



HCT Co., Ltd.  
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA  
Tel. +82 31 634 6300 Fax. +82 31 645 6401

# SAR TEST REPORT

<b>Applicant Name:</b> <b>SAMSUNG Electronics Co., Ltd.</b> 129, Samsung-ro, Yeongtong-gu, Suwon-Si, Gyeonggi-do, 16677 Rep. of Korea	<b>Date of Issue:</b> Nov. 04, 2021 <b>Test Report No.:</b> HCT-SR-2110-FC015-R1 <b>Test Site:</b> HCT CO., LTD.
--	--

**FCC ID:**

**A3LSMN980F1**

<b>Equipment Type:</b>	<b>Mobile Phone</b>
<b>Application Type</b>	<b>Certification</b>
<b>FCC Rule Part(s):</b>	<b>CFR §2.1093</b>
<b>Model Name:</b>	<b>SM-N980F/DS</b>
<b>Additional Model Name:</b>	<b>SM-N980F</b>
<b>Date of Test:</b>	<b>Oct.01, 2021 ~ Oct. 28, 2021</b>

This device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in FCC KDB procedures and had been tested in accordance with the measurement procedures specified in FCC KDB procedures.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Tested By

Jung-Hun, Park  
Test Engineer  
SAR Team  
Certification Division

Reviewed By

Yun-jeang, Heo  
Technical Manager  
SAR Team  
Certification Division

This report only responds to the tested sample and may not be reproduced, except in full, without written approval of the HCT Co., Ltd.

**REVISION HISTORY**

The revision history for this test report is shown in table.

<b>Revision No.</b>	<b>Date of Issue</b>	<b>Description</b>
0	Oct. 29, 2021	Initial Release
1	Nov. 04, 2021	Revised Sec.4, Sec.11,sec.13 and Sec.24

This test results were applied only to the test methods required by the standard.

The above Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA.

## Table of Contents

1. Test Regulations .....	4
2. Test Location.....	5
3. Information of the EUT .....	5
4. Device Under Test Description.....	7
5. Introduction .....	29
6. Description of test equipment.....	30
7. SAR Measurement Procedure .....	31
8. Description of Test Position .....	33
9. RF Exposure Limits .....	38
10. FCC SAR General Measurement Procedures .....	39
11. Output Power Specifications .....	46
12. System Verification .....	175
14. Simultaneous SAR Analysis.....	214
15. SAR Measurement Variability and Uncertainty .....	259
16. Device Holder Perturbation Verification.....	260
17. LTE Band 41 Power Class 2 and Power class 3 Linearity .....	261
18. Measurement Uncertainty.....	263
19. SAR Test Equipment .....	264
20. Conclusion .....	267
21. References .....	268

*Appendix A. DUT Ant. Information & Test SETUP PHOTO*

*Appendix B. SAR Test Plots*

*Appendix C. Dipole Verification Plots*

*Appendix D. SAR Tissue Characterization*

*Appendix E. SAR System Validation*

*Appendix F. Probe Calibration Data*

*Appendix G. Dipole Calibration Data*

*Appendix H. Power reduction verification*

*Appendix I. DLCA Power Measurement*

## 1. Test Regulations

The tests documented in this report were performed in accordance with FCC CFR § 2.1093, IEEE 1528-2013, ANSI C63.26-2015 the following FCC Published RF exposure KDB procedures:

- FCC KDB Publication 941225 D01 3G SAR Procedures v03r01
- FCC KDB Publication 941225 D06 Hot Spot SAR v02r01
- FCC KDB Publication 941225 D05 SAR for LTE Devices v02r05
- FCC KDB Publication 941225 D05A LTE Rel.10 KDB Inquiry sheet v01r02
- FCC KDB Publication 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB Publication 447498 D01 General SAR Guidance v06
- FCC KDB Publication 648474 D04 Handset SAR v01r03
- FCC KDB Publication 616217 D04 v01r02 (Proximity Sensor)
- FCC KDB Publication 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- FCC KDB Publication 865664 D02 SAR Reporting v01r02
- FCC KDB Publication 690783 D01 SAR Listings on Grants v01r03
- FCC KDB Publication 971168 D01 Power Meas License Digital Systems v03r01

In Addition to the above, the following information was used.

- October 2013 TCB Workshop Notes (GPRS testing criteria)
- October 2014 TCB Workshop Notes (Overlapping LTE Bands)
- April 2015 TCB Workshop Notes (Simultaneous transmission summation clarified)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- November 2017 TCBC Workshop Notes (LTE Carrier Aggregation)
- May 2017 TCBC Workshop Notes (LTE 4x4 Downlink MIMO,LTE Band 41 Power Class 2)
- April 2019 TCBC Workshop Notes (IEEE 802.11 ax)
- April 2018 TCBC Workshop Notes (LTE DL CA SAR Test Exclusion)
- April 2019 and Oct 2020 TCBC Workshop Notes (Dynamic Antenna tuning)

## 2. Test Location

### 2.1 Test Laboratory

<b>Company Name</b>	HCT Co., Ltd.
<b>Address</b>	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
<b>Telephone</b>	031-645-6300
<b>Fax.</b>	031-645-6401

### 2.2 Test Facilities

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

<b>Korea</b>	National Radio Research Agency (Designation No. KR0032)
	KOLAS (Testing No. KT197)

## 3. Information of the EUT

### 3.1 General Information of the EUT

<b>Model Name</b>	SM-N980F/DS
<b>Additional Model Name</b>	SM-N980F
<b>Equipment Type</b>	Mobile Phone
<b>FCC ID</b>	A3LSMN980F1
<b>Application Type</b>	Certification
<b>Applicant</b>	SAMSUNG Electronics Co., Ltd.

### 3.2 Attestation of test result of device under test

The Highest Reported SAR						
Band	Tx. Frequency	Equipment Class	Reported SAR (W/kg)			
			1g Head	1g Body-Worn	1g Hotspot	10g Extremity
GSM/GPRS/EDGE 850	824.2 MHz ~ 848.8 MHz	PCE	0.28	0.53	1.20	N/A
GSM/GPRS/EDGE 1900	1 850.2 MHz~ 1 909.8 MHz	PCE	0.10	0.65	0.97	1.98
UMTS Band 5	826.4 MHz~ 846.6 MHz	PCE	0.18	0.43	0.97	N/A
UMTS Band 4	1 712.4 MHz~ 1 752.6 MHz	PCE	0.10	0.70	1.00	2.23
UMTS Band 2	1 852.4 MHz~ 1 907.6 MHz	PCE	0.079	0.70	1.03	2.54
LTE Band 2 (PCS)	1 850.7 MHz~ 1 909.3 MHz	PCE	0.084	0.68	1.05	<b>2.14</b>
LTE Band 4 (AWS)	1 710.7 MHz~ 1 754.3 MHz	PCE	N/A	N/A	N/A	N/A
LTE Band 5 (Cell)	824.7 MHz~ 848.3 MHz	PCE	0.18	0.51	0.88	N/A
LTE Band 12	699.7 MHz~ 715.3 MHz	PCE	0.11	0.16	0.28	N/A
LTE Band 13	779.5 MHz ~ 784.5 MHz	PCE	0.17	0.32	0.47	N/A
LTE Band 17	706.5 MHz~ 713.5 MHz	PCE	N/A	N/A	N/A	N/A
LTE Band 25 (PCS)	1 850.7 MHz ~ 1 914.3 MHz	PCE	0.09	0.30	1.09	<b>2.18</b>
LTE Band 26(Cell)	814.7 MHz~ 848.3 MHz	PCE	0.19	0.39	0.71	N/A
LTE TDD Band 41	2 498.5 MHz ~ 2 687.5 MHz	PCE	0.06	0.34	0.92	N/A
LTE Band 66 (AWS)	1 710.7 MHz ~ 1 779.3 MHz	PCE	0.09	0.87	1.34	<b>3.14</b>
802.11b	2 412 MHz~ 2 462 MHz	DTS	0.64	0.21	0.58	N/A
U-NII-1	5 180 MHz~ 5 240 MHz	NII	N/A	N/A	N/A	N/A
U-NII-2A	5 260 MHz~ 5 320 MHz	NII	0.31	0.58	N/A	1.94
U-NII-2C	5 500 MHz~ 5 720 MHz	NII	0.60	0.58	N/A	1.74
U-NII-3	5 745 MHz~ 5 825 MHz	NII	0.76	0.72	0.92	N/A
Bluetooth	2 402 MHz~ 2 480 MHz	DSS	1.233	0.136	0.35	N/A
Simultaneous SAR per KDB 690783 D01v01r03			<b>1.11</b>	<b>1.58</b>	<b>1.56</b>	<b>3.92</b>
Date(s) of Tests:	Oct. 01, 2021 ~ Oct. 27, 2021					

## 4. Device Under Test Description

### 4.1 DUT specification

Device Wireless specification overview		
Band & Mode	Operating Mode	Tx Frequency
GSM850	Voice / Data	824.2 MHz~ 848.8 MHz
GSM1900	Voice / Data	1 850.2 MHz~ 1 909.8 MHz
UMTS Band 5	Voice / Data	826.4 MHz~ 846.6 MHz
UMTS Band 4	Voice / Data	1 712.4 MHz~ 1 752.6 MHz
UMTS Band 2	Voice / Data	1 852.4 MHz~ 1 907.6 MHz
LTE Band 2 (PCS)	Voice / Data	1 850.7 MHz~ 1 909.3 MHz
LTE Band 4 (AWS)	Voice / Data	1 710.7 MHz~ 1 754.3 MHz
LTE Band 5 (Cell)	Voice / Data	824.7 MHz~ 848.3 MHz
LTE Band 12	Voice / Data	699.7 MHz~ 715.3 MHz
LTE Band 13	Voice / Data	779.5 MHz ~ 784.5 MHz
LTE Band 17	Voice / Data	706.5 MHz~ 713.5 MHz
LTE Band 25 (PCS)	Voice / Data	1 850.7 MHz ~ 1 914.3 MHz
LTE Band 26	Voice / Data	814.7 MHz~ 848.3 MHz
LTE TDD Band 41	Voice / Data	2 498.5 MHz ~ 2 687.5 MHz
LTE Band 66 (AWS)	Voice / Data	1 710.7 MHz ~ 1 779.3 MHz
U-NII-1	Voice / Data	5 180 MHz ~ 5 240 MHz
U-NII-2A	Voice / Data	5 260 MHz ~ 5 320 MHz
U-NII-2C	Voice / Data	5 500 MHz ~ 5 720 MHz
U-NII-3	Voice / Data	5 745 MHz ~ 5 825 MHz
2.4 GHz WLAN	Voice / Data	2 412 MHz ~ 2 472 MHz
Bluetooth / LE 5.0	Data	2 402 MHz ~ 2 480 MHz
NFC	Data	13.56 MHz
WPC	Data	110 kHz ~ 148 kHz
S-Pen WPC	Data	590 kHz ~ 625 kHz
Device Description		
H/W	REV0.3	
S/W	N980F.001	
Device Serial Numbers	Mode	Serial Number
	GSM850 / GSM1900	UJ41486M
	UMTS B2 / UMTS B4 / LTE B66	UJ41486M
	LTE B2 / LTE B66 Phablet	UJ41486M
	UMTS B5 / LTE B 5 / LTE B12 / LTE 26	UJ41482M
	LTE 41 / NR n66 Phablet	UJ41482M
	2.4GHz WLAN / 5GHz WLAN/ Bluetooth	UJ41491M
	The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics are within operational tolerances expected for production units.	

## 4.2 Power Reduction for SAR

This device utilizes power reduction mechanisms for some wireless modes and bands for SAR compliance under hotspot conditions and under some conditions when the device is being used in close proximity to the user’s hand. All hotspot SAR evaluations for this device were performed at the maximum allowed output power when Hotspot is enabled. FCC KDB Publication 616217 D04v01r02 Sec.6 was used as a guideline for selection SAR test distances for device when being used in phablet use conditions.

This device uses an independent fixed level power reduction mechanism for WLAN operations when during all voice or VoIP held to ear scenarios. Per FCC Guidance, the held-to-ear exposure conditions were evaluated at reduced power according to the head SAR positions described in IEEE 1528-2013. Detailed descriptions of the power reduction mechanism are included in the operational description.

The reduced powers for the power reduction mechanisms were conformed via conducted power measurements at the RF Port

## 4.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB publication 447498 D01v06.

### 4.3.1 2G/3G/4G/5G Nominal and Maximum Output Power

(tolerance : -1.5 dB ~ +1.0 dB)

#### A. GSM Modes

Mode / Band		Voice	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot
GSM/GPRS/EDGE 850	Maximum	34.0	34.0	32.0	30.5	29.0	27.0	25.0	23.5	22.0
	Nominal	33.0	33.0	31.0	29.5	28.0	26.0	24.0	22.5	21.0
GSM/GPRS/EDGE1900	Maximum	31.0	31.0	28.5	26.5	25.0	26.0	24.0	22.5	21.0
	Nominal	30.0	30.0	27.5	25.5	24.0	25.0	23.0	21.5	20.0

#### B. UMTS Modes

Mode/ Band		ModulatedAverage(dBm)			
		3GPPUMTS	3GPPHSDPA	3GPPHSUPA	DC-HSDPA
UMTS Band 5 (850 MHz)	Maximum	25.0	23.5	23.0	24.3
	Nominal	24.0	22.5	22.0	23.3
UMTS Band 4 (1700 MHz)	Maximum	23.5	23.5	21.0	23.5
	Nominal	22.5	22.5	20.0	22.5
UMTS Band 2 (1900 MHz)	Maximum	23.5	23.5	22.0	23.5
	Nominal	22.5	22.5	21.0	22.5

**C. LTE Modes**

Mode / Band		Modulated Average (dBm)	
			Max
LTE Band 2 (PCS)	Maximum		23.0
	Nominal		22.0
LTE Band 4 (AWS)	Maximum		23.7
	Nominal		22.7
LTE Band 5 (Cell)	Maximum		25.0
	Nominal		24.0
LTE Band 12	Maximum		24.5
	Nominal		23.5
LTE Band 13	Maximum		25.0
	Nominal		24.0
LTE Band 17	Maximum		24.5
	Nominal		23.5
LTE Band 25	Maximum		23.0
	Nominal		22.0
LTE Band 26(Cell)	Maximum		25.0
	Nominal		24.0
LTE TDD Band 41PC3	Maximum		24.4
	Nominal		23.4
LTE TDD Band 41 (HPUE) PC2	Maximum		25.7
	Nominal		24.7
LTEBand 66 (AWS)	Maximum		23.7
	Nominal		22.7

### 4.3.2 Reduced PCE Power(Hotspot Mode / Grip Sensor on/ Earjack Insert Mode)

#### A. GSM Modes

Mode / Band		Voice	Burst Average GSMK (dBm)				Burst Average 8-PSK (dBm)			
		1 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot
GSM/GPRS/EDGE1900 Hotspot Mode	Maximum	28.0	28.0	25.5	23.5	22.5	26.0	23.5	22.0	20.5
	Nominal	27.0	27.0	24.5	22.5	21.5	25.0	22.5	21.0	19.5
GSM/GPRS/EDGE1900 Grip Sensor on	Maximum	28.0	28.0	25.5	23.5	22.5	26.0	23.5	22.0	20.5
	Nominal	27.0	27.0	24.5	22.5	21.5	25.0	22.5	21.0	19.5
GSM/GPRS/EDGE1900 Earjack Insert Mode	Maximum	28.0	28.0	25.5	23.5	22.5	26.0	23.5	22.0	20.5
	Nominal	27.0	27.0	24.5	22.5	21.5	25.0	22.5	21.0	19.5

#### B. UMTS Modes

Mode/ Band		ModulatedAverage(dBm)			
		3GPPUMTS	3GPPHSDPA	3GPPHSUPA	DC-HSDPA
UMTS Band 4 (1700 MHz) Hotspot Mode	Maximum	20.0	20.0	19.0	20.0
	Nominal	19.0	19.0	18.0	19.0
UMTS Band 2 (1900 MHz) Hotspot Mode	Maximum	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
UMTS Band 4 (1700 MHz) Grip Sensor on	Maximum	20.0	20.0	19.0	20.0
	Nominal	19.0	19.0	18.0	19.0
UMTS Band 2 (1900 MHz) Grip Sensor on	Maximum	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
UMTS Band 4 (1700 MHz) Earjack Insert Mode	Maximum	20.0	20.0	19.0	20.0
	Nominal	19.0	19.0	18.0	19.0
UMTS Band 2 (1900 MHz) Earjack Insert Mode	Maximum	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0

**C. LTE Modes**

Mode / Band		Modulated Average (dBm)		
		Hotspot Mode	Grip Sensor on	Earjack Insert Mode
LTE Band 2	Max allowed power	19.5	19.5	19.5
	Nominal Power	18.5	18.5	18.5
LTE Band 4	Max allowed power	20.5	20.5	20.5
	Nominal Power	19.5	19.5	19.5
LTE TDD Band 25	Max allowed power	19.5	19.5	19.5
	Nominal Power	18.5	18.5	18.5
LTE TDD Band 41	Max allowed power	23.4	23.4	23.4
	Nominal Power	22.4	22.4	22.4
LTEBand 66 (AWS)	Max allowed power	20.5	20.5	20.5
	Nominal Power	19.5	19.5	19.5

### 4.3.3 Maximum 2.4 GHz, 5 GHz WIFI output power

(Airplane mode:SISO: ch12: 10dB,ch13: 6.5dB / MIMO: ch12:13 dB,ch13: 9.5 dB)

Mode	Band	SISO						MIMO				
		a	b	g	n	ac	ax(SU)	a (CDD+STBC)	g (CDD+STBC)	n (CDD+STBC, SDM)	ac (CDD+STBC, SDM)	ax(SU) (CDD+STBC, SDM)
2.4GHz	1 CH		19	15	14		14		18	17		17
	2~10 CH		19	16	16		16 (10ch: 15)		19	19		19 (10ch: 18)
	11 CH		19	15	14		14		18	17		17
5GHZ (20MHz)	5200MHz	17			17	17		20		20	20	20 (36ch: 19)
	5300MHz	17 (64ch: 16)			17 (64ch: 16)	17 (64ch: 16)		20 (64ch: 19)		20 (64ch: 19)	20 (64ch: 19)	20 (64ch: 19)
	5500MHz	17 (100ch: 16)			17 (100ch: 16)	17 (100ch: 16)		20 (100ch: 19)		20 (100ch: 19)	20 (100ch: 19)	20 (100ch: 19)
	5800MHz	17			17	17		20		20	20	20
5GHZ (40MHz)	5200MHz				16 (38ch: 12)	16 (38ch: 12)				19 (38ch: 15)	19 (38ch: 15)	19 (38ch: 15)
	5300MHz				16 (62ch: 12)	16 (62ch: 12)				19 (62ch: 15)	19 (62ch: 15)	19 (62ch: 15)
	5500MHz				16 (102ch: 12)	16 (102ch: 12)				19 (102ch: 15)	19 (102ch: 15)	19 (102ch: 15)
	5800MHz				16	16				19	19	19
5GHZ (80MHz)	5200MHz					12					15	14
	5300MHz					12					15	14
	5500MHz					15 (106ch: 12)					18 (106ch: 15)	18 (106ch: 15)
	5800MHz					15					18	18

(Tolerance: target -1.5dB ~ +1.0 dB)

### 4.3.4 Reduced 2.4 GHz, 5 GHz WIFI output power (RCV on)

(Airplane mode:SISO: ch12: 10dB,ch13: 6.5dB / MIMO: ch12:13 dB,ch13: 9.5 dB)

Mode	Band	SISO						MIMO				
		a	b	g	n	ac	ax(SU)	a (CDD+STBC)	g (CDD+STBC)	n (CDD+STBC, SDM)	ac (CDD+STBC, SDM)	ax(SU) (CDD+STBC, SDM)
2.4GHz	1 CH		16	15	14		14		18	17		17
	2~10 CH		16	16	16		16 (10ch: 15)		19	19		19 (10ch: 18)
	11 CH		16	15	14		14		18	17		17
5GHz (20MHz)	5200MHz	14			14	14		17		17	17	17
	5300MHz	14			14	14		17		17	17	17
	5500MHz	14			14	14		17		17	17	17
	5800MHz	14			14	14		17		17	17	17
5GHz (40MHz)	5200MHz				14 (38ch: 12)	14 (38ch: 12)				17 (38ch: 15)	17 (38ch: 15)	17 (38ch: 15)
	5300MHz				14 (62ch: 12)	14 (62ch: 12)				17 (62ch: 15)	17 (62ch: 15)	17 (62ch: 15)
	5500MHz				14 (102ch: 12)	14 (102ch: 12)				17 (102ch: 15)	17 (102ch: 15)	17 (102ch: 15)
	5800MHz				14	14				17	17	17
5GHz (80MHz)	5200MHz					12					15	14
	5300MHz					12					15	14
	5500MHz					14 (106ch: 12)					17 (106ch: 15)	17 (106ch: 15)
	5800MHz					14					17	17

(Tolerance: target -1.5dB ~ +1.0 dB)

### 4.3.5 2.4 GHz, 5 GHz WIFI output power – RSDB

(Airplane mode:SISO: ch12: 10dB,ch13: 6.5dB / MIMO: ch12:13 dB,ch13: 9.5 dB)

Mode	Band	SISO						MIMO				
		a	b	g	n	ac	ax(SU)	a (CDD+STBC)	g (CDD+STBC)	n (CDD+STBC, SDM)	ac (CDD+STBC, SDM)	ax(SU) (CDD+STBC, SDM)
2.4GHz	1 CH		16	15	14		14		18	17		17
	2~10 CH		16	16	16		16 (10ch: 15)		19	19		19 (10ch: 18)
	11 CH		16	15	14		14		18	17		17
5GHz (20MHz)	5200MHz	13			13	13		16		16	16	16
	5300MHz	13			13	13		16		16	16	16
	5500MHz	13			13	13		16		16	16	16
	5800MHz	13			13	13		16		16	16	16
5GHz (40MHz)	5200MHz				13 (38ch: 12)	13 (38ch: 12)				16 (38ch: 15)	16 (38ch: 15)	16 (38ch: 15)
	5300MHz				13 (62ch: 12)	13 (62ch: 12)				16 (62ch: 15)	16 (62ch: 15)	16 (62ch: 15)
	5500MHz				13 (102ch: 12)	13 (102ch: 12)				16 (102ch: 15)	16 (102ch: 15)	16 (102ch: 15)
	5800MHz				13	13				16	16	16
5GHz (80MHz)	5200MHz					12					15	14
	5300MHz					12					15	14
	5500MHz					13 (106ch: 12)					16 (106ch: 15)	16 (106ch: 15)
	5800MHz					13					16	16

(Tolerance: target -1.5dB ~ +1.0 dB)

**4.3.6 2.4 GHz, 5 GHz WIFI output power – RSDB with RCV on**

(Airplane mode:SISO: ch12: 10dB,ch13: 6.5dB / MIMO: ch12:13 dB,ch13: 9.5 dB)

Mode	Band	SISO						MIMO				
		a	b	g	n	ac	ax(SU)	a (CDD+STBC)	g (CDD+STBC)	n (CDD+STBC, SDM)	ac (CDD+STBC, SDM)	ax(SU) (CDD+STBC, SDM)
2.4GHz	2.45GHz		13	13	13		13		16	16		16
5GHz (20MHz)	5200MHz	13			13	13		16		16	16	16
	5300MHz	13			13	13		16		16	16	16
	5500MHz	13			13	13		16		16	16	16
	5800MHz	13			13	13		16		16	16	16
5GHz (40MHz)	5200MHz				13 (38ch: 12)	13 (38ch: 12)				16 (38ch: 15)	16 (38ch: 15)	16 (38ch: 15)
	5300MHz				13 (62ch: 12)	13 (62ch: 12)				16 (62ch: 15)	16 (62ch: 15)	16 (62ch: 15)
	5500MHz				13 (102ch: 12)	13 (102ch: 12)				16 (102ch: 15)	16 (102ch: 15)	16 (102ch: 15)
	5800MHz				13	13				16	16	16
5GHz (80MHz)	5200MHz					12					15	14
	5300MHz					12					15	14
	5500MHz					13 (106ch: 12)					16 (106ch: 15)	16 (106ch: 15)
	5800MHz					13					16	16

(Tolerance: target -1.5dB ~ +1.0 dB)

### 4.3.7 802.11ax RU Tx Power

(Airplane mode:SISO: ch12: 10dB,ch13: 6.5dB / MIMO: ch12:13 dB,ch13: 9.5 dB)

Mode	Band	SISO						MIMO					
		26T	52T	106T	242T	484T	996T	26T	52T	106T	242T	484T	996T
2.4GHz	1 CH	16	16	15	14			19	19	18	17		
	2~10 CH	16	16	16	16 (10ch: 15)			19	19	19	19 (10ch: 18)		
	11 CH	14	16	16	14			17	19	19	17		
5GHZ (20MHz)	5200MHz							13	16	19	20 (36ch: 19)		
	5300MHz							13	16	19	20 (64ch: 19)		
	5500MHz							12.5	16	19	20 (100ch: 19)		
	5800MHz							17 (153,157ch: 16) (161, 165ch: 15)	18	19 (149ch: 20)	20		
5GHZ (40MHz)	5200MHz							13 (ch46: 11)	16	19	19	19 (38ch: 15)	
	5300MHz							13 (54ch: 11)	16	19	19	19 (62ch: 15)	
	5500MHz							12.5	16	19 (102ch: 17)	19 (102ch: 17)	19 (102ch: 15)	
	5800MHz							16 (159ch: 15)	18 (159ch: 17)	19	19	19	
5GHZ (80MHz)	5200MHz							13	15	15	15	15	14
	5300MHz							13	15	15	15	15	14
	5500MHz							13	16 (106ch: 15)	18 (106ch: 15)	18 (106ch: 17)	18 (106ch: 15)	18 (106ch: 15)
	5800MHz							16	18	18	18	18	18

(Tolerance: target -1.5dB ~ +1.0 dB)

### 4.3.8 Reduced Power 11ax RU Tx power Tables – RCV on

(Airplane mode:SISO: ch12: 10dB,ch13: 6.5dB / MIMO: ch12:13 dB,ch13: 9.5 dB)

Mode	Band	SISO						MIMO					
		26T	52T	106T	242T	484T	996T	26T	52T	106T	242T	484T	996T
2.4GHz	1 CH	16	16	15	14			19	19	18	17		
	2~10 CH	16	16	16	16 (10ch: 15)			19	19	19	19 (10ch: 18)		
	11 CH	14	16	16	14			17	19	19	17		
5GHZ (20MHz)	5200MHz							13	16	16	16		
	5300MHz							13	16	16	16		
	5500MHz							12.5	16	16	16		
	5800MHz							16 (161, 165ch: 15)	16	16	16		
5GHZ (40MHz)	5200MHz							13 (ch46: 11)	16	16	16	16 (38ch: 15)	
	5300MHz							13 (54ch: 11)	16	16	16	16 (62ch: 15)	
	5500MHz							12.5	16	16	16	16 (102ch: 15)	
	5800MHz							16 (159ch: 15)	16	16	16	16	
5GHZ (80MHz)	5200MHz							13	15	15	15	15	14
	5300MHz							13	15	15	15	15	14
	5500MHz							13	16 (106ch: 15)	16 (106ch: 15)	16	16 (106ch: 15)	16 (106ch: 15)
	5800MHz							16	16	16	16	16	16

(Tolerance: target -1.5dB ~ +1.0 dB)

### 4.3.9 Power 11ax RU Tx power Tables in RSDB mode

(Airplane mode:SISO: ch12: 10dB,ch13: 6.5dB / MIMO: ch12:13 dB,ch13: 9.5 dB)

Mode	Band	SISO						MIMO					
		26T	52T	106T	242T	484T	996T	26T	52T	106T	242T	484T	996T
2.4GHz	1 CH	16	16	15	14			19	19	18	17		
	2~10 CH	16	16	16	16 (10ch: 15)			19	19	19	19 (10ch: 18)		
	11 CH	14	16	16	14			17	19	19	17		
5GHZ (20MHz)	5200MHz							13	16	16	16		
	5300MHz							13	16	16	16		
	5500MHz							12.5	16	16	16		
	5800MHz							16 (161, 165ch: 15)	16	16	16		
5GHZ (40MHz)	5200MHz							13 (ch46: 11)	16	16	16	16 (38ch: 15)	
	5300MHz							13 (54ch: 11)	16	16	16	16 (62ch: 15)	
	5500MHz							12.5	16	16	16	16 (102ch: 15)	
	5800MHz							16 (159ch: 15)	16	16	16	16	
5GHZ (80MHz)	5200MHz							13	15	15	15	15	14
	5300MHz							13	15	15	15	15	14
	5500MHz							13	16 (106ch: 15)	16 (106ch: 15)	16	16 (106ch: 15)	16 (106ch: 15)
	5800MHz							16	16	16	16	16	16

(Tolerance: target -1.5dB ~ +1.0 dB)

### 4.3.10 Reduced Power 11ax RU Tx power Tables in RSDB – RCV on

(Airplane mode:SISO: ch12: 10dB,ch13: 6.5dB / MIMO: ch12:13 dB,ch13: 9.5 dB)

Mode	Band	SISO						MIMO					
		26T	52T	106T	242T	484T	996T	26T	52T	106T	242T	484T	996T
2.4GHz	2.45GHz	13	13	13	13			16	16	16	16		
5GHZ (20MHz)	5200MHz							13	16	16	16		
	5300MHz							13	16	16	16		
	5500MHz							12.5	16	16	16		
	5800MHz							16 (161, 165ch: 15)	16	16	16		
5GHZ (40MHz)	5200MHz							13 (ch46: 11)	16	16	16	16 (38ch: 15)	
	5300MHz							13 (54ch: 11)	16	16	16	16 (62ch: 15)	
	5500MHz							12.5	16	16	16	16 (102ch: 15)	
	5800MHz							16 (159ch: 15)	16	16	16	16	
5GHZ (80MHz)	5200MHz							13	15	15	15	15	14
	5300MHz							13	15	15	15	15	14
	5500MHz							13	16 (106ch: 15)	16 (106ch: 15)	16	16 (106ch: 15)	16 (106ch: 15)
	5800MHz							16	16	16	16	16	16

(Tolerance: target -1.5dB ~ +1.0 dB)

**4.3.11. Legacy(11b/g/n/a/ac) Real Simultaneous Dual Band (RSDB) Power**

	# TX	5 GHz WIFI[dBm]		2.4 GHz WIFI[dBm]		802.11 Modes
		Ant1	Ant2	Ant1	Ant2	
2.4 GHz + 5 GHz RSDB Only	2	13 dBm	-	-	16 dBm	2.4 GHz: b, g, n, ax 5 GHz: a, n, ac
	2	-	13 dBm	16 dBm	-	
	2	13 dBm	-	16 dBm	-	
	2	-	13 dBm	-	16 dBm	
2.4 GHz + 5 GHz RSDB & MIMO	3	13 dBm	13 dBm	16 dBm	-	2.4 GHz: b, g, n,ax 5 GHz: a, n, ac,ax (CDD+STBC Only)
	3	13 dBm	13 dBm	-	16 dBm	
	3	13 dBm	-	16 dBm	16 dBm	2.4 GHz: g, n, ax(CDD+STBC Only), 5 GHz: a, n, ac
	3	-	13 dBm	16 dBm	16 dBm	
2.4 GHz + 5 GHz RSDB MIMO	4	13 dBm	13 dBm	16 dBm	16 dBm	2.4 GHz: g, n,ax (CDD+STBC Only) 5 GHz: a, n, ac,ax (CDD+STBC Only)

(Tolerance: target -1.5dB ~ +1.0 dB)

**4.3.12. Legacy(11b/g/n/a/ac) Real Simultaneous Dual Band (RSDB) Power with RCV On**

	#TX	5 GHz WIFI[dBm]		2.4 GHz WIFI[dBm]		802.11 Modes
		Ant1	Ant2	Ant1	Ant2	
2.4 GHz + 5 GHz RSDB Only	2	13 dBm	-	-	13 dBm	2.4 GHz: b, g, n, ax 5 GHz: a, n, ac
	2	-	13 dBm	13 dBm	-	
	2	13 dBm	-	13 dBm	-	
	2	-	13 dBm	-	13 dBm	
2.4 GHz + 5 GHz RSDB & MIMO	3	13 dBm	13 dBm	13 dBm	-	2.4 GHz: b, g, n,ax 5 GHz: a, n, ac,ax (CDD+STBC Only)
	3	13 dBm	13 dBm	-	13 dBm	
	3	13 dBm	-	13 dBm	13 dBm	2.4 GHz: g, n, ax(CDD+STBC Only), 5 GHz: a, n, ac
	3	-	13 dBm	13 dBm	13 dBm	
2.4 GHz + 5 GHz RSDB MIMO	4	13 dBm	13 dBm	13 dBm	13 dBm	2.4 GHz: g, n,ax (CDD+STBC Only) 5 GHz: a, n, ac,ax (CDD+STBC Only)

(Tolerance: target -1.5dB ~ +1.0 dB)

**4.3.13. Simultaneous TX condition Bluetooth with 5GHz WIFI (not RSDB)**

	#TX	5 GHz WIFI[dBm]		2.4GHz BT
		Ant1	Ant2	Ant1
BT(2.4 GHz) + 5GHz WiFi (Not RSDB)	2	o	-	o
	2		o	o
	3	o	o	o

#### 4.3.14 Maximum Bluetooth Power

Mode / Band		Modulated Average (dBm)
Bluetooth (1 Mbps)	Maximum	17.5
	Nominal	16.5
Bluetooth (EDR)	Maximum	11.5
	Nominal	10.5
Bluetooth LE (2 Mbps)	Maximum	9
	Nominal	8
Bluetooth LE 1Mbps, 125/500Kbps	Maximum	8
	Nominal	7

#### 4.4 LTE Information

Item.	Description
Frequency Range	LTE Band 2 (PCS) 1 850.7 MHz~ 1 909.3 MHz
	LTE Band 4 (AWS) 1 710.7 MHz~ 1 754.3 MHz
	LTE Band 5 (Cell) 824.7 MHz~ 848.3 MHz
	LTE Band 12 699.7 MHz~ 715.3 MHz
	LTE Band 13 779.5 MHz ~ 784.5 MHz
	LTE Band 17 706.5 MHz~ 713.5 MHz
	LTE Band 25 (PCS) 1 850.7 MHz ~ 1 914.3 MHz
	LTE Band 26 (Cell) 814.7 MHz~ 848.3 MHz
	LTE TDD Band 41 2 498.5 MHz ~ 2 687.5 MHz
	LTE Band 66 (AWS) 1 710.7 MHz ~ 1 779.3 MHz
Channel Bandwidths	LTE Band 2 (PCS) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 4 (AWS) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 5 (Cell) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	LTE Band 12 1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	LTE Band 13 5 MHz, 10 MHz
	LTE Band 17 5 MHz, 10 MHz
	LTE Band 25 (PCS) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 26 (Cell) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz
	LTE TDD Band 41 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 66 (AWS) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz

Ch. No.& Freq.(MHz)	Low	Mid	High	
LTE Band 2 (PCS)	1.4 MHz	1 850.7 (18607)	1 880.0 (18900)	1 909.3 (19193)
	3 MHz	1 851.5 (18615)	1 880.0 (18900)	1 908.5 (19185)
	5 MHz	1 852.5 (18625)	1 880.0 (18900)	1 907.5 (19175)
	10 MHz	1 855.0 (18650)	1 880.0 (18900)	1 905.0 (19150)
	15 MHz	1 857.5 (18675)	1 880.0 (18900)	1 902.5 (19125)
	20 MHz	1 860.0 (18700)	1 880.0 (18900)	1 900.0 (19100)
LTE Band 4 (AWS)	1.4 MHz	1 710.7 (19957)	1 732.5 (20175)	1 754.3 (20393)
	3 MHz	1 711.5 (19965)	1 732.5 (20175)	1 753.5 (20385)
	5 MHz	1 712.5 (19975)	1 732.5 (20175)	1 752.5 (20375)
	10 MHz	1 715.0 (20000)	1 732.5 (20175)	1 750.0 (20350)
	15 MHz	1 717.5 (20025)	1 732.5 (20175)	1 747.5 (20325)
	20 MHz		1 732.5 (20175)	
LTE Band 5 (Cell)	1.4 MHz	824.7 (20407)	836.5 (20525)	848.3 (20643)
	3 MHz	825.5 (20415)	836.5 (20525)	847.5 (20635)
	5 MHz	826.5 (20425)	836.5 (20525)	846.5 (20625)
	10 MHz		836.5 (20525)	
LTE Band 12	1.4 MHz	699.7 (23017)	707.5 (23095)	715.3 (23173)
	3 MHz	700.5 (23025)	707.5 (23095)	714.5 (23165)
	5 MHz	701.5 (23035)	707.5 (23095)	713.5 (23155)
	10 MHz		707.5 (23095)	
LTE Band 13	5 MHz	779.5 (23205)	782 (23230)	784.5 (23255)
	10 MHz		782 (23230)	
LTE Band 17	5 MHz		710.0(23790)	
	10 MHz		710.0(23790)	
LTE Band 25(PCS)	1.4 MHz	1 850.7 (26047)	1 882.5 (26365)	1 914.3 (26683)
	3 MHz	1 851.5 (26055)	1 882.5 (26365)	1 913.5 (26675)
	5 MHz	1 852.5 (26065)	1 882.5 (26365)	1 912.5 (26665)
	10 MHz	1 855 (26090)	1 882.5 (26365)	1 910 (26640)
	15 MHz	1 857.5 (26115)	1 882.5 (26365)	1 907.5 (26615)
	20 MHz	1 860 (26140)	1 882.5 (26365)	1 905 (26590)
LTE Band 26 (Cell)	1.4 MHz	814.7 (26697)	831.5 (26865)	848.3 (27033)
	3 MHz	815.5 (26705)	831.5 (26865)	847.5 (27025)
	5 MHz	816.5 (26715)	831.5 (26865)	846.5 (27015)
	10 MHz	819.0 (26740)	831.5 (26865)	844.0 (26990)
	15 MHz		831.5 (26865)	

Ch. No.& Freq.(MHz)	Low		Mid		High	
LTE Band 66 (AWS)	1.4 MHz	1 710.7 (131979)	1 745 (132322)		1 779.3 (132665)	
	3 MHz	1 711.5 (131987)	1 745 (132322)		1 778.5 (132657)	
	5 MHz	1 712.5 (131997)	1 745 (132322)		1 777.5 (132647)	
	10 MHz	1 715.0 (132022)	1 745 (132322)		1 775.0 (132622)	
	15 MHz	1 717.5 (132047)	1 745 (132322)		1 772.5 (132597)	
	20 MHz	1 720.0 (132072)	1 745 (132322)		1 770.0 (132572)	
LTE TDD Band 41	5 MHz	2506.0(39750)	2549.5(40185)	2593.0(40620)	2636.5(41055)	2680.0(41490)
	10 MHz	2506.0(39750)	2549.5(40185)	2593.0(40620)	2636.5(41055)	2680.0(41490)
	15 MHz	2506.0(39750)	2549.5(40185)	2593.0(40620)	2636.5(41055)	2680.0(41490)
	20 MHz	2506.0(39750)	2549.5(40185)	2593.0(40620)	2636.5(41055)	2680.0(41490)
UE Category	LTE Rel. 15, DL: Category 20, UL: Category 18					
HPUE Power Class	LTE TDD 41 Power Class 3 :(Duty: 63.3%) Power Class 2 : (Duty:43.3%)					
Modulations Supported in UL	QPSK, 16QAM, 64QAM, 256 QAM					
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3	Yes					
A-MPR disabled for SAR Testing.	Yes					
LTE Carrier Aggregation	This device supports Inter-band & Intra-band DL DL-link Carrier aggregations only. Detailed information of Down-Link CA are included in the Appendix.I and Technical Description document.					
LTE Release information	This device does not support full CA features on 3GPP Release 15. It supports carrier aggregation, downlink MIMO. All other uplink communications are identical to te release 8 specifications. The following LTE Release 15 Features are not supported: Relay, Hetnet, Enhanced eICI, MDH, cross-carrier Scheduling, Enhanced SC-FDMA.					

### 4.5 DUT Antenna Locations

The overall dimensions of this device are > 9 X 5 cm. A diagram showing device antenna can be found in SAR\_setup\_photos. Since the diagonal dimension of this device is > 160 mm and < 200 mm, it is considered a “phablet”.

This model allows users to exchange data or media files with other Bluetooth enabled devices using Bluetooth, which means they can connect to other Bluetooth enabled devices via Bluetooth tethering. Therefore, SAR test was performed for additional simultaneous transmissions.

Head and Bluetooth Tethering SAR were evaluated for BT BR tethering applications.

Mode	Rear	Front	Left	Right	Bottom	Top
GSM/GPRS/EDGE 850	Yes	Yes	Yes	Yes	Yes	No
GSM/GPRS/EDGE 1900	Yes	Yes	Yes	Yes	Yes	No
UMTS Band 5	Yes	Yes	Yes	Yes	Yes	No
UMTS Band 4	Yes	Yes	Yes	Yes	Yes	No
UMTS Band 2	Yes	Yes	Yes	Yes	Yes	No
LTE Band 2 (PCS)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 4 (AWS)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 5 (Cell)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 12	Yes	Yes	Yes	Yes	Yes	No
LTE Band 13	Yes	Yes	Yes	Yes	Yes	No
LTE Band 17	Yes	Yes	Yes	Yes	Yes	No
LTE Band 25 (PCS)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 26 (Cell)	Yes	Yes	Yes	Yes	Yes	No
LTE TDD Band 41	Yes	Yes	No	Yes	Yes	No
LTE Band 66 (AWS)	Yes	Yes	Yes	Yes	Yes	No
2.4 GHz WLAN	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	Yes

Particular EUT edges were not required to be evaluated for Bluetooth Tethering and Hotspot SAR if the edges were > 25 mm from the transmitting antenna according to FCC KDB 941225 D06v02r01 on page 2. The distance between the transmit antennas and the edges of the device are included in the filing.  
 - Note: All test configurations are based on front view position.

### 4.6 Near Field Communications (NFC) Antenna

This EUT has NFC operations. The NFC antenna is integrated into the device for this model. Therefore, all SAR tests were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the NFC antenna can be found in SAR\_Setup\_photos.

This EUT has S-PEN operations. The S-PEN is attached inside the EUT during all SAR testing

### 4.7 SAR Summation Scenario

According to FCC KDB 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds. Possible transmission paths for the EUT are shown below paths and are mode in same rectangle to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB 447498 D01v06.

Simultaneous Transmission Scenarios				
Applicable Combination	Head	Body-Worn	Hotspot	Extremity
GSM Voice + 2.4 GHz WiFi SISO	Yes	Yes	N/A	Yes
GSM Voice + 5 GHz WiFi SISO	Yes	Yes	N/A	Yes
GSM Voice + 2.4 GHz WiFi MIMO	Yes	Yes	N/A	Yes
GSM Voice + 5 GHz WiFi MIMO	Yes	Yes	N/A	Yes
GSM Voice + 2.4 GHz WiFi SISO +5 GHz WiFi SISO	Yes	Yes	N/A	Yes
GSM Voice + 2.4 GHz WiFi RSDB MIMO +5 GHz WiFi RSDB MIMO	Yes	Yes	N/A	Yes
GSM Voice + 5 GHz WiFi SISO + Bluetooth	Yes#	Yes	N/A	Yes
GSM Voice + 5 GHz WiFi MIMO + Bluetooth	Yes#	Yes	N/A	Yes
GSM Voice + Bluetooth	Yes#	Yes	N/A	Yes
GSMGPRS/EDGE + 2.4 GHz WiFi SISO	N/A	N/A	Yes	Yes
GSMGPRS/EDGE + 5 GHz WiFi SISO	N/A	N/A	Yes	Yes
GSMGPRS/EDGE + 2.4 GHz WiFi MIMO	N/A	N/A	Yes	Yes
GSMGPRS/EDGE + 5 GHz WiFi MIMO	N/A	N/A	Yes	Yes
GSMGPRS/EDGE + 2.4 GHz WiFi SISO +5 GHz WiFi SISO	N/A	N/A	Yes	Yes
GSMGPRS/EDGE + 2.4 GHz WiFi RSDB MIMO +5 GHz WiFi RSDB MIMO	N/A	N/A	Yes	Yes
GSMGPRS/EDGE + 5 GHz WiFi SISO + Bluetooth	N/A	N/A	Yes#	Yes
GSMGPRS/EDGE + 5 GHz WiFi MIMO + Bluetooth	N/A	N/A	Yes#	Yes
GSMGPRS/EDGE + Bluetooth	N/A	N/A	Yes#	Yes
UMTS+ 2.4 GHz WiFi SISO	Yes	Yes	Yes	Yes
UMTS + 5 GHz WiFi SISO	Yes	Yes	Yes	Yes
UMTS + 2.4 GHz WiFi MIMO	Yes	Yes	Yes	Yes
UMTS + 5 GHz WiFi MIMO	Yes	Yes	Yes	Yes
UMTS + 2.4 GHz WiFi SISO +5 GHz WiFi SISO	Yes	Yes	Yes	Yes
UMTS + 2.4 GHz WiFi RSDB MIMO +5 GHz WiFi RSDB MIMO	Yes	Yes	Yes	Yes
UMTS + 5 GHz WiFi SISO + Bluetooth	Yes#	Yes	Yes#	Yes
UMTS + 5 GHz WiFi MIMO + Bluetooth	Yes#	Yes	Yes#	Yes
UMTS + Bluetooth	Yes#	Yes	Yes#	Yes
LTE+ 2.4 GHz WiFi SISO	Yes	Yes	Yes	Yes
LTE + 5 GHz WiFi SISO	Yes	Yes	Yes	Yes
LTE + 2.4 GHz WiFi MIMO	Yes	Yes	Yes	Yes
LTE + 5 GHz WiFi MIMO	Yes	Yes	Yes	Yes
LTE + 2.4 GHz WiFi SISO +5 GHz WiFi SISO	Yes	Yes	Yes	Yes
LTE + 2.4 GHz WiFi RSDB MIMO +5 GHz WiFi RSDB MIMO	Yes	Yes	Yes	Yes
LTE + 5 GHz WiFi SISO + Bluetooth	Yes#	Yes	Yes#	Yes
LTE + 5 GHz WiFi MIMO + Bluetooth	Yes#	Yes	Yes#	Yes
LTE + Bluetooth	Yes#	Yes	Yes#	Yes

1. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario
4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table

- 5.5.GHz Wireless Router is only supported for the U-NII-3 by SW, therefore U-NII-1, U-NII-2A, and U-NII-2C were not evaluated for wireless router conditions.
- 6.This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
- 7.This device supports VOLTE.
- 8.This device supports VOWIFI.
- 9.This device supports Bluetooth Tethering.

## 4.8 SAR Test Considerations

### 4.9.1 WiFi

Since wireless router operations are not allowed by the chipset firmware using U-NII-1, U-NII-2A & U-NII-2C WiFi, WiFi Hotspot SAR test and combinations are considered only 2.4 GHz and U-NII-3 for SAR with respected to wireless router configurations according to FCC KDB 941225 D06v02r01.

Since U-NII-1 and U-NII-2A Bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg for 1g SAR and is less than 3.0 W/kg for 10g SAR, SAR is not required for U-NII-1 Band according to FCC KDB 248227D01v02r02.

This device supports IEEE 802.11 ac with the following features:

- a) Up to 80 MHz Bandwidth only
- b) No aggregate channel configurations
- c) 2Tx Antenna output
- d) 256 QAM is supported
- e) TDWR channels are supported.
- f) Straddle channels are supported
- g) Band gap channels are supported

### 4.8.2 Licensed Transmitter(s)

GSM/GPRS/EDGE DTM is not supported for US Bands. Therefore, the GSM Voice modes in this report do not transmit simultaneously with GPRS/EDGE Data.

LTE SAR for the higher modulations and lower Bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest Bandwidth; and the reported LTE SAR for the highest Bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r05.

Per FCC KDB 648474 D04v01r03, this device is considered a "Phablet" since the diagonal dimension is greater than 160 mm and less than 200 mm. Therefore, extremity SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR >1.2 W/kg. When hotspot mode applies, 10g SAR required only for the surfaces and edges with hotspot mode scaled to the maximum output power (including tolerance) is 1g SAR > 1.2 W/kg.

This Device supports 64QAM and 256QAM on the uplink and 256QAM on the downlink for LTE Operations. Conducted powers for 64QAM and 256QAM uplink configurations were measured per section 5.1 of FCC KDB 941225 D05v02r05. SAR was not required for 64QAM or 256QAM since the highest maximum output power for 64QAM and 256QAM is  $\leq 0.5$ dB higher than the same configuration in QPSK and the reported SAR for QPSK configuration is  $\leq 1.45$  W/Kg, per section 5.2.4 for FCC KDB941225 D05v02r05.

This device supports downlink 4x4 MIMO operations for some LTE Bands. Per May 2017 TCB Workshop Notes, SAR for 4x4 DL MIMO was not needed since the maximum average output power in 4x4 DL MIMO mode was not more than 0.25 dB higher than the maximum output power with 4x4 DL MIMO inactive.

Additionally, SAR for 4x4 MIMO Downlink Carrier Aggregation was not needed since the maximum average output power in 4x4 MIMO Downlink Carrier Aggregation mode was not more than 0.25 dB higher than the maximum output power with 4x4 MIMO Downlink and downlink carrier aggregation inactive.

LTE Band 17(706.5 MHz ~ 713.5 MHz) is covered by LTE Band 12 (699.7 MHz ~ 715.3 MHz), LTE Band 4 (1 710.7 MHz ~ 1 754.3 MHz) is covered by LTE Band 66 (1 710.7 MHz ~ 1 779.3 MHz) each both LTE bands have the same target powers

This device supports LTE capabilities with overlapping transmission frequency ranges. When the supported frequency range of LTE Band falls completely within an LTE Band with a larger transmission frequency range, both LTE Bands have the same target power or the Band with the larger transmission frequency range has a higher target power and both LTE Bands share the same transmission path and signal characteristics, SAR was only tested for the Band with the larger transmission frequency range.

This device supports LTE Carrier Aggregation (CA) in the downlink. All uplink communications are identical to Release 8 specifications. Per FCC KDB publication 941225 D05A v01r02, SAR for LTE DL CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.

This device support both Power class 2(PC2) and Power Class 3 (PC3) for LTE Band 41. Per May 2017 TCB workshop Notes, SAR test were performed with Power Class 3(given the specific UL/DL Limitations for Power Class 2). Additionally, SAR testing for the power class condition was evaluated for the highest configuration in Power class 3 for each test configuration to confirm he results were scalable linearly.

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

Per FCC KDB 941225 D01v03r01, 12.2 kbps RMC is the primary mode and HSPA (HSUPA/HSDPA with RMC) is the secondary mode.

Per FCC KDB 941225 D01v03r01, The SAR test exclusion is applied to the secondary mode by the following equation.

$$\text{Adjusted SAR} = \text{Highest Reported SAR} \times \frac{\text{Secondary Max tune - up (mW)}}{\text{Primary Max tune - up(mW)}} \leq 1.2 \text{ W/kg.}$$

Based on the highest Reported SAR, the secondary mode is not required.

Per FCC KDB 690783 1 D01 SAR Listings on Grants v01r03 and KDB 447498 D01 General RF Exposure Guidance v06 The SAR numbers listed must be consistent with the highest reported test results required by the published RF exposure KDB procedures. When the measured SAR is not at the maximum tune-up tolerance limit or maximum output power allowed for production units, the measured results are scaled to the maximum conditions to determine compliance; the scaled results are referred to as the reported SAR.

The Reported SAR = The Measured SAR  $\times \frac{\text{Maximum tune-up (mW)}}{\text{Measured Conducted Power(mW)}}$

The Reported SAR for WLAN and Bluetooth

The Reported SAR = The Measured SAR  $\times \frac{\text{Maximum tune-up (mW)}}{\text{Measured Conducted Power(mW)}}$  x Duty factor

FCC KDB 447498 D01v06 General RF Exposure Guidance introduces a new formula for calculating the SAR a Peak Location Separation Ratio(SPLSR) between pairs of simultaneously transmitting antennas:

$$SPLSR_i = (SAR_1 + SAR_2)^{1.5} / R_i$$

Where:

$SAR_1$  is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

$SAR_2$  is the highest measured of estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

$R_i$  is the separation distance between the pair of simultaneous transmitting antennas, When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of  $[(X_1 - X_2)^2 + (Y_1 - Y_2)^2 + (Z_1 - Z_2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum 1-g of SAR > 1.6 W/kg and with the sum 10-g of SAR > 4W/Kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$(SAR_1 + SAR_2)^{1.5} / R_i \leq 0.04$  for 1g SAR and  $(SAR_1 + SAR_2)^{1.5} / R_i \leq 0.1$  for 10g SAR.

## 5. Introduction

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices.

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York 10017. The measurement procedure described in IEEE/ANSI C95.3-1992 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave is used for guidance in measuring SAR due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields," NCRP Report No. 86 NCRP, 1986, Bethesda, MD 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

### SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative of the incremental electromagnetic energy ( $dW$ ) absorbed by (dissipated in) an incremental mass ( $dm$ ) contained in a volume element ( $dV$ ) of a given density ( $r$ ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body.

$$SAR = \frac{d}{dt} \left( \frac{dU}{dm} \right)$$

Figure 1. SAR Mathematical Equation  
*SAR is expressed in units of Watts per Kilogram (W/kg)*

Where:

- = conductivity of the tissue-simulant material (S/m)
- = mass density of the tissue-simulant material (kg/m<sup>3</sup>)
- = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.

## 6. Description of test equipment

### 6.1 SAR MEASUREMENT SETUP

These measurements are performed using the DASY4 automated dosimetric assessment system. It is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists of high precision robotics system (Staubli), robot controller, Pentium III computer, near-field probe, probe alignment sensor, and the generic twin phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF) (see Figure.2).

A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The PC with Windows XP or Windows 7 is working with SAR Measurement system DASY4 & DASY5, A/D interface card, monitor, mouse, and keyboard. The Staubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

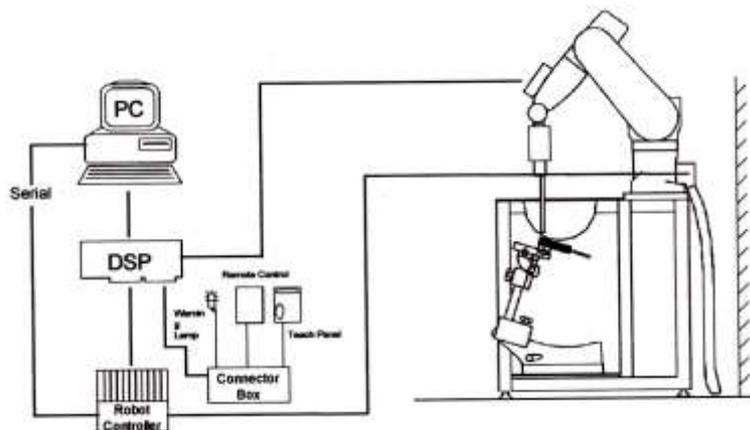


Figure 2. HCT SAR Lab. Test Measurement Set-up

The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer. The system is described in detail in.

## 7. SAR Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013.

1. The SAR distribution at the exposed side of the head or body was measured at a distance no more than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the DUT's head and body area and the horizontal grid resolution was depending on the FCC KDB 865664 D01v01r04 table 4-1 & IEEE 1528-2013.
2. Based on step, the area of the maximum absorption was determined by sophisticated interpolations routines implemented in DASY software. When an Area Scan has measured all reachable point. DASY system computes the field maximal found in the scanned are, within a range of the maximum. SAR at this fixed point was measured and used as a reference value.
3. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB 865664 D01v01r04 table 4-1 and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (reference from the DASY manual.)
  - a. The data at the surface were extrapolated, since the center of the dipoles is no more than 2.7 mm away from the tip of the probe (it is different from the probe type) and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
  - b. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
  - c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan. If the value changed by more than 5 %, the SAR evaluation and drift measurements were repeated.

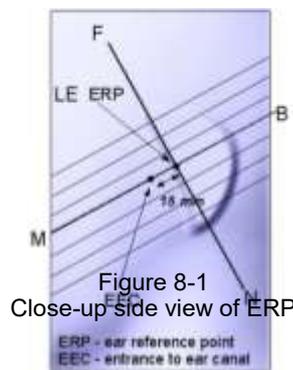
Area scan and zoom scan resolution setting follow KDB 865664 D01v01r04 quoted below.

		≤ 3 GHz	> 3 GHz	
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		5±1 mm	$\delta \cdot \ln(2) \pm 0.5$ mm	
Maximum probe angle from probe axis to phantom surface normal at the measurement location		30°±1°	20°±1°	
Maximum area scan Spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$		≤ 2 GHz: ≤15 mm 2-3 GHz: ≤12 mm	3-4 GHz: ≤12 mm 4-6 GHz: ≤10 mm	
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.		
Maximum zoom scan Spatial resolution: $\Delta x_{zoom}, \Delta y_{zoom}$		≤ 2 GHz: ≤8mm 2-3 GHz: ≤5mm*	3-4 GHz: ≤5 mm* 4-6 GHz: ≤4 mm*	
Maximum zoom scan Spatial resolution normal to phantom surface	uniform grid: $\Delta z_{zoom}(n)$	≤ 5 mm	3-4 GHz: ≤4 mm 4-5 GHz: ≤3 mm 5-6 GHz: ≤2 mm	
	graded grid	$\Delta z_{zoom}(1)$ : between 1 <sup>st</sup> two Points closest to phantom surface	≤ 4 mm	3-4 GHz: ≤3 mm 4-5 GHz: ≤2.5 mm 5-6 GHz: ≤2 mm
		$\Delta z_{zoom}(n>1)$ : between subsequent Points	≤1.5 · $\Delta z_{zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	≥ 30 mm	3-4 GHz: ≥28 mm 4-5 GHz: ≥25 mm 5-6 GHz: ≥22 mm	
Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

## 8. Description of Test Position

### 8.1 EAR REFERENCE POINT

Figure 8-2 shows the front, back and side views of the SAM phantom. The center-of-mouth reference point is labeled “M”, the left ear reference point (ERP) is marked “LE”, and the right ERP is marked “RE.” Each ERP is on the B-M (back-mouth) line located 15 mm behind the entrance-to-ear-canal (EEC) point, as shown in Figure 6-1. The Reference Plane is defined as passing through the two ear reference point and point M. The line N-F (Neck-Front), also called the Reference Pivoting Line, is not perpendicular to the reference plane (See Figure 5-1), Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning.



### 8.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The device under test was placed in a normal operating position with the acoustic output located along the “vertical centerline” on the front of the device aligned to the “ear reference point”(see Figure 8-3). The acoustic output was then located at the same level as the center of the ear reference point. The device under test was positioned so that the “vertical centerline” was bisecting the front surface of the handset at its top and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point.



Figure 8-2  
Front, back and side views of SAM Twin Phantom

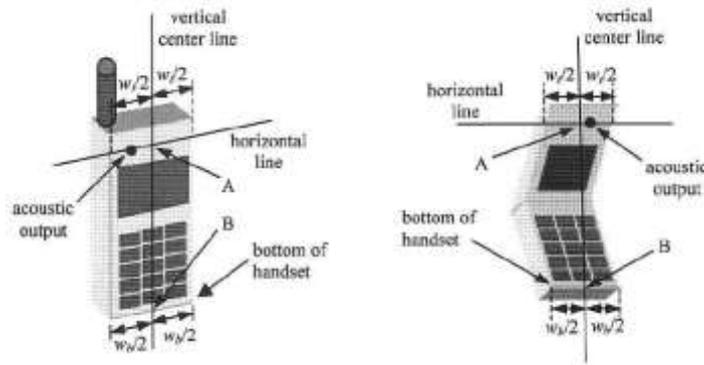


Figure 6-3. Handset vertical and horizontal reference lines

**8.3 Device Holder**

The device holder is made out of low-loss POM material having the following dielectric parameter; relative permittivity  $\epsilon=3$  and loss tangent  $\sigma =0.02$ .

**8.4 Position for cheek**

Figure 6.4. shows cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.



Figure 8.4 Cheek/ Touch position of the wireless device

### 8.5 Definition of the “tilted” position

Figure 6.5. shows tilted position. Place the device in the cheek position. Then while maintaining the orientation of the device, retract the device parallel to the reference plane far enough away from the phantom to enable a rotation of the device by 15°.



Figure 8.5. Tilt 15° position of the wireless device

### 8.6 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-dips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 6-6). Per FCC KDB Publication 648474 D04v01r03 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 D01v06 should be used to test for Body-worn accessory SAR compliance, without a headset connected to it.. 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.



Figure 8-6 Sample Body-Worn Diagram

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-dip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

## 8.7 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets (L x W $\geq$ 9cmx5 cm) are based on a composite test separation distance of 10 mm from the front back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the Body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some Body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The Portable Hotspot feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

## 8.8 Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions: i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. The 1-g body and 10-g extremity SAR Exclusion Thresholds found in KDB Publication 447498 D01v06 should be applied to determine SAR test requirements.

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear. the phablets procedures outlined in KDB Publication 648474 D04 v01r03 should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worn accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna  $\leq$ 25 mm from that surface or edge, in direct contact with the phantom, for 10-g SAR. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g SAR is required only for the surfaces and edges with hotspot mode scaled to the maximum output power (including tolerance) is 1-g SAR > 1.2 W/kg.

### 8.9 Additional Test Positions due to Proximity Conditions

This device uses a sensor to reduce output powers in extremity (hand-held) use conditions.

When the sensor detects a user is touching the device on or near to the antenna the device reduces the maximum allowed output power. However, the proximity sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, an additional exposure condition is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level.

FCC KDB 616217 D04 v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional exposure conditions. The smallest separation distance determined by the sensor triggering and sensor coverage for each applicable edge, minus 1 mm. was used as the test separation distance for SAR testing. Sensor triggering distance summary data is included in below table.

Wireless technologies	Position	§6.2 Triggering Distance	§6.3 Coverage	§6.4 Tilt Angle	Worst case distance for Phablet SAR
WWAN (GSM 1900/ UMTS B2/B4 LTE B2/B4/B25/B66/B41(PC3)/B41(PC2))	Rear	9	N/A	N/A	8
	Front	7	N/A	N/A	6
	Bottom	13	N/A	N/A	12

### 8.10 Bluetooth tethering Configurations

Per May 2017 TCBC Workshop documents When Bluetooth tethering applies, simultaneous transmission SAR needs consideration.

This model allows users to exchange data or media files with other Bluetooth enabled devices using Bluetooth, which means they can connect to other Bluetooth enabled devices via Bluetooth tethering.

Therefore, SAR test was performed for additional simultaneous transmissions.

Head and Bluetooth tethering SAR were evaluated for BT BR tethering applications.

## 9. RF Exposure Limits

HUMAN EXPOSURE	UNCONTROLLED ENVIRONMENT General Population (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT Occupational (W/kg) or (mW/g)
SPATIAL PEAK SAR * (Partial Body)	1.6	8.0
SPATIAL AVERAGE SAR ** (Whole Body)	0.08	0.4
SPATIAL PEAK SAR *** (Hands / Feet / Ankle / Wrist)	4.0	20.0

### NOTES:

- \* The Spatial Peak value of the SAR averaged over any 1 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
- \*\* The Spatial Average value of the SAR averaged over the whole-body.
- \*\*\* The Spatial Peak value of the SAR averaged over any 10 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

**Uncontrolled Environments** are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

**Controlled Environments** are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e.as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

## 10. FCC SAR General Measurement Procedures

Power Measurements for licensed transmitters are performed using a base simulator under digital average power.

### 10.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as Reported SAR. The highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

### 10.2 3G SAR Test Reduction Procedure

#### 10.2.1 GSM, GPRS AND EDGE

The following procedures may be considered for each frequency Band to determine SAR test reduction for devices operating in GSM/GPRS/EDGE modes to demonstrate RF exposure compliance. GSM voice mode transmits with 1 time-slot. GPRS and EDGE may transmit up to 4 time slots in the 8 time-slot frame according to the multi-slot class implemented in a device.

#### 10.2.2 SAR Test Reduction

In FCC KDB 941225 D01v03r01, certain transmission modes within a frequency Band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is  $\leq 0.25$  dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is  $\leq 1.2$  W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

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

#### 10.2.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB 941225 D01v03r01-3G SAR Measurement Procedures. The handset was placed into a simulated call using a base station simulator in a shielded chamber. Such test signals offer a consistent means for testing SAR and are recommended for evaluation SAR measurements were taken with a fully charged battery. In order to verify that the device was tested and maintained at full power, this was configured with the base station simulator. The SAR measurement Software calculates a reference point at the start and end of the test to Check for power drifts. If conducted Power deviations of more than 5 % occurred, the tests were repeated.

### 10.3 SAR Measurement Conditions for UMTS

#### 10.3.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in sec. 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

#### 10.3.2 Body SAR measurements

SAR for body exposure configurations is measured using the 12.2kbps RMC with the TPC bits all “1s”. the 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using and applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported SAR configuration in 12.2kbps RMC.

#### 10.3.3 SAR Measurements with Rel. 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using and FRC with H-SET 1 in Sub-test and a 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to release 6 HSPA test procedures. 8.4.5 SAR Measurement with Rel.6 HSUPA The 3G SAR test Reduction Procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, Using H-Set 1 and QPSK for FRC and a 12.2kbps RMC configured in Test Loop Mode 1 and Power Control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

#### 10.3.4 SAR Measurements with Rel. 6 HSUPA

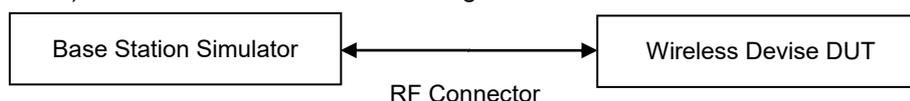
The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

#### 10.3.5DC-HSDPA

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 TS34.121-1 to determine SAR test reduction. Primary and secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

##### DC-HSDPA Configurations

- ◆ 3GPP specification TS 34.121-1 Release 8. was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK)was conformed to be used during DC-HSDPA measurements.



## 10.4 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluation SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

### 10.4.1 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.

### 10.4.2 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.

### 10.4.3 A-MPR

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

### 10.4.4 Required RB Size and RB offsets for SAR testing

According to FCC KDB 941225 D05v02r05

- a. Per sec 4.2.1, SAR is required for QPSK 1 RB Allocation for the largest Bandwidth
  - i. The required channel and offset combination with the highest maximum output power is required for SAR.
  - ii. When the reported SAR is  $\leq 0.8$  W/Kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
  - iii. When the reported SAR for a required test channel is  $> 1.45$  W/kg, SAR is required for all RB offset configurations for that channel.
- b. Per Sec 4.2.2, SAR is required for 50% RB allocation using the largest Bandwidth following the same procedures outlined in Sec 4.2.1.
- c. Per Sec. 4.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is  $< 0.8$  W/kg.
- d. Per Sec. 4.2.4 and 4.3, SAR test for higher order modulations and lower Bandwidths configurations are not required when the conducted power of the required test configurations determined by Sec. 4.2.1 through 4.2.3 is less than or equal to 1/2 dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is  $< 1.45$  W/Kg.

### 10.4.5 Downlink Carrier Aggregation

Conducted power measurements with LTE Carrier aggregation (CA) downlink only active are made in accordance to KDB publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. For every supported combination of downlink only carrier aggregation, additional conducted output Powers are measured with downlink carrier aggregation active for the configuration with highest measured maximum conducted power with the downlink carrier aggregation inactive measured among the channel Bandwidth, modulation and RB combinations in each frequency Band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the

average output power with downlink only carrier aggregation active is not more than 0.25dB higher than the average output power with downlink only carrier aggregation inactive.

**10.4.6 LTE(TDD) Considerations**

According to KDB 941225 D05v02r05, 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.

SAR was tested with the highest transmission duty factor (63.33 %) using Uplink-downlink configuration 0 and Special subframe configuration 6. LTE TDD Band 41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special sub frame configurations.

Table 4.2-1: 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	$13168 \cdot T_s$	-	-	-	-	-

Calculated Duty Cycle – Extended cyclic prefix in uplink x (Ts) x no of S + no of U

Table 4.2-2: 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

Example for calculated Duty Cycle for Uplink-Downlink Configuration 0:  
 Calculated Duty Cycle =  $(5120 \times (1/(15000 \times 2048))) \times 2 + 0.006)/0.01 = 63.33 \%$   
 Where  
 $T_s = 1/(15000 \times 2048)$  seconds

HPUE :  
 Calculated Duty Cycle for Uplink-Downlink Configuration 1:  
 Calculated Duty Cycle =  $5120 \times (1/(15000 \times 2048)) \times 2 + 0.004)/0.01 = 43.33 \%$

### 10.4.7 The Call Box Setup for LTE(TDD)

When you Want to Test for LTE TDD, Please Change Frame Structure TDD and TDD Uplink Downlink Configuration 0 and Special Subframe Configuration 6.

2018/01/08 11:00 Idle( Regist ) Phone-2 W-CDMA Phone-1 LTE  
 <Fundamental Measurement> Output Main Continuous

Parameter Fundamental UE Report

Reference Signal not found UE Power : -21.5 dBm

Power Measurement (Meas. Count : 11/ 20)

	Avg.	Max.	Min.	Limit
TX Power	*****	*****	*****	dBm 20.3 to 25.7 dBm
Channel Power	*****	*****	*****	dBm

Modulation Analysis View (Meas. Count : 1/ 1)

Common Parameter

Test Parameter TX1 - Max. Power(QPSK/1 RB)

Call Processing On Scenario Normal

Frequency

Frame Structure TDD

Channel Bandwidth FDD Hz TDD 20

UL Channel & Frequency CH = 2593.000000 MHz

DL Channel & Frequency 40620 CH = 2593.000000 MHz

Operation Band 41

Frequency Separation ( 0 )MHz

Level

Input Level 30.0 dBm

Parameter: Common, Physical Channel, Call Processing, TX Measurement Setup, RX Measurement Setup, Fundamental Measurement

2018/01/08 11:01 Idle( Regist ) Phone-2 W-CDMA Phone-1 LTE  
 <Fundamental Measurement> Output Main Continuous

Parameter Fundamental UE Report

Reference Signal not found UE Power : -21.5 dBm

Power Measurement (Meas. Count : 11/ 20)

	Avg.	Max.	Min.	Limit
TX Power	*****	*****	*****	dBm 20.3 to 25.7 dBm
Channel Power	*****	*****	*****	dBm

Modulation Analysis View (Meas. Count : 1/ 1)

MCS Index	Modulation	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK	QPSK
MCS Index (-)	5	(QPSK)	(5)	(2216)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MCS Index (5)	5	(QPSK)	(5)	(1864)	4	-	-	-	-	-	-	-	-	-	-	-	-	-
MCS Index (0)	5	(QPSK)	(5)	(2216)	-	2	-	-	-	-	-	-	-	-	-	-	-	-
MCS Index (1,6)	N/A	(----)	(--)	(----)	-	2	-	-	-	-	-	-	-	-	-	-	-	-

CFI 3

TDD subframe 0 1 2 3 4 5 6 7 8 9

Uplink Downlink Configuration 0 : ( 5ms) D S U U U D S U U U

Special Subframe Configuration 6

Physical Channel Parameter

PSS Power	0.0	dB
SSS Power	0.0	dB
PBCH Power	0.0	dB
PCFICH Power	0.0	dB
PHICH Power	0.0	dB

Parameter: Common, Physical Channel, Call Processing, TX Measurement Setup, RX Measurement Setup, Fundamental Measurement

## 10.5 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

### 10.5.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR system to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92-96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

### 10.5.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII2A Bands, when the same maximum output power is specified for both Bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is  $> 1.2$  W/kg for 1g SAR or  $> 3.0$  W/kg for 10g SAR. When different maximum output powers are specified for the Bands, SAR measurement for the U-NII Band with the lower maximum output power is not required unless the highest reported SAR for the U-NII Band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two Bands, is  $> 1.2$  W/kg for 1g SAR or  $> 3.0$  W/kg for 10g SAR.

### 10.5.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 GHz – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 GHz – 5.65 GHz in U-NII-2C Band must be disabled with acceptable mechanisms and documented in the equipment certification.

Unless Band gap channels are permanently disabled, SAR must be considered for these channels.

### 10.5.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is  $\leq 0.4$  W/kg for 1g SAR and  $\leq 1.0$  W/kg for 10g SAR, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is  $\leq 0.8$  W/kg for 1g SAR and  $\leq 2.0$  W/kg for 10g SAR or all test positions are measured.

#### 10.5.5 2.4 GHz SAR test Requirements

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

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

2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is  $> 1.2$  W/kg. When SAR is required for OFDM modes in 2.4 GHz Band, the Initial Test Configuration Procedures should be followed.

#### 10.5.6 OFDM Transmission Mode and SAR Test Channel Selection

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

#### 10.5.7 Initial Test Configuration Procedure

For OFDM, in both 2.4 GHz and 5 GHz Bands, an initial test configuration is determined for each frequency Band and aggregated Band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency Band or aggregated Band, SAR is measured using the configuration(s) with the largest channel Bandwidth, lowest order modulation, and lowest data rate. If the average RF output powers of the highest identical transmission modes are within 0.25 dB of each other, mid channel of the transmission mode with highest average RF output power is the initial test channel. Otherwise, the channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is  $\leq 0.8$  W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements.

#### 10.5.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency Band and aggregated Band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position on procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is  $\leq 1.2$  W/kg for 1g SAR and  $\leq 3.0$  W/kg for 10g SAR, no additional SAR tests for the subsequent test configurations are required.

