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SAR TEST REPORT

Applicant Name: **SAMSUNG Electronics Co., Ltd.** 129, Samsung-ro, Yeongtong-gu, Suwon-Si, Gyeonggi-do, 16677 Rep. of Korea	**Date of Issue:** 12. 23, 2019 **Test Report No.:** HCT-SR-1912-FI001-R1 **Test Site: HCT CO., LTD.**

FCC ID: **A3LSMT307U**

Equipment Type:	**Tablet**
Application Type	**Certification**
FCC Rule Part(s):	**CFR §2.1093**
Model Name:	**SM-T307U**
Date of Test:	**10/24/2019 ~ 12/19/2019**

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

YoonHo Choi
Test Engineer
SAR Team
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Reviewed By

Yun-jeang, Heo
Technical Manager
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REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	12. 12, 2019	Initial Release
1	12. 23, 2019	Revised reduced modes of UMTS B2/4/LTE2/25/4/66/LTE41 and 2.4GHz WLAN

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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 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 616217 D04 SAR Tablets v01r02
- 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.

- Oct. 2014 TCB Workshop Notes (Overlapping LTE Bands)
- April 2015 TCB Workshop Notes (Simultaneous transmission summation clarified)
- Oct. 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- Oct. 2016 TCB Workshop Notes (Device Holder Perturbations)
- Nov. 2017 TCBC Workshop Notes (LTE Carrier Aggregation)
- May 2017 TCBC Workshop Notes (LTE Band 41 Power Class 2)
- April 2018 TCBC Workshop Notes (LTE DL CA SAR Test Exclusion)

2. Test Location

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

3. Information of the EUT

3.1 General Information of the EUT

Model Name	SM-T307U
Equipment Type	Tablet
FCC ID	A3LSMT307U
Applicant	SAMSUNG Electronics Co., Ltd.

3.2 Attestation of test result of device under test

Band	Tx. Frequency	Equipment Class	SAR (W/kg)
			Reported 1g Body SAR
UMTS 850	826.4 ㎒ ~ 846.6 ㎒	PCB	0.97
UMTS 1700	1 712.4 ㎒ ~ 1 752.6 ㎒	PCB	0.91
UMTS 1900	1 852.4 ㎒ ~ 1 907.6 ㎒	PCB	1.20
LTE Band 5 (Cell)	824.7 ㎒ ~ 848.3 ㎒	PCB	0.98
LTE Band 7	2 502.5 ㎒ ~ 2 567.5 ㎒	PCB	1.19
LTE Band 12	699.7 ㎒ ~ 715.3 ㎒	PCB	0.69
LTE Band 13	779.5 ㎒ ~ 784.5 ㎒	PCB	0.72
LTE Band 14	790.5 ㎒ ~ 795.5 ㎒	PCB	0.82
LTE Band 25	1 850.7 ㎒ ~ 1 914.3 ㎒	PCB	1.35
LTE Band 26	814.7 ㎒ ~ 848.3 ㎒	PCB	0.93
LTE Band 30	2 307.5 ㎒ ~ 2 312.5 ㎒	PCB	0.95
LTE TDD Band 41	2 498.5 ㎒ ~ 2 687.5 ㎒	PCB	0.92
LTE Band 66 (AWS)	1 710.7 ㎒ ~ 1 779.3 ㎒	PCB	0.84
LTE Band 71	665.5 ㎒ ~ 695.5 ㎒	PCB	0.29
802.11b	2 412 ㎒ ~ 2 462 ㎒	DTS	1.06
U-NII-1	5 180 ㎒ ~ 5 240 ㎒	NII	N/A
U-NII-2A	5 260 ㎒ ~ 5 320 ㎒	NII	0.38
U-NII-2C	5 500 ㎒ ~ 5 720 ㎒	NII	0.65
U-NII-3	5 745 ㎒ ~ 5 825 ㎒	NII	0.68
Bluetooth	2 402 ㎒ ~ 2 480 ㎒	DSS	0.56
Simultaneous SAR per KDB 690783 D01v01r03			1.591
Date(s) of Tests:	10. 24, 2019 ~ 12. 19, 2019		

4. Device Under Test Description

4.1 DUT specification

Device Wireless specification overview		
Band & Mode	**Operating Mode**	**Tx Frequency**
UMTS 850	Data	826.4 ㎒ ~ 846.6 ㎒
UMTS 1700	Data	1 712.4 ㎒ ~ 1 752.6 ㎒
UMTS 1900	Data	1 852.4 ㎒ ~ 1 907.6 ㎒
LTE Band 2 (PCS)	Data	1 850.7 ㎒ ~ 1 909.3 ㎒
LTE Band 4 (AWS)	Data	1 710.7 ㎒ ~ 1 754.3 ㎒
LTE Band 5 (Cell)	Data	824.7 ㎒ ~ 848.3 ㎒
LTE Band 7	Data	2 502.5 ㎒ ~ 2 567.5 ㎒
LTE Band 12	Data	699.7 ㎒ ~ 715.3 ㎒
LTE Band 13	Data	779.5 ㎒ ~ 784.5 ㎒
LTE Band 14	Data	790.5 ㎒ ~ 795.5 ㎒
LTE Band 25 (PCS)	Data	1 850.7 ㎒ ~ 1 914.3 ㎒
LTE Band 26 (Cell)	Data	814.7 ㎒ ~ 848.3 ㎒
LTE Band 30	Data	2 307.5 ㎒ ~ 2 312.5 ㎒
LTE TDD Band 41	Data	2 498.5 ㎒ ~ 2 687.5 ㎒
LTE Band 66 (AWS)	Data	1 710.7 ㎒ ~ 1 779.3 ㎒
LTE Band 71	Data	665.5 ㎒ ~ 695.5 ㎒
2.4 ㎓ WLAN	Data	2 412 ㎒ ~ 2 462 ㎒
U-NII-1	Data	5 180 ㎒ ~ 5 240 ㎒
U-NII-2A	Data	5 260 ㎒ ~ 5 320 ㎒
U-NII-2C	Data	5 500 ㎒ ~ 5 720 ㎒
U-NII-3	Data	5 745 ㎒ ~ 5 825 ㎒
Bluetooth / LE 5.0	Data	2 402 ㎒ ~ 2 480 ㎒
ANT+	Data	2 402 ~ 2 480 ㎒

Device Description		
Device Dimension	Overall (Length x Width): 201.9 mm x 124.4 mm Overall Diagonal: 237.1 mm Display Diagonal: 213.3 mm	
Battery Options:	Standard (Li-ion Polymer Battery)	
	Battery Model Name: EB-BT307ABY (ATL)	
H/W Version	T307U.02	
S/W Version	T307U.001	
Device Serial Numbers:	**Mode**	**Serial Number**
	UMTS 850/ 1 700/ 1 900 LTE Band 5/7/12/13/14/25/26/66/71	R32MA00A6GF
	2.4 ㎓ WLAN, 5 ㎓ WLAN, Bluetooth	R32MA00A5NT
	LTE Band 30, LTE Band 41	R32MA00GH1Z
	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 mode 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

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 Maximum Output Power

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA	DC-HSDPA
UMTS Band 5 (850 ㎒)	Maximum	24.5	24.0	22.5	24.0
	Nominal	23.5	23.0	21.5	23.0
UMTS Band 4 (1700 ㎒)	Maximum	24.5	24.0	22.5	24.0
	Nominal	23.5	23.0	21.5	23.0
UMTS Band 2 (1900 ㎒)	Maximum	24.5	24.0	22.5	24.0
	Nominal	23.5	23.0	21.5	23.0

Mode / Band		Modulated Average (dBm)
LTE Band 2 (PCS)	Maximum	24.5
	Nominal	23.5
LTE Band 4 (AWS)	Maximum	24.5
	Nominal	23.5
LTE Band 5 (Cell)	Maximum	25.0
	Nominal	24.0
LTE Band 7	Maximum	24.0
	Nominal	23.0
LTE Band 12	Maximum	25.5
	Nominal	24.5
LTE Band 13	Maximum	25.3
	Nominal	24.3
LTE Band 14	Maximum	25.0
	Nominal	24.0
LTE Band 25 (PCS)	Maximum	24.5
	Nominal	23.5
LTE Band 26 (Cell)	Maximum	25.0
	Nominal	24.0
LTE Band 30	Maximum	22.5
	Nominal	21.5
LTE Band 41 PC2	Maximum	27.0
	Nominal	26.0
LTE Band 41 PC3	Maximum	24.0
	Nominal	23.0
LTE Band 66 (AWS)	Maximum	24.5
	Nominal	23.5
LTE Band 71	Maximum	25.0
	Nominal	24.0

4.3.2 Reduced Main Output Power – Proximity Sensor activated

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA	DC-HSDPA
UMTS Band 5 (850 ㎒)	Maximum	18.5	18.0	18.0	18.0
	Nominal	17.5	17.0	17.0	17.0
UMTS Band 4 (1700 ㎒)	Maximum	14.0	13.5	13.5	13.5
	Nominal	13.0	12.5	12.5	12.5
UMTS Band 2 (1900 ㎒)	Maximum	14.0	13.5	13.5	13.5
	Nominal	13.0	12.5	12.5	12.5

Mode / Band		Modulated Average (dBm)
LTE Band 2 (PCS)	Maximum	13.5
	Nominal	12.5
LTE Band 4 (AWS)	Maximum	14.5
	Nominal	13.5
LTE Band 5 (Cell)	Maximum	18.5
	Nominal	17.5
LTE Band 7	Maximum	13.0
	Nominal	12.0
LTE Band 12	Maximum	17.5
	Nominal	16.5
LTE Band 13	Maximum	17.5
	Nominal	16.5
LTE Band 14	Maximum	18.0
	Nominal	17.0
LTE Band 25 (PCS)	Maximum	13.5
	Nominal	12.5
LTE Band 26 (Cell)	Maximum	18.0
	Nominal	17.0
LTE Band 30	Maximum	12.5
	Nominal	11.5
LTE Band 41 PC2	Maximum	13.5
	Nominal	12.5
LTE Band 41 PC3	Maximum	13.5
	Nominal	12.5
LTE Band 66 (AWS)	Maximum	14.5
	Nominal	13.5
LTE Band 71	Maximum	16.0
	Nominal	15.0

4.3.3 Maximum 2.4 GHz, 5 GHz WIFI output power

Mode / Band			Modulated Average (dBm)				
			SISO				
			11a	11b	11g	11n	11ac
2.4 GHz WIFI	Ch.1 ~ Ch.10	Maximum	N/A	20	19	18	N/A
		Nominal	N/A	19	18	17	N/A
	Ch.11	Maximum	N/A	18	17	16	N/A
		Nominal	N/A	17	16	15	N/A
5 GHz WIFI (20 MHz)	(U-NII-1) 5200 MHz	Maximum	18	N/A	N/A	16	16
		Nominal	17	N/A	N/A	15	15
	(U-NII-2A) 5300 MHz	Maximum	18	N/A	N/A	16	16
		Nominal	17	N/A	N/A	15	15
	(U-NII-2A) CH.64	Maximum	17	N/A	N/A	15	15
		Nominal	16	N/A	N/A	14	14
	(U-NII-2C) 5500 MHz	Maximum	18	N/A	N/A	16	16
		Nominal	17	N/A	N/A	15	15
	(U-NII-3) 5800 MHz	Maximum	18	N/A	N/A	16	16
		Nominal	17	N/A	N/A	15	15
5 GHz WIFI (40 MHz)	(U-NII-1) 5200 MHz	Maximum	N/A	N/A	N/A	12	12
		Nominal	N/A	N/A	N/A	11	11
	(U-NII-2A) 5300 MHz	Maximum	N/A	N/A	N/A	12	12
		Nominal	N/A	N/A	N/A	11	11
	(U-NII-2C) 5500 MHz	Maximum	N/A	N/A	N/A	12	12
		Nominal	N/A	N/A	N/A	11	11
	(U-NII-3) 5800 MHz	Maximum	N/A	N/A	N/A	12	12
		Nominal	N/A	N/A	N/A	11	11
5 GHz WIFI (80 MHz)	(U-NII-1) 5200 MHz	Maximum	N/A	N/A	N/A	N/A	10
		Nominal	N/A	N/A	N/A	N/A	9
	(U-NII-2A) 5300 MHz	Maximum	N/A	N/A	N/A	N/A	10
		Nominal	N/A	N/A	N/A	N/A	9
	(U-NII-2C) 5500 MHz	Maximum	N/A	N/A	N/A	N/A	10
		Nominal	N/A	N/A	N/A	N/A	9
	(U-NII-3) 5800 MHz	Maximum	N/A	N/A	N/A	N/A	10
		Nominal	N/A	N/A	N/A	N/A	9

4.3.4 Reduced 2.4 GHz, 5 GHz WIFI output power Proximity Sensor activated

Mode / Band			Modulated Average (dBm)				
			SISO				
			11a	11b	11g	11n	11ac
2.4 GHz WIFI	Ch.1 ~ Ch.10	Maximum	N/A	10	10	10	N/A
		Nominal	N/A	9	9	9	N/A
	Ch.11	Maximum	N/A	10	10	10	N/A
		Nominal	N/A	9	9	9	N/A
5 GHz WIFI (20 MHz)	(U-NII-1) 5200 MHz	Maximum	11	N/A	N/A	9	9
		Nominal	10	N/A	N/A	8	8
	(U-NII-2A) 5300 MHz	Maximum	11	N/A	N/A	9	9
		Nominal	10	N/A	N/A	8	8
	(U-NII-2A) CH.64	Maximum	11	N/A	N/A	9	9
		Nominal	10	N/A	N/A	8	8
	(U-NII-2C) 5500 MHz	Maximum	11	N/A	N/A	9	9
		Nominal	10	N/A	N/A	8	8
	(U-NII-3) 5800 MHz	Maximum	11	N/A	N/A	9	9
		Nominal	10	N/A	N/A	8	8
5 GHz WIFI (40 MHz)	(U-NII-1) 5200 MHz	Maximum	N/A	N/A	N/A	9	9
		Nominal	N/A	N/A	N/A	8	8
	(U-NII-2A) 5300 MHz	Maximum	N/A	N/A	N/A	9	9
		Nominal	N/A	N/A	N/A	8	8
	(U-NII-2C) 5500 MHz	Maximum	N/A	N/A	N/A	9	9
		Nominal	N/A	N/A	N/A	8	8
	(U-NII-3) 5800 MHz	Maximum	N/A	N/A	N/A	9	9
		Nominal	N/A	N/A	N/A	8	8
5 GHz WIFI (80 MHz)	(U-NII-1) 5200 MHz	Maximum	N/A	N/A	N/A	N/A	9
		Nominal	N/A	N/A	N/A	N/A	8
	(U-NII-2A) 5300 MHz	Maximum	N/A	N/A	N/A	N/A	9
		Nominal	N/A	N/A	N/A	N/A	8
	(U-NII-2C) 5500 MHz	Maximum	N/A	N/A	N/A	N/A	9
		Nominal	N/A	N/A	N/A	N/A	8
	(U-NII-3) 5800 MHz	Maximum	N/A	N/A	N/A	N/A	9
		Nominal	N/A	N/A	N/A	N/A	8

4.3.5 Maximum Bluetooth Power

Mode / Band		Modulated Average (dBm)
Bluetooth-BR	Maximum	8.0
	Nominal	7.0
Bluetooth-EDR	Maximum	6.0
	Nominal	5.0
Bluetooth LE	Maximum	5.0
	Nominal	4.0

4.4 LTE Information

Item.		Description
Frequency Range	LTE Band 2 (PCS)	1 850.7 ㎒ ~ 1 909.3 ㎒
	LTE Band 4 (AWS)	1 710.7 ㎒ ~ 1 754.3 ㎒
	LTE Band 5 (Cell)	824.7 ㎒ ~ 848.3 ㎒
	LTE Band 7	2 502.5 ㎒ ~ 2 567.5 ㎒
	LTE Band 12	699.7 ㎒~ 715.3 ㎒
	LTE Band 13	779.5 ㎒ ~ 784.5 ㎒
	LTE Band 14	790.5 ㎒ ~ 795.5 ㎒
	LTE Band 25 (PCS)	1 850.7 ㎒ ~ 1 914.3 ㎒
	LTE Band 26 (Cell)	814.7 ㎒ ~ 848.3 ㎒
	LTE Band 30	2 307.5 ㎒ ~ 2 312.5 ㎒
	LTE TDD Band 41	2 498.5 ㎒ ~ 2 687.5 ㎒
	LTE Band 66 (AWS)	1 710.7 ㎒ ~ 1 779.3 ㎒
	LTE Band 71	665.5 ㎒ ~ 695.5 ㎒
Channel Bandwidths	LTE Band 2 (PCS)	1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒
	LTE Band 4 (AWS)	1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒
	LTE Band 5 (Cell)	1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒
	LTE Band 7	5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒
	LTE Band 12	1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒
	LTE Band 13	5 ㎒, 10 ㎒
	LTE Band 14	5 ㎒, 10 ㎒
	LTE Band 25 (PCS)	1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒
	LTE Band 26 (Cell)	1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒
	LTE Band 30	5 ㎒, 10 ㎒
	LTE TDD Band 41	5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒
	LTE Band 66 (AWS)	1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒
	LTE Band 71	5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒

Mode		Low	Mid	High
		Freq.(㎒) (Ch. No.)	Freq.(㎒) (Ch. No.)	Freq.(㎒) (Ch. No.)
LTE Band 2	1.4 ㎒	1 850.7 (18607)	1 880.0 (18900)	1 909.3 (19193)
	3 ㎒	1 851.5 (18615)	1 880.0 (18900)	1 908.5 (19185)
	5 ㎒	1 852.5 (18625)	1 880.0 (18900)	1 907.5 (19175)
	10 ㎒	1 855.0 (18650)	1 880.0 (18900)	1 905.0 (19150)
	15 ㎒	1 857.5 (18675)	1 880.0 (18900)	1 902.5 (19125)
	20 ㎒	1 860.0 (18700)	1 880.0 (18900)	1 900.0 (19100)
LTE Band 4	1.4 ㎒	1 710.7 (19957)	1 732.5 (20175)	1 754.3 (20393)
	3 ㎒	1 711.5 (19965)	1 732.5 (20175)	1 753.5 (20385)
	5 ㎒	1 712.5 (19975)	1 732.5 (20175)	1 752.5 (20375)
	10 ㎒	1 715.0 (20000)	1 732.5 (20175)	1 750.0 (20350)
	15 ㎒	1 717.5 (20025)	1 732.5 (20175)	1 747.5 (20325)
	20 ㎒	1 720.0 (20050)	1 732.5 (20175)	1 745.0 (20300)
LTE Band 5	1.4 ㎒	824.7 (20407)	836.5 (20525)	848.3 (20643)
	3 ㎒	825.5 (20415)	836.5 (20525)	847.5 (20635)
	5 ㎒	826.5 (20425)	836.5 (20525)	846.5 (20625)
	10 ㎒	829.0 (20450)	836.5 (20525)	844.0 (20600)
LTE Band 7	5 ㎒	2502.5 (20775)	2535 (21100)	2567.5 (21425)
	10 ㎒	2505 (20800)	2535 (21100)	2565 (21400)
	15 ㎒	2507.5 (20825)	2535 (21100)	2562.5 (21375)
	20 ㎒	2510 (20850)	2535 (21100)	2560 (21350)

Mode		Low		Mid		High	
		Freq.(MHz) (Ch. No.)		Freq.(MHz) (Ch. No.)		Freq.(MHz) (Ch. No.)	
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	704.0 (23060)		707.5 (23095)		711.0 (23130)	
LTE Band 13	5 MHz	779.5 (23205)		782 (23230)		784.5 (23255)	
	10 MHz			782 (23230)			
LTE Band 14	5 MHz	790.5 (23305)		793 (23330)		795.5 (23355)	
	10 MHz			793 (23330)			
LTE Band 25	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	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	821.5 (26765)		831.5 (26865)		841.5 (26965)	
LTE Band 30	5 MHz	2 307.5 (27685)		2 310 (27710)		2 312.5 (27735)	
	10 MHz			2 310 (27710)			
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 Band 71	5 MHz	665.5 (133147)		680.5(133297)		695.5 (133447)	
	10 MHz	668 (133172)		680.5 (133297)		693 (133422)	
	15 MHz	670.5(133197)		680.5 (133297)		690.5 (133397)	
	20 MHz	673 (133222)		680.5 (133297)		688 (133372)	
LTE TDD Band 41	5 MHz	2498.5 (39675)	2545.8 (40148)	2593.0 (40620)	2640.3 (41093)	2687.5 (41565)	
	10 MHz	2501.0 (39700)	2547.0 (40160)	2593.0 (40620)	2639.0 (41080)	2685.0 (41540)	
	15 MHz	2503.5 (39725)	2548.3 (41073)	2593.0 (40620)	2637.8 (41068)	2682.5 (41515)	
	20 MHz	2506.0 (39750)	2549.5 (40185)	2593.0 (40620)	2636.5 (41055)	2680.0 (41490)	

Item.	Description	
HPUE Power Class	TDD 41 Power Class 3 :(Duty: 63.3%) Power Class 2 : (Duty:43.3%) (See 10.2.6)	
UE Category	LTE Rel. 12, DL: Category 6, UL: Category 5	
Modulations Supported in UL	QPSK, 16QAM, 64QAM	
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3	Yes	
A-MPR disabled for SAR Testing.	Yes	
LTE Carrier Aggregation	Down-Link CA	This device supports DL-link Intra-band and Inter-band Carrier aggregations
		CA_2C, CA_2A-2A, CA_2A-4A, CA_2A-5A, CA_2A-7A, CA_2A-12A, CA_2A-13A, CA_2A-17A, CA_2A-29A, CA_2A-30A, CA_2A-66A, CA_2A-71A, CA_4A-4A, CA_4A-5A, CA_4A-12A, CA_4A-13A, CA_4A-17A, CA_4A-29A, CA_4A-30A, CA_4A-71A, CA_4A-7A, CA_5A-5A, CA_5A-7A, CA_5A-30A, CA_5A-66A, CA_5B CA_7A-7A, CA_7A-12A, CA_7A-66A, CA_12A-30A, CA_12A-66A, CA_12B, CA_13A-66A, CA_25A-25A, CA_25A-41A, CA_26A-41A, CA_25A-26A, CA_29A-30A, CA_41A-41A, CA_66A-66A, CA_66A-71A, CA_41C, CA_66B, CA_66C
	Up-Link CA	This device dose not supports Up-Link Carrier aggregation.in US.
LTE Release 10 information	This device does not support full CA features on 3GPP Release 10. The following LTE Release 10 features are not supported. Uplink and Downlink Carrier aggregations, Relay, HetNet, Enhanced MIMO, elCl, WiFi offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.	

4.5 SAR Test Configurations

Since the Dedicated Host Approach is applied, the standalone SAR test exclusion procedure in KDB447498 4.3.1 is applied in conjunction with KDB 616217 4.3 to determine the minimum test separation distance:

When the separation distance from the antenna to an adjacent edge is ≤ 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

When the separation distance from the antenna to an adjacent edge is > 5 mm, the actual antenna-to-edge separation distance is applied to determine SAR test exclusion

Maximum Power Condition: Sensor Inactive

Ant.	Band	Freq. [Mhz]	Max. Power		Separation Distances (mm)					SAR Test Exclusion Thresholds (test separation distances <50mm threshold value <3					SAR Test Exclusion Thresholds (test separation distances >50mm Power (mW)				
			(dBm)	(mW)	Rear	Top	Left	Right	Bottom	Rear	Top	Left	Right	Bottom	Rear	Top	Left	Right	Bottom
Main	UMTS B5	846.6	24.5	281.8	1.1	2.5	2.5	72	189	235.7	103.7	103.7	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	287.19	947.54
Main	UMTS B4	1752.6	24.5	281.8	1.1	2.5	2.5	72	189	339.2	149.2	149.2	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	333.31	1503.31
Main	UMTS B2	1 907.6	24.5	281.8	1.1	2.5	2.5	72	189	353.9	155.7	155.7	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	328.60	1498.60
Main	LTE B2	1909.3	24.5	281.8	1.1	2.5	2.5	72	189	354.0	155.8	155.8	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	328.56	1498.56
Main	LTE B4	1754.3	24.5	281.8	1.1	2.5	2.5	72	189	339.4	149.3	149.3	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	333.25	1503.25
Main	LTE B5	848.5	25.0	316.2	1.1	2.5	2.5	72	189	264.8	116.5	116.5	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	287.29	949.12
Main	LTE B7	2567.5	24.0	251.2	1.1	2.5	2.5	72	189	365.9	161.0	161.0	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	220.00	1390.00
Main	LTE B12	715.3	25.5	354.8	1.1	2.5	2.5	72	189	272.8	120.0	120.0	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	282.27	840.20
Main	LTE B13	784.5	25.3	338.8	1.1	2.5	2.5	72	189	272.8	120.0	120.0	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	284.41	896.32
Main	LTE B14	795.5	25.0	316.2	1.1	2.5	2.5	72	189	256.4	112.8	112.8	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	284.85	905.34
Main	LTE B25	1914.3	24.5	281.8	1.1	2.5	2.5	72	189	354.5	156.0	156.0	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	328.41	1498.41
Main	LTE B26	848.3	25.0	316.2	1.1	2.5	2.5	72	189	264.8	116.5	116.5	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	287.28	948.95
Main	LTE B30	2312.5	22.5	177.8	1.1	2.5	2.5	72	189	245.8	108.2	108.2	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	318.64	1488.64
Main	LTE B41 PC2	2687.5	26.5	446.7	1.1	2.5	2.5	72	189	665.7	292.9	292.9	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	311.50	1481.50
Main	LTE B41 PC3	2687.5	23.5	223.9	1.1	2.5	2.5	72	189	333.6	146.8	146.8	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	311.50	1481.50
Main	LTE B66	1779.3	24.5	281.8	1.1	2.5	2.5	72	189	341.8	150.4	150.4	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	332.45	1502.45
Main	LTE B 71	695.5	25	316.2	1.1	2.5	2.5	72	189	452.7	199.2	199.2	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	197.26	739.75
WLAN	2.4GHz WLAN	2 462	20	100.0	1.1	2.5	87.5	2.5	182	142.6	62.8	distances > 50 mm	62.8	distances > 50 mm	distances <50 mm	distances <50 mm	470.60	distances <50 mm	1415.60
	5GHz WLAN	5 825	18	63.1	1.1	2.5	87.5	2.5	182	138.4	60.9	distances > 50 mm	60.9	distances > 50 mm	distances <50 mm	distances <50 mm	437.15	distances <50 mm	1382.15

Reduction Power Condition: Sensor Active
(Proximity sensor power reduction is not applied to the main band on the Right side and Bottom of the DUT.and the WLAN Band on theLeft side and Bottom of the DUT.)

Ant.	Band	Freq. [Mhz]	Max. Power		Separation Distances (mm)					SAR Test Exclusion Thresholds (test separation distances <50mm threshold value <3					SAR Test Exclusion Thresholds (test separation distances >50mm Power (mW)				
			(dBm)	(mW)	Rear	Top	Left	Right	Bottom	Rear	Top	Left	Right	Bottom	Rear	Top	Left	Right	Bottom
Main	UMTS B5	846.6	19.5	89.1	1.1	2.5	2.5	72	189	59.2	26.1	26.1	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	287.19	947.54
Main	UMTS B4	1752.6	18	63.1	1.1	2.5	2.5	72	189	30.2	13.3	13.3	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	333.31	1503.31
Main	UMTS B2	1 907.6	17	50.1	1.1	2.5	2.5	72	189	31.5	13.9	13.9	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	328.60	1498.60
Main	LTE B2	1909.3	14	25.1	1.1	2.5	2.5	72	189	28.1	12.4	12.4	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	328.56	1498.56
Main	LTE B4	1754.3	14	25.1	1.1	2.5	2.5	72	189	33.9	14.9	14.9	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	333.25	1503.25
Main	LTE B5	848.5	13.5	22.4	1.1	2.5	2.5	72	189	59.3	26.1	26.1	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	287.29	949.12
Main	LTE B7	2567.5	13.5	22.4	1.1	2.5	2.5	72	189	29.1	12.8	12.8	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	220.00	1390.00
Main	LTE B12	715.3	14.5	28.2	1.1	2.5	2.5	72	189	43.2	19.0	19.0	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	282.27	840.20
Main	LTE B13	784.5	16	39.8	1.1	2.5	2.5	72	189	45.3	19.9	19.9	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	284.41	896.32
Main	LTE B14	795.5	15.5	35.5	1.1	2.5	2.5	72	189	51.2	22.5	22.5	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	284.85	905.34
Main	LTE B25	1914.3	15.5	35.5	1.1	2.5	2.5	72	189	28.2	12.4	12.4	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	328.41	1498.41
Main	LTE B26	848.3	17	50.1	1.1	2.5	2.5	72	189	52.8	23.2	23.2	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	287.28	948.95
Main	LTE B30	2312.5	15	31.6	1.1	2.5	2.5	72	189	24.6	10.8	10.8	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	318.64	1488.64
Main	LTE B41 PC2	2687.5	14.5	28.2	1.1	2.5	2.5	72	189	33.4	14.7	14.7	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	311.50	1481.50
Main	LTE B41 PC3	2687.5	10	10.0	1.1	2.5	2.5	72	189	33.4	14.7	14.7	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	311.50	1481.50
Main	LTE B66	1779.3	10	10.0	1.1	2.5	2.5	72	189	34.2	15.0	15.0	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	332.45	1502.45
Main	LTE B 71	695.5	19.5	89.1	1.1	2.5	2.5	72	189	57.0	25.1	25.1	distances > 50 mm	distances > 50 mm	distances <50 mm	distances <50 mm	distances <50 mm	197.26	739.75
WLAN	2.4GHz WLAN	2 462	18	63.1	1.1	2.5	87.5	2.5	182	14.3	6.3	distances > 50 mm	6.3	distances > 50 mm	distances <50 mm	distances <50 mm	470.60	distances <50 mm	1415.60
	5GHz WLAN	5 825	17	50.1	1.1	2.5	87.5	2.5	182	21.9	9.7	distances > 50 mm	9.7	distances > 50 mm	distances <50 mm	distances <50 mm	437.15	distances <50 mm	1382.15

SAR Test Configurationa

Ant.	Band	Freq. [MHz]	Separation Distances (mm)					Sensor Inactive					Sensor Inactive				
			Rear	Top	Left	Right	Bottom	Rear	Top	Left	Right	Bottom	Rear	Top	Left	Right	Bottom
Main	UMTS B5	846.6	1.1	2.5	2.5	72	189	Yes	Yes	Yes	No	No	Yes	Yes	Yes	N/A	N/A
Main	UMTS B4	1752.6	1.1	2.5	2.5	72	189	Yes	Yes	Yes	No	No	Yes	Yes	Yes	N/A	N/A
Main	UMTS B2	1 907.6	1.1	2.5	2.5	72	189	Yes	Yes	Yes	No	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B2	1909.3	1.1	2.5	2.5	72	189	Yes	Yes	Yes	No	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B4	1754.3	1.1	2.5	2.5	72	189	Yes	Yes	Yes	No	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B5	848.5	1.1	2.5	2.5	72	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B7	2567.5	1.1	2.5	2.5	72	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B12	715.3	1.1	2.5	2.5	72	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B13	784.5	1.1	2.5	2.5	72	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B14	795.5	1.1	2.5	2.5	72	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B25	1914.3	1.1	2.5	2.5	72	189	Yes	Yes	Yes	No	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B26	848.3	1.1	2.5	2.5	72	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B30	2312.5	1.1	2.5	2.5	72	189	Yes	Yes	Yes	No	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B41 PC2	2687.5	1.1	2.5	2.5	72	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B41 PC3	2687.5	1.1	2.5	2.5	72	189	Yes	Yes	Yes	No	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B66	1779.3	1.1	2.5	2.5	72	189	Yes	Yes	Yes	No	No	Yes	Yes	Yes	N/A	N/A
Main	LTE B 71	695.5	1.1	2.5	2.5	72	189	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	N/A	N/A
WLAN	2.4GHz WLAN	2 462	1.1	2.5	87.5	2.5	182	Yes	Yes	No	Yes	No	Yes	Yes	N/A	Yes	N/A
	5GHz WLAN	5 825	1.1	2.5	87.5	2.5	182	Yes	Yes	No	Yes	No	Yes	Yes	N/A	Yes	N/A

Antennas <50mm to adjacent edges: According to KDB 447498 D01v06, if the calculated threshold value >3 then SAR test is required.
Antennas >50mm to adjacent edges: According to KDB 447498 D01v06, if the power threshold is less than the output power, SAR is required.
Per FCC KDB 447498 D01v06, The SAR exclusion threshold for distance < 50 mm is defined by the following equation:

$$\frac{MaxPowerofChannel(mW)}{TestSeparationDistance(mm)} * \sqrt{Frequency(GHz)} \leq 3.0(1g\ \text{SAR}), 7.5(10g\ \text{SAR})$$

Antennas >50mm to adjacent edges: According to KDB 447498 D01v06, if the power threshold is less than the output power , SAR is required.

Per KDB 447498 D01v06 Sec 4.3.1 b) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B)

1) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·(f(MHz)/150)]} mW, for 100 MHz to 1500 MHz

2) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and ≤ 6 GHz

Additional Test Scenarios

Test Configurations	SAR Required	Note
Left Corner	Yes	Main Band : UMTS B2, B4, B5 LTE B2,B4,B5,B7,B12,B13,B14,B25,B26,B30, B41, B66, B71
Right Corner	Yes	2.4 ㎓ WLAN, 5 ㎓ WLAN

Note; All test configurations are based on front view.
Per FCC KDB Publication 616217 D04v01r02, the rear surface and edges of tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR Exclusion Threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closet distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

Additional Guidance KDB inquiry:
- Additional SAR test for corner side – KDB guidance to identify that SAR test when sensor and Antenna is located near the corner side.

4.6 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.

Simultaneous transmission paths

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

Simultaneous Transmission Scenarios	
Applicable Combination	**Body**
UMTS + 2.4 GHz WiFi Antenna	Yes
UMTS + 5 GHz WiFi Antenna	Yes
UMTS + 2.4 GHz Bluetooth	Yes
LTE + 2.4 GHz WiFi Antenna	Yes
LTE + 5 GHz WiFi Antenna	Yes
LTE + 2.4 GHz Bluetooth	Yes

4.7 SAR Test Considerations

4.7.1 WiFi

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

This device supports IEEE 802.11 ac with the following features:

a) Up to 80 ㎒ Bandwidth only
b) No aggregate channel configurations
c) 1Tx antenna output
d) 256 QAM is supported
e) TDWR channels are supported.
f) Straddle channels are supported

4.7.2 Bluetooth LE

Per FCC KDB 447498 D01v06, The SAR exclusion threshold for distance < 50mm is defined by the following equation:

$$\frac{MaxPowerofChannel(mW)}{TestSeparationDistance(mm)} * \sqrt{Frequency(GHz)} \leq 3.0(1g\ \ SAR), 7.5(10g\ \ SAR)$$

Mode		Frequency	Maximum Allowed Power	Separation Distance	≤ 3.0
		[㎒]	[mW]	[mm]	1-g SAR
Bluetooth LE	Body SAR	2 480	3.0	5	0.9

Based on the maximum conducted power of Bluetooth LE and antenna to use separation distance, Bluetooth LE SAR was not required [(3/5)*√2.480] = 0.9 ≤ 3.0 for 1-g SAR.

The Reported SAR for WLAN and Bluetooth

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

4.7.3 Licensed Transmitter(s)

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.

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.

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

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

LTE Band 4 (1 710.7 ㎒ ~ 1 754.3 ㎒) is covered by LTE Band 66 (1 710.7 ㎒ ~ 1 779.3 ㎒), LTE Band 2 (1 850.7 ㎒ ~ 1 909.3 ㎒) is covered by LTE Band 25 (1850.7 ㎒ ~ 1914.3 ㎒)and each both LTE bands have the same target powers.

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.

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

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

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

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

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

$Ri_i$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 $[(\mathrm{X}_1 - \mathrm{X}_2)^2 + (\mathrm{Y}_1 - \mathrm{Y}_2)^2 + (\mathrm{Z}_1 - \mathrm{Z}_2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum 1-g of SAR> 1.6 W/kg and with the sum 10-g of SAR >4W/Kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:
$(SAR_1 + SAR_2)^{1.5}/R_i \leq 0.04$ for 1g SAR and $(SAR_1 + SAR_2)^{1.5}/R_i \leq 0.1$ for 10g SAR.

5. Introduction

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

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

SAR Definition

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

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

Figure 1. SAR Mathematical Equation

SAR is expressed in units of Watts per Kilogram (W/kg)

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

Where:

σ = conductivity of the tissue-simulant material (S/m)

ρ = mass density of the tissue-simulant material (kg/㎥)

E = 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.

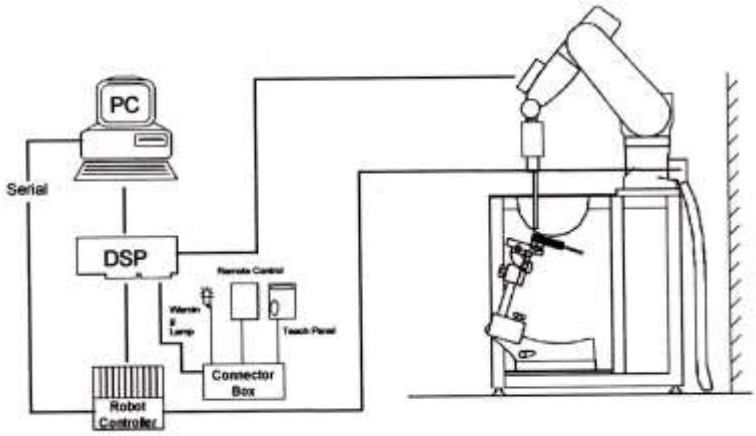


Figure 2. HCT SAR Lab. Test Measurement Set-up

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.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5±1 mm</td><td>$^1/_2 \cdot \delta \cdot \ln(2) \pm 0.5$ mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface
normal at the measurement location</td><td>30°±1°</td><td>20°±1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan Spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤15 mm
2-3 GHz: ≤12 mm</td><td>3-4 GHz: ≤12 mm
4-6 GHz: ≤10 mm</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td colspan="3">Maximum zoom scan Spatial resolution: Δx_{zoom}, Δy_{zoom}</td><td>≤ 2 GHz: ≤8mm
2-3 GHz: ≤5mm*</td><td>3-4 GHz: ≤5 mm*
4-6 GHz: ≤4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan Spatial resolution normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{zoom}(n)$</td><td>≤ 5 mm</td><td>3-4 GHz: ≤4 mm
4-5 GHz: ≤3 mm
5-6 GHz: ≤2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{zoom}(1)$: between 1 st two Points closest to phantom surface</td><td>≤ 4 mm</td><td>3-4 GHz: ≤3 mm
4-5 GHz: ≤2.5 mm
5-6 GHz: ≤2 mm</td></tr>
<tr><td>$\Delta z_{zoom}(n>1)$: between subsequent Points</td><td colspan="2">$\leq 1.5 \cdot \Delta z_{zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3-4 GHz: ≥28 mm
4-5 GHz: ≥25 mm
5-6 GHz: ≥22 mm</td></tr>
<tr><td colspan="5">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.</td></tr>
</table>

8. Description of Test Position

8.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε and loss tangent δ=0.02.

8.2 SAR Testing for Tablet Per KDB Publication 616217 D04v01r02

Per FCC KDB Publication 616217 D04v01r02, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR Exclusion Threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configuration. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

8.3 Proximity Sensor Considerations.

This device uses a sensor to reduce output powers in certain use conditions when the device is used close the user's body.

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 Section 8 and additional FCC guidance were 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 evaluation is provided in a separate document.

The required separation distance to evaluate SAR at full powers were:
Main Antenna Modes :Rear 22mm, top edge 19mm, Left edge 11mm, Left Corner 6mm, Left corner 15mm,Right side 0mm (no sensor coverage)
WIFI Antenna Modes: Rear 12mm, top edge 11mm, Right edge 3mm,Right Corner 9mm, Left side 0mm (no sensor coverage)

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 * (Head)	1.60	8.00
SPATIAL AVERAGE SAR ** (Whole Body)	0.08	0.40
SPATIAL PEAK SAR *** (Hands / Feet / Ankle / Wrist)	4.00	20.00

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 mad 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 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 Cheek 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

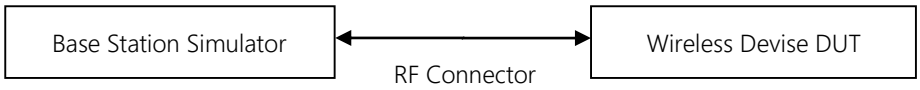
The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control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

10.3.5 DC-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.
   The required channel and offset combination with the highest maximum output power is required for SAR.

   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.

   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. The configuration with the highest duty cycle was used for Power class 3(uplink- downlink configuration 0 at 63.3%). Power class 2(HPUE) does not support uplink-downlink configuration 0 and 6, therefore the highest available duty cycle was used for Power class 2(uplink-downlink configuration 1 at 43.3%).
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	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Calculated Duty Cycle – Extended cyclic prefix in uplink x (T_s) x # of S + # 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 x (1/(15000 x 2048)) x 2 + 0.006)/0.01 = 63.33 %
Where
T_s = 1/(15000 x 2048) seconds

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

10.5 SAR Testing with 802.11 Transmitters

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

10.5.1 General Device Setup

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

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

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

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

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

The frequency range covered by U-NII-2C and U-NII-3 is 380 ㎒ (5.47 ㎓ ~ 5.85 ㎓), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 ㎓ ~ 5.65 ㎓ 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 2.4 ㎓ SAR test Requirements

SAR is measured for 2.4 ㎓ 802.11b DSSS using either the fixed test position 2.4 ㎓ 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.

10.5.5 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.2., 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.

10.5.6 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.

10.5.7 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

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

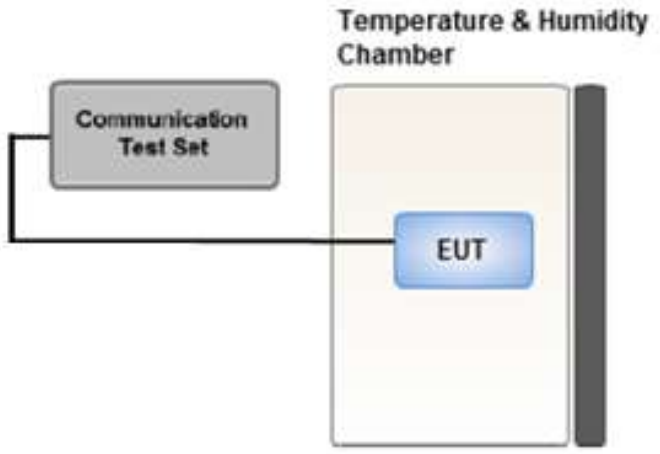
According to ANSI C63.26-2015 Section 5.2.1 when measuring the maximum RF output power from such devices, control over the EUT must be provided either through special test software (provided by manufacturer specifically for compliance testing, but not accessible by an end user) or through use of a base 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 UMTS Maximum Conducted Output Power

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.

11.1.1 UMTS Maximum Conducted Output Power

WCDMA Band 2

3GPP Release Version	Mode	3GPP 34.121	WCDMA Band 2 [dBm]			3GPP MPR
		Subtest	UL 9262 DL 9662	UL 9400 DL 9800	UL 9538 DL 9938	
99	WCDMA	12.2 kbps RMC	23.11	23.13	23.28	-
5	HSDPA	Subtest 1	22.96	22.98	23.16	0
5		Subtest 2	23.01	23.06	23.25	0
5		Subtest 3	23.04	23.12	23.31	0.5
5		Subtest 4	21.96	21.99	22.22	0.5
6	HSUPA	Subtest 1	21.89	21.92	22.17	0
6		Subtest 2	19.44	19.51	19.74	2
6		Subtest 3	20.55	20.63	20.79	1
6		Subtest 4	19.46	19.49	19.73	2
6		Subtest 5	21.89	21.93	22.15	0
8	DC-HSDPA	Subtest 1	23.01	23.15	23.18	0
8		Subtest 2	23.18	23.31	23.28	0
8		Subtest 3	22.22	22.34	22.24	0.5
8		Subtest 4	22.23	22.32	22.22	0.5

WCDMA Average Conducted output powers

WCDMA Band 4

3GPP Release Version	Mode	3GPP 34.121	WCDMA Band 4 [dBm]			3GPP MPR
		Subtest	UL 1312 DL 1537	UL 1412 DL 1637	UL 1513 DL 1738	
99	WCDMA	12.2 kbps RMC	23.76	23.79	23.82	-
5	HSDPA	Subtest 1	23.54	23.56	23.60	0
5		Subtest 2	23.05	23.12	23.18	0
5		Subtest 3	23.10	23.18	23.21	0.5
5		Subtest 4	22.11	22.14	22.17	0.5
6	HSUPA	Subtest 1	21.57	21.64	21.66	0
6		Subtest 2	19.02	19.07	19.12	2
6		Subtest 3	19.86	20.11	20.15	1
6		Subtest 4	19.03	19.06	19.11	2
6		Subtest 5	21.60	21.62	21.63	0
8	DC-HSDPA	Subtest 1	23.60	23.57	23.50	0
8		Subtest 2	23.30	23.24	23.29	0
8		Subtest 3	22.45	22.38	22.36	0.5
8		Subtest 4	22.47	22.37	22.36	0.5

WCDMA Average Conducted output powers

WCDMA Band 5

3GPP Release Version	Mode	3GPP 34.121 Subtest	WCDMA Band 5 [dBm] UL 4132 DL 4357	UL 4183 DL 4408	UL 4233 DL 4458	3GPP MPR
99	WCDMA	12.2 kbps RMC	23.20	23.10	23.00	-
5	HSDPA	Subtest 1	23.05	22.98	22.88	0
5		Subtest 2	22.10	21.93	21.91	0
5		Subtest 3	22.11	22.04	21.95	0.5
5		Subtest 4	22.17	22.08	22.04	0.5
6	HSUPA	Subtest 1	22.09	21.99	21.93	0
6		Subtest 2	20.13	20.02	19.95	2
6		Subtest 3	21.15	21.09	21.03	1
6		Subtest 4	20.14	20.06	19.95	2
6		Subtest 5	21.17	21.08	21.04	0
8	DC-HSDPA	Subtest 1	22.93	23.02	23.04	0
8		Subtest 2	23.11	23.20	23.13	0
8		Subtest 3	22.25	22.28	22.16	0.5
8		Subtest 4	22.25	22.25	22.23	0.5

WCDMA Average Conducted output powers

11.1.2 UMTS Reduced Conducted Output Power – Proximity Sensor activated

WCDMA Band 2
When Power reduction is applied , MPR set to 0

3GPP Release Version	Mode	3GPP 34.121 Subtest	WCDMA Band 2 [dBm] UL 9262 DL 9662	UL 9400 DL 9800	UL 9538 DL 9938	3GPP MPR
99	WCDMA	12.2 kbps RMC	13.11	13.15	13.14	-
5	HSDPA	Subtest 1	12.78	12.96	12.80	0
5		Subtest 2	12.80	12.99	12.87	0
5		Subtest 3	12.86	12.93	12.90	0
5		Subtest 4	12.86	13.06	12.91	0
6	HSUPA	Subtest 1	12.88	13.14	12.87	0
6		Subtest 2	12.90	13.10	12.93	0
6		Subtest 3	12.91	13.16	12.91	0
6		Subtest 4	12.91	13.04	12.96	0
6		Subtest 5	12.86	13.12	12.85	0
8	DC-HSDPA	Subtest 1	12.61	12.75	12.26	0
8		Subtest 2	12.62	12.72	12.29	0
8		Subtest 3	12.66	12.67	12.30	0
8		Subtest 4	12.63	12.71	12.32	0

WCDMA Average Conducted output powers

WCDMA Band 4

3GPP Release Version	Mode	3GPP 34.121 Subtest	WCDMA Band 5 [dBm] UL 1312 DL 1537	UL 1412 DL 1637	UL 1513 DL 1738	3GPP MPR
99	WCDMA	12.2 kbps RMC	13.32	13.35	13.10	-
5	HSDPA	Subtest 1	13.09	13.14	12.96	0
5		Subtest 2	13.18	13.12	12.99	0
5		Subtest 3	13.14	13.18	12.99	0
5		Subtest 4	13.20	13.27	12.98	0
6	HSUPA	Subtest 1	13.30	13.25	13.06	0
6		Subtest 2	13.33	13.27	13.08	0
6		Subtest 3	13.36	13.30	13.13	0
6		Subtest 4	13.29	13.23	13.06	0
6		Subtest 5	13.22	13.20	13.02	0
8	DC-HSDPA	Subtest 1	12.70	12.69	12.51	0
8		Subtest 2	12.76	12.73	12.55	0
8		Subtest 3	12.74	12.71	12.53	0
8		Subtest 4	12.79	12.75	12.57	0

WCDMA Average Conducted output powers

WCDMA Band 5

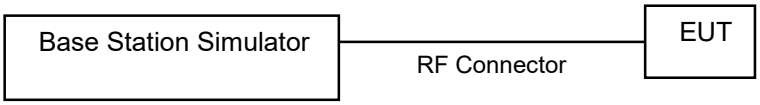
3GPP Release Version	Mode	3GPP 34.121 Subtest	WCDMA Band 5 [dBm] UL 4132 DL 4357	UL 4183 DL 4408	UL 4233 DL 4458	3GPP MPR
99	WCDMA	12.2 kbps RMC	17.74	17.73	17.30	-
5	HSDPA	Subtest 1	17.52	17.53	17.11	0
5		Subtest 2	17.39	17.39	16.93	0
5		Subtest 3	17.37	17.38	16.92	0
5		Subtest 4	17.49	17.49	17.09	0
6	HSUPA	Subtest 1	17.47	17.47	16.96	0
6		Subtest 2	17.32	17.33	16.91	0
6		Subtest 3	17.42	17.28	16.85	0
6		Subtest 4	17.27	17.28	16.86	0
6		Subtest 5	17.50	17.50	16.99	0
8	DC-HSDPA	Subtest 1	17.13	17.66	17.26	0
8		Subtest 2	17.18	17.61	17.31	0
8		Subtest 3	17.14	17.55	17.34	0
8		Subtest 4	17.14	17.58	17.35	0

WCDMA 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.

It is expected by the manufacturer that MPR for some HSPA Subtests may be up to 2 dB more than specified by 3GPP, But also as low as 1 dB according to the chipset implementation in this model to match manufacturer.



