	20.41	20.35	20.43	21.50
		1	13	20.67	20.65	20.76	21.50
		1	24	20.40	20.53	20.57	21.50
		12	0	20.38	20.31	20.40	21.50
		12	6	20.42	20.41	20.52	21.50
		12	13	20.34	20.41	20.51	21.50
		25	0	20.37	20.39	20.44	21.50
	64QAM	1	0	20.15	20.05	20.13	21.50
		1	13	20.11	20.06	20.14	21.50
		1	24	20.14	20.15	20.15	21.50
		12	0	20.19	20.19	20.07	21.50
		12	6	20.24	20.12	20.10	21.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				37800/2575	38000/2595	38200/2615		
10MHz	QPSK	12	13	20.24	20.19	20.20	21.50	
		25	0	20.15	20.15	20.18	21.50	
		1	0	20.19	20.17	20.21	21.50	
		1	25	20.48	20.47	20.58	21.50	
		1	49	20.25	20.31	20.41	21.50	
		25	0	20.35	20.35	20.37	21.50	
		25	13	20.39	20.41	20.50	21.50	
	16QAM	25	25	20.29	20.36	20.49	21.50	
		50	0	20.32	20.38	20.44	21.50	
		1	0	20.40	20.33	20.43	21.50	
		1	25	20.69	20.68	20.74	21.50	
		1	49	20.41	20.51	20.59	21.50	
		25	0	20.36	20.35	20.41	21.50	
		25	13	20.41	20.40	20.53	21.50	
	64QAM	25	25	20.36	20.45	20.50	21.50	
		50	0	20.36	20.41	20.44	21.50	
		1	0	20.15	20.04	20.14	21.50	
		1	25	20.13	20.08	20.14	21.50	
		1	49	20.14	20.12	20.16	21.50	
		25	0	20.21	20.23	20.06	21.50	
		25	13	20.22	20.13	20.09	21.50	
	15MHz	QPSK	25	25	20.25	20.20	20.23	21.50
			50	0	20.17	20.18	20.19	21.50
	16QAM		1	0	20.19	20.15	20.20	21.50
1			38	20.48	20.47	20.57	21.50	
1			74	20.23	20.28	20.38	21.50	
36			0	20.35	20.32	20.36	21.50	
36			18	20.37	20.38	20.47	21.50	
36		39	20.28	20.37	20.46	21.50		
75		0	20.35	20.35	20.42	21.50		
64QAM		1	0	20.38	20.36	20.43	21.50	
		1	38	20.68	20.66	20.77	21.50	
		1	74	20.40	20.51	20.57	21.50	
		36	0	20.38	20.34	20.41	21.50	
		36	18	20.41	20.40	20.51	21.50	
		36	39	20.35	20.42	20.52	21.50	
		75	0	20.37	20.39	20.44	21.50	
15MHz	64QAM	1	0	20.12	20.06	20.13	21.50	
		1	38	20.12	20.07	20.15	21.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				37850/2580	38000/2595	38150/2610		
20MHz	QPSK	1	74	20.14	20.13	20.15	21.50	
		36	0	20.19	20.22	20.08	21.50	
		36	18	20.23	20.11	20.09	21.50	
		36	39	20.25	20.20	20.21	21.50	
		75	0	20.15	20.15	20.18	21.50	
	16QAM	16QAM	1	0	20.16	20.11	20.17	21.50
			1	50	<b>20.47</b>	<b>20.43</b>	<b>20.55</b>	21.50
			1	99	20.21	20.27	20.35	21.50
			50	0	20.32	20.27	20.32	21.50
			50	25	<b>20.35</b>	<b>20.34</b>	<b>20.44</b>	21.50
			50	50	20.25	20.32	20.42	21.50
			100	0	20.32	20.30	<b>20.38</b>	21.50
	64QAM	64QAM	1	0	20.36	20.32	20.38	21.50
			1	50	20.64	20.64	20.73	21.50
			1	99	20.38	20.48	20.55	21.50
			50	0	20.35	20.30	20.38	21.50
			50	25	20.38	20.38	20.48	21.50
			50	50	20.32	20.37	20.48	21.50
			100	0	20.35	20.35	20.41	21.50
	64QAM	64QAM	1	0	20.10	20.02	20.08	21.50
1			50	20.08	20.05	20.11	21.50	
1			99	20.12	20.10	20.13	21.50	
50			0	20.16	20.18	20.05	21.50	
50			25	20.20	20.09	20.06	21.50	
50			50	20.22	20.15	20.17	21.50	
100			0	20.13	20.11	20.15	21.50	

LTE TDD Band 41 DSI-1				Maximum Output Power (dBm)				Tune-up Limit	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					
				40065/25 37.5	40385/25 69.5	40705/26 01.5	41215/26 52.5		
5MHz	QPSK	1	0	18.59	18.69	18.69	18.68	20.00	
		1	13	18.91	18.91	18.95	18.83	20.00	
		1	24	18.70	18.73	18.81	18.61	20.00	
		12	0	18.73	18.81	18.87	18.72	20.00	
		12	6	18.82	18.86	18.90	18.78	20.00	
		12	13	18.82	18.77	18.89	18.74	20.00	
	25	0	18.77	18.86	18.90	18.76	20.00		
	16QAM	16QAM	1	0	18.76	18.81	18.92	18.91	20.00
			1	13	19.19	19.10	19.18	19.08	20.00



		1	24	19.01	18.97	19.00	18.81	20.00
		12	0	18.78	18.81	18.88	18.75	20.00
		12	6	18.79	18.91	18.93	18.77	20.00
		12	13	18.82	18.82	18.91	18.76	20.00
		25	0	18.82	18.84	18.89	18.75	20.00
	64QAM	1	0	18.55	18.70	18.50	18.74	20.00
		1	13	18.73	18.73	18.69	18.78	20.00
		1	24	18.72	18.82	18.70	18.81	20.00
		12	0	18.68	18.70	18.64	18.76	20.00
		12	6	18.79	18.78	18.76	18.83	20.00
		12	13	18.75	18.70	18.72	18.74	20.00
25	0	18.78	18.74	18.76	18.80	20.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				Tune-up Limit
				40090/2540	40390/2570	40690/2600	41190/2650	
10MHz	QPSK	1	0	18.60	18.68	18.71	18.70	20.00
		1	25	18.92	18.95	18.97	18.85	20.00
		1	49	18.71	18.75	18.83	18.63	20.00
		25	0	18.74	18.85	18.89	18.74	20.00
		25	13	18.84	18.89	18.93	18.81	20.00
		25	25	18.82	18.77	18.93	18.78	20.00
		50	0	18.77	18.87	18.91	18.77	20.00
	16QAM	1	0	18.75	18.79	18.92	18.91	20.00
		1	25	19.21	19.13	19.16	19.06	20.00
		1	49	19.02	18.95	19.02	18.83	20.00
		25	0	18.76	18.85	18.89	18.76	20.00
		25	13	18.78	18.90	18.94	18.78	20.00
		25	25	18.84	18.86	18.90	18.75	20.00
		50	0	18.81	18.86	18.89	18.75	20.00
	64QAM	1	0	18.55	18.69	18.51	18.75	20.00
		1	25	18.75	18.75	18.69	18.78	20.00
		1	49	18.72	18.79	18.71	18.82	20.00
		25	0	18.70	18.74	18.63	18.75	20.00
		25	13	18.77	18.79	18.75	18.82	20.00
		25	25	18.76	18.71	18.75	18.77	20.00
		50	0	18.80	18.77	18.77	18.81	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				Tune-up Limit
				40115/2542.5	40395/2570.5	40685/2599.5	2647.5/41140	
15MHz	QPSK	1	0	18.60	18.66	18.70	18.69	20.00
		1	38	18.92	18.95	18.96	18.84	20.00
		1	74	18.69	18.72	18.80	18.60	20.00
		36	0	18.74	18.82	18.88	18.73	20.00



	16QAM	36	18	18.82	18.86	18.90	18.78	20.00
		36	39	18.81	18.78	18.90	18.75	20.00
		75	0	18.80	18.84	18.89	18.75	20.00
		1	0	18.73	18.82	18.92	18.91	20.00
		1	38	19.20	19.11	19.19	19.09	20.00
		1	74	19.01	18.95	19.00	18.81	20.00
		36	0	18.78	18.84	18.89	18.76	20.00
		36	18	18.78	18.90	18.92	18.76	20.00
		36	39	18.83	18.83	18.92	18.77	20.00
	75	0	18.82	18.84	18.89	18.75	20.00	
	64QAM	1	0	18.52	18.71	18.50	18.74	20.00
		1	38	18.74	18.74	18.70	18.79	20.00
		1	74	18.72	18.80	18.70	18.81	20.00
		36	0	18.68	18.73	18.65	18.77	20.00
		36	18	18.78	18.77	18.75	18.82	20.00
		36	39	18.76	18.71	18.73	18.75	20.00
		75	0	18.78	18.74	18.76	18.80	20.00
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
40140/25 45					40400/25 71	40670/25 98	41140/26 45	
20MHz	QPSK	1	0	18.57	18.62	18.67	18.66	20.00
		1	50	<b>18.91</b>	<b>18.91</b>	<b>18.94</b>	<b>18.82</b>	20.00
		1	99	18.67	18.71	18.77	18.57	20.00
		50	0	18.71	18.77	18.84	18.69	20.00
		50	25	<b>18.80</b>	<b>18.82</b>	<b>19.16</b>	<b>18.75</b>	20.00
		50	50	18.78	18.73	18.86	18.71	20.00
		100	0	18.77	18.79	<b>18.85</b>	18.71	20.00
	16QAM	1	0	18.71	18.78	18.87	18.86	20.00
		1	50	19.16	19.09	19.15	19.05	20.00
		1	99	18.99	18.92	18.98	18.79	20.00
		50	0	18.75	18.80	18.86	18.73	20.00
		50	25	18.75	18.88	18.89	18.73	20.00
		50	50	18.80	18.78	18.88	18.73	20.00
		100	0	18.80	18.80	18.86	18.72	20.00
	64QAM	1	0	18.50	18.67	18.45	18.69	20.00
		1	50	18.70	18.72	18.66	18.75	20.00
		1	99	18.70	18.77	18.68	18.79	20.00
		50	0	18.65	18.69	18.62	18.74	20.00
		50	25	18.75	18.75	18.72	18.79	20.00
		50	50	18.73	18.66	18.69	18.71	20.00
		100	0	18.76	18.70	18.73	18.77	20.00



LTE TDD Band 41 Full Power&DSI-2				Maximum Output Power (dBm)				Tune-up p Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				40065/25 37.5	40385/25 69.5	40705/26 01.5	41215/26 52.5	
5MHz	QPSK	1	0	24.05	24.16	24.13	24.13	25.50
		1	13	24.38	24.37	24.41	24.31	25.50
		1	24	24.15	24.18	24.26	24.06	25.50
		12	0	23.26	23.34	23.40	23.23	24.50
		12	6	23.36	23.40	23.42	23.30	24.50
		12	13	23.35	23.28	23.40	23.26	24.50
		25	0	23.31	23.42	23.43	23.30	24.50
	16QAM	1	0	23.32	23.31	23.37	23.44	24.50
		1	13	23.52	23.57	23.63	23.55	24.50
		1	24	23.53	23.48	23.46	23.28	24.50
		12	0	22.31	22.34	22.41	22.26	23.50
		12	6	22.39	22.40	22.46	22.33	23.50
		12	13	22.36	22.32	22.44	22.31	23.50
		25	0	22.35	22.38	22.42	22.30	23.50
	64QAM	1	0	22.14	22.18	22.06	22.10	23.50
		1	13	22.24	22.24	22.12	22.18	23.50
		1	24	22.02	22.08	21.93	21.96	23.50
		12	0	21.25	21.25	21.14	21.17	22.50
		12	6	21.25	21.28	21.12	21.15	22.50
		12	13	21.17	21.21	21.05	21.09	22.50
		25	0	21.25	21.29	21.14	21.18	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				Tune-up p Limit
				40090/25 40	40390/25 70	40690/26 00	41190/26 50	
10MHz	QPSK	1	0	24.06	24.15	24.15	24.15	25.50
		1	25	24.39	24.41	24.43	24.33	25.50
		1	49	24.16	24.20	24.28	24.08	25.50
		25	0	23.27	23.38	23.42	23.25	24.50
		25	13	23.38	23.43	23.45	23.33	24.50
		25	25	23.35	23.28	23.44	23.30	24.50
		50	0	23.31	23.43	23.44	23.31	24.50
	16QAM	1	0	23.31	23.29	23.37	23.44	24.50
		1	25	23.54	23.60	23.61	23.53	24.50
		1	49	23.54	23.46	23.48	23.30	24.50
		25	0	22.29	22.38	22.42	22.27	23.50
		25	13	22.38	22.39	22.47	22.34	23.50
		25	25	22.38	22.36	22.43	22.30	23.50
		50	0	22.34	22.40	22.42	22.30	23.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				Tune-up Limit
				40115/25 42.5	40395/25 70.5	40685/25 99.5	2647.5/41 140	
15MHz	64QAM	1	0	22.14	22.17	22.07	22.11	23.50
		1	25	22.26	22.26	22.12	22.18	23.50
		1	49	22.02	22.05	21.94	21.97	23.50
		25	0	21.27	21.29	21.13	21.16	22.50
		25	13	21.23	21.29	21.11	21.14	22.50
		25	25	21.18	21.22	21.08	21.12	22.50
		50	0	21.27	21.32	21.15	21.19	22.50
15MHz	QPSK	1	0	24.06	24.13	24.14	24.14	25.50
		1	38	24.39	24.41	24.42	24.32	25.50
		1	74	24.14	24.17	24.25	24.05	25.50
		36	0	23.27	23.35	23.41	23.24	24.50
		36	18	23.36	23.40	23.42	23.30	24.50
		36	39	23.34	23.29	23.41	23.27	24.50
		75	0	23.34	23.40	23.42	23.29	24.50
	16QAM	1	0	23.29	23.32	23.37	23.44	24.50
		1	38	23.53	23.58	23.64	23.56	24.50
		1	74	23.53	23.46	23.46	23.28	24.50
		36	0	22.31	22.37	22.42	22.27	23.50
		36	18	22.38	22.39	22.45	22.32	23.50
		36	39	22.37	22.33	22.45	22.32	23.50
		75	0	22.35	22.38	22.42	22.30	23.50
	64QAM	1	0	22.11	22.19	22.06	22.10	23.50
		1	38	22.25	22.25	22.13	22.19	23.50
		1	74	22.02	22.06	21.93	21.96	23.50
		36	0	21.25	21.28	21.15	21.18	22.50
		36	18	21.24	21.27	21.11	21.14	22.50
		36	39	21.18	21.22	21.06	21.10	22.50
		75	0	21.25	21.29	21.14	21.18	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				Tune-up Limit (dBm)
				40140/25 45	40400/25 71	40670/25 98	41140/26 45	
20MHz	QPSK	1	0	24.03	24.09	24.11	24.11	25.50
		1	50	<b>24.38</b>	<b>24.37</b>	<b>24.45</b>	<b>24.30</b>	25.50
		1	99	24.12	24.16	24.22	24.02	25.50
		50	0	23.24	23.30	23.37	23.20	24.50
		50	25	<b>23.44</b>	<b>23.36</b>	<b>23.69</b>	<b>23.47</b>	24.50
		50	50	23.31	23.24	23.37	23.23	24.50
		100	0	23.31	23.35	<b>23.38</b>	23.25	24.50
	16QAM	1	0	23.27	23.28	23.32	23.39	24.50





		1	50	23.49	23.56	23.60	23.52	24.50
		1	99	23.51	23.43	23.44	23.26	24.50
		50	0	22.28	22.33	22.39	22.24	23.50
		50	25	22.35	22.37	22.42	22.29	23.50
		50	50	22.34	22.28	22.41	22.28	23.50
		100	0	22.33	22.34	22.39	22.27	23.50
	64QAM	1	0	22.09	22.15	22.01	22.05	23.50
		1	50	22.21	22.23	22.09	22.15	23.50
		1	99	22.00	22.03	21.91	21.94	23.50
		50	0	21.22	21.24	21.12	21.15	22.50
		50	25	21.21	21.25	21.08	21.11	22.50
		50	50	21.15	21.17	21.02	21.06	22.50
		100	0	21.23	21.25	21.11	21.15	22.50

LTE FDD Band 66 Full Power & DSI 2& DSI 4				Maximum Output Power (dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				131979/1710. 7	132322/1745	132665/1779. 3	
1.4MHz	QPSK	1	0	23.95	23.96	23.82	25.50
		1	2	24.18	24.18	24.12	25.50
		1	5	23.96	23.92	23.98	25.50
		3	0	24.06	24.02	24.04	25.50
		3	2	23.88	23.95	23.89	25.50
		3	3	23.94	23.86	23.94	25.50
		6	0	23.04	22.97	23.05	24.50
	16QAM	1	0	23.43	23.20	23.26	24.50
		1	2	23.41	23.39	23.43	24.50
		1	5	23.23	23.20	23.27	24.50
		3	0	22.96	22.90	22.97	24.50
		3	2	22.93	22.90	22.98	24.50
		3	3	22.90	22.87	22.93	24.50
		6	0	21.97	21.96	22.06	23.50
	64QAM	1	0	23.28	23.24	23.30	23.50
		1	2	23.43	23.41	23.47	23.50
		1	5	23.29	23.28	23.30	23.50
		3	0	23.04	22.94	23.01	23.50
		3	2	22.97	22.92	23.00	23.50
		3	3	22.95	22.92	22.98	23.50
		6	0	21.01	21.00	21.10	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				131987/1711. 5	132322/1745	132657/1778. 5	



3MHz	QPSK	1	0	23.97	24.00	23.85	25.50
		1	7	24.16	24.21	24.16	25.50
		1	14	23.99	23.97	24.02	25.50
		8	0	23.16	23.14	23.17	24.50
		8	4	23.00	23.05	23.01	24.50
		8	7	23.04	22.97	23.04	24.50
		15	0	23.04	23.01	23.08	24.50
	16QAM	1	0	23.46	23.22	23.29	24.50
		1	7	23.44	23.39	23.47	24.50
		1	14	23.25	23.24	23.30	24.50
		8	0	22.07	22.03	22.09	23.50
		8	4	22.04	22.03	22.10	23.50
		8	7	22.00	21.99	22.06	23.50
		15	0	22.00	22.00	22.09	23.50
	64QAM	1	0	22.31	22.26	22.33	23.50
		1	7	22.46	22.41	22.49	23.50
		1	14	22.31	22.27	22.33	23.50
		8	0	21.15	21.07	21.13	22.50
		8	4	21.08	21.05	21.12	22.50
		8	7	21.05	21.04	21.11	22.50
		15	0	21.04	21.04	21.13	22.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	23.94	23.98	23.81	25.50
		1	13	24.14	24.17	24.13	25.50
		1	24	23.96	23.92	23.98	25.50
		12	0	23.13	23.09	23.13	24.50
		12	6	22.98	23.01	22.96	24.50
		12	13	23.02	22.95	23.00	24.50
		25	0	23.04	23.00	23.06	24.50
	16QAM	1	0	23.43	23.18	23.26	24.50
		1	13	23.41	23.37	23.44	24.50
		1	24	23.22	23.22	23.26	24.50
		12	0	22.05	21.99	22.06	23.50
		12	6	22.01	21.98	22.06	23.50
		12	13	21.97	21.94	22.02	23.50
		25	0	21.98	21.96	22.04	23.50
	64QAM	1	0	22.28	22.26	22.30	23.50
		1	13	22.43	22.43	22.46	23.50
		1	24	22.32	22.25	22.29	23.50
		12	0	21.13	21.03	21.14	22.50
		12	6	21.05	21.00	21.08	22.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				132022/1715	132322/1745	132622/1775		
10MHz	QPSK	12	13	21.02	20.99	21.07	22.50	
		25	0	21.02	21.00	21.08	22.50	
		1	0	23.96	23.99	23.84	25.50	
		1	25	24.17	24.22	24.17	25.50	
		1	49	23.98	23.96	24.01	25.50	
		25	0	23.16	23.14	23.17	24.50	
		25	13	23.01	23.06	23.00	24.50	
	16QAM	25	25	23.04	22.99	23.05	24.50	
		50	0	23.08	23.02	23.10	24.50	
		1	0	23.45	23.21	23.28	24.50	
		1	25	23.44	23.41	23.47	24.50	
		1	49	23.25	23.24	23.29	24.50	
		25	0	22.08	22.04	22.10	23.50	
		25	13	22.03	22.02	22.09	23.50	
	64QAM	25	25	22.00	21.99	22.06	23.50	
		50	0	22.01	22.01	22.08	23.50	
		1	0	22.30	22.25	22.32	23.50	
		1	25	22.46	22.43	22.49	23.50	
		1	49	22.31	22.27	22.32	23.50	
		25	0	21.16	21.08	21.14	22.50	
		25	13	21.07	21.04	21.11	22.50	
	15MHz	64QAM	25	25	21.05	21.04	21.11	22.50
			50	0	21.05	21.05	21.12	22.50

Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	23.95	23.95	23.82	25.50
		1	38	24.15	24.21	24.14	25.50
		1	74	23.95	23.91	23.97	25.50
		36	0	23.14	23.10	23.14	24.50
		36	18	22.98	23.01	22.96	24.50
		36	39	23.01	22.96	23.01	24.50
		75	0	23.06	22.98	23.05	24.50
	16QAM	1	0	23.40	23.19	23.26	24.50
		1	38	23.42	23.38	23.45	24.50
		1	74	23.22	23.20	23.26	24.50
		36	0	22.05	22.02	22.07	23.50
		36	18	22.00	21.97	22.05	23.50
		36	39	21.98	21.95	22.03	23.50
		75	0	21.98	21.96	22.04	23.50
	64QAM	1	0	22.25	22.23	22.30	23.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				132072/1720	132322/1745	132572/1770		
20MHz	QPSK	1	38	22.44	22.40	22.47	23.50	
		1	74	22.32	22.26	22.33	23.50	
		36	0	21.15	21.10	21.15	22.50	
		36	18	21.05	21.01	21.10	22.50	
		36	39	21.03	21.00	21.08	22.50	
		75	0	21.02	21.00	21.08	22.50	
	16QAM	QPSK	1	0	23.92	23.91	23.79	25.50
			1	50	<b>24.14</b>	<b>24.17</b>	<b>24.12</b>	25.50
			1	99	23.93	23.90	23.94	25.50
			50	0	<b>23.11</b>	<b>23.05</b>	<b>23.10</b>	24.50
			50	25	22.96	22.97	22.93	24.50
			50	50	22.98	22.91	22.97	24.50
		16QAM	100	0	<b>23.03</b>	22.93	23.01	24.50
			1	0	23.19	23.15	23.21	24.50
			1	50	23.38	23.36	23.41	24.50
			1	99	23.20	23.17	23.24	24.50
			50	0	22.02	21.98	22.04	23.50
			50	25	21.97	21.95	22.02	23.50
	64QAM	50	50	21.95	21.90	21.99	23.50	
		100	0	21.96	21.92	22.01	23.50	
		1	0	22.23	22.19	22.25	23.50	
1		50	22.40	22.38	22.43	23.50		
1		99	22.26	22.20	22.27	23.50		
50		0	21.10	21.02	21.08	22.50		
64QAM	50	25	21.01	20.97	21.04	22.50		
	50	50	21.00	20.95	21.04	22.50		
	100	0	21.00	20.96	21.05	22.50		

LTE FDD Band 66 DSI-1				Maximum Output Power (dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	22.53	22.57	22.56	24.00
		1	2	22.80	22.71	22.84	24.00
		1	5	22.49	22.58	22.70	24.00
		3	0	22.80	22.62	22.77	24.00
		3	2	22.70	22.68	22.64	24.00
		3	3	22.59	22.62	22.76	24.00
		6	0	22.61	22.77	22.84	24.00
	16QAM	1	0	22.63	22.68	22.68	24.00



		1	2	22.99	23.01	23.01	24.00
		1	5	22.79	22.81	22.81	24.00
		3	0	22.25	22.29	22.29	24.00
		3	2	22.24	22.26	22.28	24.00
		3	3	22.20	22.26	22.22	24.00
		6	0	22.22	22.28	22.29	24.00
	64QAM	1	0	22.58	22.63	22.63	24.00
		1	2	22.62	22.64	22.64	24.00
		1	5	22.48	22.50	22.50	24.00
		3	0	22.24	22.28	22.28	24.00
		3	2	22.24	22.26	22.28	24.00
		3	3	22.22	22.28	22.24	24.00
		6	0	22.25	22.28	22.29	24.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				1319871711. 5	132322/1745	132657/1778. 5	
3MHz	QPSK	1	0	22.55	22.61	22.59	24.00
		1	7	22.80	22.73	22.88	24.00
		1	14	22.52	22.63	22.74	24.00
		8	0	22.84	22.69	22.84	24.00
		8	4	22.73	22.76	22.70	24.00
		8	7	22.63	22.67	22.80	24.00
		15	0	22.63	22.81	22.87	24.00
	16QAM	1	0	22.66	22.70	22.71	24.00
		1	7	23.02	23.03	23.05	24.00
		1	14	22.81	22.85	22.84	24.00
		8	0	22.30	22.33	22.32	24.00
		8	4	22.29	22.33	22.34	24.00
		8	7	22.24	22.32	22.29	24.00
		15	0	22.25	22.32	22.32	24.00
	64QAM	1	0	22.61	22.65	22.66	24.00
		1	7	22.65	22.66	22.68	24.00
		1	14	22.50	22.54	22.53	24.00
		8	0	22.29	22.32	22.31	24.00
		8	4	22.29	22.33	22.34	24.00
		8	7	22.26	22.34	22.31	24.00
		15	0	22.27	22.34	22.34	24.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				131997/1712. 5	132322/1745	132647/1777. 5	
5MHz	QPSK	1	0	22.52	22.59	22.55	24.00
		1	13	22.78	22.69	22.85	24.00
		1	24	22.49	22.58	22.70	24.00



		12	0	22.81	22.64	22.80	24.00	
		12	6	22.71	22.72	22.65	24.00	
		12	13	22.61	22.65	22.76	24.00	
		25	0	22.61	22.80	22.85	24.00	
	16QAM	1	0	22.63	22.66	22.68	24.00	
		1	13	22.99	23.01	23.02	24.00	
		1	24	22.78	22.83	22.80	24.00	
		12	0	22.28	22.29	22.29	24.00	
		12	6	22.26	22.28	22.30	24.00	
		12	13	22.21	22.27	22.25	24.00	
		25	0	22.23	22.28	22.27	24.00	
	64QAM	1	0	22.58	22.61	22.63	24.00	
		1	13	22.62	22.64	22.65	24.00	
		1	24	22.47	22.52	22.49	24.00	
		12	0	22.27	22.28	22.28	24.00	
		12	6	22.26	22.28	22.30	24.00	
		12	13	22.23	22.29	22.27	24.00	
		25	0	22.25	22.30	22.29	24.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					132022/1715	132322/1745	132622/1775	
	10MHz	QPSK	1	0	22.53	22.58	22.57	24.00
1			25	22.79	22.73	22.87	24.00	
1			49	22.50	22.60	22.72	24.00	
25			0	22.82	22.68	22.82	24.00	
25			13	22.73	22.75	22.68	24.00	
25			25	22.61	22.65	22.80	24.00	
50			0	22.61	22.81	22.86	24.00	
16QAM		1	0	22.62	22.64	22.68	24.00	
		1	25	23.01	23.04	23.00	24.00	
		1	49	22.79	22.81	22.82	24.00	
		25	0	22.26	22.33	22.30	24.00	
		25	13	22.25	22.27	22.31	24.00	
		25	25	22.23	22.31	22.24	24.00	
		50	0	22.22	22.30	22.27	24.00	
64QAM		1	0	22.58	22.60	22.64	24.00	
		1	25	22.64	22.66	22.65	24.00	
		1	49	22.47	22.49	22.50	24.00	
		25	0	22.29	22.32	22.27	24.00	
		25	13	22.24	22.29	22.29	24.00	
		25	25	22.24	22.30	22.30	24.00	
		50	0	22.27	22.33	22.30	24.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				132047/1717.	132322/1745	132597/1772.		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				132072/1720	132322/1745	132572/1770		
15MHz	QPSK	1	0	22.53	22.56	22.56	24.00	
		1	38	22.79	22.73	22.86	24.00	
		1	74	22.48	22.57	22.69	24.00	
		36	0	22.82	22.65	22.81	24.00	
		36	18	22.71	22.72	22.65	24.00	
		36	39	22.60	22.66	22.77	24.00	
		75	0	22.64	22.78	22.84	24.00	
	16QAM	1	0	22.60	22.67	22.68	24.00	
		1	38	23.00	23.02	23.03	24.00	
		1	74	22.78	22.81	22.80	24.00	
		36	0	22.28	22.32	22.30	24.00	
		36	18	22.25	22.27	22.29	24.00	
		36	39	22.22	22.28	22.26	24.00	
		75	0	22.23	22.28	22.27	24.00	
	64QAM	1	0	22.55	22.62	22.63	24.00	
		1	38	22.63	22.65	22.66	24.00	
		1	74	22.47	22.50	22.49	24.00	
		36	0	22.27	22.31	22.29	24.00	
		36	18	22.25	22.27	22.29	24.00	
		36	39	22.24	22.30	22.28	24.00	
		75	0	22.25	22.30	22.29	24.00	
	20MHz	QPSK	1	0	22.50	22.52	22.53	24.00
			1	50	<b>22.78</b>	<b>22.89</b>	<b>23.05</b>	24.00
			1	99	22.46	22.56	22.66	24.00
50			0	<b>22.89</b>	22.60	<b>22.77</b>	24.00	
50			25	22.69	<b>22.68</b>	22.62	24.00	
50			50	22.57	22.61	22.73	24.00	
100			0	22.61	22.73	<b>22.80</b>	24.00	
16QAM		1	0	22.58	22.63	22.63	24.00	
		1	50	22.96	23.00	22.99	24.00	
		1	99	22.76	22.78	22.78	24.00	
		50	0	22.25	22.28	22.27	24.00	
		50	25	22.22	22.25	22.26	24.00	
		50	50	22.19	22.23	22.22	24.00	
		100	0	22.21	22.24	22.24	24.00	
64QAM		1	0	22.53	22.58	22.58	24.00	
		1	50	22.59	22.63	22.62	24.00	
		1	99	22.45	22.47	22.47	24.00	
		50	0	22.24	22.27	22.26	24.00	
		50	25	22.22	22.25	22.26	24.00	



		50	50	22.21	22.25	22.24	24.00
		100	0	22.23	22.26	22.26	24.00



### 9.4 WLAN Mode

Wi-Fi 2.4G Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Receiver off			
802.11b (1M)	1/2412	15.00	13.82
	6/2437	15.00	13.35
	11/2462	15.00	13.56
802.11g (6M)	1/2412	17.00	15.26
	6/2437	17.00	15.33
	11/2462	17.00	<b>15.99</b>
802.11n-HT20 (MCS0)	1/2412	17.00	15.01
	6/2437	17.00	15.21
	11/2462	17.00	15.32
802.11n-HT40 (MCS0)	3/2422	15.00	13.61
	6/2437	15.00	13.73
	9/2452	15.00	13.58

Note: Initial test configuration is 802.11g mode.

