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SAR TEST REPORT

Applicant Name:

SAMSUNG Electronics Co., Ltd.

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Rep. of Korea

Date of Issue: Nov. 11, 2021

Test Report No.: HCT-SR-2110-FC011-R3

Test Site: HCT CO., LTD.

FCC ID:

A3LSMS901B

Equipment Type:

Mobile Phone

Application Type

Certification

FCC Rule Part(s):

CFR §2.1093

Model Name:

SM-S901B/DS

Date of Test:

Sep.18, 2021 ~ Nov. 10, 2021

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

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REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	Oct.29, 2021	Initial Release
1	Nov.5, 2021	Revised Sec.3, Sec.4 and Sec.13 Added the LTE inter Band ULCA Removed 5G sub 6 n7.
2	Nov.10, 2021	Revised Sec.3, Retested UNII-4
3	Nov.11, 2021	Revised sec.3,4 ,13 and 14.

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.

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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(Overlapping LTE Bands Test exclusion)
- 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 Band 41 Power Class 2)
- April 2019 TCBC Workshop Notes (IEEE 802.11 ax)
- April 2018 TCBC Workshop Notes (LTE ULCA , DL CA SAR Test Exclusion)
- November 2019 TCBC Workshop Notes (SPLSR Hotspot Combination)

2. Test Location

2.1 Test Laboratory

Company Name	HCT Co., Ltd.
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Telephone	031-645-6300
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2.2 Test Facilities

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

Korea	National Radio Research Agency (Designation No. KR0032)
	KOLAS (Testing No. KT197)

3. Information of the EUT

3.1 General Information of the EUT

Model Name	SM-S901B/DS
Equipment Type	Mobile Phone
FCC ID	A3LSMS901B
Application Type	Certification
Applicant	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	0.36	0.49	0.62	N/A
GSM/GPRS/EDGE 1900	1 850.2 MHz~ 1 909.8 MHz	PCE	0.18	0.48	1.08	1.61
UMTS Band 5	826.4 MHz~ 846.6 MHz	PCE	0.30	0.39	0.63	N/A
UMTS Band 4	1 712.4 MHz~ 1 752.6 MHz	PCE	0.20	0.96	1.13	2.18
UMTS Band 2	1 852.4 MHz~ 1 907.6 MHz	PCE	0.15	0.61	0.91	1.89
LTE Band 2 (PCS)	1 850.7 MHz~ 1 909.3 MHz	PCE	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A
LTE Band 12	699.7 MHz~ 715.3 MHz	PCE	0.20	0.27	0.43	N/A
LTE Band 13	779.5 MHz ~ 784.5 MHz	PCE	0.23	0.34	0.43	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	<0.10	0.48	0.80	1.16
LTE Band 26(Cell)	814.7 MHz ~ 848.3 MHz	PCE	0.23	0.37	0.56	N/A
LTE TDD Band 41(PC3)	2 498.5 MHz ~ 2 687.5 MHz	PCE	0.14	0.25	0.33	N/A
LTE TDD Band 41(PC2)	2 498.5 MHz ~ 2 687.5 MHz	PCE	0.12	0.19	0.25	N/A
LTE Band 66 (AWS)	1 710.7 MHz ~ 1 779.3 MHz	PCE	0.13	0.63	0.91	1.37
LTE Band 2(SCC)	1 850.7 MHz~ 1 909.3 MHz	PCE	0.62	0.22	0.37	N/A
LTE Band 4(SCC)	1 710.7 MHz~ 1 754.3 MHz	PCE	0.52	0.24	0.30	N/A
NR Band n5	826.5 MHz~ 846.5 MHz	PCE	0.24	0.32	0.57	N/A
NR Band n66(Upper)	1 712.5 MHz~ 1 777.5 MHz	PCE	1.00	0.12	0.61	N/A
NR Band n66(Lower)	1 712.5 MHz~ 1 777.5 MHz	PCE	0.18	0.76	0.97	1.53
802.11b	2 412 MHz~ 2 472 MHz	DTS	0.61	0.28	0.55	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	0.40	0.38	N/A	2.12
U-NII-2C	5 500 MHz~ 5 720 MHz	NII	0.33	0.41	N/A	2.55
U-NII-3	5 745 MHz~ 5 825 MHz	NII	0.26	0.50	0.92	N/A
U-NII-4	5 845 MHz~ 5 885 MHz	NII	0.39	0.63	N/A	2.93
Bluetooth	2 402 MHz~ 2 480 MHz	DSS	0.55	<0.10	0.28	N/A
Simultaneous SAR per KDB 690783 D01v01r03			1.57	1.56	1.57	2.48
Date(s) of Tests:	Sep. 18, 2021 ~ Nov. 10, 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	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
NR Band n5	Data	826.5 MHz~ 846.5 MHz
NR Band n66	Data	1 712.5 MHz~ 1 777.5 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
U-NII-4	Voice / Data	5 845 MHz~ 5 885 MHz
2.4 GHz WLAN	Voice / Data	2 412 MHz ~ 2 472 MHz
Bluetooth / LE 5.2	Data	2 402 MHz ~ 2 480 MHz
NFC	Data	13.56 MHz
WPC	Data	110 kHz ~ 148 kHz

Device Description		
S/W Version	S901B.001	
H/W Version	REV0.3	
Device Serial Numbers	Mode	Serial Number
	GSM850/ LTE B12/ LTE B13/ LTE B26/ LTE B66/ NR n66 Lower	UIF2178M/ UIF2200M
	GSM1900/ UMTS B2/ UMTS B4/ UMTS B5/ NR n66 Upper	UIF2198M
	GSM1900 Phablet/ UMTS B4/ NR n5	UIF2200M
	LTE B25/ LTE B25	UIF2178M
	LTE 41/ NR n66 Lower NR n6 Upper	UIF2178M/ UIF2198M
	LTE 2 ULCA/ LTE 4 ULCA	UJP1291M/ UJP0703M
	WLAN 2.4G/WLAN 5G Head	UIF2166M/ UIF2197M
	BT	UIF2183M
	WLAN 5G	UIF2166M/ UIF2197M/ UIF2183M/ UJP0703M / UJP1291M
	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 a power reduction mechanism for some wireless modes and Bands for SAR compliance under some conditions when the device is being used in close proximity to the user's Body. FCC KDB Publication 616217 D04v01r02 Sec.6 was used as a guideline for selection SAR test distances for device

This device uses an independent fixed level power reduction mechanism for 5G NR n66 of upper antenna and 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 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	31.0	30.0	28.0	27.0	25.0	24.0	23.0
	Nominal	33.0	33.0	30.0	29.0	27.0	26.0	24.0	23.0	22.0

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/EDGE1900	Maximum	31.0	31.0	28.0	27.0	25.0	26.0	25.5	24.5	23.0
	Nominal	30.0	30.0	27.0	26.0	24.0	25.0	24.5	23.5	22.0

B. UMTS Modes

Mode/ Band		ModulatedAverage(dBm)				
		3GPP Rel.99 (RMC)	3GPP Rel.99 (AMR)	3GPPHSDPA	3GPPHSUPA	DC-HSDPA
UMTS Band 5 (850 MHz)	Maximum	25.5	23.5	23.0	22.5	24.0
	Nominal	24.5	22.5	22.0	21.5	23.0
UMTS Band 4 (1700 MHz)	Maximum	24.5	22.5	23.0	21.0	23.5
	Nominal	23.5	21.5	22.0	20.0	22.5
UMTS Band 2 (1900 MHz)	Maximum	24.5	22.5	22.0	21.0	24.0
	Nominal	23.5	21.5	21.0	20.0	23.0

C. LTE Modes

Mode / Band		Modulated Average (dBm)	
		Max	
LTE Band 2 (PCS)	Maximum	24.0	
	Nominal	23.0	
LTE Band 4 (AWS)	Maximum	24.5	
	Nominal	23.5	
LTE Band 5 (Cell)	Maximum	25.0	
	Nominal	24.0	
LTE Band 12	Maximum	24.5	
	Nominal	23.5	
LTE Band 13	Maximum	24.5	
	Nominal	23.5	
LTE Band 17	Maximum	24.5	
	Nominal	23.5	
LTE Band 25	Maximum	24.0	
	Nominal	23.0	
LTE Band 26(Cell)	Maximum	25.0	
	Nominal	24.0	
LTE TDD Band 41PC3	Maximum	25.0	
	Nominal	24.0	
LTE TDD Band 41 (HPUE) PC2	Maximum	26.0	
	Nominal	25.0	
LTE Band 66 (AWS)	Maximum	24.5	
	Nominal	23.5	
LTE Band 2 upper ULCA only	Maximum	22.0	
	Nominal	21.0	
LTE Band 4 upper ULCA	Maximum	22.0	
	Nominal	21.0	

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Mode / Band		Modulated Average (dBm)
		Max
n5 (SA/NSA)	Maximum	25.0
	Nominal	24.0
n66(Upper, NSA only)	Maximum	23.0
	Nominal	22.0
n66(Lower) SA/NSA	Maximum	25.0
	Nominal	24.0

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

A. GSM Modes

Mode / Band		Voice	Burst Average GMSK (dBm)			
		1 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot
GSM/GPRS/EDGE1900 Hotspot Mode	Maximum	29.0	29.0	26.0	25.0	23.0
	Nominal	28.0	28.0	25.0	24.0	22.0
GSM/GPRS/EDGE1900 Grip Sensor on	Maximum	29.0	29.0	26.0	25.0	23.0
	Nominal	28.0	28.0	25.0	24.0	22.0
GSM/GPRS/EDGE1900 Earjack Insert Mode	Maximum	29.0	29.0	26.0	25.0	23.0
	Nominal	28.0	28.0	25.0	24.0	22.0

B. UMTS Modes

Mode/ Band		ModulatedAverage(dBm)			
		RMC/AMR	3GPPHSDPA	3GPPHSUPA	DC-HSDPA
UMTS Band 4 (1700 MHz) Hotspot Mode	Maximum	21.5	20.0	20.0	21.0
	Nominal	20.5	19.0	19.0	20.0
UMTS Band 2 (1900 MHz) Hotspot Mode	Maximum	20.5	20.0	19.0	20.0
	Nominal	19.5	19.0	18.0	19.0
UMTS Band 4 (1700 MHz) Grip Sensor on	Maximum	21.5	20.0	20.0	21.0
	Nominal	20.5	19.0	19.0	20.0
UMTS Band 2 (1900 MHz) Grip Sensor on	Maximum	20.5	20.0	19.0	20.0
	Nominal	19.5	19.0	18.0	19.0
UMTS Band 4 (1700 MHz) Earjack Insert Mode	Maximum	21.5	20.0	20.0	21.0
	Nominal	20.5	19.0	19.0	20.0
UMTS Band 2 (1900 MHz) Earjack Insert Mode	Maximum	20.5	20.0	19.0	20.0
	Nominal	19.5	19.0	18.0	19.0

C. LTE Modes

Mode / Band		Modulated Average (dBm)			
		Hotspot Mode	Grip Sensor on	Earjack Insert Mode	RCV-ON Mode
LTE Band 2	Maximum	20.0	20.0	20.0	N/A
	Nominal	19.0	19.0	19.0	N/A
LTE Band 4	Maximum	20.5	20.5	20.5	N/A
	Nominal	19.5	19.5	19.5	N/A
LTE Band 25	Maximum	20.0	20.0	20.0	N/A
	Nominal	19.0	19.0	19.0	N/A
LTE TDD Band 41PC3	Maximum	23.0	23.0	23.0	N/A
	Nominal	22.0	22.0	22.0	N/A
LTE TDD Band 41 (HPUE) PC2	Maximum	23.0	23.0	23.0	N/A
	Nominal	22.0	22.0	22.0	N/A
LTE Band 66 (AWS)	Maximum	20.5	20.5	20.5	N/A
	Nominal	19.5	19.5	19.5	N/A
LTE Band 2 upper ULCA only	Maximum	18.0	N/A	N/A	18.0
	Nominal	17.0	N/A	N/A	17.0
LTE Band 4 upper ULCA only	Maximum	18.0	N/A	N/A	18.0
	Nominal	17.0	N/A	N/A	17.0

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Mode / Band		Modulated Average (dBm)			
		Hotspot Mode	Grip Sensor on	Earjack Insert Mode	RCV-ON Mode
n66(Upper, NSA only)	Maximum	N/A	N/A	N/A	19.0
	Nominal	N/A	N/A	N/A	18.0
n66(Lower, SA/NSA)	Maximum	20.0	20.0	20.0	N/A
	Nominal	19.0	19.0	19.0	N/A

4.3.3 Maximum 2.4 GHz, 5 GHz WIFI output power

Maximum Power

Mode	Band	SISO(ANT 1)						SISO(ANT 2)						MIMO					
		a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax(SU)
2.4GHz	2.45GHz		18 Ch12:1 Ch13: 0	17 Ch1,11 : 15 Ch12:1 Ch13:1	17 Ch1,11 : 14 Ch12:1 Ch13: 0.5				18 Ch12:1 Ch13: 0	17 Ch1,11 : 15 Ch12:1 Ch13:1	17 Ch1,11 : 14 Ch12:1 Ch13: 0.5				21 Ch12:4 Ch13: 3	20 Ch1,11 : 18 Ch12:4 Ch13: 4	20 Ch1,11 : 17 Ch12:4 Ch13: 3.5		19 Ch12:4 Ch13:3
5GHz (20MHz)	5200MHz	14			14	14		14			14	14		17			17	17	17 (ANT1/2 14)
	5300MHz	15			15	15		15			15	15		18			18	18	18 (ANT1/2 15)
	5500MHz	14			14	14		14			14	14		17			17	17	17 (ANT1/2 14)
	5800MHz	17			17	17		17			17	17		20			20	20	19 (ANT1/2 16)
	5900MHz	17			17	17		17			17	17		20			20	20	19 (ANT1/2 16)
5GHz (40MHz)	5200MHz				15	15					15	15					18	18	18 (ANT1/2 15)
	5300MHz				15:	15:					15:	15:					18	18	18 (ANT1/2 15)
	5500MHz				13	14					13	14					16	17	17 (ANT1/2 14)
	5800MHz				15	15					15	15					18	18	18 (ANT1/2 15)
	5900MHz				15	15					15	15					18	18	18 (ANT1/2 15)
5GHz (80MHz)	5200MHz					14						14						17	17 (ANT1/2 14)
	5300MHz					14						14						17	17 (ANT1/2 14)
	5500MHz					14:						14						17	17 (ANT1/2 14)
	5800MHz					14						14						17-	17 (ANT1/2 14)
	5900MHz					14						14						17-	17 (ANT1/2 14)

(Uppertolerance:target+1.0dB)

Receiver Active(RCV-ON)

Mode	Band	SISO(ANT 1)						SISO(ANT 2)						MIMO					
		a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax(SU)
2.4GHz	2.45GHz		13 Ch12:1 Ch13: 0	13 Ch12:1 Ch13: 1	13 Ch12:1 Ch13: 0.5				13 Ch12:1 Ch13: 0	13 Ch12:1 Ch13: 1	13 Ch12:1 Ch13: 0.5				16 Ch12:4 Ch13: 3	16 Ch12:4 Ch13: 4	16 Ch12:4 Ch13: 3.5		16 Ch12:4 Ch13:2
5GHz (20MHz)	5200MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
	5300MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
	5500MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
	5800MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
	5900MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
5GHz (40MHz)	5200MHz				10	10					10	10					13	13	13 (ANT1/2 10)
	5300MHz				10	10					10	10					13	13	13 (ANT1/2 10)
	5500MHz				10	10					10	10					13	13	13 (ANT1/2 10)
	5800MHz				10	10					10	10					13	13	13 (ANT1/2 10)
	5900MHz				10	10					10	10					13	13	13 (ANT1/2 10)
5GHz (80MHz)	5200MHz					10						10						13	13 (ANT1/2 10)
	5300MHz					10						10						13	13 (ANT1/2 10)
	5500MHz					10						10						13	13 (ANT1/2 10)
	5800MHz					10						10						13	13 (ANT1/2 10)
	5900MHz					10						10						13	13 (ANT1/2 10)

(Uppertolerance:target+1.0dB)

RSDB Mode

Mode	Band	SISO(ANT 1)						SISO(ANT 2)						MIMO					
		a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax(SU)
2.4GHz	2.45GHz		13 Ch12:1 Ch13: 0	13 Ch12:1 Ch13: 1	13 Ch12:1 Ch13: 0.5				13 Ch12:1 Ch13: 0	13 Ch12:1 Ch13: 1	13 Ch12:1 Ch13: 0.5				16 Ch12:4 Ch13: 3	16 Ch12:4 Ch13: 4	16 Ch12:4 Ch13: 3.5		16 Ch12:4 Ch13:2
5GHz (20MHz)	5200MHz	12			12	12		12			12	12		15			15	15	15 (ANT1/2 12)
	5300MHz	12			12	12		12			12	12		15			15	15	15 (ANT1/2 12)
	5500MHz	12			12	12		12			12	12		15			15	15	15 (ANT1/2 12)
	5800MHz	12			12	12		12			12	12		15			15	15	15 (ANT1/2 12)
	5900MHz	12			12	12		12			12	12		15			15	15	15 (ANT1/2 12)
5GHz (40MHz)	5200MHz				12	12					12	12					15	15	15 (ANT1/2 12)
	5300MHz				12	12					12	12					15	15	15 (ANT1/2 12)
	5500MHz				12	12					12	12					15	15	15 (ANT1/2 12)
	5800MHz				12	12					12	12					15	15	15 (ANT1/2 12)
	5900MHz				12	12					12	12					15	15	15 (ANT1/2 12)
5GHz (80MHz)	5200MHz					12						12						15	15 (ANT1/2 12)
	5300MHz					12						12						15	15 (ANT1/2 12)
	5500MHz					12						12						15	15 (ANT1/2 12)
	5800MHz					12						12						15	15 (ANT1/2 12)
	5900MHz					12						12						15	15 (ANT1/2 12)

(Uppertolerance:target+1.0dB)

RSDB with receiver Active (RCV-ON)

Mode	Band	SISO(ANT 1)						SISO(ANT 2)						MIMO					
		a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax (SU)	a	b	g	n	ac	ax(SU)
2.4GHz	2.45GHz		11 Ch12:1 Ch13: 0	11 Ch12:1 Ch13: 1	11 Ch12:1 Ch13: 0.5				11 Ch12:1 Ch13: 0	11 Ch12:1 Ch13: 1	11 Ch12:1 Ch13: 0.5				14 Ch12:4 Ch13: 3	14 Ch12:4 Ch13: 4	14 Ch12:4 Ch13: 3.5		14 Ch12:4 Ch13:2
5GHz (20MHz)	5200MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
	5300MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
	5500MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
	5800MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
	5900MHz	10			10	10		10			10	10		13			13	13	13 (ANT1/2 10)
5GHz (40MHz)	5200MHz				10	10					10	10					13	13	13 (ANT1/2 10)
	5300MHz				10	10					10	10					13	13	13 (ANT1/2 10)
	5500MHz				10	10					10	10					13	13	13 (ANT1/2 10)
	5800MHz				10	10					10	10					13	13	13 (ANT1/2 10)
	5900MHz				10	10					10	10					13	13	13 (ANT1/2 10)
5GHz (80MHz)	5200MHz					10						10						13	13 (ANT1/2 10)
	5300MHz					10						10						13	13 (ANT1/2 10)
	5500MHz					10						10						13	13 (ANT1/2 10)
	5800MHz					10						10						13	13 (ANT1/2 10)
	5900MHz					10						10						13	13 (ANT1/2 10)

(Uppertolerance:target+1.0dB)

802.11ax RU Tx power Tables

Tone s	SISO (ANT1) /in dBm				SISO (ANT2) /in dBm				MIMO (ALL) /in dBm			
	2.4G	5G/20Mhz	5G/40Mhz	5G/80Mhz	2.4G	5G/20Mhz	5G/40Mhz	5G/80Mhz	2.4G	5G/20Mhz	5G/40Mhz	5G/80Mhz
	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index
26T									15 Ch12:4 Ch13:2	15 (ANT1/2, 12)	15 (ANT1/2, 12)	15 (ANT1/2, 12)
52T									16 Ch12:4 Ch13:2	16 (ANT1/2, 13)	16 (ANT1/2, 13)	16 (ANT1/2, 13)
106T									17 Ch12:4 Ch13:2	17 (ANT1/2, 14)	17 (ANT1/2, 14) 5300MHz : 16 (ANT1/2 : 13) 5500MHz : 15 (ANT1/2 : 12)	17 (ANT1/2, 14) 5300MHz : 16 (ANT1/2 : 13) 5500MHz : 15 (ANT1/2 : 12)
242T									18 Ch1 :15 Ch11 : 13 Ch12:4 Ch13:2	18 (ANT1/2, 15) 5500MHz : 17 (ANT1/2 : 14)	18 (ANT1/2, 15) 5200MHz : 17 (ANT1/2 : 14) 5300MHz : 16 (ANT1/2 : 13) 5500MHz : 15 (ANT1/2 : 12)	18 (ANT1/2, 15) 5200MHz : 17 (ANT1/2 : 14) 5300MHz : 16 (ANT1/2 : 13) 5500MHz : 15 (ANT1/2 : 12)
484T											17 (ANT1/2, 14) 5200MHz : 16 (ANT1/2 : 13) 5500MHz : 15 (ANT1/2 : 12)	17 (ANT1/2, 14) 5200MHz : 16 (ANT1/2 : 13) 5500MHz : 15 (ANT1/2 : 12)
996T												16 (ANT1/2, 13) 5200MHz : 15.5 (ANT1/2 : 12.5) 5500MHz : 15 (ANT1/2 : 12)

(Uppertolerance:target+1.0dB)

11ax RU Tx power Tables (RCV-ON)

Tone s	SISO (ANT1) /in dBm				SISO (ANT2) /in dBm				MIMO (ALL) /in dBm			
	2.4G	5G/20Mhz z	5G/40Mhz	5G/80Mhz z	2.4G	5G/20Mhz z	5G/40Mhz z	5G/80Mhz z	2.4G	5G/20Mhz	5G/40Mhz z	5G/80Mhz z
	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index
26T									15 Ch12:4 Ch13:2	13 (ANT1/2, 10)	13 (ANT1/2, 10)	13 (ANT1/2, 10)
52T									15 Ch12:4 Ch13:2	13 (ANT1/2, 10)	13 (ANT1/2, 10)	13 (ANT1/2, 10)
106T									15 Ch12:4 Ch13:2	13 (ANT1/2, 10)	13 (ANT1/2, 10)	13 (ANT1/2, 10)
242T									15 Ch12:4 Ch13:2	13 (ANT1/2, 10)	13 (ANT1/2, 10)	13 (ANT1/2, 10)
484T											13 (ANT1/2, 10)	13 (ANT1/2, 10)
996T												13 (ANT1/2, 10)

(Uppertolerance:target+1.0dB)

11ax RU Tx power Tables –RSDB

Ton es	SISO (ANT1) /in dBm				SISO (ANT2) /in dBm				MIMO (ALL) /in dBm			
	2.4G	5G/20 Mhz	5G/40Mhz	5G/80Mhz z	2.4G	5G/20Mhz z	5G/40Mhz z	5G/80Mhz z	2.4G	5G/20Mhz	5G/40Mhz z	5G/80Mhz z
	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index
26T									15 Ch12:4 Ch13:2	15 (ANT1/2, 12)	15 (ANT1/2, 12)	15 (ANT1/2, 12)
52T									15 Ch12:4 Ch13:2	15 (ANT1/2, 12))	15 (ANT1/2, 12))	15 (ANT1/2, 12))
106 T									15 Ch12:4 Ch13:2	15 (ANT1/2, 12)	15 (ANT1/2, 12)	15 (ANT1/2, 12)
242 T									15 Ch12:4 Ch13:2	15 (ANT1/2, 12))	15 (ANT1/2, 12))	15 (ANT1/2, 12))
484 T											15 (ANT1/2, 12)	15 (ANT1/2, 12)
996 T												15 (ANT1/2, 12))

(Uppertolerance:target+1.0dB)

11ax RU Tx power Tables –RSDB with receiver Active (RCV-ON)

Ton es	SISO (ANT1) /in dBm				SISO (ANT2) /in dBm				MIMO (ALL) /in dBm			
	2.4G	5G/20 Mhz	5G/40Mhz	5G/80Mh z	2.4G	5G/20Mh z	5G/40Mh z	5G/80Mh z	2.4G	5G/20Mhz	5G/40Mh z	5G/80Mh z
	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index	Ch & RU index
26T									14 Ch12:4 Ch13:2	13 (ANT1/2, 10)	13 (ANT1/2, 10)	13 (ANT1/2, 10)
52T									14 Ch12:4 Ch13:2	13 (ANT1/2, 10)	13 (ANT1/2, 10)	13 (ANT1/2, 10)
106 T									14 Ch12:4 Ch13:2	13 (ANT1/2, 10)	13 (ANT1/2, 10)	13 (ANT1/2, 10)
242 T									14 Ch12:4 Ch13:2	13 (ANT1/2, 10)	13 (ANT1/2, 10)	13 (ANT1/2, 10)
484 T											13 (ANT1/2, 10)	13 (ANT1/2, 10)
996 T												13 (ANT1/2, 10)

(Uppertolerance:target+1.0dB)

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

	# TX	5GHz WIFI [dBm]		2.4GHz WIFI [dBm]		802.11 Modes
		WIFI1	WIFI2	WIFI1	WIFI2	
2.4 GHz + 5 GHz RSDB MIMO	4	BW20: 12 BW40: 12 BW80: 12	BW20: 12 BW40: 12 BW80: 12	13	13	2.4 GHz: b, g, n 5 GHz: a, n, ac

(Upper tolerance:target+1.0dB)

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

	# TX	5GHz WIFI [dBm]		2.4GHz WIFI [dBm]		802.11 Modes
		WIFI1	WIFI2	WIFI1	WIFI2	
2.4 GHz + 5 GHz RSDB MIMO	4	BW20: 10 BW40: 10 BW80: 10	BW20: 10 BW40: 10 BW80: 10	11	11	2.4 GHz: b, g, n 5 GHz: a, n, ac

(Upper tolerance: target+1.0dB)

802.11ax Simultaneous Dual Band (RSDB) Power

	# TX	5GHz WIFI [dBm]		2.4GHz WIFI [dBm]		802.11 Modes
		WIFI1	WIFI2	WIFI1	WIFI2	
2.4 GHz + 5 GHz RSDB MIMO	4	BW20: 12 BW40: 12 BW80: 12	BW20: 12 BW40: 12 BW80: 12	12	12	2.4 GHz: 11ax 5 GHz: 11ax

(Uppertolerance:target+1.0dB)

802.11ax(SU, 242T) Real Simultaneous Dual Band (RSDB) Power with RCV On

	# TX	5GHz WIFI [dBm]		2.4GHz WIFI [dBm]		802.11 Modes
		WIFI1	WIFI2	WIFI1	WIFI2	
2.4 GHz + 5 GHz RSDB MIMO	4	BW20: 10 BW40: 10 BW80: 10	BW20: 10 BW40: 10 BW80: 10	11	11	2.4 GHz: 11ax 5 GHz: 11ax

(Upper tolerance:target+1.0dB)

4.34.4 Maximum Bluetooth Power

Mode / Band			Modulated Average (dBm)
Bluetooth	1Mbps	Maximum	16.0
		Nominal	15.0
	EDR	Maximum	11.5
		Nominal	10.5
Bluetooth LE	2Mbps High Power	Maximum	14.5
		Nominal	13.5
	2Mbps Normal Power	Maximum	7.0
		Nominal	6.0
	1Mbps, 125/500Kbps High Power	Maximum	14.5
		Nominal	13.5
	1Mbps, 125/500Kbps Normal Power	Maximum	7.0
		Nominal	6.0

(Upper tolerance:target+1.0dB)

4.5 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	2 506.0(39750)	2 549.5(40185)	2 593.0(40620)	2 636.5(41055)	2 680.0(41490)	
	10 MHz	2 506.0(39750)	2 549.5(40185)	2 593.0(40620)	2 636.5(41055)	2 680.0(41490)	
	15 MHz	2 506.0(39750)	2 549.5(40185)	2 593.0(40620)	2 636.5(41055)	2 680.0(41490)	
	20 MHz	2 506.0(39750)	2 549.5(40185)	2 593.0(40620)	2 636.5(41055)	2 680.0(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-link Carrier aggregations and intra-Band UL-link Carrier aggregations. Detaled 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 carrieraggregation, downlink MIMO. All other uplink communications are identical to the release 8 specifications. The following LTE Release 15 Features are not supported: Relay, Hetnet, Enhanced eICI, MDH, cross-carrier Scheduling, Enhanced SC-FDMA.					

Item.	Description
Frequency Range	NR Band n5 (Cell) 826.5 MHz ~ 846.5 MHz
	NR Band n66 (AWS) 1 712.5 MHz ~ 1 777.5 MHz
Channel Bandwidths	NR Band n5 (Cell) 5 MHz, 10 MHz, 15 MHz, 20 MHz
	NR Band n66 (AWS) 5 MHz, 10 MHz, 15 MHz, 20 MHz

Ch. No.& Freq.(MHz)	Low / Low-Mid	Mid	Mid-High / High
NR Band n5 (Cell)	5 MHz 826.5 (165300)	836.5 (167300)	846.5 (169300)
	10 MHz	836.5 (167300)	
	15 MHz	836.5 (167300)	
	20 MHz	836.5 (167300)	
NR Band n66(AWS)	5 MHz 1 712.5 (342500)	1 745 (349000)	1 777.5 (355500)
	10 MHz 1 715 (343000)	1 745 (349000)	1 775 (355000)
	15 MHz 1 717.5 (343500)	1 745 (349000)	1 772.5 (354500)
	20 MHz 1 720 (344000)	1 745 (349000)	1 770 (354000)

Item.	Description
NR Band n5/n66 SCS	15 kHz
3GPP Rel.	Rel.16
A-MPR disabled for SAR Testing.	Yes
5G NR UL/DL FR1	CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM DFT-s-OFDM: $\pi/2$ -BPSK(UL Only), QPSK, 16QAM, 64QAM, 256QAM
Non-Standalone & Standalone are supported. More detailed specifications of the 5G NR Bands are contained in the Technical description document. N5(SA/NSA),n66 Lower(SA/NSA),n66 Upper(NSA). When the lower antenna Main Ant#1-1 is an EN-DC combination of the LTE B2 anchor band of the 5G sub6 n66 is switched to the upper antenna Sub Ant#6.	
EN-DC Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations
LTE Anchor Bands for NR Band n5(Cell)	LTE Band 2/66
LTE Anchor Bands for NR Band n66(AWS) Upper Sub Ant #6	NSA only, LTE Band 2(Main Ant #1-1)
LTE Anchor Bands for NR Band n66(AWS) Lower Main Ant #1-1	LTE Band 5/12/13

4.6 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	Ant	Rear	Front	Left	Right	Bottom	Top
GSM/GPRS/EDGE 850	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
GSM/GPRS/EDGE 1900	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
UMTS Band 5	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
UMTS Band 4	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
UMTS Band 2	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE Band 2 (PCS)	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE Band 4 (AWS)	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE Band 5 (Cell)	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE Band 12	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE Band 13	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE Band 17	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE Band 25	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE Band 26	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE TDD Band 41	Main Ant#2-1	Yes	Yes	Yes	No	Yes	No
LTE Band 66 (AWS)	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
LTE Band 2 ULCA(SCC)	Sub Ant#6	Yes	Yes	Yes	Yes	No	Yes
LTE Band 4 ULCA(SCC)	Sub Ant#6	Yes	Yes	Yes	Yes	No	Yes
NR Band n5	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
NR Band n66 Upper	Sub Ant#6	Yes	Yes	Yes	Yes	No	Yes
NR Band n66 Lower	Main Ant#1-1	Yes	Yes	Yes	Yes	Yes	No
2.4 GHz WLAN	Sub Ant#4/7	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN	Sub Ant#4/7	Yes	Yes	Yes	No	No	Yes
Bluetooth	Sub Ant#4	Yes	Yes	Yes	No	No	Yes

- WIFI1=Sub Ant#4, WIFI2=Sub Ant#7

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.

4.7 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.

4.8 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.

Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet
GSM voice + 2.4GHz Bluetooth	Yes^	Yes	N/A	Yes
GSM voice + 2.4GHz WI-FI MIMO	Yes	Yes	N/A	Yes
GSM voice + 5GHz WI-FI MIMO	Yes	Yes	N/A	Yes
GSM voice + 2.4GHz Bluetooth + 5GHz WI-FI MIMO	Yes^	Yes	N/A	Yes
UMTS + 2.4GHz Bluetooth	Yes^	Yes	Yes^	Yes
UMTS + 2.4GHz WI-FI MIMO	Yes	Yes	Yes	Yes
UMTS + 5GHz WI-FI MIMO	Yes	Yes	Yes	Yes
UMTS + 2.4GHz WI-FI MIMO + 5GHz WI-FI MIMO	Yes	Yes	Yes	Yes
UMTS + 2.4GHz Bluetooth + 5GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes
LTE + 5GNR	Yes	Yes	N/A	Yes
LTE + 2.4GHz Bluetooth	Yes^	Yes	Yes^	Yes
LTE + 2.4GHz Bluetooth + 5GNR	Yes^	Yes	Yes^	Yes
LTE + 2.4GHz Bluetooth + 5GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes
LTE + 2.4GHz WI-FI MIMO	Yes	Yes	Yes	Yes
LTE + 2.4GHz WI-FI MIMO + 5GNR	Yes*	Yes	Yes	Yes
LTE + 5GHz WI-FI MIMO	Yes	Yes	Yes	Yes
LTE + 5GHz WI-FI MIMO + 5GNR	Yes*	Yes	Yes	Yes
LTE + 2.4GHz WI-FI MIMO + 5GHz WI-FI MIMO	Yes	Yes	Yes	Yes
LTE + 2.4GHz WI-FI MIMO + 5GHz WI-FI MIMO + 5GNR	Yes*	Yes	Yes	Yes
LTE + 2.4GHz Bluetooth + 5GHz WI-FI MIMO	Yes^*	Yes	Yes^	Yes
LTE + 2.4GHz Bluetooth + 5GHz WI-FI MIMO + 5GNR	Yes^*	Yes	Yes^	Yes
GPRS/EDGE Data + 2.4GHz Bluetooth	Yes^*	Yes*	Yes^	Yes
GPRS/EDGE Data + 2.4GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes
GPRS/EDGE Data + 5GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes
GPRS/EDGE Data + 2.4GHz WI-FI MIMO + 5GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes
GPRS/EDGE Data + 2.4GHz Bluetooth+ 5GHz WI-FI MIMO	Yes^*	Yes*	Yes^	Yes
5GNR+ 2.4GHz Bluetooth	Yes^*	Yes*	Yes^	Yes
5GNR + 2.4GHz Bluetooth + 5GHz WI-FI MIMO	Yes^*	Yes*	Yes^	Yes
5GNR + 2.4GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes
5GNR + 5GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes
5GNR + 2.4GHz WI-FI MIMO + 5GHz WI-FI MIMO	Yes*	Yes*	Yes^	Yes

Simultaneous Transmission Scenarios of Inter-Band UL CA

Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet
Inter band ULCA Main Ant #1-1 from LTE B2/B4 + Sub Ant #6 from LTE B2/B4	Yes	Yes	Yes	Yes
Inter band ULCA Main Ant #1-1 from B4/B5/B12/B26/B66	Yes	Yes	Yes	Yes

The Technical description includes all the possible inter-band UL-CA combinations.

Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet
LTE ULCA + 2.4GHz Bluetooth	Yes^	Yes	Yes^	Yes
LTE ULCA + 2.4GHz Bluetooth + 5GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes
LTE ULCA + 2.4GHz WI-FI MIMO	Yes	Yes	Yes	Yes
LTE + 5GHz WI-FI MIMO	Yes	Yes	Yes	Yes
LTE ULCA + 2.4GHz WI-FI MIMO + 5GHz WI-FI MIMO	Yes	Yes	Yes	Yes
LTE ULCA + 2.4GHz Bluetooth + 5GHz WI-FI MIMO	Yes^*	Yes	Yes^	Yes

Note:

1. 2.4GHz WLAN and 2.4GHz Bluetooth cannot transmit simultaneously
2. The device does not support licensed Bands simultaneously transmitting except LTE ULCA.n66 NSA EN-DC configuration
3. UMTS +WLAN scenario also represents the UMTS Voice/DATA + WLAN hotspot scenario.
4. VoIP is supported in GPRS/EDGE
5. The highest reported SAR for each exposure condition is used for SAR summation purpose.
6. Wi-Fi Hotspot is supported for 2.4 GHz/ UNII-3 of 5 GHz WLAN.
7. This device supports Bluetooth tethering. ^ Bluetooth Tethering is considered.
8. * Pre-installed VOIP applications are considered
9. 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.
10. 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.
11. This device supports VOLTE.
12. This device supports VOWIFI
13. LTE + 5G NR FR1 Scenarios are supported NSA and SA Connectivity.

4.9 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 and U-NII-4 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 802.11ax with the following features:

- a) Up to 80 MHz Bandwidth only for 5 GHz
- b) Up to 20 MHz Bandwidth only for 2.4 GHz
- c) No aggregate channel configurations
- d) 2 Tx antenna output
- e) Up to 1024 QAM is supported
- f) TDWR and Band gap channels are supported for 5 GHz
- g) MU-MIMO UL Operations are not supported

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm and less than 200mm. Phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Because wireless router operations are not supported for U-NII-1, U-NII-2A & U-NII-2C WLAN, phablet SAR tests were performed. Phablet SAR was not evaluated for 2.4 GHz WIFI, 2.4 GHz Bluetooth, and U-NII-3 WLAN operations since wireless router 1g SAR was < 1.2 W/kg.

Per April 2019 TCB Workshop Notes, SAR testing was not required for 802.11ax when applying the initial test configuration procedures of KDB 248227, with 802.11ax considered a higher order 802.11 mode.

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 ≤ 0.5dB higher than the same configuration in QPSK and the reported SAR for QPSK configuration is ≤ 1.45 W/Kg, per section 5.2.4 for FCC KDB 941225 D05v02r05.

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.

LTE capabilities with overlapping transmission frequency ranges were applied to LTE Band 5(826.4 MHz~ 846.6 MHz) is covered by LTE Band 26(814.7 MHz~ 848.3 MHz), LTE Band 17(706.5 MHz~ 713.5 MHz) is covered by LTE Band 12(699.7 MHz~ 715.3 MHz), LTE Band 4 (1 712.4 MHz~ 1 752.6 MHz) is covered by LTE Band 66(1 712.5 MHz~ 1 777.5 MHz), LTE Band 2(1 850.7 MHz~ 1 909.3 MHz) is covered by LTE Band 25(1 850.7 MHz ~ 1 914.3 MHz) of this model each both LTE bands have the same target powers.

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 the results were scalable linearly.

This product supported Inter-band LTE Carrier Aggregation for LTE B2/B4 with two component carriers in the uplink. SAR Measurement and conducted Powers were measured according to Oct,2018 TCBC Workshop guide,

This device supports NSA(Non-standalone) and SA(Stand alone) connectivity for 5G NR FR1 Bands,More detailed specifications of the Bands are contained in the Technical description document.

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.

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

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

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 (ρ). 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/m³)
- = 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.

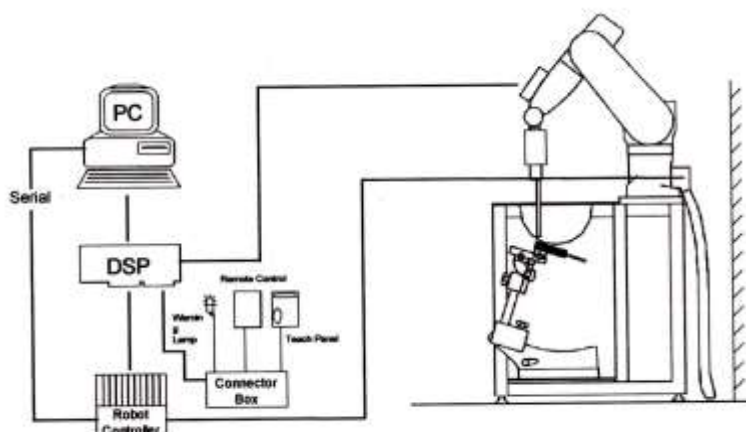


Figure 2. HCT SAR Lab. Test Measurement Set-up

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.

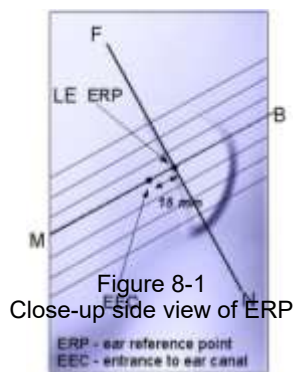
Area scan and zoom scan resolution setting follow KDB 865664 D01v01r04 quoted below.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5±1 mm	·δ·ln(2)±0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30°±1°	20°±1°
Maximum area scan Spatial resolution: Δx _{Area} , Δy _{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: Δx _{zoom} , Δy _{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: Δz _{zoom} (n)		≤ 5 mm	3-4 GHz: ≤4 mm 4-5 GHz: ≤3 mm 5-6 GHz: ≤2 mm
	graded grid	Δz _{zoom} (1): between 1 st two Points closest to phantom surface	≤ 4 mm	3-4 GHz: ≤3 mm 4-5 GHz: ≤2.5 mm 5-6 GHz: ≤2 mm
		Δz _{zoom} (n>1): between subsequent Points	≤1.5·Δz _{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: δ 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

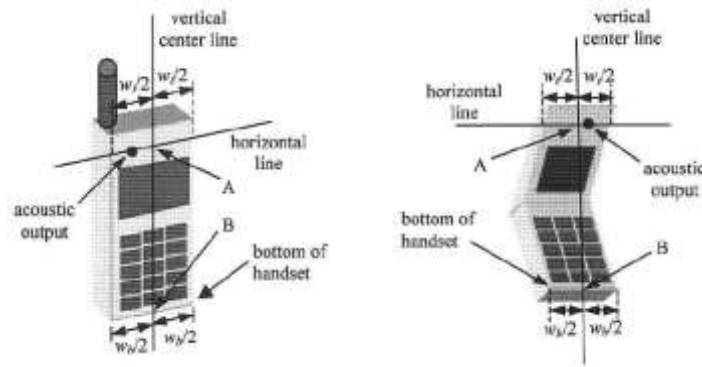


Figure 6-3. Handset vertical and horizontal reference lines

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.

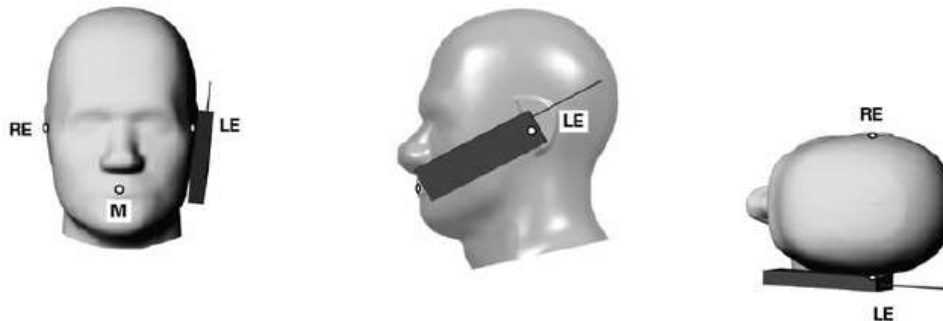


Figure 8.4 Cheek/ Touch position of the wireless device

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≥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 ≤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
GSM1900, UMTS B2/B4, LTEB2/4/25/66/41, n66(Lower)	Rear	10	N/A	N/A	9
	Front	7	N/A	N/A	6
	Bottom	13	N/A	N/A	12

8.10 Bluetooth tethering Configurations

Per May 2017 TCBC Workshop Document, 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 ≤ 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 ≤ 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

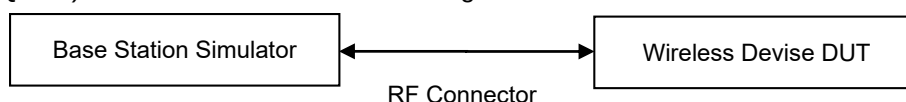
The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control 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 ≤ 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	$26336 \cdot T_s$			$7680 \cdot T_s$		
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
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 $\times (T_s) \times$ 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	Phone-1
<Fundamental Measurement> Output Main		Continuous		W-CDMA	LTE
Parameter	Fundamental	UE Report			
Reference Signal not found		UE Power : -21.5 dBm		Parameter	
Power Measurement		(Meas. Count : 11/ 20)		Common	
TX Power		Avg.	Max.	Min.	Limit
Channel Power		*****	*****	*****	20.3 to 25.7 dBm
Modulation Analysis		View		(Meas. Count : 1/ 1)	
Common Parameter		TX1 - Max. Power(QPSK/1 RB)		Physical Channel	
Test Parameter				Call Processing	
Call Processing		On		Scenario Normal	
Frequency		TDD		TX Measurement Setup	
Frame Structure		FDD Hz		RX Measurement Setup	
Channel Bandwidth		TDD 20		Fundamental Measurement	
UL Channel & Frequency		CH = 2593.000000 MHz			
DL Channel & Frequency		40620 CH = 2593.000000 MHz			
Operation Band		41			
Frequency Separation		(0)MHz			
Level		30.0 dBm			
Input Level				1 2 3 4	

2018/01/08 11:01		Idle(Regist)		Phone-2	Phone-1
<Fundamental Measurement> Output Main		Continuous		W-CDMA	LTE
Parameter	Fundamental	UE Report			
Reference Signal not found		UE Power : -21.5 dBm		Parameter	
Power Measurement		(Meas. Count : 11/ 20)		Common	
TX Power		Avg.	Max.	Min.	Limit
Channel Power		*****	*****	*****	20.3 to 25.7 dBm
Modulation Analysis		View		(Meas. Count : 1/ 1)	
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			
		1 2 3 4			

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-NII-2A 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 ≤ 0.4 W/kg for 1g SAR and ≤ 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 ≤ 0.8 W/kg for 1g SAR and ≤ 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 ≤ 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 ≤ 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 ≤ 1.2 W/kg for 1g SAR and ≤ 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

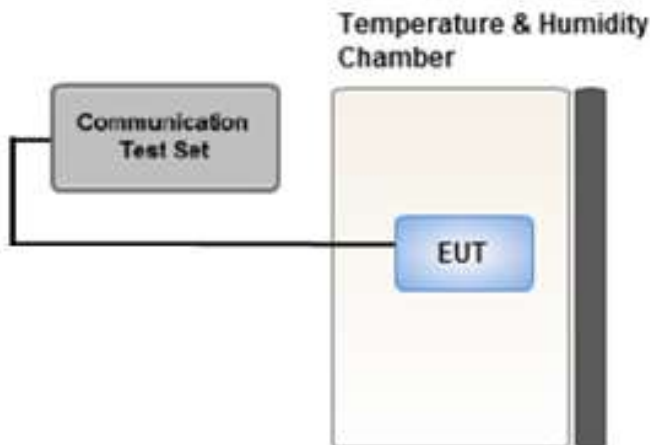
According to ANSI C63.26-2015 Section 5.2.1 when measuring the maximum RF output power from such devices, control over the EUT must be provided either through special test software (provided by manufacturer specifically for compliance testing, but not accessible by an end user) or through use of a base 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	31.0	30.0	28.0	27.0	25.0	24.0	23.0
Nominal		33.0	33.0	30.0	29.0	27.0	26.0	24.0	23.0	22.0
GSM 850	128	33.01	33.19	30.62	29.40	27.58	26.74	24.45	23.10	22.03
	190	33.27	33.17	30.58	29.21	27.74	26.71	24.48	23.08	22.01
	251	33.06	33.01	30.42	29.12	27.54	26.51	24.18	22.83	21.70
Maximum		31.0	31.0	28.0	27.0	25.0	26.0	25.5	24.5	23.0
Nominal		30.0	30.0	27.0	26.0	24.0	25.0	24.5	23.5	22.0
GSM 1900	512	29.26	29.26	26.90	25.03	24.21	24.04	23.98	22.86	22.53
	661	29.30	29.30	26.87	25.32	24.26	24.21	24.01	22.83	22.37
	810	29.41	29.55	27.26	25.51	24.57	24.69	24.52	23.27	22.93

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	24.98	25.74	24.99	17.97	18.98	19.74	19.99
Nominal		23.97	23.97	23.98	24.74	23.99	16.97	17.98	18.74	18.99
GSM 850	128	23.98	24.16	24.60	25.14	24.57	17.71	18.43	18.84	19.02
	190	24.24	24.14	24.56	24.95	24.73	17.68	18.46	18.82	19.00
	251	24.03	23.98	24.40	24.86	24.53	17.48	18.16	18.57	18.69
Maximum		21.97	21.97	21.98	22.74	21.99	16.97	19.48	20.24	19.99
Nominal		20.97	20.97	20.98	21.74	20.99	15.97	18.48	19.24	18.99
GSM 1900	512	20.23	20.23	20.88	20.77	21.20	15.01	17.96	18.60	19.52
	661	20.27	20.27	20.85	21.06	21.25	15.18	17.99	18.57	19.36
	810	20.38	20.52	21.24	21.25	21.56	15.66	18.50	19.01	19.92

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

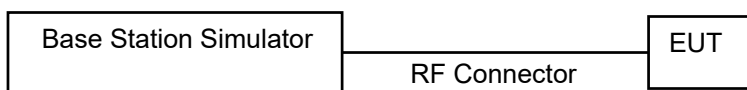
4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B

GSM voice: Head SAR , Body worn SAR

GPRS/EDGE Multi-slots 33 : Hotspot SAR with GPRS/EDGE

Multi-slot Class 33 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		29.0	29.0	26.0	25.0	23.0	N/A	N/A	N/A	N/A
Nominal		28.0	28.0	25.0	24.0	22.0	N/A	N/A	N/A	N/A
GSM 1900	512	27.06	27.06	24.60	23.51	21.70	N/A	N/A	N/A	N/A
	661	27.05	27.05	24.98	23.54	21.24	N/A	N/A	N/A	N/A
	810	27.30	27.30	25.31	23.88	21.34	N/A	N/A	N/A	N/A

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		19.97	19.97	20.98	20.74	19.99	N/A	N/A	N/A	N/A
Nominal		18.97	18.97	19.98	19.74	18.99	N/A	N/A	N/A	N/A
GSM 1900	512	18.03	18.03	18.58	19.25	18.69	N/A	N/A	N/A	N/A
	661	18.02	18.02	18.96	19.28	18.23	N/A	N/A	N/A	N/A
	810	18.27	18.27	19.29	19.62	18.33	N/A	N/A	N/A	N/A

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

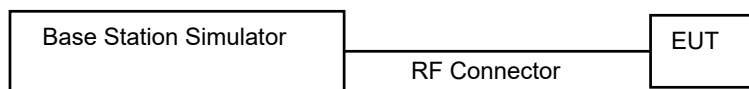
4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B

GSM voice/GPRS VOIP: Head SAR , Body worn SAR

GPRS/EDGE Multi-slots 33 : Hotspot SAR with GPRS/EDGE

Multi-slot Class 33 with CS 1 (GMSK)



11.1.3 GSM Reduced Conducted Output Power (Grip back and Ear jackActivated)

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		29.0	29.0	26.0	25.0	23.0	N/A	N/A	N/A	N/A
Nominal		28.0	28.0	25.0	24.0	22.0	N/A	N/A	N/A	N/A
GSM 1900	512	27.16	27.09	24.64	23.20	21.78	N/A	N/A	N/A	N/A
	661	27.09	27.10	24.98	23.58	21.30	N/A	N/A	N/A	N/A
	810	27.35	27.30	25.39	23.59	21.40	N/A	N/A	N/A	N/A

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		19.97	19.97	20.98	20.74	19.99	N/A	N/A	N/A	N/A
Nominal		18.97	18.97	19.98	19.74	18.99	N/A	N/A	N/A	N/A
GSM 1900	512	18.13	18.06	18.62	18.94	18.77	N/A	N/A	N/A	N/A
	661	18.06	18.07	18.96	19.32	18.29	N/A	N/A	N/A	N/A
	810	18.32	18.27	19.37	19.33	18.39	N/A	N/A	N/A	N/A

GSM Conducted output powers (Frame-Average)

Note:

Time slot average factor is as follows:

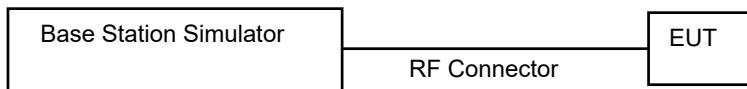
- 1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB
- 2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB
- 3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB
- 4 Tx slot = 3.01 dB, Frame-Average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

GSM Class : B

GSM voice/GPRS VOIP: Head SAR , Body worn SAR

GPRS/EDGE Multi-slots 33 : Hotspot SAR with GPRS/EDGE

Multi-slot Class 33 with CS 1 (GMSK)



11.2UMTS

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	24.95	24.93	24.49	-
99		12.2 kbps AMR	23.00	22.89	22.53	-
5	HSDPA	Subtest 1	22.41	21.84	21.98	0
5		Subtest 2	21.28	20.74	20.79	0
5		Subtest 3	21.43	20.83	20.89	0.5
5		Subtest 4	20.50	19.85	19.92	0.5
6	HSUPA	Subtest 1	21.13	20.59	20.67	0
6		Subtest 2	20.21	19.58	19.68	2
6		Subtest 3	20.24	19.65	19.70	1
6		Subtest 4	19.21	18.50	18.73	2
6		Subtest 5	21.27	20.67	20.77	0
8	DC-HSDPA	Subtest1	23.81	23.31	23.21	0
8		Subtest2	23.16	22.81	22.70	0
8		Subtest3	22.56	22.42	22.31	0.5
8		Subtest4	22.56	22.43	22.31	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	23.12	23.14	23.04	-
99		12.2 kbps AMR	21.38	21.32	21.35	-
5	HSDPA	Subtest 1	21.29	21.39	22.29	0
5		Subtest 2	20.20	20.32	22.28	0
5		Subtest 3	20.09	20.31	22.34	0.5
5		Subtest 4	19.18	19.39	21.25	0.5
6	HSUPA	Subtest 1	20.04	20.16	20.32	0
6		Subtest 2	17.96	18.15	18.32	2
6		Subtest 3	19.14	19.17	19.30	1
6		Subtest 4	18.00	18.15	18.27	2
6		Subtest 5	20.06	20.23	20.24	0
8	DC-HSDPA	Subtest1	22.40	22.70	22.52	0
8		Subtest2	21.87	22.19	22.07	0
8		Subtest3	20.82	21.12	21.01	0.5
8		Subtest4	20.76	21.08	20.99	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	23.00	23.25	23.11	-
99		12.2 kbps AMR	21.13	21.29	21.13	-
5	HSDPA	Subtest 1	21.54	21.78	21.71	0
5		Subtest 2	20.42	20.65	20.57	0
5		Subtest 3	20.47	20.65	20.59	0.5
5		Subtest 4	19.46	19.65	19.53	0.5
6	HSUPA	Subtest 1	20.44	20.64	20.56	0
6		Subtest 2	18.56	18.69	18.68	2
6		Subtest 3	19.45	19.68	19.55	1
6		Subtest 4	18.52	18.75	18.67	2
6		Subtest 5	20.57	20.65	20.65	0
8	DC-HSDPA	Subtest 1	22.75	23.06	22.96	0
8		Subtest2	22.60	22.82	22.48	0
8		Subtest3	21.64	21.88	21.53	0.5
8		Subtest4	21.64	21.83	21.55	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	20.50	20.53	20.44	-
99		12.2 kbps AMR	20.49	20.52	20.41	-
5	HSDPA	Subtest 1	19.61	19.78	19.75	0
5		Subtest 2	19.67	19.74	19.90	0
5		Subtest 3	19.65	19.83	19.80	0
5		Subtest 4	19.18	19.53	19.87	0
6	HSUPA	Subtest 1	19.20	19.21	19.40	0
6		Subtest 2	18.61	18.56	18.77	0
6		Subtest 3	19.08	19.12	19.22	0
6		Subtest 4	18.58	18.63	18.79	0
6		Subtest 5	19.03	19.13	19.25	0
8	DC-HSDPA	Subtest 1	19.42	19.73	19.53	0
8		Subtest2	19.44	19.74	19.52	0
8		Subtest3	19.40	19.73	19.51	0
8		Subtest4	19.43	19.75	19.56	0

UMTS Average Conducted output powers

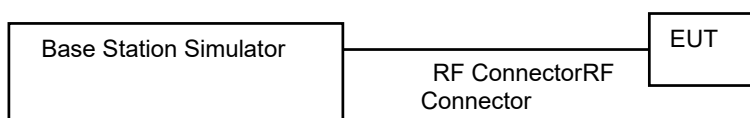
UMTS Band 2 Hotspot Back-off Power

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	19.64	19.86	19.74	-
99		12.2 kbps AMR	19.55	19.84	19.73	-
5	HSDPA	Subtest 1	19.22	19.02	19.42	0
5		Subtest 2	19.31	19.09	19.48	0
5		Subtest 3	19.31	19.11	19.59	0
5		Subtest 4	19.33	19.12	19.51	0
6	HSUPA	Subtest 1	18.20	18.05	18.55	0
6		Subtest 2	18.15	18.01	18.54	0
6		Subtest 3	18.16	18.06	18.56	0
6		Subtest 4	18.34	18.23	18.53	0
6		Subtest 5	18.24	18.14	18.51	0
8	DC-HSDPA	Subtest 1	18.80	18.55	18.94	0
8		Subtest2	18.82	18.57	18.91	0
8		Subtest3	18.84	18.52	18.92	0
8		Subtest4	18.83	18.54	18.92	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

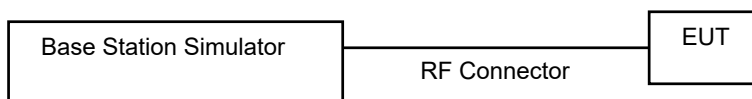
3GPP Release Version	Mode	3GPP 34.121	UMTS Band 4 [dBm]			3GPP MPR
		Subtest	UL 1312 DL 1537	UL 1412 DL 1637	UL 1513 DL 1738	
99	UMTS	12.2 kbps RMC	20.54	20.32	20.51	-
99		12.2 kbps AMR	20.47	20.26	20.39	-
5	HSDPA	Subtest 1	19.49	19.43	19.53	0
5		Subtest 2	19.53	19.37	19.57	0
5		Subtest 3	19.46	19.45	19.54	0
5		Subtest 4	19.50	19.43	19.54	0
6	HSUPA	Subtest 1	19.31	19.32	19.51	0
6		Subtest 2	18.72	18.67	18.88	0
6		Subtest 3	19.19	19.23	19.33	0
6		Subtest 4	18.69	18.74	18.90	0
6		Subtest 5	19.14	19.24	19.36	0
8	DC-HSDPA	Subtest 1	19.36	19.55	19.34	0
8		Subtest2	19.32	19.53	19.21	0
8		Subtest3	19.31	19.52	19.20	0
8		Subtest4	19.35	19.50	19.26	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	19.99	19.92	19.82	-
99		12.2 kbps AMR	19.89	20.03	19.92	-
5	HSDPA	Subtest 1	19.43	19.85	19.75	0
5		Subtest 2	19.45	19.88	19.80	0
5		Subtest 3	19.50	19.85	19.76	0
5		Subtest 4	19.42	19.80	19.83	0
6	HSUPA	Subtest 1	18.76	19.17	19.03	0
6		Subtest 2	18.75	19.15	19.11	0
6		Subtest 3	18.76	19.14	19.12	0
6		Subtest 4	18.74	19.13	19.17	0
6		Subtest 5	18.75	19.14	19.12	0
8	DC-HSDPA	Subtest 1	18.81	18.54	18.95	0
8		Subtest 2	18.82	18.57	18.91	0
8		Subtest 3	18.84	18.51	18.92	0
8		Subtest 4	18.82	18.54	18.93	0

- ◆ 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 B2/B4/B5/B12/B17/B26/B41/B66 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	22.45	22.53	22.88	0	0
		1	3	22.37	22.43	22.76	0	0
		1	5	22.50	22.51	22.79	0	0
		3	0	22.55	22.59	22.91	0	0
		3	1	22.56	22.56	22.90	0	0
		3	3	22.49	22.47	22.76	0	0
		6	0	22.02	22.01	22.35	0-1	1
	16QAM	1	0	22.23	22.13	22.45	0-1	1
		1	3	22.14	22.05	22.36	0-1	1
		1	5	22.15	22.05	22.57	0-1	1
		3	0	22.16	22.10	22.47	0-1	1
		3	1	22.07	22.09	22.41	0-1	1
		3	3	22.07	22.04	22.40	0-1	1
		6	0	21.10	21.09	21.48	0-2	2
	64QAM	1	0	21.17	21.25	21.54	0-2	2
		1	3	21.11	21.15	21.48	0-2	2
		1	5	21.09	21.16	21.59	0-2	2
		3	0	21.18	21.17	21.51	0-2	2
		3	1	21.11	21.10	21.39	0-2	2
		3	3	21.05	21.03	21.40	0-2	2
		6	0	20.13	20.03	20.40	0-3	3
	256QAM	1	0	20.11	20.13	20.43	0-5	3
		1	3	20.05	20.13	20.47	0-5	3
		1	5	20.19	20.12	20.58	0-5	3
		3	0	20.15	20.03	20.36	0-5	3
		3	1	20.11	20.07	20.45	0-5	3
		3	3	20.08	20.08	20.46	0-5	3
		6	0	19.13	19.08	19.40	0-5	4

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	22.43	22.63	22.92	0	0
		1	7	22.76	22.72	23.03	0	0
		1	14	22.45	22.47	22.79	0	0
		8	0	22.10	22.11	22.41	0-1	1
		8	3	22.05	22.02	22.42	0-1	1
		8	7	22.12	22.13	22.44	0-1	1
		15	0	22.08	22.05	22.43	0-1	1
	16QAM	1	0	22.22	22.17	22.62	0-1	1
		1	7	22.12	22.32	22.57	0-1	1
		1	14	22.15	22.21	22.54	0-1	1
		8	0	21.22	21.17	21.48	0-2	2
		8	3	21.11	21.14	21.44	0-2	2
		8	7	21.20	21.11	21.49	0-2	2
		15	0	21.17	21.08	21.47	0-2	2
	64QAM	1	0	21.28	21.27	21.65	0-2	2
		1	7	21.28	21.34	21.73	0-2	2
		1	14	21.13	21.21	21.58	0-2	2
		8	0	20.16	20.09	20.43	0-3	3
		8	3	20.16	20.10	20.48	0-3	3
		8	7	20.19	20.12	20.46	0-3	3
		15	0	20.15	20.08	20.45	0-3	3
	256QAM	1	0	20.21	20.15	20.52	0-5	3
		1	7	20.26	20.30	20.50	0-5	3
		1	14	20.20	20.17	20.48	0-5	3
		8	0	19.19	19.15	19.54	0-5	4
		8	3	19.16	19.13	19.43	0-5	4
		8	7	19.23	19.07	19.50	0-5	4
		15	0	19.18	19.11	19.51	0-5	4

LTE Band 2 _ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP	MPR [dB]
				18625 Ch.	18900 Ch.	19175 Ch.		
5 MHz	QPSK	1	0	22.47	22.50	22.87	0	0
		1	12	22.79	22.65	23.07	0	0
		1	24	22.49	22.55	22.86	0	0
		12	0	22.07	22.08	22.45	0-1	1
		12	6	22.10	22.07	22.41	0-1	1
		12	11	22.08	22.08	22.45	0-1	1
		25	0	22.16	22.21	22.50	0-1	1
	16QAM	1	0	22.30	22.28	22.55	0-1	1
		1	12	22.26	22.19	22.53	0-1	1
		1	24	22.24	22.21	22.59	0-1	1
		12	0	21.11	21.10	21.50	0-2	2
		12	6	21.15	21.12	21.48	0-2	2
		12	11	21.13	21.09	21.48	0-2	2
		25	0	21.17	21.14	21.51	0-2	2
	64QAM	1	0	21.23	21.21	21.59	0-2	2
		1	12	21.32	21.32	21.63	0-2	2
		1	24	21.17	21.23	21.57	0-2	2
		12	0	20.14	20.14	20.53	0-3	3
		12	6	20.22	20.15	20.51	0-3	3
		12	11	20.14	20.10	20.49	0-3	3
		25	0	20.16	20.13	20.50	0-3	3
	256QAM	1	0	20.21	20.19	20.52	0-5	3
		1	12	20.32	20.38	20.71	0-5	3
		1	24	20.28	20.11	20.45	0-5	3
		12	0	19.15	19.14	19.46	0-5	4
		12	6	19.12	19.08	19.46	0-5	4
		12	11	19.14	19.08	19.43	0-5	4
		25	0	19.16	19.09	19.43	0-5	4

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	22.61	22.74	23.11	0	0
		1	24	22.37	22.68	23.02	0	0
		1	49	22.58	22.45	22.87	0	0
		25	0	22.16	22.21	22.48	0-1	1
		25	12	22.14	22.19	22.51	0-1	1
		25	24	22.15	22.15	22.50	0-1	1
		50	0	22.21	22.23	22.52	0-1	1
	16QAM	1	0	22.25	22.36	22.60	0-1	1
		1	24	22.23	22.43	22.76	0-1	1
		1	49	22.17	22.24	22.57	0-1	1
		25	0	21.19	21.21	21.48	0-2	2
		25	12	21.16	21.18	21.52	0-2	2
		25	24	21.18	21.11	21.52	0-2	2
		50	0	21.17	21.16	21.55	0-2	2
	64QAM	1	0	21.25	21.37	21.59	0-2	2
		1	24	21.41	21.27	21.62	0-2	2
		1	49	21.36	21.32	21.56	0-2	2
		25	0	20.21	20.18	20.49	0-3	3
		25	12	20.15	20.13	20.54	0-3	3
		25	24	20.15	20.11	20.49	0-3	3
		50	0	20.23	20.19	20.54	0-3	3
	256QAM	1	0	20.18	20.32	20.55	0-5	3
		1	24	20.24	20.24	20.60	0-5	3
		1	49	20.13	20.16	20.52	0-5	3
		25	0	19.16	19.13	19.45	0-5	4
		25	12	19.13	19.10	19.44	0-5	4
		25	24	19.16	19.08	19.46	0-5	4
		50	0	19.14	19.11	19.45	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	22.39	22.68	22.85	0	0
		1	36	22.70	22.69	23.05	0	0
		1	74	22.43	22.46	22.83	0	0
		36	0	22.06	22.16	22.41	0-1	1
		36	18	22.08	22.12	22.40	0-1	1
		36	39	22.03	22.07	22.36	0-1	1
		75	0	22.10	22.16	22.40	0-1	1
	16QAM	1	0	22.18	22.26	22.55	0-1	1
		1	36	22.09	22.27	22.62	0-1	1
		1	74	22.23	22.18	22.48	0-1	1
		36	0	21.05	21.13	21.44	0-2	2
		36	18	21.08	21.11	21.41	0-2	2
		36	39	21.09	21.10	21.44	0-2	2
		75	0	21.07	21.09	21.44	0-2	2
	64QAM	1	0	21.26	21.28	21.50	0-2	2
		1	36	21.28	21.40	21.69	0-2	2
		1	74	21.14	21.24	21.60	0-2	2
		36	0	20.12	20.17	20.42	0-3	3
		36	18	20.11	20.15	20.44	0-3	3
		36	39	20.07	20.09	20.43	0-3	3
		75	0	20.14	20.12	20.43	0-3	3
	256QAM	1	0	20.16	20.30	20.44	0-5	3
		1	36	20.29	20.24	20.51	0-5	3
		1	74	20.19	20.06	20.37	0-5	3
		36	0	19.11	19.17	19.44	0-5	4
		36	18	19.09	19.11	19.40	0-5	4
		36	39	19.09	19.08	19.41	0-5	4
		75	0	19.10	19.10	19.39	0-5	4

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	22.41	22.71	22.89	0	0
		1	49	22.46	22.68	22.94	0	0
		1	99	22.41	22.37	22.70	0	0
		50	0	22.07	22.23	22.41	0-1	1
		50	25	22.08	22.18	22.42	0-1	1
		50	49	22.08	22.12	22.41	0-1	1
		100	0	22.07	22.13	22.39	0-1	1
	16QAM	1	0	22.13	22.23	22.51	0-1	1
		1	49	22.05	22.40	22.51	0-1	1
		1	99	22.12	22.08	22.43	0-1	1
		50	0	21.13	21.13	21.40	0-2	2
		50	25	21.10	21.15	21.41	0-2	2
		50	49	21.12	21.08	21.42	0-2	2
		100	0	21.09	21.10	21.40	0-2	2
	64QAM	1	0	21.23	21.31	21.58	0-2	2
		1	49	21.37	21.16	21.58	0-2	2
		1	99	21.28	21.05	21.43	0-2	2
		50	0	20.15	20.21	20.43	0-3	3
		50	25	20.14	20.19	20.45	0-3	3
		50	49	20.10	20.16	20.47	0-3	3
		100	0	20.09	20.16	20.37	0-3	3
	256QAM	1	0	20.23	20.31	20.53	0-5	3
		1	49	20.31	20.36	20.51	0-5	3
		1	99	20.12	20.08	20.42	0-5	3
		50	0	19.07	19.13	19.36	0-5	4
		50	25	19.04	19.09	19.39	0-5	4
		50	49	19.03	19.04	19.36	0-5	4
		100	0	19.09	19.06	19.37	0-5	4