## 11. Output Power Specifications

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB publication 447498 D01v06.

### Licensed Bands

Test Description	Test Procedure Used
Conducted Output Power	- KDB 971168 D01 v03r01 - Section 5.2.4 - ANSI C63.26-2015 - Section 5.2.1 & 5.2.4.2

### Test Overview

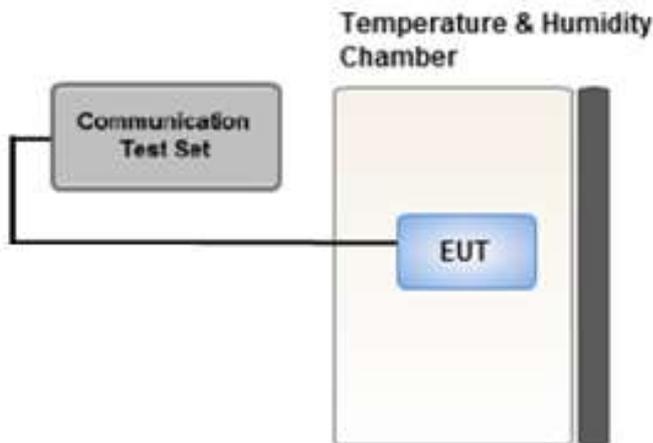
According to ANSI C63.26-2015 Section 5.2.1 when measuring the maximum RF output power from such devices, control over the EUT must be provided either through special test software (provided by manufacturer specifically for compliance testing, but not accessible by an end user) or through use of a base station emulator, communications test set, call box, or similar instrumentation that is capable of establishing a communications link with the EUT to enable control over variable parameters (e.g., output power, OBW, etc.).

In some cases, these instruments also include basic digital spectrum analyzer and/or power meter capabilities that can be utilized to measure the RF output power if the specified detectors and requirements can be realized and the measurement functions have been calibrated.

### Test Procedure

1. The RF port of the EUT was connected to the Communication Tester via an RF cable.
2. Conducted average power was measured using a calibrated Radio Communication Tester.

### Test setup



## 11.1 GSM

### 11.1.1 GSM Maximum Conducted Output Power

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		34.0	34.0	32.0	30.5	29.0	27.0	25.0	23.5	22.0
Nominal		33.0	33.0	31.0	29.5	28.0	26.0	24.0	22.5	21.0
GSM 850	128	33.11	33.02	31.24	29.32	28.71	26.27	24.84	22.94	21.55
	190	33.15	33.13	31.42	29.53	28.91	26.59	24.90	23.05	21.76
	251	33.18	33.15	31.51	29.60	28.88	26.63	24.97	23.11	21.82
Maximum		31.0	31.0	28.5	26.5	25.0	26.0	24.0	22.5	21.0
Nominal		30.0	30.0	27.5	25.5	24.0	25.0	23.0	21.5	20.0
GSM 1900	512	29.41	29.31	27.12	25.29	23.61	24.42	22.45	21.24	19.63
	661	29.31	29.41	27.01	25.19	23.49	24.38	22.45	21.01	19.58
	810	29.99	29.82	27.65	25.82	24.01	25.21	23.13	21.65	20.28

GSM Conducted output powers (Burst-Average)

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		24.97	24.97	25.98	26.24	25.99	17.97	18.98	19.24	18.99
Nominal		23.97	23.97	24.98	25.24	24.99	16.97	17.98	18.24	17.99
GSM 850	128	24.08	23.99	25.22	25.06	25.7	17.24	18.82	18.68	18.54
	190	24.12	24.1	25.4	25.27	25.9	17.56	18.88	18.79	18.75
	251	24.15	24.12	25.49	25.34	25.87	17.6	18.95	18.85	18.81
Maximum		21.97	21.97	22.48	22.24	21.99	16.97	17.98	18.24	17.99
Nominal		20.97	20.97	21.48	21.24	20.99	15.97	16.98	17.24	16.99
GSM 1900	512	20.38	20.28	21.1	21.03	20.6	15.39	16.43	16.98	16.62
	661	20.28	20.38	20.99	20.93	20.48	15.35	16.43	16.75	16.57
	810	20.96	20.79	21.63	21.56	21	16.18	17.11	17.39	17.27

GSM Conducted output powers (Frame-Average)

**Note:**

Time slot average factor is as follows:

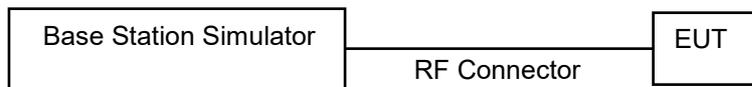
- 1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB
- 2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB
- 3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB
- 4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B

GSM voice: Head SAR , Body worn SAR

GPRS/EDGE Multi-slots 12 : Hotspot SAR with GPRS/EDGE

Multi-slot Class 12 with CS 1 (GMSK)



**11.1.2 GSM Reduced Conducted Output Power (Hotspot mode activated)**

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	28.0	28.0	25.5	23.5	22.5	26.0	23.5	22.0	20.5	
Nominal	27.0	27.0	24.5	22.5	21.5	25.0	22.5	21.0	19.5	
GSM 1900	512	26.71	27.06	24.25	22.51	20.75	24.05	22.04	20.82	19.31
	661	26.82	26.89	24.04	22.30	20.52	23.84	21.84	20.62	19.15
	810	27.40	27.26	24.43	22.87	21.19	24.55	22.62	21.25	19.92

GSM Conducted output powers (Burst-Average)

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	18.97	18.97	19.48	19.24	19.49	16.97	17.48	17.74	17.49	
Nominal	17.97	17.97	18.48	18.24	18.49	15.97	16.48	16.74	16.49	
GSM 1900	512	17.68	18.03	18.23	18.25	17.74	15.02	16.02	16.56	16.30
	661	17.79	17.86	18.02	18.04	17.51	14.81	15.82	16.36	16.14
	810	18.37	18.23	18.41	18.61	18.18	15.52	16.60	16.99	16.91

GSM Conducted output powers (Frame-Average)

**Note:**

Time slot average factor is as follows:

- 1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB
- 2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB
- 3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB
- 4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B

GSM voice: Head SAR , Body worn SAR

GPRS/EDGE Multi-slots 12 : Hotspot SAR with GPRS/EDGE  
Multi-slot Class 12 with CS 1 (GMSK)



**11.1.3 GSM Reduced Conducted Output Power (Grip back and Ear jack Activated)**

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	28.0	28.0	25.5	23.5	22.5	26.0	23.5	22.0	20.5	
Nominal	27.0	27.0	24.5	22.5	21.5	25.0	22.5	21.0	19.5	
GSM 1900	512	26.76	27.08	24.25	22.59	20.73	23.97	21.99	20.88	19.30
	661	26.92	26.86	24.10	22.37	20.51	23.89	21.76	20.64	19.11
	810	27.33	27.29	24.36	22.82	21.15	24.55	22.65	21.25	19.86

GSM Conducted output powers (Burst-Average)

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	18.97	18.97	19.48	19.24	19.49	16.97	17.48	17.74	17.49	
Nominal	17.97	17.97	18.48	18.24	18.49	15.97	16.48	16.74	16.49	
GSM 1900	512	17.73	18.05	18.23	18.33	17.72	14.94	15.97	16.62	16.29
	661	17.89	17.83	18.08	18.11	17.50	14.86	15.74	16.38	16.1
	810	18.30	18.26	18.34	18.56	18.14	15.52	16.63	16.99	16.85

GSM Conducted output powers (Frame-Average)

**Note:**

Time slot average factor is as follows:

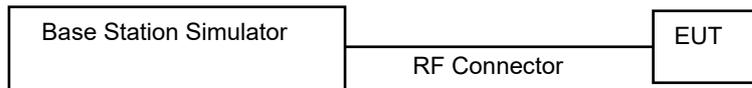
- 1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB
- 2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB
- 3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB
- 4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B

GSM voice: Head SAR , Body worn SAR

GPRS/EDGE Multi-slots 12 : Hotspot SAR with GPRS/EDGE

Multi-slot Class 12 with CS 1 (GMSK)



## 11.2 UMTS

### HSPA+

This DUT is only capable of QPSK HSPA+ in uplink. Therefore, the RF conducted power is not measured according to 941225 D01v03r01 3G SAR.

### 11.2.1 UMTS Maximum Conducted Output Power

#### UMTS Band 5 Maximum Conducted Output Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 5 [dBm]			3GPP MPR
		Subtest	UL4132 DL4357	UL4183 DL4408	UL4233 DL4458	
99	UMTS	12.2 kbps RMC	24.45	24.22	24.32	-
99		12.2 kbps AMR	24.45	23.26	24.32	-
5	HSDPA	Subtest 1	23.27	23.03	23.12	0
5		Subtest 2	22.80	22.53	22.66	0
5		Subtest 3	22.26	22.01	22.10	0.5
5		Subtest 4	21.66	21.47	21.57	0.5
6	HSUPA	Subtest 1	22.31	22.02	22.31	0
6		Subtest 2	20.24	20.01	20.09	2
6		Subtest 3	21.24	20.97	21.08	1
6		Subtest 4	20.21	19.97	20.06	2
6		Subtest 5	22.21	21.94	22.06	0
8	DC-HSDPA	Subtest1	24.04	23.97	23.81	0
8		Subtest2	23.04	22.92	22.83	0
8		Subtest3	22.02	21.99	21.86	0.5
8		Subtest4	22.06	21.99	21.84	0.5

UMTS Average Conducted output powers

#### UMTS Band 4 Maximum Conducted Output Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 4 [dBm]			3GPP MPR
		Subtest	UL 1312 DL 1537	UL 1412 DL 1637	UL 1513 DL 1738	
99	UMTS	12.2 kbps RMC	22.65	22.82	22.80	-
99		12.2 kbps AMR	22.64	22.82	22.79	-
5	HSDPA	Subtest 1	22.38	22.63	22.63	0
5		Subtest 2	22.50	22.57	22.55	0
5		Subtest 3	22.37	22.11	22.55	0.5
5		Subtest 4	21.54	21.63	21.60	0.5
6	HSUPA	Subtest 1	21.43	21.67	21.54	0
6		Subtest 2	18.23	18.31	18.30	2
6		Subtest 3	18.94	19.12	19.10	1
6		Subtest 4	18.59	18.66	18.53	2
6		Subtest 5	21.60	21.60	21.54	0
8	DC-HSDPA	Subtest1	22.46	22.62	22.50	0
8		Subtest2	22.48	22.63	22.51	0
8		Subtest3	21.50	21.74	21.62	0.5
8		Subtest4	21.55	21.68	21.66	0.5

UMTS Average Conducted output powers

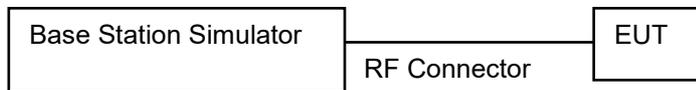
UMTS Band 2 Maximum Conducted Output Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL9262 DL9662	UL9400 DL9800	UL9538 DL9938	
99	UMTS	12.2 kbps RMC	22.09	21.99	22.16	-
99		12.2 kbps AMR	22.11	21.97	22.20	-
5	HSDPA	Subtest 1	22.24	22.20	22.36	0
5		Subtest 2	22.21	22.13	22.36	0
5		Subtest 3	22.23	22.13	22.33	0.5
5		Subtest 4	21.73	21.61	21.90	0.5
6	HSUPA	Subtest 1	21.07	20.98	21.18	0
6		Subtest 2	19.55	19.45	19.71	2
6		Subtest 3	19.03	18.96	19.18	1
6		Subtest 4	20.61	20.53	20.72	2
6		Subtest 5	21.05	20.97	21.18	0
8	DC-HSDPA	Subtest 1	21.73	21.87	21.92	0
8		Subtest2	21.75	21.83	21.96	0
8		Subtest3	21.99	21.79	21.91	0.5
8		Subtest4	21.79	21.82	21.94	0.5

UMTS Average Conducted output powers

DC-HSDPA Configurations

- ◆ 3GPP specification TS 34.121-1 Release 8. was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK)was conformed to be used during DC-HSDPA measurements.



**11.2.2 UMTS Reduced Conducted Output Power (Hotspot mode activated)**

UMTS Band 4 Hotspot Back-off Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 4 [dBm]			3GPP MPR
		Subtest	UL 1312 DL 1537	UL 1412 DL 1637	UL 1513 DL 1738	
99	UMTS	12.2 kbps RMC	19.12	19.16	19.11	-
99		12.2 kbps AMR	19.08	19.14	19.10	-
5	HSDPA	Subtest 1	19.17	19.19	19.14	0
5		Subtest 2	18.97	19.03	19.00	0
5		Subtest 3	19.15	19.16	19.14	0
5		Subtest 4	19.14	19.17	19.15	0
6	HSUPA	Subtest 1	18.47	18.28	18.64	0
6		Subtest 2	18.28	18.28	18.54	0
6		Subtest 3	18.35	18.31	18.75	0
6		Subtest 4	18.41	18.29	18.83	0
6		Subtest 5	18.29	18.33	18.75	0
8	DC-HSDPA	Subtest 1	18.82	19.10	19.04	0
8		Subtest2	18.87	19.04	19.09	0
8		Subtest3	18.85	19.02	19.07	0
8		Subtest4	18.91	19.05	19.03	0

UMTS Average Conducted output powers

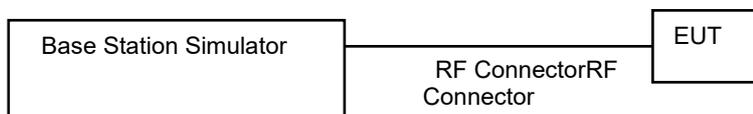
UMTS Band 2 Hotspot Back-off Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL9262 DL9662	UL9400 DL9800	UL9538 DL9938	
99	UMTS	12.2 kbps RMC	18.95	18.80	18.98	-
99		12.2 kbps AMR	18.79	18.67	18.85	-
5	HSDPA	Subtest 1	18.95	18.80	18.98	0
5		Subtest 2	18.79	18.67	18.85	0
5		Subtest 3	18.63	18.72	18.80	0
5		Subtest 4	18.61	18.54	18.78	0
6	HSUPA	Subtest 1	18.60	18.54	18.79	0
6		Subtest 2	18.59	18.57	18.77	0
6		Subtest 3	18.10	18.70	18.18	0
6		Subtest 4	17.64	18.26	17.77	0
6		Subtest 5	17.70	18.28	17.80	0
8	DC-HSDPA	Subtest 1	17.61	17.83	17.74	0
8		Subtest2	18.61	18.72	18.78	0
8		Subtest3	18.20	18.35	18.51	0
8		Subtest4	18.16	18.31	18.48	0

UMTS Average Conducted output powers

DC-HSDPA Configurations

- ◆ 3GPP specification TS 34.121-1 Release 8. was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK) was conformed to be used during DC-HSDPA measurements.



**11.2.3 UMTS Reduced Conducted Output Power – (Grip back Activated/ Ear jack Activated)**

UMTS Band 4 Grip Back-off Power

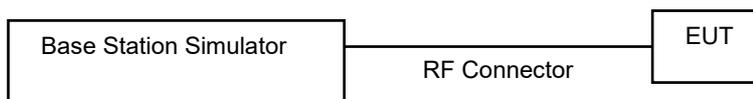
3GPP Release Version	Mode	3GPP 34.121	UMTS Band 4 [dBm]			3GPP MPR
		Subtest	UL 1312 DL 1537	UL 1412 DL 1637	UL 1513 DL 1738	
99	UMTS	12.2 kbps RMC	19.16	19.21	19.06	-
99		12.2 kbps AMR	19.15	19.20	19.05	-
5	HSDPA	Subtest 1	19.19	19.29	19.07	0
5		Subtest 2	18.89	18.96	19.02	0
5		Subtest 3	19.24	19.10	19.24	0
5		Subtest 4	19.14	19.11	19.10	0
6	HSUPA	Subtest 1	18.37	18.32	18.64	0
6		Subtest 2	18.24	18.23	18.50	0
6		Subtest 3	18.31	18.31	18.69	0
6		Subtest 4	18.51	18.20	18.75	0
6		Subtest 5	18.27	18.23	18.81	0
8	DC-HSDPA	Subtest 1	18.92	19.02	18.99	0
8		Subtest2	18.80	19.05	19.05	0
8		Subtest3	18.93	18.92	18.97	0
8		Subtest4	18.93	19.10	19.01	0

UMTS Average Conducted output powers

UMTS Band 2 Grip back-off Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL9262 DL9662	UL9400 DL9800	UL9538 DL9938	
99	UMTS	12.2 kbps RMC	18.95	18.72	19.02	-
99		12.2 kbps AMR	18.75	18.65	18.87	-
5	HSDPA	Subtest 1	18.63	18.74	18.77	0
5		Subtest 2	18.59	18.58	18.73	0
5		Subtest 3	18.59	18.52	18.81	0.5
5		Subtest 4	18.58	18.57	18.79	0.5
6	HSUPA	Subtest 1	18.14	18.66	18.17	0
6		Subtest 2	17.68	18.27	17.73	2
6		Subtest 3	17.71	18.25	17.80	1
6		Subtest 4	17.66	17.78	17.73	2
6		Subtest 5	18.62	18.71	18.78	0
8	DC-HSDPA	Subtest 1	18.22	18.40	18.50	0
8		Subtest 2	18.15	18.28	18.52	0
8		Subtest 3	18.06	18.22	18.42	0.5
8		Subtest 4	18.02	18.28	18.31	0.5

- ◆ 3GPP specification TS 34.121-1 Release 8. was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK) was conformed to be used during DC-HSDPA measurements.



### 11.3 LTE Maximum Output Power

LTE B4/5/12/13/17/26 at 20 MHz Bandwidth does not support three non-overlapping channels. Per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the mid channel of the group of overlapping channels should be selected for testing.

#### 11.3.1 LTE Maximum Conducted Power

##### [ LTE Band 2 Conducted Power ]

LTE Band 2 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18607 Ch. 1850.7 MHz	18900 Ch. 1880 MHz	19193 Ch. 1909.3 MHz		
1.4 MHz	QPSK	1	0	21.92	21.66	22.24	0	0
		1	3	22.02	21.74	22.27	0	0
		1	5	21.89	21.69	22.20	0	0
		3	0	21.91	21.67	22.21	0	0
		3	1	22.07	21.87	22.30	0	0
		3	3	21.96	21.73	22.29	0	0
	16QAM	6	0	20.90	20.67	21.21	0-1	1
		1	0	21.14	20.88	21.57	0-1	1
		1	3	20.86	20.69	21.24	0-1	1
		1	5	21.20	20.93	21.52	0-1	1
		3	0	21.02	20.79	21.37	0-1	1
		3	1	21.16	20.95	21.42	0-1	1
	64QAM	3	3	21.05	20.93	21.48	0-1	1
		6	0	20.00	19.80	20.36	0-2	2
		1	0	20.14	19.96	20.37	0-2	2
		1	3	20.11	19.91	20.27	0-2	2
		1	5	20.07	19.98	20.43	0-2	2
		3	0	19.93	19.73	20.27	0-2	2
	256QAM	3	1	20.11	19.91	20.45	0-2	2
		3	3	20.00	19.81	20.34	0-2	2
		6	0	19.00	18.87	19.40	0-3	3
		1	0	17.02	16.83	17.45	0-5	5
		1	3	17.08	16.78	17.30	0-5	5
		1	5	17.10	16.94	17.39	0-5	5
		3	0	16.92	16.67	17.22	0-5	5
		3	1	17.03	16.73	17.28	0-5	5
		3	3	17.07	16.73	17.31	0-5	5
		6	0	17.01	16.69	17.22	0-5	5

LTE Band 2\_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18615 Ch. 1851.5 MHz	18900 Ch. 1880 MHz	19185 Ch. 1908.5 MHz		
3 MHz	QPSK	1	0	21.90	21.77	22.26	0	0
		1	7	21.89	21.69	22.26	0	0
		1	14	21.89	21.73	22.27	0	0
		8	0	20.99	20.79	21.34	0-1	1
		8	3	20.98	20.76	21.27	0-1	1
		8	7	21.00	20.80	21.30	0-1	1
		15	0	20.99	20.80	21.32	0-1	1
	16QAM	1	0	21.26	20.90	21.58	0-1	1
		1	7	21.24	20.85	21.49	0-1	1
		1	14	21.08	20.95	21.42	0-1	1
		8	0	20.07	19.89	20.40	0-2	2
		8	3	20.05	19.86	20.33	0-2	2
		8	7	20.13	19.91	20.42	0-2	2
		15	0	20.12	19.84	20.39	0-2	2
	64QAM	1	0	20.18	19.97	20.56	0-2	2
		1	7	20.03	19.86	20.45	0-2	2
		1	14	20.02	19.95	20.49	0-2	2
		8	0	19.01	18.83	19.35	0-3	3
		8	3	19.06	18.79	19.34	0-3	3
		8	7	19.02	18.84	19.37	0-3	3
		15	0	19.02	18.87	19.39	0-3	3
	256QAM	1	0	17.17	16.79	17.40	0-5	5
		1	7	17.05	16.73	17.42	0-5	5
		1	14	17.16	16.97	17.42	0-5	5
		8	0	16.95	16.70	17.27	0-5	5
		8	3	16.98	16.71	17.28	0-5	5
		8	7	16.96	16.73	17.22	0-5	5
		15	0	16.99	16.79	17.27	0-5	5

LTE Band 2\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18625 Ch. 1852.5 MHz	18900 Ch. 1880 MHz	19175 Ch. 1907.5 MHz		
5 MHz	QPSK	1	0	21.94	21.76	22.33	0	0
		1	12	21.93	21.74	22.27	0	0
		1	24	21.92	21.75	22.28	0	0
		12	0	20.96	20.80	21.37	0-1	1
		12	6	20.96	20.79	21.37	0-1	1
		12	11	20.99	20.80	21.35	0-1	1
	16QAM	25	0	20.97	20.81	21.33	0-1	1
		1	0	21.29	21.04	21.50	0-1	1
		1	12	21.12	21.01	21.62	0-1	1
		1	24	21.25	21.14	21.54	0-1	1
		12	0	20.05	19.90	20.42	0-2	2
		12	6	20.04	19.82	20.41	0-2	2
	64QAM	12	11	20.01	19.90	20.44	0-2	2
		25	0	20.02	19.88	20.38	0-2	2
		1	0	20.12	20.00	20.60	0-2	2
		1	12	20.02	19.92	20.43	0-2	2
		1	24	20.08	19.97	20.57	0-2	2
		12	0	19.05	18.89	19.43	0-3	3
	256QAM	12	6	18.99	18.87	19.41	0-3	3
		12	11	18.96	18.85	19.39	0-3	3
		25	0	18.99	18.83	19.45	0-3	3
		1	0	17.02	16.97	17.44	0-5	5
		1	12	17.08	16.90	17.41	0-5	5
		1	24	17.10	16.93	17.30	0-5	5
		12	0	17.03	16.79	17.34	0-5	5
		12	6	16.95	16.68	17.23	0-5	5
		12	11	17.01	16.75	17.29	0-5	5
25		0	16.98	16.78	17.32	0-5	5	

LTE Band 2 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18650 Ch. 1855 MHz	18900 Ch. 1880 MHz	19150 Ch. 1905 MHz		
10 MHz	QPSK	1	0	21.97	21.83	22.27	0	0
		1	24	21.97	21.75	22.22	0	0
		1	49	22.04	21.86	22.29	0	0
		25	0	21.02	20.84	21.35	0-1	1
		25	12	21.01	20.83	21.30	0-1	1
		25	24	21.01	20.82	21.31	0-1	1
	16QAM	50	0	21.00	20.77	21.26	0-1	1
		1	0	21.32	21.04	21.52	0-1	1
		1	24	21.15	20.99	21.34	0-1	1
		1	49	21.30	21.02	21.48	0-1	1
		25	0	20.09	19.93	20.33	0-2	2
		25	12	20.06	19.92	20.36	0-2	2
	64QAM	25	24	20.05	19.90	20.37	0-2	2
		50	0	19.98	19.86	20.24	0-2	2
		1	0	20.28	20.11	20.45	0-2	2
		1	24	19.98	19.94	20.45	0-2	2
		1	49	20.28	19.99	20.48	0-2	2
		25	0	19.03	18.92	19.37	0-3	3
	256QAM	25	12	19.03	18.86	19.35	0-3	3
		25	24	19.02	18.89	19.33	0-3	3
		50	0	19.00	18.80	19.30	0-3	3
		1	0	17.10	16.92	17.32	0-5	3
		1	24	17.03	16.91	17.36	0-5	3
		1	49	17.02	16.95	17.31	0-5	3
		25	0	16.95	16.78	17.24	0-5	4
		25	12	16.94	16.73	17.25	0-5	4
		25	24	16.95	16.74	17.21	0-5	4
		50	0	16.94	16.74	17.22	0-5	4

LTE Band 2 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18675 Ch. 1857.5 MHz	18900 Ch. 1880 MHz	19125 Ch. 1902.5 MHz		
15 MHz	QPSK	1	0	22.02	21.82	22.28	0	0
		1	36	21.95	21.75	22.18	0	0
		1	74	22.02	21.82	22.18	0	0
		36	0	21.06	20.79	21.24	0-1	1
		36	18	21.04	20.82	21.25	0-1	1
		36	39	20.99	20.80	21.20	0-1	1
		75	0	21.01	20.80	21.23	0-1	1
	16QAM	1	0	21.31	21.05	21.43	0-1	1
		1	36	21.16	20.94	21.35	0-1	1
		1	74	21.28	21.00	21.54	0-1	1
		36	0	20.03	19.83	20.25	0-2	2
		36	18	20.07	19.81	20.20	0-2	2
		36	39	20.02	19.86	20.21	0-2	2
		75	0	20.07	19.80	20.22	0-2	2
	64QAM	1	0	20.19	20.05	20.45	0-2	2
		1	36	19.99	19.87	20.28	0-2	2
		1	74	20.28	20.03	20.38	0-2	2
		36	0	19.05	18.84	19.27	0-3	3
		36	18	19.04	18.84	19.24	0-3	3
		36	39	19.02	18.83	19.20	0-3	3
		75	0	19.03	18.79	19.26	0-3	3
	256QAM	1	0	17.12	16.96	17.37	0-5	5
		1	36	16.70	16.86	17.09	0-5	5
		1	74	17.11	17.04	17.24	0-5	5
		36	0	16.93	16.75	17.18	0-5	5
		36	18	16.95	16.77	17.15	0-5	5
		36	39	16.96	16.74	17.09	0-5	5
75		0	16.97	16.78	17.16	0-5	5	

LTE Band 2 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 MHz	18900 Ch. 1880 MHz	19100 Ch. 1900 MHz		
20 MHz	QPSK	1	0	21.91	21.80	22.28	0	0
		1	49	21.82	21.76	22.18	0	0
		1	99	21.93	21.78	22.20	0	0
		50	0	20.90	20.73	21.22	0-1	1
		50	25	20.87	20.76	21.24	0-1	1
		50	49	20.86	20.79	21.15	0-1	1
	16QAM	100	0	20.88	20.80	21.22	0-1	1
		1	0	21.17	21.13	21.68	0-1	1
		1	49	21.01	21.01	21.34	0-1	1
		1	99	21.09	21.09	21.55	0-1	1
		50	0	19.91	19.78	20.27	0-2	2
		50	25	19.89	19.76	20.21	0-2	2
	64QAM	50	49	19.93	19.79	20.20	0-2	2
		100	0	19.93	19.81	20.26	0-2	2
		1	0	20.13	19.95	20.57	0-2	2
		1	49	20.10	19.81	20.42	0-2	2
		1	99	20.13	19.85	20.44	0-2	2
		50	0	18.90	18.77	19.28	0-3	3
	256QAM	50	25	18.89	18.78	19.25	0-3	3
		50	49	18.89	18.77	19.23	0-3	3
		100	0	18.90	18.81	19.25	0-3	3
		1	0	17.11	17.05	17.31	0-5	5
		1	49	16.89	16.82	17.31	0-5	5
		1	99	16.99	16.99	17.28	0-5	5
	50	0	16.89	16.75	17.21	0-5	5	
	50	25	16.86	16.71	17.23	0-5	5	
	50	49	16.86	16.74	17.18	0-5	5	
	100	0	16.86	16.73	17.21	0-5	5	

[ LTE Band 4 Conducted Power ]

LTE Band 4 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19957 Ch. 1710.7 MHz	20175 Ch. 1732.5 MHz	20393 Ch. 1754.3 MHz		
1.4 MHz	QPSK	1	0	22.59	22.66	22.64	0	0
		1	3	22.68	22.68	22.68	0	0
		1	5	22.66	22.67	22.64	0	0
		3	0	22.59	22.66	22.63	0	0
		3	1	22.72	22.72	22.73	0	0
		3	3	22.69	22.69	22.66	0	0
	16QAM	6	0	21.64	21.65	21.67	0-1	1
		1	0	21.94	21.87	21.89	0-1	1
		1	3	21.67	21.51	21.75	0-1	1
		1	5	21.78	21.88	21.71	0-1	1
		3	0	21.67	21.74	21.74	0-1	1
		3	1	21.86	21.84	21.81	0-1	1
	64QAM	3	3	21.77	21.78	21.86	0-1	1
		6	0	20.67	20.75	20.78	0-2	2
		1	0	20.85	20.79	20.80	0-2	2
		1	3	20.72	20.70	20.80	0-2	2
		1	5	20.88	20.77	20.78	0-2	2
		3	0	20.65	20.65	20.71	0-2	2
	256QAM	3	1	20.77	20.85	20.91	0-2	2
		3	3	20.69	20.73	20.69	0-2	2
		6	0	19.74	19.74	19.71	0-3	3
		1	0	17.76	17.79	17.76	0-5	5
		1	3	17.59	17.64	17.66	0-5	5
		1	5	17.63	17.77	17.79	0-5	5
		3	0	17.56	17.58	17.56	0-5	5
		3	1	17.59	17.62	17.56	0-5	5
		3	3	17.59	17.65	17.62	0-5	5
		6	0	17.55	17.51	17.57	0-5	5

LTE Band 4 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19965 Ch. 1711.5 MHz	20175 Ch. 1732.5 MHz	20385 Ch. 1753.5 MHz		
3 MHz	QPSK	1	0	22.58	22.67	22.60	0	0
		1	7	22.62	22.71	22.61	0	0
		1	14	22.66	22.72	22.63	0	0
		8	0	21.77	21.74	21.73	0-1	1
		8	3	21.70	21.72	21.72	0-1	1
		8	7	21.76	21.76	21.70	0-1	1
	16QAM	15	0	21.75	21.77	21.74	0-1	1
		1	0	21.97	21.90	21.82	0-1	1
		1	7	21.95	21.83	21.82	0-1	1
		1	14	21.86	21.88	21.85	0-1	1
		8	0	20.74	20.78	20.80	0-2	2
		8	3	20.74	20.77	20.74	0-2	2
	64QAM	8	7	20.82	20.81	20.77	0-2	2
		15	0	20.70	20.74	20.74	0-2	2
		1	0	20.87	20.84	20.76	0-2	2
		1	7	20.73	20.76	20.71	0-2	2
		1	14	20.81	20.79	20.79	0-2	2
		8	0	19.73	19.67	19.74	0-3	3
	256QAM	8	3	19.72	19.69	19.71	0-3	3
		8	7	19.71	19.73	19.71	0-3	3
		15	0	19.74	19.72	19.77	0-3	3
		1	0	17.77	17.77	17.73	0-5	5
		1	7	17.75	17.60	17.66	0-5	5
		1	14	17.56	17.66	17.71	0-5	5
		8	0	17.60	17.60	17.59	0-5	5
		8	3	17.57	17.55	17.57	0-5	5
		8	7	17.55	17.58	17.61	0-5	5
	15	0	17.59	17.60	17.59	0-5	5	

LTE Band 4 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				19975 Ch. 1712.5 MHz	20175 Ch. 1732.5 MHz	20375 Ch. 1752.5 MHz			
5 MHz	QPSK	1	0	22.63	22.69	22.67	0	0	
		1	12	22.64	22.64	22.57	0	0	
		1	24	22.69	22.68	22.62	0	0	
		12	0	21.81	21.78	21.72	0-1	1	
		12	6	21.77	21.78	21.73	0-1	1	
		12	11	21.79	21.78	21.76	0-1	1	
	16QAM	25	0	21.76	21.77	21.70	0-1	1	
		1	0	21.92	22.00	21.98	0-1	1	
		1	12	21.93	21.95	21.83	0-1	1	
		1	24	21.87	21.91	21.81	0-1	1	
		12	0	20.82	20.74	20.80	0-2	2	
		12	6	20.76	20.78	20.77	0-2	2	
	64QAM	12	11	20.77	20.82	20.69	0-2	2	
		25	0	20.77	20.74	20.83	0-2	2	
		1	0	20.82	20.73	20.85	0-2	2	
		1	12	20.85	20.87	20.79	0-2	2	
		1	24	20.97	20.88	20.82	0-2	2	
		12	0	19.77	19.78	19.77	0-3	3	
	256QAM	12	6	19.79	19.73	19.79	0-3	3	
		12	11	19.76	19.73	19.71	0-3	3	
		25	0	19.74	19.73	19.73	0-3	3	
		1	0	17.62	17.80	17.78	0-5	5	
		1	12	17.68	17.68	17.70	0-5	5	
		1	24	17.68	17.72	17.82	0-5	5	
			12	0	17.60	17.58	17.55	0-5	5
			12	6	17.51	17.54	17.54	0-5	5
			12	11	17.53	17.57	17.56	0-5	5
			25	0	17.62	17.65	17.62	0-5	5

LTE Band 4 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20000 Ch. 1715 MHz	20175 Ch. 1732.5 MHz	20350 Ch. 1750 MHz		
10 MHz	QPSK	1	0	22.63	22.71	22.66	0	0
		1	24	22.65	22.71	22.66	0	0
		1	49	22.66	22.74	22.73	0	0
		25	0	21.71	21.78	21.76	0-1	1
		25	12	21.70	21.77	21.73	0-1	1
		25	24	21.73	21.80	21.72	0-1	1
	16QAM	1	0	21.95	21.95	22.09	0-1	1
		1	24	21.73	21.83	21.74	0-1	1
		1	49	21.73	21.99	21.83	0-1	1
		25	0	20.76	20.75	20.76	0-2	2
		25	12	20.77	20.77	20.73	0-2	2
		25	24	20.74	20.76	20.72	0-2	2
	64QAM	50	0	20.71	20.75	20.70	0-2	2
		1	0	20.77	20.77	20.84	0-2	2
		1	24	20.87	20.86	20.85	0-2	2
		1	49	20.75	20.87	20.85	0-2	2
		25	0	19.73	19.74	19.74	0-3	3
		25	12	19.67	19.75	19.67	0-3	3
	256QAM	25	24	19.68	19.72	19.70	0-3	3
		50	0	19.73	19.74	19.74	0-3	3
		1	0	17.81	17.80	17.71	0-5	5
		1	24	17.71	17.68	17.62	0-5	5
		1	49	17.77	17.79	17.60	0-5	5
		25	0	17.58	17.69	17.60	0-5	5
		25	12	17.59	17.66	17.61	0-5	5
		25	24	17.57	17.64	17.59	0-5	5
		50	0	17.58	17.61	17.59	0-5	5

LTE Band 4 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20025 Ch. 1717.5 MHz	20175 Ch. 1732.5 MHz	20325 Ch. 1747.5 MHz		
15 MHz	QPSK	1	0	22.79	22.74	22.75	0	0
		1	36	22.69	22.69	22.61	0	0
		1	74	22.71	22.80	22.75	0	0
		36	0	21.78	21.77	21.75	0-1	1
		36	18	21.74	21.79	21.77	0-1	1
		36	39	21.77	21.76	21.77	0-1	1
		75	0	21.74	21.80	21.73	0-1	1
	16QAM	1	0	22.05	21.90	21.94	0-1	1
		1	36	21.95	21.87	21.78	0-1	1
		1	74	21.90	21.94	21.84	0-1	1
		36	0	20.79	20.76	20.80	0-2	2
		36	18	20.75	20.77	20.67	0-2	2
		36	39	20.73	20.74	20.74	0-2	2
		75	0	20.77	20.75	20.72	0-2	2
	64QAM	1	0	20.95	20.88	20.84	0-2	2
		1	36	20.78	20.83	20.85	0-2	2
		1	74	20.87	21.01	20.87	0-2	2
		36	0	19.82	19.79	19.75	0-3	3
		36	18	19.77	19.76	19.74	0-3	3
		36	39	19.73	19.78	19.75	0-3	3
		75	0	19.73	19.75	19.71	0-3	3
	256QAM	1	0	17.83	17.91	17.82	0-5	5
		1	36	17.59	17.62	17.67	0-5	5
		1	74	17.72	17.67	17.73	0-5	5
		36	0	17.63	17.63	17.56	0-5	5
		36	18	17.62	17.68	17.64	0-5	5
		36	39	17.63	17.59	17.60	0-5	5
		75	0	17.64	17.64	17.63	0-5	5

LTE Band 4 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20175 Ch. 1732.5 MHz		
20 MHz	QPSK	1	0	22.73	0	0
		1	49	22.65	0	0
		1	99	22.76	0	0
		50	0	21.76	0-1	1
		50	25	21.77	0-1	1
		50	49	21.70	0-1	1
		100	0	21.71	0-1	1
	16QAM	1	0	21.97	0-1	1
		1	49	21.82	0-1	1
		1	99	22.00	0-1	1
		50	0	20.73	0-2	2
		50	25	20.69	0-2	2
		50	49	20.72	0-2	2
		100	0	20.75	0-2	2
	64QAM	1	0	20.92	0-2	2
		1	49	20.86	0-2	2
		1	99	20.83	0-2	2
		50	0	19.74	0-3	3
		50	25	19.71	0-3	3
		50	49	19.73	0-3	3
		100	0	19.72	0-3	3
	256QAM	1	0	17.89	0-5	5
		1	49	17.84	0-5	5
		1	99	17.77	0-5	5
50		0	17.61	0-5	5	
50		25	17.60	0-5	5	
50		49	17.61	0-5	5	
100		0	17.63	0-5	5	

[ LTE Band 5 Conducted Power]

LTE Band 5 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20407 Ch. 824.7 MHz	20525 Ch. 836.5 MHz	20643 Ch. 848.3 MHz		
1.4 MHz	QPSK	1	0	24.00	24.11	24.13	0	0
		1	3	24.06	24.10	24.14	0	0
		1	5	24.05	24.10	24.13	0	0
		3	0	24.00	24.09	24.09	0	0
		3	1	24.21	24.24	24.26	0	0
		3	3	24.10	24.13	24.23	0	0
	16QAM	6	0	21.98	22.15	22.18	0-1	1
		1	0	22.29	22.47	22.43	0-1	1
		1	3	22.20	22.39	22.32	0-1	1
		1	5	22.29	22.34	22.46	0-1	1
		3	0	22.09	22.14	22.27	0-1	1
		3	1	22.25	22.32	22.41	0-1	1
	64QAM	3	3	22.16	22.26	22.31	0-1	1
		6	0	21.07	21.14	21.28	0-2	2
		1	0	21.16	21.44	21.41	0-2	2
		1	3	21.12	21.31	21.35	0-2	2
		1	5	21.24	21.41	21.43	0-2	2
		3	0	21.03	21.22	21.19	0-2	2
	256QAM	3	1	21.25	21.29	21.33	0-2	2
		3	3	21.07	21.28	21.26	0-2	2
		6	0	20.10	20.26	20.29	0-3	3
		1	0	20.13	20.37	20.24	0-5	4
		1	3	20.09	20.25	20.16	0-5	4
		1	5	20.30	20.29	20.33	0-5	4
	3	0	20.02	20.24	20.22	0-5	4	
	3	1	20.15	20.30	20.33	0-5	4	
	3	3	20.17	20.29	20.29	0-5	4	
	6	0	19.07	19.20	19.20	0-5	4	

LTE Band 5\_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20415 Ch. 825.5 MHz	20525 Ch. 836.5 MHz	20635 Ch. 847.5 MHz		
3 MHz	QPSK	1	0	24.02	24.08	24.11	0	0
		1	7	23.94	24.02	24.04	0	0
		1	14	24.02	24.07	24.14	0	0
		8	0	22.08	22.19	22.25	0-1	1
		8	3	22.11	22.14	22.21	0-1	1
		8	7	22.13	22.19	22.22	0-1	1
	16QAM	15	0	22.14	22.22	22.25	0-1	1
		1	0	22.24	22.49	22.44	0-1	1
		1	7	22.16	22.35	22.35	0-1	1
		1	14	22.29	22.26	22.44	0-1	1
		8	0	21.10	21.25	21.25	0-2	2
		8	3	21.11	21.21	21.28	0-2	2
	64QAM	8	7	21.16	21.25	21.27	0-2	2
		15	0	21.14	21.26	21.32	0-2	2
		1	0	21.18	21.40	21.38	0-2	2
		1	7	21.13	21.29	21.33	0-2	2
		1	14	21.20	21.40	21.31	0-2	2
		8	0	20.13	20.18	20.22	0-3	3
	256QAM	8	3	20.06	20.19	20.27	0-3	3
		8	7	20.10	20.19	20.25	0-3	3
		15	0	20.15	20.21	20.31	0-3	3
		1	0	20.12	20.34	20.24	0-5	4
		1	7	20.00	20.35	20.26	0-5	4
		1	14	20.16	20.31	20.29	0-5	4
		8	0	19.05	19.22	19.20	0-5	4
		8	3	19.07	19.18	19.22	0-5	4
		8	7	19.03	19.22	19.22	0-5	4
		15	0	19.07	19.26	19.26	0-5	4

LTE Band 5\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20425 Ch. 826.5 MHz	20525 Ch. 836.5 MHz	20625 Ch. 846.5 MHz		
5 MHz	QPSK	1	0	24.06	24.19	24.20	0	0
		1	12	24.01	24.06	24.16	0	0
		1	24	24.03	24.14	24.18	0	0
		12	0	22.16	22.23	22.30	0-1	1
		12	6	22.13	22.24	22.27	0-1	1
		12	11	22.18	22.23	22.30	0-1	1
	16QAM	25	0	22.17	22.22	22.25	0-1	1
		1	0	22.27	22.33	22.47	0-1	1
		1	12	22.34	22.14	22.39	0-1	1
		1	24	22.36	22.49	22.43	0-1	1
		12	0	21.15	21.30	21.30	0-2	2
		12	6	21.13	21.26	21.34	0-2	2
	64QAM	12	11	21.14	21.23	21.30	0-2	2
		25	0	21.14	21.22	21.28	0-2	2
		1	0	21.14	21.35	21.30	0-2	2
		1	12	21.10	21.23	21.34	0-2	2
		1	24	21.36	21.39	21.45	0-2	2
		12	0	20.20	20.31	20.31	0-3	3
	256QAM	12	6	20.16	20.22	20.27	0-3	3
		12	11	20.21	20.24	20.31	0-3	3
		25	0	20.14	20.24	20.30	0-3	3
		1	0	20.33	20.47	20.38	0-5	4
		1	12	20.05	20.25	20.21	0-5	4
		1	24	20.22	20.27	20.48	0-5	4
		12	0	19.13	19.26	19.24	0-5	4
		12	6	19.11	19.21	19.25	0-5	4
		12	11	19.10	19.21	19.23	0-5	4
		25	0	19.14	19.29	19.32	0-5	4

LTE Band 5 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20525 Ch. 836.5 MHz		
10 MHz	QPSK	1	0	24.15	0	0
		1	24	24.10	0	0
		1	49	24.21	0	0
		25	0	22.24	0-1	1
		25	12	22.23	0-1	1
		25	24	22.18	0-1	1
		50	0	22.20	0-1	1
	16QAM	1	0	22.38	0-1	1
		1	24	22.34	0-1	1
		1	49	22.45	0-1	1
		25	0	21.25	0-2	2
		25	12	21.20	0-2	2
		25	24	21.22	0-2	2
		50	0	21.26	0-2	2
	64QAM	1	0	21.46	0-2	2
		1	24	21.36	0-2	2
		1	49	21.34	0-2	2
		25	0	20.24	0-3	3
		25	12	20.19	0-3	3
		25	24	20.21	0-3	3
		50	0	20.23	0-3	3
	256QAM	1	0	20.51	0-5	4
		1	24	20.34	0-5	4
		1	49	20.47	0-5	4
25		0	19.30	0-5	4	
25		12	19.26	0-5	4	
25		24	19.26	0-5	4	
50		0	19.23	0-5	4	

**[LTE Band 12 Conducted Power]**

LTE Band 12\_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23017 Ch. 699.7 MHz	23095 Ch. 707.5 MHz	23173 Ch. 715.3 MHz		
1.4 MHz	QPSK	1	0	23.49	23.46	23.42	0	0
		1	3	23.47	23.45	23.37	0	0
		1	5	23.48	23.47	23.40	0	0
		3	0	23.47	23.44	23.34	0	0
		3	1	23.63	23.59	23.50	0	0
		3	3	23.55	23.51	23.42	0	0
	16QAM	6	0	22.01	21.97	21.91	0-1	1
		1	0	21.67	21.70	21.56	0-1	1
		1	3	21.58	21.58	21.50	0-1	1
		1	5	21.68	21.70	21.62	0-1	1
		3	0	21.48	21.53	21.35	0-1	1
		3	1	21.68	21.69	21.53	0-1	1
	64QAM	3	3	21.60	21.58	21.45	0-1	1
		6	0	20.65	20.55	20.44	0-2	2
		1	0	20.66	20.60	20.56	0-2	2
		1	3	20.57	20.66	20.40	0-2	2
		1	5	20.75	20.63	20.65	0-2	2
		3	0	20.51	20.51	20.49	0-2	2
	256QAM	3	1	20.64	20.64	20.69	0-2	2
		3	3	20.55	20.57	20.54	0-2	2
		6	0	19.54	19.54	19.43	0-3	3
		1	0	19.59	19.63	19.55	0-5	4
		1	3	19.55	19.53	19.38	0-5	4
		1	5	19.63	19.67	19.53	0-5	4
	3	0	19.50	19.51	19.42	0-5	4	
	3	1	19.67	19.61	19.55	0-5	4	
	3	3	19.64	19.67	19.48	0-5	4	
	6	0	18.53	18.52	18.40	0-5	4	

LTE Band 12 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23025 Ch. 700.5 MHz	23095 Ch. 707.5 MHz	23165 Ch. 714.5 MHz		
3 MHz	QPSK	1	0	23.39	23.50	23.30	0	0
		1	7	23.33	23.38	23.25	0	0
		1	14	23.45	23.49	23.32	0	0
		8	0	22.01	22.08	21.97	0-1	1
		8	3	21.97	22.04	21.92	0-1	1
		8	7	21.97	22.04	21.92	0-1	1
		15	0	21.96	22.07	21.96	0-1	1
	16QAM	1	0	21.56	21.76	21.63	0-1	1
		1	7	21.62	21.61	21.62	0-1	1
		1	14	21.66	21.71	21.65	0-1	1
		8	0	20.51	20.57	20.48	0-2	2
		8	3	20.50	20.50	20.48	0-2	2
		8	7	20.55	20.59	20.45	0-2	2
		15	0	20.51	20.56	20.50	0-2	2
	64QAM	1	0	20.57	20.74	20.57	0-2	2
		1	7	20.44	20.67	20.55	0-2	2
		1	14	20.59	20.63	20.60	0-2	2
		8	0	19.51	19.59	19.43	0-3	3
		8	3	19.47	19.59	19.43	0-3	3
		8	7	19.50	19.51	19.41	0-3	3
		15	0	19.50	19.57	19.44	0-3	3
	256QAM	1	0	19.57	19.74	19.63	0-5	4
		1	7	19.55	19.51	19.54	0-5	4
		1	14	19.65	19.56	19.53	0-5	4
		8	0	18.45	18.53	18.42	0-5	4
		8	3	18.44	18.49	18.44	0-5	4
		8	7	18.49	18.53	18.43	0-5	4
15		0	18.49	18.51	18.43	0-5	4	

LTE Band 12 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23035 Ch. 701.5 MHz	23095 Ch. 707.5 MHz	23155 Ch. 713.5 MHz		
5 MHz	QPSK	1	0	23.42	23.54	23.39	0	0
		1	12	23.39	23.38	23.29	0	0
		1	24	23.45	23.49	23.41	0	0
		12	0	22.03	22.14	21.99	0-1	1
		12	6	22.01	22.11	22.00	0-1	1
		12	11	22.02	22.09	21.98	0-1	1
		25	0	21.98	22.08	21.99	0-1	1
	16QAM	1	0	21.64	21.82	21.61	0-1	1
		1	12	21.58	21.73	21.54	0-1	1
		1	24	21.70	21.67	21.57	0-1	1
		12	0	20.50	20.64	20.56	0-2	2
		12	6	20.56	20.61	20.50	0-2	2
		12	11	20.53	20.60	20.49	0-2	2
		25	0	20.52	20.60	20.48	0-2	2
	64QAM	1	0	20.64	20.81	20.53	0-2	2
		1	12	20.64	20.61	20.61	0-2	2
		1	24	20.73	20.68	20.68	0-2	2
		12	0	19.58	19.70	19.53	0-3	3
		12	6	19.54	19.69	19.55	0-3	3
		12	11	19.58	19.62	19.51	0-3	3
		25	0	19.52	19.60	19.50	0-3	3
	256QAM	1	0	19.62	19.73	19.68	0-5	4
		1	12	19.60	19.71	19.57	0-5	4
		1	24	19.59	19.69	19.71	0-5	4
12		0	18.52	18.62	18.49	0-5	4	
12		6	18.49	18.61	18.47	0-5	4	
12		11	18.47	18.58	18.50	0-5	4	
25		0	18.56	18.66	18.55	0-5	4	

LTE Band 12 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				23095 Ch. 707.5 MHz		
10 MHz	QPSK	1	0	23.63	0	0
		1	24	23.55	0	0
		1	49	23.50	0	0
		25	0	22.13	0-1	1
		25	12	22.07	0-1	1
		25	24	22.04	0-1	1
		50	0	22.13	0-1	1
	16QAM	1	0	21.96	0-1	1
		1	24	21.61	0-1	1
		1	49	21.59	0-1	1
		25	0	20.63	0-2	2
		25	12	20.53	0-2	2
		25	24	20.55	0-2	2
		50	0	20.59	0-2	2
	64QAM	1	0	20.85	0-2	2
		1	24	20.58	0-2	2
		1	49	20.66	0-2	2
		25	0	19.60	0-3	3
		25	12	19.56	0-3	3
		25	24	19.53	0-3	3
		50	0	19.60	0-3	3
	256QAM	1	0	19.79	0-5	4
		1	24	19.69	0-5	4
		1	49	19.74	0-5	4
		25	0	18.65	0-5	4
		25	12	18.55	0-5	4
		25	24	18.53	0-5	4
		50	0	18.61	0-5	4

**[LTE Band 13 Conducted Power]**

LTE Band 13\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23205 Ch. 779.5 MHz	23230 Ch. 782 MHz	23255 Ch. 784.5 MHz		
5 MHz	QPSK	1	0	23.53	23.56	23.54	0	0
		1	12	23.49	23.59	23.48	0	0
		1	24	23.62	23.68	23.55	0	0
		12	0	22.20	22.22	22.12	0-1	1
		12	6	22.20	22.26	22.18	0-1	1
		12	11	22.21	22.30	22.15	0-1	1
		25	0	22.20	22.23	22.12	0-1	1
	16QAM	1	0	21.81	21.91	21.71	0-1	1
		1	12	21.79	21.84	21.78	0-1	1
		1	24	21.89	22.12	21.85	0-1	1
		12	0	20.69	20.74	20.69	0-2	2
		12	6	20.72	20.79	20.69	0-2	2
		12	11	20.76	20.79	20.67	0-2	2
		25	0	20.70	20.77	20.64	0-2	2
	64QAM	1	0	20.76	20.74	20.70	0-2	2
		1	12	20.76	20.78	20.74	0-2	2
		1	24	20.87	21.01	20.71	0-2	2
		12	0	19.70	19.76	19.65	0-3	3
		12	6	19.68	19.73	19.68	0-3	3
		12	11	19.70	19.79	19.67	0-3	3
		25	0	19.70	19.76	19.64	0-3	3
	256QAM	1	0	19.77	19.90	19.74	0-5	5
		1	12	19.65	19.75	19.63	0-5	5
		1	24	19.92	20.05	19.68	0-5	5
		12	0	18.63	18.71	18.59	0-5	5
		12	6	18.64	18.71	18.56	0-5	5
		12	11	18.62	18.83	18.57	0-5	5
		25	0	18.67	18.75	18.66	0-5	5

LTE Band 13 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]		MPR Allowed Per 3GPP [dB]	MPR [dB]
				23230 Ch.	782 MHz		
10 MHz	QPSK	1	0	23.35		0	0
		1	24	23.34		0	0
		1	49	23.31		0	0
		25	0	22.21		0-1	1
		25	12	22.26		0-1	1
		25	24	22.25		0-1	1
	16QAM	50	0	22.27		0-1	1
		1	0	21.91		0-1	1
		1	24	21.78		0-1	1
		1	49	21.95		0-1	1
		25	0	20.71		0-2	2
		25	12	20.75		0-2	2
	64QAM	25	24	20.78		0-2	2
		50	0	20.74		0-2	2
		1	0	20.85		0-2	2
		1	24	20.91		0-2	2
		1	49	20.90		0-2	2
		25	0	19.67		0-3	3
	256QAM	25	12	19.72		0-3	3
		25	24	19.77		0-3	3
		50	0	19.77		0-3	3
		1	0	19.73		0-5	5
		1	24	19.90		0-5	5
		1	49	19.98		0-5	5
		25	0	18.71		0-5	5
		25	12	18.75		0-5	5
	25	24	18.84		0-5	5	
			50	0	18.74		0-5

[ LTE Band 17 Conducted Power]

LTE Band 17 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]		MPR Allowed Per 3GPP [dB]	MPR [dB]
				23790	710 MHz		
5 MHz	QPSK	1	0	23.55	0	0	
		1	12	23.45	0	0	
		1	24	23.53	0	0	
		12	0	22.23	0-1	1	
		12	6	22.18	0-1	1	
		12	11	22.18	0-1	1	
		25	0	22.14	0-1	1	
	16QAM	1	0	21.83	0-1	1	
		1	12	21.70	0-1	1	
		1	24	21.79	0-1	1	
		12	0	20.71	0-2	2	
		12	6	20.70	0-2	2	
		12	11	20.73	0-2	2	
		25	0	20.66	0-2	2	
	64QAM	1	0	20.66	0-2	2	
		1	12	20.63	0-2	2	
		1	24	20.87	0-2	2	
		12	0	19.68	0-3	3	
		12	6	19.65	0-3	3	
		12	11	19.65	0-3	3	
		25	0	19.62	0-3	3	
	256QAM	1	0	19.58	0-5	4	
		1	12	19.72	0-5	4	
		1	24	19.64	0-5	4	
		12	0	18.61	0-5	4	
		12	6	18.57	0-5	4	
		12	11	18.60	0-5	4	
		25	0	18.62	0-5	4	

LTE Band 17 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]		MPR Allowed Per 3GPP [dB]	MPR [dB]
				23790	710 MHz		
10 MHz	QPSK	1	0	23.67	0	0	
		1	24	23.55	0	0	
		1	49	23.59	0	0	
		25	0	22.22	0-1	1	
		25	12	22.14	0-1	1	
		25	24	22.11	0-1	1	
	16QAM	50	0	22.23	0-1	1	
		1	0	21.93	0-1	1	
		1	24	21.71	0-1	1	
		1	49	21.74	0-1	1	
		25	0	20.67	0-2	2	
		25	12	20.64	0-2	2	
	64QAM	25	24	20.64	0-2	2	
		50	0	20.71	0-2	2	
		1	0	20.83	0-2	2	
		1	24	20.74	0-2	2	
		1	49	20.69	0-2	2	
		25	0	19.64	0-3	3	
	256QAM	25	12	19.59	0-3	3	
		25	24	19.59	0-3	3	
		50	0	19.67	0-3	3	
		1	0	19.84	0-5	4	
		1	24	19.64	0-5	4	
		1	49	19.73	0-5	4	
	25	0	18.66	0-5	4		
	25	12	18.60	0-5	4		
	25	24	18.62	0-5	4		
	50	0	18.67	0-5	4		

[ LTE Band 25 Conducted Power ]

LTE Band 25 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26047 Ch. 1850.7 MHz	26365 Ch. 1882.5 MHz	26683 Ch. 1914.3 MHz		
1.4 MHz	QPSK	1	0	21.89	21.72	22.28	0	0
		1	3	21.90	21.79	22.33	0	0
		1	5	21.91	21.74	22.30	0	0
		3	0	21.93	21.73	22.29	0	0
		3	1	22.06	21.84	22.40	0	0
		3	3	22.00	21.81	22.35	0	0
	16QAM	1	0	21.12	20.88	21.59	0-1	1
		1	3	20.91	20.83	21.35	0-1	1
		1	5	21.17	20.91	21.61	0-1	1
		3	0	21.04	20.83	21.43	0-1	1
		3	1	21.19	20.94	21.50	0-1	1
		3	3	21.01	20.91	21.46	0-1	1
	64QAM	6	0	20.06	19.79	20.46	0-2	2
		1	0	20.20	19.82	20.58	0-2	2
		1	3	20.13	19.74	20.44	0-2	2
		1	5	20.15	19.89	20.47	0-2	2
		3	0	19.97	19.74	20.41	0-2	2
		3	1	20.17	19.91	20.51	0-2	2
	256QAM	3	3	20.05	19.86	20.41	0-2	2
		6	0	19.05	18.88	19.38	0-3	3
		1	0	17.02	16.93	17.45	0-5	5
		1	3	16.93	16.76	17.18	0-5	5
		1	5	16.98	16.95	17.51	0-5	5
		3	0	16.88	16.66	17.28	0-5	5
		3	1	17.03	16.74	17.29	0-5	5
		3	3	16.99	16.77	17.42	0-5	5
		6	0	16.93	16.80	17.22	0-5	5

LTE Band 25 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26055 Ch. 1851.5 MHz	26365 Ch. 1882.5 MHz	26675Ch. 1913.5 MHz		
3 MHz	QPSK	1	0	21.91	21.73	22.32	0	0
		1	7	21.95	21.70	22.30	0	0
		1	14	21.92	21.73	22.31	0	0
		8	0	21.02	20.79	21.37	0-1	1
		8	3	21.00	20.79	21.36	0-1	1
		8	7	21.04	20.80	21.38	0-1	1
		15	0	20.99	20.79	21.37	0-1	1
	16QAM	1	0	21.19	21.00	21.59	0-1	1
		1	7	21.09	20.94	21.41	0-1	1
		1	14	21.14	20.93	21.50	0-1	1
		8	0	20.04	19.89	20.43	0-2	2
		8	3	20.03	19.83	20.36	0-2	2
		8	7	20.07	19.91	20.46	0-2	2
		15	0	20.05	19.90	20.39	0-2	2
	64QAM	1	0	20.17	19.96	20.45	0-2	2
		1	7	20.10	19.81	20.39	0-2	2
		1	14	20.04	19.82	20.37	0-2	2
		8	0	19.02	18.80	19.41	0-3	3
		8	3	19.04	18.83	19.36	0-3	3
		8	7	19.01	18.84	19.41	0-3	3
		15	0	19.07	18.87	19.39	0-3	3
	256QAM	1	0	17.08	16.84	17.52	0-5	5
		1	7	16.99	16.80	17.38	0-5	5
		1	14	16.99	16.84	17.40	0-5	5
		8	0	16.96	16.75	17.34	0-5	5
		8	3	16.91	16.68	17.30	0-5	5
		8	7	16.98	16.73	17.34	0-5	5
		15	0	16.98	16.76	17.30	0-5	5

LTE Band 25 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26065 Ch. 1852.5 MHz	26365 Ch. 1882.5 MHz	26665 Ch. 1912.5 MHz		
5 MHz	QPSK	1	0	21.98	21.82	22.34	0	0
		1	12	21.93	21.75	22.31	0	0
		1	24	21.94	21.77	22.29	0	0
		12	0	21.04	20.82	21.38	0-1	1
		12	6	21.01	20.83	21.36	0-1	1
		12	11	21.04	20.81	21.36	0-1	1
		25	0	21.00	20.82	21.32	0-1	1
	16QAM	1	0	21.16	21.03	21.49	0-1	1
		1	12	21.18	21.09	21.51	0-1	1
		1	24	21.15	21.00	21.50	0-1	1
		12	0	20.04	19.90	20.43	0-2	2
		12	6	20.07	19.81	20.36	0-2	2
		12	11	20.07	19.77	20.38	0-2	2
		25	0	20.05	19.90	20.36	0-2	2
	64QAM	1	0	20.17	19.94	20.47	0-2	2
		1	12	20.10	19.91	20.37	0-2	2
		1	24	20.15	19.96	20.47	0-2	2
		12	0	19.06	18.83	19.38	0-3	3
		12	6	19.01	18.86	19.39	0-3	3
		12	11	18.99	18.84	19.35	0-3	3
		25	0	18.98	18.86	19.37	0-3	3
	256QAM	1	0	17.06	16.94	17.49	0-5	5
		1	12	17.00	16.81	17.34	0-5	5
		1	24	17.02	16.96	17.40	0-5	5
		12	0	17.02	16.76	17.33	0-5	5
		12	6	16.94	16.75	17.30	0-5	5
		12	11	16.96	16.71	17.33	0-5	5
25		0	16.99	16.79	17.34	0-5	5	

LTE Band 25 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26090 Ch. 1855 MHz	26365 Ch. 1882.5 MHz	26640 Ch. 1910 MHz		
10 MHz	QPSK	1	0	21.97	21.79	22.29	0	0
		1	24	21.97	21.78	22.26	0	0
		1	49	22.04	21.82	22.26	0	0
		25	0	21.05	20.84	21.31	0-1	1
		25	12	20.99	20.80	21.30	0-1	1
		25	24	21.04	20.86	21.31	0-1	1
	16QAM	50	0	20.96	20.76	21.26	0-1	1
		1	0	21.23	21.10	21.63	0-1	1
		1	24	21.10	20.96	21.41	0-1	1
		1	49	21.09	20.98	21.56	0-1	1
		25	0	20.04	19.86	20.39	0-2	2
		25	12	20.04	19.88	20.38	0-2	2
	64QAM	25	24	20.01	19.83	20.33	0-2	2
		50	0	20.02	19.81	20.31	0-2	2
		1	0	20.13	20.10	20.44	0-2	2
		1	24	20.05	19.90	20.36	0-2	2
		1	49	20.13	19.96	20.42	0-2	2
		25	0	19.03	18.84	19.33	0-3	3
	256QAM	25	12	18.97	18.82	19.31	0-3	3
		25	24	19.00	18.85	19.30	0-3	3
		50	0	19.02	18.84	19.33	0-3	3
		1	0	17.16	16.93	17.51	0-5	5
		1	24	17.08	16.84	17.39	0-5	5
		1	49	17.13	16.97	17.40	0-5	5
	256QAM	25	0	16.98	16.78	17.28	0-5	5
		25	12	16.94	16.79	17.24	0-5	5
		25	24	17.01	16.77	17.23	0-5	5
		50	0	17.00	16.75	17.30	0-5	5

LTE Band 25 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26115 Ch. 1857.5 MHz	26365 Ch. 1882.5 MHz	26615 Ch. 1907.5 MHz		
15 MHz	QPSK	1	0	21.97	21.84	22.40	0	0
		1	36	21.93	21.73	22.26	0	0
		1	74	22.01	21.81	22.34	0	0
		36	0	21.05	20.83	21.41	0-1	1
		36	18	21.07	20.82	21.37	0-1	1
		36	39	20.98	20.83	21.34	0-1	1
		75	0	21.06	20.79	21.38	0-1	1
	16QAM	1	0	21.18	21.07	21.63	0-1	1
		1	36	21.06	20.93	21.45	0-1	1
		1	74	21.25	20.96	21.47	0-1	1
		36	0	20.03	19.82	20.42	0-2	2
		36	18	20.06	19.85	20.38	0-2	2
		36	39	20.02	19.86	20.36	0-2	2
		75	0	20.01	19.81	20.37	0-2	2
	64QAM	1	0	20.19	19.98	20.55	0-2	2
		1	36	19.94	19.95	20.45	0-2	2
		1	74	20.22	19.92	20.47	0-2	2
		36	0	19.02	18.86	19.40	0-3	3
		36	18	19.04	18.84	19.39	0-3	3
		36	39	19.00	18.80	19.35	0-3	3
		75	0	19.00	18.82	19.36	0-3	3
	256QAM	1	0	17.15	17.02	17.61	0-5	5
		1	36	17.09	16.93	17.42	0-5	5
		1	74	17.10	17.00	17.54	0-5	5
		36	0	16.98	16.82	17.29	0-5	5
		36	18	16.96	16.81	17.32	0-5	5
		36	39	16.95	16.79	17.29	0-5	5
		75	0	16.99	16.81	17.34	0-5	5

LTE Band 25 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26140 Ch. 1860 MHz	26365 Ch. 1882.5 MHz	26590 Ch. 1905 MHz		
20 MHz	QPSK	1	0	21.94	21.86	22.34	0	0
		1	49	21.89	21.82	22.21	0	0
		1	99	21.93	21.83	22.26	0	0
		50	0	20.92	20.78	21.28	0-1	1
		50	25	20.87	20.81	21.24	0-1	1
		50	49	20.91	20.78	21.27	0-1	1
		100	0	20.90	20.79	21.26	0-1	1
	16QAM	1	0	21.11	21.03	21.61	0-1	1
		1	49	21.06	20.98	21.38	0-1	1
		1	99	21.22	21.06	21.38	0-1	1
		50	0	19.91	19.81	20.29	0-2	2
		50	25	19.88	19.79	20.28	0-2	2
		50	49	19.84	19.78	20.27	0-2	2
		100	0	19.87	19.83	20.27	0-2	2
	64QAM	1	0	20.15	20.09	20.63	0-2	2
		1	49	19.90	20.02	20.41	0-2	2
		1	99	20.13	19.93	20.43	0-2	2
		50	0	18.90	18.77	19.31	0-3	3
		50	25	18.88	18.78	19.30	0-3	3
		50	49	18.88	18.74	19.23	0-3	3
		100	0	18.90	18.80	19.26	0-3	3
	256QAM	1	0	17.11	17.10	17.38	0-5	5
		1	49	17.02	17.01	17.31	0-5	5
		1	99	17.04	17.00	17.44	0-5	5
		50	0	16.89	16.78	17.26	0-5	5
		50	25	16.87	16.75	17.25	0-5	5
		50	49	16.88	16.80	17.25	0-5	5
		100	0	16.87	16.79	17.24	0-5	5

[ LTE Band 26 Conducted Power ]

LTE Band 26 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26697 Ch. 814.7 MHz	26865 Ch. 831.5 MHz	27033 Ch. 848.3 MHz		
1.4 MHz	QPSK	1	0	23.61	23.82	23.69	0	0
		1	3	23.65	23.79	23.79	0	0
		1	5	23.63	23.81	23.73	0	0
		3	0	23.58	23.76	23.69	0	0
		3	1	23.76	23.94	23.80	0	0
		3	3	23.63	23.85	23.76	0	0
		6	0	22.12	22.31	22.29	0-1	1
	16QAM	1	0	21.94	21.98	22.00	0-1	1
		1	3	21.61	21.91	21.72	0-1	1
		1	5	21.89	21.91	22.06	0-1	1
		3	0	21.62	21.83	21.84	0-1	1
		3	1	21.78	22.03	21.99	0-1	1
		3	3	21.84	21.84	21.93	0-1	1
		6	0	20.74	20.85	20.89	0-2	2
	64QAM	1	0	21.67	20.89	20.95	0-2	2
		1	3	21.58	21.03	20.92	0-2	2
		1	5	21.71	20.96	20.99	0-2	2
		3	0	21.59	20.89	20.83	0-2	2
		3	1	21.73	21.02	20.91	0-2	2
		3	3	21.71	20.94	20.86	0-2	2
		6	0	20.69	19.88	19.84	0-3	3
	256QAM	1	0	19.77	19.92	19.75	0-5	5
		1	3	19.73	19.96	19.91	0-5	5
		1	5	19.81	20.03	19.91	0-5	5
		3	0	19.63	19.78	19.78	0-5	5
		3	1	19.72	19.84	19.90	0-5	5
		3	3	19.75	19.90	19.92	0-5	5
		6	0	18.65	18.82	18.75	0-5	5

LTE Band 26 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26705 Ch. 815.5 MHz	26865 Ch. 831.5 MHz	27025 Ch. 847.5 MHz		
3 MHz	QPSK	1	0	23.60	23.86	23.74	0	0
		1	7	23.56	23.72	23.65	0	0
		1	14	23.68	23.81	23.79	0	0
		8	0	22.21	22.37	22.32	0-1	1
		8	3	22.25	22.36	22.31	0-1	1
		8	7	22.24	22.35	22.36	0-1	1
		15	0	22.24	22.39	22.31	0-1	1
	16QAM	1	0	21.83	21.88	22.13	0-1	1
		1	7	21.80	21.97	21.99	0-1	1
		1	14	21.91	22.03	22.00	0-1	1
		8	0	20.74	20.93	20.91	0-2	2
		8	3	20.71	20.90	20.95	0-2	2
		8	7	20.79	20.94	20.88	0-2	2
		15	0	20.77	20.90	20.86	0-2	2
	64QAM	1	0	20.80	21.00	20.99	0-2	2
		1	7	20.67	20.80	20.89	0-2	2
		1	14	20.89	20.98	20.97	0-2	2
		8	0	19.72	19.86	19.80	0-3	3
		8	3	19.70	19.81	19.84	0-3	3
		8	7	19.76	19.84	19.88	0-3	3
		15	0	19.74	19.88	19.81	0-3	3
	256QAM	1	0	19.75	19.97	19.94	0-5	5
		1	7	19.69	19.90	19.89	0-5	5
		1	14	19.82	19.91	19.93	0-5	5
		8	0	18.66	18.82	18.76	0-5	5
		8	3	18.68	18.86	18.79	0-5	5
		8	7	18.67	18.85	18.85	0-5	5
		15	0	18.66	18.82	18.81	0-5	5

LTE Band 26 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26715 Ch. 816.5 MHz	26865 Ch. 831.5 MHz	27015 Ch. 846.5 MHz		
5 MHz	QPSK	1	0	23.62	23.91	23.84	0	0
		1	12	23.54	23.71	23.71	0	0
		1	24	23.69	23.78	23.83	0	0
		12	0	22.23	22.46	22.37	0-1	1
		12	6	22.26	22.36	22.36	0-1	1
		12	11	22.27	22.39	22.42	0-1	1
		25	0	22.23	22.37	22.36	0-1	1
	16QAM	1	0	21.77	22.03	21.98	0-1	1
		1	12	21.83	22.07	21.97	0-1	1
		1	24	21.89	21.95	22.13	0-1	1
		12	0	20.73	20.95	20.88	0-2	2
		12	6	20.77	20.96	20.93	0-2	2
		12	11	20.83	20.91	20.93	0-2	2
		25	0	20.75	20.89	20.86	0-2	2
	64QAM	1	0	20.74	20.99	20.96	0-2	2
		1	12	20.71	20.96	20.91	0-2	2
		1	24	20.99	21.03	21.09	0-2	2
		12	0	19.75	19.93	19.88	0-3	3
		12	6	19.82	19.91	19.91	0-3	3
		12	11	19.81	19.90	19.90	0-3	3
		25	0	19.74	19.89	19.85	0-3	3
	256QAM	1	0	19.72	20.02	19.88	0-5	5
		1	12	19.73	19.95	19.97	0-5	5
		1	24	19.92	19.95	20.12	0-5	5
		12	0	18.70	18.92	18.78	0-5	5
		12	6	18.73	18.85	18.80	0-5	5
		12	11	18.72	18.86	18.85	0-5	5
25		0	18.77	18.91	18.89	0-5	5	

LTE Band 26 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26740 Ch. 819 MHz	26865 Ch. 831.5 MHz	26990 Ch. 844 MHz		
10 MHz	QPSK	1	0	23.65	23.90	23.79	0	0
		1	24	23.69	23.83	23.78	0	0
		1	49	23.73	23.80	23.87	0	0
		25	0	22.25	22.41	22.30	0-1	1
		25	12	22.26	22.36	22.33	0-1	1
		25	24	22.26	22.34	22.33	0-1	1
		50	0	22.27	22.42	22.34	0-1	1
	16QAM	1	0	21.99	22.20	22.03	0-1	1
		1	24	21.89	21.88	22.08	0-1	1
		1	49	22.04	22.00	22.19	0-1	1
		25	0	20.75	20.92	20.86	0-2	2
		25	12	20.79	20.88	20.84	0-2	2
		25	24	20.84	20.85	20.90	0-2	2
		50	0	20.74	20.88	20.82	0-2	2
	64QAM	1	0	20.83	21.02	20.98	0-2	2
		1	24	20.87	21.03	21.07	0-2	2
		1	49	20.99	20.97	21.11	0-2	2
		25	0	19.66	19.90	19.79	0-3	3
		25	12	19.73	19.86	19.79	0-3	3
		25	24	19.78	19.82	19.88	0-3	3
		50	0	19.77	19.90	19.86	0-3	3
	256QAM	1	0	19.79	20.09	19.88	0-5	5
		1	24	19.77	19.95	19.95	0-5	5
		1	49	19.92	20.02	19.96	0-5	5
25		0	18.72	18.91	18.84	0-5	5	
25		12	18.72	18.86	18.85	0-5	5	
25		24	18.73	18.86	18.85	0-5	5	
50		0	18.74	18.86	18.80	0-5	5	