Wi-Fi 2.4G Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Receiver on			
802.11b (1M)	1/2412	15.00	13.99
	6/2437	15.00	13.56
	11/2462	15.00	<b>14.25</b>
802.11g (6M)	1/2412	14.00	12.65
	6/2437	14.00	12.39
	11/2462	14.00	13.15
802.11n-HT20 (MCS0)	1/2412	14.00	13.21
	6/2437	14.00	13.06
	11/2462	14.00	13.12
802.11n-HT40 (MCS0)	3/2422	14.00	13.20
	6/2437	14.00	12.94
	9/2452	14.00	13.11

Note: Initial test configuration is 802.11b mode.

**Receiver off**

Wi-Fi 5G (U-NII-1)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	16.00	<b>15.09</b>
	40/5200	16.00	14.98
	44/5220	16.00	15.07
	48/5240	16.00	14.92
802.11n-HT20 (MCS0)	36/5180	16.00	14.48
	40/5200	16.00	14.44
	44/5220	16.00	14.51
	48/5240	16.00	14.52
802.11n-HT40 (MCS0)	38/5190	15.00	12.95
	46/5230	15.00	13.12
802.11ac-VHT20 (MCS0)	36/5180	15.00	13.05
	40/5200	15.00	12.83
	44/5220	15.00	13.08
	48/5240	15.00	12.91
802.11ac-VHT40 (MCS0)	38/5190	15.00	13.00
	46/5230	15.00	13.12
802.11ac-VHT80 (MCS0)	42/5210	15.00	13.10

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

Wi-Fi 5G (U-NII-2A)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	52/5260	16.00	14.83
	56/5280	16.00	<b>15.09</b>
	60/5300	16.00	14.94
	64/5320	16.00	15.06
802.11n-HT20 (MCS0)	52/5260	16.00	14.78
	56/5280	16.00	14.65
	60/5300	16.00	14.60
	64/5320	16.00	14.90
802.11n-HT40 (MCS0)	54/5270	15.00	13.37
	62/5310	15.00	13.53
802.11ac-HT20 (MCS0)	52/5260	15.00	13.22
	56/5280	15.00	13.25
	60/5300	15.00	13.33



	64/5320	15.00	13.49
802.11ac-HT40 (MCS0)	54/5270	15.00	13.30
	62/5310	15.00	13.56
802.11ac-HT80 (MCS0)	58/5290	15.00	13.93

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

Wi-Fi 5G (U-NII-2C) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	16.00	14.78
	116/5580	16.00	<b>14.98</b>
	132/5660	16.00	14.72
	136/5660	16.00	14.86
	140/5700	16.00	14.62
802.11n-HT20 (MCS0)	100/5500	16.00	14.90
	116/5580	16.00	14.68
	132/5660	16.00	14.59
	140/5700	16.00	14.24
802.11n-HT40 (MCS0)	102/5510	15.00	13.04
	110/5550	15.00	13.21
	118/5590	15.00	13.18
	134/5670	15.00	13.26
802.11ac-HT20 (MCS0)	100/5500	15.00	13.14
	116/5580	15.00	13.17
	132/5660	15.00	13.10
	140/5700	15.00	13.23
802.11ac-HT40 (MCS0)	102/5510	15.00	13.09
	110/5550	15.00	13.23
	118/5590	15.00	13.00
	134/5670	15.00	13.08
802.11ac-HT80 (MCS0)	106/5530	15.00	12.79
	122/5610	15.00	12.82

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

Wi-Fi 5G (U-NII-3) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	149/5745	15.00	13.46
	157/5785	15.00	<b>13.51</b>



	165/5825	15.00	13.34
802.11n-HT20 (MCS0)	149/5745	15.00	13.32
	157/5785	15.00	13.33
	165/5825	15.00	13.22
802.11n-HT40 (MCS0)	151/5755	15.00	13.07
	159/5795	15.00	13.28
802.11ac-HT20 (MCS0)	149/5745	15.00	13.32
	157/5785	15.00	13.31
	165/5825	15.00	13.23
802.11ac-HT40 (MCS0)	151/5755	15.00	13.19
	159/5795	15.00	13.28
802.11ac-HT80 (MCS0)	155/5775	15.00	13.01

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

#### Receiver on

Wi-Fi 5G (U-NII-1) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	15.00	<b>13.87</b>
	40/5200	15.00	13.47
	44/5220	15.00	13.82
	48/5240	15.00	13.85
802.11n-HT20 (MCS0)	36/5180	14.00	12.41
	40/5200	14.00	12.52
	44/5220	14.00	12.27
	48/5240	14.00	12.18
802.11n-HT40 (MCS0)	38/5190	14.00	12.19
	46/5230	14.00	12.28
802.11ac-VHT20 (MCS0)	36/5180	14.00	12.15
	40/5200	14.00	12.29
	44/5220	14.00	12.41
	48/5240	14.00	12.20
802.11ac-VHT40 (MCS0)	38/5190	14.00	12.21
	46/5230	14.00	12.26
802.11ac-VHT80 (MCS0)	42/5210	14.00	12.07

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



Wi-Fi 5G (U-NII-2A)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	52/5260	15.00	13.79
	56/5280	15.00	13.71
	60/5300	15.00	13.51
	64/5320	15.00	<b>13.88</b>
802.11n-HT20 (MCS0)	52/5260	14.00	12.59
	56/5280	14.00	12.73
	60/5300	14.00	12.48
	64/5320	14.00	12.90
802.11n-HT40 (MCS0)	54/5270	14.00	12.31
	62/5310	14.00	12.26
802.11ac-HT20 (MCS0)	52/5260	14.00	12.38
	56/5280	14.00	12.16
	60/5300	14.00	12.41
	64/5320	14.00	12.67
802.11ac-HT40 (MCS0)	54/5270	14.00	12.55
	62/5310	14.00	12.38
802.11ac-HT80 (MCS0)	58/5290	14.00	12.09

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

Wi-Fi 5G (U-NII-2C)	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	100/5500	13.00	11.21
	116/5580	13.00	11.47
	132/5660	13.00	11.17
	140/5700	13.00	<b>11.65</b>
802.11n-HT20 (MCS0)	100/5500	12.00	10.26
	116/5580	12.00	10.35
	132/5660	12.00	10.23
	140/5700	12.00	10.19
802.11n-HT40 (MCS0)	102/5510	12.00	10.38
	110/5550	12.00	10.24
	118/5590	12.00	10.48
	134/5670	12.00	10.32
802.11ac-HT20	100/5500	12.00	10.21



(MCS0)	116/5580	12.00	10.50
	132/5660	12.00	10.39
	140/5700	12.00	10.27
802.11ac-HT40 (MCS0)	102/5510	12.00	10.18
	110/5550	12.00	10.15
	118/5590	12.00	10.13
	134/5670	12.00	10.04
802.11ac-HT80 (MCS0)	106/5530	12.00	9.85
	122/5610	12.00	9.78

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

Wi-Fi 5G (U-NII-3) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	149/5745	13.00	11.56
	157/5785	13.00	<b>11.63</b>
	165/5825	13.00	11.54
802.11n-HT20 (MCS0)	149/5745	12.00	10.32
	157/5785	12.00	10.58
	165/5825	12.00	10.49
802.11n-HT40 (MCS0)	151/5755	12.00	10.33
	159/5795	12.00	10.27
802.11ac-HT20 (MCS0)	149/5745	12.00	10.69
	157/5785	12.00	10.52
	165/5825	12.00	10.47
802.11ac-HT40 (MCS0)	151/5755	12.00	10.38
	159/5795	12.00	10.21
802.11ac-HT80 (MCS0)	155/5775	12.00	9.84

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

### 9.5 Bluetooth Mode

BT	Maximum Output Power (dBm)			Tune-up Limit (dBm)
	Channel/Frequency(MHz)			
	Ch 0/2402 MHz	Ch 39/2441 MHz	Ch 78/2480 MHz	
GFSK	8.51	8.82	8.39	10.00
$\pi/4$ DQPSK	7.52	7.81	7.49	10.00
8DPSK	5.82	6.21	6.03	6.50
BLE	Ch 0/2402 MHz	Ch 19/2440 MHz	Ch 39/2480 MHz	Tune-up Limit (dBm)
GFSK(1M)	-3.89	-2.87	-3.76	10.00
GFSK(2M)	-5.62	-4.43	-5.63	10.00

## 10 Measured and Reported (Scaled) SAR Results

### 10.1 EUT Antenna Locations

The Detailed Antenna Locations refer to *Antenna Locations*.

Overall (Length x Width): 161.95 mm x 75.6 mm						
Overall Diagonal: 178.73mm/Display Diagonal: 161mm						
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	<25mm	<25mm	<25mm	>25mm	<25mm	>25mm
BT/Wi-Fi Antenna	<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	N/A	Yes
Second-Antenna	Yes	Yes	Yes	N/A	Yes	N/A
BT/Wi-Fi Antenna	Yes	Yes	N/A	Yes	Yes	N/A

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 178.73mm. 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:

- $\leq 0.8\text{ W/kg}$  or  $2.0\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is  $\leq 100\text{MHz}$
- $\leq 0.6\text{ W/kg}$  or  $1.5\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
- $\leq 0.4\text{ W/kg}$  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 10: Head SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	Plot No.		
GSM 850	Main (Bottom)	Left cheek	0	GSM	DSI-1	-	-	190/836.6	33.50	32.95	0.155	0.042	1.14	0.176	/		
		Left Tilt	0	GSM	DSI-1	-	-	190/836.6	33.50	32.95	0.085	0.060	1.14	0.097	/		
		Right cheek	0	GSM	DSI-1	-	-	190/836.6	33.50	32.95	0.163	0.119	1.14	0.185	/		
		Right Tilt	0	GSM	DSI-1	-	-	190/836.6	33.50	32.95	0.088	0.041	1.14	0.100	/		
	Second (Top)	Left cheek	0	GSM	DSI-1	-	-	190/836.6	33.50	32.95	0.612	0.060	1.14	0.695	/		
		Left Tilt	0	GSM	DSI-1	-	-	190/836.6	33.50	32.95	0.459	0.010	1.14	0.521	/		
		Right cheek	0	GSM	DSI-1	-	-	190/836.6	33.50	32.95	0.721	-0.030	1.14	0.818	18		
		Right Tilt	0	GSM	DSI-1	-	-	190/836.6	33.50	32.95	0.643	-0.020	1.14	0.730	/		
		Right cheek Battery 2	0	GSM	DSI-1	-	-	190/836.6	33.50	32.95	0.675	0.180	1.14	0.766	/		
GSM 1900	Main (Bottom)	Left cheek	0	GSM	DSI-1	-	-	661/1880	30.50	29.46	0.080	0.062	1.27	0.101	/		
		Left Tilt	0	GSM	DSI-1	-	-	661/1880	30.50	29.46	0.075	0.000	1.27	0.095	/		
		Right cheek	0	GSM	DSI-1	-	-	661/1880	30.50	29.46	0.108	-0.050	1.27	0.137	/		
		Right Tilt	0	GSM	DSI-1	-	-	661/1880	30.50	29.46	0.082	-0.070	1.27	0.104	/		
	Second (Top)	Left cheek	0	GSM	DSI-1	-	-	661/1880	30.50	29.07	0.489	0.000	1.39	0.680	/		
		Left Tilt	0	GSM	DSI-1	-	-	661/1880	30.50	29.07	0.514	0.010	1.39	0.714	/		
		Right cheek	0	GSM	DSI-1	-	-	512/1850.2	30.50	29.19	0.682	-0.022	1.35	0.922	/		
			0	GSM	DSI-1	-	-	661/1880	30.50	29.07	0.723	0.130	1.39	1.005	/		
		Right Tilt	0	GSM	DSI-1	-	-	810/1909.8	30.50	29.35	0.659	0.050	1.30	0.859	/		
			0	GSM	DSI-1	-	-	512/1850.2	30.50	29.19	0.719	0.025	1.35	0.972	/		
		Right Tilt Battery 2	0	GSM	DSI-1	-	-	661/1880	30.50	29.07	0.732	0.070	1.39	1.017	19		
			0	GSM	DSI-1	-	-	810/1909.8	30.50	29.35	0.658	0.030	1.30	0.857	/		
		WCDMA II	Main (Bottom)	Left cheek	0	RMC 12.2K	DSI-1	-	-	9400/1880	25.00	24.19	0.183	0.037	1.21	0.221	/
				Left Tilt	0	RMC 12.2K	DSI-1	-	-	9400/1880	25.00	24.19	0.151	-0.060	1.21	0.182	/
Right cheek	0			RMC 12.2K	DSI-1	-	-	9400/1880	25.00	24.19	0.216	0.025	1.21	0.260	/		
Right Tilt	0			RMC 12.2K	DSI-1	-	-	9400/1880	25.00	24.19	0.153	0.000	1.21	0.184	/		
Second (Top)	Left cheek		0	RMC 12.2K	DSI-1	-	-	9400/1880	22.00	21.25	0.370	-0.014	1.19	0.440	/		
	Left Tilt		0	RMC 12.2K	DSI-1	-	-	9400/1880	22.00	21.25	0.460	0.031	1.19	0.547	/		
	Right cheek		0	RMC 12.2K	DSI-1	-	-	9400/1880	22.00	21.25	0.680	0.022	1.19	0.808	/		
	Right Tilt		0	RMC 12.2K	DSI-1	-	-	9400/1880	22.00	21.25	0.672	0.130	1.19	0.799	/		
Second (Top)	Right cheek		0	RMC 12.2K	DSI-1	-	-	9262/1852.4	22.00	21.18	0.661	-0.011	1.21	0.798	/		
	0		RMC 12.2K	DSI-1	-	-	9538/1907.6	22.00	21.11	0.786	-0.160	1.23	0.965	20			
	Right cheek Battery 2		0	RMC 12.2K	DSI-1	-	-	9538/1907.6	22.00	21.11	0.773	0.032	1.23	0.949	/		



WCDMA IV	Main (Bottom)	Left cheek	0	RMC 12.2K	DSI-1	-	-	1413/1732.6	25.00	24.27	0.109	0.039	1.18	0.129	/
		Left Tilt	0	RMC 12.2K	DSI-1	-	-	1413/1732.6	25.00	24.27	0.082	0.070	1.18	0.097	/
		Right cheek	0	RMC 12.2K	DSI-1	-	-	1413/1732.6	25.00	24.27	0.163	0.025	1.18	0.193	/
		Right Tilt	0	RMC 12.2K	DSI-1	-	-	1413/1732.6	25.00	24.27	0.057	-0.010	1.18	0.068	/
	Second (Top)	Left cheek	0	RMC 12.2K	DSI-1	-	-	1413/1732.6	22.50	21.62	0.258	0.017	1.22	0.316	/
		Left Tilt	0	RMC 12.2K	DSI-1	-	-	1413/1732.6	22.50	21.62	0.210	0.150	1.22	0.257	/
		Right cheek	0	RMC 12.2K	DSI-1	-	-	1413/1732.6	22.50	21.62	0.658	-0.130	1.22	0.806	/
		Right Tilt	0	RMC 12.2K	DSI-1	-	-	1413/1732.6	22.50	21.62	0.372	0.034	1.22	0.456	/
	Second (Top)	Right cheek	0	RMC 12.2K	DSI-1	-	-	1312/1712.4	22.50	21.58	0.576	0.016	1.24	0.712	/
			0	RMC 12.2K	DSI-1	-	-	1513/1752.6	22.50	21.59	0.738	0.020	1.23	0.910	21
		Right cheek Battery 2	0	RMC 12.2K	DSI-1	-	-	1513/1752.6	22.50	21.59	0.726	0.100	1.23	0.895	/
	WCDMA V	Main (Bottom)	Left cheek	0	RMC 12.2K	DSI-1	-	-	4183/836.6	25.00	24.31	0.215	0.130	1.17	0.252
Left Tilt			0	RMC 12.2K	DSI-1	-	-	4183/836.6	25.00	24.31	0.097	0.190	1.17	0.114	/
Right cheek			0	RMC 12.2K	DSI-1	-	-	4183/836.6	25.00	24.31	0.212	-0.120	1.17	0.249	/
Right Tilt			0	RMC 12.2K	DSI-1	-	-	4183/836.6	25.00	24.31	0.092	0.090	1.17	0.108	/
Second (Top)		Left cheek	0	RMC 12.2K	DSI-1	-	-	4183/836.6	25.00	24.26	0.393	0.030	1.19	0.466	/
		Left Tilt	0	RMC 12.2K	DSI-1	-	-	4183/836.6	25.00	24.26	0.355	-0.050	1.19	0.421	/
		Right cheek	0	RMC 12.2K	DSI-1	-	-	4183/836.6	25.00	24.26	0.612	0.020	1.19	0.726	/
		Right Tilt	0	RMC 12.2K	DSI-1	-	-	4183/836.6	25.00	24.26	0.689	-0.027	1.19	0.817	22
LTE 2	Main (Bottom)	Left cheek	0	QPSK	DSI-1	1	50	18900/1880	25.50	24.28	0.184	-0.080	1.32	0.244	/
			0	QPSK	DSI-1	50%	25	19100/1900	24.50	23.25	0.150	-0.020	1.33	0.200	/
		Left Tilt	0	QPSK	DSI-1	1	50	18900/1880	25.50	24.28	0.148	0.010	1.32	0.196	/
			0	QPSK	DSI-1	50%	25	19100/1900	24.50	23.25	0.110	0.060	1.33	0.147	/
		Right cheek	0	QPSK	DSI-1	1	50	18900/1880	25.50	24.28	0.155	0.031	1.32	0.205	/
			0	QPSK	DSI-1	50%	25	19100/1900	24.50	23.25	0.121	0.028	1.33	0.161	/
		Right Tilt	0	QPSK	DSI-1	1	50	18900/1880	25.50	24.28	0.138	0.080	1.32	0.183	/
			0	QPSK	DSI-1	50%	25	19100/1900	24.50	23.25	0.098	0.140	1.33	0.130	/
	Second (Top)	Left cheek	0	QPSK	DSI-1	1	50	19100/1900	22.00	21.01	0.539	0.021	1.26	0.677	/
			0	QPSK	DSI-1	50%	25	19100/1900	22.00	20.85	0.488	0.039	1.30	0.636	/
		Left Tilt	0	QPSK	DSI-1	1	50	19100/1900	22.00	21.01	0.561	-0.041	1.26	0.705	/
			0	QPSK	DSI-1	50%	25	19100/1900	22.00	20.85	0.561	0.025	1.30	0.731	/
		Right cheek	0	QPSK	DSI-1	1	50	19100/1900	22.00	21.01	0.870	0.010	1.26	1.093	23
			0	QPSK	DSI-1	50%	25	18700/1860	22.00	20.74	0.797	-0.064	1.34	1.065	/
		Right cheek	0	QPSK	DSI-1	50%	25	18900/1880	22.00	20.78	0.814	0.037	1.32	1.078	/
			0	QPSK	DSI-1	50%	25	19100/1900	22.00	20.85	0.820	0.010	1.30	1.069	/
			0	QPSK	DSI-1	100%	0	19100/1900	22.00	20.80	0.812	0.031	1.32	1.070	/
			0	QPSK	DSI-1	100%	0	18700/1860	22.00	20.67	0.793	0.020	1.36	1.077	/
			0	QPSK	DSI-1	100%	0	18900/1880	22.00	20.72	0.806	0.100	1.34	1.082	/
			0	QPSK	DSI-1	100%	0	18700/1860	22.00	20.72	0.806	-0.012	1.32	1.067	/
Right Tilt	0	QPSK	DSI-1	1	50	18700/1860	22.00	20.78	0.806	-0.012	1.32	1.067	/		
	0	QPSK	DSI-1	1	50	18900/1880	22.00	20.83	0.774	-0.034	1.31	1.013	/		
	0	QPSK	DSI-1	1	50	19100/1900	22.00	21.01	0.853	0.025	1.26	1.071	/		



LTE 4	Main (Bottom)	Left cheek	0	QPSK	DSI-1	1	50	20050/1720	25.50	24.10	0.084	0.038	1.38	0.116	/
			0	QPSK	DSI-1	50%	0	20050/1720	24.50	23.18	0.062	0.035	1.36	0.083	/
		Left Tilt	0	QPSK	DSI-1	1	50	20050/1720	25.50	24.10	0.064	0.025	1.38	0.088	/
			0	QPSK	DSI-1	50%	0	20050/1720	24.50	23.18	0.049	0.066	1.36	0.067	/
		Right cheek	0	QPSK	DSI-1	1	50	20050/1720	25.50	24.10	0.094	0.101	1.38	0.129	/
			0	QPSK	DSI-1	50%	0	20050/1720	24.50	23.18	0.069	0.148	1.36	0.094	/
	Right Tilt	0	QPSK	DSI-1	1	50	20050/1720	25.50	24.10	0.040	0.027	1.38	0.055	/	
		0	QPSK	DSI-1	50%	0	20050/1720	24.50	23.18	0.032	0.059	1.36	0.043	/	
	Second (Top)	Left cheek	0	QPSK	DSI-1	1	50	20050/1720	22.50	21.16	0.409	-0.010	1.36	0.557	/
			0	QPSK	DSI-1	50%	0	20050/1720	22.50	21.19	0.423	-0.060	1.35	0.572	/
		Left Tilt	0	QPSK	DSI-1	1	50	20050/1720	22.50	21.16	0.371	-0.030	1.36	0.505	/
			0	QPSK	DSI-1	50%	0	20050/1720	22.50	21.19	0.363	0.030	1.35	0.491	/
		Right cheek	0	QPSK	DSI-1	1	50	20050/1720	22.50	21.16	0.745	0.060	1.36	1.014	/
			0	QPSK	DSI-1	50%	0	20050/1720	22.50	21.19	0.589	0.020	1.35	0.796	/
	Right Tilt	0	QPSK	DSI-1	1	50	20050/1720	22.50	21.16	0.490	0.000	1.36	0.667	/	
0		QPSK	DSI-1	50%	0	20050/1720	22.50	21.19	0.493	0.030	1.35	0.667	/		
Second (Top)	Right cheek	0	QPSK	DSI-1	1	50	20175/1732.5	22.50	21.10	0.736	0.020	1.38	1.016	/	
	Right cheek	0	QPSK	DSI-1	1	50	20300/1745	22.50	21.12	0.758	0.090	1.37	1.042	24	
	Right cheek	0	QPSK	DSI-1	100%	0	20050/1720	22.50	21.13	0.572	0.103	1.37	0.784	/	
	Right cheek Battery 2	0	QPSK	DSI-1	1	50	20300/1745	22.50	21.12	0.746	0.043	1.37	1.025	/	
LTE 5	Main (Bottom)	Left cheek	0	QPSK	DSI-1	1	25	20450/829	25.50	24.56	0.244	0.030	1.24	0.303	/
			0	QPSK	DSI-1	50%	25	20525/836.5	24.50	23.68	0.171	0.047	1.21	0.207	/
		Left Tilt	0	QPSK	DSI-1	1	25	20450/829	25.50	24.56	0.135	0.120	1.24	0.168	/
			0	QPSK	DSI-1	50%	25	20525/836.5	24.50	23.68	0.078	0.027	1.21	0.094	/
		Right cheek	0	QPSK	DSI-1	1	25	20450/829	25.50	24.56	0.198	0.044	1.24	0.246	/
			0	QPSK	DSI-1	50%	25	20525/836.5	24.50	23.68	0.168	0.026	1.21	0.203	/



Second (Top)	Right Tilt	0	QPSK	DSI-1	1	25	20450/829	25.50	24.56	0.088	0.080	1.24	0.110	/	
		0	QPSK	DSI-1	50%	25	20525/836.5	24.50	23.68	0.075	0.032	1.21	0.091	/	
	Left cheek	0	QPSK	DSI-1	1	25	20450/829	25.50	24.32	0.341	0.121	1.31	0.447	/	
		0	QPSK	DSI-1	50%	25	20525/836.5	24.50	23.54	0.298	0.039	1.25	0.372	/	
	Left Tilt	0	QPSK	DSI-1	1	25	20450/829	25.50	24.32	0.318	0.014	1.31	0.417	/	
		0	QPSK	DSI-1	50%	25	20525/836.5	24.50	23.54	0.274	0.026	1.25	0.342	/	
	Right cheek	0	QPSK	DSI-1	1	25	20450/829	25.50	24.32	0.481	0.031	1.31	0.631	/	
		0	QPSK	DSI-1	50%	25	20525/836.5	24.50	23.54	0.362	-0.110	1.25	0.452	/	
	Right Tilt	0	QPSK	DSI-1	1	25	20450/829	25.50	24.32	0.683	-0.030	1.31	0.896	25	
	Right Tilt	0	QPSK	DSI-1	1	25	20525/836.5	25.50	24.32	0.637	0.100	1.31	0.836	/	
	Right Tilt	0	QPSK	DSI-1	1	25	20600/844	25.50	24.32	0.681	-0.040	1.31	0.894	/	
		0	QPSK	DSI-1	50%	25	20525/836.5	24.50	23.54	0.571	-0.090	1.25	0.712	/	
		0	QPSK	DSI-1	100%	0	20525/836.5	24.50	23.50	0.624	0.012	1.26	0.786	/	
	Right Tilt Battery 2	0	QPSK	DSI-1	1	25	20450/829	25.50	24.32	0.675	0.027	1.31	0.886	/	
	Main (Bottom)	Left cheek	0	QPSK	DSI-1	1	50	20850/2510	25.00	23.97	0.256	-0.170	1.27	0.325	/
0			QPSK	DSI-1	50%	25	20850/2510	24.00	23.00	0.228	-0.049	1.26	0.287	/	
Left Tilt		0	QPSK	DSI-1	1	50	20850/2510	25.00	23.97	0.178	0.090	1.27	0.226	/	
		0	QPSK	DSI-1	50%	25	20850/2510	24.00	23.00	0.131	0.029	1.26	0.165	/	
Right cheek		0	QPSK	DSI-1	1	50	20850/2510	25.00	23.97	0.155	-0.026	1.27	0.196	/	
		0	QPSK	DSI-1	50%	25	20850/2510	24.00	23.00	0.118	0.129	1.26	0.149	/	
Right Tilt		0	QPSK	DSI-1	1	50	20850/2510	25.00	23.97	0.172	0.080	1.27	0.218	/	
		0	QPSK	DSI-1	50%	25	20850/2510	24.00	23.00	0.139	0.030	1.26	0.175	/	
Second (Top)		Left cheek	0	QPSK	DSI-1	1	50	21350/2560	18.00	16.87	0.185	0.000	1.30	0.240	/
			0	QPSK	DSI-1	50%	25	21350/2560	18.00	16.86	0.175	-0.100	1.30	0.228	/
	Left Tilt	0	QPSK	DSI-1	1	50	21350/2560	18.00	16.87	0.276	0.090	1.30	0.358	/	
		0	QPSK	DSI-1	50%	25	21350/2560	18.00	16.86	0.321	0.040	1.30	0.417	/	
	Right cheek	0	QPSK	DSI-1	1	50	21350/2560	18.00	16.87	0.511	0.020	1.30	0.663	/	
		0	QPSK	DSI-1	50%	25	21350/2560	18.00	16.86	0.533	0.011	1.30	0.693	/	
	Right Tilt	0	QPSK	DSI-1	1	50	21350/2560	18.00	16.87	0.779	0.060	1.30	1.011	26	
	Right Tilt	0	QPSK	DSI-1	50%	25	21350/2560	18.00	16.86	0.639	0.120	1.30	0.831	/	
		0	QPSK	DSI-1	50%	25	20850/2510	18.00	16.76	0.613	0.015	1.33	0.816	/	
		0	QPSK	DSI-1	50%	25	21100/2535	18.00	16.82	0.605	-0.033	1.31	0.794	/	
		0	QPSK	DSI-1	100%	0	21350/2560	18.00	16.82	0.612	0.026	1.31	0.803	/	
	Right Tilt	0	QPSK	DSI-1	1	50	20850/2510	18.00	16.79	0.652	0.108	1.32	0.861	/	
0		QPSK	DSI-1	1	50	21100/2535	18.00	16.76	0.630	0.070	1.33	0.838	/		
Right Tilt	0	QPSK	DSI-1	1	0	21100/2535	18.00	16.85	0.612	0.030	1.30	0.798	/		
			DSI-1	1	99	21298/2554.8									
Right Tilt Battery 2	0	QPSK	DSI-1	1	50	21350/2560	18.00	16.87	0.652	0.041	1.30	0.846	/		
LTE 12 (Bottom)M ain	Left cheek	0	QPSK	DSI-1	1	25	23130/711	25.50	24.63	0.078	0.010	1.22	0.095	/	
		0	QPSK	DSI-1	50%	13	23060/704	24.50	23.67	0.073	0.050	1.21	0.088	/	
	Left Tilt	0	QPSK	DSI-1	1	25	23130/711	25.50	24.63	0.071	0.040	1.22	0.087	/	