[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	22.95	23.30	23.44	0	0
		1	3	22.96	23.14	23.31	0	0
		1	5	22.98	23.31	23.41	0	0
		3	0	22.99	23.26	23.42	0	0
		3	1	23.01	23.32	23.44	0	0
		3	3	22.96	23.19	23.35	0	0
		6	0	22.08	22.27	22.43	0-1	1
	16QAM	1	0	22.19	22.44	22.60	0-1	1
		1	3	22.34	22.41	22.51	0-1	1
		1	5	22.29	22.50	22.60	0-1	1
		3	0	22.21	22.37	22.59	0-1	1
		3	1	22.12	22.35	22.52	0-1	1
		3	3	22.18	22.32	22.49	0-1	1
		6	0	21.13	21.37	21.50	0-2	2
	64QAM	1	0	21.32	21.50	21.63	0-2	2
		1	3	21.13	21.37	21.62	0-2	2
		1	5	21.30	21.55	21.73	0-2	2
		3	0	21.26	21.30	21.54	0-2	2
		3	1	21.14	21.33	21.51	0-2	2
		3	3	21.08	21.32	21.43	0-2	2
		6	0	20.16	20.30	20.53	0-3	3
	256QAM	1	0	20.13	20.38	20.56	0-5	3
		1	3	19.96	20.30	20.41	0-5	3
		1	5	20.06	20.50	20.56	0-5	3
		3	0	20.09	20.29	20.47	0-5	3
		3	1	20.07	20.39	20.43	0-5	3
		3	3	20.06	20.31	20.43	0-5	3
		6	0	19.05	19.22	19.46	0-5	4

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	22.96	23.38	23.54	0	0
		1	7	23.24	23.46	23.63	0	0
		1	14	22.96	23.17	23.36	0	0
		8	0	22.06	22.32	22.51	0-1	1
		8	3	22.12	22.24	22.42	0-1	1
		8	7	22.11	22.36	22.50	0-1	1
		15	0	22.17	22.31	22.44	0-1	1
	16QAM	1	0	22.38	22.46	22.65	0-1	1
		1	7	22.22	22.38	22.76	0-1	1
		1	14	22.46	22.43	22.68	0-1	1
		8	0	21.16	21.34	21.55	0-2	2
		8	3	21.17	21.32	21.51	0-2	2
		8	7	21.14	21.38	21.53	0-2	2
		15	0	21.10	21.34	21.52	0-2	2
	64QAM	1	0	21.20	21.60	21.62	0-2	2
		1	7	21.39	21.61	21.78	0-2	2
		1	14	21.30	21.39	21.67	0-2	2
		8	0	20.17	20.38	20.51	0-3	3
		8	3	20.17	20.30	20.54	0-3	3
		8	7	20.16	20.31	20.54	0-3	3
		15	0	20.16	20.35	20.52	0-3	3
	256QAM	1	0	20.12	20.32	20.62	0-5	3
		1	7	20.33	20.56	20.56	0-5	3
		1	14	20.10	20.46	20.56	0-5	3
		8	0	19.17	19.34	19.51	0-5	4
		8	3	19.12	19.29	19.46	0-5	4
		8	7	19.16	19.37	19.45	0-5	4
		15	0	19.13	19.30	19.45	0-5	4

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	23.01	23.18	23.46	0	0
		1	12	23.22	23.51	23.60	0	0
		1	24	22.92	23.24	23.41	0	0
		12	0	22.11	22.32	22.42	0-1	1
		12	6	22.14	22.34	22.49	0-1	1
		12	11	22.12	22.31	22.44	0-1	1
		25	0	22.13	22.34	22.50	0-1	1
	16QAM	1	0	22.38	22.55	22.64	0-1	1
		1	12	22.03	22.55	22.75	0-1	1
		1	24	22.40	22.50	22.64	0-1	1
		12	0	21.10	21.38	21.52	0-2	2
		12	6	21.16	21.34	21.52	0-2	2
		12	11	21.13	21.37	21.50	0-2	2
		25	0	21.19	21.37	21.54	0-2	2
	64QAM	1	0	21.27	21.39	21.70	0-2	2
		1	12	21.34	21.55	21.75	0-2	2
		1	24	21.15	21.44	21.68	0-2	2
		12	0	20.20	20.40	20.55	0-3	3
		12	6	20.15	20.38	20.51	0-3	3
		12	11	20.20	20.35	20.45	0-3	3
		25	0	20.21	20.34	20.52	0-3	3
	256QAM	1	0	20.22	20.40	20.59	0-5	3
		1	12	20.32	20.46	20.67	0-5	3
		1	24	20.14	20.41	20.48	0-5	3
		12	0	19.14	19.34	19.48	0-5	4
		12	6	19.09	19.32	19.42	0-5	4
		12	11	19.07	19.28	19.41	0-5	4
		25	0	19.10	19.31	19.43	0-5	4

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	23.10	23.41	23.64	0	0
		1	24	23.09	23.47	23.61	0	0
		1	49	23.05	23.18	23.36	0	0
		25	0	22.13	22.33	22.55	0-1	1
		25	12	22.12	22.37	22.53	0-1	1
		25	24	22.09	22.31	22.51	0-1	1
		50	0	22.09	22.34	22.52	0-1	1
	16QAM	1	0	22.47	22.54	22.72	0-1	1
		1	24	22.19	22.43	22.61	0-1	1
		1	49	22.33	22.45	22.63	0-1	1
		25	0	21.21	21.36	21.55	0-2	2
		25	12	21.22	21.37	21.58	0-2	2
		25	24	21.18	21.38	21.57	0-2	2
		50	0	21.22	21.41	21.56	0-2	2
	64QAM	1	0	21.41	21.54	21.69	0-2	2
		1	24	21.33	21.64	21.75	0-2	2
		1	49	21.32	21.48	21.68	0-2	2
		25	0	20.23	20.36	20.60	0-3	3
		25	12	20.23	20.38	20.56	0-3	3
		25	24	20.22	20.36	20.55	0-3	3
		50	0	20.25	20.37	20.60	0-3	3
	256QAM	1	0	20.26	20.38	20.63	0-5	3
		1	24	20.17	20.63	20.71	0-5	3
		1	49	20.22	20.44	20.59	0-5	3
		25	0	19.17	19.36	19.56	0-5	4
		25	12	19.18	19.32	19.46	0-5	4
		25	24	19.21	19.34	19.48	0-5	4
		50	0	19.17	19.31	19.49	0-5	4

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	23.11	23.38	23.66	0	0
		1	36	23.36	23.49	23.70	0	0
		1	74	23.08	23.26	23.56	0	0
		36	0	22.18	22.34	22.63	0-1	1
		36	18	22.19	22.35	22.61	0-1	1
		36	39	22.15	22.36	22.54	0-1	1
		75	0	22.21	22.38	22.55	0-1	1
	16QAM	1	0	22.47	22.67	22.90	0-1	1
		1	36	22.33	22.58	22.81	0-1	1
		1	74	22.40	22.54	22.69	0-1	1
		36	0	21.23	21.33	21.64	0-2	2
		36	18	21.24	21.34	21.63	0-2	2
		36	39	21.21	21.36	21.59	0-2	2
		75	0	21.21	21.37	21.58	0-2	2
	64QAM	1	0	21.45	21.59	21.88	0-2	2
		1	36	21.42	21.60	21.88	0-2	2
		1	74	21.45	21.46	21.71	0-2	2
		36	0	20.26	20.39	20.69	0-3	3
		36	18	20.26	20.35	20.66	0-3	3
		36	39	20.25	20.36	20.59	0-3	3
		75	0	20.26	20.36	20.64	0-3	3
	256QAM	1	0	20.25	20.40	20.74	0-5	3
		1	36	20.38	20.45	20.87	0-5	3
		1	74	20.31	20.43	20.66	0-5	3
		36	0	19.19	19.37	19.63	0-5	4
		36	18	19.21	19.36	19.59	0-5	4
		36	39	19.17	19.31	19.57	0-5	4
		75	0	19.19	19.36	19.59	0-5	4

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	23.14	0	0
		1	49	23.17	0	0
		1	99	23.11	0	0
		50	0	22.26	0-1	1
		50	25	22.27	0-1	1
		50	49	22.25	0-1	1
		100	0	22.27	0-1	1
	16QAM	1	0	22.37	0-1	1
		1	49	22.40	0-1	1
		1	99	22.28	0-1	1
		50	0	21.34	0-2	2
		50	25	21.32	0-2	2
		50	49	21.31	0-2	2
		100	0	21.29	0-2	2
	64QAM	1	0	21.53	0-2	2
		1	49	21.53	0-2	2
		1	99	21.38	0-2	2
		50	0	20.36	0-3	3
		50	25	20.40	0-3	3
		50	49	20.34	0-3	3
		100	0	20.29	0-3	3
	256QAM	1	0	20.41	0-5	3
		1	49	20.46	0-5	3
		1	99	20.36	0-5	3
		50	0	19.27	0-5	4
		50	25	19.27	0-5	4
		50	49	19.25	0-5	4
		100	0	19.28	0-5	4

[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	23.98	23.74	23.40	0	0
		1	3	23.97	23.71	23.39	0	0
		1	5	24.02	23.82	23.51	0	0
		3	0	24.00	23.83	23.51	0	0
		3	1	23.96	23.67	23.36	0	0
		3	3	23.97	23.81	23.46	0	0
		6	0	22.06	21.87	21.54	0-1	1
	16QAM	1	0	22.30	21.95	21.64	0-1	1
		1	3	22.13	21.80	21.51	0-1	1
		1	5	22.22	21.98	21.65	0-1	1
		3	0	22.08	21.88	21.64	0-1	1
		3	1	22.12	21.84	21.69	0-1	1
		3	3	22.09	21.81	21.56	0-1	1
		6	0	21.10	20.88	20.56	0-2	2
	64QAM	1	0	21.22	20.84	20.56	0-2	2
		1	3	21.06	20.83	20.56	0-2	2
		1	5	21.12	20.90	20.69	0-2	2
		3	0	21.03	20.79	20.58	0-2	2
		3	1	21.03	20.80	20.58	0-2	2
		3	3	20.99	20.76	20.54	0-2	2
		6	0	20.00	19.76	19.52	0-3	3
	256QAM	1	0	20.05	19.89	19.58	0-5	3
		1	3	19.96	19.93	19.51	0-5	3
		1	5	20.05	19.90	19.66	0-5	3
		3	0	20.03	19.87	19.55	0-5	3
		3	1	20.00	19.90	19.60	0-5	3
		3	3	19.96	19.84	19.56	0-5	3
		6	0	18.99	18.80	18.57	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	23.95	23.77	23.47	0	0
		1	7	24.00	23.90	23.64	0	0
		1	14	23.90	23.76	23.46	0	0
		8	0	22.02	21.89	21.57	0-1	1
		8	3	22.02	21.90	21.57	0-1	1
		8	7	22.02	21.89	21.56	0-1	1
		15	0	22.04	21.91	21.60	0-1	1
	16QAM	1	0	22.22	21.93	21.70	0-1	1
		1	7	22.27	21.69	21.83	0-1	1
		1	14	22.19	21.94	21.73	0-1	1
		8	0	21.10	20.77	20.57	0-2	2
		8	3	21.05	20.87	20.56	0-2	2
		8	7	21.04	20.85	20.55	0-2	2
		15	0	21.07	20.80	20.55	0-2	2
	64QAM	1	0	21.14	20.90	20.65	0-2	2
		1	7	21.11	20.96	20.66	0-2	2
		1	14	21.16	20.96	20.76	0-2	2
		8	0	20.02	19.73	19.51	0-3	3
		8	3	20.03	19.79	19.51	0-3	3
		8	7	19.96	19.77	19.52	0-3	3
		15	0	20.01	19.76	19.52	0-3	3
	256QAM	1	0	20.00	19.94	19.64	0-5	3
		1	7	20.09	19.89	19.57	0-5	3
		1	14	20.00	19.97	19.51	0-5	3
		8	0	19.02	18.81	18.55	0-5	4
		8	3	19.01	18.83	18.54	0-5	4
		8	7	18.98	18.80	18.55	0-5	4
		15	0	18.98	18.83	18.53	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	23.98	23.83	23.55	0	0
		1	12	24.06	23.94	23.45	0	0
		1	24	23.96	23.89	23.54	0	0
		12	0	22.08	21.93	21.64	0-1	1
		12	6	22.07	21.89	21.66	0-1	1
		12	11	22.06	21.92	21.62	0-1	1
		25	0	22.10	21.98	21.66	0-1	1
	16QAM	1	0	22.31	22.06	21.74	0-1	1
		1	12	22.17	21.82	21.63	0-1	1
		1	24	22.25	22.11	21.61	0-1	1
		12	0	21.14	20.83	20.65	0-2	2
		12	6	21.06	20.83	20.66	0-2	2
		12	11	21.11	20.86	20.64	0-2	2
		25	0	21.14	20.94	20.64	0-2	2
	64QAM	1	0	21.18	20.79	20.70	0-2	2
		1	12	21.43	21.07	20.83	0-2	2
		1	24	21.14	20.92	20.75	0-2	2
		12	0	20.09	19.82	19.66	0-3	3
		12	6	20.05	19.80	19.61	0-3	3
		12	11	20.02	19.86	19.59	0-3	3
		25	0	20.08	19.92	19.62	0-3	3
	256QAM	1	0	20.18	19.85	19.63	0-5	3
		1	12	20.00	19.88	19.62	0-5	3
		1	24	20.11	19.81	19.58	0-5	3
		12	0	19.10	18.85	18.62	0-5	4
		12	6	19.06	18.90	18.58	0-5	4
		12	11	19.00	18.86	18.57	0-5	4
		25	0	19.06	18.92	18.62	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	23.74	0	0
		1	24	23.71	0	0
		1	49	23.68	0	0
		25	0	21.90	0-1	1
		25	12	21.83	0-1	1
		25	24	21.80	0-1	1
		50	0	21.92	0-1	1
	16QAM	1	0	21.91	0-1	1
		1	24	21.93	0-1	1
		1	49	22.12	0-1	1
		25	0	20.90	0-2	2
		25	12	20.85	0-2	2
		25	24	20.85	0-2	2
		50	0	20.86	0-2	2
	64QAM	1	0	20.87	0-2	2
		1	24	20.88	0-2	2
		1	49	20.90	0-2	2
		25	0	19.86	0-3	3
		25	12	19.83	0-3	3
		25	24	19.82	0-3	3
		50	0	19.89	0-3	3
	256QAM	1	0	19.84	0-5	3
		1	24	19.90	0-5	3
		1	49	19.87	0-5	3
		25	0	18.90	0-5	4
		25	12	18.87	0-5	4
		25	24	18.82	0-5	4
		50	0	18.89	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	23.88	23.92	23.88	0	0
		1	3	23.82	23.92	23.80	0	0
		1	5	23.91	24.00	23.91	0	0
		3	0	23.95	23.99	23.93	0	0
		3	1	23.87	23.91	23.77	0	0
		3	3	23.89	23.98	23.93	0	0
		6	0	22.66	22.76	22.68	0-1	1
	16QAM	1	0	22.81	22.86	22.74	0-1	1
		1	3	22.74	22.85	22.62	0-1	1
		1	5	22.77	22.77	22.75	0-1	1
		3	0	22.65	22.72	22.74	0-1	1
		3	1	22.73	22.74	22.71	0-1	1
		3	3	22.69	22.76	22.74	0-1	1
		6	0	21.45	21.50	21.43	0-2	2
	64QAM	1	0	21.53	21.67	21.55	0-2	2
		1	3	21.54	21.58	21.55	0-2	2
		1	5	21.56	21.70	21.50	0-2	2
		3	0	21.47	21.54	21.41	0-2	2
		3	1	21.41	21.56	21.46	0-2	2
		3	3	21.45	21.54	21.39	0-2	2
		6	0	20.43	20.50	20.39	0-3	3
	256QAM	1	0	20.58	20.66	20.58	0-5	3
		1	3	20.53	20.53	20.55	0-5	3
		1	5	20.59	20.70	20.56	0-5	3
		3	0	20.60	20.67	20.63	0-5	3
		3	1	20.54	20.52	20.50	0-5	3
		3	3	20.63	20.61	20.53	0-5	3
		6	0	19.50	19.53	19.48	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	23.84	24.02	23.92	0	0
		1	7	23.98	24.12	24.04	0	0
		1	14	23.82	23.94	23.87	0	0
		8	0	22.63	22.76	22.65	0-1	1
		8	3	22.65	22.77	22.66	0-1	1
		8	7	22.65	22.72	22.69	0-1	1
		15	0	22.66	22.76	22.69	0-1	1
	16QAM	1	0	22.81	22.84	22.72	0-1	1
		1	7	22.74	22.81	22.72	0-1	1
		1	14	22.74	22.79	22.73	0-1	1
		8	0	21.43	21.59	21.48	0-2	2
		8	3	21.43	21.55	21.48	0-2	2
		8	7	21.51	21.52	21.44	0-2	2
		15	0	21.45	21.50	21.44	0-2	2
	64QAM	1	0	21.44	21.70	21.51	0-2	2
		1	7	21.42	21.69	21.59	0-2	2
		1	14	21.50	21.73	21.59	0-2	2
		8	0	20.40	20.47	20.33	0-3	3
		8	3	20.35	20.49	20.35	0-3	3
		8	7	20.44	20.47	20.35	0-3	3
		15	0	20.37	20.48	20.40	0-3	3
	256QAM	1	0	20.47	20.65	20.54	0-5	3
		1	7	20.54	20.60	20.57	0-5	3
		1	14	20.46	20.65	20.60	0-5	3
		8	0	19.49	19.58	19.51	0-5	4
		8	3	19.49	19.58	19.56	0-5	4
		8	7	19.48	19.53	19.48	0-5	4
		15	0	19.49	19.52	19.52	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	23.83	23.97	23.89	0	0
		1	12	23.85	24.11	24.01	0	0
		1	24	23.84	23.96	23.91	0	0
		12	0	22.57	22.74	22.68	0-1	1
		12	6	22.57	22.72	22.66	0-1	1
		12	11	22.59	22.71	22.65	0-1	1
		25	0	22.66	22.76	22.73	0-1	1
	16QAM	1	0	22.71	22.86	22.85	0-1	1
		1	12	22.58	22.78	22.72	0-1	1
		1	24	22.54	22.71	22.75	0-1	1
		12	0	21.40	21.51	21.50	0-2	2
		12	6	21.45	21.53	21.45	0-2	2
		12	11	21.40	21.46	21.42	0-2	2
		25	0	21.44	21.53	21.51	0-2	2
	64QAM	1	0	21.52	21.63	21.63	0-2	2
		1	12	21.54	21.59	21.60	0-2	2
		1	24	21.49	21.48	21.58	0-2	2
		12	0	20.39	20.54	20.42	0-3	3
		12	6	20.39	20.51	20.40	0-3	3
		12	11	20.38	20.42	20.37	0-3	3
		25	0	20.46	20.53	20.46	0-3	3
	256QAM	1	0	20.52	20.59	20.63	0-5	3
		1	12	20.59	20.67	20.62	0-5	3
		1	24	20.46	20.61	20.56	0-5	3
		12	0	19.46	19.55	19.47	0-5	4
		12	6	19.39	19.55	19.48	0-5	4
		12	11	19.41	19.49	19.45	0-5	4
		25	0	19.43	19.50	19.45	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	23.98	0	0
		1	24	23.97	0	0
		1	49	24.04	0	0
		25	0	22.70	0-1	1
		25	12	22.77	0-1	1
		25	24	22.68	0-1	1
		50	0	22.74	0-1	1
	16QAM	1	0	22.83	0-1	1
		1	24	22.61	0-1	1
		1	49	22.68	0-1	1
		25	0	21.53	0-2	2
		25	12	21.53	0-2	2
		25	24	21.47	0-2	2
		50	0	21.53	0-2	2
	64QAM	1	0	21.73	0-2	2
		1	24	21.54	0-2	2
		1	49	21.63	0-2	2
		25	0	20.53	0-3	3
		25	12	20.46	0-3	3
		25	24	20.45	0-3	3
		50	0	20.51	0-3	3
	256QAM	1	0	20.67	0-5	3
		1	24	20.63	0-5	3
		1	49	20.49	0-5	3
		25	0	19.56	0-5	4
		25	12	19.56	0-5	4
		25	24	19.51	0-5	4
		50	0	19.51	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 779.5 MHz	23230 782 MHz	23255 784.5 MHz		
5 MHz	QPSK	1	0	23.43	23.64	23.58	0	0
		1	12	23.45	23.73	23.69	0	0
		1	24	23.44	23.63	23.55	0	0
		12	0	22.10	22.22	22.18	0-1	1
		12	6	22.11	22.25	22.14	0-1	1
		12	11	22.08	22.22	22.15	0-1	1
		25	0	22.15	22.24	22.21	0-1	1
	16QAM	1	0	22.29	22.49	22.38	0-1	1
		1	12	22.17	22.26	22.13	0-1	1
		1	24	22.22	22.31	22.35	0-1	1
		12	0	21.13	21.20	21.12	0-2	2
		12	6	21.15	21.16	21.12	0-2	2
		12	11	21.15	21.12	21.15	0-2	2
		25	0	21.21	21.24	21.17	0-2	2
	64QAM	1	0	21.28	21.38	21.22	0-2	2
		1	12	21.20	21.26	21.23	0-2	2
		1	24	21.14	21.19	21.28	0-2	2
		12	0	20.09	20.15	20.09	0-3	3
		12	6	20.14	20.19	20.07	0-3	3
		12	11	20.09	20.08	20.05	0-3	3
		25	0	20.15	20.19	20.11	0-3	3
	256QAM	1	0	20.28	20.38	20.38	0-5	3
		1	12	20.36	20.39	20.28	0-5	3
		1	24	20.33	20.28	20.22	0-5	3
		12	0	19.23	19.23	19.21	0-5	4
		12	6	19.22	19.22	19.21	0-5	4
		12	11	19.21	19.21	19.15	0-5	4
		25	0	19.22	19.21	19.15	0-5	4

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	23.60	0	0
		1	24	23.50	0	0
		1	49	23.47	0	0
		25	0	22.12	0-1	1
		25	12	22.16	0-1	1
		25	24	22.17	0-1	1
		50	0	22.20	0-1	1
	16QAM	1	0	22.38	0-1	1
		1	24	22.26	0-1	1
		1	49	22.28	0-1	1
		25	0	21.20	0-2	2
		25	12	21.18	0-2	2
		25	24	21.17	0-2	2
		50	0	21.22	0-2	2
	64QAM	1	0	21.28	0-2	2
		1	24	21.08	0-2	2
		1	49	21.24	0-2	2
		25	0	20.13	0-3	3
		25	12	20.12	0-3	3
		25	24	20.12	0-3	3
		50	0	20.23	0-3	3
	256QAM	1	0	20.41	0-5	3
		1	24	20.40	0-5	3
		1	49	20.21	0-5	3
		25	0	19.27	0-5	4
		25	12	19.24	0-5	4
		25	24	19.21	0-5	4
		50	0	19.20	0-5	4

[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	23.19	0	0
		1	12	23.18	0	0
		1	24	23.18	0	0
		12	0	21.96	0-1	1
		12	6	21.94	0-1	1
		12	11	21.94	0-1	1
		25	0	22.00	0-1	1
	16QAM	1	0	22.09	0-1	1
		1	12	22.01	0-1	1
		1	24	22.13	0-1	1
		12	0	20.86	0-2	2
		12	6	20.79	0-2	2
		12	11	20.80	0-2	2
		25	0	20.86	0-2	2
	64QAM	1	0	20.95	0-2	2
		1	12	20.95	0-2	2
		1	24	20.84	0-2	2
		12	0	19.82	0-3	3
		12	6	19.82	0-3	3
		12	11	19.79	0-3	3
		25	0	19.80	0-3	3
	256QAM	1	0	19.80	0-5	3
		1	12	19.97	0-5	3
		1	24	19.91	0-5	3
		12	0	18.90	0-5	4
		12	6	18.88	0-5	4
		12	11	18.86	0-5	4
		25	0	18.91	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	23.31	0	0
		1	24	23.21	0	0
		1	49	23.20	0	0
		25	0	22.06	0-1	1
		25	12	22.01	0-1	1
		25	24	22.02	0-1	1
		50	0	22.02	0-1	1
	16QAM	1	0	22.29	0-1	1
		1	24	22.07	0-1	1
		1	49	22.10	0-1	1
		25	0	20.91	0-2	2
		25	12	20.87	0-2	2
		25	24	20.83	0-2	2
		50	0	20.90	0-2	2
	64QAM	1	0	21.05	0-2	2
		1	24	21.03	0-2	2
		1	49	20.98	0-2	2
		25	0	19.90	0-3	3
		25	12	19.85	0-3	3
		25	24	19.80	0-3	3
		50	0	19.89	0-3	3
	256QAM	1	0	20.21	0-5	3
		1	24	20.00	0-5	3
		1	49	19.99	0-5	3
		25	0	18.96	0-5	4
		25	12	18.92	0-5	4
		25	24	18.91	0-5	4
		50	0	18.91	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	22.92	23.07	23.29	0	0
		1	3	22.87	22.95	23.17	0	0
		1	5	22.93	23.07	23.22	0	0
		3	0	22.48	22.65	22.77	0	1
		3	1	22.47	22.58	22.76	0	1
		3	3	22.49	22.52	22.72	0	1
		6	0	22.02	22.09	22.33	0-1	1
	16QAM	1	0	22.22	22.15	22.47	0-1	1
		1	3	22.10	22.13	22.33	0-1	1
		1	5	22.11	22.17	22.40	0-1	1
		3	0	22.09	22.13	22.38	0-1	1
		3	1	22.09	22.15	22.35	0-1	1
		3	3	22.03	22.08	22.28	0-1	1
		6	0	21.11	21.14	21.41	0-2	2
	64QAM	1	0	21.18	21.20	21.53	0-2	2
		1	3	21.08	21.10	21.48	0-2	2
		1	5	21.30	21.18	21.49	0-2	2
		3	0	21.23	21.19	21.40	0-2	2
		3	1	21.19	21.10	21.37	0-2	2
		3	3	21.10	21.05	21.31	0-2	2
		6	0	20.08	20.05	20.39	0-3	3
	256QAM	1	0	20.14	20.22	20.39	0-5	3
		1	3	19.94	20.07	20.35	0-5	3
		1	5	20.17	20.16	20.40	0-5	3
		3	0	20.12	20.18	20.38	0-5	3
		3	1	20.15	20.12	20.36	0-5	3
		3	3	20.08	20.21	20.37	0-5	3
		6	0	19.09	19.09	19.40	0-5	4

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	22.96	23.18	23.44	0	0
		1	7	23.24	23.15	23.48	0	0
		1	14	22.94	23.02	23.21	0	0
		8	0	22.09	22.13	22.35	0-1	1
		8	3	22.06	22.10	22.34	0-1	1
		8	7	22.08	22.15	22.38	0-1	1
		15	0	22.09	22.13	22.38	0-1	1
	16QAM	1	0	22.16	22.19	22.48	0-1	1
		1	7	22.08	22.24	22.60	0-1	1
		1	14	22.14	22.15	22.48	0-1	1
		8	0	21.13	21.21	21.46	0-2	2
		8	3	21.10	21.16	21.43	0-2	2
		8	7	21.13	21.18	21.45	0-2	2
		15	0	21.14	21.09	21.40	0-2	2
	64QAM	1	0	21.21	21.26	21.52	0-2	2
		1	7	21.28	21.22	21.61	0-2	2
		1	14	21.36	21.22	21.49	0-2	2
		8	0	20.16	20.11	20.43	0-3	3
		8	3	20.13	20.15	20.42	0-3	3
		8	7	20.20	20.12	20.49	0-3	3
		15	0	20.16	20.14	20.46	0-3	3
	256QAM	1	0	20.20	20.19	20.44	0-5	3
		1	7	20.31	20.46	20.55	0-5	3
		1	14	20.19	20.17	20.44	0-5	3
		8	0	19.23	19.17	19.50	0-5	4
		8	3	19.20	19.13	19.40	0-5	4
		8	7	19.13	19.19	19.43	0-5	4
		15	0	19.14	19.15	19.42	0-5	4

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	22.96	23.06	23.31	0	0
		1	12	23.26	23.18	23.50	0	0
		1	24	22.96	23.07	23.30	0	0
		12	0	22.10	22.13	22.38	0-1	1
		12	6	22.07	22.14	22.37	0-1	1
		12	11	22.09	22.13	22.37	0-1	1
		25	0	22.12	22.27	22.46	0-1	1
	16QAM	1	0	22.28	22.27	22.60	0-1	1
		1	12	22.33	22.32	22.75	0-1	1
		1	24	22.16	22.20	22.52	0-1	1
		12	0	21.15	21.14	21.47	0-2	2
		12	6	21.13	21.12	21.41	0-2	2
		12	11	21.13	21.12	21.40	0-2	2
		25	0	21.15	21.19	21.39	0-2	2
	64QAM	1	0	21.25	21.20	21.55	0-2	2
		1	12	21.48	21.33	21.55	0-2	2
		1	24	21.25	21.19	21.52	0-2	2
		12	0	20.18	20.18	20.49	0-3	3
		12	6	20.18	20.19	20.45	0-3	3
		12	11	20.14	20.12	20.44	0-3	3
		25	0	20.17	20.22	20.40	0-3	3
	256QAM	1	0	20.18	20.27	20.54	0-5	3
		1	12	20.35	20.41	20.52	0-5	3
		1	24	20.22	20.31	20.49	0-5	3
		12	0	19.15	19.16	19.43	0-5	4
		12	6	19.13	19.13	19.40	0-5	4
		12	11	19.14	19.14	19.39	0-5	4
		25	0	19.12	19.16	19.43	0-5	4

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	23.04	23.27	23.52	0	0
		1	24	22.82	23.18	23.51	0	0
		1	49	23.01	23.01	23.30	0	0
		25	0	22.17	22.25	22.48	0-1	1
		25	12	22.14	22.23	22.51	0-1	1
		25	24	22.13	22.23	22.44	0-1	1
		50	0	22.15	22.27	22.50	0-1	1
	16QAM	1	0	22.18	22.25	22.51	0-1	1
		1	24	22.25	22.42	22.67	0-1	1
		1	49	22.31	22.27	22.52	0-1	1
		25	0	21.16	21.18	21.49	0-2	2
		25	12	21.18	21.22	21.53	0-2	2
		25	24	21.17	21.21	21.48	0-2	2
		50	0	21.15	21.20	21.55	0-2	2
	64QAM	1	0	21.26	21.34	21.64	0-2	2
		1	24	21.28	21.45	21.53	0-2	2
		1	49	21.29	21.30	21.54	0-2	2
		25	0	20.19	20.24	20.49	0-3	3
		25	12	20.15	20.21	20.50	0-3	3
		25	24	20.12	20.17	20.47	0-3	3
		50	0	20.20	20.21	20.54	0-3	3
	256QAM	1	0	20.22	20.28	20.55	0-5	3
		1	24	20.39	20.34	20.74	0-5	3
		1	49	20.28	20.20	20.50	0-5	3
		25	0	19.11	19.16	19.46	0-5	4
		25	12	19.14	19.12	19.46	0-5	4
		25	24	19.14	19.16	19.48	0-5	4
		50	0	19.12	19.13	19.48	0-5	4

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	22.49	22.78	22.89	0	0
		1	36	22.67	22.68	23.04	0	0
		1	74	22.43	22.57	22.86	0	0
		36	0	22.07	22.26	22.49	0-1	1
		36	18	22.13	22.22	22.53	0-1	1
		36	39	22.09	22.13	22.53	0-1	1
		75	0	22.13	22.22	22.50	0-1	1
	16QAM	1	0	22.23	22.29	22.76	0-1	1
		1	36	22.36	22.32	22.80	0-1	1
		1	74	22.27	22.14	22.48	0-1	1
		36	0	21.08	21.20	21.51	0-2	2
		36	18	21.13	21.17	21.49	0-2	2
		36	39	21.10	21.15	21.54	0-2	2
		75	0	21.13	21.19	21.51	0-2	2
	64QAM	1	0	21.27	21.36	21.74	0-2	2
		1	36	21.50	21.28	21.68	0-2	2
		1	74	21.27	21.22	21.64	0-2	2
		36	0	20.17	20.24	20.53	0-3	3
		36	18	20.23	20.23	20.57	0-3	3
		36	39	20.18	20.22	20.54	0-3	3
		75	0	20.17	20.23	20.54	0-3	3
	256QAM	1	0	20.29	20.36	20.67	0-5	3
		1	36	20.31	20.40	20.61	0-5	3
		1	74	20.19	20.26	20.61	0-5	3
		36	0	19.11	19.19	19.43	0-5	4
		36	18	19.16	19.18	19.48	0-5	4
		36	39	19.10	19.14	19.47	0-5	4
		75	0	19.12	19.16	19.46	0-5	4

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	22.99	23.28	23.39	0	0
		1	49	23.17	23.18	23.54	0	0
		1	99	22.93	23.07	23.36	0	0
		50	0	22.16	22.30	22.56	0-1	1
		50	25	22.16	22.27	22.53	0-1	1
		50	49	22.14	22.21	22.47	0-1	1
		100	0	22.08	22.24	22.51	0-1	1
	16QAM	1	0	22.20	22.38	22.65	0-1	1
		1	49	22.27	22.38	22.99	0-1	1
		1	99	22.22	22.27	22.59	0-1	1
		50	0	21.15	21.28	21.52	0-2	2
		50	25	21.17	21.24	21.54	0-2	2
		50	49	21.11	21.20	21.55	0-2	2
		100	0	21.14	21.22	21.50	0-2	2
	64QAM	1	0	21.30	21.38	21.68	0-2	2
		1	49	21.27	21.37	21.84	0-2	2
		1	99	21.17	21.21	21.57	0-2	2
		50	0	20.18	20.28	20.52	0-3	3
		50	25	20.17	20.27	20.55	0-3	3
		50	49	20.19	20.19	20.52	0-3	3
		100	0	20.17	20.21	20.52	0-3	3
	256QAM	1	0	20.16	20.35	20.58	0-5	3
		1	49	20.31	20.36	20.68	0-5	3
		1	99	20.26	20.16	20.40	0-5	3
		50	0	19.17	19.19	19.42	0-5	4
		50	25	19.09	19.13	19.45	0-5	4
		50	49	19.14	19.12	19.44	0-5	4
		100	0	19.12	19.19	19.48	0-5	4

[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	24.37	24.39	23.94	0	0
		1	3	24.30	24.28	23.92	0	0
		1	5	24.38	24.42	24.03	0	0
		3	0	24.44	24.43	24.00	0	0
		3	1	24.36	24.23	23.83	0	0
		3	3	24.41	24.42	23.96	0	0
		6	0	22.53	22.47	22.05	0-1	1
	16QAM	1	0	22.67	22.57	22.20	0-1	1
		1	3	22.67	22.45	22.05	0-1	1
		1	5	22.69	22.59	22.08	0-1	1
		3	0	22.53	22.53	22.07	0-1	1
		3	1	22.57	22.57	22.05	0-1	1
		3	3	22.58	22.51	22.04	0-1	1
		6	0	21.51	21.47	21.04	0-2	2
	64QAM	1	0	21.61	21.62	21.07	0-2	2
		1	3	21.51	21.50	21.02	0-2	2
		1	5	21.60	21.54	21.05	0-2	2
		3	0	21.60	21.47	21.05	0-2	2
		3	1	21.56	21.45	21.00	0-2	2
		3	3	21.49	21.49	21.07	0-2	2
		6	0	20.47	20.44	20.07	0-3	3
	256QAM	1	0	20.52	20.51	20.19	0-5	3
		1	3	20.40	20.47	20.01	0-5	3
		1	5	20.44	20.54	20.08	0-5	3
		3	0	20.51	20.48	20.17	0-5	3
		3	1	20.45	20.39	20.07	0-5	3
		3	3	20.35	20.43	20.09	0-5	3
		6	0	19.43	19.39	19.03	0-5	4

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	24.36	24.39	23.99	0	0
		1	7	24.42	24.54	24.12	0	0
		1	14	24.28	24.32	23.94	0	0
		8	0	22.41	22.48	22.08	0-1	1
		8	3	22.42	22.47	22.09	0-1	1
		8	7	22.41	22.48	22.09	0-1	1
		15	0	22.41	22.49	22.10	0-1	1
	16QAM	1	0	22.57	22.54	22.27	0-1	1
		1	7	22.42	22.46	22.12	0-1	1
		1	14	22.51	22.55	22.24	0-1	1
		8	0	21.48	21.50	21.12	0-2	2
		8	3	21.47	21.53	21.06	0-2	2
		8	7	21.40	21.46	21.06	0-2	2
		15	0	21.45	21.49	21.05	0-2	2
	64QAM	1	0	21.55	21.56	21.23	0-2	2
		1	7	21.58	21.63	21.16	0-2	2
		1	14	21.48	21.54	21.19	0-2	2
		8	0	20.38	20.40	20.01	0-3	3
		8	3	20.34	20.40	20.08	0-3	3
		8	7	20.39	20.41	20.04	0-3	3
		15	0	20.41	20.43	20.01	0-3	3
	256QAM	1	0	20.43	20.54	20.08	0-5	3
		1	7	20.51	20.43	20.09	0-5	3
		1	14	20.32	20.51	20.03	0-5	3
		8	0	19.41	19.39	19.07	0-5	4
		8	3	19.39	19.44	19.04	0-5	4
		8	7	19.36	19.38	19.01	0-5	4
		15	0	19.40	19.41	19.06	0-5	4

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	24.52	24.47	24.09	0	0
		1	12	24.64	24.52	24.20	0	0
		1	24	24.53	24.41	24.06	0	0
		12	0	22.61	22.52	22.17	0-1	1
		12	6	22.60	22.56	22.15	0-1	1
		12	11	22.57	22.53	22.15	0-1	1
		25	0	22.62	22.57	22.11	0-1	1
	16QAM	1	0	22.76	22.64	22.32	0-1	1
		1	12	22.54	22.31	22.16	0-1	1
		1	24	22.57	22.53	22.23	0-1	1
		12	0	21.56	21.56	21.16	0-2	2
		12	6	21.53	21.50	21.17	0-2	2
		12	11	21.49	21.50	21.12	0-2	2
		25	0	21.57	21.59	21.15	0-2	2
	64QAM	1	0	21.66	21.61	21.32	0-2	2
		1	12	21.72	21.65	21.23	0-2	2
		1	24	21.62	21.52	21.32	0-2	2
		12	0	20.49	20.51	20.16	0-3	3
		12	6	20.51	20.43	20.16	0-3	3
		12	11	20.50	20.47	20.13	0-3	3
		25	0	20.56	20.52	20.13	0-3	3
	256QAM	1	0	20.59	20.56	20.27	0-5	3
		1	12	20.65	20.51	20.18	0-5	3
		1	24	20.55	20.47	20.01	0-5	3
		12	0	19.48	19.47	19.10	0-5	4
		12	6	19.50	19.47	19.05	0-5	4
		12	11	19.48	19.47	19.04	0-5	4
		25	0	19.53	19.48	19.14	0-5	4

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	24.44	24.53	24.15	0	0
		1	24	24.43	24.49	24.15	0	0
		1	49	24.41	24.34	24.04	0	0
		25	0	22.56	22.56	22.19	0-1	1
		25	12	22.49	22.55	22.19	0-1	1
		25	24	22.42	22.50	22.17	0-1	1
		50	0	22.55	22.59	22.17	0-1	1
	16QAM	1	0	22.70	22.67	22.38	0-1	1
		1	24	22.59	22.51	22.25	0-1	1
		1	49	22.70	22.64	22.34	0-1	1
		25	0	21.57	21.59	21.24	0-2	2
		25	12	21.52	21.55	21.24	0-2	2
		25	24	21.51	21.50	21.18	0-2	2
		50	0	21.57	21.59	21.22	0-2	2
	64QAM	1	0	21.59	21.70	21.39	0-2	2
		1	24	21.72	21.57	21.26	0-2	2
		1	49	21.71	21.60	21.27	0-2	2
		25	0	20.58	20.56	20.21	0-3	3
		25	12	20.52	20.51	20.21	0-3	3
		25	24	20.50	20.49	20.12	0-3	3
		50	0	20.55	20.54	20.20	0-3	3
	256QAM	1	0	20.66	20.69	20.37	0-5	3
		1	24	20.61	20.48	20.29	0-5	3
		1	49	20.56	20.51	20.17	0-5	3
		25	0	19.56	19.54	19.19	0-5	4
		25	12	19.51	19.53	19.15	0-5	4
		25	24	19.53	19.47	19.18	0-5	4
		50	0	19.55	19.55	19.13	0-5	4

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	24.42	0	0
		1	36	24.33	0	0
		1	74	24.30	0	0
		36	0	22.46	0-1	1
		36	18	22.75	0-1	1
		36	39	22.49	0-1	1
		75	0	22.51	0-1	1
	16QAM	1	0	22.82	0-1	1
		1	36	22.69	0-1	1
		1	74	22.60	0-1	1
		36	0	21.54	0-2	2
		36	18	21.46	0-2	2
		36	39	21.42	0-2	2
		75	0	21.51	0-2	2
	64QAM	1	0	21.86	0-2	2
		1	36	21.83	0-2	2
		1	74	21.63	0-2	2
		36	0	20.54	0-3	3
		36	18	20.46	0-3	3
		36	39	20.47	0-3	3
		75	0	20.49	0-3	3
	256QAM	1	0	20.58	0-5	3
		1	36	20.35	0-5	3
		1	74	20.39	0-5	3
		36	0	19.52	0-5	4
		36	18	19.47	0-5	4
		36	39	19.44	0-5	4
		75	0	19.52	0-5	4

[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	24.07	24.02	24.29	24.75	24.56	0	0
		1	12	23.86	24.02	24.31	24.52	24.53	0	0
		1	24	24.07	24.04	24.32	24.73	24.49	0	0
		12	0	22.14	22.08	22.35	22.81	22.58	0-1	1
		12	6	22.10	22.07	22.36	22.80	22.56	0-1	1
		12	11	22.12	22.08	22.34	22.82	22.58	0-1	1
		25	0	22.15	22.10	22.37	22.85	22.62	0-1	1
	16QAM	1	0	22.07	22.02	22.36	22.67	22.49	0-1	1
		1	12	22.13	21.97	22.33	22.66	22.49	0-1	1
		1	24	22.08	21.94	22.34	22.66	22.47	0-1	1
		12	0	21.09	21.03	21.33	21.77	21.56	0-2	2
		12	6	21.11	21.00	21.29	21.76	21.52	0-2	2
		12	11	21.11	21.03	21.31	21.76	21.57	0-2	2
		25	0	21.14	21.06	21.36	21.84	21.62	0-2	2
	64QAM	1	0	21.04	21.13	21.40	21.74	21.72	0-2	2
		1	12	20.86	21.04	21.28	21.67	21.56	0-2	2
		1	24	21.06	21.06	21.38	21.80	21.66	0-2	2
		12	0	20.16	20.06	20.35	20.80	20.58	0-3	3
		12	6	20.15	20.03	20.34	20.77	20.57	0-3	3
		12	11	20.16	20.04	20.35	20.78	20.54	0-3	3
		25	0	20.17	20.10	20.37	20.82	20.61	0-3	3
	256QAM	1	0	20.03	19.90	20.23	20.84	20.52	0-5	3
		1	12	20.06	19.92	20.20	20.76	20.40	0-5	3
		1	24	20.00	19.91	20.21	20.77	20.45	0-5	3
		12	0	19.17	19.07	19.37	19.86	19.60	0-5	4
		12	6	19.16	19.06	19.34	19.85	19.58	0-5	4
		12	11	19.18	19.10	19.35	19.83	19.58	0-5	4
		25	0	19.20	19.10	19.37	19.88	19.65	0-5	4

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	24.20	24.15	24.43	24.89	24.70	0	0
		1	24	24.16	24.00	24.27	24.76	24.42	0	0
		1	49	24.11	24.02	24.29	24.81	24.46	0	0
		25	0	22.21	22.15	22.41	22.92	22.68	0-1	1
		25	12	22.20	22.14	22.40	22.89	22.65	0-1	1
		25	24	22.20	22.13	22.40	22.88	22.63	0-1	1
		50	0	22.21	22.14	22.39	22.91	22.64	0-1	1
	16QAM	1	0	22.06	22.00	22.33	22.70	22.56	0-1	1
		1	24	22.26	22.19	22.50	22.95	22.66	0-1	1
		1	49	22.04	21.91	22.27	22.61	22.45	0-1	1
		25	0	21.18	21.14	21.39	21.87	21.65	0-2	2
		25	12	21.17	21.11	21.40	21.87	21.62	0-2	2
		25	24	21.19	21.09	21.40	21.83	21.59	0-2	2
		50	0	21.22	21.18	21.39	21.92	21.65	0-2	2
	64QAM	1	0	21.30	21.25	21.46	22.02	21.67	0-2	2
		1	24	21.50	21.43	21.69	22.27	21.81	0-2	2
		1	49	21.31	21.11	21.45	21.87	21.51	0-2	2
		25	0	20.19	20.11	20.39	20.89	20.62	0-3	3
		25	12	20.18	20.11	20.38	20.86	20.61	0-3	3
		25	24	20.17	20.09	20.37	20.83	20.57	0-3	3
		50	0	20.25	20.16	20.44	20.93	20.67	0-3	3
	256QAM	1	0	20.08	20.04	20.37	20.82	20.55	0-5	3
		1	24	20.14	19.99	20.46	20.79	20.59	0-5	3
		1	49	19.98	19.94	20.34	20.71	20.53	0-5	3
		25	0	19.23	19.16	19.44	19.92	19.68	0-5	4
		25	12	19.21	19.13	19.42	19.93	19.66	0-5	4
		25	24	19.23	19.13	19.42	19.90	19.62	0-5	4
		50	0	19.26	19.17	19.44	19.94	19.67	0-5	4

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	24.21	24.11	24.41	24.89	24.67	0	0
		1	36	23.87	24.06	24.35	24.62	24.56	0	0
		1	74	24.16	24.06	24.37	24.78	24.49	0	0
		36	0	22.22	22.14	22.41	22.93	22.67	0-1	1
		36	18	22.21	22.13	22.42	22.89	22.64	0-1	1
		36	39	22.20	22.10	22.39	22.86	22.60	0-1	1
		75	0	22.25	22.15	22.43	22.92	22.68	0-1	1
	16QAM	1	0	22.11	22.22	22.40	22.81	22.71	0-1	1
		1	36	22.10	22.15	22.31	22.72	22.57	0-1	1
		1	74	22.09	22.15	22.35	22.70	22.48	0-1	1
		36	0	21.20	21.11	21.39	21.85	21.64	0-2	2
		36	18	21.17	21.10	21.37	21.82	21.61	0-2	2
		36	39	21.17	21.08	21.36	21.80	21.56	0-2	2
		75	0	21.23	21.14	21.43	21.89	21.63	0-2	2
	64QAM	1	0	21.36	21.28	21.58	22.15	21.80	0-2	2
		1	36	21.20	21.20	21.44	21.91	21.62	0-2	2
		1	74	21.34	21.24	21.53	22.01	21.61	0-2	2
		36	0	20.23	20.14	20.42	20.87	20.67	0-3	3
		36	18	20.22	20.15	20.42	20.86	20.62	0-3	3
		36	39	20.22	20.10	20.38	20.81	20.56	0-3	3
		75	0	20.26	20.15	20.42	20.89	20.67	0-3	3
	256QAM	1	0	20.10	20.00	20.29	20.70	20.57	0-5	3
		1	36	19.98	19.89	20.17	20.53	20.40	0-5	3
		1	74	20.12	19.92	20.22	20.60	20.40	0-5	3
		36	0	19.24	19.16	19.43	19.93	19.65	0-5	4
		36	18	19.22	19.12	19.43	19.89	19.65	0-5	4
		36	39	19.22	19.11	19.42	19.89	19.59	0-5	4
		75	0	19.22	19.13	19.41	19.89	19.64	0-5	4

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	24.21	24.19	24.45	24.94	24.76	0	0
		1	49	24.13	24.00	24.27	24.79	24.38	0	0
		1	99	24.15	24.02	24.32	24.77	24.39	0	0
		50	0	22.26	22.23	22.47	22.99	22.71	0-1	1
		50	25	22.24	22.18	22.44	22.94	22.64	0-1	1
		50	49	22.24	22.16	22.44	22.91	22.63	0-1	1
		100	0	22.25	22.18	22.45	22.93	22.68	0-1	1
	16QAM	1	0	22.12	22.13	22.42	22.86	22.69	0-1	1
		1	49	22.40	22.22	22.56	23.01	22.76	0-1	1
		1	99	22.11	21.99	22.29	22.75	22.44	0-1	1
		50	0	21.25	21.19	21.47	21.94	21.73	0-2	2
		50	25	21.24	21.15	21.43	21.92	21.66	0-2	2
		50	49	21.23	21.13	21.41	21.87	21.60	0-2	2
		100	0	21.28	21.20	21.48	21.94	21.68	0-2	2
	64QAM	1	0	21.26	21.20	21.46	21.92	21.75	0-2	2
		1	49	21.54	21.36	21.57	22.05	21.81	0-2	2
		1	99	21.21	21.10	21.41	21.77	21.51	0-2	2
		50	0	20.31	20.23	20.50	21.00	20.76	0-3	3
		50	25	20.29	20.20	20.48	20.94	20.70	0-3	3
		50	49	20.28	20.16	20.47	20.90	20.66	0-3	3
		100	0	20.24	20.16	20.44	20.88	20.66	0-3	3
	256QAM	1	0	20.04	20.09	20.26	20.80	20.72	0-5	3
		1	49	20.10	20.12	20.26	20.84	20.58	0-5	3
		1	99	20.00	20.00	20.15	20.60	20.41	0-5	3
		50	0	19.32	19.24	19.52	19.98	19.75	0-5	4
		50	25	19.29	19.19	19.50	19.95	19.70	0-5	4
		50	49	19.27	19.17	19.48	19.90	19.66	0-5	4
		100	0	19.23	19.14	19.43	19.88	19.64	0-5	4

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	25.09	24.95	25.27	25.61	25.47	0	0
		1	12	25.35	25.25	25.51	25.93	25.63	0	0
		1	24	25.08	24.97	25.30	25.64	25.42	0	0
		12	0	23.09	23.06	23.29	23.67	23.48	0-1	1
		12	6	23.10	23.07	23.31	23.68	23.51	0-1	1
		12	11	23.08	23.06	23.29	23.66	23.47	0-1	1
		25	0	23.09	23.06	23.29	23.64	23.48	0-1	1
	16QAM	1	0	23.22	23.21	23.11	23.63	23.52	0-1	1
		1	12	23.49	23.49	23.04	23.95	23.37	0-1	1
		1	24	23.21	23.22	23.11	23.60	23.48	0-1	1
		12	0	22.06	22.16	22.25	22.66	22.52	0-2	2
		12	6	22.04	22.14	22.24	22.60	22.43	0-2	2
		12	11	22.05	22.02	22.21	22.62	22.41	0-2	2
		25	0	22.07	22.06	22.31	22.73	22.44	0-2	2
	64QAM	1	0	22.71	22.29	22.55	22.78	22.88	0-2	2
		1	12	22.99	22.59	22.95	23.10	23.32	0-2	2
		1	24	22.72	22.29	22.59	22.78	22.87	0-2	2
		12	0	21.12	21.29	21.24	21.72	21.55	0-3	3
		12	6	21.09	21.28	21.21	21.72	21.53	0-3	3
		12	11	21.06	21.26	21.20	21.66	21.48	0-3	3
		25	0	21.04	21.23	21.29	21.69	21.50	0-3	3
	256QAM	1	0	21.02	21.04	21.38	21.63	21.36	0-5	3
		1	12	21.07	21.25	21.29	21.94	21.49	0-5	3
		1	24	21.01	21.07	21.19	21.62	21.28	0-5	3
		12	0	20.14	20.04	20.32	20.78	20.50	0-5	4
		12	6	20.14	20.03	20.41	20.79	20.52	0-5	4
		12	11	20.15	20.03	20.39	20.76	20.51	0-5	4
		25	0	20.12	20.06	20.36	20.80	20.54	0-5	4

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	25.09	24.96	25.29	25.71	25.53	0	0
		1	24	25.34	25.17	25.52	25.93	25.69	0	0
		1	49	25.08	24.98	25.31	25.65	25.41	0	0
		25	0	23.13	23.09	23.33	23.74	23.51	0-1	1
		25	12	23.11	23.08	23.32	23.70	23.50	0-1	1
		25	24	23.11	23.06	23.30	23.67	23.47	0-1	1
		50	0	23.12	23.10	23.31	23.80	23.54	0-1	1
	16QAM	1	0	23.11	23.09	23.13	23.55	23.76	0-1	1
		1	24	23.21	23.19	23.18	23.49	23.68	0-1	1
		1	49	23.03	23.04	23.06	23.43	23.45	0-1	1
		25	0	22.19	22.11	22.33	22.73	22.55	0-2	2
		25	12	22.19	22.11	22.32	22.71	22.54	0-2	2
		25	24	22.17	22.09	22.31	22.70	22.51	0-2	2
		50	0	22.13	22.03	22.25	22.77	22.51	0-2	2
	64QAM	1	0	22.47	22.59	22.62	22.91	22.92	0-2	2
		1	24	22.51	22.38	22.56	22.89	22.88	0-2	2
		1	49	22.38	22.50	22.51	22.66	22.74	0-2	2
		25	0	21.13	21.06	21.32	21.74	21.55	0-3	3
		25	12	21.08	21.04	21.31	21.70	21.52	0-3	3
		25	24	21.07	21.05	21.31	21.67	21.49	0-3	3
		50	0	21.14	21.13	21.33	21.79	21.55	0-3	3
	256QAM	1	0	21.03	21.15	21.39	21.80	21.38	0-5	3
		1	24	21.10	21.34	21.31	21.95	21.78	0-5	3
		1	49	21.01	21.15	21.18	21.69	21.53	0-5	3
		25	0	20.18	20.09	20.39	20.79	20.62	0-5	4
		25	12	20.18	20.08	20.37	20.78	20.57	0-5	4
		25	24	20.16	20.06	20.37	20.75	20.54	0-5	4
		50	0	20.15	20.05	20.38	20.82	20.60	0-5	4

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	25.11	25.07	25.41	25.83	25.11	0	0
		1	36	25.32	25.33	25.67	25.99	25.32	0	0
		1	74	25.11	25.03	25.37	25.68	25.11	0	0
		36	0	23.13	23.07	23.35	23.84	23.13	0-1	1
		36	18	23.10	23.04	23.35	23.80	23.10	0-1	1
		36	39	23.09	23.02	23.33	23.75	23.09	0-1	1
		75	0	23.11	23.04	23.36	23.80	23.11	0-1	1
	16QAM	1	0	23.27	23.05	23.58	24.13	23.27	0-1	1
		1	36	23.58	23.42	23.83	24.21	23.58	0-1	1
		1	74	23.25	23.11	23.53	23.99	23.25	0-1	1
		36	0	22.08	22.13	22.35	22.78	22.08	0-2	2
		36	18	22.06	22.10	22.33	22.75	22.06	0-2	2
		36	39	22.06	22.10	22.33	22.71	22.06	0-2	2
		75	0	22.12	22.09	22.34	22.74	22.12	0-2	2
	64QAM	1	0	22.30	22.56	22.64	22.91	22.30	0-2	2
		1	36	22.45	22.65	23.06	23.14	22.45	0-2	2
		1	74	22.28	22.54	22.61	22.78	22.28	0-2	2
		36	0	21.16	21.13	21.34	21.80	21.16	0-3	3
		36	18	21.11	21.10	21.30	21.75	21.11	0-3	3
		36	39	21.12	21.09	21.28	21.72	21.12	0-3	3
		75	0	21.11	21.10	21.32	21.77	21.11	0-3	3
	256QAM	1	0	21.20	21.07	21.30	22.00	21.20	0-5	3
		1	36	21.05	21.08	21.04	22.31	21.05	0-5	3
		1	74	21.13	21.09	21.22	21.82	21.13	0-5	3
		36	0	20.12	20.13	20.32	20.82	20.12	0-5	4
		36	18	20.10	20.10	20.30	20.78	20.10	0-5	4
		36	39	20.09	20.09	20.30	20.77	20.09	0-5	4
		75	0	20.12	20.03	20.37	20.82	20.12	0-5	4

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	25.17	25.07	25.38	25.97	25.69	0	0
		1	49	25.35	25.25	25.58	25.92	25.69	0	0
		1	99	25.12	25.04	25.34	25.68	25.39	0	0
		50	0	23.16	23.09	23.36	23.90	23.62	0-1	1
		50	25	23.13	23.06	23.34	23.86	23.56	0-1	1
		50	49	23.11	23.04	23.34	23.80	23.54	0-1	1
		100	0	23.14	23.07	23.37	23.85	23.57	0-1	1
	16QAM	1	0	23.09	23.07	23.21	23.95	23.76	0-1	1
		1	49	23.10	23.17	23.16	23.55	23.65	0-1	1
		1	99	23.19	23.17	23.11	23.45	23.45	0-1	1
		50	0	22.14	22.00	22.32	22.86	22.63	0-2	2
		50	25	22.11	22.17	22.29	22.82	22.59	0-2	2
		50	49	22.09	22.05	22.27	22.77	22.54	0-2	2
		100	0	22.14	22.06	22.39	22.85	22.61	0-2	2
	64QAM	1	0	22.63	22.38	22.90	22.89	22.98	0-2	2
		1	49	22.34	22.26	22.62	22.87	22.92	0-2	2
		1	99	22.27	22.27	22.77	22.66	22.68	0-2	2
		50	0	21.24	21.08	21.41	21.90	21.65	0-3	3
		50	25	21.21	21.05	21.38	21.84	21.58	0-3	3
		50	49	21.18	21.02	21.36	21.79	21.53	0-3	3
		100	0	21.15	21.04	21.37	21.81	21.57	0-3	3
	256QAM	1	0	21.20	21.00	21.44	21.89	21.56	0-5	3
		1	49	21.19	21.17	21.59	21.91	21.55	0-5	3
		1	99	21.09	21.09	21.40	21.71	21.35	0-5	3
		50	0	20.25	20.12	20.44	20.89	20.68	0-5	4
		50	25	20.20	20.10	20.41	20.84	20.61	0-5	4
		50	49	20.19	20.09	20.41	20.80	20.58	0-5	4
		100	0	20.13	20.04	20.35	20.79	20.58	0-5	4

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	23.05	23.20	23.57	0	0
		1	3	22.97	23.03	23.36	0	0
		1	5	23.04	23.13	23.48	0	0
		3	0	23.09	23.20	23.51	0	0
		3	1	23.15	23.18	23.52	0	0
		3	3	23.02	23.12	23.45	0	0
		6	0	22.17	22.11	22.53	0-1	1
	16QAM	1	0	22.46	22.45	22.63	0-1	1
		1	3	22.40	22.43	22.71	0-1	1
		1	5	22.51	22.33	22.60	0-1	1
		3	0	22.34	22.27	22.66	0-1	1
		3	1	22.27	22.23	22.64	0-1	1
		3	3	22.26	22.23	22.54	0-1	1
		6	0	21.26	21.26	21.58	0-2	2
	64QAM	1	0	21.29	21.41	21.65	0-2	2
		1	3	21.21	21.33	21.69	0-2	2
		1	5	21.36	21.33	21.77	0-2	2
		3	0	21.25	21.31	21.59	0-2	2
		3	1	21.21	21.22	21.52	0-2	2
		3	3	21.13	21.27	21.58	0-2	2
		6	0	20.11	20.22	20.40	0-3	3
	256QAM	1	0	20.14	20.24	20.57	0-5	3
		1	3	20.20	20.23	20.52	0-5	3
		1	5	20.17	20.28	20.58	0-5	3
		3	0	20.11	20.20	20.56	0-5	3
		3	1	20.18	20.21	20.59	0-5	3
		3	3	20.13	20.24	20.51	0-5	3
		6	0	19.13	19.21	19.55	0-5	4

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	23.02	23.33	23.66	0	0
		1	7	23.19	23.26	23.65	0	0
		1	14	23.00	23.09	23.43	0	0
		8	0	22.18	22.23	22.55	0-1	1
		8	3	22.19	22.15	22.56	0-1	1
		8	7	22.24	22.20	22.65	0-1	1
		15	0	22.19	22.20	22.56	0-1	1
	16QAM	1	0	22.45	22.33	22.69	0-1	1
		1	7	22.43	22.47	22.65	0-1	1
		1	14	22.46	22.30	22.61	0-1	1
		8	0	21.20	21.35	21.64	0-2	2
		8	3	21.22	21.25	21.59	0-2	2
		8	7	21.25	21.28	21.65	0-2	2
		15	0	21.19	21.22	21.60	0-2	2
	64QAM	1	0	21.37	21.28	21.70	0-2	2
		1	7	21.62	21.47	21.76	0-2	2
		1	14	21.43	21.30	21.65	0-2	2
		8	0	20.22	20.23	20.60	0-3	3
		8	3	20.20	20.26	20.56	0-3	3
		8	7	20.25	20.24	20.58	0-3	3
		15	0	20.23	20.27	20.54	0-3	3
	256QAM	1	0	20.22	20.32	20.62	0-5	3
		1	7	20.34	20.34	20.75	0-5	3
		1	14	20.16	20.26	20.54	0-5	3
		8	0	19.20	19.23	19.56	0-5	4
		8	3	19.16	19.21	19.60	0-5	4
		8	7	19.20	19.23	19.63	0-5	4
		15	0	19.16	19.24	19.56	0-5	4

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	23.20	23.15	23.61	0	0
		1	12	23.20	23.35	23.61	0	0
		1	24	23.08	23.20	23.57	0	0
		12	0	22.25	22.25	22.54	0-1	1
		12	6	22.24	22.26	22.53	0-1	1
		12	11	22.27	22.23	22.54	0-1	1
		25	0	22.20	22.25	22.60	0-1	1
	16QAM	1	0	22.54	22.43	22.75	0-1	1
		1	12	22.56	22.56	22.86	0-1	1
		1	24	22.46	22.32	22.66	0-1	1
		12	0	21.27	21.31	21.64	0-2	2
		12	6	21.29	21.26	21.61	0-2	2
		12	11	21.27	21.31	21.62	0-2	2
		25	0	21.27	21.25	21.65	0-2	2
	64QAM	1	0	21.36	21.46	21.63	0-2	2
		1	12	21.44	21.57	21.82	0-2	2
		1	24	21.39	21.44	21.80	0-2	2
		12	0	20.27	20.27	20.64	0-3	3
		12	6	20.29	20.30	20.61	0-3	3
		12	11	20.27	20.25	20.59	0-3	3
		25	0	20.28	20.26	20.60	0-3	3
	256QAM	1	0	20.32	20.32	20.67	0-5	3
		1	12	20.42	20.28	20.77	0-5	3
		1	24	20.37	20.33	20.67	0-5	3
		12	0	19.18	19.27	19.53	0-5	4
		12	6	19.19	19.16	19.54	0-5	4
		12	11	19.21	19.20	19.54	0-5	4
		25	0	19.18	19.21	19.55	0-5	4

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	23.19	23.22	23.65	0	0
		1	24	22.95	23.30	23.61	0	0
		1	49	23.17	23.12	23.47	0	0
		25	0	22.25	22.27	22.56	0-1	1
		25	12	22.23	22.24	22.55	0-1	1
		25	24	22.21	22.23	22.57	0-1	1
		50	0	22.21	22.28	22.58	0-1	1
	16QAM	1	0	22.67	22.44	22.68	0-1	1
		1	24	22.68	22.47	22.94	0-1	1
		1	49	22.43	22.32	22.68	0-1	1
		25	0	21.33	21.35	21.60	0-2	2
		25	12	21.28	21.29	21.60	0-2	2
		25	24	21.26	21.27	21.61	0-2	2
		50	0	21.29	21.26	21.61	0-2	2
	64QAM	1	0	21.53	21.56	21.80	0-2	2
		1	24	21.68	21.45	21.94	0-2	2
		1	49	21.56	21.47	21.86	0-2	2
		25	0	20.33	20.29	20.60	0-3	3
		25	12	20.33	20.28	20.61	0-3	3
		25	24	20.29	20.30	20.58	0-3	3
		50	0	20.33	20.32	20.68	0-3	3
	256QAM	1	0	20.33	20.39	20.62	0-5	3
		1	24	20.25	20.39	20.77	0-5	3
		1	49	20.27	20.30	20.62	0-5	3
		25	0	19.22	19.22	19.54	0-5	4
		25	12	19.23	19.21	19.51	0-5	4
		25	24	19.24	19.22	19.54	0-5	4
		50	0	19.21	19.21	19.54	0-5	4

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	23.21	23.30	23.43	0	0
		1	36	23.07	23.31	23.38	0	0
		1	74	23.21	23.15	23.28	0	0
		36	0	22.28	22.28	22.31	0-1	1
		36	18	22.27	22.24	22.29	0-1	1
		36	39	22.29	22.23	22.34	0-1	1
		75	0	22.31	22.20	22.28	0-1	1
	16QAM	1	0	22.41	22.51	22.59	0-1	1
		1	36	22.66	22.47	22.44	0-1	1
		1	74	22.44	22.37	22.36	0-1	1
		36	0	21.33	21.31	21.34	0-2	2
		36	18	21.30	21.25	21.34	0-2	2
		36	39	21.33	21.22	21.34	0-2	2
		75	0	21.30	21.20	21.32	0-2	2
	64QAM	1	0	21.46	21.45	21.51	0-2	2
		1	36	21.55	21.56	21.50	0-2	2
		1	74	21.50	21.27	21.45	0-2	2
		36	0	20.38	20.31	20.37	0-3	3
		36	18	20.37	20.24	20.38	0-3	3
		36	39	20.36	20.25	20.33	0-3	3
		75	0	20.33	20.25	20.33	0-3	3
	256QAM	1	0	20.43	20.34	20.39	0-5	3
		1	36	20.37	20.34	20.48	0-5	3
		1	74	20.34	20.22	20.46	0-5	3
		36	0	19.33	19.28	19.35	0-5	4
		36	18	19.32	19.19	19.31	0-5	4
		36	39	19.32	19.20	19.30	0-5	4
		75	0	19.31	19.21	19.26	0-5	4

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	23.17	23.36	23.03	0	0
		1	49	23.37	23.30	23.15	0	0
		1	99	23.11	23.05	22.90	0	0
		50	0	22.32	22.28	22.15	0-1	1
		50	25	22.39	22.25	22.08	0-1	1
		50	49	22.34	22.23	22.10	0-1	1
		100	0	22.25	22.22	22.10	0-1	1
	16QAM	1	0	22.43	22.48	22.24	0-1	1
		1	49	22.52	22.56	22.42	0-1	1
		1	99	22.36	22.23	22.25	0-1	1
		50	0	21.33	21.28	21.12	0-2	2
		50	25	21.33	21.28	21.15	0-2	2
		50	49	21.31	21.24	21.11	0-2	2
		100	0	21.31	21.23	21.11	0-2	2
	64QAM	1	0	21.47	21.47	21.29	0-2	2
		1	49	21.51	21.66	21.37	0-2	2
		1	99	21.28	21.44	21.27	0-2	2
		50	0	20.41	20.37	20.15	0-3	3
		50	25	20.38	20.29	20.16	0-3	3
		50	49	20.34	20.29	20.11	0-3	3
		100	0	20.35	20.23	20.11	0-3	3
	256QAM	1	0	20.39	20.34	20.05	0-5	3
		1	49	20.47	20.40	20.23	0-5	3
		1	99	20.25	20.18	19.97	0-5	3
		50	0	19.28	19.25	19.06	0-5	4
		50	25	19.28	19.21	19.03	0-5	4
		50	49	19.25	19.18	19.03	0-5	4
		100	0	19.28	19.21	18.99	0-5	4

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	18.33	18.36	18.73	0	0
		1	3	18.27	18.26	18.63	0	0
		1	5	18.41	18.34	18.70	0	0
		3	0	18.45	18.34	18.71	0	0
		3	1	18.52	18.41	18.74	0	0
		3	3	18.37	18.31	18.66	0	0
	16QAM	6	0	18.46	18.36	18.75	0-1	0
		1	0	18.68	18.57	18.98	0-1	0
		1	3	18.52	18.40	18.91	0-1	0
		1	5	18.56	18.56	18.97	0-1	0
		3	0	18.53	18.50	18.89	0-1	0
		3	1	18.48	18.37	18.84	0-1	0
	64QAM	3	3	18.51	18.48	18.86	0-1	0
		6	0	18.47	18.38	18.76	0-2	0
		1	0	18.63	18.61	18.90	0-2	0
		1	3	18.51	18.47	18.76	0-2	0
		1	5	18.50	18.52	18.94	0-2	0
		3	0	18.53	18.53	18.96	0-2	0
	256QAM	3	1	18.43	18.47	18.78	0-2	0
		3	3	18.45	18.38	18.72	0-2	0
		6	0	18.47	18.34	18.77	0-3	0
		1	0	18.57	18.51	18.80	0-5	0
		1	3	18.48	18.33	18.76	0-5	0
		1	5	18.53	18.53	18.74	0-5	0
	256QAM	3	0	18.55	18.52	18.89	0-5	0
		3	1	18.55	18.55	18.85	0-5	0
		3	3	18.46	18.41	18.76	0-5	0
		6	0	18.47	18.38	18.74	0-5	0

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	18.32	18.52	18.88	0	0
		1	7	18.68	18.72	18.99	0	0
		1	14	18.41	18.40	18.74	0	0
		8	0	18.51	18.51	18.84	0-1	0
		8	3	18.44	18.43	18.81	0-1	0
		8	7	18.53	18.50	18.85	0-1	0
		15	0	18.55	18.49	18.83	0-1	0
	16QAM	1	0	18.70	18.51	19.09	0-1	0
		1	7	18.52	18.73	19.03	0-1	0
		1	14	18.75	18.66	19.12	0-1	0
		8	0	18.59	18.53	18.89	0-2	0
		8	3	18.58	18.54	18.87	0-2	0
		8	7	18.60	18.55	18.91	0-2	0
		15	0	18.55	18.53	18.88	0-2	0
	64QAM	1	0	18.63	18.64	18.95	0-2	0
		1	7	18.88	18.82	19.07	0-2	0
		1	14	18.63	18.62	19.08	0-2	0
		8	0	18.54	18.49	18.88	0-3	0
		8	3	18.55	18.50	18.91	0-3	0
		8	7	18.54	18.54	18.88	0-3	0
		15	0	18.60	18.50	18.89	0-3	0
	256QAM	1	0	18.59	18.56	18.98	0-5	0
		1	7	18.65	18.76	18.92	0-5	0
		1	14	18.65	18.50	18.90	0-5	0
		8	0	18.58	18.53	18.84	0-5	0
		8	3	18.54	18.49	18.85	0-5	0
		8	7	18.59	18.52	18.85	0-5	0
		15	0	18.57	18.47	18.86	0-5	0