11.2 LTE Maximum Output Power

11.2.1 LTE Maximum Conducted Power

LTE Band 2 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18607 Ch. 1850.7 ㎒	18900 Ch. 1880 ㎒	19193 Ch. 1909.3 ㎒		
1.4 ㎒	QPSK	1	0	23.13	23.22	23.53	0	0
		1	3	23.19	23.23	23.52	0	0
		1	5	23.15	23.22	23.49	0	0
		3	0	23.21	23.27	23.51	0	0
		3	1	23.25	23.29	23.51	0	0
		3	3	23.18	23.27	23.54	0	0
		6	0	22.10	22.21	22.41	0-1	1
	16QAM	1	0	21.99	22.00	22.27	0-1	1
		1	3	21.90	21.91	22.23	0-1	1
		1	5	21.80	21.94	22.22	0-1	1
		3	0	22.10	22.19	22.47	0-1	1
		3	1	22.19	22.12	22.37	0-1	1
		3	3	22.12	22.14	22.37	0-1	1
		6	0	21.16	21.13	21.43	0-2	2
	64QAM	1	0	21.03	21.05	21.42	0-2	2
		1	3	21.19	21.20	21.46	0-2	2
		1	5	21.10	21.25	21.44	0-2	2
		3	0	21.07	21.19	21.44	0-2	2
		3	1	21.27	21.11	21.44	0-2	2
		3	3	21.18	21.15	21.40	0-2	2
		6	0	20.14	20.22	20.43	0-3	3

LTE Band 2 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18615 Ch. 1851.5 ㎒	18900 Ch. 1880 ㎒	19185 Ch. 1908.5 ㎒		
3 ㎒	QPSK	1	0	23.21	23.30	23.57	0	0
		1	7	23.25	23.27	23.56	0	0
		1	14	23.20	23.31	23.56	0	0
		8	0	22.14	22.22	22.51	0-1	1
		8	3	22.19	22.16	22.50	0-1	1
		8	7	22.15	22.17	22.49	0-1	1
		15	0	22.20	22.21	22.49	0-1	1
	16QAM	1	0	21.97	21.91	22.35	0-1	1
		1	7	21.88	21.85	22.18	0-1	1
		1	14	21.87	21.93	22.17	0-1	1
		8	0	21.12	21.19	21.40	0-2	2
		8	3	21.16	21.13	21.42	0-2	2
		8	7	21.11	21.15	21.38	0-2	2
		15	0	21.09	21.09	21.41	0-2	2
	64QAM	1	0	21.01	20.85	21.41	0-2	2
		1	7	20.85	20.96	21.33	0-2	2
		1	14	21.05	20.95	21.38	0-2	2
		8	0	20.13	20.17	20.41	0-3	3
		8	3	20.19	20.19	20.36	0-3	3
		8	7	20.10	20.15	20.39	0-3	3
		15	0	20.15	20.19	20.45	0-3	3

LTE Band 2 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18625 Ch. 1852.5 ㎒	18900 Ch. 1880 ㎒	19175 Ch. 1907.5 ㎒		
5 ㎒	QPSK	1	0	23.24	23.35	23.63	0	0
		1	12	23.29	23.38	23.69	0	0
		1	24	23.27	23.35	23.60	0	0
		12	0	22.16	22.15	22.47	0-1	1
		12	6	22.17	22.19	22.48	0-1	1
		12	11	22.12	22.14	22.44	0-1	1
		25	0	22.12	22.19	22.47	0-1	1
	16QAM	1	0	21.98	22.03	22.38	0-1	1
		1	12	22.04	21.92	22.27	0-1	1
		1	24	21.97	22.04	22.28	0-1	1
		12	0	21.09	21.17	21.40	0-2	2
		12	6	21.03	21.05	21.44	0-2	2
		12	11	21.05	21.11	21.33	0-2	2
		25	0	21.14	21.21	21.44	0-2	2
	64QAM	1	0	21.08	21.06	21.39	0-2	2
		1	12	21.03	21.06	21.32	0-2	2
		1	24	20.94	21.14	21.37	0-2	2
		12	0	20.17	20.15	20.44	0-3	3
		12	6	20.13	20.22	20.50	0-3	3
		12	11	20.10	20.17	20.38	0-3	3
		25	0	20.18	20.19	20.47	0-3	3

LTE Band 2 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18650 Ch. 1855 ㎒	18900 Ch. 1880 ㎒	19150 Ch. 1905 ㎒		
10 ㎒	QPSK	1	0	23.33	23.39	23.64	0	0
		1	24	23.28	23.40	23.62	0	0
		1	49	23.19	23.39	23.60	0	0
		25	0	22.10	22.21	22.45	0-1	1
		25	12	22.11	22.18	22.44	0-1	1
		25	24	22.04	22.16	22.44	0-1	1
		50	0	22.11	22.19	22.43	0-1	1
	16QAM	1	0	22.05	22.19	22.51	0-1	1
		1	24	22.07	22.04	22.38	0-1	1
		1	49	21.88	21.96	22.27	0-1	1
		25	0	21.07	21.13	21.44	0-2	2
		25	12	21.08	21.15	21.44	0-2	2
		25	24	21.09	21.17	21.44	0-2	2
		50	0	21.11	21.09	21.37	0-2	2
	64QAM	1	0	21.05	21.01	21.48	0-2	2
		1	24	21.13	21.05	21.31	0-2	2
		1	49	20.99	21.12	21.37	0-2	2
		25	0	20.17	20.29	20.44	0-3	3
		25	12	20.17	20.12	20.42	0-3	3
		25	24	20.11	20.24	20.43	0-3	3
		50	0	20.11	20.23	20.47	0-3	3

LTE Band 2 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18675 Ch. 1857.5 ㎒	18900 Ch. 1880 ㎒	19125 Ch. 1902.5 ㎒		
15 ㎒	QPSK	1	0	23.40	23.42	23.71	0	0
		1	36	23.29	23.36	23.54	0	0
		1	74	23.26	23.34	23.52	0	0
		36	0	22.12	22.16	22.46	0-1	1
		36	18	22.12	22.16	22.46	0-1	1
		36	39	22.07	22.21	22.43	0-1	1
		75	0	22.13	22.16	22.49	0-1	1
	16QAM	1	0	22.14	22.05	22.41	0-1	1
		1	36	21.96	22.04	22.38	0-1	1
		1	74	21.96	22.04	22.36	0-1	1
		36	0	21.14	21.14	21.42	0-2	2
		36	18	21.13	21.16	21.38	0-2	2
		36	39	21.01	21.11	21.41	0-2	2
		75	0	21.12	21.17	21.36	0-2	2
	64QAM	1	0	21.27	21.13	21.28	0-2	2
		1	36	21.16	21.21	21.36	0-2	2
		1	74	21.15	21.15	21.45	0-2	2
		36	0	20.23	20.23	20.46	0-3	3
		36	18	20.15	20.21	20.46	0-3	3
		36	39	20.17	20.25	20.43	0-3	3
		75	0	20.11	20.20	20.48	0-3	3

LTE Band 2 _ 20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 ㎒	18900 Ch. 1880 ㎒	19100 Ch. 1900 ㎒		
20 ㎒	QPSK	1	0	23.38	23.37	**23.67**	0	0
		1	49	23.25	23.33	23.60	0	0
		1	99	23.26	23.32	23.53	0	0
		50	0	22.22	22.21	22.44	0-1	1
		50	25	22.16	22.17	**22.45**	0-1	1
		50	49	22.17	22.16	22.42	0-1	1
		100	0	22.18	22.19	22.41	0-1	1
	16QAM	1	0	22.06	22.12	22.39	0-1	1
		1	49	22.00	22.02	22.27	0-1	1
		1	99	22.01	22.03	22.33	0-1	1
		50	0	21.14	21.22	21.35	0-2	2
		50	25	21.18	21.17	21.36	0-2	2
		50	49	21.12	21.11	21.34	0-2	2
		100	0	21.11	21.07	21.35	0-2	2
	64QAM	1	0	21.20	21.22	21.40	0-2	2
		1	49	21.07	21.22	21.25	0-2	2
		1	99	20.98	21.11	21.16	0-2	2
		50	0	20.19	20.22	20.38	0-3	3
		50	25	20.13	20.19	20.41	0-3	3
		50	49	20.11	20.15	20.39	0-3	3
		100	0	20.17	20.22	20.45	0-3	3

[LTE Band 4 Conducted Power]

LTE Band 4 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19957 Ch. 1710.7 ㎒	20175 Ch. 1732.5 ㎒	20393 Ch. 1754.3 ㎒		
1.4 ㎒	QPSK	1	0	23.42	23.58	23.49	0	0
		1	3	23.38	23.52	23.52	0	0
		1	5	23.33	23.48	23.51	0	0
		3	0	23.35	23.58	23.52	0	0
		3	1	23.36	23.54	23.43	0	0
		3	3	23.34	23.52	23.51	0	0
		6	0	22.31	22.50	22.49	0-1	1
	16QAM	1	0	22.14	22.31	22.26	0-1	1
		1	3	22.12	22.27	22.28	0-1	1
		1	5	22.00	22.35	22.19	0-1	1
		3	0	22.26	22.51	22.44	0-1	1
		3	1	22.29	22.48	22.40	0-1	1
		3	3	22.24	22.47	22.44	0-1	1
		6	0	21.29	21.45	21.44	0-2	2
	64QAM	1	0	21.30	21.58	21.38	0-2	2
		1	3	21.20	21.54	21.49	0-2	2
		1	5	21.15	21.47	21.39	0-2	2
		3	0	21.30	21.56	21.44	0-2	2
		3	1	21.33	21.52	21.60	0-2	2
		3	3	21.30	21.49	21.56	0-2	2
		6	0	20.18	20.44	20.41	0-3	3

LTE Band 4 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19965 Ch. 1711.5 ㎒	20175 Ch. 1732.5 ㎒	20385 Ch. 1753.5 ㎒		
3 ㎒	QPSK	1	0	23.30	23.61	23.63	0	0
		1	7	23.38	23.60	23.52	0	0
		1	14	23.35	23.64	23.49	0	0
		8	0	22.30	22.52	22.49	0-1	1
		8	3	22.29	22.50	22.53	0-1	1
		8	7	22.32	22.47	22.50	0-1	1
		15	0	22.36	22.56	22.48	0-1	1
	16QAM	1	0	22.01	22.33	22.28	0-1	1
		1	7	22.04	22.26	22.07	0-1	1
		1	14	21.95	22.22	22.37	0-1	1
		8	0	21.32	21.52	21.42	0-2	2
		8	3	21.26	21.46	21.49	0-2	2
		8	7	21.35	21.43	21.41	0-2	2
		15	0	21.30	21.46	21.49	0-2	2
	64QAM	1	0	21.17	21.32	21.44	0-2	2
		1	7	21.34	21.45	21.45	0-2	2
		1	14	21.20	21.38	21.30	0-2	2
		8	0	20.30	20.54	20.48	0-3	3
		8	3	20.33	20.49	20.47	0-3	3
		8	7	20.34	20.48	20.42	0-3	3
		15	0	20.29	20.49	20.49	0-3	3

LTE Band 4 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19975 Ch. 1712.5 ㎒	20175 Ch. 1732.5 ㎒	20375 Ch. 1752.5 ㎒		
5 ㎒	QPSK	1	0	23.50	23.68	23.64	0	0
		1	12	23.48	23.64	23.58	0	0
		1	24	23.44	23.64	23.60	0	0
		12	0	22.36	22.51	22.52	0-1	1
		12	6	22.28	22.58	22.52	0-1	1
		12	11	22.30	22.51	22.53	0-1	1
		25	0	22.35	22.52	22.50	0-1	1
	16QAM	1	0	22.21	22.35	22.29	0-1	1
		1	12	22.09	22.36	22.36	0-1	1
		1	24	22.06	22.31	22.33	0-1	1
		12	0	21.34	21.44	21.40	0-2	2
		12	6	21.37	21.36	21.48	0-2	2
		12	11	21.31	21.44	21.45	0-2	2
		25	0	21.36	21.51	21.49	0-2	2
	64QAM	1	0	21.29	21.32	21.52	0-2	2
		1	12	21.30	21.40	21.46	0-2	2
		1	24	21.24	21.38	21.47	0-2	2
		12	0	20.33	20.46	20.48	0-3	3
		12	6	20.30	20.47	20.45	0-3	3
		12	11	20.27	20.41	20.45	0-3	3
		25	0	20.36	20.53	20.47	0-3	3

LTE Band 4 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20000 Ch. 1715 ㎒	20175 Ch. 1732.5 ㎒	20350 Ch. 1750 ㎒		
10 ㎒	QPSK	1	0	23.56	23.71	23.74	0	0
		1	24	23.51	23.70	23.76	0	0
		1	49	23.48	23.67	23.67	0	0
		25	0	22.42	22.55	22.60	0-1	1
		25	12	22.35	22.56	22.61	0-1	1
		25	24	22.38	22.49	22.58	0-1	1
		50	0	22.33	22.54	22.61	0-1	1
	16QAM	1	0	22.32	22.45	22.47	0-1	1
		1	24	22.25	22.37	22.31	0-1	1
		1	49	22.06	22.31	22.30	0-1	1
		25	0	21.32	21.54	21.57	0-2	2
		25	12	21.34	21.49	21.49	0-2	2
		25	24	21.37	21.45	21.47	0-2	2
		50	0	21.36	21.53	21.54	0-2	2
	64QAM	1	0	21.43	21.47	21.58	0-2	2
		1	24	21.23	21.58	21.58	0-2	2
		1	49	21.35	21.46	21.37	0-2	2
		25	0	20.39	20.50	20.58	0-3	3
		25	12	20.33	20.48	20.53	0-3	3
		25	24	20.31	20.51	20.53	0-3	3
		50	0	20.31	20.47	20.47	0-3	3

LTE Band 4 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20025 Ch. 1717.5 ㎒	20175 Ch. 1732.5 ㎒	20325 Ch. 1747.5 ㎒		
15 ㎒	QPSK	1	0	23.56	23.69	23.72	0	0
		1	36	23.62	23.61	23.68	0	0
		1	74	23.54	23.67	23.64	0	0
		36	0	22.42	22.48	22.59	0-1	1
		36	18	22.43	22.49	22.59	0-1	1
		36	39	22.40	22.56	22.52	0-1	1
		75	0	22.42	22.51	22.59	0-1	1
	16QAM	1	0	22.34	22.39	22.53	0-1	1
		1	36	22.33	22.33	22.45	0-1	1
		1	74	22.30	22.40	22.39	0-1	1
		36	0	21.44	21.54	21.53	0-2	2
		36	18	21.35	21.48	21.52	0-2	2
		36	39	21.33	21.49	21.49	0-2	2
		75	0	21.43	21.49	21.56	0-2	2
	64QAM	1	0	21.58	21.54	21.46	0-2	2
		1	36	21.43	21.42	21.39	0-2	2
		1	74	21.41	21.53	21.46	0-2	2
		36	0	20.40	20.55	20.53	0-3	3
		36	18	20.38	20.50	20.54	0-3	3
		36	39	20.39	20.52	20.50	0-3	3
		75	0	20.38	20.46	20.48	0-3	3

LTE Band 4 _ 20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20175 Ch. 1732.5 ㎒		
20 ㎒	QPSK	1	0	**23.75**	0	0
		1	49	23.69	0	0
		1	99	23.74	0	0
		50	0	**22.57**	0-1	1
		50	25	22.54	0-1	1
		50	49	22.57	0-1	1
		100	0	22.53	0-1	1
	16QAM	1	0	22.44	0-1	1
		1	49	22.50	0-1	1
		1	99	22.40	0-1	1
		50	0	21.54	0-2	2
		50	25	21.59	0-2	2
		50	49	21.47	0-2	2
		100	0	21.52	0-2	2
	64QAM	1	0	21.54	0-2	2
		1	49	21.43	0-2	2
		1	99	21.43	0-2	2
		50	0	20.53	0-3	3
		50	25	20.49	0-3	3
		50	49	20.47	0-3	3
		100	0	20.58	0-3	3

Note: LTE Band 4 (AWS) at 20 ㎒ 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.

[LTE Band 5 Conducted Power]

LTE Band 5 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20407 Ch. 824.7 ㎒	20525 Ch. 836.5 ㎒	20643 Ch. 848.3 ㎒		
1.4 ㎒	QPSK	1	0	24.04	24.07	23.99	0	0
		1	3	24.07	24.07	23.99	0	0
		1	5	24.05	24.07	24.00	0	0
		3	0	24.08	24.09	23.99	0	0
		3	1	24.07	24.12	24.00	0	0
		3	3	24.10	24.08	23.97	0	0
		6	0	23.01	23.03	22.90	0-1	1
	16QAM	1	0	22.94	22.64	22.82	0-1	1
		1	3	22.87	22.78	22.74	0-1	1
		1	5	22.97	22.83	22.66	0-1	1
		3	0	22.99	22.99	22.98	0-1	1
		3	1	22.96	22.94	22.96	0-1	1
		3	3	23.04	22.96	22.93	0-1	1
		6	0	22.15	22.12	21.99	0-2	2
	64QAM	1	0	22.15	22.03	21.94	0-2	2
		1	3	22.20	22.10	21.97	0-2	2
		1	5	22.04	22.09	22.04	0-2	2
		3	0	22.20	22.09	22.00	0-2	2
		3	1	22.16	22.05	21.97	0-2	2
		3	3	22.11	22.16	21.95	0-2	2
		6	0	21.07	21.03	20.98	0-3	3

LTE Band 5 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20415 Ch. 825.5 ㎒	20525 Ch. 836.5 ㎒	20635 Ch. 847.5 ㎒		
3 ㎒	QPSK	1	0	24.16	24.10	24.05	0	0
		1	7	24.10	24.09	24.09	0	0
		1	14	24.08	24.07	24.03	0	0
		8	0	23.07	23.05	22.93	0-1	1
		8	3	23.07	23.01	22.94	0-1	1
		8	7	23.10	23.03	22.92	0-1	1
		15	0	23.08	23.01	22.91	0-1	1
	16QAM	1	0	22.79	22.90	22.70	0-1	1
		1	7	22.84	22.90	22.84	0-1	1
		1	14	22.80	22.80	22.75	0-1	1
		8	0	22.21	22.02	21.95	0-2	2
		8	3	22.15	22.06	22.05	0-2	2
		8	7	22.12	22.13	22.01	0-2	2
		15	0	22.12	22.12	22.04	0-2	2
	64QAM	1	0	22.06	21.92	21.92	0-2	2
		1	7	22.11	22.03	21.99	0-2	2
		1	14	22.18	22.08	21.94	0-2	2
		8	0	21.11	21.04	21.01	0-3	3
		8	3	21.04	21.04	20.92	0-3	3
		8	7	21.10	21.01	21.00	0-3	3
		15	0	21.07	21.11	20.99	0-3	3

LTE Band 5 _ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20425 Ch. 826.5 MHz	20525 Ch. 836.5 MHz	20625 Ch. 846.5 MHz		
5 MHz	QPSK	1	0	24.20	24.16	24.12	0	0
		1	12	24.12	24.19	24.15	0	0
		1	24	24.17	24.16	24.13	0	0
		12	0	23.07	23.01	22.95	0-1	1
		12	6	23.07	23.03	22.93	0-1	1
		12	11	23.03	23.01	22.99	0-1	1
		25	0	23.08	23.01	22.96	0-1	1
	16QAM	1	0	22.88	22.78	22.92	0-1	1
		1	12	22.76	22.90	22.87	0-1	1
		1	24	22.72	22.80	22.83	0-1	1
		12	0	22.10	22.11	22.07	0-2	2
		12	6	22.15	22.04	22.02	0-2	2
		12	11	22.11	22.06	22.01	0-2	2
		25	0	22.17	22.10	22.07	0-2	2
	64QAM	1	0	22.21	22.02	22.19	0-2	2
		1	12	22.04	21.99	22.08	0-2	2
		1	24	22.01	22.20	22.06	0-2	2
		12	0	21.09	21.09	21.02	0-3	3
		12	6	21.11	21.04	21.02	0-3	3
		12	11	21.07	21.06	20.95	0-3	3
		25	0	21.14	21.05	21.08	0-3	3

LTE Band 5 _ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20525 Ch. 836.5 MHz		
10 MHz	QPSK	1	0	**24.25**	0	0
		1	24	24.24	0	0
		1	49	24.14	0	0
		25	0	**23.08**	0-1	1
		25	12	23.04	0-1	1
		25	24	22.94	0-1	1
		50	0	22.98	0-1	1
	16QAM	1	0	22.96	0-1	1
		1	24	22.90	0-1	1
		1	49	22.96	0-1	1
		25	0	22.10	0-2	2
		25	12	22.15	0-2	2
		25	24	22.09	0-2	2
		50	0	22.09	0-2	2
	64QAM	1	0	22.07	0-2	2
		1	24	22.08	0-2	2
		1	49	22.05	0-2	2
		25	0	21.12	0-3	3
		25	12	21.07	0-3	3
		25	24	21.11	0-3	3
		50	0	21.02	0-3	3

Note: LTE Band 5 at 10 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.

[LTE Band 7 Conducted Power]

LTE Band 7_5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20775 Ch. 2502.5 ㎒	21100 Ch. 2535 ㎒	21425 Ch. 2567.5 ㎒		
5 ㎒	QPSK	1	0	22.98	23.47	23.20	0	0
		1	12	22.95	23.44	23.14	0	0
		1	24	22.87	23.45	23.14	0	0
		12	0	21.80	22.35	22.10	0-1	1
		12	6	21.80	22.36	22.18	0-1	1
		12	11	21.80	22.34	22.13	0-1	1
		25	0	21.80	22.37	22.08	0-1	1
	16QAM	1	0	21.67	22.25	21.97	0-1	1
		1	12	21.73	22.32	21.99	0-1	1
		1	24	21.60	22.35	21.97	0-1	1
		12	0	20.70	21.18	21.02	0-2	2
		12	6	20.58	21.24	20.98	0-2	2
		12	11	20.64	21.20	20.98	0-2	2
		25	0	20.72	21.27	20.99	0-2	2
	64QAM	1	0	20.69	21.28	20.91	0-2	2
		1	12	20.76	21.32	20.91	0-2	2
		1	24	20.62	21.37	20.95	0-2	2
		12	0	19.65	20.14	19.98	0-3	3
		12	6	19.58	20.16	19.95	0-3	3
		12	11	19.62	20.18	19.93	0-3	3
		25	0	19.63	20.25	19.93	0-3	3

LTE Band 7_10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20800 Ch. 2505 ㎒	21100 Ch. 2535 ㎒	21400 Ch. 2565 ㎒		
10 ㎒	QPSK	1	0	23.07	23.40	23.34	0	0
		1	24	23.02	23.43	23.25	0	0
		1	49	22.93	23.48	23.15	0	0
		25	0	21.89	22.31	22.12	0-1	1
		25	12	21.88	22.36	22.14	0-1	1
		25	24	21.82	22.35	22.10	0-1	1
		50	0	21.89	22.37	22.11	0-1	1
	16QAM	1	0	21.69	22.12	22.16	0-1	1
		1	24	21.78	22.09	22.07	0-1	1
		1	49	21.60	22.20	21.82	0-1	1
		25	0	20.80	21.22	20.97	0-2	2
		25	12	20.76	21.26	21.01	0-2	2
		25	24	20.79	21.24	21.02	0-2	2
		50	0	20.79	21.29	21.03	0-2	2
	64QAM	1	0	20.84	21.24	21.13	0-2	2
		1	24	20.81	21.26	21.05	0-2	2
		1	49	20.74	21.28	20.93	0-2	2
		25	0	19.76	20.25	20.07	0-3	3
		25	12	19.75	20.25	19.99	0-3	3
		25	24	19.71	20.26	19.92	0-3	3
		50	0	19.73	20.23	19.99	0-3	3

LTE Band 7_15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20825 Ch. 2507.5 ㎒	21100 Ch. 2535 ㎒	21375 Ch. 2562.5 ㎒		
15 ㎒	QPSK	1	0	23.14	23.48	23.39	0	0
		1	36	23.06	23.47	23.29	0	0
		1	74	23.11	23.55	23.24	0	0
		36	0	21.94	22.39	22.21	0-1	1
		36	18	21.97	22.35	22.19	0-1	1
		36	39	21.92	22.37	22.14	0-1	1
		75	0	21.95	22.41	22.18	0-1	1
	16QAM	1	0	21.81	22.24	22.18	0-1	1
		1	36	21.88	22.13	22.04	0-1	1
		1	74	21.76	22.32	21.89	0-1	1
		36	0	20.83	21.28	21.12	0-2	2
		36	18	20.79	21.27	21.07	0-2	2
		36	39	20.76	21.28	21.00	0-2	2
		75	0	20.81	21.23	21.09	0-2	2
	64QAM	1	0	21.04	21.15	21.17	0-2	2
		1	36	20.96	21.43	20.98	0-2	2
		1	74	20.93	21.37	21.02	0-2	2
		36	0	19.86	20.27	20.14	0-3	3
		36	18	19.89	20.25	20.04	0-3	3
		36	39	19.86	20.33	20.01	0-3	3
		75	0	19.84	20.29	20.09	0-3	3

LTE Band 7_20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20850 Ch. 2510 ㎒	21100 Ch. 2535 ㎒	21350 Ch. 2560 ㎒		
20 ㎒	QPSK	1	0	23.24	23.42	23.47	0	0
		1	49	23.24	23.49	23.39	0	0
		1	99	23.23	**23.54**	23.24	0	0
		50	0	22.12	22.39	22.35	0-1	1
		50	25	22.13	22.40	22.28	0-1	1
		50	49	22.11	**22.43**	22.22	0-1	1
		100	0	22.14	22.40	22.27	0-1	1
	16QAM	1	0	22.02	22.31	22.21	0-1	1
		1	49	21.99	22.26	22.23	0-1	1
		1	99	22.09	22.42	22.07	0-1	1
		50	0	21.09	21.33	21.22	0-2	2
		50	25	21.05	21.33	21.17	0-2	2
		50	49	21.06	21.33	21.13	0-2	2
		100	0	21.01	21.34	21.14	0-2	2
	64QAM	1	0	21.12	21.45	21.25	0-2	2
		1	49	20.99	21.32	21.16	0-2	2
		1	99	21.10	21.35	21.07	0-2	2
		50	0	19.98	20.22	20.19	0-3	3
		50	25	19.98	20.26	20.22	0-3	3
		50	49	20.04	20.33	20.12	0-3	3
		100	0	19.99	20.31	20.20	0-3	3

[LTE Band 12 Conducted Power]

LTE Band 12 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23017 Ch. 699.7 ㎒	23095 Ch. 707.5 ㎒	23173 Ch. 715.3 ㎒		
1.4 ㎒	QPSK	1	0	24.59	24.57	24.59	0	0
		1	3	24.58	24.57	24.55	0	0
		1	5	24.54	24.61	24.60	0	0
		3	0	24.53	24.58	24.60	0	0
		3	1	24.59	24.61	24.56	0	0
		3	3	24.53	24.58	24.54	0	0
		6	0	23.47	23.50	23.58	0-1	1
	16QAM	1	0	23.48	23.47	23.55	0-1	1
		1	3	23.35	23.33	23.39	0-1	1
		1	5	23.46	23.25	23.42	0-1	1
		3	0	23.54	23.55	23.51	0-1	1
		3	1	23.51	23.53	23.51	0-1	1
		3	3	23.47	23.44	23.49	0-1	1
		6	0	22.50	22.50	22.57	0-2	2
	64QAM	1	0	22.54	22.53	22.57	0-2	2
		1	3	22.48	22.62	22.66	0-2	2
		1	5	22.52	22.47	22.58	0-2	2
		3	0	22.50	22.53	22.61	0-2	2
		3	1	22.55	22.62	22.59	0-2	2
		3	3	22.46	22.49	22.59	0-2	2
		6	0	21.54	21.55	21.42	0-3	3

LTE Band 12 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23025 Ch. 700.5 ㎒	23095 Ch. 707.5 ㎒	23165 Ch. 714.5 ㎒		
3 ㎒	QPSK	1	0	24.53	24.68	24.63	0	0
		1	7	24.58	24.69	24.66	0	0
		1	14	24.55	24.62	24.60	0	0
		8	0	23.54	23.56	23.58	0-1	1
		8	3	23.54	23.64	23.54	0-1	1
		8	7	23.49	23.51	23.56	0-1	1
		15	0	23.50	23.59	23.52	0-1	1
	16QAM	1	0	23.32	23.53	23.31	0-1	1
		1	7	23.38	23.44	23.36	0-1	1
		1	14	23.42	23.28	23.37	0-1	1
		8	0	22.46	22.59	22.61	0-2	2
		8	3	22.50	22.52	22.53	0-2	2
		8	7	22.48	22.56	22.56	0-2	2
		15	0	22.49	22.51	22.55	0-2	2
	64QAM	1	0	22.31	22.28	22.36	0-2	2
		1	7	22.33	22.41	22.39	0-2	2
		1	14	22.33	22.46	22.50	0-2	2
		8	0	21.49	21.48	21.47	0-3	3
		8	3	21.42	21.46	21.46	0-3	3
		8	7	21.50	21.45	21.47	0-3	3
		15	0	21.51	21.51	21.52	0-3	3

LTE Band 12 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23035 Ch. 701.5 ㎒	23095 Ch. 707.5 ㎒	23155 Ch. 713.5 ㎒		
5 ㎒	QPSK	1	0	24.61	24.75	24.69	0	0
		1	12	24.65	24.75	24.73	0	0
		1	24	24.60	24.70	24.73	0	0
		12	0	23.54	23.54	23.58	0-1	1
		12	6	23.52	23.53	23.55	0-1	1
		12	11	23.47	23.58	23.56	0-1	1
		25	0	23.51	23.53	23.58	0-1	1
	16QAM	1	0	23.37	23.36	23.43	0-1	1
		1	12	23.30	23.30	23.43	0-1	1
		1	24	23.34	23.41	23.39	0-1	1
		12	0	22.37	22.48	22.47	0-2	2
		12	6	22.44	22.44	22.51	0-2	2
		12	11	22.39	22.48	22.40	0-2	2
		25	0	22.47	22.63	22.52	0-2	2
	64QAM	1	0	22.31	22.55	22.37	0-2	2
		1	12	22.38	22.44	22.36	0-2	2
		1	24	22.34	22.33	22.36	0-2	2
		12	0	21.45	21.56	21.53	0-3	3
		12	6	21.52	21.49	21.51	0-3	3
		12	11	21.41	21.46	21.55	0-3	3
		25	0	21.52	21.56	21.56	0-3	3

LTE Band 12 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				23095 Ch. 707.5 ㎒		
10 ㎒	QPSK	1	0	**24.78**	0	0
		1	24	24.70	0	0
		1	49	24.59	0	0
		25	0	**23.59**	0-1	1
		25	12	23.53	0-1	1
		25	24	23.55	0-1	1
		50	0	23.58	0-1	1
	16QAM	1	0	23.52	0-1	1
		1	24	23.40	0-1	1
		1	49	23.31	0-1	1
		25	0	22.58	0-2	2
		25	12	22.54	0-2	2
		25	24	22.49	0-2	2
		50	0	22.56	0-2	2
	64QAM	1	0	22.53	0-2	2
		1	24	22.35	0-2	2
		1	49	22.46	0-2	2
		25	0	21.62	0-3	3
		25	12	21.59	0-3	3
		25	24	21.59	0-3	3
		50	0	21.52	0-3	3

Note: LTE Band 12 at 10 ㎒ 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.

[LTE Band 13 Conducted Power]

LTE Band 13 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23205 Ch. 779.5 ㎒	23230 Ch. 782 ㎒	23255 Ch. 784.5 ㎒		
5 ㎒	QPSK	1	0	24.39	24.40	24.34	0	0
		1	12	24.35	24.37	24.29	0	0
		1	24	24.32	24.33	24.25	0	0
		12	0	23.24	23.22	23.19	0-1	1
		12	6	23.21	23.22	23.21	0-1	1
		12	11	23.16	23.17	23.16	0-1	1
		25	0	23.25	23.24	23.17	0-1	1
	16QAM	1	0	23.15	23.11	23.12	0-1	1
		1	12	23.11	22.99	23.00	0-1	1
		1	24	22.87	22.82	22.85	0-1	1
		12	0	22.18	22.21	22.15	0-2	2
		12	6	22.17	22.22	22.17	0-2	2
		12	11	22.13	22.20	22.13	0-2	2
		25	0	22.19	22.23	22.13	0-2	2
	64QAM	1	0	22.19	22.28	22.17	0-2	2
		1	12	22.22	22.24	22.11	0-2	2
		1	24	22.18	22.17	22.21	0-2	2
		12	0	21.16	21.17	21.16	0-3	3
		12	6	21.15	21.21	21.10	0-3	3
		12	11	21.23	21.13	21.10	0-3	3
		25	0	21.26	21.27	21.18	0-3	3

LTE Band 13 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				23230 Ch. 782 ㎒		
10 ㎒	QPSK	1	0	**24.47**	0	0
		1	24	24.38	0	0
		1	49	24.24	0	0
		25	0	**23.30**	0-1	1
		25	12	23.25	0-1	1
		25	24	23.24	0-1	1
		50	0	23.24	0-1	1
	16QAM	1	0	23.34	0-1	1
		1	24	23.13	0-1	1
		1	49	22.93	0-1	1
		25	0	22.29	0-2	2
		25	12	22.20	0-2	2
		25	24	22.20	0-2	2
		50	0	22.23	0-2	2
	64QAM	1	0	22.27	0-2	2
		1	24	22.23	0-2	2
		1	49	22.05	0-2	2
		25	0	21.22	0-3	3
		25	12	21.26	0-3	3
		25	24	21.19	0-3	3
		50	0	21.19	0-3	3

Note: LTE Band 13 at 10 ㎒ 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.

[LTE Band 14 Conducted Power]

LTE Band 14 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23305 Ch. 790.5 ㎒	23330 Ch. 793 ㎒	23355 Ch. 795.5 ㎒		
5 ㎒	QPSK	1	0	23.92	23.93	23.93	0	0
		1	12	23.85	23.94	23.94	0	0
		1	24	23.87	23.87	23.79	0	0
		12	0	22.85	22.85	22.88	0-1	1
		12	6	22.83	22.82	22.84	0-1	1
		12	11	22.79	22.85	22.79	0-1	1
		25	0	22.85	22.90	22.87	0-1	1
	16QAM	1	0	22.84	22.72	22.62	0-1	1
		1	12	22.75	22.72	22.69	0-1	1
		1	24	22.59	22.66	22.63	0-1	1
		12	0	21.81	21.79	21.80	0-2	2
		12	6	21.80	21.86	21.76	0-2	2
		12	11	21.78	21.82	21.79	0-2	2
		25	0	21.87	21.88	21.83	0-2	2
	64QAM	1	0	21.89	21.76	21.79	0-2	2
		1	12	21.81	21.83	21.71	0-2	2
		1	24	21.71	21.69	21.63	0-2	2
		12	0	20.75	20.83	20.75	0-3	3
		12	6	20.76	20.76	20.79	0-3	3
		12	11	20.76	20.74	20.74	0-3	3
		25	0	20.82	20.86	20.79	0-3	3

LTE Band 14 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				23330 Ch. 793 ㎒		
10 ㎒	QPSK	1	0	**24.02**	0	0
		1	24	23.93	0	0
		1	49	23.79	0	0
		25	0	**22.89**	0-1	1
		25	12	22.81	0-1	1
		25	24	22.82	0-1	1
		50	0	22.86	0-1	1
	16QAM	1	0	22.82	0-1	1
		1	24	22.72	0-1	1
		1	49	22.63	0-1	1
		25	0	21.88	0-2	2
		25	12	21.83	0-2	2
		25	24	21.83	0-2	2
		50	0	21.86	0-2	2
	64QAM	1	0	21.85	0-2	2
		1	24	21.78	0-2	2
		1	49	21.72	0-2	2
		25	0	20.89	0-3	3
		25	12	20.80	0-3	3
		25	24	20.81	0-3	3
		50	0	20.82	0-3	3

Note: LTE Band 14 at 10 ㎒ 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.

[LTE Band 25 Conducted Power]

LTE Band 25 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26047 Ch. 1850.7 ㎒	26365 Ch. 1882.5 ㎒	26683 Ch. 1914.3 ㎒		
1.4 ㎒	QPSK	1	0	23.16	23.22	23.30	0	0
		1	3	23.20	23.19	23.31	0	0
		1	5	23.20	23.21	23.31	0	0
		3	0	23.18	23.23	23.34	0	0
		3	1	23.19	23.22	23.35	0	0
		3	3	23.15	23.18	23.32	0	0
		6	0	22.14	22.19	22.30	0-1	1
	16QAM	1	0	21.98	21.94	22.26	0-1	1
		1	3	21.91	21.95	22.28	0-1	1
		1	5	21.92	22.02	22.27	0-1	1
		3	0	22.07	22.10	22.18	0-1	1
		3	1	22.16	22.10	22.28	0-1	1
		3	3	22.14	22.19	22.24	0-1	1
		6	0	21.22	21.20	21.30	0-2	2
	64QAM	1	0	21.20	21.17	21.41	0-2	2
		1	3	21.09	21.24	21.28	0-2	2
		1	5	21.13	21.14	21.24	0-2	2
		3	0	21.16	21.14	21.23	0-2	2
		3	1	21.06	21.18	21.15	0-2	2
		3	3	21.09	21.15	21.28	0-2	2
		6	0	20.08	20.10	20.22	0-3	3

LTE Band 25 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26055 Ch. 1851.5 ㎒	26365 Ch. 1882.5 ㎒	26675Ch. 1913.5 ㎒		
3 ㎒	QPSK	1	0	23.23	23.26	23.39	0	0
		1	7	23.16	23.28	23.42	0	0
		1	14	23.16	23.25	23.32	0	0
		8	0	22.24	22.23	22.42	0-1	1
		8	3	22.16	22.20	22.39	0-1	1
		8	7	22.19	22.20	22.36	0-1	1
		15	0	22.23	22.28	22.39	0-1	1
	16QAM	1	0	21.96	22.02	22.10	0-1	1
		1	7	21.80	21.96	22.15	0-1	1
		1	14	21.92	21.99	22.17	0-1	1
		8	0	21.13	21.21	21.33	0-2	2
		8	3	21.10	21.17	21.33	0-2	2
		8	7	21.14	21.17	21.32	0-2	2
		15	0	21.17	21.14	21.37	0-2	2
	64QAM	1	0	21.05	21.11	21.24	0-2	2
		1	7	21.15	21.17	21.09	0-2	2
		1	14	21.14	20.91	21.11	0-2	2
		8	0	20.13	20.09	20.33	0-3	3
		8	3	20.12	20.13	20.24	0-3	3
		8	7	20.10	20.10	20.28	0-3	3
		15	0	20.12	20.19	20.33	0-3	3

LTE Band 25 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26065 Ch. 1852.5 ㎒	26365 Ch. 1882.5 ㎒	26665 Ch. 1912.5 ㎒		
5 ㎒	QPSK	1	0	23.29	23.32	23.49	0	0
		1	12	23.27	23.33	23.51	0	0
		1	24	23.21	23.32	23.47	0	0
		12	0	22.15	22.23	22.40	0-1	1
		12	6	22.21	22.18	22.45	0-1	1
		12	11	22.17	22.19	22.42	0-1	1
		25	0	22.19	22.18	22.44	0-1	1
	16QAM	1	0	22.16	21.94	22.21	0-1	1
		1	12	22.02	21.89	22.25	0-1	1
		1	24	22.01	21.94	22.24	0-1	1
		12	0	21.07	21.14	21.40	0-2	2
		12	6	21.12	21.17	21.32	0-2	2
		12	11	21.02	21.16	21.38	0-2	2
		25	0	21.13	21.16	21.41	0-2	2
	64QAM	1	0	21.08	21.10	21.37	0-2	2
		1	12	21.09	21.04	21.28	0-2	2
		1	24	21.07	21.17	21.30	0-2	2
		12	0	20.11	20.14	20.31	0-3	3
		12	6	20.09	20.18	20.35	0-3	3
		12	11	20.03	20.16	20.28	0-3	3
		25	0	20.09	20.21	20.38	0-3	3

LTE Band 25 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26090 Ch. 1855 ㎒	26365 Ch. 1882.5 ㎒	26640 Ch. 1910 ㎒		
10 ㎒	QPSK	1	0	23.32	23.34	23.60	0	0
		1	24	23.21	23.37	23.47	0	0
		1	49	23.23	23.33	23.43	0	0
		25	0	22.19	22.25	22.46	0-1	1
		25	12	22.15	22.21	22.40	0-1	1
		25	24	22.14	22.27	22.40	0-1	1
		50	0	22.18	22.16	22.41	0-1	1
	16QAM	1	0	22.07	22.11	22.42	0-1	1
		1	24	22.01	21.94	22.40	0-1	1
		1	49	22.12	22.02	22.31	0-1	1
		25	0	21.16	21.18	21.37	0-2	2
		25	12	21.12	21.11	21.36	0-2	2
		25	24	21.10	21.14	21.36	0-2	2
		50	0	21.16	21.18	21.41	0-2	2
	64QAM	1	0	21.19	21.12	21.37	0-2	2
		1	24	21.06	21.06	21.34	0-2	2
		1	49	21.01	21.17	21.40	0-2	2
		25	0	20.11	20.17	20.43	0-3	3
		25	12	20.16	20.19	20.38	0-3	3
		25	24	20.07	20.13	20.31	0-3	3
		50	0	20.15	20.11	20.31	0-3	3

LTE Band 25 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26115 Ch. 1857.5 ㎒	26365 Ch. 1882.5 ㎒	26615 Ch. 1907.5 ㎒		
15 ㎒	QPSK	1	0	23.32	23.34	23.62	0	0
		1	36	23.29	23.34	23.61	0	0
		1	74	23.24	23.24	23.51	0	0
		36	0	22.22	22.20	22.45	0-1	1
		36	18	22.15	22.17	22.43	0-1	1
		36	39	22.16	22.23	22.41	0-1	1
		75	0	22.17	22.14	22.47	0-1	1
	16QAM	1	0	22.27	22.12	22.36	0-1	1
		1	36	22.15	22.08	22.29	0-1	1
		1	74	21.95	22.02	22.24	0-1	1
		36	0	21.09	21.11	21.40	0-2	2
		36	18	21.11	21.12	21.38	0-2	2
		36	39	21.05	21.16	21.34	0-2	2
		75	0	21.15	21.16	21.39	0-2	2
	64QAM	1	0	21.15	21.16	21.53	0-2	2
		1	36	21.11	21.16	21.42	0-2	2
		1	74	21.05	21.22	21.35	0-2	2
		36	0	20.11	20.11	20.39	0-3	3
		36	18	20.16	20.12	20.37	0-3	3
		36	39	20.10	20.19	20.32	0-3	3
		75	0	20.17	20.18	20.42	0-3	3

LTE Band 25 _ 20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26140 Ch. 1860 ㎒	26365 Ch. 1882.5 ㎒	26590 Ch. 1905 ㎒		
20 ㎒	QPSK	1	0	23.32	23.34	**23.64**	0	0
		1	49	23.22	23.39	23.53	0	0
		1	99	23.24	23.31	23.49	0	0
		50	0	22.20	22.24	**22.48**	0-1	1
		50	25	22.17	22.26	22.46	0-1	1
		50	49	22.13	22.16	22.34	0-1	1
		100	0	22.14	22.25	22.44	0-1	1
	16QAM	1	0	22.07	22.03	22.46	0-1	1
		1	49	22.05	22.10	22.36	0-1	1
		1	99	22.00	22.07	22.31	0-1	1
		50	0	21.19	21.17	21.40	0-2	2
		50	25	21.13	21.18	21.43	0-2	2
		50	49	21.15	21.19	21.42	0-2	2
		100	0	21.15	21.22	21.39	0-2	2
	64QAM	1	0	21.21	21.38	21.50	0-2	2
		1	49	21.22	21.13	21.44	0-2	2
		1	99	21.23	21.15	21.50	0-2	2
		50	0	20.11	20.15	20.38	0-3	3
		50	25	20.10	20.19	20.36	0-3	3
		50	49	20.04	20.14	20.31	0-3	3
		100	0	20.13	20.22	20.38	0-3	3

[LTE Band 26 Conducted Power]

LTE Band 26 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26697 Ch. 814.7 ㎒	26865 Ch. 831.5 ㎒	27033 Ch. 848.3 ㎒		
1.4 ㎒	QPSK	1	0	23.87	24.07	24.02	0	0
		1	3	23.89	24.09	24.01	0	0
		1	5	23.77	24.00	23.99	0	0
		3	0	23.87	24.10	24.03	0	0
		3	1	23.87	24.06	24.03	0	0
		3	3	23.88	24.05	23.96	0	0
		6	0	22.80	23.01	22.88	0-1	1
	16QAM	1	0	22.85	22.91	22.88	0-1	1
		1	3	22.76	22.82	22.73	0-1	1
		1	5	22.62	22.81	22.87	0-1	1
		3	0	22.83	22.98	22.93	0-1	1
		3	1	22.82	23.02	22.89	0-1	1
		3	3	22.75	22.98	22.94	0-1	1
		6	0	21.91	22.05	22.02	0-2	2
	64QAM	1	0	21.95	21.93	21.99	0-2	2
		1	3	21.82	22.04	21.99	0-2	2
		1	5	21.83	21.97	21.85	0-2	2
		3	0	21.83	22.06	21.97	0-2	2
		3	1	21.85	22.06	21.98	0-2	2
		3	3	21.86	21.98	22.01	0-2	2
		6	0	20.85	20.97	20.89	0-3	3

LTE Band 26 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26705 Ch. 815.5 ㎒	26865 Ch. 831.5 ㎒	27025 Ch. 847.5 ㎒		
3 ㎒	QPSK	1	0	23.99	24.17	24.06	0	0
		1	7	24.01	24.12	24.13	0	0
		1	14	23.95	24.12	24.06	0	0
		8	0	22.91	23.13	23.04	0-1	1
		8	3	22.98	23.03	23.06	0-1	1
		8	7	22.98	23.09	23.00	0-1	1
		15	0	22.96	23.10	23.03	0-1	1
	16QAM	1	0	22.84	22.86	22.96	0-1	1
		1	7	22.70	22.88	22.81	0-1	1
		1	14	22.58	22.76	22.76	0-1	1
		8	0	21.93	22.08	22.06	0-2	2
		8	3	21.96	22.07	22.08	0-2	2
		8	7	21.98	22.10	22.05	0-2	2
		15	0	21.87	22.08	22.04	0-2	2
	64QAM	1	0	21.80	21.85	22.03	0-2	2
		1	7	21.80	21.90	21.97	0-2	2
		1	14	21.76	21.91	21.95	0-2	2
		8	0	20.89	21.04	21.02	0-3	3
		8	3	20.86	21.02	21.01	0-3	3
		8	7	20.84	21.10	21.02	0-3	3
		15	0	20.87	21.13	21.05	0-3	3

LTE Band 26 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26715 Ch. 816.5 ㎒	26865 Ch. 831.5 ㎒	27015 Ch. 846.5 ㎒		
5 ㎒	QPSK	1	0	24.14	24.24	24.17	0	0
		1	12	24.12	24.22	24.20	0	0
		1	24	24.09	24.17	24.13	0	0
		12	0	23.06	23.09	23.03	0-1	1
		12	6	23.03	23.07	23.07	0-1	1
		12	11	23.05	23.03	23.01	0-1	1
		25	0	23.06	23.07	23.02	0-1	1
	16QAM	1	0	22.83	22.96	22.96	0-1	1
		1	12	22.96	23.01	22.98	0-1	1
		1	24	22.84	22.94	22.89	0-1	1
		12	0	22.01	22.06	21.99	0-2	2
		12	6	22.04	22.00	21.99	0-2	2
		12	11	22.01	22.00	21.99	0-2	2
		25	0	22.03	22.10	22.07	0-2	2
	64QAM	1	0	21.97	22.09	21.97	0-2	2
		1	12	21.82	21.93	21.96	0-2	2
		1	24	21.92	21.88	21.85	0-2	2
		12	0	20.96	21.02	21.02	0-3	3
		12	6	20.94	21.05	21.10	0-3	3
		12	11	21.00	21.06	21.06	0-3	3
		25	0	21.02	21.11	21.07	0-3	3

LTE Band 26 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26740 Ch. 819 ㎒	26865 Ch. 831.5 ㎒	26990 Ch. 844 ㎒		
10 ㎒	QPSK	1	0	24.22	24.28	24.27	0	0
		1	24	24.13	24.23	24.21	0	0
		1	49	24.08	24.19	24.15	0	0
		25	0	23.07	23.11	23.11	0-1	1
		25	12	23.04	23.08	23.05	0-1	1
		25	24	22.98	23.05	23.03	0-1	1
		50	0	23.07	23.07	23.05	0-1	1
	16QAM	1	0	23.00	23.00	22.92	0-1	1
		1	24	22.78	22.96	22.90	0-1	1
		1	49	22.75	22.92	22.99	0-1	1
		25	0	22.07	22.14	22.11	0-2	2
		25	12	22.04	22.11	22.12	0-2	2
		25	24	22.01	22.05	22.08	0-2	2
		50	0	21.97	22.07	22.07	0-2	2
	64QAM	1	0	22.08	22.20	22.15	0-2	2
		1	24	22.00	22.14	22.05	0-2	2
		1	49	22.00	21.96	21.95	0-2	2
		25	0	21.03	21.16	21.09	0-3	3
		25	12	21.00	21.12	21.02	0-3	3
		25	24	20.99	21.10	21.01	0-3	3
		50	0	20.96	21.06	21.09	0-3	3

LTE Band 26 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm] 26865 Ch. 831.5 ㎒	MPR Allowed Per 3GPP [dB]	MPR [dB]
15 ㎒	QPSK	1	0	**24.35**	0	0
		1	36	24.21	0	0
		1	74	24.21	0	0
		36	0	**23.11**	0-1	1
		36	18	23.08	0-1	1
		36	39	23.06	0-1	1
		75	0	23.10	0-1	1
	16QAM	1	0	23.01	0-1	1
		1	36	22.90	0-1	1
		1	74	22.91	0-1	1
		36	0	22.11	0-2	2
		36	18	22.07	0-2	2
		36	39	22.03	0-2	2
		75	0	22.09	0-2	2
	64QAM	1	0	22.22	0-2	2
		1	36	22.15	0-2	2
		1	74	22.06	0-2	2
		36	0	21.12	0-3	3
		36	18	21.08	0-3	3
		36	39	21.10	0-3	3
		75	0	21.09	0-3	3

Note: LTE Band 26 at 15 ㎒ 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.

[LTE Band 30 Conducted Power]

LTE Band 30 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				27685 Ch. 2307.5 ㎒	27710 Ch. 2310 ㎒	27735 Ch. 2312.5 ㎒		
5 ㎒	QPSK	1	0	21.41	21.35	21.34	0	0
		1	12	21.52	21.47	21.47	0	0
		1	24	21.61	21.53	21.52	0	0
		12	0	20.19	20.15	20.11	0-1	1
		12	6	20.24	20.18	20.15	0-1	1
		12	11	20.28	20.21	20.20	0-1	1
		25	0	20.24	20.20	20.16	0-1	1
	16QAM	1	0	20.13	20.04	19.98	0-1	1
		1	12	20.35	20.18	20.08	0-1	1
		1	24	20.38	20.24	20.07	0-1	1
		12	0	19.21	19.18	19.15	0-2	2
		12	6	19.32	19.23	19.21	0-2	2
		12	11	19.36	19.27	19.26	0-2	2
		25	0	19.31	19.26	19.22	0-2	2
	64QAM	1	0	18.92	18.86	18.89	0-2	2
		1	12	19.08	19.04	19.09	0-2	2
		1	24	19.19	19.04	19.10	0-2	2
		12	0	18.21	18.14	18.21	0-3	3
		12	6	18.27	18.21	18.25	0-3	3
		12	11	18.32	18.23	18.29	0-3	3
		25	0	18.32	18.32	18.32	0-3	3

LTE Band 30 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				27710 Ch. 2310 ㎒		
10 ㎒	QPSK	1	0	21.35	0	0
		1	24	21.55	0	0
		1	49	**21.74**	0	0
		25	0	20.11	0-1	1
		25	12	20.19	0-1	1
		25	24	**20.29**	0-1	1
		50	0	20.22	0-1	1
	16QAM	1	0	20.14	0-1	1
		1	24	20.38	0-1	1
		1	49	20.44	0-1	1
		25	0	19.18	0-2	2
		25	12	19.27	0-2	2
		25	24	19.33	0-2	2
		50	0	19.28	0-2	2
	64QAM	1	0	19.05	0-2	2
		1	24	19.20	0-2	2
		1	49	19.41	0-2	2
		25	0	18.20	0-3	3
		25	12	18.25	0-3	3
		25	24	18.39	0-3	3
		50	0	18.29	0-3	3

Note: LTE Band 30 at 10 ㎒ 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.