LTE Band 26 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				26865 Ch. 831.5 MHz		
15 MHz	QPSK	1	0	23.99	0	0
		1	36	23.76	0	0
		1	74	23.79	0	0
		36	0	22.47	0-1	1
		36	18	22.38	0-1	1
		36	39	22.34	0-1	1
		75	0	22.36	0-1	1
	16QAM	1	0	22.15	0-1	1
		1	36	21.96	0-1	1
		1	74	22.03	0-1	1
		36	0	20.95	0-2	2
		36	18	20.92	0-2	2
		36	39	20.82	0-2	2
		75	0	20.87	0-2	2
	64QAM	1	0	21.06	0-2	2
		1	36	20.92	0-2	2
		1	74	20.96	0-2	2
		36	0	19.99	0-3	3
		36	18	19.93	0-3	3
		36	39	19.85	0-3	3
		75	0	19.90	0-3	3
	256QAM	1	0	20.15	0-5	5
		1	36	19.90	0-5	5
		1	74	19.98	0-5	5
		36	0	18.96	0-5	5
		36	18	18.86	0-5	5
		36	39	18.83	0-5	5
		75	0	18.91	0-5	5

[ LTE Band 41 Conducted Power ] - Power Class 3

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
5 MHz	QPSK	1	0	23.95	24.12	23.69	23.39	23.70	0	0
		1	12	23.97	24.19	23.72	23.37	23.60	0	0
		1	24	24.02	24.19	23.76	23.49	23.73	0	0
		12	0	23.12	23.22	22.79	22.53	22.74	0-1	1
		12	6	23.04	23.19	22.82	22.55	22.75	0-1	1
		12	11	23.13	23.22	22.85	22.59	22.77	0-1	1
		25	0	23.09	23.20	22.79	22.59	22.74	0-1	1
	16QAM	1	0	23.14	23.13	22.80	22.39	22.70	0-1	1
		1	12	23.11	23.13	22.68	22.15	22.60	0-1	1
		1	24	23.06	23.13	22.76	22.28	22.70	0-1	1
		12	0	22.13	22.22	21.84	21.54	21.79	0-2	2
		12	6	22.04	22.13	21.84	21.56	21.78	0-2	2
		12	11	22.08	22.20	21.89	21.60	21.77	0-2	2
		25	0	22.11	22.17	21.76	21.55	21.70	0-2	2
	64QAM	1	0	22.21	22.29	21.91	21.66	21.72	0-2	2
		1	12	22.18	22.26	21.82	21.45	21.61	0-2	2
		1	24	22.15	22.30	21.91	21.53	21.79	0-2	2
		12	0	21.12	21.23	20.80	20.52	20.77	0-3	3
		12	6	21.09	21.19	20.82	20.54	20.74	0-3	3
		12	11	21.12	21.17	20.81	20.59	20.74	0-3	3
		25	0	21.08	21.19	20.75	20.57	20.71	0-3	3
	256QAM	1	0	18.87	19.01	18.56	18.33	18.55	0-5	5
		1	12	18.90	19.00	18.47	18.19	18.48	0-5	5
		1	24	18.89	18.83	18.55	18.35	18.55	0-5	5
		12	0	19.12	19.21	18.80	18.55	18.80	0-5	5
		12	6	19.09	19.17	18.84	18.59	18.85	0-5	5
		12	11	19.08	19.17	18.84	18.62	18.83	0-5	5
25		0	19.12	19.27	18.87	18.64	18.88	0-5	5	

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
10 MHz	QPSK	1	0	24.10	24.29	23.74	23.61	23.61	0	0
		1	24	23.96	24.08	23.64	23.41	23.59	0	0
		1	49	23.99	24.10	23.70	23.42	23.62	0	0
		25	0	23.14	23.21	22.78	22.60	22.75	0-1	1
		25	12	23.18	23.21	22.74	22.56	22.70	0-1	1
		25	24	23.15	23.16	22.76	22.55	22.71	0-1	1
	16QAM	1	0	23.14	23.25	22.65	22.53	22.68	0-1	1
		1	24	23.03	23.13	22.55	22.33	22.56	0-1	1
		1	49	23.07	23.22	22.61	22.33	22.66	0-1	1
		25	0	22.14	22.22	21.80	21.58	21.73	0-2	2
		25	12	22.18	22.19	21.75	21.53	21.70	0-2	2
		25	24	22.15	22.20	21.76	21.54	21.69	0-2	2
	64QAM	50	0	22.19	22.23	21.77	21.55	21.74	0-2	2
		1	0	22.27	22.39	22.00	21.79	21.88	0-2	2
		1	24	22.15	22.31	21.93	21.65	21.80	0-2	2
		1	49	22.20	22.32	22.02	21.66	21.90	0-2	2
		25	0	21.12	21.21	20.78	20.55	20.79	0-3	3
		25	12	21.10	21.20	20.74	20.47	20.70	0-3	3
	256QAM	25	24	21.12	21.16	20.76	20.52	20.71	0-3	3
		50	0	21.18	21.25	20.81	20.56	20.78	0-3	3
		1	0	18.91	19.01	18.55	18.33	18.67	0-5	5
		1	24	18.76	18.88	18.44	18.20	18.54	0-5	5
		1	49	18.81	18.96	18.53	18.19	18.56	0-5	5
		25	0	19.23	19.30	18.89	18.67	18.86	0-5	5
	25	12	19.20	19.26	18.84	18.61	18.83	0-5	5	
	25	24	19.19	19.26	18.82	18.63	18.80	0-5	5	
	50	0	19.26	19.35	18.88	18.67	18.87	0-5	5	

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 3

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
15 MHz	QPSK	1	0	24.02	24.19	23.79	23.47	23.67	0	0
		1	36	24.09	24.14	23.68	23.43	23.65	0	0
		1	74	24.02	24.17	23.73	23.38	23.65	0	0
		36	0	23.12	23.28	22.80	22.48	22.75	0-1	1
		36	18	23.09	23.24	22.80	22.44	22.66	0-1	1
		36	39	23.13	23.19	22.74	22.44	22.66	0-1	1
		75	0	23.10	23.21	22.79	22.44	22.70	0-1	1
	16QAM	1	0	23.09	23.23	22.81	22.41	22.64	0-1	1
		1	36	23.06	23.16	22.67	22.24	22.56	0-1	1
		1	74	23.06	23.19	22.64	22.27	22.53	0-1	1
		36	0	22.13	22.30	21.78	21.45	21.70	0-2	2
		36	18	22.11	22.22	21.76	21.40	21.62	0-2	2
		36	39	22.12	22.33	21.77	21.39	21.63	0-2	2
		75	0	22.14	22.23	21.77	21.46	21.67	0-2	2
	64QAM	1	0	22.36	22.33	22.03	21.66	21.83	0-2	2
		1	36	22.22	22.29	21.77	21.56	21.70	0-2	2
		1	74	22.21	22.24	21.88	21.59	21.76	0-2	2
		36	0	21.19	21.28	20.85	20.47	20.64	0-3	3
		36	18	21.09	21.23	20.83	20.44	20.61	0-3	3
		36	39	21.09	21.24	20.78	20.44	20.61	0-3	3
		75	0	21.11	21.26	20.82	20.47	20.64	0-3	3
	256QAM	1	0	18.98	19.26	18.82	18.40	18.66	0-5	5
		1	36	18.92	19.25	18.67	18.32	18.60	0-5	5
		1	74	18.94	19.15	18.71	18.33	18.59	0-5	5
		36	0	19.14	19.30	18.89	18.56	18.76	0-5	5
		36	18	19.12	19.23	18.83	18.52	18.74	0-5	5
		36	39	19.17	19.23	18.83	18.51	18.75	0-5	5
		75	0	19.16	19.26	18.86	18.48	18.78	0-5	5

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	24.13	24.31	23.72	23.52	23.76	0	0
		1	49	23.96	24.11	23.69	23.32	23.52	0	0
		1	99	24.01	24.11	23.74	23.32	23.56	0	0
		50	0	23.23	23.29	22.84	22.54	22.75	0-1	1
		50	25	23.19	23.25	22.80	22.46	22.68	0-1	1
		50	49	23.19	23.23	22.78	22.45	22.65	0-1	1
	16QAM	100	0	23.18	23.24	22.81	22.47	22.71	0-1	1
		1	0	23.13	23.33	22.86	22.36	22.76	0-1	1
		1	49	22.90	23.16	22.51	22.17	22.54	0-1	1
		1	99	22.99	23.22	22.59	22.26	22.64	0-1	1
		50	0	22.20	22.29	21.85	21.52	21.74	0-2	2
		50	25	22.16	22.24	21.78	21.48	21.68	0-2	2
	64QAM	50	49	22.13	22.22	21.78	21.46	21.65	0-2	2
		100	0	22.20	22.27	21.86	21.55	21.77	0-2	2
		1	0	22.38	22.32	22.00	21.69	21.89	0-2	2
		1	49	22.21	22.28	21.79	21.44	21.64	0-2	2
		1	99	22.27	22.32	21.88	21.53	21.72	0-2	2
		50	0	21.22	21.33	20.88	20.56	20.79	0-3	3
	256QAM	50	25	21.19	21.31	20.84	20.52	20.78	0-3	3
		50	49	21.16	21.26	20.85	20.51	20.75	0-3	3
		100	0	21.14	21.24	20.81	20.53	20.75	0-3	3
		1	0	19.18	19.24	18.74	18.46	18.75	0-5	5
		1	49	18.99	19.03	18.56	18.27	18.61	0-5	5
		1	99	19.06	18.97	18.59	18.32	18.61	0-5	5
	50	0	19.33	19.39	18.95	18.67	18.94	0-5	5	
	50	25	19.27	19.38	18.90	18.63	18.85	0-5	5	
	50	49	19.29	19.33	18.88	18.59	18.82	0-5	5	
	100	0	19.21	19.26	18.86	18.59	18.83	0-5	5	

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

[ LTE Band 41 Conducted Power ] - Power Class 2

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
5 MHz	QPSK	1	0	25.12	24.91	25.00	25.28	25.50	0	0
		1	12	25.01	24.86	25.07	25.26	25.48	0	0
		1	24	25.08	24.87	24.95	25.26	25.50	0	0
		12	0	24.10	23.88	23.95	24.29	24.51	0-1	1
		12	6	24.17	23.90	23.89	24.34	24.57	0-1	1
		12	11	24.12	23.85	23.91	24.23	24.51	0-1	1
	16QAM	25	0	24.09	23.84	23.89	24.24	24.44	0-1	1
		1	0	23.86	23.91	24.17	24.19	24.68	0-1	1
		1	12	23.78	23.94	24.06	24.14	24.68	0-1	1
		1	24	23.89	24.12	24.17	24.19	24.65	0-1	1
		12	0	23.25	22.99	22.96	23.25	23.50	0-2	2
		12	6	23.27	22.97	22.94	23.29	23.55	0-2	2
	64QAM	12	11	23.25	22.96	22.88	23.25	23.46	0-2	2
		25	0	23.15	22.87	22.97	23.18	23.45	0-2	2
		1	0	23.30	23.07	23.20	23.43	23.45	0-2	2
		1	12	23.20	23.07	23.26	23.28	23.63	0-2	2
		1	24	23.35	23.04	23.17	23.31	23.67	0-2	2
		12	0	22.19	21.83	22.03	22.25	22.47	0-3	3
	256QAM	12	6	22.25	21.83	21.97	22.28	22.43	0-3	3
		12	11	22.19	21.81	21.99	22.22	22.41	0-3	3
		25	0	22.11	21.87	21.93	22.22	22.41	0-3	3
		1	0	20.21	19.89	19.97	20.13	20.35	0-5	5
		1	12	20.07	19.77	19.93	20.02	20.30	0-5	5
		1	24	20.18	19.92	19.96	20.11	20.34	0-5	5
		12	0	20.17	19.91	20.06	20.31	20.60	0-5	5
12		6	20.18	19.90	19.97	20.33	20.62	0-5	5	
12		11	20.14	19.85	20.00	20.24	20.60	0-5	5	
25		0	20.15	19.92	20.05	20.28	20.59	0-5	5	

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
10 MHz	QPSK	1	0	25.22	24.98	25.07	25.26	25.53	0	0
		1	24	25.18	24.93	24.97	25.21	25.48	0	0
		1	49	25.20	24.89	25.00	25.21	25.50	0	0
		25	0	24.23	23.89	23.96	24.28	24.49	0-1	1
		25	12	24.20	23.89	23.91	24.26	24.48	0-1	1
		25	24	24.20	23.82	23.90	24.24	24.50	0-1	1
	16QAM	50	0	24.19	23.78	23.91	24.26	24.49	0-1	1
		1	0	24.19	24.17	24.23	24.25	24.68	0-1	1
		1	24	24.03	24.03	24.15	24.06	24.64	0-1	1
		1	49	24.12	24.06	24.20	24.14	24.65	0-1	1
		25	0	23.29	22.91	23.00	23.33	23.59	0-2	2
		25	12	23.25	22.91	22.95	23.26	23.52	0-2	2
	64QAM	25	24	23.26	22.87	23.02	23.27	23.52	0-2	2
		50	0	23.24	22.79	22.91	23.25	23.48	0-2	2
		1	0	23.49	22.97	23.30	23.44	23.64	0-2	2
		1	24	23.39	22.91	23.16	23.35	23.58	0-2	2
		1	49	23.40	22.90	23.18	23.32	23.67	0-2	2
		25	0	22.21	21.93	21.94	22.26	22.49	0-3	3
	256QAM	25	12	22.24	21.92	21.90	22.22	22.47	0-3	3
		25	24	22.19	21.91	21.92	22.22	22.43	0-3	3
		50	0	22.23	21.80	21.96	22.29	22.54	0-3	3
		1	0	20.43	19.83	19.96	20.22	20.29	0-5	5
		1	24	20.27	19.76	19.90	20.12	20.25	0-5	5
		1	49	20.31	19.75	19.96	20.10	20.26	0-5	5
		25	0	20.20	19.86	20.10	20.34	20.56	0-5	5
		25	12	20.18	19.87	20.09	20.30	20.56	0-5	5
		25	24	20.17	19.85	20.07	20.30	20.51	0-5	5
		50	0	20.29	19.94	20.06	20.39	20.62	0-5	5

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 2

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
15 MHz	QPSK	1	0	25.26	24.99	25.08	25.29	25.57	0	0
		1	36	25.12	24.88	25.09	25.27	25.45	0	0
		1	74	25.15	24.87	25.01	25.22	25.54	0	0
		36	0	24.20	23.84	23.98	24.30	24.53	0-1	1
		36	18	24.23	23.84	23.93	24.23	24.52	0-1	1
		36	39	24.17	23.77	23.96	24.26	24.52	0-1	1
		75	0	24.19	23.78	23.95	24.28	24.49	0-1	1
	16QAM	1	0	24.47	24.24	24.19	24.68	24.55	0-1	1
		1	36	24.12	23.92	24.07	24.58	24.32	0-1	1
		1	74	24.39	23.97	24.10	24.58	24.51	0-1	1
		36	0	23.21	22.85	22.98	23.25	23.52	0-2	2
		36	18	23.19	22.85	22.93	23.17	23.50	0-2	2
		36	39	23.14	22.83	22.93	23.17	23.44	0-2	2
		75	0	23.18	22.83	22.94	23.28	23.49	0-2	2
	64QAM	1	0	23.59	22.96	23.03	23.68	23.66	0-2	2
		1	36	23.49	22.85	22.92	23.65	23.48	0-2	2
		1	74	23.57	22.85	22.95	23.66	23.66	0-2	2
		36	0	22.24	21.87	21.96	22.29	22.53	0-3	3
		36	18	22.23	21.85	21.91	22.25	22.50	0-3	3
		36	39	22.15	21.79	21.95	22.25	22.43	0-3	3
		75	0	22.18	21.88	22.01	22.27	22.53	0-3	3
	256QAM	1	0	19.80	19.79	19.98	20.00	20.28	0-5	5
		1	36	19.63	19.58	19.89	19.76	20.09	0-5	5
		1	74	19.72	19.65	19.84	19.81	20.18	0-5	5
		36	0	20.23	19.92	20.07	20.35	20.59	0-5	5
		36	18	20.20	19.93	20.08	20.32	20.62	0-5	5
		36	39	20.18	19.86	20.03	20.29	20.55	0-5	5
		75	0	20.24	19.85	20.05	20.34	20.60	0-5	5

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	25.25	25.04	25.11	25.44	25.65	0	0
		1	49	25.08	24.88	24.94	25.20	25.47	0	0
		1	99	25.13	24.86	24.98	25.20	25.48	0	0
		50	0	24.23	23.85	23.99	24.34	24.54	0-1	1
		50	25	24.20	23.76	23.91	24.30	24.51	0-1	1
		50	49	24.17	23.73	23.89	24.24	24.47	0-1	1
	16QAM	100	0	24.19	23.83	23.97	24.33	24.52	0-1	1
		1	0	24.48	24.19	24.38	24.50	24.66	0-1	1
		1	49	24.24	24.00	24.31	24.16	24.60	0-1	1
		1	99	24.35	24.00	24.42	24.28	24.62	0-1	1
		50	0	23.18	22.86	22.97	23.27	23.57	0-2	2
		50	25	23.16	22.81	22.94	23.23	23.51	0-2	2
	64QAM	50	49	23.11	22.79	22.94	23.17	23.49	0-2	2
		100	0	23.27	22.93	23.01	23.35	23.55	0-2	2
		1	0	23.44	23.26	23.23	23.64	23.60	0-2	2
		1	49	23.19	23.10	23.05	23.63	23.68	0-2	2
		1	99	23.27	23.09	23.11	23.62	23.61	0-2	2
		50	0	22.20	21.94	21.99	22.36	22.53	0-3	3
	256QAM	50	25	22.17	21.86	21.92	22.30	22.49	0-3	3
		50	49	22.15	21.82	21.90	22.27	22.49	0-3	3
		100	0	22.15	21.93	21.94	22.27	22.51	0-3	3
		1	0	19.94	19.64	19.90	20.11	20.12	0-5	5
		1	49	19.78	19.46	19.74	20.09	20.00	0-5	5
		1	99	19.83	19.49	19.77	20.14	20.01	0-5	5
		50	0	20.27	20.01	20.06	20.46	20.69	0-5	5
		50	25	20.23	19.93	20.06	20.44	20.68	0-5	5
		50	49	20.24	19.90	20.04	20.42	20.61	0-5	5
		100	0	20.20	19.87	20.04	20.40	20.62	0-5	5

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

**[LTE Band 66 Conducted Power]**

LTE Band 66 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131979Ch. 1710.7 MHz	132322 Ch. 1745 MHz	132665 Ch. 1779.3 MHz		
1.4 MHz	QPSK	1	0	22.44	22.49	22.48	0	0
		1	3	22.47	22.50	22.50	0	0
		1	5	22.45	22.48	22.45	0	0
		3	0	22.44	22.46	22.36	0	0
		3	1	22.54	22.53	22.55	0	0
		3	3	22.54	22.55	22.49	0	0
	16QAM	6	0	21.51	21.52	21.41	0-1	1
		1	0	21.73	21.78	21.67	0-1	1
		1	3	21.67	21.50	21.54	0-1	1
		1	5	21.74	21.63	21.54	0-1	1
		3	0	21.52	21.53	21.49	0-1	1
		3	1	21.65	21.77	21.60	0-1	1
	64QAM	3	3	21.61	21.66	21.53	0-1	1
		6	0	20.53	20.58	20.49	0-2	2
		1	0	20.67	20.65	20.66	0-2	2
		1	3	20.52	20.67	20.58	0-2	2
		1	5	20.64	20.61	20.56	0-2	2
		3	0	20.54	20.51	20.53	0-2	2
	256QAM	3	1	20.70	20.70	20.67	0-2	2
		3	3	20.60	20.58	20.49	0-2	2
		6	0	19.53	19.59	19.51	0-3	3
		1	0	17.54	17.68	17.53	0-5	5
		1	3	17.38	17.47	17.36	0-5	5
		1	5	17.55	17.55	17.59	0-5	5
		3	0	17.41	17.38	17.42	0-5	5
		3	1	17.52	17.49	17.51	0-5	5
		3	3	17.51	17.52	17.41	0-5	5
		6	0	17.42	17.42	17.47	0-5	5

LTE Band 66 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131987 Ch. 1711.5 MHz	132322 Ch. 1745 MHz	132657 Ch. 1778.5 MHz		
3 MHz	QPSK	1	0	22.47	22.49	22.43	0	0
		1	7	22.40	22.41	22.43	0	0
		1	14	22.46	22.50	22.45	0	0
		8	0	21.54	21.51	21.56	0-1	1
		8	3	21.47	21.50	21.47	0-1	1
		8	7	21.52	21.55	21.55	0-1	1
	16QAM	15	0	21.56	21.57	21.53	0-1	1
		1	0	21.64	21.68	21.67	0-1	1
		1	7	21.76	21.60	21.77	0-1	1
		1	14	21.67	21.70	21.63	0-1	1
		8	0	20.58	20.59	20.55	0-2	2
		8	3	20.60	20.59	20.52	0-2	2
	64QAM	8	7	20.65	20.61	20.57	0-2	2
		15	0	20.55	20.60	20.54	0-2	2
		1	0	20.63	20.63	20.63	0-2	2
		1	7	20.54	20.49	20.52	0-2	2
		1	14	20.65	20.76	20.61	0-2	2
		8	0	19.57	19.52	19.49	0-3	3
	256QAM	8	3	19.53	19.58	19.50	0-3	3
		8	7	19.55	19.64	19.52	0-3	3
		15	0	19.56	19.62	19.54	0-3	3
		1	0	17.62	17.65	17.53	0-5	5
		1	7	17.61	17.70	17.58	0-5	5
		1	14	17.65	17.59	17.55	0-5	5
		8	0	17.50	17.44	17.45	0-5	5
		8	3	17.50	17.48	17.48	0-5	5
		8	7	17.50	17.48	17.52	0-5	5
		15	0	17.50	17.51	17.46	0-5	5

LTE Band 66 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131997 Ch. 1712.5 MHz	132322Ch. 1745 MHz	132647 Ch. 1777.5 MHz		
5 MHz	QPSK	1	0	22.53	22.57	22.51	0	0
		1	12	22.51	22.50	22.47	0	0
		1	24	22.51	22.54	22.51	0	0
		12	0	21.60	21.61	21.59	0-1	1
		12	6	21.64	21.59	21.58	0-1	1
		12	11	21.65	21.61	21.58	0-1	1
	16QAM	25	0	21.60	21.63	21.56	0-1	1
		1	0	21.84	21.82	21.72	0-1	1
		1	12	21.79	21.78	21.62	0-1	1
		1	24	21.90	21.77	21.64	0-1	1
		12	0	20.66	20.63	20.57	0-2	2
		12	6	20.65	20.62	20.56	0-2	2
	64QAM	12	11	20.67	20.64	20.58	0-2	2
		25	0	20.66	20.68	20.55	0-2	2
		1	0	20.67	20.63	20.73	0-2	2
		1	12	20.74	20.64	20.58	0-2	2
		1	24	20.71	20.74	20.71	0-2	2
		12	0	19.61	19.62	19.58	0-3	3
	256QAM	12	6	19.59	19.68	19.56	0-3	3
		12	11	19.57	19.66	19.57	0-3	3
		25	0	19.60	19.61	19.53	0-3	3
		1	0	17.70	17.63	17.59	0-5	5
		1	12	17.63	17.55	17.64	0-5	5
		1	24	17.53	17.65	17.64	0-5	5
		12	0	17.55	17.50	17.52	0-5	5
		12	6	17.47	17.49	17.45	0-5	5
		12	11	17.46	17.45	17.42	0-5	5
		25	0	17.54	17.51	17.51	0-5	5

LTE Band 66 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132022 Ch. 1715 MHz	132322 Ch. 1745 MHz	132622 Ch. 1775 MHz		
10 MHz	QPSK	1	0	22.50	22.58	22.54	0	0
		1	24	22.54	22.57	22.52	0	0
		1	49	22.58	22.58	22.50	0	0
		25	0	21.59	21.61	21.55	0-1	1
		25	12	21.58	21.60	21.53	0-1	1
		25	24	21.58	21.58	21.49	0-1	1
	16QAM	50	0	21.62	21.61	21.48	0-1	1
		1	0	21.76	21.88	21.81	0-1	1
		1	24	21.62	21.86	21.65	0-1	1
		1	49	21.72	21.78	21.69	0-1	1
		25	0	20.63	20.64	20.60	0-2	2
		25	12	20.54	20.65	20.54	0-2	2
	64QAM	25	24	20.61	20.64	20.50	0-2	2
		50	0	20.59	20.58	20.54	0-2	2
		1	0	20.77	20.78	20.76	0-2	2
		1	24	20.76	20.68	20.63	0-2	2
		1	49	20.73	20.72	20.67	0-2	2
		25	0	19.64	19.60	19.58	0-3	3
	256QAM	25	12	19.55	19.59	19.53	0-3	3
		25	24	19.54	19.55	19.50	0-3	3
		50	0	19.59	19.59	19.52	0-3	3
		1	0	17.58	17.71	17.63	0-5	5
		1	24	17.64	17.52	17.51	0-5	5
		1	49	17.58	17.68	17.56	0-5	5
		25	0	17.50	17.54	17.50	0-5	5
		25	12	17.53	17.51	17.42	0-5	5
		25	24	17.51	17.51	17.45	0-5	5
		50	0	17.51	17.55	17.45	0-5	5

LTE Band 66 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132047 Ch. 1717.5 MHz	132322 Ch. 1745 MHz	132597 Ch. 1772.5 MHz		
15 MHz	QPSK	1	0	22.57	22.64	22.60	0	0
		1	36	22.52	22.57	22.50	0	0
		1	74	22.57	22.59	22.53	0	0
		36	0	21.62	21.63	21.61	0-1	1
		36	18	21.61	21.63	21.57	0-1	1
		36	39	21.62	21.60	21.60	0-1	1
	16QAM	75	0	21.62	21.64	21.61	0-1	1
		1	0	21.76	21.77	21.77	0-1	1
		1	36	21.79	21.72	21.71	0-1	1
		1	74	21.71	21.87	21.71	0-1	1
		36	0	20.64	20.63	20.61	0-2	2
		36	18	20.62	20.64	20.65	0-2	2
	64QAM	36	39	20.57	20.60	20.53	0-2	2
		75	0	20.59	20.59	20.55	0-2	2
		1	0	20.84	20.75	20.79	0-2	2
		1	36	20.70	20.73	20.60	0-2	2
		1	74	20.75	20.74	20.62	0-2	2
		36	0	19.64	19.63	19.61	0-3	3
	256QAM	36	18	19.60	19.62	19.58	0-3	3
		36	39	19.59	19.65	19.56	0-3	3
		75	0	19.59	19.58	19.57	0-3	3
		1	0	17.63	17.79	17.58	0-5	5
		1	36	17.62	17.59	17.52	0-5	5
		1	74	17.56	17.71	17.60	0-5	5
		36	0	17.54	17.56	17.49	0-5	5
		36	18	17.55	17.54	17.46	0-5	5
		36	39	17.53	17.47	17.44	0-5	5
		75	0	17.54	17.54	17.50	0-5	5

LTE Band 66 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	22.58	22.65	22.55	0	0
		1	49	22.50	22.57	22.45	0	0
		1	99	22.57	22.59	22.48	0	0
		50	0	21.54	21.61	21.52	0-1	1
		50	25	21.58	21.56	21.51	0-1	1
		50	49	21.61	21.58	21.47	0-1	1
	16QAM	100	0	21.63	21.60	21.49	0-1	1
		1	0	21.96	21.85	21.75	0-1	1
		1	49	21.79	21.74	21.45	0-1	1
		1	99	21.69	21.75	21.63	0-1	1
		50	0	20.57	20.59	20.54	0-2	2
		50	25	20.58	20.57	20.50	0-2	2
	64QAM	50	49	20.59	20.58	20.49	0-2	2
		100	0	20.58	20.57	20.51	0-2	2
		1	0	20.96	20.84	20.64	0-2	2
		1	49	20.69	20.76	20.64	0-2	2
		1	99	20.71	20.71	20.63	0-2	2
		50	0	19.60	19.63	19.54	0-3	3
	256QAM	50	25	19.57	19.59	19.51	0-3	3
		50	49	19.55	19.57	19.45	0-3	3
		100	0	19.59	19.56	19.47	0-3	3
		1	0	17.74	17.73	17.65	0-5	5
		1	49	17.66	17.59	17.54	0-5	5
		1	99	17.67	17.65	17.57	0-5	5
	256QAM	50	0	17.51	17.52	17.43	0-5	5
		50	25	17.51	17.50	17.44	0-5	5
		50	49	17.49	17.55	17.42	0-5	5
		100	0	17.51	17.52	17.46	0-5	5

The EUT enables maximum power reduction in accordance with 3GPP 36.101. The MPR settings are configured during the manufacture process and are not configurable by the network, carrier, or end user.

### 11.3.2 LTE Reduced Conducted Power (Hotspot activated)

[ LTE Band 2 Conducted Power ]

LTE Band 2 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18607 Ch. 1850.7 MHz	18900 Ch. 1880 MHz	19193 Ch. 1909.3 MHz		
1.4 MHz	QPSK	1	0	18.46	18.14	18.54	0	0
		1	3	18.51	18.18	18.58	0	0
		1	5	18.46	18.12	18.54	0	0
		3	0	18.42	18.09	18.50	0	0
		3	1	18.59	18.25	18.65	0	0
		3	3	18.49	18.17	18.59	0	0
	16QAM	6	0	18.48	18.16	18.56	0-1	0
		1	0	18.83	18.52	18.87	0-1	0
		1	3	18.55	18.29	18.64	0-1	0
		1	5	18.81	18.46	18.91	0-1	0
		3	0	18.59	18.29	18.68	0-1	0
		3	1	18.66	18.35	18.74	0-1	0
	64QAM	3	3	18.64	18.36	18.75	0-1	0
		6	0	18.54	18.28	18.69	0-2	0
		1	0	18.59	18.31	18.70	0-2	0
		1	3	18.53	18.21	18.58	0-2	0
		1	5	18.64	18.26	18.69	0-2	0
		3	0	18.52	18.20	18.61	0-2	0
	256QAM	3	1	18.60	18.30	18.72	0-2	0
		3	3	18.57	18.27	18.68	0-2	0
		6	0	18.53	18.22	18.61	0-3	0
		1	0	17.02	16.73	17.28	0-5	1.5
		1	3	16.83	16.63	17.00	0-5	1.5
		1	5	17.03	16.69	17.13	0-5	1.5
		3	0	16.93	16.58	16.99	0-5	1.5
		3	1	16.97	16.66	17.09	0-5	1.5
		3	3	16.96	16.70	17.05	0-5	1.5
6		0	16.95	16.60	16.97	0-5	1.5	

LTE Band 2 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18615 Ch. 1851.5 MHz	18900 Ch. 1880 MHz	19185 Ch. 1908.5 MHz		
3 MHz	QPSK	1	0	18.45	18.14	18.56	0	0
		1	7	18.42	18.11	18.51	0	0
		1	14	18.43	18.13	18.56	0	0
		8	0	18.52	18.22	18.64	0-1	0
		8	3	18.49	18.16	18.61	0-1	0
		8	7	18.52	18.19	18.63	0-1	0
		15	0	18.52	18.20	18.62	0-1	0
	16QAM	1	0	18.81	18.53	18.94	0-1	0
		1	7	18.75	18.44	18.85	0-1	0
		1	14	18.71	18.39	18.85	0-1	0
		8	0	18.60	18.31	18.72	0-2	0
		8	3	18.57	18.31	18.71	0-2	0
		8	7	18.62	18.32	18.72	0-2	0
		15	0	18.59	18.29	18.71	0-2	0
	64QAM	1	0	18.77	18.41	18.83	0-2	0
		1	7	18.67	18.35	18.78	0-2	0
		1	14	18.70	18.37	18.87	0-2	0
		8	0	18.60	18.30	18.73	0-3	0
		8	3	18.55	18.29	18.67	0-3	0
		8	7	18.56	18.30	18.71	0-3	0
		15	0	18.56	18.30	18.70	0-3	0
	256QAM	1	0	16.75	16.88	17.24	0-5	1.5
		1	7	16.81	16.60	17.23	0-5	1.5
		1	14	16.94	16.67	17.24	0-5	1.5
		8	0	16.85	16.59	17.13	0-5	1.5
		8	3	16.91	16.54	17.17	0-5	1.5
		8	7	16.96	16.55	17.13	0-5	1.5
		15	0	16.95	16.62	17.16	0-5	1.5

LTE Band 2\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18625 Ch. 1852.5 MHz	18900 Ch. 1880 MHz	19175 Ch. 1907.5 MHz		
5 MHz	QPSK	1	0	18.54	18.22	18.60	0	0
		1	12	18.43	18.13	18.57	0	0
		1	24	18.46	18.17	18.60	0	0
		12	0	18.52	18.22	18.68	0-1	0
		12	6	18.53	18.24	18.67	0-1	0
		12	11	18.52	18.23	18.66	0-1	0
		25	0	18.51	18.24	18.66	0-1	0
	16QAM	1	0	18.85	18.56	18.94	0-1	0
		1	12	18.75	18.57	18.93	0-1	0
		1	24	18.79	18.54	18.91	0-1	0
		12	0	18.57	18.30	18.71	0-2	0
		12	6	18.55	18.25	18.67	0-2	0
		12	11	18.53	18.27	18.72	0-2	0
		25	0	18.53	18.32	18.71	0-2	0
	64QAM	1	0	18.71	18.49	18.87	0-2	0
		1	12	18.63	18.41	18.73	0-2	0
		1	24	18.72	18.45	18.81	0-2	0
		12	0	18.55	18.32	18.73	0-3	0
		12	6	18.57	18.33	18.71	0-3	0
		12	11	18.56	18.31	18.69	0-3	0
		25	0	18.57	18.33	18.72	0-3	0
	256QAM	1	0	17.01	16.89	17.31	0-5	1.5
		1	12	16.91	16.79	17.14	0-5	1.5
		1	24	16.92	16.75	17.17	0-5	1.5
		12	0	16.86	16.58	17.03	0-5	1.5
		12	6	16.87	16.56	17.04	0-5	1.5
		12	11	16.81	16.57	16.98	0-5	1.5
		25	0	16.89	16.61	17.04	0-5	1.5

LTE Band 2 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18650 Ch. 1855 MHz	18900 Ch. 1880 MHz	19150 Ch. 1905 MHz		
10 MHz	QPSK	1	0	18.46	18.24	18.58	0	0
		1	24	18.43	18.14	18.51	0	0
		1	49	18.41	18.17	18.54	0	0
		25	0	18.53	18.28	18.62	0-1	0
		25	12	18.50	18.25	18.61	0-1	0
		25	24	18.47	18.23	18.59	0-1	0
	16QAM	50	0	18.42	18.13	18.52	0-1	0
		1	0	18.93	18.62	18.94	0-1	0
		1	24	18.71	18.41	18.80	0-1	0
		1	49	18.77	18.48	18.91	0-1	0
		25	0	18.57	18.35	18.68	0-2	0
		25	12	18.53	18.30	18.64	0-2	0
	64QAM	25	24	18.51	18.27	18.65	0-2	0
		50	0	18.47	18.21	18.58	0-2	0
		1	0	18.80	18.49	18.80	0-2	0
		1	24	18.64	18.45	18.74	0-2	0
		1	49	18.65	18.46	18.87	0-2	0
		25	0	18.56	18.34	18.66	0-3	0
	256QAM	25	12	18.53	18.28	18.66	0-3	0
		25	24	18.52	18.29	18.62	0-3	0
		50	0	18.48	18.24	18.58	0-3	0
		1	0	17.00	16.75	17.34	0-5	1.5
		1	24	17.08	16.73	17.12	0-5	1.5
		1	49	17.06	16.68	17.20	0-5	1.5
		25	0	16.90	16.62	17.00	0-5	1.5
		25	12	16.91	16.63	16.99	0-5	1.5
		25	24	16.88	16.61	16.96	0-5	1.5
	50	0	16.87	16.63	17.00	0-5	1.5	

LTE Band 2 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18675 Ch. 1857.5 MHz	18900 Ch. 1880 MHz	19125 Ch. 1902.5 MHz		
15 MHz	QPSK	1	0	18.49	17.81	18.39	0	0
		1	36	18.35	17.67	18.23	0	0
		1	74	18.39	17.69	18.32	0	0
		36	0	18.49	17.65	18.35	0-1	0
		36	18	18.44	17.03	18.15	0-1	0
		36	39	18.40	17.01	18.10	0-1	0
		75	0	18.44	17.02	18.23	0-1	0
	16QAM	1	0	18.82	17.47	18.42	0-1	0
		1	36	18.69	17.71	18.46	0-1	0
		1	74	18.70	17.58	18.32	0-1	0
		36	0	18.49	17.30	17.89	0-2	0
		36	18	18.31	17.73	17.80	0-2	0
		36	39	18.32	17.65	18.18	0-2	0
		75	0	18.30	17.73	17.50	0-2	0
	64QAM	1	0	18.64	17.97	17.92	0-2	0
		1	36	18.43	17.84	17.84	0-2	0
		1	74	18.33	17.99	17.73	0-2	0
		36	0	18.08	17.71	18.07	0-3	0
		36	18	18.08	17.73	18.14	0-3	0
		36	39	17.83	17.66	18.09	0-3	0
		75	0	18.16	17.67	18.18	0-3	0
	256QAM	1	0	16.93	16.89	17.39	0-5	1.5
		1	36	17.03	16.77	17.10	0-5	1.5
		1	74	17.03	16.79	17.01	0-5	1.5
		36	0	16.88	16.64	16.92	0-5	1.5
		36	18	16.89	16.64	16.82	0-5	1.5
		36	39	16.89	16.66	16.86	0-5	1.5
75		0	16.90	16.63	16.93	0-5	1.5	

LTE Band 2 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 MHz	18900 Ch. 1880 MHz	19100 Ch. 1900 MHz		
20 MHz	QPSK	1	0	18.31	18.29	18.61	0	0
		1	49	18.16	18.16	18.50	0	0
		1	99	18.33	18.15	18.48	0	0
		50	0	18.37	18.18	18.51	0-1	0
		50	25	18.33	18.13	18.45	0-1	0
		50	49	18.29	18.11	18.44	0-1	0
	16QAM	100	0	18.34	18.16	18.48	0-1	0
		1	0	18.89	18.61	18.91	0-1	0
		1	49	18.54	18.48	18.68	0-1	0
		1	99	18.63	18.48	18.84	0-1	0
		50	0	18.44	18.22	18.55	0-2	0
		50	25	18.36	18.20	18.50	0-2	0
	64QAM	50	49	18.32	18.16	18.48	0-2	0
		100	0	18.38	18.19	18.53	0-2	0
		1	0	18.80	18.57	18.89	0-2	0
		1	49	18.54	18.41	18.70	0-2	0
		1	99	18.51	18.36	18.81	0-2	0
		50	0	18.44	18.25	18.56	0-3	0
	256QAM	50	25	18.37	18.19	18.53	0-3	0
		50	49	18.34	18.18	18.51	0-3	0
		100	0	18.40	18.22	18.53	0-3	0
		1	0	16.87	17.01	17.41	0-5	1.5
		1	49	16.82	16.81	17.04	0-5	1.5
		1	99	16.99	16.90	17.04	0-5	1.5
	50	0	16.79	16.63	17.02	0-5	1.5	
	50	25	16.79	16.64	16.94	0-5	1.5	
	50	49	16.77	16.66	16.94	0-5	1.5	
	100	0	16.78	16.66	16.96	0-5	1.5	

[ LTE Band 4 Conducted Power ]

LTE Band 4 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19957 Ch. 1710.7 MHz	20175 Ch. 1732.5 MHz	20393 Ch. 1754.3 MHz		
1.4 MHz	QPSK	1	0	19.50	19.51	19.48	0	0
		1	3	19.54	19.52	19.52	0	0
		1	5	19.50	19.48	19.49	0	0
		3	0	19.46	19.44	19.45	0	0
		3	1	19.61	19.62	19.59	0	0
		3	3	19.53	19.51	19.52	0	0
	16QAM	6	0	19.49	19.48	19.48	0	0
		1	0	19.75	19.78	19.77	0	0
		1	3	19.64	19.59	19.60	0	0
		1	5	19.78	19.76	19.78	0	0
		3	0	19.55	19.59	19.58	0	0
		3	1	19.63	19.62	19.62	0	0
	64QAM	3	3	19.66	19.63	19.58	0	0
		6	0	19.59	19.56	19.55	0	0
		1	0	19.73	19.67	19.68	0	0
		1	3	19.64	19.65	19.67	0	0
		1	5	19.65	19.65	19.67	0	0
		3	0	19.53	19.61	19.58	0	0
	256QAM	3	1	19.71	19.73	19.67	0	0
		3	3	19.68	19.64	19.61	0	0
		6	0	19.63	19.58	19.58	0	0
		1	0	17.62	17.55	17.59	0	2
		1	3	17.44	17.61	17.60	0	2
		1	5	17.59	17.58	17.51	0	2
	3	0	17.40	17.47	17.40	0-1	2	
	3	1	17.42	17.52	17.53	0-1	2	
	3	3	17.52	17.51	17.43	0-1	2	
	6	0	17.37	17.37	17.34	0-1	2	

LTE Band 4 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19965 Ch. 1711.5 MHz	20175 Ch. 1732.5 MHz	20385 Ch. 1753.5 MHz		
3 MHz	QPSK	1	0	19.52	19.50	19.47	0	0
		1	7	19.49	19.45	19.44	0	0
		1	14	19.53	19.51	19.47	0	0
		8	0	19.62	19.58	19.55	0	0
		8	3	19.58	19.54	19.52	0	0
		8	7	19.60	19.59	19.54	0	0
	16QAM	15	0	19.63	19.61	19.55	0	0
		1	0	19.82	19.81	19.89	0	0
		1	7	19.72	19.66	19.80	0	0
		1	14	19.80	19.80	19.73	0	0
		8	0	19.61	19.63	19.57	0	0
		8	3	19.61	19.60	19.61	0	0
	64QAM	8	7	19.66	19.62	19.62	0	0
		15	0	19.63	19.59	19.60	0	0
		1	0	19.73	19.61	19.71	0	0
		1	7	19.65	19.42	19.59	0	0
		1	14	19.63	19.58	19.65	0	0
		8	0	19.66	19.59	19.59	0	0
	256QAM	8	3	19.62	19.57	19.59	0	0
		8	7	19.65	19.61	19.63	0	0
		15	0	19.65	19.61	19.60	0	0
		1	0	17.34	17.65	17.57	0	2
		1	7	17.55	17.48	17.62	0	2
		1	14	17.44	17.56	17.46	0	2
		8	0	17.37	17.45	17.42	0-1	2
		8	3	17.36	17.48	17.37	0-1	2
		8	7	17.45	17.44	17.40	0-1	2
15	0	17.37	17.47	17.41	0-1	2		

LTE Band 4 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19975 Ch. 1712.5 MHz	20175 Ch. 1732.5 MHz	20375 Ch. 1752.5 MHz		
5 MHz	QPSK	1	0	19.53	19.56	19.53	0	0
		1	12	19.48	19.47	19.44	0	0
		1	24	19.55	19.54	19.45	0	0
		12	0	19.63	19.64	19.56	0	0
		12	6	19.63	19.63	19.53	0	0
		12	11	19.65	19.61	19.56	0	0
	16QAM	25	0	19.62	19.59	19.52	0	0
		1	0	19.87	19.87	19.82	0	0
		1	12	19.87	19.87	19.85	0	0
		1	24	19.88	19.87	19.85	0	0
		12	0	19.68	19.66	19.62	0	0
		12	6	19.63	19.65	19.59	0	0
	64QAM	12	11	19.64	19.62	19.60	0	0
		25	0	19.60	19.60	19.55	0	0
		1	0	19.75	19.74	19.71	0	0
		1	12	19.54	19.54	19.60	0	0
		1	24	19.71	19.73	19.60	0	0
		12	0	19.62	19.62	19.60	0	0
	256QAM	12	6	19.66	19.60	19.58	0	0
		12	11	19.62	19.60	19.58	0	0
		25	0	19.63	19.63	19.58	0	0
		1	0	17.47	17.58	17.43	0	2
		1	12	17.46	17.49	17.50	0	2
		1	24	17.55	17.41	17.48	0	2
		12	0	17.40	17.52	17.37	0-1	2
		12	6	17.37	17.43	17.34	0-1	2
		12	11	17.37	17.43	17.35	0-1	2
25		0	17.43	17.46	17.39	0-1	2	

LTE Band 4 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20000 Ch. 1715 MHz	20175 Ch. 1732.5 MHz	20350 Ch. 1750 MHz		
10 MHz	QPSK	1	0	19.57	19.58	19.54	0	0
		1	24	19.50	19.53	19.46	0	0
		1	49	19.48	19.57	19.45	0	0
		25	0	19.60	19.65	19.57	0	0
		25	12	19.55	19.66	19.53	0	0
		25	24	19.53	19.64	19.51	0	0
	16QAM	1	0	19.80	19.98	19.90	0	0
		1	24	19.71	19.80	19.70	0	0
		1	49	19.77	19.97	19.71	0	0
		25	0	19.61	19.77	19.63	0	0
		25	12	19.59	19.73	19.56	0	0
		25	24	19.56	19.74	19.53	0	0
	64QAM	50	0	19.56	19.74	19.52	0	0
		1	0	19.78	19.98	19.79	0	0
		1	24	19.60	19.81	19.65	0	0
		1	49	19.67	19.85	19.58	0	0
		25	0	19.59	19.74	19.60	0	0
		25	12	19.57	19.70	19.56	0	0
	256QAM	25	24	19.55	19.75	19.51	0	0
		50	0	19.56	19.75	19.52	0	0
		1	0	17.60	17.77	17.37	0	2
		1	24	17.45	17.59	17.68	0	2
		1	49	17.63	17.64	17.57	0	2
		25	0	17.51	17.54	17.45	0-1	2
		25	12	17.48	17.54	17.43	0-1	2
		25	24	17.43	17.47	17.43	0-1	2
		50	0	17.45	17.52	17.44	0-1	2

LTE Band 4 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20025 Ch. 1717.5 MHz	20175 Ch. 1732.5 MHz	20325 Ch. 1747.5 MHz		
15 MHz	QPSK	1	0	19.79	19.71	19.71	0	0
		1	36	19.67	19.53	19.53	0	0
		1	74	19.65	19.56	19.52	0	0
		36	0	19.79	19.71	19.66	0	0
		36	18	19.75	19.66	19.60	0	0
		36	39	19.71	19.62	19.57	0	0
		75	0	19.69	19.64	19.61	0	0
	16QAM	1	0	20.08	19.97	20.02	0	0
		1	36	20.01	19.82	19.86	0	0
		1	74	19.86	19.94	19.78	0	0
		36	0	19.76	19.65	19.67	0	0
		36	18	19.69	19.65	19.63	0	0
		36	39	19.64	19.60	19.58	0	0
		75	0	19.66	19.63	19.61	0	0
	64QAM	1	0	19.87	19.85	19.85	0	0
		1	36	19.74	19.52	19.63	0	0
		1	74	19.74	19.79	19.63	0	0
		36	0	19.75	19.69	19.67	0	0
		36	18	19.70	19.65	19.66	0	0
		36	39	19.63	19.63	19.57	0	0
		75	0	19.67	19.65	19.61	0	0
	256QAM	1	0	17.56	17.47	17.48	0	2
		1	36	17.43	17.71	17.58	0	2
		1	74	17.56	17.65	17.79	0	2
		36	0	17.44	17.48	17.48	0-1	2
		36	18	17.45	17.49	17.47	0-1	2
		36	39	17.54	17.49	17.45	0-1	2
75		0	17.48	17.53	17.47	0-1	2	

LTE Band 4 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20050 Ch. 1720.0 MHz	20175 Ch. 1732.5 MHz	20300 Ch. 1745.0 MHz		
20 MHz	QPSK	1	0	19.68	19.67	19.61	0	0
		1	49	19.51	19.55	19.49	0	0
		1	99	19.48	19.56	19.40	0	0
		50	0	19.58	19.68	19.57	0	0
		50	25	19.55	19.62	19.51	0	0
		50	49	19.53	19.56	19.47	0	0
	16QAM	100	0	19.59	19.62	19.52	0	0
		1	0	20.02	20.07	19.95	0	0
		1	49	19.69	19.80	19.79	0	0
		1	99	19.68	19.91	19.68	0	0
		50	0	19.60	19.68	19.61	0	0
		50	25	19.57	19.61	19.53	0	0
	64QAM	50	49	19.53	19.59	19.51	0	0
		100	0	19.55	19.63	19.57	0	0
		1	0	19.88	19.94	19.85	0	0
		1	49	19.72	19.78	19.69	0	0
		1	99	19.61	19.83	19.59	0	0
		50	0	19.61	19.67	19.58	0	0
	256QAM	50	25	19.57	19.64	19.51	0	0
		50	49	19.54	19.59	19.47	0	0
		100	0	19.59	19.62	19.53	0	0
		1	0	17.67	17.70	17.62	0	2
		1	49	17.53	17.52	17.57	0	2
		1	99	17.52	17.70	17.67	0	2
50		0	17.44	17.49	17.47	0-1	2	
50		25	17.49	17.46	17.40	0-1	2	
50	49	17.46	17.50	17.46	0-1	2		
100	0	17.44	17.52	17.47	0-1	2		

[ LTE Band 25 Conducted Power ]

LTE Band 25 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26047 Ch. 1850.7 MHz	26365 Ch. 1882.5 MHz	26683 Ch. 1914.3 MHz		
1.4 MHz	QPSK	1	0	18.46	18.15	18.61	0	0
		1	3	18.48	18.19	18.65	0	0
		1	5	18.45	18.13	18.61	0	0
		3	0	18.43	18.09	18.56	0	0
		3	1	18.60	18.25	18.73	0	0
		3	3	18.49	18.17	18.65	0	0
		6	0	18.49	18.13	18.62	0-1	0
	16QAM	1	0	18.76	18.41	18.92	0-1	0
		1	3	18.65	18.30	18.76	0-1	0
		1	5	18.74	18.45	18.90	0-1	0
		3	0	18.55	18.26	18.68	0-1	0
		3	1	18.57	18.32	18.71	0-1	0
		3	3	18.63	18.35	18.81	0-1	0
		6	0	18.57	18.27	18.70	0-2	0
	64QAM	1	0	18.68	18.39	18.88	0-2	0
		1	3	18.64	18.31	18.75	0-2	0
		1	5	18.71	18.30	18.86	0-2	0
		3	0	18.58	18.28	18.72	0-2	0
		3	1	18.77	18.38	18.89	0-2	0
		3	3	18.62	18.31	18.75	0-2	0
		6	0	18.58	18.30	18.68	0-3	0
	256QAM	1	0	16.86	16.47	17.11	0-5	1.5
		1	3	16.72	16.78	16.98	0-5	1.5
		1	5	17.09	16.74	17.15	0-5	1.5
		3	0	16.93	16.63	17.02	0-5	1.5
		3	1	17.03	16.81	17.09	0-5	1.5
		3	3	16.97	16.76	17.11	0-5	1.5
		6	0	16.93	16.63	17.16	0-5	1.5

LTE Band 25 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26055 Ch. 1851.5 MHz	26365 Ch. 1882.5 MHz	26675Ch. 1913.5 MHz		
3 MHz	QPSK	1	0	18.41	18.14	18.60	0	0
		1	7	18.40	18.09	18.57	0	0
		1	14	18.46	18.14	18.61	0	0
		8	0	18.55	18.23	18.68	0-1	0
		8	3	18.49	18.19	18.65	0-1	0
		8	7	18.50	18.23	18.69	0-1	0
		15	0	18.54	18.24	18.70	0-1	0
	16QAM	1	0	18.86	18.48	18.87	0-1	0
		1	7	18.69	18.57	18.84	0-1	0
		1	14	18.77	18.39	18.88	0-1	0
		8	0	18.54	18.26	18.72	0-2	0
		8	3	18.57	18.27	18.70	0-2	0
		8	7	18.56	18.30	18.76	0-2	0
		15	0	18.54	18.25	18.74	0-2	0
	64QAM	1	0	18.73	18.37	18.85	0-2	0
		1	7	18.63	18.37	18.78	0-2	0
		1	14	18.65	18.25	18.82	0-2	0
		8	0	18.58	18.26	18.70	0-3	0
		8	3	18.53	18.26	18.70	0-3	0
		8	7	18.57	18.28	18.74	0-3	0
		15	0	18.51	18.29	18.75	0-3	0
	256QAM	1	0	16.80	16.76	16.94	0-5	1.5
		1	7	17.02	16.74	17.15	0-5	1.5
		1	14	16.99	16.79	17.15	0-5	1.5
		8	0	16.88	16.67	17.03	0-5	1.5
		8	3	16.95	16.64	17.04	0-5	1.5
		8	7	16.99	16.63	17.14	0-5	1.5
15		0	16.95	16.61	17.15	0-5	1.5	

LTE Band 25 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26065 Ch. 1852.5 MHz	26365 Ch. 1882.5 MHz	26665 Ch. 1912.5 MHz		
5 MHz	QPSK	1	0	18.47	18.21	18.67	0	0
		1	12	18.39	18.13	18.57	0	0
		1	24	18.43	18.14	18.58	0	0
		12	0	18.55	18.23	18.68	0-1	0
		12	6	18.53	18.24	18.67	0-1	0
		12	11	18.56	18.24	18.69	0-1	0
		25	0	18.52	18.22	18.67	0-1	0
	16QAM	1	0	18.80	18.49	18.94	0-1	0
		1	12	18.65	18.47	18.83	0-1	0
		1	24	18.76	18.47	18.92	0-1	0
		12	0	18.58	18.29	18.71	0-2	0
		12	6	18.52	18.28	18.69	0-2	0
		12	11	18.54	18.25	18.69	0-2	0
		25	0	18.53	18.26	18.68	0-2	0
	64QAM	1	0	18.62	18.47	18.74	0-2	0
		1	12	18.64	18.36	18.74	0-2	0
		1	24	18.61	18.38	18.78	0-2	0
		12	0	18.55	18.28	18.73	0-3	0
		12	6	18.51	18.29	18.69	0-3	0
		12	11	18.52	18.27	18.70	0-3	0
		25	0	18.55	18.28	18.71	0-3	0
	256QAM	1	0	16.97	16.69	17.06	0-5	1.5
		1	12	16.87	16.75	17.02	0-5	1.5
		1	24	16.96	16.74	17.12	0-5	1.5
		12	0	16.88	16.70	17.12	0-5	1.5
		12	6	16.92	16.68	17.05	0-5	1.5
		12	11	16.89	16.70	17.08	0-5	1.5
		25	0	16.92	16.74	17.13	0-5	1.5

LTE Band 25 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26090 Ch. 1855 MHz	26365 Ch. 1882.5 MHz	26640 Ch. 1910 MHz		
10 MHz	QPSK	1	0	18.56	18.23	18.61	0	0
		1	24	18.45	18.16	18.56	0	0
		1	49	18.46	18.18	18.59	0	0
		25	0	18.57	18.28	18.66	0-1	0
		25	12	18.55	18.25	18.64	0-1	0
		25	24	18.52	18.25	18.63	0-1	0
		50	0	18.48	18.20	18.59	0-1	0
	16QAM	1	0	18.83	18.57	18.89	0-1	0
		1	24	18.65	18.37	18.78	0-1	0
		1	49	18.77	18.55	18.79	0-1	0
		25	0	18.59	18.33	18.71	0-2	0
		25	12	18.55	18.31	18.66	0-2	0
		25	24	18.53	18.30	18.67	0-2	0
		50	0	18.49	18.22	18.62	0-2	0
	64QAM	1	0	18.76	18.43	18.94	0-2	0
		1	24	18.69	18.29	18.71	0-2	0
		1	49	18.63	18.33	18.70	0-2	0
		25	0	18.59	18.31	18.70	0-3	0
		25	12	18.55	18.27	18.67	0-3	0
		25	24	18.52	18.26	18.62	0-3	0
		50	0	18.52	18.00	18.64	0-3	0
	256QAM	1	0	17.07	16.67	17.18	0-5	1.5
		1	24	17.16	16.74	17.20	0-5	1.5
		1	49	17.09	16.78	17.27	0-5	1.5
		25	0	16.99	16.71	17.10	0-5	1.5
		25	12	16.97	16.69	17.04	0-5	1.5
		25	24	16.99	16.70	17.08	0-5	1.5
		50	0	17.00	16.72	17.06	0-5	1.5

LTE Band 25 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26115 Ch. 1857.5 MHz	26365 Ch. 1882.5 MHz	26615 Ch. 1907.5 MHz		
15 MHz	QPSK	1	0	18.54	18.31	18.73	0	0
		1	36	18.39	18.16	18.59	0	0
		1	74	18.42	18.18	18.61	0	0
		36	0	18.54	18.23	18.71	0-1	0
		36	18	18.51	18.24	18.69	0-1	0
		36	39	18.47	18.23	18.65	0-1	0
		75	0	18.49	18.22	18.66	0-1	0
	16QAM	1	0	18.83	18.63	18.99	0-1	0
		1	36	18.78	18.53	18.85	0-1	0
		1	74	18.78	18.45	18.89	0-1	0
		36	0	18.54	18.27	18.73	0-2	0
		36	18	18.50	18.26	18.68	0-2	0
		36	39	18.46	18.21	18.66	0-2	0
		75	0	18.50	18.25	18.70	0-2	0
	64QAM	1	0	18.76	18.50	18.85	0-2	0
		1	36	18.51	18.32	18.71	0-2	0
		1	74	18.61	18.39	18.87	0-2	0
		36	0	18.56	18.31	18.75	0-3	0
		36	18	18.53	18.27	18.74	0-3	0
		36	39	18.46	18.25	18.69	0-3	0
		75	0	18.50	18.25	18.68	0-3	0
	256QAM	1	0	17.16	16.69	17.21	0-5	1.5
		1	36	16.95	16.85	17.16	0-5	1.5
		1	74	17.04	16.82	17.14	0-5	1.5
		36	0	16.93	16.69	17.12	0-5	1.5
		36	18	16.88	16.68	17.12	0-5	1.5
		36	39	16.88	16.70	17.04	0-5	1.5
		75	0	16.92	16.73	17.15	0-5	1.5

LTE Band 25 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26140 Ch. 1860 MHz	26365 Ch. 1882.5 MHz	26590 Ch. 1905 MHz		
20 MHz	QPSK	1	0	18.47	18.30	18.67	0	0
		1	49	18.32	18.16	18.56	0	0
		1	99	18.32	18.17	18.54	0	0
		50	0	18.39	18.21	18.59	0-1	0
		50	25	18.35	18.19	18.55	0-1	0
		50	49	18.32	18.17	18.53	0-1	0
		100	0	18.36	18.21	18.58	0-1	0
	16QAM	1	0	18.80	18.59	18.93	0-1	0
		1	49	18.53	18.46	18.73	0-1	0
		1	99	18.60	18.55	18.89	0-1	0
		50	0	18.39	18.26	18.62	0-2	0
		50	25	18.39	18.23	18.59	0-2	0
		50	49	18.34	18.20	18.56	0-2	0
		100	0	18.36	18.23	18.60	0-2	0
	64QAM	1	0	18.67	18.59	18.85	0-2	0
		1	49	18.50	18.40	18.66	0-2	0
		1	99	18.50	18.36	18.71	0-2	0
		50	0	18.45	18.27	18.63	0-3	0
		50	25	18.39	18.23	18.59	0-3	0
		50	49	18.36	18.20	18.57	0-3	0
		100	0	18.41	18.24	18.60	0-3	0
	256QAM	1	0	17.04	16.87	17.30	0-5	1.5
		1	49	16.86	16.92	17.17	0-5	1.5
		1	99	17.04	16.93	17.30	0-5	1.5
		50	0	16.88	16.71	17.05	0-5	1.5
		50	25	16.84	16.69	17.03	0-5	1.5
		50	49	16.83	16.72	17.02	0-5	1.5
		100	0	16.85	16.71	17.04	0-5	1.5

[ LTE Band 41 Conducted Power ] - Power Class 3

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
5 MHz	QPSK	1	0	22.70	22.50	22.55	22.92	23.03	0	0
		1	12	22.82	22.53	22.53	22.93	23.06	0	0
		1	24	22.78	22.55	22.60	22.99	23.06	0	0
		12	0	22.82	22.57	22.63	23.02	23.12	0	0
		12	6	22.79	22.58	22.68	23.00	23.09	0	0
		12	11	22.82	22.57	22.67	23.01	23.08	0	0
	16QAM	25	0	22.84	22.53	22.64	23.05	23.09	0	0
		1	0	22.95	22.68	22.77	23.13	23.16	0	0
		1	12	22.88	22.55	22.65	22.98	23.08	0	0
		1	24	22.90	22.66	22.78	23.13	23.20	0	0
		12	0	21.82	21.56	21.60	21.97	22.05	0	1
		12	6	21.76	21.59	21.61	21.94	21.96	0	1
	64QAM	12	11	21.81	21.60	21.63	21.97	22.02	0	1
		25	0	21.88	21.58	21.72	22.04	22.15	0	1
		1	0	21.87	21.47	21.54	21.73	21.89	0	1
		1	12	21.86	21.44	21.42	21.73	21.81	0	1
		1	24	21.84	21.56	21.58	21.79	21.90	0	1
		12	0	20.80	20.59	20.61	20.95	21.08	0	2
	256QAM	12	6	20.77	20.64	20.62	20.90	20.97	0	2
		12	11	20.80	20.66	20.64	20.95	21.01	0	2
		25	0	20.81	20.50	20.62	21.01	21.08	0	2
		1	0	19.01	18.80	19.01	19.23	19.45	0-5	3.2
		1	12	18.99	18.79	19.04	19.17	19.39	0-5	3.2
		1	24	19.01	18.78	18.98	19.14	19.47	0-5	3.2
		12	0	19.23	18.88	19.02	19.38	19.63	0-5	3.2
12		6	19.20	18.84	18.93	19.34	19.63	0-5	3.2	
12		11	19.23	18.85	18.95	19.33	19.61	0-5	3.2	
25		0	19.25	18.91	19.03	19.38	19.64	0-5	3.2	

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
10 MHz	QPSK	1	0	22.79	22.53	22.65	22.96	23.17	0	0
		1	24	22.71	22.42	22.54	22.84	23.05	0	0
		1	49	22.77	22.52	22.60	22.91	23.06	0	0
		25	0	22.83	22.54	22.63	22.96	23.15	0	0
		25	12	22.85	22.47	22.63	22.95	23.13	0	0
		25	24	22.84	22.51	22.65	22.95	23.10	0	0
	16QAM	50	0	22.89	22.51	22.62	22.98	23.19	0	0
		1	0	22.89	22.63	22.71	23.16	23.27	0	0
		1	24	22.74	22.56	22.56	23.08	23.20	0	0
		1	49	22.80	22.64	22.75	23.20	23.26	0	0
		25	0	21.87	21.62	21.69	22.01	22.19	0	1
		25	12	21.88	21.61	21.68	22.01	22.15	0	1
	64QAM	25	24	21.88	21.59	21.68	22.05	22.14	0	1
		50	0	21.90	21.55	21.65	22.04	22.13	0	1
		1	0	21.71	21.34	21.46	21.98	22.08	0	1
		1	24	21.62	21.28	21.51	21.83	22.04	0	1
		1	49	21.74	21.35	21.61	21.91	22.10	0	1
		25	0	20.79	20.55	20.63	20.98	21.13	0	2
	256QAM	25	12	20.78	20.54	20.61	20.95	21.14	0	2
		25	24	20.81	20.56	20.64	20.95	21.13	0	2
		50	0	20.85	20.57	20.63	21.00	21.13	0	2
		1	0	19.17	18.83	18.90	19.27	19.53	0-5	3.2
		1	24	19.09	18.71	18.78	19.12	19.37	0-5	3.2
		1	49	19.11	18.74	18.87	19.20	19.47	0-5	3.2
		25	0	19.30	18.97	19.07	19.43	19.64	0-5	3.2
		25	12	19.25	18.90	19.04	19.35	19.58	0-5	3.2
		25	24	19.28	18.90	19.00	19.35	19.62	0-5	3.2
		50	0	19.31	18.97	19.13	19.47	19.69	0-5	3.2

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
15 MHz	QPSK	1	0	22.81	22.54	22.61	22.98	23.10	0	0
		1	36	22.79	22.50	22.51	22.90	23.11	0	0
		1	74	22.84	22.56	22.64	22.97	23.09	0	0
		36	0	22.90	22.53	22.63	23.03	23.17	0	0
		36	18	22.85	22.54	22.68	23.05	23.13	0	0
		36	39	22.87	22.55	22.64	23.02	23.11	0	0
		75	0	22.87	22.54	22.64	23.00	23.13	0	0
	16QAM	1	0	22.89	22.75	22.70	23.19	23.26	0	0
		1	36	22.85	22.58	22.49	23.00	23.06	0	0
		1	74	22.87	22.74	22.71	23.12	23.25	0	0
		36	0	21.85	21.54	21.62	21.96	22.10	0	1
		36	18	21.79	21.51	21.64	21.93	22.09	0	1
		36	39	21.79	21.57	21.64	21.95	22.08	0	1
		75	0	21.84	21.57	21.62	21.95	22.15	0	1
	64QAM	1	0	21.79	21.32	21.50	21.98	22.09	0	1
		1	36	21.70	21.31	21.33	21.72	21.97	0	1
		1	74	21.70	21.36	21.55	21.91	22.01	0	1
		36	0	20.86	20.59	20.64	20.95	21.12	0	2
		36	18	20.80	20.58	20.64	20.98	21.08	0	2
		36	39	20.81	20.60	20.62	20.97	21.13	0	2
		75	0	20.78	20.55	20.62	20.95	21.14	0	2
	256QAM	1	0	19.24	18.87	18.95	19.36	19.54	0-5	3.2
		1	36	19.06	18.74	18.88	19.11	19.41	0-5	3.2
		1	74	19.21	18.80	18.94	19.17	19.46	0-5	3.2
		36	0	19.29	19.01	19.09	19.43	19.66	0-5	3.2
		36	18	19.30	18.99	19.09	19.38	19.64	0-5	3.2
		36	39	19.25	18.97	19.07	19.37	19.63	0-5	3.2
		75	0	19.25	18.98	19.07	19.38	19.68	0-5	3.2

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	22.86	22.61	22.69	22.99	23.14	0	0
		1	49	22.71	22.47	22.53	22.86	22.93	0	0
		1	99	22.82	22.60	22.66	22.98	23.01	0	0
		50	0	22.83	22.60	22.69	23.02	23.12	0	0
		50	25	22.85	22.57	22.65	22.98	23.08	0	0
		50	49	22.84	22.58	22.70	22.98	23.09	0	0
		100	0	22.87	22.60	22.71	22.98	23.12	0	0
	16QAM	1	0	22.92	22.74	22.78	23.24	23.27	0	0
		1	49	22.74	22.58	22.60	23.07	23.09	0	0
		1	99	22.88	22.79	22.80	23.16	23.15	0	0
		50	0	21.90	21.67	21.71	22.02	22.14	0	1
		50	25	21.87	21.61	21.67	21.99	22.04	0	1
		50	49	21.89	21.63	21.69	21.99	22.09	0	1
		100	0	21.89	21.64	21.71	22.04	22.12	0	1
	64QAM	1	0	21.90	21.58	21.65	21.85	22.14	0	1
		1	49	21.74	21.49	21.52	21.72	21.93	0	1
		1	99	21.81	21.75	21.63	21.78	21.91	0	1
		50	0	20.86	20.62	20.71	21.00	21.13	0	2
		50	25	20.85	20.58	20.62	20.98	21.08	0	2
		50	49	20.87	20.60	20.68	20.98	21.08	0	2
		100	0	20.84	20.58	20.70	21.01	21.09	0	2
	256QAM	1	0	19.33	18.94	19.01	19.24	19.59	0-5	3.2
		1	49	19.11	18.77	18.87	18.98	19.43	0-5	3.2
		1	99	19.23	18.80	18.98	19.06	19.48	0-5	3.2
		50	0	19.38	19.05	19.17	19.51	19.73	0-5	3.2
		50	25	19.32	19.03	19.16	19.45	19.73	0-5	3.2
		50	49	19.38	18.99	19.15	19.42	19.71	0-5	3.2
100		0	19.31	19.00	19.08	19.38	19.64	0-5	3.2	

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

[ LTE Band 41 Conducted Power] - Power Class 2

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
5 MHz	QPSK	1	0	22.72	22.49	22.60	22.87	22.98	0	0
		1	12	22.68	22.44	22.55	22.99	23.10	0	0
		1	24	22.80	22.58	22.62	22.97	23.07	0	0
		12	0	22.83	22.56	22.62	22.99	23.08	0	0
		12	6	22.85	22.61	22.63	22.92	23.04	0	0
		12	11	22.84	22.69	22.64	22.94	23.06	0	0
		25	0	22.85	22.57	22.68	22.98	23.08	0	0
	16QAM	1	0	22.86	22.61	22.70	23.00	23.03	0	0
		1	12	22.66	22.41	22.61	22.99	23.04	0	0
		1	24	22.85	22.63	22.79	23.09	23.08	0	0
		12	0	21.80	21.59	21.63	21.94	22.02	0	1
		12	6	21.86	21.65	21.62	21.89	21.95	0	1
		12	11	21.85	21.67	21.69	21.90	21.97	0	1
		25	0	21.89	21.64	21.73	22.01	22.09	0	1
	64QAM	1	0	21.75	21.46	21.45	21.76	21.72	0	1
		1	12	21.65	21.35	21.31	21.69	21.78	0	1
		1	24	21.66	21.45	21.45	21.74	21.76	0	1
		12	0	20.82	20.61	20.69	20.94	21.06	0	2
		12	6	20.82	20.65	20.61	20.87	20.99	0	2
		12	11	20.82	20.63	20.63	20.88	21.04	0	2
		25	0	20.86	20.62	20.69	20.95	21.05	0	2
	256QAM	1	0	18.81	18.67	18.58	18.93	19.05	0-5	2.7
		1	12	18.66	18.65	18.61	19.00	19.02	0-5	2.7
		1	24	18.70	18.61	18.60	18.97	19.01	0-5	2.7
		12	0	19.17	18.79	18.99	19.33	19.51	0-5	2.7
12		6	19.19	18.86	18.90	19.34	19.57	0-5	2.7	
12		11	19.09	18.85	18.96	19.24	19.50	0-5	2.7	
25		0	19.22	18.83	18.94	19.33	19.63	0-5	2.7	

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
10 MHz	QPSK	1	0	22.80	22.58	22.69	22.93	23.12	0	0
		1	24	22.72	22.46	22.55	22.83	22.95	0	0
		1	49	22.76	22.57	22.63	22.87	23.04	0	0
		25	0	22.85	22.56	22.67	22.94	23.10	0	0
		25	12	22.82	22.54	22.67	22.94	23.11	0	0
		25	24	22.84	22.56	22.72	22.94	23.07	0	0
	16QAM	50	0	22.88	22.55	22.68	22.99	23.15	0	0
		1	0	22.83	22.72	22.71	22.98	23.16	0	0
		1	24	22.76	22.63	22.64	22.81	23.03	0	0
		1	49	22.86	22.76	22.69	22.87	23.11	0	0
		25	0	21.90	21.64	21.71	22.04	22.13	0	1
		25	12	21.88	21.62	21.72	22.00	22.12	0	1
	64QAM	25	24	21.90	21.64	21.71	21.99	22.07	0	1
		50	0	21.89	21.57	21.68	21.93	22.09	0	1
		1	0	21.81	21.39	21.56	21.92	21.86	0	1
		1	24	21.68	21.35	21.49	21.75	21.83	0	1
		1	49	21.64	21.38	21.55	21.77	21.86	0	1
		25	0	20.86	20.62	20.66	20.94	21.08	0	2
	256QAM	25	12	20.89	20.56	20.65	20.97	21.06	0	2
		25	24	20.85	20.60	20.69	20.92	21.02	0	2
		50	0	20.86	20.59	20.65	20.96	21.09	0	2
		1	0	18.83	18.70	18.52	19.21	19.04	0-5	2.7
		1	24	19.03	18.61	18.59	18.93	19.42	0-5	2.7
		1	49	19.01	18.59	18.51	18.94	19.39	0-5	2.7
		25	0	19.18	18.87	18.98	19.37	19.54	0-5	2.7
		25	12	19.15	18.86	18.99	19.28	19.53	0-5	2.7
		25	24	19.14	18.81	18.96	19.27	19.53	0-5	2.7
50		0	19.21	18.85	18.99	19.38	19.57	0-5	2.7	