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	18.48	18.74	18.91	0	0
		1	12	18.66	18.73	18.51	0	0
		1	24	18.51	18.43	18.83	0	0
		12	0	18.57	18.49	18.87	0-1	0
		12	6	18.60	18.49	18.87	0-1	0
		12	11	18.55	18.47	18.90	0-1	0
		25	0	18.55	18.49	18.85	0-1	0
	16QAM	1	0	18.86	18.69	19.11	0-1	0
		1	12	18.69	18.83	19.09	0-1	0
		1	24	18.80	18.74	19.00	0-1	0
		12	0	18.64	18.55	18.94	0-2	0
		12	6	18.64	18.51	18.90	0-2	0
		12	11	18.61	18.49	18.93	0-2	0
		25	0	18.55	18.52	18.86	0-2	0
	64QAM	1	0	18.74	18.72	19.11	0-2	0
		1	12	18.94	18.88	19.14	0-2	0
		1	24	18.77	18.65	19.04	0-2	0
		12	0	18.63	18.51	18.90	0-3	0
		12	6	18.59	18.55	18.88	0-3	0
		12	11	18.60	18.49	18.92	0-3	0
		25	0	18.58	18.47	18.89	0-3	0
	256QAM	1	0	18.62	18.73	18.96	0-5	0
		1	12	18.77	18.77	18.96	0-5	0
		1	24	18.66	18.60	18.94	0-5	0
		12	0	18.57	18.52	18.92	0-5	0
		12	6	18.57	18.51	18.85	0-5	0
		12	11	18.53	18.47	18.91	0-5	0
		25	0	18.57	18.49	18.87	0-5	0

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	18.51	18.59	18.89	0	0
		1	24	18.31	18.63	18.99	0	0
		1	49	18.49	18.43	18.77	0	0
		25	0	18.51	18.48	18.84	0-1	0
		25	12	18.52	18.48	18.85	0-1	0
		25	24	18.51	18.48	18.81	0-1	0
		50	0	18.54	18.48	18.84	0-1	0
	16QAM	1	0	18.68	18.78	19.05	0-1	0
		1	24	18.80	18.92	19.12	0-1	0
		1	49	18.71	18.69	19.08	0-1	0
		25	0	18.54	18.55	18.85	0-2	0
		25	12	18.56	18.56	18.87	0-2	0
		25	24	18.56	18.52	18.85	0-2	0
		50	0	18.58	18.51	18.86	0-2	0
	64QAM	1	0	18.76	18.78	18.94	0-2	0
		1	24	18.79	18.47	19.09	0-2	0
		1	49	18.72	18.65	19.04	0-2	0
		25	0	18.55	18.50	18.84	0-3	0
		25	12	18.56	18.52	18.83	0-3	0
		25	24	18.53	18.47	18.85	0-3	0
		50	0	18.58	18.51	18.87	0-3	0
	256QAM	1	0	18.69	18.58	18.93	0-5	0
		1	24	18.92	18.77	18.95	0-5	0
		1	49	18.66	18.54	18.88	0-5	0
		25	0	18.56	18.50	18.88	0-5	0
		25	12	18.53	18.50	18.87	0-5	0
		25	24	18.55	18.51	18.91	0-5	0
		50	0	18.54	18.49	18.88	0-5	0

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	18.41	18.54	18.83	0	0
		1	36	18.62	18.72	18.98	0	0
		1	74	18.41	18.38	18.77	0	0
		36	0	18.47	18.54	18.82	0-1	0
		36	18	18.44	18.50	18.81	0-1	0
		36	39	18.48	18.50	18.80	0-1	0
		75	0	18.49	18.48	18.81	0-1	0
	16QAM	1	0	18.77	18.80	19.13	0-1	0
		1	36	18.93	18.89	19.11	0-1	0
		1	74	18.80	18.75	19.03	0-1	0
		36	0	18.48	18.58	18.82	0-2	0
		36	18	18.54	18.52	18.77	0-2	0
		36	39	18.54	18.50	18.81	0-2	0
		75	0	18.47	18.47	18.82	0-2	0
	64QAM	1	0	18.79	18.84	18.97	0-2	0
		1	36	18.88	18.76	19.01	0-2	0
		1	74	18.63	18.65	18.97	0-2	0
		36	0	18.58	18.57	18.84	0-3	0
		36	18	18.55	18.54	18.85	0-3	0
		36	39	18.55	18.48	18.86	0-3	0
		75	0	18.54	18.51	18.81	0-3	0
	256QAM	1	0	18.64	18.70	18.92	0-5	0
		1	36	18.88	18.64	18.97	0-5	0
		1	74	18.56	18.57	18.90	0-5	0
		36	0	18.53	18.59	18.84	0-5	0
		36	18	18.54	18.52	18.82	0-5	0
		36	39	18.55	18.52	18.86	0-5	0
		75	0	18.54	18.52	18.84	0-5	0

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	18.45	18.62	18.85	0	0
		1	49	18.27	18.67	18.94	0	0
		1	99	18.38	18.34	18.70	0	0
		50	0	18.54	18.58	18.80	0-1	0
		50	25	18.55	18.53	18.80	0-1	0
		50	49	18.51	18.44	18.75	0-1	0
		100	0	18.49	18.50	18.80	0-1	0
	16QAM	1	0	18.70	18.76	18.92	0-1	0
		1	49	18.89	18.97	19.22	0-1	0
		1	99	18.74	18.56	19.07	0-1	0
		50	0	18.59	18.58	18.79	0-2	0
		50	25	18.55	18.52	18.79	0-2	0
		50	49	18.54	18.49	18.80	0-2	0
		100	0	18.53	18.48	18.85	0-2	0
	64QAM	1	0	18.70	18.89	19.08	0-2	0
		1	49	18.84	18.76	19.05	0-2	0
		1	99	18.62	18.54	19.02	0-2	0
		50	0	18.57	18.60	18.86	0-3	0
		50	25	18.56	18.53	18.85	0-3	0
		50	49	18.58	18.53	18.81	0-3	0
		100	0	18.52	18.50	18.79	0-3	0
	256QAM	1	0	18.66	18.73	18.95	0-5	0
		1	49	18.79	18.81	18.95	0-5	0
		1	99	18.66	18.56	18.82	0-5	0
		50	0	18.57	18.55	18.85	0-5	0
		50	25	18.54	18.50	18.87	0-5	0
		50	49	18.54	18.47	18.83	0-5	0
		100	0	18.53	18.53	18.84	0-5	0

[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	19.13	19.28	19.41	0	0
		1	3	19.11	19.08	19.33	0	0
		1	5	19.15	19.25	19.45	0	0
		3	0	19.17	19.29	19.42	0-1	0
		3	1	19.19	19.29	19.48	0-1	0
		3	3	19.17	19.23	19.35	0-1	0
		6	0	19.23	19.21	19.42	0-1	0
	16QAM	1	0	19.36	19.45	19.58	0-1	0
		1	3	19.36	19.34	19.47	0-1	0
		1	5	19.43	19.38	19.54	0-1	0
		3	0	19.28	19.34	19.57	0-2	0
		3	1	19.29	19.29	19.52	0-2	0
		3	3	19.24	19.26	19.47	0-2	0
		6	0	19.25	19.35	19.50	0-2	0
	64QAM	1	0	19.40	19.44	19.65	0-2	0
		1	3	19.26	19.34	19.46	0-2	0
		1	5	19.30	19.26	19.54	0-2	0
		3	0	19.29	19.31	19.49	0-3	0
		3	1	19.26	19.23	19.43	0-3	0
		3	3	19.21	19.24	19.42	0-3	0
		6	0	19.22	19.24	19.44	0-3	0
	256QAM	1	0	19.11	19.36	19.40	0-5	0
		1	3	19.05	19.25	19.38	0-5	0
		1	5	19.09	19.38	19.43	0-5	0
		3	0	19.03	19.25	19.44	0-5	0
		3	1	19.04	19.26	19.40	0-5	0
		3	3	19.02	19.23	19.42	0-5	0
		6	0	19.02	19.21	19.33	0-5	0

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	19.14	19.33	19.65	0	0
		1	7	19.35	19.49	19.67	0	0
		1	14	19.14	19.22	19.34	0	0
		8	0	19.27	19.29	19.45	0-1	0
		8	3	19.20	19.31	19.45	0-1	0
		8	7	19.30	19.29	19.50	0-1	0
		15	0	19.29	19.29	19.50	0-1	0
	16QAM	1	0	19.37	19.46	19.63	0-1	0
		1	7	19.30	19.41	19.69	0-1	0
		1	14	19.38	19.34	19.52	0-1	0
		8	0	19.33	19.31	19.52	0-2	0
		8	3	19.29	19.30	19.51	0-2	0
		8	7	19.28	19.39	19.50	0-2	0
		15	0	19.24	19.26	19.50	0-2	0
	64QAM	1	0	19.43	19.30	19.65	0-2	0
		1	7	19.58	19.32	19.77	0-2	0
		1	14	19.45	19.33	19.67	0-2	0
		8	0	19.21	19.25	19.48	0-3	0
		8	3	19.22	19.24	19.47	0-3	0
		8	7	19.22	19.24	19.50	0-3	0
		15	0	19.22	19.30	19.42	0-3	0
	256QAM	1	0	19.06	19.30	19.38	0-5	0
		1	7	19.36	19.45	19.44	0-5	0
		1	14	19.04	19.35	19.42	0-5	0
		8	0	19.13	19.30	19.46	0-5	0
		8	3	19.05	19.22	19.45	0-5	0
		8	7	19.14	19.26	19.45	0-5	0
		15	0	19.07	19.26	19.42	0-5	0

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	19.18	19.24	19.59	0	0
		1	12	19.34	19.46	19.67	0	0
		1	24	19.15	19.27	19.44	0	0
		12	0	19.23	19.30	19.46	0-1	0
		12	6	19.27	19.28	19.46	0-1	0
		12	11	19.26	19.32	19.44	0-1	0
		25	0	19.28	19.34	19.50	0-1	0
	16QAM	1	0	19.49	19.52	19.65	0-1	0
		1	12	19.29	19.64	19.68	0-1	0
		1	24	19.48	19.44	19.57	0-1	0
		12	0	19.32	19.30	19.43	0-2	0
		12	6	19.28	19.34	19.50	0-2	0
		12	11	19.29	19.28	19.48	0-2	0
		25	0	19.29	19.34	19.48	0-2	0
	64QAM	1	0	19.42	19.49	19.63	0-2	0
		1	12	19.59	19.60	19.59	0-2	0
		1	24	19.43	19.39	19.55	0-2	0
		12	0	19.29	19.33	19.53	0-3	0
		12	6	19.26	19.30	19.50	0-3	0
		12	11	19.21	19.29	19.45	0-3	0
		25	0	19.25	19.34	19.46	0-3	0
	256QAM	1	0	19.16	19.21	19.45	0-5	0
		1	12	19.33	19.49	19.41	0-5	0
		1	24	19.12	19.34	19.34	0-5	0
		12	0	19.08	19.26	19.41	0-5	0
		12	6	19.08	19.23	19.39	0-5	0
		12	11	19.07	19.24	19.37	0-5	0
		25	0	19.13	19.28	19.43	0-5	0

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	19.26	19.35	19.76	0	0
		1	24	19.08	19.45	19.66	0	0
		1	49	19.26	19.24	19.42	0	0
		25	0	19.32	19.31	19.55	0-1	0
		25	12	19.31	19.35	19.51	0-1	0
		25	24	19.30	19.35	19.50	0-1	0
		50	0	19.33	19.38	19.50	0-1	0
	16QAM	1	0	19.39	19.49	19.77	0-1	0
		1	24	19.60	19.52	19.75	0-1	0
		1	49	19.48	19.52	19.74	0-1	0
		25	0	19.34	19.29	19.49	0-2	0
		25	12	19.33	19.35	19.52	0-2	0
		25	24	19.29	19.34	19.53	0-2	0
		50	0	19.32	19.33	19.53	0-2	0
	64QAM	1	0	19.43	19.37	19.61	0-2	0
		1	24	19.63	19.38	19.60	0-2	0
		1	49	19.38	19.33	19.75	0-2	0
		25	0	19.32	19.32	19.55	0-3	0
		25	12	19.27	19.28	19.51	0-3	0
		25	24	19.25	19.31	19.45	0-3	0
		50	0	19.31	19.32	19.52	0-3	0
	256QAM	1	0	19.27	19.46	19.43	0-5	0
		1	24	19.37	19.45	19.47	0-5	0
		1	49	19.27	19.35	19.42	0-5	0
		25	0	19.16	19.25	19.46	0-5	0
		25	12	19.11	19.26	19.49	0-5	0
		25	24	19.14	19.28	19.47	0-5	0
		50	0	19.11	19.29	19.46	0-5	0

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	19.29	19.25	19.80	0	0
		1	36	19.43	19.49	19.75	0	0
		1	74	19.29	19.28	19.52	0	0
		36	0	19.34	19.33	19.57	0-1	0
		36	18	19.32	19.35	19.61	0-1	0
		36	39	19.33	19.31	19.57	0-1	0
		75	0	19.35	19.33	19.61	0-1	0
	16QAM	1	0	19.61	19.64	19.84	0-1	0
		1	36	19.32	19.49	19.51	0-1	0
		1	74	19.45	19.41	19.60	0-1	0
		36	0	19.34	19.33	19.59	0-2	0
		36	18	19.33	19.30	19.57	0-2	0
		36	39	19.31	19.29	19.59	0-2	0
		75	0	19.32	19.30	19.60	0-2	0
	64QAM	1	0	19.55	19.57	19.91	0-2	0
		1	36	19.49	19.58	19.88	0-2	0
		1	74	19.47	19.60	19.76	0-2	0
		36	0	19.30	19.36	19.65	0-3	0
		36	18	19.34	19.31	19.61	0-3	0
		36	39	19.32	19.32	19.63	0-3	0
		75	0	19.31	19.28	19.59	0-3	0
	256QAM	1	0	19.25	19.46	19.49	0-5	0
		1	36	19.38	19.39	19.46	0-5	0
		1	74	19.30	19.43	19.45	0-5	0
		36	0	19.20	19.31	19.40	0-5	0
		36	18	19.14	19.29	19.40	0-5	0
		36	39	19.15	19.27	19.40	0-5	0
		75	0	19.12	19.25	19.42	0-5	0

LTE Band 4 _ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					20175 Ch. 1732.5 MHz			
20 MHz	QPSK	1	0		19.28		0	0
		1	49		19.45		0	0
		1	99		19.15		0	0
		50	0		19.30		0-1	0
		50	25		19.36		0-1	0
		50	49		19.32		0-1	0
		100	0		19.30		0-1	0
	16QAM	1	0		19.42		0-1	0
		1	49		19.56		0-1	0
		1	99		19.39		0-1	0
		50	0		19.36		0-2	0
		50	25		19.36		0-2	0
		50	49		19.30		0-2	0
		100	0		19.30		0-2	0
	64QAM	1	0		19.51		0-2	0
		1	49		19.51		0-2	0
		1	99		19.38		0-2	0
		50	0		19.34		0-3	0
		50	25		19.36		0-3	0
		50	49		19.32		0-3	0
		100	0		19.25		0-3	0
	256QAM	1	0		19.33		0-5	0
		1	49		19.49		0-5	0
		1	99		19.35		0-5	0
		50	0		19.24		0-5	0
		50	25		19.27		0-5	0
		50	49		19.26		0-5	0
		100	0		19.28		0-5	0

[LTE Band 25 Conducted Power]

LTE Band 25 _ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.43	18.58	18.79	0	0
		1	3	18.44	18.41	18.65	0	0
		1	5	18.49	18.51	18.76	0	0
		3	0	18.58	18.55	18.84	0	0
		3	1	18.57	18.60	18.86	0	0
		3	3	18.52	18.48	18.67	0	0
		6	0	18.55	18.50	18.78	0-1	0
	16QAM	1	0	18.86	18.70	19.02	0-1	0
		1	3	18.58	18.59	18.94	0-1	0
		1	5	18.61	18.67	18.98	0-1	0
		3	0	18.77	18.72	18.91	0-1	0
		3	1	18.72	18.66	18.92	0-1	0
		3	3	18.62	18.56	18.88	0-1	0
		6	0	18.60	18.60	18.82	0-2	0
	64QAM	1	0	18.78	18.70	19.05	0-2	0
		1	3	18.73	18.53	18.85	0-2	0
		1	5	18.67	18.66	18.91	0-2	0
		3	0	18.75	18.68	18.89	0-2	0
		3	1	18.68	18.58	18.83	0-2	0
		3	3	18.59	18.50	18.80	0-2	0
		6	0	18.56	18.55	18.80	0-3	0
	256QAM	1	0	18.72	18.61	18.90	0-5	0
		1	3	18.59	18.54	18.75	0-5	0
		1	5	18.65	18.55	18.93	0-5	0
		3	0	18.64	18.65	18.76	0-5	0
		3	1	18.59	18.61	18.96	0-5	0
		3	3	18.62	18.58	18.83	0-5	0
		6	0	18.56	18.48	18.80	0-5	0

LTE Band 25_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.51	18.61	18.94	0	0
		1	7	18.54	18.73	18.93	0	0
		1	14	18.49	18.51	18.72	0	0
		8	0	18.60	18.58	18.84	0-1	0
		8	3	18.57	18.53	18.81	0-1	0
		8	7	18.64	18.61	18.84	0-1	0
		15	0	18.59	18.56	18.84	0-1	0
	16QAM	1	0	18.75	18.61	18.93	0-1	0
		1	7	18.89	18.98	19.13	0-1	0
		1	14	18.86	18.73	18.98	0-1	0
		8	0	18.68	18.69	18.92	0-2	0
		8	3	18.60	18.61	18.92	0-2	0
		8	7	18.69	18.63	18.94	0-2	0
		15	0	18.66	18.58	18.88	0-2	0
	64QAM	1	0	18.62	18.78	19.06	0-2	0
		1	7	18.90	18.86	19.08	0-2	0
		1	14	18.74	18.73	18.98	0-2	0
		8	0	18.62	18.60	18.88	0-3	0
		8	3	18.65	18.61	18.83	0-3	0
		8	7	18.65	18.59	18.89	0-3	0
		15	0	18.63	18.61	18.89	0-3	0
	256QAM	1	0	18.76	18.54	18.86	0-5	0
		1	7	18.80	18.60	18.90	0-5	0
		1	14	18.67	18.49	18.93	0-5	0
		8	0	18.65	18.60	18.92	0-5	0
		8	3	18.62	18.55	18.84	0-5	0
		8	7	18.65	18.60	18.89	0-5	0
		15	0	18.64	18.59	18.86	0-5	0

LTE Band 25_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.55	18.62	18.79	0	0
		1	12	18.66	18.76	19.02	0	0
		1	24	18.55	18.56	18.77	0	0
		12	0	18.65	18.58	18.85	0-1	0
		12	6	18.62	18.60	18.86	0-1	0
		12	11	18.63	18.58	18.83	0-1	0
		25	0	18.59	18.60	18.85	0-1	0
	16QAM	1	0	18.81	18.87	19.09	0-1	0
		1	12	19.05	18.89	19.06	0-1	0
		1	24	18.83	18.80	19.09	0-1	0
		12	0	18.64	18.66	18.94	0-2	0
		12	6	18.64	18.61	18.92	0-2	0
		12	11	18.64	18.60	18.91	0-2	0
		25	0	18.62	18.61	18.91	0-2	0
	64QAM	1	0	18.84	18.84	19.12	0-2	0
		1	12	18.94	18.86	19.26	0-2	0
		1	24	18.83	18.74	19.01	0-2	0
		12	0	18.66	18.66	18.90	0-3	0
		12	6	18.69	18.65	18.94	0-3	0
		12	11	18.71	18.63	18.95	0-3	0
		25	0	18.62	18.59	18.84	0-3	0
	256QAM	1	0	18.64	18.78	18.94	0-5	0
		1	12	18.88	18.64	18.99	0-5	0
		1	24	18.72	18.70	18.94	0-5	0
		12	0	18.64	18.61	18.90	0-5	0
		12	6	18.62	18.62	18.82	0-5	0
		12	11	18.66	18.54	18.85	0-5	0
		25	0	18.59	18.57	18.85	0-5	0

LTE Band 25 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.75	19.00	0	0
		1	24	18.31	18.74	19.03	0	0
		1	49	18.51	18.49	18.77	0	0
		25	0	18.55	18.59	18.89	0-1	0
		25	12	18.53	18.55	18.85	0-1	0
		25	24	18.55	18.59	18.87	0-1	0
		50	0	18.55	18.58	18.87	0-1	0
	16QAM	1	0	18.81	18.90	19.07	0-1	0
		1	24	18.81	18.86	19.15	0-1	0
		1	49	18.80	18.85	18.94	0-1	0
		25	0	18.61	18.65	18.94	0-2	0
		25	12	18.61	18.62	18.95	0-2	0
		25	24	18.63	18.62	18.93	0-2	0
		50	0	18.59	18.58	18.93	0-2	0
	64QAM	1	0	18.67	18.83	19.11	0-2	0
		1	24	18.83	18.87	19.18	0-2	0
		1	49	18.63	18.73	19.08	0-2	0
		25	0	18.59	18.64	18.90	0-3	0
		25	12	18.58	18.58	18.92	0-3	0
		25	24	18.60	18.55	18.87	0-3	0
		50	0	18.59	18.63	18.94	0-3	0
	256QAM	1	0	18.72	18.76	18.94	0-5	0
		1	24	18.81	18.71	18.97	0-5	0
		1	49	18.71	18.59	18.97	0-5	0
		25	0	18.63	18.66	18.92	0-5	0
		25	12	18.61	18.56	18.89	0-5	0
		25	24	18.62	18.59	18.93	0-5	0
		50	0	18.60	18.61	18.92	0-5	0

LTE Band 25 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.40	18.70	18.94	0	0
		1	36	18.71	18.76	19.07	0	0
		1	74	18.41	18.50	18.84	0	0
		36	0	18.47	18.63	18.87	0-1	0
		36	18	18.48	18.58	18.88	0-1	0
		36	39	18.47	18.55	18.88	0-1	0
		75	0	18.48	18.57	18.86	0-1	0
	16QAM	1	0	18.64	18.85	19.15	0-1	0
		1	36	18.60	18.88	19.26	0-1	0
		1	74	18.75	18.77	19.13	0-1	0
		36	0	18.53	18.64	18.91	0-2	0
		36	18	18.52	18.62	18.90	0-2	0
		36	39	18.51	18.55	18.93	0-2	0
		75	0	18.50	18.57	18.89	0-2	0
	64QAM	1	0	18.73	18.86	19.06	0-2	0
		1	36	18.93	18.81	19.15	0-2	0
		1	74	18.64	18.71	19.12	0-2	0
		36	0	18.60	18.64	18.94	0-3	0
		36	18	18.61	18.61	18.93	0-3	0
		36	39	18.55	18.54	18.90	0-3	0
		75	0	18.52	18.57	18.88	0-3	0
	256QAM	1	0	18.75	18.83	18.93	0-5	0
		1	36	18.78	18.76	18.99	0-5	0
		1	74	18.67	18.69	18.91	0-5	0
		36	0	18.59	18.65	18.94	0-5	0
		36	18	18.56	18.59	18.92	0-5	0
		36	39	18.58	18.57	18.91	0-5	0
		75	0	18.53	18.59	18.91	0-5	0

LTE Band 25_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.48	18.69	19.11	0	0
		1	49	18.29	18.71	19.01	0	0
		1	99	18.40	18.43	18.77	0	0
		50	0	18.59	18.64	19.21	0-1	0
		50	25	18.55	18.57	18.86	0-1	0
		50	49	18.51	18.56	18.86	0-1	0
		100	0	18.49	18.56	18.87	0-1	0
	16QAM	1	0	18.65	18.79	19.15	0-1	0
		1	49	18.77	18.97	19.32	0-1	0
		1	99	18.70	18.70	19.04	0-1	0
		50	0	18.62	18.63	18.89	0-2	0
		50	25	18.63	18.56	18.91	0-2	0
		50	49	18.56	18.52	18.91	0-2	0
		100	0	18.55	18.56	18.87	0-2	0
	64QAM	1	0	18.79	18.93	19.14	0-2	0
		1	49	19.07	18.83	19.13	0-2	0
		1	99	18.67	18.76	18.97	0-2	0
		50	0	18.62	18.67	18.92	0-3	0
		50	25	18.57	18.60	18.95	0-3	0
		50	49	18.57	18.56	18.91	0-3	0
		100	0	18.58	18.55	18.91	0-3	0
	256QAM	1	0	18.71	18.75	18.92	0-5	0
		1	49	18.74	18.95	18.92	0-5	0
		1	99	18.61	18.53	18.93	0-5	0
		50	0	18.58	18.66	18.87	0-5	0
		50	25	18.56	18.59	18.95	0-5	0
		50	49	18.54	18.59	18.90	0-5	0
		100	0	18.56	18.61	18.89	0-5	0

[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	22.10	22.06	22.20	22.63	22.45	0	0
		1	12	22.06	22.22	22.35	22.54	22.63	0	0
		1	24	22.11	22.11	22.28	22.62	22.50	0	0
		12	0	22.19	22.14	22.30	22.71	22.56	0-1	0
		12	6	22.18	22.13	22.28	22.69	22.55	0-1	0
		12	11	22.22	22.13	22.27	22.71	22.54	0-1	0
		25	0	22.22	22.16	22.32	22.75	22.56	0-1	0
	16QAM	1	0	22.09	22.03	22.18	22.76	22.42	0-1	0
		1	12	22.15	21.95	22.23	22.81	22.42	0-1	0
		1	24	22.07	21.92	22.14	22.68	22.39	0-1	0
		12	0	21.18	21.13	21.30	21.70	21.54	0-2	1
		12	6	21.17	21.12	21.29	21.66	21.50	0-2	1
		12	11	21.19	21.10	21.28	21.65	21.50	0-2	1
		25	0	21.22	21.13	21.30	21.76	21.58	0-2	1
	64QAM	1	0	21.34	21.31	21.47	21.70	21.59	0-2	1
		1	12	21.35	21.37	21.47	21.76	21.64	0-2	1
		1	24	21.28	21.25	21.37	21.61	21.50	0-2	1
		12	0	20.23	20.08	20.29	20.69	20.57	0-3	2
		12	6	20.21	20.07	20.26	20.69	20.54	0-3	2
		12	11	20.23	20.06	20.28	20.69	20.54	0-3	2
		25	0	20.23	20.12	20.28	20.72	20.57	0-3	2
	256QAM	1	0	20.15	20.00	20.24	20.58	20.40	0-5	2
		1	12	20.26	20.02	20.24	20.73	20.38	0-5	2
		1	24	20.14	20.02	20.22	20.54	20.38	0-5	2
		12	0	19.20	19.14	19.34	19.77	19.60	0-5	3
		12	6	19.20	19.12	19.32	19.74	19.54	0-5	3
		12	11	19.19	19.11	19.31	19.74	19.53	0-5	3
		25	0	19.26	19.16	19.34	19.76	19.60	0-5	3

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	22.01	22.08	22.20	22.81	22.61	0	0
		1	24	21.86	22.19	22.33	22.64	22.66	0	0
		1	49	22.03	21.99	22.12	22.74	22.44	0	0
		25	0	22.08	22.12	22.25	22.82	22.63	0-1	0
		25	12	22.08	22.10	22.24	22.81	22.60	0-1	0
		25	24	22.09	22.10	22.24	22.79	22.57	0-1	0
		50	0	22.10	22.12	22.24	22.83	22.61	0-1	0
	16QAM	1	0	22.06	22.00	22.29	22.78	22.61	0-1	0
		1	24	22.07	21.87	22.40	22.81	22.74	0-1	0
		1	49	22.06	21.93	22.26	22.71	22.49	0-1	0
		25	0	21.13	21.09	21.23	21.80	21.61	0-2	1
		25	12	21.12	21.07	21.24	21.78	21.58	0-2	1
		25	24	21.13	21.08	21.24	21.75	21.56	0-2	1
		50	0	21.13	21.11	21.23	21.81	21.61	0-2	1
	64QAM	1	0	21.20	21.14	21.40	21.76	21.64	0-2	1
		1	24	21.16	21.04	21.59	21.84	21.70	0-2	1
		1	49	21.21	21.04	21.41	21.66	21.43	0-2	1
		25	0	20.13	20.10	20.24	20.78	20.61	0-3	2
		25	12	20.11	20.09	20.24	20.75	20.58	0-3	2
		25	24	20.10	20.07	20.24	20.72	20.55	0-3	2
		50	0	20.18	20.11	20.27	20.82	20.62	0-3	2
	256QAM	1	0	20.19	20.00	20.14	20.69	20.50	0-5	2
		1	24	20.23	20.05	20.19	20.64	20.57	0-5	2
		1	49	20.10	19.90	20.07	20.63	20.35	0-5	2
		25	0	19.17	19.13	19.31	19.84	19.64	0-5	3
		25	12	19.15	19.09	19.27	19.82	19.62	0-5	3
		25	24	19.16	19.10	19.28	19.81	19.62	0-5	3
		50	0	19.18	19.12	19.28	19.85	19.64	0-5	3

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	22.10	22.09	22.26	22.82	22.58	0	0
		1	36	22.16	22.26	22.42	22.47	22.59	0	0
		1	74	22.10	22.09	22.26	22.68	22.49	0	0
		36	0	22.17	22.15	22.31	22.82	22.64	0-1	0
		36	18	22.17	22.12	22.30	22.79	22.58	0-1	0
		36	39	22.17	22.12	22.28	22.76	22.53	0-1	0
		75	0	22.22	22.15	22.33	22.83	22.63	0-1	0
	16QAM	1	0	22.03	22.15	22.21	22.73	22.56	0-1	0
		1	36	21.99	22.24	22.21	22.66	22.51	0-1	0
		1	74	22.02	22.07	22.19	22.57	22.37	0-1	0
		36	0	21.18	21.12	21.27	21.75	21.59	0-2	1
		36	18	21.16	21.08	21.24	21.70	21.55	0-2	1
		36	39	21.15	21.06	21.22	21.69	21.51	0-2	1
		75	0	21.22	21.11	21.30	21.80	21.61	0-2	1
	64QAM	1	0	21.22	21.20	21.31	21.80	21.72	0-2	1
		1	36	21.28	21.20	21.33	21.71	21.73	0-2	1
		1	74	21.18	21.11	21.25	21.70	21.55	0-2	1
		36	0	20.22	20.11	20.28	20.79	20.62	0-3	2
		36	18	20.19	20.09	20.27	20.75	20.59	0-3	2
		36	39	20.18	20.06	20.25	20.72	20.52	0-3	2
		75	0	20.21	20.12	20.29	20.78	20.60	0-3	2
	256QAM	1	0	20.12	20.06	20.17	20.77	20.49	0-5	2
		1	36	20.19	20.05	20.26	20.52	20.40	0-5	2
		1	74	20.09	20.01	20.07	20.59	20.30	0-5	2
		36	0	19.21	19.15	19.31	19.83	19.64	0-5	3
		36	18	19.19	19.12	19.29	19.79	19.59	0-5	3
		36	39	19.18	19.09	19.28	19.77	19.55	0-5	3
		75	0	19.17	19.11	19.28	19.77	19.58	0-5	3

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	22.16	22.15	22.31	22.75	22.66	0	0
		1	49	21.84	22.23	22.40	22.77	22.64	0	0
		1	99	22.12	22.01	22.19	22.65	22.40	0	0
		50	0	22.21	22.20	22.34	22.87	22.68	0-1	0
		50	25	22.19	22.17	22.31	22.81	22.61	0-1	0
		50	49	22.20	22.14	22.31	22.81	22.58	0-1	0
		100	0	22.22	22.16	22.33	22.82	22.62	0-1	0
	16QAM	1	0	22.15	22.10	22.24	22.76	22.69	0-1	0
		1	49	22.25	22.19	22.44	22.82	22.64	0-1	0
		1	99	22.08	21.99	22.23	22.63	22.40	0-1	0
		50	0	21.24	21.21	21.35	21.85	21.66	0-2	1
		50	25	21.21	21.16	21.30	21.80	21.61	0-2	1
		50	49	21.20	21.13	21.29	21.78	21.55	0-2	1
		100	0	21.25	21.18	21.35	21.84	21.63	0-2	1
	64QAM	1	0	21.27	21.24	21.45	21.93	21.79	0-2	1
		1	49	21.13	21.31	21.37	21.97	21.78	0-2	1
		1	99	21.30	21.17	21.36	21.76	21.49	0-2	1
		50	0	20.28	20.23	20.37	20.90	20.74	0-3	2
		50	25	20.25	20.18	20.34	20.86	20.66	0-3	2
		50	49	20.23	20.14	20.31	20.81	20.61	0-3	2
		100	0	20.21	20.10	20.29	20.79	20.61	0-3	2
	256QAM	1	0	20.22	20.05	20.14	20.81	20.58	0-5	2
		1	49	20.26	20.02	20.15	20.72	20.52	0-5	2
		1	99	20.15	19.90	20.08	20.62	20.40	0-5	2
		50	0	19.30	19.23	19.38	19.91	19.70	0-5	3
		50	25	19.27	19.18	19.36	19.84	19.65	0-5	3
		50	49	19.25	19.15	19.34	19.80	19.61	0-5	3
		100	0	19.20	19.11	19.29	19.79	19.61	0-5	3

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	22.12	22.15	22.27	22.73	22.50	0	0
		1	12	22.10	22.30	22.43	22.59	22.70	0	0
		1	24	22.13	22.16	22.32	22.63	22.55	0	0
		12	0	22.21	22.18	22.32	22.75	22.64	0-1	0
		12	6	22.28	22.13	22.35	22.78	22.65	0-1	0
		12	11	22.22	22.16	22.32	22.79	22.57	0-1	0
		25	0	22.24	22.20	22.38	22.82	22.64	0-1	0
	16QAM	1	0	22.14	22.05	22.18	22.80	22.45	0-1	0
		1	12	22.22	22.00	22.33	22.90	22.52	0-1	0
		1	24	22.15	21.98	22.19	22.76	22.48	0-1	0
		12	0	21.22	21.19	21.33	21.72	21.60	0-2	1
		12	6	21.19	21.15	21.36	21.76	21.51	0-2	1
		12	11	21.21	21.13	21.36	21.68	21.58	0-2	1
		25	0	21.30	21.15	21.33	21.76	21.61	0-2	1
	64QAM	1	0	21.39	21.32	21.55	21.79	21.64	0-2	1
		1	12	21.44	21.46	21.50	21.82	21.64	0-2	1
		1	24	21.37	21.31	21.47	21.71	21.57	0-2	1
		12	0	20.30	20.11	20.29	20.79	20.64	0-3	2
		12	6	20.24	20.09	20.35	20.79	20.64	0-3	2
		12	11	20.24	20.12	20.31	20.77	20.58	0-3	2
		25	0	20.27	20.14	20.32	20.80	20.63	0-3	2
	256QAM	1	0	20.19	20.05	20.28	20.68	20.46	0-5	2
		1	12	20.29	20.03	20.34	20.80	20.42	0-5	2
		1	24	20.19	20.04	20.24	20.63	20.41	0-5	2
		12	0	19.21	19.23	19.41	19.78	19.67	0-5	3
		12	6	19.23	19.19	19.34	19.80	19.54	0-5	3
		12	11	19.24	19.15	19.33	19.81	19.62	0-5	3
		25	0	19.36	19.16	19.39	19.77	19.66	0-5	3

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	22.05	22.14	22.29	22.86	22.66	0	0
		1	24	21.90	22.27	22.37	22.69	22.66	0	0
		1	49	22.05	22.08	22.17	22.78	22.48	0	0
		25	0	22.08	22.17	22.32	22.91	22.73	0-1	0
		25	12	22.16	22.20	22.25	22.83	22.67	0-1	0
		25	24	22.19	22.11	22.34	22.81	22.58	0-1	0
		50	0	22.15	22.20	22.27	22.89	22.70	0-1	0
	16QAM	1	0	22.08	22.07	22.36	22.82	22.70	0-1	0
		1	24	22.10	21.92	22.50	22.94	22.77	0-1	0
		1	49	22.10	22.00	22.31	22.78	22.50	0-1	0
		25	0	21.13	21.15	21.26	21.89	21.65	0-2	1
		25	12	21.13	21.16	21.26	21.86	21.61	0-2	1
		25	24	21.15	21.14	21.33	21.83	21.62	0-2	1
		50	0	21.21	21.13	21.24	21.86	21.66	0-2	1
	64QAM	1	0	21.30	21.21	21.43	21.82	21.70	0-2	1
		1	24	21.25	21.12	21.69	21.92	21.79	0-2	1
		1	49	21.28	21.08	21.48	21.72	21.43	0-2	1
		25	0	20.18	20.12	20.28	20.83	20.67	0-3	2
		25	12	20.20	20.14	20.31	20.82	20.65	0-3	2
		25	24	20.18	20.17	20.28	20.76	20.65	0-3	2
		50	0	20.27	20.21	20.37	20.92	20.63	0-3	2
	256QAM	1	0	20.26	20.00	20.21	20.70	20.55	0-5	2
		1	24	20.23	20.11	20.26	20.70	20.65	0-5	2
		1	49	20.18	19.98	20.14	20.72	20.44	0-5	2
		25	0	19.25	19.16	19.39	19.90	19.72	0-5	3
		25	12	19.17	19.16	19.31	19.83	19.69	0-5	3
		25	24	19.25	19.12	19.37	19.89	19.68	0-5	3
		50	0	19.19	19.17	19.31	19.93	19.65	0-5	3

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	22.10	22.14	22.31	22.90	22.63	0	0
		1	36	22.16	22.30	22.44	22.56	22.64	0	0
		1	74	22.12	22.13	22.35	22.71	22.56	0	0
		36	0	22.23	22.22	22.38	22.84	22.64	0-1	0
		36	18	22.26	22.12	22.31	22.83	22.59	0-1	0
		36	39	22.23	22.13	22.33	22.78	22.62	0-1	0
		75	0	22.28	22.19	22.34	22.92	22.68	0-1	0
	16QAM	1	0	22.07	22.20	22.29	22.77	22.56	0-1	0
		1	36	22.02	22.24	22.24	22.75	22.57	0-1	0
		1	74	22.09	22.10	22.29	22.61	22.43	0-1	0
		36	0	21.26	21.18	21.36	21.76	21.63	0-2	1
		36	18	21.18	21.10	21.26	21.77	21.56	0-2	1
		36	39	21.19	21.14	21.32	21.73	21.60	0-2	1
		75	0	21.30	21.16	21.38	21.84	21.63	0-2	1
	64QAM	1	0	21.26	21.23	21.34	21.80	21.79	0-2	1
		1	36	21.29	21.22	21.37	21.73	21.82	0-2	1
		1	74	21.20	21.11	21.26	21.79	21.60	0-2	1
		36	0	20.26	20.20	20.34	20.88	20.68	0-3	2
		36	18	20.26	20.14	20.35	20.81	20.62	0-3	2
		36	39	20.20	20.09	20.28	20.75	20.62	0-3	2
		75	0	20.26	20.18	20.34	20.83	20.69	0-3	2
	256QAM	1	0	20.16	20.08	20.18	20.77	20.50	0-5	2
		1	36	20.23	20.14	20.28	20.53	20.47	0-5	2
		1	74	20.12	20.04	20.07	20.61	20.33	0-5	2
		36	0	19.25	19.24	19.37	19.83	19.65	0-5	3
		36	18	19.26	19.18	19.36	19.86	19.66	0-5	3
		36	39	19.25	19.16	19.28	19.82	19.59	0-5	3
		75	0	19.20	19.17	19.33	19.87	19.60	0-5	3

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	22.20	22.23	22.41	22.94	22.79	0	0
		1	49	21.90	22.25	22.42	22.57	22.65	0	0
		1	99	22.12	22.04	22.23	22.73	22.42	0	0
		50	0	22.28	22.22	22.37	22.92	22.76	0-1	0
		50	25	22.21	22.18	22.39	22.90	22.71	0-1	0
		50	49	22.20	22.21	22.39	22.86	22.63	0-1	0
		100	0	22.24	22.22	22.41	22.90	22.66	0-1	0
	16QAM	1	0	22.16	22.11	22.33	22.81	22.76	0-1	0
		1	49	22.27	22.23	22.46	22.84	22.67	0-1	0
		1	99	22.16	22.04	22.24	22.64	22.44	0-1	0
		50	0	21.33	21.25	21.41	21.89	21.67	0-2	1
		50	25	21.28	21.20	21.36	21.86	21.62	0-2	1
		50	49	21.23	21.19	21.31	21.86	21.63	0-2	1
		100	0	21.30	21.28	21.45	21.88	21.72	0-2	1
	64QAM	1	0	21.27	21.31	21.54	21.94	21.87	0-2	1
		1	49	21.22	21.34	21.43	21.99	21.79	0-2	1
		1	99	21.37	21.18	21.45	21.77	21.51	0-2	1
		50	0	20.28	20.29	20.46	20.97	20.81	0-3	2
		50	25	20.31	20.23	20.43	20.88	20.69	0-3	2
		50	49	20.24	20.19	20.39	20.88	20.70	0-3	2
		100	0	20.21	20.18	20.39	20.79	20.69	0-3	2
	256QAM	1	0	20.23	20.11	20.18	20.87	20.64	0-5	2
		1	49	20.28	20.09	20.17	20.78	20.62	0-5	2
		1	99	20.24	19.93	20.11	20.68	20.44	0-5	2
		50	0	19.34	19.31	19.39	19.94	19.73	0-5	3
		50	25	19.32	19.23	19.39	19.93	19.67	0-5	3
		50	49	19.27	19.23	19.40	19.88	19.68	0-5	3
		100	0	19.25	19.11	19.36	19.84	19.65	0-5	3

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	19.55	19.52	19.94	0	0
		1	3	19.54	19.40	19.74	0	0
		1	5	19.59	19.48	19.85	0	0
		3	0	19.59	19.49	19.95	0	0
		3	1	19.64	19.55	19.95	0	0
		3	3	19.64	19.46	19.83	0	0
		6	0	19.60	19.49	19.87	0-1	0
	16QAM	1	0	19.92	19.67	20.11	0-1	0
		1	3	19.63	19.58	19.93	0-1	0
		1	5	19.79	19.72	20.02	0-1	0
		3	0	19.82	19.74	20.02	0-1	0
		3	1	19.63	19.67	19.89	0-1	0
		3	3	19.64	19.60	19.95	0-1	0
		6	0	19.65	19.55	19.95	0-2	0
	64QAM	1	0	19.84	19.73	20.11	0-2	0
		1	3	19.73	19.59	20.00	0-2	0
		1	5	19.77	19.74	19.94	0-2	0
		3	0	19.71	19.68	20.04	0-2	0
		3	1	19.68	19.55	19.97	0-2	0
		3	3	19.70	19.54	19.89	0-2	0
		6	0	19.63	19.50	19.85	0-3	0
	256QAM	1	0	19.54	19.53	19.80	0-5	0
		1	3	19.41	19.49	19.74	0-5	0
		1	5	19.46	19.61	19.84	0-5	0
		3	0	19.50	19.54	19.83	0-5	0
		3	1	19.52	19.52	19.87	0-5	0
		3	3	19.44	19.55	19.88	0-5	0
		6	0	19.47	19.52	19.80	0-5	0

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	19.57	19.74	20.04	0	0
		1	7	19.75	19.80	20.12	0	0
		1	14	19.54	19.49	19.86	0	0
		8	0	19.71	19.60	19.96	0-1	0
		8	3	19.68	19.55	19.94	0-1	0
		8	7	19.69	19.60	19.95	0-1	0
		15	0	19.65	19.59	19.96	0-1	0
	16QAM	1	0	19.84	19.72	20.11	0-1	0
		1	7	19.60	19.83	20.26	0-1	0
		1	14	19.88	19.61	19.99	0-1	0
		8	0	19.72	19.68	19.98	0-2	0
		8	3	19.72	19.59	19.98	0-2	0
		8	7	19.73	19.57	20.00	0-2	0
		15	0	19.69	19.60	19.98	0-2	0
	64QAM	1	0	19.85	19.68	19.98	0-2	0
		1	7	19.87	19.89	20.17	0-2	0
		1	14	19.81	19.74	20.03	0-2	0
		8	0	19.73	19.58	19.94	0-3	0
		8	3	19.68	19.60	19.95	0-3	0
		8	7	19.62	19.57	19.92	0-3	0
		15	0	19.69	19.58	19.89	0-3	0
	256QAM	1	0	19.62	19.67	19.82	0-5	0
		1	7	19.70	19.66	19.83	0-5	0
		1	14	19.58	19.58	19.83	0-5	0
		8	0	19.57	19.57	19.82	0-5	0
		8	3	19.52	19.54	19.88	0-5	0
		8	7	19.55	19.61	19.84	0-5	0
		15	0	19.53	19.56	19.80	0-5	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	19.63	19.72	19.85	0	0
		1	12	19.76	19.73	20.11	0	0
		1	24	19.62	19.56	19.91	0	0
		12	0	19.69	19.60	19.92	0-1	0
		12	6	19.74	19.62	19.93	0-1	0
		12	11	19.68	19.58	19.96	0-1	0
		25	0	19.74	19.59	19.98	0-1	0
	16QAM	1	0	19.89	19.78	20.12	0-1	0
		1	12	19.91	19.74	20.10	0-1	0
		1	24	19.73	19.64	20.05	0-1	0
		12	0	19.76	19.62	19.94	0-2	0
		12	6	19.73	19.65	19.91	0-2	0
		12	11	19.74	19.61	19.96	0-2	0
		25	0	19.71	19.61	19.95	0-2	0
	64QAM	1	0	19.96	19.82	20.14	0-2	0
		1	12	20.01	19.87	20.13	0-2	0
		1	24	19.81	19.76	20.12	0-2	0
		12	0	19.71	19.61	19.96	0-3	0
		12	6	19.76	19.57	19.94	0-3	0
		12	11	19.67	19.55	19.97	0-3	0
		25	0	19.68	19.60	19.90	0-3	0
	256QAM	1	0	19.68	19.53	19.89	0-5	0
		1	12	19.74	19.67	19.87	0-5	0
		1	24	19.59	19.63	19.80	0-5	0
		12	0	19.52	19.55	19.88	0-5	0
		12	6	19.53	19.56	19.81	0-5	0
		12	11	19.50	19.49	19.85	0-5	0
		25	0	19.56	19.54	19.87	0-5	0

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	19.68	19.81	20.10	0	0
		1	24	19.55	19.76	20.17	0	0
		1	49	19.67	19.51	19.97	0	0
		25	0	19.74	19.59	20.01	0-1	0
		25	12	19.72	19.60	20.04	0-1	0
		25	24	19.73	19.58	20.02	0-1	0
		50	0	19.72	19.60	20.04	0-1	0
	16QAM	1	0	19.92	19.82	20.29	0-1	0
		1	24	19.76	19.77	20.15	0-1	0
		1	49	19.86	19.75	20.07	0-1	0
		25	0	19.72	19.62	20.02	0-2	0
		25	12	19.77	19.56	19.90	0-2	0
		25	24	19.72	19.60	19.92	0-2	0
		50	0	19.73	19.60	19.93	0-2	0
	64QAM	1	0	19.96	19.83	20.03	0-2	0
		1	24	19.97	19.87	20.28	0-2	0
		1	49	19.96	19.83	20.01	0-2	0
		25	0	19.73	19.61	19.92	0-3	0
		25	12	19.71	19.58	19.88	0-3	0
		25	24	19.72	19.53	19.87	0-3	0
		50	0	19.75	19.64	19.95	0-3	0
	256QAM	1	0	19.58	19.69	19.80	0-5	0
		1	24	19.74	19.86	19.82	0-5	0
		1	49	19.55	19.72	19.87	0-5	0
		25	0	19.55	19.57	19.85	0-5	0
		25	12	19.57	19.57	19.87	0-5	0
		25	24	19.55	19.55	19.84	0-5	0
		50	0	19.58	19.53	19.88	0-5	0

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	19.71	19.72	19.69	0	0
		1	36	19.90	19.81	19.87	0	0
		1	74	19.66	19.54	19.64	0	0
		36	0	19.78	19.62	19.67	0-1	0
		36	18	19.74	19.62	19.69	0-1	0
		36	39	19.72	19.56	19.65	0-1	0
		75	0	19.73	19.60	19.71	0-1	0
	16QAM	1	0	19.95	19.86	20.00	0-1	0
		1	36	19.81	19.57	19.99	0-1	0
		1	74	19.79	19.73	19.98	0-1	0
		36	0	19.76	19.61	19.69	0-2	0
		36	18	19.74	19.59	19.69	0-2	0
		36	39	19.71	19.55	19.68	0-2	0
		75	0	19.75	19.57	19.72	0-2	0
	64QAM	1	0	19.94	19.62	20.00	0-2	0
		1	36	20.05	19.65	20.14	0-2	0
		1	74	19.95	19.65	19.94	0-2	0
		36	0	19.78	19.62	19.72	0-3	0
		36	18	19.77	19.62	19.72	0-3	0
		36	39	19.76	19.60	19.73	0-3	0
		75	0	19.75	19.58	19.70	0-3	0
	256QAM	1	0	19.71	19.75	19.78	0-5	0
		1	36	19.84	19.88	19.84	0-5	0
		1	74	19.70	19.63	19.77	0-5	0
		36	0	19.64	19.59	19.61	0-5	0
		36	18	19.62	19.57	19.64	0-5	0
		36	39	19.58	19.52	19.63	0-5	0
		75	0	19.57	19.54	19.65	0-5	0

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	19.44	19.76	19.61	0	0
		1	49	19.85	19.84	19.64	0	0
		1	99	19.60	19.40	19.44	0	0
		50	0	19.76	19.62	19.55	0-1	0
		50	25	19.79	19.56	19.55	0-1	0
		50	49	19.80	19.53	19.51	0-1	0
		100	0	19.74	19.58	19.55	0-1	0
	16QAM	1	0	19.90	19.80	19.80	0-1	0
		1	49	19.87	19.76	19.75	0-1	0
		1	99	19.85	19.65	19.56	0-1	0
		50	0	19.80	19.63	19.58	0-2	0
		50	25	19.74	19.60	19.54	0-2	0
		50	49	19.75	19.53	19.51	0-2	0
		100	0	19.76	19.61	19.52	0-2	0
	64QAM	1	0	19.94	19.74	19.89	0-2	0
		1	49	19.88	19.94	19.57	0-2	0
		1	99	19.86	19.63	19.62	0-2	0
		50	0	19.79	19.65	19.56	0-3	0
		50	25	19.76	19.63	19.54	0-3	0
		50	49	19.81	19.58	19.52	0-3	0
		100	0	19.73	19.56	19.48	0-3	0
	256QAM	1	0	19.70	19.79	19.47	0-5	0
		1	49	19.60	19.81	19.37	0-5	0
		1	99	19.64	19.62	19.47	0-5	0
		50	0	19.60	19.58	19.36	0-5	0
		50	25	19.57	19.53	19.37	0-5	0
		50	49	19.55	19.50	19.31	0-5	0
		100	0	19.58	19.53	19.31	0-5	0

[LTE Band 2 ULCA Conducted Power]

LTE Band 2(SCC) ULCA 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	17.86	17.97	17.99	0	0
		1	99	17.76	17.91	17.93	0	0
		18	0	17.78	17.93	17.95	0	0
		18	82	17.44	17.88	17.74	0	0

[LTE Band 4 ULCA Conducted Power]

LTE Band 4(SCC) ULCA 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	17.97	0	0
		1	99	17.86	0	0
		18	0	17.98	0	0
		18	82	17.85	0	0

[LTE Band 4A-5A ULCA Conducted Power]

LTE Band 4A-5A ULCA 30 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	PCC	SCC	MPR Allowed Per 3GPP [dB]	MPR [dB]
				Max. Average Power [dBm]	Max. Average Power [dBm]		
				20175 1732.5 MHz	20525 836.5 MHz		
30 MHz	QPSK	1	0	18.94	22.02	0	0
		1	99	18.87	21.88	0	0
		18	0	19.02	22.13	0	0
		18	82	19.01	22.07	0	0

[LTE Band 4A-12A ULCA Conducted Power]

LTE Band 4A-12A ULCA 30 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	PCC	SCC	MPR Allowed Per 3GPP [dB]	MPR [dB]
				Max. Average Power [dBm]	Max. Average Power [dBm]		
				20175 1732.5 MHz	23095 707.5 MHz		
30 MHz	QPSK	1	0	18.99	22.22	0	0
		1	99	18.88	21.93	0	0
		18	0	19.07	22.19	0	0
		18	82	19.10	22.34	0	0

[LTE Band 66A-5A ULCA Conducted Power]

LTE Band 66A-5A ULCA 30 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB offset	PCC			SCC	MPR Allowed Per 3GPP [dB]	MPR [dB]
				Max. Average Power [dBm]			Max. Average Power [dBm]		
				132072 1720 MHz	132322 1745 MHz	1323572 1770 MHz	20525 836.5 MHz		
30 MHz	QPSK	1	0	18.71	18.94	18.58	22.11	0	0
		1	99	18.97	18.61	18.55	21.87	0	0
		18	0	19.00	18.94	18.54	22.21	0	0
		18	82	19.08	18.72	18.57	22.14	0	0

[LTE Band 66A-12A ULCA Conducted Power]

LTE Band 66A-12A ULCA 30 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB offset	PCC			SCC	MPR Allowed Per 3GPP [dB]	MPR [dB]
				Max. Average Power [dBm]			Max. Average Power [dBm]		
				132072 1720 MHz	132322 1745 MHz	1323572 1770 MHz	23085 707.5 MHz		
30 MHz	QPSK	1	0	18.71	18.94	18.58	22.11	0	0
		1	99	18.97	18.61	18.55	21.87	0	0
		18	0	19.00	18.94	18.54	22.21	0	0
		18	82	19.08	18.72	18.57	22.14	0	0

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	18.37	18.36	18.77	0	0
		1	3	18.31	18.28	18.64	0	0
		1	5	18.41	18.38	18.71	0	0
		3	0	18.46	18.36	18.75	0	0
		3	1	18.54	18.41	18.75	0	0
		3	3	18.41	18.32	18.69	0	0
		6	0	18.46	18.40	18.76	0-1	0
	16QAM	1	0	18.70	18.60	18.98	0-1	0
		1	3	18.54	18.43	18.96	0-1	0
		1	5	18.60	18.59	18.98	0-1	0
		3	0	18.57	18.52	18.89	0-1	0
		3	1	18.48	18.38	18.85	0-1	0
		3	3	18.55	18.50	18.90	0-1	0
		6	0	18.51	18.40	18.76	0-2	0
	64QAM	1	0	18.64	18.62	18.93	0-2	0
		1	3	18.56	18.51	18.77	0-2	0
		1	5	18.54	18.53	18.98	0-2	0
		3	0	18.56	18.54	18.96	0-2	0
		3	1	18.45	18.47	18.79	0-2	0
		3	3	18.46	18.41	18.73	0-2	0
		6	0	18.51	18.36	18.78	0-3	0
	256QAM	1	0	18.61	18.54	18.81	0-5	0
		1	3	18.49	18.34	18.80	0-5	0
		1	5	18.53	18.54	18.76	0-5	0
		3	0	18.59	18.55	18.91	0-5	0
		3	1	18.56	18.55	18.88	0-5	0
		3	3	18.47	18.42	18.80	0-5	0
		6	0	18.50	18.40	18.75	0-5	0

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	18.36	18.57	18.92	0	0
		1	7	18.68	18.72	19.02	0	0
		1	14	18.42	18.40	18.75	0	0
		8	0	18.52	18.53	18.85	0-1	0
		8	3	18.46	18.45	18.85	0-1	0
		8	7	18.56	18.50	18.85	0-1	0
		15	0	18.56	18.54	18.84	0-1	0
	16QAM	1	0	18.74	18.52	19.13	0-1	0
		1	7	18.56	18.74	19.06	0-1	0
		1	14	18.77	18.67	19.16	0-1	0
		8	0	18.59	18.56	18.91	0-2	0
		8	3	18.62	18.57	18.87	0-2	0
		8	7	18.64	18.60	18.92	0-2	0
		15	0	18.59	18.54	18.90	0-2	0
	64QAM	1	0	18.68	18.66	18.99	0-2	0
		1	7	18.92	18.84	19.08	0-2	0
		1	14	18.64	18.64	19.08	0-2	0
		8	0	18.57	18.53	18.91	0-3	0
		8	3	18.58	18.54	18.92	0-3	0
		8	7	18.55	18.58	18.92	0-3	0
		15	0	18.65	18.53	18.89	0-3	0
	256QAM	1	0	18.60	18.57	18.91	0-5	0
		1	7	18.67	18.81	18.93	0-5	0
		1	14	18.69	18.51	18.94	0-5	0
		8	0	18.60	18.55	18.88	0-5	0
		8	3	18.57	18.51	18.88	0-5	0
		8	7	18.60	18.56	18.88	0-5	0
		15	0	18.61	18.52	18.89	0-5	0

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	18.53	18.74	18.92	0	0
		1	12	18.69	18.75	18.52	0	0
		1	24	18.55	18.43	18.84	0	0
		12	0	18.58	18.50	18.88	0-1	0
		12	6	18.61	18.51	18.91	0-1	0
		12	11	18.57	18.48	18.93	0-1	0
		25	0	18.59	18.50	18.90	0-1	0
	16QAM	1	0	18.90	18.70	19.13	0-1	0
		1	12	18.69	18.87	19.12	0-1	0
		1	24	18.85	18.78	19.03	0-1	0
		12	0	18.66	18.59	18.99	0-2	0
		12	6	18.64	18.53	18.94	0-2	0
		12	11	18.61	18.50	18.94	0-2	0
		25	0	18.58	18.56	18.90	0-2	0
	64QAM	1	0	18.74	18.76	19.14	0-2	0
		1	12	18.94	18.90	19.15	0-2	0
		1	24	18.78	18.66	19.05	0-2	0
		12	0	18.67	18.56	18.95	0-3	0
		12	6	18.64	18.59	18.91	0-3	0
		12	11	18.63	18.53	18.96	0-3	0
		25	0	18.61	18.49	18.90	0-3	0
	256QAM	1	0	18.65	18.75	18.98	0-5	0
		1	12	18.82	18.81	18.98	0-5	0
		1	24	18.69	18.64	18.96	0-5	0
		12	0	18.62	18.55	18.94	0-5	0
		12	6	18.60	18.56	18.90	0-5	0
		12	11	18.55	18.49	18.95	0-5	0
		25	0	18.62	18.52	18.91	0-5	0

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	18.53	18.60	18.89	0	0
		1	24	18.34	18.65	19.01	0	0
		1	49	18.51	18.46	18.81	0	0
		25	0	18.56	18.51	18.84	0-1	0
		25	12	18.55	18.53	18.88	0-1	0
		25	24	18.54	18.52	18.82	0-1	0
		50	0	18.58	18.52	18.84	0-1	0
	16QAM	1	0	18.72	18.78	19.09	0-1	0
		1	24	18.82	18.93	19.15	0-1	0
		1	49	18.74	18.70	19.09	0-1	0
		25	0	18.56	18.59	18.86	0-2	0
		25	12	18.58	18.57	18.89	0-2	0
		25	24	18.59	18.53	18.89	0-2	0
		50	0	18.58	18.52	18.89	0-2	0
	64QAM	1	0	18.76	18.80	18.99	0-2	0
		1	24	18.83	18.50	19.10	0-2	0
		1	49	18.74	18.68	19.07	0-2	0
		25	0	18.55	18.54	18.88	0-3	0
		25	12	18.59	18.53	18.85	0-3	0
		25	24	18.54	18.51	18.87	0-3	0
		50	0	18.62	18.53	18.90	0-3	0
	256QAM	1	0	18.73	18.59	18.96	0-5	0
		1	24	18.93	18.80	18.96	0-5	0
		1	49	18.67	18.55	18.90	0-5	0
		25	0	18.56	18.51	18.89	0-5	0
		25	12	18.54	18.53	18.87	0-5	0
		25	24	18.59	18.55	18.92	0-5	0
		50	0	18.57	18.50	18.91	0-5	0

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	18.45	18.58	18.86	0	0
		1	36	18.63	18.73	18.99	0	0
		1	74	18.46	18.39	18.78	0	0
		36	0	18.48	18.59	18.86	0-1	0
		36	18	18.46	18.53	18.82	0-1	0
		36	39	18.52	18.51	18.83	0-1	0
		75	0	18.49	18.49	18.84	0-1	0
	16QAM	1	0	18.78	18.81	19.18	0-1	0
		1	36	18.96	18.94	19.14	0-1	0
		1	74	18.83	18.76	19.07	0-1	0
		36	0	18.50	18.61	18.84	0-2	0
		36	18	18.59	18.53	18.81	0-2	0
		36	39	18.56	18.53	18.84	0-2	0
		75	0	18.51	18.51	18.84	0-2	0
	64QAM	1	0	18.83	18.88	18.98	0-2	0
		1	36	18.92	18.78	19.03	0-2	0
		1	74	18.67	18.65	18.98	0-2	0
		36	0	18.59	18.62	18.88	0-3	0
		36	18	18.57	18.56	18.86	0-3	0
		36	39	18.56	18.50	18.88	0-3	0
		75	0	18.58	18.52	18.82	0-3	0
	256QAM	1	0	18.69	18.74	18.93	0-5	0
		1	36	18.93	18.69	18.90	0-5	0
		1	74	18.57	18.58	18.91	0-5	0
		36	0	18.55	18.63	18.85	0-5	0
		36	18	18.58	18.52	18.83	0-5	0
		36	39	18.58	18.56	18.89	0-5	0
		75	0	18.59	18.56	18.88	0-5	0

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	18.48	18.63	18.88	0	0
		1	49	18.32	18.72	18.95	0	0
		1	99	18.42	18.35	18.71	0	0
		50	0	18.56	18.58	18.81	0-1	0
		50	25	18.56	18.56	18.82	0-1	0
		50	49	18.54	18.47	18.79	0-1	0
		100	0	18.50	18.52	18.82	0-1	0
	16QAM	1	0	18.74	18.80	18.94	0-1	0
		1	49	18.93	19.00	19.25	0-1	0
		1	99	18.75	18.59	19.07	0-1	0
		50	0	18.62	18.59	18.79	0-2	0
		50	25	18.59	18.55	18.80	0-2	0
		50	49	18.59	18.50	18.82	0-2	0
		100	0	18.57	18.49	18.86	0-2	0
	64QAM	1	0	18.74	18.93	19.10	0-2	0
		1	49	18.85	18.77	19.08	0-2	0
		1	99	18.64	18.59	19.06	0-2	0
		50	0	18.58	18.63	18.87	0-3	0
		50	25	18.60	18.55	18.88	0-3	0
		50	49	18.59	18.57	18.84	0-3	0
		100	0	18.55	18.52	18.84	0-3	0
	256QAM	1	0	18.70	18.76	18.96	0-5	0
		1	49	18.83	18.82	18.97	0-5	0
		1	99	18.66	18.60	18.85	0-5	0
		50	0	18.61	18.59	18.86	0-5	0
		50	25	18.58	18.53	18.89	0-5	0
		50	49	18.54	18.49	18.88	0-5	0
		100	0	18.57	18.57	18.87	0-5	0

[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	18.65	18.79	18.91	0	0
		1	3	18.63	18.60	18.85	0	0
		1	5	18.65	18.75	18.99	0	0
		3	0	18.67	18.79	18.94	0-1	0
		3	1	18.71	18.80	18.99	0-1	0
		3	3	18.68	18.75	18.86	0-1	0
		6	0	18.73	18.74	18.92	0-1	0
	16QAM	1	0	18.86	18.96	19.11	0-1	0
		1	3	18.90	18.85	19.01	0-1	0
		1	5	18.96	18.91	19.04	0-1	0
		3	0	18.79	18.85	19.10	0-2	0
		3	1	18.80	18.80	19.03	0-2	0
		3	3	18.76	18.76	19.01	0-2	0
		6	0	18.76	18.86	19.01	0-2	0
	64QAM	1	0	18.90	18.95	19.17	0-2	0
		1	3	18.76	18.86	18.99	0-2	0
		1	5	18.82	18.78	19.06	0-2	0
		3	0	18.83	18.83	19.02	0-3	0
		3	1	18.79	18.74	18.96	0-3	0
		3	3	18.73	18.76	18.93	0-3	0
		6	0	18.73	18.77	18.97	0-3	0
	256QAM	1	0	18.61	18.89	18.92	0-5	0
		1	3	18.56	18.79	18.90	0-5	0
		1	5	18.63	18.90	18.95	0-5	0
		3	0	18.54	18.76	18.95	0-5	0
		3	1	18.57	18.78	18.91	0-5	0
		3	3	18.55	18.76	18.94	0-5	0
		6	0	18.52	18.75	18.83	0-5	0

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	18.65	18.83	19.18	0	0
		1	7	18.88	19.01	19.17	0	0
		1	14	18.66	18.73	18.86	0	0
		8	0	18.78	18.81	18.99	0-1	0
		8	3	18.72	18.81	18.95	0-1	0
		8	7	18.82	18.82	19.02	0-1	0
		15	0	18.82	18.80	19.04	0-1	0
	16QAM	1	0	18.89	18.98	19.13	0-1	0
		1	7	18.81	18.92	19.22	0-1	0
		1	14	18.91	18.85	19.03	0-1	0
		8	0	18.84	18.81	19.02	0-2	0
		8	3	18.80	18.82	19.05	0-2	0
		8	7	18.80	18.90	19.03	0-2	0
		15	0	18.76	18.77	19.01	0-2	0
	64QAM	1	0	18.96	18.81	19.16	0-2	0
		1	7	19.12	18.85	19.30	0-2	0
		1	14	18.95	18.85	19.20	0-2	0
		8	0	18.75	18.75	18.98	0-3	0
		8	3	18.73	18.77	18.98	0-3	0
		8	7	18.73	18.77	19.03	0-3	0
		15	0	18.76	18.81	18.94	0-3	0
	256QAM	1	0	18.58	18.82	18.89	0-5	0
		1	7	18.87	18.97	18.97	0-5	0
		1	14	18.55	18.87	18.95	0-5	0
		8	0	18.64	18.81	18.99	0-5	0
		8	3	18.57	18.73	18.96	0-5	0
		8	7	18.67	18.79	18.95	0-5	0
		15	0	18.61	18.79	18.92	0-5	0

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	18.69	18.77	19.11	0	0
		1	12	18.85	18.96	19.18	0	0
		1	24	18.69	18.80	18.97	0	0
		12	0	18.77	18.80	18.99	0-1	0
		12	6	18.77	18.79	18.99	0-1	0
		12	11	18.78	18.86	18.98	0-1	0
		25	0	18.78	18.87	19.03	0-1	0
	16QAM	1	0	19.01	19.04	19.18	0-1	0
		1	12	18.83	19.16	19.22	0-1	0
		1	24	19.00	18.95	19.09	0-1	0
		12	0	18.85	18.82	18.94	0-2	0
		12	6	18.80	18.88	19.04	0-2	0
		12	11	18.82	18.78	18.99	0-2	0
		25	0	18.82	18.87	19.01	0-2	0
	64QAM	1	0	18.93	18.99	19.13	0-2	0
		1	12	19.10	19.12	19.09	0-2	0
		1	24	18.97	18.92	19.06	0-2	0
		12	0	18.82	18.86	19.03	0-3	0
		12	6	18.79	18.82	19.03	0-3	0
		12	11	18.74	18.82	18.98	0-3	0
		25	0	18.75	18.86	18.96	0-3	0
	256QAM	1	0	18.68	18.71	18.95	0-5	0
		1	12	18.85	18.93	18.94	0-5	0
		1	24	18.64	18.88	18.88	0-5	0
		12	0	18.60	18.79	18.94	0-5	0
		12	6	18.62	18.73	18.89	0-5	0
		12	11	18.58	18.75	18.90	0-5	0
		25	0	18.64	18.79	18.94	0-5	0

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	18.77	18.88	19.27	0	0
		1	24	18.61	18.95	19.17	0	0
		1	49	18.79	18.76	18.95	0	0
		25	0	18.85	18.84	19.07	0-1	0
		25	12	18.82	18.85	19.05	0-1	0
		25	24	18.81	18.85	19.02	0-1	0
		50	0	18.84	18.92	19.01	0-1	0
	16QAM	1	0	18.91	19.02	19.30	0-1	0
		1	24	19.13	19.03	19.26	0-1	0
		1	49	19.02	19.03	19.26	0-1	0
		25	0	18.86	18.81	19.00	0-2	0
		25	12	18.87	18.87	19.02	0-2	0
		25	24	18.80	18.84	19.06	0-2	0
		50	0	18.85	18.87	19.04	0-2	0
	64QAM	1	0	18.93	18.89	19.12	0-2	0
		1	24	19.16	18.90	19.14	0-2	0
		1	49	18.92	18.85	19.28	0-2	0
		25	0	18.85	18.84	19.07	0-3	0
		25	12	18.78	18.78	19.02	0-3	0
		25	24	18.75	18.82	18.95	0-3	0
		50	0	18.81	18.86	19.02	0-3	0
	256QAM	1	0	18.78	18.98	18.94	0-5	0
		1	24	18.89	18.98	18.99	0-5	0
		1	49	18.80	18.86	18.93	0-5	0
		25	0	18.70	18.76	18.98	0-5	0
		25	12	18.62	18.79	18.92	0-5	0
		25	24	18.64	18.78	18.99	0-5	0
		50	0	18.64	18.79	18.99	0-5	0