[LTE Band 41 Conducted Power] - Power Class 3

LTE Band 41 _ 5 ㎒ Bandwidth (Power Class 3)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39675 Ch. 2498.5 ㎒	40148 Ch. 2545.8 ㎒	40620 Ch. 2593.0 ㎒	41093 Ch. 2640.3 ㎒	41565 Ch. 2687.5 ㎒		
5 ㎒	QPSK	1	0	22.61	23.18	23.01	22.84	22.98	0	0
		1	12	22.63	23.18	22.99	22.83	22.96	0	0
		1	24	22.60	23.14	23.06	22.83	22.92	0	0
		12	0	21.75	22.24	22.08	21.90	21.96	0-1	1
		12	6	21.72	22.23	22.07	21.86	21.96	0-1	1
		12	11	21.76	22.22	22.06	21.86	21.96	0-1	1
		25	0	21.75	22.24	22.05	21.88	21.97	0-1	1
	16QAM	1	0	21.68	22.31	22.03	21.99	21.92	0-1	1
		1	12	21.75	22.32	22.19	22.00	21.98	0-1	1
		1	24	21.73	22.32	22.21	21.95	21.92	0-1	1
		12	0	20.70	21.22	21.03	20.83	20.93	0-2	2
		12	6	20.69	21.22	21.06	20.80	20.93	0-2	2
		12	11	20.70	21.20	21.05	20.81	20.92	0-2	2
		25	0	20.79	21.30	21.17	20.92	21.01	0-2	2
	64QAM	1	0	20.51	21.12	20.81	20.52	20.65	0-2	2
		1	12	20.51	21.09	20.94	20.53	20.64	0-2	2
		1	24	20.50	21.04	20.94	20.51	20.62	0-2	2
		12	0	19.61	20.17	19.99	19.73	19.87	0-3	3
		12	6	19.63	20.18	19.99	19.73	19.87	0-3	3
		12	11	19.61	20.15	19.98	19.72	19.86	0-3	3
		25	0	19.63	20.14	20.02	19.72	19.85	0-3	3

LTE Band 41 _ 10 ㎒ Bandwidth (Power Class 3)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39700 Ch. 2501 ㎒	40160 Ch. 2547 ㎒	40620 Ch. 2593 ㎒	41080 Ch. 2639 ㎒	41540 Ch. 2685 ㎒		
10 ㎒	QPSK	1	0	22.81	23.27	23.12	22.91	22.98	0	0
		1	24	22.80	23.24	23.09	22.90	22.97	0	0
		1	49	22.78	23.23	23.08	22.88	22.93	0	0
		25	0	21.83	22.29	22.15	21.90	22.00	0-1	1
		25	12	21.84	22.28	22.17	21.85	22.00	0-1	1
		25	24	21.83	22.27	22.14	21.86	21.98	0-1	1
		50	0	21.82	22.26	22.16	21.88	22.00	0-1	1
	16QAM	1	0	21.85	22.40	22.06	21.87	22.05	0-1	1
		1	24	21.85	22.40	22.02	21.84	22.08	0-1	1
		1	49	21.86	22.39	22.18	21.91	22.03	0-1	1
		25	0	20.89	21.36	21.22	20.94	21.05	0-2	2
		25	12	20.92	21.36	21.22	20.92	21.05	0-2	2
		25	24	20.92	21.38	21.23	20.90	21.03	0-2	2
		50	0	20.91	21.34	21.17	20.90	21.04	0-2	2
	64QAM	1	0	20.65	20.97	20.98	20.69	20.67	0-2	2
		1	24	20.65	21.01	20.97	20.67	20.65	0-2	2
		1	49	20.67	21.00	20.94	20.66	20.64	0-2	2
		25	0	19.66	20.13	20.01	19.75	19.91	0-3	3
		25	12	19.63	20.12	20.01	19.72	19.90	0-3	3
		25	24	19.64	20.09	20.00	19.72	19.89	0-3	3
		50	0	19.67	20.17	20.05	19.78	19.92	0-3	3

LTE Band 41 _ 15 ㎒ Bandwidth (Power Class 3)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 ㎒	40173 Ch. 2548.3 ㎒	40620 Ch. 2593.0 ㎒	41068 Ch. 2637.8 ㎒	41515 Ch. 2682.5 ㎒		
15 ㎒	QPSK	1	0	22.82	23.25	23.12	22.92	22.99	0	0
		1	36	22.74	23.26	23.14	22.84	22.97	0	0
		1	74	22.85	23.22	23.15	22.79	22.92	0	0
		36	0	21.83	22.25	22.16	21.89	21.99	0-1	1
		36	18	21.85	22.24	22.16	21.86	21.98	0-1	1
		36	39	21.88	22.22	22.15	21.84	22.00	0-1	1
		75	0	21.87	22.26	22.17	21.87	22.01	0-1	1
	16QAM	1	0	21.93	22.31	22.18	21.99	22.13	0-1	1
		1	36	21.92	22.34	22.20	21.94	22.09	0-1	1
		1	74	21.86	22.32	22.26	21.91	22.09	0-1	1
		36	0	20.87	21.29	21.14	20.87	20.99	0-2	2
		36	18	20.89	21.29	21.15	20.86	20.96	0-2	2
		36	39	20.90	21.27	21.16	20.84	20.97	0-2	2
		75	0	20.94	21.32	21.21	20.91	21.03	0-2	2
	64QAM	1	0	20.58	21.03	20.98	20.65	20.83	0-2	2
		1	36	20.59	20.99	20.92	20.60	20.75	0-2	2
		1	74	20.63	20.98	20.94	20.53	20.74	0-2	2
		36	0	19.69	20.18	20.07	19.85	19.97	0-3	3
		36	18	19.71	20.17	20.07	19.81	19.95	0-3	3
		36	39	19.72	20.19	20.07	19.79	19.95	0-3	3
		75	0	19.71	20.17	20.07	19.80	19.94	0-3	3

LTE Band 41 _ 20 ㎒ 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 ㎒	40185 Ch. 2549.5 ㎒	40620 Ch. 2593.0 ㎒	41055 Ch. 2636.5 ㎒	41490 Ch. 2680.0 ㎒		
20 ㎒	QPSK	1	0	22.84	**23.28**	23.16	22.97	23.00	0	0
		1	49	22.84	23.25	23.14	22.86	22.97	0	0
		1	99	22.93	23.22	23.12	22.80	22.99	0	0
		50	0	21.91	**22.30**	22.18	21.92	22.03	0-1	1
		50	25	21.89	22.27	22.17	21.87	22.02	0-1	1
		50	49	21.95	22.25	22.19	21.84	22.01	0-1	1
		100	0	21.91	22.28	22.19	21.89	22.01	0-1	1
	16QAM	1	0	21.95	22.29	22.18	22.01	21.99	0-1	1
		1	49	21.92	22.29	22.17	21.94	21.97	0-1	1
		1	99	21.97	22.26	22.17	21.79	21.89	0-1	1
		50	0	20.96	21.38	21.20	20.95	21.07	0-2	2
		50	25	21.00	21.34	21.20	20.90	21.04	0-2	2
		50	49	21.02	21.32	21.23	20.86	21.02	0-2	2
		100	0	20.98	21.31	21.20	20.91	21.03	0-2	2
	64QAM	1	0	20.53	21.04	21.07	20.64	20.66	0-2	2
		1	49	20.59	21.02	21.06	20.59	20.62	0-2	2
		1	99	20.65	20.95	20.93	20.51	20.58	0-2	2
		50	0	19.75	20.18	20.08	19.85	20.00	0-3	3
		50	25	19.76	20.17	20.07	19.81	19.97	0-3	3
		50	49	19.81	20.18	20.07	19.78	19.96	0-3	3
		100	0	19.81	20.19	20.10	19.84	19.99	0-3	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 ㎒ Bandwidth (Power Class 2)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39675 Ch. 2498.5 ㎒	40148 Ch. 2545.8 ㎒	40620 Ch. 2593.0 ㎒	41093 Ch. 2640.3 ㎒	41565 Ch. 2687.5 ㎒		
5 ㎒	QPSK	1	0	25.79	26.29	26.14	25.92	25.96	0	0
		1	12	25.83	26.32	26.16	25.85	26.03	0	0
		1	24	25.83	26.29	26.14	25.89	25.94	0	0
		12	0	24.71	25.22	25.05	24.85	24.89	0-1	1
		12	6	24.71	25.21	25.05	24.82	24.89	0-1	1
		12	11	24.71	25.22	25.05	24.83	24.89	0-1	1
		25	0	24.70	25.23	25.04	24.81	24.89	0-1	1
	16QAM	1	0	24.85	25.23	25.01	24.89	25.00	0-1	1
		1	12	24.88	25.24	25.03	24.89	24.99	0-1	1
		1	24	24.88	25.23	25.02	24.84	24.99	0-1	1
		12	0	23.70	24.17	24.06	23.73	23.80	0-2	2
		12	6	23.70	24.18	24.04	23.73	23.78	0-2	2
		12	11	23.70	24.18	24.03	23.73	23.79	0-2	2
		25	0	23.76	24.29	24.11	23.84	23.93	0-2	2
	64QAM	1	0	23.35	23.98	23.75	23.63	23.72	0-2	2
		1	12	23.34	24.02	23.77	23.63	23.74	0-2	2
		1	24	23.35	23.98	23.77	23.59	23.73	0-2	2
		12	0	22.67	23.21	23.03	22.83	22.95	0-3	3
		12	6	22.68	23.19	23.03	22.81	22.93	0-3	3
		12	11	22.68	23.19	23.04	22.82	22.93	0-3	3
		25	0	22.67	23.19	23.03	22.80	22.89	0-3	3

LTE Band 41 _ 10 ㎒ Bandwidth (Power Class 2)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39700 Ch. 2501 ㎒	40160 Ch. 2547 ㎒	40620 Ch. 2593 ㎒	41080 Ch. 2639 ㎒	41540 Ch. 2685 ㎒		
10 ㎒	QPSK	1	0	25.84	26.31	26.16	25.84	26.00	0	0
		1	24	25.86	26.31	26.16	25.83	25.97	0	0
		1	49	25.88	26.29	26.16	25.81	25.92	0	0
		25	0	24.73	25.22	25.06	24.85	24.89	0-1	1
		25	12	24.72	25.22	25.06	24.82	24.89	0-1	1
		25	24	24.73	25.20	25.06	24.79	24.88	0-1	1
		50	0	24.76	25.24	25.06	24.82	24.91	0-1	1
	16QAM	1	0	24.68	25.21	25.12	24.85	24.95	0-1	1
		1	24	24.71	25.21	25.16	24.81	24.92	0-1	1
		1	49	24.71	25.18	25.12	24.82	24.88	0-1	1
		25	0	23.81	24.28	24.14	23.86	23.93	0-2	2
		25	12	23.79	24.28	24.15	23.83	23.94	0-2	2
		25	24	23.81	24.27	24.15	23.82	23.90	0-2	2
		50	0	23.78	24.30	24.13	23.84	23.96	0-2	2
	64QAM	1	0	23.61	23.99	23.81	23.49	23.80	0-2	2
		1	24	23.61	23.96	23.81	23.59	23.78	0-2	2
		1	49	23.64	23.97	23.85	23.46	23.77	0-2	2
		25	0	22.71	23.20	23.05	22.82	22.90	0-3	3
		25	12	22.73	23.21	23.04	22.79	22.91	0-3	3
		25	24	22.73	23.20	23.05	22.78	22.86	0-3	3
		50	0	22.77	23.24	23.10	22.83	22.93	0-3	3

LTE Band 41 _ 15 ㎒ Bandwidth (Power Class 2)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 ㎒	40173 Ch. 2548.3 ㎒	40620 Ch. 2593.0 ㎒	41068 Ch. 2637.8 ㎒	41515 Ch. 2682.5 ㎒		
15 ㎒	QPSK	1	0	25.87	26.29	26.17	25.93	26.01	0	0
		1	36	25.87	26.28	26.17	25.89	26.03	0	0
		1	74	25.93	26.28	26.17	25.83	25.92	0	0
		36	0	24.76	25.24	25.10	24.84	24.93	0-1	1
		36	18	24.76	25.23	25.10	24.82	24.92	0-1	1
		36	39	24.80	25.21	25.09	24.79	24.91	0-1	1
		75	0	24.77	25.23	25.08	24.81	24.93	0-1	1
	16QAM	1	0	24.83	25.38	25.13	24.90	24.97	0-1	1
		1	36	24.84	25.35	25.13	24.80	24.94	0-1	1
		1	74	24.88	25.36	25.13	24.78	24.91	0-1	1
		36	0	23.77	24.26	24.09	23.83	23.94	0-2	2
		36	18	23.78	24.23	24.10	23.81	23.92	0-2	2
		36	39	23.81	24.23	24.09	23.77	23.89	0-2	2
		75	0	23.86	24.27	24.15	23.85	23.95	0-2	2
	64QAM	1	0	23.70	24.03	23.76	23.58	23.66	0-2	2
		1	36	23.72	23.90	23.76	23.63	23.63	0-2	2
		1	74	23.75	23.91	23.73	23.63	23.62	0-2	2
		36	0	22.80	23.24	23.11	22.87	22.96	0-3	3
		36	18	22.80	23.22	23.11	22.84	22.95	0-3	3
		36	39	22.82	23.22	23.10	22.80	22.93	0-3	3
		75	0	22.79	23.23	23.08	22.84	22.95	0-3	3

LTE Band 41 _ 20 ㎒ 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 ㎒	40185 Ch. 2549.5 ㎒	40620 Ch. 2593.0 ㎒	41055 Ch. 2636.5 ㎒	41490 Ch. 2680.0 ㎒		
20 ㎒	QPSK	1	0	25.94	**26.35**	26.20	25.98	26.03	0	0
		1	49	25.97	26.32	26.18	25.92	26.00	0	0
		1	99	26.00	26.28	26.18	25.82	26.00	0	0
		50	0	24.85	**25.24**	25.11	24.88	24.97	0-1	1
		50	25	24.86	25.22	25.11	24.82	24.95	0-1	1
		50	49	24.89	25.21	25.09	24.79	24.92	0-1	1
		100	0	24.89	25.26	25.13	24.86	25.00	0-1	1
	16QAM	1	0	25.06	25.24	25.22	24.99	24.90	0-1	1
		1	49	25.06	25.19	25.20	24.86	24.91	0-1	1
		1	99	25.18	25.19	25.20	24.78	24.86	0-1	1
		50	0	23.92	24.31	24.16	23.89	23.99	0-2	2
		50	25	23.94	24.30	24.17	23.86	23.99	0-2	2
		50	49	23.97	24.27	24.15	23.81	23.95	0-2	2
		100	0	23.92	24.30	24.14	23.84	24.00	0-2	2
	64QAM	1	0	23.61	23.98	23.86	23.68	23.61	0-2	2
		1	49	23.64	23.98	23.86	23.57	23.55	0-2	2
		1	99	23.73	23.88	23.87	23.58	23.53	0-2	2
		50	0	22.89	23.26	23.11	22.88	22.99	0-3	3
		50	25	22.90	23.24	23.12	22.86	22.96	0-3	3
		50	49	22.92	23.24	23.12	22.81	22.95	0-3	3
		100	0	22.91	23.27	23.15	22.87	23.00	0-3	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 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131979Ch. 1710.7 ㎒	132322 Ch. 1745 ㎒	132665 Ch. 1779.3 ㎒		
1.4 ㎒	QPSK	1	0	23.52	23.73	23.58	0	0
		1	3	23.47	23.73	23.57	0	0
		1	5	23.51	23.72	23.58	0	0
		3	0	23.51	23.78	23.61	0	0
		3	1	23.53	23.77	23.51	0	0
		3	3	23.51	23.67	23.53	0	0
		6	0	22.48	22.74	22.52	0-1	1
	16QAM	1	0	22.27	22.52	22.22	0-1	1
		1	3	22.39	22.47	22.31	0-1	1
		1	5	22.19	22.39	22.31	0-1	1
		3	0	22.49	22.63	22.48	0-1	1
		3	1	22.37	22.67	22.47	0-1	1
		3	3	22.42	22.71	22.48	0-1	1
		6	0	21.34	21.70	21.50	0-2	2
	64QAM	1	0	21.43	21.68	21.37	0-2	2
		1	3	21.45	21.67	21.44	0-2	2
		1	5	21.45	21.66	21.47	0-2	2
		3	0	21.40	21.70	21.50	0-2	2
		3	1	21.49	21.71	21.50	0-2	2
		3	3	21.44	21.72	21.50	0-2	2
		6	0	20.41	20.57	20.42	0-3	3

LTE Band 66 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131987 Ch. 1711.5 ㎒	132322 Ch. 1745 ㎒	132657 Ch. 1778.5 ㎒		
3 ㎒	QPSK	1	0	23.56	23.74	23.61	0	0
		1	7	23.45	23.78	23.57	0	0
		1	14	23.44	23.80	23.60	0	0
		8	0	22.43	22.74	22.50	0-1	1
		8	3	22.43	22.73	22.53	0-1	1
		8	7	22.44	22.70	22.52	0-1	1
		15	0	22.47	22.72	22.49	0-1	1
	16QAM	1	0	22.14	22.50	22.28	0-1	1
		1	7	22.29	22.40	22.25	0-1	1
		1	14	22.05	22.50	22.39	0-1	1
		8	0	21.40	21.67	21.48	0-2	2
		8	3	21.40	21.65	21.56	0-2	2
		8	7	21.33	21.63	21.47	0-2	2
		15	0	21.38	21.70	21.47	0-2	2
	64QAM	1	0	21.25	21.60	21.51	0-2	2
		1	7	21.31	21.63	21.48	0-2	2
		1	14	21.23	21.61	21.45	0-2	2
		8	0	20.39	20.56	20.40	0-3	3
		8	3	20.29	20.60	20.47	0-3	3
		8	7	20.37	20.61	20.45	0-3	3
		15	0	20.38	20.69	20.47	0-3	3

LTE Band 66 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131997 Ch. 1712.5 ㎒	132322Ch. 1745 ㎒	132647 Ch. 1777.5 ㎒		
5 ㎒	QPSK	1	0	23.61	23.81	23.69	0	0
		1	12	23.66	23.85	23.63	0	0
		1	24	23.56	23.83	23.61	0	0
		12	0	22.48	22.77	22.56	0-1	1
		12	6	22.54	22.70	22.56	0-1	1
		12	11	22.52	22.72	22.51	0-1	1
		25	0	22.50	22.73	22.55	0-1	1
	16QAM	1	0	22.28	22.58	22.50	0-1	1
		1	12	22.40	22.56	22.27	0-1	1
		1	24	22.39	22.58	22.32	0-1	1
		12	0	21.42	21.67	21.48	0-2	2
		12	6	21.38	21.66	21.45	0-2	2
		12	11	21.47	21.67	21.44	0-2	2
		25	0	21.45	21.71	21.49	0-2	2
	64QAM	1	0	21.53	21.66	21.54	0-2	2
		1	12	21.48	21.58	21.48	0-2	2
		1	24	21.49	21.67	21.44	0-2	2
		12	0	20.38	20.61	20.41	0-3	3
		12	6	20.43	20.63	20.47	0-3	3
		12	11	20.45	20.59	20.39	0-3	3
		25	0	20.40	20.64	20.50	0-3	3

LTE Band 66 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132022 Ch. 1715 ㎒	132322 Ch. 1745 ㎒	132622 Ch. 1775 ㎒		
10 ㎒	QPSK	1	0	23.72	23.92	23.75	0	0
		1	24	23.71	23.90	23.66	0	0
		1	49	23.71	23.89	23.68	0	0
		25	0	22.61	22.73	22.59	0-1	1
		25	12	22.54	22.71	22.59	0-1	1
		25	24	22.57	22.71	22.52	0-1	1
		50	0	22.55	22.71	22.51	0-1	1
	16QAM	1	0	22.51	22.51	22.46	0-1	1
		1	24	22.30	22.49	22.38	0-1	1
		1	49	22.32	22.54	22.27	0-1	1
		25	0	21.53	21.74	21.55	0-2	2
		25	12	21.48	21.68	21.51	0-2	2
		25	24	21.47	21.68	21.47	0-2	2
		50	0	21.55	21.68	21.55	0-2	2
	64QAM	1	0	21.45	21.68	21.54	0-2	2
		1	24	21.50	21.56	21.52	0-2	2
		1	49	21.40	21.65	21.45	0-2	2
		25	0	20.45	20.68	20.46	0-3	3
		25	12	20.50	20.69	20.54	0-3	3
		25	24	20.49	20.72	20.40	0-3	3
		50	0	20.42	20.59	20.47	0-3	3

LTE Band 66 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132047 Ch. 1717.5 ㎒	132322 Ch. 1745 ㎒	132597 Ch. 1772.5 ㎒		
15 ㎒	QPSK	1	0	23.69	23.87	23.74	0	0
		1	36	23.70	23.95	23.69	0	0
		1	74	23.62	23.85	23.55	0	0
		36	0	22.54	22.71	22.55	0-1	1
		36	18	22.59	22.72	22.54	0-1	1
		36	39	22.52	22.74	22.54	0-1	1
		75	0	22.53	22.74	22.55	0-1	1
	16QAM	1	0	22.39	22.53	22.53	0-1	1
		1	36	22.33	22.48	22.24	0-1	1
		1	74	22.24	22.49	22.39	0-1	1
		36	0	21.47	21.65	21.55	0-2	2
		36	18	21.46	21.65	21.47	0-2	2
		36	39	21.45	21.59	21.46	0-2	2
		75	0	21.46	21.64	21.47	0-2	2
	64QAM	1	0	21.47	21.72	21.59	0-2	2
		1	36	21.47	21.75	21.54	0-2	2
		1	74	21.44	21.63	21.33	0-2	2
		36	0	20.43	20.65	20.46	0-3	3
		36	18	20.44	20.63	20.47	0-3	3
		36	39	20.46	20.64	20.42	0-3	3
		75	0	20.45	20.67	20.44	0-3	3

LTE Band 66 _ 20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 ㎒	132322 Ch. 1745 ㎒	132572 Ch. 1770 ㎒		
20 ㎒	QPSK	1	0	23.82	**23.92**	23.84	0	0
		1	49	23.71	23.88	23.64	0	0
		1	99	23.69	23.85	23.58	0	0
		50	0	22.61	22.72	22.58	0-1	1
		50	25	22.60	**22.78**	22.57	0-1	1
		50	49	22.60	22.72	22.55	0-1	1
		100	0	22.63	22.77	22.59	0-1	1
	16QAM	1	0	22.56	22.73	22.48	0-1	1
		1	49	22.45	22.53	22.51	0-1	1
		1	99	22.29	22.56	22.33	0-1	1
		50	0	21.58	21.73	21.55	0-2	2
		50	25	21.55	21.66	21.53	0-2	2
		50	49	21.60	21.73	21.45	0-2	2
		100	0	21.52	21.73	21.52	0-2	2
	64QAM	1	0	21.67	21.80	21.68	0-2	2
		1	49	21.57	21.76	21.60	0-2	2
		1	99	21.45	21.77	21.46	0-2	2
		50	0	20.57	20.64	20.51	0-3	3
		50	25	20.46	20.66	20.47	0-3	3
		50	49	20.53	20.62	20.43	0-3	3
		100	0	20.55	20.66	20.52	0-3	3

[LTE Band 71 Conducted Power]

LTE Band 71 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133147 Ch. 665.5 ㎒	133297 Ch. 680.5 ㎒	133447 Ch. 695.5 ㎒		
5 ㎒	QPSK	1	0	23.53	23.60	23.52	0	0
		1	12	23.50	23.57	23.47	0	0
		1	24	23.46	23.51	23.46	0	0
		12	0	22.46	22.43	22.40	0-1	1
		12	6	22.37	22.45	22.42	0-1	1
		12	11	22.35	22.42	22.39	0-1	1
		25	0	22.34	22.46	22.43	0-1	1
	16QAM	1	0	22.25	22.37	22.14	0-1	1
		1	12	22.19	22.22	22.16	0-1	1
		1	24	22.13	22.19	22.13	0-1	1
		12	0	21.39	21.33	21.27	0-2	2
		12	6	21.32	21.37	21.32	0-2	2
		12	11	21.32	21.34	21.26	0-2	2
		25	0	21.35	21.41	21.33	0-2	2
	64QAM	1	0	21.37	21.32	21.43	0-2	2
		1	12	21.21	21.24	21.44	0-2	2
		1	24	21.33	21.36	21.26	0-2	2
		12	0	20.43	20.48	20.38	0-3	3
		12	6	20.38	20.45	20.36	0-3	3
		12	11	20.30	20.37	20.36	0-3	3
		25	0	20.41	20.51	20.40	0-3	3

LTE Band 71 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133172 Ch. 668 ㎒	133297 Ch. 680.5 ㎒	133422 Ch. 693 ㎒		
10 ㎒	QPSK	1	0	23.64	23.61	23.69	0	0
		1	24	23.60	23.60	23.58	0	0
		1	49	23.53	23.50	23.46	0	0
		25	0	22.48	22.47	22.53	0-1	1
		25	12	22.51	22.42	22.51	0-1	1
		25	24	22.44	22.36	22.45	0-1	1
		50	0	22.51	22.48	22.44	0-1	1
	16QAM	1	0	22.46	22.47	22.35	0-1	1
		1	24	22.30	22.27	22.41	0-1	1
		1	49	22.19	22.26	22.29	0-1	1
		25	0	21.47	21.43	21.41	0-2	2
		25	12	21.43	21.40	21.42	0-2	2
		25	24	21.46	21.41	21.34	0-2	2
		50	0	21.47	21.43	21.41	0-2	2
	64QAM	1	0	21.52	21.41	21.41	0-2	2
		1	24	21.48	21.37	21.31	0-2	2
		1	49	21.46	21.30	21.20	0-2	2
		25	0	20.55	20.47	20.51	0-3	3
		25	12	20.47	20.49	20.50	0-3	3
		25	24	20.46	20.40	20.41	0-3	3
		50	0	20.45	20.44	20.44	0-3	3

LTE Band 71 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133197 Ch. 670.5 ㎒	133297 Ch. 680.5 ㎒	133397 Ch. 690.5 ㎒		
15 ㎒	QPSK	1	0	23.77	23.74	23.82	0	0
		1	36	23.58	23.56	23.61	0	0
		1	74	23.43	23.45	23.49	0	0
		36	0	22.53	22.50	22.62	0-1	1
		36	18	22.51	22.53	22.58	0-1	1
		36	39	22.44	22.40	22.50	0-1	1
		75	0	22.55	22.44	22.56	0-1	1
	16QAM	1	0	22.59	22.42	22.68	0-1	1
		1	36	22.43	22.33	22.44	0-1	1
		1	74	22.31	22.09	22.31	0-1	1
		36	0	21.52	21.44	21.49	0-2	2
		36	18	21.45	21.37	21.50	0-2	2
		36	39	21.36	21.39	21.41	0-2	2
		75	0	21.50	21.41	21.47	0-2	2
	64QAM	1	0	21.64	21.50	21.63	0-2	2
		1	36	21.54	21.40	21.50	0-2	2
		1	74	21.42	21.40	21.40	0-2	2
		36	0	20.56	20.50	20.61	0-3	3
		36	18	20.54	20.49	20.60	0-3	3
		36	39	20.43	20.39	20.51	0-3	3
		75	0	20.54	20.45	20.53	0-3	3

LTE Band 71 _ 20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133222 Ch. 673 ㎒	133297 Ch. 680.5 ㎒	133372 Ch. 688 ㎒		
20 ㎒	QPSK	1	0	23.71	23.73	**23.86**	0	0
		1	49	23.68	23.58	23.70	0	0
		1	99	23.43	23.40	23.47	0	0
		50	0	22.59	22.50	**22.66**	0-1	1
		50	25	22.56	22.50	22.64	0-1	1
		50	49	22.45	22.39	22.51	0-1	1
		100	0	22.52	22.43	22.58	0-1	1
	16QAM	1	0	22.54	22.39	22.64	0-1	1
		1	49	22.42	22.42	22.41	0-1	1
		1	99	22.21	22.08	22.39	0-1	1
		50	0	21.55	21.53	21.61	0-2	2
		50	25	21.49	21.43	21.60	0-2	2
		50	49	21.39	21.34	21.50	0-2	2
		100	0	21.48	21.36	21.54	0-2	2
	64QAM	1	0	21.62	21.64	21.66	0-2	2
		1	49	21.30	21.43	21.53	0-2	2
		1	99	21.31	21.27	21.44	0-2	2
		50	0	20.60	20.48	20.69	0-3	3
		50	25	20.53	20.44	20.65	0-3	3
		50	49	20.43	20.39	20.57	0-3	3
		100	0	20.50	20.48	20.63	0-3	3

Note : 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.

11.2.2 LTE Reduced Conducted Power

[LTE Band 2 Conducted Power]

LTE Band 2 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18607 Ch. 1850.7 ㎒	18900 Ch. 1880 ㎒	19193 Ch. 1909.3 ㎒		
1.4 ㎒	QPSK	1	0	12.61	12.68	12.86	0	0
		1	3	12.49	12.68	12.85	0	0
		1	5	12.51	12.63	12.92	0	0
		3	0	12.59	12.70	12.96	0	0
		3	1	12.60	12.76	12.93	0	0
		3	3	12.59	12.71	12.93	0	0
		6	0	12.54	12.73	12.96	0-1	0
	16QAM	1	0	12.32	12.48	12.70	0-1	0
		1	3	12.37	12.45	12.69	0-1	0
		1	5	12.36	12.48	12.75	0-1	0
		3	0	12.50	12.60	12.84	0-1	0
		3	1	12.48	12.73	12.91	0-1	0
		3	3	12.56	12.65	12.88	0-1	0
		6	0	12.51	12.82	12.93	0-2	0
	64QAM	1	0	12.41	12.51	12.87	0-2	0
		1	3	12.53	12.60	12.93	0-2	0
		1	5	12.52	12.60	12.86	0-2	0
		3	0	12.57	12.78	12.92	0-2	0
		3	1	12.61	12.81	12.90	0-2	0
		3	3	12.49	12.72	12.97	0-2	0
		6	0	12.53	12.70	12.94	0-3	0

LTE Band 2 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18615 Ch. 1851.5 ㎒	18900 Ch. 1880 ㎒	19185 Ch. 1908.5 ㎒		
3 ㎒	QPSK	1	0	12.57	12.66	12.90	0	0
		1	7	12.62	12.71	12.96	0	0
		1	14	12.56	12.67	12.88	0	0
		8	0	12.63	12.72	12.97	0-1	0
		8	3	12.60	12.72	12.97	0-1	0
		8	7	12.59	12.72	12.95	0-1	0
		15	0	12.62	12.71	12.97	0-1	0
	16QAM	1	0	12.41	12.61	12.80	0-1	0
		1	7	12.40	12.50	12.77	0-1	0
		1	14	12.43	12.55	12.89	0-1	0
		8	0	12.64	12.80	12.95	0-2	0
		8	3	12.59	12.69	12.94	0-2	0
		8	7	12.59	12.73	12.95	0-2	0
		15	0	12.52	12.65	12.94	0-2	0
	64QAM	1	0	12.58	12.72	12.96	0-2	0
		1	7	12.38	12.67	12.89	0-2	0
		1	14	12.48	12.66	12.97	0-2	0
		8	0	12.62	12.78	12.97	0-3	0
		8	3	12.62	12.77	12.97	0-3	0
		8	7	12.62	12.78	12.96	0-3	0
		15	0	12.58	12.74	12.95	0-3	0

LTE Band 2 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18625 Ch. 1852.5 ㎒	18900Ch. 1880 ㎒	19175 Ch. 1907.5 ㎒		
5 ㎒	QPSK	1	0	12.77	12.75	12.98	0	0
		1	12	12.58	12.68	12.95	0	0
		1	24	12.62	12.72	12.96	0	0
		12	0	12.58	12.75	12.96	0-1	0
		12	6	12.62	12.72	12.94	0-1	0
		12	11	12.63	12.73	12.92	0-1	0
		25	0	12.62	12.76	12.96	0-1	0
	16QAM	1	0	12.49	12.58	12.88	0-1	0
		1	12	12.42	12.64	12.81	0-1	0
		1	24	12.50	12.69	12.81	0-1	0
		12	0	12.55	12.69	12.94	0-2	0
		12	6	12.58	12.73	12.93	0-2	0
		12	11	12.54	12.70	12.93	0-2	0
		25	0	12.54	12.68	12.95	0-2	0
	64QAM	1	0	12.34	12.64	12.74	0-2	0
		1	12	12.58	12.60	12.68	0-2	0
		1	24	12.44	12.71	12.80	0-2	0
		12	0	12.60	12.74	12.91	0-3	0
		12	6	12.53	12.69	12.92	0-3	0
		12	11	12.56	12.69	12.94	0-3	0
		25	0	12.54	12.74	12.93	0-3	0

LTE Band 2 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18650 Ch. 1855 ㎒	18900 Ch. 1880 ㎒	19150 Ch. 1905 ㎒		
10 ㎒	QPSK	1	0	12.79	12.66	12.96	0	0
		1	24	12.74	12.72	12.93	0	0
		1	49	12.63	12.71	12.82	0	0
		25	0	12.56	12.68	12.92	0-1	0
		25	12	12.58	12.71	12.91	0-1	0
		25	24	12.51	12.68	12.91	0-1	0
		50	0	12.56	12.73	12.90	0-1	0
	16QAM	1	0	12.62	12.67	12.81	0-1	0
		1	24	12.49	12.49	12.75	0-1	0
		1	49	12.53	12.64	12.68	0-1	0
		25	0	12.66	12.71	12.87	0-2	0
		25	12	12.56	12.65	12.93	0-2	0
		25	24	12.50	12.70	12.86	0-2	0
		50	0	12.56	12.68	12.91	0-2	0
	64QAM	1	0	12.65	12.56	12.88	0-2	0
		1	24	12.42	12.61	12.80	0-2	0
		1	49	12.56	12.56	12.89	0-2	0
		25	0	12.64	12.70	12.94	0-3	0
		25	12	12.56	12.74	12.90	0-3	0
		25	24	12.57	12.71	12.89	0-3	0
		50	0	12.61	12.75	12.92	0-3	0

LTE Band 2 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18675 Ch. 1857.5 ㎒	18900 Ch. 1880 ㎒	19125 Ch. 1902.5 ㎒		
15 ㎒	QPSK	1	0	12.72	12.69	12.85	0	0
		1	36	12.67	12.64	12.80	0	0
		1	74	12.54	12.61	12.81	0	0
		36	0	12.62	12.73	12.88	0-1	0
		36	18	12.61	12.62	12.84	0-1	0
		36	39	12.64	12.68	12.80	0-1	0
		75	0	12.60	12.67	12.87	0-1	0
	16QAM	1	0	12.54	12.58	12.72	0-1	0
		1	36	12.53	12.55	12.64	0-1	0
		1	74	12.40	12.56	12.78	0-1	0
		36	0	12.59	12.65	12.87	0-2	0
		36	18	12.59	12.68	12.78	0-2	0
		36	39	12.56	12.63	12.80	0-2	0
		75	0	12.58	12.71	12.82	0-2	0
	64QAM	1	0	12.51	12.71	12.99	0-2	0
		1	36	12.64	12.69	12.76	0-2	0
		1	74	12.43	12.70	12.74	0-2	0
		36	0	12.66	12.67	12.82	0-3	0
		36	18	12.58	12.65	12.83	0-3	0
		36	39	12.57	12.70	12.75	0-3	0
		75	0	12.56	12.73	12.91	0-3	0

LTE Band 2 _ 20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 ㎒	18900 Ch. 1880 ㎒	19100 Ch. 1900 ㎒		
20 ㎒	QPSK	1	0	12.71	12.66	12.82	0	0
		1	49	12.58	12.70	12.71	0	0
		1	99	12.56	12.71	12.69	0	0
		50	0	12.55	12.67	12.81	0-1	0
		50	25	12.55	12.62	12.83	0-1	0
		50	49	12.51	12.66	12.78	0-1	0
		100	0	12.55	12.67	12.86	0-1	0
	16QAM	1	0	12.47	12.52	12.76	0-1	0
		1	49	12.50	12.59	12.89	0-1	0
		1	99	12.52	12.60	12.80	0-1	0
		50	0	12.56	12.68	12.87	0-2	0
		50	25	12.54	12.66	12.86	0-2	0
		50	49	12.51	12.68	12.80	0-2	0
		100	0	12.54	12.63	12.82	0-2	0
	64QAM	1	0	12.44	12.67	12.89	0-2	0
		1	49	12.54	12.56	12.87	0-2	0
		1	99	12.46	12.63	12.86	0-2	0
		50	0	12.56	12.63	12.83	0-3	0
		50	25	12.55	12.64	12.81	0-3	0
		50	49	12.48	12.66	12.81	0-3	0
		100	0	12.54	12.69	12.78	0-3	0

[LTE Band 4 Conducted Power]

LTE Band 4 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19957 Ch. 1710.7 ㎒	20175 Ch. 1732.5 ㎒	20393 Ch. 1754.3 ㎒		
1.4 ㎒	QPSK	1	0	14.11	14.02	13.99	0	0
		1	3	14.14	14.05	14.05	0	0
		1	5	14.16	14.05	14.04	0	0
		3	0	14.04	14.08	14.05	0	0
		3	1	14.03	14.04	14.08	0	0
		3	3	14.02	14.08	14.10	0	0
		6	0	14.03	14.01	14.04	0-1	0
	16QAM	1	0	13.80	13.84	13.85	0-1	0
		1	3	13.93	13.86	13.77	0-1	0
		1	5	13.77	13.94	13.82	0-1	0
		3	0	13.84	14.03	13.94	0-1	0
		3	1	13.96	13.92	13.96	0-1	0
		3	3	13.89	14.01	13.91	0-1	0
		6	0	14.03	14.11	14.13	0-2	0
	64QAM	1	0	13.93	13.90	13.88	0-2	0
		1	3	13.88	14.02	13.95	0-2	0
		1	5	13.81	14.07	13.98	0-2	0
		3	0	13.97	14.11	14.04	0-2	0
		3	1	13.93	14.11	14.03	0-2	0
		3	3	13.98	14.06	14.12	0-2	0
		6	0	13.97	14.01	14.01	0-3	0

LTE Band 4 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19965 Ch. 1711.5 ㎒	20175 Ch. 1732.5 ㎒	20385 Ch. 1753.5 ㎒		
3 ㎒	QPSK	1	0	13.93	14.04	14.07	0	0
		1	7	13.95	14.06	14.09	0	0
		1	14	13.91	14.07	14.08	0	0
		8	0	14.03	14.14	14.05	0-1	0
		8	3	14.04	14.11	14.04	0-1	0
		8	7	14.03	14.07	14.07	0-1	0
		15	0	14.05	14.09	14.08	0-1	0
	16QAM	1	0	13.90	13.98	13.85	0-1	0
		1	7	13.99	13.92	13.96	0-1	0
		1	14	13.95	13.97	13.97	0-1	0
		8	0	13.93	14.05	14.02	0-2	0
		8	3	13.98	14.03	14.01	0-2	0
		8	7	13.97	14.06	14.04	0-2	0
		15	0	14.00	14.03	14.05	0-2	0
	64QAM	1	0	13.93	14.07	13.94	0-2	0
		1	7	13.99	14.05	14.11	0-2	0
		1	14	14.05	14.00	14.03	0-2	0
		8	0	14.00	14.05	14.09	0-3	0
		8	3	14.00	14.13	14.07	0-3	0
		8	7	13.93	14.15	14.10	0-3	0
		15	0	14.02	14.01	14.14	0-3	0

LTE Band 4 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19975 Ch. 1712.5 ㎒	20175 Ch. 1732.5 ㎒	20375 Ch. 1752.5 ㎒		
5 ㎒	QPSK	1	0	14.13	14.08	14.11	0	0
		1	12	14.07	13.99	14.00	0	0
		1	24	14.04	14.06	14.06	0	0
		12	0	14.03	14.11	14.10	0-1	0
		12	6	14.10	14.13	14.10	0-1	0
		12	11	14.06	14.12	14.08	0-1	0
		25	0	14.03	14.14	14.08	0-1	0
	16QAM	1	0	14.12	14.14	14.08	0-1	0
		1	12	13.93	13.99	14.05	0-1	0
		1	24	13.91	14.11	14.18	0-1	0
		12	0	14.05	14.12	14.10	0-2	0
		12	6	14.02	14.12	14.06	0-2	0
		12	11	14.00	14.09	14.09	0-2	0
		25	0	14.02	14.12	14.11	0-2	0
	64QAM	1	0	14.01	14.18	14.10	0-2	0
		1	12	13.97	14.03	14.10	0-2	0
		1	24	14.05	13.90	14.10	0-2	0
		12	0	13.98	14.11	14.01	0-3	0
		12	6	13.97	14.09	14.08	0-3	0
		12	11	13.96	14.09	14.07	0-3	0
		25	0	14.05	14.13	14.06	0-3	0

LTE Band 4 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20000 Ch. 1715 ㎒	20175 Ch. 1732.5 ㎒	20350 Ch. 1750 ㎒		
10 ㎒	QPSK	1	0	14.25	14.23	14.34	0	0
		1	24	14.20	14.19	14.22	0	0
		1	49	14.18	14.21	14.26	0	0
		25	0	14.17	14.24	14.22	0-1	0
		25	12	14.23	14.17	14.24	0-1	0
		25	24	14.18	14.19	14.23	0-1	0
		50	0	14.24	14.20	14.23	0-1	0
	16QAM	1	0	14.10	14.22	14.22	0-1	0
		1	24	14.02	14.01	14.00	0-1	0
		1	49	14.06	13.99	14.03	0-1	0
		25	0	14.25	14.15	14.23	0-2	0
		25	12	14.20	14.18	14.21	0-2	0
		25	24	14.16	14.21	14.24	0-2	0
		50	0	14.23	14.18	14.22	0-2	0
	64QAM	1	0	14.11	14.04	14.13	0-2	0
		1	24	14.07	14.00	14.19	0-2	0
		1	49	14.10	14.10	14.16	0-2	0
		25	0	14.16	14.21	14.22	0-3	0
		25	12	14.19	14.16	14.20	0-3	0
		25	24	14.14	14.18	14.23	0-3	0
		50	0	14.23	14.22	14.23	0-3	0

LTE Band 4 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20025 Ch. 1717.5 ㎒	20175 Ch. 1732.5 ㎒	20325 Ch. 1747.5 ㎒		
15 ㎒	QPSK	1	0	14.32	14.25	14.32	0	0
		1	36	14.26	14.14	14.30	0	0
		1	74	14.24	14.21	14.29	0	0
		36	0	14.25	14.27	14.26	0-1	0
		36	18	14.19	14.22	14.29	0-1	0
		36	39	14.19	14.23	14.26	0-1	0
		75	0	14.21	14.17	14.21	0-1	0
	16QAM	1	0	14.10	14.30	14.25	0-1	0
		1	36	14.02	14.03	14.23	0-1	0
		1	74	14.12	14.04	14.25	0-1	0
		36	0	14.22	14.25	14.25	0-2	0
		36	18	14.25	14.20	14.21	0-2	0
		36	39	14.17	14.17	14.25	0-2	0
		75	0	14.18	14.25	14.25	0-2	0
	64QAM	1	0	14.18	14.20	14.27	0-2	0
		1	36	14.09	14.12	14.14	0-2	0
		1	74	14.09	14.15	14.18	0-2	0
		36	0	14.22	14.29	14.32	0-3	0
		36	18	14.22	14.24	14.27	0-3	0
		36	39	14.21	14.27	14.29	0-3	0
		75	0	14.23	14.28	14.29	0-3	0

LTE Band 4 _ 20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20175 Ch. 1732.5 ㎒		
20 ㎒	QPSK	1	0	14.37	0	0
		1	49	14.23	0	0
		1	99	14.21	0	0
		50	0	14.27	0-1	0
		50	25	14.23	0-1	0
		50	49	14.21	0-1	0
		100	0	14.25	0-1	0
	16QAM	1	0	14.19	0-1	0
		1	49	14.04	0-1	0
		1	99	14.02	0-1	0
		50	0	14.26	0-2	0
		50	25	14.20	0-2	0
		50	49	14.22	0-2	0
		100	0	14.24	0-2	0
	64QAM	1	0	14.11	0-2	0
		1	49	14.24	0-2	0
		1	99	14.15	0-2	0
		50	0	14.25	0-3	0
		50	25	14.26	0-3	0
		50	49	14.28	0-3	0
		100	0	14.31	0-3	0

Note: LTE Band 4 (AWS) at 20 ㎒ 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.

[LTE Band 5 Conducted Power]

LTE Band 5 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20407 Ch. 824.7 ㎒	20525 Ch. 836.5 ㎒	20643 Ch. 848.3 ㎒		
1.4 ㎒	QPSK	1	0	18.34	18.34	18.23	0	0
		1	3	18.36	18.33	18.23	0	0
		1	5	18.33	18.32	18.22	0	0
		3	0	18.36	18.36	18.24	0	0
		3	1	18.35	18.35	18.27	0	0
		3	3	18.34	18.37	18.24	0	0
		6	0	18.32	18.36	18.23	0-1	0
	16QAM	1	0	18.35	18.24	18.19	0-1	0
		1	3	18.35	18.31	18.25	0-1	0
		1	5	18.30	18.36	18.21	0-1	0
		3	0	18.34	18.35	18.23	0-1	0
		3	1	18.34	18.41	18.36	0-1	0
		3	3	18.39	18.40	18.38	0-1	0
		6	0	18.36	18.40	18.29	0-2	0
	64QAM	1	0	18.40	18.36	18.31	0-2	0
		1	3	18.31	18.36	18.22	0-2	0
		1	5	18.23	18.41	18.24	0-2	0
		3	0	18.40	18.41	18.32	0-2	0
		3	1	18.40	18.41	18.37	0-2	0
		3	3	18.41	18.39	18.32	0-2	0
		6	0	18.39	18.36	18.28	0-3	0

LTE Band 5 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20415 Ch. 825.5 ㎒	20525 Ch. 836.5 ㎒	20635 Ch. 847.5 ㎒		
3 ㎒	QPSK	1	0	18.34	18.30	18.21	0	0
		1	7	18.31	18.30	18.22	0	0
		1	14	18.29	18.28	18.18	0	0
		8	0	18.29	18.26	18.19	0-1	0
		8	3	18.28	18.25	18.19	0-1	0
		8	7	18.28	18.26	18.18	0-1	0
		15	0	18.28	18.23	18.18	0-1	0
	16QAM	1	0	18.07	18.19	18.05	0-1	0
		1	7	18.08	18.11	18.06	0-1	0
		1	14	18.07	18.10	18.02	0-1	0
		8	0	18.33	18.33	18.25	0-2	0
		8	3	18.31	18.33	18.23	0-2	0
		8	7	18.32	18.32	18.23	0-2	0
		15	0	18.32	18.27	18.18	0-2	0
	64QAM	1	0	18.40	18.30	18.19	0-2	0
		1	7	18.33	18.14	18.12	0-2	0
		1	14	18.27	18.15	18.09	0-2	0
		8	0	18.32	18.29	18.22	0-3	0
		8	3	18.32	18.27	18.23	0-3	0
		8	7	18.27	18.28	18.21	0-3	0

		15	0	18.35	18.32	18.25	0-3	0

LTE Band 5 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20425 Ch. 826.5 ㎒	20525 Ch. 836.5 ㎒	20625 Ch. 846.5 ㎒		
5 ㎒	QPSK	1	0	18.37	18.37	18.31	0	0
		1	12	18.38	18.36	18.31	0	0
		1	24	18.33	18.29	18.26	0	0
		12	0	18.29	18.27	18.21	0-1	0
		12	6	18.26	18.25	18.20	0-1	0
		12	11	18.24	18.23	18.18	0-1	0
		25	0	18.28	18.26	18.18	0-1	0
	16QAM	1	0	18.24	18.20	18.14	0-1	0
		1	12	18.20	18.18	18.08	0-1	0
		1	24	18.20	18.07	18.02	0-1	0
		12	0	18.26	18.24	18.23	0-2	0
		12	6	18.26	18.23	18.23	0-2	0
		12	11	18.23	18.25	18.20	0-2	0
		25	0	18.29	18.30	18.24	0-2	0
	64QAM	1	0	18.33	18.38	18.23	0-2	0
		1	12	18.25	18.42	18.19	0-2	0
		1	24	18.25	18.32	18.23	0-2	0
		12	0	18.34	18.29	18.24	0-3	0
		12	6	18.32	18.28	18.24	0-3	0
		12	11	18.35	18.26	18.22	0-3	0
		25	0	18.37	18.34	18.25	0-3	0

LTE Band 5 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20525 Ch. 836.5 ㎒		
10 ㎒	QPSK	1	0	18.43	0	0
		1	24	18.37	0	0
		1	49	18.29	0	0
		25	0	18.29	0-1	0
		25	12	18.27	0-1	0
		25	24	18.21	0-1	0
		50	0	18.26	0-1	0
	16QAM	1	0	18.37	0-1	0
		1	24	18.34	0-1	0
		1	49	18.26	0-1	0
		25	0	18.33	0-2	0
		25	12	18.31	0-2	0
		25	24	18.27	0-2	0
		50	0	18.30	0-2	0
	64QAM	1	0	18.36	0-2	0
		1	24	18.30	0-2	0
		1	49	18.25	0-2	0
		25	0	18.34	0-3	0
		25	12	18.34	0-3	0
		25	24	18.31	0-3	0
		50	0	18.31	0-3	0

Note: LTE Band 5 at 10 ㎒ 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.

[LTE Band 7 Conducted Power]

LTE Band 7_ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20775 Ch. 2502.5 ㎒	21100 Ch. 2535 ㎒	21425 Ch. 2567.5 ㎒		
5 ㎒	QPSK	1	0	11.86	12.19	12.03	0	0
		1	12	11.86	12.21	12.04	0	0
		1	24	11.81	12.25	12.01	0	0
		12	0	11.73	12.08	11.90	0-1	0
		12	6	11.72	12.11	11.89	0-1	0
		12	11	11.71	12.12	11.90	0-1	0
		25	0	11.72	12.11	11.89	0-1	0
	16QAM	1	0	11.77	11.97	11.96	0-1	0
		1	12	11.64	11.92	11.86	0-1	0
		1	24	11.56	12.02	11.77	0-1	0
		12	0	11.76	12.10	11.91	0-2	0
		12	6	11.70	12.14	11.89	0-2	0
		12	11	11.71	12.12	11.88	0-2	0
		25	0	11.81	12.19	11.96	0-2	0
	64QAM	1	0	11.94	12.22	12.07	0-2	0
		1	12	11.85	12.21	12.01	0-2	0
		1	24	11.75	12.27	12.00	0-2	0
		12	0	11.86	12.14	11.96	0-3	0
		12	6	11.83	12.19	11.97	0-3	0
		12	11	11.79	12.19	11.97	0-3	0
		25	0	11.84	12.25	12.00	0-3	0

LTE Band 7_ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20800 Ch. 2505 ㎒	21100 Ch. 2535 ㎒	21400 Ch. 2565 ㎒		
10 ㎒	QPSK	1	0	12.00	12.23	12.09	0	0
		1	24	11.93	12.27	12.05	0	0
		1	49	11.93	12.30	12.03	0	0
		25	0	11.81	12.09	11.95	0-1	0
		25	12	11.78	12.11	11.95	0-1	0
		25	24	11.76	12.14	11.93	0-1	0
		50	0	11.77	12.13	11.93	0-1	0
	16QAM	1	0	11.91	12.03	11.86	0-1	0
		1	24	11.88	12.25	11.98	0-1	0
		1	49	11.80	12.36	11.93	0-1	0
		25	0	11.91	12.16	12.05	0-2	0
		25	12	11.87	12.20	12.03	0-2	0
		25	24	11.87	12.23	12.03	0-2	0
		50	0	11.87	12.21	12.03	0-2	0
	64QAM	1	0	12.01	12.18	12.10	0-2	0
		1	24	11.93	12.27	11.96	0-2	0
		1	49	11.92	12.28	12.10	0-2	0
		25	0	11.93	12.20	12.09	0-3	0
		25	12	11.91	12.26	12.08	0-3	0
		25	24	11.87	12.28	12.04	0-3	0
		50	0	11.88	12.20	12.05	0-3	0

LTE Band 7_15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20825 Ch. 2507.5 MHz	21100 Ch. 2535 MHz	21375 Ch. 2562.5 MHz		
15 MHz	QPSK	1	0	12.00	12.21	12.12	0	0
		1	36	11.89	12.29	12.10	0	0
		1	74	11.88	12.38	12.08	0	0
		36	0	11.78	12.12	11.96	0-1	0
		36	18	11.77	12.13	11.96	0-1	0
		36	39	11.76	12.18	11.95	0-1	0
		75	0	11.77	12.15	11.95	0-1	0
	16QAM	1	0	11.85	12.13	11.98	0-1	0
		1	36	11.81	12.23	11.94	0-1	0
		1	74	11.78	12.30	11.91	0-1	0
		36	0	11.87	12.15	12.05	0-2	0
		36	18	11.82	12.22	12.01	0-2	0
		36	39	11.82	12.24	12.00	0-2	0
		75	0	11.85	12.22	12.05	0-2	0
	64QAM	1	0	11.89	12.25	12.13	0-2	0
		1	36	11.90	12.29	12.21	0-2	0
		1	74	12.01	12.40	12.20	0-2	0
		36	0	11.93	12.22	12.12	0-3	0
		36	18	11.90	12.25	12.09	0-3	0
		36	39	11.87	12.31	12.05	0-3	0
		75	0	11.94	12.27	12.09	0-3	0

LTE Band 7_20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20850 Ch. 2510 MHz	21100 Ch. 2535 MHz	21350 Ch. 2560 MHz		
20 MHz	QPSK	1	0	12.16	12.17	12.16	0	0
		1	49	12.04	12.33	12.13	0	0
		1	99	12.07	12.41	12.10	0	0
		50	0	11.93	12.13	12.01	0-1	0
		50	25	11.90	12.17	12.02	0-1	0
		50	49	11.89	12.22	12.00	0-1	0
		100	0	11.90	12.16	11.99	0-1	0
	16QAM	1	0	12.05	12.07	12.03	0-1	0
		1	49	11.93	12.16	12.04	0-1	0
		1	99	11.91	12.30	11.96	0-1	0
		50	0	12.00	12.22	12.12	0-2	0
		50	25	11.98	12.27	12.11	0-2	0
		50	49	11.96	12.35	12.09	0-2	0
		100	0	11.99	12.24	12.07	0-2	0
	64QAM	1	0	12.07	12.34	12.22	0-2	0
		1	49	11.99	12.39	12.15	0-2	0
		1	99	11.97	12.48	12.13	0-2	0
		50	0	12.03	12.25	12.13	0-3	0
		50	25	12.00	12.26	12.10	0-3	0
		50	49	11.98	12.33	12.09	0-3	0
		100	0	12.02	12.30	12.12	0-3	0

[LTE Band 12 Conducted Power]

LTE Band 12 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23017 Ch. 699.7 ㎒	23095 Ch. 707.5 ㎒	23173 Ch. 715.3 ㎒		
1.4 ㎒	QPSK	1	0	16.96	17.00	16.99	0	0
		1	3	17.00	16.96	17.04	0	0
		1	5	16.95	16.94	16.95	0	0
		3	0	16.98	16.99	17.02	0	0
		3	1	17.07	16.96	17.03	0	0
		3	3	17.00	16.96	17.00	0	0
		6	0	16.98	16.95	17.01	0-1	0
	16QAM	1	0	16.85	16.74	16.78	0-1	0
		1	3	16.75	16.77	16.75	0-1	0
		1	5	16.83	16.68	16.84	0-1	0
		3	0	16.93	16.98	16.94	0-1	0
		3	1	16.85	16.86	17.06	0-1	0
		3	3	16.88	16.83	16.92	0-1	0
		6	0	17.00	16.97	17.08	0-2	0
	64QAM	1	0	17.03	17.05	17.09	0-2	0
		1	3	17.12	16.88	17.06	0-2	0
		1	5	16.93	16.95	17.00	0-2	0
		3	0	16.99	17.10	17.05	0-2	0
		3	1	16.98	16.99	17.03	0-2	0
		3	3	17.00	17.01	17.07	0-2	0
		6	0	17.03	16.94	17.04	0-3	0

LTE Band 12 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23025 Ch. 700.5 ㎒	23095 Ch. 707.5 ㎒	23165 Ch. 714.5 ㎒		
3 ㎒	QPSK	1	0	17.02	16.97	17.00	0	0
		1	7	16.94	16.97	16.96	0	0
		1	14	16.84	16.96	16.94	0	0
		8	0	16.96	16.90	16.96	0-1	0
		8	3	17.00	16.99	16.96	0-1	0
		8	7	16.98	16.96	16.97	0-1	0
		15	0	17.01	16.99	16.95	0-1	0
	16QAM	1	0	16.62	16.70	16.67	0-1	0
		1	7	16.62	16.58	16.64	0-1	0
		1	14	16.63	16.49	16.72	0-1	0
		8	0	17.00	17.02	16.94	0-2	0
		8	3	16.91	17.03	16.97	0-2	0
		8	7	16.98	16.92	16.97	0-2	0
		15	0	16.95	16.96	16.94	0-2	0
	64QAM	1	0	16.83	16.98	16.87	0-2	0
		1	7	16.92	16.77	16.94	0-2	0
		1	14	16.89	16.85	16.96	0-2	0
		8	0	16.90	16.95	17.00	0-3	0
		8	3	16.91	16.96	16.99	0-3	0
		8	7	16.93	16.95	16.95	0-3	0
		15	0	16.90	16.99	17.00	0-3	0

LTE Band 12 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23035 Ch. 701.5 ㎒	23095 Ch. 707.5 ㎒	23155 Ch. 713.5 ㎒		
5 ㎒	QPSK	1	0	17.08	17.11	17.09	0	0
		1	12	17.01	17.09	17.13	0	0
		1	24	17.01	17.04	17.07	0	0
		12	0	16.91	16.95	17.03	0-1	0
		12	6	16.92	17.02	16.99	0-1	0
		12	11	16.90	17.02	17.03	0-1	0
		25	0	16.95	16.98	16.98	0-1	0
	16QAM	1	0	16.86	16.89	16.84	0-1	0
		1	12	16.90	16.80	16.86	0-1	0
		1	24	16.83	16.70	16.67	0-1	0
		12	0	16.96	17.05	16.95	0-2	0
		12	6	16.87	16.98	16.95	0-2	0
		12	11	16.92	16.99	16.98	0-2	0
		25	0	17.00	17.07	17.02	0-2	0
	64QAM	1	0	16.98	17.05	17.04	0-2	0
		1	12	16.86	16.99	16.92	0-2	0
		1	24	16.73	16.89	17.08	0-2	0
		12	0	16.95	17.03	17.03	0-3	0
		12	6	16.88	17.03	17.00	0-3	0
		12	11	16.93	16.99	16.97	0-3	0
		25	0	16.99	17.02	17.01	0-3	0

LTE Band 12 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				23095 Ch. 707.5 ㎒		
10 ㎒	QPSK	1	0	17.18	0	0
		1	24	17.11	0	0
		1	49	17.04	0	0
		25	0	17.02	0-1	0
		25	12	17.00	0-1	0
		25	24	17.03	0-1	0
		50	0	16.98	0-1	0
	16QAM	1	0	16.94	0-1	0
		1	24	16.73	0-1	0
		1	49	16.75	0-1	0
		25	0	17.05	0-2	0
		25	12	16.97	0-2	0
		25	24	17.00	0-2	0
		50	0	17.03	0-2	0
	64QAM	1	0	17.11	0-2	0
		1	24	17.07	0-2	0
		1	49	16.90	0-2	0
		25	0	17.07	0-3	0
		25	12	17.00	0-3	0
		25	24	16.98	0-3	0
		50	0	16.94	0-3	0

Note: LTE Band 12 at 10 ㎒ 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.

[LTE Band 13 Conducted Power]

LTE Band 13 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm] 23230 Ch. 782 ㎒	MPR Allowed Per 3GPP [dB]	MPR [dB]
5 ㎒	QPSK	1	0	16.80	0	0
		1	12	16.74	0	0
		1	24	16.69	0	0
		12	0	16.67	0-1	0
		12	6	16.65	0-1	0
		12	11	16.61	0-1	0
		25	0	16.57	0-1	0
	16QAM	1	0	16.56	0-1	0
		1	12	16.43	0-1	0
		1	24	16.37	0-1	0
		12	0	16.59	0-2	0
		12	6	16.64	0-2	0
		12	11	16.63	0-2	0
		25	0	16.68	0-2	0
	64QAM	1	0	16.66	0-2	0
		1	12	16.67	0-2	0
		1	24	16.64	0-2	0
		12	0	16.68	0-3	0
		12	6	16.58	0-3	0
		12	11	16.61	0-3	0
		25	0	16.67	0-3	0

LTE Band 13 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm] 23230 Ch. 782 ㎒	MPR Allowed Per 3GPP [dB]	MPR [dB]
10 ㎒	QPSK	1	0	16.85	0	0
		1	24	16.80	0	0
		1	49	16.75	0	0
		25	0	16.66	0-1	0
		25	12	16.65	0-1	0
		25	24	16.62	0-1	0
		50	0	16.64	0-1	0
	16QAM	1	0	16.66	0-1	0
		1	24	16.44	0-1	0
		1	49	16.40	0-1	0
		25	0	16.76	0-2	0
		25	12	16.66	0-2	0
		25	24	16.63	0-2	0
		50	0	16.69	0-2	0
	64QAM	1	0	16.69	0-2	0
		1	24	16.66	0-2	0
		1	49	16.63	0-2	0
		25	0	16.75	0-3	0
		25	12	16.74	0-3	0
		25	24	16.64	0-3	0
		50	0	16.70	0-3	0

Note: LTE Band 13 at 5 ㎒/ 10 ㎒ 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.