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
15 MHz	QPSK	1	0	22.84	22.52	22.63	22.94	23.08	0	0
		1	36	22.83	22.42	22.56	22.97	23.08	0	0
		1	74	22.90	22.56	22.65	22.95	23.08	0	0
		36	0	22.87	22.55	22.63	22.99	23.13	0	0
		36	18	22.85	22.52	22.63	22.89	23.07	0	0
		36	39	22.85	22.57	22.65	22.96	23.08	0	0
		75	0	22.86	22.53	22.62	22.95	23.12	0	0
	16QAM	1	0	22.82	22.79	22.67	23.16	23.15	0	0
		1	36	22.68	22.50	22.56	23.02	23.04	0	0
		1	74	22.85	22.79	22.70	23.12	23.11	0	0
		36	0	21.78	21.55	21.62	21.94	22.07	0	1
		36	18	21.79	21.58	21.58	21.91	22.03	0	1
		36	39	21.80	21.56	21.63	21.94	22.08	0	1
		75	0	21.85	21.55	21.65	21.95	22.11	0	1
	64QAM	1	0	21.76	21.41	21.59	21.79	21.92	0	1
		1	36	21.55	21.16	21.51	21.81	21.89	0	1
		1	74	21.70	21.38	21.52	21.82	21.89	0	1
		36	0	20.82	20.56	20.64	20.97	21.12	0	2
		36	18	20.84	20.57	20.66	20.89	21.07	0	2
		36	39	20.79	20.58	20.64	20.94	21.09	0	2
		75	0	20.84	20.50	20.61	20.94	21.11	0	2
	256QAM	1	0	19.22	18.66	19.23	19.38	19.38	0-5	2.7
		1	36	19.00	18.57	19.02	19.28	19.25	0-5	2.7
		1	74	19.18	18.54	18.99	19.20	19.37	0-5	2.7
		36	0	19.24	18.89	19.07	19.37	19.54	0-5	2.7
		36	18	19.27	18.90	19.04	19.32	19.56	0-5	2.7
		36	39	19.22	18.85	19.03	19.28	19.54	0-5	2.7
		75	0	19.16	18.88	19.03	19.30	19.53	0-5	2.7

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	22.84	22.62	22.69	22.99	23.16	0	0
		1	49	22.71	22.47	22.54	22.87	22.98	0	0
		1	99	22.82	22.63	22.68	22.94	23.03	0	0
		50	0	22.87	22.60	22.66	22.99	23.15	0	0
		50	25	22.83	22.54	22.62	22.99	23.13	0	0
		50	49	22.86	22.58	22.62	22.98	23.08	0	0
		100	0	22.85	22.62	22.67	23.01	23.09	0	0
	16QAM	1	0	22.97	22.69	22.70	22.97	23.32	0	0
		1	49	22.80	22.56	22.70	22.85	23.20	0	0
		1	99	22.91	22.70	22.78	22.99	23.23	0	0
		50	0	21.92	21.63	21.70	22.01	22.16	0	1
		50	25	21.88	21.61	21.69	22.00	22.15	0	1
		50	49	21.88	21.62	21.71	21.96	22.13	0	1
		100	0	21.89	21.58	21.69	22.00	22.17	0	1
	64QAM	1	0	21.83	21.39	21.51	22.00	22.17	0	1
		1	49	21.65	21.26	21.42	21.79	22.02	0	1
		1	99	21.78	21.52	21.58	21.86	22.00	0	1
		50	0	20.90	20.58	20.68	21.03	21.13	0	2
		50	25	20.83	20.56	20.67	21.01	21.10	0	2
		50	49	20.83	20.61	20.67	20.98	21.09	0	2
		100	0	20.85	20.59	20.67	21.02	21.11	0	2
	256QAM	1	0	19.19	18.44	18.64	19.09	19.34	0-5	2.7
		1	49	18.95	18.40	18.49	18.86	18.99	0-5	2.7
		1	99	19.02	18.44	18.57	18.85	19.20	0-5	2.7
		50	0	19.32	18.99	19.06	19.35	19.54	0-5	2.7
		50	25	19.26	18.94	19.04	19.28	19.50	0-5	2.7
		50	49	19.26	18.88	19.03	19.23	19.49	0-5	2.7
		100	0	19.23	18.89	18.98	19.26	19.53	0-5	2.7

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

**[LTE Band 66 Conducted Power]**

LTE Band 66 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131979Ch. 1710.7 MHz	132322 Ch. 1745 MHz	132665 Ch. 1779.3 MHz		
1.4 MHz	QPSK	1	0	19.38	19.39	19.41	0	0
		1	3	19.45	19.40	19.46	0	0
		1	5	19.44	19.39	19.41	0	0
		3	0	19.40	19.35	19.39	0	0
		3	1	19.57	19.49	19.55	0	0
		3	3	19.48	19.42	19.45	0	0
	16QAM	6	0	19.45	19.41	19.42	0	0
		1	0	19.75	19.74	19.74	0	0
		1	3	19.58	19.64	19.57	0	0
		1	5	19.71	19.74	19.74	0	0
		3	0	19.53	19.48	19.52	0	0
		3	1	19.63	19.49	19.57	0	0
	64QAM	3	3	19.64	19.62	19.60	0	0
		6	0	19.51	19.52	19.50	0	0
		1	0	19.62	19.64	19.63	0	0
		1	3	19.55	19.51	19.48	0	0
		1	5	19.62	19.60	19.56	0	0
		3	0	19.46	19.48	19.45	0	0
	256QAM	3	1	19.67	19.62	19.64	0	0
		3	3	19.56	19.50	19.54	0	0
		6	0	19.51	19.52	19.50	0	0
		1	0	17.23	17.45	17.39	0	1.8
		1	3	17.14	17.40	17.35	0	1.8
		1	5	17.31	17.40	17.38	0	1.8
		3	0	17.15	17.24	17.24	0	1.8
		3	1	17.29	17.36	17.41	0	1.8
		3	3	17.32	17.40	17.40	0	1.8
		6	0	17.28	17.32	17.27	0-1	1.8

LTE Band 66 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131987 Ch. 1711.5 MHz	132322 Ch. 1745 MHz	132657 Ch. 1778.5 MHz		
3 MHz	QPSK	1	0	19.40	19.37	19.42	0	0
		1	7	19.40	19.36	19.40	0	0
		1	14	19.42	19.39	19.42	0	0
		8	0	19.53	19.45	19.49	0	0
		8	3	19.52	19.41	19.48	0	0
		8	7	19.52	19.46	19.50	0	0
	16QAM	15	0	19.54	19.45	19.50	0	0
		1	0	19.76	19.75	19.81	0	0
		1	7	19.74	19.70	19.71	0	0
		1	14	19.75	19.75	19.66	0	0
		8	0	19.58	19.54	19.53	0	0
		8	3	19.54	19.46	19.53	0	0
	64QAM	8	7	19.56	19.53	19.54	0	0
		15	0	19.55	19.52	19.52	0	0
		1	0	19.67	19.64	19.70	0	0
		1	7	19.52	19.54	19.57	0	0
		1	14	19.57	19.56	19.55	0	0
		8	0	19.53	19.50	19.54	0	0
	256QAM	8	3	19.51	19.51	19.53	0	0
		8	7	19.58	19.50	19.55	0	0
		15	0	19.55	19.48	19.53	0	0
		1	0	17.32	17.49	17.51	1.8	0
		1	7	17.29	17.45	17.30	1.8	0
		1	14	17.41	17.43	17.39	1.8	0
		8	0	17.33	17.31	17.28	1.8	0
		8	3	17.34	17.33	17.31	1.8	0
		8	7	17.35	17.36	17.30	1.8	0
		15	0	17.45	17.35	17.33	1.8	0

LTE Band 66 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131997 Ch. 1712.5 MHz	132322Ch. 1745 MHz	132647 Ch. 1777.5 MHz		
5 MHz	QPSK	1	0	19.35	19.43	19.33	0	0
		1	12	19.06	19.34	19.27	0	0
		1	24	19.22	19.35	19.21	0	0
		12	0	19.43	19.45	19.31	0	0
		12	6	19.49	19.47	19.31	0	0
		12	11	19.27	19.45	19.35	0	0
	16QAM	25	0	19.29	19.45	19.42	0	0
		1	0	19.56	19.72	19.72	0	0
		1	12	19.46	19.73	19.65	0	0
		1	24	19.62	19.77	19.60	0	0
		12	0	19.41	19.47	19.36	0	0
		12	6	19.52	19.45	19.38	0	0
	64QAM	12	11	19.44	19.38	19.41	0	0
		25	0	19.46	19.46	19.49	0	0
		1	0	19.55	19.61	19.59	0	0
		1	12	19.49	19.42	19.38	0	0
		1	24	19.65	19.61	19.55	0	0
		12	0	19.39	19.50	19.53	0	0
	256QAM	12	6	19.29	19.48	19.47	0	0
		12	11	19.28	19.49	19.45	0	0
		25	0	19.33	19.52	19.47	0	0
		1	0	17.39	17.63	17.50	0	1.8
		1	12	17.33	17.31	17.34	0	1.8
		1	24	17.47	17.33	17.38	0	1.8
		12	0	17.40	17.35	17.36	0-1	1.8
		12	6	17.34	17.34	17.30	0-1	1.8
		12	11	17.39	17.34	17.32	0-1	1.8
25		0	17.34	17.35	17.31	0-1	1.8	

LTE Band 66 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132022 Ch. 1715 MHz	132322 Ch. 1745 MHz	132622 Ch. 1775 MHz		
10 MHz	QPSK	1	0	19.28	19.40	19.41	0	0
		1	24	19.32	19.33	19.31	0	0
		1	49	19.29	19.34	19.29	0	0
		25	0	19.49	19.48	19.35	0	0
		25	12	19.51	19.45	19.21	0	0
		25	24	19.45	19.43	19.32	0	0
		50	0	19.48	19.43	19.27	0	0
	16QAM	1	0	19.78	19.87	19.70	0	0
		1	24	19.69	19.62	19.57	0	0
		1	49	19.63	19.62	19.54	0	0
		25	0	19.52	19.52	19.47	0	0
		25	12	19.41	19.44	19.42	0	0
		25	24	19.35	19.45	19.07	0	0
		50	0	19.51	19.41	19.33	0	0
	64QAM	1	0	19.67	19.78	19.67	0	0
		1	24	19.57	19.59	19.44	0	0
		1	49	19.57	19.33	19.29	0	0
		25	0	19.52	19.44	19.22	0	0
		25	12	19.49	19.41	19.36	0	0
		25	24	18.77	19.11	19.06	0	0
		50	0	19.47	19.47	19.34	0	0
	256QAM	1	0	17.48	17.57	17.55	0	1.8
		1	24	17.27	17.35	17.14	0	1.8
		1	49	17.41	17.48	17.33	0	1.8
		25	0	17.34	17.35	17.27	0-1	1.8
		25	12	17.32	17.32	17.30	0-1	1.8
		25	24	17.32	17.36	17.29	0-1	1.8
		50	0	17.33	17.35	17.32	0-1	1.8

LTE Band 66 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132047 Ch. 1717.5 MHz	132322 Ch. 1745 MHz	132597 Ch. 1772.5 MHz		
15 MHz	QPSK	1	0	19.52	19.51	19.46	0	0
		1	36	19.36	19.35	19.29	0	0
		1	74	19.36	19.33	19.26	0	0
		36	0	19.50	19.45	19.45	0	0
		36	18	19.47	19.42	19.40	0	0
		36	39	19.45	19.39	19.35	0	0
	16QAM	75	0	19.52	19.42	19.40	0	0
		1	0	19.92	19.75	19.73	0	0
		1	36	19.72	19.72	19.66	0	0
		1	74	19.59	19.66	19.56	0	0
		36	0	19.52	19.49	19.49	0	0
		36	18	19.49	19.46	19.44	0	0
	64QAM	36	39	19.45	19.42	19.37	0	0
		75	0	19.46	19.42	19.42	0	0
		1	0	19.71	19.70	19.64	0	0
		1	36	19.49	19.50	19.48	0	0
		1	74	19.51	19.56	19.52	0	0
		36	0	19.51	19.49	19.49	0	0
	256QAM	36	18	19.47	19.43	19.45	0	0
		36	39	19.45	19.42	19.39	0	0
		75	0	19.46	19.44	19.41	0	0
		1	0	17.50	17.65	17.68	0	1.8
		1	36	17.44	17.43	17.35	0	1.8
		1	74	17.54	17.57	17.50	0	1.8
	36	0	17.37	17.31	17.36	0-1	1.8	
	36	18	17.43	17.29	17.34	0-1	1.8	
	36	39	17.40	17.34	17.38	0-1	1.8	
	75	0	17.42	17.40	17.36	0-1	1.8	

LTE Band 66 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	19.54	19.52	19.45	0	0
		1	49	19.41	19.36	19.26	0	0
		1	99	19.34	19.34	19.23	0	0
		50	0	19.46	19.45	19.37	0	0
		50	25	19.44	19.37	19.29	0	0
		50	49	19.40	19.33	19.27	0	0
	16QAM	100	0	19.44	19.39	19.15	0	0
		1	0	19.89	19.82	19.69	0	0
		1	49	19.58	19.66	19.62	0	0
		1	99	19.61	19.53	19.52	0	0
		50	0	19.46	19.45	19.42	0	0
		50	25	19.44	19.41	19.36	0	0
	64QAM	50	49	19.38	19.36	19.28	0	0
		100	0	19.46	19.42	19.34	0	0
		1	0	19.76	19.79	19.58	0	0
		1	49	19.53	19.70	19.45	0	0
		1	99	19.49	19.63	19.39	0	0
		50	0	19.48	19.48	19.41	0	0
	256QAM	50	25	19.38	19.43	19.37	0	0
		50	49	19.31	19.35	19.31	0	0
		100	0	19.40	19.42	19.34	0	0
		1	0	17.64	17.60	17.56	0	1.8
		1	49	17.39	17.40	16.99	0	1.8
		1	99	17.45	17.64	17.48	0	1.8
	50	0	17.29	17.35	17.24	0-1	1.8	
	50	25	17.34	17.36	17.23	0-1	1.8	
	50	49	17.38	17.37	17.27	0-1	1.8	
	100	0	17.35	17.40	17.27	0-1	1.8	

### 11.3.3 LTE Reduced Conducted Power(Grip Sensor on, Ear jack Activated)

[ LTE Band 2 Conducted Power ]

LTE Band 2 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18607 Ch. 1850.7 MHz	18900 Ch. 1880 MHz	19193 Ch. 1909.3 MHz		
1.4 MHz	QPSK	1	0	18.42	18.11	18.47	0	0
		1	3	18.57	18.16	18.50	0	0
		1	5	18.44	18.14	18.57	0	0
		3	0	18.32	18.09	18.44	0	0
		3	1	18.62	18.34	18.68	0	0
		3	3	18.57	18.11	18.59	0	0
	16QAM	6	0	18.43	18.21	18.63	0	0
		1	0	18.88	18.51	18.91	0	0
		1	3	18.50	18.33	18.70	0	0
		1	5	18.85	18.41	18.83	0	0
		3	0	18.56	18.31	18.78	0	0
		3	1	18.60	18.38	18.77	0	0
	64QAM	3	3	18.68	18.31	18.80	0	0
		6	0	18.50	18.33	18.75	0	0
		1	0	18.49	18.39	18.72	0	0
		1	3	18.45	18.16	18.59	0	0
		1	5	18.66	18.23	18.65	0	0
		3	0	18.60	18.12	18.58	0	0
	256QAM	3	1	18.56	18.37	18.80	0	0
		3	3	18.63	18.17	18.70	0	0
		6	0	18.59	18.14	18.64	0-5	0
		1	0	17.03	16.74	17.30	0-5	1.5
		1	3	16.78	16.72	17.08	0-5	1.5
		1	5	17.05	16.64	17.03	0-5	1.5
	3	0	16.84	16.66	17.02	0-5	1.5	
	3	1	17.06	16.74	17.06	0-5	1.5	
	3	3	16.95	16.75	17.12	0-5	1.5	
	6	0	16.89	16.50	16.96	0-5	1.5	

LTE Band 2\_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18615 Ch. 1851.5 MHz	18900 Ch. 1880 MHz	19185 Ch. 1908.5 MHz		
3 MHz	QPSK	1	0	18.41	18.14	18.58	0	0
		1	7	18.42	18.09	18.41	0	0
		1	14	18.48	18.19	18.64	0	0
		8	0	18.44	18.31	18.73	0	0
		8	3	18.45	18.16	18.66	0	0
		8	7	18.55	18.12	18.53	0	0
		15	0	18.56	18.13	18.65	0	0
	16QAM	1	0	18.86	18.61	19.01	0	0
		1	7	18.80	18.42	18.92	0	0
		1	14	18.69	18.47	18.81	0	0
		8	0	18.70	18.32	18.74	0	0
		8	3	18.55	18.30	18.63	0	0
		8	7	18.69	18.26	18.63	0	0
		15	0	18.58	18.22	18.73	0	0
	64QAM	1	0	18.78	18.44	18.88	0	0
		1	7	18.77	18.38	18.85	0	0
		1	14	18.63	18.40	18.81	0	0
		8	0	18.52	18.23	18.72	0-3	0
		8	3	18.46	18.38	18.72	0-3	0
		8	7	18.59	18.38	18.62	0-3	0
		15	0	18.48	18.24	18.73	0-3	0
	256QAM	1	0	16.69	16.78	17.19	0-5	1.5
		1	7	16.89	16.58	17.28	0-5	1.5
		1	14	17.02	16.62	17.20	0-5	1.5
		8	0	16.75	16.60	17.20	0-5	1.5
		8	3	16.93	16.45	17.25	0-5	1.5
		8	7	16.99	16.53	17.08	0-5	1.5
		15	0	16.97	16.68	17.26	0-5	1.5

LTE Band 2\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18625 Ch. 1852.5 MHz	18900 Ch. 1880 MHz	19175 Ch. 1907.5 MHz		
5 MHz	QPSK	1	0	18.58	18.15	18.52	0	0
		1	12	18.45	18.07	18.50	0	0
		1	24	18.50	18.18	18.60	0	0
		12	0	18.52	18.20	18.61	0	0
		12	6	18.55	18.17	18.67	0	0
		12	11	18.55	18.18	18.73	0	0
	16QAM	25	0	18.55	18.32	18.73	0	0
		1	0	18.92	18.46	18.95	0	0
		1	12	18.79	18.59	19.02	0	0
		1	24	18.82	18.53	18.89	0	0
		12	0	18.51	18.32	18.76	0	0
		12	6	18.58	18.29	18.71	0	0
	64QAM	12	11	18.44	18.28	18.63	0	0
		25	0	18.58	18.39	18.64	0	0
		1	0	18.61	18.50	18.80	0	0
		1	12	18.65	18.38	18.73	0	0
		1	24	18.74	18.35	18.74	0	0
		12	0	18.56	18.22	18.71	0-3	0
	256QAM	12	6	18.63	18.43	18.81	0-3	0
		12	11	18.60	18.24	18.64	0-3	0
		25	0	18.57	18.30	18.68	0-3	0
		1	0	17.05	16.84	17.22	0-5	1.5
		1	12	17.01	16.74	17.04	0-5	1.5
		1	24	16.88	16.65	17.24	0-5	1.5
		12	0	16.84	16.49	17.03	0-5	1.5
		12	6	16.97	16.58	17.07	0-5	1.5
		12	11	16.75	16.58	16.99	0-5	1.5
25		0	16.89	16.51	16.96	0-5	1.5	

LTE Band 2 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18650 Ch. 1855 MHz	18900 Ch. 1880 MHz	19150 Ch. 1905 MHz		
10 MHz	QPSK	1	0	18.37	18.29	18.68	0	0
		1	24	18.52	18.24	18.48	0	0
		1	49	18.41	18.13	18.44	0	0
		25	0	18.47	18.36	18.61	0	0
		25	12	18.60	18.28	18.70	0	0
		25	24	18.46	18.31	18.60	0	0
	16QAM	50	0	18.49	18.22	18.51	0	0
		1	0	18.99	18.68	18.89	0	0
		1	24	18.74	18.44	18.82	0	0
		1	49	18.73	18.39	18.90	0	0
		25	0	18.56	18.34	18.66	0	0
		25	12	18.60	18.40	18.66	0	0
	64QAM	25	24	18.57	18.33	18.62	0	0
		50	0	18.47	18.16	18.48	0	0
		1	0	18.74	18.52	18.82	0	0
		1	24	18.72	18.37	18.84	0	0
		1	49	18.69	18.51	18.87	0	0
		25	0	18.57	18.42	18.66	0-3	0
	256QAM	25	12	18.55	18.36	18.71	0-3	0
		25	24	18.60	18.28	18.58	0-3	0
		50	0	18.38	18.31	18.68	0-3	0
		1	0	16.93	16.73	17.34	0-5	1.5
		1	24	17.00	16.82	17.10	0-5	1.5
		1	49	17.04	16.69	17.27	0-5	1.5
		25	0	16.96	16.56	17.04	0-5	1.5
		25	12	16.91	16.57	16.96	0-5	1.5
	25	24	16.87	16.58	16.95	0-5	1.5	
50	0	16.95	16.68	17.06	0-5	1.5		

LTE Band 2 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18675 Ch. 1857.5 MHz	18900 Ch. 1880 MHz	19125 Ch. 1902.5 MHz		
15 MHz	QPSK	1	0	18.40	17.89	18.38	0	0
		1	36	18.33	17.77	18.30	0	0
		1	74	18.40	17.64	18.33	0	0
		36	0	18.55	17.64	18.27	0	0
		36	18	18.35	17.13	18.23	0	0
		36	39	18.33	17.10	18.05	0	0
		75	0	18.34	16.95	18.17	0	0
	16QAM	1	0	18.78	17.42	18.45	0	0
		1	36	18.73	17.81	18.51	0	0
		1	74	18.79	17.60	18.24	0	0
		36	0	18.54	17.35	17.93	0	0
		36	18	18.33	17.73	17.86	0	0
		36	39	18.28	17.75	18.13	0	0
		75	0	18.39	17.80	17.52	0	0
	64QAM	1	0	18.55	18.05	17.90	0	0
		1	36	18.44	17.92	17.93	0	0
		1	74	18.28	17.90	17.67	0	0
		36	0	18.17	17.80	18.05	0-3	0
		36	18	17.98	17.73	18.20	0-3	0
		36	39	17.90	17.73	18.14	0-3	0
		75	0	18.07	17.65	18.17	0-3	0
	256QAM	1	0	17.03	16.81	17.46	0-5	1.5
		1	36	16.96	16.83	17.07	0-5	1.5
		1	74	17.00	16.83	16.98	0-5	1.5
		36	0	16.91	16.56	17.01	0-5	1.5
		36	18	16.82	16.58	16.89	0-5	1.5
		36	39	16.79	16.68	16.93	0-5	1.5
75		0	16.84	16.65	16.97	0-5	1.5	

LTE Band 2 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 MHz	18900 Ch. 1880 MHz	19100 Ch. 1900 MHz		
20 MHz	QPSK	1	0	18.26	18.25	18.59	0	0
		1	49	18.06	18.10	18.57	0	0
		1	99	18.27	18.19	18.48	0	0
		50	0	18.38	18.22	18.58	0	0
		50	25	18.34	18.12	18.41	0	0
		50	49	18.26	18.21	18.39	0	0
	16QAM	100	0	18.27	18.14	18.48	0	0
		1	0	18.93	18.70	18.97	0	0
		1	49	18.59	18.39	18.73	0	0
		1	99	18.54	18.38	18.85	0	0
		50	0	18.53	18.23	18.61	0	0
		50	25	18.45	18.28	18.50	0	0
	64QAM	50	49	18.27	18.08	18.48	0	0
		100	0	18.43	18.20	18.44	0	0
		1	0	18.84	18.52	18.91	0	0
		1	49	18.58	18.49	18.80	0	0
		1	99	18.42	18.39	18.86	0	0
		50	0	18.41	18.33	18.47	0-3	0
	256QAM	50	25	18.43	18.23	18.58	0-3	0
		50	49	18.28	18.08	18.42	0-3	0
		100	0	18.48	18.16	18.47	0-3	0
		1	0	16.92	16.91	17.50	0-5	1.5
		1	49	16.90	16.79	17.01	0-5	1.5
		1	99	16.90	16.83	17.12	0-5	1.5
	50	0	16.89	16.57	17.00	0-5	1.5	
	50	25	16.74	16.73	16.95	0-5	1.5	
	50	49	16.87	16.63	16.90	0-5	1.5	
	100	0	16.76	16.69	16.92	0-5	1.5	

[ LTE Band 4 Conducted Power ]

LTE Band 4 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19957 Ch. 1710.7 MHz	20175 Ch. 1732.5 MHz	20393 Ch. 1754.3 MHz		
1.4 MHz	QPSK	1	0	19.49	19.50	19.42	0	0
		1	3	19.58	19.58	19.57	0	0
		1	5	19.44	19.48	19.40	0	0
		3	0	19.50	19.44	19.37	0	0
		3	1	19.66	19.59	19.51	0	0
		3	3	19.53	19.54	19.50	0	0
	16QAM	6	0	19.46	19.40	19.42	0	0
		1	0	19.68	19.76	19.87	0	0
		1	3	19.63	19.53	19.63	0	0
		1	5	19.87	19.81	19.74	0	0
		3	0	19.59	19.69	19.58	0	0
		3	1	19.70	19.72	19.60	0	0
	64QAM	3	3	19.59	19.55	19.66	0	0
		6	0	19.60	19.63	19.62	0	0
		1	0	19.68	19.66	19.65	0	0
		1	3	19.68	19.58	19.76	0	0
		1	5	19.57	19.56	19.77	0	0
		3	0	19.49	19.60	19.50	0	0
	256QAM	3	1	19.69	19.79	19.59	0	0
		3	3	19.61	19.72	19.52	0	0
		6	0	19.67	19.62	19.58	0	0
		1	0	17.71	17.55	17.64	0	2
		1	3	17.45	17.59	17.67	0	2
		1	5	17.63	17.48	17.53	0	2
	3	0	17.42	17.45	17.31	0	2	
	3	1	17.36	17.60	17.49	0	2	
	3	3	17.52	17.49	17.49	0	2	
	6	0	17.40	17.45	17.41	0-1	2	

LTE Band 4 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19965 Ch. 1711.5 MHz	20175 Ch. 1732.5 MHz	20385 Ch. 1753.5 MHz		
3 MHz	QPSK	1	0	19.49	19.46	19.51	0	0
		1	7	19.59	19.49	19.52	0	0
		1	14	19.63	19.42	19.53	0	0
		8	0	19.57	19.48	19.57	0	0
		8	3	19.63	19.64	19.58	0	0
		8	7	19.68	19.69	19.64	0	0
	16QAM	15	0	19.54	19.58	19.57	0	0
		1	0	19.87	19.77	19.79	0	0
		1	7	19.72	19.67	19.78	0	0
		1	14	19.78	19.73	19.67	0	0
		8	0	19.56	19.59	19.61	0	0
		8	3	19.60	19.64	19.57	0	0
	64QAM	8	7	19.66	19.71	19.70	0	0
		15	0	19.57	19.57	19.59	0	0
		1	0	19.82	19.53	19.66	0	0
		1	7	19.57	19.34	19.64	0	0
		1	14	19.56	19.66	19.56	0	0
		8	0	19.70	19.57	19.55	0	0
	256QAM	8	3	19.68	19.60	19.55	0	0
		8	7	19.56	19.70	19.55	0	0
		15	0	19.74	19.57	19.54	0	0
		1	0	17.37	17.60	17.60	0	2
		1	7	17.46	17.40	17.68	0	2
		1	14	17.54	17.62	17.48	0	2
8		0	17.37	17.50	17.34	0-1	2	
8		3	17.39	17.53	17.29	0-1	2	
	8	7	17.48	17.47	17.41	0-1	2	
	15	0	17.36	17.57	17.45	0-1	2	

LTE Band 4 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19975 Ch. 1712.5 MHz	20175 Ch. 1732.5 MHz	20375 Ch. 1752.5 MHz		
5 MHz	QPSK	1	0	19.51	19.54	19.47	0	0
		1	12	19.49	19.41	19.40	0	0
		1	24	19.60	19.48	19.37	0	0
		12	0	19.61	19.60	19.62	0	0
		12	6	19.65	19.73	19.63	0	0
		12	11	19.74	19.56	19.46	0	0
	16QAM	25	0	19.68	19.50	19.55	0	0
		1	0	19.89	19.79	19.84	0	0
		1	12	19.92	19.94	19.84	0	0
		1	24	19.90	19.96	19.76	0	0
		12	0	19.59	19.75	19.52	0	0
		12	6	19.67	19.58	19.58	0	0
	64QAM	12	11	19.74	19.64	19.64	0	0
		25	0	19.53	19.57	19.64	0	0
		1	0	19.76	19.66	19.78	0	0
		1	12	19.58	19.50	19.53	0	0
		1	24	19.62	19.66	19.58	0	0
		12	0	19.56	19.55	19.70	0	0
	256QAM	12	6	19.68	19.53	19.50	0	0
		12	11	19.70	19.60	19.60	0	0
		25	0	19.58	19.58	19.49	0	0
		1	0	17.40	17.54	17.48	0	2
		1	12	17.40	17.39	17.44	0	2
		1	24	17.64	17.37	17.40	0	2
	12	0	17.47	17.47	17.41	0-1	2	
	12	6	17.28	17.35	17.37	0-1	2	
	12	11	17.30	17.36	17.42	0-1	2	
	25	0	17.40	17.45	17.45	0-1	2	

LTE Band 4 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20000 Ch. 1715 MHz	20175 Ch. 1732.5 MHz	20350 Ch. 1750 MHz		
10 MHz	QPSK	1	0	19.49	19.56	19.47	0	0
		1	24	19.59	19.62	19.45	0	0
		1	49	19.48	19.65	19.35	0	0
		25	0	19.55	19.71	19.60	0	0
		25	12	19.55	19.60	19.43	0	0
		25	24	19.52	19.64	19.45	0	0
	16QAM	1	0	19.81	20.03	19.95	0	0
		1	24	19.70	19.85	19.77	0	0
		1	49	19.70	19.92	19.65	0	0
		25	0	19.59	19.86	19.66	0	0
		25	12	19.61	19.75	19.65	0	0
		25	24	19.57	19.77	19.48	0	0
	64QAM	50	0	19.49	19.82	19.48	0	0
		1	0	19.86	20.01	19.69	0	0
		1	24	19.68	19.77	19.70	0	0
		1	49	19.76	19.92	19.65	0	0
		25	0	19.52	19.74	19.68	0	0
		25	12	19.48	19.78	19.48	0	0
	256QAM	25	24	19.57	19.78	19.44	0	0
		50	0	19.46	19.82	19.61	0	0
		1	0	17.50	17.76	17.47	0	2
		1	24	17.40	17.68	17.69	0	2
		1	49	17.53	17.59	17.64	0	2
		25	0	17.43	17.48	17.36	0-1	2
		25	12	17.53	17.51	17.35	0-1	2
		25	24	17.39	17.44	17.34	0-1	2
		50	0	17.52	17.57	17.34	0-1	2

LTE Band 4 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20025 Ch. 1717.5 MHz	20175 Ch. 1732.5 MHz	20325 Ch. 1747.5 MHz		
15 MHz	QPSK	1	0	19.87	19.71	19.61	0	0
		1	36	19.72	19.58	19.46	0	0
		1	74	19.69	19.51	19.54	0	0
		36	0	19.80	19.72	19.59	0	0
		36	18	19.68	19.64	19.54	0	0
		36	39	19.66	19.69	19.54	0	0
		75	0	19.78	19.70	19.55	0	0
	16QAM	1	0	20.06	20.01	20.02	0	0
		1	36	20.05	19.79	19.93	0	0
		1	74	19.85	19.89	19.78	0	0
		36	0	19.68	19.70	19.72	0	0
		36	18	19.64	19.63	19.60	0	0
		36	39	19.67	19.67	19.48	0	0
		75	0	19.58	19.73	19.56	0	0
	64QAM	1	0	19.87	19.80	19.85	0	0
		1	36	19.76	19.47	19.72	0	0
		1	74	19.80	19.82	19.71	0	0
		36	0	19.79	19.70	19.77	0	0
		36	18	19.73	19.63	19.56	0	0
		36	39	19.63	19.63	19.63	0	0
		75	0	19.74	19.62	19.71	0	0
	256QAM	1	0	17.65	17.54	17.49	0	2
		1	36	17.42	17.76	17.65	0	2
		1	74	17.65	17.74	17.86	0	2
		36	0	17.41	17.57	17.58	0-1	2
		36	18	17.51	17.59	17.44	0-1	2
		36	39	17.48	17.57	17.50	0-1	2
		75	0	17.38	17.55	17.51	0-1	2

LTE Band 4 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20050 Ch. 1720.0 MHz	20175 Ch. 1732.5 MHz	20300 Ch. 1745.0 MHz		
20 MHz	QPSK	1	0	19.60	19.57	19.67	0	0
		1	49	19.49	19.51	19.55	0	0
		1	99	19.45	19.59	19.40	0	0
		50	0	19.67	19.59	19.65	0	0
		50	25	19.60	19.62	19.46	0	0
		50	49	19.48	19.54	19.50	0	0
	16QAM	100	0	19.62	19.69	19.52	0	0
		1	0	19.94	19.98	19.85	0	0
		1	49	19.61	19.90	19.81	0	0
		1	99	19.64	19.86	19.75	0	0
		50	0	19.69	19.71	19.62	0	0
		50	25	19.58	19.61	19.48	0	0
	64QAM	50	49	19.51	19.56	19.42	0	0
		100	0	19.62	19.61	19.65	0	0
		1	0	19.95	20.02	19.85	0	0
		1	49	19.68	19.77	19.60	0	0
		1	99	19.61	19.84	19.66	0	0
		50	0	19.58	19.72	19.59	0	0
	256QAM	50	25	19.48	19.57	19.61	0	0
		50	49	19.46	19.50	19.54	0	0
		100	0	19.59	19.69	19.60	0	0
		1	0	17.66	17.72	17.69	0	2
		1	49	17.55	17.54	17.51	0	2
		1	99	17.59	17.60	17.74	0	2
	256QAM	50	0	17.50	17.50	17.43	0-1	2
		50	25	17.51	17.45	17.31	0-1	2
		50	49	17.52	17.60	17.42	0-1	2
		100	0	17.51	17.47	17.56	0-1	2

[ LTE Band 25 Conducted Power ]

LTE Band 25 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				26047 Ch. 1850.7 MHz	26365 Ch. 1882.5 MHz	26683 Ch. 1914.3 MHz			
1.4 MHz	QPSK	1	0	19.49	19.50	19.42	0	0	
		1	3	19.58	19.58	19.57	0	0	
		1	5	19.44	19.48	19.40	0	0	
		3	0	19.50	19.44	19.37	0	0	
		3	1	19.66	19.59	19.51	0	0	
		3	3	19.53	19.54	19.50	0	0	
	16QAM	6	0	19.46	19.40	19.42	0-1	0	
		1	0	19.68	19.76	19.87	0-1	0	
		1	3	19.63	19.53	19.63	0-1	0	
		1	5	19.87	19.81	19.74	0-1	0	
		3	0	19.59	19.69	19.58	0-1	0	
		3	1	19.70	19.72	19.60	0-1	0	
	64QAM	3	3	19.59	19.55	19.66	0-1	0	
		6	0	19.60	19.63	19.62	0-2	0	
		1	0	19.68	19.66	19.65	0-2	0	
		1	3	19.68	19.58	19.76	0-2	0	
		1	5	19.57	19.56	19.77	0-2	0	
		3	0	19.49	19.60	19.50	0-2	0	
	256QAM	3	1	19.69	19.79	19.59	0-2	0	
		3	3	19.61	19.72	19.52	0-2	0	
		6	0	19.67	19.62	19.58	0-3	0	
		1	0	17.71	17.55	17.64	0-5	2	
		1	3	17.45	17.59	17.67	0-5	2	
		1	5	17.63	17.48	17.53	0-5	2	
		3	0	17.42	17.45	17.31	0-5	2	
		3	1	17.36	17.60	17.49	0-5	2	
	3	3	17.52	17.49	17.49	0-5	2		
			6	0	17.40	17.45	17.41	0-5	2

LTE Band 25 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26055 Ch. 1851.5 MHz	26365 Ch. 1882.5 MHz	26675Ch. 1913.5 MHz		
3 MHz	QPSK	1	0	19.49	19.46	19.51	0	0
		1	7	19.59	19.49	19.52	0	0
		1	14	19.63	19.42	19.53	0	0
		8	0	19.57	19.48	19.57	0-1	0
		8	3	19.63	19.64	19.58	0-1	0
		8	7	19.68	19.69	19.64	0-1	0
		15	0	19.54	19.58	19.57	0-1	0
	16QAM	1	0	19.87	19.77	19.79	0-1	0
		1	7	19.72	19.67	19.78	0-1	0
		1	14	19.78	19.73	19.67	0-1	0
		8	0	19.56	19.59	19.61	0-2	0
		8	3	19.60	19.64	19.57	0-2	0
		8	7	19.66	19.71	19.70	0-2	0
		15	0	19.57	19.57	19.59	0-2	0
	64QAM	1	0	19.82	19.53	19.66	0-2	0
		1	7	19.57	19.34	19.64	0-2	0
		1	14	19.56	19.66	19.56	0-2	0
		8	0	19.70	19.57	19.55	0-3	0
		8	3	19.68	19.60	19.55	0-3	0
		8	7	19.56	19.70	19.55	0-3	0
		15	0	19.74	19.57	19.54	0-3	0
	256QAM	1	0	17.37	17.60	17.60	0-5	2
		1	7	17.46	17.40	17.68	0-5	2
		1	14	17.54	17.62	17.48	0-5	2
8		0	17.37	17.50	17.34	0-5	2	
8		3	17.39	17.53	17.29	0-5	2	
8		7	17.48	17.47	17.41	0-5	2	
15		0	17.36	17.57	17.45	0-5	2	

LTE Band 25 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26065 Ch. 1852.5 MHz	26365 Ch. 1882.5 MHz	26665 Ch. 1912.5 MHz		
5 MHz	QPSK	1	0	19.51	19.54	19.47	0	0
		1	12	19.49	19.41	19.40	0	0
		1	24	19.60	19.48	19.37	0	0
		12	0	19.61	19.60	19.62	0-1	0
		12	6	19.65	19.73	19.63	0-1	0
		12	11	19.74	19.56	19.46	0-1	0
	16QAM	25	0	19.68	19.50	19.55	0-1	0
		1	0	19.89	19.79	19.84	0-1	0
		1	12	19.92	19.94	19.84	0-1	0
		1	24	19.90	19.96	19.76	0-1	0
		12	0	19.59	19.75	19.52	0-2	0
		12	6	19.67	19.58	19.58	0-2	0
	64QAM	12	11	19.74	19.64	19.64	0-2	0
		25	0	19.53	19.57	19.64	0-2	0
		1	0	19.76	19.66	19.78	0-2	0
		1	12	19.58	19.50	19.53	0-2	0
		1	24	19.62	19.66	19.58	0-2	0
		12	0	19.56	19.55	19.70	0-3	0
	256QAM	12	6	19.68	19.53	19.50	0-3	0
		12	11	19.70	19.60	19.60	0-3	0
		25	0	19.58	19.58	19.49	0-3	0
		1	0	17.40	17.54	17.48	0-5	2
		1	12	17.40	17.39	17.44	0-5	2
		1	24	17.64	17.37	17.40	0-5	2
	12	0	17.47	17.47	17.41	0-5	2	
	12	6	17.28	17.35	17.37	0-5	2	
	12	11	17.30	17.36	17.42	0-5	2	
	25	0	17.40	17.45	17.45	0-5	2	

LTE Band 25 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26090 Ch. 1855 MHz	26365 Ch. 1882.5 MHz	26640 Ch. 1910 MHz		
10 MHz	QPSK	1	0	19.49	19.56	19.47	0	0
		1	24	19.59	19.62	19.45	0	0
		1	49	19.48	19.65	19.35	0	0
		25	0	19.55	19.71	19.60	0-1	0
		25	12	19.55	19.60	19.43	0-1	0
		25	24	19.52	19.64	19.45	0-1	0
		50	0	19.47	19.59	19.52	0-1	0
	16QAM	1	0	19.81	20.03	19.95	0-1	0
		1	24	19.70	19.85	19.77	0-1	0
		1	49	19.70	19.92	19.65	0-1	0
		25	0	19.59	19.86	19.66	0-2	0
		25	12	19.61	19.75	19.65	0-2	0
		25	24	19.57	19.77	19.48	0-2	0
		50	0	19.49	19.82	19.48	0-2	0
	64QAM	1	0	19.86	20.01	19.69	0-2	0
		1	24	19.68	19.77	19.70	0-2	0
		1	49	19.76	19.92	19.65	0-2	0
		25	0	19.52	19.74	19.68	0-3	0
		25	12	19.48	19.78	19.48	0-3	0
		25	24	19.57	19.78	19.44	0-3	0
		50	0	19.46	19.82	19.61	0-3	0
	256QAM	1	0	17.50	17.76	17.47	0-5	2
		1	24	17.40	17.68	17.69	0-5	2
		1	49	17.53	17.59	17.64	0-5	2
		25	0	17.43	17.48	17.36	0-5	2
		25	12	17.53	17.51	17.35	0-5	2
		25	24	17.39	17.44	17.34	0-5	2
		50	0	17.52	17.57	17.34	0-5	2

LTE Band 25 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26115 Ch. 1857.5 MHz	26365 Ch. 1882.5 MHz	26615 Ch. 1907.5 MHz		
15 MHz	QPSK	1	0	19.87	19.71	19.61	0	0
		1	36	19.72	19.58	19.46	0	0
		1	74	19.69	19.51	19.54	0	0
		36	0	19.80	19.72	19.59	0-1	0
		36	18	19.68	19.64	19.54	0-1	0
		36	39	19.66	19.69	19.54	0-1	0
		75	0	19.78	19.70	19.55	0-1	0
	16QAM	1	0	20.06	20.01	20.02	0-1	0
		1	36	20.05	19.79	19.93	0-1	0
		1	74	19.85	19.89	19.78	0-1	0
		36	0	19.68	19.70	19.72	0-2	0
		36	18	19.64	19.63	19.60	0-2	0
		36	39	19.67	19.67	19.48	0-2	0
		75	0	19.58	19.73	19.56	0-2	0
	64QAM	1	0	19.87	19.80	19.85	0-2	0
		1	36	19.76	19.47	19.72	0-2	0
		1	74	19.80	19.82	19.71	0-2	0
		36	0	19.79	19.70	19.77	0-3	0
		36	18	19.73	19.63	19.56	0-3	0
		36	39	19.63	19.63	19.63	0-3	0
		75	0	19.74	19.62	19.71	0-3	0
	256QAM	1	0	17.65	17.54	17.49	0-5	2
		1	36	17.42	17.76	17.65	0-5	2
		1	74	17.65	17.74	17.86	0-5	2
		36	0	17.41	17.57	17.58	0-5	2
		36	18	17.51	17.59	17.44	0-5	2
		36	39	17.48	17.57	17.50	0-5	2
		75	0	17.38	17.55	17.51	0-5	2

LTE Band 25 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26140 Ch. 1860 MHz	26365 Ch. 1882.5 MHz	26590 Ch. 1905 MHz		
20 MHz	QPSK	1	0	19.60	19.57	19.67	0	0
		1	49	19.49	19.51	19.55	0	0
		1	99	19.45	19.59	19.40	0	0
		50	0	19.67	19.59	19.65	0-1	0
		50	25	19.60	19.62	19.46	0-1	0
		50	49	19.48	19.54	19.50	0-1	0
		100	0	19.62	19.69	19.52	0-1	0
	16QAM	1	0	19.94	19.98	19.85	0-1	0
		1	49	19.61	19.90	19.81	0-1	0
		1	99	19.64	19.86	19.75	0-1	0
		50	0	19.69	19.71	19.62	0-2	0
		50	25	19.58	19.61	19.48	0-2	0
		50	49	19.51	19.56	19.42	0-2	0
		100	0	19.62	19.61	19.65	0-2	0
	64QAM	1	0	19.95	20.02	19.85	0-2	0
		1	49	19.68	19.77	19.60	0-2	0
		1	99	19.61	19.84	19.66	0-2	0
		50	0	19.58	19.72	19.59	0-3	0
		50	25	19.48	19.57	19.61	0-3	0
		50	49	19.46	19.50	19.54	0-3	0
		100	0	19.59	19.69	19.60	0-3	0
	256QAM	1	0	17.66	17.72	17.69	0-5	2
		1	49	17.55	17.54	17.51	0-5	2
		1	99	17.59	17.60	17.74	0-5	2
		50	0	17.50	17.50	17.43	0-5	2
		50	25	17.51	17.45	17.31	0-5	2
		50	49	17.52	17.60	17.42	0-5	2
		100	0	17.51	17.47	17.56	0-5	2

[ LTE Band 41 Conducted Power] - Power Class 3

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
5 MHz	QPSK	1	0	22.67	22.50	22.53	22.89	23.07	0	0
		1	12	22.87	22.55	22.46	23.03	23.15	0	0
		1	24	22.78	22.55	22.50	22.93	23.01	0	0
		12	0	22.75	22.66	22.58	23.02	23.09	0	0
		12	6	22.73	22.50	22.67	23.03	23.13	0	0
		12	11	22.78	22.53	22.59	22.93	22.98	0	0
		25	0	22.93	22.54	22.62	23.04	23.00	0	0
	16QAM	1	0	23.01	22.75	22.67	23.04	23.11	0	0
		1	12	22.92	22.57	22.57	23.03	23.06	0	0
		1	24	22.80	22.63	22.82	23.18	23.10	0	0
		12	0	21.73	21.61	21.65	22.05	22.05	0	1
		12	6	21.68	21.63	21.52	21.94	21.86	0	1
		12	11	21.80	21.57	21.70	21.92	22.04	0	1
		25	0	21.93	21.66	21.75	21.99	22.18	0	1
	64QAM	1	0	21.80	21.37	21.47	21.82	21.88	0	1
		1	12	21.81	21.43	21.33	21.66	21.87	0	1
		1	24	21.94	21.54	21.51	21.78	21.80	0	1
		12	0	20.70	20.65	20.65	20.99	20.98	0	2
		12	6	20.81	20.55	20.71	20.96	20.95	0	2
		12	11	20.76	20.66	20.66	20.85	21.11	0	2
		25	0	20.73	20.59	20.55	21.10	21.03	0	2
	256QAM	1	0	18.92	18.79	19.05	19.28	19.41	0-5	3.2
		1	12	19.09	18.71	19.07	19.27	19.32	0-5	3.2
		1	24	19.11	18.72	18.95	19.24	19.41	0-5	3.2
		12	0	19.30	18.92	19.03	19.31	19.67	0-5	3.2
		12	6	19.26	18.79	18.96	19.37	19.67	0-5	3.2
		12	11	19.16	18.93	19.04	19.25	19.71	0-5	3.2
		25	0	19.17	18.90	18.96	19.34	19.66	0-5	3.2

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
10 MHz	QPSK	1	0	22.76	22.44	22.70	22.91	23.07	0	0
		1	24	22.80	22.49	22.52	22.88	23.06	0	0
		1	49	22.67	22.56	22.54	22.85	22.98	0	0
		25	0	22.87	22.61	22.71	23.04	23.14	0	0
		25	12	22.79	22.47	22.70	23.05	23.20	0	0
		25	24	22.93	22.43	22.59	22.88	23.01	0	0
	16QAM	50	0	22.88	22.59	22.54	22.99	23.21	0	0
		1	0	22.94	22.65	22.72	23.21	23.36	0	0
		1	24	22.72	22.46	22.64	23.15	23.13	0	0
		1	49	22.85	22.66	22.77	23.26	23.16	0	0
		25	0	21.78	21.53	21.61	22.09	22.14	0	1
		25	12	21.89	21.63	21.69	22.10	22.07	0	1
	64QAM	25	24	21.78	21.61	21.69	22.09	22.13	0	1
		50	0	21.85	21.47	21.73	22.05	22.20	0	1
		1	0	21.65	21.34	21.49	22.03	22.06	0	1
		1	24	21.53	21.36	21.59	21.92	22.08	0	1
		1	49	21.71	21.35	21.64	21.99	22.13	0	1
		25	0	20.87	20.62	20.72	20.98	21.23	0	2
	256QAM	25	12	20.88	20.62	20.55	21.01	21.10	0	2
		25	24	20.73	20.57	20.57	20.98	21.19	0	2
		50	0	20.80	20.51	20.68	21.04	21.21	0	2
		1	0	19.12	18.73	18.90	19.37	19.57	0-5	3.2
		1	24	19.10	18.75	18.84	19.10	19.36	0-5	3.2
		1	49	19.14	18.78	18.96	19.19	19.43	0-5	3.2
		25	0	19.24	19.04	19.07	19.38	19.54	0-5	3.2
		25	12	19.15	18.83	18.98	19.35	19.53	0-5	3.2
		25	24	19.21	18.89	19.00	19.36	19.69	0-5	3.2
		50	0	19.30	18.96	19.16	19.55	19.74	0-5	3.2

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
15 MHz	QPSK	1	0	22.73	22.45	22.61	23.00	23.07	0	0
		1	36	22.73	22.42	22.54	22.83	23.08	0	0
		1	74	22.94	22.58	22.73	22.94	23.02	0	0
		36	0	22.97	22.46	22.66	22.98	23.21	0	0
		36	18	22.88	22.45	22.64	22.97	23.11	0	0
		36	39	22.88	22.57	22.58	23.03	23.20	0	0
		75	0	22.97	22.60	22.65	22.95	23.15	0	0
	16QAM	1	0	22.98	22.81	22.68	23.21	23.16	0	0
		1	36	22.95	22.56	22.41	22.96	23.05	0	0
		1	74	22.85	22.64	22.76	23.12	23.26	0	0
		36	0	21.82	21.50	21.64	21.96	22.18	0	1
		36	18	21.83	21.50	21.63	21.88	22.10	0	1
		36	39	21.88	21.62	21.70	21.98	22.11	0	1
		75	0	21.94	21.64	21.57	21.90	22.10	0	1
	64QAM	1	0	21.77	21.32	21.49	22.08	22.04	0	1
		1	36	21.66	21.32	21.26	21.80	22.03	0	1
		1	74	21.77	21.37	21.48	21.81	21.94	0	1
		36	0	20.96	20.68	20.60	20.90	21.08	0	2
		36	18	20.73	20.54	20.72	21.03	21.01	0	2
		36	39	20.77	20.52	20.59	21.04	21.09	0	2
		75	0	20.70	20.64	20.70	20.87	21.12	0	2
	256QAM	1	0	19.18	18.94	19.04	19.31	19.55	0-5	3.2
		1	36	19.08	18.79	18.95	19.09	19.49	0-5	3.2
		1	74	19.24	18.82	18.95	19.13	19.53	0-5	3.2
		36	0	19.24	19.10	19.03	19.53	19.59	0-5	3.2
		36	18	19.21	19.01	19.09	19.30	19.72	0-5	3.2
		36	39	19.18	18.88	19.16	19.46	19.73	0-5	3.2
		75	0	19.21	18.97	18.98	19.31	19.77	0-5	3.2

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	22.87	22.61	22.72	22.95	23.21	0	0
		1	49	22.81	22.39	22.58	22.96	22.93	0	0
		1	99	22.82	22.58	22.61	22.92	22.99	0	0
		50	0	22.90	22.62	22.71	23.06	23.06	0	0
		50	25	22.86	22.67	22.62	23.08	23.14	0	0
		50	49	22.81	22.55	22.80	23.01	23.03	0	0
		100	0	22.95	22.69	22.81	22.93	23.11	0	0
	16QAM	1	0	22.92	22.67	22.87	23.32	23.21	0	0
		1	49	22.83	22.55	22.62	23.09	23.12	0	0
		1	99	22.87	22.71	22.76	23.17	23.14	0	0
		50	0	21.81	21.64	21.66	21.99	22.09	0	1
		50	25	21.91	21.71	21.70	22.00	22.13	0	1
		50	49	21.90	21.63	21.68	22.05	22.04	0	1
		100	0	21.85	21.61	21.75	21.95	22.18	0	1
	64QAM	1	0	21.87	21.53	21.65	21.86	22.10	0	1
		1	49	21.79	21.54	21.54	21.75	21.91	0	1
		1	99	21.79	21.84	21.72	21.83	21.85	0	1
		50	0	20.88	20.56	20.67	21.00	21.11	0	2
		50	25	20.92	20.60	20.72	20.99	21.18	0	2
		50	49	20.85	20.55	20.58	21.08	21.06	0	2
		100	0	20.91	20.62	20.73	20.97	21.11	0	2
	256QAM	1	0	19.35	18.88	18.97	19.22	19.51	0-5	3.2
		1	49	19.06	18.87	18.88	19.05	19.38	0-5	3.2
		1	99	19.22	18.82	19.03	19.13	19.45	0-5	3.2
		50	0	19.31	19.01	19.24	19.41	19.74	0-5	3.2
		50	25	19.35	19.10	19.21	19.38	19.83	0-5	3.2
		50	49	19.46	19.07	19.08	19.49	19.63	0-5	3.2
		100	0	19.37	19.08	19.02	19.32	19.66	0-5	3.2

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

[ LTE Band 41 Conducted Power ] - Power Class 2

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
5 MHz	QPSK	1	0	22.79	22.48	22.67	22.95	22.89	0	0
		1	12	22.65	22.49	22.52	23.01	23.18	0	0
		1	24	22.90	22.49	22.54	23.00	23.00	0	0
		12	0	22.86	22.52	22.72	22.94	22.98	0	0
		12	6	22.85	22.53	22.56	22.96	23.01	0	0
		12	11	22.93	22.73	22.65	22.94	23.13	0	0
		25	0	22.89	22.62	22.66	23.01	23.16	0	0
	16QAM	1	0	22.77	22.63	22.70	23.04	23.10	0	0
		1	12	22.58	22.48	22.62	22.96	23.03	0	0
		1	24	22.88	22.63	22.72	23.17	23.09	0	0
		12	0	21.90	21.56	21.64	21.96	22.09	0	1
		12	6	21.91	21.59	21.58	21.88	21.97	0	1
		12	11	21.94	21.57	21.61	21.82	21.88	0	1
		25	0	21.90	21.54	21.71	22.01	22.19	0	1
	64QAM	1	0	21.81	21.51	21.38	21.69	21.68	0	1
		1	12	21.66	21.33	21.31	21.74	21.69	0	1
		1	24	21.60	21.35	21.55	21.67	21.84	0	1
		12	0	20.88	20.68	20.76	20.84	21.13	0	2
		12	6	20.84	20.58	20.54	20.93	20.98	0	2
		12	11	20.89	20.57	20.70	20.91	21.04	0	2
		25	0	20.90	20.65	20.66	21.02	21.10	0	2
	256QAM	1	0	18.80	18.75	18.68	18.85	19.03	0-5	2.7
		1	12	18.69	18.63	18.56	19.08	18.96	0-5	2.7
		1	24	18.72	18.68	18.50	18.89	19.08	0-5	2.7
		12	0	19.07	18.79	18.92	19.35	19.51	0-5	2.7
12		6	19.14	18.81	18.95	19.39	19.58	0-5	2.7	
12		11	19.19	18.82	18.94	19.26	19.58	0-5	2.7	
25		0	19.27	18.83	18.94	19.31	19.64	0-5	2.7	

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
10 MHz	QPSK	1	0	22.81	22.53	22.69	23.02	23.08	0	0
		1	24	22.66	22.54	22.51	22.81	22.86	0	0
		1	49	22.68	22.53	22.65	22.95	22.96	0	0
		25	0	22.80	22.62	22.72	22.90	23.02	0	0
		25	12	22.80	22.48	22.62	22.92	23.07	0	0
		25	24	22.90	22.56	22.75	22.92	22.99	0	0
	16QAM	50	0	22.88	22.51	22.73	22.91	23.13	0	0
		1	0	22.86	22.74	22.70	23.03	23.21	0	0
		1	24	22.69	22.60	22.54	22.87	23.04	0	0
		1	49	22.81	22.76	22.77	22.87	23.06	0	0
		25	0	21.86	21.57	21.79	22.02	22.08	0	1
		25	12	21.97	21.61	21.68	22.04	22.13	0	1
	64QAM	25	24	21.97	21.56	21.79	21.89	22.04	0	1
		50	0	21.89	21.52	21.65	21.91	22.04	0	1
		1	0	21.89	21.45	21.51	21.94	21.85	0	1
		1	24	21.74	21.30	21.55	21.81	21.77	0	1
		1	49	21.73	21.28	21.61	21.70	21.91	0	1
		25	0	20.77	20.64	20.56	20.93	21.04	0	2
	256QAM	25	12	20.85	20.59	20.66	20.88	21.13	0	2
		25	24	20.93	20.51	20.67	20.98	20.96	0	2
		50	0	20.78	20.63	20.68	21.03	21.07	0	2
		1	0	18.77	18.69	18.57	19.30	18.99	0-5	2.7
		1	24	19.04	18.63	18.57	18.97	19.42	0-5	2.7
		1	49	18.97	18.63	18.61	19.02	19.31	0-5	2.7
		25	0	19.26	18.85	19.07	19.34	19.46	0-5	2.7
		25	12	19.19	18.82	18.94	19.29	19.54	0-5	2.7
		25	24	19.12	18.72	18.94	19.19	19.51	0-5	2.7
50		0	19.28	18.89	18.92	19.31	19.65	0-5	2.7	

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
15 MHz	QPSK	1	0	22.93	22.49	22.53	22.84	22.99	0	0
		1	36	22.76	22.39	22.47	22.95	23.18	0	0
		1	74	22.96	22.57	22.75	22.89	23.06	0	0
		36	0	22.78	22.50	22.55	23.08	23.19	0	0
		36	18	22.80	22.49	22.61	22.90	23.14	0	0
		36	39	22.76	22.52	22.65	22.91	23.07	0	0
		75	0	22.93	22.56	22.65	22.98	23.14	0	0
	16QAM	1	0	22.86	22.83	22.65	23.19	23.16	0	0
		1	36	22.71	22.59	22.63	23.06	22.98	0	0
		1	74	22.88	22.82	22.76	23.14	23.10	0	0
		36	0	21.86	21.47	21.52	21.92	22.01	0	1
		36	18	21.80	21.62	21.59	21.83	22.06	0	1
		36	39	21.85	21.65	21.73	22.00	22.10	0	1
	64QAM	75	0	21.90	21.64	21.55	22.00	22.13	0	1
		1	0	21.66	21.46	21.68	21.89	21.99	0	1
		1	36	21.48	21.12	21.58	21.81	21.84	0	1
		1	74	21.76	21.35	21.50	21.86	21.98	0	1
		36	0	20.89	20.66	20.60	20.92	21.04	0	2
		36	18	20.90	20.47	20.66	20.84	21.03	0	2
		36	39	20.87	20.48	20.59	20.96	21.09	0	2
	256QAM	75	0	20.82	20.55	20.55	20.90	21.14	0	2
		1	0	19.27	18.70	19.27	19.28	19.33	0-5	2.7
		1	36	19.06	18.55	19.05	19.38	19.25	0-5	2.7
		1	74	19.23	18.46	19.00	19.12	19.42	0-5	2.7
		36	0	19.18	18.95	19.13	19.36	19.52	0-5	2.7
		36	18	19.28	18.91	18.96	19.39	19.60	0-5	2.7
		36	39	19.17	18.80	18.99	19.18	19.52	0-5	2.7
	75	0	19.22	18.78	18.97	19.30	19.63	0-5	2.7	

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	22.94	22.67	22.71	22.99	23.19	0	0
		1	49	22.70	22.38	22.55	22.97	22.92	0	0
		1	99	22.82	22.61	22.75	22.95	23.03	0	0
		50	0	22.96	22.61	22.68	22.99	23.14	0	0
		50	25	22.83	22.51	22.53	22.91	23.21	0	0
		50	49	22.82	22.60	22.65	23.08	23.04	0	0
	16QAM	100	0	22.78	22.53	22.59	23.02	23.14	0	0
		1	0	23.05	22.72	22.67	22.94	23.24	0	0
		1	49	22.88	22.59	22.71	22.85	23.30	0	0
		1	99	23.00	22.64	22.70	23.02	23.29	0	0
		50	0	22.00	21.71	21.72	21.93	22.26	0	1
		50	25	21.98	21.52	21.59	21.91	22.10	0	1
	64QAM	50	49	21.78	21.66	21.74	21.98	22.11	0	1
		100	0	21.96	21.66	21.75	22.04	22.19	0	1
		1	0	21.81	21.43	21.44	22.09	22.15	0	1
		1	49	21.60	21.28	21.33	21.74	22.05	0	1
		1	99	21.81	21.43	21.53	21.95	21.99	0	1
		50	0	20.90	20.66	20.68	21.11	21.15	0	2
	256QAM	50	25	20.84	20.58	20.76	20.95	21.07	0	2
		50	49	20.75	20.62	20.70	20.98	21.13	0	2
		100	0	20.89	20.68	20.57	20.92	21.11	0	2
		1	0	19.15	18.46	18.54	19.07	19.24	0-5	2.7
		1	49	18.97	18.44	18.41	18.78	18.92	0-5	2.7
		1	99	18.96	18.54	18.47	18.82	19.11	0-5	2.7
		50	0	19.29	18.99	19.00	19.30	19.51	0-5	2.7
		50	25	19.22	18.87	19.06	19.26	19.41	0-5	2.7
		50	49	19.23	18.80	18.96	19.18	19.47	0-5	2.7
100		0	19.17	18.97	18.97	19.19	19.58	0-5	2.7	

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

**[LTE Band 66 Conducted Power]**

LTE Band 66 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131979Ch. 1710.7 MHz	132322 Ch. 1745 MHz	132665 Ch. 1779.3 MHz		
1.4 MHz	QPSK	1	0	19.34	19.37	19.44	0	0
		1	3	19.45	19.32	19.42	0	0
		1	5	19.35	19.36	19.33	0	0
		3	0	19.48	19.41	19.29	0	0
		3	1	19.67	19.47	19.51	0	0
		3	3	19.40	19.44	19.44	0	0
	16QAM	6	0	19.42	19.39	19.35	0	0
		1	0	19.71	19.74	19.80	0	0
		1	3	19.58	19.71	19.56	0	0
		1	5	19.78	19.68	19.70	0	0
		3	0	19.62	19.55	19.48	0	0
		3	1	19.55	19.52	19.52	0	0
	64QAM	3	3	19.73	19.60	19.62	0	0
		6	0	19.50	19.61	19.53	0	0
		1	0	19.68	19.72	19.73	0	0
		1	3	19.51	19.44	19.45	0	0
		1	5	19.53	19.57	19.56	0	0
		3	0	19.52	19.51	19.47	0	0
	256QAM	3	1	19.65	19.58	19.58	0	0
		3	3	19.63	19.59	19.52	0	0
		6	0	19.57	19.49	19.58	0	0
		1	0	17.33	17.35	17.30	0	1.8
		1	3	17.05	17.46	17.31	0	1.8
		1	5	17.28	17.45	17.28	0	1.8
		3	0	17.09	17.21	17.26	0	1.8
		3	1	17.33	17.43	17.34	0	1.8
		3	3	17.22	17.45	17.39	0	1.8
		6	0	17.37	17.29	17.22	0-1	1.8

LTE Band 66 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131987 Ch. 1711.5 MHz	132322 Ch. 1745 MHz	132657 Ch. 1778.5 MHz		
3 MHz	QPSK	1	0	19.30	19.30	19.34	0	0
		1	7	19.32	19.44	19.45	0	0
		1	14	19.42	19.36	19.42	0	0
		8	0	19.52	19.51	19.45	0	0
		8	3	19.51	19.45	19.39	0	0
		8	7	19.61	19.50	19.44	0	0
		15	0	19.63	19.49	19.54	0	0
	16QAM	1	0	19.66	19.74	19.80	0	0
		1	7	19.77	19.61	19.65	0	0
		1	14	19.77	19.68	19.72	0	0
		8	0	19.51	19.60	19.62	0	0
		8	3	19.62	19.53	19.56	0	0
		8	7	19.47	19.53	19.58	0	0
		15	0	19.55	19.61	19.59	0	0
	64QAM	1	0	19.61	19.74	19.76	0	0
		1	7	19.53	19.56	19.67	0	0
		1	14	19.58	19.54	19.51	0	0
		8	0	19.54	19.57	19.51	0	0
		8	3	19.58	19.58	19.63	0	0
		8	7	19.57	19.48	19.57	0	0
		15	0	19.64	19.58	19.43	0	0
	256QAM	1	0	17.39	17.51	17.42	0	1.8
		1	7	17.32	17.44	17.21	0	1.8
		1	14	17.49	17.43	17.34	0	1.8
8		0	17.26	17.33	17.35	0-1	1.8	
8		3	17.30	17.31	17.27	0-1	1.8	
8		7	17.40	17.36	17.25	0-1	1.8	
15		0	17.37	17.30	17.30	0-1	1.8	

LTE Band 66 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131997 Ch. 1712.5 MHz	132322Ch. 1745 MHz	132647 Ch. 1777.5 MHz		
5 MHz	QPSK	1	0	19.31	19.38	19.30	0	0
		1	12	19.14	19.29	19.36	0	0
		1	24	19.16	19.41	19.19	0	0
		12	0	19.45	19.45	19.41	0	0
		12	6	19.53	19.40	19.25	0	0
		12	11	19.27	19.47	19.31	0	0
		25	0	19.19	19.49	19.46	0	0
	16QAM	1	0	19.54	19.74	19.66	0	0
		1	12	19.37	19.66	19.58	0	0
		1	24	19.68	19.79	19.50	0	0
		12	0	19.38	19.37	19.26	0	0
		12	6	19.60	19.38	19.34	0	0
		12	11	19.47	19.32	19.51	0	0
		25	0	19.41	19.53	19.42	0	0
	64QAM	1	0	19.46	19.58	19.54	0	0
		1	12	19.43	19.49	19.40	0	0
		1	24	19.73	19.66	19.48	0	0
		12	0	19.44	19.56	19.46	0	0
		12	6	19.27	19.50	19.45	0	0
		12	11	19.34	19.53	19.35	0	0
		25	0	19.29	19.50	19.44	0	0
	256QAM	1	0	17.39	17.73	17.50	0	1.8
		1	12	17.28	17.21	17.24	0	1.8
		1	24	17.38	17.38	17.30	0	1.8
		12	0	17.40	17.37	17.38	0-1	1.8
		12	6	17.32	17.35	17.20	0-1	1.8
		12	11	17.38	17.30	17.38	0-1	1.8
		25	0	17.29	17.38	17.32	0-1	1.8

LTE Band 66 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132022 Ch. 1715 MHz	132322 Ch. 1745 MHz	132622 Ch. 1775 MHz		
10 MHz	QPSK	1	0	19.32	19.42	19.31	0	0
		1	24	19.25	19.24	19.23	0	0
		1	49	19.23	19.42	19.24	0	0
		25	0	19.46	19.50	19.38	0	0
		25	12	19.44	19.44	19.19	0	0
		25	24	19.43	19.46	19.40	0	0
		50	0	19.42	19.45	19.35	0	0
	16QAM	1	0	19.80	19.92	19.80	0	0
		1	24	19.72	19.72	19.57	0	0
		1	49	19.56	19.60	19.63	0	0
		25	0	19.59	19.58	19.54	0	0
		25	12	19.44	19.49	19.44	0	0
		25	24	19.33	19.43	19.16	0	0
		50	0	19.54	19.43	19.33	0	0
	64QAM	1	0	19.67	19.68	19.75	0	0
		1	24	19.57	19.69	19.48	0	0
		1	49	19.60	19.26	19.25	0	0
		25	0	19.57	19.46	19.14	0	0
		25	12	19.55	19.33	19.45	0	0
		25	24	18.69	19.02	19.09	0	0
		50	0	19.49	19.49	19.26	0	0
	256QAM	1	0	17.48	17.50	17.50	0	1.8
		1	24	17.21	17.27	17.22	0	1.8
		1	49	17.51	17.54	17.26	0	1.8
25		0	17.27	17.26	17.21	0-1	1.8	
25		12	17.41	17.37	17.31	0-1	1.8	
25		24	17.38	17.37	17.32	0-1	1.8	
50		0	17.40	17.44	17.40	0-1	1.8	

LTE Band 66 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132047 Ch. 1717.5 MHz	132322 Ch. 1745 MHz	132597 Ch. 1772.5 MHz		
15 MHz	QPSK	1	0	19.42	19.57	19.56	0	0
		1	36	19.30	19.26	19.34	0	0
		1	74	19.27	19.24	19.22	0	0
		36	0	19.41	19.37	19.46	0	0
		36	18	19.40	19.37	19.41	0	0
		36	39	19.49	19.34	19.39	0	0
		75	0	19.58	19.41	19.45	0	0
	16QAM	1	0	19.90	19.85	19.81	0	0
		1	36	19.68	19.76	19.72	0	0
		1	74	19.60	19.57	19.57	0	0
		36	0	19.46	19.45	19.49	0	0
		36	18	19.41	19.41	19.49	0	0
		36	39	19.42	19.40	19.34	0	0
		75	0	19.42	19.49	19.42	0	0
	64QAM	1	0	19.79	19.68	19.59	0	0
		1	36	19.56	19.60	19.58	0	0
		1	74	19.56	19.64	19.47	0	0
		36	0	19.59	19.52	19.57	0	0
		36	18	19.42	19.37	19.35	0	0
		36	39	19.39	19.45	19.46	0	0
		75	0	19.50	19.51	19.43	0	0
	256QAM	1	0	17.43	17.56	17.69	0	1.8
		1	36	17.43	17.46	17.45	0	1.8
		1	74	17.55	17.62	17.46	0	1.8
		36	0	17.46	17.32	17.39	0-1	1.8
		36	18	17.48	17.20	17.32	0-1	1.8
		36	39	17.37	17.34	17.31	0-1	1.8
		75	0	17.49	17.43	17.27	0-1	1.8

LTE Band 66 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	19.59	19.56	19.50	0	0
		1	49	19.31	19.35	19.17	0	0
		1	99	19.31	19.30	19.14	0	0
		50	0	19.54	19.49	19.32	0	0
		50	25	19.39	19.28	19.48	0	0
		50	49	19.39	19.29	19.23	0	0
		100	0	19.51	19.48	19.24	0	0
	16QAM	1	0	19.90	19.79	19.69	0	0
		1	49	19.61	19.68	19.58	0	0
		1	99	19.56	19.48	19.56	0	0
		50	0	19.39	19.46	19.37	0	0
		50	25	19.41	19.38	19.40	0	0
		50	49	19.48	19.29	19.18	0	0
		100	0	19.42	19.46	19.39	0	0
	64QAM	1	0	19.74	19.86	19.66	0	0
		1	49	19.62	19.66	19.35	0	0
		1	99	19.57	19.53	19.45	0	0
		50	0	19.44	19.39	19.50	0	0
		50	25	19.42	19.42	19.38	0	0
		50	49	19.21	19.38	19.22	0	0
		100	0	19.50	19.47	19.42	0	0
	256QAM	1	0	17.69	17.69	17.58	0	1.8
		1	49	17.48	17.44	17.01	0	1.8
		1	99	17.52	17.59	17.46	0	1.8
50		0	17.22	17.32	17.29	0-1	1.8	
50		25	17.40	17.44	17.21	0-1	1.8	
50		49	17.43	17.45	17.21	0-1	1.8	
100		0	17.31	17.42	17.28	0-1	1.8	

The EUT enables maximum power reduction in accordance with 3GPP 36.101. The MPR settings are configured during the manufacture process and are not configurable by the network, carrier, or end user.