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	18.79	18.76	19.30	0	0
		1	36	18.96	19.01	19.26	0	0
		1	74	18.81	18.78	19.05	0	0
		36	0	18.86	18.83	19.09	0-1	0
		36	18	18.85	18.89	19.13	0-1	0
		36	39	18.86	18.81	19.09	0-1	0
		75	0	18.87	18.86	19.12	0-1	0
	16QAM	1	0	19.13	19.17	19.36	0-1	0
		1	36	18.84	19.02	19.03	0-1	0
		1	74	18.98	18.92	19.14	0-1	0
		36	0	18.85	18.84	19.13	0-2	0
		36	18	18.85	18.84	19.11	0-2	0
		36	39	18.82	18.81	19.10	0-2	0
		75	0	18.85	18.81	19.12	0-2	0
	64QAM	1	0	19.05	19.09	19.43	0-2	0
		1	36	18.99	19.11	19.39	0-2	0
		1	74	19.00	19.12	19.27	0-2	0
		36	0	18.82	18.88	19.17	0-3	0
		36	18	18.88	18.84	19.14	0-3	0
		36	39	18.82	18.84	19.15	0-3	0
		75	0	18.83	18.80	19.12	0-3	0
	256QAM	1	0	18.78	18.97	18.91	0-5	0
		1	36	18.90	18.90	18.98	0-5	0
		1	74	18.83	18.96	18.99	0-5	0
		36	0	18.70	18.82	18.92	0-5	0
		36	18	18.65	18.80	18.91	0-5	0
		36	39	18.69	18.79	18.94	0-5	0
		75	0	18.65	18.78	18.94	0-5	0

LTE Band 4 _ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
					20175 Ch. 1732.5 MHz			
20 MHz	QPSK	1	0		18.81		0	0
		1	49		18.96		0	0
		1	99		18.67		0	0
		50	0		18.83		0-1	0
		50	25		18.89		0-1	0
		50	49		18.83		0-1	0
		100	0		18.80		0-1	0
	16QAM	1	0		18.93		0-1	0
		1	49		19.10		0-1	0
		1	99		18.90		0-1	0
		50	0		18.89		0-2	0
		50	25		18.89		0-2	0
		50	49		18.80		0-2	0
		100	0		18.82		0-2	0
	64QAM	1	0		19.04		0-2	0
		1	49		19.03		0-2	0
		1	99		18.91		0-2	0
		50	0		18.87		0-3	0
		50	25		18.90		0-3	0
		50	49		18.85		0-3	0
		100	0		18.77		0-3	0
	256QAM	1	0		18.83		0-5	0
		1	49		18.90		0-5	0
		1	99		18.88		0-5	0
		50	0		18.76		0-5	0
		50	25		18.79		0-5	0
		50	49		18.78		0-5	0
		100	0		18.79		0-5	0

[LTE Band 25 Conducted Power]

LTE Band 25 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.27	18.41	18.62	0	0
		1	3	18.28	18.26	18.50	0	0
		1	5	18.33	18.32	18.60	0	0
		3	0	18.44	18.40	18.69	0	0
		3	1	18.40	18.43	18.68	0	0
		3	3	18.33	18.29	18.48	0	0
		6	0	18.41	18.32	18.59	0-1	0
	16QAM	1	0	18.66	18.55	18.83	0-1	0
		1	3	18.40	18.45	18.76	0-1	0
		1	5	18.42	18.49	18.78	0-1	0
		3	0	18.63	18.54	18.72	0-1	0
		3	1	18.54	18.48	18.74	0-1	0
		3	3	18.42	18.37	18.73	0-1	0
		6	0	18.41	18.45	18.62	0-2	0
	64QAM	1	0	18.58	18.54	18.90	0-2	0
		1	3	18.54	18.38	18.69	0-2	0
		1	5	18.52	18.51	18.73	0-2	0
		3	0	18.59	18.50	18.72	0-2	0
		3	1	18.53	18.44	18.66	0-2	0
		3	3	18.43	18.33	18.61	0-2	0
		6	0	18.37	18.38	18.60	0-3	0
	256QAM	1	0	18.57	18.46	18.75	0-5	0
		1	3	18.45	18.40	18.58	0-5	0
		1	5	18.46	18.35	18.73	0-5	0
		3	0	18.47	18.50	18.62	0-5	0
		3	1	18.43	18.44	18.80	0-5	0
		3	3	18.44	18.43	18.67	0-5	0
		6	0	18.39	18.34	18.62	0-5	0

LTE Band 25_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.35	18.44	18.74	0	0
		1	7	18.35	18.56	18.77	0	0
		1	14	18.32	18.36	18.57	0	0
		8	0	18.43	18.41	18.69	0-1	0
		8	3	18.39	18.34	18.62	0-1	0
		8	7	18.45	18.45	18.65	0-1	0
		15	0	18.40	18.39	18.68	0-1	0
	16QAM	1	0	18.58	18.44	18.77	0-1	0
		1	7	18.70	18.83	18.95	0-1	0
		1	14	18.68	18.56	18.80	0-1	0
		8	0	18.52	18.51	18.78	0-2	0
		8	3	18.44	18.46	18.75	0-2	0
		8	7	18.51	18.46	18.78	0-2	0
		15	0	18.52	18.41	18.69	0-2	0
	64QAM	1	0	18.46	18.59	18.87	0-2	0
		1	7	18.71	18.72	18.91	0-2	0
		1	14	18.58	18.57	18.82	0-2	0
		8	0	18.44	18.43	18.71	0-3	0
		8	3	18.49	18.41	18.65	0-3	0
		8	7	18.49	18.41	18.74	0-3	0
		15	0	18.48	18.45	18.75	0-3	0
	256QAM	1	0	18.60	18.40	18.68	0-5	0
		1	7	18.61	18.41	18.71	0-5	0
		1	14	18.50	18.34	18.73	0-5	0
		8	0	18.47	18.43	18.74	0-5	0
		8	3	18.43	18.40	18.69	0-5	0
		8	7	18.46	18.41	18.70	0-5	0
		15	0	18.49	18.45	18.66	0-5	0

LTE Band 25_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.40	18.43	18.63	0	0
		1	12	18.47	18.59	18.87	0	0
		1	24	18.38	18.41	18.61	0	0
		12	0	18.50	18.41	18.69	0-1	0
		12	6	18.47	18.43	18.69	0-1	0
		12	11	18.44	18.43	18.66	0-1	0
		25	0	18.41	18.43	18.69	0-1	0
	16QAM	1	0	18.62	18.69	18.90	0-1	0
		1	12	18.90	18.70	18.87	0-1	0
		1	24	18.68	18.61	18.90	0-1	0
		12	0	18.50	18.48	18.78	0-2	0
		12	6	18.44	18.41	18.78	0-2	0
		12	11	18.49	18.46	18.72	0-2	0
		25	0	18.46	18.41	18.76	0-2	0
	64QAM	1	0	18.69	18.66	18.93	0-2	0
		1	12	18.76	18.69	19.08	0-2	0
		1	24	18.64	18.54	18.81	0-2	0
		12	0	18.49	18.46	18.74	0-3	0
		12	6	18.50	18.47	18.78	0-3	0
		12	11	18.55	18.48	18.76	0-3	0
		25	0	18.45	18.43	18.66	0-3	0
	256QAM	1	0	18.45	18.61	18.77	0-5	0
		1	12	18.71	18.48	18.79	0-5	0
		1	24	18.57	18.51	18.79	0-5	0
		12	0	18.50	18.46	18.72	0-5	0
		12	6	18.47	18.47	18.65	0-5	0
		12	11	18.47	18.39	18.70	0-5	0
		25	0	18.42	18.42	18.66	0-5	0

LTE Band 25 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.41	18.60	18.81	0	0
		1	24	18.15	18.59	18.86	0	0
		1	49	18.36	18.31	18.60	0	0
		25	0	18.36	18.42	18.73	0-1	0
		25	12	18.34	18.37	18.69	0-1	0
		25	24	18.36	18.43	18.68	0-1	0
		50	0	18.36	18.38	18.69	0-1	0
	16QAM	1	0	18.67	18.72	18.88	0-1	0
		1	24	18.62	18.70	18.97	0-1	0
		1	49	18.64	18.66	18.74	0-1	0
		25	0	18.41	18.47	18.78	0-2	0
		25	12	18.46	18.44	18.78	0-2	0
		25	24	18.45	18.47	18.76	0-2	0
		50	0	18.40	18.42	18.77	0-2	0
	64QAM	1	0	18.48	18.68	18.94	0-2	0
		1	24	18.69	18.73	19.02	0-2	0
		1	49	18.43	18.58	18.92	0-2	0
		25	0	18.40	18.44	18.76	0-3	0
		25	12	18.43	18.40	18.73	0-3	0
		25	24	18.44	18.40	18.73	0-3	0
		50	0	18.45	18.45	18.74	0-3	0
	256QAM	1	0	18.54	18.58	18.76	0-5	0
		1	24	18.67	18.55	18.70	0-5	0
		1	49	18.54	18.42	18.71	0-5	0
		25	0	18.48	18.51	18.73	0-5	0
		25	12	18.45	18.38	18.74	0-5	0
		25	24	18.42	18.40	18.78	0-5	0
		50	0	18.41	18.47	18.74	0-5	0

LTE Band 25 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.25	18.51	18.78	0	0
		1	36	18.57	18.59	18.89	0	0
		1	74	18.24	18.35	18.69	0	0
		36	0	18.29	18.47	18.68	0-1	0
		36	18	18.30	18.42	18.71	0-1	0
		36	39	18.30	18.38	18.70	0-1	0
		75	0	18.28	18.40	18.68	0-1	0
	16QAM	1	0	18.46	18.67	18.95	0-1	0
		1	36	18.44	18.68	19.07	0-1	0
		1	74	18.58	18.59	18.97	0-1	0
		36	0	18.37	18.49	18.72	0-2	0
		36	18	18.35	18.43	18.70	0-2	0
		36	39	18.34	18.38	18.73	0-2	0
		75	0	18.32	18.42	18.74	0-2	0
	64QAM	1	0	18.57	18.71	18.88	0-2	0
		1	36	18.74	18.63	18.96	0-2	0
		1	74	18.44	18.56	18.97	0-2	0
		36	0	18.44	18.49	18.76	0-3	0
		36	18	18.45	18.46	18.75	0-3	0
		36	39	18.40	18.35	18.75	0-3	0
		75	0	18.36	18.38	18.71	0-3	0
	256QAM	1	0	18.57	18.64	18.78	0-5	0
		1	36	18.62	18.62	18.75	0-5	0
		1	74	18.52	18.54	18.76	0-5	0
		36	0	18.40	18.46	18.76	0-5	0
		36	18	18.39	18.40	18.75	0-5	0
		36	39	18.42	18.40	18.73	0-5	0
		75	0	18.34	18.44	18.72	0-5	0

LTE Band 25_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced 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	18.32	18.55	18.93	0	0
		1	49	18.12	18.51	18.81	0	0
		1	99	18.21	18.27	18.59	0	0
		50	0	18.43	18.44	18.73	0-1	0
		50	25	18.39	18.42	18.67	0-1	0
		50	49	18.31	18.42	18.70	0-1	0
		100	0	18.29	18.40	18.72	0-1	0
	16QAM	1	0	18.47	18.63	19.00	0-1	0
		1	49	18.58	18.77	19.13	0-1	0
		1	99	18.53	18.53	18.90	0-1	0
		50	0	18.46	18.48	18.72	0-2	0
		50	25	18.47	18.40	18.76	0-2	0
		50	49	18.42	18.35	18.76	0-2	0
		100	0	18.39	18.38	18.67	0-2	0
	64QAM	1	0	18.63	18.79	18.94	0-2	0
		1	49	18.87	18.68	18.97	0-2	0
		1	99	18.49	18.59	18.81	0-2	0
		50	0	18.44	18.51	18.74	0-3	0
		50	25	18.42	18.45	18.78	0-3	0
		50	49	18.39	18.39	18.73	0-3	0
		100	0	18.42	18.39	18.74	0-3	0
	256QAM	1	0	18.52	18.56	18.75	0-5	0
		1	49	18.55	18.79	18.74	0-5	0
		1	99	18.41	18.37	18.79	0-5	0
		50	0	18.42	18.48	18.71	0-5	0
		50	25	18.37	18.44	18.76	0-5	0
		50	49	18.39	18.42	18.72	0-5	0
		100	0	18.37	18.42	18.74	0-5	0

[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	22.08	22.06	22.18	22.62	22.44	0	0
		1	12	22.05	22.21	22.33	22.51	22.60	0	0
		1	24	22.09	22.08	22.25	22.59	22.50	0	0
		12	0	22.17	22.11	22.29	22.70	22.55	0-1	0
		12	6	22.17	22.12	22.27	22.68	22.52	0-1	0
		12	11	22.19	22.12	22.25	22.68	22.54	0-1	0
		25	0	22.22	22.16	22.31	22.74	22.54	0-1	0
	16QAM	1	0	22.07	22.01	22.16	22.75	22.40	0-1	0
		1	12	22.15	21.92	22.22	22.79	22.39	0-1	0
		1	24	22.06	21.92	22.13	22.68	22.39	0-1	1
		12	0	21.16	21.10	21.30	21.67	21.52	0-2	1
		12	6	21.17	21.10	21.27	21.64	21.48	0-2	1
		12	11	21.17	21.09	21.25	21.65	21.49	0-2	1
		25	0	21.19	21.11	21.29	21.74	21.56	0-2	1
	64QAM	1	0	21.32	21.30	21.45	21.68	21.58	0-2	1
		1	12	21.33	21.35	21.44	21.74	21.62	0-2	1
		1	24	21.26	21.23	21.35	21.59	21.49	0-2	1
		12	0	20.22	20.06	20.27	20.68	20.57	0-3	2
		12	6	20.20	20.06	20.25	20.68	20.51	0-3	2
		12	11	20.23	20.06	20.25	20.69	20.53	0-3	2
		25	0	20.22	20.10	20.28	20.69	20.56	0-3	2
	256QAM	1	0	20.14	19.99	20.22	20.56	20.37	0-5	2
		1	12	20.25	20.01	20.23	20.73	20.35	0-5	2
		1	24	20.14	20.00	20.19	20.51	20.38	0-5	2
		12	0	19.20	19.12	19.31	19.75	19.59	0-5	3
		12	6	19.20	19.09	19.31	19.73	19.53	0-5	3
		12	11	19.18	19.09	19.28	19.73	19.51	0-5	3
		25	0	19.25	19.15	19.32	19.76	19.59	0-5	3

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	21.99	22.06	22.17	22.79	22.61	0	0
		1	24	21.83	22.17	22.33	22.63	22.64	0	0
		1	49	22.00	21.97	22.10	22.73	22.41	0	0
		25	0	22.06	22.12	22.25	22.82	22.60	0-1	0
		25	12	22.07	22.07	22.21	22.78	22.59	0-1	0
		25	24	22.09	22.09	22.22	22.78	22.56	0-1	0
		50	0	22.08	22.10	22.23	22.81	22.59	0-1	0
	16QAM	1	0	22.04	22.00	22.28	22.76	22.59	0-1	0
		1	24	22.06	21.85	22.38	22.79	22.73	0-1	0
		1	49	22.06	21.93	22.25	22.69	22.47	0-1	1
		25	0	21.12	21.08	21.21	21.78	21.59	0-2	1
		25	12	21.11	21.06	21.23	21.77	21.57	0-2	1
		25	24	21.12	21.08	21.24	21.73	21.54	0-2	1
		50	0	21.10	21.10	21.23	21.81	21.60	0-2	1
	64QAM	1	0	21.19	21.13	21.39	21.74	21.64	0-2	1
		1	24	21.14	21.02	21.58	21.82	21.70	0-2	1
		1	49	21.19	21.03	21.40	21.64	21.40	0-2	1
		25	0	20.12	20.07	20.22	20.77	20.61	0-3	2
		25	12	20.09	20.08	20.21	20.72	20.55	0-3	2
		25	24	20.09	20.05	20.23	20.69	20.54	0-3	2
		50	0	20.16	20.09	20.26	20.79	20.62	0-3	2
	256QAM	1	0	20.18	19.99	20.12	20.66	20.48	0-5	2
		1	24	20.22	20.02	20.18	20.62	20.56	0-5	2
		1	49	20.08	19.89	20.04	20.63	20.32	0-5	2
		25	0	19.15	19.11	19.28	19.83	19.63	0-5	3
		25	12	19.13	19.08	19.25	19.81	19.61	0-5	3
		25	24	19.16	19.08	19.28	19.78	19.62	0-5	3
		50	0	19.17	19.11	19.25	19.82	19.63	0-5	3

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	22.08	22.08	22.24	22.82	22.55	0	0
		1	36	22.14	22.23	22.40	22.45	22.59	0	0
		1	74	22.09	22.08	22.26	22.66	22.48	0	0
		36	0	22.15	22.14	22.30	22.80	22.63	0-1	0
		36	18	22.14	22.12	22.27	22.77	22.57	0-1	0
		36	39	22.16	22.12	22.28	22.73	22.51	0-1	0
		75	0	22.19	22.13	22.31	22.82	22.61	0-1	0
	16QAM	1	0	22.02	22.12	22.21	22.72	22.55	0-1	0
		1	36	21.96	22.23	22.20	22.65	22.51	0-1	0
		1	74	22.01	22.05	22.18	22.55	22.35	0-1	1
		36	0	21.18	21.11	21.26	21.74	21.58	0-2	1
		36	18	21.14	21.05	21.21	21.69	21.52	0-2	1
		36	39	21.12	21.03	21.20	21.67	21.50	0-2	1
		75	0	21.20	21.09	21.28	21.78	21.59	0-2	1
	64QAM	1	0	21.22	21.18	21.31	21.78	21.72	0-2	1
		1	36	21.27	21.20	21.31	21.70	21.73	0-2	1
		1	74	21.17	21.09	21.23	21.69	21.54	0-2	1
		36	0	20.20	20.10	20.26	20.78	20.60	0-3	2
		36	18	20.17	20.06	20.25	20.74	20.58	0-3	2
		36	39	20.18	20.05	20.23	20.72	20.52	0-3	2
		75	0	20.20	20.11	20.26	20.77	20.60	0-3	2
	256QAM	1	0	20.11	20.03	20.16	20.77	20.47	0-5	2
		1	36	20.18	20.03	20.25	20.50	20.37	0-5	2
		1	74	20.09	19.99	20.07	20.59	20.28	0-5	2
		36	0	19.20	19.14	19.28	19.82	19.62	0-5	3
		36	18	19.16	19.11	19.27	19.78	19.56	0-5	3
		36	39	19.17	19.08	19.26	19.74	19.53	0-5	3
		75	0	19.16	19.09	19.26	19.76	19.56	0-5	3

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	22.16	22.13	22.29	22.73	22.65	0	0
		1	49	21.84	22.22	22.40	22.54	22.62	0	0
		1	99	22.11	21.99	22.16	22.64	22.39	0	0
		50	0	22.18	22.19	22.31	22.86	22.67	0-1	0
		50	25	22.18	22.16	22.28	22.80	22.60	0-1	0
		50	49	22.18	22.14	22.29	22.80	22.57	0-1	0
		100	0	22.20	22.14	22.30	22.79	22.61	0-1	0
	16QAM	1	0	22.12	22.08	22.22	22.74	22.66	0-1	0
		1	49	22.25	22.18	22.42	22.81	22.62	0-1	0
		1	99	22.07	21.98	22.22	22.60	22.39	0-1	1
		50	0	21.22	21.20	21.34	21.84	21.64	0-2	1
		50	25	21.20	21.15	21.30	21.78	21.59	0-2	1
		50	49	21.17	21.12	21.27	21.76	21.54	0-2	1
		100	0	21.22	21.16	21.35	21.83	21.60	0-2	1
	64QAM	1	0	21.26	21.21	21.43	21.92	21.77	0-2	1
		1	49	21.10	21.29	21.37	21.97	21.75	0-2	1
		1	99	21.27	21.16	21.33	21.74	21.49	0-2	1
		50	0	20.26	20.21	20.35	20.89	20.71	0-3	2
		50	25	20.23	20.18	20.31	20.84	20.64	0-3	2
		50	49	20.22	20.12	20.30	20.81	20.59	0-3	2
		100	0	20.21	20.07	20.28	20.77	20.60	0-3	2
	256QAM	1	0	20.20	20.04	20.14	20.80	20.56	0-5	2
		1	49	20.24	20.02	20.15	20.70	20.49	0-5	2
		1	99	20.14	19.89	20.07	20.61	20.38	0-5	2
		50	0	19.28	19.20	19.37	19.91	19.69	0-5	3
		50	25	19.27	19.16	19.36	19.82	19.64	0-5	3
		50	49	19.23	19.12	19.33	19.77	19.60	0-5	3
		100	0	19.17	19.10	19.27	19.77	19.60	0-5	3

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	22.12	22.13	22.26	22.72	22.49	0	0
		1	12	22.10	22.29	22.42	22.59	22.68	0	0
		1	24	22.11	22.16	22.31	22.63	22.55	0	0
		12	0	22.20	22.18	22.32	22.74	22.63	0-1	0
		12	6	22.27	22.12	22.34	22.78	22.64	0-1	0
		12	11	22.22	22.16	22.32	22.78	22.55	0-1	0
		25	0	22.24	22.20	22.37	22.81	22.62	0-1	0
	16QAM	1	0	22.12	22.04	22.18	22.79	22.44	0-1	0
		1	12	22.21	21.99	22.32	22.89	22.51	0-1	0
		1	24	22.13	21.97	22.17	22.75	22.46	0-1	1
		12	0	21.21	21.18	21.32	21.71	21.58	0-2	1
		12	6	21.18	21.13	21.34	21.75	21.50	0-2	1
		12	11	21.20	21.12	21.34	21.67	21.56	0-2	1
		25	0	21.29	21.14	21.32	21.75	21.60	0-2	1
	64QAM	1	0	21.38	21.31	21.55	21.77	21.63	0-2	1
		1	12	21.44	21.46	21.49	21.82	21.63	0-2	1
		1	24	21.36	21.31	21.46	21.70	21.56	0-2	1
		12	0	20.29	20.10	20.28	20.78	20.63	0-3	2
		12	6	20.24	20.08	20.33	20.78	20.62	0-3	2
		12	11	20.23	20.10	20.30	20.77	20.57	0-3	2
		25	0	20.27	20.13	20.31	20.80	20.62	0-3	2
	256QAM	1	0	20.19	20.05	20.28	20.68	20.44	0-5	2
		1	12	20.28	20.01	20.32	20.79	20.40	0-5	2
		1	24	20.18	20.03	20.22	20.61	20.40	0-5	2
		12	0	19.20	19.23	19.41	19.77	19.67	0-5	3
		12	6	19.23	19.18	19.32	19.80	19.53	0-5	3
		12	11	19.24	19.14	19.32	19.81	19.61	0-5	3
		25	0	19.35	19.14	19.38	19.75	19.64	0-5	3

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	22.05	22.13	22.28	22.85	22.66	0	0
		1	24	21.90	22.26	22.35	22.67	22.64	0	0
		1	49	22.04	22.06	22.15	22.76	22.47	0	0
		25	0	22.08	22.15	22.32	22.91	22.71	0-1	0
		25	12	22.15	22.18	22.25	22.82	22.65	0-1	0
		25	24	22.18	22.10	22.32	22.80	22.56	0-1	0
		50	0	22.15	22.18	22.26	22.89	22.69	0-1	0
	16QAM	1	0	22.06	22.05	22.36	22.82	22.70	0-1	0
		1	24	22.10	21.92	22.49	22.92	22.76	0-1	0
		1	49	22.10	21.98	22.30	22.77	22.49	0-1	1
		25	0	21.13	21.14	21.26	21.88	21.65	0-2	1
		25	12	21.12	21.16	21.26	21.84	21.61	0-2	1
		25	24	21.14	21.12	21.33	21.81	21.61	0-2	1
		50	0	21.21	21.11	21.24	21.85	21.66	0-2	1
	64QAM	1	0	21.29	21.20	21.43	21.82	21.69	0-2	1
		1	24	21.24	21.12	21.68	21.92	21.77	0-2	1
		1	49	21.27	21.07	21.47	21.71	21.42	0-2	1
		25	0	20.16	20.12	20.26	20.82	20.65	0-3	2
		25	12	20.20	20.14	20.30	20.81	20.64	0-3	2
		25	24	20.18	20.15	20.27	20.75	20.63	0-3	2
		50	0	20.27	20.20	20.36	20.90	20.61	0-3	2
	256QAM	1	0	20.26	19.99	20.21	20.68	20.54	0-5	2
		1	24	20.23	20.09	20.25	20.69	20.63	0-5	2
		1	49	20.17	19.97	20.13	20.70	20.42	0-5	2
		25	0	19.24	19.15	19.38	19.88	19.72	0-5	3
		25	12	19.17	19.15	19.29	19.82	19.68	0-5	3
		25	24	19.25	19.10	19.37	19.88	19.67	0-5	3
		50	0	19.17	19.17	19.30	19.92	19.64	0-5	3

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	22.08	22.13	22.30	22.89	22.62	0	0
		1	36	22.15	22.30	22.43	22.56	22.63	0	0
		1	74	22.10	22.12	22.34	22.70	22.55	0	0
		36	0	22.23	22.21	22.36	22.83	22.64	0-1	0
		36	18	22.25	22.12	22.29	22.81	22.59	0-1	0
		36	39	22.23	22.13	22.33	22.76	22.61	0-1	0
		75	0	22.27	22.18	22.33	22.90	22.68	0-1	0
	16QAM	1	0	22.05	22.19	22.28	22.76	22.56	0-1	0
		1	36	22.00	22.24	22.24	22.74	22.55	0-1	0
		1	74	22.07	22.09	22.28	22.60	22.42	0-1	1
		36	0	21.25	21.17	21.35	21.75	21.62	0-2	1
		36	18	21.18	21.10	21.24	21.76	21.54	0-2	1
		36	39	21.18	21.13	21.31	21.73	21.58	0-2	1
		75	0	21.29	21.15	21.38	21.84	21.63	0-2	1
	64QAM	1	0	21.24	21.22	21.33	21.79	21.78	0-2	1
		1	36	21.27	21.21	21.36	21.72	21.82	0-2	1
		1	74	21.19	21.11	21.25	21.78	21.60	0-2	1
		36	0	20.25	20.18	20.34	20.88	20.66	0-3	2
		36	18	20.25	20.13	20.35	20.81	20.60	0-3	2
		36	39	20.19	20.09	20.28	20.75	20.60	0-3	2
		75	0	20.26	20.17	20.32	20.82	20.68	0-3	2
	256QAM	1	0	20.15	20.07	20.18	20.77	20.49	0-5	2
		1	36	20.22	20.14	20.26	20.51	20.47	0-5	2
		1	74	20.11	20.03	20.06	20.61	20.32	0-5	2
		36	0	19.23	19.23	19.36	19.82	19.64	0-5	3
		36	18	19.26	19.17	19.35	19.85	19.64	0-5	3
		36	39	19.25	19.16	19.27	19.81	19.59	0-5	3
		75	0	19.19	19.16	19.32	19.85	19.58	0-5	3

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	22.19	22.23	22.40	22.84	22.68	0	0
		1	49	21.89	22.25	22.41	22.55	22.63	0	0
		1	99	22.12	22.03	22.23	22.73	22.41	0	0
		50	0	22.27	22.20	22.36	22.96	22.75	0-1	0
		50	25	22.21	22.17	22.38	22.89	22.69	0-1	0
		50	49	22.20	22.19	22.38	22.86	22.62	0-1	0
		100	0	22.24	22.21	22.40	22.88	22.64	0-1	0
	16QAM	1	0	22.14	22.10	22.33	22.80	22.74	0-1	0
		1	49	22.25	22.22	22.45	22.82	22.65	0-1	0
		1	99	22.14	22.03	22.22	22.63	22.43	0-1	1
		50	0	21.33	21.24	21.40	21.88	21.66	0-2	1
		50	25	21.27	21.19	21.35	21.86	21.62	0-2	1
		50	49	21.23	21.19	21.30	21.84	21.61	0-2	1
		100	0	21.29	21.26	21.43	21.88	21.71	0-2	1
	64QAM	1	0	21.25	21.29	21.53	21.93	21.85	0-2	1
		1	49	21.21	21.33	21.41	21.97	21.77	0-2	1
		1	99	21.35	21.16	21.44	21.77	21.49	0-2	1
		50	0	20.27	20.28	20.45	20.95	20.79	0-3	2
		50	25	20.31	20.23	20.42	20.88	20.69	0-3	2
		50	49	20.23	20.19	20.38	20.87	20.69	0-3	2
		100	0	20.20	20.17	20.38	20.79	20.69	0-3	2
	256QAM	1	0	20.21	20.10	20.17	20.86	20.63	0-5	2
		1	49	20.28	20.07	20.15	20.76	20.61	0-5	2
		1	99	20.22	19.93	20.09	20.67	20.44	0-5	2
		50	0	19.33	19.29	19.37	19.94	19.71	0-5	3
		50	25	19.31	19.22	19.37	19.92	19.66	0-5	3
		50	49	19.27	19.22	19.40	19.88	19.66	0-5	3
		100	0	19.24	19.11	19.35	19.83	19.64	0-5	3

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	19.36	19.34	19.77	0	0
		1	3	19.35	19.24	19.58	0	0
		1	5	19.41	19.32	19.68	0	0
		3	0	19.42	19.34	19.78	0-1	0
		3	1	19.49	19.39	19.79	0-1	0
		3	3	19.48	19.31	19.64	0-1	0
		6	0	19.44	19.32	19.68	0-1	0
	16QAM	1	0	19.74	19.48	19.95	0-1	0
		1	3	19.47	19.41	19.75	0-1	0
		1	5	19.61	19.53	19.87	0-1	0
		3	0	19.62	19.56	19.86	0-2	0
		3	1	19.47	19.48	19.73	0-2	0
		3	3	19.44	19.42	19.79	0-2	0
		6	0	19.48	19.40	19.75	0-2	0
	64QAM	1	0	19.67	19.55	19.95	0-2	0
		1	3	19.54	19.43	19.85	0-2	0
		1	5	19.61	19.58	19.74	0-2	0
		3	0	19.51	19.50	19.86	0-3	0
		3	1	19.48	19.40	19.79	0-3	0
		3	3	19.53	19.37	19.70	0-3	0
		6	0	19.45	19.35	19.68	0-3	0
	256QAM	1	0	19.36	19.37	19.64	0-5	0
		1	3	19.22	19.32	19.57	0-5	0
		1	5	19.30	19.44	19.64	0-5	0
		3	0	19.34	19.38	19.67	0-5	0
		3	1	19.36	19.36	19.69	0-5	0
		3	3	19.28	19.36	19.62	0-5	0
		6	0	19.31	19.34	19.62	0-5	0

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	19.42	19.59	19.87	0	0
		1	7	19.59	19.64	19.95	0	0
		1	14	19.35	19.31	19.71	0	0
		8	0	19.55	19.42	19.78	0-1	0
		8	3	19.52	19.39	19.77	0-1	0
		8	7	19.52	19.42	19.79	0-1	0
		15	0	19.47	19.40	19.77	0-1	0
	16QAM	1	0	19.67	19.53	19.92	0-1	0
		1	7	19.44	19.65	20.10	0-1	0
		1	14	19.69	19.44	19.81	0-1	0
		8	0	19.57	19.50	19.82	0-2	0
		8	3	19.55	19.43	19.80	0-2	0
		8	7	19.57	19.39	19.84	0-2	0
		15	0	19.52	19.42	19.81	0-2	0
	64QAM	1	0	19.65	19.51	19.81	0-2	0
		1	7	19.72	19.71	20.01	0-2	0
		1	14	19.65	19.55	19.86	0-2	0
		8	0	19.57	19.39	19.75	0-3	0
		8	3	19.48	19.44	19.76	0-3	0
		8	7	19.45	19.39	19.73	0-3	0
		15	0	19.52	19.41	19.71	0-3	0
	256QAM	1	0	19.43	19.49	19.64	0-5	0
		1	7	19.51	19.46	19.65	0-5	0
		1	14	19.41	19.43	19.64	0-5	0
		8	0	19.42	19.38	19.65	0-5	0
		8	3	19.33	19.38	19.69	0-5	0
		8	7	19.39	19.43	19.69	0-5	0
		15	0	19.38	19.36	19.64	0-5	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	19.45	19.56	19.67	0	0
		1	12	19.59	19.57	19.93	0	0
		1	24	19.43	19.36	19.75	0	0
		12	0	19.52	19.44	19.72	0-1	0
		12	6	19.59	19.47	19.76	0-1	0
		12	11	19.52	19.43	19.77	0-1	0
		25	0	19.58	19.41	19.78	0-1	0
	16QAM	1	0	19.73	19.60	19.97	0-1	0
		1	12	19.76	19.58	19.94	0-1	0
		1	24	19.53	19.48	19.88	0-1	0
		12	0	19.61	19.43	19.76	0-2	0
		12	6	19.56	19.50	19.75	0-2	0
		12	11	19.57	19.46	19.76	0-2	0
		25	0	19.52	19.46	19.77	0-2	0
	64QAM	1	0	19.77	19.62	19.97	0-2	0
		1	12	19.83	19.69	19.97	0-2	0
		1	24	19.65	19.56	19.97	0-2	0
		12	0	19.52	19.44	19.77	0-3	0
		12	6	19.57	19.37	19.78	0-3	0
		12	11	19.48	19.37	19.78	0-3	0
		25	0	19.50	19.41	19.75	0-3	0
	256QAM	1	0	19.49	19.35	19.61	0-5	0
		1	12	19.56	19.50	19.61	0-5	0
		1	24	19.43	19.44	19.62	0-5	0
		12	0	19.33	19.37	19.60	0-5	0
		12	6	19.33	19.36	19.65	0-5	0
		12	11	19.31	19.31	19.66	0-5	0
		25	0	19.40	19.37	19.67	0-5	0

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	19.53	19.66	19.95	0	0
		1	24	19.40	19.56	20.00	0	0
		1	49	19.49	19.33	19.80	0	0
		25	0	19.58	19.42	19.85	0-1	0
		25	12	19.53	19.41	19.85	0-1	0
		25	24	19.53	19.40	19.86	0-1	0
	16QAM	50	0	19.57	19.44	19.84	0-1	0
		1	0	19.74	19.62	20.09	0-1	0
		1	24	19.60	19.59	19.97	0-1	0
		1	49	19.68	19.59	19.90	0-1	0
		25	0	19.55	19.45	19.83	0-2	0
		25	12	19.59	19.37	19.73	0-2	0
	64QAM	25	24	19.57	19.43	19.74	0-2	0
		50	0	19.57	19.43	19.77	0-2	0
		1	0	19.77	19.64	19.87	0-2	0
		1	24	19.78	19.70	20.10	0-2	0
		1	49	19.80	19.66	19.86	0-2	0
		25	0	19.58	19.44	19.75	0-3	0
	256QAM	25	12	19.51	19.38	19.71	0-3	0
		25	24	19.53	19.34	19.67	0-3	0
		50	0	19.56	19.45	19.76	0-3	0
		1	0	19.39	19.53	19.63	0-5	0
		1	24	19.58	19.68	19.63	0-5	0
		1	49	19.36	19.55	19.62	0-5	0
		25	0	19.39	19.40	19.68	0-5	0
		25	12	19.42	19.42	19.60	0-5	0
		25	24	19.40	19.37	19.67	0-5	0
		50	0	19.40	19.37	19.69	0-5	0

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	19.54	19.55	19.49	0	0
		1	36	19.72	19.63	19.69	0	0
		1	74	19.50	19.35	19.48	0	0
		36	0	19.63	19.45	19.51	0-1	0
		36	18	19.59	19.43	19.50	0-1	0
		36	39	19.56	19.38	19.45	0-1	0
		75	0	19.53	19.41	19.52	0-1	0
	16QAM	1	0	19.79	19.68	19.80	0-1	0
		1	36	19.65	19.39	19.81	0-1	0
		1	74	19.59	19.53	19.82	0-1	0
		36	0	19.61	19.44	19.50	0-2	0
		36	18	19.57	19.42	19.50	0-2	0
		36	39	19.52	19.38	19.53	0-2	0
		75	0	19.56	19.39	19.56	0-2	0
	64QAM	1	0	19.76	19.43	19.80	0-2	0
		1	36	19.88	19.48	19.94	0-2	0
		1	74	19.76	19.49	19.75	0-2	0
		36	0	19.62	19.46	19.54	0-3	0
		36	18	19.60	19.47	19.55	0-3	0
		36	39	19.58	19.42	19.56	0-3	0
		75	0	19.57	19.42	19.51	0-3	0
	256QAM	1	0	19.55	19.60	19.60	0-5	0
		1	36	19.67	19.60	19.65	0-5	0
		1	74	19.52	19.46	19.62	0-5	0
		36	0	19.48	19.44	19.43	0-5	0
		36	18	19.45	19.42	19.47	0-5	0
		36	39	19.40	19.36	19.47	0-5	0
		75	0	19.41	19.38	19.49	0-5	0

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	19.25	19.56	19.41	0	0
		1	49	19.51	19.69	19.45	0	0
		1	99	19.42	19.22	19.28	0	0
		50	0	19.60	19.46	19.37	0-1	0
		50	25	19.63	19.40	19.38	0-1	0
		50	49	19.56	19.38	19.35	0-1	0
		100	0	19.54	19.39	19.36	0-1	0
	16QAM	1	0	19.73	19.64	19.61	0-1	0
		1	49	19.70	19.59	19.56	0-1	0
		1	99	19.69	19.46	19.40	0-1	0
		50	0	19.63	19.45	19.42	0-2	0
		50	25	19.56	19.41	19.38	0-2	0
		50	49	19.56	19.36	19.35	0-2	0
		100	0	19.60	19.43	19.35	0-2	0
	64QAM	1	0	19.78	19.57	19.74	0-2	0
		1	49	19.69	19.79	19.42	0-2	0
		1	99	19.67	19.46	19.42	0-2	0
		50	0	19.59	19.47	19.41	0-3	0
		50	25	19.58	19.46	19.37	0-3	0
		50	49	19.63	19.43	19.35	0-3	0
		100	0	19.56	19.38	19.29	0-3	0
	256QAM	1	0	19.55	19.62	19.31	0-5	0
		1	49	19.42	19.63	19.18	0-5	0
		1	99	19.48	19.46	19.29	0-5	0
		50	0	19.41	19.43	19.17	0-5	0
		50	25	19.38	19.36	19.22	0-5	0
		50	49	19.37	19.33	19.11	0-5	0
		100	0	19.43	19.33	19.15	0-5	0

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.

11.3.4 LTE Uplink CA Conducted Power

LTE Inter-Band Uplink Carrier Aggregation – Interim Procedures

Per Oct,2018 TCBC Workshop document, Uplink CA SAR Test Guidance as follow

1. Provide the single uplink SAR values you have obtained for the relevant SAR configurations and frequency bands that employ inter-band uplink carrier aggregation.
2. If the single uplink 1-g SAR values for each band are both less than 0.8 W/kg and the algebraic summation of the 1-g SAR values are less than 1.45 W/kg no additional measurements need to be performed.
3. If one of the single uplink 1 -g SAR values is greater than 0.8 W/kg, instead of algebraically summing the 1-g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures found in FCC KDB Publication 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
4. If the algebraic sum of the 1-g SAR values is > 1.45 W/kg additional measurements may have to be made. Submit a KDB inquiry for additional guidance

The inter-band LTE uplink CA of this product is supported by LTE B2/B4/B5/B12/B25/B66 of Main Ant #1-1 antenna and LTE B2/B4 of Sub Ant #6 antenna.

In particular, CA 2A-4A operates in the antenna Main Ant #1-1 at the lower end and the antenna Sub Ant #6 at the upper end during the uplink CA operation.

[LTE Band 2(Upper, Sub Ant #6) under ULCA Conducted Power]

- Reduced Conducted Power with RCV ON

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	17.86	17.97	17.98	0	0
		1	99	17.76	17.92	17.93	0	0
		18	0	17.78	17.91	17.95	0	0
		18	82	17.44	17.85	17.74	0	0

- Maximum Conducted Power

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	21.95	21.79	21.91	0	0
		1	99	21.85	21.89	21.94	0	0
		18	0	21.86	21.83	21.82	0	0
		18	82	21.70	21.95	21.78	0	0

[LTE Band 4(Upper, Sub Ant #6) under ULCA Conducted Power]

- Reduced Conducted Power with RCV ON

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	17.89	0	0
		1	99	17.81	0	0
		18	0	17.88	0	0
		18	82	17.82	0	0

- Maximum Conducted Power

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	21.98	0	0
		1	99	21.93	0	0
		18	0	21.93	0	0
		18	82	21.80	0	0

Inter-Band LTE Uplink CA Measurement results.

SAR Test Conditions	UL CA inter- Bands	Test Position	Uplink CA Configurations				Uplink CA SAR results (W/kg)		Σ 1-g SAR
			PCC		SCC		PCC	SCC	
Head	CA_2A-4A		Main Ant #1-1	LTE B2(25)	Sub Ant #6	LTE B4	0.094	0.522	0.616
			Main Ant #1-1	LTE B4(66)	Sub Ant #6	LTE B2	0.127	0.61	0.737
	CA_4(66)A-5A		Main Ant #1-1	LTE B4(66)	Main Ant #1-1	LTE B26(5)	0.127	0.227	0.354
	CA_4(66)A-12A		Main Ant #1-1	LTE B4(66)	Main Ant #1-1	LTE B12	0.127	0.195	0.322
Body Worn	CA_2A-4A		Main Ant #1-1	LTE B2(25)	Sub Ant #6	LTE B4	0.536	0.239	0.775
			Main Ant #1-1	LTE B4(66)	Sub Ant #6	LTE B2	0.63	0.215	0.845
	CA_4(66)A-5A		Main Ant #1-1	LTE B4(66)	Main Ant #1-1	LTE B5(26)	0.63	0.341	0.971
	CA_4(66)A-12A		Main Ant #1-1	LTE B4(66)	Main Ant #1-1	LTE B12	0.63	0.265	0.895
Hotspot	CA_2A-4A	Rear	Main Ant #1-1	LTE B2(25)	Sub Ant #6	LTE B4	0.266	0.173	0.439
		Front					0.247	0.11	0.357
		Left					0.079	0.02	0.099
		Right					0.031	0.031	0.062
		Top						0.302	0.302
		Bottom					0.797		0.797
		Rear	Main Ant #1-1	LTE B4(66)	Sub Ant #6	LTE B2	0.396	0.138	0.534
		Front					0.334	0.080	0.414
		Left					0.081	0.012	0.093
		Right					0.067	0.042	0.109
		Top						0.367	0.367
		Bottom					0.912		0.912
	CA_4(66)A-5(26)A	Rear	Main Ant #1-1	LTE B4(66)	Main Ant #1-1	LTE B5(26)	0.396	0.558	0.954
		Front					0.334	0.370	0.704
		Left					0.081	0.216	0.297
		Right					0.067	0.534	0.601
		Top							0.000
		Bottom					0.912	0.143	1.055
	CA_4(66)A-12A	Rear	Main Ant #1-1	LTE B4(66)	Main Ant #1-1	LTE B12	0.396	0.429	0.825
		Front					0.334	0.268	0.602
		Left					0.081	0.231	0.312
		Right					0.067	0.241	0.308
		Top							0.000
		Bottom					0.912	0.066	0.978

The single uplink 1g SAR values for each band are both less than 0.8 W/kg and the algebraic summation of the 1g SAR values are less than therefore, no additional measurements are required.

11.4 NR Maximum Output Power

11.4.1 NR Band Maximum Conducted Power

[NR Band n5 Conducted Power]

NR Band n5_ 5 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
						165300	167300	169300	
						826.5 MHz	836.5 MHz	846.5 MHz	
5 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	24.18	24.35	24.11	0
				1	13	24.16	24.23	23.95	0
				1	23	24.27	24.27	23.94	0
				12	0	23.66	23.82	23.53	0.5
				12	7	24.22	24.28	23.99	0
				12	13	23.73	23.78	23.42	0.5
				25	0	23.72	23.80	23.48	0.5
			QPSK	1	1	24.17	24.34	24.10	0
				1	13	24.14	24.22	23.92	0
				1	23	24.26	24.27	23.92	0
				12	0	23.19	23.31	23.06	1
				12	7	24.21	24.30	23.98	0
				12	13	23.23	23.28	22.94	1
				25	0	23.21	23.31	22.98	1
			16QAM	1	1	23.14	23.30	23.12	1
			64QAM	1	1	21.78	22.02	21.80	2.5
			256QAM	1	1	19.69	19.82	19.59	4.5
		CP	QPSK	1	1	22.73	22.97	22.67	1.5

NR Band n5_ 10 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
							167300		
							836.5 MHz		
10 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1		24.35		0
				1	26		24.36		0
				1	50		24.20		0
				25	0		23.82		0.5
				25	14		24.30		0
				25	27		23.76		0.5
			QPSK	50	0		23.81		0.5
				1	1		24.35		0
				1	26		24.34		0
				1	50		24.20		0
				25	0		23.32		1
				25	14		24.31		0
				25	27		23.26		1
				50	0		23.30		1
			16QAM	1	1		23.38		1
			64QAM	1	1		21.93		2.5
			256QAM	1	1		19.84		4.5
		CP	QPSK	1	1		22.87		1.5

NR Band n5_ 15 Mhz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
							167300		
							836.5 Mhz		
15 Mhz	15	DFT-s OFDM	pi/2 BPSK	1	1		24.30		0
				1	40		24.27		0
				1	77		24.14		0
				36	0		23.81		0.5
				36	22		24.30		0
				36	43		23.68		0.5
				75	0		23.77		0.5
			QPSK	1	1		24.27		0
				1	40		24.26		0
				1	77		24.15		0
				36	0		23.32		1
				36	22		24.29		0
				36	43		23.21		1
				75	0		23.31		1
			16QAM	1	1		23.28		1
			64QAM	1	1		21.91		2.5
			256QAM	1	1		19.79		4.5
		CP	QPSK	1	1		22.85		1.5

NR Band n5_ 20 Mhz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
							167300		
							836.5 Mhz		
20 Mhz	15	DFT-s OFDM	pi/2 BPSK	1	1		24.27		0
				1	53		24.41		0
				1	104		24.03		0
				50	0		23.82		0.5
				50	28		24.30		0
				50	56		23.67		0.5
				100	0		23.78		0.5
			QPSK	1	1		24.22		0
				1	53		24.44		0
				1	104		24.03		0
				50	0		23.31		1
				50	28		24.32		0
				50	56		23.18		1
				100	0		23.27		1
			16QAM	1	1		23.24		1
			64QAM	1	1		21.86		2.5
			256QAM	1	1		19.74		4.5
		CP	QPSK	1	1		22.82		1.5

[NR Band n66(Upper Antenna) Conducted Power]

NR Band n66 _5 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
						342500	349000	355500	
						1712.5 MHz	1745 MHz	1777.5 MHz	
5 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	22.37	22.49	22.36	0
				1	13	22.18	22.33	22.40	0
				1	23	22.32	22.44	22.35	0
				12	0	21.79	21.99	21.82	0.5
				12	7	22.28	22.44	22.38	0
				12	13	21.83	21.89	21.88	0.5
			QPSK	25	0	21.80	21.96	21.88	0.5
				1	1	22.28	22.54	22.39	0
				1	13	22.19	22.40	22.39	0
				1	23	22.32	22.45	22.35	0
				12	0	21.31	21.51	21.33	1
				12	7	22.29	22.44	22.40	0
				12	13	21.33	21.42	21.43	1
				25	0	21.31	21.44	21.41	1
			16QAM	1	1	21.45	21.79	21.41	1
			64QAM	1	1	20.03	20.09	20.02	2.5
			256QAM	1	1	17.79	17.86	17.72	4.5
		CP	QPSK	1	1	20.89	20.91	20.87	1.5

NR Band n66 _ 10 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
						343000	349000	355000	
						1715 MHz	1745 MHz	1775 MHz	
10 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	22.47	22.48	22.36	0
				1	26	22.38	22.39	22.34	0
				1	50	22.37	22.42	22.36	0
				25	0	21.94	21.95	21.93	0.5
				25	14	22.44	22.46	22.40	0
				25	27	21.90	21.96	21.92	0.5
			QPSK	50	0	21.91	21.94	21.91	0.5
				1	1	22.48	22.53	22.39	0
				1	26	22.39	22.41	22.34	0
				1	50	22.42	22.49	22.40	0
				25	0	21.46	21.47	21.41	1
				25	14	22.43	22.46	22.40	0
				25	27	21.44	21.49	21.41	1
				50	0	21.44	21.46	21.43	1
			16QAM	1	1	21.81	21.75	21.51	1
			64QAM	1	1	20.05	20.11	19.96	2.5
			256QAM	1	1	17.90	17.97	17.82	4.5
		CP	QPSK	1	1	21.00	21.01	20.80	1.5

NR Band n66 _ 15 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
						343500	349000	354500	
						1717.5 MHz	1745 MHz	1772.5 MHz	
15 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	22.47	22.48	22.36	0
				1	40	22.38	22.39	22.34	0
				1	77	22.37	22.42	22.36	0
				36	0	21.94	21.95	21.93	0.5
				36	22	22.44	22.46	22.40	0
				36	43	21.90	21.96	21.92	0.5
				75	0	21.91	21.94	21.91	0.5
			QPSK	1	1	22.48	22.53	22.39	0
				1	40	22.39	22.41	22.34	0
				1	77	22.42	22.49	22.40	0
				36	0	21.46	21.47	21.41	1
				36	22	22.43	22.46	22.40	0
				36	43	21.44	21.49	21.41	1
				75	0	21.44	21.46	21.43	1
			16QAM	1	1	21.81	21.75	21.51	1
			64QAM	1	1	20.05	20.11	19.96	2.5
			256QAM	1	1	17.90	17.97	17.82	4.5
		CP	QPSK	1	1	21.00	21.01	20.80	1.5

NR Band n66 _ 20 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
						344000	349000	354000	
						1720 MHz	1745 MHz	1770 MHz	
20 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	22.36	22.54	22.35	0
				1	53	22.42	22.49	22.31	0
				1	104	22.18	22.30	22.31	0
				50	0	21.90	22.04	21.91	0.5
				50	28	22.38	22.45	22.43	0
				50	56	21.86	21.94	21.85	0.5
				100	0	21.91	21.98	21.93	0.5
			QPSK	1	1	22.41	22.54	22.37	0
				1	53	22.45	22.50	22.36	0
				1	104	22.41	22.85	22.45	0
				50	0	21.40	21.46	21.40	1
				50	28	22.42	22.81	22.44	0
				50	56	21.36	21.46	21.37	1
				100	0	21.42	21.50	21.43	1
			16QAM	1	1	21.71	21.73	21.61	1
			64QAM	1	1	19.99	20.21	20.03	2.5
			256QAM	1	1	17.79	18.06	17.86	4.5
		CP	QPSK	1	1	20.93	21.21	21.00	1.5

[NR Band n66(Lower Antenna) Conducted Power]

NR Band n66 _5 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
						342500	349000	355500	
						1712.5 MHz	1745 MHz	1777.5 MHz	
5 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	24.23	24.40	24.17	0
				1	13	24.22	24.23	24.16	0
				1	23	24.29	24.23	24.24	0
				12	0	23.72	23.83	23.68	0.5
				12	7	24.23	24.27	24.20	0
				12	13	23.78	23.73	23.70	0.5
			QPSK	25	0	23.74	23.78	23.72	0.5
				1	1	24.20	24.33	24.13	0
				1	13	24.16	24.19	24.12	0
				1	23	24.26	24.18	24.22	0
				12	0	23.22	23.31	23.17	1
				12	7	24.21	24.26	24.19	0
				12	13	23.25	23.23	23.21	1
				25	0	23.23	23.30	23.20	1
			16QAM	1	1	23.36	23.41	23.20	1
			64QAM	1	1	21.92	22.03	21.84	2.5
			256QAM	1	1	19.72	19.89	19.69	4.5
		CP	QPSK	1	1	22.83	22.94	22.77	1.5

NR Band n66 _ 10 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
						343000	349000	355000	
						1715 MHz	1745 MHz	1775 MHz	
10 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	24.31	24.49	24.18	0
				1	26	24.41	24.35	24.21	0
				1	50	24.44	24.10	24.31	0
				25	0	23.82	23.86	23.67	0.5
				25	14	24.35	24.30	24.18	0
				25	27	23.89	23.68	23.72	0.5
			QPSK	50	0	23.85	23.78	23.67	0.5
				1	1	24.27	24.42	24.14	0
				1	26	24.32	24.28	24.13	0
				1	50	24.40	24.06	24.22	0
				25	0	23.28	23.37	23.17	1
				25	14	24.31	24.27	24.14	0
				25	27	23.39	23.19	23.22	1
				50	0	23.34	23.29	23.17	1
			16QAM	1	1	23.41	23.60	23.14	1
			64QAM	1	1	21.95	22.15	21.86	2.5
			256QAM	1	1	19.85	20.00	19.63	4.5
		CP	QPSK	1	1	22.88	23.00	22.74	1.5

NR Band n66 _ 15 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
						343500	349000	354500	
						1717.5 MHz	1745 MHz	1772.5 MHz	
15 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	24.28	24.54	24.02	0
				1	40	24.37	24.23	24.01	0
				1	77	24.47	23.97	24.20	0
				36	0	23.85	23.89	23.55	0.5
				36	22	24.39	24.29	24.10	0
				36	43	23.96	23.57	23.60	0.5
			QPSK	75	0	23.87	23.78	23.60	0.5
				1	1	24.30	24.51	24.00	0
				1	40	24.33	24.21	24.00	0
				1	77	24.46	23.95	24.15	0
				36	0	23.32	23.42	23.05	1
				36	22	24.41	24.27	24.11	0
				36	43	23.46	23.12	23.11	1
				75	0	23.40	23.28	23.11	1
			16QAM	1	1	23.42	23.68	23.12	1
			64QAM	1	1	21.91	22.20	21.67	2.5
			256QAM	1	1	19.72	19.98	19.52	4.5
		CP	QPSK	1	1	22.86	23.13	22.61	1.5

NR Band n66 _ 20 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR [dB]
						344000	349000	354000	
						1720 MHz	1745 MHz	1770 MHz	
20 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	24.27	24.52	24.06	0
				1	53	24.43	24.30	24.09	0
				1	104	24.48	23.94	24.20	0
				50	0	23.84	23.96	23.56	0.5
				50	28	24.41	24.28	24.10	0
				50	56	23.96	23.53	23.62	0.5
			QPSK	100	0	23.93	23.78	23.58	0.5
				1	1	24.24	24.51	23.98	0
				1	53	24.39	24.23	24.04	0
				1	104	24.43	23.96	24.18	0
				50	0	23.36	23.47	23.08	1
				50	28	24.42	24.71	24.10	0
				50	56	23.51	23.08	23.11	1
				100	0	23.43	23.31	23.11	1
			16QAM	1	1	23.42	23.52	23.00	1
			64QAM	1	1	21.90	22.21	21.70	2.5
			256QAM	1	1	19.69	20.01	19.54	4.5
		CP	QPSK	1	1	22.77	23.21	22.62	1.5

11.4.2 NR Band Reduced Conducted Power(Hotspot activated) [NR Band n66(Lower Antenna) Conducted Power]

NR Band n66 _5 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						342500	349000	355500	
						1712.5 MHz	1745 MHz	1777.5 MHz	
5 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	19.46	19.56	19.36	0
				1	13	19.36	19.44	19.34	0
				1	23	19.46	19.42	19.46	0
				12	0	19.41	19.48	19.35	0
				12	7	19.43	19.46	19.38	0
				12	13	19.45	19.43	19.43	0
			QPSK	25	0	19.45	19.47	19.41	0
				1	1	19.43	19.54	19.34	0
				1	13	19.35	19.42	19.30	0
				1	23	19.48	19.42	19.38	0
				12	0	19.41	19.51	19.34	0
				12	7	19.38	19.45	19.40	0
				12	13	19.43	19.44	19.41	0
				25	0	19.46	19.45	19.40	0
			16QAM	1	1	19.37	19.49	19.35	0
			64QAM	1	1	19.58	19.66	19.41	0
			256QAM	1	1	18.74	18.85	18.58	0.5
		CP	QPSK	1	1	19.35	19.50	19.29	0

NR Band n66 _ 10 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						343000	349000	355000	
						1715 MHz	1745 MHz	1775 MHz	
10 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	19.53	19.62	19.32	0
				1	26	19.56	19.48	19.35	0
				1	50	19.61	19.32	19.51	0
				25	0	19.49	19.55	19.36	0
				25	14	19.57	19.46	19.35	0
				25	27	19.60	19.37	19.39	0
			QPSK	50	0	19.53	19.47	19.32	0
				1	1	19.47	19.61	19.33	0
				1	26	19.51	19.43	19.21	0
				1	50	19.59	19.32	19.41	0
				25	0	19.51	19.54	19.33	0
				25	14	19.55	19.51	19.36	0
				25	27	19.60	19.36	19.39	0
				50	0	19.53	19.48	19.35	0
			16QAM	1	1	19.50	19.72	19.42	0
			64QAM	1	1	19.59	19.71	19.39	0
			256QAM	1	1	18.75	18.96	18.59	0.5
		CP	QPSK	1	1	19.41	19.62	19.23	0

NR Band n66 _ 15 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						343500	349000	354500	
						1717.5 MHz	1745 MHz	1772.5 MHz	
15 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	19.50	19.74	19.24	0
				1	40	19.59	19.46	19.26	0
				1	77	19.72	19.23	19.39	0
				36	0	19.57	19.60	19.30	0
				36	22	19.61	19.50	19.29	0
				36	43	19.67	19.36	19.33	0
			QPSK	75	0	19.62	19.48	19.30	0
				1	1	19.49	19.75	19.25	0
				1	40	19.54	19.45	19.25	0
				1	77	19.70	19.24	19.39	0
				36	0	19.53	19.60	19.28	0
				36	22	19.63	19.50	19.30	0
				36	43	19.65	19.33	19.29	0
				75	0	19.60	19.49	19.29	0
			16QAM	1	1	19.64	19.80	19.22	0
			64QAM	1	1	19.59	19.68	19.23	0
			256QAM	1	1	18.79	19.17	18.68	0.5
		CP	QPSK	1	1	19.44	19.60	19.14	0

NR Band n66 _ 20 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						344000	349000	354000	
						1720 MHz	1745 MHz	1770 MHz	
20 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	19.47	19.74	19.27	0
				1	53	19.65	19.48	19.28	0
				1	104	19.70	19.19	19.38	0
				50	0	19.54	19.68	19.23	0
				50	28	19.65	19.53	19.28	0
				50	56	19.69	19.28	19.31	0
			QPSK	100	0	19.63	19.51	19.29	0
				1	1	19.45	19.76	19.23	0
				1	53	19.62	19.46	19.26	0
				1	104	19.68	19.15	19.40	0
				50	0	19.54	19.75	19.27	0
				50	28	19.64	19.48	19.28	0
				50	56	19.69	19.27	19.32	0
				100	0	19.62	19.53	19.29	0
			16QAM	1	1	19.32	19.65	19.15	0
			64QAM	1	1	19.53	19.75	19.24	0
			256QAM	1	1	18.81	19.14	18.64	0.5
		CP	QPSK	1	1	19.46	19.62	19.22	0

11.4.3 NR Band Reduced Conducted Power(Grip-sensor on,Ear jack Activated)

[NR Band n66(Lower Antenna) Conducted Power]

NR Band n66 _5 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						342500	349000	355500	
						1712.5 MHz	1745 MHz	1777.5 MHz	
5 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	19.45	19.55	19.41	0
				1	13	19.40	19.41	19.33	0
				1	23	19.51	19.45	19.42	0
				12	0	19.42	19.56	19.35	0
				12	7	19.44	19.48	19.41	0
				12	13	19.48	19.42	19.44	0
				25	0	19.44	19.48	19.41	0
			QPSK	1	1	19.44	19.57	19.41	0
				1	13	19.39	19.43	19.40	0
				1	23	19.50	19.42	19.51	0
				12	0	19.42	19.50	19.34	0
				12	7	19.44	19.47	19.37	0
				12	13	19.43	19.42	19.41	0
				25	0	19.41	19.48	19.37	0
			16QAM	1	1	19.43	19.61	19.43	0
			64QAM	1	1	19.49	19.53	19.34	0
			256QAM	1	1	18.77	18.92	18.76	0.5
		CP	QPSK	1	1	19.32	19.47	19.23	0

NR Band n66 _ 10 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						343000	349000	355000	
						1715 MHz	1745 MHz	1775 MHz	
10 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	19.48	19.71	19.38	0
				1	26	19.54	19.57	19.38	0
				1	50	19.63	19.37	19.48	0
				25	0	19.52	19.61	19.40	0
				25	14	19.56	19.52	19.38	0
				25	27	19.60	19.40	19.42	0
			QPSK	50	0	19.53	19.53	19.38	0
				1	1	19.48	19.73	19.37	0
				1	26	19.50	19.56	19.35	0
				1	50	19.63	19.35	19.49	0
				25	0	19.54	19.57	19.38	0
				25	14	19.54	19.53	19.37	0
				25	27	19.63	19.39	19.44	0
				50	0	19.55	19.52	19.35	0
			16QAM	1	1	19.34	19.65	19.24	0
			64QAM	1	1	19.50	19.74	19.40	0
			256QAM	1	1	18.82	19.11	18.68	0.5
		CP	QPSK	1	1	19.42	19.62	19.24	0

NR Band n66 _ 15 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						343500	349000	354500	
						1717.5 MHz	1745 MHz	1772.5 MHz	
15 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	19.53	19.77	19.32	0
				1	40	19.60	19.41	19.28	0
				1	77	19.76	19.22	19.45	0
				36	0	19.60	19.64	19.31	0
				36	22	19.63	19.52	19.33	0
				36	43	19.68	19.35	19.35	0
				75	0	19.62	19.51	19.33	0
			QPSK	1	1	19.53	19.78	19.27	0
				1	40	19.59	19.46	19.26	0
				1	77	19.69	19.23	19.42	0
				36	0	19.58	19.65	19.32	0
				36	22	19.64	19.53	19.33	0
				36	43	19.69	19.32	19.34	0
				75	0	19.62	19.51	19.35	0
			16QAM	1	1	19.62	19.77	19.36	0
			64QAM	1	1	19.47	19.86	19.25	0
			256QAM	1	1	18.83	19.21	18.71	0.5
		CP	QPSK	1	1	19.44	19.55	19.13	0

NR Band n66 _ 20 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						344000	349000	354000	
						1720 MHz	1745 MHz	1770 MHz	
20 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	19.47	19.77	19.24	0
				1	53	19.65	19.52	19.24	0
				1	104	19.73	19.19	19.39	0
				50	0	19.57	19.68	19.25	0
				50	28	19.67	19.52	19.29	0
				50	56	19.72	19.30	19.35	0
				100	0	19.62	19.53	19.34	0
			QPSK	1	1	19.50	19.74	19.23	0
				1	53	19.66	19.51	19.31	0
				1	104	19.70	19.19	19.41	0
				50	0	19.56	19.67	19.29	0
				50	28	19.68	19.50	19.27	0
				50	56	19.71	19.27	19.31	0
				100	0	19.64	19.50	19.30	0
			16QAM	1	1	19.43	19.75	19.20	0
			64QAM	1	1	19.55	19.70	19.21	0
			256QAM	1	1	18.83	19.19	18.69	0.5
		CP	QPSK	1	1	19.38	19.68	19.15	0

11.4.4 NR Band Reduced Conducted Power(Receiver on)

[NR Band n66(Upper Antenna) Conducted Power]

NR Band n66 _5 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						342500	349000	355500	
						1712.5 MHz	1745 MHz	1777.5 MHz	
5 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	18.49	18.49	18.42	0
				1	13	18.34	18.37	18.31	0
				1	23	18.43	18.45	18.50	0
				12	0	18.40	18.53	18.35	0
				12	7	18.40	18.46	18.35	0
				12	13	18.42	18.44	18.42	0
				25	0	18.40	18.48	18.39	0
			QPSK	1	1	18.43	18.48	18.43	0
				1	13	18.33	18.40	18.29	0
				1	23	18.45	18.48	18.53	0
				12	0	18.44	18.53	18.34	0
				12	7	18.41	18.49	18.38	0
				12	13	18.46	18.45	18.41	0
				25	0	18.42	18.48	18.42	0
			16QAM	1	1	18.49	18.48	18.34	0
			64QAM	1	1	18.56	18.56	18.50	0
			256QAM	1	1	17.89	17.89	17.81	0.5
		CP	QPSK	1	1	18.51	18.50	18.38	0

NR Band n66 _ 10 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						343000	349000	355000	
						1715 MHz	1745 MHz	1775 MHz	
10 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	18.58	18.63	18.53	0
				1	26	18.50	18.47	18.42	0
				1	50	18.46	18.41	18.46	0
				25	0	18.48	18.50	18.45	0
				25	14	18.48	18.48	18.39	0
				25	27	18.48	18.50	18.40	0
			QPSK	50	0	18.48	18.48	18.43	0
				1	1	18.58	18.57	18.51	0
				1	26	18.46	18.43	18.38	0
				1	50	18.46	18.37	18.35	0
				25	0	18.50	18.50	18.43	0
				25	14	18.49	18.45	18.40	0
				25	27	18.48	18.49	18.41	0
				50	0	18.47	18.48	18.40	0
			16QAM	1	1	18.66	18.56	18.56	0
			64QAM	1	1	18.66	18.69	18.52	0
			256QAM	1	1	17.98	18.01	17.96	0.5
		CP	QPSK	1	1	18.57	18.63	18.50	0

NR Band n66 _ 15 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						343500	349000	354500	
						1717.5 MHz	1745 MHz	1772.5 MHz	
15 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	18.56	18.45	18.51	0
				1	40	18.48	18.39	18.32	0
				1	77	18.39	18.48	18.37	0
				36	0	18.48	18.52	18.45	0
				36	22	18.47	18.46	18.40	0
				36	43	18.48	18.48	18.36	0
				75	0	18.48	18.47	18.38	0
			QPSK	1	1	18.55	18.47	18.48	0
				1	40	18.48	18.41	18.26	0
				1	77	18.43	18.52	18.33	0
				36	0	18.49	18.53	18.45	0
				36	22	18.48	18.50	18.37	0
				36	43	18.44	18.50	18.37	0
				75	0	18.45	18.49	18.39	0
			16QAM	1	1	18.55	18.44	18.49	0
			64QAM	1	1	18.58	18.52	18.56	0
			256QAM	1	1	17.93	17.83	17.92	0.5
		CP	QPSK	1	1	18.53	18.43	18.51	0

NR Band n66 _ 20 MHz Bandwidth

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR [dB]
						344000	349000	354000	
						1720 MHz	1745 MHz	1770 MHz	
20 MHz	15	DFT-s OFDM	pi/2 BPSK	1	1	18.51	18.46	18.47	0
				1	53	18.38	18.47	18.48	0
				1	104	18.49	18.38	18.32	0
				50	0	18.45	18.53	18.46	0
				50	28	18.48	18.49	18.47	0
				50	56	18.43	18.46	18.37	0
				100	0	18.46	18.47	18.47	0
			QPSK	1	1	18.48	18.49	18.42	0
				1	53	18.36	18.40	18.40	0
				1	104	18.47	18.52	18.37	0
				50	0	18.46	18.54	18.44	0
				50	28	18.49	18.49	18.47	0
				50	56	18.42	18.55	18.36	0
				100	0	18.49	18.53	18.47	0
			16QAM	1	1	18.43	18.66	18.43	0
			64QAM	1	1	18.60	18.81	18.56	0
			256QAM	1	1	17.92	18.04	17.87	0.5
		CP	QPSK	1	1	18.52	18.68	18.47	0

11.5 WIFI Conducted Power measurement method

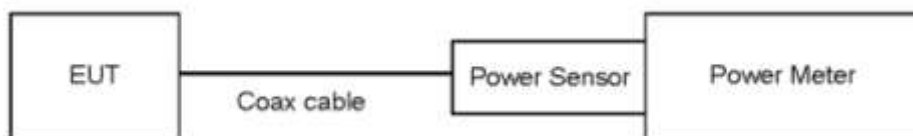
Un-Licensed Bands (DTS Band)

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



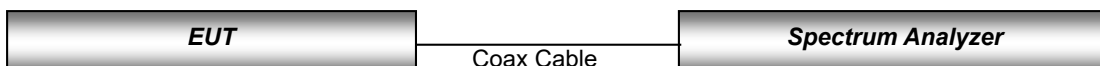
Un-Licensed Bands(NII Band)

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]		
			WIFI 1	WIFI 2	MIMO
802.11b	2 412	1	17.44	17.91	20.69
	2 437	6	17.33	17.85	20.61
	2 462	11	17.39	17.62	20.52
802.11g	2 412	1	14.75	15.66	18.24
	2 437	6	16.21	17.22	19.76
	2 462	11	14.94	15.58	18.28
802.11n (HT20)	2 412	1	13.57	14.21	16.91
	2 437	6	15.98	16.98	19.52
	2 462	11	13.88	14.29	17.10

11.5.2 IEEE 802.11 (2.4 GHz) Reduced Conducted Power RCV ON

Receiver activated (Receiver ON)

Mode	Frequency [MHz]	Channel	IEEE 802.11 (2.4 GHz) Average RF Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11b	2 412	1	13.09	13.01	16.06
	2 437	6	12.52	13.30	15.93
	2 462	11	13.19	13.29	16.25
802.11g	2 412	1	13.09	13.28	16.19
	2 437	6	12.71	13.46	16.11
	2 462	11	13.28	13.48	16.39
802.11n (HT20)	2 412	1	12.78	12.91	15.86
	2 437	6	12.45	13.07	15.79
	2 462	11	12.94	13.16	16.07

11.5.3 IEEE 802.11 (2.4 GHz) RSDB Mode

Mode	Frequency [MHz]	Channel	IEEE 802.11 (2.4 GHz) Average RF Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11b	2 412	1	13.09	13.01	16.06
	2 437	6	12.52	13.30	15.93
	2 462	11	13.19	13.29	16.25
802.11g	2 412	1	13.09	13.28	16.19
	2 437	6	12.71	13.46	16.11
	2 462	11	13.28	13.48	16.39
802.11n (HT20)	2 412	1	12.78	12.91	15.86
	2 437	6	12.45	13.07	15.79
	2 462	11	12.94	13.16	16.07