[LTE Band 14 Conducted Power]

LTE Band 14 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23305 Ch. 790.5 ㎒	23330 Ch. 793 ㎒	23355 Ch. 795.5 ㎒		
5 ㎒	QPSK	1	0	17.50	17.52	17.53	0	0
		1	12	17.51	17.50	17.54	0	0
		1	24	17.49	17.47	17.52	0	0
		12	0	17.44	17.41	17.46	0-1	0
		12	6	17.42	17.41	17.44	0-1	0
		12	11	17.41	17.38	17.44	0-1	0
		25	0	17.44	17.41	17.43	0-1	0
	16QAM	1	0	17.27	17.33	17.23	0-1	0
		1	12	17.30	17.26	17.17	0-1	0
		1	24	17.25	17.21	17.25	0-1	0
		12	0	17.43	17.38	17.38	0-2	0
		12	6	17.40	17.37	17.37	0-2	0
		12	11	17.41	17.35	17.35	0-2	0
		25	0	17.46	17.41	17.44	0-2	0
	64QAM	1	0	17.41	17.45	17.43	0-2	0
		1	12	17.44	17.36	17.33	0-2	0
		1	24	17.32	17.39	17.38	0-2	0
		12	0	17.43	17.44	17.46	0-3	0
		12	6	17.43	17.42	17.45	0-3	0
		12	11	17.41	17.40	17.45	0-3	0
		25	0	17.46	17.46	17.47	0-3	0

LTE Band 14 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				23330 Ch. 793 ㎒		
10 ㎒	QPSK	1	0	17.58	0	0
		1	24	17.54	0	0
		1	49	17.47	0	0
		25	0	17.43	0-1	0
		25	12	17.44	0-1	0
		25	24	17.41	0-1	0
		50	0	17.42	0-1	0
	16QAM	1	0	17.37	0-1	0
		1	24	17.37	0-1	0
		1	49	17.27	0-1	0
		25	0	17.47	0-2	0
		25	12	17.44	0-2	0
		25	24	17.43	0-2	0
		50	0	17.44	0-2	0
	64QAM	1	0	17.38	0-2	0
		1	24	17.30	0-2	0
		1	49	17.30	0-2	0
		25	0	17.47	0-3	0
		25	12	17.47	0-3	0
		25	24	17.46	0-3	0
		50	0	17.44	0-3	0

Note: LTE Band 14 at 10 ㎒ 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.

[LTE Band 25 Conducted Power]

LTE Band 25 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26047 Ch. 1850.7 ㎒	26365 Ch. 1882.5 ㎒	26683 Ch. 1914.3 ㎒		
1.4 ㎒	QPSK	1	0	12.71	12.73	12.96	0	0
		1	3	12.78	12.81	12.99	0	0
		1	5	12.74	12.81	13.00	0	0
		3	0	12.68	12.84	13.01	0	0
		3	1	12.68	12.85	13.00	0	0
		3	3	12.74	12.74	12.96	0	0
		6	0	12.69	12.85	12.98	0-1	0
	16QAM	1	0	12.45	12.80	12.76	0-1	0
		1	3	12.49	12.57	12.78	0-1	0
		1	5	12.36	12.68	12.84	0-1	0
		3	0	12.61	12.88	12.98	0-1	0
		3	1	12.59	12.76	12.99	0-1	0
		3	3	12.54	12.73	13.01	0-1	0
		6	0	12.71	12.84	13.00	0-2	0
	64QAM	1	0	12.74	12.76	12.84	0-2	0
		1	3	12.49	12.69	12.90	0-2	0
		1	5	12.60	12.81	12.96	0-2	0
		3	0	12.78	12.83	12.93	0-2	0
		3	1	12.76	12.77	12.93	0-2	0
		3	3	12.65	12.74	12.89	0-2	0
		6	0	12.71	12.81	12.89	0-3	0

LTE Band 25 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26055 Ch. 1851.5 ㎒	26365 Ch. 1882.5 ㎒	26675Ch. 1913.5 ㎒		
3 ㎒	QPSK	1	0	12.72	12.89	13.02	0	0
		1	7	12.66	12.83	12.99	0	0
		1	14	12.74	12.82	12.95	0	0
		8	0	12.74	12.83	12.98	0-1	0
		8	3	12.71	12.86	12.99	0-1	0
		8	7	12.74	12.80	13.02	0-1	0
		15	0	12.68	12.79	13.02	0-1	0
	16QAM	1	0	12.62	12.73	12.83	0-1	0
		1	7	12.59	12.69	12.96	0-1	0
		1	14	12.63	12.71	12.92	0-1	0
		8	0	12.74	12.82	12.98	0-2	0
		8	3	12.72	12.85	13.02	0-2	0
		8	7	12.69	12.82	13.03	0-2	0
		15	0	12.67	12.81	12.96	0-2	0
	64QAM	1	0	12.82	12.85	13.01	0-2	0
		1	7	12.70	12.82	12.97	0-2	0
		1	14	12.74	12.77	12.96	0-2	0
		8	0	12.69	12.79	12.96	0-3	0
		8	3	12.76	12.80	13.02	0-3	0
		8	7	12.68	12.84	13.01	0-3	0
		15	0	12.75	12.86	13.00	0-3	0

LTE Band 25 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26065 Ch. 1852.5 ㎒	26365 Ch. 1882.5 ㎒	26665 Ch. 1912.5 ㎒		
5 ㎒	QPSK	1	0	12.83	12.83	12.95	0	0
		1	12	12.74	12.77	12.90	0	0
		1	24	12.67	12.69	12.99	0	0
		12	0	12.73	12.83	13.03	0-1	0
		12	6	12.71	12.77	13.04	0-1	0
		12	11	12.70	12.77	12.96	0-1	0
		25	0	12.68	12.85	12.99	0-1	0
	16QAM	1	0	12.63	12.63	12.88	0-1	0
		1	12	12.74	12.85	12.95	0-1	0
		1	24	12.78	12.77	13.00	0-1	0
		12	0	12.71	12.78	12.98	0-2	0
		12	6	12.67	12.71	13.01	0-2	0
		12	11	12.69	12.81	13.02	0-2	0
		25	0	12.69	12.82	13.03	0-2	0
	64QAM	1	0	12.78	12.72	12.98	0-2	0
		1	12	12.77	12.82	12.94	0-2	0
		1	24	12.70	12.90	13.01	0-2	0
		12	0	12.68	12.83	12.98	0-3	0
		12	6	12.64	12.77	12.92	0-3	0
		12	11	12.61	12.74	12.94	0-3	0
		25	0	12.74	12.87	13.01	0-3	0

LTE Band 25 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26090 Ch. 1855 ㎒	26365 Ch. 1882.5 ㎒	26640 Ch. 1910 ㎒		
10 ㎒	QPSK	1	0	12.82	12.76	13.01	0	0
		1	24	12.83	12.82	12.95	0	0
		1	49	12.79	12.80	12.99	0	0
		25	0	12.76	12.80	12.97	0-1	0
		25	12	12.76	12.83	12.97	0-1	0
		25	24	12.73	12.81	12.98	0-1	0
		50	0	12.74	12.82	13.04	0-1	0
	16QAM	1	0	12.70	12.62	12.94	0-1	0
		1	24	12.55	12.85	12.95	0-1	0
		1	49	12.65	12.83	12.97	0-1	0
		25	0	12.71	12.84	13.02	0-2	0
		25	12	12.72	12.78	12.96	0-2	0
		25	24	12.70	12.84	12.96	0-2	0
		50	0	12.71	12.83	13.00	0-2	0
	64QAM	1	0	12.67	12.73	12.89	0-2	0
		1	24	12.57	12.74	12.92	0-2	0
		1	49	12.69	12.78	13.00	0-2	0
		25	0	12.73	12.83	12.99	0-3	0
		25	12	12.72	12.80	12.99	0-3	0
		25	24	12.73	12.84	12.99	0-3	0
		50	0	12.76	12.78	13.00	0-3	0

LTE Band 25 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26115 Ch. 1857.5 ㎒	26365 Ch. 1882.5 ㎒	26615 Ch. 1907.5 ㎒		
15 ㎒	QPSK	1	0	12.85	12.74	13.03	0	0
		1	36	12.63	12.80	12.98	0	0
		1	74	12.60	12.84	12.82	0	0
		36	0	12.76	12.75	13.02	0-1	0
		36	18	12.77	12.85	12.95	0-1	0
		36	39	12.67	12.82	12.97	0-1	0
		75	0	12.73	12.78	13.03	0-1	0
	16QAM	1	0	12.66	12.82	13.00	0-1	0
		1	36	12.63	12.79	12.88	0-1	0
		1	74	12.67	12.69	12.85	0-1	0
		36	0	12.75	12.84	13.03	0-2	0
		36	18	12.71	12.88	13.02	0-2	0
		36	39	12.72	12.84	12.93	0-2	0
		75	0	12.71	12.84	13.00	0-2	0
	64QAM	1	0	12.84	12.89	12.91	0-2	0
		1	36	12.74	12.91	12.91	0-2	0
		1	74	12.68	12.82	12.88	0-2	0
		36	0	12.75	12.87	13.03	0-3	0
		36	18	12.75	12.84	13.02	0-3	0
		36	39	12.74	12.83	12.90	0-3	0
		75	0	12.72	12.84	13.03	0-3	0

LTE Band 25 _ 20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26140 Ch. 1860 ㎒	26365 Ch. 1882.5 ㎒	26590 Ch. 1905 ㎒		
20 ㎒	QPSK	1	0	12.78	12.84	13.03	0	0
		1	49	12.63	12.83	12.84	0	0
		1	99	12.64	12.83	12.84	0	0
		50	0	12.72	12.80	13.05	0-1	0
		50	25	12.69	12.85	12.98	0-1	0
		50	49	12.68	12.82	12.91	0-1	0
		100	0	12.70	12.80	12.96	0-1	0
	16QAM	1	0	12.61	12.74	12.87	0-1	0
		1	49	12.68	12.69	12.94	0-1	0
		1	99	12.59	12.69	12.79	0-1	0
		50	0	12.72	12.83	13.02	0-2	0
		50	25	12.71	12.83	12.98	0-2	0
		50	49	12.67	12.83	12.94	0-2	0
		100	0	12.73	12.81	12.90	0-2	0
	64QAM	1	0	12.86	12.76	12.98	0-2	0
		1	49	12.78	12.85	13.00	0-2	0
		1	99	12.70	12.76	12.96	0-2	0
		50	0	12.74	12.83	13.03	0-3	0
		50	25	12.69	12.80	12.97	0-3	0
		50	49	12.73	12.83	12.95	0-3	0
		100	0	12.72	12.85	12.97	0-3	0

[LTE Band 26 Conducted Power]

LTE Band 26 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26697 Ch. 814.7 ㎒	26865 Ch. 831.5 ㎒	27033 Ch. 848.3 ㎒		
1.4 ㎒	QPSK	1	0	17.61	17.63	17.61	0	0
		1	3	17.62	17.62	17.60	0	0
		1	5	17.59	17.62	17.58	0	0
		3	0	17.62	17.62	17.63	0	0
		3	1	17.63	17.62	17.61	0	0
		3	3	17.59	17.63	17.62	0	0
		6	0	17.59	17.62	17.61	0-1	0
	16QAM	1	0	17.51	17.45	17.49	0-1	0
		1	3	17.47	17.53	17.54	0-1	0
		1	5	17.42	17.40	17.46	0-1	0
		3	0	17.58	17.60	17.62	0-1	0
		3	1	17.63	17.64	17.63	0-1	0
		3	3	17.63	17.59	17.64	0-1	0
		6	0	17.61	17.66	17.66	0-2	0
	64QAM	1	0	17.66	17.54	17.66	0-2	0
		1	3	17.61	17.68	17.71	0-2	0
		1	5	17.60	17.71	17.70	0-2	0
		3	0	17.72	17.69	17.75	0-2	0
		3	1	17.66	17.73	17.74	0-2	0
		3	3	17.69	17.70	17.74	0-2	0
		6	0	17.59	17.66	17.60	0-3	0

LTE Band 26 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26705 Ch. 815.5 ㎒	26865 Ch. 831.5 ㎒	27025 Ch. 847.5 ㎒		
3 ㎒	QPSK	1	0	17.68	17.64	17.68	0	0
		1	7	17.65	17.65	17.69	0	0
		1	14	17.62	17.61	17.65	0	0
		8	0	17.62	17.63	17.62	0-1	0
		8	3	17.63	17.63	17.64	0-1	0
		8	7	17.60	17.60	17.64	0-1	0
		15	0	17.62	17.61	17.64	0-1	0
	16QAM	1	0	17.50	17.51	17.59	0-1	0
		1	7	17.47	17.44	17.48	0-1	0
		1	14	17.44	17.41	17.47	0-1	0
		8	0	17.64	17.65	17.66	0-2	0
		8	3	17.64	17.65	17.67	0-2	0
		8	7	17.66	17.65	17.68	0-2	0
		15	0	17.64	17.62	17.65	0-2	0
	64QAM	1	0	17.53	17.59	17.60	0-2	0
		1	7	17.54	17.56	17.57	0-2	0
		1	14	17.51	17.51	17.54	0-2	0
		8	0	17.62	17.64	17.65	0-3	0
		8	3	17.64	17.65	17.67	0-3	0
		8	7	17.63	17.66	17.67	0-3	0
		15	0	17.64	17.64	17.66	0-3	0

LTE Band 26 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26715 Ch. 816.5 ㎒	26865 Ch. 831.5 ㎒	27015 Ch. 846.5 ㎒		
5 ㎒	QPSK	1	0	17.76	17.75	17.78	0	0
		1	12	17.72	17.72	17.77	0	0
		1	24	17.68	17.67	17.71	0	0
		12	0	17.63	17.62	17.67	0-1	0
		12	6	17.64	17.61	17.64	0-1	0
		12	11	17.62	17.61	17.64	0-1	0
		25	0	17.64	17.63	17.66	0-1	0
	16QAM	1	0	17.51	17.51	17.50	0-1	0
		1	12	17.52	17.44	17.50	0-1	0
		1	24	17.40	17.38	17.42	0-1	0
		12	0	17.64	17.61	17.68	0-2	0
		12	6	17.58	17.57	17.65	0-2	0
		12	11	17.61	17.59	17.63	0-2	0
		25	0	17.67	17.65	17.70	0-2	0
	64QAM	1	0	17.63	17.57	17.62	0-2	0
		1	12	17.57	17.62	17.68	0-2	0
		1	24	17.61	17.55	17.65	0-2	0
		12	0	17.67	17.69	17.72	0-3	0
		12	6	17.64	17.62	17.70	0-3	0
		12	11	17.60	17.61	17.65	0-3	0
		25	0	17.70	17.67	17.72	0-3	0

LTE Band 26 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26740 Ch. 819 ㎒	26865 Ch. 831.5 ㎒	26990 Ch. 844 ㎒		
10 ㎒	QPSK	1	0	17.79	17.78	17.84	0	0
		1	24	17.72	17.74	17.80	0	0
		1	49	17.66	17.66	17.70	0	0
		25	0	17.65	17.67	17.69	0-1	0
		25	12	17.61	17.63	17.66	0-1	0
		25	24	17.59	17.63	17.63	0-1	0
		50	0	17.62	17.64	17.66	0-1	0
	16QAM	1	0	17.57	17.54	17.65	0-1	0
		1	24	17.51	17.51	17.64	0-1	0
		1	49	17.44	17.42	17.54	0-1	0
		25	0	17.66	17.69	17.74	0-2	0
		25	12	17.65	17.66	17.74	0-2	0
		25	24	17.63	17.65	17.68	0-2	0
		50	0	17.65	17.67	17.72	0-2	0
	64QAM	1	0	17.46	17.56	17.66	0-2	0
		1	24	17.39	17.69	17.49	0-2	0
		1	49	17.40	17.52	17.62	0-2	0
		25	0	17.70	17.72	17.76	0-3	0
		25	12	17.68	17.70	17.77	0-3	0
		25	24	17.64	17.67	17.73	0-3	0
		50	0	17.63	17.68	17.71	0-3	0

LTE Band 26 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm] 26865 Ch. 831.5 ㎒	MPR Allowed Per 3GPP [dB]	MPR [dB]
15 ㎒	QPSK	1	0	17.86	0	0
		1	36	17.74	0	0
		1	74	17.65	0	0
		36	0	17.68	0-1	0
		36	18	17.62	0-1	0
		36	39	17.57	0-1	0
		75	0	17.63	0-1	0
	16QAM	1	0	17.69	0-1	0
		1	36	17.61	0-1	0
		1	74	17.53	0-1	0
		36	0	17.69	0-2	0
		36	18	17.63	0-2	0
		36	39	17.59	0-2	0
		75	0	17.66	0-2	0
	64QAM	1	0	17.77	0-2	0
		1	36	17.77	0-2	0
		1	74	17.75	0-2	0
		36	0	17.74	0-3	0
		36	18	17.67	0-3	0
		36	39	17.64	0-3	0
		75	0	17.68	0-3	0

Note: LTE Band 26 at 15 ㎒ 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.

[LTE Band 30 Conducted Power]
LTE Band 30 _ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				27685 Ch. 2307.5 MHz	27710 Ch. 2310 MHz	27735 Ch. 2312.5 MHz		
5 MHz	QPSK	1	0	10.19	10.10	10.07	0	0
		1	12	10.29	10.17	10.20	0	0
		1	24	10.43	10.26	10.36	0	0
		12	0	10.11	10.17	10.16	0-1	0
		12	6	10.13	10.16	10.16	0-1	0
		12	11	10.25	10.26	10.25	0-1	0
		25	0	10.19	10.22	10.19	0-1	0
	16QAM	1	0	10.09	10.10	10.03	0-1	0
		1	12	10.24	10.27	10.23	0-1	0
		1	24	10.14	10.31	10.29	0-1	0
		12	0	10.16	10.13	10.14	0-2	0
		12	6	10.23	10.16	10.16	0-2	0
		12	11	10.26	10.23	10.27	0-2	0
		25	0	10.24	10.12	10.18	0-2	0
	64QAM	1	0	10.21	10.11	10.08	0-2	0
		1	12	10.38	10.27	10.35	0-2	0
		1	24	10.40	10.37	10.34	0-2	0
		12	0	10.23	10.18	10.13	0-3	0
		12	6	10.29	10.21	10.21	0-3	0
		12	11	10.30	10.28	10.24	0-3	0
		25	0	10.27	10.25	10.23	0-3	0

LTE Band 30 _ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				27710 Ch. 2310 MHz		
10 MHz	QPSK	1	0	10.07	0	0
		1	24	10.36	0	0
		1	49	10.38	0	0
		25	0	10.08	0-1	0
		25	12	10.17	0-1	0
		25	24	10.32	0-1	0
		50	0	10.15	0-1	0
	16QAM	1	0	10.03	0-1	0
		1	24	10.25	0-1	0
		1	49	10.39	0-1	0
		25	0	10.08	0-2	0
		25	12	10.21	0-2	0
		25	24	10.28	0-2	0
		50	0	10.26	0-2	0
	64QAM	1	0	10.10	0-2	0
		1	24	10.14	0-2	0
		1	49	10.41	0-2	0
		25	0	10.14	0-3	0
		25	12	10.19	0-3	0
		25	24	10.26	0-3	0
		50	0	10.25	0-3	0

Note: LTE Band 30 at 10 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.

[LTE Band 41 Conducted Power] - Power Class 3

LTE Band 41 _ 5 ㎒ Bandwidth (Power Class 3)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39675 Ch. 2498.5 ㎒	40148 Ch. 2545.8 ㎒	40620 Ch. 2593.0 ㎒	41093 Ch. 2640.3 ㎒	41565 Ch. 2687.5 ㎒		
5 ㎒	QPSK	1	0	11.69	11.73	11.84	11.74	11.85	0	0
		1	12	11.67	11.77	11.80	11.72	11.82	0	0
		1	24	11.61	11.74	11.76	11.72	11.84	0	0
		12	0	11.59	11.65	11.72	11.78	11.91	0-1	0
		12	6	11.59	11.66	11.73	11.80	11.92	0-1	0
		12	11	11.56	11.67	11.74	11.77	11.90	0-1	0
		25	0	11.59	11.65	11.73	11.80	11.92	0-1	0
	16QAM	1	0	11.78	11.83	11.93	11.67	11.82	0-1	0
		1	12	11.81	11.90	11.96	11.74	11.78	0-1	0
		1	24	11.71	11.91	11.94	11.78	11.79	0-1	0
		12	0	11.63	11.69	11.78	11.81	11.96	0-2	0
		12	6	11.61	11.72	11.76	11.81	11.93	0-2	0
		12	11	11.60	11.69	11.77	11.81	11.91	0-2	0
		25	0	11.68	11.77	11.86	11.85	11.97	0-2	0
	64QAM	1	0	11.44	11.44	11.42	11.52	11.49	0-2	0
		1	12	11.40	11.48	11.44	11.52	11.50	0-2	0
		1	24	11.41	11.50	11.48	11.48	11.49	0-2	0
		12	0	11.68	11.71	11.82	11.80	11.99	0-3	0
		12	6	11.67	11.74	11.82	11.81	11.98	0-3	0
		12	11	11.67	11.75	11.79	11.81	11.97	0-3	0
		25	0	11.66	11.74	11.82	11.82	11.98	0-3	0

LTE Band 41 _ 10 ㎒ Bandwidth (Power Class 3)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39700 Ch. 2501 ㎒	40160 Ch. 2547 ㎒	40620 Ch. 2593 ㎒	41080 Ch. 2639 ㎒	41540 Ch. 2685 ㎒		
10 ㎒	QPSK	1	0	11.66	11.70	11.82	11.68	12.03	0	0
		1	24	11.63	11.72	11.81	11.67	12.01	0	0
		1	49	11.59	11.74	11.77	11.69	11.94	0	0
		25	0	11.55	11.64	11.74	11.77	11.96	0-1	0
		25	12	11.55	11.66	11.73	11.75	11.94	0-1	0
		25	24	11.53	11.65	11.72	11.75	11.92	0-1	0
		50	0	11.55	11.66	11.73	11.77	11.93	0-1	0
	16QAM	1	0	11.75	11.95	12.11	11.73	12.15	0-1	0
		1	24	11.72	11.88	12.04	11.75	12.13	0-1	0
		1	49	11.70	11.81	12.00	11.74	12.08	0-1	0
		25	0	11.70	11.77	11.84	11.82	12.08	0-2	0
		25	12	11.67	11.77	11.86	11.84	12.05	0-2	0
		25	24	11.65	11.78	11.83	11.85	12.05	0-2	0
		50	0	11.63	11.73	11.81	11.85	12.03	0-2	0
	64QAM	1	0	11.53	11.62	11.74	11.61	11.96	0-2	0
		1	24	11.49	11.60	11.66	11.60	11.93	0-2	0
		1	49	11.45	11.64	11.66	11.59	11.94	0-2	0
		25	0	11.66	11.73	11.83	11.82	12.03	0-3	0
		25	12	11.63	11.73	11.81	11.81	12.00	0-3	0
		25	24	11.61	11.75	11.80	11.81	12.01	0-3	0
		50	0	11.62	11.75	11.82	11.85	12.04	0-3	0

LTE Band 41 _ 15 ㎒ Bandwidth (Power Class 3)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 ㎒	40173 Ch. 2548.3 ㎒	40620 Ch. 2593.0 ㎒	41068 Ch. 2637.8 ㎒	41515 Ch. 2682.5 ㎒		
15 ㎒	QPSK	1	0	11.52	11.64	11.62	11.71	11.88	0	0
		1	36	11.41	11.67	11.58	11.66	11.83	0	0
		1	74	11.38	11.73	11.55	11.66	11.80	0	0
		36	0	11.52	11.60	11.69	11.74	11.95	0-1	0
		36	18	11.49	11.62	11.66	11.72	11.93	0-1	0
		36	39	11.46	11.64	11.67	11.74	11.91	0-1	0
		75	0	11.50	11.64	11.69	11.76	11.93	0-1	0
	16QAM	1	0	11.64	11.89	11.74	11.79	11.96	0-1	0
		1	36	11.57	11.91	11.72	11.78	11.91	0-1	0
		1	74	11.54	11.94	11.65	11.84	11.91	0-1	0
		36	0	11.53	11.64	11.71	11.77	11.97	0-2	0
		36	18	11.51	11.66	11.70	11.78	11.95	0-2	0
		36	39	11.49	11.66	11.68	11.78	11.93	0-2	0
		75	0	11.59	11.73	11.78	11.86	12.04	0-2	0
	64QAM	1	0	11.32	11.39	11.47	11.58	11.95	0-2	0
		1	36	11.34	11.42	11.42	11.52	11.85	0-2	0
		1	74	11.28	11.50	11.45	11.54	11.83	0-2	0
		36	0	11.60	11.71	11.80	11.85	12.02	0-3	0
		36	18	11.58	11.72	11.79	11.84	12.00	0-3	0
		36	39	11.56	11.76	11.76	11.86	11.99	0-3	0
		75	0	11.60	11.73	11.78	11.85	12.01	0-3	0

LTE Band 41 _ 20 ㎒ 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 ㎒	40185 Ch. 2549.5 ㎒	40620 Ch. 2593.0 ㎒	41055 Ch. 2636.5 ㎒	41490 Ch. 2680.0 ㎒		
20 ㎒	QPSK	1	0	11.52	11.61	11.73	11.66	12.00	0	0
		1	49	11.43	11.63	11.73	11.65	11.94	0	0
		1	99	11.38	11.70	11.67	11.65	11.89	0	0
		50	0	11.59	11.57	11.68	11.76	11.92	0-1	0
		50	25	11.55	11.59	11.66	11.76	11.89	0-1	0
		50	49	11.52	11.61	11.64	11.76	11.88	0-1	0
		100	0	11.53	11.59	11.66	11.75	11.92	0-1	0
	16QAM	1	0	11.58	11.59	11.72	11.98	12.16	0-1	0
		1	49	11.53	11.63	11.66	11.90	12.09	0-1	0
		1	99	11.43	11.69	11.64	11.90	12.07	0-1	0
		50	0	11.67	11.66	11.78	11.85	12.03	0-2	0
		50	25	11.62	11.69	11.75	11.83	12.00	0-2	0
		50	49	11.61	11.70	11.73	11.84	11.97	0-2	0
		100	0	11.62	11.68	11.76	11.83	12.00	0-2	0
	64QAM	1	0	11.42	11.40	11.69	11.62	11.85	0-2	0
		1	49	11.35	11.45	11.59	11.65	11.79	0-2	0
		1	99	11.28	11.49	11.57	11.64	11.75	0-2	0
		50	0	11.66	11.67	11.78	11.82	12.03	0-3	0
		50	25	11.63	11.69	11.77	11.83	12.02	0-3	0
		50	49	11.59	11.73	11.76	11.83	12.00	0-3	0
		100	0	11.65	11.70	11.79	11.85	12.01	0-3	0

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 ㎒ Bandwidth (Power Class 2)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39675 Ch. 2498.5 ㎒	40148 Ch. 2545.8 ㎒	40620 Ch. 2593.0 ㎒	41093 Ch. 2640.3 ㎒	41565 Ch. 2687.5 ㎒		
5 ㎒	QPSK	1	0	11.66	11.69	11.82	11.88	12.03	0	0
		1	12	11.67	11.63	11.82	11.91	12.00	0	0
		1	24	11.62	11.72	11.81	11.89	12.00	0	0
		12	0	11.63	11.69	11.79	11.85	11.99	0-1	0
		12	6	11.62	11.69	11.80	11.85	11.97	0-1	0
		12	11	11.62	11.72	11.81	11.86	11.95	0-1	0
		25	0	11.63	11.70	11.81	11.85	11.97	0-1	0
	16QAM	1	0	11.77	11.77	11.95	12.03	12.12	0-1	0
		1	12	11.76	11.78	11.92	12.01	12.14	0-1	0
		1	24	11.73	11.76	11.95	12.07	12.11	0-1	0
		12	0	11.64	11.77	11.83	11.90	12.04	0-2	0
		12	6	11.66	11.77	11.82	11.89	12.03	0-2	0
		12	11	11.63	11.78	11.82	11.90	12.04	0-2	0
		25	0	11.72	11.82	11.92	11.97	12.08	0-2	0
	64QAM	1	0	11.52	11.62	11.61	11.75	11.79	0-2	0
		1	12	11.50	11.58	11.63	11.66	11.77	0-2	0
		1	24	11.54	11.60	11.60	11.62	11.73	0-2	0
		12	0	11.67	11.76	11.86	11.91	12.06	0-3	0
		12	6	11.68	11.77	11.86	11.92	12.06	0-3	0
		12	11	11.69	11.77	11.85	11.92	12.04	0-3	0
		25	0	11.69	11.82	11.88	11.93	12.03	0-3	0

LTE Band 41 _ 10 ㎒ Bandwidth (Power Class 2)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39700 Ch. 2501 ㎒	40160 Ch. 2547 ㎒	40620 Ch. 2593 ㎒	41080 Ch. 2639 ㎒	41540 Ch. 2685 ㎒		
10 ㎒	QPSK	1	0	11.65	11.70	11.80	11.91	12.05	0	0
		1	24	11.64	11.68	11.79	11.91	11.96	0	0
		1	49	11.54	11.74	11.79	11.92	11.97	0	0
		25	0	11.62	11.72	11.80	11.85	12.01	0-1	0
		25	12	11.60	11.70	11.78	11.85	11.99	0-1	0
		25	24	11.57	11.72	11.76	11.85	11.99	0-1	0
		50	0	11.60	11.71	11.77	11.84	12.00	0-1	0
	16QAM	1	0	11.74	11.74	11.92	11.98	12.18	0-1	0
		1	24	11.71	11.74	11.89	12.01	12.12	0-1	0
		1	49	11.62	11.77	11.79	11.96	12.08	0-1	0
		25	0	11.71	11.79	11.92	11.97	12.16	0-2	0
		25	12	11.71	11.81	11.88	11.97	12.13	0-2	0
		25	24	11.68	11.82	11.90	11.96	12.13	0-2	0
		50	0	11.67	11.77	11.86	11.94	12.09	0-2	0
	64QAM	1	0	11.59	11.56	11.76	11.77	11.92	0-2	0
		1	24	11.55	11.62	11.73	11.77	11.94	0-2	0
		1	49	11.50	11.67	11.69	11.79	11.89	0-2	0
		25	0	11.68	11.78	11.87	11.93	12.13	0-3	0
		25	12	11.66	11.78	11.87	11.93	12.10	0-3	0
		25	24	11.66	11.81	11.85	11.92	12.09	0-3	0
		50	0	11.67	11.79	11.86	11.91	12.07	0-3	0

LTE Band 41 _ 15 ㎒ Bandwidth (Power Class 2)

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 ㎒	40173 Ch. 2548.3 ㎒	40620 Ch. 2593.0 ㎒	41068 Ch. 2637.8 ㎒	41515 Ch. 2682.5 ㎒		
15 ㎒	QPSK	1	0	11.67	11.64	11.81	11.89	12.05	0	0
		1	36	11.64	11.67	11.77	11.90	12.03	0	0
		1	74	11.57	11.73	11.76	11.89	11.99	0	0
		36	0	11.59	11.65	11.77	11.84	12.02	0-1	0
		36	18	11.56	11.66	11.74	11.83	11.99	0-1	0
		36	39	11.52	11.68	11.73	11.84	11.96	0-1	0
		75	0	11.57	11.67	11.76	11.84	12.00	0-1	0
	16QAM	1	0	11.84	11.78	11.86	12.01	12.12	0-1	0
		1	36	11.66	11.86	11.85	11.96	12.07	0-1	0
		1	74	11.67	11.84	11.90	11.89	12.03	0-1	0
		36	0	11.64	11.70	11.84	11.88	12.05	0-2	0
		36	18	11.59	11.70	11.82	11.90	12.03	0-2	0
		36	39	11.57	11.75	11.79	11.89	12.01	0-2	0
		75	0	11.66	11.77	11.86	11.96	12.09	0-2	0
	64QAM	1	0	11.60	11.51	11.61	11.79	11.95	0-2	0
		1	36	11.53	11.44	11.59	11.76	11.94	0-2	0
		1	74	11.45	11.59	11.52	11.76	11.88	0-2	0
		36	0	11.69	11.76	11.87	11.95	12.10	0-3	0
		36	18	11.64	11.78	11.85	11.95	12.09	0-3	0
		36	39	11.63	11.81	11.85	11.95	12.07	0-3	0
		75	0	11.69	11.79	11.89	11.96	12.11	0-3	0

LTE Band 41 _ 20 ㎒ 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 ㎒	40185 Ch. 2549.5 ㎒	40620 Ch. 2593.0 ㎒	41055 Ch. 2636.5 ㎒	41490 Ch. 2680.0 ㎒		
20 ㎒	QPSK	1	0	11.60	11.64	11.77	11.91	12.06	0	0
		1	49	11.49	11.65	11.72	11.88	12.02	0	0
		1	99	11.47	11.74	11.66	11.87	11.94	0	0
		50	0	11.63	11.64	11.76	11.83	12.00	0-1	0
		50	25	11.58	11.65	11.73	11.84	11.98	0-1	0
		50	49	11.56	11.66	11.72	11.84	11.96	0-1	0
		100	0	11.59	11.64	11.74	11.84	11.97	0-1	0
	16QAM	1	0	11.72	11.69	11.81	11.93	12.15	0-1	0
		1	49	11.66	11.77	11.77	11.92	12.09	0-1	0
		1	99	11.60	11.83	11.82	11.87	12.01	0-1	0
		50	0	11.72	11.70	11.85	11.94	12.08	0-2	0
		50	25	11.68	11.73	11.83	11.92	12.06	0-2	0
		50	49	11.66	11.75	11.82	11.95	12.05	0-2	0
		100	0	11.68	11.73	11.82	11.94	12.07	0-2	0
	64QAM	1	0	11.55	11.56	11.73	11.64	11.89	0-2	0
		1	49	11.48	11.63	11.67	11.59	11.85	0-2	0
		1	99	11.40	11.67	11.66	11.62	11.73	0-2	0
		50	0	11.68	11.68	11.85	11.91	12.07	0-3	0
		50	25	11.66	11.71	11.82	11.89	12.04	0-3	0
		50	49	11.62	11.74	11.78	11.91	12.03	0-3	0
		100	0	11.67	11.75	11.85	11.96	12.09	0-3	0

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

[LTE Band 66 Conducted Power]

LTE Band 66 _ 1.4 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131979Ch. 1710.7 ㎒	132322 Ch. 1745 ㎒	132665 Ch. 1779.3 ㎒		
1.4 ㎒	QPSK	1	0	14.10	14.26	14.13	0	0
		1	3	14.12	14.24	14.17	0	0
		1	5	14.11	14.23	14.09	0	0
		3	0	14.10	14.22	14.12	0	0
		3	1	14.10	14.27	14.14	0	0
		3	3	14.07	14.26	14.11	0	0
		6	0	14.00	14.21	14.12	0-1	0
	16QAM	1	0	13.82	13.97	13.94	0-1	0
		1	3	13.89	13.95	13.88	0-1	0
		1	5	13.83	14.02	13.91	0-1	0
		3	0	14.08	14.21	14.06	0-1	0
		3	1	14.16	14.15	14.00	0-1	0
		3	3	14.18	14.12	14.11	0-1	0
		6	0	14.08	14.29	14.16	0-2	0
	64QAM	1	0	14.26	14.17	14.15	0-2	0
		1	3	14.22	14.34	14.19	0-2	0
		1	5	14.20	14.33	14.22	0-2	0
		3	0	14.04	14.27	14.09	0-2	0
		3	1	14.08	14.19	14.10	0-2	0
		3	3	14.02	14.32	14.18	0-2	0
		6	0	14.12	14.26	14.08	0-3	0

LTE Band 66 _ 3 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131987 Ch. 1711.5 ㎒	132322 Ch. 1745 ㎒	132657 Ch. 1778.5 ㎒		
3 ㎒	QPSK	1	0	14.15	14.25	14.19	0	0
		1	7	14.17	14.23	14.16	0	0
		1	14	14.18	14.22	14.16	0	0
		8	0	14.14	14.20	14.11	0-1	0
		8	3	14.14	14.22	14.11	0-1	0
		8	7	14.12	14.17	14.13	0-1	0
		15	0	14.19	14.18	14.13	0-1	0
	16QAM	1	0	13.88	13.91	13.97	0-1	0
		1	7	13.87	14.01	13.88	0-1	0
		1	14	14.02	14.08	14.03	0-1	0
		8	0	14.10	14.23	14.16	0-2	0
		8	3	14.12	14.14	14.15	0-2	0
		8	7	14.08	14.19	14.19	0-2	0
		15	0	14.09	14.24	14.16	0-2	0
	64QAM	1	0	14.05	13.92	14.07	0-2	0
		1	7	14.00	14.03	14.05	0-2	0
		1	14	13.94	13.97	13.99	0-2	0
		8	0	14.08	14.21	14.12	0-3	0
		8	3	14.12	14.21	14.05	0-3	0
		8	7	14.06	14.13	14.05	0-3	0
		15	0	14.09	14.18	14.12	0-3	0

LTE Band 66 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131997 Ch. 1712.5 ㎒	132322Ch. 1745 ㎒	132647 Ch. 1777.5 ㎒		
5 ㎒	QPSK	1	0	14.29	14.34	14.26	0	0
		1	12	14.25	14.32	14.19	0	0
		1	24	14.23	14.25	14.18	0	0
		12	0	14.16	14.23	14.11	0-1	0
		12	6	14.13	14.20	14.09	0-1	0
		12	11	14.08	14.24	14.08	0-1	0
		25	0	14.16	14.22	14.12	0-1	0
	16QAM	1	0	13.89	14.14	14.02	0-1	0
		1	12	13.88	14.06	13.99	0-1	0
		1	24	13.96	14.16	14.05	0-1	0
		12	0	14.19	14.19	14.09	0-2	0
		12	6	14.14	14.18	14.12	0-2	0
		12	11	14.16	14.18	14.04	0-2	0
		25	0	14.15	14.22	14.09	0-2	0
	64QAM	1	0	13.99	14.26	13.99	0-2	0
		1	12	13.95	14.25	14.02	0-2	0
		1	24	13.94	14.22	14.14	0-2	0
		12	0	14.13	14.18	14.10	0-3	0
		12	6	14.11	14.20	14.11	0-3	0
		12	11	14.07	14.16	14.06	0-3	0
		25	0	14.16	14.20	14.07	0-3	0

LTE Band 66 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132022 Ch. 1715 ㎒	132322 Ch. 1745 ㎒	132622 Ch. 1775 ㎒		
10 ㎒	QPSK	1	0	14.32	14.36	14.13	0	0
		1	24	14.23	14.35	14.20	0	0
		1	49	14.25	14.31	14.18	0	0
		25	0	14.23	14.25	14.10	0-1	0
		25	12	14.17	14.22	14.08	0-1	0
		25	24	14.15	14.23	14.05	0-1	0
		50	0	14.15	14.21	14.10	0-1	0
	16QAM	1	0	13.96	14.11	14.02	0-1	0
		1	24	14.00	14.03	13.90	0-1	0
		1	49	13.97	14.04	13.91	0-1	0
		25	0	14.19	14.23	14.10	0-2	0
		25	12	14.15	14.27	14.08	0-2	0
		25	24	14.13	14.22	14.05	0-2	0
		50	0	14.21	14.22	14.09	0-2	0
	64QAM	1	0	13.98	14.27	13.95	0-2	0
		1	24	14.03	14.25	13.90	0-2	0
		1	49	13.98	14.26	13.81	0-2	0
		25	0	14.24	14.25	14.18	0-3	0
		25	12	14.20	14.24	14.13	0-3	0
		25	24	14.20	14.28	14.13	0-3	0
		50	0	14.06	14.22	14.12	0-3	0

LTE Band 66 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132047 Ch. 1717.5 ㎒	132322 Ch. 1745 ㎒	132597 Ch. 1772.5 ㎒		
15 ㎒	QPSK	1	0	14.35	14.37	14.26	0	0
		1	36	14.34	14.33	14.20	0	0
		1	74	14.19	14.32	14.16	0	0
		36	0	14.15	14.27	14.14	0-1	0
		36	18	14.19	14.22	14.16	0-1	0
		36	39	14.14	14.27	14.10	0-1	0
		75	0	14.17	14.25	14.11	0-1	0
	16QAM	1	0	14.10	14.16	14.04	0-1	0
		1	36	13.94	14.13	14.04	0-1	0
		1	74	13.94	14.07	14.11	0-1	0
		36	0	14.20	14.21	14.13	0-2	0
		36	18	14.21	14.23	14.11	0-2	0
		36	39	14.10	14.16	14.09	0-2	0
		75	0	14.16	14.28	14.09	0-2	0
	64QAM	1	0	14.02	14.15	14.27	0-2	0
		1	36	13.99	14.27	14.20	0-2	0
		1	74	14.00	14.11	14.16	0-2	0
		36	0	14.23	14.24	14.12	0-3	0
		36	18	14.21	14.25	14.18	0-3	0
		36	39	14.16	14.25	14.15	0-3	0
		75	0	14.21	14.28	14.17	0-3	0

LTE Band 66 _ 20 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 ㎒	132322 Ch. 1745 ㎒	132572 Ch. 1770 ㎒		
20 ㎒	QPSK	1	0	14.38	14.33	14.29	0	0
		1	49	14.31	14.28	14.18	0	0
		1	99	14.29	14.25	14.13	0	0
		50	0	14.31	14.21	14.17	0-1	0
		50	25	14.23	14.24	14.11	0-1	0
		50	49	14.20	14.22	14.12	0-1	0
		100	0	14.20	14.22	14.15	0-1	0
	16QAM	1	0	14.10	14.14	14.08	0-1	0
		1	49	14.02	14.02	13.94	0-1	0
		1	99	14.05	14.10	13.89	0-1	0
		50	0	14.26	14.26	14.17	0-2	0
		50	25	14.22	14.26	14.17	0-2	0
		50	49	14.19	14.20	14.16	0-2	0
		100	0	14.17	14.19	14.13	0-2	0
	64QAM	1	0	14.00	14.15	14.02	0-2	0
		1	49	14.03	13.97	14.04	0-2	0
		1	99	13.90	14.08	13.96	0-2	0
		50	0	14.24	14.28	14.17	0-3	0
		50	25	14.23	14.18	14.17	0-3	0
		50	49	14.15	14.20	14.13	0-3	0
		100	0	14.25	14.23	14.23	0-3	0

[LTE Band 71 Conducted Power]

LTE Band 71 _ 5 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133147 Ch. 665.5 ㎒	133297 Ch. 680.5 ㎒	133447 Ch. 695.5 ㎒		
5 ㎒	QPSK	1	0	15.45	15.51	15.48	0	0
		1	12	15.55	15.48	15.48	0	0
		1	24	15.56	15.50	15.37	0	0
		12	0	15.48	15.54	15.51	0-1	0
		12	6	15.50	15.55	15.50	0-1	0
		12	11	15.44	15.50	15.50	0-1	0
		25	0	15.54	15.53	15.47	0-1	0
	16QAM	1	0	15.31	15.49	15.34	0-1	0
		1	12	15.37	15.49	15.41	0-1	0
		1	24	15.30	15.42	15.35	0-1	0
		12	0	15.46	15.49	15.41	0-2	0
		12	6	15.48	15.51	15.46	0-2	0
		12	11	15.46	15.45	15.43	0-2	0
		25	0	15.45	15.53	15.47	0-2	0
	64QAM	1	0	15.42	15.52	15.57	0-2	0
		1	12	15.47	15.62	15.42	0-2	0
		1	24	15.39	15.48	15.41	0-2	0
		12	0	15.47	15.57	15.46	0-3	0
		12	6	15.53	15.47	15.47	0-3	0
		12	11	15.48	15.48	15.49	0-3	0
		25	0	15.49	15.45	15.48	0-3	0

LTE Band 71 _ 10 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133172 Ch. 668 ㎒	133297 Ch. 680.5 ㎒	133422 Ch. 693 ㎒		
10 ㎒	QPSK	1	0	15.73	15.76	15.77	0	0
		1	24	15.61	15.58	15.63	0	0
		1	49	15.60	15.51	15.48	0	0
		25	0	15.61	15.54	15.51	0-1	0
		25	12	15.52	15.51	15.48	0-1	0
		25	24	15.50	15.48	15.47	0-1	0
		50	0	15.53	15.56	15.55	0-1	0
	16QAM	1	0	15.41	15.47	15.46	0-1	0
		1	24	15.45	15.38	15.41	0-1	0
		1	49	15.39	15.31	15.36	0-1	0
		25	0	15.51	15.53	15.56	0-2	0
		25	12	15.58	15.48	15.51	0-2	0
		25	24	15.51	15.45	15.50	0-2	0
		50	0	15.51	15.49	15.56	0-2	0
	64QAM	1	0	15.51	15.51	15.54	0-2	0
		1	24	15.52	15.41	15.51	0-2	0
		1	49	15.49	15.39	15.44	0-2	0
		25	0	15.58	15.51	15.56	0-3	0
		25	12	15.55	15.53	15.48	0-3	0
		25	24	15.49	15.51	15.55	0-3	0
		50	0	15.51	15.44	15.46	0-3	0

LTE Band 71 _ 15 ㎒ Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133197 Ch. 670.5 ㎒	133297 Ch. 680.5 ㎒	133397 Ch. 690.5 ㎒		
15 ㎒	QPSK	1	0	15.75	15.74	15.87	0	0
		1	36	15.68	15.62	15.71	0	0
		1	74	15.45	15.51	15.55	0	0
		36	0	15.61	15.58	15.69	0-1	0
		36	18	15.58	15.53	15.59	0-1	0
		36	39	15.46	15.53	15.52	0-1	0
		75	0	15.51	15.51	15.58	0-1	0
	16QAM	1	0	15.55	15.53	15.71	0-1	0
		1	36	15.52	15.34	15.41	0-1	0
		1	74	15.32	15.24	15.31	0-1	0
		36	0	15.52	15.52	15.59	0-2	0
		36	18	15.52	15.50	15.54	0-2	0
		36	39	15.43	15.40	15.49	0-2	0
		75	0	15.49	15.49	15.61	0-2	0
	64QAM	1	0	15.56	15.65	15.73	0-2	0
		1	36	15.57	15.49	15.66	0-2	0
		1	74	15.41	15.44	15.47	0-2	0
		36	0	15.63	15.57	15.69	0-3	0
		36	18	15.57	15.56	15.63	0-3	0
		36	39	15.51	15.44	15.61	0-3	0
		75	0	15.58	15.55	15.65	0-3	0

LTE Band 71 _ 20 ㎒ Bandwidth

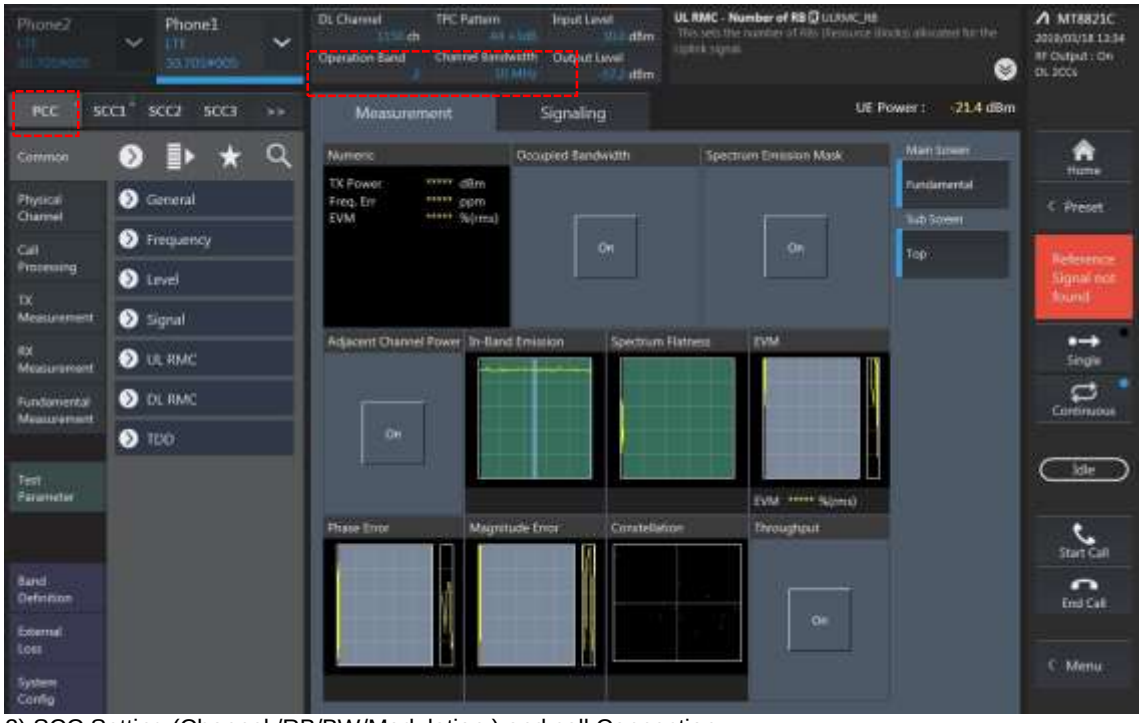
Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133222 Ch. 673 ㎒	133297 Ch. 680.5 ㎒	133372 Ch. 688 ㎒		
20 ㎒	QPSK	1	0	15.82	15.71	15.88	0	0
		1	49	15.71	15.59	15.69	0	0
		1	99	15.52	15.48	15.60	0	0
		50	0	15.61	15.55	15.72	0-1	0
		50	25	15.57	15.54	15.64	0-1	0
		50	49	15.47	15.41	15.58	0-1	0
		100	0	15.61	15.54	15.65	0-1	0
	16QAM	1	0	15.65	15.43	15.63	0-1	0
		1	49	15.57	15.33	15.41	0-1	0
		1	99	15.36	15.30	15.32	0-1	0
		50	0	15.61	15.58	15.71	0-2	0
		50	25	15.57	15.48	15.62	0-2	0
		50	49	15.50	15.46	15.54	0-2	0
		100	0	15.50	15.46	15.62	0-2	0
	64QAM	1	0	15.66	15.56	15.74	0-2	0
		1	49	15.44	15.49	15.51	0-2	0
		1	99	15.28	15.39	15.40	0-2	0
		50	0	15.60	15.60	15.68	0-3	0
		50	25	15.55	15.47	15.62	0-3	0
		50	49	15.52	15.38	15.56	0-3	0
		100	0	15.55	15.53	15.67	0-3	0

Note : 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.