## 11.5 WIFI Conducted Power measurement method

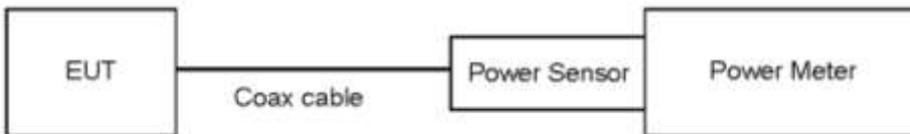
### Un-Licensed Bands (DTS Band)

Test Description	Test Procedure Used
Conducted Output Power	- KDB 558074 v05 - Section 8.3.2.3 - ANSI 63.10-2013 - Section 11.9.2.3

#### Test Procedure

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add  $10 \log(1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

#### Test setup



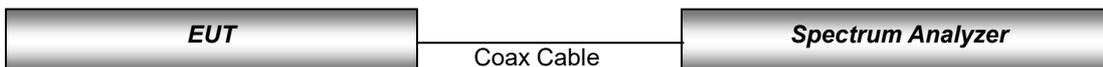
### Un-Licensed Bands(NII Band)

Test Description	Test Procedure Used
Conducted Output Power	- KDB 789033 D02 v02r01 - Section E.3.a

#### Test Procedure

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add  $10 \log(1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

#### Test setup



**11.5.1 IEEE 802.11 (2.4 GHz) Maximum Conducted Power**

Mode	Frequency [MHz]	Channel	IEEE 802.11 (2.4 GHz) Average RF Conducted Power [dBm]		
			Ant. 1	Ant.2	MIMO
802.11b	2 412	1	18.24	18.73	
	2 437	6	18.03	18.73	
	2 462	11	18.02	18.92	
	2 467	12	9.35	10.69	
	2 472	13	5.71	6.03	
802.11g	2 412	1	14.61	14.57	17.60
	2 437	6	15.17	16.46	18.87
	2 462	11	14.12	14.45	17.30
	2 467	12	9.63	10.97	13.36
	2 472	13	5.99	6.31	9.16
802.11n (HT20)	2 412	1	13.63	13.60	16.63
	2 437	6	15.05	16.31	18.74
	2 462	11	13.34	13.52	16.44
	2 467	12	9.63	10.97	13.36
	2 472	13	5.99	6.31	9.16
802.11ax(SU)	2 412	1	14.1	13.84	16.98
	2 437	6	15.42	15.64	18.54
	2 462	11	13.07	13.14	16.12
	2 467	12	10.02	9.6	12.83
	2 472	13	6.82	6.8	9.82

**11.5.2 IEEE 802.11 (2.4 GHz) Conducted Power**

**RCV ON, RSDB**

Mode	Frequency [MHz]	Channel	IEEE 802.11 (2.4 GHz) Average RF Conducted Power [dBm]		
			Ant. 1	Ant.2	MIMO
802.11b	2 412	1	15.07	15.45	
	2 437	6	15.11	15.70	
	2 462	11	15.00	15.82	
	2 467	12	9.35	10.69	
	2 472	13	5.71	6.03	
802.11g	2 412	1	14.61	14.57	17.60
	2 437	6	15.17	16.46	18.87
	2 462	11	14.12	14.45	17.30
	2 467	12	9.63	10.97	13.36
	2 472	13	5.99	6.31	9.16
802.11n (HT20)	2 412	1	13.63	13.60	16.63
	2 437	6	15.05	16.31	18.74
	2 462	11	13.34	13.52	16.44
	2 467	12	9.63	10.97	13.36
	2 472	13	5.99	6.31	9.16
802.11ax(SU)	2 412	1	14.1	13.84	16.98
	2 437	6	15.42	15.64	18.54
	2 462	11	13.07	13.14	16.12
	2 467	12	10.02	9.6	12.83
	2 472	13	6.82	6.8	9.82

**11.5.3 IEEE 802.11 (2.4 GHz) Conducted Power**

(RSDB with RCV ON)

Mode	Frequency [MHz]	Channel	IEEE 802.11 (2.4 GHz) Average RF Conducted Power [dBm]		
			Ant. 1	Ant.2	MIMO
802.11b	2 412	1	12.20	12.79	
	2 437	6	11.88	12.36	
	2 462	11	11.90	13.09	
	2 467	12	9.35	10.69	
	2 472	13	5.71	6.03	
802.11g	2 412	1	12.60	12.79	15.71
	2 437	6	12.18	12.27	15.24
	2 462	11	12.38	12.90	15.66
	2 467	12	9.63	10.97	13.36
	2 472	13	5.99	6.31	9.16
802.11n (HT20)	2 412	1	12.54	12.73	15.65
	2 437	6	12.33	12.28	15.32
	2 462	11	12.37	11.88	15.14
	2 467	12	9.63	10.97	13.36
	2 472	13	5.99	6.31	9.16
802.11ax(SU)	2 412	1	12.54	12.73	15.45
	2 437	6	12.33	12.28	15.29
	2 462	11	12.37	11.88	15.08
	2 467	12	9.63	10.97	13.34
	2 472	13	5.99	6.31	8.97

11.5.4 IEEE 802.11 (5 GHz) Maximum Conducted Power

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average RF Conducted Power [dBm]		
			Ant. 1	Ant. 2	MIMO
802.11a (20 MHz BW)	5 180	36	17.45	17.06	20.27
	5 200	40	17.30	16.90	20.11
	5 220	44	17.57	16.73	20.18
	5 240	48	17.59	16.72	20.19
	5 260	52	17.46	16.65	20.08
	5 280	56	17.42	16.63	20.05
	5 300	60	17.45	16.47	20.00
	5 320	64	16.26	15.33	18.83
	5 500	100	16.54	15.45	19.04
	5 600	120	17.84	16.86	20.39
	5 620	124	17.91	16.90	20.44
	5 720	144	17.94	17.26	20.62
	5 745	149	17.64	16.93	20.31
	5 785	157	17.76	17.36	20.57
5 825	165	17.65	16.63	20.18	
802.11n (20 MHz BW)	5 180	36	17.39	16.93	20.18
	5 200	40	17.43	16.71	20.10
	5 220	44	17.38	16.73	20.10
	5 240	48	17.47	16.79	20.15
	5 260	52	17.51	16.68	20.13
	5 280	56	17.33	16.56	19.97
	5 300	60	17.34	16.42	19.91
	5 320	64	16.21	15.26	18.77
	5 500	100	16.01	15.27	18.66
	5 600	120	17.88	16.91	20.43
	5 620	124	17.8	16.73	20.31
	5 720	144	17.77	17.19	20.50
	5 745	149	17.70	17.22	20.48
	5 785	157	17.66	16.99	20.35
5 825	165	17.64	16.60	20.16	
802.11ac (20 MHz BW)	5 180	36	17.45	17.02	20.21
	5 200	40	17.33	16.67	20.04
	5 220	44	17.28	16.80	20.02
	5 240	48	17.55	16.87	20.20
	5 260	52	17.50	16.74	20.12
	5 280	56	17.31	16.60	19.98
	5 300	60	17.37	16.46	19.95
	5 320	64	16.22	15.32	18.80
	5 500	100	15.71	15.21	18.48
	5 600	120	17.84	16.92	20.41
	5 620	124	17.79	16.77	20.32
	5 720	144	17.69	17.26	20.49
	5 745	149	17.64	17.14	20.41
	5 785	157	17.65	16.91	20.31
5 825	165	17.71	16.67	20.23	

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average RF Conducted Power [dBm]		
			Ant. 1	Ant. 2	MIMO
802.11ax(SU) (20 MHz BW)	5 180	36			19.31
	5 200	40			20.21
	5 220	44			20.17
	5 240	48			20.53
	5 260	52			20.52
	5 280	56			20.52
	5 300	60			20.48
	5 320	64			18.62
	5 500	100			18.40
	5 600	120			20.56
	5 620	124			20.63
	5 720	144			20.75
	5 745	149			20.73
	5 785	157			20.78
	5 825	165			20.74

**11.5.5 IEEE 802.11 (5 GHz) Conducted Power**

**(RCV On)**

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average RF Conducted Power [dBm]		
			Ant. 1	Ant. 2	MIMO
802.11n (40 MHz BW) 5200 MHz/5300 MHz	5190	38	12.30	11.09	14.75
	5230	46	14.69	13.89	17.32
	5270	54	14.80	13.60	17.25
	5310	62	12.10	11.13	14.65

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average Conducted Power [dBm]		
			Ant. 1	Ant. 2	MIMO
802.11ac (80 MHz BW) 5500 MHz/5800 MHz	5 530	106	12.96	11.62	15.35
	5 610	122	14.35	14.06	17.22
	5 690	138	14.88	14.33	17.62
	5 775	155	14.84	14.08	17.49

**(RSDB , RSDB with RCV ON)**

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average RF Conducted Power [dBm]		
			Ant. 1	Ant. 2	MIMO
802.11n (40 MHz BW) 5200 MHz/5300 MHz	5190	38	12.30	11.09	14.75
	5230	46	13.71	12.72	16.25
	5270	54	13.76	12.45	16.16
	5310	62	12.10	11.13	14.65

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average Conducted Power [dBm]		
			Ant. 1	Ant. 2	MIMO
802.11ac (80 MHz BW) 5500 MHz/5800 MHz	5 530	106	12.96	11.62	15.35
	5 610	122	13.64	13.04	16.45
	5 690	138	13.74	13.00	16.40
	5 775	155	13.75	13.28	16.53

**( RSDB with RCV ON )**

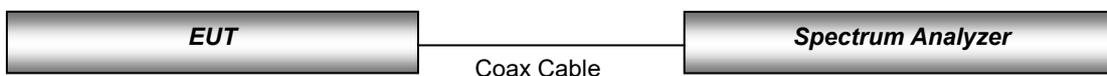
Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average RF Conducted Power [dBm]		
			Ant. 1	Ant. 2	MIMO
802.11n (40 MHz BW)	5190	38	12.30	11.09	14.75
	5230	46	13.71	12.72	16.25
	5270	54	13.76	12.45	16.16
	5310	62	12.10	11.13	14.65
	5510	102	11.51	10.64	14.43
	5590	118	13.47	13.38	16.44
	5630	126	13.45	13.34	16.41
	5710	142	13.58	13.47	16.54
	5755	151	13.55	13.61	16.59
	5795	159	13.35	13.34	16.36

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average Conducted Power [dBm]		
			Ant. 1	Ant. 2	MIMO
802.11ac (80 MHz BW)	5 210	42	12.66	11.79	15.26
	5 290	58	12.67	11.45	15.11
	5 530	106	12.96	11.62	15.35
	5 610	122	13.64	13.24	16.45
	5 690	138	13.74	13.00	16.40
	5 775	155	13.75	13.28	16.53

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission mode with the same maximum output power specification, powers were measured for the largest channel Bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel Bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-Band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-Band channels, due to an even number of channels, both channels were measured.

**Test Configuration**



## 11.6 Bluetooth Maximum Conducted Power

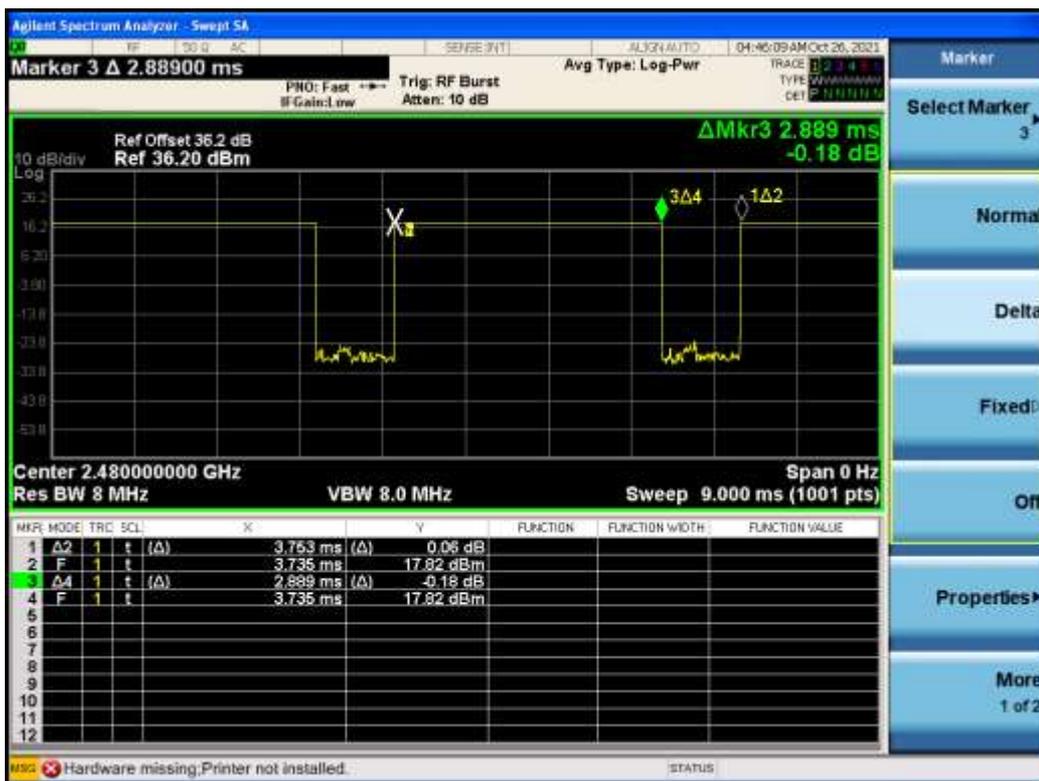
The Burst averaged-conducted power

Mode	Channel	Bluetooth Power [dBm]
DH5	0	15.55
	39	15.91
	78	17.44
2-DH5	0	9.16
	39	9.84
	78	11.09
3-DH5	0	9.16
	39	9.84
	78	11.10

Per October 2016 TCB Workshop Notes:

When call box and Bluetooth protocol are used for Bluetooth SAR measurement, time-domain plot is required to identify duty factor for supporting the test setup and result.

Bluetooth duty cycle was measured using Bluetooth tester equipment (CBT / R&S) with Bluetooth DH5 mode.



Bluetooth

Duty Cycle

$$= (\text{BT-On time} / \text{BT-Full time}) = (2.889 / 3.753) = 0.770 \text{ (DH5)}$$

$$\text{Duty factor} = 1 / \text{Duty cycle} : 1.299$$

## 12. System Verification

### 12.1 Tissue Verification

The body simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity.

Table for Head Tissue Verification

Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon$	Target Conductivity $\sigma$ (S/m)	Target Dielectric Constant, $\epsilon$	% dev $\sigma$	% dev $\epsilon$
10/06/2021	20.7	750H	705	0.857	42.392	0.889	42.174	-3.60	0.52
			710	0.864	42.347	0.890	42.148	-2.92	0.47
			750	0.903	41.731	0.893	41.940	1.12	-0.50
10/07/2021	21.1	750H	750	0.854	41.749	0.893	41.940	-4.37	-0.46
			785	0.888	41.168	0.896	41.758	-0.89	-1.41
10/12/2021	21.1	835H	820	0.900	40.759	0.899	41.577	0.11	-1.97
			835	0.915	40.500	0.900	41.500	1.67	-2.41
			850	0.925	40.253	0.916	41.500	0.98	-3.00
10/14/2021	20.8	835H	820	0.899	41.185	0.899	41.577	0.00	-0.94
			835	0.916	41.008	0.900	41.500	1.78	-1.19
			850	0.927	40.783	0.916	41.500	1.20	-1.73
10/02/2021	20.1	835H	820	0.899	41.206	0.899	41.577	0.00	-0.89
			835	0.915	41.017	0.900	41.500	1.67	-1.16
			850	0.925	40.784	0.916	41.500	0.98	-1.73
10/05/2021	20.9	835H	820	0.922	40.999	0.899	41.577	2.56	-1.39
			835	0.932	40.889	0.900	41.500	3.56	-1.47
			850	0.944	40.811	0.916	41.500	3.06	-1.66
10/15/2021	21.3	1800H	1710	1.323	41.546	1.348	40.144	-1.85	3.49
			1750	1.364	41.362	1.371	40.080	-0.51	3.20
			1800	1.415	41.099	1.400	40.000	1.07	2.75
10/22/2021	22.6	1800H	1710	1.322	41.534	1.348	40.144	-1.93	3.46
			1750	1.359	41.374	1.371	40.080	-0.88	3.23
			1800	1.416	41.090	1.400	40.000	1.14	2.72
10/20/2021	20.1	1800H	1710	1.299	41.520	1.348	40.144	-3.64	3.43
			1750	1.345	41.345	1.371	40.080	-1.90	3.16
			1800	1.396	41.096	1.400	40.000	-0.29	2.74
10/27/2021	20.1	1800H	1710	1.323	41.559	1.348	40.144	-1.85	3.52
			1750	1.364	41.335	1.371	40.080	-0.51	3.13
			1800	1.421	41.113	1.400	40.000	1.50	2.78
10/13/2021	21.2	1900H	1850	1.353	41.435	1.400	40.000	-3.36	3.59
			1900	1.408	41.318	1.400	40.000	0.57	3.30
			1910	1.416	41.286	1.400	40.000	1.14	3.22
10/18/2021	21.1	1900H	1850	1.354	41.472	1.400	40.000	-3.29	3.68
			1900	1.405	41.297	1.400	40.000	0.36	3.24
			1910	1.416	41.277	1.400	40.000	1.14	3.19
10/25/2021	22.5	1900H	1850	1.351	41.486	1.400	40.000	-3.50	3.72
			1900	1.405	41.334	1.400	40.000	0.36	3.33
			1910	1.418	41.314	1.400	40.000	1.29	3.29
10/01/2021	20.8	1900H	1850	1.374	41.038	1.400	40.000	-1.86	2.60
			1900	1.406	40.791	1.400	40.000	0.43	1.98
			1910	1.413	40.745	1.400	40.000	0.93	1.86

Table for Head Tissue Verification

Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon$	Target Conductivity $\sigma$ (S/m)	Target Dielectric Constant, $\epsilon$	% dev $\sigma$	% dev $\epsilon$
10/21/2021	20.3	1900H	1850	1.373	41.511	1.400	40.000	-1.93	3.78
			1900	1.430	41.337	1.400	40.000	2.14	3.34
			1910	1.437	41.318	1.400	40.000	2.64	3.30
10/19/2021	20.8	1900H	1850	1.372	41.208	1.400	40.000	-2.00	3.02
			1900	1.404	41.005	1.400	40.000	0.29	2.51
			1910	1.411	40.957	1.400	40.000	0.79	2.39
10/22/2021	20.3	1900H	1850	1.374	41.517	1.400	40.000	-1.86	3.79
			1900	1.426	41.374	1.400	40.000	1.86	3.44
			1910	1.435	41.343	1.400	40.000	2.50	3.36
10/20/2021	20.8	2450H	2400	1.737	37.998	1.756	39.290	-1.08	-3.29
			2450	1.791	37.886	1.800	39.200	-0.50	-3.35
			2500	1.856	37.726	1.855	39.140	0.05	-3.61
10/21/2021	20.4	2450H	2400	1.717	38.511	1.756	39.290	-2.22	-1.98
			2450	1.783	38.395	1.800	39.200	-0.94	-2.05
			2500	1.840	38.226	1.855	39.140	-0.81	-2.34
10/26/2021	21.7	2450H	2400	1.758	39.062	1.756	39.290	0.11	-0.58
			2450	1.832	37.912	1.800	39.200	1.78	-3.29
			2500	1.854	38.727	1.855	39.140	-0.05	-1.06
10/25/2021	21.3	2600H	2500	1.931	40.117	1.855	39.126	4.10	2.53
			2550	1.986	39.930	1.909	39.070	4.03	2.20
			2600	2.043	39.739	1.964	39.010	4.02	1.87
10/26/2021	21.3	2600H	2500	1.926	40.132	1.866	39.126	3.22	2.57
			2550	1.983	39.938	1.909	39.070	3.88	2.22
			2600	2.037	39.708	1.964	39.010	3.72	1.79
10/28/2021	20.2	2600H	2500	1.859	39.023	1.866	39.126	-0.38	-0.26
			2550	1.904	38.836	1.909	39.070	-0.26	-0.60
			2600	1.961	38.530	1.964	39.010	-0.15	-1.23

Table for Head Tissue Verification

Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon$	Target Conductivity $\sigma$ (S/m)	Target Dielectric Constant, $\epsilon$	% dev $\sigma$	% dev $\epsilon$
10/01/2021	19.9	5180H-5280H	5180	4.573	37.264	4.635	36.010	-1.34	3.48
			5250	4.686	37.299	4.706	35.930	-0.42	3.81
			5280	4.830	36.881	4.737	35.894	1.96	2.75
			5320	4.876	36.603	4.778	35.846	2.05	2.11
10/02/2021	22.2	5500H-5600H	5500	5.022	36.580	4.963	35.640	1.19	2.64
			5600	5.085	36.500	5.065	35.530	0.39	2.73
10/05/2021	21.4	5750H-5825H	5750	5.231	36.908	5.219	35.360	0.23	4.38
			5800	5.229	36.321	5.270	35.300	-0.78	2.89
			5825	5.188	36.214	5.296	35.270	-2.04	2.68
10/06/2021	20.9	5180H-5280H	5180	4.420	37.384	4.635	36.010	-4.64	3.82
			5250	4.615	37.395	4.706	35.930	-1.93	4.08
			5280	4.615	37.489	4.737	35.894	-2.58	4.44
			5320	4.718	36.743	4.778	35.846	-1.26	2.50
10/07/2021	20.3	5500H-5600H	5500	4.932	36.804	4.963	35.640	-0.62	3.27
			5600	4.948	36.499	5.065	35.530	-2.31	2.73
10/08/2021	20.3	5750H-5825H	5750	5.199	35.586	5.219	35.360	-0.38	0.64
			5800	5.137	36.240	5.270	35.300	-2.52	2.66
			5825	5.204	35.718	5.296	35.270	-1.74	1.27
10/21/2021	20.5	5180H-5280H	5180	4.633	36.092	4.635	36.010	-0.04	0.23
			5250	4.716	35.926	4.706	35.930	0.21	-0.01
			5280	4.739	35.953	4.737	35.894	0.04	0.16
			5320	4.804	35.963	4.778	35.846	0.54	0.33
10/22/2021	21.1	5500H-5600H	5500	5.025	35.390	4.963	35.640	1.25	-0.70
			5600	5.108	35.390	5.065	35.530	0.85	-0.39
10/25/2021	20.0	5750H-5825H	5750	5.285	35.397	5.219	35.360	1.26	0.10
			5800	5.234	35.410	5.270	35.300	-0.68	0.31
			5825	5.215	35.376	5.296	35.270	-1.53	0.30
10/18/2021	20.2	5180H-5280H	5180	4.633	36.103	4.635	36.010	-0.04	0.26
			5250	4.724	35.859	4.706	35.930	0.38	-0.20
			5280	4.754	35.846	4.737	35.894	0.36	-0.13
			5320	4.812	35.902	4.778	35.846	0.71	0.16
10/19/2021	20.8	5500H-5600H	5500	4.967	35.773	4.963	35.640	0.08	0.37
			5600	5.025	35.520	5.065	35.530	-0.79	-0.03
10/20/2021	22.9	5750H-5825H	5750	5.295	35.427	5.219	35.360	1.46	0.19
			5800	5.249	35.464	5.270	35.300	-0.40	0.46
			5825	5.226	35.393	5.296	35.270	-1.32	0.35

### 12.2 System Verification

Input Power: 50 mW

Freq. [MHz]	Date	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp. [°C]	Liquid Temp. [°C]	1 W Target SAR <sub>1g</sub> (SPEAG) [W/kg]	50mW Measured SAR <sub>1g</sub> [W/kg]	1 W Normalized SAR <sub>1g</sub> [W/kg]	Deviation [%]	Limit [%]
750	10/06/2021	3903	1014	Head	20.9	20.7	8.55	0.422	8.44	- 1.29	± 10
750	10/07/2021	3903		Head	21.2	21.1	8.55	0.398	7.96	- 6.90	± 10
835	10/12/2021	3903	4d165	Head	21.2	21.1	9.68	0.496	9.92	+ 2.48	± 10
835	10/14/2021	3903		Head	21.0	20.8	9.68	0.495	9.9	+ 2.27	± 10
835	10/02/2021	3903		Head	20.2	20.1	9.68	0.511	10.22	+ 5.58	± 10
835	10/05/2021	3903		Head	20.9	20.9	9.68	0.498	9.96	+ 2.89	± 10
1 800	10/15/2021	3903		2d015	Head	21.3	21.3	38.8	1.89	37.8	- 2.58
1 800	10/20/2021	3903	Head		20.2	20.1	38.8	1.86	37.2	- 4.12	± 10
1 900	10/13/2021	3903	5d032	Head	21.2	21.2	40.0	2.01	40.2	+ 0.50	± 10
1 900	10/18/2021	3903		Head	21.2	21.1	40.0	2.01	40.2	+ 0.50	± 10
1 900	10/01/2021	3903		Head	20.9	20.8	40.0	2.02	40.4	+ 1.00	± 10
1 900	10/19/2021	3903		Head	20.9	20.8	40.0	2.00	40	+ 0.00	± 10
2 450	10/27/2021	3903	965	Head	22.3	22.2	53.3	2.620	52.4	- 1.69	± 10
2 450	10/20/2021	7679		Head	20.9	20.8	53.3	2.560	51.2	- 3.94	± 10
2 450	10/21/2021	7679		Head	20.4	20.4	53.3	2.550	51	- 4.32	± 10
2 450	10/26/2021	7370		Head	21.8	21.7	53.3	2.57	51.4	- 3.56	± 10
2 600	10/25/2021	3903	1106	Head	21.5	21.3	56.3	2.83	56.6	+ 0.53	± 10
2 600	10/25/2021	3903		Head	21.5	21.3	56.3	2.74	54.8	- 2.66	± 10
2 600	10/25/2021	3076		Head	21.5	21.3	56.3	2.62	52.4	- 6.93	± 10
5 250	10/01/2021	7680	1107	Head	20.0	19.9	80.6	4.10	82	+ 1.74	± 10
5 600	10/02/2021	7680		Head	22.4	22.2	84.2	3.94	78.8	- 6.41	± 10
5 750	10/05/2021	7680		Head	21.5	21.4	80.9	3.94	78.8	- 2.60	± 10
5 250	10/06/2021	7680		Head	21.0	20.9	80.6	3.75	75	- 6.95	± 10
5 600	10/07/2021	7680		Head	23.3	23.3	84.2	4.08	81.6	- 3.09	± 10
5 750	10/08/2021	7680		Head	22.4	22.3	80.9	3.87	77.4	- 4.33	± 10
5 250	10/21/2021	7680	1107	Head	20.6	20.5	80.6	3.87	77.4	- 3.97	± 10
5 600	10/22/2021	7680		Head	21.3	21.1	84.2	4.2	84	- 0.24	± 10
5 750	10/25/2021	7680		Head	20.2	20.0	80.9	3.93	78.6	- 2.84	± 10
5 250	10/18/2021	7680		Head	20.3	20.2	80.6	3.87	77.4	- 3.97	± 10
5 600	10/19/2021	7680		Head	20.8	20.8	84.2	4.07	81.4	- 3.33	± 10
5 750	10/20/2021	7680		Head	23.0	22.9	80.9	3.9	78	- 3.58	± 10

**System Verification Results – Extremity SAR Input Power: 50 mW**

Freq.	Date	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp.	Liquid Temp.	1 W Target SAR <sub>10g</sub> (SPEAG)	50mW Measured SAR <sub>10g</sub>	1 W Normalized SAR <sub>10g</sub>	Deviation	Limit
[MHz]					[°C]	[°C]	[W/kg]	[W/kg]	[W/kg]	[%]	[%]
1 800	10/22/2021	3972	2d015	Head	869	3972	20.0	0.941	18.82	- 5.90	± 10
1 800	10/27/2021	3903		Head	20.2	20.1	20.0	1.03	20.6	+ 3.00	± 10
1 900	10/25/2021	3972	5d032	Head	22.5	22.5	20.8	1.05	21	+ 0.96	± 10
1 900	10/21/2021	3903		Head	20.4	20.3	20.8	1.1	22	+ 5.77	± 10
1 900	10/22/2021	3903		Head	20.3	20.2	20.8	1.04	20.8	+ 0.00	± 10
5 250	10/01/2021	7680	1107	Head	20.0	19.9	23.2	1.18	23.6	+ 1.72	± 10
5 600	10/02/2021	7680		Head	22.4	22.2	24.2	1.12	22.4	- 7.44	± 10
5 250	10/06/2021	7680		Head	21.0	20.9	23.2	1.08	21.6	- 6.90	± 10
5 600	10/07/2021	7680		Head	23.3	23.3	24.2	1.16	23.2	- 4.13	± 10
5 250	10/21/2021	7680		Head	20.6	20.5	23.2	1.11	22.2	- 4.31	± 10
5 600	10/22/2021	7680		Head	21.3	21.1	24.2	1.19	23.8	- 1.65	± 10
5 250	10/18/2021	7680		Head	20.3	20.2	23.2	1.11	22.2	- 4.31	± 10
5 600	10/19/2021	7680		Head	20.8	20.8	24.2	1.15	23	- 4.96	± 10

**12.3 System Verification Procedure**

SAR measurement was prior to assessment, the system is verified to the ± 10 % of the specifications at each frequency Band by using the system verification kit. (Graphic Plots Attached)

- Cabling the system, using the verification kit equipment.
- Generate about 50 mW Input level from the signal generator to the Dipole Antenna.
- Dipole antenna was placed below the flat phantom.
- The measured one-gram SAR at the surface of the phantom above the dipole feed-point should be within 10 % of the target reference value.
- The results are normalized to 1 W input power.

Note;

SAR Verification was performed according to the FCC KDB 865664 D01v01r04.

### 13. SAR Test Data Summary

#### 13.1 SAR Measurement Results

GSM 850 Head SAR											
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.										
836.6	190	GSM	34.0	33.15	-0.00	Left Cheek	1:8.3	0.182	1.216	0.221	-
836.6	190	GSM	34.0	33.15	-0.01	Left Tilt	1:8.3	0.099	1.216	0.120	-
836.6	190	GSM	34.0	33.15	-0.03	Right Cheek	1:8.3	0.134	1.216	0.163	-
836.6	190	GSM	34.0	33.15	0.03	Right Tilt	1:8.3	0.095	1.216	0.116	-
836.6	190	GRPS 3Tx	30.5	29.53	-0.19	Left Cheek	1:2.77	0.222	1.250	<b>0.278</b>	1
836.6	190	GRPS 3Tx	30.5	29.53	0.06	Left Tilt	1:2.77	0.103	1.250	0.129	-
836.6	190	GRPS 3Tx	30.5	29.53	0.14	Right Cheek	1:2.77	0.150	1.250	0.188	-
836.6	190	GRPS 3Tx	30.5	29.53	-0.15	Right Tilt	1:2.77	0.116	1.250	0.145	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Head 1.6 W/kg Averaged over 1 gram					

GSM 1900 Head SAR											
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.										
1 909.8	810	GSM	31.0	29.99	-0.10	Left Cheek	1:8.3	0.060	1.262	0.076	-
1 909.8	810	GSM	31.0	29.99	0.15	Left Tilt	1:8.3	0.047	1.262	0.059	-
1 909.8	810	GSM	31.0	29.99	0.14	Right Cheek	1:8.3	0.069	1.262	0.087	-
1 909.8	810	GSM	31.0	29.99	0.18	Right Tilt	1:8.3	0.027	1.262	0.034	-
1 909.8	810	GRPS 2Tx	28.5	27.65	0.13	Left Cheek	1:4.15	0.067	1.216	0.081	-
1 909.8	810	GRPS 2Tx	28.5	27.65	-0.01	Left Tilt	1:4.15	0.054	1.216	0.066	-
1 909.8	810	GRPS 2Tx	28.5	27.65	0.18	Right Cheek	1:4.15	0.083	1.216	<b>0.101</b>	2
1 909.8	810	GRPS 2Tx	28.5	27.65	0.09	Right Tilt	1:4.15	0.032	1.216	0.039	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Head 1.6 W/kg Averaged over 1 gram					

UMTS Band 5 Head SAR											
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.										
836.6	4183	RMC	25.0	24.22	-0.08	Left Cheek	1:1	0.153	1.197	<b>0.183</b>	3
836.6	4183	RMC	25.0	24.22	-0.04	Left Tilt	1:1	0.066	1.197	0.079	-
836.6	4183	RMC	25.0	24.22	0.10	Right Cheek	1:1	0.118	1.197	0.141	-
836.6	4183	RMC	25.0	24.22	0.09	Right Tilt	1:1	0.101	1.197	0.121	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Head 1.6 W/kg Averaged over 1 gram					

UMTS Band 4 Head SAR													
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.		
MHz	Ch.		(dB)	(dB)	(dB)			(W/kg)		(W/kg)			
1 732.4	1412	RMC	23.5	22.82	-0.09	Left Cheek	1:1	0.085	1.169	<b>0.099</b>	4		
1 732.4	1412	RMC	23.5	22.82	0.13	Left Tilt	1:1	0.044	1.169	0.051	-		
1 732.4	1412	RMC	23.5	22.82	0.16	Right Cheek	1:1	0.081	1.169	0.095	-		
1 732.4	1412	RMC	23.5	22.82	-0.05	Right Tilt	1:1	0.030	1.169	0.035	-		
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram						

UMTS Band 2 Head SAR													
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.		
MHz	Ch.		(dB)	(dB)	(dB)			(W/kg)		(W/kg)			
1 880.0	9400	RMC	23.5	21.99	-0.14	Left Cheek	1:1	0.056	1.416	<b>0.079</b>	5		
1 880.0	9400	RMC	23.5	21.99	-0.05	Left Tilt	1:1	0.044	1.416	0.062	-		
1 880.0	9400	RMC	23.5	21.99	-0.13	Right Cheek	1:1	0.053	1.416	0.075	-		
1 880.0	9400	RMC	23.5	21.99	0.01	Right Tilt	1:1	0.036	1.416	0.051	-		
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram						

LTE Band 2 Head SAR															
Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.			(dBm)	(dBm)	(dB)		(dB)	(dB)	(dB)		(W/kg)		(W/kg)	
1 900	19100	QPSK	20	23.0	22.28	0.17	Left Cheek	0	1	0	1:1	0.064	1.180	0.076	-
1 900	19100	QPSK	20	22.0	21.24	0.16	Left Cheek	1	50	25	1:1	0.049	1.191	0.058	-
1 900	19100	QPSK	20	23.0	22.28	0.08	Left Tilt	0	1	0	1:1	0.060	1.180	0.071	-
1 900	19100	QPSK	20	22.0	21.24	0.15	Left Tilt	1	50	25	1:1	0.044	1.191	0.052	-
1 900	19100	QPSK	20	23.0	22.28	-0.15	Right Cheek	0	1	0	1:1	0.071	1.180	<b>0.084</b>	6
1 900	19100	QPSK	20	22.0	21.24	0.15	Right Cheek	1	50	25	1:1	0.059	1.191	0.070	-
1 900	19100	QPSK	20	23.0	22.28	0.04	Right Tilt	0	1	0	1:1	0.050	1.180	0.059	-
1 900	19100	QPSK	20	22.0	21.24	0.02	Right Tilt	1	50	25	1:1	0.033	1.191	0.039	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Head 1.6 W/kg Averaged over 1 gram							

**LTE Band 5 Head SAR**

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.														
836.5	20525	QPSK	10	25.0	24.21	-0.00	Left Cheek	0	1	49	1:1	0.121	1.199	0.145	-
836.5	20525	QPSK	10	24.0	22.24	0.13	Left Cheek	1	25	0	1:1	0.117	1.500	0.175	-
836.5	20525	QPSK	10	25.0	24.21	-0.13	Left Tilt	0	1	49	1:1	0.079	1.199	0.095	-
836.5	20525	QPSK	10	24.0	22.24	-0.18	Left Tilt	1	25	0	1:1	0.057	1.500	0.086	-
836.5	20525	QPSK	10	25.0	24.21	-0.02	Right Cheek	0	1	49	1:1	0.147	1.199	<b>0.176</b>	7
836.5	20525	QPSK	10	24.0	22.24	0.10	Right Cheek	1	25	0	1:1	0.085	1.500	0.128	-
836.5	20525	QPSK	10	25.0	24.21	0.08	Right Tilt	0	1	49	1:1	0.104	1.199	0.125	-
836.5	20525	QPSK	10	24.0	22.24	0.11	Right Tilt	1	25	0	1:1	0.067	1.500	0.101	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Head 1.6 W/kg Averaged over 1 gram							

**LTE Band 12 Head SAR**

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.														
707.5	23095	QPSK	10	24.5	23.63	0.19	Left Cheek	0	1	0	1:1	0.092	1.222	<b>0.112</b>	8
707.5	23095	QPSK	10	23.5	22.13	0.18	Left Cheek	1	25	0	1:1	0.067	1.371	0.092	-
707.5	23095	QPSK	10	24.5	23.63	-0.16	Left Tilt	0	1	0	1:1	0.048	1.222	0.059	-
707.5	23095	QPSK	10	23.5	22.13	-0.10	Left Tilt	1	25	0	1:1	0.035	1.371	0.048	-
707.5	23095	QPSK	10	24.5	23.63	0.13	Right Cheek	0	1	0	1:1	0.086	1.222	0.105	-
707.5	23095	QPSK	10	23.5	22.13	0.10	Right Cheek	1	25	0	1:1	0.062	1.371	0.085	-
707.5	23095	QPSK	10	24.5	23.63	0.00	Right Tilt	0	1	0	1:1	0.053	1.222	0.065	-
707.5	23095	QPSK	10	23.5	22.13	-0.05	Right Tilt	1	25	0	1:1	0.039	1.371	0.053	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Head 1.6 W/kg Averaged over 1 gram							

**LTE Band 13 Head SAR**

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.														
782	23230	QPSK	10	25.0	23.35	0.09	Left Cheek	0	1	0	1:1	0.119	1.462	<b>0.174</b>	9
782	23230	QPSK	10	24.0	22.26	0.18	Left Cheek	1	25	12	1:1	0.088	1.493	0.131	-
782	23230	QPSK	10	25.0	23.35	-0.18	Left Tilt	0	1	0	1:1	0.048	1.462	0.070	-
782	23230	QPSK	10	24.0	22.26	-0.07	Left Tilt	1	25	12	1:1	0.036	1.493	0.054	-
782	23230	QPSK	10	25.0	23.35	0.12	Right Cheek	0	1	0	1:1	0.076	1.462	0.111	-
782	23230	QPSK	10	24.0	22.26	0.14	Right Cheek	1	25	12	1:1	0.055	1.493	0.082	-
782	23230	QPSK	10	25.0	23.35	0.01	Right Tilt	0	1	0	1:1	0.036	1.462	0.053	-
782	23230	QPSK	10	24.0	22.26	-0.04	Right Tilt	1	25	12	1:1	0.026	1.493	0.039	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Head 1.6 W/kg Averaged over 1 gram							

**LTE Band 25 Head SAR**

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.														
1 905	26590	QPSK	20	23.0	22.34	0.15	Left Cheek	0	1	0	1:1	0.065	1.164	0.076	-
1 905	26590	QPSK	20	22.0	21.28	0.15	Left Cheek	1	50	0	1:1	0.049	1.180	0.058	-
1 905	26590	QPSK	20	23.0	22.34	0.04	Left Tilt	0	1	0	1:1	0.060	1.164	0.070	-
1 905	26590	QPSK	20	22.0	21.28	0.13	Left Tilt	1	50	0	1:1	0.046	1.180	0.054	-
1 905	26590	QPSK	20	23.0	22.34	0.10	Right Cheek	0	1	0	1:1	0.076	1.164	<b>0.088</b>	10
1 905	26590	QPSK	20	22.0	21.28	0.19	Right Cheek	1	50	0	1:1	0.065	1.180	0.077	-
1 905	26590	QPSK	20	23.0	22.34	-0.12	Right Tilt	0	1	0	1:1	0.046	1.164	0.054	-
1 905	26590	QPSK	20	22.0	21.28	-0.02	Right Tilt	1	50	0	1:1	0.031	1.180	0.037	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

**LTE Band 26 Head SAR**

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.														
831.5	26865	QPSK	15	25.0	23.99	-0.19	Left Cheek	0	1	0	1:1	0.151	1.262	<b>0.191</b>	11
831.5	26865	QPSK	15	24.0	22.47	-0.08	Left Cheek	1	36	0	1:1	0.114	1.422	0.162	-
831.5	26865	QPSK	15	25.0	23.99	-0.15	Left Tilt	0	1	0	1:1	0.051	1.262	0.064	-
831.5	26865	QPSK	15	24.0	22.47	-0.11	Left Tilt	1	36	0	1:1	0.043	1.422	0.061	-
831.5	26865	QPSK	15	25.0	23.99	0.12	Right Cheek	0	1	0	1:1	0.099	1.262	0.125	-
831.5	26865	QPSK	15	24.0	22.47	1.11	Right Cheek	1	36	0	1:1	0.076	1.422	0.108	-
831.5	26865	QPSK	15	25.0	23.99	-0.11	Right Tilt	0	1	0	1:1	0.069	1.262	0.087	-
831.5	26865	QPSK	15	24.0	22.47	0.09	Right Tilt	1	36	0	1:1	0.052	1.422	0.074	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

**LTE TDD Band 41 Head SAR (Power Class 3)**

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.														
2 549.5	40185	QPSK	20	24.4	24.31	0.05	Left Cheek	0	1	0	1:1.58	0.035	1.021	0.036	-
2 549.5	40185	QPSK	20	23.4	23.29	-0.12	Left Cheek	1	50	0	1:1.58	0.028	1.026	0.029	-
2 549.5	40185	QPSK	20	24.4	24.31	-0.10	Left Tilt	0	1	0	1:1.58	0.059	1.021	<b>0.060</b>	12
2 549.5	40185	QPSK	20	23.4	23.29	-0.19	Left Tilt	1	50	0	1:1.58	0.047	1.026	0.048	-
2 549.5	40185	QPSK	20	24.4	24.31	-0.03	Right Cheek	0	1	0	1:1.58	0.034	1.021	0.035	-
2 549.5	40185	QPSK	20	23.4	23.29	0.14	Right Cheek	1	50	0	1:1.58	0.027	1.026	0.028	-
2 549.5	40185	QPSK	20	24.4	24.31	0.10	Right Tilt	0	1	0	1:1.58	0.036	1.021	0.037	-
2 549.5	40185	QPSK	20	23.4	23.29	0.15	Right Tilt	1	50	0	1:1.58	0.027	1.026	0.028	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

**LTE TDD Band 41 Head SAR (Power Class 2)**

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.														
2 680	41490	QPSK	20	25.7	25.65	0.17	Left Cheek	0	1	0	1:2.31	0.032	1.012	0.032	-
2 680	41490	QPSK	20	24.7	24.54	0.10	Left Cheek	1	50	0	1:2.31	0.023	1.038	0.024	-
2 680	41490	QPSK	20	25.7	25.65	-0.10	Left Tilt	0	1	0	1:2.31	0.059	1.012	<b>0.060</b>	12
2 680	41490	QPSK	20	24.7	24.54	0.19	Left Tilt	1	50	0	1:2.31	0.045	1.038	0.047	-
2 680	41490	QPSK	20	25.7	25.65	-0.05	Right Cheek	0	1	0	1:2.31	0.041	1.012	0.041	-
2 680	41490	QPSK	20	24.7	24.54	0.10	Right Cheek	1	50	0	1:2.31	0.030	1.038	0.031	-
2 680	41490	QPSK	20	25.7	25.65	0.16	Right Tilt	0	1	0	1:2.31	0.032	1.012	0.032	-
2 680	41490	QPSK	20	24.7	24.54	0.13	Right Tilt	1	50	0	1:2.31	0.024	1.038	0.025	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

**LTE Band 66 Head SAR**

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.														
1 745	132322	QPSK	20	23.7	22.65	0.16	Left Cheek	0	1	0	1:1	0.071	1.274	<b>0.090</b>	13
1 745	132322	QPSK	20	22.7	21.61	0.11	Left Cheek	1	50	0	1:1	0.053	1.285	0.068	-
1 745	132322	QPSK	20	23.7	22.65	0.13	Left Tilt	0	1	0	1:1	0.069	1.274	0.088	-
1 745	132322	QPSK	20	22.7	21.61	0.09	Left Tilt	1	50	0	1:1	0.053	1.285	0.068	-
1 745	132322	QPSK	20	23.7	22.65	0.14	Right Cheek	0	1	0	1:1	0.068	1.274	0.087	-
1 745	132322	QPSK	20	22.7	21.61	0.11	Right Cheek	1	50	0	1:1	0.056	1.285	0.072	-
1 745	132322	QPSK	20	23.7	22.65	-0.14	Right Tilt	0	1	0	1:1	0.043	1.274	0.055	-
1 745	132322	QPSK	20	22.7	21.61	-0.10	Right Tilt	1	50	0	1:1	0.016	1.285	0.021	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

**DTS Head SAR - RCV-ON**

Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant. Config.	Duty Cycle	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.															
2 437	6	802.11b	20	1	17.00	15.11	-0.07	Left Cheek	Ant1	99.1	0.449	0.249	1.545	1.009	0.388	-
2 437	6	802.11b	20	1	17.00	15.11	0.12	Left Tilt	Ant1	99.1	0.651	0.357	1.545	1.009	0.557	-
2 437	6	802.11b	20	1	17.00	15.11	0.11	Right Cheek	Ant1	99.1	0.794	0.407	1.545	1.009	0.634	-
2 437	6	802.11b	20	1	17.00	15.11	0.01	Right Tilt	Ant1	99.1	0.704	0.410	1.545	1.009	<b>0.639</b>	14
2 462	11	802.11b	20	1	17.00	15.82	-0.11	Left Cheek	Ant2	99.1	0.0232	0.00383	1.312	1.009	0.005	-
2 462	11	802.11b	20	1	17.00	15.82	0.00	Left Tilt	Ant2	99.1	0.0318	0.00494	1.312	1.009	0.007	-
2 462	11	802.11b	20	1	17.00	15.82	-0.10	Right Cheek	Ant2	99.1	0.0306	0.00994	1.312	1.009	0.013	-
2 462	11	802.11b	20	1	17.00	15.82	0.12	Right Tilt	Ant2	99.1	0.0515	0.011	1.312	1.009	0.015	-
2 437	6	802.11g	20	6	20.0	18.87	-0.16	Left Cheek	MIMO	92.9	0.327	0.167	1.545	1.076	0.274	-
2 437	6	802.11g	20	6	20.0	18.87	0.16	Left Tilt	MIMO	92.9	0.431	0.244	1.545	1.076	0.400	-
2 437	6	802.11g	20	6	20.0	18.87	-0.12	Right Cheek	MIMO	92.9	0.648	0.285	1.545	1.076	0.467	-
2 437	6	802.11g	20	6	20.0	18.87	0.12	Right Tilt	MIMO	92.9	0.622	0.341	1.545	1.076	0.559	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population										Head 1.6 W/kg Averaged over 1 gram						

**DTS Head SAR - RSDB with RCV On**

Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant. Config.	Duty Cycle	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.															
2 412	1	802.11b	20	1	14.0	12.20	-0.16	Left Cheek	Ant1	99.1	0.337	0.168	1.514	1.009	0.257	-
2 412	1	802.11b	20	1	14.0	12.20	0.14	Left Tilt	Ant1	99.1	0.414	0.212	1.514	1.009	0.324	-
2 412	1	802.11b	20	1	14.0	12.20	-0.01	Right Cheek	Ant1	99.1	0.365	0.181	1.514	1.009	0.276	-
2 412	1	802.11b	20	1	14.0	12.20	-0.05	Right Tilt	Ant1	99.1	0.514	0.259	1.514	1.009	0.396	-
2 462	11	802.11b	20	1	14.0	13.09	0.00	Left Cheek	Ant2	99.1	0.000	0.000	1.233	1.009	0.000	-
2 462	11	802.11b	20	1	14.0	13.09	0.00	Left Tilt	Ant2	99.1	0.0354	0.000	1.233	1.009	0.000	-
2 462	11	802.11b	20	1	14.0	13.09	0.00	Right Cheek	Ant2	99.1	0.000	0.000	1.233	1.009	0.000	-
2 462	11	802.11b	20	1	14.0	13.09	-0.10	Right Tilt	Ant2	99.1	0.0207	0.000	1.233	1.009	0.000	-
2 412	1	802.11g	20	6	17.0	15.71	0.11	Left Cheek	MIMO	92.9	0.371	0.195	1.380	1.076	0.290	-
2 412	1	802.11g	20	6	17.0	15.71	0.18	Left Tilt	MIMO	92.9	0.465	0.248	1.380	1.076	0.368	-
2 412	1	802.11g	20	6	17.0	15.71	0.06	Right Cheek	MIMO	92.9	0.453	0.186	1.380	1.076	0.344	-
2 412	1	802.11g	20	6	17.0	15.71	-0.01	Right Tilt	MIMO	92.9	0.567	0.294	1.380	1.076	0.437	15
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population										Head 1.6 W/kg Averaged over 1 gram						

**NII Head SAR - RCV-ON**

Frequency		Mode	Band width	Data Rate	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Ant Config.	Duty Cycle	Area Scan Peak SAR	Meas. SAR	Scaling Factor	Scaling Factor (Duty)	Scaled SAR	Plot No.
Mhz	Ch.															
5 270	54	802.11n	40	MCS0	15.0	14.80	0.00	Left Cheek	Ant1	92.9	0.0814	0.019	1.047	1.076	0.021	-
5 270	54	802.11n	40	MCS0	15.0	14.80	0.07	Left Tilt	Ant1	92.9	0.151	0.025	1.047	1.076	0.028	-
5 270	54	802.11n	40	MCS0	15.0	14.80	0.05	Right Cheek	Ant1	92.9	0.889	0.212	1.047	1.076	0.239	-
5 270	54	802.11n	40	MCS0	15.0	14.80	-0.10	Right Tilt	Ant1	92.9	0.542	0.208	1.047	1.076	0.235	-
5 270	54	802.11n	40	MCS0	15.0	13.60	0.00	Left Cheek	Ant2	92.9	0.000	0.000	1.380	1.076	0.000	-
5 270	54	802.11n	40	MCS0	15.0	13.60	0.00	Left Tilt	Ant2	92.9	0.134	0.034	1.380	1.076	0.051	-
5 270	54	802.11n	40	MCS0	15.0	13.60	0.00	Right Cheek	Ant2	92.9	0.000	0.000	1.380	1.076	0.000	-
5 270	54	802.11n	40	MCS0	15.0	13.60	0.00	Right Tilt	Ant2	92.9	0.113	0.017	1.380	1.076	0.025	-
5 270	54	802.11n	40	MCS0	18.0	17.25	-0.08	Left Cheek	MIMO	92.9	0.123	0.051	1.380	1.076	0.076	-
5 270	54	802.11n	40	MCS0	18.0	17.25	0.05	Left Tilt	MIMO	92.9	0.260	0.053	1.380	1.076	0.079	-
5 270	54	802.11n	40	MCS0	18.0	17.25	-0.09	Right Cheek	MIMO	92.9	0.928	0.205	1.380	1.076	<b>0.305</b>	-
5 270	54	802.11n	40	MCS0	18.0	17.25	0.05	Right Tilt	MIMO	92.9	0.475	0.158	1.380	1.076	0.235	-
5 690	138	802.11ac	80	MCS0	15.0	14.88	-0.13	Left Cheek	Ant1	92.1	0.228	0.067	1.028	1.086	0.075	-
5 690	138	802.11ac	80	MCS0	15.0	14.88	0.00	Left Tilt	Ant1	92.1	0.286	0.077	1.028	1.086	0.086	-
5 690	138	802.11ac	80	MCS0	15.0	14.88	0.17	Right Cheek	Ant1	92.1	1.150	0.388	1.028	1.086	0.433	-
5 690	138	802.11ac	80	MCS0	15.0	14.88	-0.02	Right Tilt	Ant1	92.1	0.745	0.293	1.028	1.086	0.327	-
5 690	138	802.11ac	80	MCS0	15.0	14.33	0.00	Left Cheek	Ant2	92.1	0.000	0.000	1.167	1.086	0.000	-
5 690	138	802.11ac	80	MCS0	15.0	14.33	0.00	Left Tilt	Ant2	92.1	0.117	0.018	1.167	1.086	0.023	-
5 690	138	802.11ac	80	MCS0	15.0	14.33	-0.09	Right Cheek	Ant2	92.1	0.0375	0.018	1.167	1.086	0.023	-
5 690	138	802.11ac	80	MCS0	15.0	14.33	0.00	Right Tilt	Ant2	92.1	0.069	0.016	1.167	1.086	0.020	-
5 690	138	802.11ac	80	MCS0	18.0	17.62	-0.04	Left Cheek	MIMO	92.1	0.221	0.053	1.167	1.086	0.067	-
5 690	138	802.11ac	80	MCS0	18.0	17.62	0.12	Left Tilt	MIMO	92.1	0.281	0.060	1.167	1.086	0.076	-
5 690	138	802.11ac	80	MCS0	18.0	17.62	-0.13	Right Cheek	MIMO	92.1	1.620	0.471	1.167	1.086	<b>0.597</b>	-
5 690	138	802.11ac	80	MCS0	18.0	17.62	0.19	Right Tilt	MIMO	92.1	0.776	0.311	1.167	1.086	0.394	-
5 775	155	802.11ac	80	MCS0	15.0	14.84	0.04	Left Cheek	Ant1	92.1	0.456	0.093	1.038	1.086	0.105	-
5 775	155	802.11ac	80	MCS0	15.0	14.84	0.16	Left Tilt	Ant1	92.1	0.306	0.108	1.038	1.086	0.122	-
5 775	155	802.11ac	80	MCS0	15.0	14.84	-0.14	Right Cheek	Ant1	92.1	1.450	0.631	1.038	1.086	0.711	16
5 775	155	802.11ac	80	MCS0	15.0	14.84	0.11	Right Tilt	Ant1	92.1	1.270	0.511	1.038	1.086	0.576	-
5 775	155	802.11ac	80	MCS0	15.0	14.08	0.00	Left Cheek	Ant2	92.1	0.000	0.000	1.236	1.086	0.000	-
5 775	155	802.11ac	80	MCS0	15.0	14.08	0.00	Left Tilt	Ant2	92.1	0.0363	0.00924	1.236	1.086	0.012	-
5 775	155	802.11ac	80	MCS0	15.0	14.08	0.00	Right Cheek	Ant2	92.1	0.0314	0.012	1.236	1.086	0.016	-
5 775	155	802.11ac	80	MCS0	15.0	14.08	0.00	Right Tilt	Ant2	92.1	0.0323	0.00868	1.236	1.086	0.012	-
5 775	155	802.11ac	80	MCS0	18.0	17.49	-0.06	Left Cheek	MIMO	92.1	0.516	0.080	1.236	1.086	0.107	-
5 775	155	802.11ac	80	MCS0	18.0	17.49	-0.09	Left Tilt	MIMO	92.1	0.362	0.092	1.236	1.086	0.123	-
5 775	155	802.11ac	80	MCS0	18.0	17.49	-0.13	Right Cheek	MIMO	92.1	1.590	0.563	1.236	1.086	<b>0.756</b>	17
5 775	155	802.11ac	80	MCS0	18.0	17.49	-0.01	Right Tilt	MIMO	92.1	1.250	0.476	1.236	1.086	0.639	-
ANSI/ IEEE C95.1 - 2005- Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Head 1.6 W/kg Averaged over 1 gram								

**NII Head SAR - RSDB with RCV On**

Frequency		Mode	Band width	Data Rate	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Ant Config.	Duty Cycle	Area Scan Peak SAR	Meas. SAR	Scaling Factor	Scaling Factor (Duty)	Scaled SAR	Plot No.
Mhz	Ch.															
5 270	54	802.11n	40	MCS0	14.0	13.76	0.00	Left Cheek	Ant1	92.9	0.000	0.000	1.057	1.076	0.000	-
5 270	54	802.11n	40	MCS0	14.0	13.76	0.00	Left Tilt	Ant1	92.9	0.042	0.000	1.057	1.076	0.000	-
5 270	54	802.11n	40	MCS0	14.0	13.76	-0.13	Right Cheek	Ant1	92.9	0.499	0.168	1.057	1.076	0.191	-
5 270	54	802.11n	40	MCS0	14.0	13.76	-0.12	Right Tilt	Ant1	92.9	0.375	0.142	1.057	1.076	0.162	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.00	Left Cheek	Ant2	92.9	0.0403	0.020	1.429	1.076	0.031	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.00	Left Tilt	Ant2	92.9	0.147	0.024	1.429	1.076	0.037	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.00	Right Cheek	Ant2	92.9	0.000	0.000	1.429	1.076	0.000	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.00	Right Tilt	Ant2	92.9	0.0648	0.021	1.429	1.076	0.032	-
5 270	54	802.11n	40	MCS0	17.0	16.16	0.00	Left Cheek	MIMO	92.9	0.000	0.000	1.429	1.076	0.000	-
5 270	54	802.11n	40	MCS0	17.0	16.16	-0.15	Left Tilt	MIMO	92.9	0.263	0.037	1.429	1.076	0.057	-
5 270	54	802.11n	40	MCS0	17.0	16.16	0.13	Right Cheek	MIMO	92.9	0.491	0.119	1.429	1.076	0.183	-
5 270	54	802.11n	40	MCS0	17.0	16.16	-0.17	Right Tilt	MIMO	92.9	0.427	0.132	1.429	1.076	0.203	-
5 690	138	802.11ac	80	MCS0	14.0	13.74	0.00	Left Cheek	Ant1	92.1	0.166	0.042	1.062	1.086	0.048	-
5 690	138	802.11ac	80	MCS0	14.0	13.74	0.00	Left Tilt	Ant1	92.1	0.127	0.045	1.062	1.086	0.052	-
5 690	138	802.11ac	80	MCS0	14.0	13.74	0.14	Right Cheek	Ant1	92.1	1.220	0.399	1.062	1.086	0.459	-
5 690	138	802.11ac	80	MCS0	14.0	13.74	-0.16	Right Tilt	Ant1	92.1	0.740	0.303	1.062	1.086	0.348	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.00	Left Cheek	Ant2	92.1	0.000	0.000	1.259	1.086	0.000	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.00	Left Tilt	Ant2	92.1	0.000	0.000	1.259	1.086	0.000	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.00	Right Cheek	Ant2	92.1	0.000	0.000	1.259	1.086	0.000	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.00	Right Tilt	Ant2	92.1	0.000	0.000	1.259	1.086	0.000	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	0.00	Left Cheek	MIMO	92.1	0.150	0.044	1.259	1.086	0.060	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	-0.04	Left Tilt	MIMO	92.1	0.366	0.047	1.259	1.086	0.064	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	-0.16	Right Cheek	MIMO	92.1	0.869	0.303	1.259	1.086	0.414	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	-0.06	Right Tilt	MIMO	92.1	0.664	0.246	1.259	1.086	0.336	-
5 775	155	802.11ac	80	MCS0	14.0	13.75	0.00	Left Cheek	Ant1	92.1	0.189	0.069	1.059	1.086	0.079	-
5 775	155	802.11ac	80	MCS0	14.0	13.75	0.00	Left Tilt	Ant1	92.1	0.559	0.070	1.059	1.086	0.081	-
5 775	155	802.11ac	80	MCS0	14.0	13.75	0.14	Right Cheek	Ant1	92.1	1.200	<b>0.453</b>	1.059	1.086	<b>0.521</b>	18
5 775	155	802.11ac	80	MCS0	14.0	13.75	0.16	Right Tilt	Ant1	92.1	0.777	0.405	1.059	1.086	0.466	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	0.00	Left Cheek	Ant2	92.1	0.000	0.000	1.180	1.086	0.000	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	0.00	Left Tilt	Ant2	92.1	0.000	0.000	1.180	1.086	0.000	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	0.00	Right Cheek	Ant2	92.1	0.000	0.000	1.180	1.086	0.000	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	0.00	Right Tilt	Ant2	92.1	0.000	0.000	1.180	1.086	0.000	-
5 775	155	802.11ac	80	MCS0	17.0	16.53	-0.17	Left Cheek	MIMO	92.1	0.0963	0.046	1.180	1.086	0.059	-
5 775	155	802.11ac	80	MCS0	17.0	16.53	-0.17	Left Tilt	MIMO	92.1	0.374	0.057	1.180	1.086	0.073	-
5 775	155	802.11ac	80	MCS0	17.0	16.53	-0.15	Right Cheek	MIMO	92.1	1.490	0.389	1.180	1.086	<b>0.498</b>	19
5 775	155	802.11ac	80	MCS0	17.0	16.53	0.16	Right Tilt	MIMO	92.1	1.000	0.298	1.180	1.086	0.382	-
ANSI/ IEEE C95.1 - 2005- Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Head 1.6 W/kg Averaged over 1 gram								

DSS Head SAR											
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
Mhz	Ch.		(dBm)	(dBm)	(dB)		(W/kg)		(Duty)	(W/kg)	
2 480	78	Bluetooth DH5	17.5	17.44	-0.15	Left Cheek	0.480	1.014	1.299	0.632	-
2 402	0	Bluetooth DH5	17.5	15.55	-0.14	Left Tilt	0.296	1.567	1.299	0.603	-
2 441	39	Bluetooth DH5	17.5	15.91	0.16	Left Tilt	0.329	1.442	1.299	0.616	-
2 480	78	Bluetooth DH5	17.5	17.44	0.09	Left Tilt	0.651	1.014	1.299	0.857	-
2 402	0	Bluetooth DH5	17.5	15.55	0.09	Right Cheek	0.314	1.567	1.299	0.639	-
2 441	39	Bluetooth DH5	17.5	15.91	-0.16	Right Cheek	0.415	1.442	1.299	0.777	-
2 480	78	Bluetooth DH5	17.5	17.44	-0.07	Right Cheek	0.718	1.014	1.299	0.946	-
2 402	0	Bluetooth DH5	17.5	15.55	-0.13	Right Tilt	0.404	1.567	1.299	0.822	-
2 441	39	Bluetooth DH5	17.5	15.91	0.03	Right Tilt	0.554	1.442	1.299	1.038	-
2 480	78	Bluetooth DH5	17.5	17.44	0.03	Right Tilt	0.936	1.014	1.299	<b>1.233</b>	20
2 480	78	Bluetooth DH5	17.5	17.44	-0.04	Right Tilt	0.864	1.014	1.299	1.138	*
2 480	78	Bluetooth DH5	17.5	17.44	-0.14	Right Tilt	0.865	1.014	1.299	1.139	**
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Head 1.6 W/kg (mW/g) Averaged over 1 gram					

Note: \* Data entry indicate Variability measurement.

\*\* Data entry indicate Device holder perturbation measurement.

### 13.2 Body-worn SAR Measurement Results

GSM/ UMTS Band Body-Worn SAR													
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.	
MHz	Ch.		(dB)	(dB)	(dB)			(mm)	(W/kg)		(W/kg)		
836.6	190	GSM 850 Voice	34.0	33.15	-0.10	Rear	1:8.3	15	0.365	1.216	0.444	-	
836.6	190	GSM 850 Voice	34.0	33.15	0.05	Front	1:8.3	15	0.228	1.216	0.277	-	
836.6	190	GSM 850 GRPS 3Tx	30.5	29.53	0.06	Rear	1:2.77	15	0.423	1.250	<b>0.529</b>	21	
836.6	190	GSM 850 GRPS 3Tx	30.5	29.53	-0.16	Front	1:2.77	15	0.272	1.250	0.340	-	
1 909.8	810	GSM 1900 Voice	31.0	29.99	0.16	Rear	1:8.3	15	0.343	1.262	0.433	-	
1 909.8	810	GSM 1900 Voice	31.0	29.99	0.16	Front	1:8.3	15	0.320	1.262	0.404	-	
1 909.8	810	GSM 1900 GRPS 2Tx	28.5	27.65	0.18	Rear	1:4.15	15	0.534	1.216	<b>0.649</b>	22	
1 909.8	810	GSM 1900 GRPS 2Tx	28.5	27.65	0.10	Front	1:4.15	15	0.444	1.216	0.540	-	
836.6	4183	UMTS 850	RMC	25.0	24.22	0.03	Rear	1:1	15	0.362	1.197	<b>0.433</b>	23
836.6	4183	UMTS 850	RMC	25.0	24.22	0.01	Front	1:1	15	0.270	1.197	0.323	-
1 732.4	1412	UMTS 1700	RMC	23.5	22.82	0.12	Rear	1:1	15	0.595	1.169	<b>0.696</b>	24
1 732.4	1412	UMTS 1700	RMC	23.5	22.82	0.12	Front	1:1	15	0.491	1.169	0.574	-
1 880.0	9400	UMTS 1900	RMC	23.5	21.99	0.16	Rear	1:1	15	0.492	1.416	<b>0.697</b>	25
1 880.0	9400	UMTS 1900	RMC	23.5	21.99	-0.16	Front	1:1	15	0.379	1.416	0.537	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram						

LTE Band Body-Worn SAR																
Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)	(mm)	(W/kg)	(W/kg)					
1900	19100	LTE 2 QPSK	20	23.0	22.28	0.18	Rear	0	1	0	1:1	15	0.573	1.180	<b>0.676</b>	26
1900	19100		20	22.0	21.24	0.16	Rear	1	50	25	1:1	15	0.446	1.191	0.531	-
1900	19100		20	23.0	22.28	0.15	Front	0	1	0	1:1	15	0.453	1.180	0.535	-
1900	19100		20	22.0	21.24	0.17	Rear	1	50	25	1:1	15	0.354	1.191	0.422	-
836.5	20525	LTE 5 QPSK	10	25.0	24.21	0.05	Rear	0	1	49	1:1	15	0.424	1.199	<b>0.508</b>	27
836.5	20525		10	24.0	22.24	0.05	Rear	1	25	0	1:1	15	0.256	1.500	0.384	-
836.5	20525		10	25.0	24.21	0.09	Front	0	1	49	1:1	15	0.323	1.199	0.387	-
836.5	20525		10	24.0	22.24	0.01	Front	1	25	0	1:1	15	0.195	1.500	0.293	-
707.5	23095	LTE 12 QPSK	10	24.5	23.63	-0.10	Rear	0	1	0	1:1	15	0.128	1.222	<b>0.156</b>	28
707.5	23095		10	23.5	22.13	-0.07	Rear	1	25	0	1:1	15	0.095	1.371	0.130	-
707.5	23095		10	24.5	23.63	0.00	Front	0	1	0	1:1	15	0.064	1.222	0.078	-
707.5	23095		10	23.5	22.13	-0.02	Front	1	25	0	1:1	15	0.045	1.371	0.062	-
782	23230	LTE 13 QPSK	10	25.0	23.35	0.01	Rear	0	1	0	1:1	15	0.218	1.462	<b>0.319</b>	29
782	23230		10	24.0	22.26	-0.05	Rear	1	25	12	1:1	15	0.163	1.493	0.243	-
782	23230		10	25.0	23.35	0.12	Front	0	1	0	1:1	15	0.165	1.462	0.241	-
782	23230		10	24.0	22.26	0.01	Front	1	25	12	1:1	15	0.124	1.493	0.185	-
1 905	26590	LTE 25 QPSK	20	23.0	22.34	0.14	Rear	0	1	0	1:1	15	0.252	1.164	0.293	-
1 905	26590		20	22.0	21.28	0.17	Rear	1	50	0	1:1	15	0.252	1.180	<b>0.297</b>	30
1 905	26590		20	23.0	22.34	0.13	Front	0	1	0	1:1	15	0.211	1.164	0.246	-
1 905	26590		20	22.0	21.28	-0.19	Front	1	50	0	1:1	15	0.226	1.180	0.267	-
831.5	26865	LTE 26 QPSK	15	25.0	23.99	-0.05	Rear	0	1	0	1:1	15	0.310	1.262	<b>0.391</b>	31
831.5	26865		15	24.0	22.47	-0.04	Rear	1	36	0	1:1	15	0.239	1.422	0.340	-
831.5	26865		15	25.0	23.99	0.04	Front	0	1	0	1:1	15	0.259	1.262	0.327	-
831.5	26865		15	24.0	22.47	0.09	Front	1	36	0	1:1	15	0.195	1.422	0.277	-
2 549.5	40185	LTE 41(PC3) QPSK	20	24.4	24.31	0.14	Rear	0	1	0	1:1.58	15	0.336	1.021	<b>0.343</b>	32
2 549.5	40185		20	23.4	23.29	0.18	Rear	1	50	0	1:1.58	15	0.264	1.026	0.271	-
2 549.5	40185		20	24.4	24.31	0.00	Front	0	1	0	1:1.58	15	0.274	1.021	0.280	-
2 549.5	40185		20	23.4	23.29	-0.15	Front	1	50	0	1:1.58	15	0.196	1.026	0.201	-
2 680	41490	LTE 41(PC2) QPSK	20	25.7	25.65	-0.13	Rear	0	1	0	1:2.31	15	0.220	1.012	0.223	-
2 680	41490		20	24.7	24.54	0.16	Rear	1	50	0	1:2.31	15	0.181	1.038	0.188	-
2 680	41490		20	25.7	25.65	0.12	Front	0	1	0	1:2.31	15	0.166	1.012	0.168	-
2 680	41490		20	24.7	24.54	0.14	Front	1	50	0	1:2.31	15	0.133	1.038	0.138	-
1 745	132322	LTE 66 QPSK	20	23.7	22.65	0.14	Rear	0	1	0	1:1	15	0.572	1.274	0.728	33
1 745	132322		20	23.7	22.61	0.12	Rear	1	50	0	1:1	15	0.543	1.285	0.698	-
1 745	132322		20	23.7	22.65	0.17	Front	0	1	0	1:1	15	0.535	1.274	0.681	-
1 745	132322		20	22.7	21.61	0.10	Front	1	50	0	1:1	15	0.384	1.285	0.494	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram									

**DTS Body-Worn SAR**

Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant. Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.																
2 412	1	802.11b	20	1	20.0	18.24	0.14	Rear	Ant1	99.1	15	0.144	0.093	1.500	1.009	0.141	-
2 412	1	802.11b	20	1	20.0	18.24	-0.07	Front	Ant1	99.1	15	0.0589	0.037	1.500	1.009	0.056	-
2 462	11	802.11b	20	1	20.0	18.92	-0.02	Rear	Ant2	99.1	15	0.249	0.162	1.282	1.009	<b>0.210</b>	34
2 462	11	802.11b	20	1	20.0	18.92	0.00	Front	Ant2	99.1	15	0.000	0.000	1.282	1.009	0.000	-
2 437	6	802.11g	20	6	20.0	18.87	0.10	Rear	MIMO	92.9	15	0.161	0.097	1.524	1.076	0.169	-
2 437	6	802.11g	20	6	20.0	18.87	0.00	Front	MIMO	92.9	15	0.111	0.031	1.524	1.076	0.051	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

**DTS Body-Worn SAR- RSDB**

Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant. Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.																
2 437	6	802.11b	20	1	17.0	15.11	0.00	Rear	Ant1	99.1	15	0.0992	0.058	1.545	1.009	0.090	-
2 437	6	802.11b	20	1	17.0	15.11	0.00	Front	Ant1	99.1	15	0.0665	0.033	1.545	1.009	0.051	-
2 462	11	802.11b	20	1	17.0	15.82	0.00	Rear	Ant2	99.1	15	0.083	0.047	1.312	1.009	0.062	-
2 462	11	802.11b	20	1	17.0	15.82	0.01	Front	Ant2	99.1	15	0.000	0.000	1.312	1.009	0.000	-
2 437	6	802.11g	20	6	20.0	18.87	0.10	Rear	MIMO	92.9	15	0.161	0.097	1.524	1.076	<b>0.169</b>	35
2 437	6	802.11g	20	6	20.0	18.87	0.00	Front	MIMO	92.9	15	0.111	0.031	1.524	1.076	0.051	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

NII Body-Worn SAR																	
Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant. Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.																
5 260	52	802.11a	20	6	18.0	17.46	-0.15	Rear	Ant1	92.9	15	0.180	0.080	1.132	1.076	0.097	-
5 260	52	802.11a	20	6	18.0	17.46	0.00	Front	Ant1	92.9	15	0.134	0.032	1.132	1.076	0.039	-
5 260	52	802.11a	20	6	18.0	16.65	-0.19	Rear	Ant2	92.9	15	0.802	0.369	1.365	1.076	0.542	-
5 260	52	802.11a	20	6	18.0	16.65	0.10	Front	Ant2	92.9	15	0.0697	0.00947	1.365	1.076	0.014	-
5 260	52	802.11a	20	6	21.0	20.08	-0.13	Rear	MIMO	92.9	15	0.872	0.396	1.365	1.076	0.581	-
5 260	52	802.11a	20	6	21.0	20.08	0.00	Front	MIMO	92.9	15	0.0957	0.020	1.365	1.076	0.029	-
5 720	144	802.11a	20	6	18.0	17.94	-0.10	Rear	Ant1	92.9	15	1.100	0.480	1.014	1.076	0.524	-
5 720	144	802.11a	20	6	18.0	17.94	0.00	Front	Ant1	92.9	15	0.266	0.090	1.014	1.076	0.098	-
5 720	144	802.11a	20	6	18.0	17.26	-0.03	Rear	Ant2	92.9	15	0.536	0.244	1.186	1.076	0.311	-
5 720	144	802.11a	20	6	18.0	17.26	0.00	Front	Ant2	92.9	15	0.000	0.000	1.186	1.076	0.000	-
5 720	144	802.11a	20	6	21.0	20.62	-0.10	Rear	MIMO	92.9	15	1.080	0.453	1.186	1.076	0.578	-
5 720	144	802.11a	20	6	21.0	20.62	0.00	Front	MIMO	92.9	15	0.294	0.110	1.186	1.076	0.140	-
5 785	157	802.11a	20	6	18.0	17.76	-0.14	Rear	Ant1	92.9	15	1.04	0.454	1.057	1.076	0.516	-
5 785	157	802.11a	20	6	18.0	17.76	-0.18	Front	Ant1	92.9	15	0.346	0.147	1.057	1.076	0.167	-
5 785	157	802.11a	20	6	18.0	17.36	-0.15	Rear	Ant2	92.9	15	0.671	0.241	1.159	1.076	0.300	-
5 785	157	802.11a	20	6	18.0	17.36	0.00	Front	Ant2	92.9	15	0.0828	0.000	1.159	1.076	0.000	-
5 785	157	802.11a	20	6	21.0	20.57	-0.19	Rear	MIMO	92.9	15	1.300	0.574	1.159	1.076	<b>0.716</b>	36
5 785	157	802.11a	20	6	21.0	20.57	0.13	Front	MIMO	92.9	15	0.309	0.126	1.159	1.076	0.157	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

**NII Body-Worn SAR – RSDB**

Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant. Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.																
5 270	54	802.11n	40	MCS0	14.0	13.76	0.00	Rear	Ant1	92.9	15	0.0764	0.021	1.057	1.076	0.024	-
5 270	54	802.11n	40	MCS0	14.0	13.76	0.00	Front	Ant1	92.9	15	0.028	0.00727	1.057	1.076	0.008	-
5 690	138	802.11ac	80	MCS0	14.0	13.74	-0.16	Rear	Ant1	92.1	15	0.278	0.119	1.059	1.086	0.137	-
5 690	138	802.11ac	80	MCS0	14.0	13.74	0.00	Front	Ant1	92.1	15	0.176	0.035	1.059	1.086	0.040	-
5 775	155	802.11ac	80	MCS0	14.0	13.75	-0.15	Rear	Ant1	92.1	15	0.378	0.140	1.062	1.086	0.161	-
5 775	155	802.11ac	80	MCS0	14.0	13.75	0.00	Front	Ant1	92.1	15	0.168	0.029	1.062	1.086	0.033	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.18	Rear	Ant2	92.9	15	0.272	0.115	1.429	1.076	0.177	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.00	Front	Ant2	92.9	15	0.000	0.000	1.429	1.076	0.000	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.14	Rear	Ant2	92.1	15	0.224	0.080	1.180	1.086	0.109	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.00	Front	Ant2	92.1	15	0.000	0.000	1.180	1.086	0.000	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	0.00	Rear	Ant2	92.1	15	0.208	0.073	1.259	1.086	0.094	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	0.00	Front	Ant2	92.1	15	0.000	0.000	1.259	1.086	0.000	-
5 270	54	802.11n	40	MCS0	17.0	16.16	-0.14	Rear	MIMO	92.9	15	0.304	0.128	1.429	1.086	0.199	-
5 270	54	802.11n	40	MCS0	17.0	16.16	0.00	Front	MIMO	92.9	15	0.075	0.011	1.429	1.086	0.017	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	-0.15	Rear	MIMO	92.1	15	0.366	0.129	1.259	1.086	0.176	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	0.00	Front	MIMO	92.1	15	0.151	0.027	1.259	1.086	0.037	-
5 775	155	802.11ac	80	MCS0	17.0	16.53	-0.16	Rear	MIMO	92.1	15	0.432	0.180	1.180	1.086	<b>0.231</b>	37
5 775	155	802.11ac	80	MCS0	17.0	16.53	0.00	Front	MIMO	92.1	15	0.17	0.030	1.180	1.086	0.038	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

**DSS Body-Worn SAR**

Frequency		Mode	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.											
2 480	78	Bluetooth DH5	17.5	17.44	-0.14	Rear	15	0.103	1.014	1.299	<b>0.136</b>	38
2 480	78	Bluetooth DH5	17.5	17.44	-0.06	Front	15	0.064	1.014	1.299	0.084	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram				

### 13.3 Hotspot SAR Measurement Results

GSM 850 Hotspot SAR												
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)						(W/kg)	
836.6	190	GRPS 3Tx	30.5	29.53	0.09	Rear	1:2.77	10	0.956	1.250	<b>1.195</b>	39
824.2	128	GRPS 3Tx	30.5	29.32	0.05	Rear	1:2.77	10	0.740	1.312	0.971	-
848.8	251	GRPS 3Tx	30.5	29.60	0.06	Rear	1:2.77	10	0.870	1.230	1.070	-
836.6	190	GRPS 3Tx	30.5	29.53	0.13	Front	1:2.77	10	0.564	1.250	0.712	-
836.6	190	GRPS 3Tx	30.5	29.53	-0.02	Left	1:2.77	10	0.251	1.250	0.314	-
836.6	190	GRPS 3Tx	30.5	29.53	0.12	Right	1:2.77	10	0.136	1.250	0.170	-
836.6	190	GRPS 3Tx	30.5	29.53	-0.01	Bottom	1:2.77	10	0.409	1.250	0.511	-
836.6	190	GRPS 3Tx	30.5	29.53	-0.01	Rear	1:2.77	10	0.886	1.250	1.108	*
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

Note: \* Data entry indicate Variability measurement.