(RSDB with RCV ON)

Mode	Frequency [MHz]	Channel	IEEE 802.11 (2.4 GHz) Average RF Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11b	2 412	1	11.55	11.32	14.44
	2 437	6	10.83	11.84	14.37
	2 462	11	11.17	11.48	14.33
802.11g	2 412	1	11.58	11.85	14.72
	2 437	6	10.94	11.99	14.50
	2 462	11	10.71	11.48	14.12
802.11n (HT20)	2 412	1	11.17	11.46	14.33
	2 437	6	10.42	11.78	14.17
	2 462	11	10.82	11.54	14.21

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]		
			WIFI 1	WIFI 2	MIMO
802.11a (20 MHz BW)	5 180	36	14.05	14.27	17.18
	5 200	40	14.05	14.19	17.13
	5 220	44	14.12	14.16	17.15
	5 240	48	14.23	14.27	17.26
	5 260	52	14.04	15.07	17.59
	5 280	56	14.00	15.06	17.57
	5 300	60	14.01	15.23	17.67
	5 320	64	14.08	15.31	16.75
	5 500	100	13.90	13.92	16.92
	5 600	120	13.27	14.14	16.74
	5 620	124	13.19	14.13	16.70
	5 720	144	13.20	14.53	16.92
	5 745	149	16.84	16.39	19.63
	5 785	157	16.68	16.00	19.36
	5 825	165	16.61	16.47	19.55
	5 846	169	16.47	16.42	19.46
	5 865	173	16.54	16.50	19.53
	5 885	177	16.88	16.66	19.78
802.11n (20 MHz BW)	5 180	36	13.84	14.12	16.99
	5 200	40	13.78	14.28	17.05
	5 220	44	13.95	14.11	17.04
	5 240	48	14.15	14.31	17.24
	5 260	52	13.96	14.86	17.44
	5 280	56	13.84	14.85	17.38
	5 300	60	13.85	15.26	17.62
	5 320	64	13.99	15.30	17.71
	5 500	100	13.97	13.92	16.95
	5 600	120	13.31	14.12	16.75
	5 620	124	13.18	14.11	16.68
	5 720	144	13.19	14.69	17.02
	5 745	149	16.73	16.25	19.50
	5 785	157	16.58	15.94	19.28
	5 825	165	16.54	16.27	19.42
	5 846	169	16.60	16.18	19.41
	5 865	173	16.21	16.20	19.22
	5 885	177	16.74	16.37	19.57

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average RF Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11ac (20 MHz BW)	5 180	36	14.00	14.09	17.05
	5 200	40	14.08	14.25	17.18
	5 220	44	14.01	14.10	17.07
	5 240	48	14.15	14.29	17.23
	5 260	52	13.96	14.86	17.44
	5 280	56	13.89	15.13	17.56
	5 300	60	13.90	15.21	17.62
	5 320	64	13.88	15.16	17.58
	5 500	100	13.90	13.98	16.95
	5 600	120	13.08	14.22	16.70
	5 620	124	13.18	14.21	16.74
	5 720	144	13.29	14.67	17.04
	5 745	149	16.70	16.49	19.61
	5 785	157	16.54	15.86	19.23
	5 825	165	16.26	16.24	19.26
	5 846	169	16.32	16.32	19.33
	5 865	173	16.38	16.20	19.30
	5 885	177	16.61	16.27	19.46

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average RF Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11n (40 MHz BW)	5 190	38	14.53	15.62	18.12
	5 230	46	14.39	15.86	18.19
	5 270	54	14.52	15.47	18.03
	5 310	62	14.57	15.88	18.28
	5 510	102	13.42	13.82	16.64
	5 600	118	13.57	13.61	16.60
	5 630	124	13.55	13.57	16.57
	5 710	142	13.98	14.19	17.09
	5 755	151	14.57	15.14	17.88
	5 795	159	14.17	14.30	17.24
	5 835	167	14.63	14.58	17.61
	5 875	175	14.83	14.93	17.69
802.11ac (40 MHz BW)	5 190	38	14.53	15.62	18.12
	5 230	46	14.39	15.86	18.19
	5 270	54	14.52	15.47	18.03
	5 310	62	14.57	15.88	18.28
	5 510	102	13.42	13.82	16.64
	5 600	118	13.57	13.61	16.60
	5 630	124	13.45	13.52	16.50
	5 710	142	13.98	14.19	17.09
	5 755	151	14.57	15.14	17.88
	5 795	159	14.17	14.30	17.24
	5 835	167	14.63	14.58	17.61
	5 875	175	14.83	14.93	17.69

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11ac (80 MHz BW)	5 210	42	14.51	14.74	17.64
	5 290	58	14.50	14.56	17.54
	5 530	106	14.33	14.40	17.37
	5 610	122	13.00	14.68	16.93
	5 690	138	13.50	14.94	17.29
	5 775	155	13.16	14.26	16.76
	5 855	171	13.40	14.53	17.01

11.5.5 IEEE 802.11 (5 GHz) with RCV ON Conducted Power

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11ac (80 MHz BW)	5 210	42	9.59	10.96	13.34
	5 290	58	9.96	10.68	13.35
	5 530	106	10.63	10.66	13.66
	5 610	122	10.27	10.60	13.45
	5 690	138	10.30	10.55	13.44
	5 775	155	10.78	10.66	13.73
	5 855	171	10.74	10.81	13.79

11.5.6 IEEE 802.11 (5 GHz) RSDB Mode

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11ac (80 MHz BW)	5 210	42	11.38	12.67	15.09
	5 290	58	11.90	12.64	15.30
	5 530	106	12.96	12.64	15.82
	5 610	122	12.65	12.74	15.71
	5 690	138	12.36	12.73	15.56
	5 775	155	12.97	12.63	15.82
	5 855	171	12.57	12.66	15.63

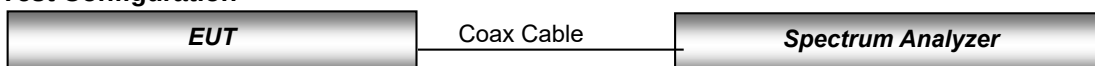
(RSDB with RCV ON)

Mode	Frequency [MHz]	Channel	IEEE 802.11 (5 GHz) Average Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11ac (80 MHz BW)	5 210	42	9.59	10.96	13.34
	5 290	58	9.96	10.68	13.35
	5 530	106	10.63	10.66	13.66
	5 610	122	10.27	10.60	13.45
	5 690	138	10.30	10.55	13.44
	5 775	155	10.78	10.66	13.73
	5 855	171	10.74	10.81	13.79

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	15.36
	39	15.17
	78	14.15
2-DH5	0	10.87
	39	10.97
	78	9.94
3-DH5	0	10.86
	39	10.94
	78	9.92

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

$$= (\text{BT-On time} / \text{BT-Full time}) = (2.880 / 3.750) = 0.768 \text{ (DH5)}$$

Duty factor= 1/Duty cycle : 1.302

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 σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
09/20/2021	20.4	750H	705	0.881	44.128	0.889	42.174	-0.90	4.63
			710	0.883	44.084	0.890	42.148	-0.79	4.59
			750	0.899	43.973	0.893	41.940	0.67	4.85
09/21/2021	20.6	750H	705	0.882	44.142	0.889	42.174	-0.79	4.67
			710	0.884	44.129	0.890	42.148	-0.67	4.70
			750	0.900	43.939	0.893	41.940	0.78	4.77
09/18/2021	21.3	835H	820	0.898	40.669	0.899	41.577	-0.11	-2.18
			835	0.914	40.398	0.900	41.500	1.56	-2.66
			850	0.922	40.184	0.916	41.500	0.66	-3.17
09/22/2021	20.9	835H	820	0.921	40.637	0.899	41.577	2.45	-2.26
			835	0.939	40.459	0.900	41.500	4.33	-2.51
			850	0.950	40.273	0.916	41.500	3.71	-2.96
09/22/2021	20.0	835H	820	0.898	41.724	0.899	41.577	-0.11	0.35
			835	0.915	41.490	0.900	41.500	1.67	-0.02
			850	0.925	41.283	0.916	41.500	0.98	-0.52
10/14/2021	22.2	1800H	1710	1.284	41.558	1.348	40.144	-4.74	3.52
			1750	1.314	41.365	1.371	40.080	-4.16	3.21
			1800	1.361	41.088	1.400	40.000	-2.79	2.72
09/23/2021	20.0	1800H	1710	1.317	41.520	1.348	40.144	-2.30	3.43
			1750	1.364	41.369	1.371	40.080	-0.51	3.22
			1800	1.418	41.050	1.400	40.000	1.29	2.62
10/15/2021	21.1	1800H	1710	1.321	41.533	1.348	40.144	-2.00	3.46
			1750	1.361	41.340	1.371	40.080	-0.73	3.14
			1800	1.417	41.109	1.400	40.000	1.21	2.77
09/29/2021	20.0	1800H	1710	1.321	41.563	1.348	40.144	-2.00	3.53
			1750	1.363	41.326	1.371	40.080	-0.58	3.11
			1800	1.421	41.091	1.400	40.000	1.50	2.73
11/03/2021	22.4	1800H	1710	1.357	41.631	1.348	40.144	0.67	3.70
			1750	1.397	41.505	1.371	40.080	1.90	3.56
			1800	1.430	41.293	1.400	40.000	2.14	3.23
09/19/2021	20.1	1900H	1850	1.349	41.446	1.400	40.000	-3.64	3.61
			1900	1.396	41.259	1.400	40.000	-0.29	3.15
			1910	1.404	41.190	1.400	40.000	0.29	2.97
09/20/2021	20.0	1900H	1850	1.349	41.446	1.400	40.000	-3.64	3.61
			1900	1.396	41.259	1.400	40.000	-0.29	3.15
			1910	1.404	41.190	1.400	40.000	0.29	2.97
10/12/2021	20.5	1900H	1850	1.350	41.446	1.400	40.000	-3.57	3.61
			1900	1.399	41.274	1.400	40.000	-0.07	3.18
			1910	1.405	41.244	1.400	40.000	0.36	3.11
10/13/2021	22.9	1900H	1850	1.354	41.453	1.400	40.000	-3.29	3.63
			1900	1.402	41.282	1.400	40.000	0.14	3.20
			1910	1.415	41.204	1.400	40.000	1.07	3.01
09/24/2021	19.4	1900H	1850	1.351	41.471	1.400	40.000	-3.50	3.68
			1900	1.400	41.268	1.400	40.000	0.00	3.17
			1910	1.409	41.214	1.400	40.000	0.64	3.03

Table for Head Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
09/27/2021	20.3	1900H	1850	1.350	41.437	1.400	40.000	-3.57	3.59
			1900	1.399	41.276	1.400	40.000	-0.07	3.19
			1910	1.407	41.221	1.400	40.000	0.50	3.05
11/04/2021	22.5	1900H	1850	1.402	40.923	1.400	40.000	0.14	2.31
			1900	1.415	40.879	1.400	40.000	1.07	2.20
			1910	1.429	40.838	1.400	40.000	2.07	2.10
10/01/2021	20.4	2450H	2400	1.759	38.092	1.756	39.290	0.17	-3.05
			2450	1.820	37.890	1.800	39.200	1.11	-3.34
			2500	1.882	37.725	1.855	39.140	1.46	-3.62
10/13/2021	21.0	2450H	2400	1.771	38.120	1.756	39.290	0.85	-2.98
			2450	1.827	37.834	1.800	39.200	1.50	-3.48
			2500	1.883	37.714	1.855	39.140	1.51	-3.64
10/07/2021	21.0	2450H	2400	1.773	38.012	1.756	39.290	0.97	-3.25
			2450	1.828	37.859	1.800	39.200	1.56	-3.42
			2500	1.882	37.722	1.855	39.140	1.46	-3.62
10/06/2021	23.1	2450H	2400	1.767	38.119	1.756	39.290	0.63	-2.98
			2450	1.825	37.816	1.800	39.200	1.39	-3.53
			2500	1.884	37.728	1.855	39.140	1.56	-3.61
09/27/2021	21.3	2600H	2500	1.883	40.501	1.866	39.126	0.91	3.51
			2600	2.006	40.126	1.964	39.010	2.14	2.86
			2690	2.101	39.651	2.062	38.894	1.89	1.95

Table for Head Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
10/21/2021	20.2	5180H-5280H	5180	4.639	36.078	4.635	36.010	0.09	0.19
			5250	4.715	35.942	4.706	35.930	0.19	0.03
			5280	4.742	35.929	4.737	35.894	0.11	0.10
			5320	4.794	35.913	4.778	35.846	0.33	0.19
10/22/2021	20.6	5500H-5600H	5500	4.973	35.780	4.963	35.640	0.20	0.39
			5600	5.030	35.485	5.065	35.530	-0.69	-0.13
10/12/2021	20.8	5750H-5825H	5750	5.268	35.334	5.219	35.360	0.94	-0.07
			5800	5.235	35.336	5.270	35.300	-0.66	0.10
			5825	5.248	35.283	5.296	35.270	-0.91	0.04
11/09/21	21.4	5800H-5885H	5800	5.417	36.348	5.270	35.300	2.79	2.97
			5835	5.291	36.350	5.306	35.258	-0.28	3.10
			5845	5.297	36.418	5.316	35.246	-0.36	3.33
			5855	5.341	36.227	5.326	35.235	0.28	2.82
			5865	5.392	36.197	5.337	35.225	1.03	2.76
			5875	5.318	36.052	5.347	35.215	-0.54	2.38
			5885	5.312	36.156	5.357	35.205	-0.84	2.70
09/28/2021	20.2	5180H-5280H	5180	4.629	35.709	4.635	36.010	-0.13	-0.84
			5250	4.705	35.528	4.706	35.930	-0.02	-1.12
			5280	4.744	35.547	4.737	35.894	0.15	-0.97
			5320	4.801	35.578	4.778	35.846	0.48	-0.75
09/29/2021	21.3	5500H-5600H	5500	4.969	35.426	4.963	35.640	0.12	-0.60
			5600	5.015	35.096	5.065	35.530	-0.99	-1.22
09/30/2021	22.1	5750H-5825H	5750	5.267	34.974	5.219	35.360	0.92	-1.09
			5800	5.211	35.008	5.270	35.300	-1.12	-0.83
			5825	5.202	34.966	5.296	35.270	-1.77	-0.86
			5800	5.460	36.098	5.270	35.300	3.61	2.26
11/10/2021	21.8	5800H-5885H	5835	5.320	36.186	5.306	35.258	0.26	2.63
			5845	5.354	36.264	5.316	35.246	0.71	2.89
			5855	5.448	36.024	5.326	35.235	2.29	2.24
			5865	5.483	35.987	5.337	35.225	2.74	2.16
			5875	5.397	35.931	5.347	35.215	0.94	2.03
			5885	5.362	35.778	5.357	35.205	0.09	1.63
10/06/2021	20.9	5180H-5280H	5180	4.624	35.747	4.635	36.010	-0.24	-0.73
			5250	4.712	35.517	4.706	35.930	0.13	-1.15
			5280	4.740	35.556	4.737	35.894	0.06	-0.94
			5320	4.811	35.519	4.778	35.846	0.69	-0.91
10/07/2021	23.2	5500H-5600H	5500	4.968	35.472	4.963	35.640	0.10	-0.47
			5600	5.016	35.102	5.065	35.530	-0.97	-1.20
10/08/2021	22.3	5750H-5825H	5750	5.264	35.202	5.219	35.360	0.86	-0.45
			5800	5.214	35.207	5.270	35.300	-1.06	-0.26
			5825	5.206	35.106	5.296	35.270	-1.70	-0.46
11/10/2021	20.6	5800H-5885H	5800	5.104	36.448	5.270	35.300	-3.15	3.25
			5835	5.151	36.671	5.306	35.258	-2.92	4.01
			5845	5.196	36.699	5.316	35.246	-2.26	4.12
			5855	5.220	36.628	5.326	35.235	-1.99	3.95
			5865	5.244	36.628	5.337	35.225	-1.74	3.98
			5875	5.248	36.631	5.347	35.215	-1.85	4.02
			5885	5.236	36.616	5.357	35.205	-2.26	4.01
10/13/2021	21.0	5750H-5825H	5750	5.274	35.225	5.219	35.360	1.05	-0.38
			5800	5.226	35.235	5.270	35.300	-0.83	-0.18
			5825	5.230	35.198	5.296	35.270	-1.25	-0.20

Table for Head Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
10/28/2021	20.0	5180H-5280H	5180	4.607	36.780	4.635	36.010	-0.60	2.14
			5250	4.710	36.680	4.706	35.930	0.08	2.09
			5280	4.686	36.586	4.737	35.894	-1.08	1.93
			5320	4.661	36.805	4.778	35.846	-2.45	2.68
09/30/2021	20.0	5500H-5600H	5500	5.089	36.564	4.963	35.640	2.54	2.59
			5600	5.210	36.834	5.065	35.530	2.86	3.67
09/28/2021	20.0	5750H-5885H	5750	5.065	36.620	5.219	35.360	-2.95	3.56
			5835	5.158	36.427	5.306	35.258	-2.79	3.32
			5845	5.157	36.502	5.316	35.246	-2.99	3.56
			5855	5.214	36.404	5.326	35.235	-2.10	3.32
			5865	5.240	36.262	5.337	35.225	-1.82	2.94
			5875	5.296	36.046	5.347	35.215	-0.95	2.36
			5885	5.292	36.074	5.357	35.205	-1.21	2.47

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Table for Head Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
09/28/2021	21.9	835H	820	0.922	40.632	0.899	41.577	2.56	-2.27
			835	0.937	40.424	0.900	41.500	4.11	-2.59
			850	0.950	40.166	0.916	41.500	3.71	-3.21
10/18/2021	22.3	1800H	1710	1.319	41.533	1.348	40.144	-2.15	3.46
			1750	1.365	41.357	1.371	40.080	-0.44	3.19
			1800	1.413	41.096	1.400	40.000	0.93	2.74
10/19/2021	22.3	1800H	1710	1.302	41.540	1.348	40.144	-3.41	3.48
			1750	1.364	41.360	1.371	40.080	-0.51	3.19
			1800	1.417	41.092	1.400	40.000	1.21	2.73
10/20/2021	22.2	1800H	1710	1.337	41.539	1.348	40.144	-0.82	3.47
			1750	1.384	41.322	1.371	40.080	0.95	3.10
			1800	1.436	41.133	1.400	40.000	2.57	2.83
10/21/2021	21.9	1800H	1710	1.323	41.549	1.348	40.144	-1.85	3.50
			1750	1.364	41.372	1.371	40.080	-0.51	3.22
			1800	1.417	41.131	1.400	40.000	1.21	2.83

- Hybrid SPLSR /Volume (Main Ant#1-1/Main Ant#1-2)

Table for Head Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
10/28/2021	23.3	750H	705	0.849	43.160	0.889	42.174	-4.50	2.34
			710	0.847	43.043	0.890	42.148	-4.83	2.12
			750	0.885	42.517	0.893	41.940	-0.90	1.38
10/28/2021	23.3	835H	820	0.927	40.782	0.899	41.577	3.11	-1.91
			835	0.914	40.545	0.900	41.500	1.56	-2.30
			850	0.927	40.313	0.916	41.500	1.20	-2.86
10/28/2021	20.0	835H	820	0.898	40.715	0.899	41.577	-0.11	-2.07
			835	0.914	40.545	0.900	41.500	1.56	-2.30
			850	0.927	40.389	0.916	41.500	1.20	-2.68
10/28/2021	23.3	1800H	1710	1.323	41.525	1.348	40.144	-1.85	3.44
			1750	1.365	41.376	1.371	40.080	-0.44	3.23
			1800	1.419	41.078	1.400	40.000	1.36	2.70
10/28/2021	20.0	1800H	1710	1.321	41.570	1.348	40.144	-2.00	3.55
			1750	1.361	41.360	1.371	40.080	-0.73	3.19
			1800	1.416	41.122	1.400	40.000	1.14	2.81
10/29/2021	20.2	1900H	1850	1.356	40.608	1.400	40.000	-3.14	1.52
			1900	1.401	40.505	1.400	40.000	0.07	1.26
			1910	1.410	40.543	1.400	40.000	0.71	1.36

- Hybrid SPLSR/Volume (Sub Ant#6)

Table for Head Tissue Verification									
Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ϵ	Target Conductivity σ (S/m)	Target Dielectric Constant, ϵ	% dev σ	% dev ϵ
10/29/2021	20.1	1800H	1710	1.306	42.086	1.348	40.144	-3.12	4.84
			1750	1.342	41.951	1.371	40.080	-2.12	4.67
			1800	1.409	41.742	1.400	40.000	0.64	4.35
10/29/2021	19.1	2450H	2400	1.771	38.077	1.756	39.290	0.85	-3.09
			2450	1.825	38.859	1.800	39.200	1.39	-0.87
			2500	1.883	37.716	1.855	39.140	1.51	-3.64
10/29/2021	20.2	5750H-5825H	5750	5.034	36.735	5.219	35.360	-3.54	3.89
			5800	5.136	36.390	5.270	35.300	-2.54	3.09
			5825	5.052	36.143	5.296	35.270	-4.61	2.48

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 _{1g} (SPEAG) [W/kg]	50mW Measured SAR _{1g} [W/kg]	1 W Normalized SAR _{1g} [W/kg]	Deviation [%]	Limit [%]
750	09/20/2021	3972	1014	Head	20.6	20.4	8.55	0.411	8.22	- 3.86	± 10
750	09/21/2021	3972	1014	Head	20.7	20.6	8.55	0.413	8.26	- 3.39	± 10
835	09/18/2021	3972	4d165	Head	21.4	21.3	9.68	0.477	9.54	- 1.45	± 10
835	09/22/2021	3972		Head	21.1	20.9	9.68	0.493	9.86	+ 1.86	± 10
835	09/22/2021	3797		Head	20.1	20.0	9.68	0.483	9.66	- 0.21	± 10
1 800	10/14/2021	3972	2d015	Head	22.3	22.2	38.8	1.810	36.2	- 6.70	± 10
1 800	09/23/2021	3797		Head	20.2	20.0	38.8	1.860	37.2	- 4.12	± 10
1 800	11/03/2021	3797		Head	22.5	22.4	38.8	1.910	38.2	-1.55	± 10
1 900	09/19/2021	3797	5d032	Head	20.2	20.1	40.0	2.000	40.0	+ 0.00	± 10
1 900	10/12/2021	3972		Head	20.6	20.5	40.0	1.930	38.6	- 3.50	± 10
1 900	09/24/2021	3797		Head	19.5	19.4	40.0	1.890	37.8	- 5.50	± 10
1 900	11/04/2021	3797		Head	22.6	22.5	40.0	2.070	41.4	+3.50	± 10
2 450	10/01/2021	7679	965	Head	20.5	20.4	53.3	2.650	53.0	- 0.56	± 10
2 450	10/13/2021	3797		Head	21.1	21.0	53.3	2.580	51.6	- 3.19	± 10
2 450	10/05/2021	3797		Head	20.8	20.6	53.3	2.700	54.0	+ 1.31	± 10
2 450	10/06/2021	3797		Head	23.3	23.1	53.3	2.720	54.4	+ 2.06	± 10
2 600	09/27/2021	3797	1106	Head	21.4	21.3	56.3	2.860	57.2	+ 1.60	± 10
5 250	09/28/2021	3797	1107	Head	20.4	20.2	80.6	4.280	85.6	+ 6.20	± 10
5 600	09/29/2021	3797		Head	21.4	21.3	84.2	4.440	88.8	+ 5.46	± 10
5 750	09/30/2021	3797		Head	22.2	22.1	80.9	3.890	77.8	- 3.83	± 10
5 250	10/21/2021	3797		Head	20.3	20.2	80.6	4.250	85.0	+ 5.46	± 10
5 600	10/22/2021	3797		Head	20.7	20.6	84.2	4.460	89.2	+ 5.94	± 10
5 750	10/12/2021	3797		Head	20.9	20.8	80.9	3.900	78.0	- 3.58	± 10
5 250	10/06/2021	7370		Head	21.0	20.9	80.6	3.770	75.4	- 6.45	± 10
5 600	10/07/2021	7370		Head	23.2	23.2	84.2	4.110	82.2	- 2.38	± 10
5 750	10/08/2021	7370		Head	22.4	22.3	80.9	3.750	75.0	- 7.29	± 10
5 750	10/13/2021	3797		Head	21.1	21.0	80.9	3.880	77.6	- 4.08	± 10
5 250	10/28/2021	3797		Head	20.1	20.0	80.6	4.110	82.2	+ 1.99	± 10
5 600	09/30/2021	3797		Head	20.1	20.0	84.2	4.310	86.2	+ 2.38	± 10
5 750	09/28/2021	3797		Head	20.1	20.0	80.9	3.930	78.6	- 2.84	± 10
5 800	11/10/2021	3865	1277	Head	21.9	21.8	80.9	4.190	83.8	+3.58	± 10
5 800	11/09/2021	3865		Head	21.5	21.4	80.9	4.150	83.0	+2.60	± 10
5 800	11/10/2021	7309		Head	20.7	20.6	80.9	3.890	77.8	-3.83	± 10

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Freq. [MHz]	Date	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp. [°C]	Liquid Temp. [°C]	1 W Target SAR _{1g} (SPEAG) [W/kg]	50mW Measured SAR _{1g} [W/kg]	1 W Normalized SAR _{1g} [W/kg]	Deviation [%]	Limit [%]
835	09/28/2021	3972	4d165	Head	22.0	21.9	9.68	0.515	10.3	+ 6.40	± 10
1 800	10/18/2021	3972	2d015	Head	22.4	22.3	38.8	2.050	41.0	+ 5.67	± 10
1 800	10/20/2021	3972	2d015	Head	22.3	22.2	38.8	1.970	39.4	+ 1.55	± 10
1 800	10/21/2021	3797	2d015	Head	22.0	21.9	38.8	1.940	38.8	+ 0.00	± 10

- Hybrid SLPSR /Volume (Main Ant#1-1/Main Ant#1-2)

Freq. [MHz]	Date	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp. [°C]	Liquid Temp. [°C]	1 W Target SAR _{1g} (SPEAG) [W/kg]	50mW Measured SAR _{1g} [W/kg]	1 W Normalized SAR _{1g} [W/kg]	Deviation [%]	Limit [%]
750	10/28/2021	3972	1014	Head	23.4	23.3	8.55	0.406	8.12	- 5.03	± 10
835	10/28/2021	3972	4d165	Head	23.4	23.3	9.68	0.504	10.08	+ 4.13	± 10
835	10/28/2021	3797	4d165	Head	20.1	20.0	9.68	0.495	9.90	+ 2.27	± 10
1 800	10/28/2021	3972	2d015	Head	23.4	23.3	38.8	2.00	40.0	+ 3.09	± 10
1 800	10/28/2021	3797	2d015	Head	20.1	20.0	38.8	1.88	37.6	- 3.09	± 10
1 900	10/29/2021	3797	5d032	Head	20.3	20.2	40.0	1.90	38.0	- 5.00	± 10

- Hybrid SPLSR/Volume (Sub Ant#6)

Freq. [MHz]	Date	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp. [°C]	Liquid Temp. [°C]	1 W Target SAR _{1g} (SPEAG) [W/kg]	50mW Measured SAR _{1g} [W/kg]	1 W Normalized SAR _{1g} [W/kg]	Deviation [%]	Limit [%]
1 800	10/29/2021	3903	2d015	Head	20.2	20.1	38.8	1.88	37.6	- 3.09	± 10
2 450	10/29/2021	7655	965	Head	19.2	19.1	53.3	2.54	50.8	- 4.69	± 10
5 750	10/29/2021	3797	1107	Head	20.3	20.2	80.9	3.89	77.8	- 3.83	± 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 _{10g} (SPEAG)	50mW Measured SAR _{10g}	1 W Normalized SAR _{10g}	Deviation	Limit
[MHz]					[°C]	[°C]	[W/kg]	[W/kg]	[W/kg]	[%]	[%]
1 800	10/15/2021	3972	2d015	Head	21.2	21.1	20.0	1.070	21.4	+ 7.00	± 10
1 800	09/29/2021	3972		Head	20.1	20.0	20.0	1.070	21.4	+ 7.00	± 10
1 800	10/19/2021	3972		Head	22.4	22.3	20.0	1.060	21.2	+ 6.00	± 10
1 900	09/19/2021	3797	5d032	Head	20.2	20.1	20.8	1.010	20.2	- 2.88	± 10
1 900	10/13/2021	3972		Head	23.0	22.9	20.8	1.080	21.6	+ 3.85	± 10
1 900	09/27/2021	3972		Head	20.4	20.3	20.8	1.040	20.8	+ 0.00	± 10
5 250	10/21/2021	3797	1107	Head	20.3	20.2	23.2	1.220	24.4	+ 5.17	± 10
5 600	10/22/2021	3797		Head	20.7	20.6	24.2	1.270	25.4	+ 4.96	± 10
5 250	10/28/2021	3797		Head	20.1	20.0	23.2	1.170	23.4	+ 0.86	± 10
5 600	09/30/2021	3797	1277	Head	20.1	20.0	24.2	1.210	24.2	+ 0.00	± 10
5 800	11/10/2021	7309		Head	20.6	20.5	22.7	1.120	22.4	- 1.32	± 10
5 800	11/10/2021	3865		Head	21.9	21.8	22.7	1.210	24.2	+ 6.61	± 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.		(dB)	(dB)	(dB)			(W/kg)		(W/kg)	
836.6	190	GSM	34.0	33.27	-0.14	Left Cheek	1:8.3	0.162	1.183	0.192	-
836.6	190	GSM	34.0	33.27	0.17	Left Tilt	1:8.3	0.110	1.183	0.130	-
836.6	190	GSM	34.0	33.27	0.14	Right Cheek	1:8.3	0.293	1.183	0.347	-
836.6	190	GSM	34.0	33.27	0.18	Right Tilt	1:8.3	0.127	1.183	0.150	-
836.6	190	GRPS 3Tx	30.0	29.21	0.10	Left Cheek	1:2.77	0.202	1.199	0.242	-
836.6	190	GRPS 3Tx	30.0	29.21	0.10	Left Tilt	1:2.77	0.116	1.199	0.139	-
836.6	190	GRPS 3Tx	30.0	29.21	0.17	Right Cheek	1:2.77	0.297	1.199	0.356	1
836.6	190	GRPS 3Tx	30.0	29.21	0.14	Right Tilt	1:2.77	0.138	1.199	0.166	-
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.		(dB)	(dB)	(dB)			(W/kg)		(W/kg)	
1 880	661	GSM	31.0	29.30	-0.19	Left Cheek	1:8.3	0.096	1.479	0.142	-
1 880	661	GSM	31.0	29.30	0.13	Left Tilt	1:8.3	0.025	1.479	0.037	-
1 880	661	GSM	31.0	29.30	-0.10	Right Cheek	1:8.3	0.063	1.479	0.093	-
1 880	661	GSM	31.0	29.30	0.12	Right Tilt	1:8.3	0.042	1.479	0.062	-
1 880	661	GRPS 3Tx	27.0	25.32	-0.06	Left Cheek	1:4.15	0.119	1.472	0.175	2
1 880	661	GRPS 3Tx	27.0	25.32	0.01	Left Tilt	1:4.15	0.031	1.472	0.046	-
1 880	661	GRPS 3Tx	27.0	25.32	-0.12	Right Cheek	1:4.15	0.071	1.472	0.105	-
1 880	661	GRPS 3Tx	27.0	25.32	0.12	Right Tilt	1:4.15	0.047	1.472	0.069	-
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.		(dB)	(dB)	(dB)			(W/kg)		(W/kg)	
836.6	4183	RMC	25.5	24.93	0.12	Left Cheek	1:1	0.224	1.140	0.255	-
836.6	4183	RMC	25.5	24.93	0.09	Left Tilt	1:1	0.133	1.140	0.152	-
836.6	4183	RMC	25.5	24.93	0.17	Right Cheek	1:1	0.261	1.140	0.298	3
836.6	4183	RMC	25.5	24.93	0.06	Right Tilt	1:1	0.131	1.140	0.149	-
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	24.5	23.14	0.11	Left Cheek	1:1	0.147	1.368	0.201	4
1 732.4	1412	RMC	24.5	23.14	-0.19	Left Tilt	1:1	0.033	1.368	0.045	-
1 732.4	1412	RMC	24.5	23.14	0.18	Right Cheek	1:1	0.083	1.368	0.114	-
1 732.4	1412	RMC	24.5	23.14	0.16	Right Tilt	1:1	0.045	1.368	0.062	-
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	9400	RMC	24.5	23.25	0.07	Left Cheek	1:1	0.113	1.334	0.151	5
1 880	9400	RMC	24.5	23.25	0.17	Left Tilt	1:1	0.035	1.334	0.047	-
1 880	9400	RMC	24.5	23.25	0.17	Right Cheek	1:1	0.090	1.334	0.120	-
1 880	9400	RMC	24.5	23.25	0.19	Right Tilt	1:1	0.048	1.334	0.064	-
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.		(MHz)	(dBm)	(dBm)	(dB)		(dB)					(W/kg)		(W/kg)
707.5	23095	QPSK	10	24.5	24.04	0.17	Left Cheek	0	1	24	1:1	0.175	1.112	0.195	6
707.5	23095	QPSK	10	23.5	22.77	0.11	Left Cheek	1	25	12	1:1	0.143	1.183	0.169	-
707.5	23095	QPSK	10	24.5	24.04	-0.03	Left Tilt	0	1	24	1:1	0.096	1.112	0.107	-
707.5	23095	QPSK	10	23.5	22.77	-0.01	Left Tilt	1	25	12	1:1	0.078	1.183	0.092	-
707.5	23095	QPSK	10	24.5	24.04	0.10	Right Cheek	0	1	24	1:1	0.169	1.112	0.188	-
707.5	23095	QPSK	10	23.5	22.77	0.04	Right Cheek	1	25	12	1:1	0.138	1.183	0.163	-
707.5	23095	QPSK	10	24.5	24.04	-0.14	Right Tilt	0	1	24	1:1	0.074	1.112	0.082	-
707.5	23095	QPSK	10	23.5	22.77	-0.04	Right Tilt	1	25	12	1:1	0.060	1.183	0.071	-
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.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
782	23230	QPSK	10	24.5	23.60	0.19	Left Cheek	0	1	0	1:1	0.186	1.230	0.229	7
782	23230	QPSK	10	23.5	22.17	0.19	Left Cheek	1	25	24	1:1	0.132	1.358	0.179	-
782	23230	QPSK	10	24.5	23.60	0.02	Left Tilt	0	1	0	1:1	0.080	1.230	0.098	-
782	23230	QPSK	10	23.5	22.17	-0.02	Left Tilt	1	25	24	1:1	0.056	1.358	0.076	-
782	23230	QPSK	10	24.5	23.60	0.11	Right Cheek	0	1	0	1:1	0.159	1.230	0.196	-
782	23230	QPSK	10	23.5	22.17	0.10	Right Cheek	1	25	24	1:1	0.125	1.358	0.170	-
782	23230	QPSK	10	24.5	23.60	-0.05	Right Tilt	0	1	0	1:1	0.089	1.230	0.109	-
782	23230	QPSK	10	23.5	22.17	0.16	Right Tilt	1	25	24	1:1	0.062	1.358	0.084	-
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.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
1 905	26590	QPSK	20	24.0	23.54	0.14	Left Cheek	0	1	49	1:1	0.081	1.112	0.090	-
1 905	26590	QPSK	20	23.0	22.56	0.18	Left Cheek	1	50	0	1:1	0.061	1.107	0.068	-
1 905	26590	QPSK	20	24.0	23.54	0.19	Left Tilt	0	1	49	1:1	0.032	1.112	0.036	-
1 905	26590	QPSK	20	23.0	22.56	0.17	Left Tilt	1	50	0	1:1	0.030	1.107	0.033	-
1 905	26590	QPSK	20	24.0	23.54	0.14	Right Cheek	0	1	49	1:1	0.085	1.112	0.094	8
1 905	26590	QPSK	20	23.0	22.56	0.18	Right Cheek	1	50	0	1:1	0.066	1.107	0.073	-
1 905	26590	QPSK	20	24.0	23.54	-0.18	Right Tilt	0	1	49	1:1	0.043	1.112	0.048	-
1 905	26590	QPSK	20	23.0	22.56	-0.17	Right Tilt	1	50	0	1:1	0.035	1.107	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 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.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
831.5	26865	QPSK	15	25.0	24.42	0.17	Left Cheek	0	1	0	1:1	0.169	1.143	0.193	-
831.5	26865	QPSK	15	24.0	22.75	-0.06	Left Cheek	1	36	18	1:1	0.137	1.334	0.183	-
831.5	26865	QPSK	15	25.0	24.42	0.10	Left Tilt	0	1	0	1:1	0.116	1.143	0.133	-
831.5	26865	QPSK	15	24.0	23.55	-0.03	Left Tilt	1	36	18	1:1	0.094	1.334	0.125	-
831.5	26865	QPSK	15	25.0	24.42	0.10	Right Cheek	0	1	0	1:1	0.199	1.143	0.227	9
831.5	26865	QPSK	15	24.0	23.55	0.09	Right Cheek	1	36	18	1:1	0.164	1.334	0.219	-
831.5	26865	QPSK	15	25.0	24.42	0.09	Right Tilt	0	1	0	1:1	0.107	1.143	0.122	-
831.5	26865	QPSK	15	24.0	23.55	0.11	Right Tilt	1	36	18	1:1	0.087	1.334	0.116	-
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

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.														
2 636.5	41055	QPSK	20	25.0	24.94	0.12	Left Cheek	0	1	0	1:1.58	0.133	1.014	0.135	10
2 636.5	41055	QPSK	20	24.0	22.99	0.19	Left Cheek	1	50	0	1:1.58	0.076	1.262	0.096	-
2 636.5	41055	QPSK	20	25.0	24.94	0.14	Left Tilt	0	1	0	1:1.58	0.03	1.014	0.030	-
2 636.5	41055	QPSK	20	24.0	22.99	-0.03	Left Tilt	1	50	0	1:1.58	0.026	1.262	0.033	-
2 636.5	41055	QPSK	20	25.0	24.94	0.13	Right Cheek	0	1	0	1:1.58	0.011	1.014	0.011	-
2 636.5	41055	QPSK	20	24.0	22.99	0.18	Right Cheek	1	50	0	1:1.58	0.058	1.262	0.073	-
2 636.5	41055	QPSK	20	25.0	24.94	0.16	Right Tilt	0	1	0	1:1.58	0.00106	1.014	0.001	-
2 636.5	41055	QPSK	20	24.0	22.99	0.18	Right Tilt	1	50	0	1:1.58	0.038	1.262	0.048	-
2 636.5	41055	QPSK	20	26.0	25.97	-0.11	Left Cheek	0	1	0	1:2.31	0.122	1.007	0.123	**
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

Note: ** Data entry indicate LTE 41 Power Class 2(HPUE)

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.														
1 720	132072	QPSK	20	24.5	23.37	0.14	Left Cheek	0	1	49	1:1	0.110	1.156	0.127	11
1 720	132072	QPSK	20	23.5	22.39	-0.15	Left Cheek	1	50	25	1:1	0.088	1.151	0.101	-
1 720	132072	QPSK	20	24.5	23.37	0.14	Left Tilt	0	1	49	1:1	0.041	1.156	0.047	-
1 720	132072	QPSK	20	23.5	22.39	0.19	Left Tilt	1	50	49	1:1	0.036	1.151	0.041	-
1 720	132072	QPSK	20	24.5	23.37	0.16	Right Cheek	0	1	49	1:1	0.110	1.156	0.127	-
1 720	132072	QPSK	20	23.5	22.39	0.14	Right Cheek	1	50	49	1:1	0.090	1.151	0.104	-
1 720	132072	QPSK	20	24.5	23.37	0.13	Right Tilt	0	1	49	1:1	0.045	1.156	0.052	-
1 720	132072	QPSK	20	23.5	22.39	0.08	Right Tilt	1	50	49	1:1	0.036	1.151	0.041	-
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(Upper ,Sub Ant #6) Head SAR under ULCA with RCV ON

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.														
1 900	19100	QPSK	20	18.0	17.98	0.01	Left Cheek	0	1	0	1:1	0.493	1.005	0.495	-
1 900	19100	QPSK	20	18.0	17.95	0.10	Left Cheek	0	18	0	1:1	0.484	1.012	0.490	-
1 900	19100	QPSK	20	18.0	17.98	0.02	Left Tilt	0	1	0	1:1	0.591	1.005	0.594	-
1 900	19100	QPSK	20	18.0	17.95	-0.07	Left Tilt	0	18	0	1:1	0.610	1.012	0.617	12
1 900	19100	QPSK	20	18.0	17.98	-0.04	Right Cheek	0	1	0	1:1	0.313	1.005	0.314	-
1 900	19100	QPSK	20	18.0	17.95	0.01	Right Cheek	0	18	0	1:1	0.309	1.012	0.313	-
1 900	19100	QPSK	20	18.0	17.98	0.02	Right Tilt	0	1	0	1:1	0.493	1.005	0.495	-
1 900	19100	QPSK	20	18.0	17.95	0.12	Right Tilt	0	18	0	1:1	0.500	1.012	0.506	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

LTE Band 4(Upper, Sub Ant #6) Head SAR under ULCA with RCV ON

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.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
1 732.5	20175	QPSK	20	18.0	17.88	0.10	Left Cheek	0	1	0	1:1	0.410	1.028	0.421	-
1 732.5	20175	QPSK	20	18.0	17.88	0.12	Left Cheek	0	18	0	1:1	0.448	1.028	0.461	-
1 732.5	20175	QPSK	20	18.0	17.88	0.05	Left Tilt	0	1	0	1:1	0.474	1.028	0.487	-
1 732.5	20175	QPSK	20	18.0	17.88	0.11	Left Tilt	0	18	0	1:1	0.508	1.028	0.522	13
1 732.5	20175	QPSK	20	18.0	17.88	0.08	Right Cheek	0	1	0	1:1	0.326	1.028	0.335	-
1 732.5	20175	QPSK	20	18.0	17.88	-0.05	Right Cheek	0	18	0	1:1	0.301	1.028	0.309	-
1 732.5	20175	QPSK	20	18.0	17.88	-0.02	Right Tilt	0	1	0	1:1	0.486	1.028	0.500	-
1 732.5	20175	QPSK	20	18.0	17.88	-0.01	Right Tilt	0	18	0	1:1	0.476	1.028	0.489	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

NR Band n5 (Cell) Head SAR

Frequency		Modulation	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.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.44	0.19	Left Cheek	0	1	53	1:1	0.174	1.138	0.198	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.32	0.15	Left Cheek	0	50	28	1:1	0.140	1.169	0.164	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.44	0.07	Left Tilt	0	1	53	1:1	0.139	1.138	0.158	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.32	0.06	Left Tilt	0	50	28	1:1	0.097	1.169	0.113	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.44	0.07	Right Cheek	0	1	53	1:1	0.209	1.138	0.238	14
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.32	0.18	Right Cheek	0	50	28	1:1	0.167	1.169	0.195	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.44	0.04	Right Tilt	0	1	53	1:1	0.114	1.138	0.130	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.32	-0.01	Right Tilt	0	50	28	1:1	0.090	1.169	0.105	-
836.5	167300	CP OFDM QPSK	20	23.5	22.82	0.01	Right Cheek	1.5	1	1	1:1	0.135	1.169	0.158	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

NR Band n66(ubpper, Sub Ant #6) Head SAR under EN-DC with LTE B2

Frequency		Modulation	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.		(Mhz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
1 745	349000	DFT-s OFDM QPSK	20	19.0	18.52	0.10	Left Cheek	0	1	104	1:1	0.526	1.117	0.587	-
1 745	349000	DFT-s OFDM QPSK	20	19.0	18.55	0.17	Left Cheek	0	50	56	1:1	0.554	1.109	0.614	-
1 745	349000	DFT-s OFDM QPSK	20	19.0	18.52	0.12	Left Tilt	0	1	104	1:1	0.793	1.117	0.886	-
1 720	344000	DFT-s OFDM QPSK	20	19.0	18.48	0.15	Left Tilt	0	1	1	1:1	0.889	1.127	1.002	-
1 770	354000	DFT-s OFDM QPSK	20	19.0	18.42	0.08	Left Tilt	0	1	1	1:1	0.842	1.143	0.962	-
1 745	349000	DFT-s OFDM QPSK	20	19.0	18.55	-0.12	Left Tilt	0	50	56	1:1	0.836	1.109	0.927	-
1 720	344000	DFT-s OFDM QPSK	20	19.0	18.49	-0.01	Left Tilt	0	50	28	1:1	0.820	1.125	0.922	-
1 770	354000	DFT-s OFDM QPSK	20	19.0	18.47	0.15	Left Tilt	0	50	28	1:1	0.831	1.130	0.939	-
1 720	344000	DFT-s OFDM QPSK	20	19.0	18.53	-0.07	Left Tilt	0	100	0	1:1	0.900	1.114	1.003	15
1 745	349000	DFT-s OFDM QPSK	20	19.0	18.52	-0.08	Right Cheek	0	1	104	1:1	0.388	1.117	0.433	-
1 745	349000	DFT-s OFDM QPSK	20	19.0	18.55	-0.02	Right Cheek	0	50	56	1:1	0.393	1.109	0.436	-
1 745	349000	DFT-s OFDM QPSK	20	19.0	18.52	0.04	Right Tilt	0	1	104	1:1	0.712	1.117	0.795	-
1 745	349000	DFT-s OFDM QPSK	20	19.0	18.55	0.03	Right Tilt	0	50	56	1:1	0.748	1.109	0.830	-
1 720	344000	DFT-s OFDM QPSK	20	19.0	18.49	-0.11	Right Tilt	0	50	28	1:1	0.640	1.125	0.720	-
1 770	354000	DFT-s OFDM QPSK	20	19.0	18.47	-0.07	Right Tilt	0	50	28	1:1	0.754	1.130	0.852	-
1 720	344000	DFT-s OFDM QPSK	20	19.0	18.53	-0.16	Right Tilt	0	100	0	1:1	0.729	1.114	0.812	-
1 745	349000	CP OFDM QPSK	20	19.0	18.68	-0.04	Left Tilt	0	1	1	1:1	0.899	1.076	0.968	-
1 720	344000	DFT-s OFDM QPSK	20	19.0	18.53	0.12	Left Tilt	0	100	0	1:1	0.900	1.114	1.003	*
ANSI/ IEEE C95.1 – 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Head 1.6 W/kg Averaged over 1 gram								

Note: * Data entry indicate Variability measurement.

NR Band n66(Main Ant#1-1) (AWS) Head SAR

Frequency		Modulation	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.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(W/kg)		(W/kg)	
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.51	-0.17	Left Cheek	0	1	1	1:1	0.117	1.119	0.131	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.71	0.16	Left Cheek	0	50	28	1:1	0.119	1.069	0.127	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.51	0.19	Left Tilt	0	1	1	1:1	0.060	1.119	0.067	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.71	0.18	Left Tilt	0	50	28	1:1	0.053	1.069	0.057	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.51	0.19	Right Cheek	0	1	1	1:1	0.157	1.119	0.176	16
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.71	0.11	Right Cheek	0	50	28	1:1	0.130	1.069	0.139	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.51	0.01	Right Tilt	0	1	1	1:1	0.056	1.119	0.063	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.71	0.09	Right Tilt	0	50	28	1:1	0.054	1.069	0.058	-
1 745	349000	CP OFDM QPSK	20	23.5	23.21	0.18	Right Cheek	0	1	1	1:1	0.072	1.069	0.077	-
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.															
2 462	11	802.11b	20	1	14.0	13.19	-0.02	Left Cheek	WIFI1	99.0	0.445	0.236	1.205	1.010	0.287	-
2 462	11	802.11b	20	1	14.0	13.19	0.13	Left Tilt	WIFI1	99.0	0.0656	0.038	1.205	1.010	0.046	-
2 462	11	802.11b	20	1	14.0	13.19	0.14	Right Cheek	WIFI1	99.0	0.619	0.441	1.205	1.010	0.500	-
2 462	11	802.11b	20	1	14.0	13.19	0.10	Right Tilt	WIFI1	99.0	0.122	0.074	1.205	1.010	0.090	-
2 437	6	802.11b	20	1	14.0	13.30	0.14	Left Cheek	WIFI2	99.0	0.0217	0.014	1.175	1.010	0.017	-
2 437	6	802.11b	20	1	14.0	13.30	0.12	Left Tilt	WIFI2	99.0	0.0373	0.016	1.175	1.010	0.019	-
2 437	6	802.11b	20	1	14.0	13.30	0.16	Right Cheek	WIFI2	99.0	0.100	0.025	1.175	1.010	0.030	-
2 437	6	802.11b	20	1	14.0	13.30	0.14	Right Tilt	WIFI2	99.0	0.130	0.029	1.175	1.010	0.034	-
2 462	11	802.11b	20	1	17.0	16.25	0.18	Left Cheek	MIMO	99.0	0.300	0.190	1.219	1.010	0.234	-
2 462	11	802.11b	20	1	17.0	16.25	-0.02	Left Tilt	MIMO	99.0	0.0809	0.051	1.219	1.010	0.063	-
2 462	11	802.11b	20	1	17.0	16.25	-0.10	Right Cheek	MIMO	99.0	0.932	0.491	1.219	1.010	0.605	17
2 462	11	802.11b	20	1	17.0	16.25	0.01	Right Tilt	MIMO	99.0	0.144	0.095	1.219	1.010	0.117	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population										Head 1.6 W/kg Averaged over 1 gram						

- For the SAR measurement results of MIMO Ant Mode(802.11b), higher power scaling factor among each SISO ANT was applied.

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	12.0	11.55	-0.06	Left Cheek	WIFI1	99.0	0.311	0.171	1.109	1.010	0.192	-
2 412	1	802.11b	20	1	12.0	11.55	-0.14	Left Tilt	WIFI1	99.0	0.057	0.019	1.109	1.010	0.021	-
2 412	1	802.11b	20	1	12.0	11.55	-0.01	Right Cheek	WIFI1	99.0	0.543	0.263	1.109	1.010	0.295	18
2 412	1	802.11b	20	1	12.0	11.55	0.17	Right Tilt	WIFI1	99.0	0.079	0.039	1.109	1.010	0.044	-
2 437	6	802.11b	20	1	12.0	11.84	-0.15	Left Cheek	WIFI2	99.0	0.0157	0.00603	1.038	1.010	0.006	-
2 437	6	802.11b	20	1	12.0	11.84	-0.11	Left Tilt	WIFI2	99.0	0.0338	0.011	1.038	1.010	0.012	-
2 437	6	802.11b	20	1	12.0	11.84	0.17	Right Cheek	WIFI2	99.0	0.0523	0.021	1.038	1.010	0.022	-
2 437	6	802.11b	20	1	12.0	11.84	0.01	Right Tilt	WIFI2	99.0	0.0501	0.021	1.038	1.010	0.022	-
2 412	1	802.11b	20	1	15.0	14.44	-0.12	Left Cheek	MIMO	99.0	0.151	0.104	1.169	1.010	0.131	-
2 412	1	802.11b	20	1	15.0	14.44	0.13	Left Tilt	MIMO	99.0	0.0453	0.024	1.169	1.010	0.030	-
2 412	1	802.11b	20	1	15.0	14.44	0.11	Right Cheek	MIMO	99.0	0.351	0.216	1.169	1.010	0.272	-
2 412	1	802.11b	20	1	15.0	14.44	-0.08	Right Tilt	MIMO	99.0	0.0884	0.043	1.169	1.010	0.054	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population										Head 1.6 W/kg Averaged over 1 gram						

- For the SAR measurement results of MIMO Ant Mode(802.11b), higher power scaling factor among each SISO ANT was applied.

NII Head SAR – RCV-ON/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.															
5 290	58	802.11ac	80	MCS0	11.0	9.96	-0.11	Left Cheek	WIFI1	86.0	0.224	0.095	1.271	1.162	0.140	-
5 290	58	802.11ac	80	MCS0	11.0	9.96	0.14	Left Tilt	WIFI1	86.0	0.103	0.012	1.271	1.162	0.018	-
5 290	58	802.11ac	80	MCS0	11.0	9.96	0.19	Right Cheek	WIFI1	86.0	0.646	0.231	1.271	1.162	0.341	-
5 290	58	802.11ac	80	MCS0	11.0	9.96	-0.04	Right Tilt	WIFI1	86.0	0.167	0.029	1.271	1.162	0.043	-
5 290	58	802.11ac	80	MCS0	11.0	10.68	0.15	Left Cheek	WIFI2	86.0	0	0	1.076	1.162	0	-
5 290	58	802.11ac	80	MCS0	11.0	10.68	0.19	Left Tilt	WIFI2	86.0	0	0	1.076	1.162	0	-
5 290	58	802.11ac	80	MCS0	11.0	10.68	-0.06	Right Cheek	WIFI2	86.0	0	0	1.076	1.162	0	-
5 290	58	802.11ac	80	MCS0	11.0	10.68	0.11	Right Tilt	WIFI2	86.0	0	0	1.076	1.162	0	-
5 290	58	802.11ac	80	MCS0	14.0	13.35	-0.10	Left Cheek	MIMO	86.0	0.369	0.087	1.271	1.162	0.129	-
5 290	58	802.11ac	80	MCS0	14.0	13.35	-0.11	Left Tilt	MIMO	86.0	0.04	0.00921	1.271	1.162	0.014	-
5 290	58	802.11ac	80	MCS0	14.0	13.35	-0.04	Right Cheek	MIMO	86.0	1.26	0.272	1.271	1.162	0.402	22
5 290	58	802.11ac	80	MCS0	14.0	13.35	0.19	Right Tilt	MIMO	86.0	0.124	0.023	1.271	1.162	0.034	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population										Head 1.6 W/kg Averaged over 1 gram						

- For the SAR measurement results of MIMO Ant Mode(802.11ac 80MHz BW), higher power scaling factor among each SISO ANT was applied.
- The RCV-ON and RSDB with RCV-ON of the 5 GHz WLAN are the same target.

NII Head SAR –RCV-ON/ 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	Scaled SAR	Plot No.
Mhz	Ch.		(Mhz)	(Mbps)	(dBm)	(dBm)	(dB)				(W/kg)	(W/kg)		(Duty)	(W/kg)	
5 530	106	802.11ac	80	MCS0	11.0	10.63	-0.17	Left Cheek	WIFI1	86.1	0.133	0.054	1.089	1.162	0.068	-
5 530	106	802.11ac	80	MCS0	11.0	10.63	0.17	Left Tilt	WIFI1	86.1	0.00053	0	1.089	1.162	0	-
5 530	106	802.11ac	80	MCS0	11.0	10.63	0.15	Right Cheek	WIFI1	86.1	0.750	0.263	1.089	1.162	0.333	-
5 530	106	802.11ac	80	MCS0	11.0	10.63	0.01	Right Tilt	WIFI1	86.1	0.0669	0.017	1.089	1.162	0.022	-
5 530	106	802.11ac	80	MCS0	11.0	10.66	-0.15	Left Cheek	WIFI2	86.1	0	0	1.081	1.162	0	-
5 530	106	802.11ac	80	MCS0	11.0	10.66	0.14	Left Tilt	WIFI2	86.1	0	0	1.081	1.162	0	-
5 530	106	802.11ac	80	MCS0	11.0	10.66	0.17	Right Cheek	WIFI2	86.1	0	0	1.081	1.162	0	-
5 530	106	802.11ac	80	MCS0	11.0	10.66	-0.11	Right Tilt	WIFI2	86.1	0	0	1.081	1.162	0	-
5 530	106	802.11ac	80	MCS0	14.0	13.66	0.10	Left Cheek	MIMO	86.1	0.443	0.058	1.089	1.162	0.073	-
5 530	106	802.11ac	80	MCS0	14.0	13.66	-0.10	Left Tilt	MIMO	86.1	0.0683	0.012	1.089	1.162	0.015	-
5 530	106	802.11ac	80	MCS0	14.0	13.66	0.12	Right Cheek	MIMO	86.1	0.589	0.225	1.089	1.162	0.285	-
5 530	106	802.11ac	80	MCS0	14.0	13.66	0.15	Right Tilt	MIMO	86.1	0.125	0.022	1.089	1.162	0.028	-
5 775	155	802.11ac	80	MCS0	11.0	10.78	0.11	Left Cheek	WIFI1	86.1	0.317	0.068	1.052	1.162	0.083	-
5 775	155	802.11ac	80	MCS0	11.0	10.78	0.19	Left Tilt	WIFI1	86.1	0.0367	0.012	1.052	1.162	0.015	-
5 775	155	802.11ac	80	MCS0	11.0	10.78	-0.14	Right Cheek	WIFI1	86.1	0.590	0.214	1.052	1.162	0.262	-
5 775	155	802.11ac	80	MCS0	11.0	10.78	0.14	Right Tilt	WIFI1	86.1	0.0735	0.019	1.052	1.162	0.023	-
5 775	155	802.11ac	80	MCS0	11.0	10.66	0.16	Left Cheek	WIFI2	86.1	0	0	1.081	1.162	0	-
5 775	155	802.11ac	80	MCS0	11.0	10.66	0.18	Left Tilt	WIFI2	86.1	0.0138	0	1.081	1.162	0	-
5 775	155	802.11ac	80	MCS0	11.0	10.66	-0.12	Right Cheek	WIFI2	86.1	0	0	1.081	1.162	0	-
5 775	155	802.11ac	80	MCS0	11.0	10.66	0.13	Right Tilt	WIFI2	86.1	0.0187	0.0067	1.081	1.162	0.008	-
5 775	155	802.11ac	80	MCS0	14.0	13.73	0.15	Left Cheek	MIMO	86.1	0.387	0.049	1.081	1.162	0.062	-
5 775	155	802.11ac	80	MCS0	14.0	13.73	0.11	Left Tilt	MIMO	86.1	0	0	1.081	1.162	0	-
5 775	155	802.11ac	80	MCS0	14.0	13.73	0.08	Right Cheek	MIMO	86.1	0.672	0.204	1.081	1.162	0.257	-
5 775	155	802.11ac	80	MCS0	14.0	13.73	0.01	Right Tilt	MIMO	86.1	0.119	0.017	1.081	1.162	0.021	-
5 855	171	802.11ac	80	MCS0	11.0	10.74	-0.02	Left Cheek	WIFI1	86.1	0.106	0.011	1.062	1.162	0.014	-
5 855	171	802.11ac	80	MCS0	11.0	10.74	0.01	Left Tilt	WIFI1	86.1	0.103		1.062	1.162		-
5 855	171	802.11ac	80	MCS0	11.0	10.74	-0.04	Right Cheek	WIFI1	86.1	0.824	0.28	1.062	1.162	0.346	-
5 855	171	802.11ac	80	MCS0	11.0	10.74	-0.00	Right Tilt	WIFI1	86.1	0.107		1.062	1.162		-
5 855	171	802.11ac	80	MCS0	11.0	10.81	-0.03	Left Cheek	WIFI2	86.1	0		1.045	1.162		-
5 855	171	802.11ac	80	MCS0	11.0	10.81	0.03	Left Tilt	WIFI2	86.1	0		1.045	1.162		-
5 855	171	802.11ac	80	MCS0	11.0	10.81	0.06	Right Cheek	WIFI2	86.1	0		1.045	1.162		-
5 855	171	802.11ac	80	MCS0	11.0	10.81	0.07	Right Tilt	WIFI2	86.1	0		1.045	1.162		-
5 855	171	802.11ac	80	MCS0	14.0	13.79	0.12	Left Cheek	MIMO	86.1	0.292	0.071	1.062	1.162	0.088	-
5 855	171	802.11ac	80	MCS0	14.0	13.79	0.05	Left Tilt	MIMO	86.1	0.104		1.062	1.162		-
5 855	171	802.11ac	80	MCS0	14.0	13.79	-0.16	Right Cheek	MIMO	86.1	1.03	0.313	1.062	1.162	0.386	23
5 855	171	802.11ac	80	MCS0	14.0	13.79	0.19	Right Tilt	MIMO	86.1	0.152		1.062	1.162		-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Head 1.6 W/kg Averaged over 1 gram								

- For the SAR measurement results of MIMO Ant Mode(802.11ac 80MHz BW), higher power scaling factor among each SISO ANT was applied.
- The RCV-ON and RSDB with RCV-ON of the 5 GHz WLAN are the same target.

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)	
2 402	0	Bluetooth DH5	16.0	15.36	0.01	Left Cheek	0.187	1.159	1.302	0.282	-
2 402	0	Bluetooth DH5	16.0	15.36	0.07	Left Tilt	0.029	1.159	1.302	0.044	-
2 402	0	Bluetooth DH5	16.0	15.36	-0.18	Right Cheek	0.364	1.159	1.302	0.549	24
2 402	0	Bluetooth DH5	16.0	15.36	-0.05	Right Tilt	0.073	1.159	1.302	0.110	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Head 1.6 W/kg (mW/g) Averaged over 1 gram					

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	33.27	-0.07	Rear	1:8.3	15	0.405	1.183	0.479	-
836.6	190	GSM 850 Voice		34.0	33.27	-0.03	Front	1:8.3	15	0.408	1.183	0.483	-
836.6	190	GSM 850 GRPS 3Tx		30.0	29.21	-0.01	Rear	1:2.77	15	0.381	1.199	0.457	-
836.6	190	GSM 850 GRPS 3Tx		30.0	29.21	0.02	Front	1:2.77	15	0.412	1.199	0.494	25
1 880	661	GSM 1900 Voice		31.0	29.30	0.12	Rear	1:8.3	15	0.308	1.479	0.456	-
1 880	661	GSM 1900 Voice		31.0	29.30	0.10	Front	1:8.3	15	0.261	1.479	0.386	-
1 880	661	GSM 1900 GRPS 3Tx		27.0	25.32	-0.06	Rear	1:2.77	15	0.329	1.472	0.484	26
1 880	661	GSM 1900 GRPS 3Tx		27.0	25.32	0.15	Front	1:2.77	15	0.268	1.472	0.395	-
836.6	4183	UMTS 850	RMC	25.5	24.93	0.08	Rear	1:1	15	0.343	1.140	0.391	27
836.6	4183	UMTS 850	RMC	25.5	24.93	0.05	Front	1:1	15	0.306	1.140	0.349	-
1 732.4	1412	UMTS 1700	RMC	24.5	23.14	0.11	Rear	1:1	15	0.601	1.368	0.822	-
1 712.4	1312	UMTS 1700	RMC	24.5	23.12	-0.05	Rear	1:1	15	0.700	1.374	0.962	28
1 752.6	1513	UMTS 1700	RMC	24.5	23.04	0.11	Rear	1:1	15	0.596	1.400	0.834	
1 732.4	1412	UMTS 1700	RMC	24.5	23.14	0.06	Front	1:1	15	0.463	1.368	0.633	-
1 880.0	9400	UMTS 1900	RMC	24.5	23.25	0.01	Rear	1:1	15	0.455	1.334	0.607	29
1 880.0	9400	UMTS 1900	RMC	24.5	23.25	0.18	Front	1:1	15	0.365	1.334	0.487	-
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)	
707.5	23095	LTE 12 QPSK	10	24.5	24.04	0.01	Rear	0	1	24	1:1	15	0.238	1.112	0.265	30
707.5	23095		10	23.5	22.77	-0.13	Rear	1	25	12	1:1	15	0.187	1.183	0.221	-
707.5	23095		10	24.5	24.04	0.12	Front	0	1	24	1:1	15	0.215	1.112	0.239	-
707.5	23095		10	23.5	22.77	-0.02	Front	1	25	12	1:1	15	0.170	1.183	0.201	-
782	23230	LTE 13 QPSK	15	24.5	23.60	0.02	Rear	0	1	0	1:1	15	0.274	1.230	0.337	31
782	23230		15	23.5	22.17	-0.01	Rear	1	25	24	1:1	15	0.197	1.358	0.268	-
782	23230		15	24.5	23.60	0.07	Front	0	1	0	1:1	15	0.267	1.230	0.328	-
782	23230		15	23.5	22.17	-0.05	Front	1	25	24	1:1	15	0.192	1.358	0.261	-
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	RB offset	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)	Size				(mm)		(W/kg)	
1 905	26590	LTE 25 QPSK	20	24.0	23.54	0.16	Rear	0	1	49	1:1	15	0.430	1.112	0.478	32
1 905	26590		20	23.0	22.56	0.09	Rear	1	50	0	1:1	15	0.334	1.107	0.381	-
1 905	26590		20	24.0	23.54	0.11	Front	0	1	49	1:1	15	0.416	1.112	0.462	-
1 905	26590		20	23.0	22.56	0.07	Front	1	50	0	1:1	15	0.341	1.107	0.377	-
831.5	26865	LTE 26 QPSK	15	25.0	24.42	0.06	Rear	0	1	0	1:1	15	0.298	1.143	0.341	-
831.5	26865		15	24.0	22.75	-0.01	Rear	1	36	18	1:1	15	0.222	1.334	0.246	-
831.5	26865		15	25.0	24.42	-0.01	Front	0	1	0	1:1	15	0.320	1.143	0.366	33
831.5	26865		15	24.0	22.75	-0.03	Front	1	36	18	1:1	15	0.241	1.334	0.267	-
2 636.5	41055	LTE 41 QPSK	20	25.0	24.94	-0.03	Rear	0	1	49	1:1.58	15	0.227	1.014	0.230	34
2 636.5	41055		20	24.0	22.99	0.14	Rear	1	50	0	1:1.58	15	0.200	1.262	0.252	35
2 636.5	41055		20	25.0	24.94	-0.14	Front	0	1	49	1:1.58	15	0.042	1.014	0.043	-
2 636.5	41055		20	24.0	22.99	-0.04	Front	1	50	0	1:1.58	15	0.114	1.262	0.144	-
2 636.5	41055		20	26.0	25.97	0.01	Rear	0	1	49	1:2.31	15	0.190	1.007	0.191	**
1 720	132072	LTE 66 QPSK	20	24.5	23.37	0.02	Rear	0	1	49	1:1	15	0.545	1.156	0.630	36
1 720	132072		20	23.5	22.39	0.01	Rear	1	50	49	1:1	15	0.447	1.151	0.514	-
1 720	132072		20	24.5	23.37	0.04	Front	0	1	49	1:1	15	0.466	1.156	0.539	-
1 720	132072		20	23.5	22.39	-0.15	Front	1	50	49	1:1	15	0.369	1.151	0.425	-
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 LTE 41 Power Class 2(HPUE).

LTE Band (upper, Sub Ant #6) Body-Worn SAR under ULCA

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR	RB	RB	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)	Size	offset		(mm)	(W/kg)		(W/kg)	
1 900	19100	LTE 2 QPSK	20	22	21.96	-0.14	Rear	0	1	0	1:1	15	0.211	1.009	0.213	37
1 900	19100		20	22	21.89	0.13	Rear	0	18	0	1:1	15	0.210	1.026	0.215	38
1 900	19100		20	22	21.96	0.11	Front	0	1	0	1:1	15	0.086	1.009	0.087	-
1 900	19100		20	22	21.89	0.07	Front	0	18	0	1:1	15	0.083	1.026	0.085	-
1 732.5	20175	LTE 4(SCC) QPSK	20	22	21.98	-0.05	Rear	0	1	0	1:1	15	0.238	1.005	0.239	39
1 732.5	20175		20	22	21.93	-0.01	Rear	0	18	0	1:1	15	0.235	1.016	0.239	-
1 732.5	20175		20	22	21.98	-0.01	Front	0	1	0	1:1	15	0.115	1.005	0.116	-
1 732.5	20175		20	22	21.93	-0.03	Front	0	18	0	1:1	15	0.124	1.016	0.126	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram									

NR 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)	
836.5	167300	NR n5 DFT-s OFDM QPSK	20	25.0	24.44	0.01	Rear	0	1	53	1:1	15	0.284	1.138	0.323	40
836.5	167300		20	25.0	24.32	-0.07	Rear	0	50	28	1:1	15	0.262	1.169	0.306	-
836.5	167300		20	25.0	24.44	-0.08	Front	0	1	53	1:1	15	0.258	1.138	0.294	-
836.5	167300		20	25.0	24.32	-0.02	Front	0	50	28	1:1	15	0.265	1.169	0.310	-
836.5	167300	CP OFDM QPSK	20	23.5	22.82	0.05	Rear	1.5	1	1	1:1	15	0.168	1.169	0.196	-
1 745	349000	NR n66(Sub Ant#6) DFT-s OFDM QPSK	20	23.0	22.55	0.10	Rear	0	1	104	1:1	15	0.112	1.109	0.124	41
1 745	349000		20	23.0	22.51	0.09	Rear	0	50	28	1:1	15	0.067	1.119	0.075	-
1 745	349000		20	23.0	22.55	0.07	Front	0	1	104	1:1	15	0.096	1.109	0.106	-
1 745	349000		20	23.0	22.51	-0.19	Front	0	50	28	1:1	15	0.092	1.119	0.103	-
1 745	349000	CP OFDM QPSK	20	21.5	21.21	-0.01	Rear	1.5	1	1	1:1	15	0.069	1.069	0.074	-
1 745	349000	NR n66(Main Ant#1-2) DFT-s OFDM QPSK	20	25.0	24.51	-0.12	Rear	0	1	1	1:1	15	0.675	1.119	0.756	42
1 745	349000		20	25.0	24.71	-0.02	Rear	0	50	28	1:1	15	0.687	1.069	0.734	43
1 745	349000		20	25.0	24.51	-0.05	Front	0	1	1	1:1	15	0.332	1.409	0.468	-
1 745	349000		20	25.0	24.71	0.02	Front	0	50	28	1:1	15	0.468	1.069	0.500	-
1 745	349000	CP OFDM QPSK	20	23.5	23.21	0.04	Rear	1.5	1	1	1:1	15	0.484	1.069	0.517	-
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.