11.2.3 LTE Down-link Carrier Aggregation Conducted Powers

LTE Down Link 2CA Call Setup

1) PCC Setting :Channel /RB/BW/Modulation



2) SCC Setting (Channel /RB/BW/Modulation) and call Connection

2CA Downlink Carrier aggregation Maximum Conducted Powers

Combination	PCC									SCC				Tx Power	
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm)	LTE Tx Power with DL CA Enabled(dBm)
2A-2A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	700	1940	23.71	23.64
2A-4A(0,2)	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	4	20	2175	2132.5	23.71	23.69
2A-4A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	12	4	10	2175	2132.5	23.69	23.68
2A-4A(0,2)	4	10	20350	1750	2350	2150	QPSK	1	24	2	20	900	1960	23.76	23.78
2A-4A(1)	4	10	20350	1750	2350	2150	QPSK	1	24	2	10	900	1960	23.76	23.77
2A-5A(0)	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	5	10	2525	881.5	23.71	23.72
2A-5A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	12	5	10	2525	881.5	23.69	23.68
2A-5A(0)	5	10	20525	836.5	2525	881.5	QPSK	1	0	2	20	1150	1987.5	24.25	24.25
2A-5A(1)	5	10	20525	836.5	2525	881.5	QPSK	1	0	2	10	1150	1987.5	24.25	24.23
2A-7A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	7	20	3100	2655	23.71	22.38
2A-7A	7	15	21100	2535	3100	2655	QPSK	1	74	2	20	900	1960	23.55	23.39
2A-12A(0,1)	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	12	10	5095	737.5	23.71	23.68
2A-12A(2)	2	5	19175	1907.5	1175	1987.5	QPSK	1	12	12	10	5095	737.5	23.69	23.67
2A-12A(0,1)	12	10	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	1960	24.78	24.75
2A-12A(2)	12	10	23095	707.5	5095	737.5	QPSK	1	0	2	10	900	1960	24.78	24.76
2A-13A(0)	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	13	10	5230	751	23.71	23.67
2A-13A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	12	13	10	5230	751	23.69	23.68
2A-13A(0)	13	10	23230	782	5230	751	QPSK	1	0	2	20	900	1960	24.47	24.45
2A-13A(1)	13	10	23230	782	5230	751	QPSK	1	0	2	10	1150	1987.5	24.47	24.46
2A-17A	2	5	19175	1907.5	1175	1987.5	QPSK	1	12	17	10	5790	740	23.69	23.68
2A-17A	17	10	23790	710	5790	740	QPSK	1	0	2	10	900	1960	24.18	24.18
2A-30A	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	30	10	9820	2355	23.71	23.88
2A-30A	30	10	27710	2310	9820	2355	QPSK	1	49	2	20	900	1960	21.74	21.74
2A-66A(0, 2)	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	66	20	66786	2145	23.71	23.68
2A-66A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	12	66	10	66786	2145	23.69	23.69
2A-66A(0, 2)	66	15	132322	1745	66786	2145	QPSK	1	36	2	20	900	1960	23.95	23.87
2A-66A(1)	66	10	132322	1745	66786	2145	QPSK	1	0	2	10	900	1960	23.92	23.88
2A-71A(0)	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	71	20	68761	634.5	23.71	23.7
2A-71A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	12	71	10	68761	634.5	23.69	23.67
2A-71A(0)	71	20	133372	688	68836	642	QPSK	1	0	2	20	900	1960	23.86	23.89
2A-71A(1)	71	10	133422	693	68886	647	QPSK	1	0	2	10	900	1960	23.69	23.83
2C	2	15	19125	1902.5	1125	1982.5	QPSK	1	0	2	20	954	1965.4	23.71	23.7
4A-4A(0)	4	10	20350	1750	2350	2150	QPSK	1	24	4	20	2050	2120	23.76	23.77
4A-4A(1)	4	10	20350	1750	2350	2150	QPSK	1	24	4	10	2000	2115	23.76	23.76
4A-5A(0,1)	4	10	20350	1750	2350	2150	QPSK	1	24	5	10	2525	881.5	23.76	23.76
4A-5A(0)	5	10	20525	836.5	2525	881.5	QPSK	1	0	4	20	2175	2132.5	24.25	24.27
4A-5A(1)	5	10	20525	836.5	2525	881.5	QPSK	1	0	4	10	2175	2132.5	24.25	24.25
4A-7A(0,1)	4	10	20350	1750	2350	2150	QPSK	1	24	7	20	3100	2655	23.76	23.84
4A-7A(0)	7	15	21100	2535	3100	2655	QPSK	1	74	4	20	2175	2132.5	23.55	23.53
4A-7A(1)	7	15	21100	2535	3100	2655	QPSK	1	74	4	10	2175	2132.5	23.55	23.5
4A-12A(0,1,2,3,4)	4	10	20350	1750	2350	2150	QPSK	1	24	12	10	5095	737.5	23.76	23.74
4A-12A(5)	4	10	20350	1750	2350	2150	QPSK	1	24	12	5	5095	737.5	23.76	23.75
4A-12A(0,3)	12	10	23095	707.5	5095	737.5	QPSK	1	0	4	10	2175	2132.5	24.78	24.76
4A-12A(1,2,4)	12	10	23095	707.5	5095	737.5	QPSK	1	0	4	20	2175	2132.5	24.78	24.78
4A-12A(5)	12	5	23095	707.5	5095	737.5	QPSK	1	0	4	15	2175	2132.5	24.75	24.75
4A-13A(0,1)	4	10	20350	1732.5	2175	2132.5	QPSK	1	24	13	10	5230	751	23.76	23.75
4A-13A(0)	13	10	23230	782	5230	751	QPSK	1	0	4	20	2175	2132.5	24.47	24.45
4A-13A(1)	13	10	23230	782	5230	751	QPSK	1	0	4	10	2175	2132.5	24.47	24.48
4A-17A	4	10	20350	1750	2350	2150	QPSK	1	24	17	10	5790	740	23.76	23.71
4A-17A	17	10	23790	710	5790	740	QPSK	1	0	4	10	2175	2132.5	24.18	24.22
4A-30A	4	10	20350	1750	2350	2150	QPSK	1	24	30	10	9820	2355	23.76	23.74
4A-30A	30	10	27710	2310	9820	2355	QPSK	1	49	4	20	2050	2120	21.74	21.72
4A-71A	4	10	20350	1750	2350	2150	QPSK	1	24	71	20	68761	634.5	23.76	23.72
4A-71A	71	20	133372	688	68836	642	QPSK	1	0	4	20	2050	2120	23.86	23.92
5A-5A(0)	5	10	20525	836.5	2525	881.5	QPSK	1	0	5	5	2425	871.5	24.25	24.26
5A-5A(1)	5	3	20415	825.5	2415	870.5	QPSK	1	0	5	5	2625	891.5	24.16	24.22
5A-7A(0,1)	5	10	20525	836.5	2525	881.5	QPSK	1	0	7	20	3100	2655	24.25	24.26
5A-7A(0,1)	7	15	21100	2535	3100	2655	QPSK	1	74	5	10	2525	881.5	23.55	23.47
5A-30A	5	10	20525	836.5	2525	881.5	QPSK	1	0	30	10	9820	2355	24.25	24.25
5A-30A	30	10	27710	2310	9820	2355	QPSK	1	49	5	10	2525	881.5	21.74	21.74
5A-66A	5	10	20525	836.5	2525	881.5	QPSK	1	0	66	20	66786	2145	24.25	24.23
5A-66A	66	15	132322	1745	66786	2145	QPSK	1	36	5	10	2525	881.5	23.95	23.88
5B(0)	5	10	20525	836.5	2525	881.5	QPSK	1	0	5	10	2426	871.6	24.25	24.25
5B(1)	5	10	20525	836.5	2525	881.5	QPSK	1	0	5	5	2453	873.3	24.25	24.26
7A-7A(0,1,3)	7	15	21100	2535	3100	2655	QPSK	1	74	7	20	3350	2680	23.55	23.44
7A-7A(2)	7	15	21100	2535	3100	2655	QPSK	1	74	7	10	3400	2685	23.55	23.45
7A-12A	7	15	21100	2535	3100	2655	QPSK	1	74	12	10	5095	737.5	23.55	23.49
7A-12A	12	10	23095	707.5	5095	737.5	QPSK	1	0	7	20	3100	2655	24.78	24.73
7A-66A	7	15	21100	2535	3100	2655	QPSK	1	74	66	20	66786	2145	23.55	23.44
7A-66A	66	15	132322	1745	66786	2145	QPSK	1	36	7	20	3100	2655	23.95	23.93
12A-30A	12	10	23095	707.5	5095	737.5	QPSK	1	0	30	10	9820	2355	24.78	24.73
12A-30A	30	10	27710	2310	9820	2355	QPSK	1	49	12	10	5095	737.5	21.74	21.76
12A-66A(0,3)	12	10	23095	707.5	5095	737.5	QPSK	1	0	66	10	66786	2145	24.78	24.78
12A-66A(1,2,4)	12	10	23095	707.5	5095	737.5	QPSK	1	0	66	20	66786	2145	24.78	24.77
12A-66A(5)	12	5	23095	707.5	5095	737.5	QPSK	1	0	66	15	66786	2145	24.75	24.75
12A-66A(0,3)	66	10	132322	1745	66786	2145	QPSK	1	0	12	10	5095	737.5	23.92	23.9
12A-66A(1,2,4)	66	15	132322	1745	66786	2145	QPSK	1	36	12	10	5095	737.5	23.95	23.85
12A-66A(5)	66	15	132322	1745	66786	2145	QPSK	1	36	12	5	5095	737.5	23.95	23.88
12B	12	5	23095	707.5	5095	737.5	QPSK	1	0	12	5	5143	742.3	24.75	24.77
13A-66A	13	10	23230	782	5230	751	QPSK	1	0	66	20	66786	2145	24.47	24.5
13A-66A	66	15	132322	1745	66786	2145	QPSK	1	36	13	10	5230	751	23.95	23.86
25A-25A(0)	25	10	26640	1910	8640	1990	QPSK	1	0	25	10	8090	1935	23.6	23.62
25A-25A(1)	25	20	26590	1905	8590	1985	QPSK	1	0	25	20	8140	1940	23.64	23.65
25A-26A(0)	25	20	26590	1905	8590	1985	QPSK	1	0	26	15	8865	876.5	23.64	23.66
25A-26A(1,2)	25	10	26640	1910	8640	1990	QPSK	1	0	26	10	8865	876.5	23.6	23.65
25A-26A(0)	26	15	26865	831.5	8865	876.5	QPSK	1	0	25	20	8365	1962.5	24.28	24.25
25A-26A(1)	26	10	26865	831.5	8865	876.5	QPSK	1	0	25	10	8365	1962.5	24.35	24.25
25A-41A	25	20	26615	1907.5	8615	1987.5	QPSK	1	0	41	20	40620	2593	23.64	23.2
25A-41A	41	20	40185	2549.5	40185	2549.5	QPSK	1	0	25	20	8365	1962.5	23.28	23.2
26A-41A	26	15	26865	831.5	8865	876.5	QPSK	1	0	41	20	40620	2593	24.28	23.24
26A-41A	41	20	40185	2549.5	40185	2549.5	QPSK	1	0	26	15	8865	876.5	23.28	23.37
41A-41A(0,1)	41	20	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40620	2593	23.28	23.3
41C(0,1,2,3)	41	20	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40383	2569.3	23.28	23.3
66A-66A	66	15	132322	1745	66786	2145	QPSK	1	36	66	20	67036	2170	23.95	23.91
66A-71A	66	15	132322	1745	66786	2145	QPSK	1	36	71	20	68761	634.5	23.95	23.86
66A-71A	71	20	13372	688	68836	642	QPSK	1	0	66	20	66786	2145	23.86	23.86
66B	66	15	132322	1745	66786	2145	QPSK	1	36	66	5	66879	2154.3	23.95	23.94
66C	66	15	132322	1745	66786	2145	QPSK	1	36	66	20	66957	2162.1	23.95	23.91

2CA Downlink Carrier aggregation Reduced Conducted Powers

Combination	PCC									SCC				Tx Power	
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm)	LTE Tx Power with DL CA Enabled(dBm)
2A-2A	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	2	20	700	1940	12.99	12.92
2A-4A(0,2)	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	4	20	2175	2132.5	12.99	12.94
2A-4A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	4	10	2175	2132.5	12.98	12.92
2A-4A(0,2)	4	20	20175	1732.5	2175	2132.5	QPSK	1	0	2	20	900	1960	12.15	12.1
2A-4A(1)	4	10	20350	1750	2350	2150	QPSK	1	0	2	10	900	1960	12.05	12.11
2A-5A(0)	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	5	10	2525	881.5	12.99	12.94
2A-5A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	5	10	2525	881.5	12.98	12.96
2A-5A(0)	5	10	20525	836.5	2525	881.5	QPSK	1	0	2	20	1150	1987.5	18.43	18.39
2A-5A(1)	5	10	20525	836.5	2525	881.5	QPSK	1	0	2	10	1150	1987.5	18.43	18.39
2A-7A	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	7	20	3100	2655	12.99	12.89
2A-7A	7	20	21100	2535	3100	2655	64QAM	1	99	2	20	900	1960	12.48	12.38
2A-12A(0,1)	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	12	10	5095	737.5	12.99	12.91
2A-12A(2)	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	12	10	5095	737.5	12.98	12.91
2A-12A(0,1)	12	10	23130	711	5130	741	64QAM	1	0	2	20	900	1960	17.25	17.32
2A-12A(2)	12	10	23130	711	5130	741	64QAM	1	0	2	10	900	1960	17.25	17.17
2A-13A(0)	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	13	10	5230	751	12.99	12.98
2A-13A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	13	10	5230	751	12.98	12.96
2A-13A(0)	13	10	23230	782	5230	751	QPSK	1	0	2	20	900	1960	16.85	16.76
2A-13A(1)	13	10	23230	782	5230	751	QPSK	1	0	2	10	1150	1987.5	16.85	16.7
2A-17A	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	17	10	5790	740	12.98	12.98
2A-17A	17	10	23790	710	5790	740	64QAM	1	49	2	10	900	1960	17.8	17.81
2A-30A	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	30	10	9820	2355	12.99	12.92
2A-30A	30	10	27710	2310	9820	2355	QPSK	1	49	2	20	900	1960	9.12	9.11
2A-66A(0, 2)	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	66	20	66786	2145	12.99	12.94
2A-66A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	66	10	66786	2145	12.98	12.96
2A-66A(0, 2)	66	20	132072	1745	66536	2120	QPSK	1	0	2	20	900	1960	14.38	14.3
2A-66A(1)	66	10	132322	1745	66786	2145	QPSK	1	0	2	10	900	1960	14.36	14.32
2A-71A(0)	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	71	20	68761	634.5	12.99	12.91
2A-71A(1)	2	5	19175	1907.5	1175	1987.5	QPSK	1	0	71	10	68761	634.5	12.98	12.99
2A-71A(0)	71	20	133372	688	68836	642	QPSK	1	0	2	20	900	1960	15.88	15.74
2A-71A(1)	71	10	133422	693	68886	647	QPSK	1	0	2	10	900	1960	15.77	15.68
2C	2	15	19125	1902.5	1125	1982.5	64QAM	1	0	2	20	954	1965.4	12.99	12.97
4A-4A(0)	4	20	20175	1732.5	2175	2132.5	QPSK	1	0	4	20	2050	2120	14.37	14.3
4A-4A(1)	4	10	20350	1750	2350	2150	QPSK	1	0	4	10	2000	2115	14.34	14.31
4A-5A(0)	4	10	20350	1750	2350	2150	QPSK	1	0	5	10	2525	881.5	14.34	14.36
4A-5A(1)	4	20	20175	1732.5	2175	2132.5	QPSK	1	0	5	10	2525	881.5	14.37	14.34
4A-5A(0)	5	10	20525	836.5	2525	881.5	QPSK	1	0	4	20	2175	2132.5	18.43	18.37
4A-5A(1)	5	10	20525	836.5	2525	881.5	QPSK	1	0	4	10	2175	2132.5	18.43	18.36
4A-7A(0)	4	10	20350	1750	2350	2150	QPSK	1	0	7	20	3100	2655	14.34	14.31
4A-7A(1)	4	20	20175	1732.5	2175	2132.5	QPSK	1	0	7	20	3100	2655	14.37	14.36
4A-7A(0)	7	20	21100	2535	3100	2655	64QAM	1	99	4	10	2175	2132.5	12.48	12.46
4A-7A(1)	7	20	21100	2535	3100	2655	64QAM	1	99	4	20	2175	2132.5	12.48	12.38
4A-12A(0,3)	4	10	20350	1732.5	2175	2132.5	QPSK	1	0	12	10	5095	737.5	14.34	14.36
4A-12A(1,2,4)	4	20	20175	1732.5	2175	2132.5	QPSK	1	0	12	20	5095	737.5	14.37	14.37
4A-12A(5)	4	10	20350	1732.5	2175	2132.5	QPSK	1	0	12	5	5095	737.5	14.34	14.29
4A-12A(0,3)	12	10	23130	711	5130	741	64QAM	1	0	4	10	2175	2132.5	17.25	16.92
4A-12A(1,2,4)	12	10	23130	711	5130	741	64QAM	1	0	4	20	2175	2132.5	17.25	16.89
4A-12A(5)	12	5	23155	713.5	5155	743.5	QPSK	1	12	4	15	2175	2132.5	17.13	17.02
4A-13A(0)	4	20	20175	1732.5	2175	2132.5	QPSK	1	0	13	10	5230	751	14.37	14.26
4A-13A(1)	4	10	20350	1732.5	2175	2132.5	QPSK	1	0	13	10	5230	751	14.34	14.36
4A-13A(0)	13	10	23230	782	5230	751	QPSK	1	0	4	20	2175	2132.5	16.85	16.64
4A-13A(1)	13	10	23230	782	5230	751	QPSK	1	0	4	10	2175	2132.5	16.85	16.62
4A-17A	4	10	20350	1732.5	2175	2132.5	QPSK	1	0	17	10	5790	740	14.34	14.33
4A-17A	17	10	23790	710	5790	740	64QAM	1	49	4	10	2175	2132.5	17.8	17.82
4A-30A	4	20	20175	1732.5	2175	2132.5	QPSK	1	0	30	10	9820	2355	14.37	14.34
4A-30A	30	10	27710	2310	9820	2355	QPSK	1	49	4	20	2175	2132.5	9.12	9.07
4A-71A	4	20	20175	1732.5	2175	2132.5	QPSK	1	0	71	20	68761	634.5	14.37	14.37
4A-71A	71	20	133372	688	68836	642	QPSK	1	0	4	20	2175	2132.5	15.88	15.7
5A-5A(0)	5	10	20525	836.5	2525	881.5	QPSK	1	0	5	5	2425	871.5	18.43	18.4
5A-5A(1)	5	5	20525	836.5	2525	881.5	64QAM	1	12	5	5	2625	891.5	18.42	18.41
5A-7A(0,1)	5	10	20525	836.5	2525	881.5	QPSK	1	0	7	20	3100	2655	18.43	18.4
5A-7A(0,1)	7	20	21100	2535	3100	2655	64QAM	1	99	5	10	2525	881.5	12.48	12.41
5A-30A	5	10	20525	836.5	2525	881.5	QPSK	1	0	30	10	9820	2355	18.43	18.32
5A-30A	30	10	27710	2310	9820	2355	QPSK	1	49	5	10	2525	881.5	9.12	9.11
5A-66A	5	10	20525	836.5	2525	881.5	QPSK	1	0	66	20	66786	2145	18.43	18.41
5A-66A	66	20	132072	1745	66536	2120	QPSK	1	0	5	10	2525	881.5	14.38	14.31
5B(0)	5	10	20525	836.5	2525	881.5	QPSK	1	0	5	10	2426	871.6	18.43	18.39
5B(1)	5	10	20525	836.5	2525	881.5	QPSK	1	0	5	5	2453	873.3	18.43	18.4
7A-7A(0,1,3)	7	20	21100	2535	3100	2655	64QAM	1	99	7	20	3350	2680	12.48	12.36
7A-7A(2)	7	20	21100	2535	3100	2655	64QAM	1	99	7	10	3400	2685	12.48	12.46
7A-12A	7	20	21100	2535	3100	2655	64QAM	1	99	12	10	5095	737.5	12.48	12.26
7A-12A	12	10	23130	711	5130	741	64QAM	1	0	7	20	3100	2655	17.25	16.93
7A-66A	7	20	21100	2535	3100	2655	64QAM	1	99	66	20	66786	2145	12.48	12.38
7A-66A	66	20	132072	1745	66536	2120	QPSK	1	0	7	20	3100	2655	14.38	14.33
12A-30A	12	10	23130	711	5130	741	64QAM	1	0	30	10	9820	2355	17.25	17.05
12A-30A	30	10	27710	2310	9820	2355	QPSK	1	49	12	10	5095	737.5	9.12	9.08
12A-66A(0,3)	12	10	23130	711	5130	741	64QAM	1	0	66	10	66786	2145	17.25	17.05
12A-66A(1,2,4)	12	10	23130	711	5130	741	64QAM	1	0	66	20	66786	2145	17.25	17
12A-66A(5)	12	5	23155	713.5	5155	743.5	QPSK	1	12	66	15	66786	2145	17.13	17
12A-66A(0,3)	66	10	132322	1745	66786	2145	QPSK	1	0	12	10	5095	737.5	14.36	14.33
12A-66A(1,2,4)	66	20	132072	1745	66536	2120	QPSK	1	0	12	10	5095	737.5	14.38	14.35
12A-66A(5)	66	15	132322	1745	66786	2145	QPSK	1	0	12	5	5095	737.5	14.37	14.32
12B	12	10	23130	711	5130	741	64QAM	1	0	12	10	5031	731.1	11.8	11.81
12B	12	10	23130	711	5130	741	64QAM	1	0	12	5	5058	733.8	11.8	11.82
13A-66A	13	10	23230	782	5230	751	QPSK	1	0	66	20	66786	2145	16.85	16.83
13A-66A	66	20	132072	1745	66536	2120	QPSK	1	0	13	10	5230	751	14.38	14.37
25A-25A(0)	25	10	26640	1910	8640	1990	QPSK	50	0	25	10	8090	1935	13.04	13
25A-25A(1)	25	20	26590	1905	8590	1985	QPSK	50	0	25	20	8140	1940	13.05	13.02
25A-26A(0)	25	20	26590	1905	8590	1985	QPSK	50	0	26	15	8865	876.5	13.05	12.98
25A-26A(1,2)	25	10	26640	1910	8640	1990	QPSK	50	0	26	10	8865	876.5	13.04	13.1
25A-26A(0)	26	15	26865	831.5	8865	876.5	QPSK	1	0	25	20	8365	1962.5	17.86	17.89
25A-26A(1,2)	26	10	26990	844	8990	889	QPSK	1	0	25	10	8365	1962.5	17.84	17.82
25A-41A	25	20	26590	1905	8590	1985	QPSK	50	0	41	20	40620	2593	13.05	13.02
25A-41A	41	20	41490	2680	41490	2680	16QAM	1	0	25	20	8365	1962.5	18.87	18.93
26A-41A	26	15	26865	831.5	8865	876.5	QPSK	1	0	41	20	40620	2593	17.86	17.84
26A-41A	41	20	41490	2680	41490	2680	16QAM	1	0	26	15	8865	876.5	18.87	18.73
41A-41A(0,1)	41	20	41490	2680	41490	2680	16QAM	1	0	41	20	40620	2593	18.87	18.74
41C(0,1,2,3)	41	20	41490	2680	41490	2680	16QAM	1	0	41	20	40383	2569.3	18.87	18.72
66A-66A	66	20	132072	1745	66536	2120	QPSK	1	0	66	20	67036	2170	14.38	14.4
66A-71A	66	20	132072	1745	66536	2120	QPSK	1	0	71	20	68761	634.5	14.38	14.32
66A-71A	71	20	133372	688	68836	642	QPSK	1	0	66	20	66786	2145	15.88	15.92
66B	66	15	132322	1745	66786	2145	QPSK	1	0	66	5	66879	2154.3	14.37	14.36
66C	66	20	132072	1745	66536	2120	QPSK	1	0	66	20	66588	21.25.2	14.38	14.3

2CA Downlink Carrier aggregation Maximum Conducted Powers (HUPE)

Combination	PCC									SCC				Tx Power	
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm)	LTE Tx Power with DL CA Enabled(dBm)
26A-41A	41	20	40185	2549.5	40185	2549.5	QPSK	1	0	26	15	8865	876.5	26.35	26.41
41A-41A(0,1)	41	20	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40620	2593	26.35	26.38
41C(0,1,2,3)	41	20	40185	2549.5	40185	2549.5	QPSK	1	0	41	20	40383	2569.3	26.35	26.38

Notes :

Downlink Carrier aggregation:

1. This device supports intra-downlink and inter-downlink carrier aggregation. For every supported combination of downlink carrier aggregation, power measurements were performed with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.
2. All control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
3. Per FCC KDB publication 941225 D05A v01r02, Section C)3)b)ii), PCC uplink channel was selected at downlink carrier aggregation combinations. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.
4. For continuous intra-band carrier aggregation, the downlink channel spacing between the component carriers was set to multiple of 300kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521.
5. For non-continuous intra-band carrier aggregation, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
6. All selected downlink channels remained fully within the downlink transmission band of the respective component carrier.

Power Measurement setup

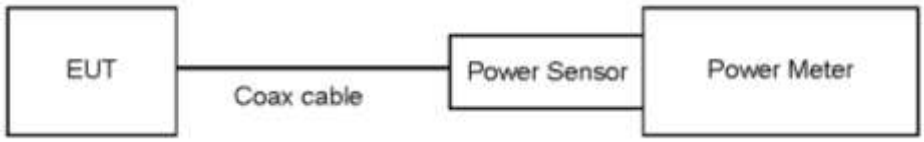
11.3 WIFI Conducted Power measurement method

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

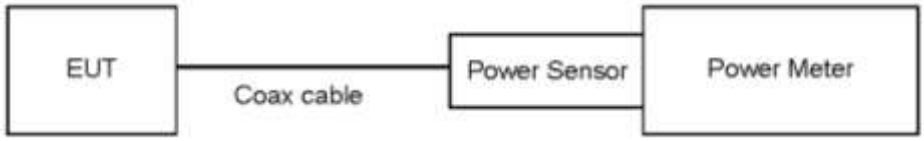


Un-Licensed bands (NII Band)

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



11.3.1 IEEE 802.11 (2.4 GHz) Maximum Conducted Power

Mode	Frequency [㎒]	Channel	IEEE 802.11 (2.4 GHz) Average RF Conducted Power [dBm]
802.11b	2 412	1	18.62
	2 437	6	18.46
	2457	10	18.42
	2 462	11	16.78
802.11g	2 412	1	16.77
	2 437	6	18.12
	2 462	11	15.15
802.11n (HT20)	2 412	1	16.31
	2 437	6	16.65
	2 462	11	13.58

11.3.2 IEEE 802.11 (2.4 GHz) Reduced Conducted Power

Mode	Frequency [㎒]	Channel	IEEE 802.11 (2.4 GHz) Reduced Conducted Power [dBm]
802.11b	2 412	1	9.64
	2 437	6	9.30
	2 462	11	9.69
802.11g	2 412	1	9.58
	2 437	6	9.69
	2 462	11	9.41
802.11n (HT20)	2 412	1	9.85
	2 437	6	9.31
	2 462	11	9.19

11.3.3 IEEE 802.11 (5 GHz) Maximum Conducted Power

Mode	Frequency [㎒]	Channel	IEEE 802.11 (5 GHz) Average RF Conducted Power [dBm]
802.11a (20 ㎒ BW)	5 180	36	16.46
	5 200	40	16.38
	5 220	44	16.51
	5 240	48	17.32
	5 260	52	16.83
	5 280	56	16.71
	5 300	60	16.15
	5 320	64	15.89
	5 500	100	16.45
	5 580	116	17.76
	5 600	120	17.10
	5 620	124	16.88
	5 720	144	16.31
	5 745	149	16.68
	5 785	157	16.14
	5 825	165	16.31

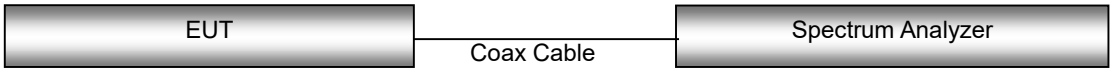
11.3.4 IEEE 802.11 (5 GHz) Reduced Conducted Power

Mode	Frequency [㎒]	Channel	IEEE 802.11 (5 GHz) Average RF Conducted Power [dBm]
802.11a (20 ㎒ BW)	5 180	36	10.24
	5 200	40	10.03
	5 220	44	10.36
	5 240	48	9.80
	5 260	52	9.76
	5 280	56	10.41
	5 300	60	10.16
	5 320	64	10.11
	5 500	100	9.26
	5 580	116	9.99
	5 600	120	9.41
	5 620	124	9.38
	5 720	144	9.78
	5 745	149	9.66
	5 785	157	9.63
	5 825	165	9.26

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

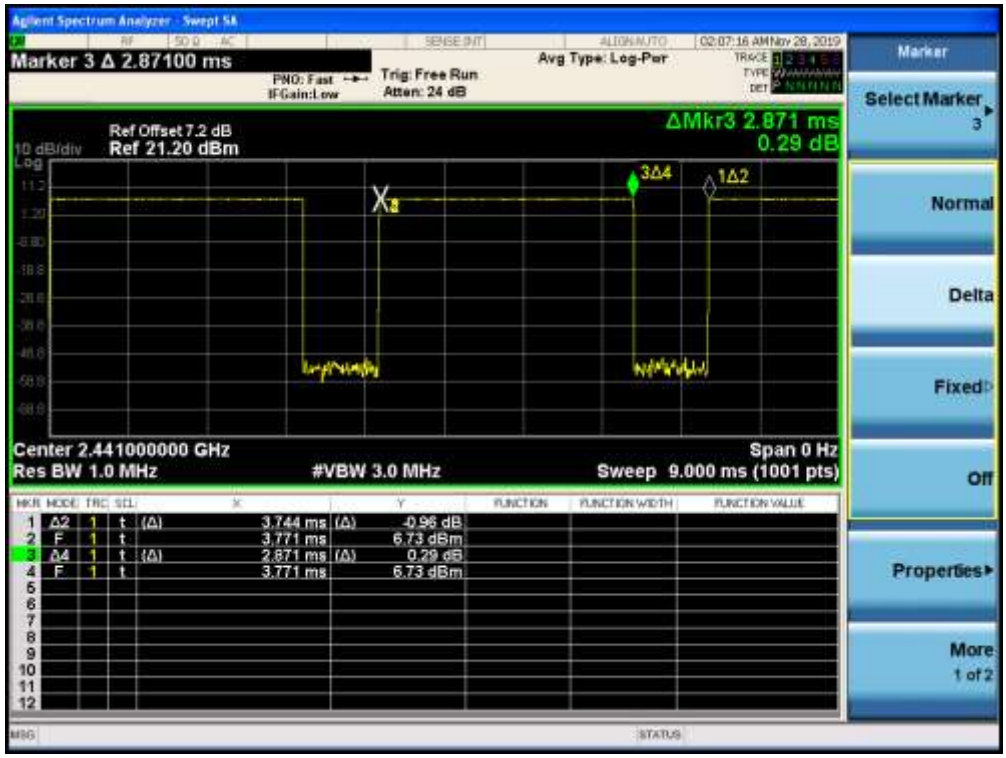


11.4 Bluetooth Conducted Power

The Burst averaged-conducted power

Mode	Channel	Bluetooth Power [dBm]
DH5	0	6.48
	39	7.19
	78	7.29
2-DH5	0	4.37
	39	5.16
	78	5.20
3-DH5	0	4.38
	39	5.16
	78	5.21

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 protocol. DH5 mode is the highest duty cycle and conducted power. SAR test were performed at DH5 mode.



Duty Cycle

= (BT-On time /BT-Full time) =(2.871/3.744) = 0.768 (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 Body 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
11/08/2019	18.6	750B	700	0.920	55.768	0.959	55.730	-4.07%	0.07%
			750	0.972	55.246	0.963	55.530	0.93%	-0.51%
			785	1.005	54.914	0.966	55.397	4.04%	-0.87%
11/05/2019	20.1	750B	680	0.930	55.794	0.958	55.806	-2.97%	-0.08%
			700	0.948	55.716	0.959	55.730	-1.15%	-0.03%
			750	1.002	55.255	0.963	55.530	4.05%	-0.50%
10/24/2019	20.6	835B	820	0.944	56.468	0.969	55.260	-2.58%	2.19%
			835	0.962	56.332	0.970	55.200	-0.82%	2.05%
			850	0.971	56.235	0.988	55.150	-1.72%	1.97%
10/31/2019	21.4	835B	820	0.943	56.492	0.969	55.260	-2.68%	2.23%
			835	0.962	56.306	0.970	55.200	-0.82%	2.00%
			850	0.970	56.172	0.988	55.150	-1.82%	1.85%
10/29/2019	21.1	1800B	1710	1.396	55.038	1.463	53.534	-4.58%	2.81%
			1750	1.437	54.902	1.488	53.430	-3.43%	2.76%
			1800	1.484	54.723	1.520	53.300	-2.37%	2.67%
10/29/2019	21.1	1800B	1710	1.427	53.870	1.463	53.534	-2.46%	0.63%
			1750	1.459	53.881	1.488	53.430	-1.95%	0.84%
			1800	1.510	53.802	1.520	53.300	-0.66%	0.94%
10/28/2019	20.0	1900B	1850	1.481	53.641	1.520	53.300	-2.57%	0.64%
			1900	1.575	54.423	1.520	53.300	3.62%	2.11%
			1910	1.537	53.516	1.520	53.300	1.12%	0.41%
10/28/2019	20.0	1900B	1850	1.481	53.662	1.520	53.300	-2.57%	0.68%
			1900	1.523	53.558	1.520	53.300	0.20%	0.48%
			1910	1.538	53.546	1.520	53.300	1.18%	0.46%

Table for Body 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
11/20/2019	19.6	2300B	2300	1.767	53.154	1.807	52.900	-2.21%	0.48%
			2307.5	1.772	53.114	1.814	52.890	-2.32%	0.42%
			2310	1.775	53.101	1.816	52.886	-2.26%	0.41%
			2312.5	1.781	53.116	1.819	52.882	-2.09%	0.44%
11/21/2019	20.2	2450B	2400	1.877	53.668	1.902	52.770	-1.31%	1.70%
			2450	1.946	53.728	1.950	52.700	-0.21%	1.95%
			2500	2.004	53.529	2.021	52.640	-0.84%	1.69%
11/01/2019	20.1	2600B	2500	2.004	53.540	2.021	52.640	-0.84%	1.71%
			2600	2.122	53.236	2.163	52.510	-1.90%	1.38%
			2690	2.221	53.018	2.291	52.394	-3.06%	1.19%
11/15/2019	19.9	2600B	2500	2.002	53.522	2.021	52.640	-0.94%	1.68%
			2600	2.123	53.160	2.163	52.510	-1.85%	1.24%
			2690	2.226	53.000	2.291	52.394	-2.84%	1.16%
12/04/2019	19.7	2600B	2500	2.004	53.542	2.021	52.640	-0.84%	1.71%
			2600	2.117	53.165	2.163	52.510	-2.13%	1.25%
			2690	2.229	53.008	2.291	52.394	-2.71%	1.17%
11/25/2019	20.2	5180B-5825B	5180	5.254	48.048	5.276	49.038	-0.42%	-2.02%
			5250	5.493	47.800	5.358	48.950	2.52%	-2.35%
			5280	5.479	47.817	5.393	48.908	1.59%	-2.23%
			5320	5.336	47.101	5.439	48.852	-1.89%	-3.58%
			5500	5.747	46.806	5.650	48.610	1.72%	-3.71%
			5600	5.841	46.994	5.766	48.470	1.30%	-3.05%
			5750	6.064	46.560	5.942	48.270	2.05%	-3.54%
			5800	6.047	46.684	6.000	48.200	0.78%	-3.15%
			5825	6.072	46.600	6.029	48.165	0.71%	-3.25%

Table for Body 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
12/18/2019	22.7	1800B	1710	1.397	54.948	1.463	53.534	-4.51%	2.64%
			1750	1.435	54.848	1.488	53.430	-3.56%	2.65%
			1800	1.486	54.688	1.520	53.300	-2.24%	2.60%
12/18/2019	22.7	1800B	1710	1.396	55.003	1.463	53.534	-4.58%	2.74%
			1750	1.432	54.942	1.488	53.430	-3.76%	2.83%
			1800	1.483	54.736	1.520	53.300	-2.43%	2.69%
12/17/2019	22.6	1900B	1850	1.476	53.601	1.520	53.300	-2.89%	0.56%
			1900	1.527	53.493	1.520	53.300	0.46%	0.36%
			1910	1.536	53.522	1.520	53.300	1.05%	0.42%
12/19/2019	22.7	2450B	2400	1.881	53.812	1.902	52.770	-1.10%	1.97%
			2450	1.941	53.658	1.950	52.700	-0.46%	1.82%
			2500	2.003	53.556	2.021	52.640	-0.89%	1.74%

12.2 System Verification

* Input Power: 50 mW

Freq.	Date	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp.	Liquid Temp.	1 W Target SAR_{1g} (SPEAG)	50 mW Measured SAR_{1g}	1 W Normalized SAR_{1g}	Deviation	Limit
[㎒]					[°C]	[°C]	[W/kg]	[W/kg]	[W/kg]	[%]	[%]
750	11/08/2019	3076	1014	Body	18.7	18.6	8.48	0.442	8.84	+ 4.25	± 10
750	11/05/2019	3903	1014	Body	20.1	20.1	8.48	0.405	8.10	- 4.48	± 10
835	10/24/2019	3076	441	Body	20.6	20.6	9.73	0.497	9.94	+ 2.16	± 10
835	10/31/2019	3076	441	Body	21.4	21.4	9.73	0.501	10.02	+ 2.98	± 10
1 800	10/29/2019	3076	2d015	Body	21.1	21.1	38.3	1.92	38.4	+ 0.26	± 10
1 800	10/29/2019	3076	2d015	Body	21.1	21.1	38.3	2.05	41.0	+ 7.05	± 10
1 900	10/28/2019	3076	5d032	Body	20.2	20.0	39.7	1.92	38.4	- 3.27	± 10
1 900	10/28/2019	3076	5d032	Body	20.2	20.0	39.7	1.86	37.2	- 6.30	± 10
2 300	11/20/2019	3863	1010	Body	19.7	19.6	46.8	2.34	46.8	+ 0.00	± 10
2 450	11/21/2019	3968	743	Body	20.2	20.2	49.9	2.43	48.6	- 2.61	± 10
2 600	11/01/2019	3903	1106	Body	20.3	20.1	55.1	2.65	53.0	- 3.81	± 10
2 600	11/15/2019	3903	1106	Body	19.9	19.9	55.1	2.62	52.4	- 4.90	± 10
2 600	12/04/2019	3903	1106	Body	19.7	19.7	55.1	2.68	53.6	- 2.72	± 10
5 250	11/25/2019	3968	1107	Body	20.3	20.2	75.4	3.68	73.6	- 2.39	± 10
5 600	11/25/2019	3968	1107	Body	20.3	20.2	78.5	4.09	81.8	+ 4.20	± 10
5 750	11/25/2019	3968	1107	Body	20.3	20.2	76.6	3.97	79.4	+ 3.66	± 10

Freq.	Date	Probe (S/N)	Dipole (S/N)	Liquid	Amb. Temp.	Liquid Temp.	1 W Target SAR_{1g} (SPEAG)	50 mW Measured SAR_{1g}	1 W Normalized SAR_{1g}	Deviation
[㎒]					[°C]	[°C]	[W/kg]	[W/kg]	[W/kg]	[%]
1 800	12/18/2019	3903	2d015	Body	23.0	22.7	38.3	1.78	- 7.05	+ 0.26
1 800	12/18/2019	3967	2d015	Body	23.0	22.7	38.3	1.81	- 5.48	+ 7.05
1 900	12/17/2019	3967	5d032	Body	22.8	22.6	39.7	2.03	+ 2.27	- 3.27
2 450	12/19/2019	3903	743	Body	22.9	22.7	49.9	2.36	- 5.41	- 2.61

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

UMTS 850 Body SAR													
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	Reported SAR (W/kg)	Plot No.
MHz	Ch.												
826.4	4132	RMC	18.5	17.74	-0.13	Rear	Active	1:1	0	0.813	1.191	**0.968**	1
836.6	4183	RMC	18.5	17.73	-0.17	Rear	Active	1:1	0	0.757	1.194	0.904	-
846.6	4233	RMC	18.5	17.30	-0.11	Rear	Active	1:1	0	0.703	1.318	0.927	-
836.6	4183	RMC	18.5	17.73	0.16	Left	Active	1:1	0	0.204	1.194	0.244	-
836.6	4183	RMC	18.5	17.73	0.05	Top	Active	1:1	0	0.205	1.194	0.245	-
836.6	4183	RMC	18.5	17.73	0.10	Left Corner	Active	1:1	0	0.269	1.194	0.321	-
836.6	4183	RMC	24.5	23.10	-0.06	Rear	Inactive	1:1	22	0.245	1.380	0.338	-
836.6	4183	RMC	24.5	23.10	0.13	Left	Inactive	1:1	11	0.184	1.380	0.254	-
836.6	4183	RMC	24.5	23.10	0.01	Top	Inactive	1:1	19	0.257	1.380	0.355	-
836.6	4183	RMC	24.5	23.10	0.18	Left Corner	Inactive	1:1	15	0.039	1.380	0.054	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram					

UMTS 1700 Body SAR													
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	Reported SAR (W/kg)	Plot No.
MHz	Ch.												
1 712.4	1312	RMC	14.0	13.32	0.14	Rear	Active	1:1	0	0.777	1.169	**0.908**	2
1 732.4	1412	RMC	14.0	13.35	-0.12	Rear	Active	1:1	0	0.713	1.161	0.828	-
1 752.6	1513	RMC	14.0	13.10	-0.04	Rear	Active	1:1	0	0.484	1.230	0.595	-
1 732.4	1412	RMC	14.0	13.35	-0.09	Left	Active	1:1	0	0.048	1.161	0.056	-
1 732.4	1412	RMC	14.0	13.35	-0.18	Top	Active	1:1	0	0.579	1.161	0.672	-
1 732.4	1412	RMC	14.0	13.35	-0.06	Left Corner	Active	1:1	0	0.117	1.161	0.136	-
1 732.4	1412	RMC	24.5	23.79	0.11	Rear	Inactive	1:1	22	0.324	1.178	0.382	-
1 732.4	1412	RMC	24.5	23.79	0.10	Left	Inactive	1:1	11	0.095	1.178	0.112	-
1 732.4	1412	RMC	24.5	23.79	-0.05	Top	Inactive	1:1	19	0.389	1.178	0.458	-
1 732.4	1412	RMC	24.5	23.79	0.17	Left Corner	Inactive	1:1	15	0.173	1.178	0.204	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram					

UMTS 1900 Body SAR													
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	Reported SAR (W/kg)	Plot No.
MHz	Ch.												
1 852.4	9262	RMC	14.0	13.11	-0.14	Rear	Active	1:1	0	0.974	1.227	**1.195**	3
1 880.0	9400	RMC	14.0	13.15	-0.15	Rear	Active	1:1	0	0.797	1.216	0.969	-
1 907.6	9538	RMC	14.0	13.14	-0.13	Rear	Active	1:1	0	0.780	1.219	0.951	-
1 880.0	9400	RMC	14.0	13.15	-0.14	Left	Active	1:1	0	0.064	1.216	0.078	-
1 852.4	9262	RMC	14.0	13.11	-0.15	Top	Active	1:1	0	0.872	1.227	1.070	-
1 880.0	9400	RMC	14.0	13.15	-0.19	Top	Active	1:1	0	0.712	1.216	0.866	-
1 907.6	9538	RMC	14.0	13.14	-0.11	Top	Active	1:1	0	0.773	1.219	0.942	-
1 880.0	9400	RMC	14.0	13.15	0.01	Left Corner	Active	1:1	0	0.241	1.216	0.293	-
1 852.4	9262	RMC	24.5	23.11	0.04	Rear	Inactive	1:1	22	0.559	1.377	0.770	-
1 880.0	9400	RMC	24.5	23.13	0.01	Rear	Inactive	1:1	22	0.645	1.371	0.884	-
1 907.6	9538	RMC	24.5	23.28	0.06	Rear	Inactive	1:1	22	0.667	1.324	0.883	-
1 880.0	9400	RMC	24.5	23.13	0.11	Left	Inactive	1:1	11	0.181	1.371	0.248	-
1 852.4	9262	RMC	24.5	23.11	0.08	Top	Inactive	1:1	19	0.662	1.377	0.912	-
1 880.0	9400	RMC	24.5	23.13	0.08	Top	Inactive	1:1	19	0.787	1.371	1.079	-
1 907.6	9538	RMC	24.5	23.28	-0.17	Top	Inactive	1:1	19	0.862	1.324	**1.141**	-
1 880.0	9400	RMC	24.5	23.13	0.14	Left Corner	Inactive	1:1	15	0.406	1.371	0.557	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								Body 1.6 W/kg Averaged over 1 gram					

LTE Band 5 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
836.6	20525	QPSK	10	18.5	18.43	-0.18	Rear	Active	0	1	0	1:1	0	0.965	1.016	**0.980**	4
836.6	20525	QPSK	10	18.5	18.29	-0.10	Rear	Active	0	25	0	1:1	0	0.923	1.050	0.969	-
836.6	20525	QPSK	10	18.5	18.26	-0.10	Rear	Active	0	50	0	1:1	0	0.913	1.057	0.965	-
836.6	20525	QPSK	10	18.5	18.43	0.13	Left	Active	0	1	0	1:1	0	0.291	1.016	0.296	-
836.6	20525	QPSK	10	18.5	18.29	0.14	Left	Active	0	25	0	1:1	0	0.291	1.050	0.306	-
836.6	20525	QPSK	10	18.5	18.43	0.03	Top	Active	0	1	0	1:1	0	0.336	1.016	0.341	-
836.6	20525	QPSK	10	18.5	18.29	0.03	Top	Active	0	25	0	1:1	0	0.342	1.050	0.359	-
836.6	20525	QPSK	10	18.5	18.43	0.15	Left Corner	Active	0	1	0	1:1	0	0.278	1.016	0.282	-
836.6	20525	QPSK	10	18.5	18.29	0.10	Left Corner	Active	0	25	0	1:1	0	0.273	1.050	0.287	-
836.6	20525	QPSK	10	18.5	18.43	-0.01	Rear	Active	0	1	0	1:1	0	0.940	1.016	0.955	*
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Body 1.6 W/kg Averaged over 1 gram								

Note: SAR For Full power (Sensor Inactive mode) for LTE band 5(Frequency range: 824.7 MHz ~ 848.3 MHz) is covered by LTE Band 26 (Frequency range : 814.7 MHz ~ 848.3 MHz) due to overlapping frequency range, same maximum tune-up limit.
Note: * Data entry indicate Variability measurement.

LTE Band 7 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
2 510	20850	QPSK	20	13.0	12.16	-0.15	Rear	Active	0	1	0	1:1	0	0.952	1.213	1.155	-
2 535	21100	QPSK	20	13.0	12.41	-0.17	Rear	Active	0	1	99	1:1	0	**0.991**	1.146	1.136	5
2 560	21350	QPSK	20	13.0	12.16	0.12	Rear	Active	0	1	0	1:1	0	0.940	1.213	1.140	-
2 510	20850	QPSK	20	13.0	11.93	-0.12	Rear	Active	0	50	0	1:1	0	0.932	1.279	**1.192**	6
2 535	21100	QPSK	20	13.0	12.22	0.14	Rear	Active	0	50	49	1:1	0	0.966	1.197	1.156	-
2 560	21350	QPSK	20	13.0	12.02	0.07	Rear	Active	0	50	25	1:1	0	0.928	1.253	1.163	-
2 535	21100	QPSK	20	13.0	12.16	-0.13	Rear	Active	0	100	0	1:1	0	0.962	1.213	1.167	-
2 535	21100	QPSK	20	13.0	12.41	-0.18	Left	Active	0	1	99	1:1	0	0.374	1.146	0.429	-
2 535	21100	QPSK	20	13.0	12.22	-0.10	Left	Active	0	50	49	1:1	0	0.367	1.197	0.439	-
2 535	21100	QPSK	20	13.0	12.41	-0.17	Top	Active	0	1	99	1:1	0	0.435	1.146	0.499	-
2 535	21100	QPSK	20	13.0	12.22	-0.18	Top	Active	0	50	49	1:1	0	0.443	1.197	0.530	-
2 535	21100	QPSK	20	13.0	12.41	-0.17	Left Corner	Active	0	1	99	1:1	0	0.151	1.146	0.173	-
2 535	21100	QPSK	20	13.0	12.22	-0.15	Left Corner	Active	0	50	49	1:1	0	0.150	1.197	0.180	-
2 535	21100	QPSK	20	24.0	23.54	-0.10	Rear	Inactive	0	1	99	1:1	22	0.380	1.112	0.423	-
2 535	21100	QPSK	20	23.0	22.43	-0.12	Rear	Inactive	1	50	49	1:1	22	0.301	1.140	0.343	-
2 535	21100	QPSK	20	24.0	23.54	-0.17	Left	Inactive	0	1	99	1:1	11	0.695	1.112	0.773	-
2 535	21100	QPSK	20	23.0	22.43	-0.16	Left	Inactive	1	50	49	1:1	11	0.545	1.140	0.621	-
2 535	21100	QPSK	20	24.0	23.54	-0.12	Top	Inactive	0	1	99	1:1	19	0.267	1.112	0.297	-
2 535	21100	QPSK	20	23.0	22.43	-0.07	Top	Inactive	1	50	49	1:1	19	0.212	1.140	0.242	-
2 535	21100	QPSK	20	24.0	23.54	-0.12	Left Corner	Inactive	0	1	99	1:1	15	0.305	1.112	0.339	-
2 535	21100	QPSK	20	23.0	22.43	-0.09	Left Corner	Inactive	1	50	49	1:1	15	0.241	1.140	0.275	-
2 535	21100	QPSK	20	24.0	23.54	0.01	Right	Inactive	0	1	99	1:1	0	0.117	1.112	0.130	-
2 535	21100	QPSK	20	23.0	22.43	-0.05	Right	Inactive	1	50	49	1:1	0	0.098	1.140	0.112	-
2 535	21100	QPSK	20	13.0	12.41	-0.17	Rear	Active	0	1	99	1:1	0	0.974	1.146	1.116	*
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Body 1.6 W/kg Averaged over 1 gram								

Note: * Data entry indicate Variability measurement.