\*\* Data entry indicate Device holder perturbation measurement.

GSM 1900 Hotspot SAR												
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)						(W/kg)	
1 909.8	810	GRPS 4Tx	22.5	21.19	0.19	Rear	1:2.07	10	0.417	1.352	0.564	-
1 909.8	810	GRPS 4Tx	22.5	21.19	-0.15	Front	1:2.07	10	0.387	1.352	0.523	-
1 909.8	810	GRPS 4Tx	22.5	21.19	0.19	Left	1:2.07	10	0.034	1.352	0.046	-
1 909.8	810	GRPS 4Tx	22.5	21.19	0.19	Right	1:2.07	10	0.053	1.352	0.072	-
1850.2	512	GRPS 4Tx	22.5	20.75	-0.05	Bottom	1:2.07	10	0.604	1.496	0.904	-
1880.0	661	GRPS 4Tx	22.5	20.52	-0.09	Bottom	1:2.07	10	0.617	1.578	<b>0.973</b>	40
1 909.8	810	GRPS 4Tx	22.5	21.19	0.18	Bottom	1:2.07	10	0.610	1.352	0.825	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

UMTS Band 5 Hotspot SAR												
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(dB)	(dB)	(dB)						(W/kg)	
826.4	4132	RMC	25.0	24.45	0.09	Rear	1:1	10	0.808	1.135	0.917	-
836.5	4183	RMC	25.0	24.22	0.06	Rear	1:1	10	<b>0.834</b>	1.197	0.998	41
846.6	4233	RMC	25.0	24.32	0.13	Rear	1:1	10	0.784	1.169	0.916	-
836.6	4183	RMC	25.0	24.22	0.04	Front	1:1	10	0.484	1.197	0.579	-
836.6	4183	RMC	25.0	24.22	-0.02	Left	1:1	10	0.190	1.197	0.227	-
836.6	4183	RMC	25.0	24.22	-0.02	Right	1:1	10	0.101	1.197	0.121	-
836.6	4183	RMC	25.0	24.22	-0.12	Bottom	1:1	10	0.370	1.197	0.443	-
836.5	4183	RMC	25.0	24.22	0.11	Rear	1:1	10	0.810	1.197	<b>0.970</b>	* 42
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

Note: \* Data entry indicate Variability measurement.

**UMTS Band 4 Hotspot SAR**

Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.											
1 732.4	1412	RMC	20	19.16	0.18	Rear	1:1	10	0.420	1.213	0.509	-
1 732.4	1412	RMC	20	19.16	0.08	Front	1:1	10	0.285	1.213	0.346	-
1 732.4	1412	RMC	20	19.16	-0.10	Left	1:1	10	0.054	1.213	0.066	-
1 732.4	1412	RMC	20	19.16	0.04	Right	1:1	10	0.082	1.213	0.099	-
1 712.4	1312	RMC	20	19.12	-0.04	Bottom	1:1	10	0.707	1.225	0.866	-
1 732.4	1412	RMC	20	19.16	-0.01	Bottom	1:1	10	0.787	1.213	0.955	-
1 752.6	1513	RMC	20	19.11	-0.06	Bottom	1:1	10	0.814	1.227	<b>0.999</b>	43
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram					

Note: \* Data entry indicate Variability measurement.

**UMTS Band 2 Hotspot SAR**

Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.											
1 880.0	9400	RMC	20.0	18.80	0.16	Rear	1:1	10	0.358	1.318	0.472	-
1 880.0	9400	RMC	20.0	18.80	0.19	Front	1:1	10	0.253	1.318	0.334	-
1 880.0	9400	RMC	20.0	18.80	0.17	Left	1:1	10	0.037	1.318	0.049	-
1 880.0	9400	RMC	20.0	18.80	0.12	Right	1:1	10	0.053	1.318	0.070	-
1 852.4	9262	RMC	20.0	18.95	-0.05	Bottom	1:1	10	0.730	1.274	0.930	-
1 880.0	9400	RMC	20.0	18.80	-0.05	Bottom	1:1	10	0.698	1.318	0.920	-
1 907.6	9538	RMC	20.0	18.98	-0.09	Bottom	1:1	10	0.791	1.318	<b>1.000</b>	44
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram					

**LTE Band 2 (PCS) Hotspot SAR**

Frequency		Mode	Band width (MHz)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	MPR (dB)	RB Size	RB offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.															
1 900	19100	QPSK	20	19.5	18.61	0.15	Rear	0	1	0	1:1	10	0.621	1.227	0.762	-
1 900	19100	QPSK	20	19.5	18.51	0.17	Rear	0	50	0	1:1	10	0.609	1.256	0.765	-
1 900	19100	QPSK	20	19.5	18.61	-0.11	Front	0	1	0	1:1	10	0.395	1.227	0.485	-
1 900	19100	QPSK	20	19.5	18.51	-0.18	Front	0	50	0	1:1	10	0.387	1.256	0.486	-
1 900	19100	QPSK	20	19.5	18.61	-0.06	Left	0	1	0	1:1	10	0.099	1.227	0.121	-
1 900	19100	QPSK	20	19.5	18.51	0.08	Left	0	50	0	1:1	10	0.096	1.256	0.121	-
1 900	19100	QPSK	20	19.5	18.61	-0.01	Right	0	1	0	1:1	10	0.066	1.227	0.081	-
1 900	19100	QPSK	20	19.5	18.61	0.15	Right	0	50	0	1:1	10	0.069	1.227	0.085	-
1 860	18700	QPSK	20	19.5	18.33	-0.10	Bottom	0	1	99	1:1	10	0.754	1.309	0.987	-
1 880	18900	QPSK	20	19.5	18.29	-0.12	Bottom	0	1	0	1:1	10	0.734	1.321	0.970	-
1 900	19100	QPSK	20	19.5	18.61	-0.18	Bottom	0	1	0	1:1	10	<b>0.841</b>	1.227	1.032	45
1 860	18700	QPSK	20	19.5	18.37	-0.10	Bottom	0	50	0	1:1	10	0.769	1.297	0.997	-
1 880	18900	QPSK	20	19.5	18.18	-0.11	Bottom	0	50	0	1:1	10	0.730	1.355	0.989	-
1 900	19100	QPSK	20	19.5	18.51	-0.14	Bottom	0	50	0	1:1	10	0.834	1.256	<b>1.048</b>	46
1 900	19100	QPSK	20	19.5	18.51	-0.10	Bottom	0	100	0	1:1	10	0.791	1.256	0.993	-
1 900	19100	QPSK	20	19.5	18.61	-0.12	Bottom	0	1	0	1:1	10	0.793	1.227	0.973	*

ANSI/ IEEE C95.1 - 2005 – Safety Limit  
Spatial Peak  
Uncontrolled Exposure/ General Population

Body  
1.6 W/kg  
Averaged over 1 gram

Note: \* Data entry indicate Variability measurement.

**LTE Band 5 Hotspot SAR**

Frequency		Mode	Band width (MHz)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	MPR (dB)	RB Size	RB offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.															
836.5	20525	QPSK	10	25.0	24.21	-0.06	Rear	0	1	49	1:1	10	0.732	1.199	<b>0.878</b>	47
836.5	20525	QPSK	10	24.0	22.24	-0.07	Rear	1	25	0	1:1	10	0.450	1.500	0.675	-
836.5	20525	QPSK	10	24.0	22.20	0.01	Rear	1	50	0	1:1	10	0.515	1.514	0.779	-
836.5	20525	QPSK	10	25.0	24.21	0.17	Front	0	1	49	1:1	10	0.539	1.199	0.646	-
836.5	20525	QPSK	10	24.0	22.24	-0.01	Front	1	25	0	1:1	10	0.404	1.500	0.606	-
836.5	20525	QPSK	10	25.0	24.21	-0.07	Left	0	1	49	1:1	10	0.223	1.199	0.267	-
836.5	20525	QPSK	10	24.0	22.24	-0.06	Left	1	25	0	1:1	10	0.140	1.500	0.210	-
836.5	20525	QPSK	10	25.0	24.21	-0.08	Right	0	1	49	1:1	10	0.156	1.199	0.187	-
836.5	20525	QPSK	10	24.0	22.24	-0.03	Right	1	25	0	1:1	10	0.090	1.500	0.135	-
836.5	20525	QPSK	10	25.0	24.21	-0.04	Bottom	0	1	49	1:1	10	0.424	1.199	0.508	-
836.5	20525	QPSK	10	24.0	22.24	0.01	Bottom	1	25	0	1:1	10	0.260	1.500	0.390	-

ANSI/ IEEE C95.1 - 2005 – Safety Limit  
Spatial Peak  
Uncontrolled Exposure/ General Population

Body  
1.6 W/kg  
Averaged over 1 gram

**LTE Band 12 Hotspot SAR**

Frequency		Mode	Band width (MHz)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	MPR (dB)	RB Size	RB offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.															
707.5	23095	QPSK	10	24.5	23.63	-0.13	Rear	0	1	0	1:1	10	0.225	1.222	<b>0.275</b>	48
707.5	23095	QPSK	10	23.5	22.13	-0.07	Rear	1	25	0	1:1	10	0.167	1.371	0.229	-
707.5	23095	QPSK	10	24.5	23.63	-0.11	Front	0	1	0	1:1	10	0.124	1.222	0.152	-
707.5	23095	QPSK	10	23.5	22.13	-0.11	Front	1	25	0	1:1	10	0.092	1.371	0.126	-
707.5	23095	QPSK	10	24.5	23.63	-0.05	Left	0	1	0	1:1	10	0.122	1.222	0.149	-
707.5	23095	QPSK	10	23.5	22.13	-0.08	Left	1	25	0	1:1	10	0.088	1.371	0.121	-
707.5	23095	QPSK	10	24.5	23.63	-0.04	Right	0	1	0	1:1	10	0.067	1.222	0.082	-
707.5	23095	QPSK	10	23.5	22.13	-0.05	Right	1	25	0	1:1	10	0.047	1.371	0.064	-
707.5	23095	QPSK	10	24.5	23.63	-0.04	Bottom	0	1	0	1:1	10	0.117	1.222	0.143	-
707.5	23095	QPSK	10	23.5	22.13	-0.04	Bottom	1	25	0	1:1	10	0.088	1.371	0.121	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

**LTE Band 13 Hotspot SAR**

Frequency		Mode	Band width (MHz)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	MPR (dB)	RB Size	RB offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.															
782	23230	QPSK	10	25.0	23.35	0.00	Rear	0	1	0	1:1	10	0.320	1.462	<b>0.468</b>	49
782	23230	QPSK	10	24.0	22.26	-0.06	Rear	1	25	12	1:1	10	0.246	1.493	0.367	-
782	23230	QPSK	10	25.0	23.35	0.04	Front	0	1	0	1:1	10	0.235	1.462	0.344	-
782	23230	QPSK	10	24.0	22.26	-0.04	Front	1	25	12	1:1	10	0.171	1.493	0.255	-
782	23230	QPSK	10	25.0	23.35	-0.04	Left	0	1	0	1:1	10	0.134	1.462	0.196	-
782	23230	QPSK	10	24.0	22.26	-0.12	Left	1	25	12	1:1	10	0.103	1.493	0.154	-
782	23230	QPSK	10	25.0	23.35	-0.02	Right	0	1	0	1:1	10	0.067	1.462	0.098	-
782	23230	QPSK	10	24.0	22.26	-0.07	Right	1	25	12	1:1	10	0.048	1.493	0.072	-
782	23230	QPSK	10	25.0	23.35	0.04	Bottom	0	1	0	1:1	10	0.157	1.462	0.230	-
782	23230	QPSK	10	24.0	22.26	-0.06	Bottom	1	25	12	1:1	10	0.121	1.493	0.181	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

**LTE Band 25 Hotspot SAR**

Frequency		Mode	Band width (MHz)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	MPR (dB)	RB Size	RB offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.															
1 905.0	26590	QPSK	20	19.5	18.67	0.15	Rear	0	1	0	1:1	10	0.639	1.211	0.774	-
1 905.0	26590	QPSK	20	19.5	18.59	0.19	Rear	0	50	0	1:1	10	0.635	1.233	0.783	-
1 905.0	26590	QPSK	20	19.5	18.67	0.19	Front	0	1	0	1:1	10	0.362	1.211	0.438	-
1 905.0	26590	QPSK	20	19.5	18.59	0.10	Front	0	50	0	1:1	10	0.414	1.233	0.510	-
1 905.0	26590	QPSK	20	19.5	18.67	0.01	Left	0	1	0	1:1	10	0.055	1.211	0.067	-
1 905.0	26590	QPSK	20	19.5	18.59	-0.19	Left	0	50	0	1:1	10	0.053	1.233	0.065	-
1 905.0	26590	QPSK	20	19.5	18.67	0.04	Right	0	1	0	1:1	10	0.080	1.211	0.097	-
1 905.0	26590	QPSK	20	19.5	18.59	-0.08	Right	0	50	0	1:1	10	0.077	1.233	0.095	-
1 860.0	26140	QPSK	20	19.5	18.47	-0.03	Bottom	0	1	0	1:1	10	0.784	1.268	0.994	-
1882.5	26365	QPSK	20	19.5	18.30	-0.03	Bottom	0	1	0	1:1	10	0.745	1.318	0.982	-
1 905.0	26590	QPSK	20	19.5	18.67	-0.07	Bottom	0	1	0	1:1	10	0.872	1.211	1.056	-
1 860.0	26140	QPSK	20	19.5	18.39	-0.04	Bottom	0	50	0	1:1	10	0.787	1.291	1.016	-
1 882.5	26365	QPSK	20	19.5	18.21	-0.04	Bottom	0	50	0	1:1	10	0.742	1.346	0.999	-
1 905.0	26590	QPSK	20	19.5	18.59	-0.12	Bottom	0	50	0	1:1	10	0.881	1.233	<b>1.086</b>	50
1 905.0	26590	QPSK	20	19.5	18.58	-0.04	Bottom	0	100	0	1:1	10	0.832	1.236	1.028	-
1 905.0	26590	QPSK	20	19.5	18.59	-0.04	Bottom	0	50	0	1:1	10	0.839	1.233	1.034	*
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

Note: \* Data entry indicate Variability measurement.

**LTE Band 26 Hotspot SAR**

Frequency		Mode	Band width (MHz)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	MPR (dB)	RB Size	RB offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.															
831.5	26865	QPSK	15	25.0	23.99	0.03	Rear	0	1	0	1:1	10	0.560	1.262	<b>0.707</b>	51
831.5	26865	QPSK	15	24.0	22.47	0.08	Rear	1	36	0	1:1	10	0.472	1.422	0.671	-
831.5	26865	QPSK	15	25.0	23.99	0.06	Front	0	1	0	1:1	10	0.452	1.262	0.570	-
831.5	26865	QPSK	15	24.0	22.47	0.05	Front	1	36	0	1:1	10	0.339	1.422	0.482	-
831.5	26865	QPSK	15	25.0	23.99	-0.12	Left	0	1	0	1:1	10	0.171	1.262	0.216	-
831.5	26865	QPSK	15	24.0	22.47	-0.09	Left	1	36	0	1:1	10	0.140	1.422	0.199	-
831.5	26865	QPSK	15	25.0	23.99	-0.01	Right	0	1	0	1:1	10	0.077	1.262	0.097	-
831.5	26865	QPSK	15	24.0	22.47	-0.09	Right	1	36	0	1:1	10	0.059	1.422	0.084	-
831.5	26865	QPSK	15	25.0	23.99	-0.15	Bottom	0	1	0	1:1	10	0.290	1.262	0.366	-
831.5	26865	QPSK	15	24.0	22.47	-0.14	Bottom	1	36	0	1:1	10	0.222	1.422	0.316	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

LTE TDD Band 41 Hotspot SAR

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB Size	RB offset	Duty Cycle	Ant. State	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
Mhz	Ch.																
2506	39750	QPSK	20	23.4	22.86	0.04	Rear	0	1	0	1:1.58		10	0.573	1.132	0.649	-
2549.5	40185	QPSK	20	23.4	22.61	0.12	Rear	0	1	0	1:1.58		10	0.469	1.199	0.563	-
2593	40620	QPSK	20	23.4	22.69	0.05	Rear	0	1	0	1:1.58		10	0.490	1.178	0.577	-
2636.5	41055	QPSK	20	23.4	22.99	0.18	Rear	0	1	0	1:1.58		10	0.680	1.099	0.747	-
2680	41490	QPSK	20	23.4	23.14	0.14	Rear	0	1	0	1:1.58		10	0.702	1.062	0.745	-
2506	39750	QPSK	20	23.4	22.85	0.10	Rear	0	50	25	1:1.58		10	0.499	1.135	0.566	-
2506	40185	QPSK	20	23.4	22.60	0.06	Rear	0	50	0	1:1.58		10	0.405	1.202	0.487	-
2593	40620	QPSK	20	23.4	22.70	0.09	Rear	0	50	49	1:1.58		10	0.541	1.175	0.636	-
2636.5	41055	QPSK	20	23.4	23.02	0.19	Rear	0	50	0	1:1.58		10	0.686	1.091	0.749	-
2680	41490	QPSK	20	23.4	23.12	0.04	Rear	0	50	0	1:1.58		10	0.726	1.067	0.774	-
2680	41490	QPSK	20	23.4	23.12	0.17	Rear	0	100	0	1:1.58		10	0.633	1.067	0.675	-
2506	39750	QPSK	20	23.4	22.86	0.15	Front	0	1	0	1:1.58		10	0.340	1.132	0.385	-
2549.5	40185	QPSK	20	23.4	22.61	0.02	Front	0	1	0	1:1.58		10	0.316	1.199	0.379	-
2593	40620	QPSK	20	23.4	22.69	0.12	Front	0	1	0	1:1.58		10	0.346	1.178	0.407	-
2636.5	41055	QPSK	20	23.4	22.99	0.13	Front	0	1	0	1:1.58		10	0.443	1.099	0.487	-
2680	41490	QPSK	20	23.4	23.14	0.08	Front	0	1	0	1:1.58		10	0.613	1.062	0.651	-
2506	39750	QPSK	20	23.4	22.85	0.13	Front	0	50	25	1:1.58		10	0.377	1.135	0.428	-
2506	40185	QPSK	20	23.4	22.60	0.18	Front	0	50	0	1:1.58		10	0.306	1.202	0.368	-
2593	40620	QPSK	20	23.4	22.70	0.13	Front	0	50	49	1:1.58		10	0.360	1.175	0.423	-
2636.5	41055	QPSK	20	23.4	23.02	0.04	Front	0	50	0	1:1.58		10	0.445	1.091	0.487	-
2680	41490	QPSK	20	23.4	23.12	-0.06	Front	0	50	0	1:1.58		10	0.597	1.067	0.637	-
2680	41490	QPSK	20	23.4	23.12	0.10	Front	0	100	0	1:1.58		10	0.463	1.067	0.494	-
2680	41490	QPSK	20	23.4	23.14	-0.01	Left	0	1	0	1:1.58		10	0.117	1.062	0.124	-
2680	41490	QPSK	20	23.4	23.12	-0.11	Left	0	50	0	1:1.58		10	0.114	1.067	0.122	-
2680	41490	QPSK	20	23.4	23.14	-0.12	Right	0	1	0	1:1.58		10	0.260	1.062	0.276	-
2680	41490	QPSK	20	23.4	23.12	-0.13	Right	0	50	0	1:1.58		10	0.258	1.067	0.275	-
2506	39750	QPSK	20	23.4	22.86	-0.14	Bottom	0	1	0	1:1.58		10	0.650	1.132	0.736	-
2549.5	40185	QPSK	20	23.4	22.61	-0.18	Bottom	0	1	0	1:1.58		10	0.673	1.199	0.807	-
2593	40620	QPSK	20	23.4	22.69	-0.15	Bottom	0	1	0	1:1.58		10	0.732	1.178	0.862	-
2636.5	41055	QPSK	20	23.4	22.99	-0.07	Bottom	0	1	0	1:1.58		10	0.826	1.099	0.908	-
2680	41490	QPSK	20	23.4	23.14	-0.15	Bottom	0	1	0	1:1.58		10	0.803	1.062	0.853	-
2506	39750	QPSK	20	23.4	22.85	-0.14	Bottom	0	50	25	1:1.58		10	0.664	1.135	0.754	-
2549.5	40185	QPSK	20	23.4	22.60	-0.19	Bottom	0	50	0	1:1.58		10	0.684	1.202	0.822	-
2593	40620	QPSK	20	23.4	22.70	-0.16	Bottom	0	50	49	1:1.58		10	0.745	1.175	0.875	-
2636.5	41055	QPSK	20	23.4	23.02	-0.13	Bottom	0	50	0	1:1.58		10	0.840	1.091	0.917	52
2680	41490	QPSK	20	23.4	23.12	-0.13	Bottom	0	50	0	1:1.58		10	0.799	1.067	0.852	-
2680	41490	QPSK	20	23.4	23.12	-0.09	Bottom	0	100	0	1:1.58		10	0.781	1.067	0.833	-
2636.5	41055	QPSK	20	23.4	23.02	-0.10	Bottom	0	50	0	1:1.58		10	0.831	1.021	0.649	*
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram										

Note: \* Data entry indicate Variability measurement.

**LTE Band 66 Hotspot SAR**

Frequency		Mode	Band width (MHz)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	MPR (dB)	RB Size	RB offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.															
1 720	132072	QPSK	20	20.5	19.54	0.14	Rear	0	1	0	1:1	10	0.655	1.247	0.817	-
1 745	132322	QPSK	20	20.5	19.52	0.02	Rear	0	1	0	1:1	10	0.431	1.253	0.540	-
1 770	132572	QPSK	20	20.5	19.45	0.14	Rear	0	1	0	1:1	10	0.457	1.274	0.582	-
1 720	132072	QPSK	20	20.5	19.46	0.19	Rear	0	50	0	1:1	10	0.712	1.271	0.905	-
1 745	132322	QPSK	20	20.5	19.45	0.19	Rear	0	50	0	1:1	10	0.426	1.274	0.543	-
1 770	132572	QPSK	20	20.5	19.37	0.17	Rear	0	50	0	1:1	10	0.465	1.297	0.603	-
1 720	132072	QPSK	20	20.5	19.44	0.16	Rear	0	100	0	1:1	10	0.412	1.276	0.526	-
1 720	132072	QPSK	20	20.5	19.54	-0.00	Front	0	1	0	1:1	10	0.389	1.247	0.485	-
1 720	132072	QPSK	20	20.5	19.46	0.11	Front	0	50	0	1:1	10	0.391	1.271	0.497	-
1 720	132072	QPSK	20	20.5	19.54	-0.11	Left	0	1	0	1:1	10	0.048	1.247	0.060	-
1 720	132072	QPSK	20	20.5	19.46	-0.14	Left	0	50	0	1:1	10	0.047	1.271	0.060	-
1 720	132072	QPSK	20	20.5	19.54	-0.03	Right	0	1	0	1:1	10	0.082	1.247	0.102	-
1 720	132072	QPSK	20	20.5	19.46	-0.13	Right	0	50	0	1:1	10	0.079	1.271	0.100	-
1 720	132072	QPSK	20	20.5	19.54	-0.08	Bottom	0	1	0	1:1	10	0.846	1.247	1.055	-
1 745	132322	QPSK	20	20.5	19.52	-0.04	Bottom	0	1	0	1:1	10	0.912	1.253	1.143	-
1 770	132572	QPSK	20	20.5	19.45	-0.04	Bottom	0	1	0	1:1	10	1.010	1.274	1.287	-
1 720	132072	QPSK	20	20.5	19.46	-0.08	Bottom	0	50	0	1:1	10	0.862	1.271	1.096	-
1 745	132322	QPSK	20	20.5	19.45	-0.04	Bottom	0	50	0	1:1	10	0.916	1.274	1.167	-
1 770	132572	QPSK	20	20.5	19.37	-0.04	Bottom	0	50	0	1:1	10	1.030	1.297	1.336	-
1 720	132072	QPSK	20	20.5	19.44	-0.07	Bottom	0	100	0	1:1	10	0.847	1.276	1.081	-
1 770	132572	QPSK	20	20.5	19.37	-0.05	Bottom	0	50	0	1:1	10	1.030	1.297	<b>1.336</b>	53*
1 770	132572	QPSK	20	20.5	19.37	-0.07	Bottom	0	50	0	1:1	10	1.010	1.297	1.310	**
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram									

Note: \* Data entry indicate Variability measurement.

\*\* Data entry indicate Device holder perturbation measurement.

DTS Hotspot SAR																	
Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Reported SAR (W/kg)	Plot No.
Mhz	Ch.																
2 412	1	802.11b	20	1	20.0	18.24	-0.19	Rear	Ant1	99.1	10	0.348	0.218	1.500	1.009	0.330	-
2 412	1	802.11b	20	1	20.0	18.24	-0.10	Front	Ant1	99.1	10	0.15	0.093	1.500	1.009	0.141	-
2 412	1	802.11b	20	1	20.0	18.24	-0.11	Left	Ant1	99.1	10	0.115	0.068	1.500	1.009	0.103	-
2 412	1	802.11b	20	1	20.0	18.24	0.07	Top	Ant1	99.1	10	0.486	0.312	1.500	1.009	0.472	-
2 462	11	802.11b	20	1	20.0	18.92	-0.10	Rear	Ant2	99.1	10	0.752	0.446	1.282	1.009	<b>0.577</b>	54
2 462	11	802.11b	20	1	20.0	18.92	0.00	Front	Ant2	99.1	10	0.0175	0.00662	1.282	1.009	0.009	-
2 462	11	802.11b	20	1	20.0	18.92	-0.18	Left	Ant2	99.1	10	0.12	0.043	1.282	1.009	0.056	-
2 462	11	802.11b	20	1	20.0	18.92	-0.07	Top	Ant2	99.1	10	0.082	0.019	1.282	1.009	0.025	-
2 437	6	802.11g	20	6	20.0	18.87	-0.12	Rear	MIMO	92.9	10	0.496	0.295	1.524	1.076	0.484	-
2 437	6	802.11g	20	6	20.0	18.87	-0.10	Front	MIMO	92.9	10	0.0771	0.049	1.524	1.076	0.080	-
2 437	6	802.11g	20	6	20.0	18.87	-0.18	Left	MIMO	92.9	10	0.174	0.107	1.524	1.076	0.175	-
2 437	6	802.11g	20	6	20.0	18.87	-0.09	Top	MIMO	92.9	10	0.297	0.168	1.524	1.076	0.275	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

DTS Hotspot SAR – RSDB																	
Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Reported SAR (W/kg)	Plot No.
Mhz	Ch.																
2 437	6	802.11b	20	1	17.0	15.11	0.00	Rear	Ant1	99.1	10	0.223	0.132	1.545	1.009	0.206	-
2 437	6	802.11b	20	1	17.0	15.11	0.00	Front	Ant1	99.1	10	0.171	0.079	1.545	1.009	0.123	-
2 437	6	802.11b	20	1	17.0	15.11	0.07	Left	Ant1	99.1	10	0.046	0.024	1.545	1.009	0.037	-
2 437	6	802.11b	20	1	17.0	15.11	-0.09	Top	Ant1	99.1	10	0.341	0.201	1.545	1.009	0.313	-
2 462	11	802.11b	20	1	17.0	15.82	0.00	Rear	Ant2	99.1	10	0.318	0.172	1.312	1.009	0.228	-
2 462	11	802.11b	20	1	17.0	15.82	0.00	Front	Ant2	99.1	10	0.0283	0.00231	1.312	1.009	0.003	-
2 462	11	802.11b	20	1	17.0	15.82	0.00	Left	Ant2	99.1	10	0.0528		1.312	1.009		-
2 462	11	802.11b	20	1	17.0	15.82	0.18	Top	Ant2	99.1	10	0.0395	0.019	1.312	1.009	0.025	-
2 437	6	802.11g	20	6	20.0	18.87	-0.12	Rear	MIMO	92.9	10	0.496	0.295	1.524	1.076	0.484	55
2 437	6	802.11g	20	6	20.0	18.87	-0.10	Front	MIMO	92.9	10	0.0771	0.049	1.524	1.076	0.080	-
2 437	6	802.11g	20	6	20.0	18.87	-0.18	Left	MIMO	92.9	10	0.174	0.107	1.524	1.076	0.175	-
2 437	6	802.11g	20	6	20.0	18.87	-0.09	Top	MIMO	92.9	10	0.297	0.168	1.524	1.076	0.275	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

**5 GHz WLAN Hotspot SAR**

Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
5 785	157	802.11a	20	6	18.0	17.76	0.10	Rear	Ant1	92.9	10	0.148	0.020	1.057	1.076	0.023	-
5 785	157	802.11a	20	6	18.0	17.76	-0.03	Front	Ant1	92.9	10	0.610	0.248	1.057	1.076	0.282	-
5 785	157	802.11a	20	6	18.0	17.76	0.16	Left	Ant1	92.9	10	0.977	0.415	1.057	1.076	0.472	-
5 785	157	802.11a	20	6	18.0	17.76	0.14	Top	Ant1	92.9	10	0.499	0.222	1.057	1.076	0.253	-
5 785	157	802.11a	20	6	18.0	17.36	-0.17	Rear	Ant2	92.9	10	0.808	0.353	1.159	1.076	0.441	-
5 785	157	802.11a	20	6	18.0	17.36	0.00	Front	Ant2	92.9	10	0.000	0.000	1.159	1.076	0.000	-
5 785	157	802.11a	20	6	18.0	17.36	0.14	Left	Ant2	92.9	10	0.246	0.076	1.159	1.076	0.095	-
5 785	157	802.11a	20	6	18.0	17.36	0.10	Top	Ant2	92.9	10	0.135	0.045	1.159	1.076	0.056	-
5 785	157	802.11a	20	6	21.0	20.57	-0.12	Rear	MIMO	92.9	10	1.710	0.733	1.159	1.076	<b>0.915</b>	56
5 785	157	802.11a	20	6	21.0	20.57	0.19	Front	MIMO	92.9	10	0.616	0.247	1.159	1.076	0.308	-
5 785	157	802.11a	20	6	21.0	20.57	-0.14	Left	MIMO	92.9	10	1.200	0.495	1.159	1.076	0.618	-
5 785	157	802.11a	20	6	21.0	20.57	0.17	Top	MIMO	92.9	10	0.663	0.279	1.159	1.076	0.348	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

**5 GHz WLAN Hotspot SAR - RSDB**

Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
5 775	155	802.11ac	80	MCS0	14.0	13.75	-0.10	Rear	Ant1	92.1	10	0.477	0.200	1.059	1.086	0.230	-
5 775	155	802.11ac	80	MCS0	14.0	13.75	0.00	Front	Ant1	92.1	10	0.278	0.097	1.059	1.086	0.112	-
5 775	155	802.11ac	80	MCS0	14.0	13.75	0.06	Left	Ant1	92.1	10	0.451	0.185	1.059	1.086	0.213	-
5 775	155	802.11ac	80	MCS0	14.0	13.75	0.08	Top	Ant1	92.1	10	0.163	0.066	1.059	1.086	0.076	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	0.00	Rear	Ant2	92.1	10	0.325	0.119	1.180	1.086	0.152	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	0.00	Front	Ant2	92.1	10	0.000	0.000	1.180	1.086	0.000	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	-0.12	Left	Ant2	92.1	10	0.129	0.034	1.180	1.086	0.044	-
5 775	155	802.11ac	80	MCS0	14.0	13.28	0.19	Top	Ant2	92.1	10	0.035	0.012	1.180	1.086	0.015	-
5 775	155	802.11ac	80	MCS0	17.0	16.53	0.19	Rear	MIMO	92.1	10	0.544	0.226	1.180	1.086	<b>0.290</b>	57
5 775	155	802.11ac	80	MCS0	17.0	16.53	0.00	Front	MIMO	92.1	10	0.248	0.058	1.180	1.086	0.074	-
5 775	155	802.11ac	80	MCS0	17.0	16.53	-0.18	Left	MIMO	92.1	10	0.333	0.142	1.180	1.086	0.182	-
5 775	155	802.11ac	80	MCS0	17.0	16.53	-0.01	Top	MIMO	92.1	10	0.159	0.069	1.180	1.086	0.088	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

DSS Tethering SAR												
Frequency		Mode	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Distance	Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
Mhz	Ch.		(dBm)	(dBm)	(dB)		(mm)	(W/kg)		(Duty)	(W/kg)	
2 480	78	Bluetooth DH5	17.5	17.44	-0.12	Rear	10	0.192	1.014	1.299	0.253	-
2 480	78	Bluetooth DH5	17.5	17.44	0.07	Front	10	0.078	1.014	1.299	0.103	-
2 480	78	Bluetooth DH5	17.5	17.44	-0.18	Left	10	0.041	1.014	1.299	0.054	-
2 480	78	Bluetooth DH5	17.5	17.44	-0.18	Top	10	0.266	1.014	1.299	<b>0.350</b>	58
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

### 13.4 Phablet SAR Measurement Considerations

Per FCC KDB 648474 D04v01r03, this device is considered a “Phablet” since the diagonal dimension is greater than 160 mm and less than 200 mm. Therefore, extremity SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR >1.2 W/kg. When hotspot mode applies, 10g SAR required only for the surfaces and edges with hotspot mode scaled to the maximum output power (including tolerance) is 1g SAR > 1.2 W/kg.

### 13.5 Phablet SAR Measurement Results

#### GSM 1900 Phablet SAR 10g

Frequency		Mode	Tune-Up Limit (dB)	Meas. Power (dB)	Power Drift (dB)	Test Position	Sensor	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.												
1 880.0	661	RMC	22.5	20.51	-0.12	Rear	ON	1:1	0	0.625	1.581	<b>1.977</b>	69
1 880.0	661	RMC	22.5	20.51	0.05	Front	ON	1:1	0	0.649	1.581	1.026	-
1 909.8	810	RMC	28.5	27.65	-0.16	Left	N/A	1:1	0	0.192	1.216	0.234	-
1 909.8	810	RMC	28.5	27.65	0.10	Right	N/A	1:1	0	0.461	1.216	0.561	-
1 880.0	661	RMC	22.5	20.51	0.12	Bottom	ON	1:1	0	0.709	1.581	1.121	-
1 909.8	810	RMC	28.5	27.65	-0.15	Rear	OFF	1:1	8	0.933	1.216	1.135	-
1 909.8	810	RMC	28.5	27.65	0.05	Front	OFF	1:1	6	0.878	1.216	1.068	-
1 909.8	810	RMC	28.5	27.65	0.14	Bottom	OFF	1:1	12	<b>0.990</b>	1.216	1.204	70
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Hand 4.0 W/kg Averaged over 10 gram						

#### UMTS Band 4 Phablet SAR 10g

Frequency		Mode	Tune-Up Limit (dB)	Meas. Power (dB)	Power Drift (dB)	Test Position	Sensor	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.												
1 732.4	1412	RMC	20.0	19.21	0.00	Rear	ON	1:1	0	0.924	1.199	1.108	-
1 732.4	1412	RMC	20.0	19.21	0.14	Front	ON	1:1	0	0.751	1.199	0.900	-
1 732.4	1412	RMC	23.5	22.82	-0.18	Left	N/A	1:1	0	0.202	1.169	0.236	-
1 732.4	1412	RMC	23.5	22.82	0.11	Right	N/A	1:1	0	0.345	1.169	0.403	-
1 712.4	1312	RMC	20.0	19.16	0.14	Bottom	ON	1:1	0	1.84	1.213	<b>2.232</b>	59
1 732.4	1412	RMC	20.0	19.21	0.06	Bottom	ON	1:1	0	<b>1.85</b>	1.199	2.218	60
1 752.6	1513	RMC	20.0	19.06	0.16	Bottom	ON	1:1	0	1.77	1.242	2.198	-
1 732.4	1412	RMC	23.5	22.82	-0.16	Rear	OFF	1:1	8	0.661	1.169	0.773	-
1 732.4	1412	RMC	23.5	22.82	0.06	Front	OFF	1:1	6	0.456	1.169	0.533	-
1 732.4	1412	RMC	23.5	22.82	0.18	Bottom	OFF	1:1	12	0.769	1.169	0.899	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Hand 4.0 W/kg Averaged over 10 gram						

**UMTS Band 2 Phablet SAR 10g**

Frequency		Mode	Tune-Up Limit (dB)	Meas. Power (dB)	Power Drift (dB)	Test Position	Sensor	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.												
1 880.0	9400	RMC	20.0	18.72	-0.13	Rear	ON	1:1	0	0.726	1.343	0.975	-
1 880.0	9400	RMC	20.0	18.72	0.00	Front	ON	1:1	0	0.685	1.343	0.920	-
1 880.0	9400	RMC	23.5	21.99	-0.09	Left	N/A	1:1	0	0.158	1.416	0.224	-
1 880.0	9400	RMC	23.5	21.99	0.15	Right	N/A	1:1	0	0.233	1.416	0.330	-
1 852.4	9262	RMC	20.0	18.95	0.14	Bottom	ON	1:1	0	1.26	1.274	1.605	-
1 880.0	9400	RMC	20.0	18.72	0.17	Bottom	ON	1:1	0	1.89	1.343	<b>2.538</b>	61
1 907.6	9538	RMC	20.0	19.02	0.17	Bottom	ON	1:1	0	1.23	1.253	1.541	-
1 880.0	9400	RMC	23.5	21.99	0.17	Rear	OFF	1:1	8	0.584	1.416	0.827	-
1 880.0	9400	RMC	23.5	21.99	-0.03	Front	OFF	1:1	6	0.361	1.416	0.511	-
1 880.0	9400	RMC	23.5	21.99	0.18	Bottom	OFF	1:1	12	0.643	1.416	0.910	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Hand 4.0 W/kg Averaged over 10 gram						

LTE Band 2 Phablet SAR 10g																	
Frequency		Mode	Band Width	Tune-Up Limit (dB)	Meas. Power (dB)	Power Drift (dB)	Test Position	Sensor	MPR (dB)	RB Size	RB Offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.																
1 900	19100	QPSK	20	19.5	18.59	0.19	Rear	ON	0	1	0	1:1	0	1.200	1.233	1.480	-
1 900	19100	QPSK	20	19.5	18.58	0.19	Rear	ON	0	50	0	1:1	0	1.190	1.236	1.471	-
1 900	19100	QPSK	20	19.5	18.59	0.19	Front	ON	0	1	0	1:1	0	0.920	1.233	1.134	-
1 900	19100	QPSK	20	19.5	18.58	0.18	Front	ON	0	50	0	1:1	0	0.906	1.236	1.120	-
1 900	19100	QPSK	20	23.0	22.28	-0.13	Left	N/A	0	1	0	1:1	0	0.253	1.180	0.299	-
1 900	19100	QPSK	20	22.0	21.24	0.17	Left	N/A	1	50	25	1:1	0	0.198	1.191	0.236	-
1 900	19100	QPSK	20	23.0	22.28	0.15	Right	N/A	0	1	0	1:1	0	0.372	1.180	0.439	-
1 900	19100	QPSK	20	22.0	21.24	0.16	Right	N/A	1	50	25	1:1	0	0.285	1.191	0.339	-
1 860	18700	QPSK	20	19.5	18.27	0.03	Bottom	ON	0	1	99	1:1	0	1.600	1.327	2.123	-
1 880	18900	QPSK	20	19.5	18.25	-0.02	Bottom	ON	0	1	0	1:1	0	1.550	1.334	2.068	-
1 900	19100	QPSK	20	19.5	18.59	0.09	Bottom	ON	0	1	0	1:1	0	<b>1.670</b>	1.233	2.059	62
1 860	18700	QPSK	20	19.5	18.38	0.10	Bottom	ON	0	50	0	1:1	0	1.650	1.294	<b>2.135</b>	63
1 880	18900	QPSK	20	19.5	18.22	-0.02	Bottom	ON	0	50	0	1:1	0	1.530	1.343	2.055	-
1 900	19100	QPSK	20	19.5	18.58	0.09	Bottom	ON	0	50	0	1:1	0	1.660	1.236	2.052	-
1 900	19100	QPSK	20	19.5	18.48	0.11	Bottom	ON	0	100	0	1:1	0	1.580	1.265	1.998	-
1 900	19100	QPSK	20	23.0	22.28	0.18	Rear	OFF	0	1	0	1:1	8	0.829	1.180	0.978	-
1 900	19100	QPSK	20	22.0	21.24	0.14	Rear	OFF	1	50	25	1:1	8	0.645	1.191	0.768	-
1 900	19100	QPSK	20	23.0	22.28	0.14	Front	OFF	0	1	0	1:1	6	0.972	1.180	1.147	-
1 900	19100	QPSK	20	22.0	21.24	0.14	Front	OFF	1	50	25	1:1	6	0.766	1.191	0.912	-
1 900	19100	QPSK	20	23.0	22.28	-0.02	Bottom	OFF	0	1	0	1:1	12	0.782	1.180	0.923	-
1 900	19100	QPSK	20	22.0	21.24	-0.10	Bottom	OFF	1	50	25	1:1	12	0.617	1.191	0.735	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Hand 4.0 W/kg Averaged over 10 gram								

LTE Band 25 Phablet SAR 10g																	
Frequency		Mode	Band Width	Tune-Up Limit (dB)	Meas. Power (dB)	Power Drift (dB)	Test Position	Sensor	MPR (dB)	RB Size	RB Offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.																
1 905	26590	QPSK	20	19.5	18.60	0.15	Rear	ON	0	1	99	1:1	0	1.180	1.230	1.451	-
1 905	26590	QPSK	20	19.5	18.67	0.19	Rear	ON	0	50	0	1:1	0	1.230	1.211	1.490	-
1 905	26590	QPSK	20	19.5	18.60	0.19	Front	ON	0	1	99	1:1	0	0.906	1.230	1.114	-
1 905	26590	QPSK	20	19.5	18.67	0.18	Front	ON	0	50	0	1:1	0	0.946	1.211	1.146	-
1 905	26590	QPSK	20	23.0	22.34	0.14	Left	N/A	0	1	0	1:1	0	0.260	1.164	0.303	-
1 905	26590	QPSK	20	23.0	21.28	0.05	Left	N/A	1	50	0	1:1	0	0.208	1.164	0.242	-
1 905	26590	QPSK	20	23.0	22.34	-0.16	Right	N/A	0	1	0	1:1	0	0.388	1.164	0.452	-
1 905	26590	QPSK	20	22.0	21.28	0.18	Right	N/A	1	50	0	1:1	0	0.313	1.180	0.369	-
1 905	26590	QPSK	20	19.5	18.60	0.05	Bottom	ON	0	1	99	1:1	0	1.560	1.230	1.919	-
1 860	26140	QPSK	20	19.5	18.29	0.05	Bottom	ON	0	50	49	1:1	0	1.650	1.321	<b>2.180</b>	64
1882.5	26365	QPSK	20	19.5	18.24	-0.01	Bottom	ON	0	50	49	1:1	0	1.520	1.337	2.032	-
1 905	26590	QPSK	20	19.5	18.67	-0.04	Bottom	ON	0	50	0	1:1	0	<b>1.670</b>	1.211	2.022	65
1 905	26590	QPSK	20	19.5	18.54	0.09	Bottom	ON	0	100	0	1:1	0	1.630	1.247	2.033	-
1 905	26590	QPSK	20	23.0	22.34	0.18	Rear	OFF	0	1	0	1:1	8	0.910	1.164	1.059	-
1 905	26590	QPSK	20	22.0	21.28	0.15	Rear	OFF	1	50	0	1:1	8	0.730	1.180	0.861	-
1 905	26590	QPSK	20	23.0	22.34	0.13	Front	OFF	0	1	0	1:1	6	1.010	1.164	1.176	-
1 905	26590	QPSK	20	22.0	21.28	0.15	Front	OFF	1	50	0	1:1	6	0.806	1.180	0.951	-
1 905	26590	QPSK	20	23.0	22.34	-0.07	Bottom	OFF	0	1	0	1:1	12	0.805	1.164	0.937	-
1 905	26590	QPSK	20	22.0	21.28	-0.10	Bottom	OFF	1	50	0	1:1	12	0.647	1.180	0.763	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Hand 4.0 W/kg Averaged over 10 gram									

LTE Band 66 Phablet SAR 10g																	
Frequency		Mode	Band Width	Tune-Up Limit (dB)	Meas. Power (dB)	Power Drift (dB)	Test Position	Sensor	MPR (dB)	RB Size	RB Offset	Duty Cycle	Distance (mm)	Meas. SAR (W/kg)	Scaling Factor	Scaled SAR (W/kg)	Plot No.
MHz	Ch.																
1 720	132072	QPSK	20	20.5	19.59	0.30	Rear	ON	0	1	0	1:1	0	1.460	1.233	1.800	-
1 720	132072	QPSK	20	20.5	19.54	0.11	Rear	ON	0	50	0	1:1	0	1.230	1.247	1.534	-
1 720	132072	QPSK	20	20.5	19.59	0.17	Front	ON	0	1	0	1:1	0	0.958	1.233	1.181	-
1 720	132072	QPSK	20	20.5	19.54	0.18	Front	ON	0	50	0	1:1	0	0.966	1.247	1.205	-
1 745	132322	QPSK	20	23.7	22.65	-0.18	Left	N/A	0	1	0	1:1	0	0.237	1.274	0.302	-
1 745	132322	QPSK	20	22.7	21.61	0.13	Left	N/A	1	50	0	1:1	0	0.187	1.285	0.240	-
1 745	132322	QPSK	20	23.7	22.65	0.14	Right	N/A	0	1	0	1:1	0	0.404	1.274	0.515	-
1 745	132322	QPSK	20	22.7	21.61	0.17	Right	N/A	1	50	0	1:1	0	0.318	1.285	0.409	-
1 720	132072	QPSK	20	20.5	19.59	0.05	Bottom	ON	0	1	0	1:1	0	2.340	1.233	2.885	-
1 745	132322	QPSK	20	20.5	19.56	0.04	Bottom	ON	0	1	0	1:1	0	2.420	1.242	3.006	-
1 770	132572	QPSK	20	20.5	19.50	0.07	Bottom	ON	0	1	0	1:1	0	2.460	1.259	3.097	-
1 720	132072	QPSK	20	20.5	19.54	0.04	Bottom	ON	0	50	0	1:1	0	2.400	1.247	2.993	-
1 745	132322	QPSK	20	20.5	19.49	0.06	Bottom	ON	0	50	0	1:1	0	2.460	1.262	3.105	-
1 770	132572	QPSK	20	20.5	19.48	0.05	Bottom	ON	0	50	25	1:1	0	2.480	1.265	<b>3.137</b>	66
1 720	132072	QPSK	20	20.5	19.51	0.08	Bottom	ON	0	100	0	1:1	0	2.420	1.256	3.040	-
1 745	132322	QPSK	20	23.7	22.65	0.17	Rear	OFF	0	1	0	1:1	8	0.849	1.274	1.082	-
1 745	132322	QPSK	20	22.7	21.61	0.14	Rear	OFF	1	50	0	1:1	8	0.675	1.285	0.867	-
1 745	132322	QPSK	20	23.7	22.65	0.17	Front	OFF	0	1	0	1:1	6	0.931	1.274	1.186	-
1 745	132322	QPSK	20	22.7	21.61	0.18	Front	OFF	1	50	0	1:1	6	0.742	1.285	0.953	-
1 745	132322	QPSK	20	23.7	22.65	-0.03	Bottom	OFF	0	1	0	1:1	12	0.779	1.274	0.992	-
1 745	132322	QPSK	20	22.7	21.61	-0.07	Bottom	OFF	1	50	0	1:1	12	0.625	1.285	0.803	-
1 770	132572	QPSK	20	20.5	19.48	0.05	Bottom	ON	0	50	25	1:1	0	2.480	1.265	3.137	*
1 770	132572	QPSK	20	20.5	19.48	0.03	Bottom	ON	0	50	25	1:1	0	2.300	1.265	2.910	**
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Hand 4.0 W/kg Averaged over 10 gram								

Note: \* Data entry indicate Variability measurement.  
 \*\* Data entry indicate Device holder perturbation measurement.

5 GHz WLAN Phablet SAR \_10g

Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant. Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.																
5 260	52	802.11a	20	6	18.0	17.46	-0.10	Rear	Ant1	92.9	0	2.25	0.267	1.132	1.076	0.326	-
5 260	52	802.11a	20	6	18.0	17.46	0.00	Front	Ant1	92.9	0	1.89	0.201	1.132	1.076	0.245	-
5 260	52	802.11a	20	6	18.0	17.46	0.13	Left	Ant1	92.9	0	6.79	0.658	1.132	1.076	0.802	-
5 260	52	802.11a	20	6	18.0	17.46	0.11	Top	Ant1	92.9	0	1.06	0.134	1.132	1.076	0.163	-
5 720	144	802.11a	20	6	18.0	17.94	0.16	Rear	Ant1	92.9	0	7.57	0.787	1.014	1.076	0.859	-
5 720	144	802.11a	20	6	18.0	17.94	0.00	Front	Ant1	92.9	0	9.00	0.798	1.014	1.076	0.871	-
5 720	144	802.11a	20	6	18.0	17.94	-0.19	Left	Ant1	92.9	0	15.00	1.320	1.014	1.076	1.442	-
5 720	144	802.11a	20	6	18.0	17.94	-0.10	Top	Ant1	92.9	0	3.63	0.382	1.014	1.076	0.417	-
5 260	52	802.11a	20	6	18.0	16.65	-0.16	Rear	Ant2	92.9	0	21.3	1.320	1.365	1.076	<b>1.941</b>	67
5 260	52	802.11a	20	6	18.0	16.65	0.00	Front	Ant2	92.9	0	0.411	0.031	1.365	1.076	0.046	-
5 260	52	802.11a	20	6	18.0	16.65	0.00	Left	Ant2	92.9	0	2.48	0.240	1.365	1.076	0.353	-
5 260	52	802.11a	20	6	18.0	16.65	-0.14	Top	Ant2	92.9	0	1.05	0.139	1.365	1.076	0.204	-
5 720	144	802.11a	20	6	18.0	17.26	-0.12	Rear	Ant2	92.9	0	7.41	0.975	1.186	1.076	1.245	-
5 720	144	802.11a	20	6	18.0	17.26	0.00	Front	Ant2	92.9	0	0.309	0.022	1.186	1.076	0.028	-
5 720	144	802.11a	20	6	18.0	17.26	0.07	Left	Ant2	92.9	0	1.98	0.168	1.186	1.076	0.215	-
5 720	144	802.11a	20	6	18.0	17.26	-0.17	Top	Ant2	92.9	0	0.48	0.043	1.186	1.076	0.055	-
5 260	52	802.11a	20	6	21.0	20.08	0.19	Rear	MIMO	92.9	0	8.99	1.250	1.365	1.076	1.838	-
5 260	52	802.11a	20	6	21.0	20.08	0.00	Front	MIMO	92.9	0	5.16	0.364	1.365	1.076	0.535	-
5 260	52	802.11a	20	6	21.0	20.08	-0.19	Left	MIMO	92.9	0	7.79	0.816	1.365	1.076	1.200	-
5 260	52	802.11a	20	6	21.0	20.08	-0.12	Top	MIMO	92.9	0	2.33	0.331	1.365	1.076	0.487	-
5 720	144	802.11a	20	6	21.0	20.62	-0.14	Rear	MIMO	92.9	0	7.77	0.892	1.186	1.076	1.139	-
5 720	144	802.11a	20	6	21.0	20.62	0.00	Front	MIMO	92.9	0	8.25	0.717	1.186	1.076	0.916	-
5 720	144	802.11a	20	6	21.0	20.62	-0.13	Left	MIMO	92.9	0	15.7	<b>1.36</b>	1.186	1.076	1.737	68
5 720	144	802.11a	20	6	21.0	20.62	-0.15	Top	MIMO	92.9	0	4.31	0.483	1.186	1.076	0.617	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Hand 4.0 W/kg Averaged over 10 gram					

5 GHz WLAN Phablet SAR 10g - RSDB																	
Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Ant. Config.	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Scaled SAR (W/kg)	Plot No.
Mhz	Ch.																
5 270	54	802.11n	40	MCS0	14.0	13.76	0.00	Rear	Ant1	92.9	0	0.814	0.087	1.057	1.076	0.099	-
5 270	54	802.11n	40	MCS0	14.0	13.76	0.00	Front	Ant1	92.9	0	2.55	0.155	1.057	1.076	0.176	-
5 270	54	802.11n	40	MCS0	14.0	13.76	-0.10	Left	Ant1	92.9	0	4.140	0.243	1.057	1.076	0.276	-
5 270	54	802.11n	40	MCS0	14.0	13.76	0.18	Top	Ant1	92.9	0	0.821	0.069	1.057	1.076	0.078	-
5 690	138	802.11ac	80	MCS0	14.0	13.74	0.00	Rear	Ant1	92.1	0	1.700	0.190	1.062	1.086	0.219	-
5 690	138	802.11ac	80	MCS0	14.0	13.74	0.00	Front	Ant1	92.1	0	3.260	0.285	1.062	1.086	0.329	-
5 690	138	802.11ac	80	MCS0	14.0	13.74	0.15	Left	Ant1	92.1	0	7.530	<b>0.573</b>	1.062	1.086	0.661	67
5 690	138	802.11ac	80	MCS0	14.0	13.74	0.00	Top	Ant1	92.1	0	1.860	0.134	1.062	1.086	0.155	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.12	Rear	Ant2	92.9	0	2.390	0.390	1.429	1.076	0.600	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.00	Front	Ant2	92.9	0	0.066	0.00712	1.429	1.076	0.011	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.00	Left	Ant2	92.9	0	0.848	0.079	1.429	1.076	0.121	-
5 270	54	802.11n	40	MCS0	14.0	12.45	0.00	Top	Ant2	92.9	0	0.424	0.040	1.429	1.076	0.061	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.00	Rear	Ant2	92.1	0	1.840	0.320	1.259	1.086	0.438	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.00	Front	Ant2	92.1	0	0.0803	0.00501	1.259	1.086	0.007	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.00	Left	Ant2	92.1	0	0.709	0.053	1.259	1.086	0.072	-
5 690	138	802.11ac	80	MCS0	14.0	13.00	0.00	Top	Ant2	92.1	0	0.337	0.012	1.259	1.086	0.016	-
5 270	54	802.11n	40	MCS0	17.0	16.16	-0.16	Rear	MIMO	92.9	0	3.350	0.486	1.429	1.076	<b>0.747</b>	68
5 270	54	802.11n	40	MCS0	17.0	16.16	0.00	Front	MIMO	92.9	0	1.120	0.152	1.429	1.076	0.234	-
5 270	54	802.11n	40	MCS0	17.0	16.16	0.10	Left	MIMO	92.9	0	5.30	0.310	1.429	1.076	0.477	-
5 270	54	802.11n	40	MCS0	17.0	16.16	0.10	Top	MIMO	92.9	0	1.010	0.087	1.429	1.076	0.134	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	0.00	Rear	MIMO	92.1	0	2.870	0.255	1.259	1.086	0.349	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	0.00	Front	MIMO	92.1	0	1.650	0.169	1.259	1.086	0.231	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	0.11	Left	MIMO	92.1	0	4.270	0.347	1.259	1.086	0.474	-
5 690	138	802.11ac	80	MCS0	17.0	16.40	0.00	Top	MIMO	92.1	0	0.946	0.111	1.259	1.086	0.152	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Hand 4.0 W/kg Averaged over 10 gram					

## 13.6 SAR Test Notes

### General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, FCC KDB Procedure.
2. Batteries are fully charged at the beginning of the SAR measurements. A standard battery was used for all SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 15 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB 648474 D04v01r03, SAR was evaluated without a headset connected to the device. Since the standalone reported SAR was 1.2 W/kg, no additional SAR evaluation using a headset cable were required.
8. Per KDB 648474 D04v01r03, this device is considered a "Phablet" since the diagonal dimension is > 160 mm and < 200 mm. When hotspot mode applies, extremity SAR is required only for the surfaces and edges with hotspot mode scaled to the maximum output power (with tolerance) is 1 g SAR > 1.2 W/kg.
9. Per FCC KDB 865664 D01v01r04, variability SAR measurement were performed when the measured SAR results for a frequency Band were greater than or equal to 0.8 W/kg for 1g SAR and >2 for 10g SAR Please see Section 15 for variability analysis.
10. This device utilizes power reduction for some wireless mode and technologies, as outlined in sec. 4 The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous scenarios.
11. During SAR testing for the Hotspot conditions per KDB 941225 D06v02r01, the actual portable hotspotoperation (with actual simultaneous transmission of a transmitter with WiFi) was not activated.

### GSM/GPRS Test Notes:

1. This EUT'S GSM and GPRS device class is B.
2. This device supports GPRS VOIP in the head and the body-worn configurations therefore GPRS was additionally evaluated for head and body-worn compliance.
3. Justification for reduced test configurations per KDB 941225 D01v03r01: The source-based time-averaged output power was evaluated for all multi-slot operations. The multi-slot configuration with the highest frame averaged output power including tolerance was evaluated for SAR.
4. Per FCC KDB 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is 0.8 W/kg then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is 1/2 dB, instead of the middle channel, the highest output power channel must be used.

### UMTS Notes:

1. The 12.2 kbps RMC mode is the primary mode per KDB 941225 D01v03r01.
2. UMTS SAR was tested under RMC 12.2 kbps with HSPA inactive per KDB publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
3. Per FCC KDB 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is 0.8 W/kg then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the channel

highest output power channel was used.

**LTE Notes:**

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Consideration for LTE Devices in FCC KDB 941225 D05v02r05.
2. According to FCC KDB 941225 D05v02r05:  
When the reported SAR is 0.8 W/kg, testing of the 100% RB allocation and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the 1RB, 50%RB and 100%RB allocation with highest output power for that channel.  
Only one channel, and as reported SAR values for 1RB allocation and 50%RB allocation were less than 1.45W/Kg only the highest power RB offset for each allocation was required.
3. 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 target MPR is indicated alongside the SAR results.
4. When Power reduction is applied, MPR is 0 for some modes.
5. A-MPR was disabled for all SAR tests by setting NS=01 on the base station simulator.
6. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) LTE TDD Band 41 SAR measured at the highest output power channel for each test configuration is 0.6 W/kg then testing at the other channels is not required for such test configurations.
7. TDD LTE (Power Class 3) was tested using UL-DL configuration 0 with 6 UL sub frames and 2S subframes using extended cyclic prefix only and special sub frame configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Sec. 4, the duty factor using extended cyclic prefix is 0.633(cf=1.58).
8. Per KDB 941225 D05Av01r02, SAR for LTE Carrier Aggregation operations was not needed because the maximum average output power in LTE CA mode was not > 0.25 dB higher than the maximum output power when downlink CA was not activated.
9. This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The Highest available duty cycle for Power Class 2 operations is 43.3% using UL-DL configuration 1. Per May TCB Workshop notes, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions.
10. SAR test reduction is applied using the following criteria:  
Start with the largest channel Bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is >0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel. Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are >0.8 W/kg, testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation <1.45 W/kg. Testing for 16-QAM modulation is not required because the reported SAR for QPSK is <1.45 W/kg and its output power is not more than 0.5 dB higher than that a QPSK. Testing for the other channel Bandwidths is not required because the reported SAR for the highest channel Bandwidth is <1.45 W/kg and its output power is not more than 0.5 dB higher than that of the highest channel Bandwidth.

**WLAN Notes:**

1. For held-to-ear and hotspot operations, the initial test position procedures were applied. For initial test position, the highest extrapolated peak SAR will be used. When reported SAR for the initial test position is  $\leq 0.4$  W/kg for 1g SAR and  $\leq 1.0$  W/kg for 10g SAR, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR results is  $\leq 0.8$  W/kg for 1g SAR and  $\leq 2.0$  W/kg for 10g SAR or all test position are measured.
2. Per KDB 2482227 D01v02r02 justification for test configurations of 2.4 GHz WiFi Single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11 g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR
3. Per KDB 2482227 D01v02r02 justification for test configurations of 5 GHz WiFi Single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission mode was not investigated since the highest reported SAR for initial test configuration adjusted by the ration of maximum output powers is less than 1.2 W/kg for 1g SAR and less than 3.0 W/kg for 10 g SAR.
4. When the maximum reported 1g averaged SAR is  $\leq 0.8$  W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was  $\leq 1.20$  W/kg or all test channels were measured.
5. The device was configured to transmit continuously at the required data rated, channel Bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated WLAN test reports.

**Bluetooth Notes:**

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests mode type. Per October 2016 TCBC Workshop Notes, the reported SAR was scaled to 100% transmission duty factor to determine compliance. Please see sec.11 for the time-domain plot and calculation for duty factor of the device.
2. Head and Bluetooth tethering SAR were evaluated for BT BR tethering applications.

## 14. Simultaneous SAR Analysis

This device is containing transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per KDB Publication 447498 D01v06 4.3.2, simultaneous transmission SAR test exclusion may be applied when the sum of 1g SAR and 10g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is  $\leq 1.6\text{W/kg}$  for 1g SAR and  $\leq 4\text{ W/kg}$  for 10g SAR. The different test positions in an exposure condition may be considered collectively to determine SAR exclusion according to the sum of 1g or 10g SAR.