LTE 38	Second (Top)	Right cheek	0	QPSK	DSI-1	50%	13	23060/704	24.50	23.67	0.068	0.100	1.21	0.082	/
			0	QPSK	DSI-1	1	25	23130/711	25.50	24.63	0.108	0.090	1.22	0.132	/
		Right Tilt	0	QPSK	DSI-1	50%	13	23060/704	24.50	23.67	0.110	0.010	1.21	0.133	/
			0	QPSK	DSI-1	1	25	23130/711	25.50	24.63	0.120	0.040	1.22	0.147	/
		Left cheek	0	QPSK	DSI-1	50%	13	23060/704	24.50	23.67	0.119	0.050	1.21	0.144	/
			0	QPSK	DSI-1	1	25	23060/704	25.50	24.28	0.382	-0.014	1.32	0.506	/
	Left Tilt	0	QPSK	DSI-1	50%	25	23130/711	24.50	23.29	0.339	0.080	1.32	0.448	/	
		0	QPSK	DSI-1	1	25	23060/704	25.50	24.28	0.326	-0.034	1.32	0.432	/	
	Right cheek	0	QPSK	DSI-1	50%	25	23130/711	24.50	23.29	0.254	-0.032	1.32	0.336	/	
		0	QPSK	DSI-1	1	25	23060/704	25.50	24.28	0.506	0.019	1.32	0.670	27	
	Right Tilt	0	QPSK	DSI-1	50%	25	23130/711	24.50	23.29	0.428	-0.022	1.32	0.566	/	
		0	QPSK	DSI-1	1	25	23060/704	25.50	24.28	0.352	-0.030	1.32	0.466	/	
	Right cheek Battery 2	0	QPSK	DSI-1	50%	25	23130/711	24.50	23.29	0.251	0.047	1.32	0.332	/	
		0	QPSK	DSI-1	1	25	23060/704	25.50	24.28	0.489	0.031	1.32	0.648	/	
	Main (Bottom)	Left cheek	0	QPSK	DSI-1	1	50	38150/2610	25.50	24.50	0.145	0.199	1.26	0.183	/
			0	QPSK	DSI-1	50%	25	38150/2610	24.50	23.54	0.114	0.072	1.25	0.142	/
		Left Tilt	0	QPSK	DSI-1	1	50	38150/2610	25.50	24.50	0.117	0.035	1.26	0.147	/
			0	QPSK	DSI-1	50%	25	38150/2610	24.50	23.54	0.103	0.064	1.25	0.128	/
Right cheek		0	QPSK	DSI-1	1	50	38150/2610	25.50	24.50	0.134	-0.030	1.26	0.169	/	
		0	QPSK	DSI-1	50%	25	38150/2610	24.50	23.54	0.097	0.154	1.25	0.121	/	
Right Tilt	0	QPSK	DSI-1	1	50	38150/2610	25.50	24.50	0.082	0.030	1.26	0.103	/		
	0	QPSK	DSI-1	50%	25	38150/2610	24.50	23.54	0.064	0.027	1.25	0.079	/		
Second (Top)	Left cheek	0	QPSK	DSI-1	1	50	38150/2610	19.50	18.52	0.291	0.011	1.25	0.365	/	
		0	QPSK	DSI-1	50%	25	38150/2610	19.50	18.44	0.263	-0.056	1.28	0.336	/	
	Left Tilt	0	QPSK	DSI-1	1	50	38150/2610	19.50	18.52	0.394	-0.045	1.25	0.494	/	
		0	QPSK	DSI-1	50%	25	38150/2610	19.50	18.44	0.412	0.021	1.28	0.526	/	
	Right cheek	0	QPSK	DSI-1	1	50	38150/2610	19.50	18.52	0.612	-0.045	1.25	0.767	/	
		0	QPSK	DSI-1	50%	25	38150/2610	19.50	18.44	0.625	0.038	1.28	0.798	/	
	Right Tilt	0	QPSK	DSI-1	1	50	37850/2580	19.50	18.42	0.802	0.051	1.28	1.028	/	
		0	QPSK	DSI-1	1	50	38000/2595	19.50	18.47	0.768	-0.030	1.27	0.974	/	
Right Tilt repeated	0	QPSK	DSI-1	1	50	38150/2610	19.50	18.52	0.784	0.020	1.25	0.982	/		
	0	QPSK	DSI-1	50%	25	38150/2610	19.50	18.44	0.814	-0.140	1.28	1.039	/		
Second (Top)	Right Tilt	0	QPSK	DSI-1	50%	25	37850/2580	19.50	18.35	0.769	0.100	1.30	1.002	/	
		0	QPSK	DSI-1	50%	25	38000/2595	19.50	18.34	0.802	0.099	1.31	1.048	/	
		0	QPSK	DSI-1	100%	0	38150/2610	19.50	18.38	0.783	0.023	1.29	1.013	/	
		0	QPSK	DSI-1	100%	0	37850/2580	19.50	18.32	0.748	0.015	1.31	0.982	/	
		0	QPSK	DSI-1	100%	0	38000/2595	19.50	18.30	0.769	-0.034	1.32	1.014	/	
Second (Top)	Right Tilt	0	QPSK	DSI-1	1	0	38150/2610	19.50	18.36	0.735	0.045	1.30	0.956	/	
		0	QPSK	DSI-1	1	99	37952/2590.2							/	



		Right Tilt Repeated Battery 2	0	QPSK	DSI-1	50%	25	38150/2610	19.50	18.44	0.817	0.069	1.28	1.043	/
LTE 41	Main (Bottom)	Left cheek	0	QPSK	DSI-1	1	50	40140/2545	25.50	24.35	0.175	0.071	1.30	0.228	/
			0	QPSK	DSI-1	50%	25	40400/2571	24.50	23.31	0.115	-0.065	1.32	0.151	/
		Left Tilt	0	QPSK	DSI-1	1	50	40140/2545	25.50	24.35	0.144	0.080	1.30	0.188	/
			0	QPSK	DSI-1	50%	25	40400/2571	24.50	23.31	0.099	0.039	1.32	0.130	/
		Right cheek	0	QPSK	DSI-1	1	50	40140/2545	25.50	24.35	0.101	-0.150	1.30	0.132	/
			0	QPSK	DSI-1	50%	25	40400/2571	24.50	23.31	0.056	-0.043	1.32	0.073	/
		Right Tilt	0	QPSK	DSI-1	1	50	40140/2545	25.50	24.35	0.072	-0.050	1.30	0.094	/
			0	QPSK	DSI-1	50%	25	40400/2571	24.50	23.31	0.055	0.030	1.32	0.072	/
	Second (Top)	Left cheek	0	QPSK	DSI-1	1	50	40670/2598	20.00	18.94	0.466	0.057	1.28	0.595	/
			0	QPSK	DSI-1	50%	25	40670/2598	20.00	19.16	0.435	0.077	1.21	0.528	/
		Left Tilt	0	QPSK	DSI-1	1	50	40670/2598	20.00	18.94	0.588	-0.010	1.28	0.751	/
			0	QPSK	DSI-1	50%	25	40670/2598	20.00	19.16	0.590	0.047	1.21	0.716	/
		Right cheek	0	QPSK	DSI-1	1	50	40140/2545	20.00	18.91	0.691	0.016	1.29	0.888	/
			0	QPSK	DSI-1	1	50	40400/2571	20.00	18.91	0.637	-0.034	1.29	0.819	/
			0	QPSK	DSI-1	1	50	40670/2598	20.00	18.94	0.684	-0.020	1.28	0.873	/
			0	QPSK	DSI-1	1	50	41140/2645	20.00	18.82	0.725	0.048	1.31	0.951	/
			0	QPSK	DSI-1	50%	25	40140/2545	20.00	18.80	0.592	0.017	1.32	0.780	/
			0	QPSK	DSI-1	50%	25	40400/2571	20.00	18.82	0.614	-0.032	1.31	0.806	/
			0	QPSK	DSI-1	50%	25	40670/2598	20.00	19.16	0.651	-0.080	1.21	0.790	/
			0	QPSK	DSI-1	50%	25	41140/2645	20.00	18.75	0.628	0.060	1.33	0.837	/
		Right Tilt	0	QPSK	DSI-1	1	50	40670/2598	20.00	18.94	0.811	0.140	1.28	1.035	29
		Right Tilt	0	QPSK	DSI-1	50%	25	40140/2545	20.00	18.80	0.752	-0.020	1.32	0.991	/
			0	QPSK	DSI-1	50%	25	40400/2571	20.00	18.82	0.784	-0.015	1.31	1.029	/
			0	QPSK	DSI-1	50%	25	40670/2598	20.00	19.16	0.788	0.030	1.21	0.956	/
	0		QPSK	DSI-1	50%	25	41140/2645	20.00	18.75	0.765	0.041	1.33	1.020	/	
	Right Tilt Repeated	0	QPSK	DSI-1	1	50	40670/2598	20.00	18.94	0.802	-0.100	1.28	1.024	/	
	Second (Top)	Right Tilt	0	QPSK	DSI-1	1	50	40140/2545	20.00	18.91	0.614	0.050	1.29	0.789	/
			0	QPSK	DSI-1	1	50	40400/2571	20.00	18.91	0.628	-0.010	1.29	0.807	/
0			QPSK	DSI-1	1	50	41140/2645	20.00	18.82	0.684	0.110	1.31	0.898	/	
0			QPSK	DSI-1	100%	0	40670/2598	20.00	18.85	0.690	0.043	1.30	0.899	/	
0			QPSK	DSI-1	100%	0	40140/2545	20.00	18.77	0.675	0.090	1.33	0.896	/	
0			QPSK	DSI-1	100%	0	41140/2645	20.00	18.71	0.669	0.026	1.35	0.900	/	
Right Tilt Battery 2		0	QPSK	DSI-1	1	50	40670/2598	20.00	18.94	0.808	0.070	1.28	1.031	/	
LTE 66	Main (Bottom)	Left cheek	0	QPSK	DSI-1	1	50	132072/1720	25.50	24.18	0.127	-0.170	1.36	0.172	/
			0	QPSK	DSI-1	50%	0	132572/1770	24.50	23.07	0.108	0.150	1.39	0.150	/
		Left Tilt	0	QPSK	DSI-1	1	50	132072/1720	25.50	24.18	0.083	-0.020	1.36	0.112	/
			0	QPSK	DSI-1	50%	0	132572/1770	24.50	23.07	0.075	0.020	1.39	0.105	/
		Right cheek	0	QPSK	DSI-1	1	50	132072/1720	25.50	24.18	0.147	0.050	1.36	0.199	/



Second (Top)	Right Tilt	0	QPSK	DSI-1	50%	0	132572/1770	24.50	23.07	0.117	0.024	1.39	0.163	/
		0	QPSK	DSI-1	1	50	132072/1720	25.50	24.18	0.083	0.070	1.36	0.113	/
		0	QPSK	DSI-1	50%	0	132572/1770	24.50	23.07	0.072	0.160	1.39	0.100	/
	Left cheek	0	QPSK	DSI-1	1	50	132572/1770	24.00	23.05	0.615	-0.030	1.24	0.765	/
		0	QPSK	DSI-1	50%	0	132072/1720	24.00	22.89	0.514	0.000	1.29	0.664	/
	Left Tilt	0	QPSK	DSI-1	1	50	132572/1770	24.00	23.05	0.546	-0.020	1.24	0.680	/
		0	QPSK	DSI-1	50%	0	132072/1720	24.00	22.89	0.512	0.000	1.29	0.661	/
	Right cheek	0	QPSK	DSI-1	1	50	132072/1720	24.00	22.78	0.811	0.039	1.32	1.074	/
		0	QPSK	DSI-1	1	50	132322/1745	24.00	22.89	0.826	0.090	1.29	1.067	/
		0	QPSK	DSI-1	1	50	132572/1770	24.00	23.05	0.846	0.110	1.24	1.053	30
		0	QPSK	DSI-1	50%	0	132072/1720	24.00	22.89	0.827	0.070	1.29	1.068	/
		0	QPSK	DSI-1	50%	25	132322/1745	24.00	22.68	0.785	-0.100	1.36	1.064	/
		0	QPSK	DSI-1	50%	0	132572/1770	24.00	22.77	0.803	-0.026	1.33	1.066	/
		0	QPSK	DSI-1	100%	0	132072/1720	24.00	22.89	0.735	0.060	1.29	0.949	/
		0	QPSK	DSI-1	100%	0	132322/1745	24.00	22.68	0.787	0.033	1.36	1.067	/
		0	QPSK	DSI-1	100%	0	132572/1770	24.00	22.80	0.752	0.014	1.32	0.991	/
	Right cheek repeated	0	QPSK	DSI-1	50%	0	132072/1720	24.00	22.89	0.829	-0.033	1.29	1.070	/
	Right Tilt	0	QPSK	DSI-1	1	50	132572/1770	24.00	23.05	0.640	0.040	1.24	0.796	/
		0	QPSK	DSI-1	50%	0	132072/1720	24.00	22.89	0.593	0.030	1.29	0.766	/
	Right cheek Battery 2	0	QPSK	DSI-1	1	50	132072/1720	24.00	22.78	0.803	0.042	1.32	1.063	/

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

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	Plot No.
Wi-Fi 2.4G	Wi-Fi	Left cheek	0	802.11b	98.0%	Receiver on	11/2462	15.00	14.25	0.348	0.120	1.21	0.422	31
		Left Tilt	0	802.11b	98.0%	Receiver on	11/2462	15.00	14.25	0.316	-0.010	1.21	0.383	/
		Right cheek	0	802.11b	98.0%	Receiver on	11/2462	15.00	14.25	0.174	0.040	1.21	0.211	/
		Right Tilt	0	802.11b	98.0%	Receiver on	11/2462	15.00	14.25	0.192	0.067	1.21	0.233	/
		Left cheek Battery 2	0	802.11b	98.0%	Receiver on	11/2462	15.00	14.25	0.327	0.025	1.21	0.397	/
U-NII-1	Wi-Fi	Left cheek	0	802.11a	100.0%	Receiver on	36/5180	15.00	13.87	0.324	0.021	1.30	0.420	/
		Left Tilt	0	802.11a	100.0%	Receiver on	36/5180	15.00	13.87	0.391	-0.076	1.30	0.507	32
		Right cheek	0	802.11a	100.0%	Receiver on	36/5180	15.00	13.87	0.264	0.100	1.30	0.342	/
		Right Tilt	0	802.11a	100.0%	Receiver on	36/5180	15.00	13.87	0.288	0.099	1.30	0.374	/
		Left Tilt Battery 2	0	802.11a	100.0%	Receiver on	36/5180	15.00	13.87	0.335	0.014	1.30	0.435	/
U-NII-2A	Wi-Fi	Left cheek	0	802.11a	100.0%	Receiver on	64/5320	15.00	13.88	0.258	0.024	1.29	0.334	/
		Left Tilt	0	802.11a	100.0%	Receiver on	64/5320	15.00	13.88	0.339	0.131	1.29	0.439	33
		Right cheek	0	802.11a	100.0%	Receiver on	64/5320	15.00	13.88	0.271	-0.030	1.29	0.351	/
		Right Tilt	0	802.11a	100.0%	Receiver on	64/5320	15.00	13.88	0.294	0.025	1.29	0.380	/



		Left Tilt	0	802.11a	100.0%	Receiver on	64/5320	15.00	13.88	0.263	0.010	1.29	0.340	/
U-NII-2C	Wi-Fi	Left cheek	0	802.11a	100.0%	Receiver on	140/5700	13.00	11.65	0.314	0.090	1.36	0.428	/
		Left Tilt	0	802.11a	100.0%	Receiver on	140/5700	13.00	11.65	0.441	0.027	1.36	0.602	34
		Right cheek	0	802.11a	100.0%	Receiver on	140/5700	13.00	11.65	0.298	0.060	1.36	0.407	/
		Right Tilt	0	802.11a	100.0%	Receiver on	140/5700	13.00	11.65	0.342	0.012	1.36	0.467	/
		Left Tilt Battery 2	0	802.11a	100.0%	Receiver on	140/5700	13.00	11.65	0.405	0.030	1.36	0.553	/
		Left Tilt 4G+128G	0	802.11a	100.0%	Receiver on	140/5700	13.00	11.65	0.421	0.104	1.36	0.574	/
		Left Tilt 6G+128G	0	802.11a	100.0%	Receiver on	140/5700	13.00	11.65	0.394	0.042	1.36	0.538	/
U-NII-3	Wi-Fi	Left cheek	0	802.11a	100.0%	Receiver on	157/5785	13.00	11.63	0.227	-0.092	1.37	0.311	/
		Left Tilt	0	802.11a	100.0%	Receiver on	157/5785	13.00	11.63	0.351	0.100	1.37	0.481	35
		Right cheek	0	802.11a	100.0%	Receiver on	157/5785	13.00	11.63	0.222	0.081	1.37	0.304	/
		Right Tilt	0	802.11a	100.0%	Receiver on	157/5785	13.00	11.63	0.274	0.049	1.37	0.376	/
		Left Tilt Battery 2	0	802.11a	100.0%	Receiver on	157/5785	13.00	11.63	0.332	0.010	1.37	0.455	/
Bluetooth	BT	Left cheek	0	DH5	76.5%	-	39/2441	10.00	8.82	0.040	0.169	1.72	0.069	/
		Left Tilt	0	DH5	76.5%	-	39/2441	10.00	8.82	0.084	0.075	1.73	0.144	36
		Right cheek	0	DH5	76.5%	-	39/2441	10.00	8.82	0.023	0.054	1.72	0.040	/
		Right Tilt	0	DH5	76.5%	-	39/2441	10.00	8.82	0.032	0.021	1.72	0.054	/
		Left Tilt Battery 2	0	DH5	76.5%	-	39/2441	10.00	8.82	0.063	0.011	1.72	0.108	/

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





Table 2: Body-worn SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	Plot No.
GSM 850	Main (Bottom)	Back Side	15	GSM	DSI-2	-	-	190/836.6	33.50	32.95	0.225	0.160	1.14	0.255	37
		Front Side	15	GSM	DSI-2	-	-	190/836.6	33.50	32.95	0.206	0.011	1.14	0.234	/
	Second (Top)	Back Side	15	GSM	DSI-2	-	-	190/836.6	33.50	32.95	0.089	-0.028	1.14	0.101	/
		Front Side	15	GSM	DSI-2	-	-	190/836.6	33.50	32.95	0.091	0.010	1.14	0.103	/
	Main (Bottom)	Back Side Battery 2	15	GSM	DSI-2	-	-	190/836.6	33.50	32.95	0.213	0.020	1.14	0.242	/
GSM 1900	Main (Bottom)	Back Side	15	GSM	DSI-2	-	-	661/1880	30.50	29.46	0.186	-0.010	1.27	0.236	38
		Front Side	15	GSM	DSI-2	-	-	661/1880	30.50	29.46	0.102	0.020	1.27	0.130	/
	Second (Top)	Back Side	15	GSM	DSI-2	-	-	661/1880	30.50	29.07	0.128	0.190	1.39	0.178	/
		Front Side	15	GSM	DSI-2	-	-	661/1880	30.50	29.07	0.090	0.000	1.39	0.125	/
	Main (Bottom)	Back Side Battery 2	15	GSM	DSI-2	-	-	661/1880	30.50	29.46	0.178	0.100	1.27	0.226	/
WCDMA II	Main (Bottom)	Back Side	15	RMC	DSI-2	-	-	9400/1880	25.00	24.19	0.460	-0.160	1.21	0.554	39
		Front Side	15	RMC	DSI-2	-	-	9400/1880	25.00	24.19	0.259	-0.038	1.21	0.312	/
	Second (Top)	Back Side	15	RMC	DSI-2	-	-	9400/1880	25.00	23.92	0.432	0.050	1.28	0.554	/
		Front Side	15	RMC	DSI-2	-	-	9400/1880	25.00	23.92	0.238	0.180	1.28	0.305	/
	Main (Bottom)	Back Side Battery 2	15	RMC	DSI-2	-	-	9400/1880	25.00	24.19	0.449	0.022	1.21	0.541	/
WCDMA IV	Main (Bottom)	Back Side	15	RMC	DSI-2	-	-	1413/1732.6	25.00	24.27	0.468	-0.070	1.18	0.554	40
		Front Side	15	RMC	DSI-2	-	-	1413/1732.6	25.00	24.27	0.215	0.028	1.18	0.254	/
	Second (Top)	Back Side	15	RMC	DSI-2	-	-	1413/1732.6	25.00	24.08	0.194	0.050	1.24	0.240	/
		Front Side	15	RMC	DSI-2	-	-	1413/1732.6	25.00	24.08	0.256	0.170	1.24	0.316	/
	Main (Bottom)	Back Side Battery 2	15	RMC	DSI-2	-	-	1413/1732.6	25.00	24.27	0.459	-0.017	1.18	0.543	/
WCDMA V	Main (Bottom)	Back Side	15	RMC	DSI-2	-	-	4183/836.6	25.00	24.31	0.239	-0.010	1.17	0.280	41
		Front Side	15	RMC	DSI-2	-	-	4183/836.6	25.00	24.31	0.172	-0.028	1.17	0.202	/
	Second (Top)	Back Side	15	RMC	DSI-2	-	-	4183/836.6	25.00	24.26	0.118	0.011	1.19	0.140	/
		Front Side	15	RMC	DSI-2	-	-	4183/836.6	25.00	24.26	0.110	0.035	1.19	0.130	/
	Main (Bottom)	Back Side Battery 2	15	RMC	DSI-2	-	-	4183/836.6	25.00	24.31	0.207	0.043	1.17	0.243	/
LTE 2	Main (Bottom)	Back Side	15	QPSK	DSI-2	1	50	18900/1880	25.50	24.28	0.339	0.070	1.32	0.449	/
			15	QPSK	DSI-2	50%	0	19100/1900	24.50	23.25	0.311	0.021	1.33	0.415	/
		Front Side	15	QPSK	DSI-2	1	50	18900/1880	25.50	24.28	0.246	-0.045	1.32	0.326	/
			15	QPSK	DSI-2	50%	0	19100/1900	24.50	23.25	0.230	0.033	1.33	0.307	/
	Second (Top)	Back Side	15	QPSK	DSI-2	1	50	19100/1900	25.50	24.17	0.506	0.180	1.36	0.687	42
			15	QPSK	DSI-2	50%	25	19100/1900	24.50	23.17	0.301	0.046	1.36	0.409	/
		Front Side	15	QPSK	DSI-2	1	50	19100/1900	25.50	24.17	0.253	0.022	1.36	0.344	/
			15	QPSK	DSI-2	50%	25	19100/1900	24.50	23.17	0.207	0.112	1.36	0.281	/
	Second (Top)	Back Side Battery 2	15	QPSK	DSI-2	1	50	19100/1900	25.50	24.17	0.372	0.110	1.36	0.505	/



LTE 4	Main (Bottom)	Back Side	15	QPSK	DSI-2	1	50	20050/1720	25.50	24.10	0.403	0.017	1.38	0.556	/
		Back Side	15	QPSK	DSI-2	1	50	20050/1720	24.50	23.18	0.435	-0.150	1.36	0.590	43
		Front Side	15	QPSK	DSI-2	1	50	20050/1720	25.50	24.10	0.191	0.022	1.38	0.264	/
			15	QPSK	DSI-2	50%	0	20050/1720	24.50	23.18	0.236	-0.090	1.36	0.320	/
	Second (Top)	Back Side	15	QPSK	DSI-2	1	50	20050/1720	25.50	24.16	0.201	0.021	1.36	0.274	/
			15	QPSK	DSI-2	50%	0	20050/1720	24.50	23.21	0.163	0.042	1.35	0.219	/
		Front Side	15	QPSK	DSI-2	1	50	20050/1720	25.50	24.16	0.181	0.020	1.36	0.246	/
			15	QPSK	DSI-2	50%	0	20050/1720	24.50	23.21	0.148	-0.114	1.35	0.199	/
Main (Bottom)	Back Side Battery 2	15	QPSK	DSI-2	50%	0	20050/1720	24.50	23.18	0.411	-0.063	1.36	0.557	/	
LTE 5	Main (Bottom)	Back Side	15	QPSK	DSI-2	1	25	20450/829	25.50	24.56	0.287	-0.020	1.24	0.356	44
		Back Side	15	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.68	0.224	0.031	1.21	0.271	/
		Front Side	15	QPSK	DSI-2	1	25	20450/829	25.50	24.56	0.229	0.026	1.24	0.284	/
			15	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.68	0.182	0.118	1.21	0.220	/
	Second (Top)	Back Side	15	QPSK	DSI-2	1	25	20525/836.5	25.50	24.44	0.143	0.106	1.28	0.183	/
			15	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.54	0.121	0.011	1.25	0.151	/
		Front Side	15	QPSK	DSI-2	1	25	20525/836.5	25.50	24.44	0.109	0.190	1.28	0.139	/
			15	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.54	0.091	-0.021	1.25	0.114	/
Main (Bottom)	Back Side Battery 2	15	QPSK	DSI-2	1	25	20450/829	25.50	24.56	0.278	0.100	1.24	0.345	/	
LTE 7	Main (Bottom)	Back Side	15	QPSK	DSI-2	1	50	20850/2510	25.00	23.97	0.296	0.000	1.27	0.375	/
			15	QPSK	DSI-2	50%	25	20850/2510	24.00	23.00	0.202	0.028	1.26	0.254	/
		Front Side	15	QPSK	DSI-2	1	50	20850/2510	25.00	23.97	0.221	-0.040	1.27	0.280	/
			15	QPSK	DSI-2	50%	25	20850/2510	24.00	23.00	0.160	0.010	1.26	0.201	/
	Second (Top)	Back Side	15	QPSK	DSI-2	1	50	20850/2510	23.50	22.25	0.805	0.081	1.33	1.073	45
			15	QPSK	DSI-2	1	50	21100/2535	23.50	22.26	0.592	-0.044	1.33	0.788	/
			15	QPSK	DSI-2	1	50	20850/2510	23.50	22.25	0.653	-0.010	1.33	0.871	/
		Back Side	15	QPSK	DSI-2	50%	25	21350/2560	23.50	22.34	0.625	0.071	1.31	0.816	/
			15	QPSK	DSI-2	50%	50	21100/2535	23.50	22.31	0.584	-0.068	1.32	0.768	/
			15	QPSK	DSI-2	50%	25	20850/2510	23.50	22.24	0.632	0.022	1.34	0.845	/
			15	QPSK	DSI-2	100%	0	21350/2560	23.50	22.29	0.637	0.120	1.32	0.842	/
			15	QPSK	DSI-2	100%	0	20850/2510	23.50	22.10	0.628	0.100	1.38	0.867	/
	Front Side	15	QPSK	DSI-2	100%	0	21100/2535	23.50	22.22	0.652	0.024	1.34	0.875	/	
		15	QPSK	DSI-2	1	50	21350/2560	23.50	22.59	0.341	0.017	1.23	0.420	/	
	15	QPSK	DSI-2	50%	25	21350/2560	23.50	22.34	0.359	0.144	1.31	0.469	/		
	Second (Top)	Back Side	15	QPSK	DSI-2	1	0	21350/2560	23.50	22.59	0.625	0.022	1.23	0.771	/
1			99	21152/2540.2											
15	QPSK	DSI-2	1	50	20850/2510	23.50	22.25	0.637	0.031	1.33	0.849	/			
LTE 12	Main (Bottom)	Back Side	15	QPSK	DSI-2	1	25	23130/711	25.50	24.63	0.231	0.033	1.22	0.282	46
			15	QPSK	DSI-2	50%	13	23060/704	24.50	23.67	0.186	0.101	1.21	0.225	/
		Front Side	15	QPSK	DSI-2	1	25	23130/711	25.50	24.63	0.217	0.114	1.22	0.265	/
			15	QPSK	DSI-2	50%	13	23060/704	24.50	23.67	0.164	0.025	1.21	0.199	/



	Second (Top)	Back Side	15	QPSK	DSI-2	1	25	23060/704	25.50	24.28	0.159	-0.116	1.32	0.211	/	
			15	QPSK	DSI-2	50%	13	23130/711	24.50	23.29	0.128	-0.054	1.32	0.169	/	
		Front Side	15	QPSK	DSI-2	1	25	23060/704	25.50	24.28	0.138	0.124	1.32	0.183	/	
			15	QPSK	DSI-2	50%	13	23130/711	24.50	23.29	0.112	0.036	1.32	0.148	/	
	Main (Bottom)	Back Side Battery 2	15	QPSK	DSI-2	1	25	23130/711	25.50	24.63	0.219	0.180	1.22	0.268	/	
	LTE 38	Main (Bottom)	Back Side	15	QPSK	DSI-2	1	50	38150/2610	25.50	24.50	0.274	-0.010	1.26	0.345	/
15				QPSK	DSI-2	50%	25	38150/2610	24.50	23.54	0.224	-0.034	1.25	0.279	/	
Front Side			15	0.130	DSI-2	1	50	38150/2610	25.50	24.50	0.147	0.023	1.26	0.185	/	
			15	QPSK	DSI-2	50%	25	38150/2610	24.50	23.54	0.118	0.018	1.25	0.147	/	
Second (Top)		Back Side	15	QPSK	DSI-2	1	50	38150/2610	25.50	24.66	0.854	0.173	1.21	1.036	/	
			15	QPSK	DSI-2	1	50	37850/2580	25.50	24.39	0.806	-0.020	1.29	1.041	/	
			15	QPSK	DSI-2	1	50	38000/2595	25.50	24.52	0.794	-0.011	1.25	0.995	/	
			15	QPSK	DSI-2	50%	25	38150/2610	24.50	23.45	0.712	0.025	1.27	0.907	/	
			15	QPSK	DSI-2	50%	25	37850/2580	24.50	23.35	0.684	0.011	1.30	0.891	/	
			15	QPSK	DSI-2	50%	50	38000/2595	24.50	23.36	0.718	0.036	1.30	0.934	/	
		Back Side repeated	15	QPSK	DSI-2	1	50	38150/2610	25.50	24.66	0.862	-0.015	1.21	1.046	47	
		Front Side	15	QPSK	DSI-2	1	50	38150/2610	25.50	24.66	0.433	0.048	1.21	0.525	/	
			15	QPSK	DSI-2	50%	25	38150/2610	24.50	23.45	0.392	0.011	1.27	0.499	/	
		Back Side	15	QPSK	DSI-2	100%	0	38150/2610	24.50	23.42	0.730	0.071	1.28	0.936	/	
15			QPSK	DSI-2	100%	0	37850/2580	24.50	23.33	0.682	-0.025	1.31	0.893	/		
15			QPSK	DSI-2	100%	0	38000/2595	24.50	23.35	0.715	0.130	1.30	0.932	/		
Second (Top)		Back Side	15	QPSK	DSI-2	1	0	38150/2610	25.50	24.41	0.758	-0.140	1.29	0.974	/	
			1	99	37952/2590.2	/										
			Back Side Battery 2	15	QPSK	DSI-2	1	50	38150/2610	25.50	24.66	0.857	0.100	1.21	1.040	/
LTE 41 TDD		Main (Bottom)	Back Side	15	QPSK	DSI-2	1	50	40140/2545	25.50	24.35	0.178	-0.010	1.30	0.232	/
				15	QPSK	DSI-2	50%	25	40400/2571	24.50	23.31	0.142	-0.034	1.32	0.187	/
			Front Side	15	QPSK	DSI-2	1	50	40140/2545	25.50	24.35	0.149	0.023	1.30	0.194	/
				15	QPSK	DSI-2	50%	25	40400/2571	24.50	23.31	0.120	0.018	1.32	0.158	/
		Second (Top)	Back Side	15	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.842	-0.029	1.27	1.072	48
	15			QPSK	DSI-2	1	50	40140/2545	25.50	24.38	0.763	-0.013	1.29	0.987	/	
	15			QPSK	DSI-2	1	50	40400/2571	25.50	24.37	0.798	0.046	1.30	1.035	/	
	15			QPSK	DSI-2	1	50	41140/2645	25.50	24.30	0.812	-0.020	1.32	1.070	/	
	Back Side		15	QPSK	DSI-2	50%	25	40670/2598	24.50	23.69	0.658	-0.035	1.21	0.793	/	
			15	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.838	0.099	1.27	1.067	/	
			15	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.405	0.021	1.27	0.516	/	
			15	QPSK	DSI-2	50%	25	40670/2598	24.50	23.69	0.317	0.011	1.21	0.382	/	
			15	QPSK	DSI-2	100%	0	40670/2598	24.50	23.38	0.627	0.100	1.29	0.811	/	
			15	QPSK	DSI-2	100%	0	40140/2545	24.50	23.31	0.733	0.083	1.32	0.964	/	
			15	QPSK	DSI-2	100%	0	41140/2645	24.50	23.25	0.609	0.034	1.33	0.812	/	



	Second (Top)	Back Side SIM2	15	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.746	0.110	1.27	0.950	/
		Back Side	15	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.795	-0.023	1.27	1.012	/
		Back Side Battery 2	15	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.791	0.121	1.27	1.007	/
		Back Side 4G+128G	15	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.793	0.132	1.27	1.010	/
		Back Side 4G+128G	15	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.801	0.104	1.27	1.020	/
LTE 66	Main (Bottom)	Back Side	15	QPSK	DSI-2	1	50	132072/1720	25.50	24.18	0.505	0.033	1.36	0.684	49
			15	QPSK	DSI-2	50%	0	132572/1770	24.50	23.07	0.407	0.024	1.39	0.566	/
		Front Side	15	QPSK	DSI-2	1	50	132072/1720	25.50	24.18	0.211	0.016	1.36	0.286	/
			15	QPSK	DSI-2	50%	0	132572/1770	24.50	23.07	0.178	0.035	1.39	0.247	/
	Second (Top)	Back Side	15	QPSK	DSI-2	1	50	132322/1745	25.50	24.17	0.184	0.105	1.36	0.250	/
			15	QPSK	DSI-2	50%	0	132072/1720	24.50	23.11	0.147	0.066	1.38	0.202	/
		Front Side	15	QPSK	DSI-2	1	50	132322/1745	25.50	24.17	0.153	-0.020	1.36	0.208	/
			15	QPSK	DSI-2	50%	0	132072/1720	24.50	23.11	0.118	0.045	1.38	0.163	/
	Main (Bottom)	Back Side Battery 2	15	QPSK	DSI-2	1	50	132072/1720	25.50	24.18	0.493	0.021	1.36	0.668	/

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

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	Plot No.
2.4G	Wi-Fi	Back Side	15	802.11b	98.0%	Receiver off	1/2412	15.00	13.82	0.103	0.000	1.34	0.138	/
		Front Side	15	802.11b	98.0%	Receiver off	1/2412	15.00	13.82	0.086	0.011	1.34	0.115	/
2.4G	Wi-Fi	Back Side	15	802.11g	98.0%	Receiver off	11/2462	17.00	15.99	0.164	0.064	1.29	0.211	50
		Front Side	15	802.11g	98.0%	Receiver off	11/2462	17.00	15.99	0.112	0.103	1.29	0.144	/
		Back Side Battery 2	15	802.11g	98.0%	Receiver off	11/2462	17.00	15.99	0.127	0.022	1.29	0.164	/
U-NII-1	Wi-Fi	Back Side	15	802.11a	100.0%	Receiver off	36/5180	16.00	15.09	0.130	0.041	1.23	0.160	51
		Front Side	15	802.11a	100.0%	Receiver off	36/5180	16.00	15.09	0.083	0.035	1.23	0.102	/
		Back Side Battery 2	15	802.11a	100.0%	Receiver off	36/5180	16.00	15.09	0.110	-0.012	1.23	0.136	/
U-NII-2A	Wi-Fi	Back Side	15	802.11a	100.0%	Receiver off	56/5280	16.00	15.09	0.135	0.022	1.23	0.166	52
		Front Side	15	802.11a	100.0%	Receiver off	56/5280	16.00	15.09	0.079	0.064	1.23	0.097	/
		Back Side Battery 2	15	802.11a	100.0%	Receiver off	56/5280	16.00	15.09	0.119	0.010	1.23	0.147	/
U-NII-2C	Wi-Fi	Back Side	15	802.11a	100.0%	Receiver off	116/5580	16.00	14.98	0.211	-0.030	1.26	0.267	53
		Front Side	15	802.11a	100.0%	Receiver off	116/5580	16.00	14.98	0.193	0.105	1.26	0.244	/
		Back Side Battery 2	15	802.11a	100.0%	Receiver off	116/5580	16.00	14.98	0.180	0.031	1.26	0.228	/



SAR Test Report

Report No.: R2105A0397-S1V2

U-NII-3	Wi-Fi	Back Side	15	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.265	-0.110	1.41	0.373	54
		Front Side	15	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.146	0.050	1.41	0.206	/
		Back Side Battery 2	15	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.255	0.113	1.41	0.359	/
		Back Side 4G+128G	15	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.242	0.156	1.41	0.341	/
		Back Side 6G+128G	15	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.237	-0.052	1.41	0.334	/
Note: 1.The value with blue color is the maximum SAR Value of each test band.														