LTE Band 12 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
707.5	23095	QPSK	10	17.5	17.18	-0.17	Rear	Active	0	1	0	1:1	0	0.542	1.076	0.583	-
707.5	23095	QPSK	10	17.5	17.03	0.17	Rear	Active	0	25	24	1:1	0	0.617	1.114	**0.687**	7
707.5	23095	QPSK	10	17.5	17.18	-0.12	Left	Active	0	1	0	1:1	0	0.123	1.076	0.132	-
707.5	23095	QPSK	10	17.5	17.03	-0.14	Left	Active	0	25	24	1:1	0	0.129	1.114	0.144	-
707.5	23095	QPSK	10	17.5	17.18	-0.18	Top	Active	0	1	0	1:1	0	0.326	1.076	0.351	-
707.5	23095	QPSK	10	17.5	17.03	-0.16	Top	Active	0	25	24	1:1	0	0.325	1.114	0.362	-
707.5	23095	QPSK	10	17.5	17.18	0.10	Left Corner	Active	0	1	0	1:1	0	0.083	1.076	0.089	-
707.5	23095	QPSK	10	17.5	17.03	0.04	Left Corner	Active	0	25	24	1:1	0	0.085	1.114	0.095	-
707.5	23095	QPSK	10	25.5	24.78	-0.10	Rear	Inactive	0	1	0	1:1	22	0.143	1.180	0.169	-
707.5	23095	QPSK	10	24.5	23.59	-0.17	Rear	Inactive	1	25	0	1:1	22	0.132	1.233	0.163	-
707.5	23095	QPSK	10	25.5	24.78	-0.06	Left	Inactive	0	1	0	1:1	11	0.092	1.180	0.109	-
707.5	23095	QPSK	10	24.5	23.59	-0.18	Left	Inactive	1	25	0	1:1	11	0.082	1.233	0.101	-
707.5	23095	QPSK	10	25.5	24.78	-0.12	Top	Inactive	0	1	0	1:1	19	0.102	1.180	0.120	-
707.5	23095	QPSK	10	24.5	23.59	-0.10	Top	Inactive	1	25	0	1:1	19	0.092	1.233	0.113	-
707.5	23095	QPSK	10	25.5	24.78	0.01	Left Corner	Inactive	0	1	0	1:1	15	0.016	1.180	0.019	-
707.5	23095	QPSK	10	24.5	23.59	-0.01	Left Corner	Inactive	1	25	0	1:1	15	0.012	1.233	0.015	-
707.5	23095	QPSK	10	25.5	24.78	-0.02	Right	Inactive	0	1	0	1:1	0	0.011	1.180	0.013	-
707.5	23095	QPSK	10	24.5	23.59	0.06	Right	Inactive	1	25	0	1:1	0	0.006	1.233	0.008	-
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 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
782	23230	QPSK	10	17.5	16.85	-0.11	Rear	Active	0	1	0	1:1	0	**0.597**	1.161	0.693	8
782	23230	QPSK	10	17.5	16.66	-0.11	Rear	Active	0	25	0	1:1	0	0.591	1.213	**0.717**	9
782	23230	QPSK	10	17.5	16.85	0.17	Left	Active	0	1	0	1:1	0	0.233	1.161	0.271	-
782	23230	QPSK	10	17.5	16.66	0.18	Left	Active	0	25	0	1:1	0	0.234	1.213	0.284	-
782	23230	QPSK	10	17.5	16.85	-0.02	Top	Active	0	1	0	1:1	0	0.355	1.161	0.412	-
782	23230	QPSK	10	17.5	16.66	-0.01	Top	Active	0	25	0	1:1	0	0.346	1.213	0.420	-
782	23230	QPSK	10	17.5	16.85	0.12	Left Corner	Active	0	1	0	1:1	0	0.175	1.161	0.203	-
782	23230	QPSK	10	17.5	16.66	0.12	Left Corner	Active	0	25	0	1:1	0	0.189	1.213	0.229	-
782	23230	QPSK	10	25.3	24.47	-0.03	Rear	Inactive	0	1	0	1:1	22	0.317	1.211	0.384	-
782	23230	QPSK	10	24.3	23.30	-0.01	Rear	Inactive	1	25	0	1:1	22	0.253	1.259	0.319	-
782	23230	QPSK	10	25.3	24.47	0.11	Left	Inactive	0	1	0	1:1	11	0.174	1.211	0.211	-
782	23230	QPSK	10	24.3	23.30	0.16	Left	Inactive	1	25	0	1:1	11	0.137	1.259	0.172	-
782	23230	QPSK	10	25.3	24.47	-0.08	Top	Inactive	0	1	0	1:1	19	0.251	1.211	0.304	-
782	23230	QPSK	10	24.3	23.30	-0.03	Top	Inactive	1	25	0	1:1	19	0.200	1.259	0.252	-
782	23230	QPSK	10	25.3	24.47	0.10	Left Corner	Inactive	0	1	0	1:1	15	0.034	1.211	0.041	-
782	23230	QPSK	10	24.3	23.30	0.14	Left Corner	Inactive	1	25	0	1:1	15	0.028	1.259	0.035	-
782	23230	QPSK	10	25.3	24.47	0.02	Right	Inactive	0	1	0	1:1	0	0.018	1.211	0.022	-
782	23230	QPSK	10	24.3	23.30	-0.11	Right	Inactive	1	25	0	1:1	0	0.010	1.259	0.013	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Body 1.6 W/kg Averaged over 1 gram								

LTE Band 14 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
793	23330	QPSK	10	18.0	17.58	0.05	Rear	Active	0	1	0	1:1	0	0.742	1.102	**0.818**	10
793	23330	QPSK	10	18.0	17.44	-0.12	Rear	Active	0	25	12	1:1	0	0.709	1.138	0.807	-
793	23330	QPSK	10	18.0	17.58	0.19	Left	Active	0	1	0	1:1	0	0.323	1.102	0.356	-
793	23330	QPSK	10	18.0	17.44	0.17	Left	Active	0	25	12	1:1	0	0.324	1.138	0.369	-
793	23330	QPSK	10	18.0	17.58	-0.01	Top	Active	0	1	0	1:1	0	0.442	1.102	0.487	-
793	23330	QPSK	10	18.0	17.44	-0.06	Top	Active	0	25	12	1:1	0	0.426	1.138	0.485	-
793	23330	QPSK	10	18.0	17.58	0.15	Left Corner	Active	0	1	0	1:1	0	0.242	1.102	0.267	-
793	23330	QPSK	10	18.0	17.44	0.12	Left Corner	Active	0	25	12	1:1	0	0.255	1.138	0.290	-
793	23330	QPSK	10	25.0	24.02	-0.01	Rear	Inactive	0	1	0	1:1	22	0.297	1.253	0.372	-
793	23330	QPSK	10	24.0	22.89	-0.02	Rear	Inactive	1	25	0	1:1	22	0.241	1.291	0.311	-
793	23330	QPSK	10	25.0	24.02	0.09	Left	Inactive	0	1	0	1:1	11	0.177	1.253	0.222	-
793	23330	QPSK	10	24.0	22.89	0.11	Left	Inactive	1	25	0	1:1	11	0.141	1.291	0.182	-
793	23330	QPSK	10	25.0	24.02	0.01	Top	Inactive	0	1	0	1:1	19	0.263	1.253	0.330	-
793	23330	QPSK	10	24.0	22.89	-0.02	Top	Inactive	1	25	0	1:1	19	0.212	1.291	0.274	-
793	23330	QPSK	10	25.0	24.02	0.12	Left Corner	Inactive	0	1	0	1:1	15	0.033	1.253	0.041	-
793	23330	QPSK	10	24.0	22.89	0.05	Left Corner	Inactive	1	25	0	1:1	15	0.027	1.291	0.035	-
793	23330	QPSK	10	25.0	24.02	0.07	Right	Inactive	0	1	0	1:1	0	0.021	1.253	0.026	
793	23330	QPSK	10	24.0	22.89	0.12	Right	Inactive	1	25	0	1:1	0	0.015	1.291	0.019	
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 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
1 860.0	26140	QPSK	20	13.5	12.78	0.16	Rear	Active	0	1	0	1:1	0	0.983	1.180	1.160	-
1 882.5	26365	QPSK	20	13.5	12.84	-0.07	Rear	Active	0	1	0	1:1	0	0.940	1.164	1.094	-
1 905.0	26590	QPSK	20	13.5	13.03	0.18	Rear	Active	0	1	0	1:1	0	0.914	1.114	1.018	-
1 860.0	26140	QPSK	20	13.5	12.72	0.10	Rear	Active	0	50	0	1:1	0	0.962	1.197	1.152	-
1 882.5	26365	QPSK	20	13.5	12.85	-0.05	Rear	Active	0	50	25	1:1	0	0.921	1.161	1.069	-
1 905.0	26590	QPSK	20	13.5	13.05	0.17	Rear	Active	0	50	0	1:1	0	0.903	1.109	1.001	-
1 905.0	26590	QPSK	20	13.5	12.96	0.08	Rear	Active	0	100	0	1:1	0	0.887	1.132	1.004	-
1 905.0	26590	QPSK	20	13.5	13.03	0.16	Left	Active	0	1	0	1:1	0	0.077	1.114	0.086	-
1 905.0	26590	QPSK	20	13.5	13.05	0.16	Left	Active	0	50	0	1:1	0	0.076	1.109	0.084	-
1 860.0	26140	QPSK	20	13.5	12.78	-0.13	Top	Active	0	1	0	1:1	0	0.800	1.180	0.944	-
1 882.5	26365	QPSK	20	13.5	12.84	-0.04	Top	Active	0	1	0	1:1	0	0.795	1.164	0.925	-
1 905.0	26590	QPSK	20	13.5	13.03	-0.07	Top	Active	0	1	0	1:1	0	0.854	1.114	0.951	-
1 860.0	26140	QPSK	20	13.5	12.72	-0.10	Top	Active	0	50	0	1:1	0	0.790	1.197	0.946	-
1 882.5	26365	QPSK	20	13.5	12.85	-0.02	Top	Active	0	50	25	1:1	0	0.788	1.161	0.915	-
1 905.0	26590	QPSK	20	13.5	13.05	-0.05	Top	Active	0	50	0	1:1	0	0.854	1.109	0.947	-
1 905.0	26590	QPSK	20	13.5	12.96	-0.10	Top	Active	0	100	0	1:1	0	0.851	1.132	0.963	-
1 905.0	26590	QPSK	20	13.5	13.03	-0.09	Left Corner	Active	0	1	0	1:1	0	0.242	1.114	0.270	-
1 905.0	26590	QPSK	20	13.5	13.05	-0.03	Left Corner	Active	0	50	0	1:1	0	0.239	1.109	0.265	-
1 905.0	26590	QPSK	20	24.5	23.64	-0.06	Rear	Inactive	0	1	0	1:1	22	0.581	1.219	0.708	-
1 905.0	26590	QPSK	20	23.5	22.48	0.02	Rear	Inactive	1	50	0	1:1	22	0.604	1.265	0.764	-
1 905.0	26590	QPSK	20	24.5	23.64	0.14	Left	Inactive	0	1	0	1:1	11	0.313	1.219	0.382	-
1 905.0	26590	QPSK	20	23.5	22.48	0.19	Left	Inactive	1	50	0	1:1	11	0.263	1.265	0.333	-
1 860.0	26140	QPSK	20	24.5	23.32	0.01	Top	Inactive	0	1	0	1:1	19	0.772	1.312	1.013	-
1 882.5	26365	QPSK	20	24.5	23.39	0.08	Top	Inactive	0	1	49	1:1	19	0.910	1.291	1.175	-
1 905.0	26590	QPSK	20	24.5	23.64	-0.03	Top	Inactive	0	1	0	1:1	19	1.000	1.219	1.219	-
1 860.0	26140	QPSK	20	23.5	22.20	0.06	Top	Inactive	1	50	0	1:1	19	0.637	1.349	0.859	-
1 882.5	26365	QPSK	20	23.5	22.26	0.04	Top	Inactive	1	50	25	1:1	19	0.734	1.330	0.976	-
1 905.0	26590	QPSK	20	23.5	22.48	0.03	Top	Inactive	1	50	0	1:1	19	0.836	1.265	1.058	-
1 905.0	26590	QPSK	20	23.5	22.44	-0.12	Top	Inactive	1	100	0	1:1	19	1.060	1.276	**1.353**	11
1 905.0	26590	QPSK	20	24.5	23.64	0.12	Left Corner	Inactive	0	1	0	1:1	15	0.339	1.219	0.413	-
1 905.0	26590	QPSK	20	23.5	22.48	0.12	Left Corner	Inactive	1	50	0	1:1	15	0.283	1.265	0.358	-
1 905.0	26590	QPSK	20	23.5	22.44	-0.05	Top	Inactive	0	100	0	1:1	19	0.943	1.276	1.203	*
1 905.0	26590	QPSK	20	23.5	22.44	-0.01	Top	Inactive	1	100	0	1:1	19	0.951	1.276	1.213	**
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Body 1.6 W/kg Averaged over 1 gram								

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

LTE Band 26 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
831.5	26865	QPSK	15	18.0	17.86	-0.15	Rear	Active	0	1	0	1:1	0	0.877	1.033	0.906	12
831.5	26865	QPSK	15	18.0	17.68	-0.13	Rear	Active	0	36	0	1:1	0	0.861	1.076	**0.926**	13
831.5	26865	QPSK	15	18.0	17.63	-0.12	Rear	Active	0	75	0	1:1	0	0.832	1.089	0.906	-
831.5	26865	QPSK	15	18.0	17.86	0.12	Left	Active	0	1	0	1:1	0	0.292	1.033	0.302	-
831.5	26865	QPSK	15	18.0	17.68	0.15	Left	Active	0	36	0	1:1	0	0.296	1.076	0.318	-
831.5	26865	QPSK	15	18.0	17.86	0.02	Top	Active	0	1	0	1:1	0	0.329	1.033	0.340	-
831.5	26865	QPSK	15	18.0	17.68	0.06	Top	Active	0	36	0	1:1	0	0.332	1.076	0.357	-
831.5	26865	QPSK	15	18.0	17.86	0.17	Left Corner	Active	0	1	0	1:1	0	0.255	1.033	0.263	-
831.5	26865	QPSK	15	18.0	17.68	0.16	Left Corner	Active	0	36	0	1:1	0	0.249	1.076	0.268	-
831.5	26865	QPSK	15	25.0	24.35	-0.01	Rear	Inactive	0	1	0	1:1	22	0.306	1.161	0.355	-
831.5	26865	QPSK	15	24.0	23.11	0.02	Rear	Inactive	1	36	0	1:1	22	0.240	1.227	0.294	-
831.5	26865	QPSK	15	25.0	24.35	0.05	Left	Inactive	0	1	0	1:1	11	0.206	1.161	0.239	-
831.5	26865	QPSK	15	24.0	23.11	0.07	Left	Inactive	1	36	0	1:1	11	0.157	1.227	0.193	-
831.5	26865	QPSK	15	25.0	24.35	0.05	Top	Inactive	0	1	0	1:1	19	0.236	1.161	0.274	-
831.5	26865	QPSK	15	24.0	23.11	0.02	Top	Inactive	1	36	0	1:1	19	0.202	1.227	0.248	-
831.5	26865	QPSK	15	25.0	24.35	0.08	Left Corner	Inactive	0	1	0	1:1	15	0.042	1.161	0.049	-
831.5	26865	QPSK	15	24.0	23.11	0.13	Left Corner	Inactive	1	36	0	1:1	15	0.033	1.227	0.040	-
831.5	26865	QPSK	15	25.0	24.35	-0.02	Right	Inactive	0	1	0	1:1	0	0.021	1.161	0.024	
831.5	26865	QPSK	15	24.0	23.11	0.03	Right	Inactive	1	36	0	1:1	0	0.011	1.227	0.013	
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Body 1.6 W/kg Averaged over 1 gram								

LTE Band 30 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
2 310	27710	QPSK	10	12.5	10.38	-0.12	Rear	Active	0	1	49	1:1	0	0.462	1.629	0.753	-
2 310	27710	QPSK	10	12.5	10.32	0.15	Rear	Active	0	25	24	1:1	0	0.458	1.652	0.757	-
2 310	27710	QPSK	10	12.5	10.38	0.10	Left	Active	0	1	49	1:1	0	0.092	1.629	0.150	-
2 310	27710	QPSK	10	12.5	10.32	0.11	Left	Active	0	25	24	1:1	0	0.090	1.652	0.149	-
2 310	27710	QPSK	10	12.5	10.38	-0.12	Top	Active	0	1	49	1:1	0	0.469	1.629	0.764	-
2 310	27710	QPSK	10	12.5	10.32	0.14	Top	Active	0	25	24	1:1	0	0.464	1.652	0.767	-
2 310	27710	QPSK	10	12.5	10.38	0.19	Left Corner	Active	0	1	49	1:1	0	0.082	1.629	0.134	-
2 310	27710	QPSK	10	12.5	10.32	0.14	Left Corner	Active	0	25	24	1:1	0	0.076	1.652	0.126	-
2 310	27710	QPSK	10	22.5	21.74	-0.13	Rear	Inactive	0	1	49	1:1	22	0.509	1.191	0.606	-
2 310	27710	QPSK	10	21.5	20.29	0.01	Rear	Inactive	1	25	24	1:1	22	0.406	1.321	0.536	-
2 310	27710	QPSK	10	22.5	21.74	0.01	Left	Inactive	0	1	49	1:1	11	0.177	1.191	0.211	-
2 310	27710	QPSK	10	21.5	20.29	0.01	Left	Inactive	1	25	24	1:1	11	0.137	1.321	0.181	-
2 310	27710	QPSK	10	22.5	21.74	0.16	Top	Inactive	0	1	49	1:1	19	0.799	1.191	**0.952**	14
2 310	27710	QPSK	10	21.5	20.29	0.08	Top	Inactive	1	25	24	1:1	19	0.627	1.321	0.828	-
2 310	27710	QPSK	10	21.5	20.22	0.12	Top	Inactive	1	50	0	1:1	19	0.477	1.343	0.641	-
2 310	27710	QPSK	10	22.5	21.74	-0.13	Left Corner	Inactive	0	1	49	1:1	15	0.202	1.191	0.241	-
2 310	27710	QPSK	10	21.5	20.29	-0.05	Left Corner	Inactive	1	25	24	1:1	15	0.157	1.321	0.207	-
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 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
Power Class 3																	
2 506.0	39750	QPSK	20	13.5	11.52	-0.13	Rear	Active	0	1	0	1:1.58	0	0.467	1.578	0.737	-
2 549.5	40185	QPSK	20	13.5	11.70	-0.19	Rear	Active	0	1	99	1:1.58	0	0.453	1.514	0.686	-
2 593.0	40620	QPSK	20	13.5	11.73	-0.12	Rear	Active	0	1	0	1:1.58	0	0.468	1.503	0.703	-
2 636.5	41055	QPSK	20	13.5	11.66	-0.17	Rear	Active	0	1	0	1:1.58	0	0.492	1.528	0.752	-
2 680.0	41490	QPSK	20	13.5	12.00	-0.19	Rear	Active	0	1	0	1:1.58	0	0.614	1.413	0.868	-
2 506.0	39750	QPSK	20	13.5	11.59	-0.16	Rear	Active	0	50	0	1:1.58	0	0.495	1.552	0.768	-
2 549.5	40185	QPSK	20	13.5	11.61	-0.10	Rear	Active	0	50	49	1:1.58	0	0.477	1.545	0.737	-
2 593.0	40620	QPSK	20	13.5	11.68	0.10	Rear	Active	0	50	0	1:1.58	0	0.535	1.521	0.814	-
2 636.5	41055	QPSK	20	13.5	11.76	0.12	Rear	Active	0	50	0	1:1.58	0	0.526	1.493	0.785	-
2 680.0	41490	QPSK	20	13.5	11.92	-0.14	Rear	Active	0	50	0	1:1.58	0	0.633	1.439	0.911	-
2 680.0	41490	QPSK	20	13.5	11.92	0.12	Rear	Active	0	100	0	1:1.58	0	0.642	1.439	**0.924**	15
2 680.0	41490	QPSK	20	13.5	12.00	0.15	Left	Active	0	1	0	1:1.58	0	0.203	1.413	0.287	-
2 680.0	41490	QPSK	20	13.5	11.92	-0.03	Left	Active	0	50	0	1:1.58	0	0.206	1.439	0.296	-
2 680.0	41490	QPSK	20	13.5	12.00	0.12	Top	Active	0	1	0	1:1.58	0	0.127	1.413	0.179	-
2 680.0	41490	QPSK	20	13.5	11.92	0.17	Top	Active	0	50	0	1:1.58	0	0.126	1.439	0.181	-
2 680.0	41490	QPSK	20	13.5	12.00	0.15	Left Corner	Active	0	1	0	1:1.58	0	0.078	1.413	0.110	-
2 680.0	41490	QPSK	20	13.5	11.92	0.09	Left Corner	Active	0	50	0	1:1.58	0	0.078	1.439	0.112	-
2 549.5	40185	QPSK	20	24.0	23.28	0.13	Rear	Inactive	0	1	0	1:1.58	22	0.345	1.180	0.407	-
2 549.5	40185	QPSK	20	23.0	22.30	-0.11	Rear	Inactive	1	50	0	1:1.58	22	0.273	1.175	0.321	-
2 549.5	40185	QPSK	20	24.0	22.93	0.01	Left	Inactive	0	1	0	1:1.58	11	0.428	1.279	0.547	-
2 549.5	40185	QPSK	20	23.0	22.30	-0.01	Left	Inactive	1	50	0	1:1.58	11	0.292	1.175	0.343	-
2 549.5	40185	QPSK	20	24.0	23.28	-0.04	Top	Inactive	0	1	0	1:1.58	19	0.303	1.180	0.358	-
2 549.5	40185	QPSK	20	23.0	22.30	0.04	Top	Inactive	1	50	0	1:1.58	19	0.242	1.175	0.284	-
2 549.5	40185	QPSK	20	24.0	23.28	-0.02	Left Corner	Inactive	0	1	0	1:1.58	15	0.139	1.180	0.164	-
2 549.5	40185	QPSK	20	23.0	22.30	0.04	Left Corner	Inactive	1	50	0	1:1.58	15	0.110	1.175	0.129	-
Power class 2 (HPUE)																	
2 680.0	41490	QPSK	20	13.5	11.97	-0.18	Rear	Active	0	100	0	1:1.58	0	0.453	1.422	0.644	**
2549.5	40185	QPSK	20	27.0	26.35	-0.19	Left	Inactive	0	1	0	1:1.58	11	0.576	1.161	0.669	**
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)
When Power reduction is applied to LTE B41 PC 2(HPUE), The power level of LTE B41 PC became same as the reduction power of LTE B41 PC3

LTE Band 66 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
1 720	132072	QPSK	20	14.5	14.38	-0.12	Rear	Active	0	1	0	1:1	0	0.813	1.028	0.836	-
1 745	132322	QPSK	20	14.5	14.33	-0.15	Rear	Active	0	1	0	1:1	0	0.792	1.040	0.824	-
1 770	132572	QPSK	20	14.5	14.29	-0.17	Rear	Active	0	1	0	1:1	0	0.747	1.050	0.784	-
1 720	132072	QPSK	20	14.5	14.31	-0.17	Rear	Active	0	50	0	1:1	0	0.806	1.045	**0.842**	16
1 745	132322	QPSK	20	14.5	14.24	-0.13	Rear	Active	0	50	25	1:1	0	0.792	1.062	0.841	-
1 770	132572	QPSK	20	14.5	14.17	-0.10	Rear	Active	0	50	0	1:1	0	0.740	1.079	0.798	-
1 745	132322	QPSK	20	14.5	14.22	-0.15	Rear	Active	0	100	0	1:1	0	0.779	1.067	0.831	-
1 720	132072	QPSK	20	14.5	14.38	0.19	Left	Active	0	1	0	1:1	0	0.059	1.028	0.061	-
1 720	132072	QPSK	20	14.5	14.31	0.18	Left	Active	0	50	0	1:1	0	0.057	1.045	0.060	-
1 720	132072	QPSK	20	14.5	14.38	-0.11	Top	Active	0	1	0	1:1	0	0.594	1.028	0.611	-
1 720	132072	QPSK	20	14.5	14.31	-0.13	Top	Active	0	50	0	1:1	0	0.593	1.045	0.620	-
1 720	132072	QPSK	20	14.5	14.38	0.11	Left Corner	Active	0	1	0	1:1	0	0.121	1.028	0.124	-
1 720	132072	QPSK	20	14.5	14.31	0.09	Left Corner	Active	0	50	0	1:1	0	0.121	1.045	0.126	-
1 745	132322	QPSK	20	24.5	23.92	0.01	Rear	Inactive	0	1	0	1:1	22	0.344	1.143	0.393	-
1 745	132322	QPSK	20	23.5	22.78	0.02	Rear	Inactive	1	50	25	1:1	22	0.271	1.180	0.320	-
1 745	132322	QPSK	20	24.5	23.92	0.11	Left	Inactive	0	1	0	1:1	11	0.105	1.143	0.120	-
1 745	132322	QPSK	20	23.5	22.78	0.16	Left	Inactive	1	50	25	1:1	11	0.085	1.180	0.100	-
1 745	132322	QPSK	20	24.5	23.92	-0.04	Top	Inactive	0	1	0	1:1	19	0.446	1.143	0.510	-
1 745	132322	QPSK	20	23.5	22.78	-0.01	Top	Inactive	1	50	25	1:1	19	0.363	1.180	0.428	-
1 745	132322	QPSK	20	24.5	23.92	0.10	Left Corner	Inactive	0	1	0	1:1	15	0.204	1.143	0.233	-
1 745	132322	QPSK	20	23.5	22.78	0.08	Left Corner	Inactive	1	50	25	1:1	15	0.156	1.180	0.184	-
1 720	132072	QPSK	20	14.5	14.38	-0.19	Rear	Active	0	1	0	1:1	0	0.757	1.028	0.778	*
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Body 1.6 W/kg Averaged over 1 gram								

Note: * Data entry indicate Variability measurement.

LTE Band 71 Body SAR																	
Frequency		Mode	BW	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	Reported SAR (W/kg)	Plot No.
MHz	Ch.																
688	133372	QPSK	20	16.0	15.86	-0.11	Rear	Active	0	1	0	1:1	0	0.244	1.033	0.252	-
688	133372	QPSK	20	16.0	15.72	-0.14	Rear	Active	0	50	0	1:1	0	0.268	1.067	**0.286**	17
688	133372	QPSK	20	16.0	15.86	-0.18	Left	Active	0	1	0	1:1	0	0.098	1.033	0.101	-
688	133372	QPSK	20	16.0	15.72	-0.18	Left	Active	0	50	0	1:1	0	0.096	1.067	0.102	-
688	133372	QPSK	20	16.0	15.86	-0.18	Top	Active	0	1	0	1:1	0	0.206	1.033	0.213	-
688	133372	QPSK	20	16.0	15.72	-0.17	Top	Active	0	50	0	1:1	0	0.201	1.067	0.214	-
688	133372	QPSK	20	16.0	15.86	-0.13	Left Corner	Active	0	1	0	1:1	0	0.061	1.033	0.063	-
688	133372	QPSK	20	16.0	15.72	-0.19	Left Corner	Active	0	50	0	1:1	0	0.063	1.067	0.067	-
688	133372	QPSK	20	25.0	23.86	-0.11	Rear	Inactive	0	1	0	1:1	22	0.137	1.300	0.178	-
688	133372	QPSK	20	24.0	22.66	-0.18	Rear	Inactive	1	50	0	1:1	22	0.144	1.361	0.196	-
688	133372	QPSK	20	25.0	23.86	-0.11	Left	Inactive	0	1	0	1:1	11	0.070	1.300	0.091	-
688	133372	QPSK	20	24.0	22.66	-0.10	Left	Inactive	1	50	0	1:1	11	0.056	1.361	0.076	-
688	133372	QPSK	20	25.0	23.86	-0.13	Top	Inactive	0	1	0	1:1	19	0.085	1.300	0.111	-
688	133372	QPSK	20	24.0	22.66	-0.12	Top	Inactive	1	50	0	1:1	19	0.072	1.361	0.098	-
688	133372	QPSK	20	25.0	23.86	0.04	Left Corner	Inactive	0	1	0	1:1	15	0.016	1.300	0.021	-
688	133372	QPSK	20	24.0	22.66	0.08	Left Corner	Inactive	1	50	0	1:1	15	0.013	1.361	0.018	-
688	133372	QPSK	20	25.0	23.86	0.12	Right	Inactive	0	1	0	1:1	0	0.009	1.300	0.012	-
688	133372	QPSK	20	24.0	22.66	-0.03	Right	Inactive	1	50	0	1:1	0	0.005	1.361	0.007	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population									Body 1.6 W/kg Averaged over 1 gram								

Wi-Fi (DTS) Body SAR																	
Frequency		Mode	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Sensor	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	10	9.64	0.11	Rear	Active	98.62	0	1.18	0.592	1.086	1.014	0.652	-
2 437	6	802.11b	20	1	10	9.30	0.01	Rear	Active	98.62	0	1.32	0.671	1.175	1.014	0.799	-
2 462	11	802.11b	20	1	10	9.69	0.14	Rear	Active	98.62	0	1.12	0.549	1.074	1.014	0.598	-
2 462	11	802.11b	20	1	10	9.69	0.19	Right	Active	98.62	0	0.0506	0.030	1.074	1.014	0.033	-
2 462	11	802.11b	20	1	10	9.69	0.17	Top	Active	98.62	0	0.477	0.274	1.074	1.014	0.298	-
2 462	11	802.11b	20	1	10	9.69	0.16	Right Corner	Active	98.62	0	0.18	0.098	1.074	1.014	0.107	-
2 412	1	802.11b	20	1	20	18.62	-0.14	Rear	Inactive	98.62	12	1.25	0.731	1.374	1.014	1.018	-
2 437	6	802.11b	20	1	20	18.46	0.14	Rear	Inactive	98.62	12	1.21	0.734	1.426	1.014	**1.061**	18
2 457	10	802.11b	20	1	20	18.42	-0.13	Rear	Inactive	98.62	12	1.09	0.598	1.439	1.014	0.873	-
2 412	1	802.11b	20	1	20	18.62	-0.10	Right	Inactive	98.62	3	0.499	0.258	1.374	1.014	0.359	-
2 412	1	802.11b	20	1	20	18.62	0.15	Top	Inactive	98.62	11	1.15	0.693	1.374	1.014	0.966	-
2 437	6	802.11b	20	1	20	18.46	-0.19	Top	Inactive	98.62	11	0.933	0.555	1.426	1.014	0.803	-
2 412	1	802.11b	20	1	20	18.62	0.08	Right Corner	Inactive	98.62	9	0.596	0.361	1.374	1.014	0.503	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population												Body 1.6 W/kg Averaged over 1 gram					

Wi-Fi (NII) Body SAR																	
Frequency		Mode	Band width (㎒)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	Sensor	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.
㎒	Ch.																
5 280	56	802.11a	20	6Mbps	11	10.41	-0.12	Rear	Active	92.46	0	0.909	0.309	1.146	1.082	0.383	-
5 280	56	802.11a	20	6Mbps	11	10.41	-0.17	Right	Active	92.46	0	0.165	0.069	1.146	1.082	0.086	-
5 280	56	802.11a	20	6Mbps	11	10.41	0.14	Top	Active	92.46	0	0.610	0.193	1.146	1.082	0.239	-
5 280	56	802.11a	20	6Mbps	11	10.41	-0.18	Right Corner	Active	92.46	0	0.146	0.060	1.146	1.082	0.074	-
5 260	52	802.11a	20	6Mbps	18	16.83	-0.17	Rear	Inactive	92.46	12	0.330	0.134	1.309	1.082	0.190	-
5 260	52	802.11a	20	6Mbps	18	16.83	0.07	Right	Inactive	92.46	3	0.404	0.173	1.309	1.082	0.245	-
5 260	52	802.11a	20	6Mbps	18	16.83	-0.02	Top	Inactive	92.46	11	0.202	0.086	1.309	1.082	0.122	-
5 260	52	802.11a	20	6Mbps	18	16.83	0.01	Right Corner	Inactive	92.46	9	0.417	0.180	1.309	1.082	0.255	-
5 580	116	802.11a	20	6Mbps	11	9.99	0.03	Rear	Active	92.46	0	1.61	**0.472**	1.262	1.082	0.645	19
5 580	116	802.11a	20	6Mbps	11	9.99	0.06	Right	Active	92.46	0	0.348	0.121	1.262	1.082	0.165	-
5 580	116	802.11a	20	6Mbps	11	9.99	0.16	Top	Active	92.46	0	0.798	0.268	1.262	1.082	0.366	-
5 580	116	802.11a	20	6Mbps	11	9.99	-0.19	Right Corner	Active	92.46	0	0.154	0.057	1.262	1.082	0.078	-
5 580	116	802.11a	20	6Mbps	18	17.76	0.16	Rear	Inactive	92.46	12	0.922	0.357	1.057	1.082	0.408	-
5 580	116	802.11a	20	6Mbps	18	17.76	0.02	Right	Inactive	92.46	3	0.452	0.182	1.057	1.082	0.208	-
5 580	116	802.11a	20	6Mbps	18	17.76	0.08	Top	Inactive	92.46	11	0.408	0.176	1.057	1.082	0.201	-
5 580	116	802.11a	20	6Mbps	18	17.76	0.17	Right Corner	Inactive	92.46	9	0.438	0.190	1.057	1.082	0.217	-
5 745	149	802.11a	20	6Mbps	11	9.66	-0.10	Rear	Active	92.46	0	1.6	0.464	1.361	1.082	**0.683**	20
5 745	149	802.11a	20	6Mbps	11	9.66	-0.04	Right	Active	92.46	0	0.428	0.146	1.361	1.082	0.215	-
5 745	149	802.11a	20	6Mbps	11	9.66	0.11	Top	Active	92.46	0	0.753	0.233	1.361	1.082	0.343	-
5 745	149	802.11a	20	6Mbps	11	9.66	0.06	Right Corner	Active	92.46	0	0.203	0.078	1.361	1.082	0.115	-
5 745	149	802.11a	20	6Mbps	18	16.68	0.14	Rear	Inactive	92.46	12	1.07	0.405	1.355	1.082	0.594	-
5 745	149	802.11a	20	6Mbps	18	16.68	-0.16	Right	Inactive	92.46	3	0.710	0.270	1.355	1.082	0.396	-
5 745	149	802.11a	20	6Mbps	18	16.68	-0.02	Top	Inactive	92.46	11	0.413	0.173	1.355	1.082	0.254	-
5 745	149	802.11a	20	6Mbps	18	16.68	-0.02	Right Corner	Inactive	92.46	9	0.402	0.171	1.355	1.082	0.251	-
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.

DSS Tethering 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)	Reported SAR (W/kg)	Plot No.
MHz	Ch.											
2 480	78	Bluetooth DH5	8.0	7.29	-0.11	Rear	0	0.368	1.178	1.302	**0.564**	21
2 480	78	Bluetooth DH5	8.0	7.29	-0.01	Right	0	0.019	1.178	1.302	0.029	-
2 480	78	Bluetooth DH5	8.0	7.29	0.18	Top	0	0.166	1.178	1.302	0.255	-
2 480	78	Bluetooth DH5	8.0	7.29	0.15	Right Corner	0	0.064	1.178	1.302	0.098	-
ANSI/ IEEE C95.1 - 2005 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							Body 1.6 W/kg Averaged over 1 gram					

13.2 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in FCC KDB Publication 616217 D04v01r02 and KDB Publication 447498 D01v06
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. 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. the maximum tune-up tolerance limit.
7. This device utilizes power reduction for some wireless mode and technologies, as outlined in sec. 4.3 The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous scenarios.
8. FCC KDB Publication 616217 D04v01r02 Section 4.3, SAR tests are required for the back surface and edges of the tablet with the tablet touching the phantom. The SAR Exclusion Threshold in FCC KDB 447498 D01v06 was applied to determine SAR test exclusion for adjacent edge configurations.

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(HSDPA/HSUPA/DC-HSDPA) 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 $\leq$ 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. A-MPR was disabled for all SAR tests by setting NS=01 on the base station simulator.
5. 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.
6. 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).
7. 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.
8. 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.
9. This device supports LTE Carrier Aggregation (CA) in the downlink Per FCC KDB publication 941225 D05A v01r02, SAR for LTE DL CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.

WLAN Notes:

1. Per KDB 2482227 D01v02r02 justification for test configurations of 2.4 GHzWiFi Single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz802.11 g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR.
2. Per KDB 2482227 D01v02r02 justification for test configurations of 5 GHzWiFi Single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission mode were not investigated since the highest reported SAR for initial test configuration adjusted by the ration of maximum output powers is less than 1.2 W/kg for 1g SAR and less than 3.0 W/kg for 10 g SAR.
3. 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.
4. The device was configured to transmit continuously at the required data rated, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated WLAN test reports.

Bluetooth Notes:

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

14. Simultaneous SAR Analysis

14.1 Simultaneous Transmission Scenario with 2.4 GHz WLAN (Active)

Simultaneous Tx	Configurations	UMTS850 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.968	0.799	1.767	Yes(#4)
	Left	0.244	0.400	0.644	No
	Right	0.400	0.033	0.433	No
	Top	0.245	0.298	0.543	No
	Left Corner	0.321	0.400	0.721	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	UMTS1700 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.908	0.799	1.707	Yes (#22)
	Left	0.056	0.400	0.456	No
	Right	0.400	0.033	0.433	No
	Top	0.672	0.298	0.970	No
	Left Corner	0.136	0.400	0.536	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	UMTS1900 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	1.195	0.799	1.994	Yes (#23)
	Left	0.078	0.400	0.478	No
	Right	0.400	0.033	0.433	No
	Top	1.070	0.298	1.368	No
	Left Corner	0.293	0.400	0.693	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	LTE 5 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.980	0.799	1.779	Yes(#5)
	Left	0.306	0.400	0.706	No
	Right	0.400	0.033	0.433	No
	Top	0.359	0.298	0.657	No
	Left Corner	0.287	0.400	0.687	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	LTE 7 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	1.192	0.799	1.991	Yes(#6)
	Left	0.439	0.400	0.839	No
	Right	0.400	0.033	0.433	No
	Top	0.530	0.298	0.828	No
	Left Corner	0.180	0.400	0.580	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	LTE 12 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.687	0.799	1.486	No
	Left	0.144	0.400	0.544	No
	Right	0.400	0.033	0.433	No
	Top	0.362	0.298	0.660	No
	Left Corner	0.095	0.400	0.495	No
	Right Corner	0.400	0.107	0.507	No

Simultaneous Tx	Configurations	LTE 13 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.717	0.799	1.516	No
	Left	0.284	0.400	0.684	No
	Right	0.400	0.033	0.433	No
	Top	0.420	0.298	0.718	No
	Left Corner	0.229	0.400	0.629	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	LTE 14 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.818	0.799	1.617	Yes(#7)
	Left	0.369	0.400	0.769	No
	Right	0.400	0.033	0.433	No
	Top	0.487	0.298	0.785	No
	Left Corner	0.290	0.400	0.690	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	LTE 25 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	1.160	0.799	1.959	Yes(#8)
	Left	0.086	0.400	0.486	No
	Right	0.400	0.033	0.433	No
	Top	0.963	0.298	1.261	No
	Left Corner	0.270	0.400	0.670	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	LTE 26 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.926	0.799	1.725	Yes(#9)
	Left	0.318	0.400	0.718	No
	Right	0.400	0.033	0.433	No
	Top	0.357	0.298	0.655	No
	Left Corner	0.268	0.400	0.668	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	LTE 30 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.757	0.799	1.556	No
	Left	0.150	0.400	0.550	No
	Right	0.400	0.033	0.433	No
	Top	0.767	0.298	1.065	No
	Left Corner	0.134	0.400	0.534	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	LTE 41 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.924	0.799	1.723	Yes (#10)
	Left	0.296	0.400	0.696	No
	Right	0.400	0.033	0.433	No
	Top	0.181	0.298	0.479	No
	Left Corner	0.112	0.400	0.512	No
	Right Corner	0.400	0.107	0.507	No
Simultaneous Tx	Configurations	LTE 66 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.842	0.799	1.641	Yes (#24)
	Left	0.061	0.400	0.461	No
	Right	0.400	0.033	0.433	No
	Top	0.620	0.298	0.918	No
	Left Corner	0.126	0.400	0.526	No
	Right Corner	0.400	0.107	0.507	No

Simultaneous Tx	Configurations	LTE 71 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.286	0.799	1.085	No
	Left	0.102	0.400	0.502	No
	Right	0.400	0.033	0.433	No
	Top	0.214	0.298	0.512	No
	Left Corner	0.067	0.400	0.467	No
	Right Corner	0.400	0.107	0.507	No

14.2 Simultaneous Transmission Scenario with 5 GHz WLAN (Active)

Simultaneous Tx	Configurations	UMTS850 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.968	0.683	1.651	Yes(#11)
	Left	0.244	0.400	0.644	No
	Right	0.400	0.215	0.615	No
	Top	0.245	0.366	0.611	No
	Left Corner	0.321	0.400	0.721	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	UMTS1700 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.908	0.683	1.591	No
	Left	0.056	0.400	0.456	No
	Right	0.400	0.215	0.615	No
	Top	0.672	0.366	1.038	No
	Left Corner	0.136	0.400	0.536	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	UMTS1900 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	1.195	0.683	1.878	Yes(#25)
	Left	0.078	0.400	0.478	No
	Right	0.400	0.215	0.615	No
	Top	1.070	0.366	1.436	No
	Left Corner	0.293	0.400	0.693	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	LTE 5 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.980	0.683	1.663	Yes(#12)
	Left	0.306	0.400	0.706	No
	Right	0.400	0.215	0.615	No
	Top	0.359	0.366	0.725	No
	Left Corner	0.287	0.400	0.687	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	LTE 7 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	1.192	0.683	1.875	Yes(#13)
	Left	0.439	0.400	0.839	No
	Right	0.400	0.215	0.615	No
	Top	0.530	0.366	0.896	No
	Left Corner	0.180	0.400	0.580	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	LTE 12 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.687	0.683	1.370	No
	Left	0.144	0.400	0.544	No
	Right	0.400	0.215	0.615	No
	Top	0.362	0.366	0.728	No
	Left Corner	0.095	0.400	0.495	No
	Right Corner	0.400	0.115	0.515	No

Simultaneous Tx	Configurations	LTE 13 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.717	0.683	1.400	No
	Left	0.284	0.400	0.684	No
	Right	0.400	0.215	0.615	No
	Top	0.420	0.366	0.786	No
	Left Corner	0.229	0.400	0.629	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	LTE 14 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.818	0.683	1.501	No
	Left	0.369	0.400	0.769	No
	Right	0.400	0.215	0.615	No
	Top	0.487	0.366	0.853	No
	Left Corner	0.290	0.400	0.690	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	LTE 25 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	1.160	0.683	1.843	Yes(#26)
	Left	0.086	0.400	0.486	No
	Right	0.400	0.215	0.615	No
	Top	0.963	0.366	1.329	No
	Left Corner	0.270	0.400	0.670	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	LTE 26 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.926	0.683	1.609	Yes(#14)
	Left	0.318	0.400	0.718	No
	Right	0.400	0.215	0.615	No
	Top	0.357	0.366	0.723	No
	Left Corner	0.268	0.400	0.668	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	LTE 30 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.757	0.683	1.440	No
	Left	0.150	0.400	0.550	No
	Right	0.400	0.215	0.615	No
	Top	0.767	0.366	1.133	No
	Left Corner	0.134	0.400	0.534	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	LTE 41 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.924	0.683	1.607	Yes(#15)
	Left	0.296	0.400	0.696	No
	Right	0.400	0.215	0.615	No
	Top	0.181	0.366	0.547	No
	Left Corner	0.112	0.400	0.512	No
	Right Corner	0.400	0.115	0.515	No
Simultaneous Tx	Configurations	LTE 66 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.842	0.683	1.525	No
	Left	0.061	0.400	0.461	No
	Right	0.400	0.215	0.615	No
	Top	0.620	0.366	0.986	No
	Left Corner	0.126	0.400	0.526	No
	Right Corner	0.400	0.115	0.515	No

Simultaneous Tx	Configurations	LTE 71 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.286	0.683	0.969	No
	Left	0.102	0.400	0.502	No
	Right	0.400	0.215	0.615	No
	Top	0.214	0.366	0.580	No
	Left Corner	0.067	0.400	0.467	No
	Right Corner	0.400	0.115	0.515	No

14.3 Simultaneous Transmission Scenario with 2.4 GHz WLAN (Inactive)

Simultaneous Tx	Configurations	UMTS850 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.338	1.061	1.399	No
	Left	0.254	0.400	0.654	No
	Right	0.400	0.359	0.759	No
	Top	0.355	0.966	1.321	No
	Left Corner	0.054	0.400	0.454	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	UMTS1700 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.382	1.061	1.443	No
	Left	0.112	0.400	0.512	No
	Right	0.400	0.359	0.759	No
	Top	0.458	0.966	1.424	No
	Left Corner	0.204	0.400	0.604	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	UMTS1900 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.884	1.061	1.945	Yes(#1)
	Left	0.248	0.400	0.648	No
	Right	0.400	0.359	0.759	No
	Top	1.141	0.966	2.107	Yes(#17)
	Left Corner	0.557	0.400	0.957	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	LTE 7 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.423	1.061	1.484	No
	Left	0.773	0.400	1.173	No
	Right	0.400	0.359	0.759	No
	Top	0.297	0.966	1.263	No
	Left Corner	0.339	0.400	0.739	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	LTE 12 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.169	1.061	1.230	No
	Left	0.109	0.400	0.509	No
	Right	0.400	0.359	0.759	No
	Top	0.120	0.966	1.086	No
	Left Corner	0.019	0.400	0.419	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	LTE 13 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.384	1.061	1.445	No
	Left	0.211	0.400	0.611	No
	Right	0.400	0.359	0.759	No
	Top	0.304	0.966	1.270	No
	Left Corner	0.041	0.400	0.441	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	LTE 14 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.372	1.061	1.433	No
	Left	0.222	0.400	0.622	No
	Right	0.400	0.359	0.759	No
	Top	0.330	0.966	1.296	No
	Left Corner	0.041	0.400	0.441	No
	Right Corner	0.400	0.503	0.903	No

Simultaneous Tx	Configurations	LTE 25 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.764	1.061	1.825	Yes(#2)
	Left	0.382	0.400	0.782	No
	Right	0.400	0.359	0.759	No
	Top	1.353	0.966	2.319	Yes(#18)
	Left Corner	0.413	0.400	0.813	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	LTE 26 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.355	1.061	1.416	No
	Left	0.239	0.400	0.639	No
	Right	0.400	0.359	0.759	No
	Top	0.274	0.966	1.240	No
	Left Corner	0.049	0.400	0.449	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	LTE 30 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.606	1.061	1.667	Yes(#3)
	Left	0.211	0.400	0.611	No
	Right	0.400	0.359	0.759	No
	Top	0.952	0.966	1.918	Yes(#19)
	Left Corner	0.241	0.400	0.641	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	LTE 41 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.407	1.061	1.468	No
	Left	0.669	0.400	1.069	No
	Right	0.101	0.359	0.460	No
	Top	0.358	0.966	1.324	No
	Left Corner	0.164	0.400	0.564	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	LTE 66 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.393	1.061	1.454	No
	Left	0.120	0.400	0.520	No
	Right	0.400	0.359	0.759	No
	Top	0.510	0.966	1.476	No
	Left Corner	0.233	0.400	0.633	No
	Right Corner	0.400	0.503	0.903	No
Simultaneous Tx	Configurations	LTE 71 (W/kg)	2.4 GHz Ant.(W/kg)	∑ 1-g SAR(W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.196	1.061	1.257	No
	Left	0.091	0.400	0.491	No
	Right	0.400	0.359	0.759	No
	Top	0.111	0.966	1.077	No
	Left Corner	0.021	0.400	0.421	No
	Right Corner	0.400	0.503	0.903	No

14.4 Simultaneous Transmission Scenario with 5 GHz WLAN (Inactive)

Simultaneous Tx	Configurations	UMTS850 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.338	0.594	0.932	No
	Left	0.254	0.400	0.654	No
	Right	0.400	0.396	0.796	No
	Top	0.355	0.254	0.609	No
	Left Corner	0.054	0.400	0.454	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	UMTS1700 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.382	0.594	0.976	No
	Left	0.112	0.400	0.512	No
	Right	0.400	0.396	0.796	No
	Top	0.458	0.254	0.712	No
	Left Corner	0.204	0.400	0.604	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	UMTS1900 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.884	0.594	1.478	No
	Left	0.248	0.400	0.648	No
	Right	0.400	0.396	0.796	No
	Top	1.141	0.254	1.395	No
	Left Corner	0.557	0.400	0.957	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	LTE 7 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.423	0.594	1.017	No
	Left	0.773	0.400	1.173	No
	Right	0.400	0.396	0.796	No
	Top	0.297	0.254	0.551	No
	Left Corner	0.339	0.400	0.739	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	LTE 12 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.169	0.594	0.763	No
	Left	0.109	0.400	0.509	No
	Right	0.400	0.396	0.796	No
	Top	0.120	0.254	0.374	No
	Left Corner	0.019	0.400	0.419	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	LTE 13 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.384	0.594	0.978	No
	Left	0.211	0.400	0.611	No
	Right	0.400	0.396	0.796	No
	Top	0.304	0.254	0.558	No
	Left Corner	0.041	0.400	0.441	No
	Right Corner	0.400	0.255	0.655	No

Simultaneous Tx	Configurations	LTE 14 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.372	0.594	0.966	No
	Left	0.222	0.400	0.622	No
	Right	0.400	0.396	0.796	No
	Top	0.330	0.254	0.584	No
	Left Corner	0.041	0.400	0.441	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	LTE 25 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.764	0.594	1.358	No
	Left	0.382	0.400	0.782	No
	Right	0.400	0.396	0.796	No
	Top	1.353	0.254	1.607	Yes(#20)
	Left Corner	0.413	0.400	0.813	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	LTE 26 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.355	0.594	0.949	No
	Left	0.239	0.400	0.639	No
	Right	0.400	0.396	0.796	No
	Top	0.274	0.254	0.528	No
	Left Corner	0.049	0.400	0.449	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	LTE 30 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.606	0.594	1.200	No
	Left	0.211	0.400	0.611	No
	Right	0.400	0.396	0.796	No
	Top	0.952	0.254	1.206	No
	Left Corner	0.241	0.400	0.641	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	LTE 41 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.407	0.594	1.001	No
	Left	0.669	0.400	1.069	No
	Right	0.101	0.396	0.497	No
	Top	0.358	0.254	0.612	No
	Left Corner	0.164	0.400	0.564	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	LTE 66 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.393	0.594	0.987	No
	Left	0.120	0.400	0.520	No
	Right	0.400	0.396	0.796	No
	Top	0.510	0.254	0.764	No
	Left Corner	0.233	0.400	0.633	No
	Right Corner	0.400	0.255	0.655	No
Simultaneous Tx	Configurations	LTE 71 (W/kg)	5 GHz Ant.(W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.196	0.594	0.790	No
	Left	0.091	0.400	0.491	No
	Right	0.400	0.396	0.796	No
	Top	0.111	0.254	0.365	No
	Left Corner	0.021	0.400	0.421	No
	Right Corner	0.400	0.255	0.655	No

14.5 Simultaneous Transmission Scenario with Bluetooth(inactive)

Simultaneous Tx	Configurations	UMTS850 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.338	0.564	0.902	No
	Left	0.254	0.4	0.654	No
	Right	0.4	0.029	0.429	No
	Top	0.355	0.255	0.61	No
	Left Corner	0.054	0.4	0.454	No
	Right Corner	0.4	0.098	0.498	No
Simultaneous Tx	Configurations	UMTS1700 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.382	0.564	0.946	No
	Left	0.112	0.4	0.512	No
	Right	0.4	0.029	0.429	No
	Top	0.458	0.255	0.713	No
	Left Corner	0.204	0.4	0.604	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	UMTS1900 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.884	0.564	1.448	No
	Left	0.248	0.4	0.648	No
	Right	0.4	0.029	0.429	No
	Top	1.141	0.255	1.396	No
	Left Corner	0.557	0.4	0.957	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 7 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.423	0.564	0.987	No
	Left	0.773	0.4	1.173	No
	Right	0.4	0.029	0.429	No
	Top	0.297	0.255	0.552	No
	Left Corner	0.339	0.4	0.739	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 12 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.169	0.564	0.733	No
	Left	0.109	0.4	0.509	No
	Right	0.4	0.029	0.429	No
	Top	0.12	0.255	0.375	No
	Left Corner	0.019	0.4	0.419	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 13 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.384	0.564	0.948	No
	Left	0.211	0.4	0.611	No
	Right	0.4	0.029	0.429	No
	Top	0.304	0.255	0.559	No
	Left Corner	0.041	0.4	0.441	No
	Right Corner	0.4	0.098	0.655	No

Simultaneous Tx	Configurations	LTE 14 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.372	0.564	0.936	No
	Left	0.222	0.4	0.622	No
	Right	0.4	0.029	0.429	No
	Top	0.33	0.255	0.585	No
	Left Corner	0.041	0.4	0.441	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 25 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.764	0.564	1.328	No
	Left	0.382	0.4	0.782	No
	Right	0.4	0.029	0.429	No
	Top	1.353	0.255	1.608	Yes(#21)
	Left Corner	0.413	0.4	0.813	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 26 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.355	0.564	0.919	No
	Left	0.239	0.4	0.639	No
	Right	0.4	0.029	0.429	No
	Top	0.274	0.255	0.529	No
	Left Corner	0.049	0.4	0.449	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 30 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.606	0.564	1.17	No
	Left	0.211	0.4	0.611	No
	Right	0.4	0.029	0.429	No
	Top	0.952	0.255	1.207	No
	Left Corner	0.241	0.4	0.641	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 41 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.407	0.564	0.971	No
	Left	0.669	0.4	1.069	No
	Right	0.101	0.029	0.13	No
	Top	0.358	0.255	0.613	No
	Left Corner	0.164	0.4	0.564	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 66 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.393	0.564	0.957	No
	Left	0.12	0.4	0.52	No
	Right	0.4	0.029	0.429	No
	Top	0.51	0.255	0.765	No
	Left Corner	0.233	0.4	0.633	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 71 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.196	0.564	0.76	No
	Left	0.091	0.4	0.491	No
	Right	0.4	0.029	0.429	No
	Top	0.111	0.255	0.366	No
	Left Corner	0.021	0.4	0.421	No
	Right Corner	0.4	0.098	0.655	No

14.6 Simultaneous Transmission Scenario with Bluetooth(active)

Simultaneous Tx	Configurations	UMTS850 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.968	0.564	1.532	No
	Left	0.244	0.4	0.644	No
	Right	0.4	0.029	0.429	No
	Top	0.245	0.255	0.5	No
	Left Corner	0.321	0.4	0.721	No
	Right Corner	0.4	0.098	0.498	No
Simultaneous Tx	Configurations	UMTS1700 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.908	0.564	1.472	No
	Left	0.056	0.4	0.456	No
	Right	0.4	0.029	0.429	No
	Top	0.672	0.255	0.927	No
	Left Corner	0.136	0.4	0.536	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	UMTS1900 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	1.195	0.564	1.759	Yes (#27)
	Left	0.078	0.4	0.478	No
	Right	0.4	0.029	0.429	No
	Top	1.07	0.255	1.325	No
	Left Corner	0.293	0.4	0.693	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 5	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.98	0.564	1.544	No
	Left	0.306	0.4	0.706	No
	Right	0.4	0.029	0.429	No
	Top	0.359	0.255	0.614	No
	Left Corner	0.287	0.4	0.687	No
	Right Corner	0.4	0.098	0.498	No
Simultaneous Tx	Configurations	LTE 7 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	1.192	0.564	1.756	Yes (#28)
	Left	0.439	0.4	0.839	No
	Right	0.4	0.029	0.429	No
	Top	0.53	0.255	0.785	No
	Left Corner	0.18	0.4	0.58	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 12 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.687	0.564	1.251	No
	Left	0.144	0.4	0.544	No
	Right	0.4	0.029	0.429	No
	Top	0.362	0.255	0.617	No
	Left Corner	0.095	0.4	0.495	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 13 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.717	0.564	1.281	No
	Left	0.284	0.4	0.684	No
	Right	0.4	0.029	0.429	No
	Top	0.42	0.255	0.675	No
	Left Corner	0.229	0.4	0.629	No
	Right Corner	0.4	0.098	0.655	No

Simultaneous Tx	Configurations	LTE 14 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.818	0.564	1.382	No
	Left	0.369	0.4	0.769	No
	Right	0.4	0.029	0.429	No
	Top	0.487	0.255	0.742	No
	Left Corner	0.29	0.4	0.69	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 25 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	1.16	0.564	1.724	Yes(#29)
	Left	0.086	0.4	0.486	No
	Right	0.4	0.029	0.429	No
	Top	0.963	0.255	1.218	No
	Left Corner	0.27	0.4	0.67	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 26 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.926	0.564	1.49	No
	Left	0.318	0.4	0.718	No
	Right	0.4	0.029	0.429	No
	Top	0.357	0.255	0.612	No
	Left Corner	0.268	0.4	0.668	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 30 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.757	0.564	1.321	No
	Left	0.15	0.4	0.55	No
	Right	0.4	0.029	0.429	No
	Top	0.767	0.255	1.022	No
	Left Corner	0.134	0.4	0.534	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 41 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.924	0.564	1.488	No
	Left	0.296	0.4	0.696	No
	Right	0.4	0.029	0.429	No
	Top	0.181	0.255	0.436	No
	Left Corner	0.112	0.4	0.512	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 66 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.842	0.564	1.406	No
	Left	0.061	0.4	0.461	No
	Right	0.4	0.029	0.429	No
	Top	0.62	0.255	0.875	No
	Left Corner	0.126	0.4	0.526	No
	Right Corner	0.4	0.098	0.655	No
Simultaneous Tx	Configurations	LTE 71 (W/kg)	Bluetooth (W/kg)	∑ 1-g SAR (W/kg)	SPLSR(Yes/No)
Body SAR	Rear	0.286	0.564	0.85	No
	Left	0.102	0.4	0.502	No
	Right	0.4	0.029	0.429	No
	Top	0.214	0.255	0.469	No
	Left Corner	0.067	0.4	0.467	No
	Right Corner	0.4	0.098	0.655	No

Note:
When the antenna separation distance was >50 mm, an estimated SAR of 0.4 W/kg was used to determine the simultaneous transmission SAR exclusion for test positions exclude per FCC KDB Publication 447498D01v06

14.7 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:

$\boldsymbol{SPLSR} = (\boldsymbol{SAR_1} + \boldsymbol{SAR_2})^{1.5}/\boldsymbol{R_i}$

Where:

$\boldsymbol{SAR_1}$ 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

$\boldsymbol{SAR_2}$ 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

$\boldsymbol{Ri}$ 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 $[(\mathbf{X_1} - \mathbf{X_2})^2 + (\mathbf{Y_1} - \mathbf{Y_2})^2 + (\mathbf{Z_1} - \mathbf{Z_2})^2]$

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:

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

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

14.7.1 SPLSR Evaluation

Peak location for SAR Rear side (Active)

Mode/Band	X(mm)	Y(mm)	Z(mm)
UMTS 850	0.0224	-0.0017	-0.172
UMTS 1700	0.027	0.007	-0.172
UMTS 1900	0.036	0.0085	-0.172
LTE Band 5	0.0223	-0.0048	-0.172
LTE Band 7	0.0348	-0.0084	-0.172
LTE Band 14	0.0415	-0.0058	-0.172
LTE Band 25	0.039	0.007	-0.172
LTE Band 26	0.0224	-0.0048	-0.172
LTE Band 41	0.037	-0.0072	-0.172
LTE Band 66	0.03	-0.0035	-0.172
2.4 GHz WLAN	-0.0382	0.0018	-0.172
5 GHz WLAN	-0.043	-0.0038	-0.172

Peak location for SAR Rear side (Inactive)

Mode/Band	X(mm)	Y(mm)	Z(mm)
UMTS 1900	0.045	0.0054	-0.172
LTE Band 25	0.039	0.0025	-0.172
LTE Band 30	0.0322	0.0042	-0.172
2.4 GHz WLAN	-0.0398	-0.0022	-0.172
Bluetooth	-0.0394	0.0026	-0.172

Peak location for SAR Top side (Inactive)

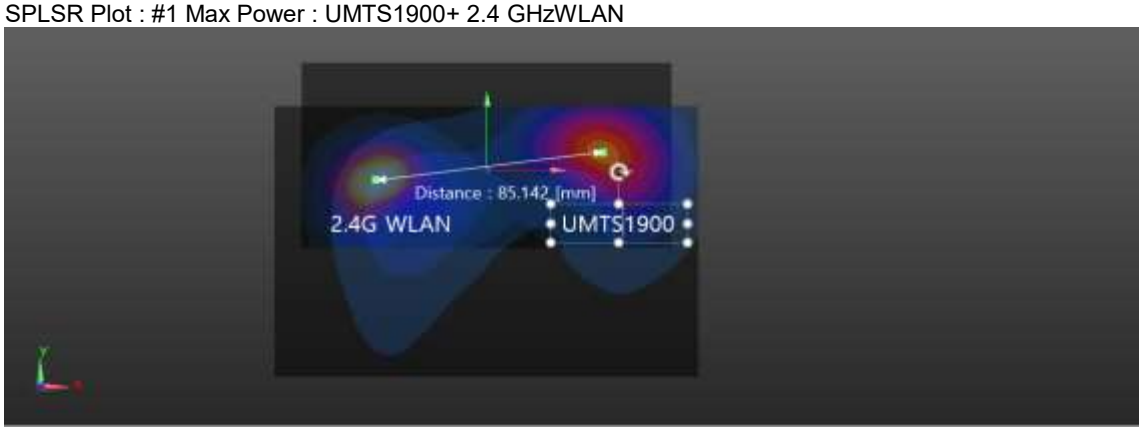
Mode/Band	X(mm)	Y(mm)	Z(mm)
UMTS 1900	0.0315	0.0001	-0.172
LTE Band 25	0.036	-0.0165	-0.172
LTE Band 30	0.0406	-0.0024	-0.172
2.4 GHz WLAN	-0.043	-0.0012	-0.172
5 GHz WLAN	-0.049	0.014	-0.172
2.4 GHz BT	-0.0384	0.001	-0.172