### 14.1 Head SAR Simultaneous Transmission Analysis. 14.1 Head SAR Simultaneous Transmission Analysis.

Band	Configuration	Main	2.4GHz SISO Ant1 SAR (W/kg)	2.4 GHz SISO Ant2 SAR (W/kg)	5GHz SISO Ant1 SAR (W/kg)	5 GHz SISO Ant2 SAR (W/kg)	BT	∑ 1-g SAR	SPLSR					
		1	2	3	4	5	6	1+2	1+3	1+4	1+5	1+6	1+2+3	Yes/No
GSM850	Left Touch	0.278	0.388	0.005	0.105	0.000	0.633	0.666	0.283	0.383	0.278	0.911	0.671	NO
	Left Tilt	0.129	0.557	0.007	0.122	0.051	0.858	0.686	0.136	0.251	0.18	0.987	0.693	NO
	Right Touch	0.188	0.634	0.013	0.711	0.023	0.946	0.822	0.201	0.899	0.211	1.134	0.835	NO
	Right Tilt	0.145	0.639	0.015	0.576	0.025	1.234	0.784	0.16	0.721	0.17	1.379	0.799	NO
GSM1900	Left Touch	0.081	0.388	0.005	0.105	0.000	0.633	0.469	0.086	0.186	0.081	0.714	0.474	NO
	Left Tilt	0.066	0.557	0.007	0.122	0.051	0.858	0.623	0.073	0.188	0.117	0.924	0.63	NO
	Right Touch	0.101	0.634	0.013	0.711	0.023	0.946	0.735	0.114	0.812	0.124	1.047	0.748	NO
	Right Tilt	0.039	0.639	0.015	0.576	0.025	1.234	0.678	0.054	0.615	0.064	1.273	0.693	NO
UMTS Band 2	Left Touch	0.079	0.388	0.005	0.105	0.000	0.633	0.467	0.084	0.184	0.079	0.712	0.472	NO
	Left Tilt	0.062	0.557	0.007	0.122	0.051	0.858	0.619	0.069	0.184	0.113	0.92	0.626	NO
	Right Touch	0.075	0.634	0.013	0.711	0.023	0.946	0.709	0.088	0.786	0.098	1.021	0.722	NO
	Right Tilt	0.051	0.639	0.015	0.576	0.025	1.234	0.69	0.066	0.627	0.076	1.285	0.705	NO
UMTS Band 4	Left Touch	0.099	0.388	0.005	0.105	0.000	0.633	0.487	0.104	0.204	0.099	0.732	0.492	NO
	Left Tilt	0.051	0.557	0.007	0.122	0.051	0.858	0.608	0.058	0.173	0.102	0.909	0.615	NO
	Right Touch	0.095	0.634	0.013	0.711	0.023	0.946	0.729	0.108	0.806	0.118	1.041	0.742	NO
	Right Tilt	0.035	0.639	0.015	0.576	0.025	1.234	0.674	0.05	0.611	0.06	1.269	0.689	NO
UMTS Band 5	Left Touch	0.183	0.388	0.005	0.105	0.000	0.633	0.571	0.188	0.288	0.183	0.816	0.576	NO
	Left Tilt	0.079	0.557	0.007	0.122	0.051	0.858	0.636	0.086	0.201	0.13	0.937	0.643	NO
	Right Touch	0.141	0.634	0.013	0.711	0.023	0.946	0.775	0.154	0.852	0.164	1.087	0.788	NO
	Right Tilt	0.121	0.639	0.015	0.576	0.025	1.234	0.76	0.136	0.697	0.146	1.355	0.775	NO
LTE 2	Left Touch	0.076	0.388	0.005	0.105	0.000	0.633	0.464	0.081	0.181	0.076	0.709	0.469	NO
	Left Tilt	0.071	0.557	0.007	0.122	0.051	0.858	0.628	0.078	0.193	0.122	0.929	0.635	NO
	Right Touch	0.084	0.634	0.013	0.711	0.023	0.946	0.718	0.097	0.795	0.107	1.03	0.731	NO
	Right Tilt	0.059	0.639	0.015	0.576	0.025	1.234	0.698	0.074	0.635	0.084	1.293	0.713	NO
LTE 5	Left Touch	0.175	0.388	0.005	0.105	0.000	0.633	0.563	0.18	0.28	0.175	0.808	0.568	NO
	Left Tilt	0.095	0.557	0.007	0.122	0.051	0.858	0.652	0.102	0.217	0.146	0.953	0.659	NO
	Right Touch	0.176	0.634	0.013	0.711	0.023	0.946	0.81	0.189	0.887	0.199	1.122	0.823	NO
	Right Tilt	0.125	0.639	0.015	0.576	0.025	1.234	0.764	0.14	0.701	0.15	1.359	0.779	NO
LTE 12	Left Touch	0.112	0.388	0.005	0.105	0.000	0.633	0.5	0.117	0.217	0.112	0.745	0.505	NO
	Left Tilt	0.059	0.557	0.007	0.122	0.051	0.858	0.616	0.066	0.181	0.11	0.917	0.623	NO
	Right Touch	0.105	0.634	0.013	0.711	0.023	0.946	0.739	0.118	0.816	0.128	1.051	0.752	NO
	Right Tilt	0.065	0.639	0.015	0.576	0.025	1.234	0.704	0.08	0.641	0.09	1.299	0.719	NO
LTE13	Left Touch	0.174	0.388	0.005	0.105	0.000	0.633	0.562	0.179	0.279	0.174	0.807	0.567	NO
	Left Tilt	0.070	0.557	0.007	0.122	0.051	0.858	0.627	0.077	0.192	0.121	0.928	0.634	NO
	Right Touch	0.111	0.634	0.013	0.711	0.023	0.946	0.745	0.124	0.822	0.134	1.057	0.758	NO
	Right Tilt	0.053	0.639	0.015	0.576	0.025	1.234	0.692	0.068	0.629	0.078	1.287	0.707	NO

Band	Configuration	Main	5GHz SISO Ant1 SAR (W/kg)	5 GHz SISO Ant2 SAR (W/kg)	2.4GHz z SISO Ant1 SAR (W/kg)	2.4 GHz SISO Ant2 SAR (W/kg)	BT	$\sum$ 1-g SAR	SPLSR					
		1	2	3	4	5	6	1+2	1+3	1+4	1+5	1+6	1+4+5	Yes/No
LTE 25	Left Touch	0.076	0.388	0.005	0.105	0.000	0.633	0.464	0.081	0.181	0.076	0.709	0.469	NO
	Left Tilt	0.070	0.557	0.007	0.122	0.051	0.858	0.627	0.077	0.192	0.121	0.928	0.634	NO
	Right Touch	0.088	0.634	0.013	0.711	0.023	0.946	0.722	0.101	0.799	0.111	1.034	0.735	NO
	Right Tilt	0.054	0.639	0.015	0.576	0.025	1.234	0.693	0.069	0.63	0.079	1.288	0.708	NO
LTE 26	Left Touch	0.191	0.388	0.005	0.105	0.000	0.633	0.579	0.196	0.296	0.191	0.824	0.584	NO
	Left Tilt	0.064	0.557	0.007	0.122	0.051	0.858	0.621	0.071	0.186	0.115	0.922	0.628	NO
	Right Touch	0.125	0.634	0.013	0.711	0.023	0.946	0.759	0.138	0.836	0.148	1.071	0.772	NO
	Right Tilt	0.087	0.639	0.015	0.576	0.025	1.234	0.726	0.102	0.663	0.112	1.321	0.741	NO
LTE 41(PC3)	Left Touch	0.036	0.388	0.005	0.105	0.000	0.633	0.424	0.041	0.141	0.036	0.669	0.429	NO
	Left Tilt	0.060	0.557	0.007	0.122	0.051	0.858	0.617	0.067	0.182	0.111	0.918	0.624	NO
	Right Touch	0.035	0.634	0.013	0.711	0.023	0.946	0.669	0.048	0.746	0.058	0.981	0.682	NO
	Right Tilt	0.037	0.639	0.015	0.576	0.025	1.234	0.676	0.052	0.613	0.062	1.271	0.691	NO
LTE 41(PC2)	Left Touch	0.032	0.388	0.005	0.105	0.000	0.633	0.42	0.037	0.137	0.032	0.665	0.425	NO
	Left Tilt	0.060	0.557	0.007	0.122	0.051	0.858	0.617	0.067	0.182	0.111	0.918	0.624	NO
	Right Touch	0.041	0.634	0.013	0.711	0.023	0.946	0.675	0.054	0.752	0.064	0.987	0.688	NO
	Right Tilt	0.032	0.639	0.015	0.576	0.025	1.234	0.671	0.047	0.608	0.057	1.266	0.686	NO
LTE 66	Left Touch	0.090	0.388	0.005	0.105	0.000	0.633	0.478	0.095	0.195	0.09	0.723	0.483	NO
	Left Tilt	0.088	0.557	0.007	0.122	0.051	0.858	0.645	0.095	0.21	0.139	0.946	0.652	NO
	Right Touch	0.087	0.634	0.013	0.711	0.023	0.946	0.721	0.1	0.798	0.11	1.033	0.734	NO
	Right Tilt	0.055	0.639	0.015	0.576	0.025	1.234	0.694	0.07	0.631	0.08	1.289	0.709	NO

Band	Configuration	Main	5GHz MIMO RCV SAR (W/kg)	Bluetooth	$\Sigma$ 1-g SAR	$\Sigma$ 1-g SAR	SPLSR
		1	2	3	1+2	1+2+3	Yes/No
GSM850	Left Touch	0.278	0.107	0.632	0.385	1.017	NO
	Left Tilt	0.129	0.123	0.857	0.252	1.109	NO
	Right Touch	0.188	0.756	0.946	0.944	See the Sec.14.5	YES
	Right Tilt	0.145	0.639	1.233	0.784	See the Sec.14.5	YES
GSM1900	Left Touch	0.081	0.107	0.632	0.188	0.82	NO
	Left Tilt	0.066	0.123	0.857	0.189	1.046	NO
	Right Touch	0.101	0.756	0.946	0.857	See the Sec.14.5	YES
	Right Tilt	0.039	0.639	1.233	0.678	See the Sec.14.5	YES
UMTS Band 2	Left Touch	0.079	0.107	0.632	0.186	0.818	NO
	Left Tilt	0.062	0.123	0.857	0.185	1.042	NO
	Right Touch	0.075	0.756	0.946	0.831	See the Sec.14.5	YES
	Right Tilt	0.051	0.639	1.233	0.69	See the Sec.14.5	YES
UMTS Band 4	Left Touch	0.099	0.107	0.632	0.206	0.838	NO
	Left Tilt	0.051	0.123	0.857	0.174	1.031	NO
	Right Touch	0.095	0.756	0.946	0.851	See the Sec.14.5	YES
	Right Tilt	0.035	0.639	1.233	0.674	See the Sec.14.5	YES
UMTS Band 5	Left Touch	0.183	0.107	0.632	0.29	0.922	NO
	Left Tilt	0.079	0.123	0.857	0.202	1.059	NO
	Right Touch	0.141	0.756	0.946	0.897	See the Sec.14.5	YES
	Right Tilt	0.121	0.639	1.233	0.76	See the Sec.14.5	YES
LTE 2	Left Touch	0.076	0.107	0.632	0.183	0.815	NO
	Left Tilt	0.071	0.123	0.857	0.194	1.051	NO
	Right Touch	0.084	0.756	0.946	0.84	See the Sec.14.5	YES
	Right Tilt	0.059	0.639	1.233	0.698	See the Sec.14.5	YES
LTE 5	Left Touch	0.175	0.107	0.632	0.282	0.914	NO
	Left Tilt	0.095	0.123	0.857	0.218	1.075	NO
	Right Touch	0.176	0.756	0.946	0.932	See the Sec.14.5	YES
	Right Tilt	0.125	0.639	1.233	0.764	See the Sec.14.5	YES

Band	Configurat ion	Main	5GHz MIMO RCV SAR (W/kg)	Bluetooth	$\Sigma$ 1-g SAR	$\Sigma$ 1-g SAR	SPLSR
		1	2	3	1+2	1+2+3	Yes/No
LTE 12	Left Touch	0.280	0.107	0.632	0.387	1.019	NO
	Left Tilt	0.130	0.123	0.857	0.253	<b>1.11</b>	NO
	Right Touch	0.189	0.756	0.946	0.945	See the Sec.14.5	YES
	Right Tilt	0.146	0.639	1.233	0.785	See the Sec.14.5	YES
LTE13	Left Touch	0.081	0.107	0.632	0.188	0.82	NO
	Left Tilt	0.066	0.123	0.857	0.189	1.046	NO
	Right Touch	0.101	0.756	0.946	0.857	See the Sec.14.5	YES
	Right Tilt	0.039	0.639	1.233	0.678	See the Sec.14.5	YES
LTE 25	Left Touch	0.079	0.107	0.632	0.186	0.818	NO
	Left Tilt	0.062	0.123	0.857	0.185	1.042	NO
	Right Touch	0.075	0.756	0.946	0.831	See the Sec.14.5	YES
	Right Tilt	0.051	0.639	1.233	0.69	See the Sec.14.5	YES
LTE 26	Left Touch	0.099	0.107	0.632	0.206	0.838	NO
	Left Tilt	0.051	0.123	0.857	0.174	1.031	NO
	Right Touch	0.095	0.756	0.946	0.851	See the Sec.14.5	YES
	Right Tilt	0.035	0.639	1.233	0.674	See the Sec.14.5	YES
LTE 41(PC3)	Left Touch	0.183	0.107	0.632	0.29	0.922	NO
	Left Tilt	0.079	0.123	0.857	0.202	1.059	NO
	Right Touch	0.141	0.756	0.946	0.897	See the Sec.14.5	YES
	Right Tilt	0.121	0.639	1.233	0.76	See the Sec.14.5	YES
LTE 41(PC2)	Left Touch	0.076	0.107	0.632	0.183	0.815	NO
	Left Tilt	0.071	0.123	0.857	0.194	1.051	NO
	Right Touch	0.084	0.756	0.946	0.84	See the Sec.14.5	YES
	Right Tilt	0.059	0.639	1.233	0.698	See the Sec.14.5	YES
LTE 66	Left Touch	0.175	0.107	0.632	0.282	0.914	NO
	Left Tilt	0.095	0.123	0.857	0.218	1.075	NO
	Right Touch	0.176	0.756	0.946	0.932	See the Sec.14.5	YES
	Right Tilt	0.125	0.639	1.233	0.764	See the Sec.14.5	YES

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5GHz WLAN						
Band	Configuration	Main	2.4 GHz RCV MIMO SAR (W/kg)	5 GHz RCV MIMO SAR (W/kg)	$\sum$ 1-g SAR	SPLSR
		1	2	3	1+2+3	Yes/No
GSM850	Left Touch	0.278	0.29	0.063	0.631	NO
	Left Tilt	0.129	0.368	0.078	0.575	NO
	Right Touch	0.188	0.344	0.532	1.064	NO
	Right Tilt	0.145	0.437	0.407	0.989	NO
GSM1900	Left Touch	0.081	0.29	0.063	0.434	NO
	Left Tilt	0.066	0.368	0.078	0.512	NO
	Right Touch	0.101	0.344	0.532	0.977	NO
	Right Tilt	0.039	0.437	0.407	0.883	NO
UMTS Band 2	Left Touch	0.079	0.29	0.063	0.432	NO
	Left Tilt	0.062	0.368	0.078	0.508	NO
	Right Touch	0.075	0.344	0.532	0.951	NO
	Right Tilt	0.051	0.437	0.407	0.895	NO
UMTS Band 4	Left Touch	0.099	0.29	0.063	0.452	NO
	Left Tilt	0.051	0.368	0.078	0.497	NO
	Right Touch	0.095	0.344	0.532	0.971	NO
	Right Tilt	0.035	0.437	0.407	0.879	NO
UMTS Band 5	Left Touch	0.183	0.29	0.063	0.536	NO
	Left Tilt	0.079	0.368	0.078	0.525	NO
	Right Touch	0.141	0.344	0.532	1.017	NO
	Right Tilt	0.121	0.437	0.407	0.965	NO
LTE 2	Left Touch	0.076	0.29	0.063	0.429	NO
	Left Tilt	0.071	0.368	0.078	0.517	NO
	Right Touch	0.084	0.344	0.532	0.96	NO
	Right Tilt	0.059	0.437	0.407	0.903	NO
LTE 5	Left Touch	0.175	0.29	0.063	0.528	NO
	Left Tilt	0.095	0.368	0.078	0.541	NO
	Right Touch	0.176	0.344	0.532	1.052	NO
	Right Tilt	0.125	0.437	0.407	0.969	NO

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5GHz WLAN (RSDB with RCV on)						
Band	Configuration	Main	2.4 GHz MIMO SAR (W/kg)	5 GHz RCV MIMO SAR (W/kg)	$\Sigma$ 1-g SAR	SPLSR
		1	2	3	1+2+3	Yes/No
LTE 12	Left Touch	0.112	0.29	0.060	0.462	NO
	Left Tilt	0.059	0.368	0.073	0.5	NO
	Right Touch	0.105	0.344	0.521	0.97	NO
	Right Tilt	0.065	0.437	0.466	0.968	NO
LTE13	Left Touch	0.174	0.29	0.060	0.524	NO
	Left Tilt	0.070	0.368	0.073	0.511	NO
	Right Touch	0.111	0.344	0.521	0.976	NO
	Right Tilt	0.053	0.437	0.466	0.956	NO
LTE 25	Left Touch	0.076	0.29	0.060	0.426	NO
	Left Tilt	0.070	0.368	0.073	0.511	NO
	Right Touch	0.088	0.344	0.521	0.953	NO
	Right Tilt	0.054	0.437	0.466	0.957	NO
LTE 26	Left Touch	0.191	0.29	0.060	0.541	NO
	Left Tilt	0.064	0.368	0.073	0.505	NO
	Right Touch	0.125	0.344	0.521	0.99	NO
	Right Tilt	0.087	0.437	0.466	0.99	NO
LTE 41(PC3)	Left Touch	0.036	0.29	0.060	0.386	NO
	Left Tilt	0.060	0.368	0.073	0.501	NO
	Right Touch	0.035	0.344	0.521	0.9	NO
	Right Tilt	0.037	0.437	0.466	0.94	NO
LTE 41(PC2)	Left Touch	0.032	0.29	0.060	0.382	NO
	Left Tilt	0.060	0.368	0.073	0.501	NO
	Right Touch	0.041	0.344	0.521	0.906	NO
	Right Tilt	0.032	0.437	0.466	0.935	NO
LTE 66	Left Touch	0.090	0.29	0.060	0.44	NO
	Left Tilt	0.088	0.368	0.073	0.529	NO
	Right Touch	0.087	0.344	0.521	0.952	NO
	Right Tilt	0.055	0.437	0.466	0.958	NO

### 14.2 Body-Worn SAR Simultaneous Transmission Analysis.

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5GHz WLAN&BT														
Band	Configuration	Main	2.4GHz	2.4	5GHz	5GHz	BT	$\Sigma$ 1-g	SP LS R					
			SISOAnt 1 SAR (W/kg)	GHz Ant2 SAR (W/kg)	SAR (W/kg)	SAR (W/kg)		SAR	SAR	SAR	SAR	SAR	SAR	
			1	2	3	4	5	6	1+2	1+3	1+4	1+5	1+6	1+2+3
GSM850	Rear	0.529	0.141	0.210	0.524	0.542	0.136	0.670	0.739	1.053	1.071	0.665	0.880	NO
	Front	0.340	0.056	0.000	0.167	0.014	0.084	0.396	0.340	0.507	0.354	0.424	0.396	NO
GSM1900	Rear	0.649	0.141	0.210	0.524	0.542	0.136	0.790	0.859	1.173	1.191	0.785	1.000	NO
	Front	0.540	0.056	0.000	0.167	0.014	0.084	0.596	0.540	0.707	0.554	0.624	0.596	NO
WCDMA2	Rear	0.697	0.141	0.210	0.524	0.542	0.136	0.838	0.907	1.221	1.239	0.833	1.048	NO
	Front	0.537	0.056	0.000	0.167	0.014	0.084	0.593	0.537	0.704	0.551	0.621	0.593	NO
WCDMA4	Rear	0.696	0.141	0.210	0.524	0.542	0.136	0.837	0.906	1.220	1.238	0.832	1.047	NO
	Front	0.574	0.056	0.000	0.167	0.014	0.084	0.630	0.574	0.741	0.588	0.658	0.630	NO
WCDMA5	Rear	0.433	0.141	0.210	0.524	0.542	0.136	0.574	0.643	0.957	0.975	0.569	0.784	NO
	Front	0.323	0.056	0.000	0.167	0.014	0.084	0.379	0.323	0.490	0.337	0.407	0.379	NO
LTE 2	Rear	0.676	0.141	0.210	0.524	0.542	0.136	0.817	0.886	1.200	1.218	0.812	1.027	NO
	Front	0.535	0.056	0.000	0.167	0.014	0.084	0.591	0.535	0.702	0.549	0.619	0.591	NO
LTE 5	Rear	0.508	0.141	0.210	0.524	0.542	0.136	0.649	0.718	1.032	1.050	0.644	0.859	NO
	Front	0.387	0.056	0.000	0.167	0.014	0.084	0.443	0.387	0.554	0.401	0.471	0.443	NO
LTE 12/17	Rear	0.156	0.141	0.210	0.524	0.542	0.136	0.297	0.366	0.680	0.698	0.292	0.507	NO
	Front	0.078	0.056	0.000	0.167	0.014	0.084	0.134	0.078	0.245	0.092	0.162	0.134	NO
LTE 13	Rear	0.319	0.141	0.210	0.524	0.542	0.136	0.460	0.529	0.843	0.861	0.455	0.670	NO
	Front	0.241	0.056	0.000	0.167	0.014	0.084	0.297	0.241	0.408	0.255	0.325	0.297	NO
LTE 25	Rear	0.297	0.141	0.210	0.524	0.542	0.136	0.438	0.507	0.821	0.839	0.433	0.648	NO
	Front	0.267	0.056	0.000	0.167	0.014	0.084	0.323	0.267	0.434	0.281	0.351	0.323	NO
LTE 26	Rear	0.391	0.141	0.210	0.524	0.542	0.136	0.532	0.601	0.915	0.933	0.527	0.742	NO
	Front	0.327	0.056	0.000	0.167	0.014	0.084	0.383	0.327	0.494	0.341	0.411	0.383	NO
LTE 41(PC3)	Rear	0.343	0.141	0.210	0.524	0.542	0.136	0.484	0.553	0.867	0.885	0.479	0.694	NO
	Front	0.280	0.056	0.000	0.167	0.014	0.084	0.336	0.280	0.447	0.294	0.364	0.336	NO
LTE 41(PC2)	Rear	0.223	0.141	0.210	0.524	0.542	0.136	0.364	0.433	0.747	0.765	0.359	0.574	NO
	Front	0.168	0.056	0.000	0.167	0.014	0.084	0.224	0.168	0.335	0.182	0.252	0.224	NO
LTE 4/66	Rear	0.728	0.141	0.210	0.524	0.542	0.136	0.869	0.938	1.252	1.270	0.864	1.079	NO
	Front	0.681	0.056	0.000	0.167	0.014	0.084	0.737	0.681	0.848	0.695	0.765	0.737	NO

Simultaneous Transmission Summation Scenario with 5 GHz WLAN & Bluetooth						
Band	Configuration	Main	5GHz MIMO SAR (W/kg)	BT	$\sum$ 1-g SAR	SPLSR
		1	2	3	1+2+3	Yes/No
GSM850	Rear	0.529	0.716	0.136	1.381	NO
	Front	0.340	0.157	0.084	0.581	NO
GSM1900	Rear	0.649	0.716	0.136	1.501	NO
	Front	0.540	0.157	0.084	0.781	NO
UMTS Band 2	Rear	0.697	0.716	0.136	1.549	NO
	Front	0.537	0.157	0.084	0.778	NO
UMTS Band 4	Rear	0.696	0.716	0.136	1.548	NO
	Front	0.574	0.157	0.084	0.815	NO
UMTS Band 5	Rear	0.433	0.716	0.136	1.285	NO
	Front	0.323	0.157	0.084	0.564	NO
LTE 2	Rear	0.676	0.716	0.136	1.528	NO
	Front	0.535	0.157	0.084	0.776	NO
LTE 5	Rear	0.508	0.716	0.136	1.360	NO
	Front	0.387	0.157	0.084	0.628	NO
LTE 12	Rear	0.156	0.716	0.136	1.008	NO
	Front	0.078	0.157	0.084	0.319	NO
LTE 13	Rear	0.319	0.716	0.136	1.171	NO
	Front	0.241	0.157	0.084	0.482	NO
LTE 25	Rear	0.297	0.716	0.136	1.149	NO
	Front	0.267	0.157	0.084	0.508	NO
LTE 26	Rear	0.391	0.716	0.136	1.243	NO
	Front	0.327	0.157	0.084	0.568	NO
LTE 41(PC3)	Rear	0.343	0.716	0.136	1.195	NO
	Front	0.280	0.157	0.084	0.521	NO
LTE 41(PC2)	Rear	0.223	0.716	0.136	1.075	NO
	Front	0.168	0.157	0.084	0.409	NO
LTE 66	Rear	0.728	0.716	0.136	<b>1.580</b>	NO
	Front	0.681	0.157	0.084	0.922	NO

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5GHz WLAN(RSDB)						
Band	Configuration	Main	2.4GHz RSDB MIMO SAR (W/kg)	5GHz RSDB MIMO SAR (W/kg)	$\sum$ 1-g SAR	SPLSR
		1	2	3	1+2+3	Yes/No
GSM850	Rear	0.529	0.169	0.231	0.929	NO
	Front	0.340	0.051	0.038	0.429	NO
GSM1900	Rear	0.649	0.169	0.231	1.049	NO
	Front	0.540	0.051	0.038	0.629	NO
UMTS Band 2	Rear	0.697	0.169	0.231	1.097	NO
	Front	0.537	0.051	0.038	0.626	NO
UMTS Band 4	Rear	0.696	0.169	0.231	1.096	NO
	Front	0.574	0.051	0.038	0.663	NO
UMTS Band 5	Rear	0.433	0.169	0.231	0.833	NO
	Front	0.323	0.051	0.038	0.412	NO
LTE 2	Rear	0.676	0.169	0.231	1.076	NO
	Front	0.535	0.051	0.038	0.624	NO
LTE 5	Rear	0.508	0.169	0.231	0.908	NO
	Front	0.387	0.051	0.038	0.476	NO
LTE 12	Rear	0.156	0.169	0.231	0.556	NO
	Front	0.078	0.051	0.038	0.167	NO
LTE 13	Rear	0.319	0.169	0.231	0.719	NO
	Front	0.241	0.051	0.038	0.330	NO
LTE 25	Rear	0.297	0.169	0.231	0.697	NO
	Front	0.267	0.051	0.038	0.356	NO
LTE 26	Rear	0.391	0.169	0.231	0.791	NO
	Front	0.327	0.051	0.038	0.416	NO
LTE 41(PC3)	Rear	0.343	0.169	0.231	0.743	NO
	Front	0.280	0.051	0.038	0.369	NO
LTE 41(PC2)	Rear	0.223	0.169	0.231	0.623	NO
	Front	0.168	0.051	0.038	0.257	NO
LTE 66	Rear	0.728	0.169	0.231	1.128	NO
	Front	0.681	0.051	0.038	0.770	NO

### 14.3 Hotspot SAR Simultaneous Transmission Analysis.

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5GHz WLAN&BT																
Band	Configuration	Main	2.4GHz	2.4 GHz	2.4	5GHz	5GHz	BT	$\Sigma$ 1-g	$\Sigma$ 1-g	$\Sigma$ 1-g	$\Sigma$ 1-g	$\Sigma$ 1-g	$\Sigma$ 1-g	SPLSR	
			Ant1 SAR (W/kg)	Ant2 SAR (W/kg)	GHz MIMO SAR (W/kg)	Ant1 SAR (W/kg)	Ant2 SAR (W/kg)		1+2	1+3	1+5	1+6	1+7	1+4		Yes/No
GSM850	Rear	1.195	0.330	0.557	0.484	0.023	0.441	0.253	1.525	See the Sec.14.5	1.218	See the Sec.14.5	1.448	See the Sec.14.5	Yes	
	Front	0.705	0.141	0.009	0.080	0.282	0.000	0.103	0.846	0.714	0.987	0.705	0.808	0.785	NO	
	Left	0.314	0.103	0.056	0.175	0.472	0.095	0.054	0.417	0.37	0.786	0.409	0.368	0.489	NO	
	Right	0.170								0.17	0.17	0.17	0.17	0.17	0.17	NO
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO	
	Bottom	0.511								0.511	0.511	0.511	0.511	0.511	0.511	NO
GSM1900	Rear	0.564	0.330	0.557	0.484	0.023	0.441	0.253	0.894	1.121	0.587	1.005	0.817	1.048	NO	
	Front	0.523	0.141	0.009	0.080	0.282	0.000	0.103	0.664	0.532	0.805	0.523	0.626	0.603	NO	
	Left	0.046	0.103	0.056	0.175	0.472	0.095	0.054	0.149	0.102	0.518	0.141	0.1	0.221	NO	
	Right	0.072							0.072	0.072	0.072	0.072	0.072	0.072	NO	
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO	
	Bottom	0.973								0.973	0.973	0.973	0.973	0.973	0.973	NO
WCDMA2	Rear	0.492	0.330	0.557	0.484	0.023	0.441	0.253	0.822	1.049	0.515	0.933	0.745	0.976	NO	
	Front	0.348	0.141	0.009	0.080	0.282	0.000	0.103	0.489	0.357	0.63	0.348	0.451	0.428	NO	
	Left	0.051	0.103	0.056	0.175	0.472	0.095	0.054	0.154	0.107	0.523	0.146	0.105	0.226	NO	
	Right	0.073							0.073	0.073	0.073	0.073	0.073	0.073	NO	
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO	
	Bottom	1.033								1.033	1.033	1.033	1.033	1.033	1.033	NO
WCDMA4	Rear	0.509	0.330	0.557	0.484	0.023	0.441	0.253	0.839	1.066	0.532	0.95	0.762	0.993	NO	
	Front	0.346	0.141	0.009	0.080	0.282	0.000	0.103	0.487	0.355	0.628	0.346	0.449	0.426	NO	
	Left	0.066	0.103	0.056	0.175	0.472	0.095	0.054	0.169	0.122	0.538	0.161	0.12	0.241	NO	
	Right	0.099							0.099	0.099	0.099	0.099	0.099	0.099	NO	
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO	
	Bottom	0.999								0.999	0.999	0.999	0.999	0.999	0.999	NO
WCDMA5	Rear	0.998	0.330	0.557	0.484	0.023	0.441	0.253	1.328	1.555	1.021	1.439	1.251	1.482	NO	
	Front	0.579	0.141	0.009	0.080	0.282	0.000	0.103	0.72	0.588	0.861	0.579	0.682	0.659	NO	
	Left	0.227	0.103	0.056	0.175	0.472	0.095	0.054	0.33	0.283	0.699	0.322	0.281	0.402	NO	
	Right	0.121							0.121	0.121	0.121	0.121	0.121	0.121	NO	
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO	
	Bottom	0.443								0.443	0.443	0.443	0.443	0.443	0.443	NO
LTE 2	Rear	0.765	0.330	0.557	0.484	0.023	0.441	0.253	1.095	1.322	0.788	1.206	1.018	1.249	NO	
	Front	0.486	0.141	0.009	0.080	0.282	0.000	0.103	0.627	0.495	0.768	0.486	0.589	0.566	NO	
	Left	0.121	0.103	0.056	0.175	0.472	0.095	0.054	0.224	0.177	0.593	0.216	0.175	0.296	NO	
	Right	0.085							0.085	0.085	0.085	0.085	0.085	0.085	NO	
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO	
	Bottom	1.048								1.048	1.048	1.048	1.048	1.048	1.048	NO

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5GHz WLAN&BT															
Band	Configuration	Main	2.4GHz Ant1 SAR (W/kg)	2.4 GHz Ant2 SAR (W/kg)	2.4 GHz MIMO SAR (W/kg)	5GHz Ant1 SAR (W/kg)	5GHz Ant2 SAR (W/kg)	BT	∑ 1-g SAR	SPLSR					
		1	2	3	4	5	6	7	1+2	1+3	1+5	1+6	1+7	1+4	Yes/No
LTE 5	Rear	0.878	0.330	0.557	0.484	0.023	0.441	0.253	1.208	1.435	0.901	1.319	1.131	1.362	NO
	Front	0.646	0.141	0.009	0.080	0.282	0.000	0.103	0.787	0.655	0.928	0.646	0.749	0.726	NO
	Left	0.267	0.103	0.056	0.175	0.472	0.095	0.054	0.37	0.323	0.739	0.362	0.321	0.442	NO
	Right	0.187							0.187	0.187	0.187	0.187	0.187	0.187	NO
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO
	Bottom	0.508							0.508	0.508	0.508	0.508	0.508	0.508	NO
LTE 12/17	Rear	0.275	0.330	0.557	0.484	0.023	0.441	0.253	0.605	0.832	0.298	0.716	0.528	0.759	NO
	Front	0.152	0.141	0.009	0.080	0.282	0.000	0.103	0.293	0.161	0.434	0.152	0.255	0.232	NO
	Left	0.149	0.103	0.056	0.175	0.472	0.095	0.054	0.252	0.205	0.621	0.244	0.203	0.324	NO
	Right	0.082							0.082	0.082	0.082	0.082	0.082	0.082	NO
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO
	Bottom	0.143							0.143	0.143	0.143	0.143	0.143	0.143	NO
LTE 13	Rear	0.468	0.330	0.557	0.484	0.023	0.441	0.253	0.798	1.025	0.491	0.909	0.721	0.952	NO
	Front	0.344	0.141	0.009	0.080	0.282	0.000	0.103	0.485	0.353	0.626	0.344	0.447	0.424	NO
	Left	0.196	0.103	0.056	0.175	0.472	0.095	0.054	0.299	0.252	0.668	0.291	0.25	0.371	NO
	Right	0.098							0.098	0.098	0.098	0.098	0.098	0.098	NO
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO
	Bottom	0.230							0.23	0.23	0.23	0.23	0.23	0.23	NO
LTE 25	Rear	0.783	0.330	0.557	0.484	0.023	0.441	0.253	1.113	1.34	0.806	1.224	1.036	1.267	NO
	Front	0.510	0.141	0.009	0.080	0.282	0.000	0.103	0.651	0.519	0.792	0.51	0.613	0.59	NO
	Left	0.067	0.103	0.056	0.175	0.472	0.095	0.054	0.17	0.123	0.539	0.162	0.121	0.242	NO
	Right	0.097							0.097	0.097	0.097	0.097	0.097	0.097	NO
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO
	Bottom	1.086							1.086	1.086	1.086	1.086	1.086	1.086	NO
LTE 26	Rear	0.707	0.330	0.557	0.484	0.023	0.441	0.253	1.037	1.264	0.73	1.148	0.96	1.191	NO
	Front	0.570	0.141	0.009	0.080	0.282	0.000	0.103	0.711	0.579	0.852	0.57	0.673	0.65	NO
	Left	0.216	0.103	0.056	0.175	0.472	0.095	0.054	0.319	0.272	0.688	0.311	0.27	0.391	NO
	Right	0.097							0.097	0.097	0.097	0.097	0.097	0.097	NO
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO
	Bottom	0.366							0.366	0.366	0.366	0.366	0.366	0.366	NO
LTE 41(PC3)	Rear	0.774	0.330	0.557	0.484	0.023	0.441	0.253	1.104	1.331	0.797	1.215	1.027	1.258	NO
	Front	0.651	0.141	0.009	0.080	0.282	0.000	0.103	0.792	0.66	0.933	0.651	0.754	0.731	NO
	Left		0.103	0.056	0.175	0.472	0.095	0.054	0.103	0.056	0.472	0.095	0.054	0.175	NO
	Right	0.276							0.276	0.276	0.276	0.276	0.276	0.276	NO
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO
	Bottom	0.917							0.917	0.917	0.917	0.917	0.917	0.917	NO

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5GHz WLAN&BT															
Band	Configuration	Main	2.4GHz Ant1 SAR (W/kg)	2.4 GHz Ant2 SAR (W/kg)	2.4 GHz MIMO SAR (W/kg)	5GHz Ant1 SAR (W/kg)	5GHz Ant2 SAR (W/kg)	BT	$\Sigma$ 1-g SAR	SPLSR					
		1	2	3	4	5	6	7	1+2	1+3	1+5	1+6	1+7	1+4	Yes/No
LTE 4/66	Rear	0.905	0.330	0.557	0.484	0.023	0.441	0.253	1.235	1.462	0.928	1.346	1.158	1.389	NO
	Front	0.497	0.141	0.009	0.080	0.282	0.000	0.103	0.638	0.506	0.779	0.497	0.6	0.577	NO
	Left	0.060	0.103	0.056	0.175	0.472	0.095	0.054	0.163	0.116	0.532	0.155	0.114	0.235	NO
	Right	0.102							0.102	0.102	0.102	0.102	0.102	0.102	NO
	Top		0.472	0.025	0.275	0.253	0.056	0.351	0.472	0.025	0.253	0.056	0.351	0.275	NO
	Bottom	1.336							1.336	1.336	1.336	1.336	1.336	1.336	NO

Simultaneous Transmission Summation Scenario with 5 GHz MIMO WLAN & BT							
Band	Configuration	Main	5GHz MIMO SAR (W/kg)	Bluetooth	$\sum$ 1-g SAR	$\sum$ 1-g SAR	SPLSR
		1	2	3	1+2	1+2+3	Yes/No
GSM850	Rear	1.195	0.915	0.253	See the Sec.14.5	See the Sec.14.5	Yes
	Front	0.705	0.308	0.103	1.013	1.116	NO
	Left	0.314	0.618	0.054	0.932	0.986	NO
	Right	0.170			0.170	0.170	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	0.511			0.511	0.511	NO
GSM1900	Rear	0.564	0.915	0.253	1.479	See the Sec.14.5	YES
	Front	0.523	0.308	0.103	0.831	0.934	NO
	Left	0.046	0.618	0.054	0.664	0.718	NO
	Right	0.072			0.072	0.072	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	0.973			0.973	0.973	NO
UMTS Band 2	Rear	0.492	0.915	0.253	1.407	See the Sec.14.5	YES
	Front	0.348	0.308	0.103	0.656	0.759	NO
	Left	0.051	0.618	0.054	0.669	0.723	NO
	Right	0.073			0.073	0.073	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	1.033			1.033	1.033	NO
UMTS Band 4	Rear	0.509	0.915	0.253	1.424	See the Sec.14.5	YES
	Front	0.346	0.308	0.103	0.654	0.757	NO
	Left	0.066	0.618	0.054	0.684	0.738	NO
	Right	0.099			0.099	0.099	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	0.999			0.999	0.999	NO
UMTS Band 5	Rear	0.998	0.915	0.253	See the Sec.14.5	See the Sec.14.5	Yes
	Front	0.579	0.308	0.103	0.887	0.990	NO
	Left	0.227	0.618	0.054	0.845	0.899	NO
	Right	0.121			0.121	0.121	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	0.443			0.443	0.443	NO

Simultaneous Transmission Summation Scenario with 5 GHz MIMO WLAN & BT							
Band	Configuration	Main	5GHz MIMO SAR (W/kg)	Bluetooth	$\sum$ 1-g SAR	$\sum$ 1-g SAR	SPLSR
		1	2	3	1+2	1+2+3	Yes/No
LTE 2	Rear	0.765	0.915	0.253	See the Sec.14.5	See the Sec.14.5	YES
	Front	0.486	0.308	0.103	0.794	0.897	NO
	Left	0.121	0.618	0.054	0.739	0.793	NO
	Right	0.085			0.085	0.085	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	1.048			1.048	1.048	NO
LTE 5	Rear	0.878	0.915	0.253	See the Sec.14.5	See the Sec.14.5	YES
	Front	0.646	0.308	0.103	0.954	1.057	NO
	Left	0.267	0.618	0.054	0.885	0.939	NO
	Right	0.187			0.187	0.187	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	0.508			0.508	0.508	NO
LTE 12	Rear	0.275	0.915	0.253	1.190	1.443	NO
	Front	0.152	0.308	0.103	0.460	0.563	NO
	Left	0.149	0.618	0.054	0.767	0.821	NO
	Right	0.082			0.082	0.082	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	0.143			0.143	0.143	NO
LTE 13	Rear	0.468	0.915	0.253	1.383	See the Sec.14.5	YES
	Front	0.344	0.308	0.103	0.652	0.755	NO
	Left	0.196	0.618	0.054	0.814	0.868	NO
	Right	0.098			0.098	0.098	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	0.230			0.230	0.230	NO
LTE 25	Rear	0.783	0.915	0.253	See the Sec.14.5	See the Sec.14.5	YES
	Front	0.510	0.308	0.103	0.818	0.921	NO
	Left	0.067	0.618	0.054	0.685	0.739	NO
	Right	0.097			0.097	0.097	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	1.086			1.086	1.086	NO

Simultaneous Transmission Summation Scenario with 5 GHz MIMO WLAN & BT							
Band	Configuration	Main	5GHz MIMO SAR (W/kg)	Bluetooth	$\sum$ 1-g SAR	$\sum$ 1-g SAR	SPLSR
		1	2	3	1+2	1+2+3	Yes/No
LTE 26	Rear	0.707	0.915	0.253	See the Sec.14.5	See the Sec.14.5	YES
	Front	0.570	0.308	0.103	0.878	0.981	NO
	Left	0.216	0.618	0.054	0.834	0.888	NO
	Right	0.097			0.097	0.097	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	0.366			0.366	0.366	NO
LTE 41(PC3)	Rear	0.774	0.915	0.253	See the Sec.14.5	See the Sec.14.5	YES
	Front	0.651	0.308	0.103	0.959	1.062	NO
	Left		0.618	0.054	0.618	0.672	NO
	Right	0.276			0.276	0.276	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	0.917			0.917	0.917	NO
LTE 66	Rear	0.905	0.915	0.253	See the Sec.14.5	See the Sec.14.5	YES
	Front	0.497	0.308	0.103	0.805	0.908	NO
	Left	0.060	0.618	0.054	0.678	0.732	NO
	Right	0.102			0.102	0.102	NO
	Top		0.348	0.350	0.348	0.698	NO
	Bottom	1.336			1.336	1.336	NO

Simultaneous Transmission Summation Scenario with 2.4 GHz MIMO WLAN & 5 GHz MIMO WLAN(RSDB)						
Band	Configuration	Main	2.4GHz RSDB MIMO SAR (W/kg)	5GHz RSDB MIMO SAR (W/kg)	$\sum$ 1-g SAR	SPLSR
		1	2	3	1+2+3	Yes/No
GSM850	Rear	1.195	0.484	0.290	See the Sec.14.5	YES
	Front	0.705	0.080	0.074	0.859	NO
	Left	0.314	0.175	0.182	0.671	NO
	Right	0.170			0.170	NO
	Top		0.275	0.088	0.363	NO
	Bottom	0.511			0.511	NO
GSM1900	Rear	0.564	0.484	0.290	1.338	NO
	Front	0.523	0.080	0.074	0.677	NO
	Left	0.046	0.175	0.182	0.403	NO
	Right	0.072			0.072	NO
	Top		0.275	0.088	0.363	NO
	Bottom	0.973			0.973	NO
UMTS Band 2	Rear	0.492	0.484	0.290	1.266	NO
	Front	0.348	0.080	0.074	0.502	NO
	Left	0.051	0.175	0.182	0.408	NO
	Right	0.073			0.073	NO
	Top		0.275	0.088	0.363	NO
	Bottom	1.033			1.033	NO
UMTS Band 4	Rear	0.509	0.484	0.290	1.283	NO
	Front	0.346	0.080	0.074	0.500	NO
	Left	0.066	0.175	0.182	0.423	NO
	Right	0.099			0.099	NO
	Top		0.275	0.088	0.363	NO
	Bottom	0.999			0.999	NO
UMTS Band 5	Rear	0.998	0.484	0.290	See the Sec.14.5.	YES
	Front	0.579	0.080	0.074	0.733	NO
	Left	0.227	0.175	0.182	0.584	NO
	Right	0.121			0.121	NO
	Top		0.275	0.088	0.363	NO
	Bottom	0.443			0.443	NO

Simultaneous Transmission Summation Scenario with 2.4 GHz MIMO WLAN & 5 GHz MIMO WLAN(RSDB)						
Band	Configuration	Main	2.4GHz RSDB MIMO SAR (W/kg)	5GHz RSDB MIMO SAR (W/kg)	$\sum$ 1-g SAR	SPLSR
		1	2	3	1+2+3	Yes/No
LTE 2	Rear	0.765	0.484	0.290	1.539	NO
	Front	0.486	0.080	0.074	0.640	NO
	Left	0.121	0.175	0.182	0.478	NO
	Right	0.085			0.085	NO
	Top		0.275	0.088	0.363	NO
	Bottom	1.048			1.048	NO
LTE 5	Rear	0.878	0.484	0.290	See the Sec.14.5.	YES
	Front	0.646	0.080	0.074	0.800	NO
	Left	0.267	0.175	0.182	0.624	NO
	Right	0.187			0.187	NO
	Top		0.275	0.088	0.363	NO
	Bottom	0.508			0.508	NO
LTE 12	Rear	0.275	0.484	0.290	1.049	NO
	Front	0.152	0.080	0.074	0.306	NO
	Left	0.149	0.175	0.182	0.506	NO
	Right	0.082			0.082	NO
	Top		0.275	0.088	0.363	NO
	Bottom	0.143			0.143	NO
LTE 13	Rear	0.468	0.484	0.290	1.242	NO
	Front	0.344	0.080	0.074	0.498	NO
	Left	0.196	0.175	0.182	0.553	NO
	Right	0.098			0.098	NO
	Top		0.275	0.088	0.363	NO
	Bottom	0.230			0.230	NO
LTE 25	Rear	0.783	0.484	0.290	1.557	NO
	Front	0.510	0.080	0.074	0.664	NO
	Left	0.067	0.175	0.182	0.424	NO
	Right	0.097			0.097	NO
	Top		0.275	0.088	0.363	NO
	Bottom	1.086			1.086	NO

Simultaneous Transmission Summation Scenario with 2.4 GHz MIMO WLAN & 5 GHz MIMO WLAN(RSDB)						
Band	Configuration	Main	2.4GHz RSDB MIMO SAR (W/kg)	5GHz RSDB MIMO SAR (W/kg)	$\sum$ 1-g SAR	SPLSR
		1	2	3	1+2+3	Yes/No
LTE 26	Rear	0.707	0.484	0.290	1.481	NO
	Front	0.570	0.080	0.074	0.724	NO
	Left	0.216	0.175	0.182	0.573	NO
	Right	0.097			0.097	NO
	Top		0.275	0.088	0.363	NO
	Bottom	0.366			0.366	NO
LTE 41(PC3)	Rear	0.774	0.484	0.290	1.548	NO
	Front	0.651	0.080	0.074	0.805	NO
	Left		0.175	0.182	0.357	NO
	Right	0.276			0.276	NO
	Top		0.275	0.088	0.363	NO
	Bottom	0.917			0.917	NO
LTE 66	Rear	0.905	0.484	0.290	See the Sec.14.5	YES
	Front	0.497	0.080	0.074	0.651	NO
	Left	0.060	0.175	0.182	0.417	NO
	Right	0.102			0.102	NO
	Top		0.275	0.088	0.363	NO
	Bottom	1.336			1.336	NO

14.4 Phablet SAR Simultaneous Transmission Analysis

Phablet 10g SAR Simultaneous Transmission Scenario with 5 GHz WLAN									
Band	Configuration	Main	5GHz Ant1 SAR (W/kg)	5GHz Ant2 SAR (W/kg)	5GHz MIMO SAR (W/kg)	$\sum$ 1-g SAR	$\sum$ 1-g SAR	$\sum$ 1-g SAR	SPLSR
		1	2	3	4	1+2	1+3	1+4	Yes/No
GSM1900	Rear	1.977	0.859	1.941	1.838	2.836	3.918	3.815	NO
	Front	1.068	0.871	0.046	0.916	1.939	1.114	1.984	NO
	Left	0.234	1.442	0.353	1.737	1.676	0.587	1.971	NO
	Right	0.561				0.561	0.561	0.561	NO
	Top		0.417	0.204	0.617	0.417	0.204	0.617	NO
	Bottom	1.212				1.212	1.212	1.212	NO
UMTS Band 2	Rear	0.975	0.859	1.941	1.838	1.834	2.916	2.813	NO
	Front	0.92	0.871	0.046	0.916	1.791	0.966	1.836	NO
	Left	0.224	1.442	0.353	1.737	1.666	0.577	1.961	NO
	Right	0.33				0.33	0.33	0.33	NO
	Top		0.417	0.204	0.617	0.417	0.204	0.617	NO
	Bottom	2.538				2.538	2.538	2.538	NO
UMTS Band 4	Rear	1.108	0.859	1.941	1.838	1.967	3.049	2.946	NO
	Front	0.9	0.871	0.046	0.916	1.771	0.946	1.816	NO
	Left	0.236	1.442	0.353	1.737	1.678	0.589	1.973	NO
	Right	0.403				0.403	0.403	0.403	NO
	Top		0.417	0.204	0.617	0.417	0.204	0.617	NO
	Bottom	2.232				2.232	2.232	2.232	NO
LTE 2	Rear	1.48	0.859	1.941	1.838	2.339	3.421	3.318	NO
	Front	1.147	0.871	0.046	0.916	2.018	1.193	2.063	NO
	Left	0.299	1.442	0.353	1.737	1.741	0.652	2.036	NO
	Right	0.439				0.439	0.439	0.439	NO
	Top		0.417	0.204	0.617	0.417	0.204	0.617	NO
	Bottom	2.135				2.135	2.135	2.135	NO
LTE 25	Rear	1.49	0.859	1.941	1.838	2.349	3.431	3.328	NO
	Front	1.176	0.871	0.046	0.916	2.047	1.222	2.092	NO
	Left	0.303	1.442	0.353	1.737	1.745	0.656	2.04	NO
	Right	0.4452				0.4452	0.4452	0.4452	NO
	Top		0.417	0.204	0.617	0.417	0.204	0.617	NO
	Bottom	2.18				2.18	2.18	2.18	NO

Phablet 10g SAR Simultaneous Transmission Scenario with 5 GHz WLAN

Band	Configuration	Main	5GHz Ant1 SAR (W/kg)	5GHz Ant2 SAR (W/kg)	5GHz MIMO SAR (W/kg)	$\sum$ 1-g SAR	$\sum$ 1-g SAR	$\sum$ 1-g SAR	SPLSR
		1	2	3	4	1+2	1+3	1+4	Yes/No
LTE 4/66	Rear	1.8	0.859	1.941	1.838	2.659	3.741	3.638	NO
	Front	1.205	0.871	0.046	0.916	2.076	1.251	2.121	NO
	Left	0.302	1.442	0.353	1.737	1.744	0.655	2.039	NO
	Right	0.515				0.515	0.515	0.515	NO
	Top		0.417	0.204	0.617	0.417	0.204	0.617	NO
	Bottom	3.137				3.137	3.137	3.137	NO

### 14.5 SAR to Peak Location Separation Ratio (SPLSR)

FCC KDB 447498 D01v06 General RF Exposure Guidance introduces a new formula for calculating the SAR a Peak Location Separation Ratio(SPLSR) between pairs of simultaneously transmitting antennas:

$$SPLSR_i = (SAR_1 + SAR_2)^{1.5} / R_i$$

Where:

**SAR<sub>1</sub>** is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

**SAR<sub>2</sub>** is the highest measured of estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

**R<sub>i</sub>** is the separation distance between the pair of simultaneous transmitting antennas, When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of  $[(X_1 - X_2)^2 + (Y_1 - Y_2)^2 + (Z_1 - Z_2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum 1-g of SAR > 1.6 W/kg and with the sum 10-g of SAR > 4 W/Kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(SAR_1 + SAR_2)^{1.5} / R_i \leq 0.04 \text{ for 1g SAR and } (SAR_1 + SAR_2)^{1.5} / R_i \leq 0.1 \text{ for 10g SAR}$$

#### 14.5.1 SPLSR Evaluation

##### -Hotspot Mode

Mode/Band	X(m)	Y(m)	Z(m)	Reported SAR [W/kg]
GSM 850	-0.0445	-0.0805	-0.207	1.206
GSM 1900	-0.028	-0.0895	-0.207	0.564
UMTS Band 2	-0.025	-0.0865	-0.202	0.499
UMTS Band 4	-0.0265	-0.0865	-0.202	0.510
UMTS Band 5	-0.0445	-0.0805	-0.206	0.998
LTE Band 2	-0.025	-0.0815	-0.202	0.765
LTE Band 5	-0.043	-0.077	-0.206	0.878
LTE Band 13	-0.0445	-0.0755	-0.206	0.468
LTE Band 25	-0.0265	-0.0815	-0.202	0.783
LTE Band 26	-0.0415	-0.0755	-0.202	0.710
LTE Band 41	-0.0502	-0.0788	-0.202	0.774
LTE Band 66	-0.028	-0.0815	-0.202	0.905
WLAN 2.4GHz Ant 2	0.0106	0.0714	-0.205	0.557
WLAN 2.4GHz MIMO	0.0094	0.0726	-0.205	0.484
WLAN 5GHz Ant2	-0.001	0.063	-0.208	0.440
WLAN 5GHz MIMO	0.007	0.073	-0.208	0.915

### 14.5.2 SAR to Peak Location Ratio (SPLSR) Figures

#### -Hotspot Mode

GSM850 SAR 1g (W/kg)	2.4GHz WLAN Ant2 SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#1
1.206	0.557	1.763	161.60	0.014	

GSM850 SAR 1g (W/kg)	2.4GHz WLAN MIMO SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#2
1.206	0.484	1.690	162.32	0.014	

GSM850 SAR 1g (W/kg)	5GHz WLAN Ant2 SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#3
1.206	0.440	1.646	149.52	0.014	

GSM850 SAR 1g (W/kg)	5GHz WLAN MIMO SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#4
1.206	0.915	2.121	161.91	0.019	

UMTS B5 SAR 1g (W/kg)	5GHz WLAN MIMO SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#5
0.998	0.915	1.913	161.92	0.016	

LTE B2 SAR 1g (W/kg)	5GHz WLAN MIMO SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#6
0.765	0.915	1.680	157.89	0.014	

LTE B5 SAR 1g (W/kg)	5GHz WLAN MIMO SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#7
0.878	0.915	1.793	158.13	0.015	

LTE B25 SAR 1g (W/kg)	5GHz WLAN MIMO SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Seperation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
0.783	0.915	1.698	158.20	0.014	#8

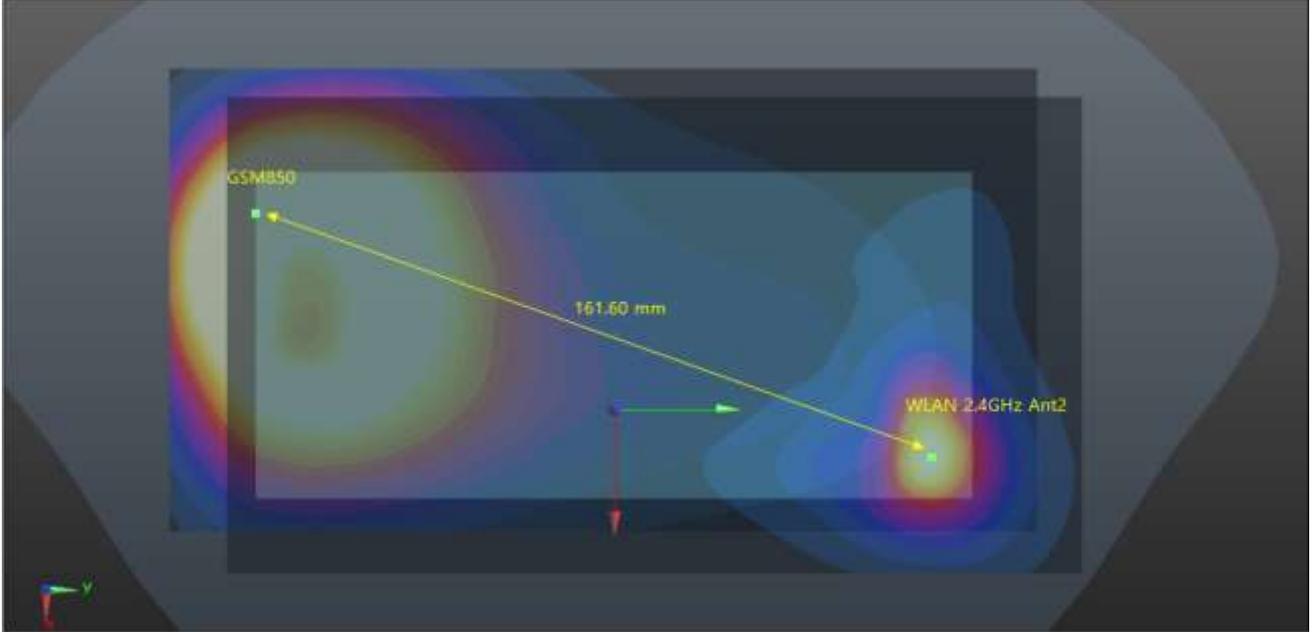
LTE B26 SAR 1g (W/kg)	5GHz WLAN MIMO SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Seperation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
0.710	0.915	1.625	156.34	0.013	#9

LTE B66 SAR 1g (W/kg)	5GHz WLAN MIMO SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Seperation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
0.905	0.915	1.820	158.53	0.015	#10

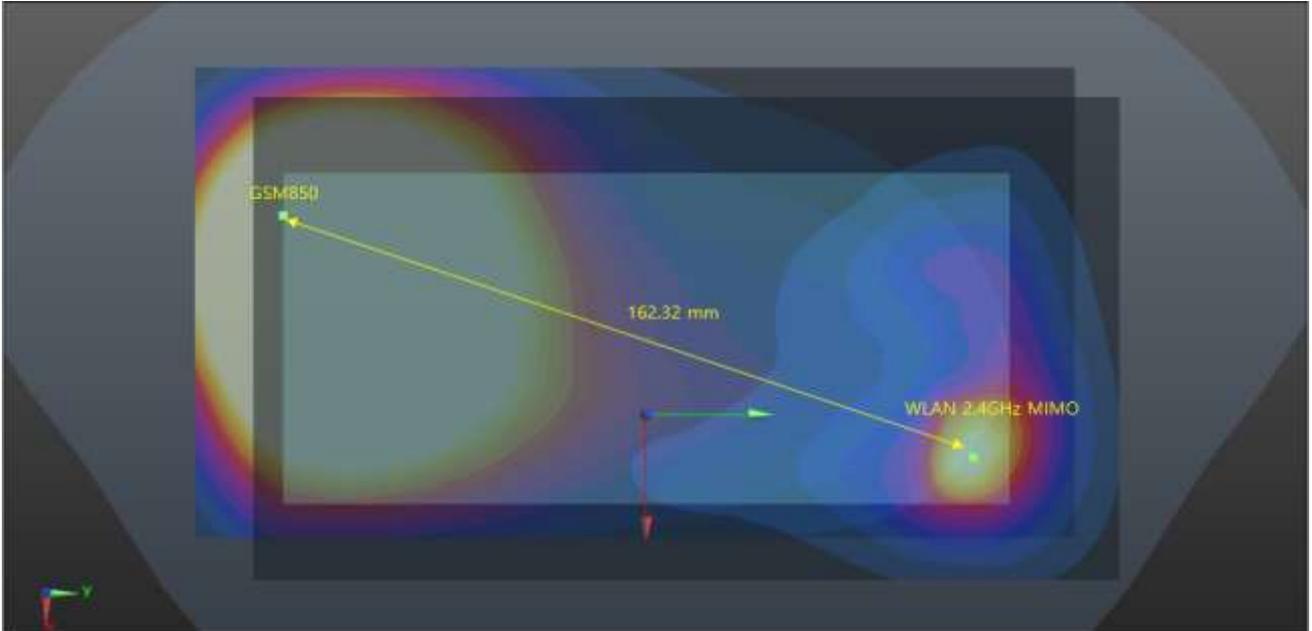
LTE B2 SAR 1g (W/kg)	5GHz WLAN MIMO SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Seperation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
0.774	0.915	1.689	162.33	0.014	#11

### 14.5.3 SPLSR Plot

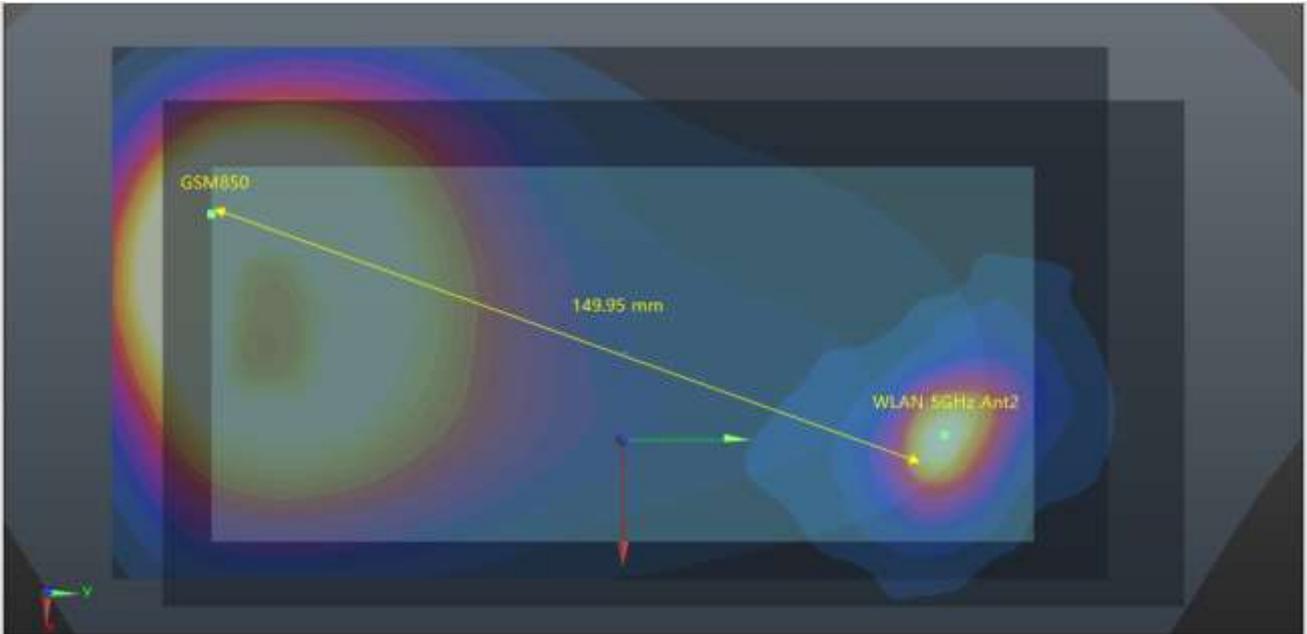
Plot #1 GSM850 + WLAN 2.4GHz Ant.2



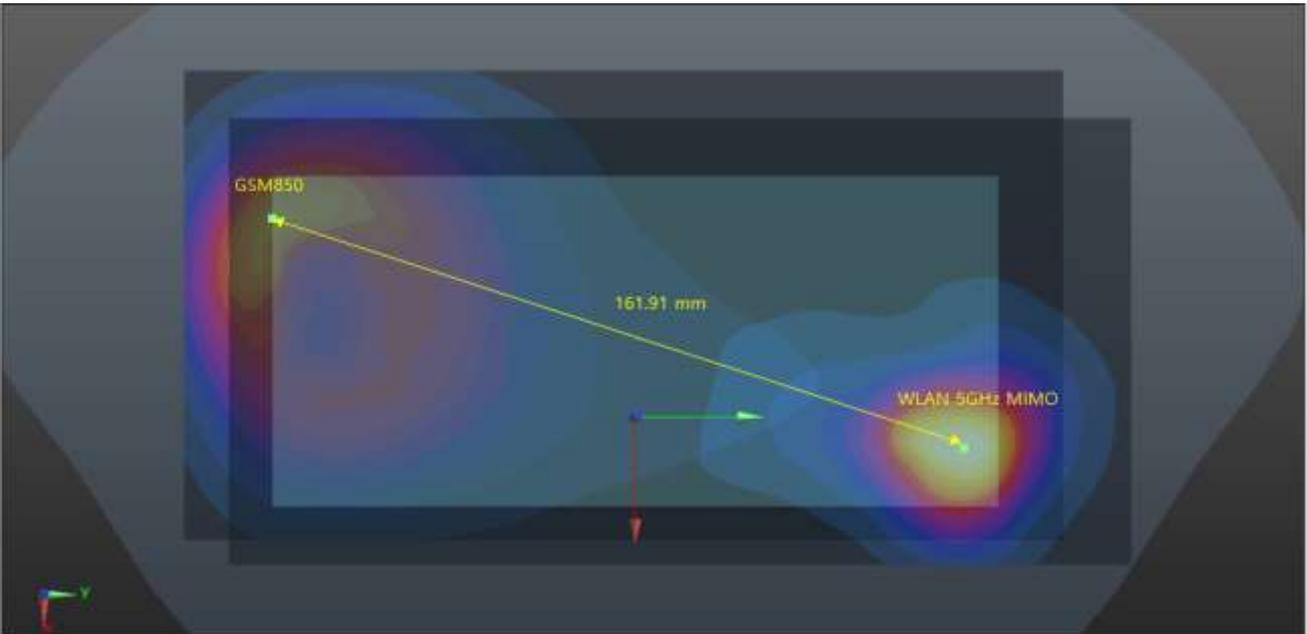
Plot #2 GSM850 + WLAN 2.4GHz MIMO



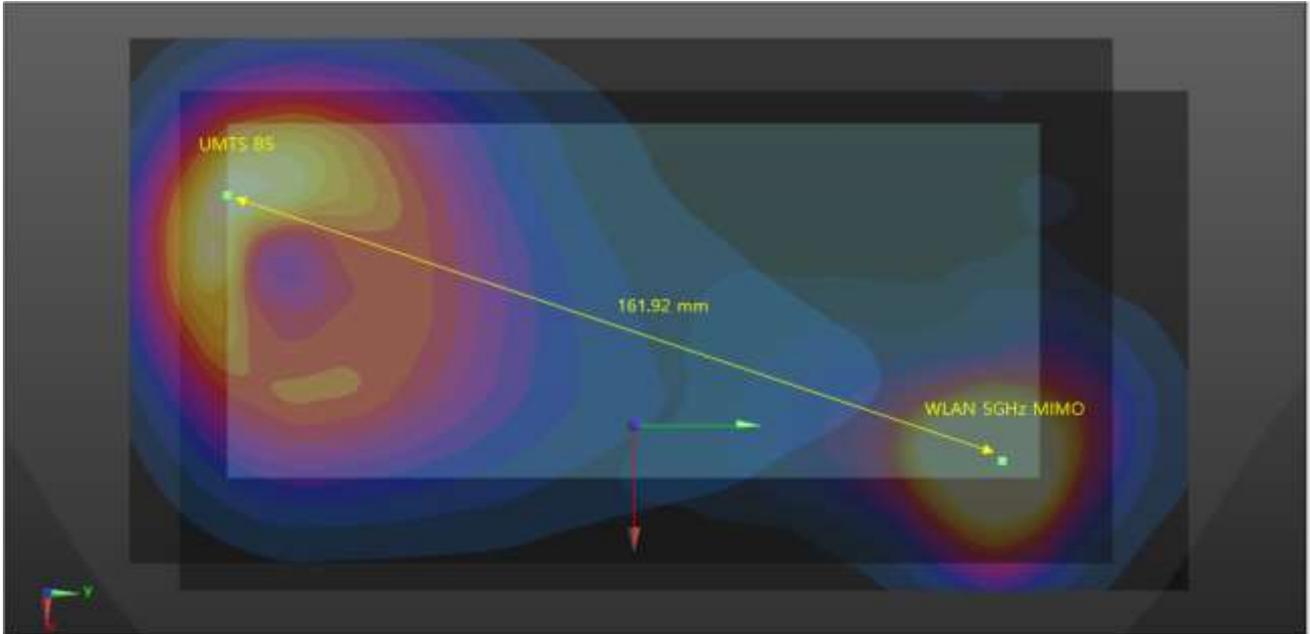
Plot#3 GSM850 + WLAN 5GHz Ant2



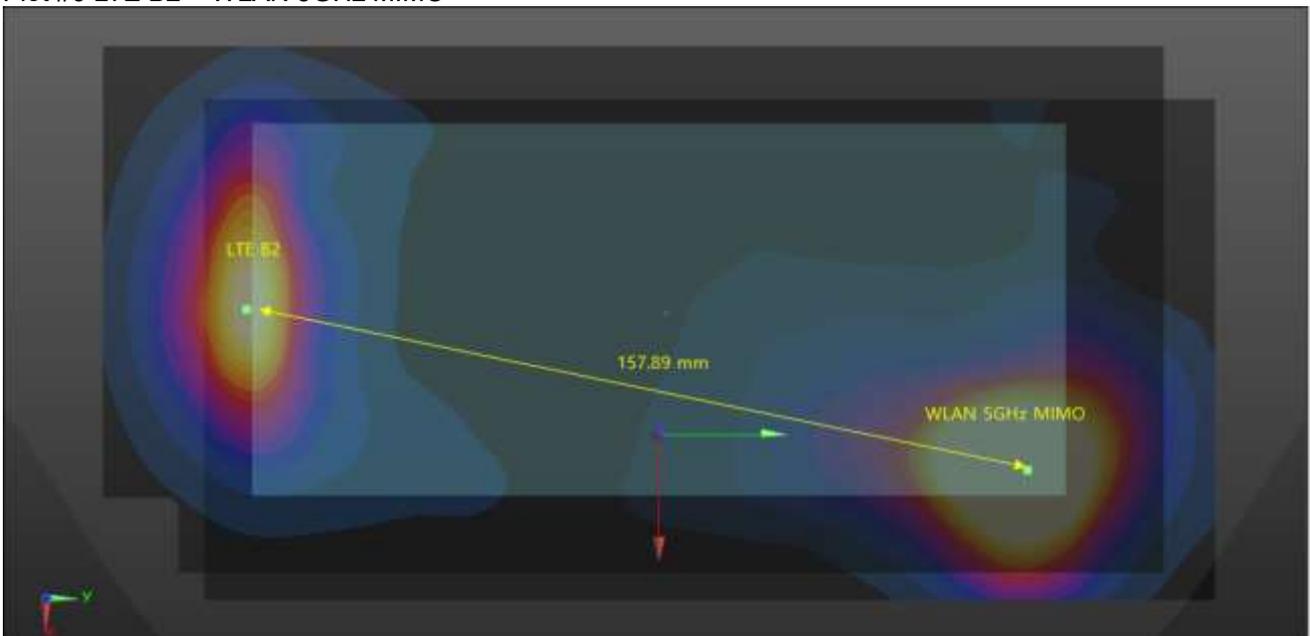
Plot #4 GSM850 + WLAN 5GHz MIMO



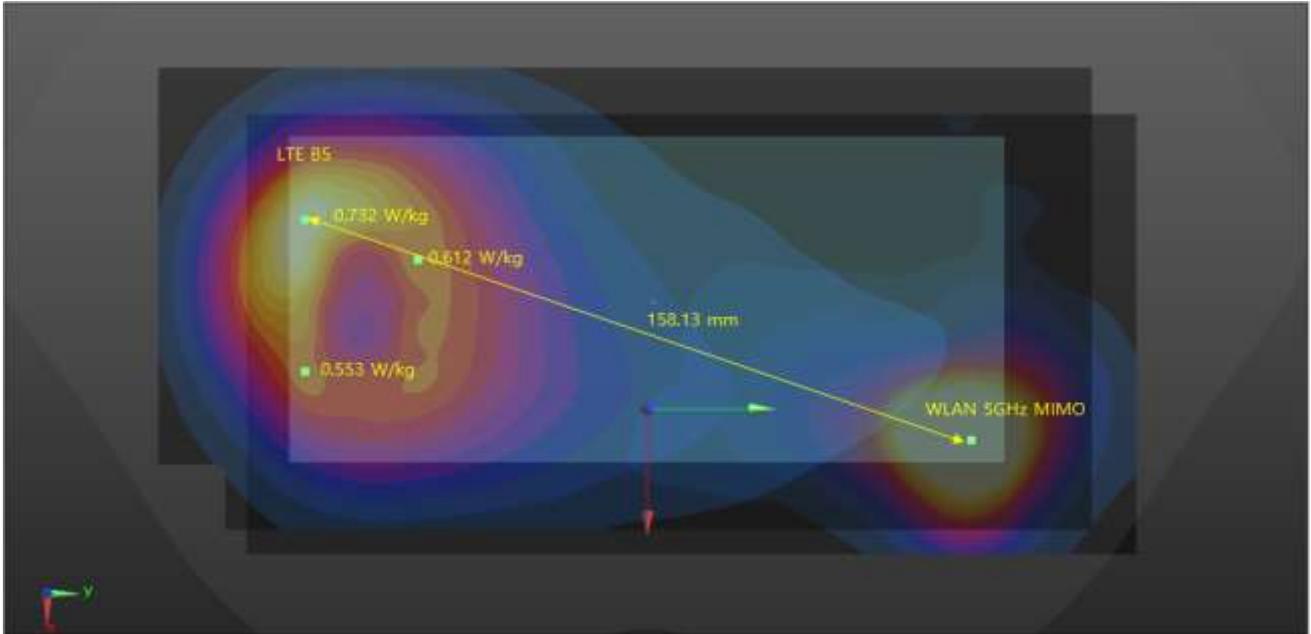
Plot #5 UMTS B5 + WLAN 5GHz MIMO



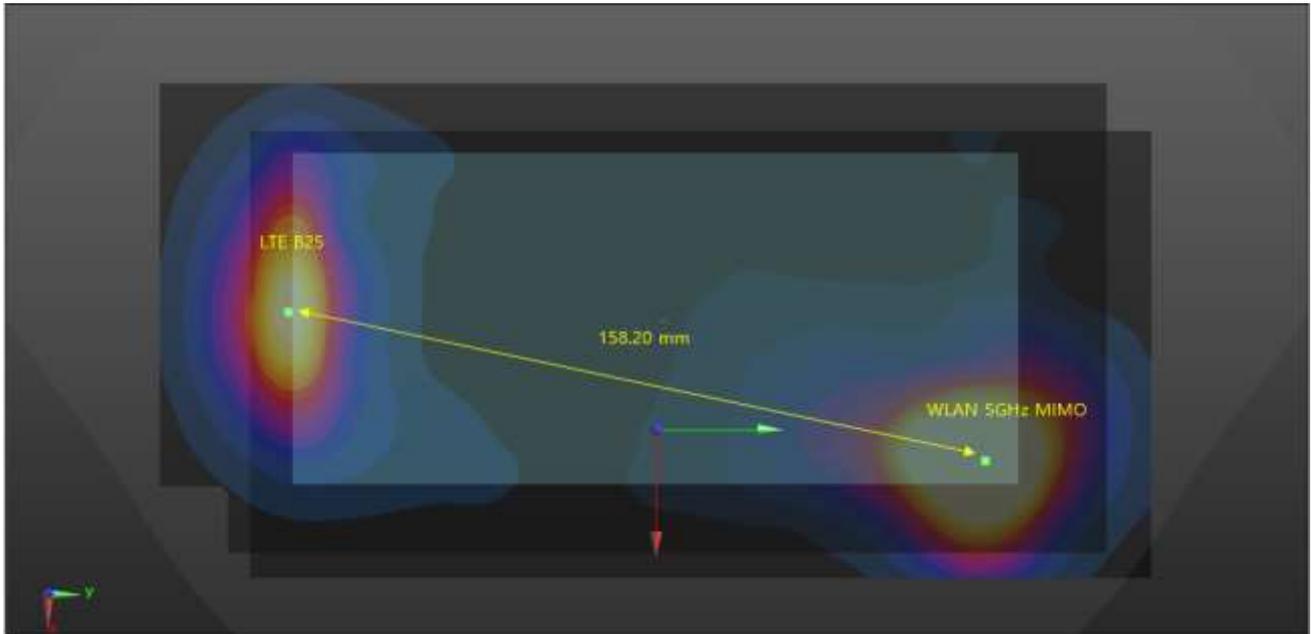
Plot #6 LTE B2 + WLAN 5GHz MIMO



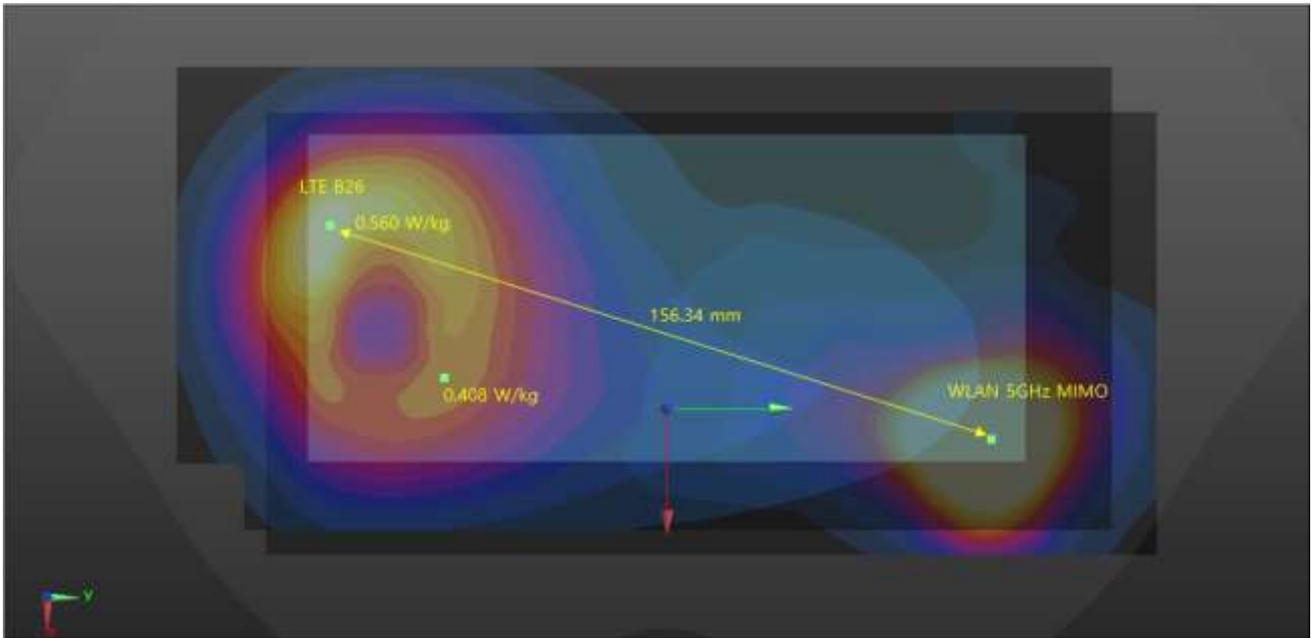
Plot #7 LTE B5 + WLAN 5GHz MIMO



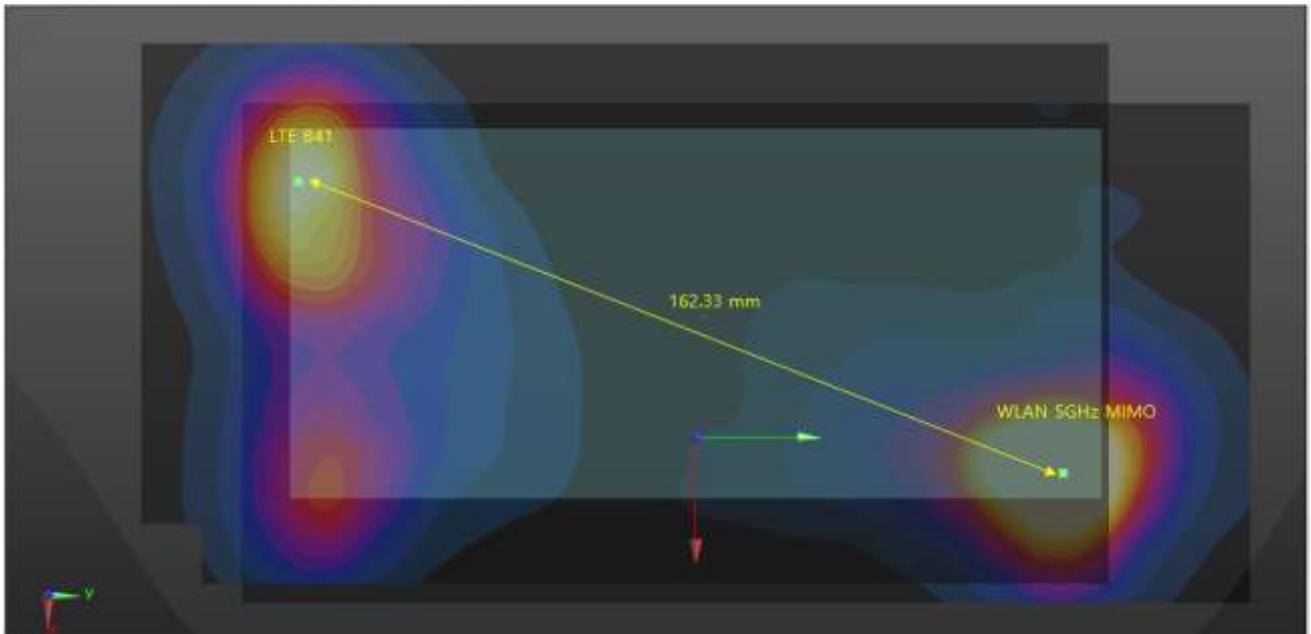
Plot #8 LTE B25 + WLAN 5GHz MIMO



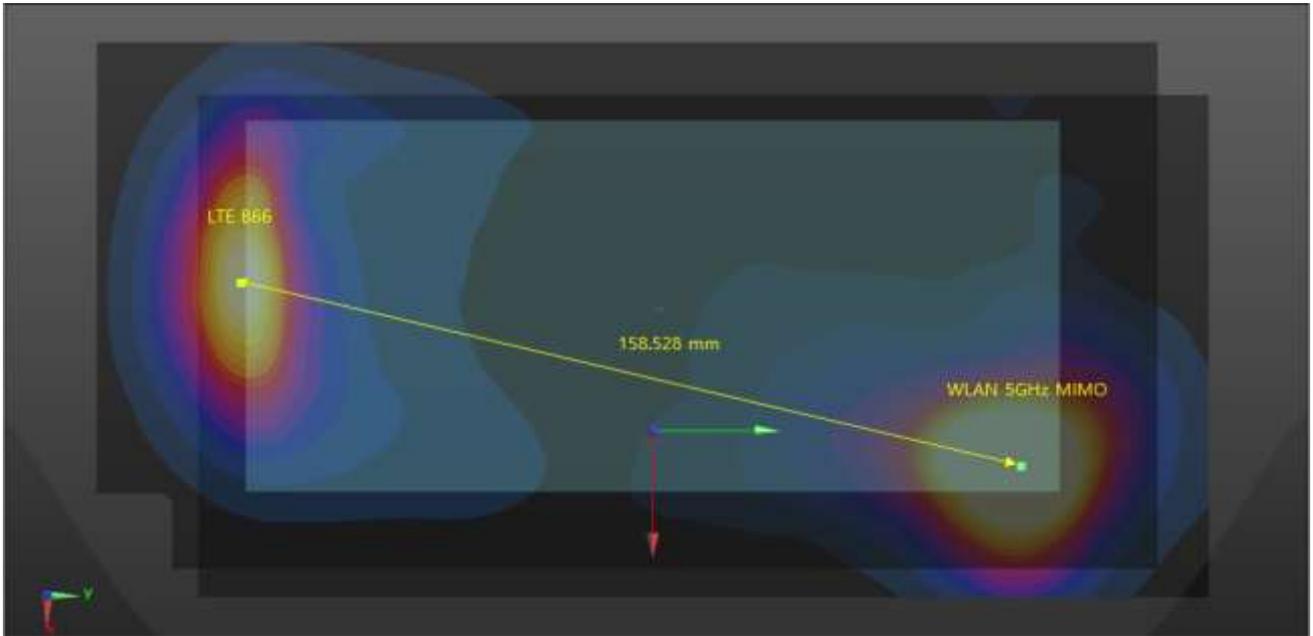
Plot #9 LTE B26 + WLAN 5GHz MIMO



Plot #10 LTE B41 + WLAN 5GHz MIMO



Plot #11 LTE B66 + WLAN 5GHz MIMO



**14.5.4 Additional Simultaneous SAR Evaluation and Analysis for Main Band, Bluetooth, 2.4GHz WLAN, and 5GHz WLAN Operation SPLSR Hotspot Combination**

Per November 2019 TCB Workshop Notes, SPLSR Hotspot Combination procedure can be applied to evaluate to simultaneous transmission SAR analysis.