Table 3: Hotspot SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	Plot No.	
GSM850	Main (Bottom)	Back Side	10	4TX Slots	DSI-4	-	-	190/836.6	29.50	29.23	0.376	-0.090	1.06	0.400	55	
		Front Side	10	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.23	0.322	-0.016	1.06	0.343	/	
		Left Edge	10	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.23	0.047	0.028	1.06	0.050	/	
		Right Edge	10	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.23	0.289	0.011	1.06	0.308	/	
		Bottom Edge	10	4TX Slots	DSI-4	-	-	190/836.6	29.50	29.23	0.227	0.040	1.06	0.242	/	
	Second (Top)	Back Side	10	4TX Slots	DSI-4	-	-	190/836.6	29.50	29.39	0.288	0.052	1.03	0.295	/	
		Front Side	10	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.39	0.223	0.011	1.03	0.229	/	
		Left Edge	10	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.39	0.131	0.016	1.03	0.134	/	
		Right Edge	10	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.39	0.062	0.024	1.03	0.064	/	
		Top Edge	10	4TX Slots	DSI-4	-	-	190/836.6	29.50	29.39	0.261	-0.032	1.03	0.268	/	
	Main (Bottom)	Back Side Battery 2	10	4TX Slots	DSI-4	-	-	190/836.6	29.50	29.23	0.359	0.100	1.06	0.382	/	
GSM1900	Main (Bottom)	Back Side	10	4TX Slots	DSI-4	-	-	661/1880	25.50	24.85	0.483	0.090	1.16	0.561	/	
		Front Side	10	4TX Slots	DSI-2	-	-	661/1880	26.50	26.04	0.423	0.000	1.11	0.470	/	
		Left Edge	10	4TX Slots	DSI-2	-	-	661/1880	26.50	26.04	0.272	0.018	1.11	0.302	/	
		Right Edge	10	4TX Slots	DSI-2	-	-	661/1880	26.50	26.04	0.000	0.040	1.11	0.000	/	
		Bottom Edge	10	4TX Slots	DSI-4	-	-	661/1880	25.50	24.85	0.829	0.090	1.16	0.963	56	
		Bottom Edge	10	4TX Slots	DSI-4	-	-	512/1850.2	25.50	24.76	0.789	0.033	1.19	0.936	/	
			10	4TX Slots	DSI-4	-	-	810/1909.8	25.50	24.68	0.782	0.026	1.21	0.945	/	
	Bottom Edge repeat	10	4TX Slots	DSI-4	-	-	661/1880	25.50	24.85	0.806	0.020	1.16	0.936	/		
		Second (Top)	Back Side	10	4TX Slots	DSI-4	-	-	661/1880	26.50	25.63	0.460	0.152	1.22	0.562	/
			Front Side	10	4TX Slots	DSI-2	-	-	661/1880	26.50	25.63	0.277	0.100	1.22	0.338	/
			Left Edge	10	4TX Slots	DSI-2	-	-	661/1880	26.50	25.63	0.170	0.060	1.22	0.208	/
			Right Edge	10	4TX Slots	DSI-2	-	-	661/1880	26.50	25.63	0.060	0.040	1.22	0.073	/
	Top Edge		10	4TX Slots	DSI-4	-	-	661/1880	26.50	25.63	0.424	0.012	1.22	0.518	/	
	Main (Bottom)	Bottom Edge Battery 2	10	4TX Slots	DSI-4	-	-	661/1880	25.50	24.85	0.786	0.062	1.16	0.913	/	
WCDMA II	Main (Bottom)	Back Side	10	RMC	DSI-4	-	-	9400/1880	21.50	20.70	0.326	0.000	1.20	0.392	/	
		Front Side	10	RMC	DSI-2	-	-	9400/1880	25.00	24.19	0.390	-0.064	1.21	0.470	/	
		Left Edge	10	RMC	DSI-2	-	-	9400/1880	25.00	24.19	0.366	0.019	1.21	0.441	/	
		Right Edge	10	RMC	DSI-2	-	-	9400/1880	25.00	24.19	0.042	-0.020	1.21	0.051	/	
		Bottom Edge	10	RMC	DSI-4	-	-	9262/1852.4	21.50	20.65	0.835	-0.070	1.22	1.016	/	
		Bottom Edge	10	RMC	DSI-4	-	-	9400/1880	21.50	20.70	0.843	0.080	1.20	1.014	57	
		Bottom Edge	10	RMC	DSI-4	-	-	9538/1907.6	21.50	20.69	0.792	0.034	1.21	0.954	/	
		Bottom Edge repeat	10	RMC	DSI-4	-	-	9400/1880	21.50	20.70	0.828	0.016	1.20	0.995	/	
	Second (Top)	Back Side	10	RMC	DSI-4	-	-	9400/1880	24.00	22.97	0.521	0.090	1.27	0.660	/	
		Front Side	10	RMC	DSI-2	-	-	9400/1880	25.00	23.92	0.313	0.012	1.28	0.401	/	



		Left Edge	10	RMC	DSI-2	-	-	9400/1880	25.00	23.92	0.176	0.030	1.28	0.226	/	
		Right Edge	10	RMC	DSI-2	-	-	9400/1880	25.00	23.92	0.072	0.051	1.28	0.092	/	
		Top Edge	10	RMC	DSI-4	-	-	9400/1880	24.00	22.97	0.424	-0.149	1.27	0.537	/	
	Main (Bottom)	Bottom Edge Battery 2	10	RMC	DSI-4	-	-	9262/1852.4	21.50	20.65	0.831	0.100	1.22	1.011	/	
	WCDMA IV	Main (Bottom)	Back Side	10	RMC	DSI-4	-	-	1413/1732.6	21.00	19.97	0.315	0.018	1.27	0.399	/
			Front Side	10	RMC	DSI-2	-	-	1413/1732.6	25.00	24.27	0.487	0.130	1.18	0.576	/
Left Edge			10	RMC	DSI-2	-	-	1413/1732.6	25.00	24.27	0.357	0.019	1.18	0.422	/	
Right Edge			10	RMC	DSI-2	-	-	1413/1732.6	25.00	24.27	0.057	0.100	1.18	0.067	/	
Bottom Edge			10	RMC	DSI-4	-	-	1312/1712.4	21.00	19.99	0.685	0.018	1.26	0.864	/	
Bottom Edge			10	RMC	DSI-4	-	-	1413/1732.6	21.00	19.97	0.745	0.010	1.27	0.944	58	
Bottom Edge			10	RMC	DSI-4	-	-	1513/1752.6	21.00	19.94	0.693	-0.020	1.28	0.885	/	
Second (Top)		Back Side	10	RMC	DSI-4	-	-	1413/1732.6	25.00	24.08	0.485	0.036	1.24	0.599	/	
		Front Side	10	RMC	DSI-2	-	-	1413/1732.6	25.00	24.08	0.352	0.070	1.24	0.435	/	
		Left Edge	10	RMC	DSI-2	-	-	1413/1732.6	25.00	24.08	0.267	0.015	1.24	0.330	/	
		Right Edge	10	RMC	DSI-2	-	-	1413/1732.6	25.00	24.08	0.073	0.061	1.24	0.090	/	
		Top Edge	10	RMC	DSI-4	-	-	1413/1732.6	25.00	24.08	0.317	0.042	1.24	0.392	/	
Main (Bottom)		Bottom Edge Battery 2	10	RMC	DSI-4	-	-	1413/1732.6	21.00	19.97	0.611	0.042	1.27	0.775	/	
WCDMA V		Main (Bottom)	Back Side	10	RMC	DSI-4	-	-	4183/836.6	25.00	24.31	0.458	-0.032	1.17	0.537	59
	Front Side		10	RMC	DSI-2	-	-	4183/836.6	25.00	24.31	0.152	0.049	1.17	0.178	/	
	Left Edge		10	RMC	DSI-2	-	-	4183/836.6	25.00	24.31	0.042	-0.035	1.17	0.049	/	
	Right Edge		10	RMC	DSI-2	-	-	4183/836.6	25.00	24.31	0.131	-0.011	1.17	0.154	/	
	Bottom Edge		10	RMC	DSI-4	-	-	4183/836.6	25.00	24.31	0.342	0.019	1.17	0.401	/	
	Second (Top)	Back Side	10	RMC	DSI-4	-	-	4183/836.6	25.00	24.26	0.217	-0.110	1.19	0.257	/	
		Front Side	10	RMC	DSI-2	-	-	4183/836.6	25.00	24.26	0.184	0.070	1.19	0.218	/	
		Left Edge	10	RMC	DSI-2	-	-	4183/836.6	25.00	24.26	0.072	0.140	1.19	0.085	/	
		Right Edge	10	RMC	DSI-2	-	-	4183/836.6	25.00	24.26	0.081	-0.035	1.19	0.096	/	
		Top Edge	10	RMC	DSI-4	-	-	4183/836.6	25.00	24.26	0.348	0.023	1.19	0.413	/	
	Main (Bottom)	Back Side Battery 2	10	RMC	DSI-4	-	-	4183/836.6	25.00	24.31	0.355	0.057	1.17	0.416	/	
LTE 2	Main (Bottom)	Back Side	10	QPSK	DSI-4	1	50	18900/1880	22.00	21.13	0.389	-0.033	1.22	0.475	/	
			10	QPSK	DSI-4	50%	0	19100/1900	22.00	20.86	0.327	0.040	1.30	0.425	/	
		Front Side	10	QPSK	DSI-2	1	50	18900/1880	25.50	24.28	0.396	0.022	1.32	0.524	/	
			10	QPSK	DSI-2	50%	0	19100/1900	24.50	23.25	0.403	-0.093	1.33	0.537	/	
		Left Edge	10	QPSK	DSI-2	1	50	18900/1880	25.50	24.28	0.256	0.047	1.32	0.339	/	
			10	QPSK	DSI-2	50%	0	19100/1900	24.50	23.25	0.213	-0.012	1.33	0.284	/	
		Right Edge	10	QPSK	DSI-2	1	50	18900/1880	25.50	24.28	0.060	0.035	1.32	0.079	/	
			10	QPSK	DSI-2	50%	0	19100/1900	24.50	23.25	0.064	0.080	1.33	0.085	/	
		Bottom Edge	10	QPSK	DSI-4	1	50	18700/1860	22.00	20.85	0.835	0.013	1.30	1.088	/	
		Bottom Edge	10	QPSK	DSI-4	1	50	18900/1880	22.00	21.13	0.871	0.000	1.22	1.064	60	
Bottom Edge	10	QPSK	DSI-4	1	50	19100/1900	22.00	20.91	0.829	-0.069	1.29	1.066	/			



LTE 4	Second (Top)	Bottom Edge	10	QPSK	DSI-4	50%	25	18700/1860	22.00	20.82	0.735	0.140	1.31	0.964	/
			10	QPSK	DSI-4	50%	25	18900/1880	22.00	20.84	0.681	0.020	1.31	0.890	/
			10	QPSK	DSI-4	50%	0	19100/1900	22.00	20.86	0.631	-0.032	1.30	0.820	/
		10	QPSK	DSI-4	100%	0	19100/1900	22.00	20.82	0.742	-0.047	1.31	0.974	/	
		10	QPSK	DSI-4	100%	0	18700/1860	22.00	20.73	0.710	0.110	1.34	0.951	/	
		10	QPSK	DSI-4	100%	0	18900/1880	22.00	20.80	0.697	0.074	1.32	0.919	/	
		10	QPSK	DSI-4	1	50	18700/1860	22.00	20.85	0.832	0.000	1.30	1.084	/	
	Second (Top)	Back Side	10	QPSK	DSI-4	1	50	19100/1900	23.50	22.20	0.337	0.012	1.35	0.455	/
			10	QPSK	DSI-4	50%	25	19100/1900	23.50	22.15	0.322	0.036	1.36	0.439	/
		Front Side	10	QPSK	DSI-2	1	50	18900/1880	25.50	24.17	0.328	0.028	1.36	0.446	/
			10	QPSK	DSI-2	50%	25	19100/1900	24.50	23.17	0.256	-0.017	1.36	0.348	/
		Left Edge	10	QPSK	DSI-2	1	50	19100/1900	25.50	24.17	0.147	0.003	1.36	0.200	/
			10	QPSK	DSI-2	50%	25	19100/1900	24.50	23.17	0.066	0.011	1.36	0.090	/
		Right Edge	10	QPSK	DSI-2	1	50	19100/1900	25.50	24.17	0.084	0.175	1.36	0.114	/
			10	QPSK	DSI-2	50%	25	19100/1900	24.50	23.17	0.056	0.051	1.36	0.076	/
		Top Edge	10	QPSK	DSI-4	1	50	19100/1900	23.50	22.20	0.369	0.121	1.35	0.498	/
	10		QPSK	DSI-4	50%	25	19100/1900	23.50	22.15	0.324	0.047	1.36	0.442	/	
	Main (Bottom)	Bottom Edge SIM2	10	QPSK	DSI-4	1	50	18700/1860	22.00	20.85	0.825	0.020	1.30	1.075	/
		Bottom Edge	10	QPSK	DSI-4	1	50	18700/1860	22.00	20.85	0.377	0.025	1.30	0.491	/
		Bottom Edge Battery 2	10	QPSK	DSI-4	1	50	18700/1860	22.00	20.85	0.833	-0.048	1.30	1.086	/
		Bottom Edge 4G+128G	10	QPSK	DSI-4	1	50	18700/1860	22.00	20.85	0.792	0.026	1.30	1.032	/
		Bottom Edge 6G+128G	10	QPSK	DSI-4	1	50	18700/1860	22.00	20.85	0.830	0.100	1.30	1.082	/
	Main (Bottom)	Back Side	10	QPSK	DSI-4	1	50	20050/1720	21.00	19.97	0.482	-0.033	1.27	0.611	/
			10	QPSK	DSI-4	50%	0	20050/1720	21.00	20.00	0.375	0.040	1.26	0.472	/
		Front Side	10	QPSK	DSI-2	1	50	20050/1720	25.50	24.10	0.350	-0.050	1.38	0.483	/
			10	QPSK	DSI-2	50%	0	20050/1720	24.50	23.18	0.330	0.019	1.36	0.447	/
		Left Edge	10	QPSK	DSI-2	1	50	20050/1720	25.50	24.10	0.204	-0.024	1.38	0.282	/
			10	QPSK	DSI-2	50%	0	20050/1720	24.50	23.18	0.135	0.033	1.36	0.183	/
Right Edge		10	QPSK	DSI-2	1	50	20050/1720	25.50	24.10	0.000	0.027	1.38	0.000	/	
		10	QPSK	DSI-2	50%	0	20050/1720	24.50	23.18	0.000	0.050	1.36	0.000	/	
Bottom Edge		10	QPSK	DSI-4	1	50	20050/1720	21.00	19.97	0.582	-0.012	1.27	0.738	61	
Bottom Edge		10	QPSK	DSI-4	50%	0	20050/1720	21.00	20.00	0.442	-0.060	1.26	0.556	/	
Second (Top)		Back Side	10	QPSK	DSI-4	1	50	20050/1720	25.50	24.16	0.478	-0.020	1.36	0.651	/
			10	QPSK	DSI-4	50%	0	20050/1720	24.50	23.21	0.307	-0.020	1.35	0.413	/
		Front Side	10	QPSK	DSI-2	1	50	20050/1720	25.50	24.16	0.281	-0.016	1.36	0.383	/
	10		QPSK	DSI-2	50%	0	20050/1720	24.50	23.21	0.229	0.030	1.35	0.308	/	
	Left Edge	10	QPSK	DSI-2	1	50	20050/1720	25.50	24.16	0.201	0.000	1.36	0.274	/	





		Right Edge	10	QPSK	DSI-2	50%	0	20050/1720	24.50	23.21	0.176	0.029	1.35	0.237	/	
			10	QPSK	DSI-2	1	50	20050/1720	25.50	24.16	0.058	0.036	1.36	0.079	/	
			10	QPSK	DSI-2	50%	0	20050/1720	24.50	23.21	0.062	0.032	1.35	0.083	/	
		Top Edge	10	QPSK	DSI-4	1	50	20050/1720	25.50	24.16	0.349	0.022	1.36	0.475	/	
			10	QPSK	DSI-4	50%	0	20050/1720	24.50	23.21	0.299	0.192	1.35	0.402	/	
Main (Bottom)	Bottom Edge Battery 2	10	QPSK	DSI-4	1	50	20050/1720	21.00	19.97	0.553	-0.010	1.27	0.701	/		
LTE 5	Main (Bottom)	Back Side	10	QPSK	DSI-4	1	25	20450/829	25.50	24.56	0.381	0.011	1.24	0.473	62	
		Back Side	10	QPSK	DSI-4	50%	25	20525/836.5	24.50	23.68	0.249	-0.062	1.21	0.301	/	
		Front Side	10	QPSK	DSI-2	1	25	20450/829	25.50	24.56	0.175	0.040	1.24	0.217	/	
			10	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.68	0.140	0.013	1.21	0.169	/	
		Left Edge	10	QPSK	DSI-2	1	25	20450/829	25.50	24.56	0.167	-0.010	1.24	0.207	/	
			10	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.68	0.061	0.086	1.21	0.074	/	
		Right Edge	10	QPSK	DSI-2	1	25	20450/829	25.50	24.56	0.124	0.025	1.24	0.154	/	
			10	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.68	0.080	0.189	1.21	0.097	/	
	Bottom Edge	10	QPSK	DSI-4	1	25	20450/829	25.50	24.56	0.325	0.035	1.24	0.404	/		
		10	QPSK	DSI-4	50%	25	20525/836.5	24.50	23.68	0.268	-0.010	1.21	0.324	/		
	Second (Top)	Back Side	10	QPSK	DSI-4	1	25	20525/836.5	25.50	24.44	0.190	0.000	1.28	0.243	/	
			10	QPSK	DSI-4	50%	25	20525/836.5	24.50	23.54	0.165	0.104	1.25	0.206	/	
		Front Side	10	QPSK	DSI-2	1	25	20525/836.5	25.50	24.44	0.150	0.022	1.28	0.191	/	
			10	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.54	0.122	0.116	1.25	0.152	/	
		Left Edge	10	QPSK	DSI-2	1	25	20525/836.5	25.50	24.44	0.087	0.108	1.28	0.111	/	
			10	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.54	0.081	0.118	1.25	0.101	/	
		Right Edge	10	QPSK	DSI-2	1	25	20525/836.5	25.50	24.44	0.101	0.034	1.28	0.129	/	
			10	QPSK	DSI-2	50%	25	20525/836.5	24.50	23.54	0.073	-0.016	1.25	0.091	/	
	Top Edge	10	QPSK	DSI-4	1	25	20525/836.5	25.50	24.44	0.111	0.078	1.28	0.142	/		
		10	QPSK	DSI-4	50%	25	20525/836.5	24.50	23.54	0.144	0.105	1.25	0.180	/		
	Main (Bottom)	Back Side Battery 2	10	QPSK	DSI-4	1	25	20450/829	25.50	24.56	0.337	0.021	1.24	0.418	/	
	LTE 7	Main (Bottom)	Back Side	10	QPSK	DSI-4	1	50	20850/2510	24.00	23.24	0.469	0.015	1.19	0.559	/
				10	QPSK	DSI-4	50%	25	20850/2510	24.00	23.19	0.368	-0.090	1.21	0.443	/
			Front Side	10	QPSK	DSI-2	1	50	20850/2510	25.00	23.97	0.394	0.079	1.27	0.499	/
10				QPSK	DSI-2	50%	25	20850/2510	24.00	23.00	0.315	-0.024	1.26	0.397	/	
Left Edge			10	QPSK	DSI-2	1	50	20850/2510	25.00	23.97	0.413	0.170	1.27	0.524	/	
			10	QPSK	DSI-2	50%	25	20850/2510	24.00	23.00	0.400	0.033	1.26	0.504	/	
Right Edge			10	QPSK	DSI-2	1	50	20850/2510	25.00	23.97	0.056	0.026	1.27	0.071	/	
			10	QPSK	DSI-2	50%	25	20850/2510	24.00	23.00	0.080	-0.040	1.26	0.101	/	
Bottom Edge		10	QPSK	DSI-4	1	50	20850/2510	24.00	23.24	0.402	-0.036	1.19	0.479	/		
		10	QPSK	DSI-4	50%	25	20850/2510	24.00	23.19	0.485	-0.048	1.21	0.584	/		
Second (Top)		Back Side	10	QPSK	DSI-4	1	50	21350/2560	19.50	18.34	0.171	0.104	1.31	0.223	/	
			10	QPSK	DSI-4	50%	25	21350/2560	19.50	18.36	0.301	0.087	1.30	0.391	/	
		Front Side	10	QPSK	DSI-2	1	50	21350/2560	23.50	22.59	0.553	-0.040	1.23	0.682	/	
		Front Side	10	QPSK	DSI-2	50%	25	21350/2560	23.50	22.34	0.629	0.076	1.31	0.822	63	



		Left Edge	10	QPSK	DSI-2	1	50	21350/2560	23.50	22.59	0.088	0.101	1.23	0.109	/
			10	QPSK	DSI-2	50%	25	21350/2560	23.50	22.34	0.092	0.033	1.31	0.120	/
		Right Edge	10	QPSK	DSI-2	1	50	21350/2560	23.50	22.59	0.000	-0.064	1.23	0.000	/
			10	QPSK	DSI-2	50%	25	21350/2560	23.50	22.34	0.000	-0.090	1.31	0.000	/
		Top Edge	10	QPSK	DSI-4	1	50	21350/2560	19.50	18.34	0.525	0.102	1.31	0.686	/
			10	QPSK	DSI-4	50%	25	21350/2560	19.50	18.36	0.512	0.134	1.30	0.666	/
		Front Side	10	QPSK	DSI-2	1	0	21350/2560	23.50	22.50	0.428	0.060	1.26	0.539	/
1	99					21152/2540.2									
Front Side Battery 2	10	QPSK	DSI-2	50%	25	21350/2560	23.50	22.34	0.542	0.012	1.31	0.708	/		
LTE 12	Main (Bottom)	Back Side	10	QPSK	DSI-4	1	25	23130/711	25.50	24.63	0.198	0.000	1.22	0.242	/
			10	QPSK	DSI-4	50%	13	23060/704	24.50	23.67	0.164	-0.037	1.21	0.199	/
		Front Side	10	QPSK	DSI-2	1	25	23130/711	25.50	24.63	0.080	0.033	1.22	0.098	/
			10	QPSK	DSI-2	50%	13	23060/704	24.50	23.67	0.077	0.024	1.21	0.093	/
		Left Edge	10	QPSK	DSI-2	1	25	23130/711	25.50	24.63	0.000	0.015	1.22	0.000	/
			10	QPSK	DSI-2	50%	13	23060/704	24.50	23.67	0.000	0.116	1.21	0.000	/
		Right Edge	10	QPSK	DSI-2	1	25	23130/711	25.50	24.63	0.050	0.034	1.22	0.061	/
			10	QPSK	DSI-2	50%	13	23060/704	24.50	23.67	0.049	0.024	1.21	0.059	/
	Bottom Edge	10	QPSK	DSI-4	1	25	23130/711	25.50	24.63	0.352	-0.016	1.22	0.430	64	
		10	QPSK	DSI-4	50%	13	23060/704	24.50	23.67	0.228	0.021	1.21	0.276	/	
	Second (Top)	Back Side	10	QPSK	DSI-4	1	25	23060/704	25.50	24.28	0.187	0.065	1.32	0.248	/
			10	QPSK	DSI-4	50%	13	23130/711	24.50	23.29	0.151	0.113	1.32	0.200	/
		Front Side	10	QPSK	DSI-2	1	25	23060/704	25.50	24.28	0.139	0.101	1.32	0.184	/
			10	QPSK	DSI-2	50%	13	23130/711	24.50	23.29	0.112	0.040	1.32	0.148	/
		Left Edge	10	QPSK	DSI-2	1	25	23060/704	25.50	24.28	0.084	-0.055	1.32	0.111	/
			10	QPSK	DSI-2	50%	13	23130/711	24.50	23.29	0.071	-0.124	1.32	0.094	/
		Right Edge	10	QPSK	DSI-2	1	25	23060/704	25.50	24.28	0.051	0.114	1.32	0.068	/
			10	QPSK	DSI-2	50%	13	23130/711	24.50	23.29	0.040	0.106	1.32	0.053	/
	Top Edge	10	QPSK	DSI-4	1	25	23060/704	25.50	24.28	0.129	0.052	1.32	0.171	/	
		10	QPSK	DSI-4	50%	13	23130/711	24.50	23.29	0.115	0.034	1.32	0.152	/	
Bottom Edge Battery 2	10	QPSK	DSI-4	1	25	23130/711	25.50	24.63	0.346	0.020	1.22	0.423	/		
LTE 38	Main (Bottom)	Back Side	10	QPSK	DSI-4	1	50	38150/2610	25.50	24.50	0.564	0.000	1.26	0.710	/
			10	QPSK	DSI-4	50%	25	38150/2610	24.50	23.54	0.372	0.034	1.25	0.464	/
		Front Side	10	QPSK	DSI-2	1	50	38150/2610	25.50	24.50	0.294	0.105	1.26	0.370	/
			10	QPSK	DSI-2	50%	25	38150/2610	24.50	23.54	0.236	-0.104	1.25	0.294	/
		Left Edge	10	QPSK	DSI-2	1	50	38150/2610	25.50	24.50	0.145	0.024	1.26	0.183	/
			10	QPSK	DSI-2	50%	25	38150/2610	24.50	23.54	0.168	0.033	1.25	0.210	/
		Right Edge	10	QPSK	DSI-2	1	50	38150/2610	25.50	24.50	0.000	0.000	1.26	0.000	/
			10	QPSK	DSI-2	50%	25	38150/2610	24.50	23.54	0.000	0.000	1.25	0.000	/
	Bottom Edge	10	QPSK	DSI-4	1	50	38150/2610	25.50	24.50	0.545	-0.070	1.26	0.686	/	
		10	QPSK	DSI-4	50%	25	38150/2610	24.50	23.54	0.429	0.020	1.25	0.535	/	
Second	Back Side	10	QPSK	DSI-4	1	50	38150/2610	21.50	20.55	0.492	-0.018	1.24	0.612	/	