14.7.2 SAR to Peak Location Ratio (SPLSR) Figures

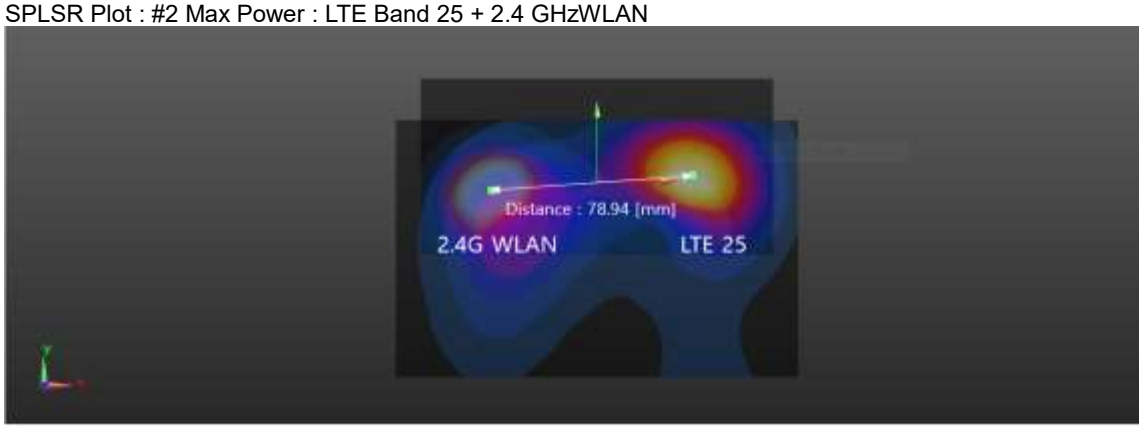
Mode		Sum 1g SAR [W/kg]	Peak SAR Separation Distance (mm)	SPLSR	Plot No
1	2	1 + 2			
UMTS 1900	2.4GHz Ant	1.945	85.142	0.032	1
LTE Band 25	2.4GHz Ant	1.825	78.940	0.031	2
LTE Band 30	2.4GHz Ant	1.667	72.284	0.03	3
UMTS 850	2.4GHz Ant	1.767	60.701	0.039	4
LTE Band 5	2.4GHz Ant	1.779	60.859	0.039	5
LTE Band 7	2.4GHz Ant	1.991	73.709	0.038	6
LTE Band 14	2.4GHz Ant	1.617	80.062	0.026	7
LTE Band 25	2.4GHz Ant	1.959	77.375	0.035	8
LTE Band 26	2.4GHz Ant	1.725	60.958	0.037	9
LTE Band 41	2.4GHz Ant	1.723	75.737	0.030	10
UMTS 850	WLAN 5GHz Ant	1.651	65.435	0.032	11
LTE Band 5	WLAN 5GHz Ant	1.663	65.308	0.033	12
LTE Band 7	WLAN 5GHz Ant	1.875	78.063	0.033	13
LTE Band 26	WLAN 5GHz Ant	1.609	65.408	0.031	14
LTE Band 41	WLAN 5GHz Ant	1.607	80.073	0.025	15
LTE Band 7	Bluetooth	1.756	75.130	0.031	16
UMTS 1900	2.4GHz Ant	2.107	74.513	0.04	17
LTE Band 25	2.4GHz Ant	2.319	80.468	0.04	18
LTE Band 30	2.4GHz Ant	1.918	83.609	0.032	19
LTE Band 25	WLAN 5GHz Ant	1.607	90.308	0.023	20
LTE Band 25	Bluetooth	1.608	76.432	0.021	21
UMTS 1700	2.4GHz Ant	1.707	65.407	0.034	22
UMTS 1900	2.4GHz Ant	1.994	74.502	0.038	23
LTE Band 66	2.4GHz Ant	1.641	66.910	0.031	24
UMTS 1900	2.4GHz Ant	1.878	79.952	0.032	25
LTE Band 25	2.4GHz Ant	1.843	110.320	0.023	26
UMTS 1900	Bluetooth	1.759	75.630	0.031	27
LTE 7	Bluetooth	1.756	75.011	0.031	28
LTE 25	Bluetooth	1.724	103.389	0.022	29

SPLSR Plot

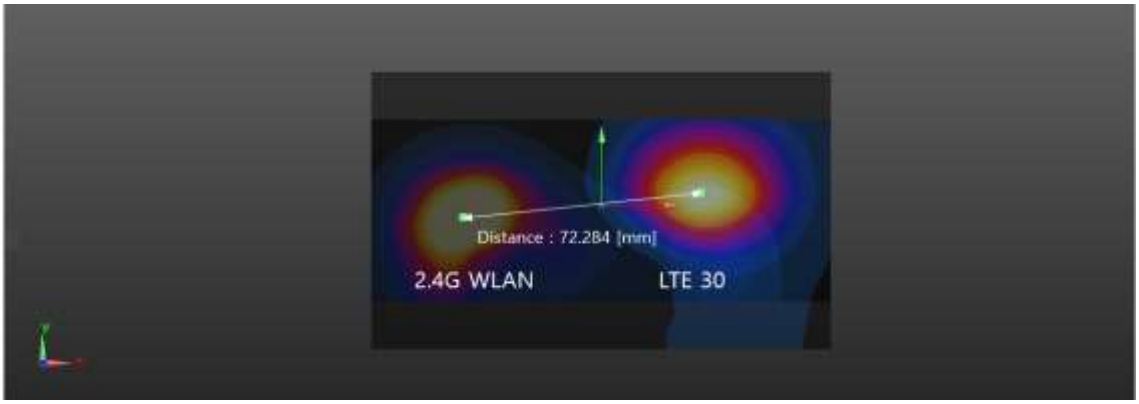
SPLSR Plot : #1 Max Power : UMTS1900+ 2.4 GHzWLAN



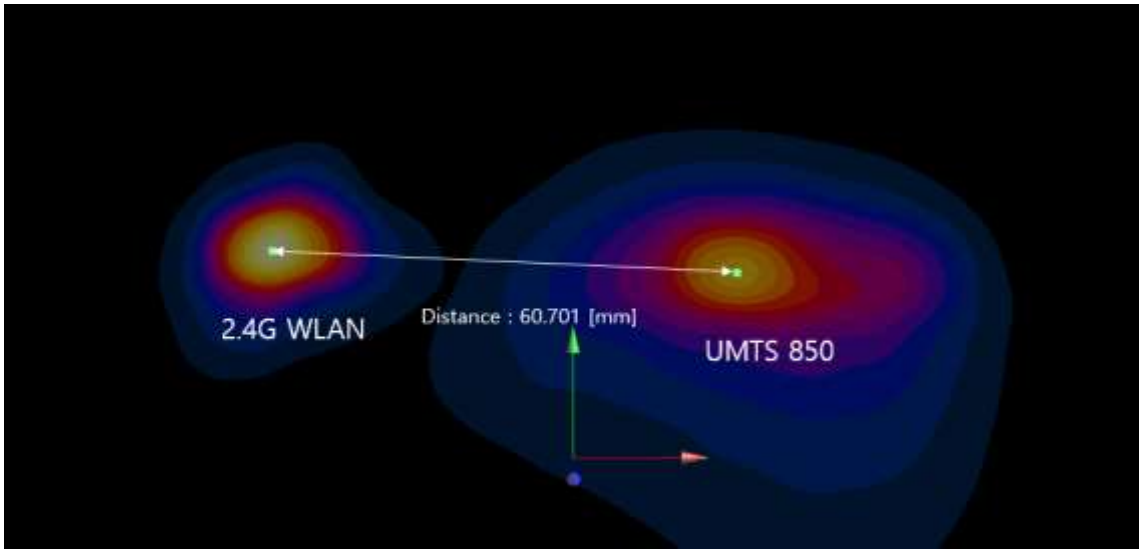
SPLSR Plot : #2 Max Power : LTE Band 25 + 2.4 GHzWLAN



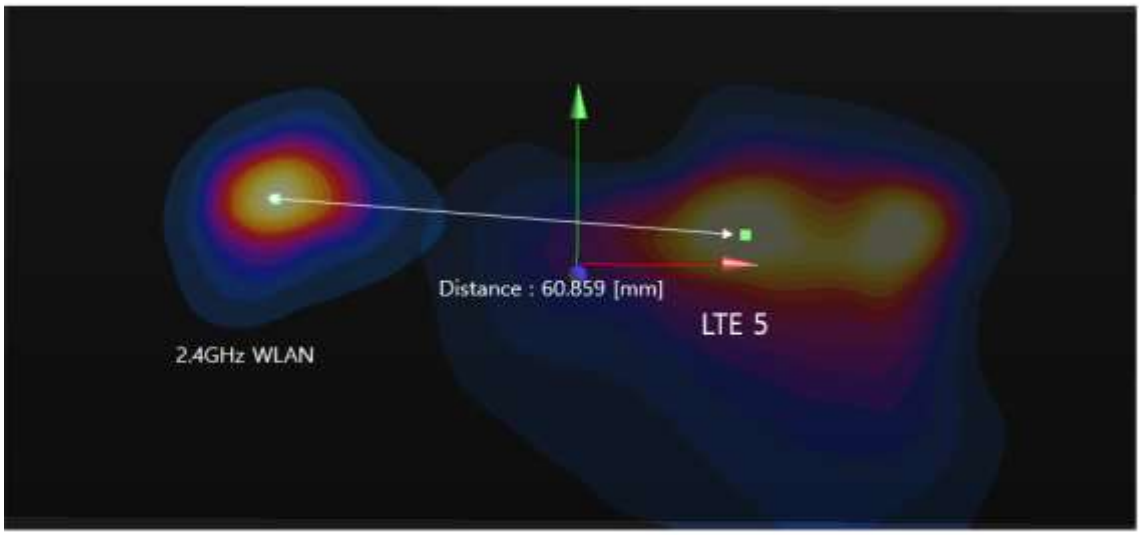
SPLSR Plot : #3 Max Power : LTE Band 30 + 2.4 GHzWLAN



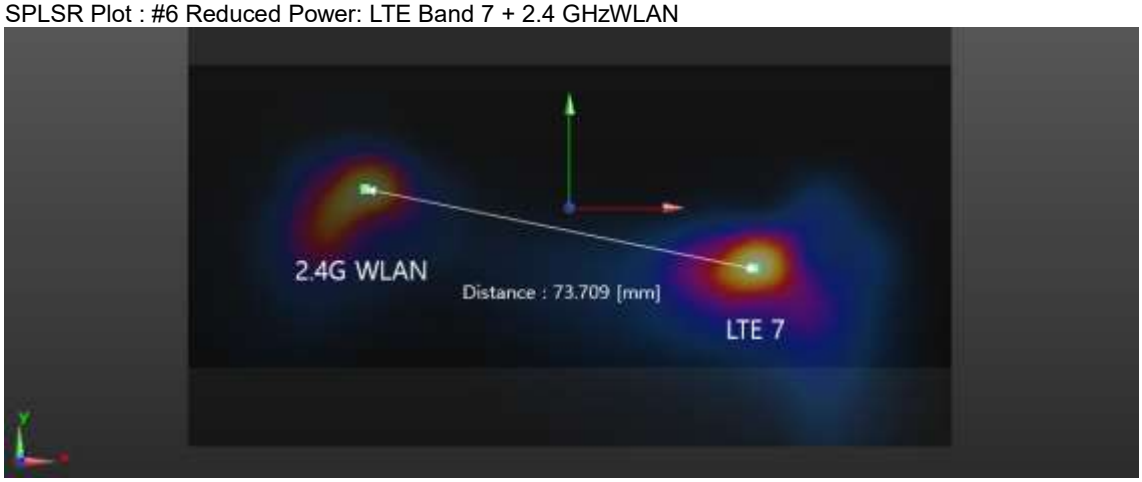
SPLSR Plot : #4 Reduced Power : UMTS 850 + 2.4 GHzWLAN



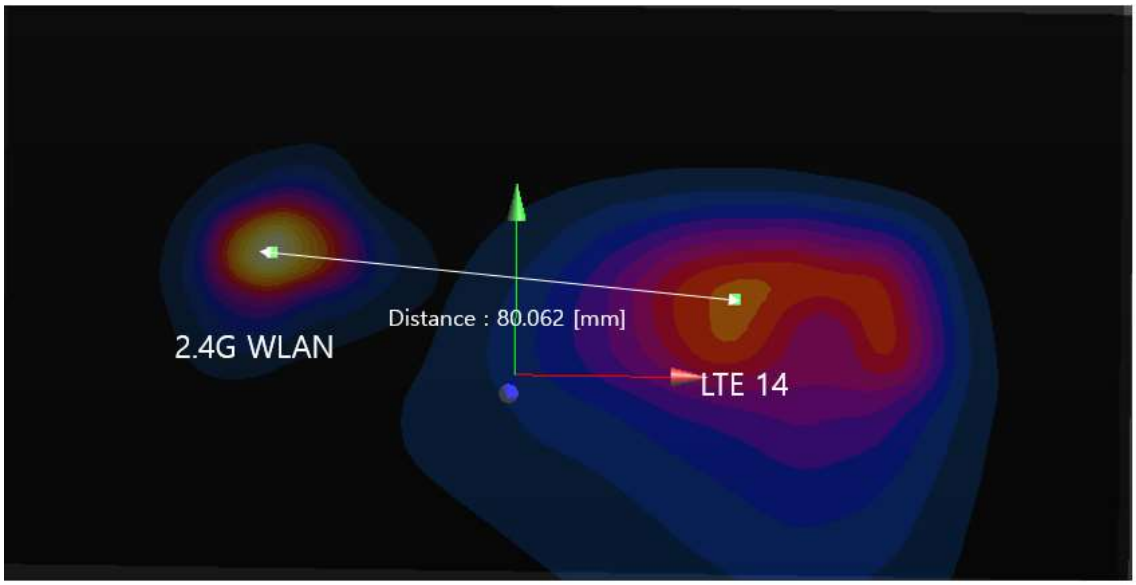
SPLSR Plot : #5 Reduced Power: LTE Band 5 + 2.4 GHzWLAN



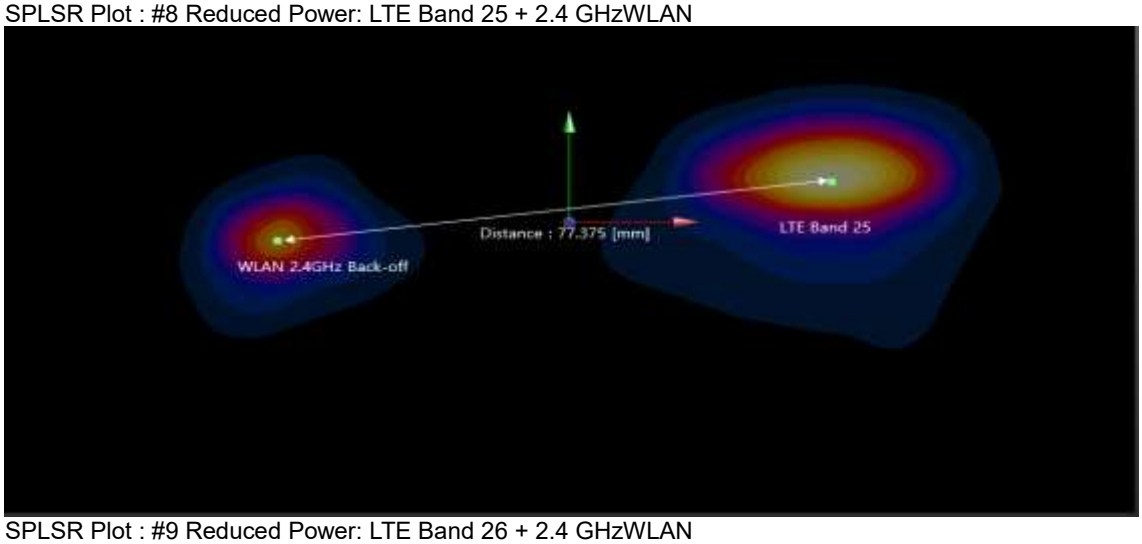
SPLSR Plot : #6 Reduced Power: LTE Band 7 + 2.4 GHzWLAN



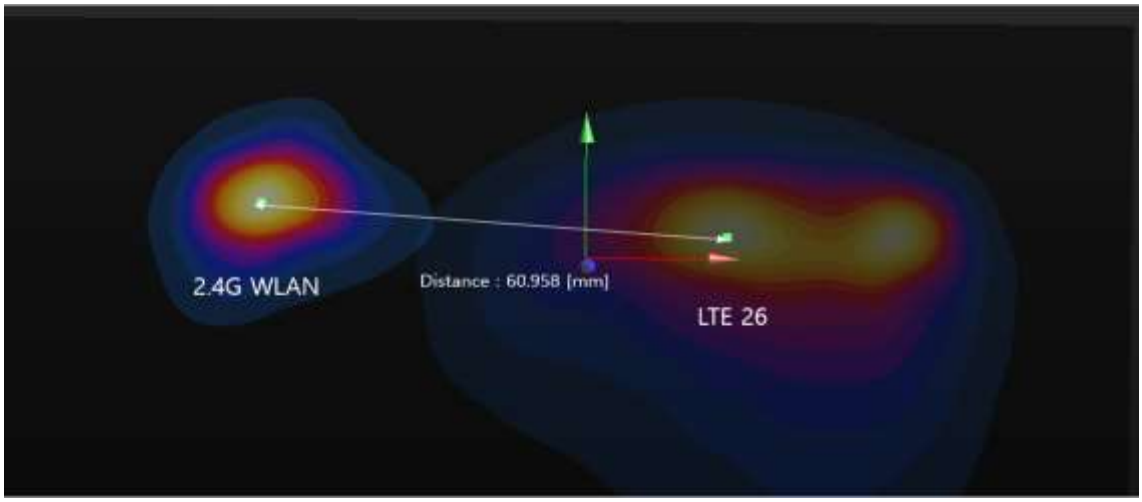
SPLSR Plot : #7 Reduced Power: LTE Band 14 + 2.4 GHzWLAN



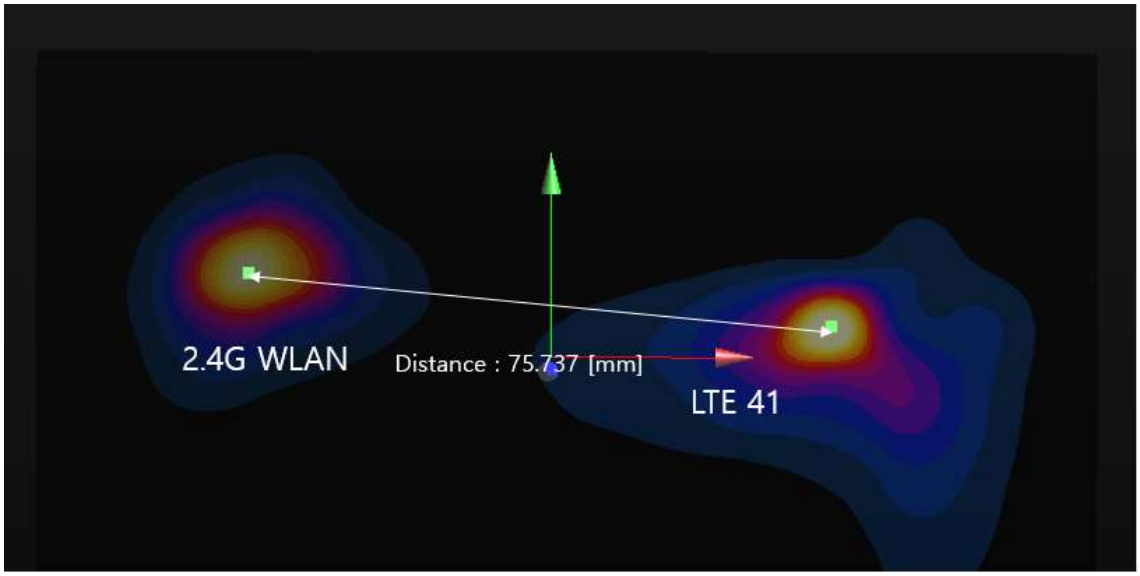
SPLSR Plot : #8 Reduced Power: LTE Band 25 + 2.4 GHzWLAN



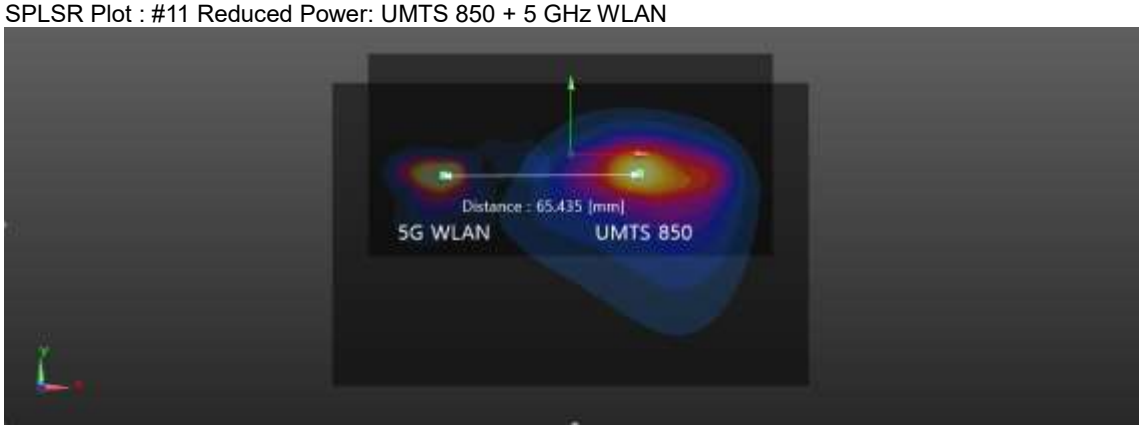
SPLSR Plot : #9 Reduced Power: LTE Band 26 + 2.4 GHzWLAN



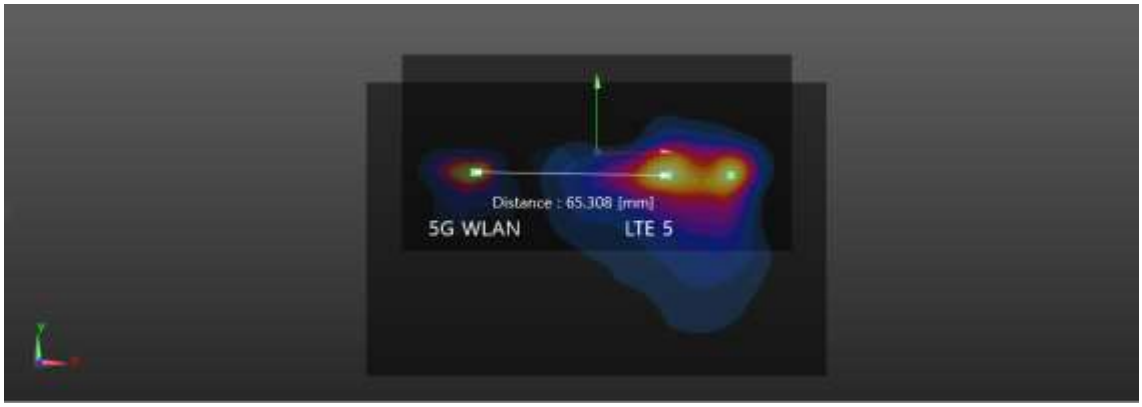
SPLSR Plot : #10 Reduced Power: LTE Band 41 + 2.4 GHz WLAN



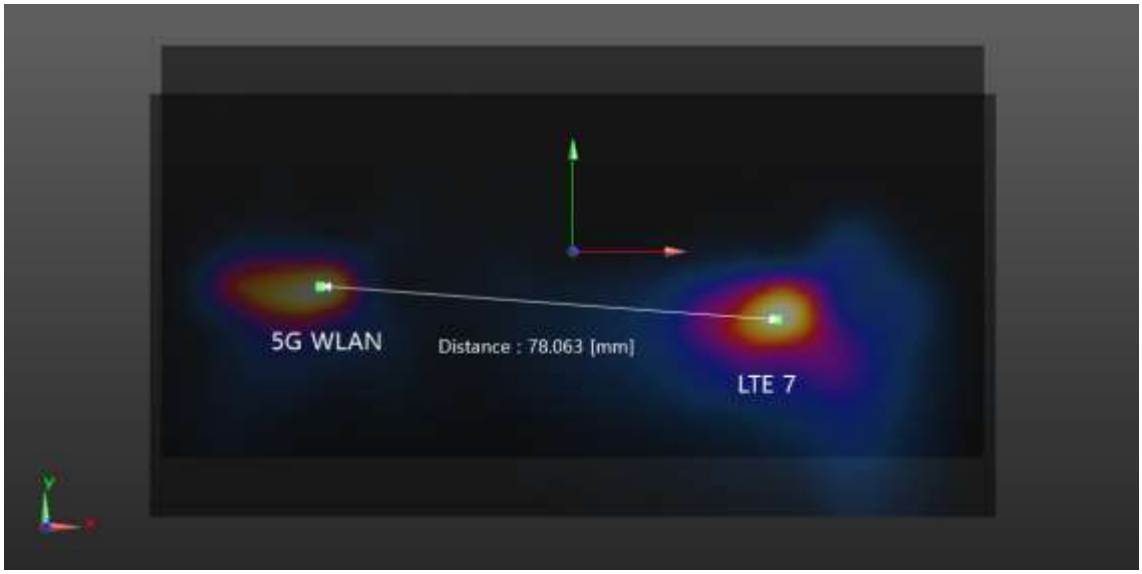
SPLSR Plot : #11 Reduced Power: UMTS 850 + 5 GHz WLAN



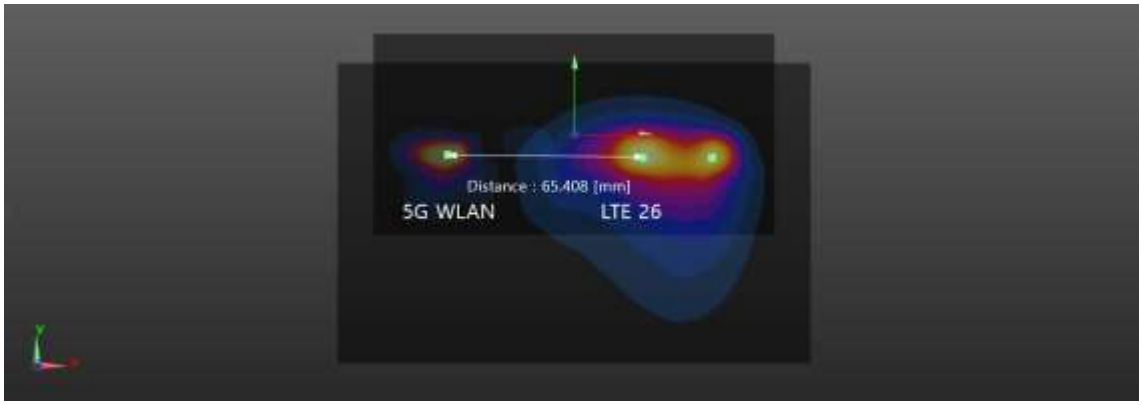
SPLSR Plot : #12 Reduced Power: LTE Band 5 + 5 GHz WLAN



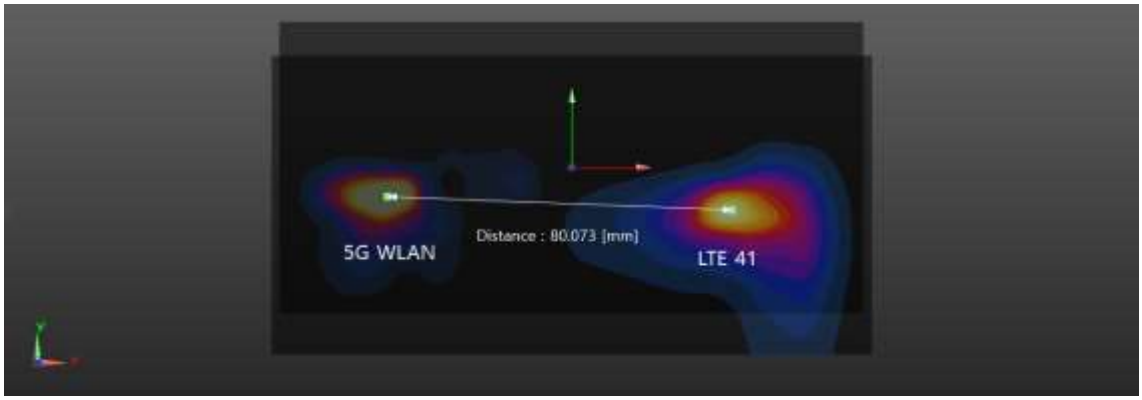
SPLSR Plot : #13 Reduced Power: LTE Band 7 + 5 GHz WLAN



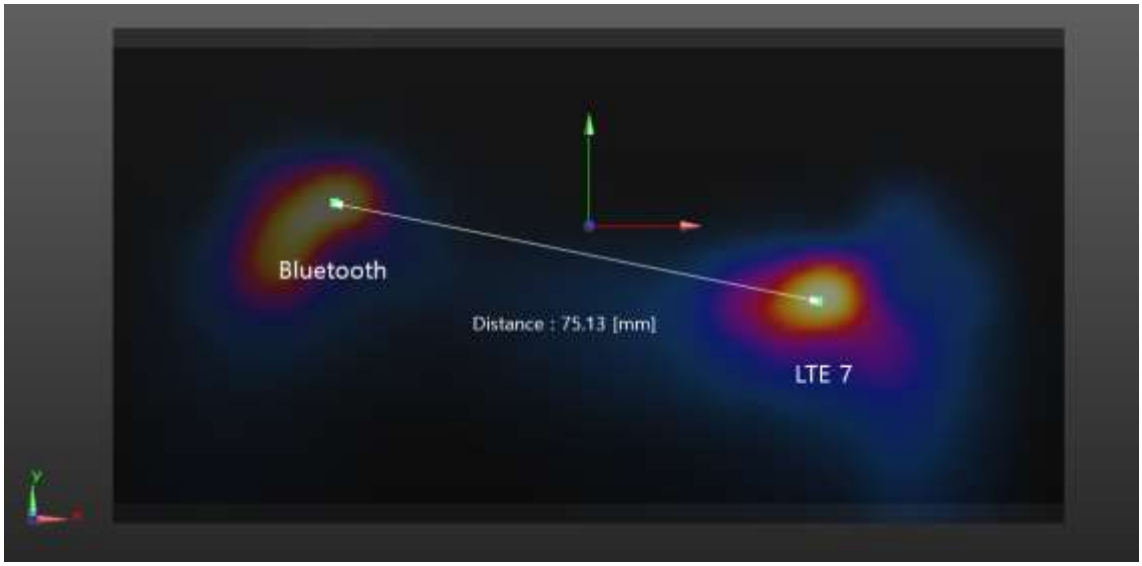
SPLSR Plot : #14 Reduced Power: LTE Band 26 + 5 GHz WLAN



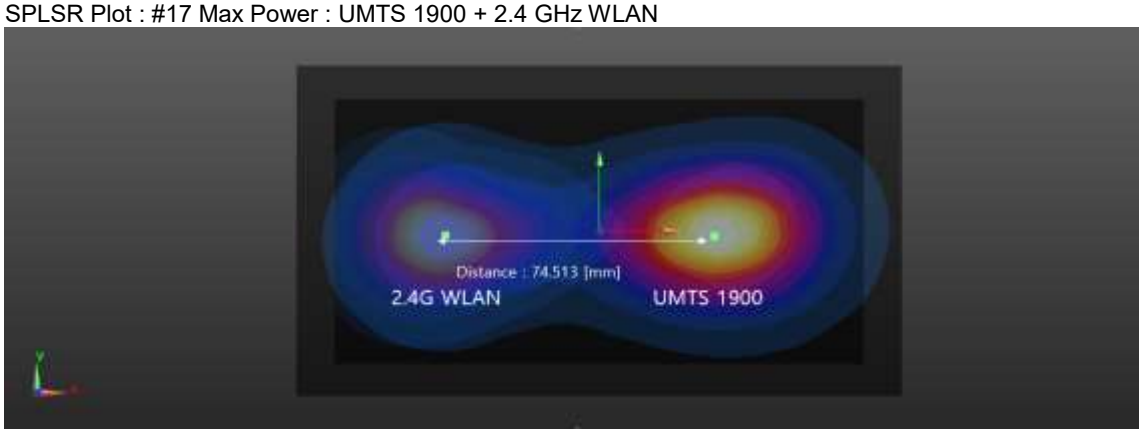
SPLSR Plot : #15 Reduced Power: LTE Band 41 + 5 GHz WLAN



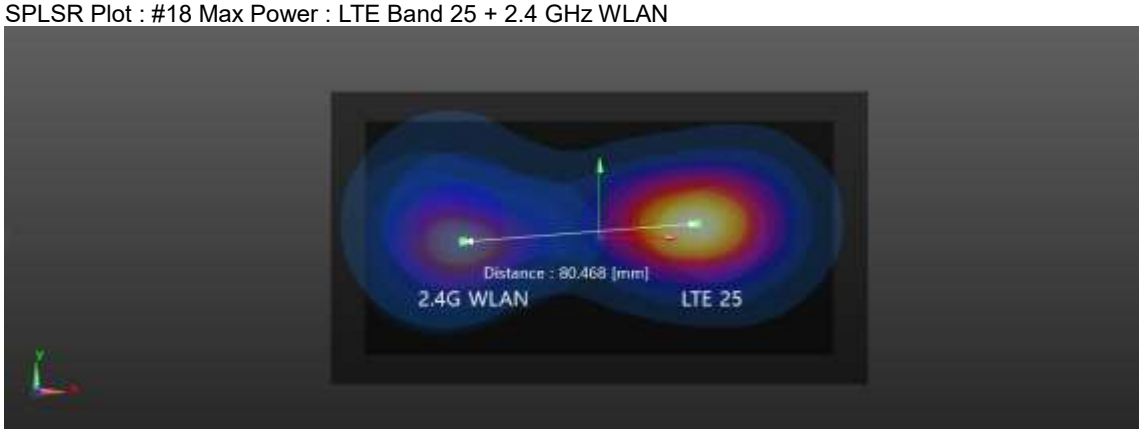
SPLSR Plot : #16 Max Power : LTE Band 7 + Bluetooth



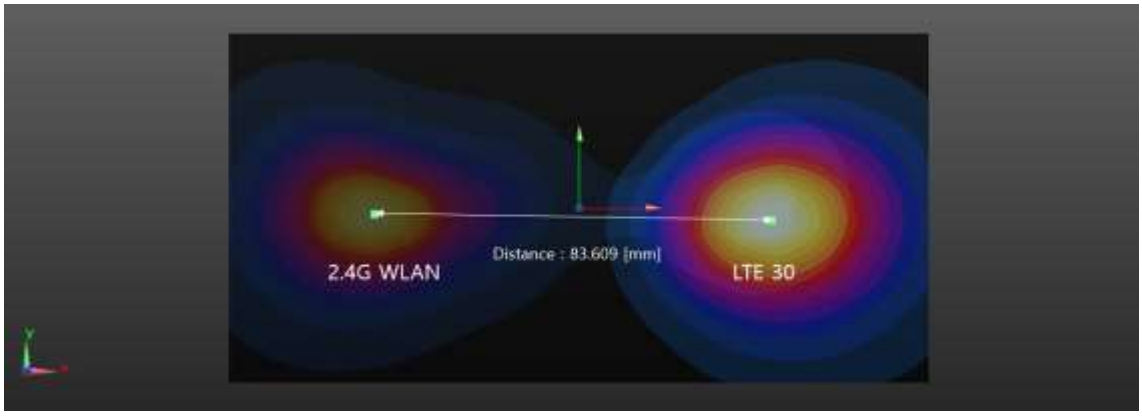
SPLSR Plot : #17 Max Power : UMTS 1900 + 2.4 GHz WLAN



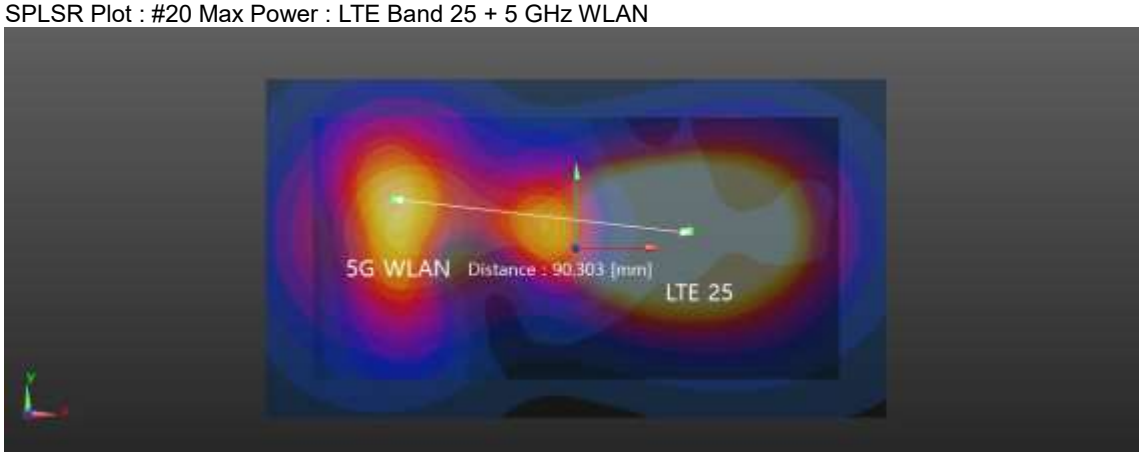
SPLSR Plot : #18 Max Power : LTE Band 25 + 2.4 GHz WLAN



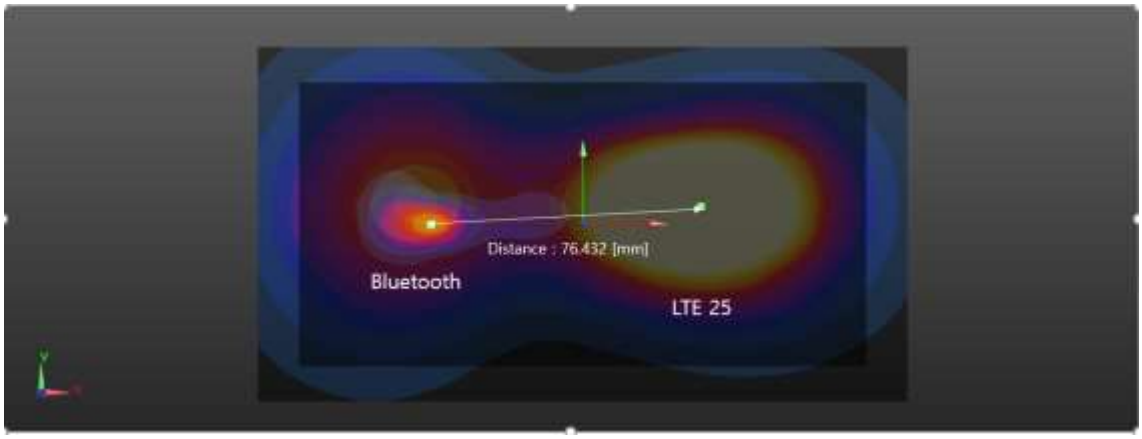
SPLSR Plot : #19 Max Power : LTE Band 30 + 2.4 GHz WLAN



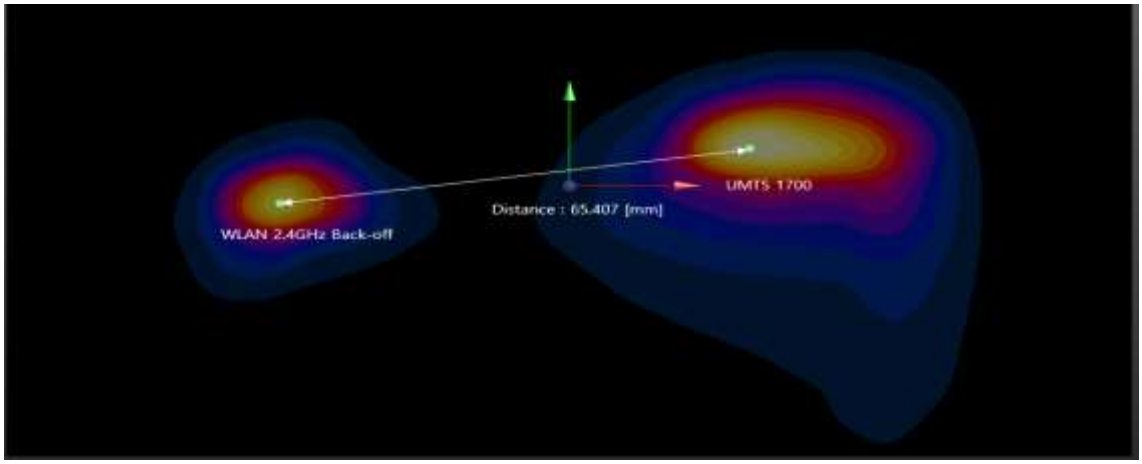
SPLSR Plot : #20 Max Power : LTE Band 25 + 5 GHz WLAN



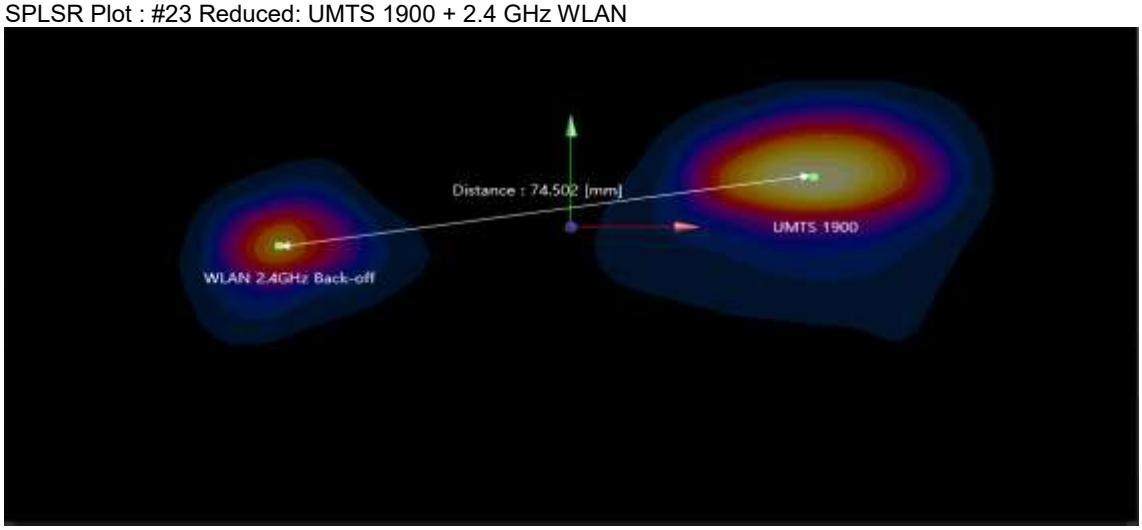
SPLSR Plot : #21 Reduced : LTE Band 25 + Bluetooth



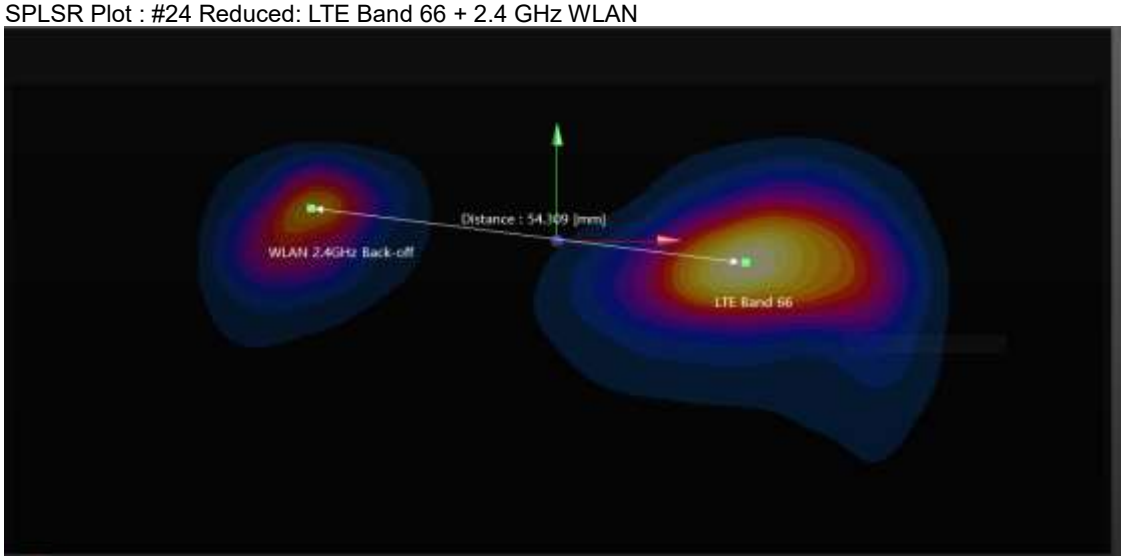
SPLSR Plot : #22 Reduced: UMTS 1700 + 2.4 GHz WLAN



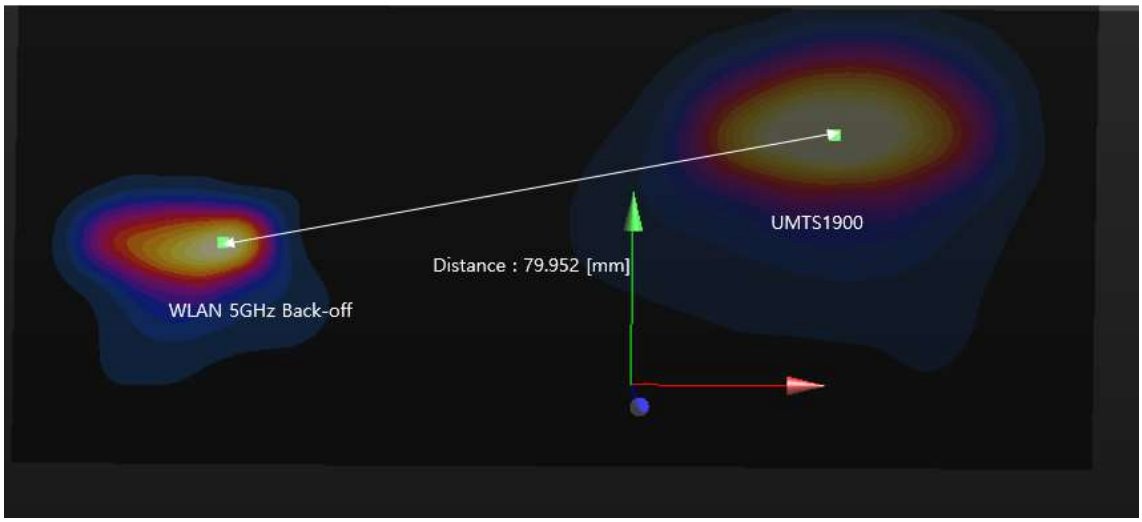
SPLSR Plot : #23 Reduced: UMTS 1900 + 2.4 GHz WLAN



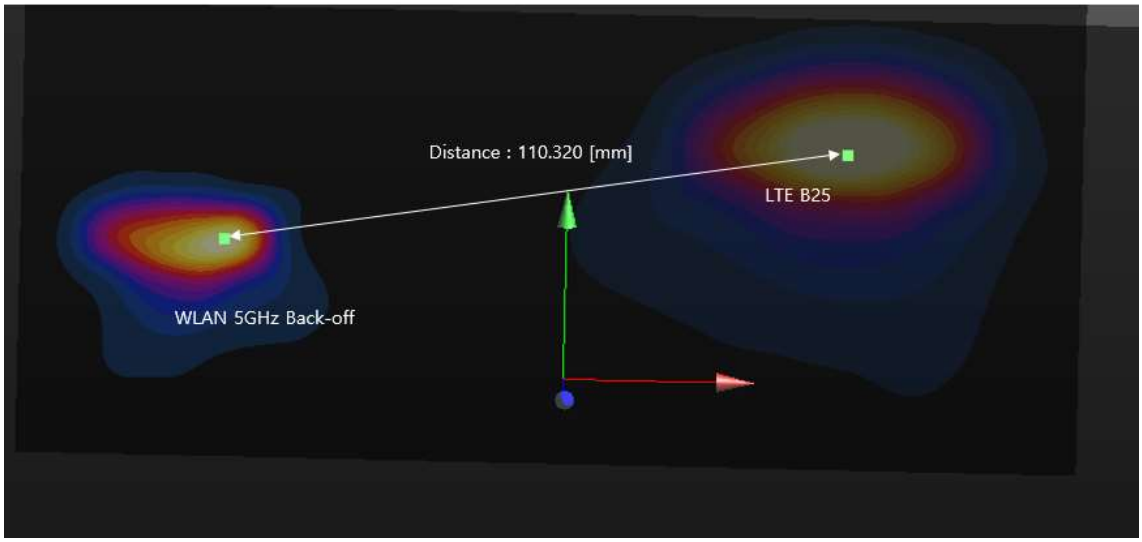
SPLSR Plot : #24 Reduced: LTE Band 66 + 2.4 GHz WLAN



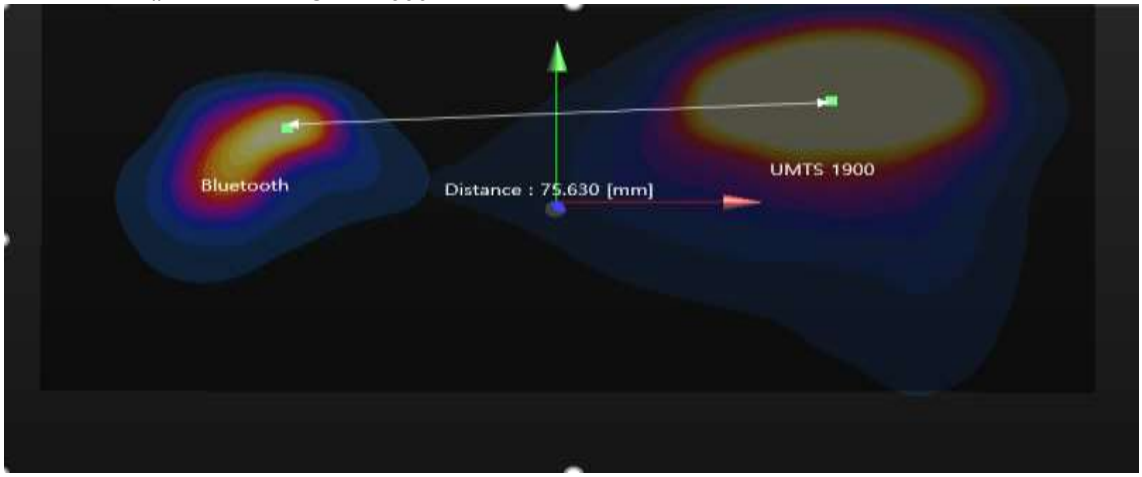
SPLSR Plot : #25 Reduced: UMTS1900 + 5 GHz WLAN



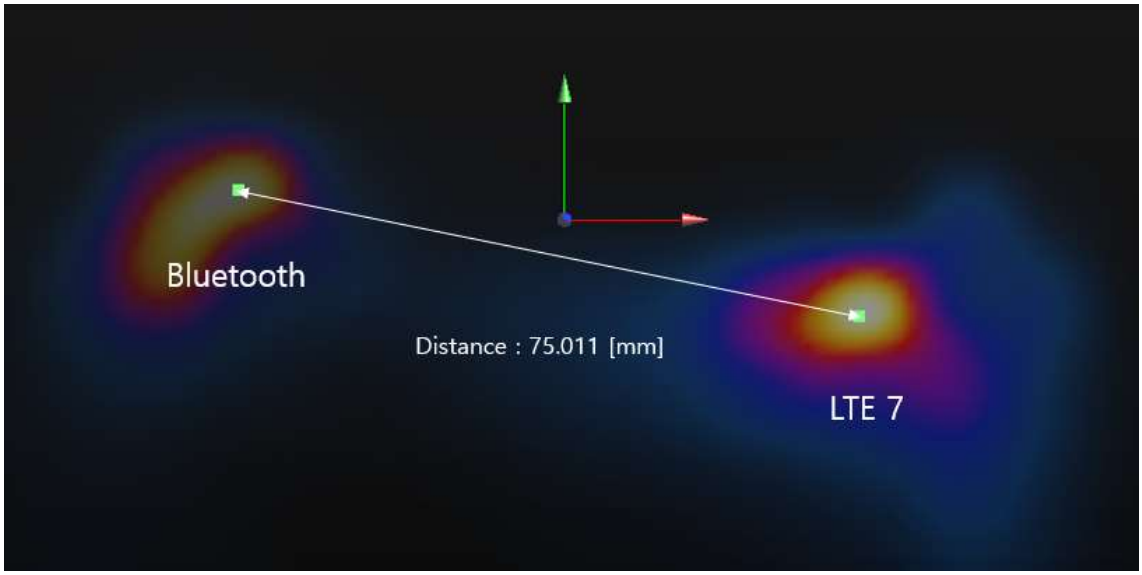
SPLSR Plot : #26 Reduced: UMTS1900 + 5 GHz WLAN



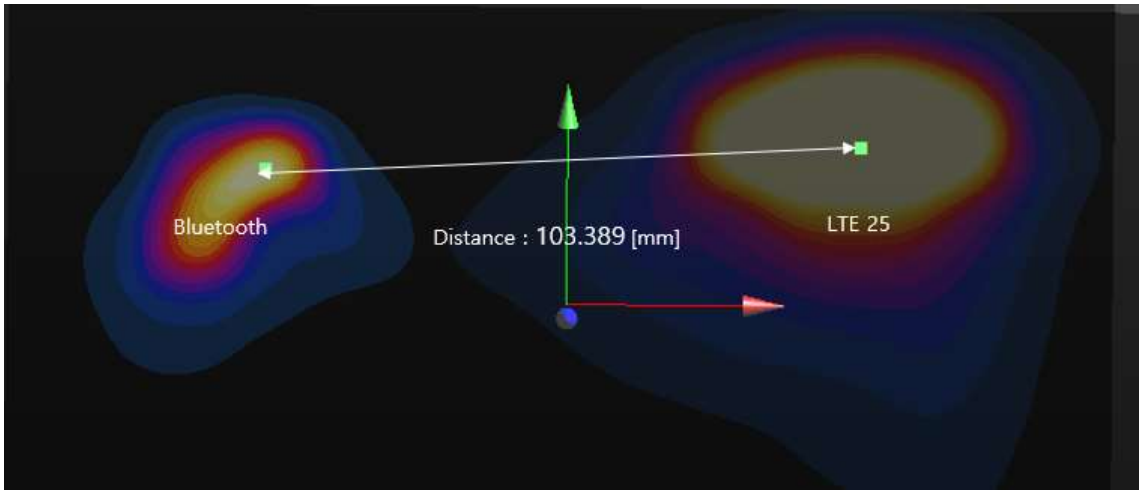
SPLSR Plot : #27 Reduced: UMTS1900 + Bluetooth



SPLSR Plot : #28 Reduced: LTE 7 + Bluetooth



SPLSR Plot : #29 Reduced: LTE 25 + Bluetooth



14.7.3 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 ㎒ to 6 ㎓, 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 ≥ 2.0W/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.