DTS Body-Worn SAR																	
Frequency		Mode	Band width	Data Rate	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Ant. Config.	Duty Cycle	Distance	Area Scan Peak SAR	Meas. SAR	Scaling Factor	Scaling Factor (Duty)	Scaled SAR	Plot No.
Mhz	Ch.		(Mhz)	(Mbps)	(dBm)	(dBm)	(dB)				(mm)	(W/kg)	(W/kg)			(W/kg)	
2 412	1	802.11b	20	1	19.0	17.44	-0.10	Rear	WIFI1	99.0	15	0.217	0.135	1.432	1.010	0.195	-
2 412	1	802.11b	20	1	19.0	17.44	-0.18	Front	WIFI1	99.0	15	0.162					-
2 412	1	802.11b	20	1	19.0	17.91	0.10	Rear	WIFI2	99.0	15	0.220	0.131	1.285	1.010	0.170	-
2 412	1	802.11b	20	1	19.0	17.91	-0.11	Front	WIFI2	99.0	15	0.0258					-
2 412	1	802.11b	20	1	22.0	20.69	-0.15	Rear	MIMO	99.0	15	0.291	0.194	1.432	1.010	0.281	44
2 412	1	802.11b	20	1	22.0	20.69	0.11	Front	MIMO	99.0	15	0.163					-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

- For the SAR measurement results of MIMO Ant Mode(802.11b), higher power scaling factor among each SISO ANT was applied.
- Simultaneous transmission evaluation of body worn in RSDB mode of 2.4Ghz WLAN was evaluated as the result of body worn measurement in maximum power mode of 2.4GHz WLAN, which is more higher output.

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.																
5 310	62	802.11n	40	MCS0	16.0	14.57	0.12	Rear	WIFI1	85.9	15	0.251	0.116	1.390	1.164	0.188	-
5 310	62	802.11n	40	MCS0	16.0	14.57	0.10	Front	WIFI1	85.9	15	0.134	0.060	1.390	1.164	0.097	-
5 530	106	802.11ac	80	MCS0	15.0	14.33	-0.15	Rear	WIFI1	85.9	15	0.182	0.082	1.167	1.164	0.111	-
5 530	106	802.11ac	80	MCS0	15.0	14.33	0.15	Front	WIFI1	85.9	15	0.146	0.062	1.167	1.164	0.084	-
5 745	149	802.11a	20	6	18.0	16.84	0.01	Rear	WIFI1	93.9	15	0.713	0.322	1.306	1.065	0.448	-
5 745	149	802.11a	20	6	18.0	16.84	-0.01	Front	WIFI1	93.9	15	0.207	0.082	1.306	1.065	0.114	-
5 885	177	802.11a	20	6	18.0	16.88	0.09	Rear	WIFI1	93.9	15	0.241	0.096	1.294	1.065	0.132	-
5 885	177	802.11a	20	6	18.0	16.88	-0.05	Front	WIFI1	93.9	15	0.206	0.071	1.294	1.065	0.098	-
5 310	62	802.11n	40	MCS0	16.0	15.88	0.05	Rear	WIFI2	85.9	15	0.424	0.193	1.028	1.164	0.231	-
5 310	62	802.11n	40	MCS0	16.0	15.88	-0.00	Front	WIFI2	85.9	15	0	0	1.028	1.164	0	-
5 690	138	802.11ac	80	MCS0	15.0	14.94	-0.03	Rear	WIFI2	85.9	15	0.749	0.329	1.014	1.164	0.412	-
5 690	138	802.11ac	80	MCS0	15.0	14.94	-0.02	Front	WIFI2	85.9	15	0	0	1.014	1.164	0	-
5 825	165	802.11a	20	6	18.0	16.47	0.11	Rear	WIFI2	93.9	15	0.478	0.204	1.422	1.065	0.309	-
5 825	165	802.11a	20	6	18.0	16.47	0.05	Front	WIFI2	93.9	15	0	0	1.422	1.065	0	-
5 885	177	802.11a	20	6	18.0	16.66	0.11	Rear	WIFI2	93.9	15	1.02	0.434	1.361	1.065	0.629	45
5 885	177	802.11a	20	6	18.0	16.66	0.06	Front	WIFI2	93.9	15	0.0291	0.010	1.361	1.065	0.014	-
5 310	62	802.11n	40	MCS0	19.0	18.28	-0.04	Rear	MIMO	85.9	15	0.503	0.237	1.390	1.164	0.383	-
5 310	62	802.11n	40	MCS0	19.0	18.28	0.45	Front	MIMO	85.9	15	0.296	0.066	1.390	1.164	0.107	-
5 530	106	802.11ac	80	MCS0	18.0	17.37	0.02	Rear	MIMO	85.9	15	0.496	0.215	1.167	1.164	0.292	-
5 530	106	802.11ac	80	MCS0	18.0	17.37	0.01	Front	MIMO	85.9	15	0.136	0.058	1.167	1.164	0.079	-
5 745	149	802.11a	20	6	21.0	19.63	-0.19	Rear	MIMO	93.9	15	0.713	0.322	1.449	1.065	0.497	-
5 745	149	802.11a	20	6	21.0	19.63	0.11	Front	MIMO	93.9	15	0.210	0.083	1.449	1.065	0.128	-
5 885	177	802.11a	20	6	21.0	19.78	0.09	Rear	MIMO	93.9	15	1.1	0.373	1.294	1.065	0.541	-
5 885	177	802.11a	20	6	21.0	19.78	0.11	Front	MIMO	93.9	15	0.120	0.037	1.294	1.065	0.050	-
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population WIFI1 (Sub Ant #4), WIFI2(Sub Ant #7)												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.																
5 290	58	802.11ac	80	MCS0	13.0	11.90	0.15	Rear	WIFI1	86.1	15	0.182	0.079	1.288	1.162	0.118	-
5 290	58	802.11ac	80	MCS0	13.0	11.90	0.12	Front	WIFI1	86.1	15	0.090					-
5 290	58	802.11ac	80	MCS0	13.0	12.64	-0.02	Rear	WIFI2	86.1	15	0.070	0.028	1.086	1.162	0.035	-
5 290	58	802.11ac	80	MCS0	13.0	12.64	0.03	Front	WIFI2	86.1	15	0					-
5 290	58	802.11ac	80	MCS0	16.0	15.30	-0.05	Rear	MIMO	86.1	15	0.134	0.059	1.288	1.162	0.088	-
5 290	58	802.11ac	80	MCS0	16.0	15.30	0.01	Front	MIMO	86.1	15	0.096					-
5 530	106	802.11ac	80	MCS0	13.0	12.96	-0.03	Rear	WIFI1	86.1	15	0.125	0.046	1.009	1.162	0.054	-
5 530	106	802.11ac	80	MCS0	13.0	12.96	-0.04	Front	WIFI1	86.1	15	0.097					-
5 610	122	802.11ac	80	MCS0	13.0	12.74	0.01	Rear	WIFI2	86.1	15	0.318	0.135	1.062	1.162	0.167	-
5 610	122	802.11ac	80	MCS0	13.0	12.74	-0.11	Front	WIFI2	86.1	15	0					-
5 530	106	802.11ac	80	MCS0	16.0	15.82	0.07	Rear	MIMO	86.1	15	0.328	0.136	1.086	1.162	0.172	-
5 530	106	802.11ac	80	MCS0	16.0	18.82	0.05	Front	MIMO	86.1	15	0.130					-
5 775	155	802.11ac	80	MCS0	13.0	12.97	-0.04	Rear	WIFI1	86.1	15	0.132	0.057	1.007	1.162	0.067	-
5 775	155	802.11ac	80	MCS0	13.0	12.97	0.16	Front	WIFI1	86.1	15	0.130	0.041	1.007	1.162	0.048	-
5 775	155	802.11ac	80	MCS0	13.0	12.63	0.06	Rear	WIFI2	86.1	15	0.260	0.111	1.089	1.162	0.140	-
5 775	155	802.11ac	80	MCS0	13.0	12.63	0.09	Front	WIFI2	86.1	15	0	0	1.089	1.162	0	-
5 775	155	802.11ac	80	MCS0	16.0	15.82	0.13	Rear	MIMO	86.1	15	0.399	0.171	1.089	1.162	0.216	-
5 775	155	802.11ac	80	MCS0	16.0	15.82	0.07	Front	MIMO	86.1	15	0.153	0.039	1.089	1.162	0.049	-
5 855	171	802.11ac	80	MCS0	13.0	12.57	0.12	Rear	WIFI1	86.1	15	0.148	0.051	1.104	1.162	0.065	
5 855	171	802.11ac	80	MCS0	13.0	12.57	-0.07	Front	WIFI1	86.1	15	0.155	0.029	1.104	1.162	0.037	
5 855	171	802.11ac	80	MCS0	13.0	12.66	0.04	Rear	WIFI2	86.1	15	0.479	0.202	1.081	1.162	0.254	46
5 855	171	802.11ac	80	MCS0	13.0	12.66	0.03	Front	WIFI2	86.1	15	0.00639		1.081	1.162		
5 855	171	802.11ac	80	MCS0	16.0	15.63	-0.09	Rear	MIMO	86.1	15	0.335	0.139	1.104	1.162	0.178	
5 855	171	802.11ac	80	MCS0	16.0	15.63	0.07	Front	MIMO	86.1	15	0.0769					
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.											
2 402	0	Bluetooth DH5	16.0	15.36	0.03	Rear	15	0.065	1.159	1.302	0.098	47
2 402	0	Bluetooth DH5	16.0	15.36	0.11	Front	15	0.047	1.159	1.302	0.071	-
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)			(mm)	(W/kg)		(W/kg)	
836.6	190	GRPS 3Tx	30.0	29.21	-0.00	Rear	1:2.77	10	0.458	1.199	0.549	-
836.6	190	GRPS 3Tx	30.0	29.21	0.08	Front	1:2.77	10	0.408	1.199	0.489	-
836.6	190	GRPS 3Tx	30.0	29.21	-0.03	Left	1:2.77	10	0.388	1.199	0.465	-
836.6	190	GRPS 3Tx	30.0	29.21	-0.04	Right	1:2.77	10	0.513	1.199	0.615	48
836.6	190	GRPS 3Tx	30.0	29.21	0.10	Bottom	1:2.77	10	0.143	1.199	0.172	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

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)			(mm)	(W/kg)		(W/kg)	
1 880.0	661	GRPS 3Tx	25.0	23.54	0.04	Rear	1:2.77	10	0.441	1.400	0.617	-
1 880.0	661	GRPS 3Tx	25.0	23.54	-0.01	Front	1:2.77	10	0.342	1.400	0.479	-
1 880.0	661	GRPS 3Tx	25.0	23.54	-0.10	Left	1:2.77	10	0.18	1.400	0.193	-
1 880.0	661	GRPS 3Tx	25.0	23.54	0.03	Right	1:2.77	10	0.058	1.400	0.081	-
1 880.0	661	GRPS 3Tx	25.0	23.54	0.02	Bottom	1:2.77	10	0.772	1.409	1.080	49
1 850.2	512	GRPS 3Tx	25.0	23.51	0.18	Bottom	1:2.77	10	0.751	1.400	1.058	-
1 909.8	810	GRPS 3Tx	25.0	23.88	0.13	Bottom	1:2.77	10	0.782	1.294	1.012	50
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)			(mm)	(W/kg)		(W/kg)	
836.6	4183	RMC	25.5	24.93	0.19	Rear	1:1	10	0.548	1.140	0.625	51
836.6	4183	RMC	25.5	24.93	-0.05	Front	1:1	10	0.352	1.140	0.401	-
836.6	4183	RMC	25.5	24.93	0.13	Left	1:1	10	0.213	1.140	0.243	-
836.6	4183	RMC	25.5	24.93	0.03	Right	1:1	10	0.455	1.140	0.519	-
836.6	4183	RMC	25.5	24.93	0.02	Bottom	1:1	10	0.207	1.140	0.236	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						Body 1.6 W/kg Averaged over 1 gram						

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.		(dB)	(dB)	(dB)			(mm)	(W/kg)		(W/kg)	
1 732.4	1412	RMC	21.5	20.53	0.01	Rear	1:1	10	0.561	1.250	0.701	-
1 732.4	1412	RMC	21.5	20.53	0.04	Front	1:1	10	0.441	1.250	0.551	-
1 732.4	1412	RMC	21.5	20.53	0.11	Left	1:1	10	0.083	1.250	0.104	-
1 732.4	1412	RMC	21.5	20.53	-0.15	Right	1:1	10	0.078	1.250	0.098	-
1 732.4	1412	RMC	21.5	20.53	-0.17	Bottom	1:1	10	0.886	1.250	1.108	-
1 712.4	1312	RMC	21.5	20.50	-0.05	Bottom	1:1	10	0.824	1.259	1.037	-
1 752.8	1513	RMC	21.5	20.44	-0.02	Bottom	1:1	10	0.923	1.276	1.126	52
1 752.8	1513	RMC	21.5	20.53	0.03	Bottom	1:1	10	0.920	1.250	1.043	*
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.		(dB)	(dB)	(dB)			(mm)	(W/kg)		(W/kg)	
1 880	9400	RMC	20.5	19.86	0.14	Rear	1:1	10	0.479	1.159	0.555	-
1 880	9400	RMC	20.5	19.86	0.03	Front	1:1	10	0.392	1.159	0.454	-
1 880	9400	RMC	20.5	19.86	0.19	Left	1:1	10	0.080	1.159	0.093	-
1 880	9400	RMC	20.5	19.86	0.10	Right	1:1	10	0.045	1.159	0.052	-
1 880	9400	RMC	20.5	19.86	-0.16	Bottom	1:1	10	0.761	1.159	0.882	-
1 852.4	9262	RMC	20.5	19.64	0.02	Bottom	1:1	10	0.675	1.219	0.823	-
1 907.6	9538	RMC	20.5	19.74	-0.04	Bottom	1:1	10	0.764	1.191	0.910	53
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	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)	
707.5	23095	QPSK	10	24.5	24.04	-0.12	Rear	0	1	24	1:1	10	0.386	1.112	0.429	54
707.5	23095	QPSK	10	23.5	22.77	-0.15	Rear	1	25	12	1:1	10	0.306	1.183	0.362	-
707.5	23095	QPSK	10	24.5	24.04	-0.00	Front	0	1	24	1:1	10	0.241	1.112	0.268	-
707.5	23095	QPSK	10	23.5	22.77	0.00	Front	1	25	12	1:1	10	0.193	1.183	0.228	-
707.5	23095	QPSK	10	24.5	24.04	-0.05	Left	0	1	24	1:1	10	0.208	1.112	0.231	-
707.5	23095	QPSK	10	23.5	22.77	-0.04	Left	1	25	12	1:1	10	0.167	1.183	0.198	-
707.5	23095	QPSK	10	24.5	24.04	0.09	Right	0	1	24	1:1	10	0.217	1.112	0.241	-
707.5	23095	QPSK	10	23.5	22.77	-0.01	Right	1	25	12	1:1	10	0.168	1.183	0.199	-
707.5	23095	QPSK	10	24.5	24.04	-0.04	Bottom	0	1	24	1:1	10	0.059	1.112	0.066	-
707.5	23095	QPSK	10	23.5	22.77	-0.10	Bottom	1	25	12	1:1	10	0.046	1.183	0.054	-
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	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)	
782	23230	QPSK	10	24.5	23.60	0.03	Rear	0	1	0	1:1	10	0.352	1.230	0.433	55
782	23230	QPSK	10	23.5	22.17	-0.10	Rear	1	25	24	1:1	10	0.269	1.358	0.365	-
782	23230	QPSK	10	24.5	23.60	0.01	Front	0	1	0	1:1	10	0.270	1.230	0.332	-
782	23230	QPSK	10	23.5	22.17	0.11	Front	1	25	24	1:1	10	0.195	1.358	0.265	-
782	23230	QPSK	10	24.5	23.60	0.11	Left	0	1	0	1:1	10	0.318	1.230	0.391	-
782	23230	QPSK	10	23.5	22.17	-0.08	Left	1	25	24	1:1	10	0.226	1.358	0.307	-
782	23230	QPSK	10	24.5	23.60	0.04	Right	0	1	0	1:1	10	0.286	1.230	0.352	-
782	23230	QPSK	10	23.5	22.17	-0.06	Right	1	25	24	1:1	10	0.201	1.358	0.273	-
782	23230	QPSK	10	24.5	23.60	0.03	Bottom	0	1	0	1:1	10	0.045	1.230	0.055	-
782	23230	QPSK	10	23.5	22.17	-0.06	Bottom	1	25	24	1:1	10	0.035	1.358	0.048	-
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	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)	
1 905	26590	QPSK	20	20.0	19.11	0.07	Rear	0	1	49	1:1	10	0.213	1.227	0.261	-
1 905	26590	QPSK	20	20.0	19.21	0.03	Rear	1	50	0	1:1	10	0.222	1.199	0.266	-
1 905	26590	QPSK	20	20.0	19.11	0.02	Front	0	1	49	1:1	10	0.197	1.227	0.242	-
1 905	26590	QPSK	20	20.0	19.21	0.07	Front	1	50	0	1:1	10	0.206	1.199	0.247	-
1 905	26590	QPSK	20	20.0	19.11	0.16	Left	0	1	49	1:1	10	0.063	1.227	0.077	-
1 905	26590	QPSK	20	20.0	19.21	0.03	Left	1	50	0	1:1	10	0.066	1.199	0.079	-
1 905	26590	QPSK	20	20.0	19.11	0.04	Right	0	1	49	1:1	10	0.024	1.227	0.029	-
1 905	26590	QPSK	20	20.0	19.21	0.01	Right	1	50	0	1:1	10	0.026	1.199	0.031	-
1 905	26590	QPSK	20	20.0	19.11	0.04	Bottom	0	1	49	1:1	10	0.649	1.227	0.797	56
1 905	26590	QPSK	20	20.0	19.21	-0.01	Bottom	1	50	0	1:1	10	0.655	1.199	0.786	57
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

LTE Band 26 Hotspot 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)	
831.5	26865	QPSK	15	25.0	24.42	0.03	Rear	0	1	0	1:1	10	0.488	1.143	0.558	58
831.5	26865	QPSK	15	24.0	22.75	0.02	Rear	1	36	18	1:1	10	0.414	1.334	0.552	-
831.5	26865	QPSK	15	25.0	24.42	-0.03	Front	0	1	0	1:1	10	0.324	1.143	0.370	-
831.5	26865	QPSK	15	24.0	22.75	-0.03	Front	1	36	18	1:1	10	0.246	1.334	0.328	-
831.5	26865	QPSK	15	25.0	24.42	-0.01	Left	0	1	0	1:1	10	0.189	1.143	0.216	-
831.5	26865	QPSK	15	24.0	22.75	0.00	Left	1	36	18	1:1	10	0.133	1.334	0.177	-
831.5	26865	QPSK	15	25.0	24.42	0.04	Right	0	1	0	1:1	10	0.467	1.143	0.534	-
831.5	26865	QPSK	15	24.0	22.75	-0.01	Right	1	36	18	1:1	10	0.346	1.334	0.461	-
831.5	26865	QPSK	15	25.0	24.42	0.03	Bottom	0	1	0	1:1	10	0.125	1.143	0.143	-
831.5	26865	QPSK	15	24.0	22.75	-0.03	Bottom	1	36	18	1:1	10	0.107	1.334	0.143	-
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	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)		(dB)				(mm)	(W/kg)		(W/kg)	
2 636.5	41055	QPSK	20	23.0	22.77	0.02	Rear	0	1	49	1:1.58	10	0.235	1.054	0.248	-
2 636.5	41055	QPSK	20	23.0	22.87	0.01	Rear	0	50	0	1:1.58	10	0.253	1.030	0.261	-
2 636.5	41055	QPSK	20	23.0	22.77	0.11	Front	0	1	49	1:1.58	10	0.160	1.054	0.169	-
2 636.5	41055	QPSK	20	23.0	22.87	0.01	Front	0	50	0	1:1.58	10	0.173	1.030	0.178	-
2 636.5	41055	QPSK	20	23.0	22.77	-0.15	Left	0	1	49	1:1.58	10	0.317	1.054	0.334	59
2 636.5	41055	QPSK	20	23.0	22.87	-0.02	Left	0	50	0	1:1.58	10	0.273	1.030	0.281	-
2 636.5	41055	QPSK	20	23.0	22.77	0.01	Bottom	0	1	49	1:1.58	10	0.214	1.054	0.226	-
2 636.5	41055	QPSK	20	23.0	22.87	-0.01	Bottom	0	50	0	1:1.58	10	0.238	1.030	0.245	-
2 636.5	41055	QPSK	20	23.0	22.94	0.12	Left	0	1	0	1:2.31	10	0.246	1.014	0.249	**
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 LTE 41 Power Class 2(HPUE)

LTE Band 66 Hotspot SAR

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR (dB)	RB Size	RB offset	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)						(mm)	(W/kg)		(W/kg)	
1 720	132072	QPSK	20	20.5	19.85	-0.02	Rear	0	1	49	1:1	10	0.329	1.161	0.382	-
1 720	132072	QPSK	20	20.5	19.80	0.01	Rear	0	50	49	1:1	10	0.337	1.175	0.396	-
1 720	132072	QPSK	20	20.5	19.85	0.04	Front	0	1	49	1:1	10	0.274	1.161	0.318	-
1 720	132072	QPSK	20	20.5	19.80	0.05	Front	0	50	49	1:1	10	0.284	1.175	0.334	-
1 720	132072	QPSK	20	20.5	19.85	0.04	Left	0	1	49	1:1	10	0.070	1.161	0.081	-
1 720	132072	QPSK	20	20.5	19.80	-0.11	Left	0	50	49	1:1	10	0.067	1.175	0.079	-
1 720	132072	QPSK	20	20.5	19.85	-0.11	Right	0	1	49	1:1	10	0.057	1.161	0.066	-
1 720	132072	QPSK	20	20.5	19.80	0.05	Right	0	50	49	1:1	10	0.057	1.175	0.067	-
1 720	132072	QPSK	20	20.5	19.85	-0.05	Bottom	0	1	49	1:1	10	0.730	1.161	0.848	-
1 745	132322	QPSK	20	20.5	19.84	-0.19	Bottom	0	1	49	1:1	10	0.726	1.164	0.845	-
1 770	132572	QPSK	20	20.5	19.64	-0.15	Bottom	0	1	49	1:1	10	0.633	1.219	0.772	-
1 720	132072	QPSK	20	20.5	19.80	0.07	Bottom	0	50	49	1:1	10	0.747	1.175	0.878	-
1 745	132322	QPSK	20	20.5	19.62	0.11	Bottom	0	50	0	1:1	10	0.745	1.225	0.912	60
1 770	132572	QPSK	20	20.5	19.56	0.12	Bottom	0	50	0	1:1	10	0.656	1.242	0.815	-
1 720	132072	QPSK	20	20.5	19.74	0.16	Bottom	0	100	0	1:1	10	0.753	1.191	0.897	61
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(Upper, Sub Ant #6) Hotspot SAR under ULCA

Frequency		Mode	Band width	Tune-Up Limit	Meas. Power	Power Drift	Test Position	MPR (dB)	RB Size	RB offset	Duty Cycle	Distance	Meas. SAR	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.		(MHz)	(dBm)	(dBm)	(dB)						(mm)	(W/kg)		(W/kg)	
1 900	19100	QPSK	20	18.0	17.99	-0.02	Rear	0	1	0	1:1	10	0.138	1.002	0.138	-
1 900	19100	QPSK	20	18.0	17.95	-0.04	Rear	0	18	0	1:1	10	0.134	1.012	0.136	-
1 900	19100	QPSK	20	18.0	17.99	0.13	Front	0	1	0	1:1	10	0.080	1.002	0.080	-
1 900	19100	QPSK	20	18.0	17.95	0.04	Front	0	18	0	1:1	10	0.058	1.012	0.059	-
1 900	19100	QPSK	20	18.0	17.99	0.09	Left	0	1	0	1:1	10	0.012	1.002	0.012	-
1 900	19100	QPSK	20	18.0	17.95	0.12	Left	0	18	0	1:1	10	0.013	1.012	0.013	-
1 900	19100	QPSK	20	18.0	17.99	-0.03	Right	0	1	0	1:1	10	0.042	1.002	0.042	-
1 900	19100	QPSK	20	18.0	17.95	-0.04	Right	0	18	0	1:1	10	0.041	1.012	0.041	-
1 900	19100	QPSK	20	18.0	17.99	0.10	Top	0	1	0	1:1	10	0.366	1.002	0.367	62
1 900	19100	QPSK	20	18.0	17.95	0.09	Top	0	18	0	1:1	10	0.277	1.012	0.280	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

LTE Band 4(Upper, Sub Ant #6) Hotspot SAR under ULCA

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)	
1 732.5	20175	QPSK	20	18.0	17.97	0.14	Rear	0	1	0	1:1	10	0.163	1.007	0.164	-
1 732.5	20175	QPSK	20	18.0	17.98	0.12	Rear	0	18	0	1:1	10	0.172	1.005	0.173	-
1 732.5	20175	QPSK	20	18.0	17.97	0.07	Front	0	1	0	1:1	10	0.109	1.007	0.110	-
1 732.5	20175	QPSK	20	18.0	17.98	0.06	Front	0	18	0	1:1	10	0.104	1.005	0.104	-
1 732.5	20175	QPSK	20	18.0	17.97	-0.01	Left	0	1	0	1:1	10	0.020	1.007	0.020	-
1 732.5	20175	QPSK	20	18.0	17.98	0.04	Left	0	18	0	1:1	10	0.018	1.005	0.018	-
1 732.5	20175	QPSK	20	18.0	17.97	0.05	Right	0	1	0	1:1	10	0.031	1.007	0.031	-
1 732.5	20175	QPSK	20	18.0	17.98	0.10	Right	0	18	0	1:1	10	0.029	1.005	0.029	-
1 732.5	20175	QPSK	20	18.0	17.97	-0.04	Top	0	1	0	1:1	10	0.300	1.007	0.302	-
1 732.5	20175	QPSK	20	18.0	17.98	-0.16	Top	0	18	0	1:1	10	0.301	1.005	0.302	63
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

NR Band n5 (Cell) Hotspot 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)	
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.44	-0.11	Rear	0	1	53	1:1	10	0.463	1.138	0.527	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.32	0.02	Rear	0	50	28	1:1	10	0.485	1.169	0.567	64
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.44	0.04	Front	0	1	53	1:1	10	0.294	1.138	0.334	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.32	0.15	Front	0	50	28	1:1	10	0.249	1.169	0.291	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.44	-0.19	Left	0	1	53	1:1	10	0.127	1.138	0.144	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.32	0.13	Left	0	50	28	1:1	10	0.115	1.169	0.134	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.44	0.08	Right	0	1	53	1:1	10	0.330	1.138	0.375	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.32	-0.15	Right	0	50	28	1:1	10	0.327	1.169	0.382	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.44	0.18	Bottom	0	1	53	1:1	10	0.117	1.138	0.133	-
836.5	167300	DFT-s OFDM QPSK	20	25.0	24.32	0.13	Bottom	0	50	28	1:1	10	0.129	1.169	0.151	-
836.5	167300	CP OFDM QPSK	20	23.5	22.82	0.14	Rear	1.5	1	1	1:1	10	0.268	1.169	0.313	-
ANSI/ IEEE C95.1 –2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

NR Band n66(Sub Ant #6) (AWS) Hotspot 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)	
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.85	0.01	Rear	0	1	104	1:1	10	0.325	1.035	0.336	-
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.81	-0.07	Rear	0	50	28	1:1	10	0.342	1.045	0.357	-
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.85	-0.02	Front	0	1	104	1:1	10	0.194	1.035	0.201	-
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.81	0.04	Front	0	50	28	1:1	10	0.180	1.045	0.188	-
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.85	0.10	Right	0	1	104	1:1	10	0.060	1.035	0.062	-
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.81	0.06	Right	0	50	28	1:1	10	0.056	1.045	0.059	-
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.85	0.10	Right	0	1	104	1:1	10	0.129	1.035	0.134	-
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.81	0.06	Right	0	50	28	1:1	10	0.130	1.045	0.136	-
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.85	0.01	Top	0	1	104	1:1	10	0.579	1.035	0.599	-
1 745	349000	DFT-s OFDM QPSK	20	23.0	22.81	-0.02	Top	0	50	28	1:1	10	0.585	1.045	0.611	65
1 745	349000	CP OFDM QPSK	20	21.5	21.21	0.01	Top	0	1	1	1:1	10	0.417	1.069	0.446	-
ANSI/ IEEE C95.1 –2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram								

NR Band n66(Main Ant#1-2) (AWS) Hotspot 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)	
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.76	-0.08	Rear	0	1	1	1:1	10	0.509	1.057	0.538	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.75	-0.06	Rear	0	50	0	1:1	10	0.553	1.059	0.586	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.76	0.08	Front	0	1	1	1:1	10	0.506	1.057	0.535	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.75	-0.10	Front	0	50	0	1:1	10	0.462	1.059	0.489	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.76	0.05	Left	0	1	1	1:1	10	0.066	1.057	0.070	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.75	0.03	Left	0	50	0	1:1	10	0.067	1.059	0.071	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.76	-0.01	Right	0	1	1	1:1	10	0.059	1.057	0.062	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.75	0.06	Right	0	50	0	1:1	10	0.057	1.059	0.060	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.76	-0.04	Bottom	0	1	1	1:1	10	0.792	1.057	0.837	-
1 720	344000	DFT-s OFDM QPSK	20	20.0	19.68	-0.11	Bottom	0	1	104	1:1	10	0.784	1.076	0.844	-
1 770	354000	DFT-s OFDM QPSK	20	20.0	19.40	-0.01	Bottom	0	1	104	1:1	10	0.691	1.148	0.793	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.75	-0.15	Bottom	0	50	0	1:1	10	0.810	1.059	0.858	-
1 720	344000	DFT-s OFDM QPSK	20	20.0	19.69	0.10	Bottom	0	50	56	1:1	10	0.813	1.074	0.873	-
1 770	354000	DFT-s OFDM QPSK	20	20.0	19.32	0.08	Bottom	0	50	56	1:1	10	0.718	1.169	0.840	-
1 720	344000	DFT-s OFDM QPSK	20	20.0	19.62	0.06	Bottom	0	100	0	1:1	10	0.885	1.091	0.966	66
1 720	344000	DFT-s OFDM QPSK	20	20.0	19.62	0.05	Bottom	0	100	0	1:1	10	0.843	1.091	0.920	*
1 745	349000	CP OFDM QPSK	20	20.0	19.62	0.01	Bottom	0	1	1	1:1	10	0.783	1.091	0.855	-
1 720	344000	CP OFDM QPSK	20	20.0	19.46	-0.10	Bottom	0	1	1	1:1	10	0.831	1.132	0.941	-
1 770	354000	CP OFDM QPSK	20	20.0	19.22	0.12	Bottom	0	1	1	1:1	10	0.789	1.197	0.944	-
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.

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	19.0	17.44	-0.10	Rear	WIFI1	99.0	10	0.414	0.267	1.432	1.010	0.386	-
2 412	1	802.11b	20	1	19.0	17.44	-0.10	Front	WIFI1	99.0	10	0.437	0.267	1.432	1.010	0.386	-
2 412	1	802.11b	20	1	19.0	17.44	0.16	Left	WIFI1	99.0	10	0.639	0.381	1.432	1.010	0.551	-
2 412	1	802.11b	20	1	19.0	17.44	0.09	Top	WIFI1	99.0	10	0.0764	0.049	1.432	1.010	0.071	-
2 412	1	802.11b	20	1	19.0	17.91	-0.10	Rear	WIFI2	99.0	10	0.698	0.402	1.285	1.010	0.522	67
2 412	1	802.11b	20	1	19.0	17.91	-0.05	Front	WIFI2	99.0	10	0.0343	0.019	1.285	1.010	0.025	-
2 412	1	802.11b	20	1	19.0	17.91	0.06	Left	WIFI2	99.0	10	0.0198	0.008	1.285	1.010	0.010	-
2 412	1	802.11b	20	1	19.0	17.91	0.02	Top	WIFI2	99.0	10	0.0815	0.052	1.285	1.010	0.068	-
2 412	1	802.11b	20	1	22.0	20.69	-0.15	Rear	MIMO	99.0	10	0.661	0.382	1.432	1.010	0.553	68
2 412	1	802.11b	20	1	22.0	20.69	-0.10	Front	MIMO	99.0	10	0.328	0.212	1.432	1.010	0.307	-
2 412	1	802.11b	20	1	22.0	20.69	-0.10	Left	MIMO	99.0	10	0.608	0.370	1.432	1.010	0.535	-
2 412	1	802.11b	20	1	22.0	20.69	0.16	Top	MIMO	99.0	10	0.064	0.039	1.432	1.010	0.056	-
ANSI/ IEEE C95.1 - 2005- Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

- For the SAR measurement results of MIMO Ant Mode(802.11b), higher power scaling factor among each SISO ANT was applied.

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.																
2 462	11	802.11b	20	1	14.0	13.19	-0.01	Rear	WIFI1	99.0	10	0.154	0.095	1.205	1.010	0.116	-
2 462	11	802.11b	20	1	14.0	13.19	0.07	Front	WIFI1	99.0	10	0.110	0.068	1.205	1.010	0.083	-
2 462	11	802.11b	20	1	14.0	13.19	0.07	Left	WIFI1	99.0	10	0.272	0.164	1.205	1.010	0.200	-
2 462	11	802.11b	20	1	14.0	13.19	-0.01	Top	WIFI1	99.0	10	0.0293	0.019	1.205	1.010	0.023	-
2 437	6	802.11b	20	1	14.0	13.30	-0.00	Rear	WIFI2	99.0	10	0.401	0.174	1.175	1.010	0.207	-
2 437	6	802.11b	20	1	14.0	13.30	-0.01	Front	WIFI2	99.0	10	0.00976	0.00363	1.175	1.010	0.004	-
2 437	6	802.11b	20	1	14.0	13.30	0.14	Left	WIFI2	99.0	10	0.0124	0.002	1.175	1.010	0.003	-
2 437	6	802.11b	20	1	14.0	13.30	-0.12	Top	WIFI2	99.0	10	0.0356	0.022	1.175	1.010	0.026	-
2 462	11	802.11b	20	1	17.0	16.25	-0.18	Rear	MIMO	99.0	10	0.274	0.182	1.205	1.010	0.222	69
2 462	11	802.11b	20	1	17.0	16.25	0.18	Front	MIMO	99.0	10	0.116	0.075	1.205	1.010	0.091	-
2 462	11	802.11b	20	1	17.0	16.25	0.01	Left	MIMO	99.0	10	0.270	0.160	1.205	1.010	0.195	-
2 462	11	802.11b	20	1	17.0	16.25	-0.01	Top	MIMO	99.0	10	0.0329	0.021	1.205	1.010	0.026	-
ANSI/ IEEE C95.1 - 2005- Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

- For the SAR measurement results of MIMO Ant Mode(802.11b), higher power scaling factor among each SISO ANT was applied

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.																
5 745	149	802.11a	20	6	18.0	16.84	-0.10	Rear	WIFI1	93.9	10	0.442	0.189	1.306	1.065	0.263	-
5 745	149	802.11a	20	6	18.0	16.84	-0.19	Front	WIFI1	93.9	10	0.320	0.137	1.306	1.065	0.191	-
5 745	149	802.11a	20	6	18.0	16.84	-0.17	Left	WIFI1	93.9	10	0.434	0.181	1.306	1.065	0.252	-
5 745	149	802.11a	20	6	18.0	16.84	0.07	Top	WIFI1	93.9	10	0.093	0.044	1.306	1.065	0.061	-
5 825	165	802.11a	20	6	18.0	16.47	0.12	Rear	WIFI2	93.9	10	1.22	0.598	1.422	1.065	0.906	-
5 825	165	802.11a	20	6	18.0	16.47	0.08	Front	WIFI2	93.9	10	0.0263					-
5 825	165	802.11a	20	6	18.0	16.47	-0.17	Left	WIFI2	93.9	10	0.133	0.050	1.422	1.065	0.076	-
5 825	165	802.11a	20	6	18.0	16.47	0.11	Top	WIFI2	93.9	10	0.091	0.035	1.422	1.065	0.053	-
5 745	149	802.11a	20	6	21.0	19.63	-0.12	Rear	MIMO	93.9	10	1.32	0.595	1.449	1.065	0.918	-
5 828	165	802.11a	20	6	21.0	19.55	-0.12	Rear	MIMO	93.9	10	1.36	0.609	1.422	1.065	0.923	70
5 745	149	802.11a	20	6	21.0	19.63	-0.19	Front	MIMO	93.9	10	0.355	0.123	1.449	1.065	0.197	-
5 745	149	802.11a	20	6	21.0	19.63	-0.10	Left	MIMO	93.9	10	0.599	0.257	1.449	1.065	0.411	-
5 745	149	802.11a	20	6	21.0	19.63	-0.10	Top	MIMO	93.9	10	0.268	0.124	1.449	1.065	0.199	-
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 mode

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	13.0	12.97	-0.16	Rear	WIFI1	86.1	10	0.247	0.104	1.007	1.162	0.122	-
5 775	155	802.11ac	80	MCS0	13.0	12.97	0.16	Front	WIFI1	86.1	10	0.221	0.071	1.007	1.162	0.083	-
5 775	155	802.11ac	80	MCS0	13.0	12.97	0.01	Left	WIFI1	86.1	10	0.210	0.083	1.007	1.162	0.097	-
5 775	155	802.11ac	80	MCS0	13.0	12.97	0.01	Top	WIFI1	86.1	10	0.0333	0.00922	1.007	1.162	0.011	-
5 775	155	802.11ac	80	MCS0	13.0	12.63	0.19	Rear	WIFI2	86.1	10	0.618	0.252	1.089	1.162	0.319	-
5 775	155	802.11ac	80	MCS0	13.0	12.63	0.11	Front	WIFI2	86.1	10	0	0	1.089	1.162	0	-
5 775	155	802.11ac	80	MCS0	13.0	12.63	0.11	Left	WIFI2	86.1	10	0.091	0.019	1.089	1.162	0.024	-
5 775	155	802.11ac	80	MCS0	13.0	12.63	0.15	Top	WIFI2	86.1	10	0.057	0.018	1.089	1.162	0.023	-
5 775	155	802.11ac	80	MCS0	16.0	15.82	-0.12	Rear	MIMO	86.1	10	0.708	0.291	1.089	1.162	0.368	71
5 775	155	802.11ac	80	MCS0	16.0	15.82	-0.16	Front	MIMO	86.1	10	0.200	0.065	1.089	1.162	0.082	-
5 775	155	802.11ac	80	MCS0	16.0	15.82	0.16	Left	MIMO	86.1	10	0.206	0.083	1.089	1.162	0.105	-
5 775	155	802.11ac	80	MCS0	16.0	15.82	0.01	Top	MIMO	86.1	10	0.11	0.048	1.089	1.162	0.061	-
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)	
2 402	0	Bluetooth DH5	16.0	15.36	0.03	Rear	10	0.139	1.159	1.302	0.210	-
2 402	0	Bluetooth DH5	16.0	15.36	0.18	Front	10	0.081	1.159	1.302	0.122	-
2 402	0	Bluetooth DH5	16.0	15.36	-0.04	Left	10	0.187	1.159	1.302	0.282	72
2 402	0	Bluetooth DH5	16.0	15.36	0.10	Top	10	0.015	1.159	1.302	0.023	-
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

GSM1900 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	GRPS 3Tx	25.0	23.58	0.12	Rear	ON	1:2.77	0	1.16	1.387	1.609	73
1 880.0	661	GRPS 3Tx	25.0	23.58	-0.15	Front	ON	1:2.77	0	0.661	1.387	0.917	
1 880.0	661	GRPS 3Tx	27.0	25.32	-0.11	Left	N/A	1:2.77	0	0.346	1.472	0.509	-
1 880.0	661	GRPS 3Tx	27.0	25.32	-0.12	Right	N/A	1:2.77	0	0.151	1.472	0.222	-
1 880.0	661	GRPS 3Tx	25.0	23.58	-0.10	Bottom	ON	1:2.77	0	0.843	1.387	1.169	-
1 880.0	661	GRPS 3Tx	27.0	25.32	-0.12	Rear	OFF	1:2.77	9	0.47	1.472	0.692	-
1 880.0	661	GRPS 3Tx	27.0	25.32	-0.06	Front	OFF	1:2.77	6	0.543	1.472	0.799	-
1 880.0	661	GRPS 3Tx	27.0	25.32	0.18	Bottom	OFF	1:2.77	12	0.596	1.472	0.877	-
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	21.5	20.32	-0.08	Rear	ON	1:1	0	1.65	1.312	2.165	-
1 712.4	1312	RMC	21.5	20.54	0.19	Rear	ON	1:1	0	1.75	1.247	2.183	74
1 752.8	1513	RMC	21.5	20.51	0.08	Rear	ON	1:1	0	1.62	1.256	2.035	-
1 732.4	1412	RMC	21.5	20.32	-0.10	Front	ON	1:1	0	1.27	1.312	1.666	-
1 732.4	1412	RMC	24.5	23.14	0.05	Left	N/A	1:1	0	0.370	1.368	0.506	-
1 732.4	1412	RMC	24.5	23.14	0.03	Right	N/A	1:1	0	0.306	1.368	0.419	-
1 732.4	1412	RMC	21.5	20.32	-0.01	Bottom	ON	1:1	0	0.983	1.312	1.290	-
1 732.4	1412	RMC	24.5	23.14	-0.08	Rear	OFF	1:1	9	0.786	1.368	1.075	-
1 732.4	1412	RMC	24.5	23.14	-0.06	Front	OFF	1:1	6	0.937	1.368	1.282	-
1 732.4	1412	RMC	24.5	23.14	0.08	Bottom	OFF	1:1	12	0.825	1.368	1.128	-
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	9400	RMC	20.5	19.92	-0.12	Rear	ON	1:1	0	1.22	1.143	1.886	75
1 880	9400	RMC	20.5	19.92	-0.11	Front	ON	1:1	0	0.836	1.143	0.955	-
1 880	9400	RMC	24.5	23.25	-0.01	Left	N/A	1:1	0	0.392	1.334	0.523	-
1 880	9400	RMC	24.5	23.25	-0.15	Right	N/A	1:1	0	0.198	1.334	0.264	-
1 880	9400	RMC	20.5	19.92	0.10	Bottom	ON	1:1	0	1.000	1.143	1.143	-
1 880	9400	RMC	24.5	23.25	0.08	Rear	OFF	1:1	9	0.594	1.334	0.792	-
1 880	9400	RMC	24.5	23.25	0.07	Front	OFF	1:1	6	0.757	1.334	1.009	-
1 880	9400	RMC	24.5	23.25	-0.11	Bottom	OFF	1:1	12	0.873	1.334	1.164	-
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	20.0	18.93	-0.19	Rear	ON	0	1	0	1:1	0	0.858	1.279	1.098	-
1 905	26590	QPSK	20	20.0	18.73	-0.02	Rear	ON	0	50	0	1:1	0	0.865	1.340	1.159	76
1 905	26590	QPSK	20	20.0	18.93	0.07	Front	ON	0	1	0	1:1	0	0.564	1.279	0.722	-
1 905	26590	QPSK	20	20.0	18.73	-0.03	Front	ON	0	50	0	1:1	0	0.565	1.340	0.757	-
1 905	26590	QPSK	20	24.0	23.54	0.12	Left	N/A	0	1	49	1:1	0	0.401	1.112	0.446	-
1 905	26590	QPSK	20	23.0	22.56	0.13	Left	N/A	1	50	0	1:1	0	0.364	1.107	0.403	-
1 905	26590	QPSK	20	24.0	23.54	-0.02	Right	N/A	0	1	49	1:1	0	0.162	1.112	0.180	-
1 905	26590	QPSK	20	23.0	22.56	0.01	Right	N/A	1	50	0	1:1	0	0.154	1.107	0.170	-
1 905	26590	QPSK	20	20.0	18.93	0.04	Bottom	ON	0	1	0	1:1	0	0.689	1.279	0.881	-
1 905	26590	QPSK	20	20.0	18.73	0.05	Bottom	ON	0	50	0	1:1	0	0.679	1.340	0.910	-
1 905	26590	QPSK	20	24.0	23.54	0.04	Rear	OFF	0	1	49	1:1	9	0.558	1.112	0.620	-
1 905	26590	QPSK	20	23.0	22.56	-0.11	Rear	OFF	1	50	0	1:1	9	0.516	1.107	0.571	-
1 905	26590	QPSK	20	24.0	23.54	-0.02	Front	OFF	0	1	49	1:1	6	0.486	1.112	0.540	-
1 905	26590	QPSK	20	23.0	22.56	0.01	Front	OFF	1	50	0	1:1	6	0.453	1.107	0.501	-
1 905	26590	QPSK	20	24.0	23.54	0.04	Bottom	OFF	0	1	49	1:1	12	0.685	1.112	0.762	-
1 905	26590	QPSK	20	23.0	22.56	0.05	Bottom	OFF	1	50	0	1:1	12	0.663	1.107	0.734	-
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.																
1 745	132322	QPSK	20	20.5	19.69	0.11	Rear	ON	0	1	49	1:1	0	1.11	1.205	1.338	-
1 720	132072	QPSK	20	20.5	19.63	0.11	Rear	ON	0	50	25	1:1	0	1.12	1.222	1.368	77
1 745	132322	QPSK	20	20.5	19.69	0.02	Front	ON	0	1	49	1:1	0	0.793	1.205	0.956	-
1 720	132072	QPSK	20	20.5	19.63	0.01	Front	ON	0	50	25	1:1	0	0.911	1.222	1.113	-
1 720	132072	QPSK	20	24.5	23.37	0.11	Left	N/A	0	1	49	1:1	0	0.342	1.297	0.444	-
1 720	132072	QPSK	20	23.5	22.39	0.01	Left	N/A	1	50	25	1:1	0	0.312	1.291	0.403	-
1 720	132072	QPSK	20	24.5	23.37	-0.17	Right	N/A	0	1	49	1:1	0	0.313	1.297	0.406	-
1 720	132072	QPSK	20	23.5	22.39	-0.02	Right	N/A	1	50	25	1:1	0	0.255	1.291	0.329	-
1 745	132322	QPSK	20	20.5	20.39	0.01	Bottom	ON	0	1	49	1:1	0	0.898	1.205	0.921	-
1 720	132072	QPSK	20	20.5	20.33	-0.01	Bottom	ON	0	50	25	1:1	0	0.974	1.222	1.013	-
1 720	132072	QPSK	20	24.5	23.37	0.12	Rear	OFF	0	1	49	1:1	9	0.821	1.297	1.065	-
1 720	132072	QPSK	20	23.5	22.39	-0.01	Rear	OFF	1	50	25	1:1	9	0.68	1.291	0.878	-
1 720	132072	QPSK	20	24.5	23.37	0.05	Front	OFF	0	1	49	1:1	6	0.705	1.297	0.915	-
1 720	132072	QPSK	20	23.5	22.39	0.05	Front	OFF	1	50	25	1:1	6	0.576	1.291	0.744	-
1 720	132072	QPSK	20	24.5	23.37	-0.01	Bottom	OFF	0	1	49	1:1	12	0.846	1.297	1.097	-
1 720	132072	QPSK	20	23.5	22.39	-0.12	Bottom	OFF	1	50	25	1:1	12	0.693	1.291	0.895	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Hand 4.0 W/kg Averaged over 10 gram								

NR Band n66(Main Ant#1-2) (PCS) 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.																
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.74	0.07	Rear	ON	0	1	53	1:1	0	1.38	1.062	1.465	-
1 720	344000	DFT-s OFDM QPSK	20	20.0	19.71	-0.12	Rear	ON	0	50	56	1:1	0	1.43	1.069	1.529	78
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.74	0.02	Front	ON	0	1	53	1:1	0	1.05	1.062	1.115	-
1 720	344000	DFT-s OFDM QPSK	20	20.0	19.71	0.07	Front	ON	0	50	56	1:1	0	1.11	1.069	1.187	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.51	0.16	Left	N/A	0	1	53	1:1	0	0.383	1.119	0.429	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.71	0.03	Left	N/A	0	50	28	1:1	0	0.384	1.069	0.411	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.51	0.04	Right	N/A	0	1	53	1:1	0	0.293	1.119	0.317	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.71	0.01	Right	N/A	0	50	28	1:1	0	0.235	1.069	0.251	-
1 745	349000	DFT-s OFDM QPSK	20	20.0	19.74	0.17	Bottom	ON	0	1	53	1:1	0	1.20	1.062	1.274	-
1 720	344000	DFT-s OFDM QPSK	20	20.0	19.71	-0.01	Bottom	ON	0	50	56	1:1	0	1.21	1.069	1.294	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.51	0.02	Rear	OFF	0	1	53	1:1	9	0.827	1.119	0.926	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.71	0.01	Rear	OFF	0	50	28	1:1	9	0.830	1.069	0.887	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.51	0.06	Front	OFF	0	1	53	1:1	6	0.819	1.119	0.917	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.71	-0.02	Front	OFF	0	50	28	1:1	6	0.947	1.069	1.012	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.51	-0.02	Bottom	OFF	0	1	53	1:1	12	0.910	1.119	1.019	-
1 745	349000	DFT-s OFDM QPSK	20	25.0	24.71	0.02	Bottom	OFF	0	50	28	1:1	12	0.880	1.069	0.941	-
1 745	349000	CP QPSK	20	20.0	19.68	0.01	Rear	ON	0	1	1	1:1	0	1.23	1.076	1.324	-
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																	
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.																
5 310	62	802.11n	40	MCS0	16.0	14.57	-0.10	Rear	WIFI1	85.9	0	8.31	0.834	1.390	1.164	1.349	-
5 310	62	802.11n	40	MCS0	16.0	14.57	-0.18	Front	WIFI1	85.9	0	3.44	0.419	1.390	1.164	0.678	-
5 310	62	802.11n	40	MCS0	16.0	14.57	0.10	Left	WIFI1	85.9	0	5.23	0.682	1.390	1.164	1.103	-
5 310	62	802.11n	40	MCS0	16.0	14.57	-0.11	Top	WIFI1	85.9	0	0.924	0.101	1.390	1.164	0.163	-
5 530	106	802.11ac	80	MCS0	15.0	14.33	-0.10	Rear	WIFI1	86.1	0	8.47	0.641	1.167	1.162	0.869	-
5 530	106	802.11ac	80	MCS0	15.0	14.33	0.11	Front	WIFI1	86.1	0	4.98	0.507	1.167	1.162	0.687	-
5 530	106	802.11ac	80	MCS0	15.0	14.33	-0.10	Left	WIFI1	86.1	0	5.89	0.561	1.167	1.162	0.761	-
5 530	106	802.11ac	80	MCS0	15.0	14.33	0.14	Top	WIFI1	86.1	0	0.605	0.067	1.167	1.162	0.091	-
5 885	177	802.11a	20	6	18.0	16.88	0.01	Rear	WIFI1	93.9	0	5.78	0.491	1.294	1.065	0.677	
5 885	177	802.11a	20	6	18.0	16.88	0.07	Front	WIFI1	93.9	0	4.9	0.448	1.294	1.065	0.617	
5 885	177	802.11a	20	6	18.0	16.88	-0.10	Left	WIFI1	93.9	0	7.87	0.710	1.294	1.065	0.979	
5 885	177	802.11a	20	6	18.0	16.88	-0.10	Top	WIFI1	93.9	0	0.67	0.04	1.294	1.065	0.055	
5 310	62	802.11n	40	MCS0	16.0	15.88	0.13	Rear	WIFI2	85.9	0	15.6	0.972	1.390	1.164	1.163	-
5 310	62	802.11n	40	MCS0	16.0	15.88	-0.11	Front	WIFI2	85.9	0	0.239	0.011	1.390	1.164	0.013	-
5 310	62	802.11n	40	MCS0	16.0	15.88	-0.14	Left	WIFI2	85.9	0	0.437	0.031	1.390	1.164	0.037	-
5 310	62	802.11n	40	MCS0	16.0	15.88	-0.14	Top	WIFI2	85.9	0	0.572	0.143	1.390	1.164	0.171	-
5 610	122	802.11ac	80	MCS0	15.0	14.68	0.05	Rear	WIFI2	86.1	0	16.8	2.04	1.076	1.162	2.552	79
5 690	138	802.11ac	80	MCS0	15.0	14.94	0.01	Rear	WIFI2	86.1	0	30.8	1.96	1.014	1.162	2.309	-
5 690	138	802.11ac	80	MCS0	15.0	14.94	-0.10	Front	WIFI2	86.1	0	0.502	0.038	1.014	1.162	0.045	-
5 690	138	802.11ac	80	MCS0	15.0	14.94	-0.07	Left	WIFI2	86.1	0	1.3	0.118	1.014	1.162	0.139	-
5 690	138	802.11ac	80	MCS0	15.0	14.94	-0.08	Top	WIFI2	86.1	0	0.853	0.094	1.014	1.162	0.111	-
5 885	177	802.11a	20	6	18.0	16.66	-0.02	Rear	WIFI2	93.9	0	17.1	1.67	1.361	1.065	2.421	-
5 865	173	802.11a	20	6	18.0	16.50	-0.02	Rear	WIFI2	93.9	0	20.4	1.63	1.413	1.065	2.452	
5 885	177	802.11a	20	6	18.0	16.66	0.05	Front	WIFI2	93.9	0	0.675	0.043	1.361	1.065	0.062	-
5 885	177	802.11a	20	6	18.0	16.66	0.01	Left	WIFI2	93.9	0	1.34	0.149	1.361	1.065	0.216	-
5 885	177	802.11a	20	6	18.0	16.66	-0.05	Top	WIFI2	93.9	0	0.826	0.066	1.361	1.065	0.096	-
5 310	62	802.11n	40	MCS0	19.0	18.28	0.05	Rear	MIMO	85.9	0	12.3	1.31	1.390	1.164	2.119	-
5 270	54	802.11n	40	MCS0	19.0	18.03	0.04	Rear	MIMO	85.9	0	11.9	1.28	1.406	1.164	2.095	-
5 310	62	802.11n	40	MCS0	19.0	18.28	-0.05	Front	MIMO	85.9	0	5.05	0.504	1.390	1.164	0.815	-
5 310	62	802.11n	40	MCS0	19.0	18.28	-0.10	Left	MIMO	85.9	0	5.36	0.678	1.390	1.164	1.097	-
5 310	62	802.11n	40	MCS0	19.0	18.28	-0.16	Top	MIMO	85.9	0	1.35	0.507	1.390	1.164	0.820	-
5 530	106	802.11ac	80	MCS0	18.0	17.37	0.10	Rear	MIMO	86.1	0	23.9	1.73	1.167	1.162	2.346	-
5 690	138	802.11ac	80	MCS0	18.0	17.29	-0.10	Rear	MIMO	86.1	0	30.5	1.52	1.413	1.162	2.495	
5 530	106	802.11ac	80	MCS0	18.0	17.37	0.12	Front	MIMO	86.1	0	6.58	0.557	1.167	1.162	0.755	-
5 530	106	802.11ac	80	MCS0	18.0	17.37	0.09	Left	MIMO	86.1	0	4.73	0.572	1.167	1.162	0.776	-
5 530	106	802.11ac	80	MCS0	18.0	17.37	0.07	Top	MIMO	86.1	0	0.995	0.123	1.167	1.162	0.167	-
5 885	177	802.11a	20	6	21.0	19.78	-0.15	Rear	MIMO	93.9	0	36.9	2.02	1.361	1.065	2.929	80
5 865	173	802.11a	20	6	21.0	19.53	0.01	Rear	MIMO	93.9	0	30.8	1.71	1.413	1.065	2.572	-
5 885	177	802.11a	20	6	21.0	19.78	-0.05	Front	MIMO	93.9	0	7.73	0.558	1.361	1.065	0.809	-
5 885	177	802.11a	20	6	21.0	19.78	0.04	Left	MIMO	93.9	0	6.26	0.739	1.361	1.065	1.072	-
5 885	177	802.11a	20	6	21.0	19.78	-0.11	Top	MIMO	93.9	0	1.26	0.126	1.361	1.065	0.183	-
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.

NR Notes:

1. This device supports SA and NSA mode for NR implementation. In EN-DC Mode, NR operate with the LTE Bands shown in the NR FR1 checklist acting as anchor Bands.
2. Due to Limitations of the SAR measurement equipment, SAR testing for NR and LTE anchor Bands was performed separately using test mode (FTM) software.
3. More detailed specifications of the NR Bands are contained in the Technical description document.
4. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
5. For NR modulations and RB Sizes/Offsets were selected for testing such that configurations with the highest output power was evaluated for SAR tests.

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 ≤ 0.4 W/kg for 1g SAR and ≤ 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 ≤ 0.8 W/kg for 1g SAR and ≤ 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 ratio 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 ≤ 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 ≤ 1.20 W/kg or all test channels were measured.
5. The device was configured to transmit continuously at the required data rate, channel Bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. 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.

Simultaneous Transmission Summation Scenario with 2.4 GHz Ant WLAN							
Exposure condition	Band	WWAN SAR	2.4 GHz WLAN MIMO SAR		∑ 1-g SAR	SPLSR	
		(W/kg)	(W/kg)		(W/kg)	(Yes/No)	
		1	2	1+2			
Head SAR	GSM 850	0.347	0.605		0.952	No	
	GPRS 850	0.356	0.605		0.961	No	
	GSM 1900	0.142	0.605		0.747	No	
	GPRS 1900	0.175	0.605		0.780	No	
	UMTS Band 5	0.298	0.605		0.903	No	
	UMTS Band 4	0.201	0.605		0.806	No	
	UMTS Band 2	0.151	0.605		0.756	No	
	LTE Band 12	0.195	0.605		0.800	No	
	LTE Band 13	0.229	0.605		0.834	No	
	LTE Band 25	0.094	0.605		0.699	No	
	LTE Band 26	0.227	0.605		0.832	No	
	LTE Band 41	0.135	0.605		0.740	No	
LTE Band 66	0.127	0.605		0.732	No		
Simultaneous Transmission Summation Scenario with 2.4 GHz Ant WLAN							
Exposure condition	Band	EN-DC Band	NR BandSAR	EN-DC LTE BandSAR	2.4 GHz WLAN MIMO SAR	∑ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	1+2+3	
Head SAR	NR Band n5	LTE Band 25(2)	0.238	0.094	0.605	0.937	No
		LTE Band 66	0.238	0.127	0.605	0.970	No
	NR Band n66 Sub Ant#6	LTE Band 25(2)	1.003	0.094	0.605	(See Table Below)	No
	NR Band n66 Main Ant #1-2	LTE Band 26(5)	0.176	0.227	0.605	1.008	No
		LTE Band 12	0.176	0.195	0.605	0.976	No
		LTE Band 13	0.176	0.229	0.605	1.010	No

Simultaneous Transmission Summation Scenario with 2.4GHz WLAN								
Exposure condition	Band	EN-DC Band	Position	NR Band SAR	EN-DC LTE Band SAR	2.4 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR
				(W/kg)	(W/kg)	(W/kg)	(W/kg)	
				1	2	3	1+2+3	
Head SAR	NR Band n66 Sub Ant#6	LTE Band 25(2)	Left Cheek	0.614	0.090	0.234	0.938	No
			Left Tilt	1.005	0.036	0.063	1.102	No
			Right Cheek	0.436	0.094	0.605	1.135	No
			Right Tilt	0.852	0.048	0.117	1.017	No

Simultaneous Transmission Summation Scenario with 2.4 GHz Ant WLAN							
Exposure condition	ULCA Band (PCC)	ULCA Band (SCC)	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	2.4 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	1+2+3	
Head SAR	LTE 25(2) Main Ant#1-2	LTE Band 4 (upper, Sub Ant#6)	0.094	0.522	0.605	1.221	No
	LTE 66(4) Main Ant#1-2	LTE Band2 (upper, Sub Ant#6)	0.127	0.617	0.605	1.349	No
		LTE Band 26(5)	0.127	0.227	0.605	0.959	No
		LTE Band 12	0.127	0.195	0.605	0.927	No

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN					
Exposure condition	Band	WWAN SAR	5 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
		(W/kg)	(W/kg)	(W/kg)	
		1	2	1+2	
Head SAR	GSM 850	0.347	0.402	0.749	No
	GPRS 850	0.356	0.402	0.758	No
	GSM 1900	0.142	0.402	0.544	No
	GPRS 1900	0.175	0.402	0.577	No
	UMTS Band 5	0.298	0.402	0.700	No
	UMTS Band 4	0.201	0.402	0.603	No
	UMTS Band 2	0.151	0.402	0.553	No
	LTE Band 12	0.195	0.402	0.597	No
	LTE Band 13	0.229	0.402	0.631	No
	LTE Band 25	0.094	0.402	0.496	No
	LTE Band 26	0.227	0.402	0.629	No
	LTE Band 41	0.135	0.402	0.537	No
	LTE Band 66	0.127	0.402	0.529	No

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN							
Exposure condition	Band	EN-DC Band	NR BandSAR	EN-DC LTE BandSAR	5 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	1+2+3	
Head SAR	NR Band n5	LTE Band 25(2)	0.238	0.094	0.402	0.734	No
		LTE Band 66	0.238	0.127	0.402	0.767	No
	NR Band n66 Sub Ant#6	LTE Band 25(2)	1.003	0.094	0.402	1.499	No
	NR Band n66 Main Ant #1-2	LTE Band 26(5)	0.176	0.227	0.402	0.805	No
		LTE Band 12	0.176	0.195	0.402	0.773	No
		LTE Band 13	0.176	0.229	0.402	0.807	No

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN							
Exposure condition	ULCA Band (PCC)	ULCA Band (SCC)	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	5 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	1+2+3	
Head SAR	LTE 25(2) Main Ant#1-2	LTE Band 4 (upper, SubAnt#6)	0.094	0.522	0.402	1.018	No
	LTE 66(4) Main Ant#1-2	LTE Band2 (upper, Sub Ant#6)	0.127	0.617	0.402	1.146	No
		LTE Band 26(5)	0.127	0.227	0.402	0.756	No
		LTE Band 12	0.127	0.195	0.402	0.724	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN&Bluetooth						
Exposure condition	Band	WWAN SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	3	1+2+3	
Head SAR	GSM 850	0.347	0.402	0.549	1.298	No
	GPRS 850	0.356	0.402	0.549	1.307	No
	GSM 1900	0.142	0.402	0.549	1.093	No
	GPRS 1900	0.175	0.402	0.549	1.126	No
	UMTS Band 5	0.298	0.402	0.549	1.249	No
	UMTS Band 4	0.201	0.402	0.549	1.152	No
	UMTS Band 2	0.151	0.402	0.549	1.102	No
	LTE Band 12	0.195	0.402	0.549	1.146	No
	LTE Band 13	0.229	0.402	0.549	1.180	No
	LTE Band 25	0.094	0.402	0.549	1.045	No
	LTE Band 26	0.227	0.402	0.549	1.178	No
	LTE Band 41	0.135	0.402	0.549	1.086	No
	LTE Band 66	0.127	0.402	0.549	1.078	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN&Bluetooth

Exposure condition	Band	EN-DC Band	NR Band SAR	EN-DC LTE Band SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	4	1+2+3+4	
Head SAR	NR Band n5	LTE Band 25(2)	0.238	0.094	0.402	0.549	1.283	No
		LTE Band 66	0.238	0.127	0.402	0.549	1.316	No
	NR Band n66 (Upper, Sub Ant#6)	LTE Band 25(2)	1.003	0.094	0.402	0.549	(See Below Table)	Yes
	NR Band n66 Main Ant #1-2	LTE Band 26(5)	0.176	0.227	0.402	0.549	1.354	No
		LTE Band 12	0.176	0.195	0.402	0.549	1.322	No
		LTE Band 13	0.176	0.229	0.402	0.549	1.356	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN&Bluetooth

Exposure condition	Band	EN-DC Band	Position	NR Band SAR	EN-DC LTE Band SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SP LS R (Yes/No)
				(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
				1	2	3	4	1+2+3+4	
Head SAR	NR Band n66 Sub Ant#6	LTE Band (25)2	Left Cheek	0.614	0.090	0.129	0.282	1.115	No
			Left Tilt	1.003	0.036	0.015	0.044	1.098	No
			Right Cheek	0.436	0.094	0.402	0.549	1.481	No
			Right Tilt	0.852	0.048	0.034	0.110	1.044	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN&Bluetooth								
Exposure condition	ULCA Band (PCC)	ULCA Band (SCC)	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	4	1+2+3+4	
Head SAR	LTE 25(2) Main Ant#1-2	LTE Band 4 (upper, SubAnt#6)	0.094	0.522	0.402	0.549	1.567	No
	LTE 66(4) Main Ant#1-2	LTE Band2 (upper, Sub Ant#6)	0.127	0.617	0.402	0.549	(See Below Table)	Yes
		LTE Band 26(5)	0.127	0.227	0.402	0.549	1.305	No
		LTE Band 12	0.127	0.195	0.402	0.549	1.273	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN MIMO &Bluetooth									
Exposure condition	ULCA Band (PCC)	ULCA Band (SCC)	Position	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
				(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
				1	2	3	4	1+2+3+4	
Head SAR	LTE 66(4) Main Ant#1-2	LTE Band2 (upper, Sub Ant#6)	Left Cheek	0.127	0.495	0.129	0.282	1.033	No
			Left Tilt	0.047	0.617	0.015	0.044	0.723	No
			Right Cheek	0.127	0.314	0.402	0.549	1.392	No
			Right Tilt	0.052	0.506	0.034	0.110	0.702	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN RSDB & 5 GHz WLAN MIMO RSDB						
Exposure condition	Band	WWAN SAR	2.4 GHz WLAN MIMO RSDB SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
		(W/kg)	(W/kg)	(W/kg)	(W/kg)	
		1	2	3	1+2+3	
Head SAR	GSM 850	0.347	0.272	0.402	1.021	No
	GPRS 850	0.356	0.272	0.402	1.030	No
	GSM 1900	0.142	0.272	0.402	0.816	No
	GPRS 1900	0.175	0.272	0.402	0.849	No
	UMTS Band 5	0.298	0.272	0.402	0.972	No
	UMTS Band 4	0.201	0.272	0.402	0.875	No
	UMTS Band 2	0.151	0.272	0.402	0.825	No
	LTE Band 12	0.195	0.272	0.402	0.869	No
	LTE Band 13	0.229	0.272	0.402	0.903	No
	LTE Band 25	0.094	0.272	0.402	0.768	No
	LTE Band 26	0.227	0.272	0.402	0.901	No
	LTE Band 41	0.135	0.272	0.402	0.809	No
	LTE Band 66	0.127	0.272	0.402	0.801	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN&Bluetooth								
Exposure condition	Band	EN-DC Band	NR Band SAR	EN-DC LTE Band SAR	2.4 GHz WLAN MIMO SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	4	1+2+3+4	
Head SAR	NR Band n5	LTE Band 25(2)	0.238	0.094	0.272	0.402	1.006	No
		LTE Band 66	0.238	0.127	0.272	0.402	1.039	No
	NR Band n66 Sub Ant#6	LTE Band 25(2)	1.003	0.094	0.272	0.402	(See below Table)	No
	NR Band n66 Main Ant #1-2	LTE Band 26(5)	0.176	0.227	0.272	0.402	1.077	No
		LTE Band 12	0.176	0.195	0.272	0.402	1.045	No
		LTE Band 13	0.176	0.229	0.272	0.402	1.079	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5 GHz WLAN									
Exposure condition	Band	EN-DC Band	Position	NR Band SAR	EN-DC LTE Band SAR	2.4 GHz WLAN MIMO RSDB SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
				(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
				1	2	3	4	1+2+3+4	
Head SAR	NR Band n66 Sub Ant#6	LTE Band (25)2	Left Cheek	0.614	0.090	0.131	0.129	0.964	No
			Left Tilt	1.003	0.036	0.030	0.015	1.084	No
			Right Cheek	0.436	0.094	0.272	0.402	1.204	No
			Right Tilt	0.852	0.048	0.054	0.034	0.988	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN RSDB & 5 GHz WLAN MIMO								
Exposure condition	ULCA Band (PCC)	ULCA Band (SCC)	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	2.4 GHz WLAN MIMO SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	4	1+2+3+4	
Head SAR	LTE 25(2) Main Ant#1-2	LTE Band 4 (upper, SubAnt#6)	0.094	0.522	0.272	0.402	1.290	No
		LTE Band 2 (upper, Sub Ant#6)	0.127	0.617	0.272	0.402	1.418	No
	LTE 66(4) Main Ant#1-2	LTE Band 26(5)	0.127	0.227	0.272	0.402	1.028	No
		LTE Band 12	0.127	0.195	0.272	0.402	0.996	No

14.2 Body-Worn SAR Simultaneous Transmission Analysis.

Simultaneous radiation evaluation of body horn in RSDB mode of 2.4GHz WLAN was evaluated as a result of body horn measurement in max mode of 2.4GHz WLAN, which is a higher output.