(Top)		10	QPSK	DSI-4	50%	25	38150/2610	21.50	20.44	0.425	0.032	1.28	0.542	/	
	Front Side	10	QPSK	DSI-2	1	50	38150/2610	25.50	24.66	0.617	0.000	1.21	0.749	/	
		10	QPSK	DSI-2	50%	25	38150/2610	24.50	23.45	0.427	0.042	1.27	0.544	/	
	Left Edge	10	QPSK	DSI-2	1	50	38150/2610	25.50	24.66	0.111	0.038	1.21	0.135	/	
		10	QPSK	DSI-2	50%	25	38150/2610	24.50	23.45	0.096	-0.019	1.27	0.122	/	
	Right Edge	10	QPSK	DSI-2	1	50	38150/2610	25.50	24.66	0.000	0.022	1.21	0.000	/	
		10	QPSK	DSI-2	50%	25	38150/2610	24.50	23.45	0.000	-0.040	1.27	0.000	/	
	Top Edge	10	QPSK	DSI-4	1	50	37850/2580	21.50	20.47	0.698	0.010	1.27	0.885	/	
	Top Edge	10	QPSK	DSI-4	1	50	38000/2595	21.50	20.43	0.679	0.024	1.28	0.869	/	
	Top Edge	10	QPSK	DSI-4	1	50	38150/2610	21.50	20.55	0.713	-0.050	1.24	0.887	65	
		10	QPSK	DSI-4	50%	25	37850/2580	21.50	20.35	0.652	-0.033	1.30	0.850	/	
	Top Edge	10	QPSK	DSI-4	50%	25	38000/2595	21.50	20.34	0.704	0.049	1.31	0.920	/	
	Top Edge	10	QPSK	DSI-4	50%	25	38150/2610	21.50	20.44	0.682	-0.012	1.28	0.871	/	
	Top Edge	10	QPSK	DSI-4	100%	0	38150/2610	21.50	20.38	0.667	0.031	1.29	0.863	/	
	Top Edge	10	QPSK	DSI-4	100%	0	37850/2580	21.50	20.32	0.694	-0.049	1.31	0.911	/	
	Top Edge	10	QPSK	DSI-4	100%	0	38000/2595	21.50	20.30	0.658	0.026	1.32	0.867	/	
	Top Edge	10	QPSK	DSI-4	1	99	37850/2580	21.50	20.45	0.564	-0.010	1.27	0.718	/	
					1	0	38048/2599.8								
Top Edge	10	QPSK	DSI-4	50%	25	38000/2595	21.50	20.34	0.683	0.049	1.31	0.892	/		
Main (Bottom)	Back Side	10	QPSK	DSI-4	1	50	40140/2545	25.50	24.35	0.398	-0.100	1.30	0.519	/	
		10	QPSK	DSI-4	50%	25	40400/2571	24.50	23.31	0.256	0.013	1.32	0.337	/	
	Front Side	10	QPSK	DSI-2	1	50	40140/2545	25.50	24.35	0.279	0.105	1.30	0.364	/	
		10	QPSK	DSI-2	50%	25	40400/2571	24.50	23.31	0.238	0.084	1.32	0.313	/	
	Left Edge	10	QPSK	DSI-2	1	50	40140/2545	25.50	24.35	0.174	-0.070	1.30	0.227	/	
		10	QPSK	DSI-2	50%	25	40400/2571	24.50	23.31	0.082	-0.024	1.32	0.108	/	
	Right Edge	10	QPSK	DSI-2	1	50	40140/2545	25.50	24.35	0.000	0.105	1.30	0.000	/	
		10	QPSK	DSI-2	50%	25	40400/2571	24.50	23.31	0.000	0.037	1.32	0.000	/	
	Bottom Edge	10	QPSK	DSI-4	1	50	40140/2545	25.50	24.35	0.429	0.015	1.30	0.559	/	
		10	QPSK	DSI-4	50%	25	40400/2571	24.50	23.31	0.315	0.033	1.32	0.414	/	
	Second (Top)	Back Side	10	QPSK	DSI-4	1	50	40670/2598	20.50	19.48	0.428	0.116	1.26	0.541	/
			10	QPSK	DSI-4	50%	25	40670/2598	20.50	19.39	0.395	0.033	1.29	0.510	/
		Front Side	10	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.544	0.015	1.27	0.693	/
			10	QPSK	DSI-2	50%	25	40670/2598	24.50	23.69	0.404	0.060	1.21	0.487	/
Left Edge		10	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.104	-0.072	1.27	0.132	/	
		10	QPSK	DSI-2	50%	25	40670/2598	24.50	23.69	0.077	0.049	1.21	0.093	/	
Right Edge		10	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.000	-0.013	1.27	0.000	/	
		10	QPSK	DSI-2	50%	25	40670/2598	24.50	23.69	0.000	0.040	1.21	0.000	/	
Top Edge		10	QPSK	DSI-4	1	50	40670/2598	20.50	19.48	0.595	-0.059	1.26	0.753	66	
Top Edge		10	QPSK	DSI-4	50%	25	40670/2598	20.50	19.39	0.552	-0.163	1.29	0.713	/	
Top Edge Battery 2	10	QPSK	DSI-4	1	50	40670/2598	20.50	19.48	0.571	0.012	1.26	0.722	/		
LTE	Main	Back Side	10	QPSK	DSI-4	1	99	132572/1770	23.00	22.12	0.392	0.022	1.22	0.480	/



66	(Bottom)		10	QPSK	DSI-4	50%	50	132572/1770	23.00	22.26	0.454	-0.035	1.19	0.538	/
		Front Side	10	QPSK	DSI-2	1	50	132072/1720	25.50	24.18	0.108	0.034	1.36	0.146	/
			10	QPSK	DSI-2	50%	0	132572/1770	24.50	23.07	0.100	0.140	1.39	0.139	/
		Left Edge	10	QPSK	DSI-2	1	50	132072/1720	25.50	24.18	0.042	0.116	1.36	0.057	/
			10	QPSK	DSI-2	50%	0	132572/1770	24.50	23.07	0.040	0.154	1.39	0.056	/
		Right Edge	10	QPSK	DSI-2	1	50	132072/1720	25.50	24.18	0.000	0.112	1.36	0.000	/
			10	QPSK	DSI-2	50%	0	132572/1770	24.50	23.07	0.000	0.124	1.39	0.000	/
		Bottom Edge	10	QPSK	DSI-4	1	50	132072/1720	23.00	22.08	0.694	-0.013	1.24	0.858	/
		Bottom Edge	10	QPSK	DSI-4	1	50	132322/1745	23.00	21.97	0.752	-0.100	1.27	0.953	/
		Bottom Edge	10	QPSK	DSI-4	1	99	132572/1770	23.00	22.12	0.728	0.011	1.22	0.892	/
			10	QPSK	DSI-4	50%	50	132072/1720	23.00	21.89	0.749	0.000	1.29	0.967	/
			10	QPSK	DSI-4	50%	0	132322/1745	23.00	22.02	0.751	0.028	1.25	0.941	/
			10	QPSK	DSI-4	50%	50	132572/1770	23.00	22.26	0.774	0.057	1.19	0.918	67
			10	QPSK	DSI-4	100%	0	132072/1720	23.00	21.81	0.723	0.099	1.32	0.951	/
	10		QPSK	DSI-4	100%	0	132322/1745	23.00	21.72	0.669	-0.012	1.34	0.898	/	
	Second (Top)	Back Side	10	QPSK	DSI-4	1	50	132322/1745	25.50	24.17	0.347	0.134	1.36	0.471	/
			10	QPSK	DSI-4	50%	0	132072/1720	24.50	23.11	0.260	0.156	1.38	0.358	/
		Front Side	10	QPSK	DSI-2	1	50	132322/1745	25.50	24.17	0.204	0.164	1.36	0.277	/
			10	QPSK	DSI-2	50%	0	132072/1720	24.50	23.11	0.137	0.033	1.38	0.189	/
		Left Edge	10	QPSK	DSI-2	1	50	132322/1745	25.50	24.17	0.217	0.024	1.36	0.295	/
			10	QPSK	DSI-2	50%	0	132072/1720	24.50	23.11	0.141	0.068	1.38	0.194	/
		Right Edge	10	QPSK	DSI-2	1	50	132322/1745	25.50	24.17	0.064	0.042	1.36	0.087	/
			10	QPSK	DSI-2	50%	0	132072/1720	24.50	23.11	0.057	0.025	1.38	0.079	/
		Top Edge	10	QPSK	DSI-4	1	50	132322/1745	25.50	24.17	0.361	0.068	1.36	0.490	/
			10	QPSK	DSI-4	50%	0	132072/1720	24.50	23.11	0.286	-0.010	1.38	0.394	/
		Bottom Edge Battery 2	10	QPSK	DSI-4	100%	0	132572/1770	23.00	21.86	0.742	0.190	1.30	0.965	/

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

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	Plot No.
2.4G	Wi-Fi	Back Side	10	802.11b	98.0%	Receiver off	1/2412	15.00	13.82	0.098	-0.041	1.34	0.131	/
		Front Side	10	802.11b	98.0%	Receiver off	1/2412	15.00	13.82	0.175	0.032	1.34	0.234	/
		Left Edge	10	802.11b	98.0%	Receiver off	1/2412	15.00	13.82	0.032	-0.060	1.34	0.043	/
		Right Edge	10	802.11b	98.0%	Receiver off	1/2412	15.00	13.82	0.038	0.130	1.34	0.051	/
		Top Edge	10	802.11b	98.0%	Receiver off	1/2412	15.00	13.82	0.146	0.028	1.34	0.195	/
	Wi-Fi	Back Side	10	802.11g	98.0%	Receiver off	11/2462	17.00	15.99	0.124	0.034	1.29	0.160	/
		Front Side	10	802.11g	98.0%	Receiver off	11/2462	17.00	15.99	0.253	0.038	1.29	0.326	68
		Left Edge	10	802.11g	98.0%	Receiver off	11/2462	17.00	15.99	0.031	0.026	1.29	0.040	/
		Right Edge	10	802.11g	98.0%	Receiver off	11/2462	17.00	15.99	0.042	0.040	1.29	0.054	/



		Top Edge	10	802.11g	98.0%	Receiver off	11/2462	17.00	15.99	0.178	0.106	1.29	0.229	/
		Front Side Battery 2	10	802.11g	98.0%	Receiver off	11/2462	17.00	15.99	0.237	0.025	1.29	0.305	/
U-NII-1	Wi-Fi	Back Side	10	802.11a	100.0%	Receiver off	36/5180	16.00	15.09	0.158	-0.013	1.23	0.195	/
		Front Side	10	802.11a	100.0%	Receiver off	36/5180	16.00	15.09	0.046	0.022	1.23	0.057	/
		Left Edge	10	802.11a	100.0%	Receiver off	36/5180	16.00	15.09	0.041	0.080	1.23	0.051	/
		Right Edge	10	802.11a	100.0%	Receiver off	36/5180	16.00	15.09	0.069	0.042	1.23	0.085	/
		Top Edge	10	802.11a	100.0%	Receiver off	36/5180	16.00	15.09	0.251	-0.011	1.23	0.310	69
		Top Edge Battery 2	10	802.11a	100.0%	Receiver off	36/5180	16.00	15.09	0.237	-0.010	1.23	0.292	/
U-NII-3	Wi-Fi	Back Side	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.175	-0.026	1.41	0.247	/
		Front Side	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.134	-0.022	1.41	0.189	/
		Left Edge	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.029	0.150	1.41	0.041	/
		Right Edge	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.108	0.060	1.41	0.152	/
		Top Edge	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.305	-0.099	1.41	0.430	/
		Top Edge	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.321	-0.014	1.41	0.452	70
		Top Edge	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.279	0.000	1.41	0.393	/
		Top Edge Battery 2	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.258	0.028	1.41	0.364	/
		Top Edge	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.294	0.033	1.41	0.414	/
		Top Edge	10	802.11a	100.0%	Receiver off	157/5785	15.00	13.51	0.262	0.070	1.41	0.369	/
Bluetooth	BT	Back Side	10	DH5	76.5%	-	39/2441	10.00	8.82	0.012	-0.108	1.72	0.021	71
		Front Side	10	DH5	76.5%	-	39/2441	10.00	8.82	0.000	0.000	1.72	0.000	/
		Left Edge	10	DH5	76.5%	-	39/2441	10.00	8.82	0.000	0.000	1.72	0.000	/
		Right Edge	10	DH5	76.5%	-	39/2441	10.00	8.82	0.000	0.000	1.72	0.000	/
		Top Edge	10	DH5	76.5%	-	39/2441	10.00	8.82	0.000	0.065	1.72	0.000	/
		Back Side Battery 2	10	DH5	76.5%	-	39/2441	10.00	8.82	0.009	0.025	1.72	0.015	/



**Table 4:Product-specific 10g SAR**

Band	Antenna	Test Position	Mode	Power Reduction	Channel Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Scaling Factor	Report SAR1g	0mm SAR
GSM 1900	Main (Bottom)	Back Side	4TX Slots	DSI-4	661/1880	26.50	25.50	0.561	1.26	0.706	No
		Bottom Edge	4TX Slots	DSI-4	661/1880	26.50	25.50	0.947	1.26	1.192	No
WCDMA II	Main (Bottom)	Back Side	RMC	DSI-4	9400/1880	25.00	21.50	0.392	2.24	0.877	No
		Bottom Edge	RMC	DSI-4	9400/1880	25.00	21.50	1.014	2.24	2.269	Yes
	Second (Top)	Back Side	RMC	DSI-4	9400/1880	25.00	24.00	0.660	1.26	0.831	No
		Top Edge	RMC	DSI-4	9400/1880	25.00	24.00	0.537	1.26	0.677	No
WCDMA IV	Main (Bottom)	Back Side	RMC	DSI-4	1413/1732.6	25.00	21.00	0.399	2.51	1.003	No
		Bottom Edge	RMC	DSI-4	1413/1732.6	25.00	21.00	0.944	2.51	2.372	Yes

Band	Antenna	Test Position	Mode	Power Reduction	RB	offset	Channel Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Scaling Factor	Report SAR1g	0mm SAR
LTE 2	Main (Bottom)	Back Side	QPSK	DSI-4	1	50	18900/1880	25.50	23.00	0.475	1.78	0.845	No
			QPSK	DSI-4	50%	0	19100/1900	24.50	23.00	0.425	1.41	0.601	No
		Bottom Edge	QPSK	DSI-4	1	50	18900/1880	25.50	23.00	1.064	1.78	1.892	Yes
			QPSK	DSI-4	50%	0	19100/1900	24.50	23.00	0.820	1.41	1.159	No
	Second (Top)	Back Side	QPSK	DSI-4	1	50	19100/1900	25.50	23.50	0.455	1.58	0.720	No
			QPSK	DSI-4	50%	25	19100/1900	24.50	23.50	0.439	1.26	0.553	No
		Top Edge	QPSK	DSI-4	1	50	19100/1900	25.50	23.50	0.498	1.58	0.789	No
			QPSK	DSI-4	50%	25	19100/1900	24.50	23.50	0.442	1.26	0.557	No
LTE 4	Main (Bottom)	Back Side	QPSK	DSI-4	1	50	20050/1720	25.50	21.00	0.611	2.82	1.722	Yes
			QPSK	DSI-4	50%	0	20050/1720	24.50	21.00	0.472	2.24	1.057	No
		Bottom Edge	QPSK	DSI-4	1	50	20050/1720	25.50	21.00	0.738	2.82	2.079	Yes
			QPSK	DSI-4	50%	0	20050/1720	24.50	21.00	0.556	2.24	1.246	Yes
LTE 7	Main (Bottom)	Back Side	QPSK	DSI-4	1	50	20850/2510	25.00	24.00	0.559	1.26	0.703	No
			QPSK	DSI-4	50%	25	20850/2510	24.00	24.00	0.443	1.00	0.443	No
		Bottom Edge	QPSK	DSI-4	1	50	20850/2510	25.00	24.00	0.479	1.26	0.603	No
			QPSK	DSI-4	50%	25	20850/2510	24.00	24.00	0.584	1.00	0.584	No
	Second (Top)	Back Side	QPSK	DSI-4	1	50	21350/2560	23.50	19.50	0.223	2.51	0.561	No
			QPSK	DSI-4	50%	25	21350/2560	23.50	19.50	0.391	2.51	0.983	No
		Top Edge	QPSK	DSI-4	1	50	21350/2560	23.50	19.50	0.686	2.51	1.723	Yes
			QPSK	DSI-4	50%	25	21350/2560	23.50	19.50	0.666	2.51	1.672	Yes
LTE 38	Second (Top)	Back Side	QPSK	DSI-4	1	50	38150/2610	25.50	21.50	0.612	2.51	1.538	Yes
			QPSK	DSI-4	50%	25	38150/2610	24.50	21.50	0.542	2.00	1.082	No
		Top Edge	QPSK	DSI-4	1	50	38150/2610	25.50	21.50	0.887	2.51	2.229	Yes
			QPSK	DSI-4	50%	25	38150/2610	24.50	21.50	0.871	2.00	1.737	Yes
LTE 41	Second (Top)	Back Side	QPSK	DSI-4	1	50	40670/2598	25.50	20.50	0.541	3.16	1.712	Yes
			QPSK	DSI-4	50%	25	40670/2598	24.50	20.50	0.510	2.51	1.281	Yes
		Top Edge	QPSK	DSI-4	1	50	40670/2598	25.50	20.50	0.753	3.16	2.380	Yes



			QPSK	DSI-4	50%	25	40670/2598	24.50	20.50	0.713	2.51	1.790	Yes
LTE 66	Main (Bottom)	Back Side	QPSK	DSI-4	1	99	132572/1770	25.50	23.00	0.440	1.78	0.782	No
			QPSK	DSI-4	50%	50	132572/1770	24.50	23.00	0.467	1.41	0.660	No
		Bottom Edge	QPSK	DSI-4	1	99	132572/1770	25.50	23.00	0.892	1.78	1.585	Yes
			QPSK	DSI-4	50%	50	132572/1770	24.50	23.00	0.918	1.41	1.296	Yes

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR10g	Plot No.
WCDMA II	Main (Bottom)	Bottom Edge	0	RMC	DSI-4	-	-	9400/1880	21.50	20.70	1.730	0.021	1.20	2.080	72
		Bottom Edge Battery 2	0	RMC	DSI-4	-	-	9400/1880	21.50	20.70	1.570	0.030	1.20	1.888	/
WCDMA IV	Main (Bottom)	Bottom Edge	0	RMC	DSI-4	-	-	1413/1732.6	21.00	19.97	1.460	0.042	1.27	1.851	73
		Bottom Edge Battery 2	0	RMC	DSI-4	-	-	1413/1732.6	21.00	19.97	1.220	0.000	1.27	1.547	/
LTE 2	Main (Bottom)	Bottom Edge	0	QPSK	DSI-4	1	50	18900/1880	19.50	18.43	1.090	-0.020	1.28	1.395	74
		Bottom Edge Battery 2	0	QPSK	DSI-4	1	50	18900/1880	19.50	18.43	0.864	0.024	1.28	1.105	/
LTE 4	Main (Bottom)	Back Side	0	QPSK	DSI-4	1	50	20050/1720	21.00	19.97	1.260	-0.040	1.27	1.597	/
		Bottom Edge	0	QPSK	DSI-4	1	50	20050/1720	21.00	19.97	1.530	0.110	1.27	1.940	75
		Bottom Edge Battery 2	0	QPSK	DSI-4	1	50	20050/1720	21.00	19.97	1.490	-0.170	1.27	1.889	/
LTE 7	Second(Top)	Top Edge	0	QPSK	DSI-4	1	50	21350/2560	19.50	18.34	1.360	0.083	1.31	1.776	/
			0	QPSK	DSI-4	50%	25	20850/2510	19.50	18.26	1.280	0.013	1.33	1.703	/
			0	QPSK	DSI-4	50%	50	21100/2535	19.50	18.32	1.510	-0.062	1.31	1.981	/
			0	QPSK	DSI-4	50%	25	21350/2560	19.50	18.36	1.530	0.020	1.30	1.989	76
	Second(Top)	Top Edge	0	QPSK	DSI-4	1	99	21100/2535	19.50	18.31	1.120	-0.055	1.32	1.473	/
			0	QPSK	DSI-4	1	0	20902/2515.2							
	Second(Top)	Top Edge Battery 2	0	QPSK	DSI-4	50%	25	21350/2560	19.50	17.86	1.250	0.035	1.46	1.824	/
0			QPSK	DSI-4	50%	25	21350/2560	19.50	17.86	1.230	0.102	1.46	1.794	/	
0			QPSK	DSI-4	50%	25	21350/2560	19.50	17.86	1.270	0.035	1.46	1.853	/	
LTE 38	Second (Top)	Back Side	0	QPSK	DSI-4	1	50	38150/2610	21.50	20.55	1.460	-0.010	1.24	1.817	77
		Top Edge	0	QPSK	DSI-4	1	50	38150/2610	21.50	20.55	0.698	0.036	1.24	0.869	/
			0	QPSK	DSI-4	50%	25	38150/2610	21.50	20.44	0.924	0.017	1.28	1.179	/
	Second(Top)	Back Side	0	QPSK	DSI-4	1	99	37850/2580	21.50	20.45	1.230	-0.020	1.27	1.566	/
		Back Side Battery 2	0	QPSK	DSI-4	1	0	38048/2599.8							
LTE 41	Second(Top)	Back Side	0	QPSK	DSI-4	1	50	40670/2598	20.50	19.48	1.140	-0.146	1.26	1.442	78
		Back Side	0	QPSK	DSI-4	50%	25	40670/2598	20.50	19.39	1.030	0.160	1.29	1.330	/
		Top Edge	0	QPSK	DSI-4	1	50	40670/2598	20.50	19.48	0.949	0.077	1.26	1.200	/



			0	QPSK	DSI-4	50%	25	40670/2598	20.50	19.39	0.913	0.049	1.29	1.179	/
		Back Side Battery 2	0	QPSK	DSI-4	1	50	40670/2598	20.50	19.48	0.986	-0.080	1.26	1.247	/
LTE 66	Main (Bottom)	Bottom Edge	0	QPSK	DSI-4	1	99	132572/1770	23.00	22.12	1.980	0.088	1.22	2.425	79
			0	QPSK	DSI-4	50%	50	132572/1770	23.00	22.26	1.850	0.021	1.19	2.194	/
		Bottom Edge Battery 2	0	QPSK	DSI-4	1	99	132572/1770	23.00	22.12	1.720	0.025	1.22	2.106	/

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR10g	Power Drift (dB)	Scaling Factor	Report SAR10g	Plot No.
U-NII-2A	Wi-Fi	Back Side	0	802.11a	100.0%	Receiver off	-	-	56/5280	16.00	15.09	0.215	0.011	1.23	0.265	/
		Front Side	0	802.11a	100.0%	Receiver off	-	-	56/5280	16.00	15.09	0.264	0.240	1.23	0.326	/
		Right Edge	0	802.11a	100.0%	Receiver off	-	-	56/5280	16.00	15.09	0.068	-0.100	1.23	0.084	/
		Top Edge	0	802.11a	100.0%	Receiver off	-	-	56/5280	16.00	15.09	0.866	0.050	1.23	1.068	80
		Top Edge Battery 2	0	802.11a	100.0%	Receiver off	-	-	56/5280	16.00	15.09	0.658	0.010	1.23	0.811	/
U-NII-2C	Wi-Fi	Back Side	0	802.11a	100.0%	Receiver off	-	-	116/5580	16.00	14.98	0.526	-0.040	1.26	0.665	/
		Front Side	0	802.11a	100.0%	Receiver off	-	-	116/5580	16.00	14.98	0.735	-0.035	1.26	0.930	/
		Right Edge	0	802.11a	100.0%	Receiver off	-	-	116/5580	16.00	14.98	0.268	-0.066	1.26	0.339	/
		Top Edge	0	802.11a	100.0%	Receiver off	-	-	116/5580	16.00	14.98	1.150	0.168	1.26	1.454	81
		Top Edge Battery 2	0	802.11a	100.0%	Receiver off	-	-	116/5580	16.00	14.98	0.904	0.015	1.26	1.143	/

**Additional SAR test at a conservative distance (triggering distance minus 1mm)**

Band	Antenna	Dist. (mm)	Test Position	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g
GSM850	Main	15	Back Side	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.23	0.368	0.028	1.06	0.392
	(Bottom)	15	Bottom Edge	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.23	0.167	0.033	1.06	0.178
	Second	15	Back Side	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.39	0.146	-0.150	1.03	0.150
	(Top)	15	Top Edge	4TX Slots	DSI-2	-	-	190/836.6	29.50	29.39	0.113	0.026	1.03	0.116
GSM1900	Main	15	Back Side	4TX Slots	DSI-2	-	-	661/1880	26.50	26.04	0.345	0.000	1.11	0.384
	(Bottom)	15	Bottom Edge	4TX Slots	DSI-2	-	-	661/1880	26.50	26.04	0.662	0.038	1.11	0.736
	Second	15	Back Side	4TX Slots	DSI-2	-	-	661/1880	26.50	25.63	0.271	0.062	1.22	0.331
	(Top)	15	Top Edge	4TX Slots	DSI-2	-	-	661/1880	26.50	25.63	0.223	0.019	1.22	0.272
WCDMA II	Main	15	Back Side	RMC 12.2K	DSI-2	-	-	9400/1880	25.00	24.19	0.357	0.040	1.21	0.430
	(Bottom)	15	Bottom Edge	RMC 12.2K	DSI-2	-	-	9400/1880	25.00	24.19	0.834	-0.011	1.21	1.005
	Second	15	Back Side	RMC 12.2K	DSI-2	-	-	9400/1880	25.00	23.92	0.290	0.026	1.28	0.372
	(Top)	15	Top Edge	RMC 12.2K	DSI-2	-	-	9400/1880	25.00	23.92	0.249	0.072	1.28	0.319
WCDMA IV	Main	15	Back Side	RMC 12.2K	DSI-2	-	-	1413/1732.6	25.00	24.27	0.487	0.084	1.18	0.576
	(Bottom)	15	Bottom Edge	RMC 12.2K	DSI-2	-	-	1413/1732.6	25.00	24.27	0.716	-0.027	1.18	0.847
	Second	15	Back Side	RMC 12.2K	DSI-2	-	-	1413/1732.6	25.00	24.08	0.194	0.044	1.24	0.240
	(Top)	15	Top Edge	RMC 12.2K	DSI-2	-	-	1413/1732.6	25.00	24.08	0.169	0.028	1.24	0.209





WCDMA V	Main	15	Back Side	RMC 12.2K	DSI-2	-	-	4183/836.6	25.00	24.31	0.215	0.040	1.17	0.252
	(Bottom)	15	Bottom Edge	RMC 12.2K	DSI-2	-	-	4183/836.6	25.00	24.31	0.117	0.015	1.17	0.137
	Second	15	Back Side	RMC 12.2K	DSI-2	-	-	4183/836.6	25.00	24.26	0.124	-0.069	1.19	0.147
	(Top)	15	Top Edge	RMC 12.2K	DSI-2	-	-	4183/836.6	25.00	24.26	0.080	-0.010	1.19	0.095
LTE 2	Main	15	Back Side	QPSK	DSI-2	1	50	18900/1880	25.50	24.28	0.388	0.010	1.32	0.514
	(Bottom)	15	Bottom Edge	QPSK	DSI-2	1	50	18900/1880	25.50	24.28	0.812	0.028	1.32	1.075
	Second	15	Back Side	QPSK	DSI-2	1	50	19100/1900	25.50	24.17	0.285	0.034	1.36	0.387
	(Top)	15	Top Edge	QPSK	DSI-2	1	50	19100/1900	25.50	24.17	0.194	-0.130	1.36	0.264
LTE 4	Main	15	Back Side	QPSK	DSI-2	1	50	20050/1720	25.50	24.10	0.403	0.017	1.38	0.556
	(Bottom)	15	Bottom Edge	QPSK	DSI-2	1	50	20050/1720	25.50	24.10	0.496	-0.090	1.38	0.685
	Second	15	Back Side	QPSK	DSI-2	1	50	20050/1720	25.50	24.16	0.201	0.021	1.36	0.274
	(Top)	15	Top Edge	QPSK	DSI-2	1	50	20050/1720	25.50	24.16	0.271	-0.110	1.36	0.369
LTE 5	Main	15	Back Side	QPSK	DSI-2	1	25	20450/829	25.50	24.56	0.226	0.105	1.24	0.281
	(Bottom)	15	Bottom Edge	QPSK	DSI-2	1	25	20450/829	25.50	24.56	0.098	-0.104	1.24	0.122
	Second	15	Back Side	QPSK	DSI-2	1	25	20525/836.5	25.50	24.44	0.143	0.106	1.28	0.183
	(Top)	15	Top Edge	QPSK	DSI-2	1	25	20525/836.5	25.50	24.44	0.059	0.032	1.28	0.075
LTE 7	Main	15	Back Side	QPSK	DSI-2	1	50	20850/2510	25.00	23.97	0.354	0.000	1.27	0.449
	(Bottom)	15	Bottom Edge	QPSK	DSI-2	1	50	20850/2510	25.00	23.97	0.472	0.047	1.27	0.598
	Second	15	Back Side	QPSK	DSI-2	1	50	21350/2560	23.50	22.59	0.540	0.022	1.23	0.666
	(Top)	15	Top Edge	QPSK	DSI-2	1	50	21350/2560	23.50	22.59	0.692	0.042	1.23	0.853
LTE 12	Main	15	Back Side	QPSK	DSI-2	1	25	23130/711	25.50	24.63	0.187	0.048	1.22	0.228
	(Bottom)	15	Bottom Edge	QPSK	DSI-2	50%	13	23060/704	24.50	23.67	0.101	-0.030	1.21	0.122
LTE 38	Main	15	Back Side	QPSK	DSI-2	1	50	38150/2610	25.50	24.50	0.274	-0.010	1.26	0.345
	(Bottom)	15	Bottom Edge	QPSK	DSI-2	1	50	38150/2610	25.50	24.50	0.301	0.045	1.26	0.379
	Second	15	Back Side	QPSK	DSI-2	1	50	38150/2610	25.50	24.66	0.525	0.128	1.21	0.637
	(Top)	15	Top Edge	QPSK	DSI-2	1	50	38150/2610	25.50	24.66	0.617	0.069	1.21	0.749
LTE 41	Main	15	Back Side	QPSK	DSI-2	1	50	40140/2545	25.50	24.35	0.178	-0.010	1.30	0.232
	(Bottom)	15	Bottom Edge	QPSK	DSI-2	1	50	40140/2545	25.50	24.35	0.412	0.033	1.30	0.537
	Second	15	Back Side	QPSK	DSI-2	1	50	40140/2545	25.50	24.45	0.523	-0.080	1.27	0.666
	(Top)	15	Top Edge	QPSK	DSI-2	1	50	40670/2598	25.50	24.45	0.685	-0.027	1.27	0.872
LTE 66	Main	15	Back Side	QPSK	DSI-2	1	50	132072/1720	25.50	24.18	0.512	-0.062	1.36	0.694
	(Bottom)	15	Bottom Edge	QPSK	DSI-2	50%	0	132572/1770	24.50	23.07	0.361	0.010	1.39	0.502