The antennas for the unlicensed transmitters are closely located. As a result, the associated SAR Hotspots are also closely located. Some of the sum of SAR calculations yielded results over 1.6W/kg. The SPLSR calculations for these situations were performed by treating the unlicensed SAR values as a single transmitter. The most conservative distance between all the unlicensed hotspots to the licensed hotspot was used for the value of d in SPLSR calculation.

Hybrid SPLSR and enlarged zoom scan (Volume scan) can be applied when Simultaneous transmission SAR is over 1.6 W/kg for 1g or 4.0W/kg for 10g respectively, it does not meet SPLSR criteria, and antenna pair is co-located. Antenna co-location means that SAR distributions overlap because the antenna pair are not significantly spatially separated.

**Test Procedure:**

Step.1 perform enlarged zoom scan (Volume scan) on the co-located antenna pair to determine 1g/10g aggregate SAR.

Step.2 Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair.

below simultaneous transmission summations need to be calculated SPLSR.

**SAR Enlarged Zoom Scan/Volume scan Result**

Configuration	Band	Mesured SAR	Volume SAR	Combined factor	Combined SAR	Plot No.
WLAN 5GHz + BT Right Cheek	WLAN 5 GHz	0.756	0.493	1.342	1.27	#12
	BT	0.946	0.640	1.318		
WLAN 5GHz + BT Right Tilt	WLAN 5 GHz	0.639	0.539	1.342	1.44	#13
	BT	1.234	0.874	1.318		
WLAN 5GHz + BT Rear	WLAN 5 GHz	0.915	0.764	1.247	1.15	#14
	BT	0.253	0.362	1.318		
WLAN 5GHz + 2.4GHz RSDB Rear	WLAN 5 GHz	0.474	0.249	1.282	0.642	#15
	WLAN 2.4 GHz	0.309	0.196	1.640		

2. Apply SPLSR procedure for the spatially separated antenna and aggregate SAR distribution of the co-located antenna pair

**-The Peak location of Aggregate SAR distribution for WLAN 5GHz + Bluetooth/WLAN 2.4GHz**

Mode/Band	X(mm)	Y(mm)	Z(mm)	Reported SAR [W/kg]
WLAN 5GHz + BT Rear	0.003	0.072	-0.208	1.15
WLAN 5GHz + WLAN 2.4GHz RSDB Rear	0.007	0.064	-0.209	0.642

**14.5.5 Hybrid Volume SAR Simultaneous**

Simultaneous Transmission Summation Scenario with 5 GHz WLAN (Volume)					
Band	Configuration	Main (W/kg)	Volume 5 GHz RCV MIMO +Bluetooth SAR(W/kg)	$\sum$ 1-g SAR (W/kg)	SPLSR
		1	2	1+2	Yes/No
GSM850	Right Touch	0.188	1.27	1.458	No
	Right Tilt	0.145	1.44	1.585	No
GSM1900	Right Touch	0.101	1.27	1.371	No
	Right Tilt	0.039	1.44	1.479	No
UMTS Band 2	Right Touch	0.075	1.27	1.345	No
	Right Tilt	0.051	1.44	1.491	No
UMTS Band 4	Right Touch	0.095	1.27	1.365	No
	Right Tilt	0.035	1.44	1.475	No
UMTS Band 5	Right Touch	0.141	1.27	1.411	No
	Right Tilt	0.121	1.44	1.561	No
LTE 2	Right Touch	0.084	1.27	1.354	No
	Right Tilt	0.059	1.44	1.499	No
LTE 5	Right Touch	0.176	1.27	1.446	No
	Right Tilt	0.125	1.44	1.565	No
LTE 12/17	Right Touch	0.105	1.27	1.375	No
	Right Tilt	0.065	1.44	1.505	No
LTE 13	Right Touch	0.111	1.27	1.381	No
	Right Tilt	0.053	1.44	1.493	No
LTE 25	Right Touch	0.088	1.27	1.358	No
	Right Tilt	0.054	1.44	1.494	No
LTE 26	Right Touch	0.125	1.27	1.395	No
	Right Tilt	0.087	1.44	1.527	No
LTE 41(PC3)	Right Touch	0.035	1.27	1.305	No
	Right Tilt	0.037	1.44	1.477	No
LTE 41(PC2)	Right Touch	0.041	1.27	1.311	No
	Right Tilt	0.032	1.44	1.472	No
LTE 4/66	Right Touch	0.087	1.27	1.357	No
	Right Tilt	0.055	1.44	1.495	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN (Volume)					
Band	Configuration	Main (W/kg)	Volume 5 GHz Max. MIMO & BT SAR (W/kg)	$\Sigma$ 1-g SAR (W/kg)	SPLSR
		1	2	1+2	Yes/No
GSM850	Rear	1.195	1.150	<b>2.345</b>	YES
GSM1900	Rear	0.564	1.150	<b>1.714</b>	YES
UMTS Band 2	Rear	0.499	1.150	<b>1.649</b>	YES
UMTS Band 4	Rear	0.510	1.150	<b>1.660</b>	YES
UMTS Band 5	Rear	0.998	1.150	<b>2.148</b>	YES
LTE 2	Rear	0.765	1.150	<b>1.915</b>	YES
LTE 5	Rear	0.878	1.150	<b>2.028</b>	YES
LTE 12/17	Rear	0.275	1.150	1.425	NO
LTE 13	Rear	0.468	1.150	<b>1.618</b>	YES
LTE 25	Rear	0.783	1.150	<b>1.933</b>	YES
LTE 26	Rear	0.707	1.150	<b>1.857</b>	YES
LTE 41	Rear	0.746	1.150	<b>1.896</b>	YES
LTE 66	Rear	0.905	1.150	<b>2.055</b>	YES

Simultaneous Transmission Summation Scenario with 5 GHz WLAN (Volume)					
Band	Configuration	Main (W/kg)	Volume 5 GHz Max. +2.4GHz RSDB MIMO SAR (W/kg)	$\Sigma$ 1-g SAR (W/kg)	SPLSR
		1	2	1+2	Yes/No
GSM850	Rear	1.206	0.638	<b>1.844</b>	YES
UMTS Band 5	Rear	0.998	0.638	<b>1.636</b>	YES
LTE 5	Rear	0.878	0.638	1.516	NO
LTE 66	Rear	0.905	0.638	1.543	NO

3. Performed Hybrid SPLSR

GSM850 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
1.206	<b>1.15</b>	2.356	159.73	0.023	#16

GSM850 SAR 1g (W/kg)	WLAN 5GHz + WLAN 2.4GHz Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
1.206	<b>0.638</b>	1.844	153.42	0.016	#17

GSM1900 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
0.564	<b>1.15</b>	1.714	164.45	0.014	#18

UMTS B2 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
0.499	<b>1.15</b>	1.649	161.07	0.013	#19

UMTS B4 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
0.510	<b>1.15</b>	1.660	161.33	0.013	#20

UMTS B5 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
0.998	<b>1.15</b>	2.148	159.74	0.020	#21

UMTS B5 SAR 1g (W/kg)	WLAN 5GHz + WLAN 2.4GHz Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	
0.998	<b>0.638</b>	1.636	153.43	0.014	#22

LTE B2 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#23
0.765	<b>1.15</b>	1.915	156.15	0.017	

LTE B5 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#24
0.878	<b>1.15</b>	2.028	155.95	0.019	

LTE B13 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#25
0.468	<b>1.15</b>	1.618	154.97	0.013	

LTE B25 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#26
0.783	<b>1.15</b>	1.933	156.42	0.017	

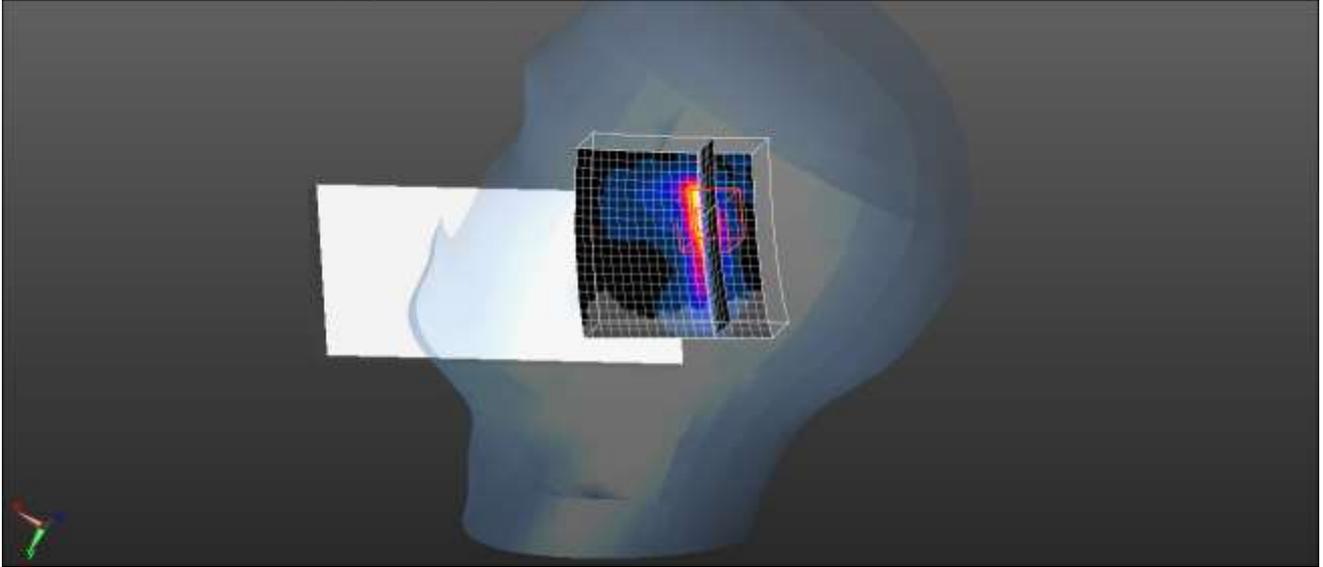
LTE B26 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#27
0.710	<b>1.15</b>	1.860	154.18	0.016	

LTE B41 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#28
0.774	<b>1.15</b>	1.924	160.02	0.017	

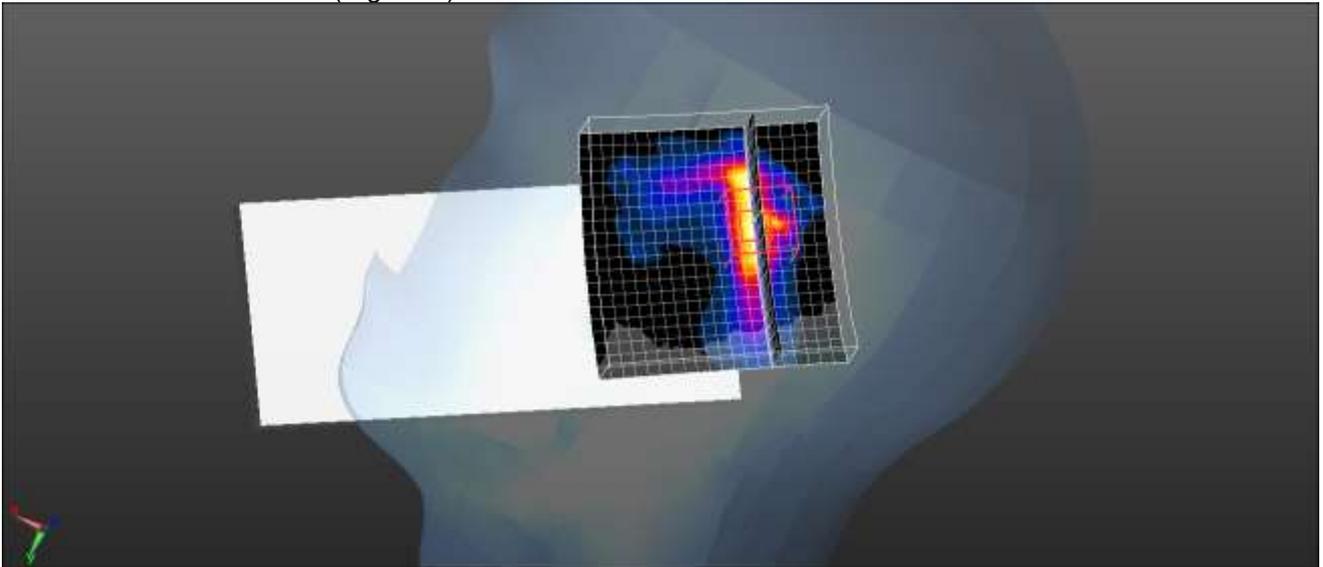
LTE B66 SAR 1g (W/kg)	WLAN 5GHz + BT Combined SAR 1g (W/kg)	Sum 1g SAR	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1+2	1+2	1+2	#29
0.905	<b>1.15</b>	2.055	156.71	0.019	

### 14.5.6 CombineSAR / SPLSR Plot

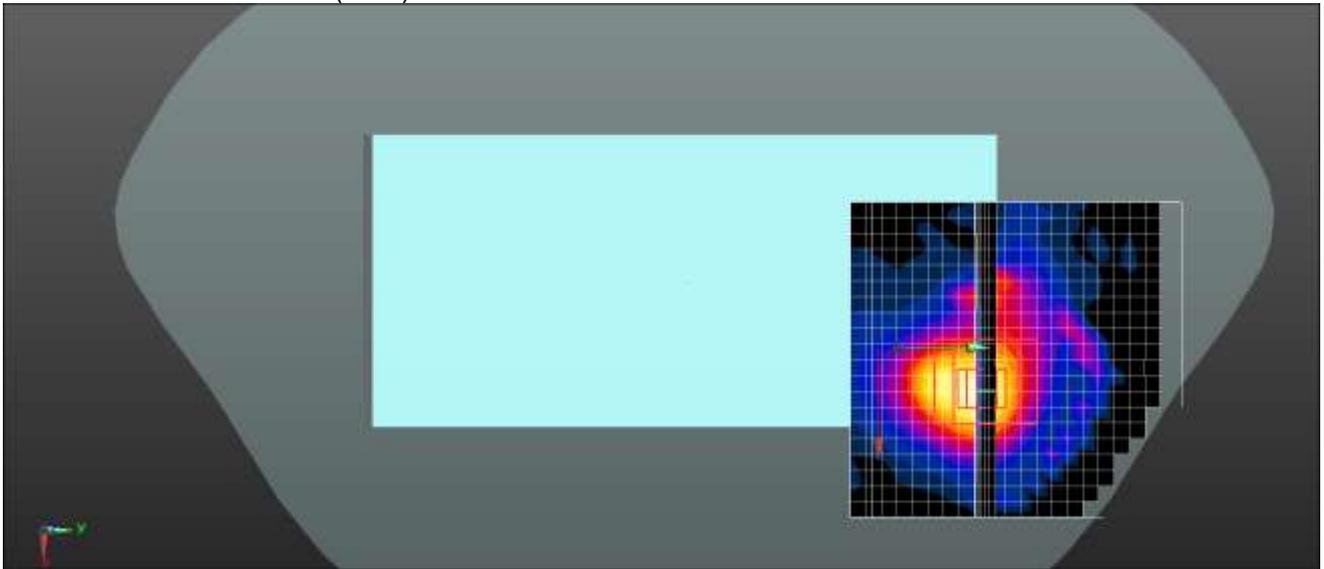
Plot #12 WLAN 5GHz + BT (Right Cheek)



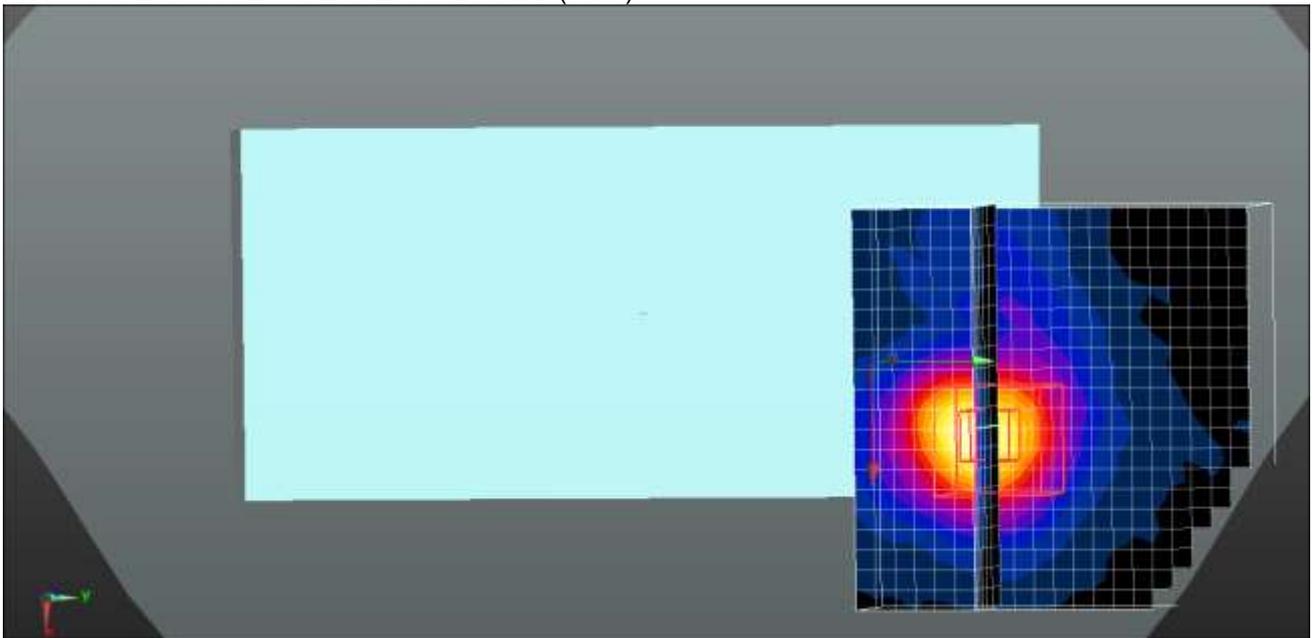
Plot #13 WLAN 5GHz + BT (Right Tilt)



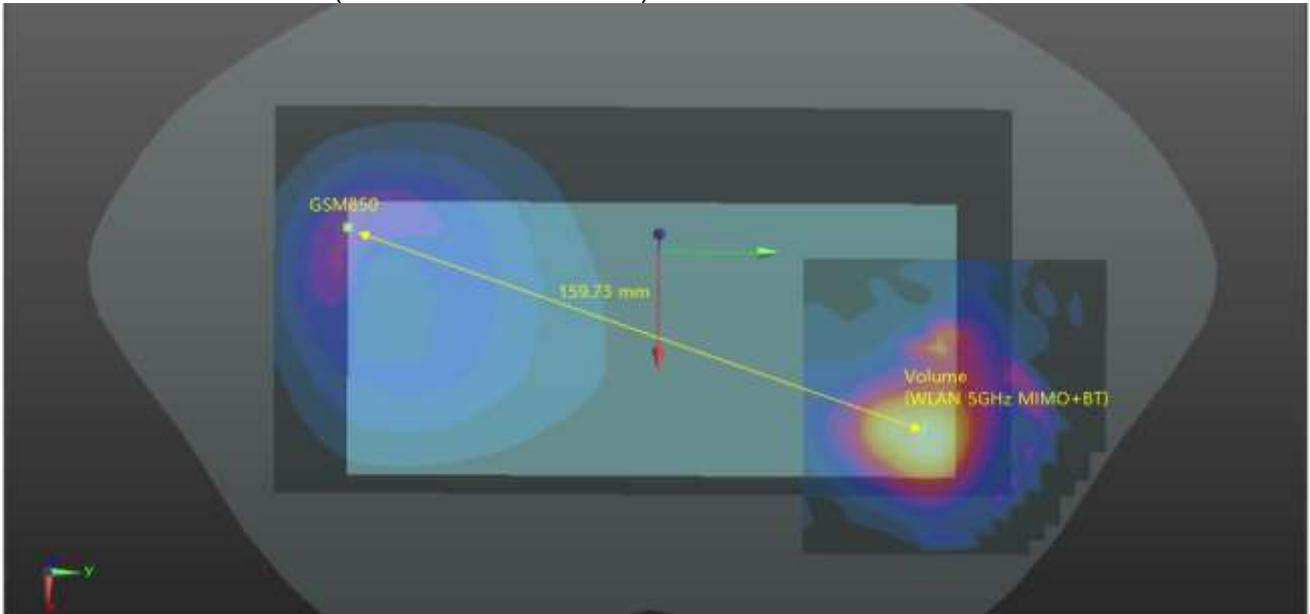
Plot #14 WLAN 5GHz + BT (Rear)



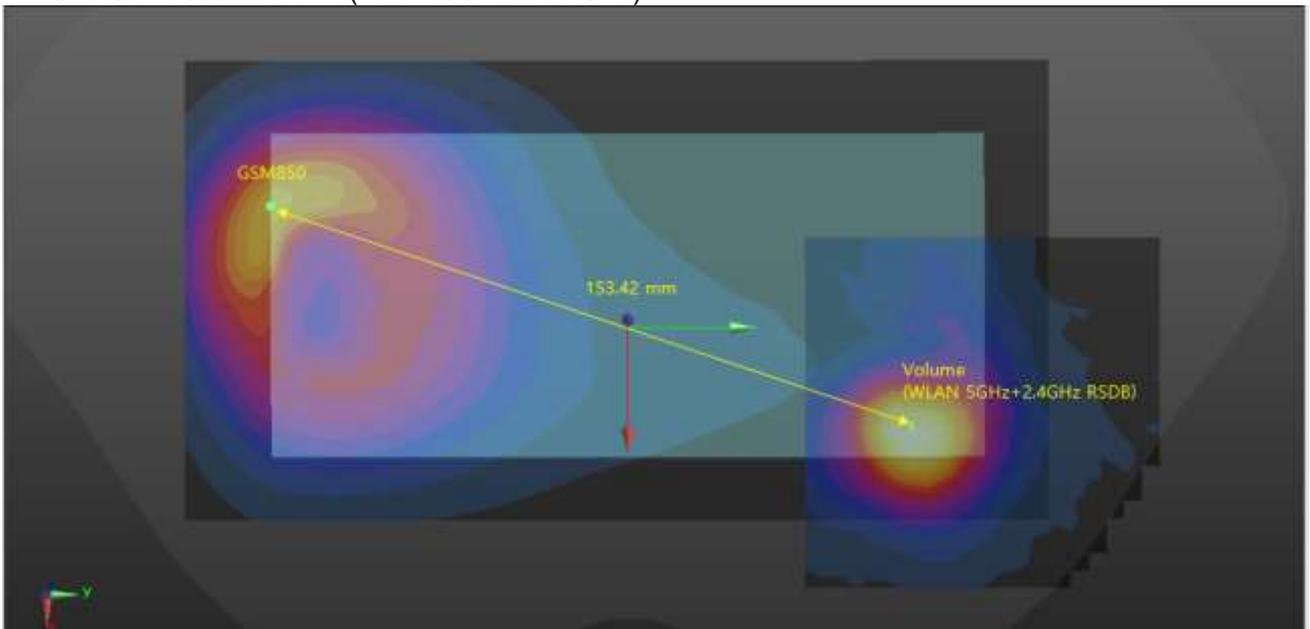
Plot #15 WLAN 5GHz + WLAN 2.4GHz RSDB (Rear)



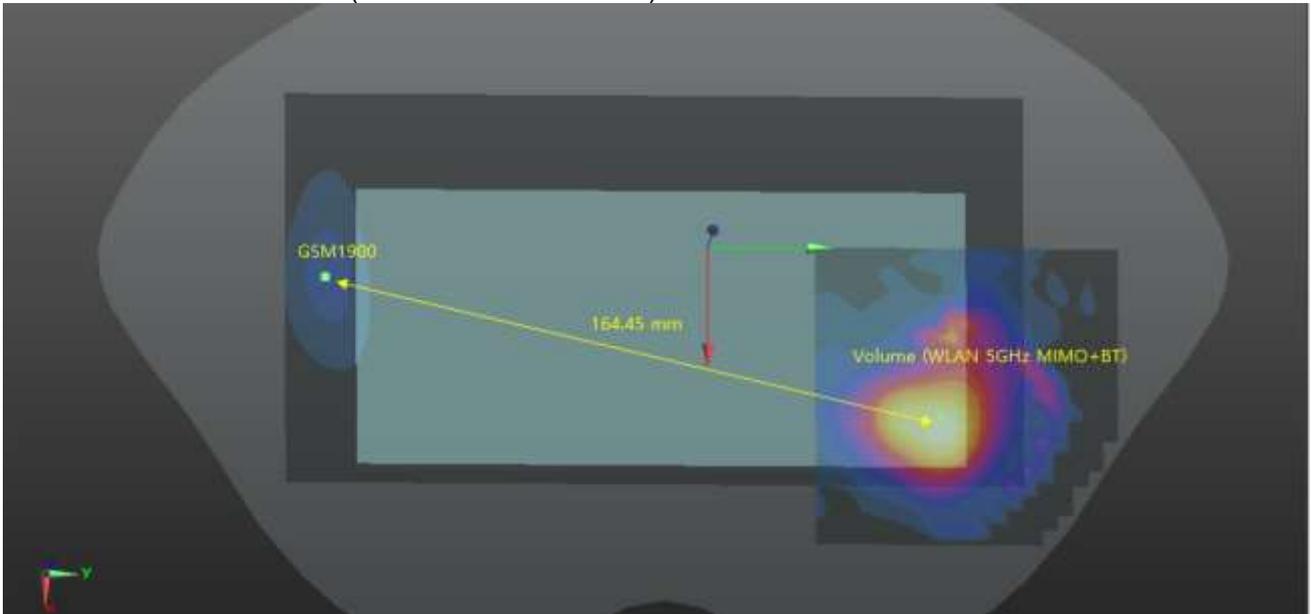
Plot #16 GSM850 + Volume(WLAN 5GHz + Bluetooth)



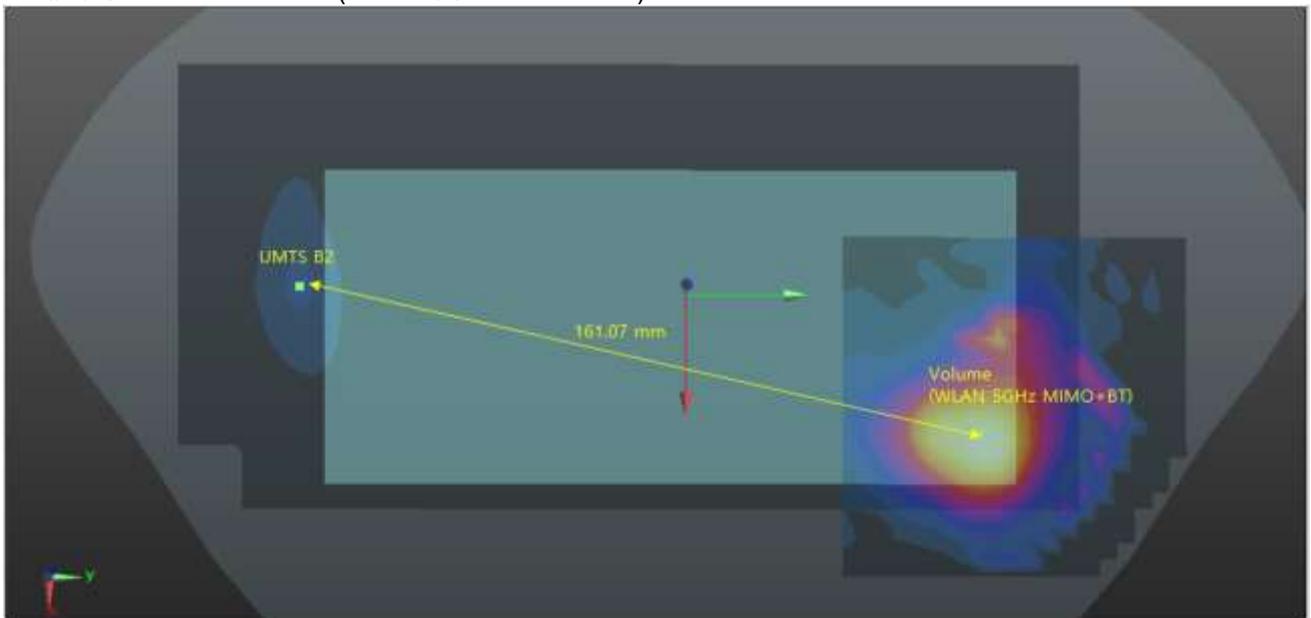
Plot #17 GSM1900 + Volume(WLAN 5GHz + 2.4GHz)



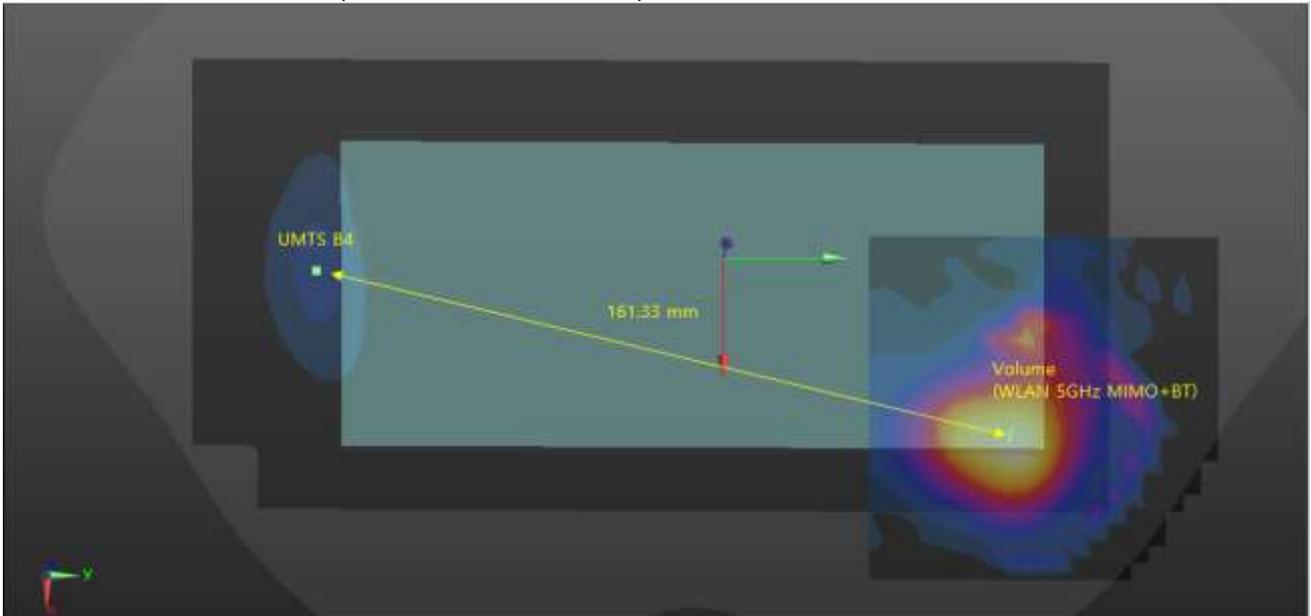
Plot #18 GSM1900 + Volume(WLAN 5GHz+ Bluetooth)



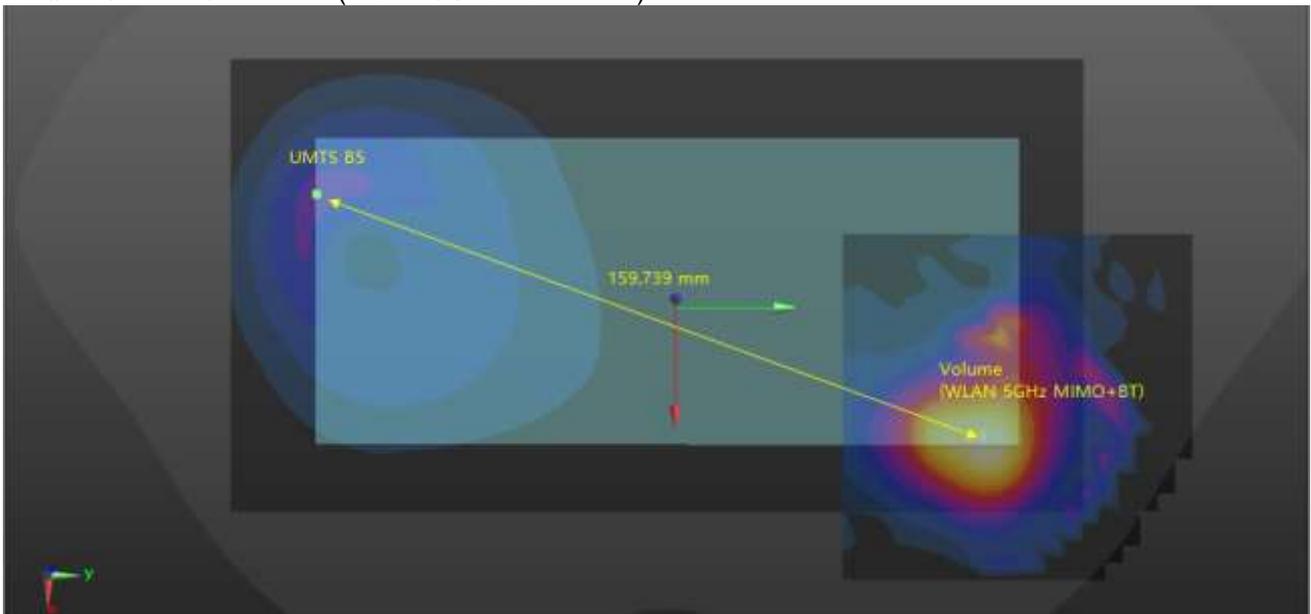
Plot#19 UMTS B2 + Volume(WLAN 5GHz+ Bluetooth)



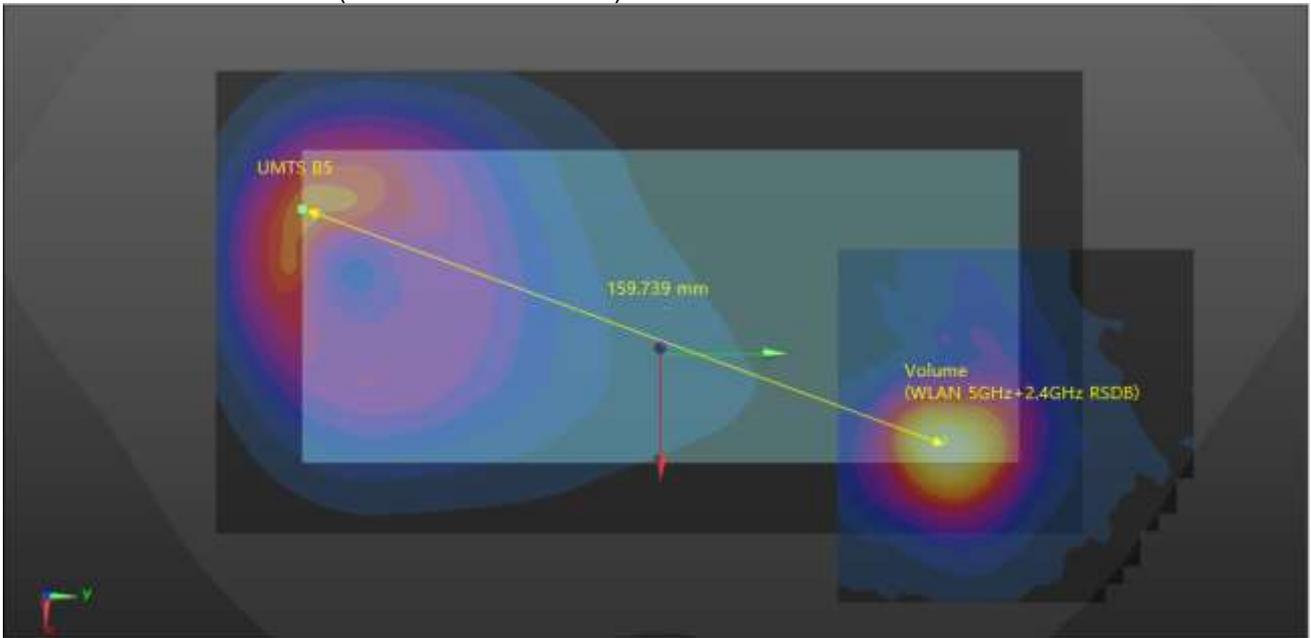
Plot#20 UMTS B4 + Volume(WLAN 5GHz+ Bluetooth)



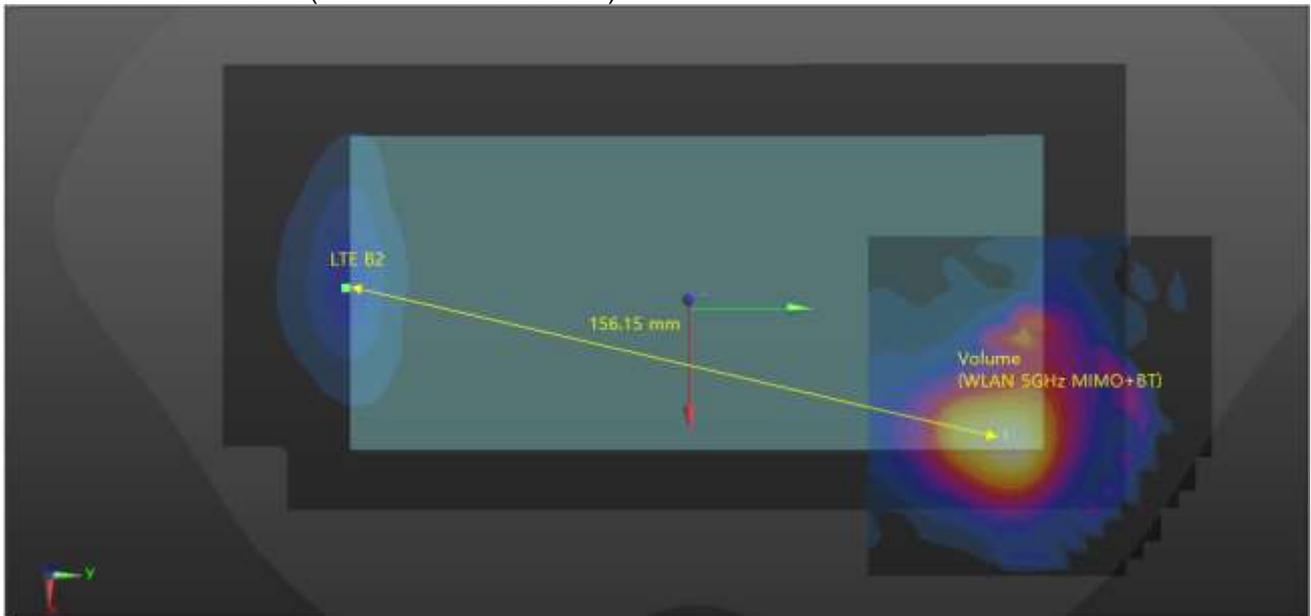
Plot#21 UMTS B5 + Volume(WLAN 5GHz+ Bluetooth)



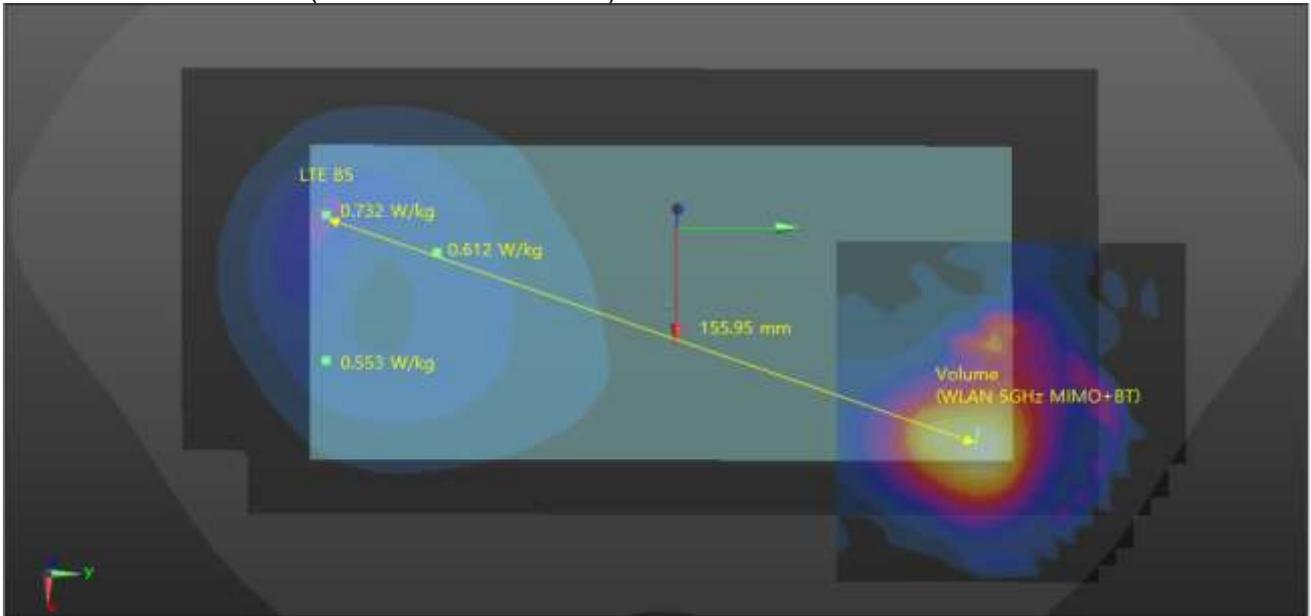
Plot#22 UMTS B5 + Volume(WLAN 5GHz+ 2.4GHz)



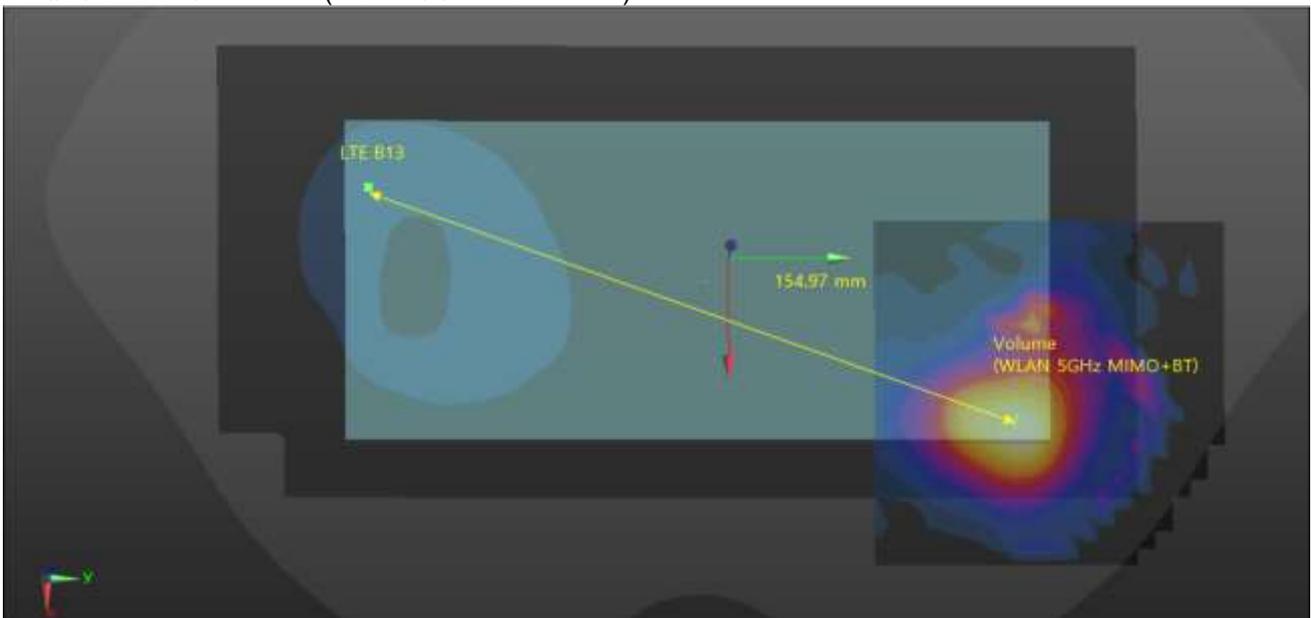
Plot#23 LTE B2 + Volume(WLAN 5GHz+ Bluetooth)



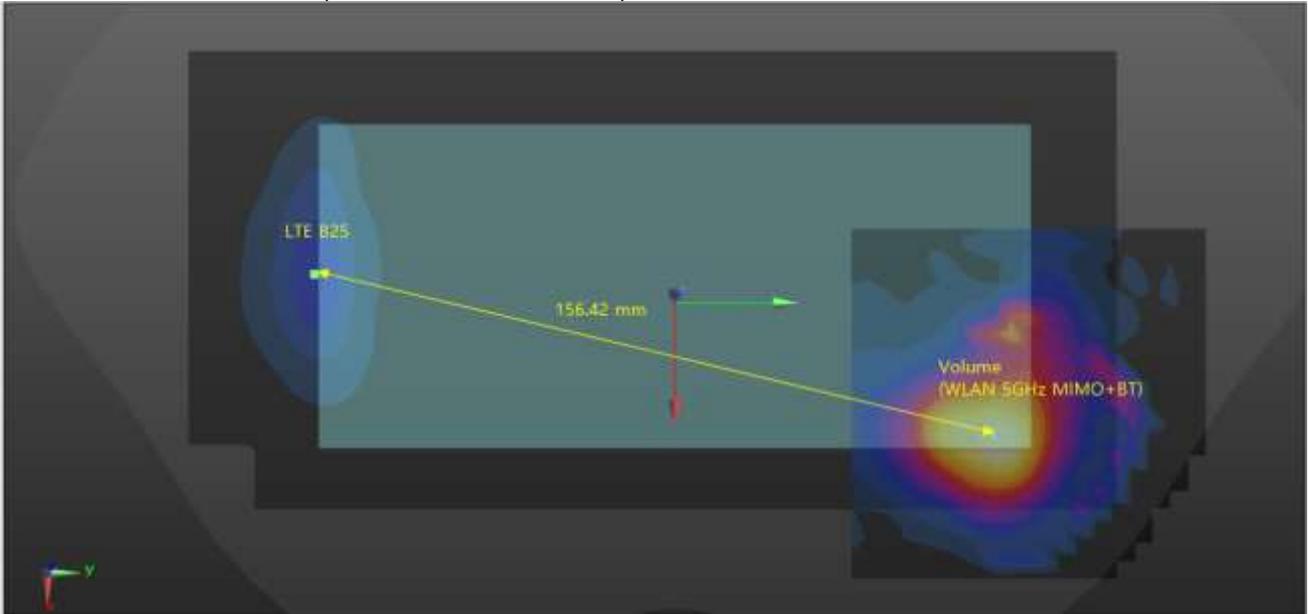
Plot#24 LTE B5 + Volume(WLAN 5GHz+ Bluetooth)



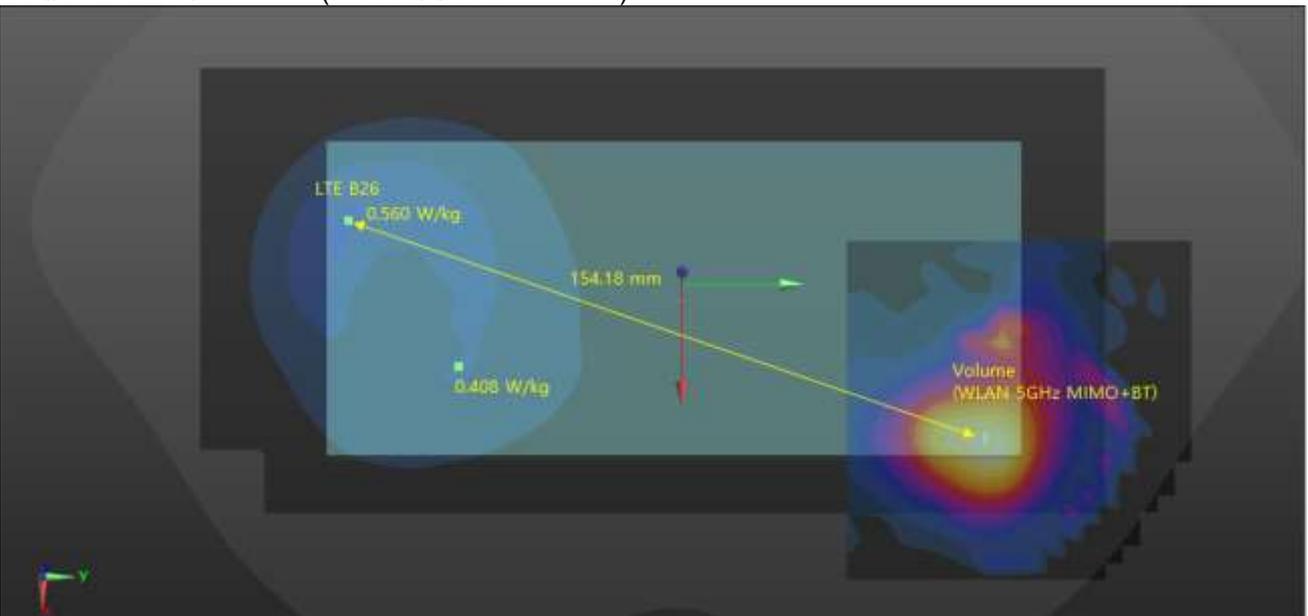
Plot#25 LTE B13 + Volume(WLAN 5GHz+ Bluetooth)



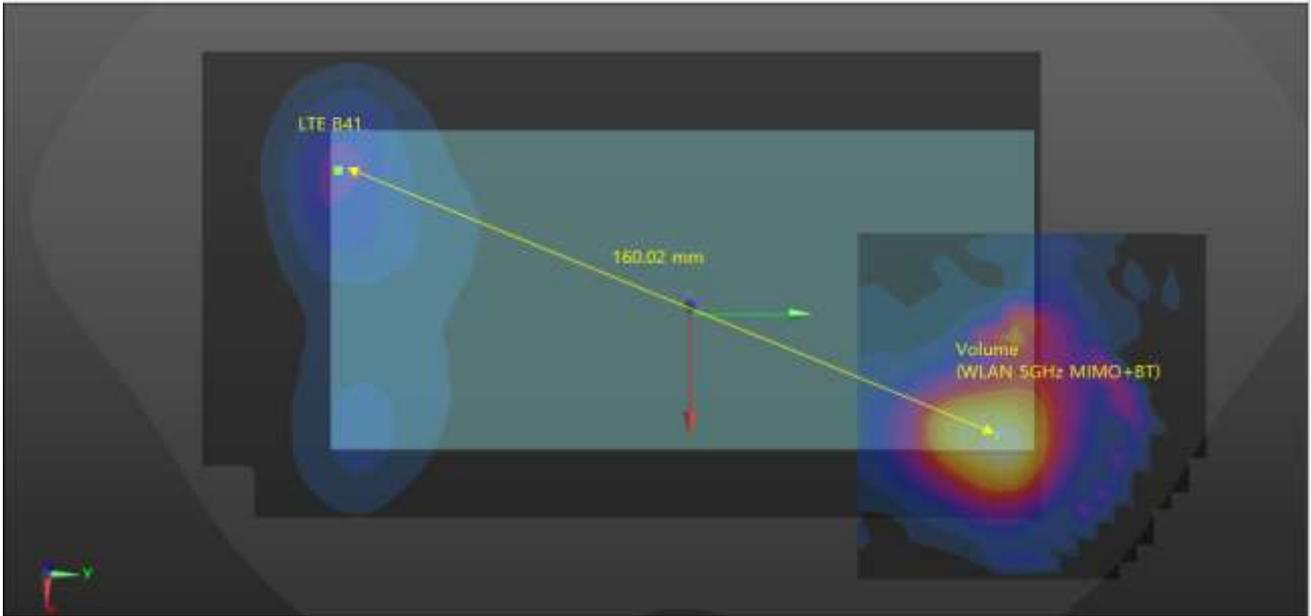
Plot#26 LTE B13 + Volume(WLAN 5GHz+ Bluetooth)



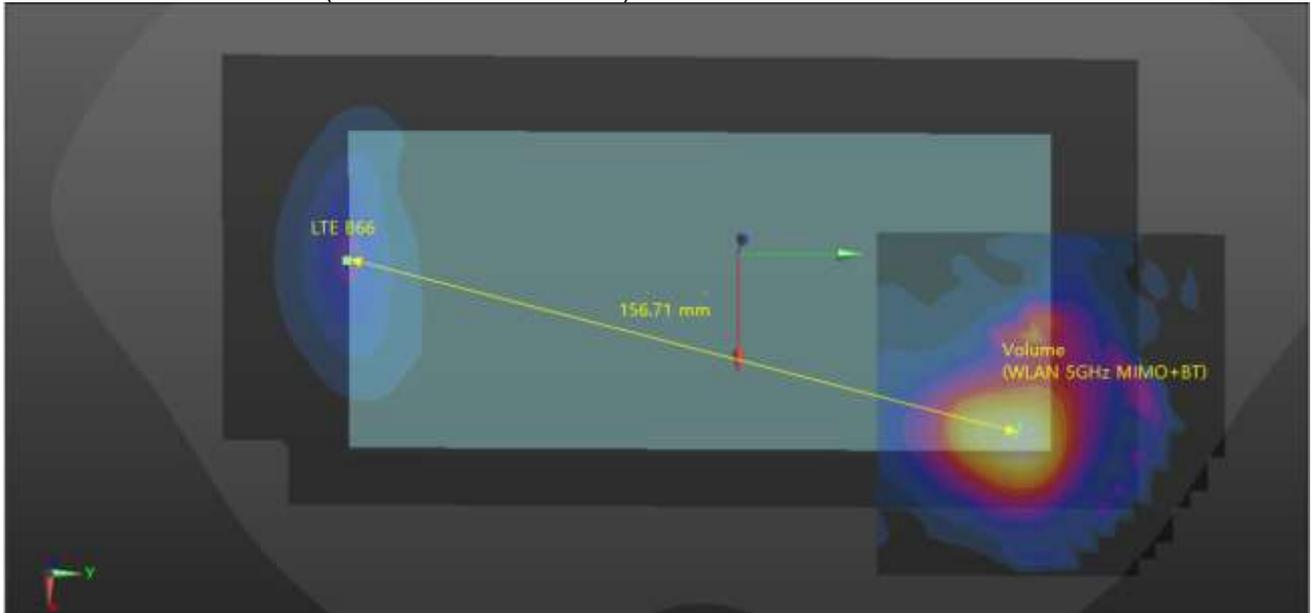
Plot#27 LTE B26 + Volume(WLAN 5GHz+ Bluetooth)



Plot#28 LTE B41 + Volume(WLAN 5GHz+ Bluetooth)



Plot#29 LTE B66 + Volume(WLAN 5GHz+ Bluetooth)



The above numerical summed SAR Results are sufficient to determine that simultaneous transmission cases will not exceed the SAR Limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE1528-2013.

## 15. SAR Measurement Variability and Uncertainty

In accordance with KDB procedure 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz, SAR additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency Band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is 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) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg for 1g SAR or < 2.0 W/kg for 10g SAR; steps 2) through 4) do not apply.
- 2) When the original highest measured 1g SAR is  $\geq 0.80$  W/kg or 10g SAR  $\geq 2.0$ W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is  $\geq 1.45$  W/kg for 1g SAR or  $\geq 3.625$  W/kg for 10g SAR (~ 10% from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is  $\geq 1.5$  W/kg for 1g SAR or  $\geq 3.75$  W/kg for 10g SAR and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Hotspot SAR measurement variability Results

Frequency		Mode/Band	Configuration	Measured SAR (W/kg)	Repeated SAR (W/kg)	SAR Ratio
Mhz	Channel					
836.5	190	GSM 850	Rear	0.956	0.886	1.08
826.4	4132	UMTS Band 5	Rear	0.808	0.834	0.97
1 752.6	1513	UMTS Band 4	Bottom	0.814	0.863	0.94
1 900.0	19100	LTE Band 2	Bottom (1RB, 0 offset)	0.841	0.793	1.06
1 905.0	26590	LTE Band 25	Bottom (50RB, 0 offset)	0.881	0.839	1.05
2636.5	41055	LTE Band 41	Bottom(50RB, 0offset)	0.840	0.831	1.01
1 770.0	132572	LTE Band 66	Bottom (50RB, 0 offset)	1.030	1.030	1.00

Phablet SAR measurement variability Results

Frequency		Mode/Band	Configuration	Measured SAR (W/kg)	Repeated SAR (W/kg)	SAR Ratio
Mhz	Channel					
1 770.0	132572	LTE Band 66	Bottom (50RB, 25 offset)	2.480	2.480	1.00

## 16. Device Holder Perturbation Verification.

In accordance with published DUT Holder Perturbations in Oct.2016 TCB Workshop.

When Highest reported SAR is over 1.2 W/kg, Holder Perturbation Verification is required for each antenna, using the highest configuration among all applicable frequency bands.

Frequency		Mode/Band	Configuration	Highest Reported SAR		Deviation (%)
MHz	Channel			(without Device Holder)	(with Device Holder)	
				(W/kg)	(W/kg)	
836.5	190	GSM 850	Rear	1.206		
1 770	132572	LTE Band 66	Bottom	1.336	1.310	-1.98

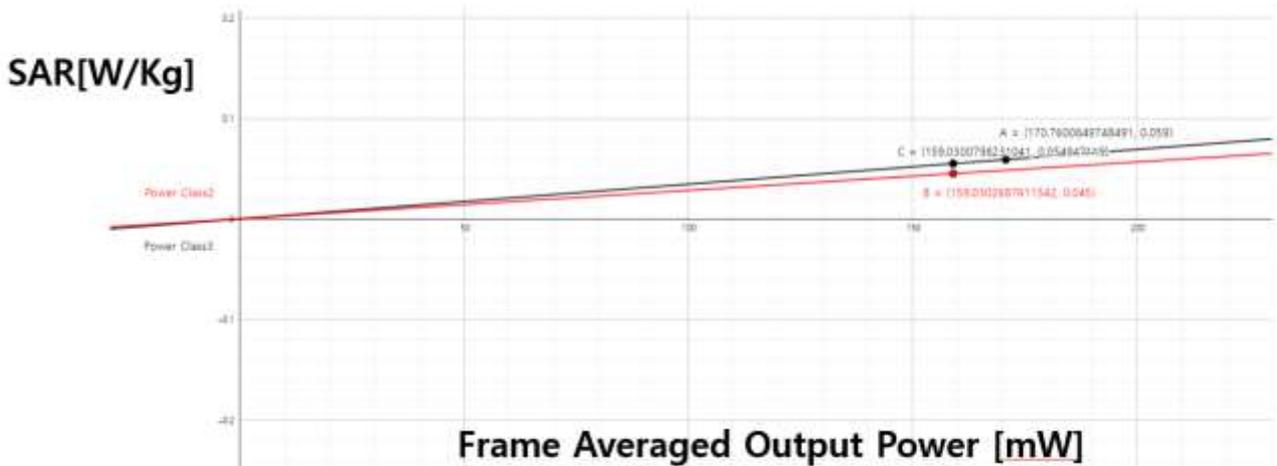
### 17. LTE Band 41 Power Class 2 and Power class 3 Linearity

This Device Supports Power Class 2 and Power Class 3 operations for LTE band 41. The Highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL Configuration 1. Per May 2017 TCB Workshop Notes based on the device behavior, all SAR tests were performed using Power class 3. SAR with power class 2 at the highest power and available duty factor was additionally performed for the power class 2 configuration with the Highest SAR for each exposure condition.

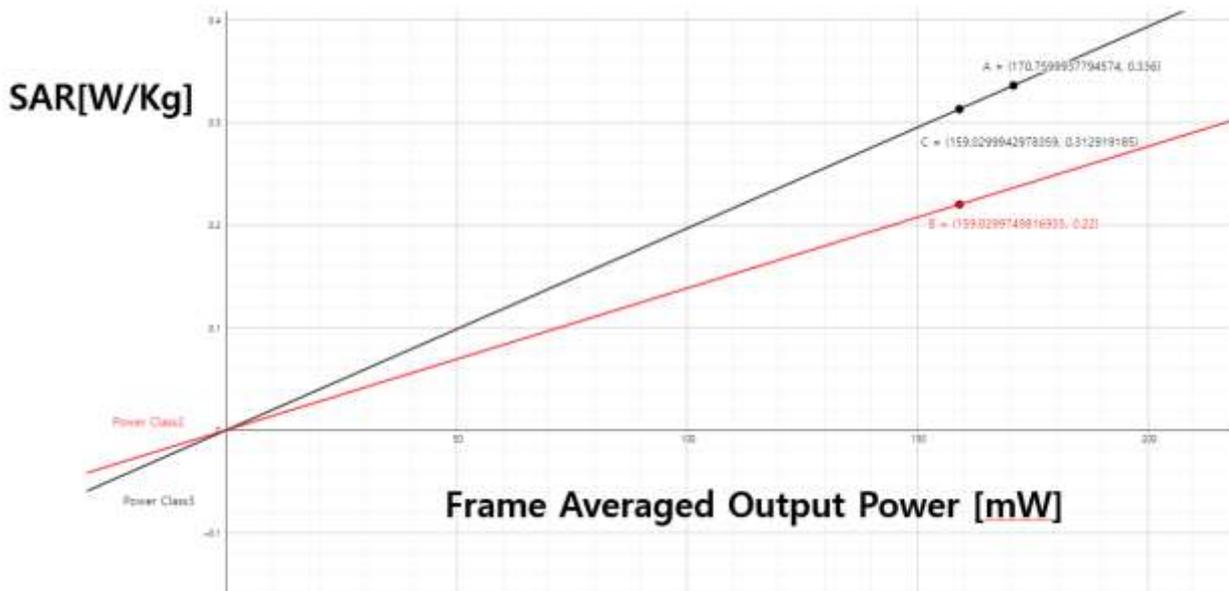
The linearity between the power class 3 and Power class 2 SAR Results and the respective frame averaged powers was calculated to determine the results were linear.

Per May 2017 TCB Workshop, no additional SAR measurements were required since the linearity between power classes as less than 10 % and all reported SAR values were < 1.4 W/kg

LTE Band 41 Head Linearity Data Table		
Configurations	LTE Band41 PC3	LTE Band41 PC2
Maximum Allowed Output Power[dBm]	24.4	25.7
Measured Output Power[dBm]	24.31	25.65
Measured SAR[W/kg]	0.059	0.045
Measured Power[mW]	269.77	367.28
Duty Cycle	63.30%	43.30%
Frame Averaged Output Power[mW]	170.76	159.03
deviation from expected linearity(%)		22.10



LTE Band Body Worn Linearity Data Table		
Configurations	LTE Band41 PC3	LTE Band41 PC2
Maximum Allowed Output Power[dBm]	24.4	25.7
Measured Output Power[dBm]	24.31	25.65
Measured SAR[W/kg]	0.336	0.22
Measured Power[mW]	269.77	367.28
Duty Cycle	63.30%	43.30%
Frame Averaged Output Power[mW]	170.76	159.03
deviation from expected linearity(%)		42.24



When Power reduction is applied to LTE B41 PC 2(HPUE), The power level of LTE B41 PC2 became same as the reduction power of LTE B41 PC3, therefore Hotspot SAR linearity were not required.

## 18. Measurement Uncertainty

The measured SAR was  $<1.5$  W/Kg for 1g SAR and  $<3.75$  W/Kg For 10g SAR for all frequency Bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE1528-2013 was not required.

## 19. SAR Test Equipment

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	Triple Modular Phantom	-	N/A	N/A	N/A
SPEAG	SAM Phantom	-	N/A	N/A	N/A
HP	SAR System Control PC	-	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F11/ 5K3RA1/ C/ 01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F13/ 5R4XF1/ C/ 01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F08/5AJ0A1/C/01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F13/ 5SD0A1/ C/ 01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX60	F/20/0018446/C/001	N/A	N/A	N/A
Staubli	TX90 XLspeag	F11/ 5K3RA1/ A/ 01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F08/5AJ0A1/A/01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F13/ 5R4XF1/ A/ 01	N/A	N/A	N/A
Staubli	TX90 XLspeag	F13/5SD0A1/A/01	N/A	N/A	N/A
Staubli	TX60 Lspeag	F/20/0018446/A/001	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D21142603	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D21142605	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D21143300	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D21142605	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	D21142608A	N/A	N/A	N/A
TESTO	175-H1/Thermometer	44606559906	01/26/2021	Annual	01/26/2022
TESTO	175-H1/Thermometer	40331936309	01/26/2021	Annual	01/26/2022
TESTO	175-H1/Thermometer	40332651310	01/26/2021	Annual	01/26/2022
TESTO	175-H1/Thermometer	40331949309	01/26/2021	Annual	01/26/2022
TESTO	608-H1/Thermometer	83348029	05/06/2021	Annual	05/06/2022
SPEAG	DAE4	1686	06/21/2021	Annual	06/21/2022
SPEAG	DAE4	1687	08/26/2021	Annual	08/26/2022
SPEAG	DAE4	1422	05/19/2021	Annual	05/19/2022
SPEAG	DAE4	869	03/29/2021	Annual	03/29/2022
SPEAG	DAE4	1417	02/22/2021	Annual	02/22/2022
SPEAG	E-Field Probe EX3DV4	7370	08/26/2021	Annual	08/26/2022
SPEAG	E-Field Probe EX3DV4	3903	03/24/2021	Annual	03/24/2022
SPEAG	E-Field Probe EX3DV4	3972	05/21/2021	Annual	05/21/2022
SPEAG	E-Field Probe EX3DV4	7680	09/10/2021	Annual	09/10/2022
SPEAG	E-Field Probe EX3DV4	7679	09/10/2021	Annual	09/10/2022
SPEAG	E-Field Probe ES3DV3	3076	07/28/2021	Annual	07/28/2022
SPEAG	Dipole D750V3	1014	06/01/2021	Annual	06/01/2022
SPEAG	Dipole D835V2	4d165	08/03/2021	Annual	08/03/2022
SPEAG	Dipole D1800V2	2d015	07/30/2021	Annual	07/30/2022
SPEAG	Dipole D1900V2	5d032	01/28/2021	Annual	01/28/2022
SPEAG	Dipole D2450V2	965	06/15/2021	Annual	06/15/2022
SPEAG	Dipole D2600V2	1106	07/30/2021	Annual	07/30/2022
SPEAG	Dipole D5GHzV2	1107	07/22/2021	Annual	07/22/2022
Agilent	Power Meter E4419B	MY41291386	10/23/2020	Annual	10/23/2021
Agilent	Power Meter E4419B	MY40511244	04/15/2021	Annual	04/15/2022
Agilent	Power Meter E4419B	MY40330223	10/06/2021	Annual	10/06/2022
Agilent	Power Meter N1911A	MY45101406	07/08/2021	Annual	07/08/2022
Agilent	Power Sensor 8481A	SG1091286	10/05/2020	Annual	10/05/2021
Agilent	Power Sensor 8481A	SG1091286	10/06/2021	Annual	10/06/2022
Agilent	Power Sensor 8481A	MY41090675	10/05/2020	Annual	10/05/2021
Agilent	Power Sensor 8481A	MY41090675	10/06/2021	Annual	10/06/2022
Agilent	Power Sensor N1921A	MY55220026	08/05/2021	Annual	08/05/2022
SPEAG	DAKS 3.5	1038	03/17/2021	Annual	03/17/2022
ROHDE&SCHWARZ	Signal Generator SMB100A	177633	07/05/2021	Annual	07/05/2022

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
H.P	Network Analyzer /8753ES	JP39240221	01/11/2021	Annual	01/11/2022
Agilent	WIRELESS COMMUNICATION E5515C	GB44051865	05/28/2021	Annual	05/28/2022
Agilent	WIRELESS COMMUNICATION E5515C	MY48360252	07/23/2021	Annual	07/23/2022
R&S	Wireless Communication Test Set CMW500	115733	04/15/2021	Annual	04/15/2022
Agilent	Signal Generator N5182A	MY47070230	01/26/2021	Annual	01/26/2022
Agilent	11636B/Power Divider	58698	02/26/2021	Annual	02/26/2022
EMPOWER	RF Power Amplifier	1084	06/25/2021	Annual	06/25/2022
EMPOWER	RF Power Amplifier	1041D/C0508	06/24/2021	Annual	06/24/2022
MICRO LAB	LP Filter / LA-15N	10453	10/05/2020	Annual	10/05/2021
MICRO LAB	LP Filter / LA-15N	10453	10/06/2021	Annual	10/06/2022
MICRO LAB	LP Filter / LA-30N	-	10/05/2020	Annual	10/05/2021
MICRO LAB	LP Filter / LA-30N	-	10/06/2021	Annual	10/06/2022
MICRO LAB	LP Filter / LA-60N	32011	10/05/2020	Annual	10/05/2021
MICRO LAB	LP Filter / LA-60N	32011	10/06/2021	Annual	10/06/2022
HP	Attenuator (3dB) 333340A	02427	09/06/2021	Annual	09/06/2022
HP	Attenuator (20dB) 8493C	09271	09/06/2021	Annual	09/17/2022
Agilent	Directional Bridge 86205A	3140A03878	05/28/2021	Annual	05/28/2022
Agilent	MXA Signal Analyzer N9020A	MY50510407	10/23/2020	Annual	10/23/2021
HP	Dual Directional Coupler	16072	10/05/2020	Annual	10/05/2021
HP	Dual Directional Coupler	16072	10/05/2021	Annual	10/05/2022
Anritsu	Radio Communication Tester MT8820C	6201074225	02/26/2021	Annual	02/26/2022
Anritsu	Radio Communication Tester MT8820C	6200695605	04/15/2021	Annual	04/15/2022
Anritsu	Radio Communication Tester MT8821C	6201502997	07/08/2021	Annual	07/08/2022
Anritsu	Radio Communication Tester MT8821C	6262044720	12/22/2020	Annual	12/22/2021
ROHDE&SCHWARZ	BLUETOOTH TESTER CBT	100272	02/26/2021	Annual	02/26/2022

\* The E-field probe was calibrated by SPEAG, by the waveguide technique procedure. Dipole Verification measurement is performed by HCT Lab. before each test. The brain/body simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity (dielectric constant) of the brain/body-equivalent material.

## 20. Conclusion

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the ANSI/ IEEE C95.1 - 2005.

These measurements were taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables.

## 21. References

- [1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation, Aug. 1996.
- [2] ANSI/IEEE C95.1 - 2005 , American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 300 kHz to 300 GHz, New York: IEEE, Sept. 1992
- [3] ANSI/IEEE C 95.1 - 2005, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3 kHz to 300 GHz, New York: IEEE, 2006
- [4] ANSI/IEEE C95.3 - 2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: December 2002.
- [5] IEEE Standards Coordinating Committee 34 – IEEE Std. 1528-2013, IEEE Recommended Practice or Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body from Wireless Communications Devices
- [6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.
- [7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.
- [8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 120-124.
- [9] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.
- [10] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.
- [11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Head Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.
- [12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300 MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.
- [13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectro magnetics, Canada: 1987, pp. 29-36.
- [14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.
- [15] W. Gander, Computer mathematick, Birkhaeuser, Basel, 1992.
- [16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.
- [17] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.
- [18] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10 kHz-300 GHz, Jan. 1995.
- [19] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hochschule Zürich, Dosimetric Evaluation of the Cellular Phone.
- [20] IEC 62209-1, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation and procedures – Part 1: Procedure to determine the

specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz), July. 2016..

[21] IEC 62209-2, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures – Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz) Mar. 2010.

[22] Industry Canada RSS-102 Radio Frequency Exposure Compliance of Radio Communication Apparatus (All Frequency Band) Issue 5, March 2015.

[23] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2009

[24] FCC SAR Test procedures for 2G-3G Devices, Mobile Hotspot and UMPC Device KDB 941225 D01.

[25] SAR Measurement Guidance for IEEE 802.11 transmitters, KDB 248227 D01v02r02

[26] SAR Evaluation of Handsets with Multiple Transmitters and Antennas KDB 648474 D03, D04.

[27] SAR Evaluation for Laptop, Notebook, Netbook and Tablet computers KDB 616217 D04.

[28] SAR Measurement and Reporting Requirements for 100 MHz – 6 GHz, KDB 865664 D01, D02.

[29] FCC General RF Exposure Guidance and SAR procedures for Dongles, KDB 447498 D01,D02.

## Appendix A. DUT Ant. Information & SETUP PHOTO

Please refer to test DUT Ant. Information & setup photo file no. as follows:

Report No.
HCT-SR-2110-FC015-P