Simultaneous Transmission Summation Scenario with 2.4 GHz Ant WLAN (Distance: 15 mm)					
Exposure condition	Band	WWAN SAR	2.4 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	1+2	
Body -worn	GSM 850	0.483	0.281	0.764	No
	GPRS 850	0.494	0.281	0.775	No
	GSM 1900	0.456	0.281	0.737	No
	GPRS 1900	0.484	0.281	0.765	No
	UMTS Band 5	0.391	0.281	0.672	No
	UMTS Band 4	0.962	0.281	1.243	No
	UMTS Band 2	0.607	0.281	0.888	No
	LTE Band 12	0.265	0.281	0.546	No
	LTE Band 13	0.337	0.281	0.618	No
	LTE Band 25	0.478	0.281	0.759	No
	LTE Band 26	0.366	0.281	0.647	No
	LTE Band 41	0.252	0.281	0.533	No
	LTE Band 66	0.630	0.281	0.911	No

Simultaneous Transmission Summation Scenario with 2.4 GHz Ant WLAN (Distance: 15 mm)							
Exposure condition	Band	EN-DC Band	NR BandSAR	EN-DC LTE Band SAR	2.4 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	1+2+3	
Body -worn	NR Band n5	LTE Band 25(2)	0.323	0.478	0.281	1.082	No
		LTE Band 66	0.323	0.630	0.281	1.234	No
	NR Band n66 Sub Ant#6	LTE Band 25(2)	0.124	0.478	0.281	0.883	No
		LTE Band 26(5)	0.756	0.366	0.281	1.403	No
	NR Band n66 Main Ant #1-2	LTE Band 12	0.756	0.265	0.281	1.302	No
		LTE Band 13	0.756	0.337	0.281	1.374	No

Simultaneous Transmission Summation Scenario with 2.4 GHz Ant WLAN							
Exposure Condition	ULCA(PCC)	Band (SCC)	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	2.4 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	1+2+3	
Body Worn	LTE 25(2) Main Ant#1-2	LTE Band 4 (upper, SubAnt#6)	0.536	0.239	0.281	1.056	No
		LTE Band2 (upper, Sub Ant#6)	0.630	0.215	0.281	1.126	No
	LTE 66(4) Main Ant#1-2	LTE Band 26(5)	0.630	0.341	0.281	1.252	No
		LTE Band 12	0.630	0.265	0.281	1.176	No

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN (Distance: 15 mm)					
Exposure condition	Band	WWAN SAR	5 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	1+2	
Body-worn	GSM 850	0.483	0.541	1.024	No
	GPRS 850	0.494	0.541	1.035	No
	GSM 1900	0.456	0.541	0.997	No
	GPRS 1900	0.484	0.541	1.025	No
	UMTS Band 5	0.391	0.541	0.932	No
	UMTS Band 4	0.962	0.541	1.503	No
	UMTS Band 2	0.607	0.541	1.148	No
	LTE Band 12	0.265	0.541	0.806	No
	LTE Band 13	0.337	0.541	0.878	No
	LTE Band 25	0.478	0.541	1.019	No
	LTE Band 26	0.366	0.541	0.907	No
	LTE Band 41	0.252	0.541	0.793	No
	LTE Band 66	0.630	0.541	1.171	No

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN (Distance: 15 mm)							
Exposure condition	Band	EN-DC Band	NR BandSAR	EN-DC LTE BandSAR	5 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	1+2+3	
Body-worn	NR Band n5	LTE Band 25(2)	0.323	0.478	0.541	1.400	No
		LTE Band 66	0.323	0.630	0.541	1.494	No
	NR Band n66 Sub Ant#6	LTE Band 25(2)	0.124	0.478	0.541	1.143	No
	NR Band n66 Main Ant #1-2	LTE Band 26(5)	0.756	0.366	0.541	(See the Table below)	Yes(#1)
		LTE Band 12	0.756	0.265	0.541	1.562	No
		LTE Band 13	0.756	0.337	0.541	1.675	Yes(#2)

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN								
Exposure Condition	Band	EN-DC Band	Position	NR Band SAR	EN-DC LTE Band SAR	5 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR
				(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
				1	2	3	1+2+3	
Body-worn	NR Band n66 Main Ant #1-2	LTE Band 26(5)	Rear	0.756	0.341	0.541	1.638	Yes(#1)
			Front	0.500	0.366	0.128	0.994	No

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN							
Exposure condition	ULCA(PCC)	Band (SCC)	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	5 GHz WLAN MIMO SAR	$\sum$ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	1+2+3	
Body Worn	LTE 25(2) Main Ant#1-2	LTE Band 4 (upper, SubAnt#6)	0.536	0.239	0.541	1.316	No
		LTE Band2 (upper, Sub Ant#6)	0.630	0.215	0.541	1.386	No
	LTE 66(4) Main Ant#1-2	LTE Band 26(5)	0.630	0.341	0.541	1.512	No
		LTE Band 12	0.630	0.265	0.541	1.436	No

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN MIMO &Bluetooth(Distance: 15 mm)						
Exposure condition	Band	WWAN SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
		(W/kg)	(W/kg)	(W/kg)	(W/kg)	
		1	2	3	1+2+3	
Body-worn	GSM 850	0.483	0.541	0.098	1.122	No
	GPRS 850	0.494	0.541	0.098	1.133	No
	GSM 1900	0.456	0.541	0.098	1.095	No
	GPRS 1900	0.484	0.541	0.098	1.123	No
	UMTS Band 5	0.391	0.541	0.098	1.03	No
	UMTS Band 4	0.962	0.541	0.098	1.601	Yes(#3)
	UMTS Band 2	0.607	0.541	0.098	1.246	No
	LTE Band 12	0.265	0.541	0.098	0.904	No
	LTE Band 13	0.337	0.541	0.098	0.976	No
	LTE Band 25	0.478	0.541	0.098	1.117	No
	LTE Band 26	0.366	0.541	0.098	1.005	No
	LTE Band 41	0.252	0.541	0.098	0.891	No
	LTE Band 66	0.63	0.541	0.098	1.269	No

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN MIMO &Bluetooth(Distance: 15 mm)								
Exposure condition	Band	EN-DC Band	NR Band SAR	EN-DC LTE Band SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	4	1+2+3+4	
Body-worn	NR Band n5	LTE Band 25(2)	0.323	0.478	0.541	0.098	1.396	No
		LTE Band 66	0.323	0.630	0.541	0.098	1.548	No
	NR Band n66 Sub Ant#6	LTE Band 25(2)	0.124	0.478	0.541	0.098	1.197	No
	NR Band n66 Main Ant #1-2	LTE Band 26(5)	0.756	0.366	0.541	0.098	(See the table below)	Yes(#4)
		LTE Band 12	0.756	0.265	0.541	0.098	1.616	Yes(#5)
		LTE Band 13	0.756	0.337	0.541	0.098	1.688	Yes(#6)

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN &Bluetooth									
Exposure Condition	Band	EN-DC Band	Position	NR Band SAR	EN-DC LTE Band SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
				(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
				1	2	3	4	1+2+3+4	
Body-worn	NR Band n66 Main Ant #1-2	LTE Band 26(5)	Rear	0.756	0.341	0.541	0.098	1.736	Yes(#4)
			Front	0.500	0.366	0.128	0.071	1.065	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN&Bluetooth								
Exposure condition	ULCA Band (PCC)	ULCA Band (SCC)	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	4	1+2+3+4	
Body Worn	LTE 25(2) Main Ant#1-2	LTE Band 4 (upper, SubAnt#6)	0.536	0.239	0.541	0.098	1.414	No
	LTE 66(4) Main Ant#1-2	LTE Band2 (upper, Sub Ant#6)	0.630	0.215	0.541	0.098	1.484	No
		LTE Band 26(5)	0.630	0.366	0.541	0.098	(See the table below)	Yes(#7)
		LTE Band 12	0.630	0.265	0.541	0.098	1.534	No

Simultaneous Transmission Summation Scenario with 5 GHz Ant WLAN&Bluetooth									
Exposure Condition	ULCA Band (PCC)	ULCA Band (SCC)	Position	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
				(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
				1	2	3	4	1+2+3+4	
Body-worn	LTE 66(4)	LTE Band 26(5)	Rear	0.630	0.341	0.541	0.098	1.610	Yes(#7)
			Front	0.539	0.366	0.128	0.071	1.104	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN RSDB & 5 GHz WLAN MIMO						
Exposure condition	Band	WWAN SAR	2.4 GHz WLAN MIMO	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
		(W/kg)	(W/kg)	(W/kg)	(W/kg)	
		1	2	3	1+2+3	
Body -worn	GSM 850	0.483	0.281	0.259	1.023	No
	GPRS 850	0.494	0.281	0.259	1.034	No
	GSM 1900	0.456	0.281	0.259	0.996	No
	GPRS 1900	0.484	0.281	0.259	1.024	No
	UMTS Band 5	0.391	0.281	0.259	0.931	No
	UMTS Band 4	0.962	0.281	0.259	1.502	No
	UMTS Band 2	0.607	0.281	0.259	1.147	No
	LTE Band 12	0.265	0.281	0.259	0.805	No
	LTE Band 13	0.337	0.281	0.259	0.877	No
	LTE Band 25	0.478	0.281	0.259	1.018	No
	LTE Band 26	0.366	0.281	0.259	0.906	No
	LTE Band 41	0.252	0.281	0.259	0.792	No
	LTE Band 66	0.63	0.281	0.259	1.17	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN RSDB & 5 GHz WLAN MIMO								
Exposure condition	Band	EN-DC Band	NR BandSAR	EN-DC LTE Band SAR	2.4 GHz WLAN MIMO SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	4	1+2+3+4	
Body-worn	NR Band n5	LTE Band 25(2)	0.323	0.478	0.281	0.259	1.341	No
		LTE Band 66	0.323	0.630	0.281	0.259	1.493	No
	NR Band n66 Sub Ant#6	LTE Band 25(2)	0.124	0.478	0.281	0.259	1.142	No
	NR Band n66 Main Ant #1-2	LTE Band 26(5)	0.756	0.366	0.281	0.259	(See the table below)	Yes(#8)
		LTE Band 12	0.756	0.265	0.281	0.259	1.561	No
		LTE Band 13	0.756	0.337	0.281	0.259	1.633	Yes(#9)

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN RSDB & 5 GHz WLAN MIMO									
Exposure Condition	Band	EN-DC Band	Position	NR Band SAR	EN-DC LTE Band SAR	2.4 GHz WLAN MIMO SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
				(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
				1	2	3	4	1+2+3+4	
Body-worn	NR Band n66 Main Ant #1-2	LTE Band 26(5)	Rear	0.756	0.341	0.281	0.259	1.637	Yes(#8)
			Front	0.500	0.366	0.281	0.259	1.406	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN RSDB & 5 GHz WLAN MIMO								
Exposure condition	ULCA Band (PCC)	ULCA Band (SCC)	ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	2.4 GHz WLAN MIMO SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	4	1+2+3+4	
Body-worn	LTE 25(2) Main Ant#1-2	LTE Band 4 (upper, SubAnt#6)	0.536	0.239	0.281	0.259	1.315	No
			0.630	0.215	0.281	0.259	1.385	No
	LTE 66(4) Main Ant#1-2	LTE Band 26(5)	0.630	0.366	0.281	0.259	1.536	No
		LTE Band 12	0.630	0.265	0.281	0.259	1.435	No

14.3 Hotspot SAR Simultaneous Transmission Analysis.

Simultaneous Transmission Scenario with 2.4 GHz WLAN(10mm)					
Band		WWAN SAR	2.4 GHz WLAN MIMO	Σ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	1+2	
GPRS 850	Rear	0.549	0.553	1.102	No
	Front	0.489	0.307	0.796	No
	Left	0.465	0.535	1.000	No
	Right	0.615		0.615	No
	Top		0.056	0.056	No
	Bottom	0.172		0.172	No
GPRS 1900	Rear	0.617	0.553	1.170	No
	Front	0.479	0.307	0.786	No
	Left	0.193	0.535	0.728	No
	Right	0.081		0.081	No
	Top		0.056	0.056	No
	Bottom	1.08		1.080	No
UMTS Band 5	Rear	0.625	0.553	1.178	No
	Front	0.401	0.307	0.708	No
	Left	0.243	0.535	0.778	No
	Right	0.519		0.519	No
	Top		0.056	0.056	No
	Bottom	0.236		0.236	No
UMTS Band 4	Rear	0.701	0.553	1.254	No
	Front	0.551	0.307	0.858	No
	Left	0.104	0.535	0.639	No
	Right	0.098		0.098	No
	Top		0.056	0.056	No
	Bottom	1.126		1.126	No
UMTS Band 2	Rear	0.555	0.553	1.108	No
	Front	0.454	0.307	0.761	No
	Left	0.093	0.535	0.628	No
	Right	0.052		0.052	No
	Top		0.056	0.056	No
	Bottom	0.910		0.910	No
LTE Band 12	Rear	0.429	0.553	0.982	No
	Front	0.268	0.307	0.575	No
	Left	0.231	0.535	0.766	No
	Right	0.241		0.241	No
	Top		0.056	0.056	No
	Bottom	0.066		0.066	No
LTE Band 13	Rear	0.433	0.553	0.986	No
	Front	0.332	0.307	0.639	No
	Left	0.391	0.535	0.926	No
	Right	0.352		0.352	No
	Top		0.056	0.056	No
	Bottom	0.055		0.055	No

Simultaneous Transmission Scenario with 2.4 GHz WLAN(10mm)					
Band		WWAN SAR	2.4 GHz WLAN MIMO	Σ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	1+2	
LTE Band 25	Rear	0.266	0.553	0.819	No
	Front	0.247	0.307	0.554	No
	Left	0.079	0.535	0.614	No
	Right	0.031		0.031	No
	Top		0.056	0.056	No
	Bottom	0.797		0.797	No
LTE Band 26	Rear	0.558	0.553	1.111	No
	Front	0.370	0.307	0.677	No
	Left	0.216	0.535	0.751	No
	Right	0.534		0.534	No
	Top		0.056	0.056	No
	Bottom	0.143		0.143	No
LTE Band 41	Rear	0.261	0.553	0.814	No
	Front	0.178	0.307	0.485	No
	Left	0.334	0.535	0.869	No
	Right				No
	Top		0.056	0.056	No
	Bottom	0.245		0.245	No
LTE Band 66	Rear	0.396	0.553	0.949	No
	Front	0.334	0.307	0.641	No
	Left	0.081	0.535	0.616	No
	Right	0.067		0.067	No
	Top		0.056	0.056	No
	Bottom	0.912		0.912	No

Simultaneous Transmission Scenario with 2.4 GHz WLAN(10mm)							
Band	EN-DC Band		NR BandSAR	EN-DC LTE BandSAR	2.4 GHz WLAN MIMO	$\sum$ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	1+2+3	
NR Band n5	LTE Band 25(2)	Rear	0.567	0.266	0.553	1.386	No
		Front	0.334	0.247	0.307	0.888	No
		Left	0.144	0.079	0.535	0.758	No
		Right	0.382	0.031		0.413	No
		Top			0.056	0.056	No
		Bottom	0.151	0.797		0.948	No
	LTE Band 66	Rear	0.567	0.396	0.553	1.516	No
		Front	0.334	0.334	0.307	0.975	No
		Left	0.144	0.081	0.535	0.760	No
		Right	0.382	0.067		0.449	No
		Top			0.056	0.056	No
		Bottom	0.151	0.912		1.063	No
NR Band n66 Sub Ant#6	LTE Band 25(2)	Rear	0.357	0.266	0.553	1.176	No
		Front	0.201	0.247	0.307	0.755	No
		Left	0.062	0.079	0.535	0.676	No
		Right	0.136	0.031		0.167	No
		Top	0.611		0.056	0.667	No
		Bottom		0.797		0.797	No
NR Band n66 Lower	LTE Band 26(5)	Rear	0.586	0.558	0.553	1.697	Yes(Hybrid SPLSR)(#29)
		Front	0.535	0.370	0.307	1.212	No
		Left	0.071	0.216	0.535	0.822	No
		Right	0.062	0.534		0.596	No
		Top			0.056	0.056	No
		Bottom	0.966	0.143		1.109	No
	LTE Band 12	Rear	0.586	0.429	0.553	1.568	No
		Front	0.535	0.268	0.307	1.110	No
		Left	0.071	0.231	0.535	0.837	No
		Right	0.062	0.241		0.303	No
		Top			0.056	0.056	No
		Bottom	0.966	0.066		1.032	No
	LTE Band 13	Rear	0.586	0.433	0.553	1.572	No
		Front	0.535	0.332	0.307	1.174	No
		Left	0.071	0.391	0.535	0.997	No
		Right	0.062	0.352		0.414	No
		Top			0.056	0.056	No
		Bottom	0.966	0.055		1.021	No

Simultaneous Transmission Scenario with 2.4 GHz WLAN(10mm)							
ULCA Band (PCC)	ULCA Band (SCC)		ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	2.4 GHz WLAN MIMO	Σ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	1+2+3	
LTE 25(2)	LTE 4	Rear	0.266	0.173	0.553	0.992	No
		Front	0.247	0.110	0.307	0.664	No
		Left	0.079	0.020	0.535	0.634	No
		Right	0.031	0.031		0.062	No
		Top		0.302	0.056	0.358	No
		Bottom	0.797			0.797	No
LTE 66(4)	LTE 2	Rear	0.396	0.138	0.553	1.087	No
		Front	0.334	0.08	0.307	0.721	No
		Left	0.081	0.012	0.535	0.628	No
		Right	0.067	0.042		0.109	No
		Top		0.367	0.056	0.423	No
		Bottom	0.912			0.912	No
	LTE 5	Rear	0.396	0.558	0.553	1.507	No
		Front	0.334	0.37	0.307	1.011	No
		Left	0.081	0.216	0.535	0.832	No
		Right	0.067	0.534		0.601	No
		Top			0.056	0.056	No
		Bottom	0.912	0.143		1.055	No
	LTE 12	Rear	0.396	0.429	0.553	1.378	No
		Front	0.334	0.268	0.307	0.909	No
		Left	0.081	0.231	0.535	0.847	No
		Right	0.067	0.241		0.308	No
		Top			0.056	0.056	No
		Bottom	0.912	0.066		0.978	No

Simultaneous Transmission Scenario with 5 GHz WLAN(10mm)					
Band		WWAN SAR	5 GHz WLAN MIMO	Σ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	
		1	2	1+2	(Yes/No)
GPRS 850	Rear	0.549	0.923	1.472	No
	Front	0.489	0.197	0.686	No
	Left	0.465	0.411	0.876	No
	Right	0.615		0.615	No
	Top		0.199	0.199	No
	Bottom	0.172		0.172	No
GPRS 1900	Rear	0.617	0.923	1.540	No
	Front	0.479	0.197	0.676	No
	Left	0.193	0.411	0.604	No
	Right	0.081		0.081	No
	Top		0.199	0.199	No
	Bottom	1.08		1.080	No
UMTS Band 5	Rear	0.625	0.923	1.548	No
	Front	0.401	0.197	0.598	No
	Left	0.243	0.411	0.654	No
	Right	0.519		0.519	No
	Top		0.199	0.199	No
	Bottom	0.236		0.236	No
UMTS Band 4	Rear	0.701	0.923	1.624	Yes(#10)
	Front	0.551	0.197	0.748	No
	Left	0.104	0.411	0.515	No
	Right	0.098		0.098	No
	Top		0.199	0.199	No
	Bottom	1.126		1.126	No
UMTS Band 2	Rear	0.555	0.923	1.478	No
	Front	0.454	0.197	0.651	No
	Left	0.093	0.411	0.504	No
	Right	0.052		0.052	No
	Top		0.199	0.199	No
	Bottom	0.910		0.910	No
LTE Band 12	Rear	0.266	0.923	1.189	No
	Front	0.247	0.197	0.444	No
	Left	0.079	0.411	0.490	No
	Right	0.031		0.031	No
	Top		0.199	0.199	No
	Bottom	0.797		0.797	No
LTE Band 13	Rear	0.433	0.923	1.356	No
	Front	0.332	0.197	0.529	No
	Left	0.391	0.411	0.802	No
	Right	0.352		0.352	No
	Top		0.199	0.199	No
	Bottom	0.055		0.055	No

Simultaneous Transmission Scenario with 2.4 GHz WLAN(10mm)					
Band		WWAN SAR	5 GHz WLAN MIMO	$\sum$ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	1+2	
LTE Band 25	Rear	0.266	0.923	1.189	No
	Front	0.247	0.197	0.444	No
	Left	0.079	0.411	0.490	No
	Right	0.031		0.031	No
	Top		0.199	0.199	No
	Bottom	0.797		0.797	No
LTE Band 26(5)	Rear	0.558	0.923	1.481	No
	Front	0.370	0.197	0.567	No
	Left	0.216	0.411	0.627	No
	Right	0.534		0.534	No
	Top		0.199	0.199	No
	Bottom	0.143		0.143	No
LTE Band 41	Rear	0.261	0.923	1.184	No
	Front	0.178	0.197	0.375	No
	Left	0.334	0.411	0.745	No
	Right				No
	Top		0.199	0.199	No
	Bottom	0.245		0.245	No
LTE Band 66	Rear	0.396	0.923	1.319	No
	Front	0.334	0.197	0.531	No
	Left	0.081	0.411	0.492	No
	Right	0.067		0.067	No
	Top		0.199	0.199	No
	Bottom	0.912		0.912	No

Simultaneous Transmission Scenario with 5 GHz WLAN(10mm)							
Band	EN-DC Band		NR BandSAR	EN-DC LTE BandSAR	5 GHz WLAN MIMO	Σ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	
			1	2	3	1+2+3	
NR Band n5	LTE Band 25(2)	Rear	0.567	0.266	0.923	1.756	Yes(Hybrid SPLSR)(#34)
		Front	0.334	0.247	0.197	0.778	No
		Left	0.144	0.079	0.411	0.634	No
		Right	0.382	0.031		0.413	No
		Top			0.199	0.199	No
		Bottom	0.151	0.797		0.948	No
	LTE Band 66	Rear	0.567	0.396	0.923	1.886	Yes(Hybrid SPLSR)(#35)
		Front	0.334	0.334	0.197	0.865	No
		Left	0.144	0.081	0.411	0.636	No
		Right	0.382	0.067		0.449	No
		Top			0.199	0.199	No
		Bottom	0.151	0.912		1.063	No
NR Band n66 Sub Ant#6	LTE Band 25(2)	Rear	0.357	0.266	0.923	1.546	No
		Front	0.201	0.247	0.197	0.645	No
		Left	0.062	0.079	0.411	0.552	No
		Right	0.136	0.031		0.167	No
		Top	0.611		0.199	0.810	No
		Bottom		0.797		0.797	No
NR Band n66 Main Ant #1-2	LTE Band 26(5)	Rear	0.586	0.558	0.923	2.067	Yes(Hybrid SPLSR)(#36)
		Front	0.535	0.370	0.197	1.102	No
		Left	0.071	0.216	0.411	0.698	No
		Right	0.062	0.534		0.596	No
		Top			0.199	0.199	No
		Bottom	0.966	0.143		1.109	No
	LTE Band 12	Rear	0.586	0.429	0.923	1.938	Yes(Hybrid SPLSR)(#37)
		Front	0.535	0.268	0.197	1.000	No
		Left	0.071	0.231	0.411	0.713	No
		Right	0.062	0.241		0.303	No
		Top			0.199	0.199	No
		Bottom	0.966	0.066		1.032	No
	LTE Band 13	Rear	0.586	0.433	0.923	1.942	Yes(Hybrid SPLSR)(#38)
		Front	0.535	0.332	0.197	1.064	No
		Left	0.071	0.391	0.411	0.873	No
		Right	0.062	0.352		0.414	No
		Top			0.199	0.199	No
		Bottom	0.966	0.055		1.021	No

Simultaneous Transmission Scenario with 5 GHz WLAN(10mm)							
ULCA Band (PCC)	ULCA Band (SCC)		ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	5 GHz WLAN Ant 1+Ant 2 SAR (W/kg)	$\sum$ 1-g SAR	SPLSR (Yes/No)
			(W/kg)	(W/kg)		(W/kg)	
			1	2		1+2+3	
LTE 25(2)	LTE 4	Rear	0.266	0.173	0.923	1.362	No
		Front	0.247	0.110	0.197	0.554	No
		Left	0.079	0.020	0.411	0.510	No
		Right	0.031	0.031		0.062	No
		Top		0.302	0.199	0.501	No
		Bottom	0.797			0.797	No
LTE 66(4)	LTE 2	Rear	0.396	0.138	0.923	1.457	No
		Front	0.334	0.08	0.197	0.611	No
		Left	0.081	0.012	0.411	0.504	No
		Right	0.067	0.042		0.109	No
		Top		0.367	0.199	0.566	No
		Bottom	0.912			0.912	No
	LTE 5	Rear	0.396	0.558	0.923	1.877	Yes(#11)
		Front	0.334	0.37	0.197	0.901	No
		Left	0.081	0.216	0.411	0.708	No
		Right	0.067	0.534		0.601	No
		Top			0.199	0.199	No
		Bottom	0.912	0.143		1.055	No
	LTE 12	Rear	0.396	0.429	0.923	1.748	Yes(#12)
		Front	0.334	0.268	0.197	0.799	No
		Left	0.081	0.231	0.411	0.723	No
		Right	0.067	0.241		0.308	No
		Top			0.199	0.199	No
		Bottom	0.912	0.066		0.978	No

Simultaneous Transmission Scenario with 5 GHz WLAN MIMO & Bluetooth (10mm)						
Band		WWAN SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	Σ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	3	1+2+3	
GPRS 850	Rear	0.549	0.923	0.210	1.682	Yes(#13)
	Front	0.489	0.197	0.122	0.808	No
	Left	0.465	0.411	0.282	1.158	No
	Right	0.615			0.615	No
	Top		0.199	0.023	0.222	No
	Bottom	0.172			0.172	No
GPRS 1900	Rear	0.617	0.923	0.210	1.750	Yes(#14)
	Front	0.479	0.197	0.122	0.798	No
	Left	0.193	0.411	0.282	0.886	No
	Right	0.081			0.081	No
	Top		0.199	0.023	0.222	No
	Bottom	1.080			1.080	No
UMTS Band 5	Rear	0.625	0.923	0.210	1.758	Yes(#15)
	Front	0.401	0.197	0.122	0.720	No
	Left	0.243	0.411	0.282	0.936	No
	Right	0.519			0.519	No
	Top		0.199	0.023	0.222	No
	Bottom	0.236			0.236	No
UMTS Band 4	Rear	0.701	0.923	0.210	1.834	Yes(#16)
	Front	0.551	0.197	0.122	0.870	No
	Left	0.104	0.411	0.282	0.797	No
	Right	0.098			0.098	No
	Top		0.199	0.023	0.222	No
	Bottom	1.126			1.126	No
UMTS Band 2	Rear	0.555	0.923	0.210	1.688	Yes(#17)
	Front	0.454	0.197	0.122	0.773	No
	Left	0.093	0.411	0.282	0.786	No
	Right	0.052			0.052	No
	Top		0.199	0.023	0.222	No
	Bottom	0.910			0.910	No
LTE Band 12	Rear	0.429	0.923	0.21	1.562	No
	Front	0.268	0.197	0.122	0.587	No
	Left	0.231	0.411	0.282	0.924	No
	Right	0.241			0.241	No
	Top		0.199	0.023	0.222	No
	Bottom	0.066			0.066	No
LTE Band 13	Rear	0.433	0.923	0.21	1.566	No
	Front	0.332	0.197	0.122	0.651	No
	Left	0.391	0.411	0.282	1.084	No
	Right	0.352			0.352	No
	Top		0.199	0.023	0.222	No
	Bottom	0.055			0.055	No

Simultaneous Transmission Scenario with 5 GHz WLAN MIMO & Bluetooth (10mm)						
Band		WWAN SAR	5 GHz WLAN MIMO SAR	Bluetooth SAR	Σ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	3	1+2+3	
LTE Band 25	Rear	0.266	0.923	0.210	1.399	No
	Front	0.247	0.197	0.122	0.566	No
	Left	0.079	0.411	0.282	0.772	No
	Right	0.031			0.031	No
	Top		0.199	0.023	0.222	No
	Bottom	0.797			0.797	No
LTE Band 26(5)	Rear	0.558	0.923	0.210	1.691	Yes(#18)
	Front	0.370	0.197	0.122	0.689	No
	Left	0.216	0.411	0.282	0.909	No
	Right	0.534			0.534	No
	Top		0.199	0.023	0.222	No
	Bottom	0.143			0.143	No
LTE Band 41	Rear	0.261	0.923	0.210	1.394	No
	Front	0.178	0.197	0.122	0.497	No
	Left	0.334	0.411	0.282	1.027	No
	Right					No
	Top		0.199	0.023	0.222	No
	Bottom	0.245			0.245	No
LTE Band 66	Rear	0.396	0.923	0.210	1.529	No
	Front	0.334	0.197	0.122	0.653	No
	Left	0.081	0.411	0.282	0.774	No
	Right	0.067			0.067	No
	Top		0.199	0.023	0.222	No
	Bottom	0.912			0.912	No

Simultaneous Transmission Scenario with 5 GHz WLAN MIMO & Bluetooth (10mm)								
Band	EN-DC Band		NR Band SAR	EN-DC	5 GHz WLAN	Bluetooth	$\sum$ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	4	1+2+3+4	
NR Band n5	LTE Band 25(2)	Rear	0.567	0.266	0.923	0.21	1.966	Yes (Hybrid SPLSR) (#34)
		Front	0.334	0.247	0.197	0.122	0.9	No
		Left	0.144	0.079	0.411	0.282	0.916	No
		Right	0.382	0.031			0.413	No
		Top			0.199	0.023	0.222	No
		Bottom	0.151	0.797			0.948	No
	LTE Band 66	Rear	0.567	0.396	0.923	0.21	2.096	Yes (Hybrid SPLSR) (#35)
		Front	0.334	0.334	0.197	0.122	0.987	No
		Left	0.144	0.081	0.411	0.282	0.918	No
		Right	0.382	0.067			0.449	No
		Top			0.199	0.023	0.222	No
		Bottom	0.151	0.912			1.063	No
NR Band Sub Ant#6	LTE Band 25(2)	Rear	0.357	0.266	0.923	0.21	1.756	Yes (Hybrid SPLSR) (#39)
		Front	0.201	0.247	0.197	0.122	0.767	No
		Left	0.062	0.079	0.411	0.282	0.834	No
		Right	0.136	0.031			0.167	No
		Top	0.611		0.199	0.023	0.833	No
		Bottom		0.797			0.797	No
NR Band n66 Main Ant #1-2	LTE Band 26(5)	Rear	0.586	0.558	0.923	0.210	2.277	Yes (Hybrid SPLSR) (#36)
		Front	0.535	0.370	0.197	0.122	1.224	No
		Left	0.071	0.216	0.411	0.282	0.980	No
		Right	0.062	0.534			0.596	No
		Top			0.199	0.023	0.222	No
		Bottom	0.966	0.143			1.109	No
	LTE Band 12	Rear	0.586	0.429	0.923	0.210	2.148	Yes (Hybrid SPLSR) (#37)
		Front	0.535	0.268	0.197	0.122	1.122	No
		Left	0.071	0.231	0.411	0.282	0.995	No
		Right	0.062	0.241			0.303	No
		Top			0.199	0.023	0.222	No
		Bottom	0.966	0.066			1.032	No
	LTE Band 13	Rear	0.586	0.433	0.923	0.210	2.152	Yes (Hybrid SPLSR) (#38)
		Front	0.535	0.332	0.197	0.122	1.186	No
		Left	0.071	0.391	0.411	0.282	1.155	No
		Right	0.062	0.352			0.414	No
		Top			0.199	0.023	0.222	No
		Bottom	0.966	0.055			1.021	No

Simultaneous Transmission Scenario with 5 GHz WLAN MIMO & Bluetooth (10mm)								
ULCA Band (PCC)	ULCA Band (SCC)		ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	5 GHz WLAN Ant 1+Ant 2 SAR	Bluetooth SAR	$\sum$ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	4	1+2+3+4	
LTE 25(2)	LTE 4	Rear	0.266	0.173	0.923	0.210	1.572	No
		Front	0.247	0.110	0.197	0.122	0.676	No
		Left	0.079	0.020	0.411	0.282	0.792	No
		Right	0.031	0.031			0.062	No
		Top		0.302	0.199	0.023	0.524	No
		Bottom	0.797				0.797	No
LTE 66(4)	LTE 2	Rear	0.396	0.138	0.923	0.210	1.667	Yes (Hybrid SPLSR #40)
		Front	0.334	0.080	0.197	0.122	0.733	No
		Left	0.081	0.012	0.411	0.282	0.786	No
		Right	0.067	0.042			0.109	No
		Top		0.367	0.199	0.023	0.589	No
		Bottom	0.912				0.912	No
	LTE 26(5)	Rear	0.396	0.558	0.923	0.210	2.087	YES (#19)
		Front	0.334	0.370	0.197	0.122	1.023	No
		Left	0.081	0.216	0.411	0.282	0.990	No
		Right	0.067	0.534			0.601	No
		Top			0.199	0.023	0.222	No
		Bottom	0.912	0.143			1.055	No
	LTE 12	Rear	0.396	0.429	0.923	0.210	1.958	YES (#20)
		Front	0.334	0.268	0.197	0.122	0.921	No
		Left	0.081	0.231	0.411	0.282	1.005	No
		Right	0.067	0.241			0.308	No
		Top			0.199	0.023	0.222	No
		Bottom	0.912	0.066			0.978	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5 GHz WLAN MIMO(10mm)						
Band		WWAN SAR	2.4 GHz WLAN MIMO RSDB SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	3	1+2+3	
GPRS 850	Rear	0.549	0.222	0.368	1.139	No
	Front	0.489	0.091	0.082	0.662	No
	Left	0.465	0.195	0.105	0.765	No
	Right	0.615			0.615	No
	Top		0.026	0.061	0.087	No
	Bottom	0.172			0.172	No
GPRS 1900	Rear	0.617	0.222	0.368	1.207	No
	Front	0.479	0.091	0.082	0.652	No
	Left	0.193	0.195	0.105	0.493	No
	Right	0.081			0.081	No
	Top		0.026	0.061	0.087	No
	Bottom	1.080			1.080	No
UMTS Band 5	Rear	0.625	0.222	0.368	1.215	No
	Front	0.401	0.091	0.082	0.574	No
	Left	0.243	0.195	0.105	0.543	No
	Right	0.519			0.519	No
	Top		0.026	0.061	0.087	No
	Bottom	0.236			0.236	No
UMTS Band 4	Rear	0.701	0.222	0.368	1.291	No
	Front	0.551	0.091	0.082	0.724	No
	Left	0.104	0.195	0.105	0.404	No
	Right	0.098			0.098	No
	Top		0.026	0.061	0.087	No
	Bottom	1.126			1.126	No
UMTS Band 2	Rear	0.555	0.222	0.368	1.145	No
	Front	0.454	0.091	0.082	0.627	No
	Left	0.093	0.195	0.105	0.393	No
	Right	0.052			0.052	No
	Top		0.026	0.061	0.087	No
	Bottom	0.910			0.910	No
LTE Band 12	Rear	0.429	0.222	0.368	1.019	No
	Front	0.268	0.091	0.082	0.441	No
	Left	0.231	0.195	0.105	0.531	No
	Right	0.241			0.241	No
	Top		0.026	0.061	0.087	No
	Bottom	0.066			0.066	No
LTE Band 13	Rear	0.433	0.222	0.368	1.023	No
	Front	0.332	0.091	0.082	0.505	No
	Left	0.391	0.195	0.105	0.691	No
	Right	0.352			0.352	No
	Top		0.026	0.061	0.087	No
	Bottom	0.055			0.055	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5 GHz WLAN MIMO(10mm)						
Band		WWAN SAR	2.4 GHz WLAN MIMO RSDB SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	3	1+2+3	
LTE Band 25	Rear	0.266	0.222	0.368	0.856	No
	Front	0.247	0.091	0.082	0.420	No
	Left	0.079	0.195	0.105	0.379	No
	Right	0.031			0.031	No
	Top		0.026	0.061	0.087	No
	Bottom	0.797			0.797	No
LTE Band 26	Rear	0.558	0.222	0.368	1.148	No
	Front	0.370	0.091	0.082	0.543	No
	Left	0.216	0.195	0.105	0.516	No
	Right	0.534			0.534	No
	Top		0.026	0.061	0.087	No
	Bottom	0.143			0.143	No
LTE Band 41	Rear	0.261	0.222	0.368	0.851	No
	Front	0.178	0.091	0.082	0.351	No
	Left	0.334	0.195	0.105	0.634	No
	Right					No
	Top		0.026	0.061	0.087	No
	Bottom	0.245			0.245	No
LTE Band 66	Rear	0.396	0.222	0.368	0.986	No
	Front	0.334	0.091	0.082	0.507	No
	Left	0.081	0.195	0.105	0.381	No
	Right	0.067			0.067	No
	Top		0.026	0.061	0.087	No
	Bottom	0.912			0.912	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5 GHz WLAN MIMO(10mm)								
Band	EN-DC Band		NR Band SAR	EN-DC	2.4 GHz WLAN MIMO RSDB SAR	5 GHz WLAN MIMO RSDB SAR	$\sum$ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	4	1+2+3+4	
NR Band n5	LTE Band 25(2)	Rear	0.567	0.266	0.222	0.368	1.423	No
		Front	0.334	0.247	0.091	0.082	0.754	No
		Left	0.144	0.079	0.195	0.105	0.523	No
		Right	0.382	0.031			0.413	No
		Top			0.026	0.061	0.087	No
		Bottom	0.151	0.797			0.948	No
	LTE Band 66	Rear	0.567	0.392	0.222	0.368	1.549	No
		Front	0.334	0.334	0.091	0.082	0.841	No
		Left	0.144	0.081	0.195	0.105	0.525	No
		Right	0.382	0.067			0.449	No
		Top			0.026	0.061	0.087	No
		Bottom	0.151	0.912			1.063	No
NR Band n66 Sub Ant#6	LTE Band 25(2)	Rear	0.357	0.269	0.222	0.368	1.216	No
		Front	0.201	0.249	0.091	0.082	0.623	No
		Left	0.062	0.08	0.195	0.105	0.442	No
		Right	0.136	0.031			0.167	No
		Top	0.611		0.026	0.061	0.698	No
		Bottom		0.797			0.797	No
NR Band n66 Sub Ant#6	LTE Band 26(5)	Rear	0.586	0.558	0.222	0.368	1.734	Yes(Hybrid SPLSR)(#29)
		Front	0.535	0.37	0.091	0.082	1.078	No
		Left	0.071	0.216	0.195	0.105	0.587	No
		Right	0.062	0.534			0.596	No
		Top			0.026	0.061	0.087	No
		Bottom	0.944	0.143			1.087	No
	LTE Band 12	Rear	0.586	0.429	0.222	0.368	1.605	Yes(Hybrid SPLSR)(#30)
		Front	0.535	0.268	0.091	0.082	0.976	No
		Left	0.071	0.231	0.195	0.105	0.602	No
		Right	0.062	0.241			0.303	No
		Top			0.026	0.061	0.087	No
		Bottom	0.966	0.066			1.032	No
	LTE Band 13	Rear	0.586	0.433	0.222	0.368	1.609	Yes(Hybrid SPLSR)(#31)
		Front	0.535	0.332	0.091	0.082	1.04	No
		Left	0.071	0.391	0.195	0.105	0.762	No
		Right	0.062	0.352			0.414	No
		Top			0.026	0.061	0.087	No
		Bottom	0.966	0.055			1.021	No

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN & 5 GHz WLAN MIMO(10mm)								
ULCA Band (PCC)	ULCA Band (SCC)		ULCA Band (PCC) SAR	ULCA Band (SCC) SAR	2.4 GHz WLAN MIMO RSDB SAR	5 GHz WLAN MIMO RSDB SAR	Σ 1-g SAR	SPLSR
			(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)	(Yes/No)
			1	2	3	4	1+2+3+4	
LTE 25(2)	LTE 4	Rear	0.266	0.173	0.222	0.368	1.029	No
		Front	0.247	0.110	0.091	0.082	0.530	No
		Left	0.079	0.020	0.195	0.105	0.399	No
		Right	0.031	0.031			0.062	No
		Top		0.302	0.026	0.061	0.389	No
		Bottom	0.797				0.797	No
LTE 66(4)	LTE 2	Rear	0.396	0.138	0.222	0.368	1.124	No
		Front	0.334	0.080	0.091	0.082	0.587	No
		Left	0.081	0.012	0.195	0.105	0.393	No
		Right	0.067	0.042			0.109	No
		Top		0.367	0.026	0.061	0.454	No
		Bottom	0.912				0.912	No
	LTE 5	Rear	0.396	0.558	0.222	0.368	1.544	No
		Front	0.334	0.370	0.091	0.082	0.877	No
		Left	0.081	0.216	0.195	0.105	0.597	No
		Right	0.067	0.534			0.601	No
		Top			0.026	0.061	0.087	No
		Bottom	0.912	0.143			1.055	No
	LTE 12	Rear	0.396	0.429	0.222	0.368	1.415	No
		Front	0.334	0.268	0.091	0.082	0.775	No
		Left	0.081	0.231	0.195	0.105	0.612	No
		Right	0.067	0.241			0.308	No
		Top			0.026	0.061	0.087	No
		Bottom	0.912	0.066			0.978	No

14.4 Phablet SAR Simultaneous Transmission Analysis

Simultaneous Transmission Scenario with 5 GHz WLAN					
Band		WWAN SAR	5 GHz WLAN MIMO SAR	Σ 1-g SAR	SPLSR
		(W/kg)	(W/kg)	(W/kg)	(Yes/No)
		1	2	1+2	
GPRS 1900	Rear	1.609	2.929	4.538	Yes(#21)
	Front	0.917	0.815	1.732	No
	Left	0.509	1.097	1.606	No
	Right	0.222		0.222	No
	Top		0.820	0.820	No
	Bottom	1.169		1.169	No
UMTS Band 4	Rear	2.183	2.929	5.112	Yes(#22)
	Front	1.666	0.815	2.481	No
	Left	0.506	1.097	1.603	No
	Right	0.419		0.419	No
	Top		0.820	0.820	No
	Bottom	1.29		1.290	No
UMTS Band 2	Rear	1.886	2.929	4.815	Yes(#23)
	Front	1.009	0.815	1.824	No
	Left	0.523	1.097	1.620	No
	Right	0.264		0.264	No
	Top		0.820	0.820	No
	Bottom	1.164		1.164	No
LTE Band 25	Rear	1.159	2.929	4.088	Yes(#24)
	Front	0.757	0.815	1.572	No
	Left	0.446	1.097	1.543	No
	Right	0.180		0.180	No
	Top		0.820	0.820	No
	Bottom	0.910		0.910	No
LTE Band 66	Rear	1.368	2.929	4.297	Yes(#25)
	Front	1.113	0.815	1.928	No
	Left	0.444	1.097	1.541	No
	Right	0.406		0.406	No
	Top		0.820	0.820	No
	Bottom	1.097		1.097	No
NR Band n66 Sub Ant#6	Rear	1.529	2.929	4.458	Yes(#26)
	Front	1.187	0.815	2.002	No
	Left	0.429	1.097	1.526	No
	Right	0.317		0.317	No
	Top		0.820	0.820	No
	Bottom	1.294		1.294	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_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 > 4 W/Kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

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

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.

Per Sec. 14, below simultaneous transmission summations need to be calculated SPLSR.

14.5.1 SPLSR Evaluation

-The Peak Location of BodyWorn Mode

Mode/Band	X(mm)	Y(mm)	Z(mm)	Reported SAR [W/kg]
UMTS B4	-22	-80.5	-206	0.962
LTE26	-32	3.5	-206	0.341
LTE12	-2	-49	-206	0.265
LTE 13	-12.5	-10	-206	0.337
LTE Band 66	-21.5	-76.5	-203	0.630
WLAN 5G	-6	57	-206	0.541
Bluetooth	-21.4	32.8	-206	0.098
n66 Main Ant #1-2	-18.5	-73	-203	0.756
WLAN 2.4G RSDB	-15.4	61.6	-206	0.281
WLAN 5G RSDB	-2	55	-206	0.259

-The Peak Location of Hotspot Mode

Mode/Band	X(mm)	Y(mm)	Z(mm)	Reported SAR [W/kg]
GSM 850	2.5	-51	-206	0.549
GSM 1900	-26.5	-72.5	-206	0.617
UMTS Band 5	-5.5	-55	-206	0.625
UMTS Band 4	-22	-74.5	-206	0.701
UMTS Band 2	-23.5	-74.5	-206	0.555
LTE Band 26	-2	-61	-206	0.558
LTE Band12	-2	-61	-206	0.429
LTE Band 13	-2	-61	-206	0.433
LTE Band 25	-15.5	-76.5	-203	0.266
LTE Band 66	-20	-76.5	-203	0.396
NR Band n5	-17	-59.5	-206	0.567
NR Band n66 Upper (Sub Ant#6)	-28	68.5	-206	0.357
NR Band n66 Lower (Main Ant #1-2)	-18.5	-77.5	-203	0.586
WLAN 2.4G	-11.4	58	-206	0.553
WLAN 5G	-6	58	-206	0.923
WLAN 2.4G RSDB	-15.4	61.6	-206	0.222
WLAN 5G RSDB	-3	54	-206	0.368
Bluetooth	15.4	34	-206	0.210

-The Peak Location of Phablet Mode

Mode/Band	X(mm)	Y(mm)	Z(mm)	Reported SAR [W/kg]
GSM1900	-16	-69.5	-206	1.609
UMTS Band 4	4	-70	-203	2.183
UMTS Band 2	4	-68.5	-203	1.886
LTE Band 25	2.5	-72	-202	1.159
LTE Band 66	-20	-73.5	-202	1.368
NR Band n66	-18.5	-76	-202	1.529
WLAN 5G	-4	60	-205	2.929

Mode			Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR Band n66 Main Ant #1-2	LTE Band 26(5)	5GHz MIMO		[mm]		
1	2	3	1+2			#1
0.756	0.341	0.541	1.097	77.7400	0.0148	
			1+3			
			1.297	130.6340	0.0113	
			2+3			
			0.882	59.4832	0.0139	
Mode			Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR Band n66 Main Ant #1-2	LTE Band 13	5GHz MIMO		[mm]		
1	2	3	1+2			#2
0.756	0.337	541	1.093	63.3561	0.0180	
			1+3			
			1.297	130.6340	0.0113	
			2+3			
			0.878	67.3146	0.0122	
Mode			Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
UMTS Band 4	5GHz MIMO	Bluetooth		[mm]		
1	2	3	1+2			#3
0.962	0.541	0.098	1.503	138.4278	0.0133	
			1+3			
			1.060	113.3016	0.0096	
			2+3			
			0.639	28.6845	0.0178	

Mode				Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR Band n66 Main Ant #1-2	LTE Band 26(5)	5GHz MIMO	Bluetooth		[mm]		
1	2	3	4	1+2			#4
0.756	0.341	0.541	0.098	1.097	77.74	0.0148	
				1+3			
				1.297	130.634	0.0113	
				1+4			
				0.854	105.882	0.0075	
				2+3			
				0.882	59.4832	0.0139	
				2+4			
				0.439	31.1585	0.0093	
				3+4			
			0.639	28.6845	0.0178		

Mode				Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR Band n66 Main Ant #1-2	LTE Band 12	5GHz MIMO	Bluetooth		[mm]		
1	2	3	4	1+2			#5
0.756	0.265	0.541	0.098	1.021	29.2788	0.0352	
				1+3			
				1.297	130.634	0.0113	
				1+4			
				0.854	105.882	0.0075	
				2+3			
				0.806	106.882	0.0068	
				2+4			
				0.363	84.069	0.0026	
3+4							
0.639			28.6845	0.0178			
Mode				Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR Band n66 Main Ant #1-2	LTE Band 13	5GHz MIMO	Bluetooth		[mm]		
1	2	3	4	1+2			#6
0.756	0.337	0.541	0.098	1.093	63.3561	0.0180	
				1+3			
				1.297	130.634	0.0113	
				1+4			
				0.854	105.882	0.0075	
				2+3			
				0.878	67.3146	0.0122	
				2+4			
				0.435	43.7156	0.0066	
3+4							
0.639			28.6845	0.0178			
Mode				Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
LTE 66(4)	LTE 26(5)	5GHz MIMO	Bluetooth		[mm]		
1	2	3	4	1+2			#7
0.630	0.341	0.541	0.098	0.971	96.2873	0.0099	
				1+3			
				1.171	136.336	0.0093	
				1+4			
				0.728	117.4559	0.0053	
				2+3			
				0.882	59.4832	0.0139	
				2+4			
				0.439	31.1585	0.0093	
3+4							
0.639			28.6845	0.0178			

Mode				Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR Band n66 Main Ant #1-2	LTE Band 26(5)	2.4GHz MIMO RSDB	5GHz MIMO RSDB		[mm]		
1	2	3	4	1+2			#8
0.756	0.341	0.281	0.259	1.097	77.74	0.0148	
				1+3			
				1.037	134.669	0.0078	
				1+4			
				1.015	129.094	0.0079	
				2+3			
				0.622	60.4249	0.0081	
				2+4			
				0.600	59.6008	0.0078	
				3+4			
0.540	14.9372	0.0266					
Mode				Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR Band n66 Main Ant #1-2	LTE Band 13	2.4GHz MIMO RSDB	5GHz MIMO RSDB		[mm]		
1	2	3	4	1+2			#9
0.756	0.337	0.281	0.259	1.093	63.3561	0.0180	
				1+3			
				1.037	134.669	0.0078	
				1+4			
				1.015	129.094	0.0079	
				2+3			
				0.618	71.6587	0.0068	
				2+4			
				0.596	65.8426	0.0070	
				3+4			
0.540	14.9372	0.0266					

Mode		Sum 1g SAR	Peak SAR	SPLSR	Plot No
UMTS Band4	5GHz MIMO		Separation Distance		
1	2	1+2			
0.701	0.923	1.624	133.4625	0.0155	#10

Mode			Sum 1g SAR	Peak SAR	SPLSR	Plot No
LTE 66(4)	LTE 26(5)	5GHz MIMO		Separation Distance		
1	2	3	1+2			
0.396	0.558	0.923	0.954	23.9426	0.0389	#11
			1+3			
			1.319	135.2599	0.0112	
			2+3			
			1.481	119.0672	0.0151	
Mode			Sum 1g SAR	Peak SAR	SPLSR	Plot No
LTE 66(4)	LTE 12	5GHz MIMO		Separation Distance		
1	2	3	1+2			
0.396	0.429	0.923	0.825	23.9426	0.0313	#12
			1+3			
			1.319	135.2599	0.0112	
			2+3			
			1.352	119.0672	0.0132	

Mode			Sum 1g SAR	Peak SAR	SPLSR	Plot No
GSM850	5GHz MIMO	BT		Separation Distance		
1	2	3	1+2			
0.549	0.923	0.210	1.472	109.3309	0.0163	#13
			1+3			
			0.759	85.9733	0.0077	
			2+3			
			1.133	32.1552	0.0375	
Mode			Sum 1g SAR	Peak SAR	SPLSR	Plot No
GSM1900	5GHz MIMO	BT		Separation Distance		
1	2	3	1+2			
0.617	0.923	0.210	1.540	132.1003	0.0145	#14
			1+3			
			0.827	114.4459	0.0066	
			2+3			
			1.133	32.1552	0.0375	
Mode			Sum 1g SAR	Peak SAR	SPLSR	Plot No
UMTS Band 5	5GHz MIMO	BT		Separation Distance		
1	2	3	1+2			
0.625	0.923	0.210	1.548	113.0011	0.0170	#15
			1+3			
			0.835	91.4211	0.0083	
			2+3			
			1.133	32.1552	0.0375	

Mode			Sum 1g SAR	Peak SAR	SPLSR	Plot No
UMTS Band4	5GHz MIMO	BT		Separation Distance		
1	2	3	1+2			#16
0.701	0.923	0.210	1.624	133.4625	0.0155	
			1+3			
			0.911	114.7650	0.0076	
			2+3			
			1.133	32.1552	0.0375	
Mode			Sum 1g SAR	Peak SAR	SPLSR	Plot No
UMTS Band 2	5GHz MIMO	BT		Separation Distance		
1	2	3	1+2			#17
0.555	0.923	0.210	1.478	133.6507	0.0134	
			1+3			
			0.765	115.2626	0.0058	
			2+3			
			1.133	32.1552	0.0375	
Mode			Sum 1g SAR	Peak SAR	SPLSR	Plot No
LTE Band 26(5)	5GHz MIMO	BT		Separation Distance		
1	2	3	1+2			#18
0.558	0.923	0.210	1.481	119.0672	0.0151	
			1+3			
			0.768	96.5803	0.0070	
			2+3			
			1.133	32.1552	0.0375	

Mode				Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
LTE 66(4)	LTE 26(5)	5GHz MIMO	Bluetooth		[mm]		
1	2	3	4	1+2			#19
0.396	0.558	0.923	0.210	0.954	23.9426	0.0389	
				1+3			
				1.319	135.2599	0.0112	
				1+4			
				0.606	116.0707	0.0041	
				2+3			
				1.481	119.0672	0.0151	
				2+4			
				0.768	96.5803	0.0070	
				3+4			
				1.133	32.1552	0.0375	#20
Mode				Sum 1g SAR	Peak SAR Separation Distance	SPLSR	
LTE 66(4)	LTE 12	5GHz MIMO	Bluetooth		[mm]		
1	2	3	4	1+2			
0.396	0.429	0.923	0.210	0.825	23.9426	0.0313	
				1+3			
				1.319	135.2599	0.0112	
				1+4			
				0.606	116.0707	0.0041	
				2+3			
				1.352	119.0672	0.0132	
				2+4			
				0.639	96.5803	0.0053	
				3+4			
				1.133	32.1552	0.0375	

-Phablet Mode

1) WWAN Mode + 5GHz WLAN Mode

Max Mode		Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
GSM 1900	WLAN 5GHz MIMO		[mm]		
1	2	1+2	1+2		
1.609	2.929	4.538	130.059	0.074329	#21
Max Mode		Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
UMTS Band 4	WLAN 5GHz MIMO		[mm]		
1	2	1+2	1+2		
2.183	2.929	5.112	130.261	0.08873	#22
Max Mode		Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
UMTS Band 2	WLAN 5GHz MIMO		[mm]		
1	2	1+2	1+2		
1.886	2.929	4.815	128.764	0.08205	#23
Max Mode		Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
LTE Band 25(2)	WLAN 5GHz MIMO		[mm]		
1	2	1+2	1+2		
1.159	2.929	4.088	132.19	0.06253	#24
Max Mode		Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
LTE Band 66(4)	WLAN 5Hz MIMO		[mm]		
1	2	1+2	1+2		
1.368	2.929	4.297	134.49	0.06623	#25
Max Mode		Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR Band n66	WLAN 5GHz MIMO		[mm]		
1	2	1+2	1+2		
1.529	2.929	4.458	136.804	0.06880	#26

SPLSR Hotspot Combination

This Procedure can only be applied when simultaneous transmission SAR is $> 1.6 \text{ W/kg}$, it does not meet SPLSR criteria, and antenna pair is co-located

Test Procedure:

1. Perform enlarged zoom scan/volume scan on the co-located antenna pair to determine 1g aggregate SAR:

Enlarged zoom Scan/Volume scan Result

Configuration	Band	Masured SAR	Volume SAR	Scaled factor	Combined 1g SAR	Plot No.
NR n5 + LTE 25(2)	NR n5	0.485	0.237	1.169	0.689	#27
	LTE 25(2)	0.222	0.359	1.199		
NR n5 + LTE 66	NR n5	0.485	0.237	1.169	0.690	#28
	LTE 66	0.337	0.440	1.059		
NR n66(Main Ant #1-2) + LTE 26(5)	NR n66(Lower)	0.553	0.439	1.059	0.695	#29
	LTE 26(5)	0.488	0.379	1.143		
NR n66(Main Ant #1-2) + LTE 12	NR n66(Lower)	0.553	0.439	1.059	0.573	#30
	LTE 12	0.386	0.259	1.112		
NR n66(Main Ant #1-2) + LTE 13	NR n66(Lower)	0.553	0.439	1.059	0.539	#31
	LTE 13	0.352	0.227	1.230		
NR n66(Upper) + WLAN 5G + BT	NR n66(Upper)	0.342	0.488	1.045	1.390	#32
	WLAN 5G	0.609	0.731	1.515		
	BT	0.139	0.093	1.508		
LTE 2(SCC) + WLAN 5G + BT	LTE 2(SCC)	0.138	0.126	1.002	1.220	#33
	WLAN 5G	0.609	0.731	1.515		
	BT	0.139	0.093	1.508		

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

Mode/Band	X(mm)	Y(mm)	Z(mm)	Reported SAR [W/kg]
NR n5 +LTE 25	-7.5	-75	-207	0.689
NR n5 +LTE 66	-17.0	-78	-207	0.690
NR n66(Lower) +LTE 26	-17.5	-75	-207	0.695
NR n66(Lower) +LTE 12	-12.5	-75	-207	0.573
NR n66(Lower) +LTE 13	-17.5	-75	-207	0.539
NR n66(upper) +WLAN 5GHz+ BT	-7.0	54	-207	1.390
LTE 2(SCC) + WLAN 5G + BT	-7.0	54	-207	1.220

3. Hybrid Volume SAR Simultaneous

Simultaneous Transmission Summation Scenario with 2.4 GHz WLAN					
Co-located Antenna Pair Band	Configuration	Main (W/kg)	2.4GHz WLAN MIMO (W/kg)	$\sum$ 1-g SAR (W/kg)	SPLSR
		1	2	1+2	Yes/No
NR n66(Lower) + LTE 26(5)	Rear	0.695	0.553	1.248	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN							
Co-located Antenna Pair Band	Configuration	Main (W/kg)	5GHz WLAN MIMO (W/kg)	Bluetooth (W/kg)	$\sum$ 1-g SAR (W/kg)	$\sum$ 1-g SAR (W/kg)	SPLSR
		1	2	3	1+2	1+2+3	Yes/No
NR n5 + LTE 25(2)	Rear	0.689	0.923	0.210	1.612	1.822	Yes
NR n5 + LTE 66	Rear	0.690	0.923	0.210	1.613	1.823	Yes
NR n66(Main Ant #1-2) + LTE 26(5)	Rear	0.695	0.923	0.210	1.618	1.828	Yes
NR n66(Main Ant #1-2) + LTE 12	Rear	0.573	0.923	0.210	1.496	1.706	Yes
NR n66(Main Ant #1-2) + LTE 13	Rear	0.539	0.923	0.210	1.462	1.672	Yes

Simultaneous Transmission Summation Scenario with 5 GHz WLAN						
Co-located Antenna Pair Band	Configuration	Main (W/kg)	2.4 GHz WLAN MIMO RSDB SAR (W/kg)	5 GHz WLAN MIMO RSDB SAR (W/kg)	$\sum$ 1-g SAR (W/kg)	SPLSR
		1	2	3	1+2+3	Yes/No
NR n66(Main Ant #1-2) + LTE 26(5)	Rear	0.695	0.222	0.368	1.285	No
NR n66(Main Ant #1-2) + LTE 12	Rear	0.573	0.222	0.368	1.163	No
NR n66(Main Ant #1-2) + LTE 13	Rear	0.539	0.222	0.368	1.129	No

Simultaneous Transmission Summation Scenario with 5 GHz WLAN					
Co-located Antenna Pair Band	Configuration	NR n66(Upper) +WLAN5G +Bluetooth (W/kg)	LTE 25(2) (W/kg)	$\sum$ 1-g SAR (W/kg)	SPLSR
		1	2	1+2	Yes/No
NR n66(Ant#6) +WLAN5G +Bluetooth	Rear	1.390	0.266	1.656	Yes

Simultaneous Transmission Summation Scenario with 5 GHz WLAN					
Co-located Antenna Pair Band	Configuration	LTE 2(SCC) +WLAN5G +Bluetooth (W/kg)	LTE 66(4)(PCC) (W/kg)	$\sum$ 1-g SAR (W/kg)	SPLSR
		1	2	1+2	Yes/No
LTE 2(SCC) + WLAN5G+ Bluetooth	Rear	1.220	0.396	1.616	Yes

4. Performed Hybrid SPLSR

Mode			Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR n5 + LTE 25(2)	5GHz WLAN MIMO	Bluetooth		[mm]		
1	2	3	1+2			#34
0.689	0.923	0.210	1.612	133.0122	0.015387	
			1+3			
			0.899	111.3841	0.007653	
			2+3			
			1.133	32.15525	0.037505	

Mode			Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR n5 + LTE 66	5GHz WLAN MIMO	Bluetooth		[mm]		
1	2	3	1+2			#35
0.690	0.923	0.210	1.613	136.4478	0.015014	
			1+3			
			0.900	116.5966	0.007323	
			2+3			
			1.133	32.15525	0.037505	

Mode			Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR n66(Lower) + LTE 26(5)	5GHz WLAN MIMO	Bluetooth		[mm]		
1	2	3	1+2			#36
0.695	0.923	0.210	1.618	133.5	0.015417	
			1+3			
			0.905	113.8614	0.007561	
			2+3			
			1.133	32.15525	0.037505	

Mode			Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR n66(Lower) + LTE 12	5GHz WLAN MIMO	Bluetooth		[mm]		
1	2	3	1+2			#37
0.573	0.923	0.210	1.496	133.1625	0.013741	
			1+3			
			0.783	112.5185	0.006158	
			2+3			
			1.133	32.15525	0.037505	
Mode			Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
NR n66(Lower) + LTE 13	5GHz WLAN MIMO	Bluetooth		[mm]		
1	2	3	1+2			#38
0.539	0.923	0.210	1.462	133.5	0.013242	
			1+3			
			0.749	113.8614	0.005693	
			2+3			
			1.133	32.15525	0.037505	

Mode		Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
LTE B25	NR n66(Upper) +WLAN5G +Bluetooth		[mm]		
1	(W/kg)	1+2	1+2		
0.266	1.390	1.656	217.3144	0.009806	#39

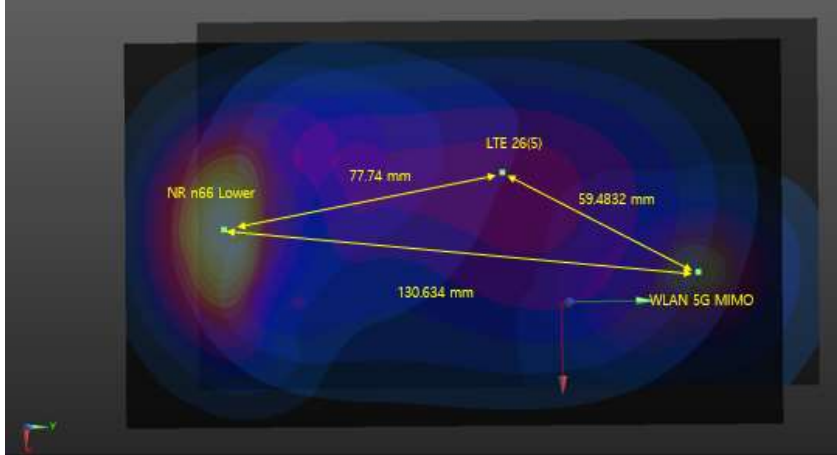
Mode (ULCA_2A-4A)		Sum 1g SAR	Peak SAR Separation Distance	SPLSR	Plot No
LTE B66(4) (PCC)	LTE 2(SCC) +WLAN5G +Bluetooth		[mm]		
1	(W/kg)	1+2	1+2		
0.396	1.220	1.616	131.2069	0.0157	#40

The above result is a hybrid SPLSR evaluation of uplink CA2(25)A-4(66)A.

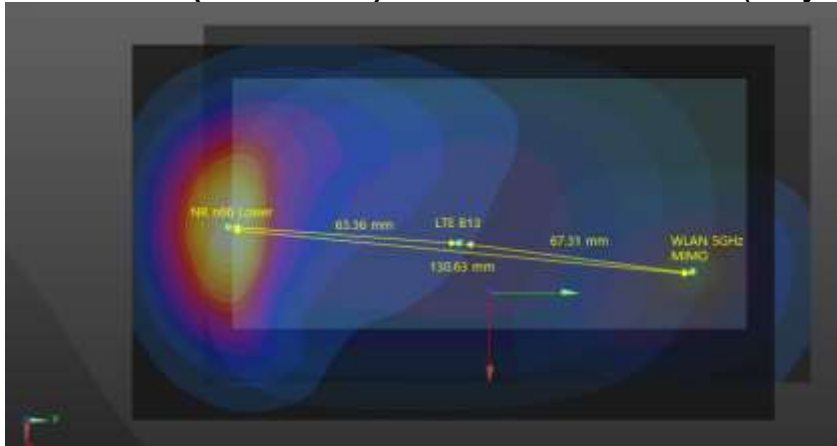
This is the volume scan result of the co-located LTEB2+WLAN 5GHz+BT antenna at the upper side of the device and the hybrid SPLSR evaluation of the lower antenna LTE B66(4).