### 10.3 Simultaneous Transmission Analysis

Simultaneous Transmission Configurations	Head	Body-worn	Hotspot	Product Specific 10-g SAR
WWAN +BT	Yes	Yes	Yes	Yes
WWAN + Wi-Fi 2.4G	Yes	Yes	Yes	Yes
WWAN+ Wi-Fi 5G	Yes	Yes	Yes	Yes
Wi-Fi 2.4G +BT	Yes	Yes	Yes	Yes
Wi-Fi 5G +BT	Yes	Yes	Yes	Yes
WWAN + Bluetooth + Wi-Fi 2.4G	Yes	Yes	Yes	Yes
WWAN+ Bluetooth + Wi-Fi 5G	Yes	Yes	Yes	Yes

**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/10g</sub> Value for WWAN

SAR <sub>1g/10g</sub> (W/kg) Test Position		GSM	GSM	WCD	WCD	WCD	LTE	LTE	LTE	LTE	LTE	LTE	LTE	LTE	MAX.
		850	1900	MA Band II	MA Band IV	MA Band V	FDD 2	FDD 4	FDD 5	FDD 7	FDD 12	TDD 38	TDD 41	FDD 66	SAR <sub>1g/ 10g</sub>
Head	Left Cheek	0.695	0.680	0.440	0.316	0.466	0.677	0.572	0.447	0.325	0.506	0.365	0.595	0.765	0.765
	Left Tilt	0.521	0.714	0.547	0.257	0.421	0.731	0.505	0.417	0.358	0.432	0.526	0.751	0.680	0.751
	Right Cheek	0.818	1.005	0.965	0.910	0.726	1.093	1.042	0.631	0.693	0.670	0.798	0.951	1.074	1.093
	Right Tilt	0.730	1.017	0.799	0.456	0.817	1.071	0.667	0.896	1.011	0.466	1.048	1.035	0.796	1.071
Body worn	Back Side	0.255	0.236	0.554	0.554	0.280	0.687	0.590	0.356	1.073	0.282	1.046	1.072	0.684	1.073
	Front Side	0.234	0.130	0.312	0.316	0.202	0.344	0.320	0.284	0.469	0.265	0.525	0.516	0.286	0.525
Hotspot	Back Side	0.400	0.562	0.660	0.599	0.537	0.475	0.651	0.473	0.559	0.248	0.710	0.541	0.538	0.710
	Front Side	0.343	0.470	0.470	0.576	0.218	0.537	0.483	0.217	0.822	0.184	0.749	0.693	0.277	0.822
	Left Edge	0.134	0.302	0.441	0.422	0.085	0.339	0.282	0.207	0.524	0.111	0.210	0.227	0.295	0.524
	Right Edge	0.308	0.073	0.092	0.090	0.154	0.114	0.083	0.154	0.101	0.068	0.000	0.000	0.087	0.308
	Top Edge	0.268	0.518	0.537	0.392	0.413	0.498	0.475	0.180	0.686	0.171	0.920	0.753	0.490	0.920
	Bottom Edge	0.242	0.963	1.016	0.944	0.401	1.088	0.738	0.404	0.584	0.430	0.686	0.559	0.978	1.088
Product Specific 10-g SAR	Back Side	NA	NA	NA	NA	NA	NA	1.597	NA	NA	NA	1.817	1.442	NA	1.817
	Front Side	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Left Edge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Right Edge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Top Edge	NA	NA	NA	NA	NA	NA	NA	NA	1.989	NA	1.179	1.200	NA	1.989
	Bottom Edge	NA	NA	2.080	1.851	NA	1.395	1.940	NA	NA	NA	NA	NA	2.425	2.425

The maximum SAR<sub>1g/10g</sub> Value for Wi-Fi 5G

SAR <sub>1g/10g</sub> (W/kg)		Wi-Fi (U-NII-1)	Wi-Fi (U-NII-2A)	Wi-Fi (U-NII-2C)	Wi-Fi (U-NII-3)	MAX. SAR <sub>1g/10g</sub>
Test Position						
Head	Left, Cheek	0.420	0.334	0.428	0.311	0.428
	Left, Tilt	0.507	0.439	0.602	0.481	0.602
	Right, Cheek	0.342	0.351	0.407	0.304	0.407
	Right, Tilt	0.374	0.380	0.467	0.376	0.467
Body worn	Back Side	0.160	0.166	0.267	0.373	0.373
	Front Side	0.102	0.097	0.244	0.206	0.244
Hotspot	Back Side	0.195	NA	NA	0.247	0.247
	Front Side	0.057	NA	NA	0.189	0.189
	Left Edge	0.051	NA	NA	0.041	0.051
	Right Edge	0.085	NA	NA	0.152	0.152
	Top Edge	0.310	NA	NA	0.452	0.452
	Bottom Edge	NA	NA	NA	NA	NA
Product Specific 10-g SAR	Back Side	NA	0.265	0.665	NA	0.665
	Front Side	NA	0.326	0.930	NA	0.930
	Left Edge	NA	NA	NA	NA	NA
	Right Edge	NA	0.084	0.339	NA	0.339
	Top Edge	NA	1.068	1.454	NA	1.454
	Bottom Edge	NA	NA	NA	NA	NA



**WWAN + WLAN 2.4G/WLAN 5G/BT**

SAR <sub>1g/10g</sub> (W/kg)		WWAN	Wi-Fi 2.4G	Wi-Fi 5G	BT	MAX. ΣSAR <sub>1g/10g</sub>							
		MAX. SAR <sub>1g/10g</sub>	MAX. SAR <sub>1g/10g</sub>	MAX. SAR <sub>1g/10g</sub>		1	2	3	4	1+2	1+3	1+4	2+4
Test Position		1	2	3	4	1+2	1+3	1+4	2+4	3+4	1+2+4	1+3+4	
Head	Left Cheek	0.765	0.422	0.428	0.069	1.187	1.193	0.834	0.491	0.497	1.256	1.262	
	Left Tilt	0.751	0.383	0.602	0.144	1.134	1.353	0.895	0.527	0.746	1.278	1.497	
	Right Cheek	1.093	0.211	0.407	0.040	1.304	1.500	1.133	0.251	0.447	1.344	1.540	
	Right Tilt	1.071	0.233	0.467	0.054	1.304	1.538	1.125	0.287	0.521	1.358	1.592	
Body worn	Back Side	1.073	0.211	0.373	0.021	1.284	1.446	1.094	0.232	0.394	1.305	1.467	
	Front Side	0.525	0.144	0.244	NA	0.669	0.769	0.525	0.144	0.244	0.669	0.769	
Hotspot	Back Side	0.710	0.160	0.247	0.021	0.870	0.957	0.731	0.181	0.268	0.891	0.978	
	Front Side	0.822	0.326	0.189	NA	1.148	1.011	0.822	0.326	0.189	1.148	1.011	
	Left Edge	0.524	0.043	0.051	NA	0.567	0.575	0.524	0.043	0.051	0.567	0.575	
	Right Edge	0.308	0.054	0.152	NA	0.362	0.460	0.308	0.054	0.152	0.362	0.460	
	Top Edge	0.920	0.229	0.452	NA	1.149	1.372	0.920	0.229	0.452	1.149	1.372	
	Bottom Edge	1.088	NA	NA	NA	1.088	1.088	1.088	NA	NA	1.088	1.088	
Product Specific 10-g SAR	Back Side	1.817	NA	0.665	NA	1.817	2.482	1.817	NA	0.665	1.817	2.482	
	Front Side	NA	NA	0.930	NA	NA	0.930	NA	NA	0.930	NA	0.930	
	Left Edge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Right Edge	NA	NA	0.339	NA	NA	0.339	NA	NA	0.339	NA	0.339	
	Top Edge	1.989	NA	1.454	NA	1.989	3.443	1.989	NA	1.454	1.989	3.443	
	Bottom Edge	2.425	NA	NA	NA	2.425	2.425	2.425	NA	NA	2.425	2.425	

Note: 1.The value with blue color is the maximum ΣSAR<sub>1g/10g</sub> Value.

2.MAX. ΣSAR<sub>1g/10g</sub> =Unlicensed SAR<sub>MAX</sub> +Licensed SAR<sub>MAX</sub>

MAX. ΣSAR<sub>1g</sub> = 1.592W/kg<1.6W/kg and MAX. ΣSAR<sub>10g</sub> =3.443W/kg<4 W/kg, so the Simultaneous transimtion SAR with volum scan are not required for WWAN and WLAN 2.4G / WLAN 5G/BT Antenna.



## 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

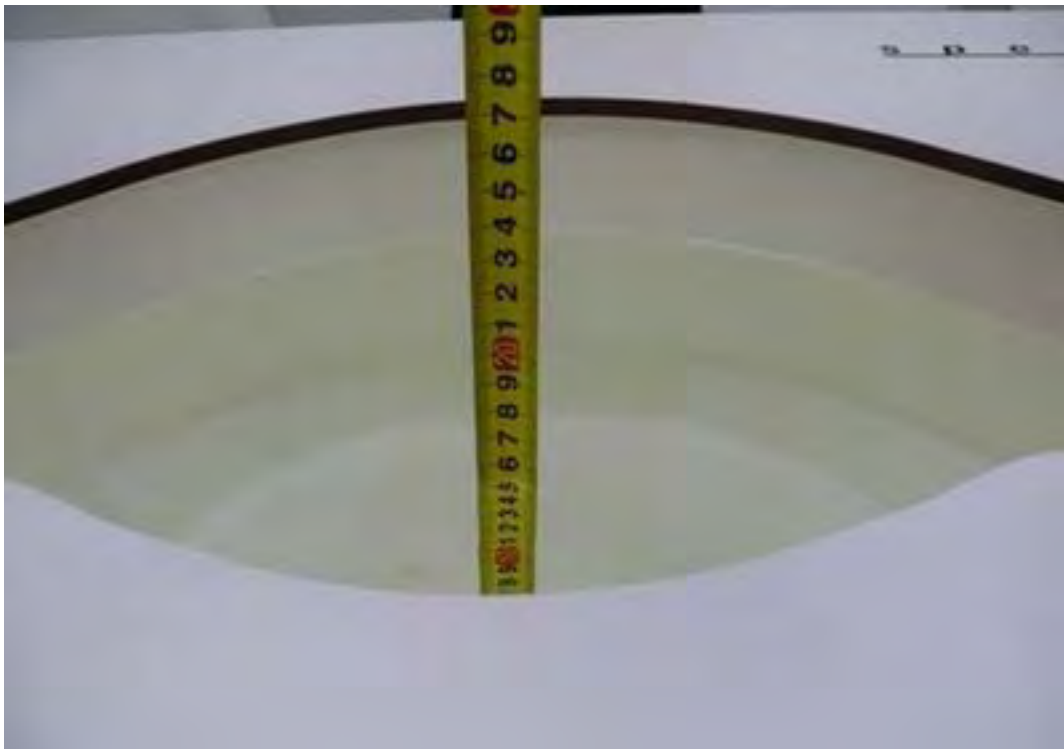


### Tissue Simulating Liquids

For the measurement of the field distribution inside the flat phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For Head and Body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Picture 3 and Picture 4.



Picture 3: liquid depth in the head Phantom



Picture 4: Liquid depth in the flat Phantom



## ANNEX B: System Check Results

### Plot 1 System Performance Check at 750 MHz TSL

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3

Date: 5/28/2021

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.88 \text{ S/m}$ ;  $\epsilon_r = 42.3$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.78, 9.78, 9.78); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=15mm, Pin=250mW/Area Scan (4x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.29 W/kg

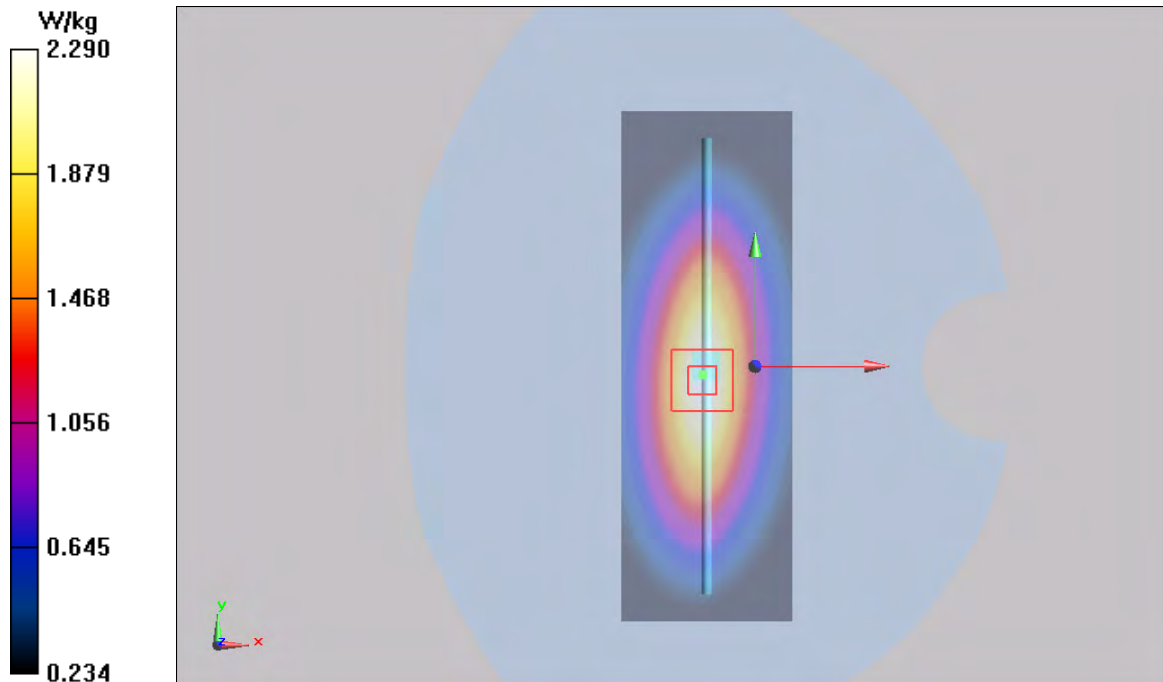
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.653 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 3.16 W/kg

**SAR(1 g) = 2.13 W/kg; SAR(10 g) = 1.41 W/kg**

Maximum value of SAR (measured) = 2.29 W/kg



**Plot 2 System Performance Check at 835 MHz TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2**

Date: 6/5/2021

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.89 \text{ S/m}$ ;  $\epsilon_r = 41.3$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.38, 9.38, 9.38); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=15mm, Pin=250mW/Area Scan (4x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.59 mW/g

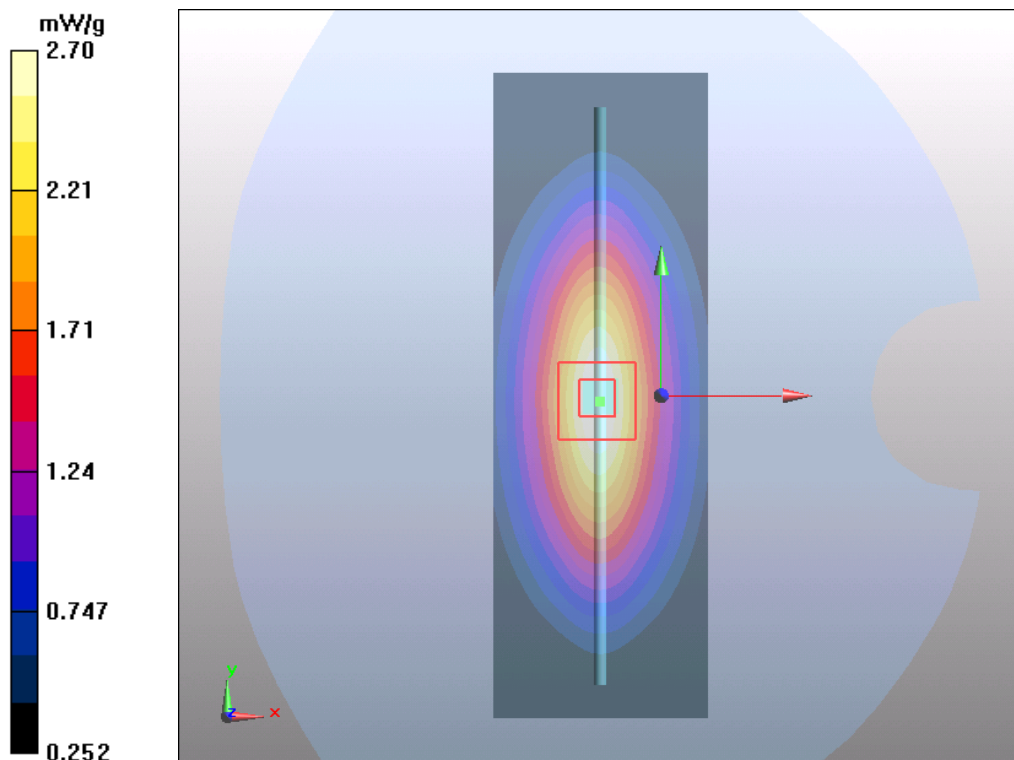
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.3 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.67 W/kg

**SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.65 mW/g**

Maximum value of SAR (measured) = 2.70 mW/g



**Plot 3 System Performance Check at 835 MHz TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2**

Date: 6/7/2021

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.92 \text{ S/m}$ ;  $\epsilon_r = 41.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.38, 9.38, 9.38); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=15mm, Pin=250mW/Area Scan (4x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.64 mW/g

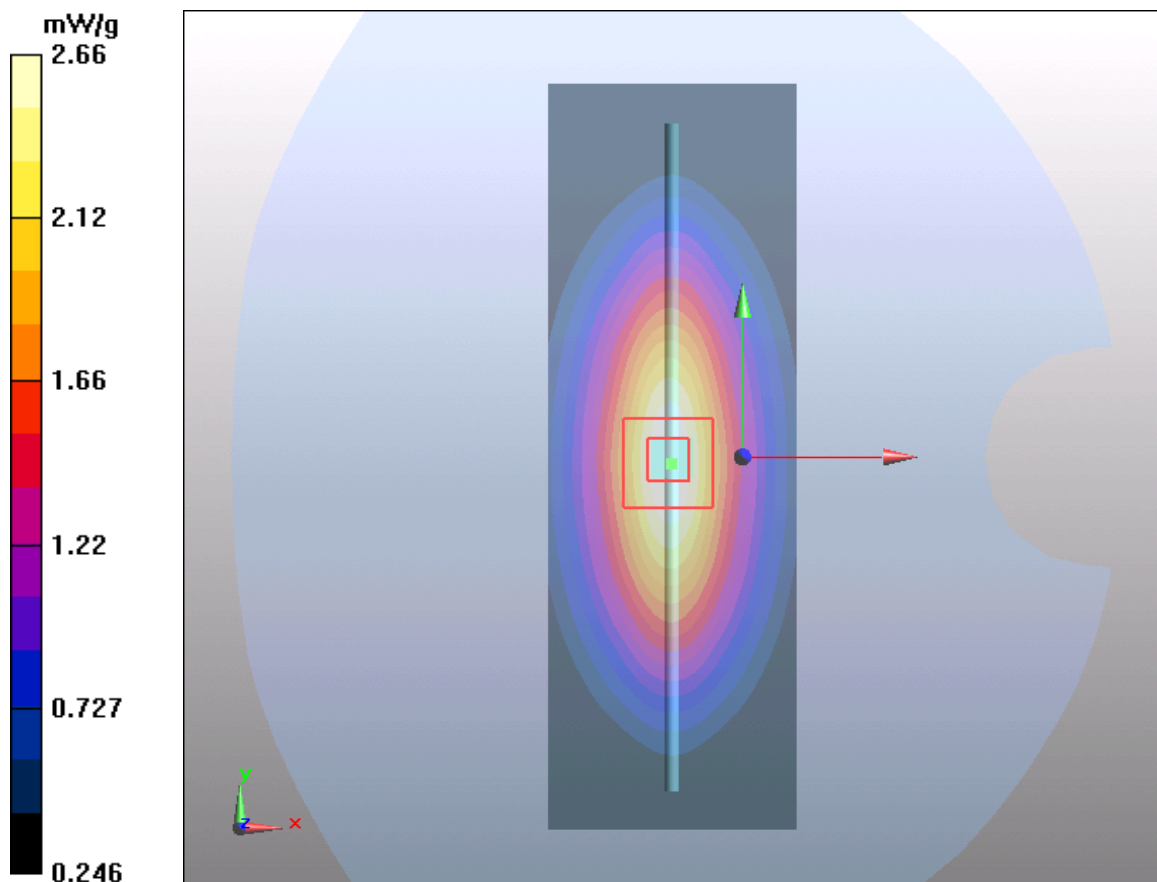
**d=15mm, Pin=250mW/Zoom Scan(5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 3.67 W/kg

**SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.61 mW/g**

Maximum value of SAR (measured) = 2.66 mW/g



**Plot 4 System Performance Check at 1750 MHz TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2**

Date: 6/1/2021

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.35$  S/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 9.78 mW/g

**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm,

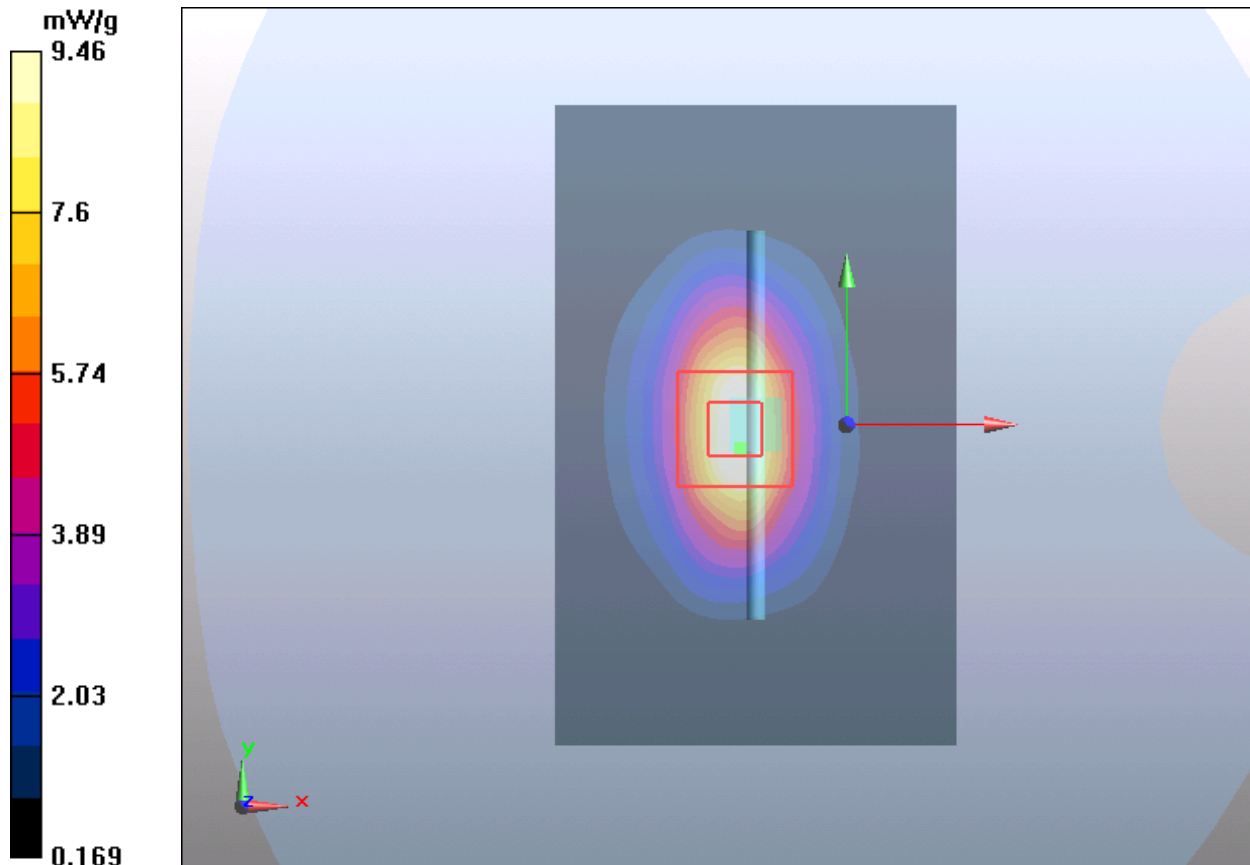
dz=5mm

Reference Value = 80 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 15.5 W/kg

**SAR(1 g) = 8.95 mW/g; SAR(10 g) = 4.5 mW/g**

Maximum value of SAR (measured) = 9.46 mW/g



**Plot 5 System Performance Check at 1750 MHz TSL****DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2**

Date: 6/2/2021

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.34$  S/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 9.77 mW/g

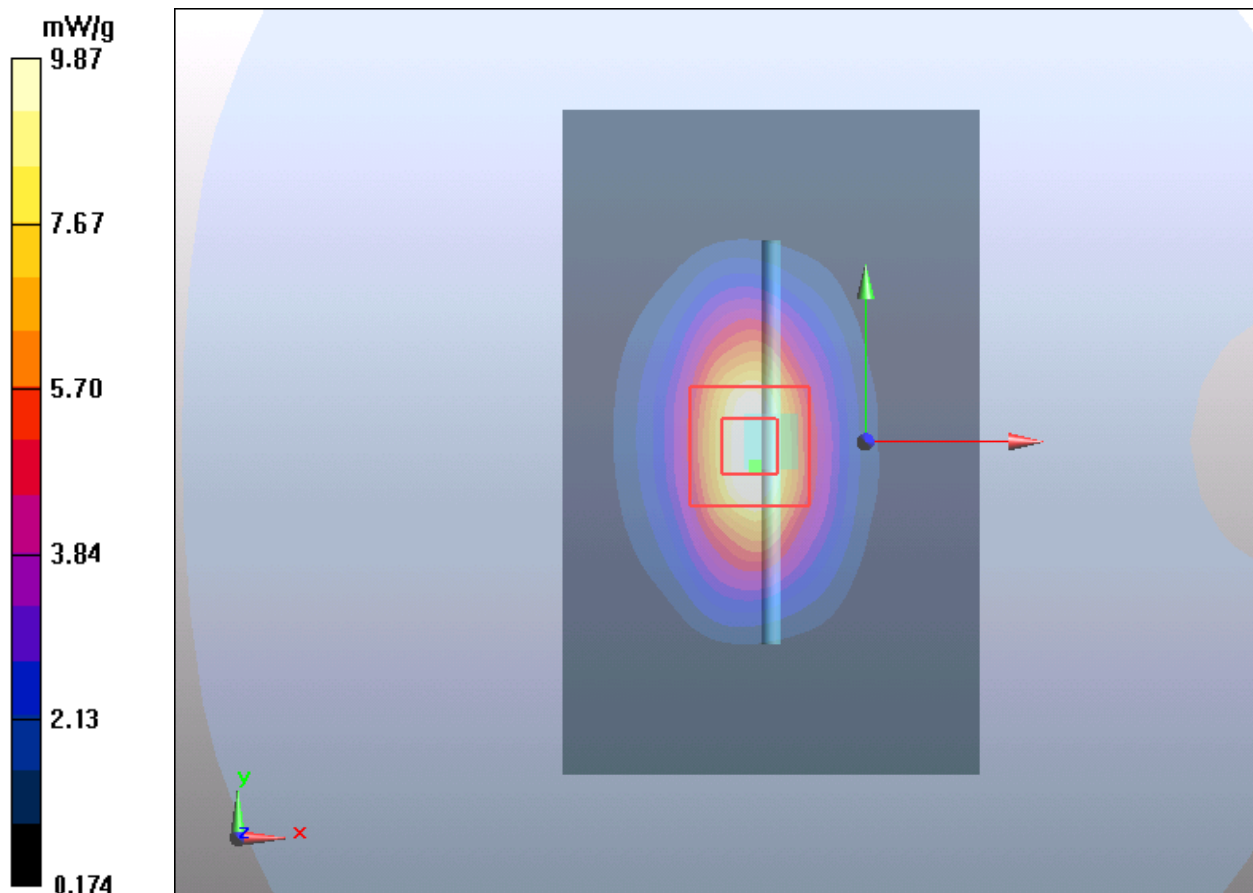
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 15.51 W/kg

**SAR(1 g) = 9.11 mW/g; SAR(10 g) = 4.77 mW/g**

Maximum value of SAR (measured) = 9.87 mW/g



**Plot 6 System Performance Check at 1750 MHz TSL****DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2**

Date: 6/14/2021

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.36$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 9.11 mW/g

**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm,

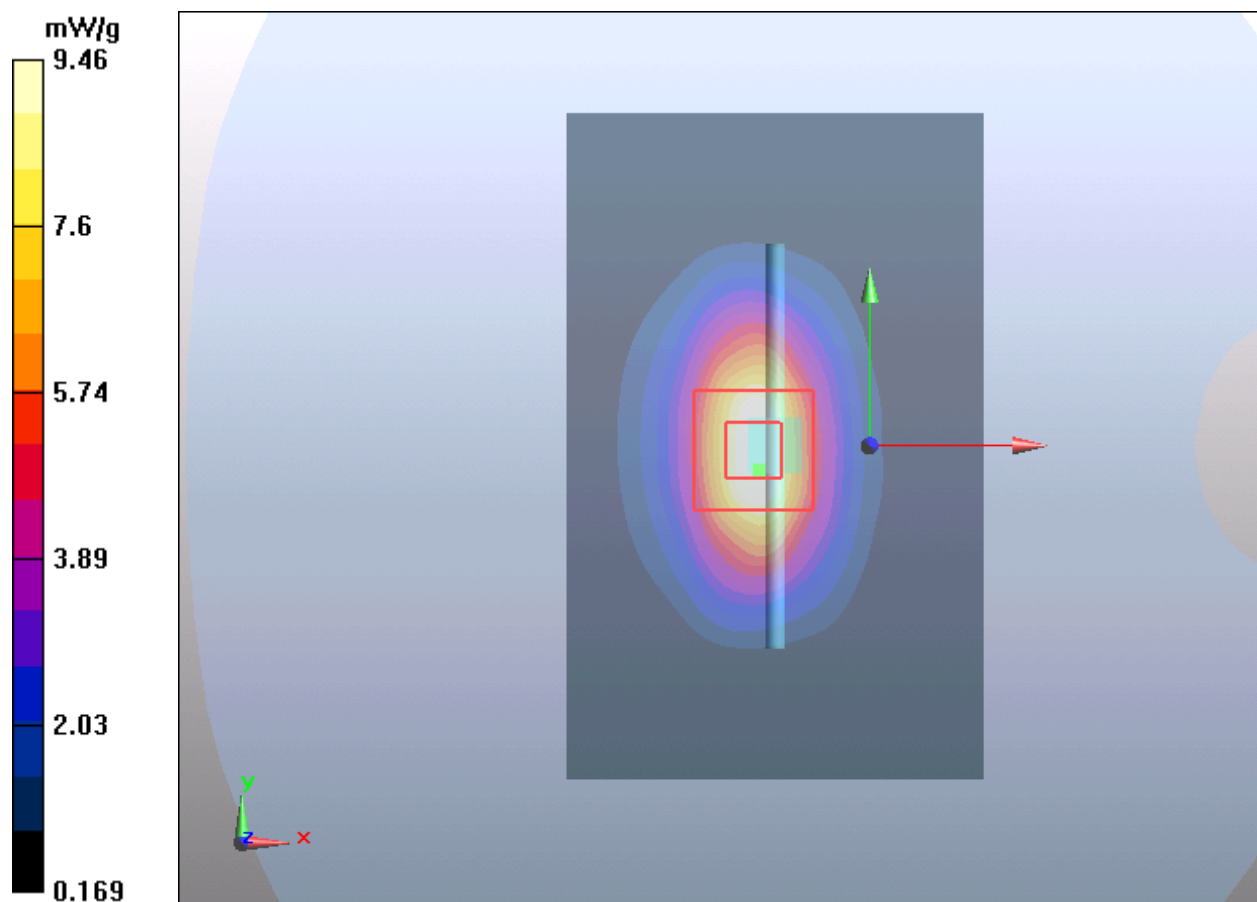
dz=5mm

Reference Value = 80 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 15.47 W/kg

**SAR(1 g) = 8.96 mW/g; SAR(10 g) = 4.75 mW/g**

Maximum value of SAR (measured) = 9.46 mW/g



**Plot 7 System Performance Check at 1900 MHz TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2**

Date: 5/30/2021

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.41$  S/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.90, 7.90, 7.90); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 11.3 mW/g

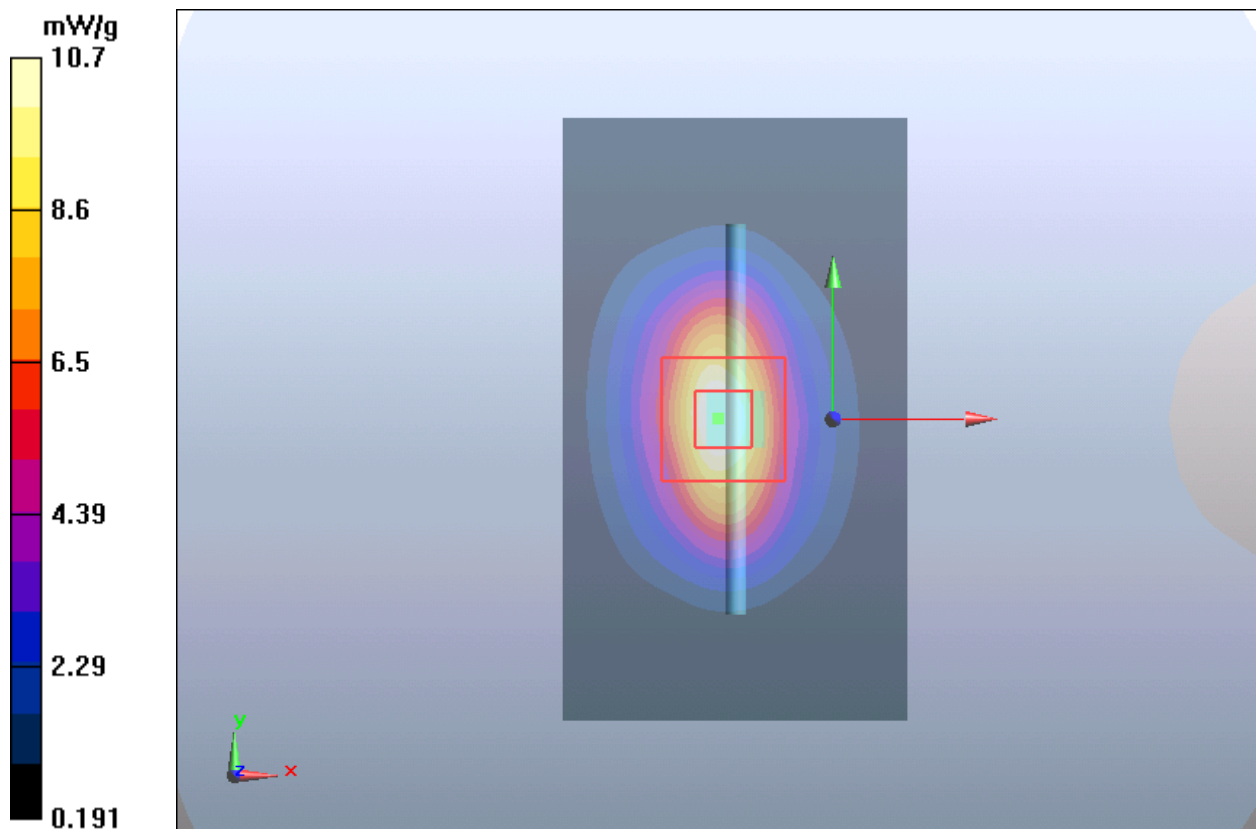
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.5 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.88 mW/g; SAR(10 g) = 4.9 mW/g**

Maximum value of SAR (measured) = 10.7 mW/g



**Plot 8 System Performance Check at 1900 MHz TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2**

Date: 5/31/2021

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.43$  S/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.90, 7.90, 7.90); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 11.23 mW/g

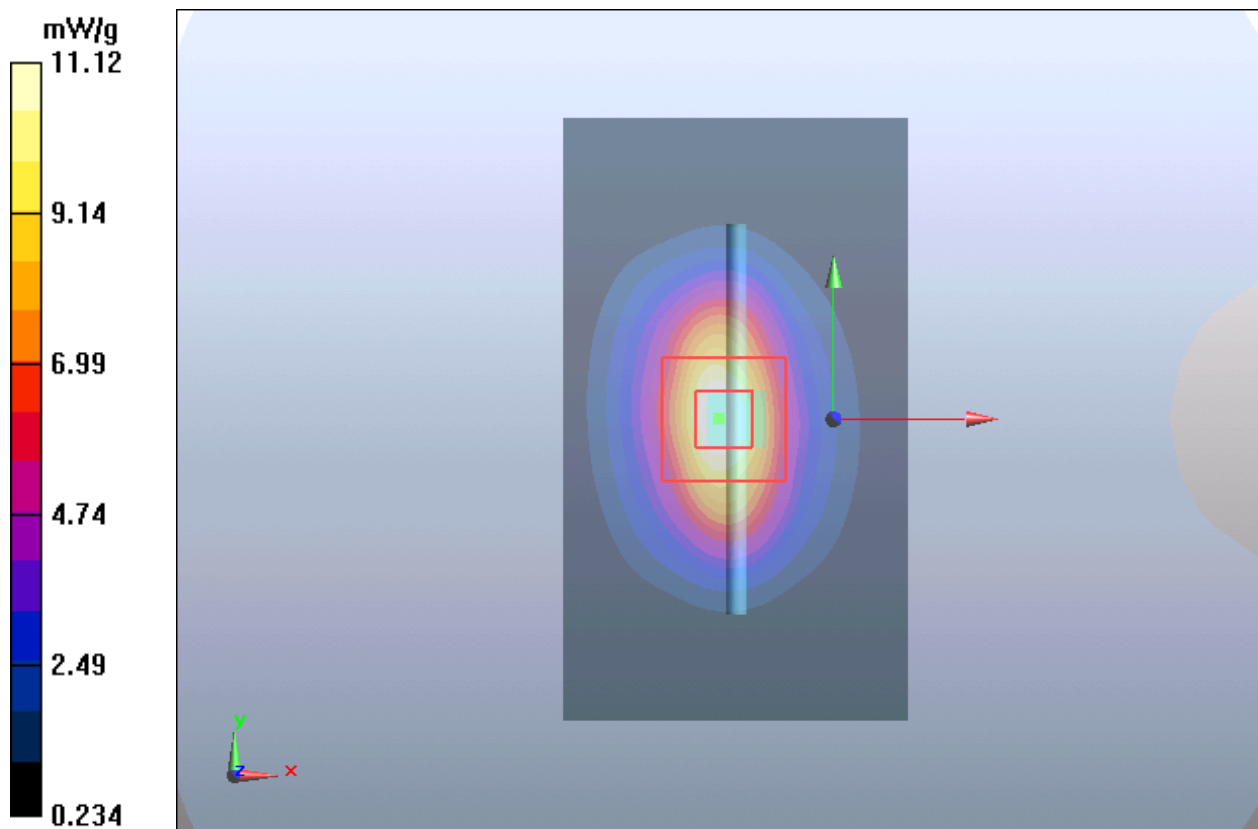
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.0 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.85 mW/g; SAR(10 g) = 4.93 mW/g**

Maximum value of SAR (measured) = 11.12 mW/g





**Plot 9 System Performance Check at 2450 MHz TSL**

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2**

Date: 6/11/2021

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.81$  S/m;  $\epsilon_r = 38.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.54, 7.54, 7.54); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 18.2 mW/g

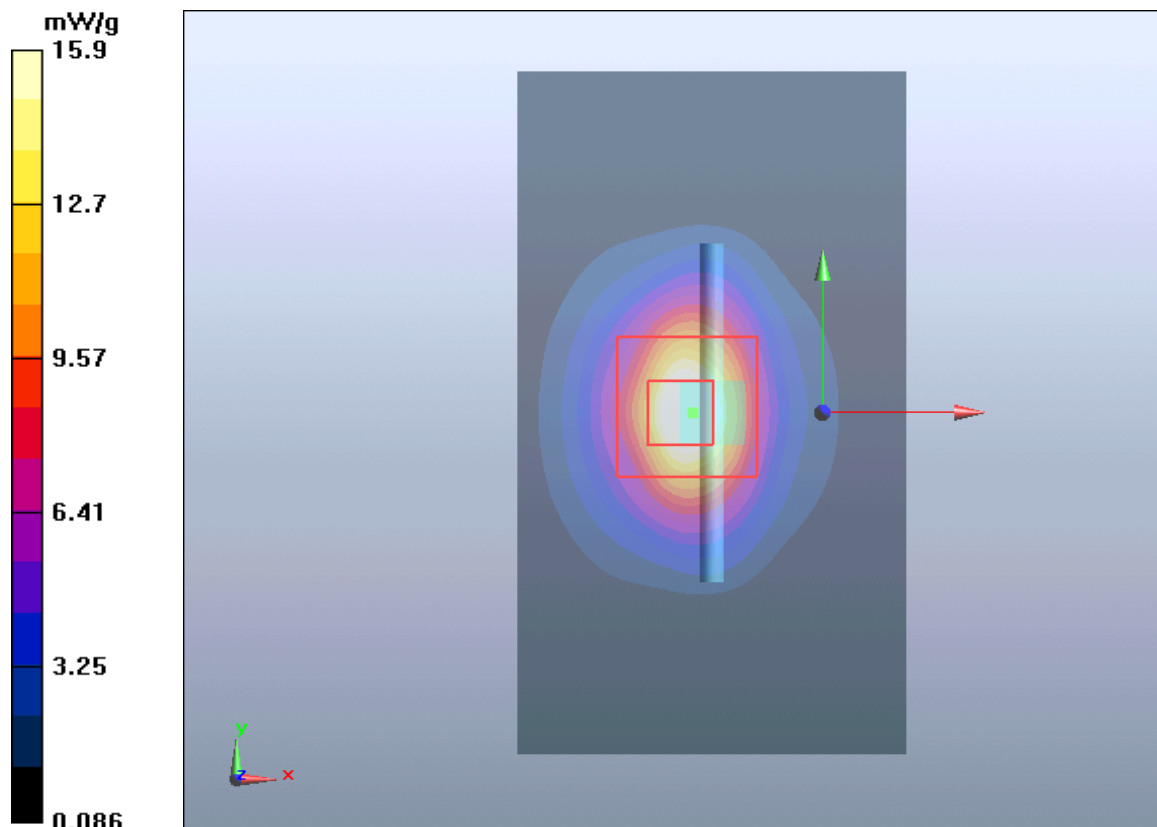
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.8 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 30 W/kg

**SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.22 mW/g**

Maximum value of SAR (measured) = 15.9 mW/g



**Plot 10 System Performance Check at 2600 MHz TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2**

Date: 6/3/2021

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.01$  S/m;  $\epsilon_r = 38.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.26, 7.26, 7.26); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.439 mW/g

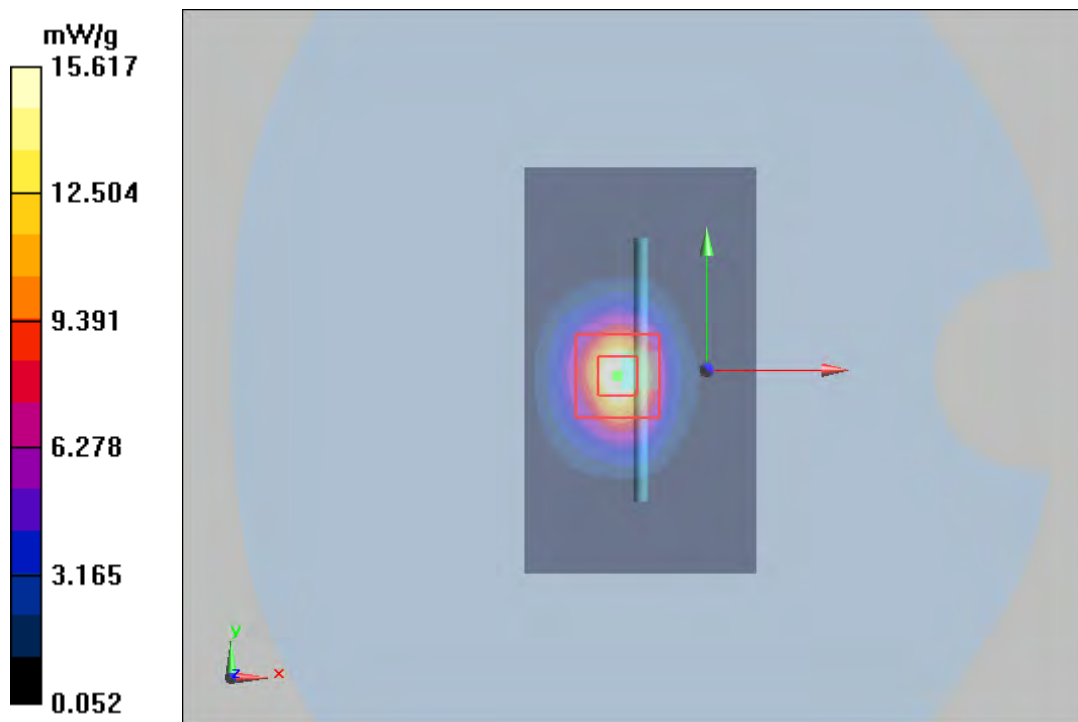
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.07 mW/g**

Maximum value of SAR (measured) = 15.617 mW/g



**Plot 11 System Performance Check at 2600 MHz TSL****DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2**

Date: 6/4/2021

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.94$  S/m;  $\epsilon_r = 38.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.26, 7.26, 7.26); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.59 mW/g

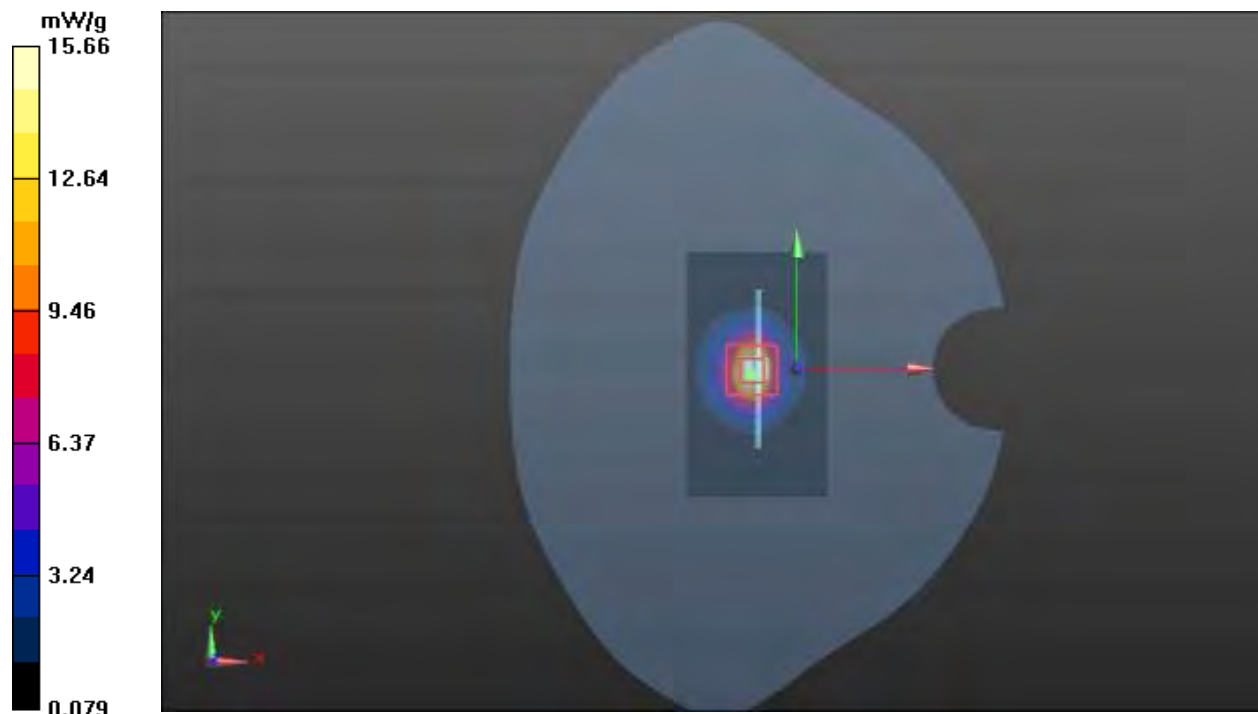
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.88 mW/g; SAR(10 g) = 6.09 mW/g**

Maximum value of SAR (measured) = 15.66 mW/g



**Plot 12 System Performance Check at 2600 MHz TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2**

Date: 6/8/2021

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 38.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.26, 7.26, 7.26); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.32 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm,

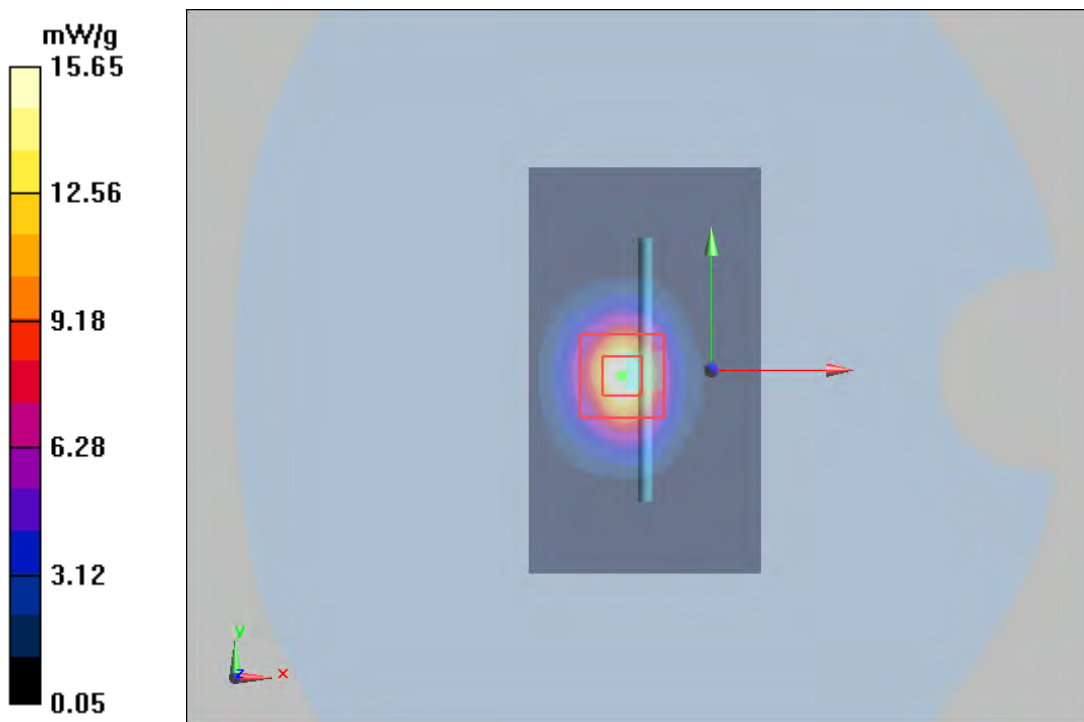
dz=5mm

Reference Value = 87.465 V/m; Power Drift = 0.146 dB

Peak SAR (extrapolated) = 31.85 W/kg

**SAR(1 g) = 13.94 mW/g; SAR(10 g) = 6.11 mW/g**

Maximum value of SAR (measured) = 15.65 mW/g



**Plot 13 System Performance Check at 2600 MHz TSL****DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2**

Date: 6/9/2021

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.95$  mho/m;  $\epsilon_r = 38.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.26, 7.26, 7.26); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (6x10x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.59 mW/g

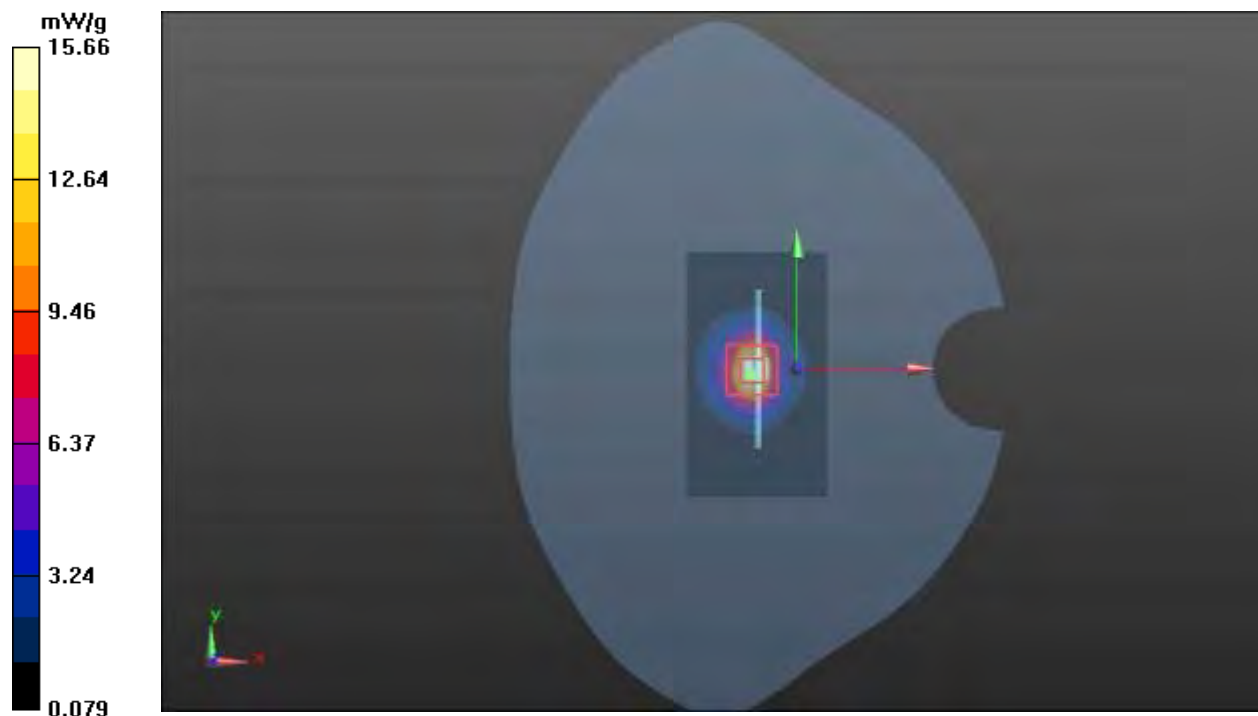
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.09 mW/g**

Maximum value of SAR (measured) = 15.66 mW/g



**Plot 14 System Performance Check at 2600 MHz TSL****DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2**

Date: 6/10/2021

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.96$  mho/m;  $\epsilon_r = 38.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.26, 7.26, 7.26); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (6x10x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.439 mW/g

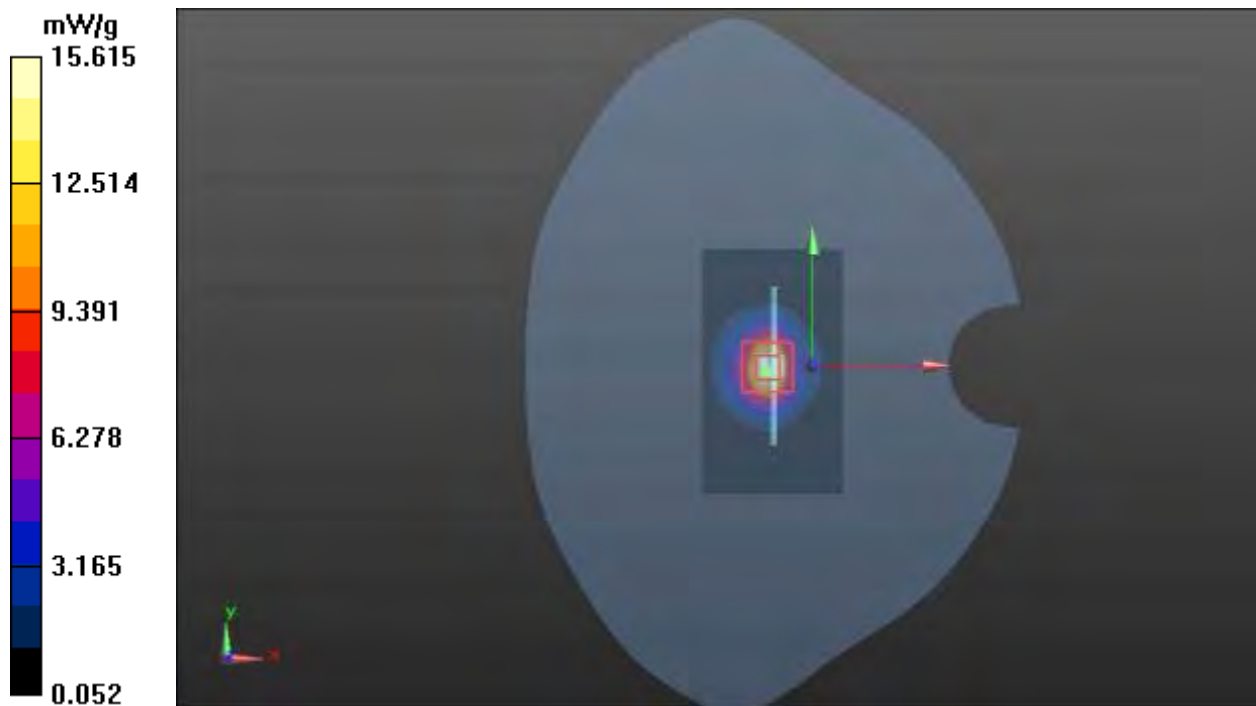
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.08 mW/g**

Maximum value of SAR (measured) = 15.615 mW/g



**Plot 15 System Performance Check at 5250 MHz TSL**

**DUT: Dipole 5250 MHz; Type: D5GHzV2; Serial: D5GHzV2**

Date: 6/13/2021

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.80$  S/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.55, 5.55, 5.55); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=100mW/Area Scan (6x10x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 9.14 mW/g

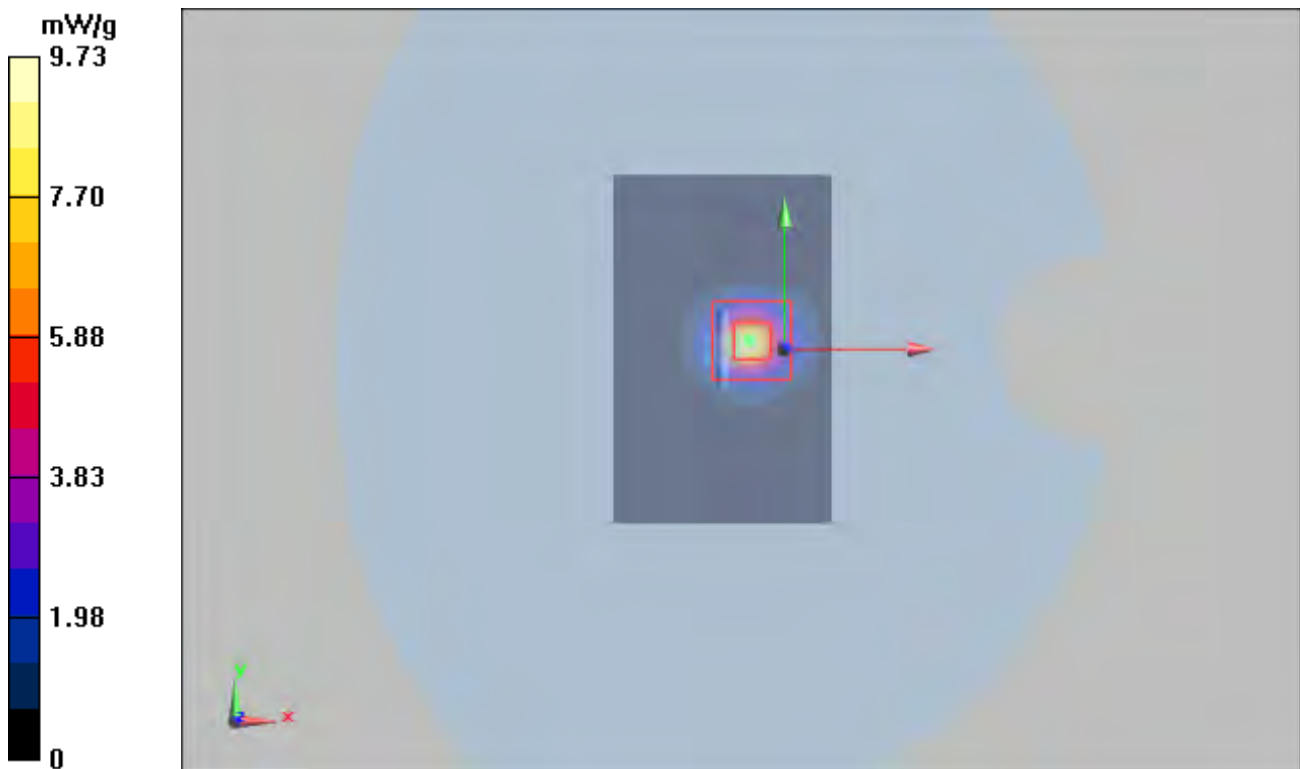
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 33.6 V/m; Power Drift = -0.095 dB