14.5.2 Combined SAR / SPLSR Plot

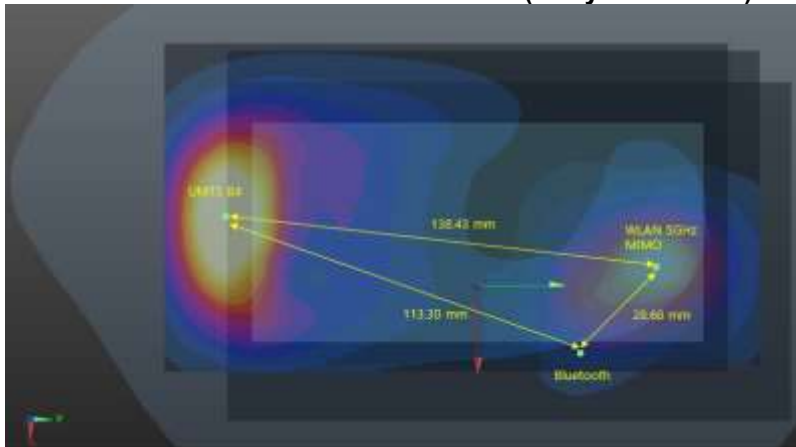
Plot #1 NR n66(Main Ant #1-2) + LTE 26(5) + WLAN 5G MIMO (BodyWorn Mode)



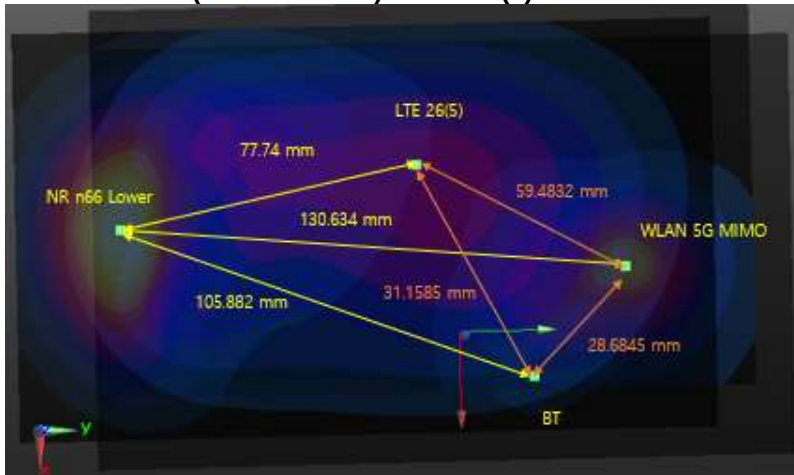
Plot #2 NR n66(Main Ant #1-2) + LTE 13 + WLAN 5G MIMO (BodyWorn Mode)



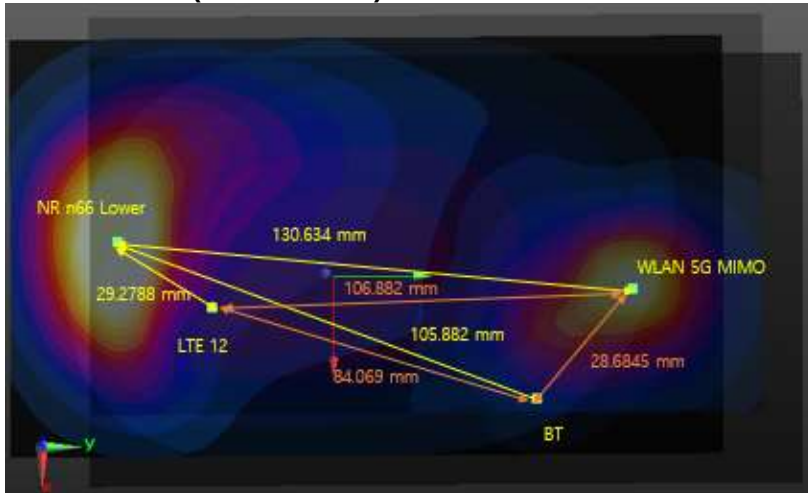
Plot #3 UMTS B4 + WLAN 5G MIMO + BT (BodyWorn Mode)



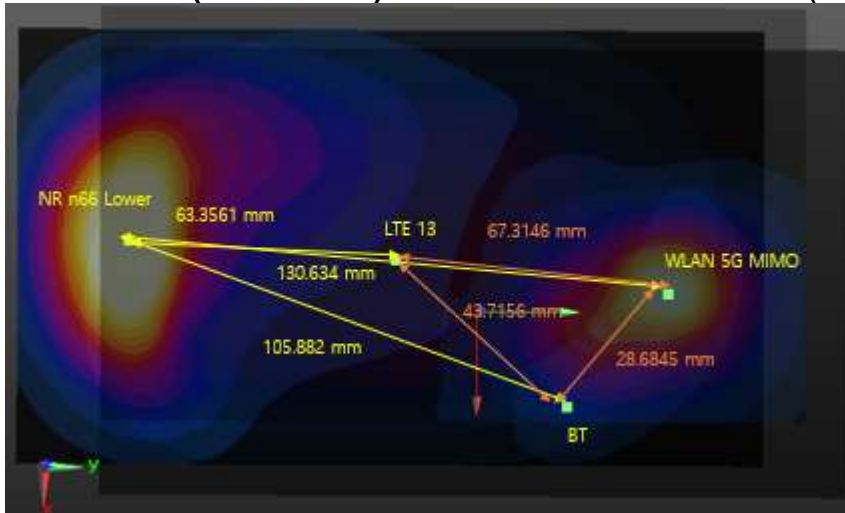
Plot #4 NR n66(Main Ant #1-2) + LTE 26(5) + WLAN 5G MIMO + BT (BodyWorn Mode)



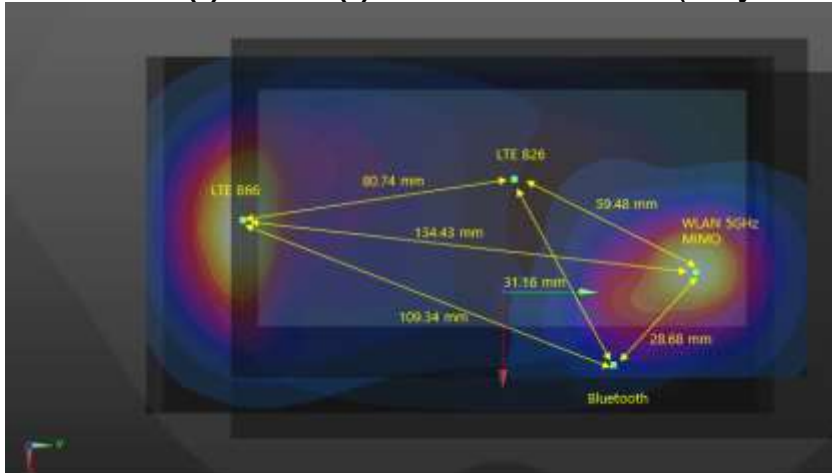
Plot #5 NR n66(Main Ant #1-2) + LTE 12 + WLAN 5G MIMO + BT (BodyWorn Mode)



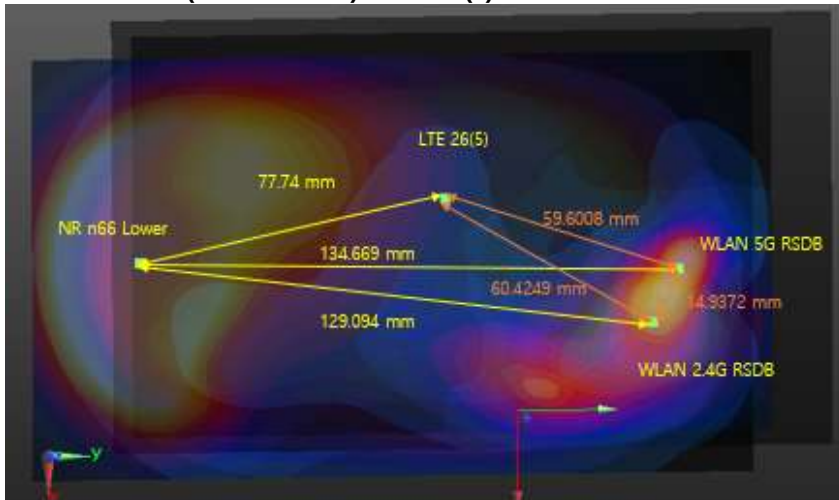
Plot #6 NR n66(Main Ant #1-2) + LTE 13 + WLAN 5G MIMO + BT (BodyWorn Mode)



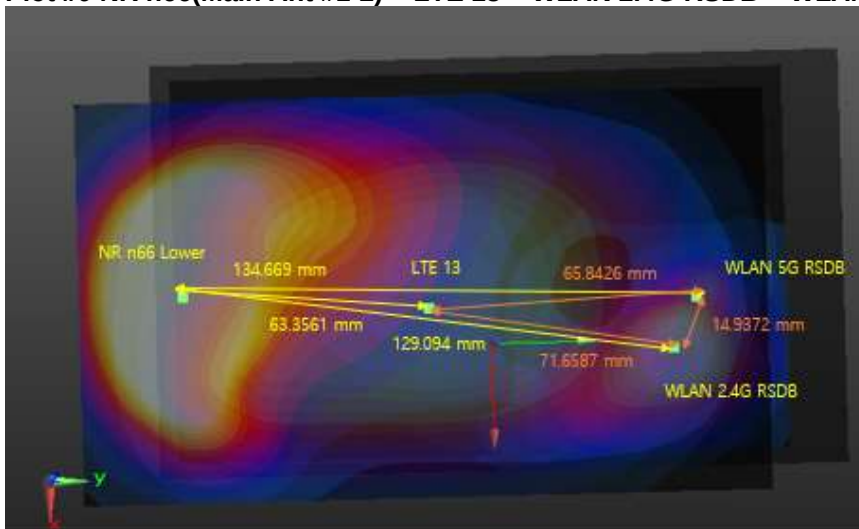
Plot #7 LTE 66(4) + LTE 26(5) + WLAN 5G MIMO + BT (BodyWorn Mode)



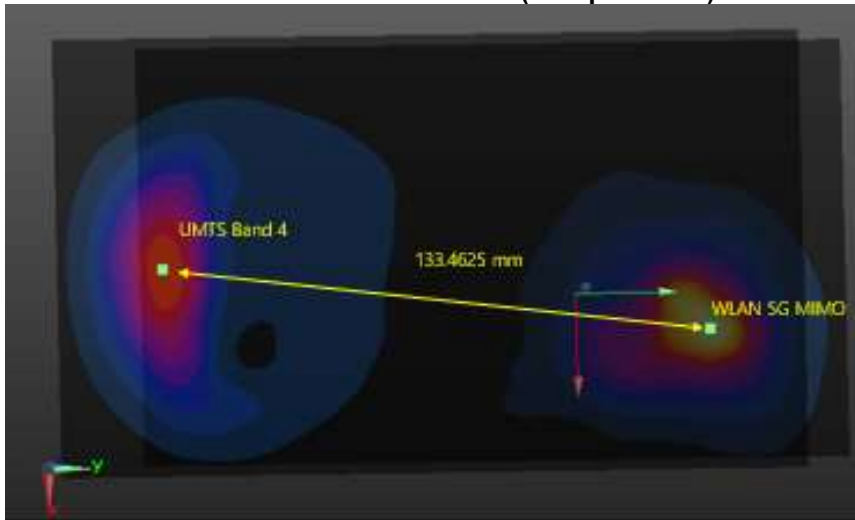
Plot #8 NR n66(Main Ant #1-2) + LTE 26(5) + WLAN 2.4G MIMO RSDB + WLAN 5G MIMO RSDB (BodyWorn Mode)



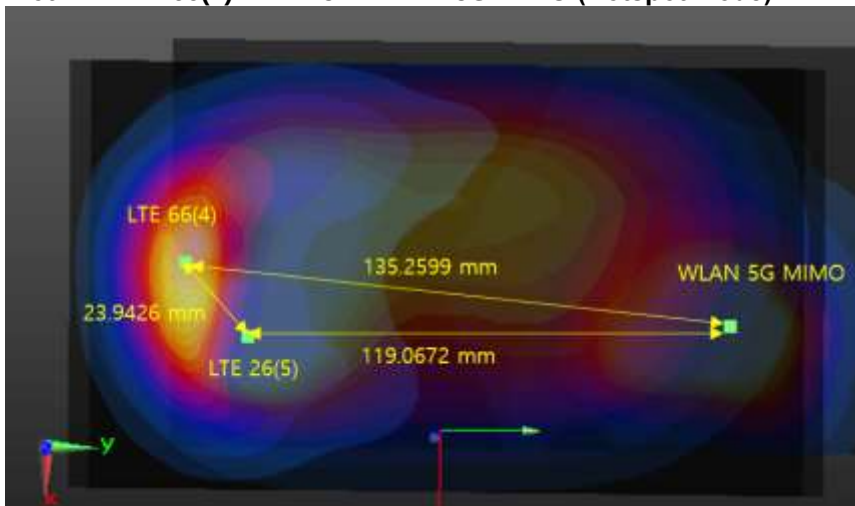
Plot #9 NR n66(Main Ant #1-2) + LTE 13 + WLAN 2.4G RSDB + WLAN 5G RSDB (BodyWorn Mode)



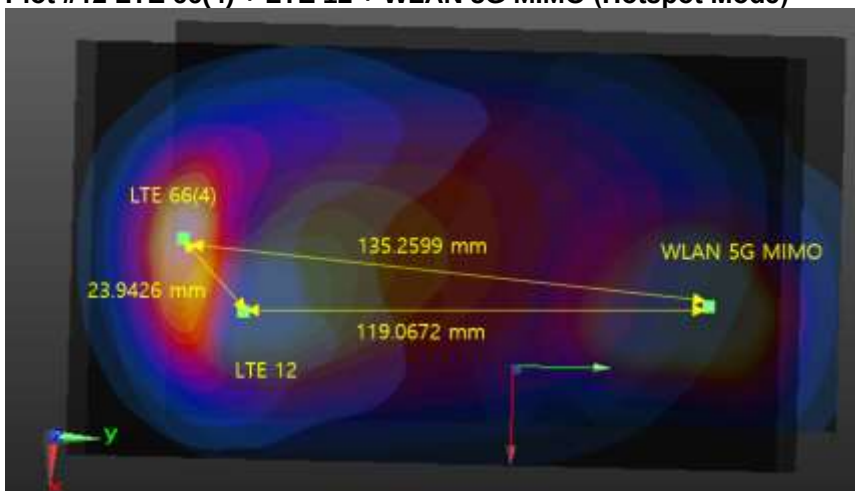
Plot #10 UMTS Band4 + WLAN 5G MIMO (Hotspot Mode)



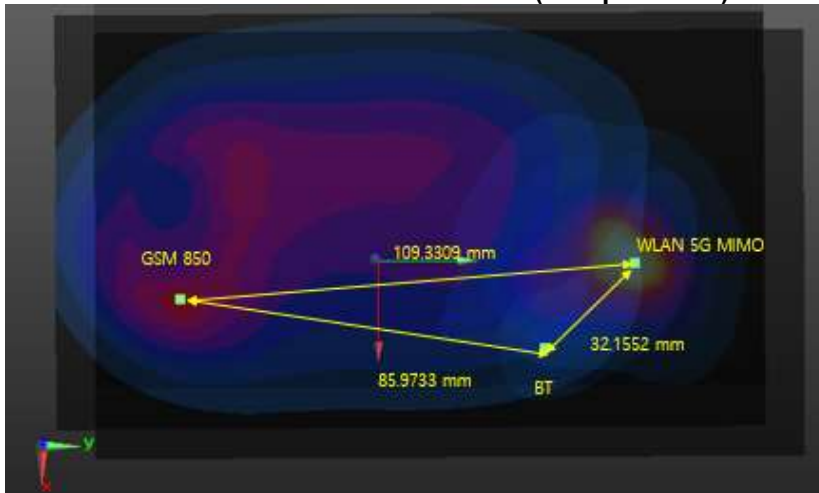
Plot #11 LTE 66(4) + LTE 5 + WLAN 5G MIMO (Hotspot Mode)



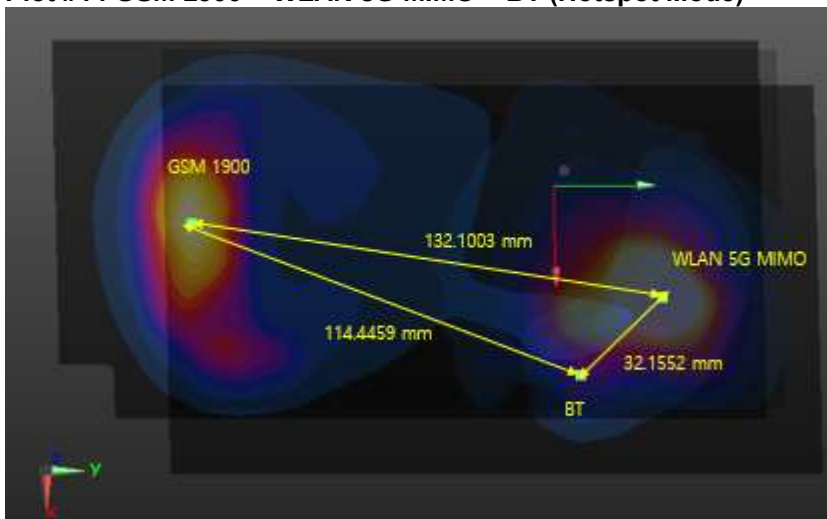
Plot #12 LTE 66(4) + LTE 12 + WLAN 5G MIMO (Hotspot Mode)



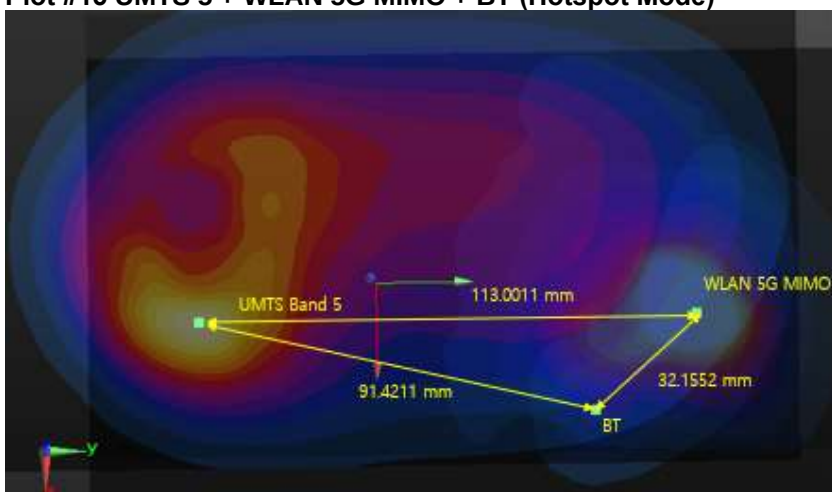
Plot #13 GSM 850 + WLAN 5G MIMO + BT (Hotspot Mode)



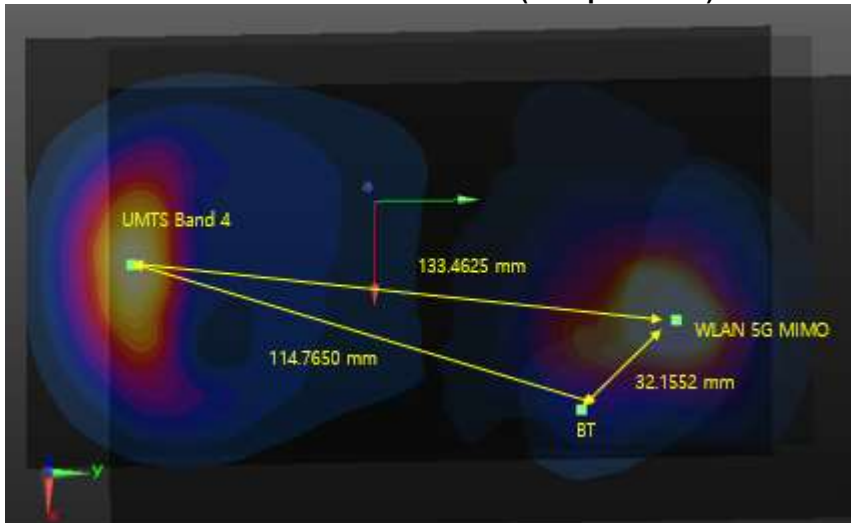
Plot #14 GSM 1900 + WLAN 5G MIMO + BT (Hotspot Mode)



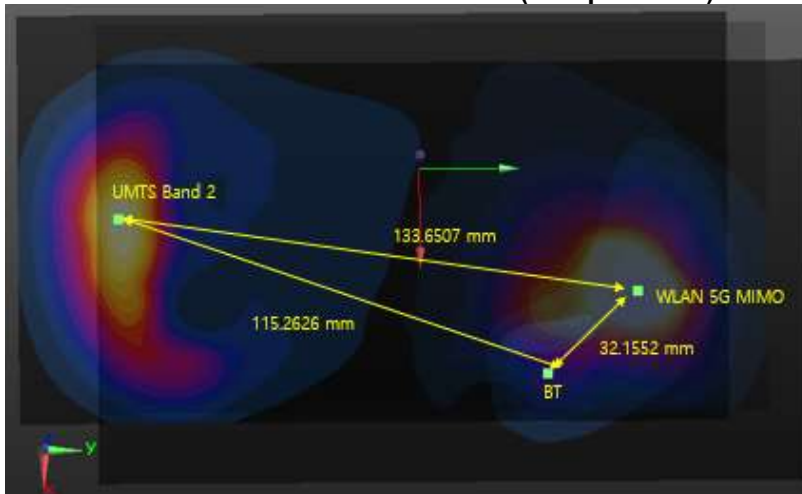
Plot #15 UMTS 5 + WLAN 5G MIMO + BT (Hotspot Mode)



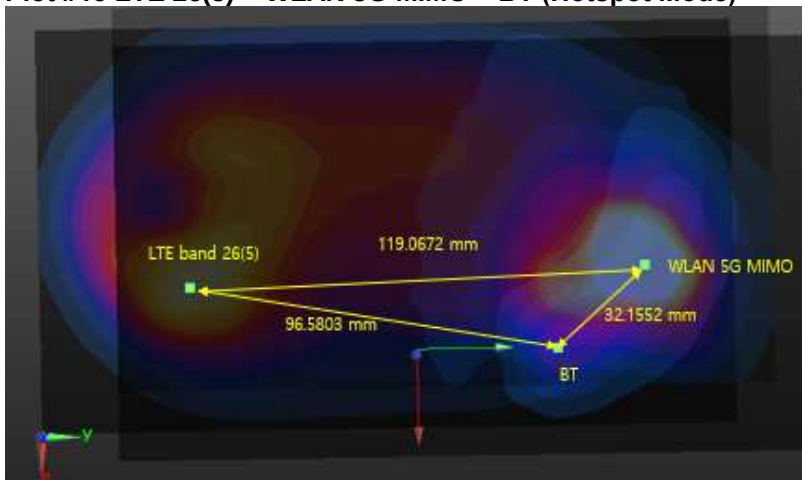
Plot #16 UMTS 4 + WLAN 5G MIMO + BT (Hotspot Mode)



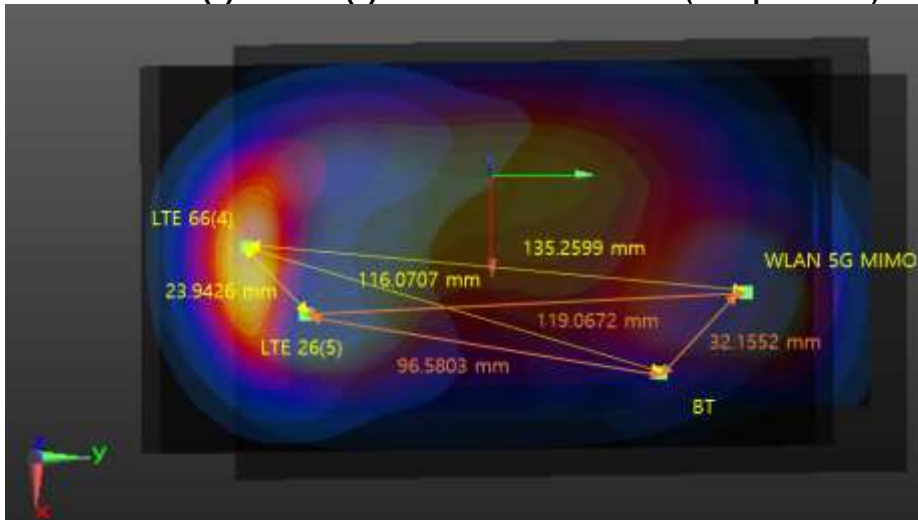
Plot #17 UMTS 2 + WLAN 5G MIMO + BT (Hotspot Mode)



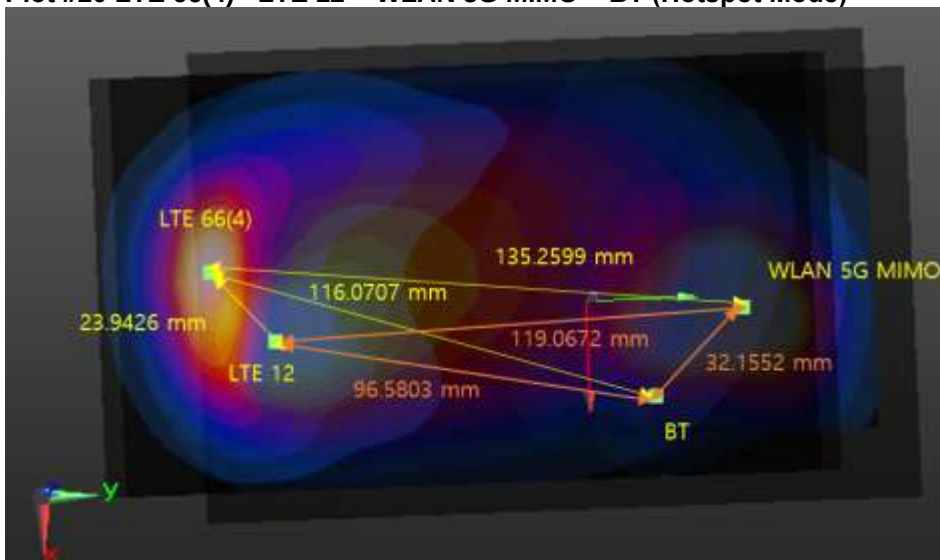
Plot #18 LTE 26(5) + WLAN 5G MIMO + BT (Hotspot Mode)



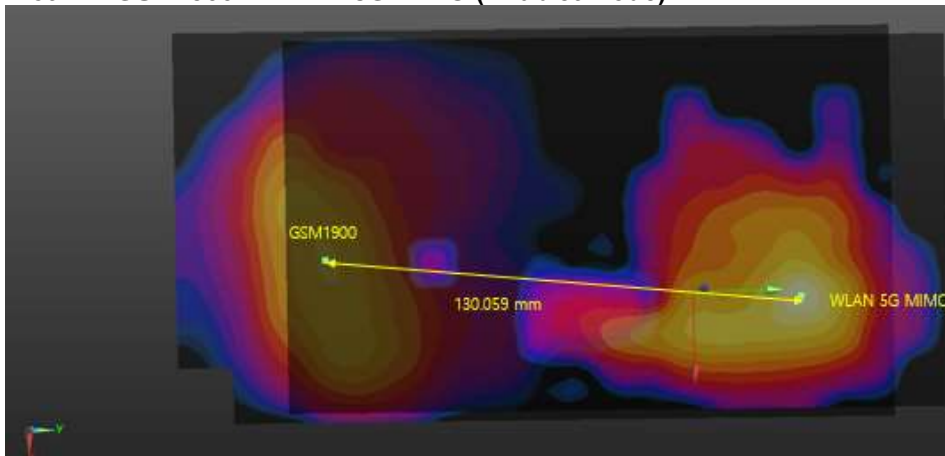
Plot #19 LTE 66(4)+ LTE 26(5) + WLAN 5G MIMO + BT (Hotspot Mode)



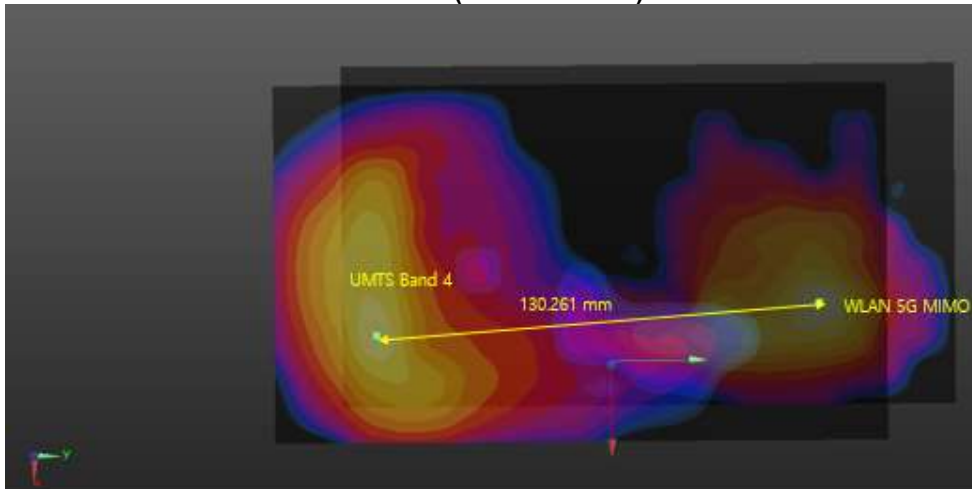
Plot #20 LTE 66(4)+ LTE 12 + WLAN 5G MIMO + BT (Hotspot Mode)



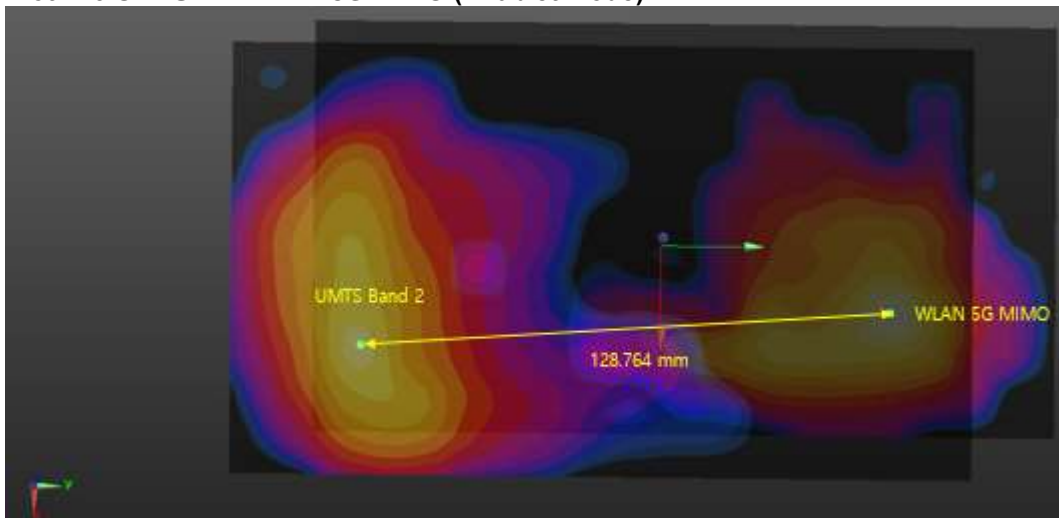
Plot #21 GSM1900 + WLAN 5G MIMO (Phablet Mode)



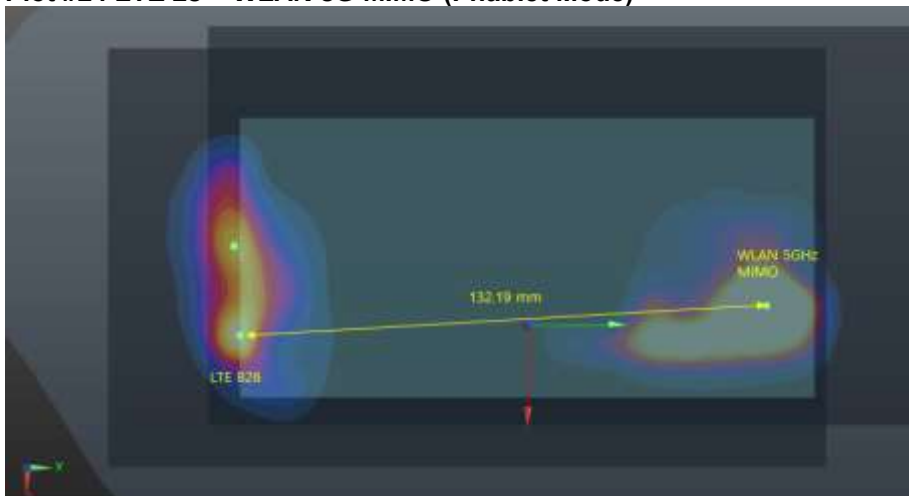
Plot #22 UMTS 4 + WLAN 5G MIMO (Phablet Mode)



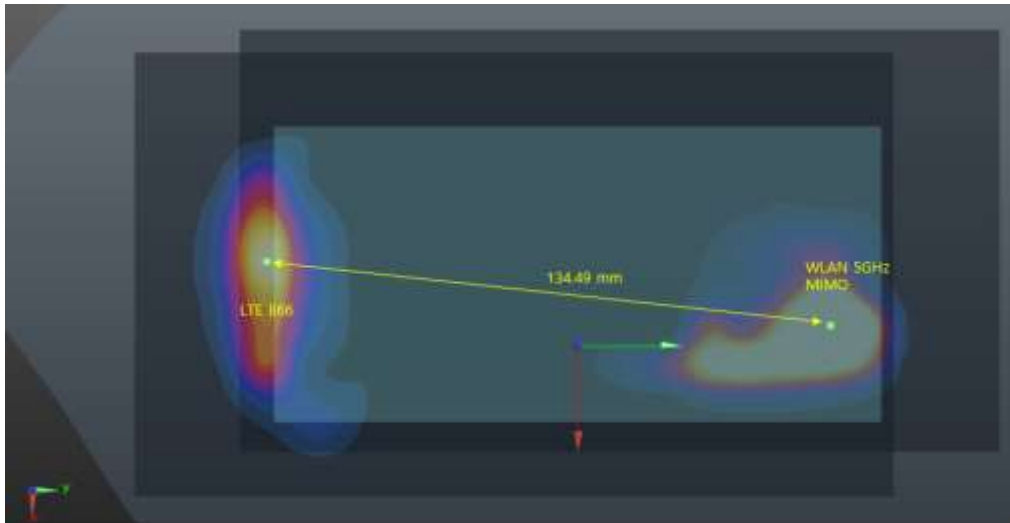
Plot #23 UMTS 2 + WLAN 5G MIMO (Phablet Mode)



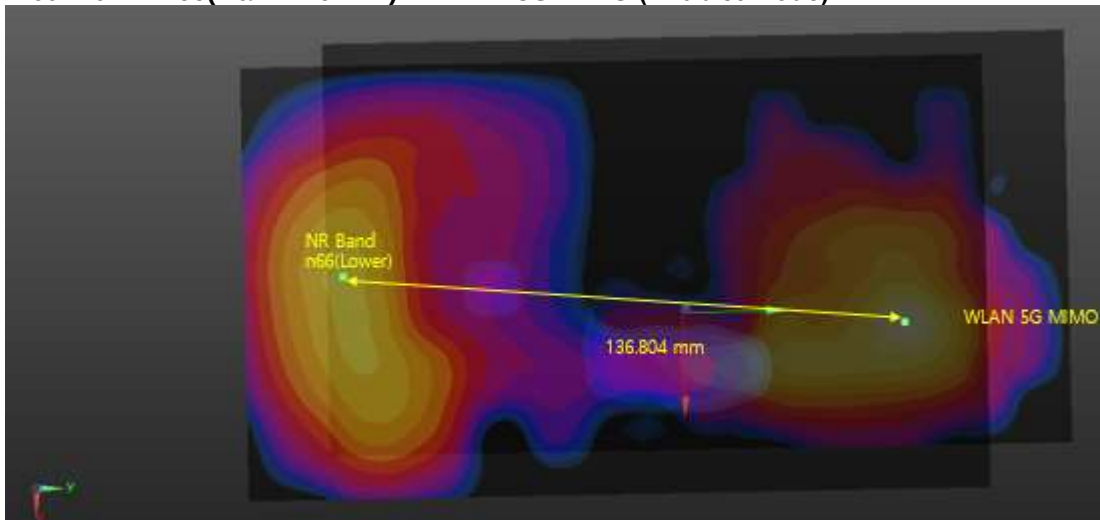
Plot #24 LTE 25 + WLAN 5G MIMO (Phablet Mode)



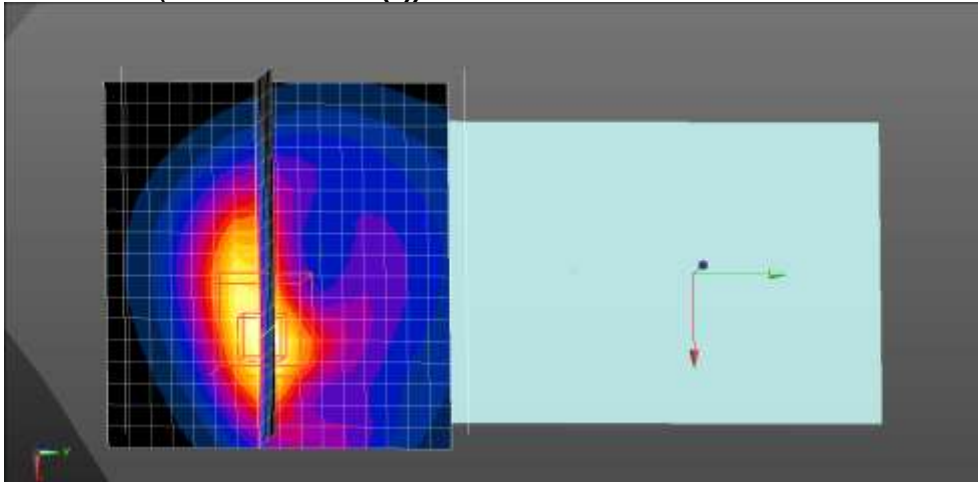
Plot #25 LTE 66 + WLAN 5G MIMO (Phablet Mode)



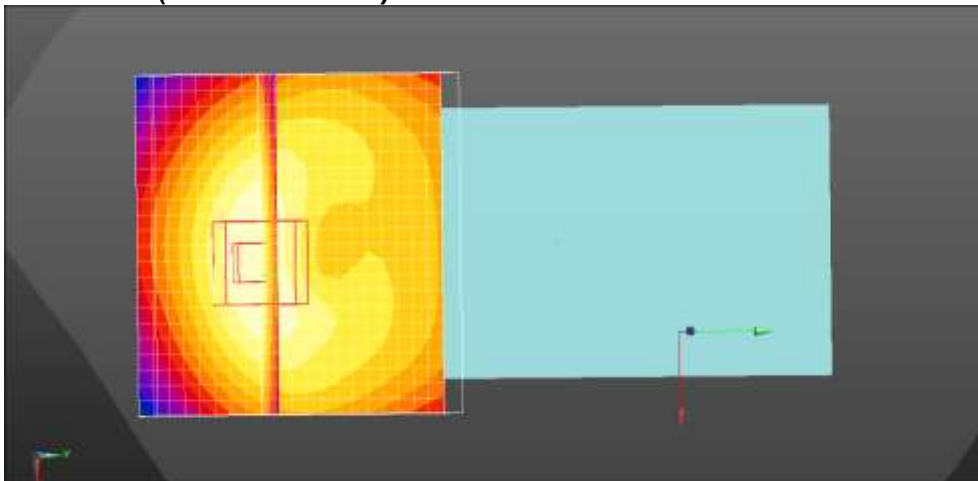
Plot #26 NR n66(Main Ant #1-2) + WLAN 5G MIMO (Phablet Mode)



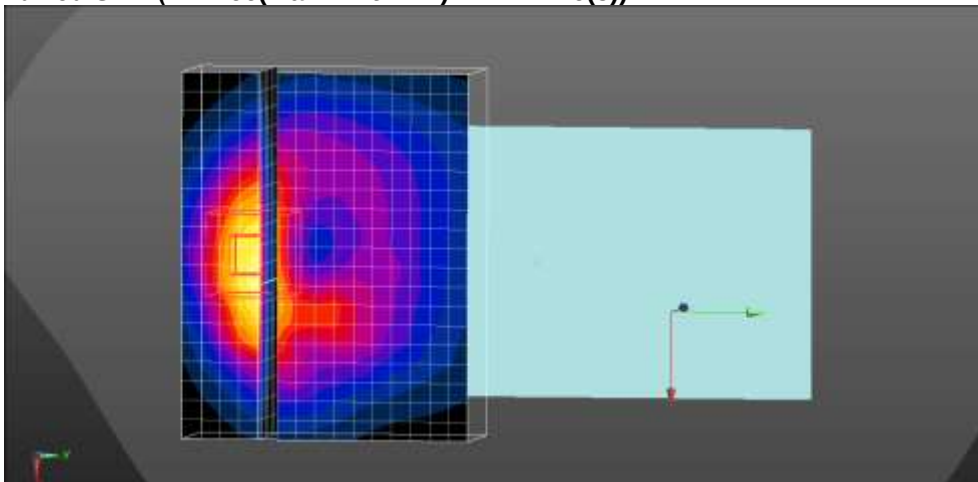
Plot #27 Combined SAR (NR n5 + LTE B25(2))



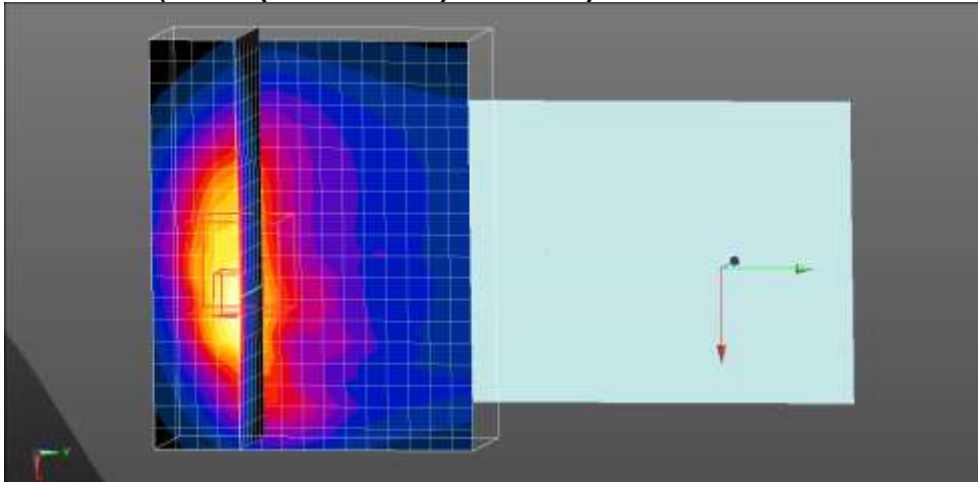
Plot #28 Combined SAR (NR n5 + LTE B66)



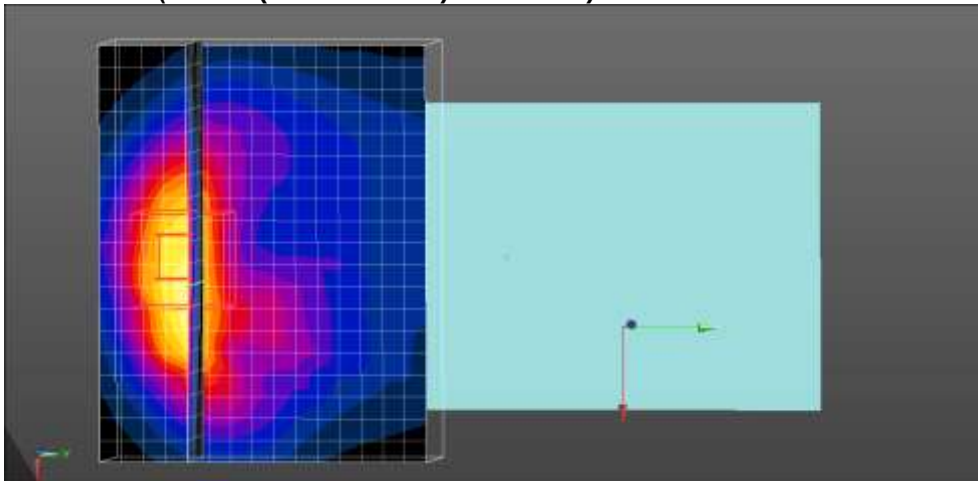
Plot #29 Combined SAR (NR n66(Main Ant #1-2) + LTE B26(5))



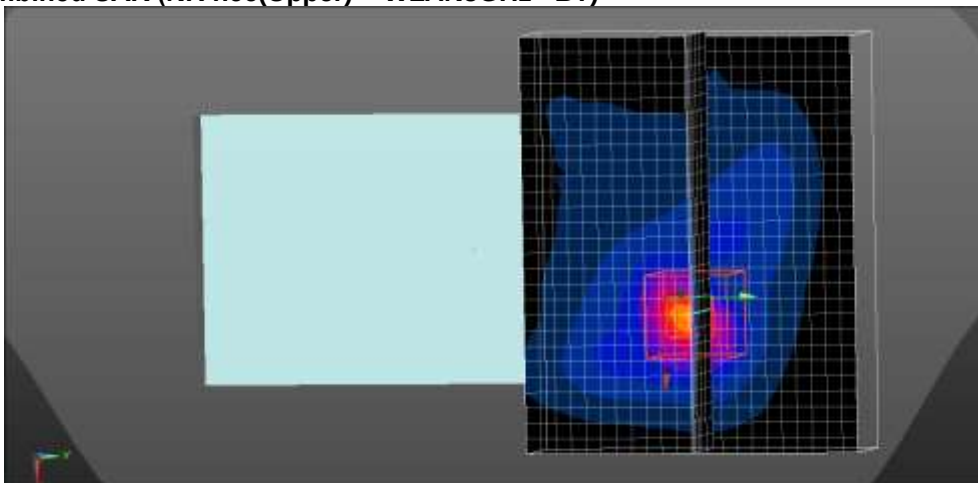
Plot #30 Combined SAR (NR n66(Main Ant #1-2) + LTE B12)



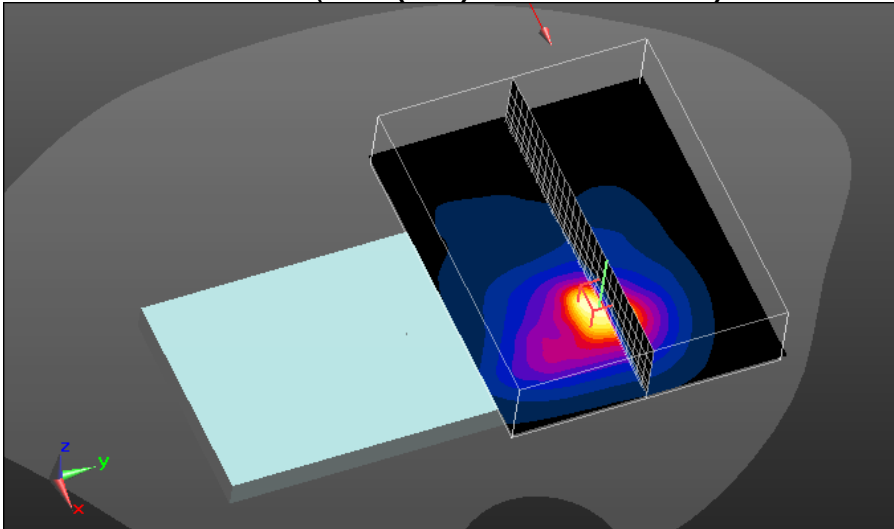
Plot #31 Combined SAR (NR n66(Main Ant #1-2) + LTE B13)



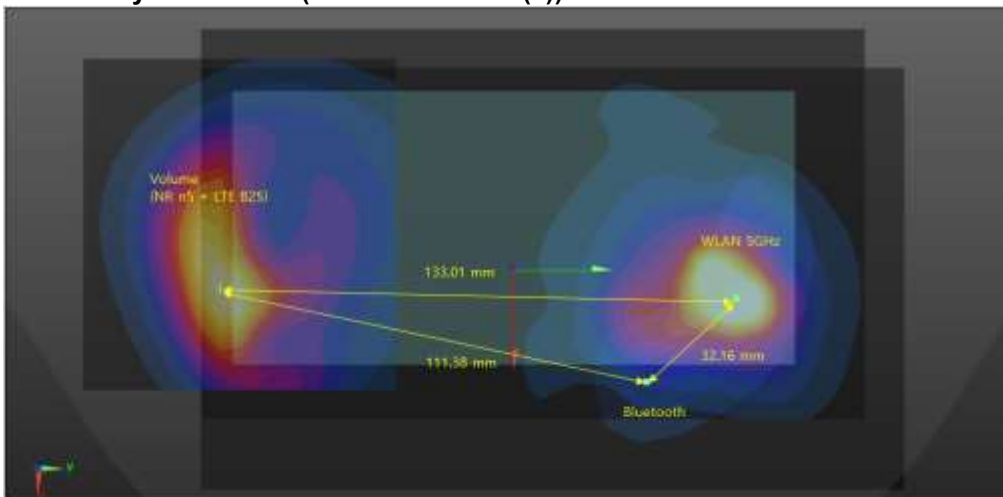
Plot #32 Combined SAR (NR n66(Upper) + WLAN5GHz+ BT)



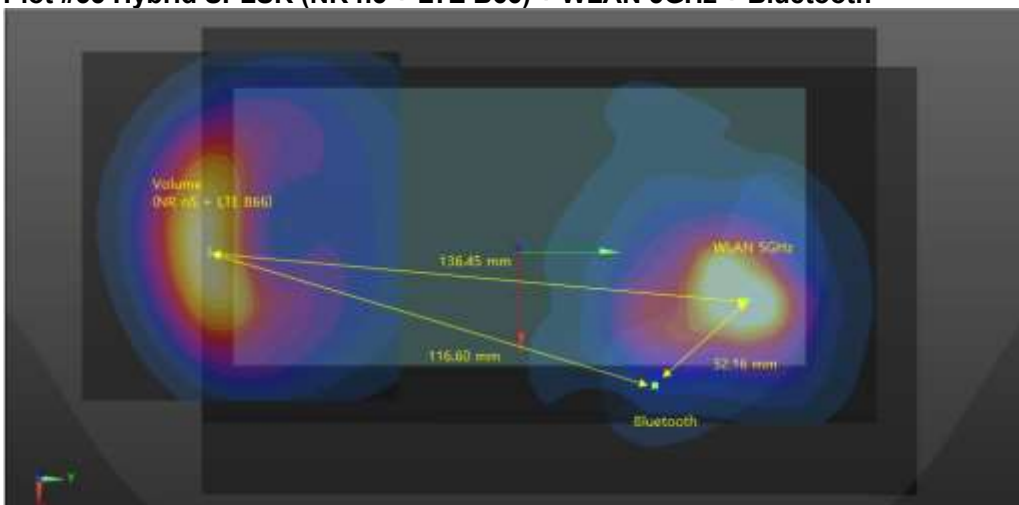
Plot #33 Combined SAR (LTE 2(SCC) + WLAN5GHz + BT)



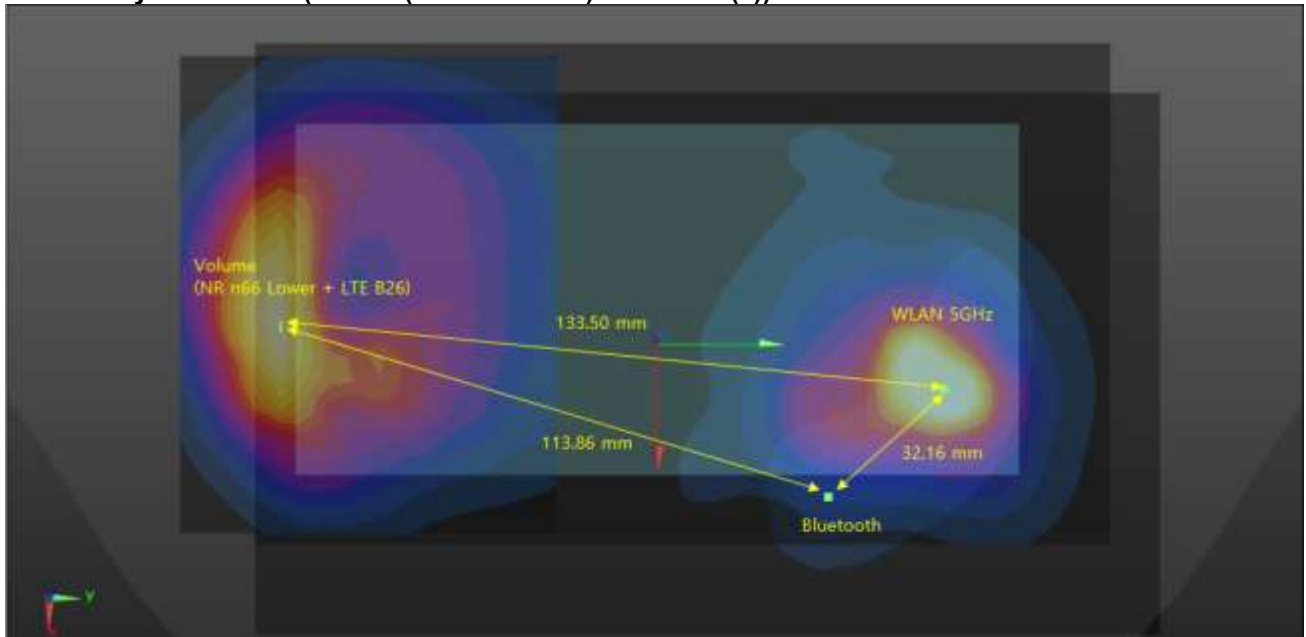
Plot #34 Hybrid SPLSR (NR n5 + LTE B25(2)) + WLAN 5GHz + Bluetooth



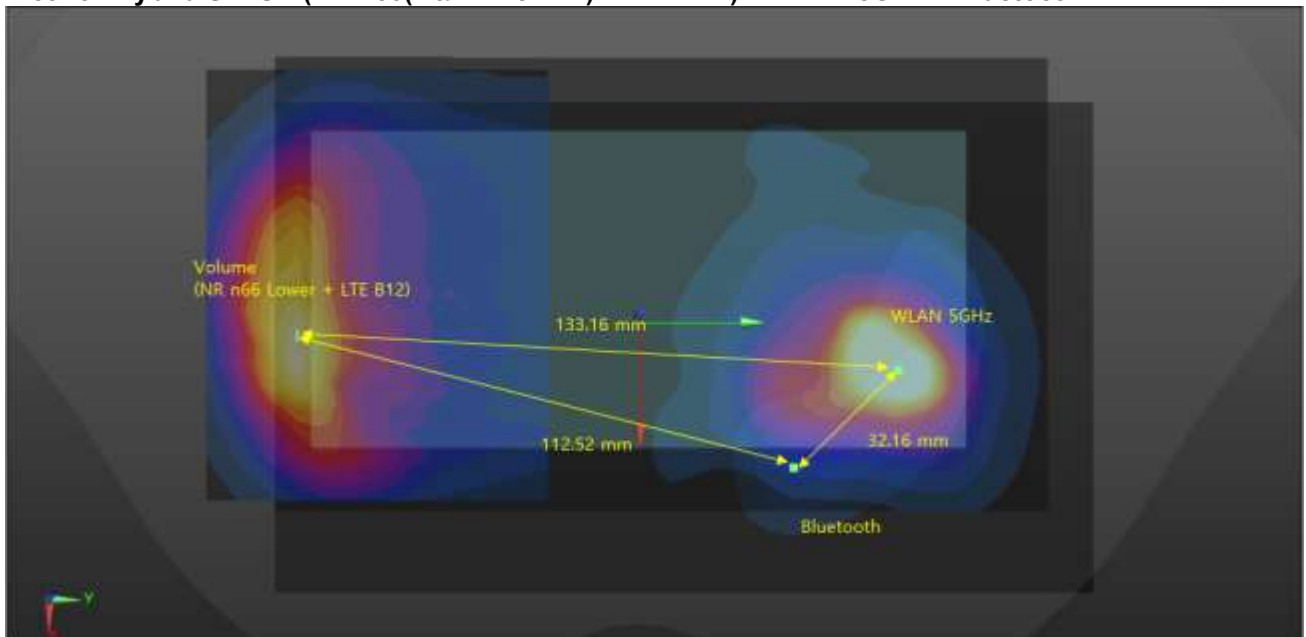
Plot #35 Hybrid SPLSR (NR n5 + LTE B66) + WLAN 5GHz + Bluetooth



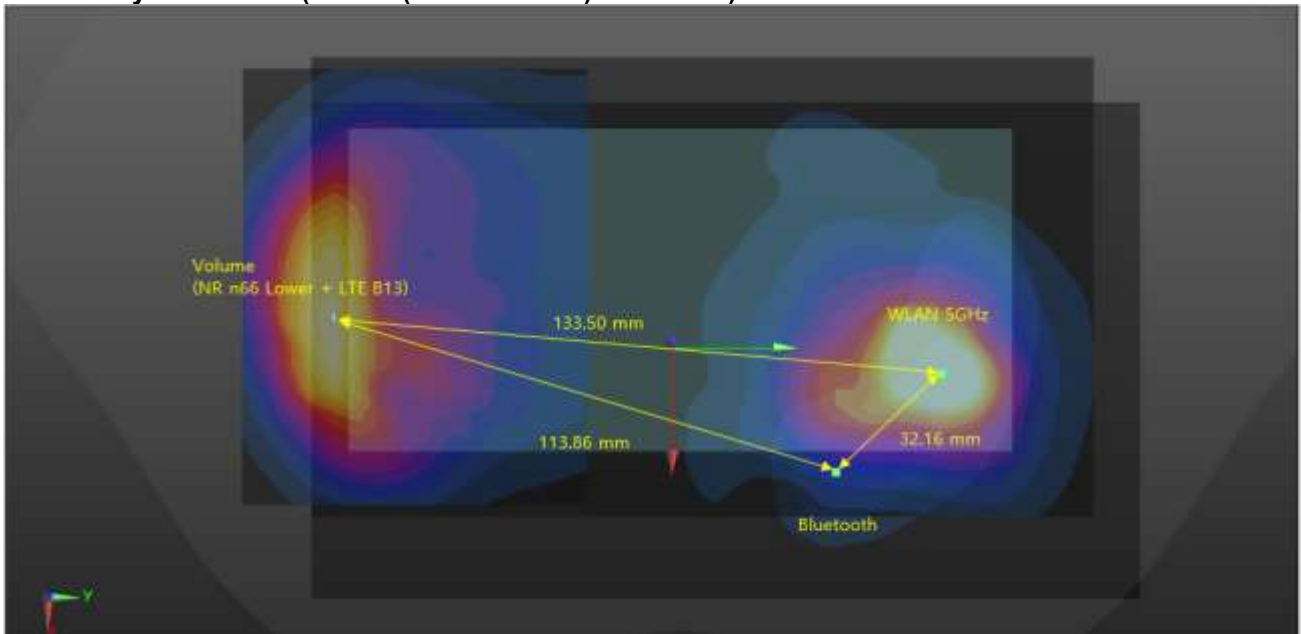
Plot #36 Hybrid SPLSR (NR n66(Main Ant #1-2) + LTE B26(5)) + WLAN 5GHz + Bluetooth



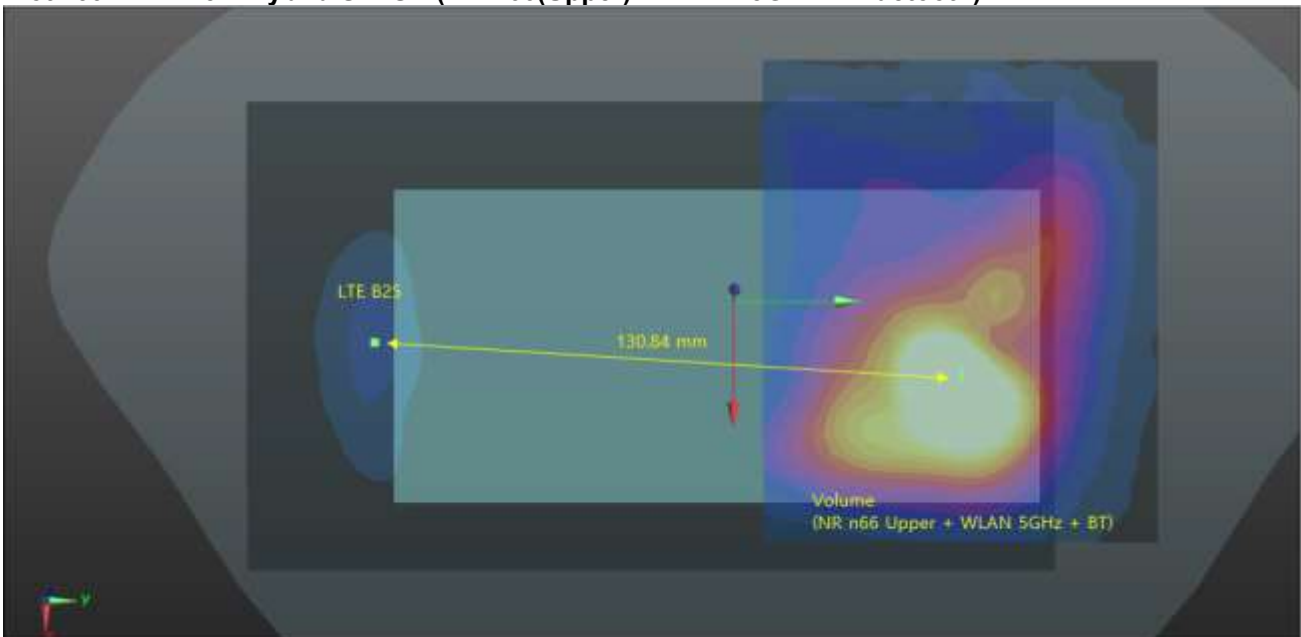
Plot #37 Hybrid SPLSR (NR n66(Main Ant #1-2) + LTE B12) + WLAN 5GHz + Bluetooth



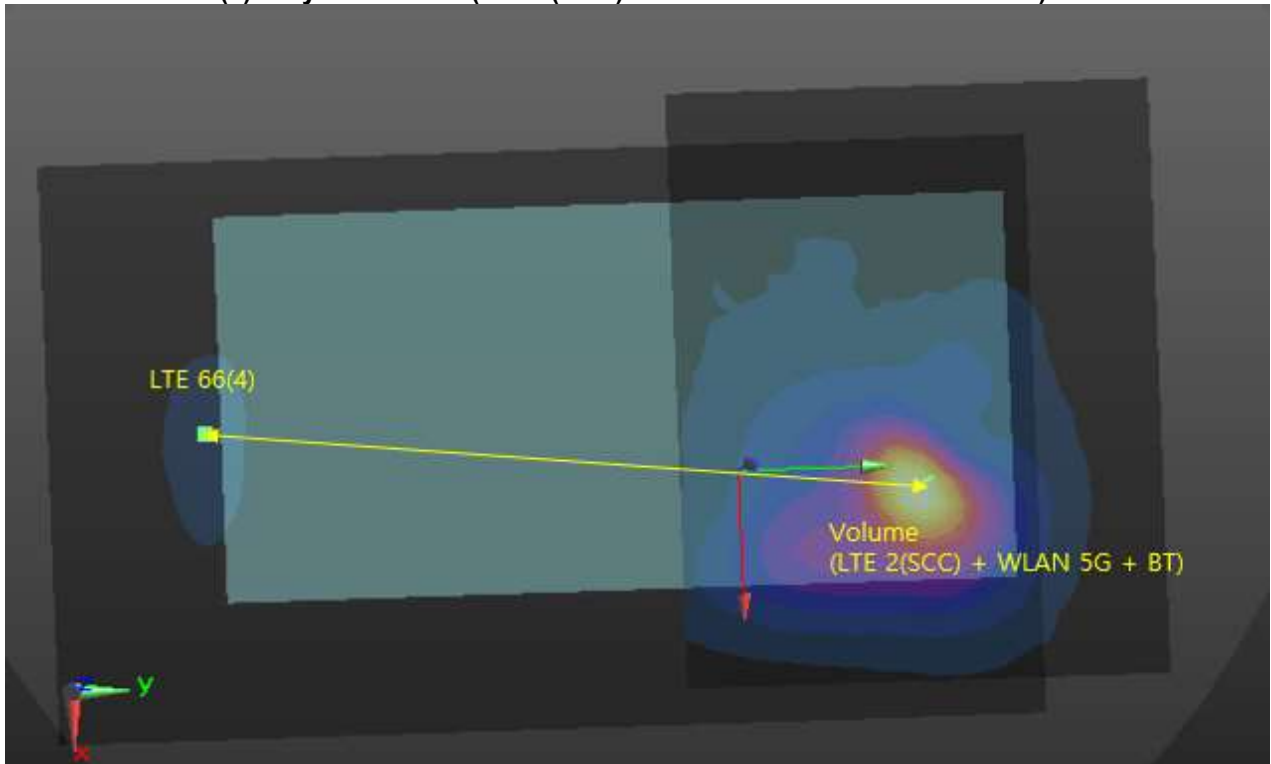
Plot #38 Hybrid SPLSR (NR n66(Main Ant #1-2) + LTE B13) + WLAN 5GHz + Bluetooth



Plot #39 LTE B25 + Hybrid SPLSR (NR n66(Upper) + WLAN 5GHz + Bluetooth)



Plot #40 LTE B66(4) + Hybrid SPLSR (LTE 2(SCC)ULCA + WLAN 5GHz + Bluetooth)



14.6 Simultaneous Transmission Conclusion

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 ≥ 0.80 W/kg or 10g SAR ≥ 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 ≥ 1.45 W/kg for 1g SAR or ≥ 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 ≥ 1.5 W/kg for 1g SAR or ≥ 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. 1.08

Head SAR measurement variability Results

Frequency		Mode/Band	Configuration	Measured SAR (W/kg)	Repeated SAR (W/kg)	SAR Ratio
MHz	Channel					
1 720	344000	NR Band n66	Left Tilt	0.902	0.900	-2.2%

Hotspot SAR measurement variability Results

Frequency		Mode/Band	Configuration	Measured SAR (W/kg)	Repeated SAR (W/kg)	SAR Ratio
MHz	Channel					
1 732.4	1412	UMTS Band 4	Bottom	0.923	0.920	-3.25%
1 720	344000	NR Band n66	Bottom	0.843	0.820	-2.7 %

16. LTE Band 41 Power Class 2 and Power class 3 Linearity

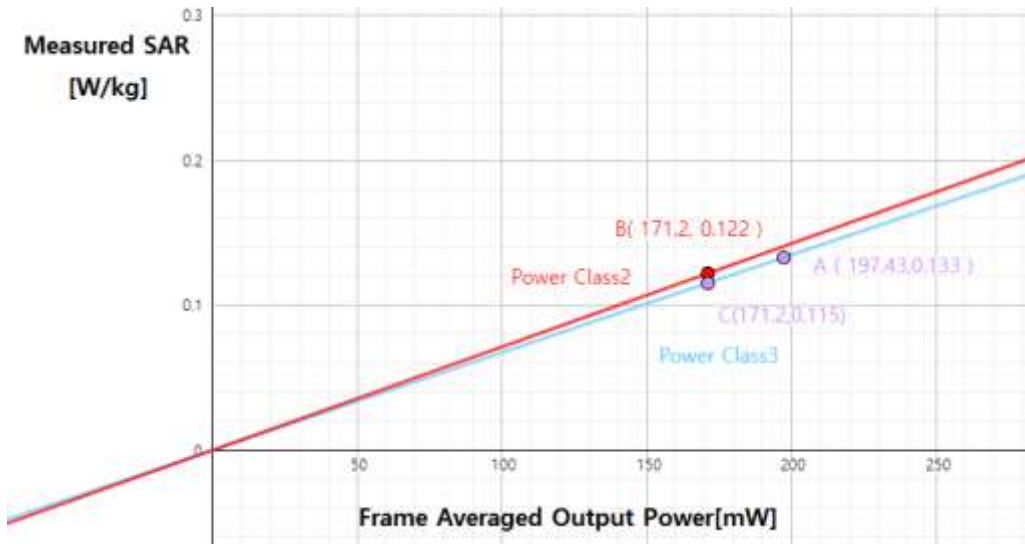
This Device Supports Power Class 2 and Power Class 3 operations for LTE Band 41. The Highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL Configuration 1. Per May 2017 TCB Workshop Notes based on the device behavior, all SAR tests were performed using Power class 3. SAR with 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 3and Power class 2 SAR Results and the respective frame averaged powers was calculated to determine the results were linear.

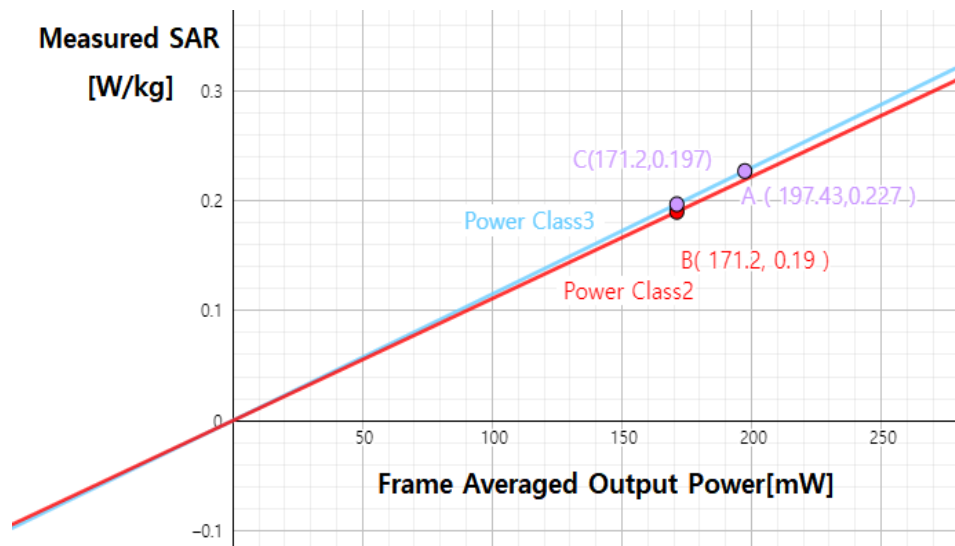
Per May 2017 TCB Workshop, no additional SAR measurements were required since the linearity between power classes as less than 10 % and all reported SAR values were < 1.4 W/kg

LTE Band 41 Head Linearity Data Table

	LTE Band41 PC3	LTE Band41 PC2
Maximum Allowed Output Power[dBm]	25	26
Measured Output Power[dBm]	24.94	25.97
Measured SAR[W/kg]	0.133	0.122
Measured Power[mW]	311.89	395.37
Duty Cycle	63.30%	43.30%
Frame Averaged Output Power[mW]	197.43	171.2
% deviation from expected linearity		5.78



LTE Band 41 BodyWorn Linearity Data Table		
	LTE Band41 PC3	LTE Band41 PC2
Maximum Allowed Output Power[dBm]	25	26
Measured Output Power[dBm]	24.94	25.97
Measured SAR[W/kg]	0.227	0.19
Measured Power[mW]	311.89	395.37
Duty Cycle	63.30%	43.30%
Frame Averaged Output Power[mW]	197.43	171.2
% deviation from expected linearity		-3.48



17. 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.

18. SAR Test Equipment

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
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	F17/ 59CHA1/ C/ 01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F17/ 59RAA1/ C/ 01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F13/ 5R4XF1/ C/ 01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F13/ 5SD0A1/ C/ 01	N/A	N/A	N/A
Staubli	CS8Cspeag-TX60	F10/ 5D1CA1/ C/ 01	N/A	N/A	N/A
Staubli	TX90 XLSpeag	F11/ 5K3RA1/ A/ 01	N/A	N/A	N/A
Staubli	TX90 XLSpeag	F17/ 59CHA1/ A/ 01	N/A	N/A	N/A
Staubli	TX90 XLSpeag	F17/ 59RAA1/ 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 XLSpeag	F10/ 5D1CA1/ A/ 01	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-1203 0309	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	010963	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	011578	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-1338 1332	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	001729	N/A	N/A	N/A
Staubli	Teach Pendant (Joystick)	S-0123	N/A	N/A	N/A
SPEAG	DAE4	869	03/29/2021	Annual	03/29/2022
SPEAG	DAE4	652	01/21/2021	Annual	01/21/2022
SPEAG	DAE4	1417	02/22/2021	Annual	02/22/2022
SPEAG	DAE4	1686	06/21/2021	Annual	06/21/2022
SPEAG	DAE4	466	04/23/2021	Annual	04/23/2022
SPEAG	DAE4	446	09/30/2021	Annual	09/30/2022
SPEAG	DAE4	1422	05/19/2021	Annual	05/19/2022
SPEAG	DAE4	1687	06/21/2021	Annual	06/21/2022
SPEAG	E-Field Probe EX3DV4	3972	05/21/2021	Annual	05/21/2022
SPEAG	E-Field Probe EX3DV4	3797	11/25/2020	Annual	11/25/2021
SPEAG	E-Field Probe EX3DV3	7679	09/10/2021	Annual	09/10/2022
SPEAG	E-Field Probe EX3DV4	7370	08/26/2021	Annual	08/26/2022
SPEAG	E-Field Probe EX3DV4	7655	05/21/2021	Annual	05/21/2022
SPEAG	E-Field Probe EX3DV4	3903	03/24/2021	Annual	03/24/2022
SPEAG	E-Field Probe EX3DV4	3865	01/21/2021	Annual	01/21/2022
SPEAG	E-Field Probe EX3DV4	7309	04/20/2021	Annual	04/20/2022
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
SPEAG	Dipole D5GHzV2	1277	05/21/2021	Annual	05/21/2022
Agilent	Power Meter E4419B	MY41291386	10/23/2020	Annual	10/23/2021
Agilent	Power Meter E4419B	MY41291386	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	MY41090873	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
Agilent	Power Divider	11636B	02/26/2021	Annual	02/26/2022
SPEAG	DAKS 3.5	1038	03/17/2021	Annual	03/17/2022
H.P	Network Analyzer /8753ES	JP39240221	01/11/2021	Annual	01/11/2022

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
Agilent	WIRELESS COMMUNICATION E5515C	MY48361100	10/06/2020	Annual	10/06/2021
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
TESTO	175-H1/Thermometer	40331915309	01/26/2021	Annual	01/26/2022
TESTO	175-H1/Thermometer	40331936309	01/26/2021	Annual	01/26/2022
TESTO	175-H1/Thermometer	40331922309	01/26/2021	Annual	01/26/2022
TESTO	175-H1/Thermometer	40332651310	01/26/2021	Annual	01/26/2022
TESTO	175-H1/Thermometer	83348029	01/26/2021	Annual	01/26/2022
TESTO	175-H1/Thermometer	40331936309	01/26/2021	Annual	01/26/2022
EMPOWER	RF Power Amplifier	1084	06/25/2021	Annual	06/25/2022
EMPOWER	RF Power Amplifier	1011	10/05/2020	Annual	10/05/2021
EMPOWER	RF Power Amplifier	1011	10/06/2021	Annual	10/06/2022
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	10/05/2022
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
Agilent	Attenuator (3dB) 8693B	MY39260298	09/17/2020	Annual	09/17/2021
HP	Attenuator (3dB) 33340A	02427	09/06/2021	Annual	09/06/2022
HP	Attenuator (20dB) 8493C	09271	09/17/2020	Annual	09/17/2021
HP	Attenuator (20dB) 8493C	09271	09/06/2021	Annual	09/06/2022
Agilent	Directional Bridge 86205A	3140A03878	05/28/2021	Annual	05/28/2022
Agilent	Power Divider	3	06/25/2021	Annual	06/25/2022
Agilent	MXA Signal Analyzer N9020A	MY50510407	10/23/2020	Annual	10/23/2021
Agilent	MXA Signal Analyzer N9020A	MY50510407	10/22/2021	Annual	10/22/2022
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 Test Station MT8000A	6262036812	12/22/2020	Annual	12/22/2021
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.

19. 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.

20. References

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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-FC011-P