Peak SAR (extrapolated) = 52.2 W/kg

**SAR(1 g) = 7.87 mW/g; SAR(10 g) = 2.25 mW/g**

Maximum value of SAR (measured) = 9.73 mW/g



**Plot 16 System Performance Check at 5600 MHz TSL****DUT: Dipole 5600 MHz; Type: D5GHzV2; Serial: D5GHzV2**

Date: 6/23/2021

Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.08$  S/m;  $\epsilon_r = 34.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.97, 4.97, 4.97); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=100mW/Area Scan (6x10x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 8.25 mW/g

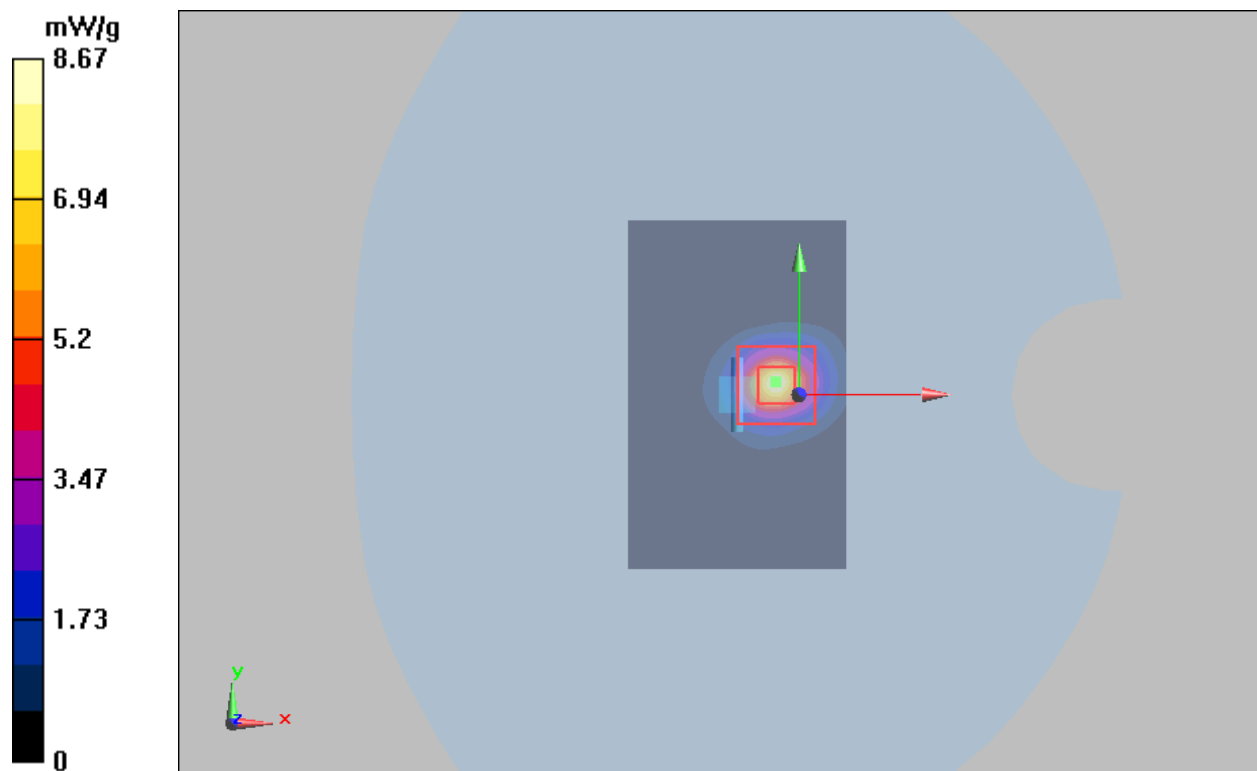
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 23.1 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 22.9 W/kg

**SAR(1 g) = 7.67 mW/g; SAR(10 g) = 2.27 mW/g**

Maximum value of SAR (measured) = 8.67 mW/g





**Plot 17 System Performance Check at 5750 MHz TSL**

**DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: D5GHzV2**

Date: 6/23/2021

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5750 \text{ MHz}$ ;  $\sigma = 5.21 \text{ S/m}$ ;  $\epsilon_r = 35.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=100mW/Area Scan (6x10x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 8.31 mW/g

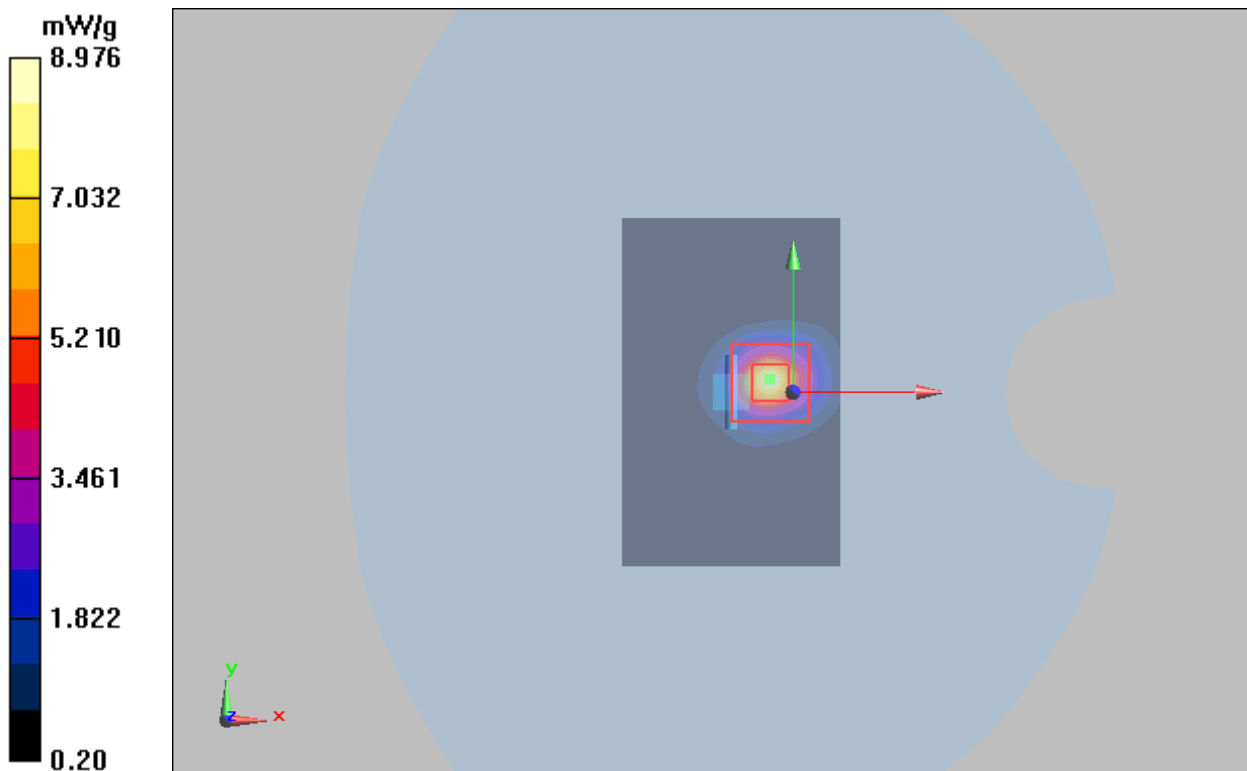
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 23.1 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 23.4 W/kg

**SAR(1 g) = 7.66 mW/g; SAR(10 g) = 2.27 mW/g**

Maximum value of SAR (measured) = 8.976 mW/g



## ANNEX C: Highest Graph Results

### Plot 18 GSM 850 Right Cheek High

Date: 6/5/2021

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.3

30042 Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.953$  S/m;  $\epsilon_r = 39.762$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.38, 9.38, 9.38); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Cheek High/Area Scan (8x15x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.19 W/kg

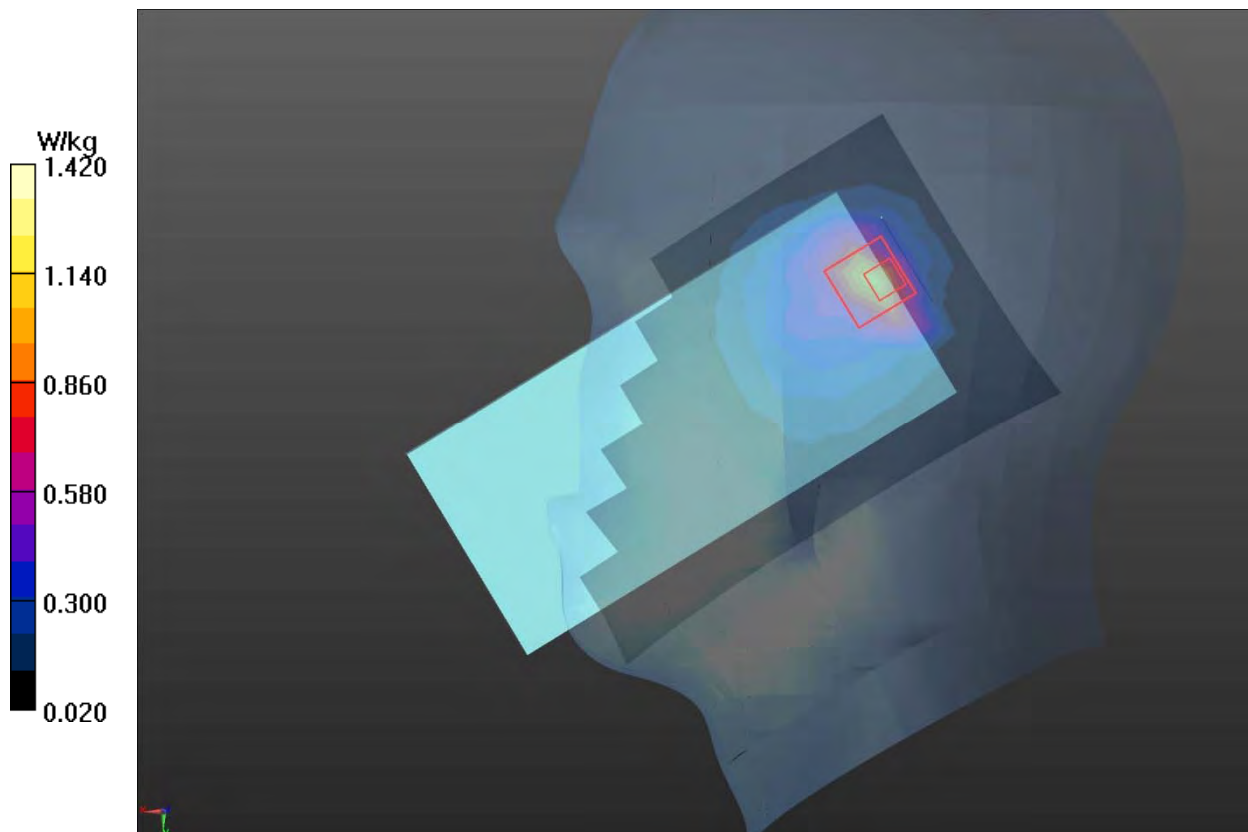
**Right Cheek High /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.67 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.93 W/kg

**SAR(1 g) = 0.721 W/kg; SAR(10 g) = 0.365 W/kg**

Maximum value of SAR (measured) = 1.42 W/kg



## Plot 19 GSM 1900 Right Tilt Middle

Date: 5/30/2021

Communication System: UID 0, GSM (0); Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.42$  S/m;  $\epsilon_r = 38.948$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.90, 7.90, 7.90); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Tilt Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.763 W/kg

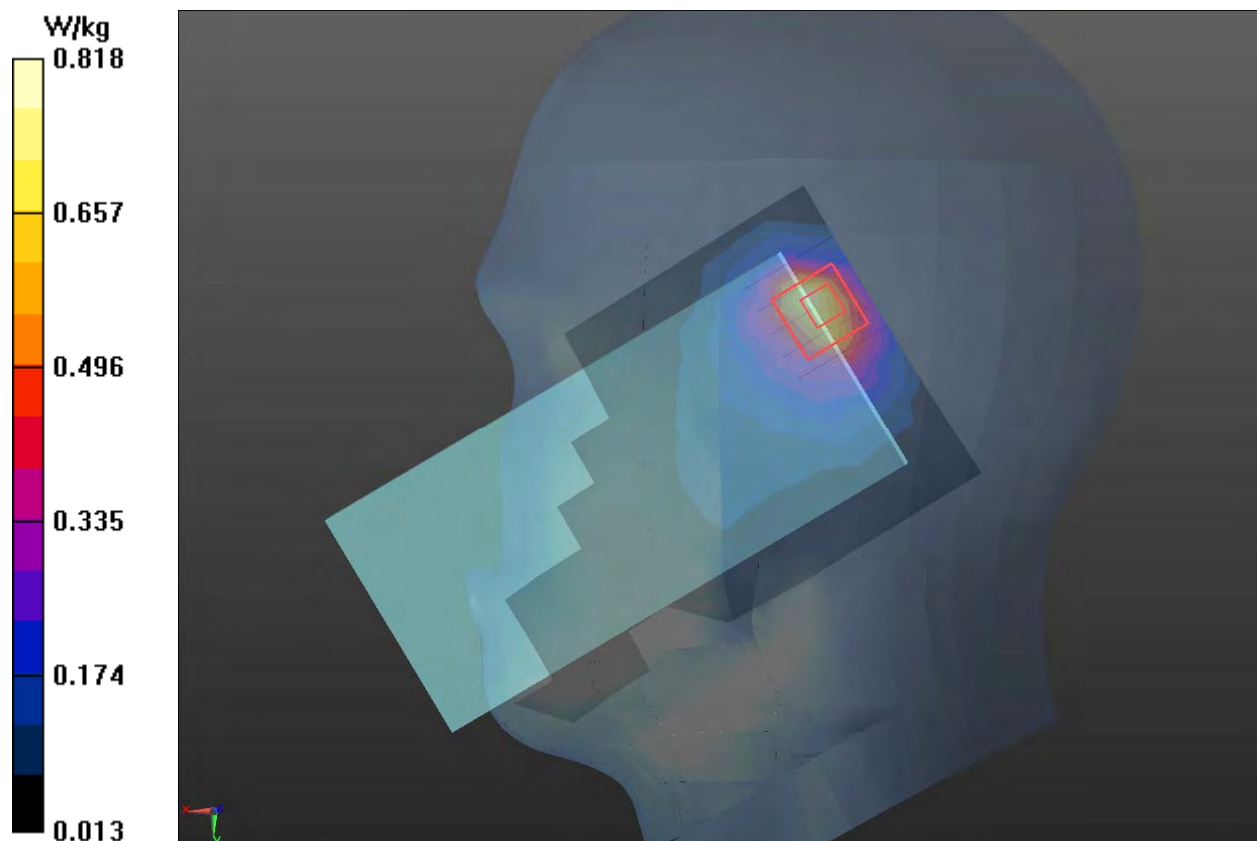
**Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.03 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.41 W/kg

**SAR(1 g) = 0.732 W/kg; SAR(10 g) = 0.371 W/kg**

Maximum value of SAR (measured) = 0.818 W/kg



## Plot 20 UMTS Band II Right Cheek High

Date: 5/30/2021

Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1908$  MHz;  $\sigma = 1.44$  S/m;  $\epsilon_r = 38.828$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.90, 7.90, 7.90); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Cheek High/Area Scan (8x15x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.16 W/kg

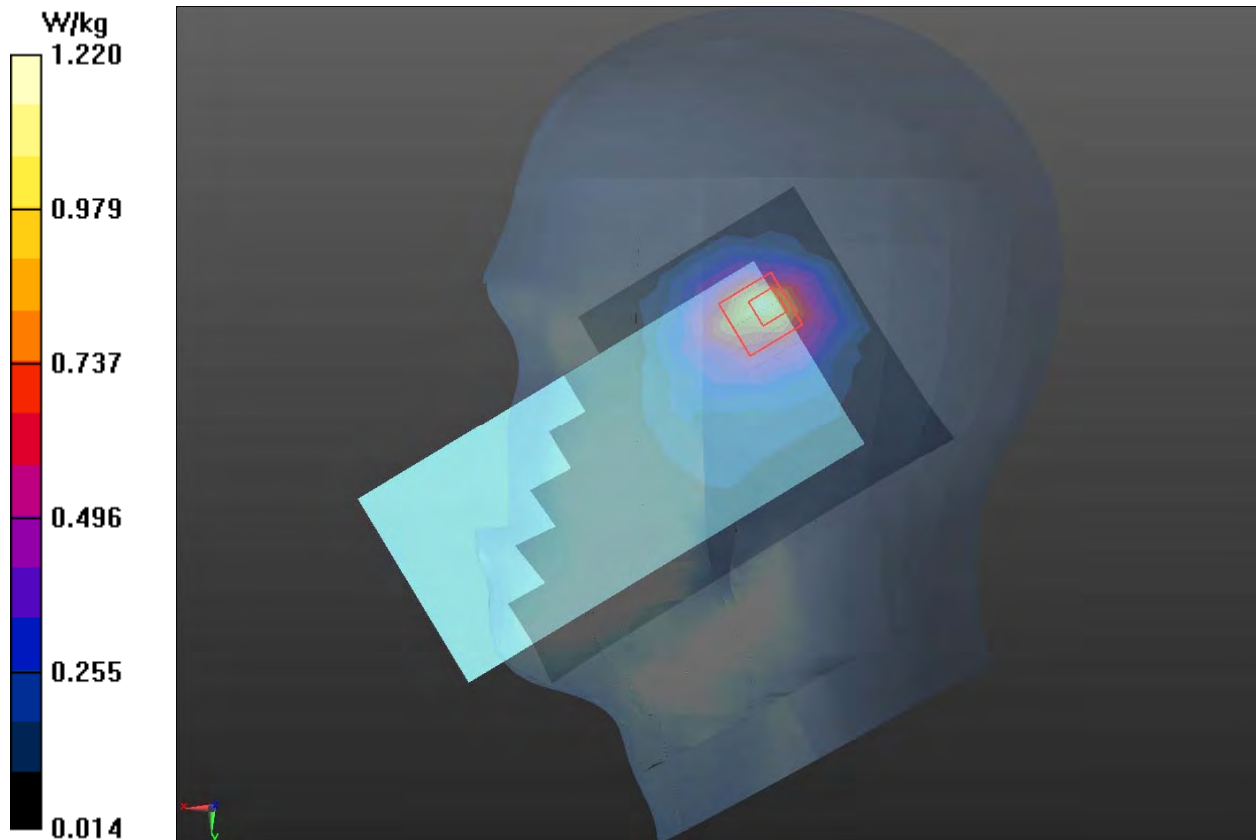
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.69 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 1.54 W/kg

**SAR(1 g) = 0.786 W/kg; SAR(10 g) = 0.425 W/kg**

Maximum value of SAR (measured) = 1.22 W/kg



**Plot 21 UMTS Band IV Right Cheek High**

Date: 6/1/2021

Communication System: UID 0, WCDMA (0); Frequency: 1752.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1753$  MHz;  $\sigma = 1.329$  S/m;  $\epsilon_r = 39.357$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Cheek High/Area Scan (8x15x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.01 W/kg

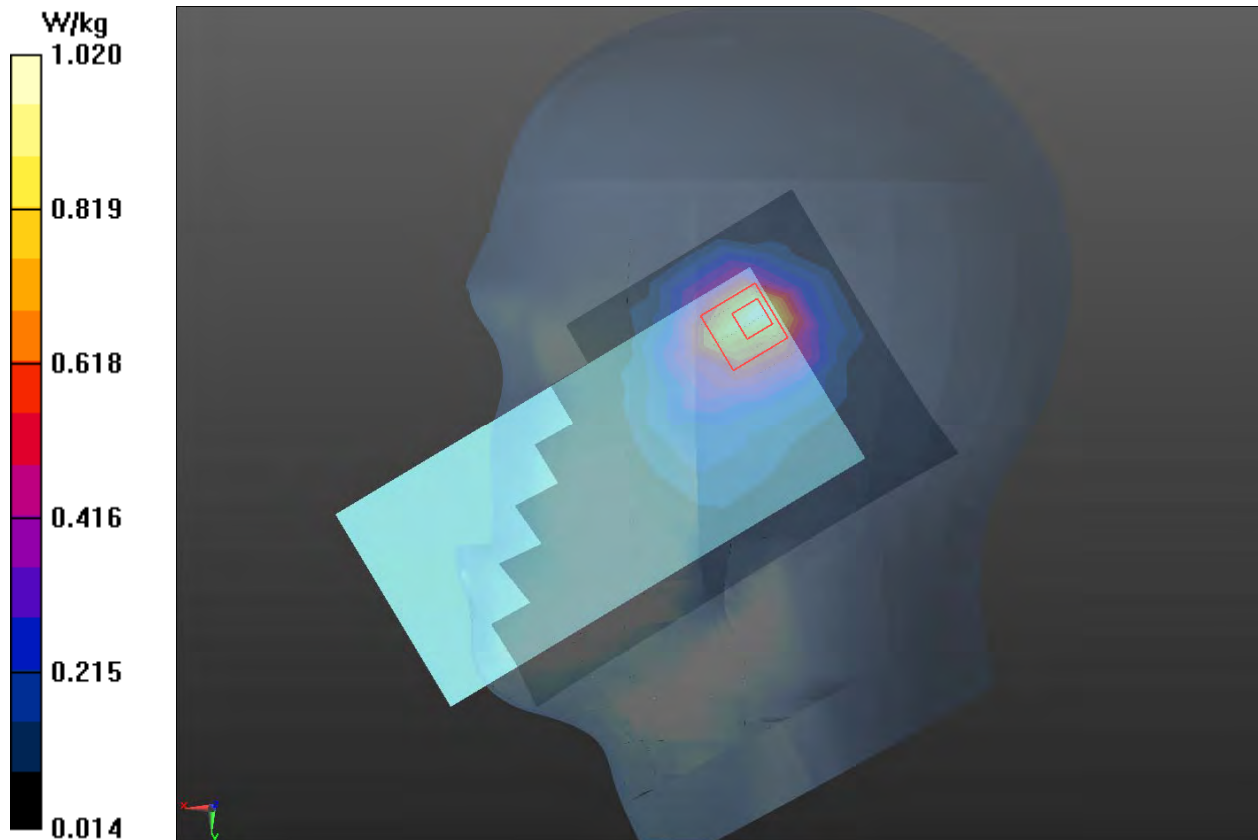
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.71 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.30 W/kg

**SAR(1 g) = 0.738 W/kg; SAR(10 g) = 0.414 W/kg**

Maximum value of SAR (measured) = 1.02 W/kg



### Plot 22 UMTS Band V Right Tilt Middle

Date: 6/5/2021

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837 \text{ MHz}$ ;  $\sigma = 0.953 \text{ S/m}$ ;  $\epsilon_r = 39.762$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.38, 9.38, 9.38); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Tilt Middle/Area Scan (8x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $0.885 \text{ W/kg}$

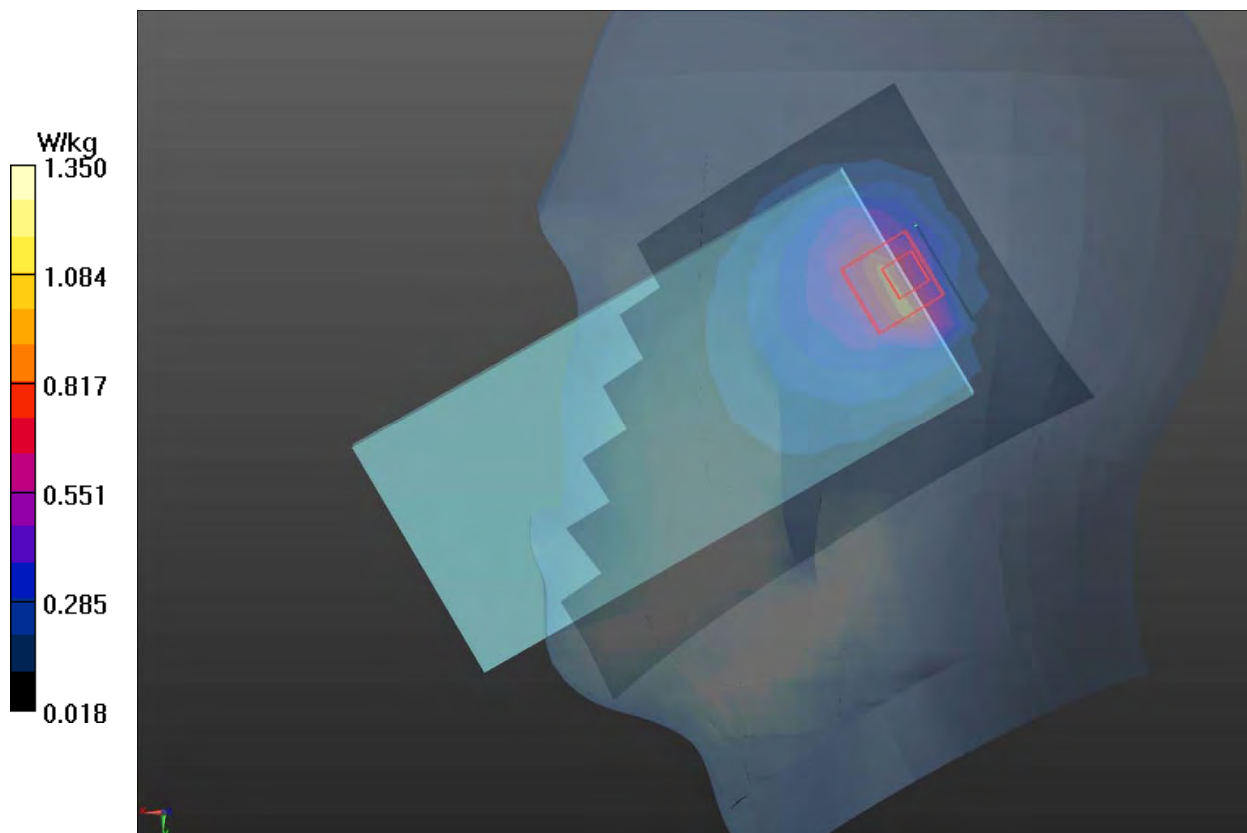
**Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $28.70 \text{ V/m}$ ; Power Drift =  $-0.027 \text{ dB}$

Peak SAR (extrapolated) =  $2.00 \text{ W/kg}$

**SAR(1 g) =  $0.689 \text{ W/kg}$ ; SAR(10 g) =  $0.332 \text{ W/kg}$**

Maximum value of SAR (measured) =  $1.35 \text{ W/kg}$



**Plot 23 LTE Band 2 1RB Right Cheek High**

Date: 5/31/2021

Communication System: UID 0, LTE (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.434$  S/m;  $\epsilon_r = 38.861$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.90, 7.90, 7.90); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Cheek High/Area Scan (8x15x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.24 W/kg

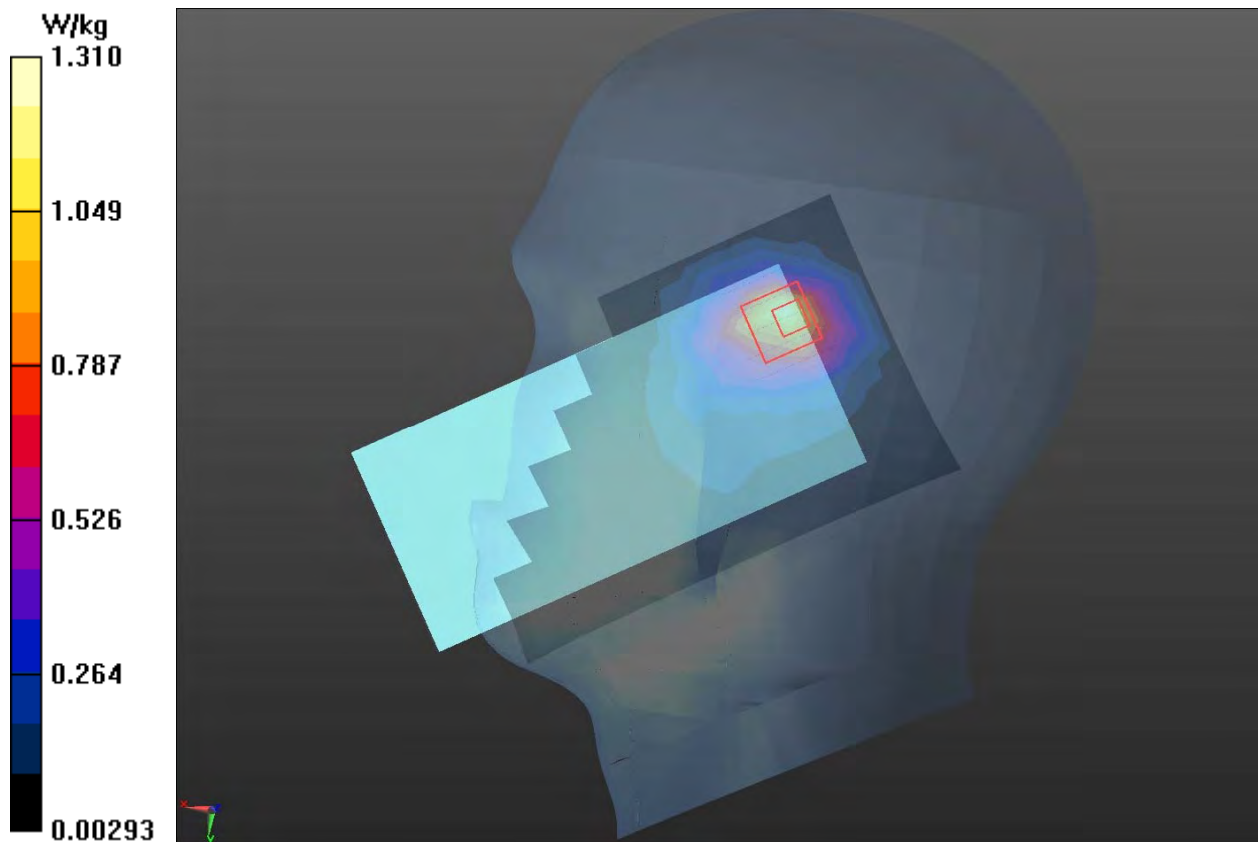
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.03 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.68 W/kg

**SAR(1 g) = 0.870 W/kg; SAR(10 g) = 0.466 W/kg**

Maximum value of SAR (measured) = 1.31 W/kg



**Plot 24 LTE Band 4 1RB Right Cheek High**

Date: 6/2/2021

Communication System: UID 0, LTE (0); Frequency: 1745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1745 \text{ MHz}$ ;  $\sigma = 1.323 \text{ S/m}$ ;  $\epsilon_r = 39.378$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 7/6/2020;

Electronics: DAE4 SN1317; Calibrated: 2/23/2021

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Cheek High/Area Scan (8x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $0.980 \text{ W/kg}$

**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $14.28 \text{ V/m}$ ; Power Drift =  $0.09 \text{ dB}$

Peak SAR (extrapolated) =  $1.52 \text{ W/kg}$

**SAR(1 g) =  $0.758 \text{ W/kg}$ ; SAR(10 g) =  $0.421 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.981 \text{ W/kg}$