SAR measurement variability Results

Frequency		Mode/Band	Configuration	Measured SAR	Repeated SAR	SAR Ratio
㎒	Channel			(W/kg)	(W/kg)	
836.6	20525	LTE Band 5	Rear (Active) 1RB, 0 RB Offset	0.965	0.940	1.03
2 535	21100	LTE Band 7	Rear (Active) 1RB, 99 RB Offset	0.991	0.974	1.02
1 905.0	26590	LTE Band 25	Top (Inactive) 100 RB Size, 0 RB Offset	1.060	0.943	1.12
1 720	132072	LTE Band 66	Rear (Active) 1RB, 0 RB Offset	0.813	0.757	1.07

16. Device Holder Perturbation Verification.

In accordance with published DUT Holder Perturbations in Oct.2016 TCB Workshop.
When Highest reported SAR is over 1.2 W/kg, Holder Perturbation Verification is required for each antenna, using the highest configuration among all applicable frequency bands.

Frequency		Mode/Band	Configuration	Highest Reported SAR		Deviation (%)
				(without Device Holder)	(with Device Holder)	
MHz	Channel			(W/kg)	(W/kg)	
1 905.0	26590	LTE Band 25	Top (Inactive) 100 RB Size, 0 RB Offset	1.353	1.213	1.12

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

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

The linearity between the power class 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 Body Rear Linearity Data Table (Sensor inactive)		
Configurations	LTE Band41 PC3	LTE Band41 PC2
Maximum Allowed Output Power[dBm]	24	27
Measured Output Power[dBm]	23.28	26.35
Measured SAR[W/kg]	0.428	0.576
Measured Power[mW]	212.813	431.519
Duty Cycle	63.30%	43.30%
Frame Averaged Output Power[mW]	134.711	186.848
Gradient	0.00318	0.00308
deviation from expected linearity(%)		3.06%

LTE Band 41 Body Rear Linearity Data Table(sensor active)		
Configurations	LTE Band41 PC3	LTE Band41 PC2
Maximum Allowed Output Power[dBm]	13.5	13.5
Measured Output Power[dBm]	11.92	11.97
Measured SAR[W/kg]	0.642	0.453
Measured Power[mW]	15.5596	15.7398
Duty Cycle	63.30%	43.30%
Frame Averaged Output Power[mW]	9.849	6.815
Gradient	0.06518	0.06647
deviation from expected linearity(%)		-1.93%

18. Measurement Uncertainty

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

19. SAR Test Equipment

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	Triple Modular Phantom	-	N/A	N/A	N/A
HP	SAR System Control PC	-	N/A	N/A	N/A
Staubli	CS8Cspeag-TX90	F12/5K9GA1/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	TX90 XLspeag	F12/5K9GA1/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	Teach Pendant (Joystick)	S-1206 0513	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
SPEAG	DAE4	1417	01/25/2019	Annual	01/25/2020
SPEAG	DAE4	869	09/19/2019	Annual	09/19/2020
SPEAG	DAE4	868	09/04/2019	Annual	09/04/2020
SPEAG	DAE3	446	07/18/2019	Annual	07/18/2020
SPEAG	E-Field Probe EX3DV4	3863	05/15/2019	Annual	05/15/2020
SPEAG	E-Field Probe EX3DV4	3968	09/27/2019	Annual	09/27/2020
SPEAG	E-Field Probe EX3DV4	3967	02/01/2019	Annual	02/01/2020
SPEAG	E-Field Probe EX3DV4	3903	08/29/2019	Annual	08/29/2020
SPEAG	E-Field Probe ES3DV3	3076	07/23/2019	Annual	07/23/2020
SPEAG	Dipole D750V3	1014	05/27/2019	Annual	05/27/2020
SPEAG	Dipole D835V2	441	08/23/2019	Annual	08/23/2020
SPEAG	Dipole D1800V2	2d015	09/19/2019	Annual	09/19/2020
SPEAG	Dipole D1900V2	5d032	02/21/2019	Annual	02/21/2020
SPEAG	Dipole D2300V2	1010	08/26/2019	Annual	08/26/2020
SPEAG	Dipole D2450V2	743	01/28/2019	Annual	01/28/2020
SPEAG	Dipole D2600V2	1106	09/19/2019	Annual	09/19/2020
SPEAG	Dipole D5GHzV2	1107	09/26/2019	Annual	09/26/2020
Agilent	Power Meter N1911A	MY45101406	09/10/2019	Annual	09/10/2020
Agilent	Power Sensor N1921A	MY55220026	09/06/2019	Annual	09/06/2020
Agilent	Power Meter E4419B	MY40511244	05/08/2019	Annual	05/08/2020
Agilent	Power Sensor 8481A	SG1091286	10/07/2019	Annual	10/07/2020
Agilent	Power Sensor 8481A	MY41090873	10/07/2019	Annual	10/07/2020
SPEAG	DAKS 3.5	1031	04/16/2019	Annual	04/16/2020
SPEAG	VNA-R140	0050813	03/11/2019	Annual	03/11/2020
Agilent	Wireless Communication E5515C	MY48361100	10/07/2019	Annual	10/07/2020
Agilent	Signal Generator N5182A	MY47070230	05/08/2019	Annual	05/08/2020
HP	Network Analyzer 8753ES	JP39240221	01/28/2019	Annual	01/28/2020
Agilent	11636B/Power Divider	58698	02/28/2019	Annual	03/06/2020
HP	11636B/Power Divider	07048	05/16/2019	Annual	05/16/2020
HP	11636B/Power Divider	06999	05/16/2019	Annual	05/16/2020
TESTO	175-H1/Thermometer	40331939309	01/29/2019	Annual	01/29/2020
TESTO	175-H1/Thermometer	40331915309	01/29/2019	Annual	01/29/2020
TESTO	175-H1/Thermometer	40331922309	01/29/2019	Annual	01/29/2020
TESTO	175-H1/Thermometer	40332651310	01/29/2019	Annual	01/29/2020
EMPOWER	RF Power Amplifier	1084	07/03/2019	Annual	07/03/2020

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
MICRO LAB	LP Filter / LA-15N	10453	10/07/2019	Annual	10/07/2020
MICRO LAB	LP Filter / LA-30N	-	10/07/2019	Annual	10/07/2020
MICRO LAB	LP Filter / LA-60N	32011	10/07/2019	Annual	10/07/2020
Apitech	Attenuator (3dB) 18B-03	1	06/04/2019	Annual	06/04/2020
Agilent	Attenuator (20dB) 33340C	1642	05/08/2019	Annual	05/08/2020
WEINSCHEL	30dB Attenuator	CE6106	11/19/2019	Annual	11/19/2020
Agilent	Directional Bridge	3140A03878	06/12/2019	Annual	06/12/2020
Agilent	MXA Signal Analyzer N9020A	MY50510407	10/29/2019	Annual	10/29/2020
HP	Dual Directional Coupler	16072	10/07/2019	Annual	10/07/2020
Anritsu	Radio Communication Tester MT8820C	6201074225	03/05/2019	Annual	03/05/2020
Anritsu	Radio Communication Tester MT8821C	6201502997	08/09/2019	Annual	08/09/2020
R&S	Bluetooth CBT	100272	03/04/2019	Annual	03/04/2020

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

20. Conclusion

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

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

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

21. References

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[5] IEEE Standards Coordinating Committee 34 – IEEE Std. 1528-2013, IEEE Recommended Practice or Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body from Wireless Communications Devices

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Attachment 1. – SAR Test Plots

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.6 ℃
Ambient Temperature:	20.6 ℃
Test Date:	10/24/2019
Plot No.:	1

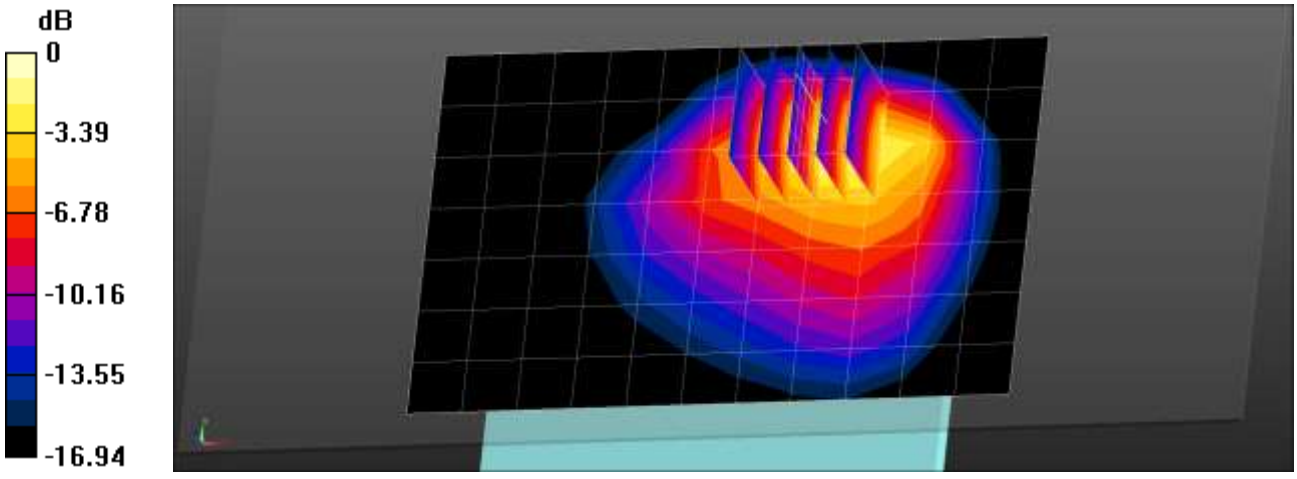
DUT: SM-T307U

Communication System: UID 0, WCDMA850 (0); Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.954 S/m; ε_r = 56.433; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.97, 5.97, 5.97); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

WCDMA850 Body Rear 4132ch Grip/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.996 W/kg
WCDMA850 Body Rear 4132ch Grip/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.90 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 0.813 W/kg; SAR(10 g) = 0.394 W/kg
Maximum value of SAR (measured) = 0.939 W/kg



0 dB = 0.939 W/kg = −0.27 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	22.7 ℃
Ambient Temperature:	23.0 ℃
Test Date:	12/18/2019
Plot No.:	2

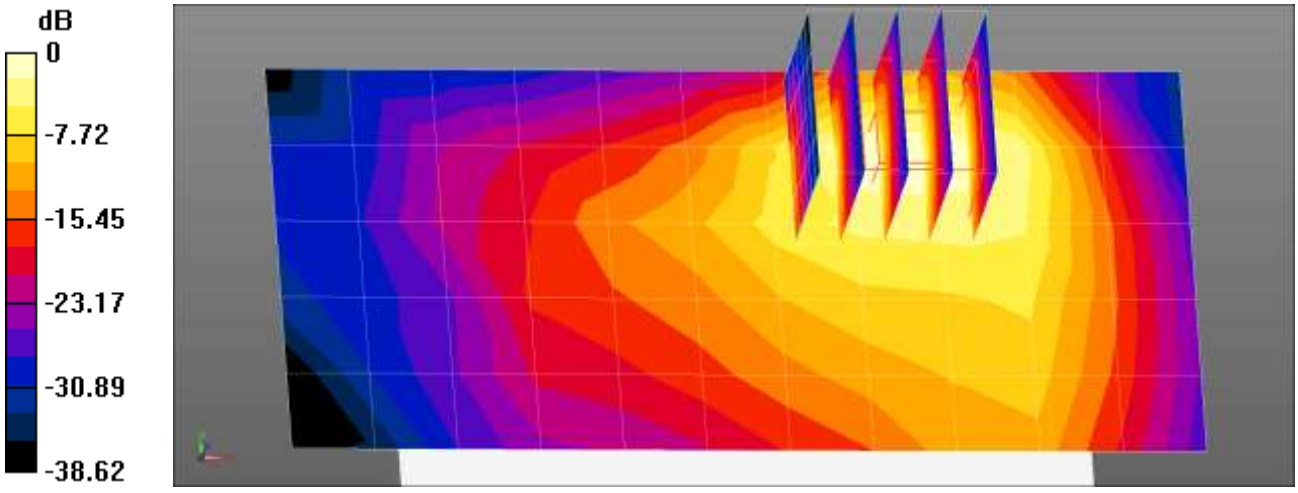
DUT: SM-T307U

Communication System: UID 0, WCDMA IV (0); Frequency: 1712.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.401 S/m; ε_r = 55.011; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3967; ConvF(7.91, 7.91, 7.91) Calibrated: 2019-02-01
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2019-01-25
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

WCDMA1700 Body Rear 1312ch Grip/Area Scan (6x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.15 W/kg
WCDMA1700 Body Rear 1312ch Grip/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.850 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 0.777 W/kg; SAR(10 g) = 0.375 W/kg
Maximum value of SAR (measured) = 1.34 W/kg



0 dB = 1.15 W/kg = 0.61 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	22.6 ℃
Ambient Temperature:	22.8 ℃
Test Date:	12/17/2019
Plot No.:	3

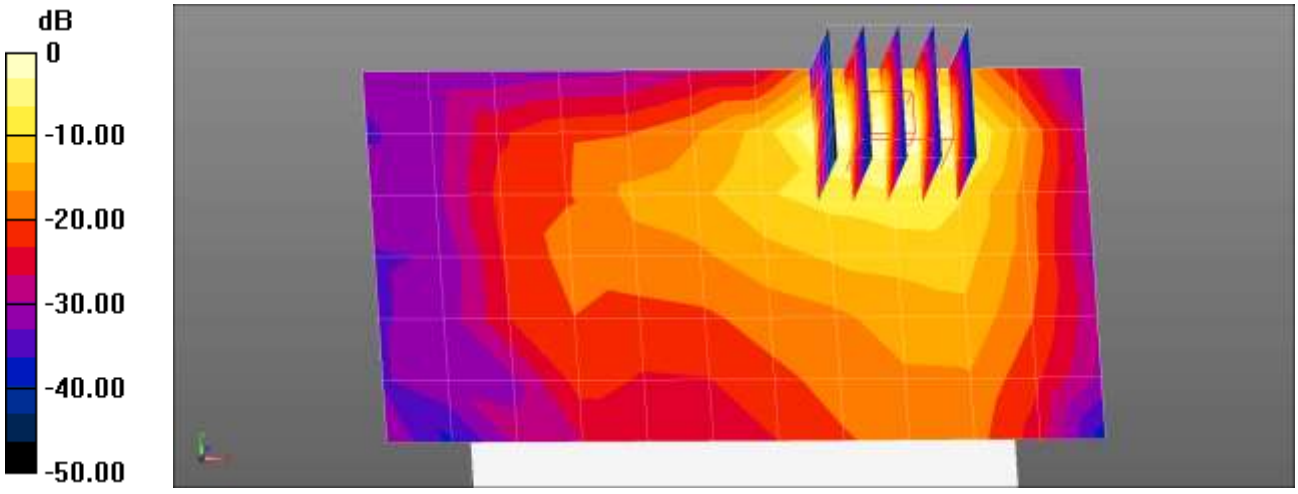
DUT: SM-T307U

Communication System: UID 0, WCDMA1900 (0); Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.481 S/m; ε_r = 53.605; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3967; ConvF(7.64, 7.64, 7.64) Calibrated: 2019-02-01
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2019-01-25
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

WCDMA1900 Body Rear 9262ch Grip/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.74 W/kg
WCDMA1900 Body Rear 9262ch Grip/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.358 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 2.15 W/kg
SAR(1 g) = 0.974 W/kg; SAR(10 g) = 0.424 W/kg
Maximum value of SAR (measured) = 1.67 W/kg



0 dB = 1.74 W/kg = 2.40 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.4 ℃
Test Date:	10/31/2019
Plot No.:	4

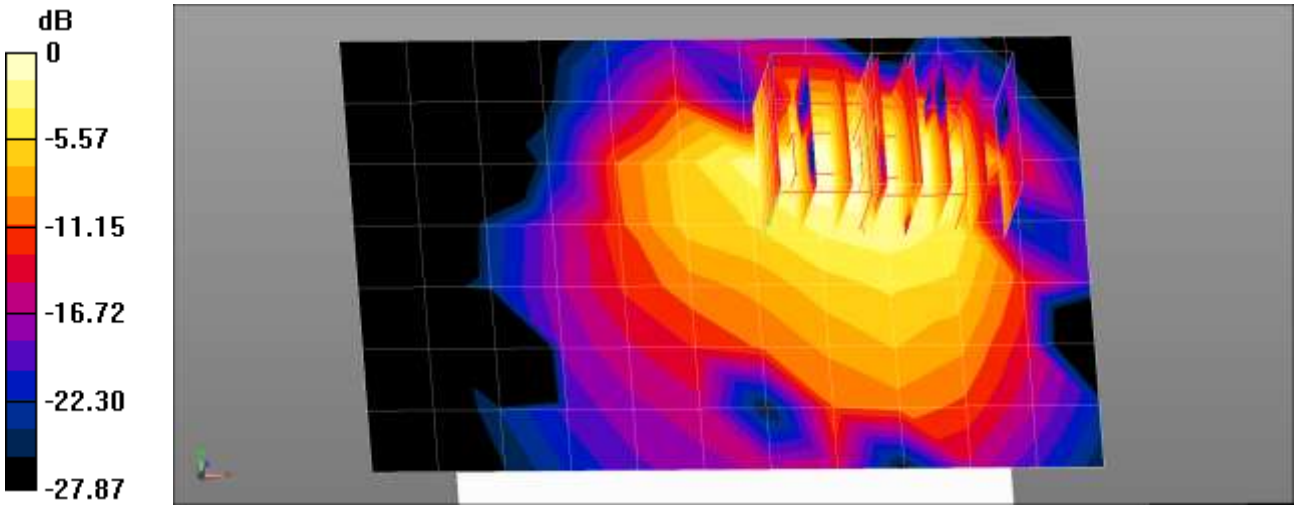
DUT: SM-T307U

Communication System: UID 0, LTE Band 5 (0); Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.963 S/m; ε_r = 56.284; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.97, 5.97, 5.97) @ 836.6 MHz; Calibrated: 2019-07-23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

LTE 5 Body Rear QPSK 10MHz 1RB 0offset 20525ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.32 W/kg
LTE 5 Body Rear QPSK 10MHz 1RB 0offset 20525ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.54 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 2.39 W/kg
SAR(1 g) = 0.965 W/kg; SAR(10 g) = 0.423 W/kg
Maximum value of SAR (measured) = 1.18 W/kg
LTE 5 Body Rear QPSK 10MHz 1RB 0offset 20525ch/Zoom Scan (5x5x7)/Cube 1:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.54 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 1.56 W/kg
SAR(1 g) = 0.752 W/kg; SAR(10 g) = 0.391 W/kg
Maximum value of SAR (measured) = 1.03 W/kg



0 dB = 1.03 W/kg = 0.13 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.1 ℃
Ambient Temperature:	20.3 ℃
Test Date:	11/01/2019
Plot No.:	5

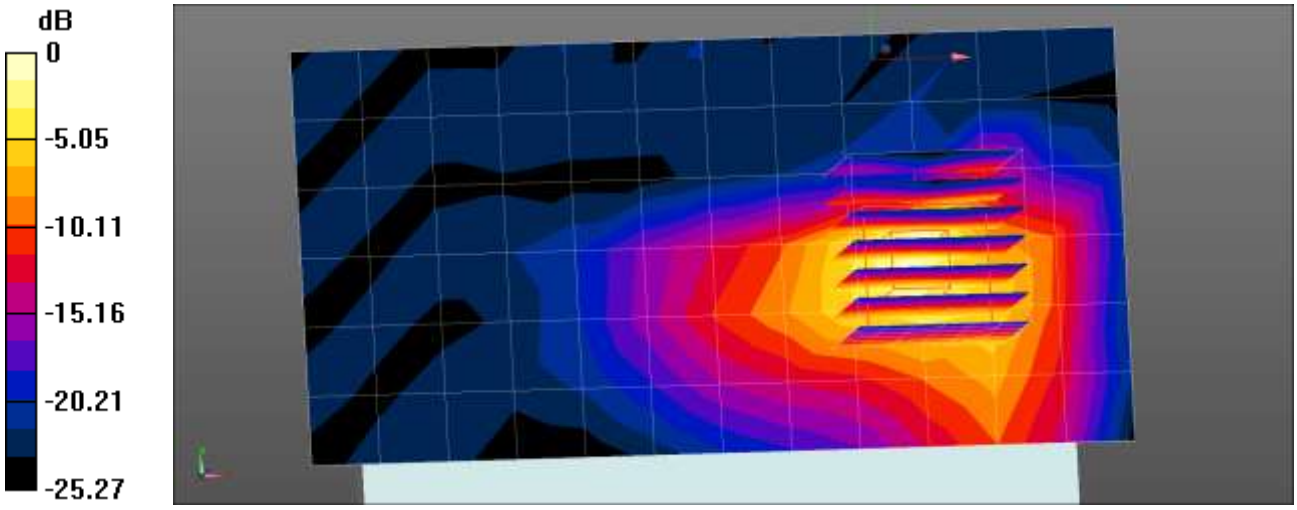
DUT: SM-T307U

Communication System: UID 0, LTE Band7 (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 2.044 S/m; ε_r = 53.441; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49); Calibrated: 2019-08-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: MFP_V5.1C_20171020
- Measurement SW: DASY52, Version 52.10 (2);

LTE 7 Body Rear QPSK 20MHz 1RB 99offset 21100ch Backoff 0mm/Area Scan (13x7x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 2.07 W/kg
LTE 7 Body Rear QPSK 20MHz 1RB 99offset 21100ch Backoff 0mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.149 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 3.71 W/kg
SAR(1 g) = 0.991 W/kg; SAR(10 g) = 0.342 W/kg
Maximum value of SAR (measured) = 2.15 W/kg



0 dB = 2.07 W/kg = 3.16 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.1 ℃
Ambient Temperature:	20.3 ℃
Test Date:	11/01/2019
Plot No.:	6

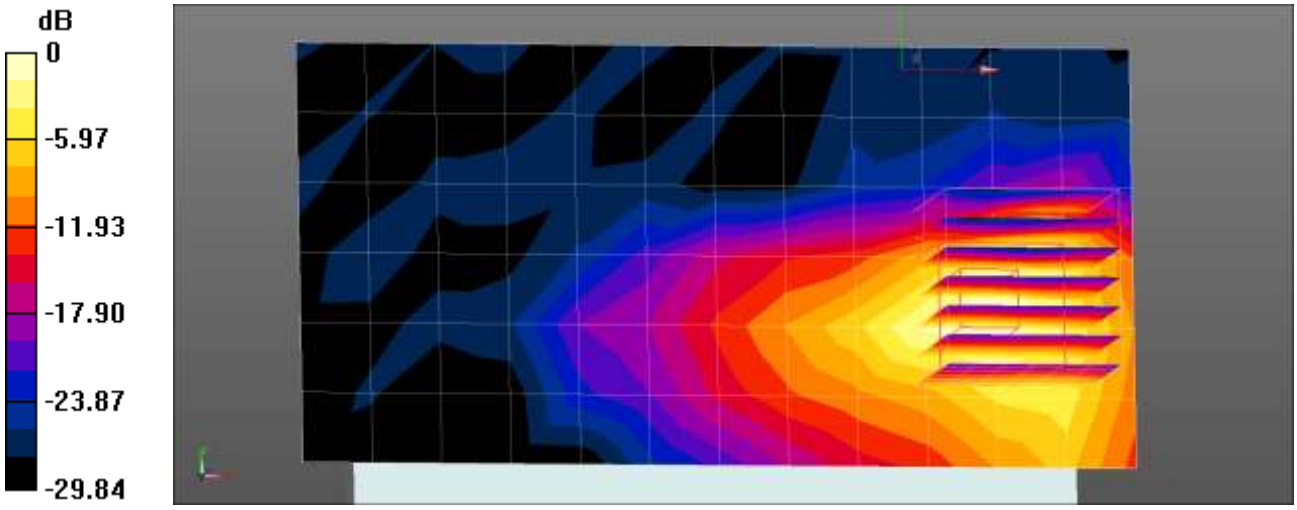
DUT: SM-T307U

Communication System: UID 0, LTE Band7 (0); Frequency: 2510 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2510 MHz; σ = 2.021 S/m; ε_r = 53.509; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49); Calibrated: 2019-08-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: MFP_V5.1C_20171020
- Measurement SW: DASY52, Version 52.10 (2);

LTE 7 Body Rear QPSK 20MHz 50RB 0offset 20850ch Backoff 0mm/Area Scan (13x7x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.43 W/kg
LTE 7 Body Rear QPSK 20MHz 50RB 0offset 20850ch Backoff 0mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.406 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 3.43 W/kg
SAR(1 g) = 0.932 W/kg; SAR(10 g) = 0.325 W/kg
Maximum value of SAR (measured) = 1.99 W/kg



0 dB = 1.43 W/kg = 1.56 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.1 ℃
Ambient Temperature:	20.1 ℃
Test Date:	11/05/2019
Plot No.:	7

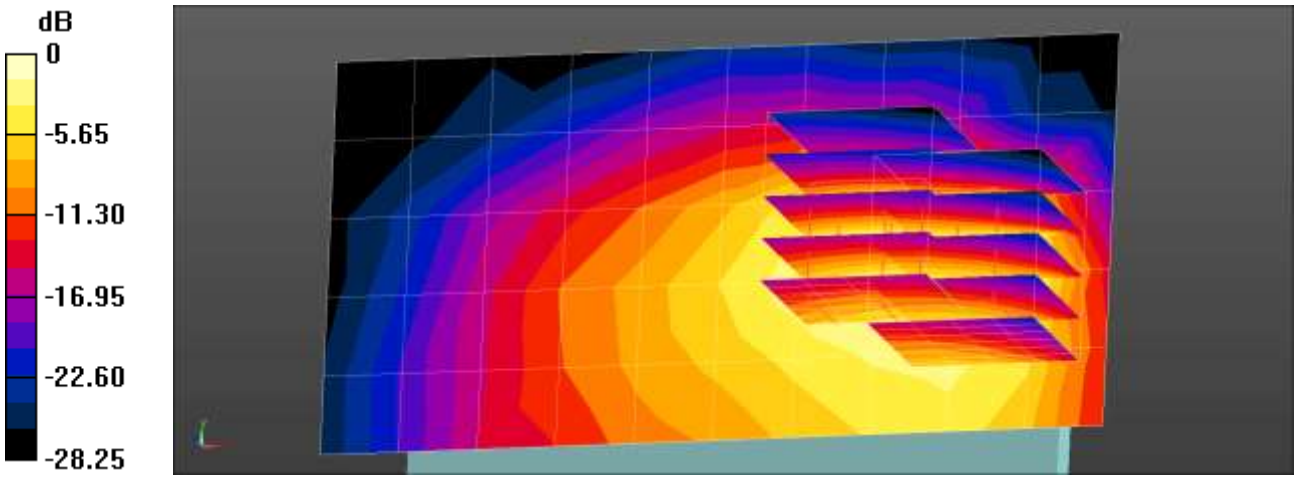
DUT: SM-T307U

Communication System: UID 0, LTE 12 (0); Frequency: 707.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.956 S/m; ε_r = 55.699; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(10.41, 10.41, 10.41); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: MFP_V5.1C_20171020
- Measurement SW: DASY52, Version 52.10 (2);

LTE 12 Body Rear QPSK 10MHz 25RB 24offset 23095ch Backoff 0mm/Area Scan (11x6x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.809 W/kg
LTE 12 Body Rear QPSK 10MHz 25RB 24offset 23095ch Backoff 0mm/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.82 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 1.60 W/kg
SAR(1 g) = 0.617 W/kg; SAR(10 g) = 0.346 W/kg.
Maximum value of SAR (measured) = 1.11 W/kg
LTE 12 Body Rear QPSK 10MHz 25RB 24offset 23095ch Backoff 0mm/Zoom Scan (5x5x7)/Cube 1:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.82 V/m; Power Drift = 0.27 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.528 W/kg; SAR(10 g) = 0.302 W/kg
Maximum value of SAR (measured) = 1.07 W/kg



0 dB = 0.809 W/kg = −0.92 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	18.6 ℃
Ambient Temperature:	18.7 ℃
Test Date:	11/08/2019
Plot No.:	8

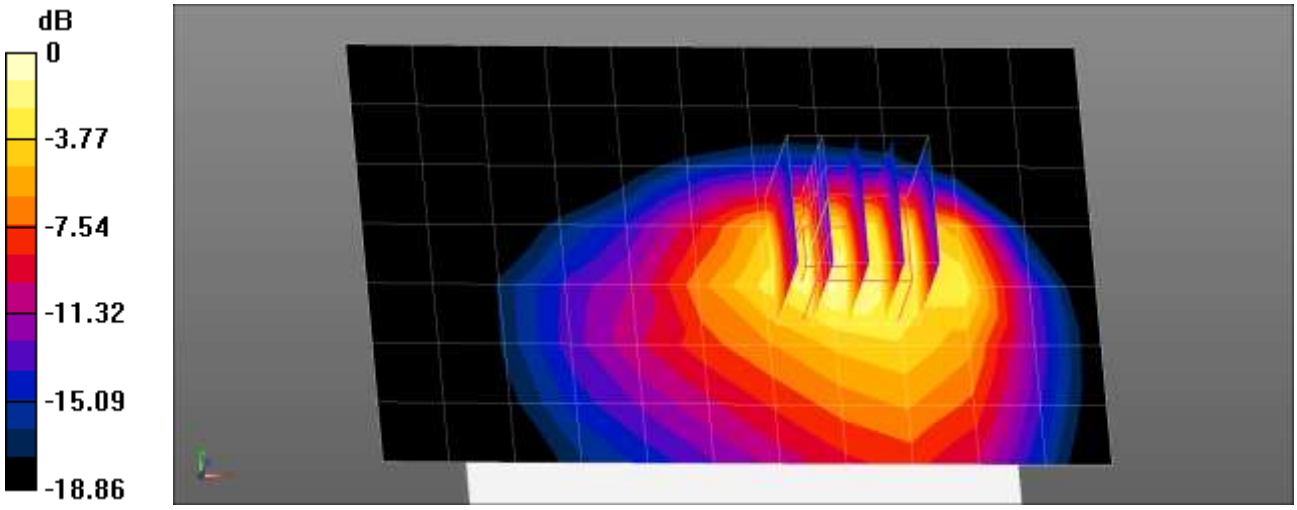
DUT: SM-T307U

Communication System: UID 0, LTE Band 13 (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1.006 S/m; ε_r = 54.939; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(6.12, 6.12, 6.12) ; Calibrated: 2019-07-23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

LTE 13 Body Rear QPSK 10MHz 1RB 0offset 23230ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.634 W/kg
LTE 13 Body Rear QPSK 10MHz 1RB 0offset 23230ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.78 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.597 W/kg; SAR(10 g) = 0.320 W/kg
Maximum value of SAR (measured) = 0.805 W/kg



0 dB = 0.805 W/kg = −0.94 dBW/kg

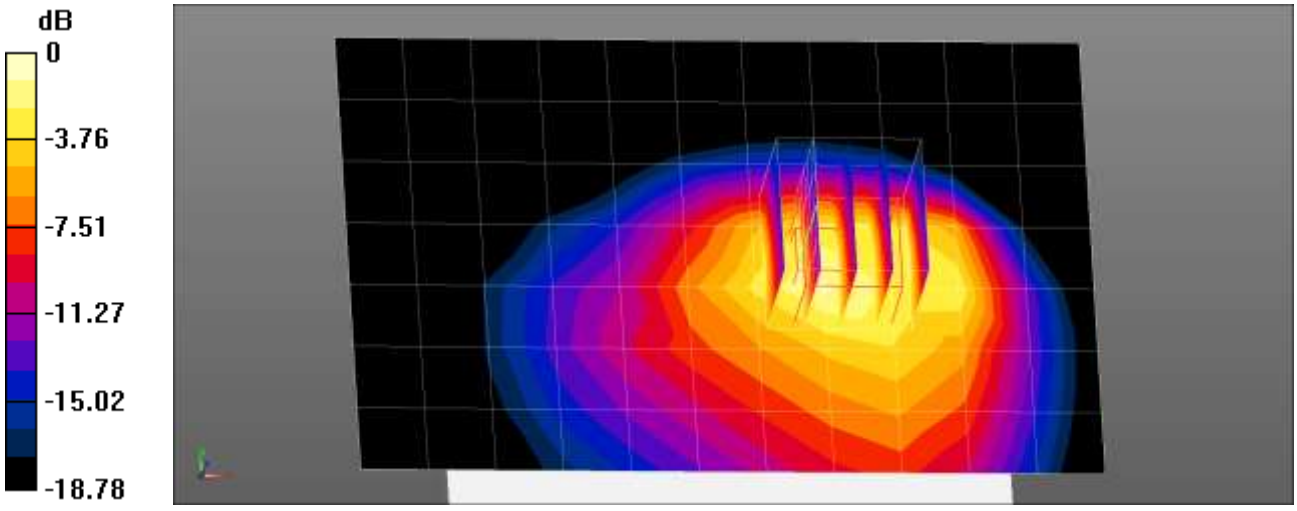
Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	18.6 ℃
Ambient Temperature:	18.7 ℃
Test Date:	11/08/2019
Plot No.:	9

DUT: SM-T307U
Communication System: UID 0, LTE Band 13 (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 1.006 S/m; ε_r = 54.939; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(6.12, 6.12, 6.12) ; Calibrated: 2019-07-23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

LTE 13 Body Rear QPSK 10MHz 25RB 0offset 23230ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.627 W/kg
LTE 13 Body Rear QPSK 10MHz 25RB 0offset 23230ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.73 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.591 W/kg; SAR(10 g) = 0.318 W/kg
Maximum value of SAR (measured) = 0.792 W/kg



0 dB = 0.792 W/kg = −1.01 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	18.6 ℃
Ambient Temperature:	18.7 ℃
Test Date:	11/08/2019
Plot No.:	10

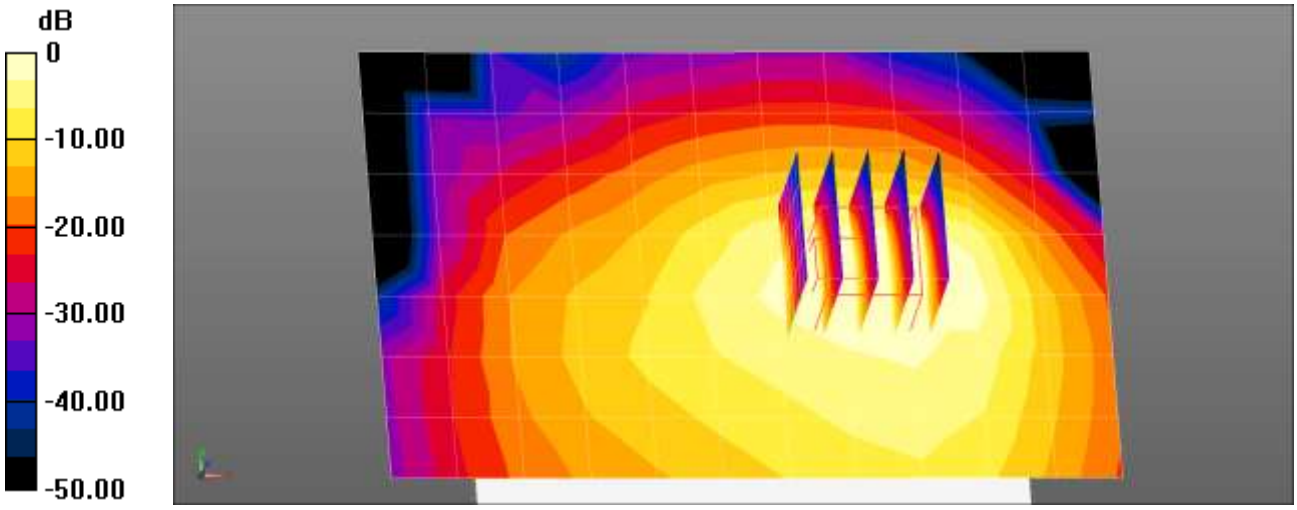
DUT: SM-T307U
Communication System: UID 0, LTE 14 (0); Frequency: 793 MHz;Duty Cycle: 1:1
Medium parameters used: f = 793 MHz; σ = 1.015 S/m; ε_r = 54.824; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(6.12, 6.12, 6.12); Calibrated: 2019-07-23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

LTE 14 Body Rear QPSK 10MHz 1RB 0offset 23330ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.791 W/kg

LTE 14 Body Rear QPSK 10MHz 1RB 0offset 23330ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.15 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 0.742 W/kg; SAR(10 g) = 0.399 W/kg
Maximum value of SAR (measured) = 1.00 W/kg



0 dB = 0.791 W/kg = −1.02 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.0 ℃
Ambient Temperature:	20.2 ℃
Test Date:	10/28/2019
Plot No.:	11

DUT: SM-T307U

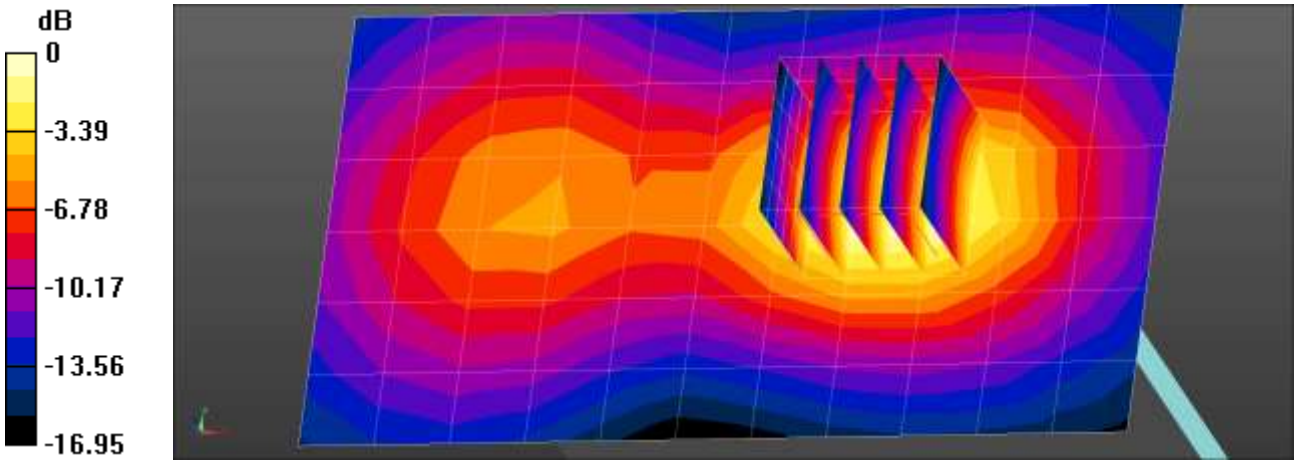
Communication System: UID 0, LTE Band 25 (0); Frequency: 1905 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1905 MHz; σ = 1.532 S/m; ε_r = 53.552; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.72, 4.72, 4.72); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

LTE 25 Body Top QPSK 20MHz 100RB 0offset 26590ch/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.14 W/kg

LTE 25 Body Top QPSK 20MHz 100RB 0offset 26590ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.17 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.576 W/kg
Maximum value of SAR (measured) = 1.31 W/kg



0 dB = 1.14 W/kg = 0.55 dBW/kg

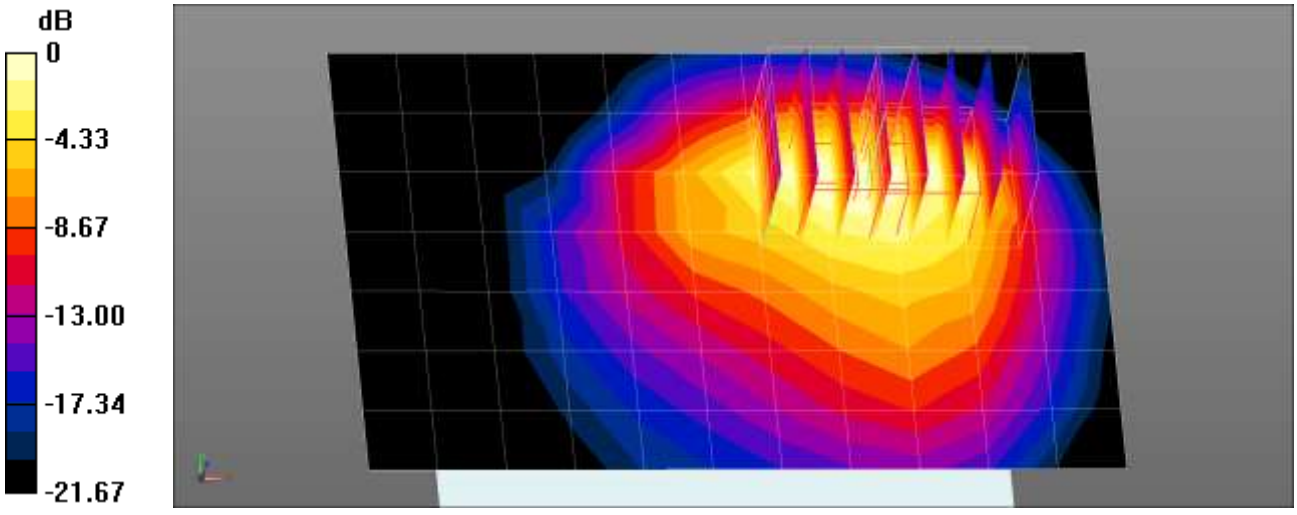
Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.4 ℃
Test Date:	10/31/2019
Plot No.:	12

DUT: SM-T307U
Communication System: UID 0, LTE Band 26 (0); Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 831.5 MHz; σ = 0.96 S/m; ε_r = 56.353; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.97, 5.97, 5.97); Calibrated: 2019-07-23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

LTE 26 Body Rear QPSK 15MHz 1RB 0offset 26865ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.22 W/kg
LTE 26 Body Rear QPSK 15MHz 1RB 0offset 26865ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.68 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 0.877 W/kg; SAR(10 g) = 0.446 W/kg
Maximum value of SAR (measured) = 1.13 W/kg
LTE 26 Body Rear QPSK 15MHz 1RB 0offset 26865ch/Zoom Scan (5x5x7)/Cube 1:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.68 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 1.93 W/kg
SAR(1 g) = 0.660 W/kg; SAR(10 g) = 0.372 W/kg
Maximum value of SAR (measured) = 0.946 W/kg



0 dB = 0.946 W/kg = −0.24 dBW/kg

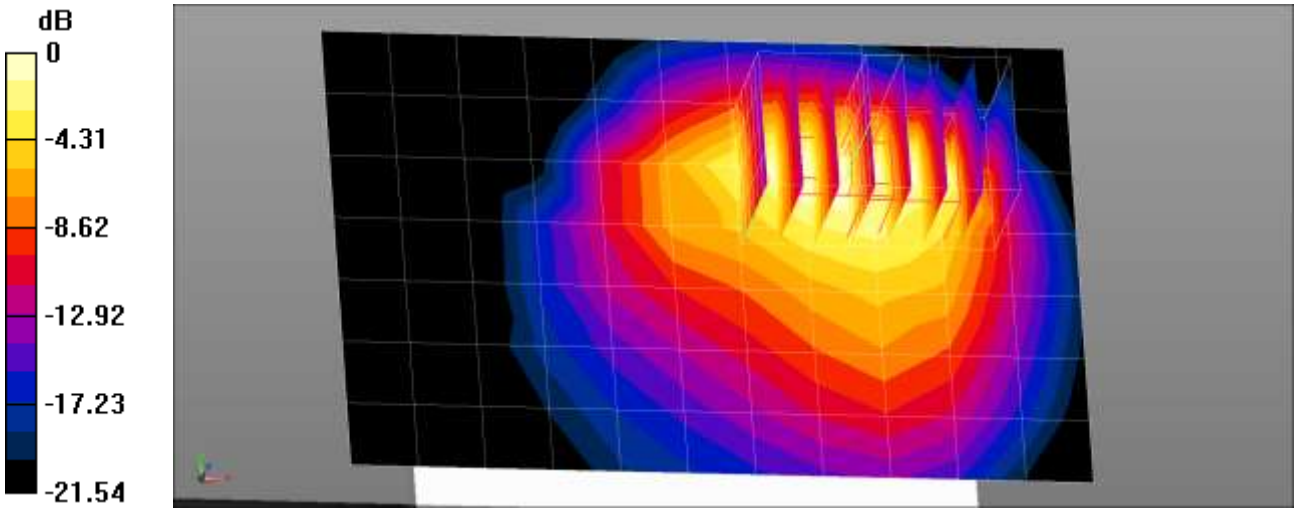
Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	21.4 ℃
Ambient Temperature:	21.4 ℃
Test Date:	10/31/2019
Plot No.:	13

DUT: SM-T307U
Communication System: UID 0, LTE Band 26 (0); Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 831.5 MHz; σ = 0.96 S/m; ε_r = 56.353; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.97, 5.97, 5.97); Calibrated: 2019-07-23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

LTE 26 Body Rear QPSK 15MHz 36RB 0offset 26865ch/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.21 W/kg
LTE 26 Body Rear QPSK 15MHz 36RB 0offset 26865ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.48 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 0.861 W/kg; SAR(10 g) = 0.436 W/kg
Maximum value of SAR (measured) = 1.11 W/kg
LTE 26 Body Rear QPSK 15MHz 36RB 0offset 26865ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.48 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.84 W/kg
SAR(1 g) = 0.651 W/kg; SAR(10 g) = 0.363 W/kg
Maximum value of SAR (measured) = 0.948 W/kg



0 dB = 0.948 W/kg = −0.23 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	19.6 ℃
Ambient Temperature:	19.7 ℃
Test Date:	11/20/2019
Plot No.:	14

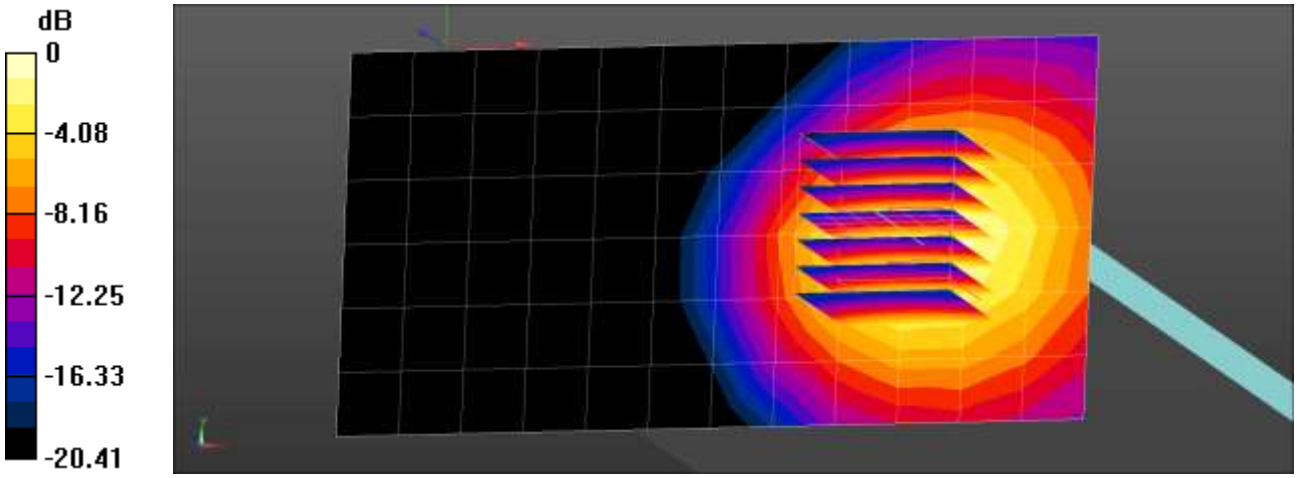
DUT: SM-T307U

Communication System: UID 0, LTE30 (0); Frequency: 2310 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2310 MHz; σ = 1.777 S/m; ε_r = 53.101; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.87, 7.87, 7.87); Calibrated: 2019-05-15;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2019-01-25
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

LTE 30 Body Top QPSK 10MHz 1RB 49offset 27710ch Max 19mm/Area Scan (13x7x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.16 W/kg
LTE 30 Body Top QPSK 10MHz 1RB 49offset 27710ch Max 19mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.928 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 1.48 W/kg
SAR(1 g) = 0.799 W/kg; SAR(10 g) = 0.420 W/kg
Maximum value of SAR (measured) = 1.23 W/kg



0 dB = 1.23 W/kg = 0.90 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	19.7 ℃
Ambient Temperature:	19.7 ℃
Test Date:	12/04/2019
Plot No.:	15

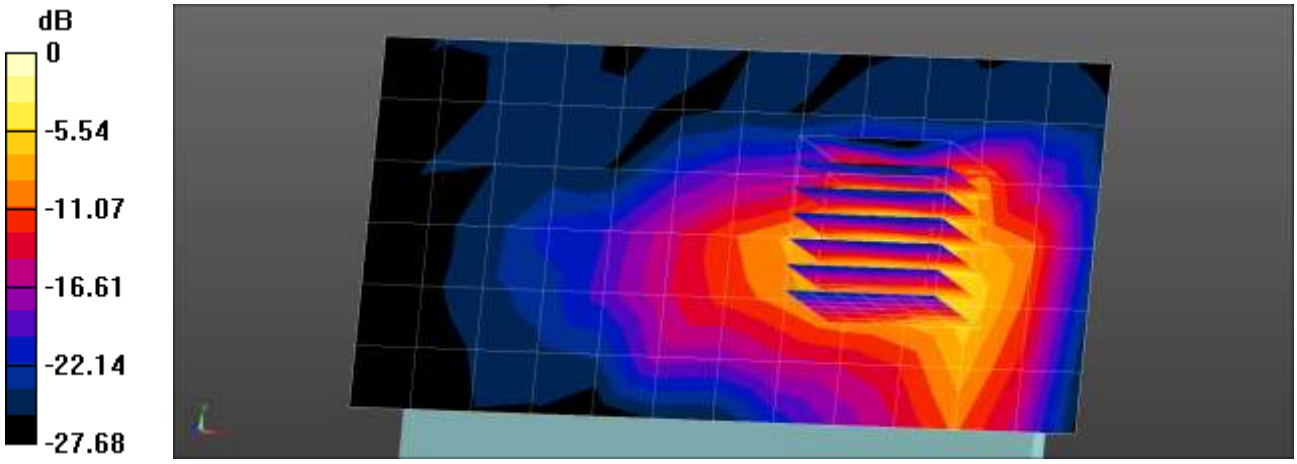
DUT: SM-T307U

Communication System: UID 0, LTE Band 41 (FCC) (0); Frequency: 2680 MHz;Duty Cycle: 1:1.58052
Medium parameters used: f = 2680 MHz; σ = 2.215 S/m; ε_r = 53.04; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

LTE 41 Body Rear QPSK 20MHz 100RB 0offset 41490ch Backoff 0mm/Area Scan (13x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.52 W/kg
LTE 41 Body Rear QPSK 20MHz 100RB 0offset 41490ch Backoff 0mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.615 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 2.38 W/kg
SAR(1 g) = 0.642 W/kg; SAR(10 g) = 0.217 W/kg
Maximum value of SAR (measured) = 1.45 W/kg



0 dB = 1.52 W/kg = 1.82 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	23.0 ℃
Ambient Temperature:	22.7 ℃
Test Date:	12/18/2019
Plot No.:	16

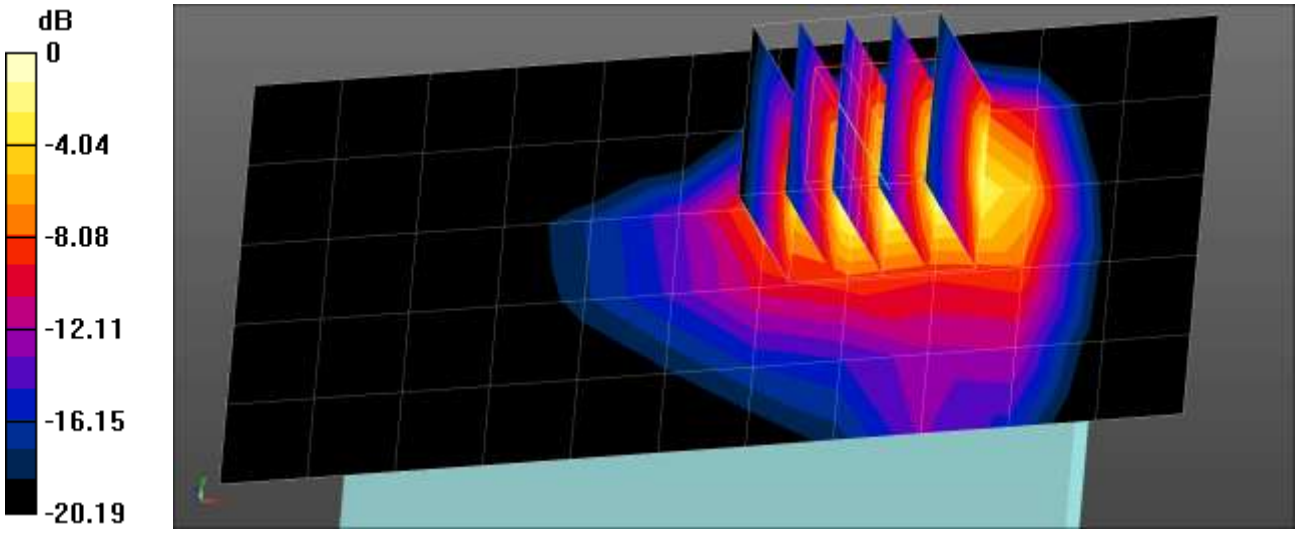
DUT: SM-T307U

Communication System: UID 0, LTE Band 66(20MHz FCC) (0); Frequency: 1720 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1720 MHz; σ = 1.413 S/m; ε_r = 54.943; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(8.37, 8.37, 8.37); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2019-01-25
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

LTE 66 Body Rear QPSK 20MHz 50RB 0offset 132072ch/Area Scan (6x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.30 W/kg
LTE 66 Body Rear QPSK 20MHz 50RB 0offset 132072ch/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.736 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 1.91 W/kg
SAR(1 g) = 0.806 W/kg; SAR(10 g) = 0.380 W/kg
Maximum value of SAR (measured) = 1.48 W/kg



0 dB = 1.48 W/kg = 1.70 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.1 ℃
Ambient Temperature:	20.1 ℃
Test Date:	11/05/2019
Plot No.:	17

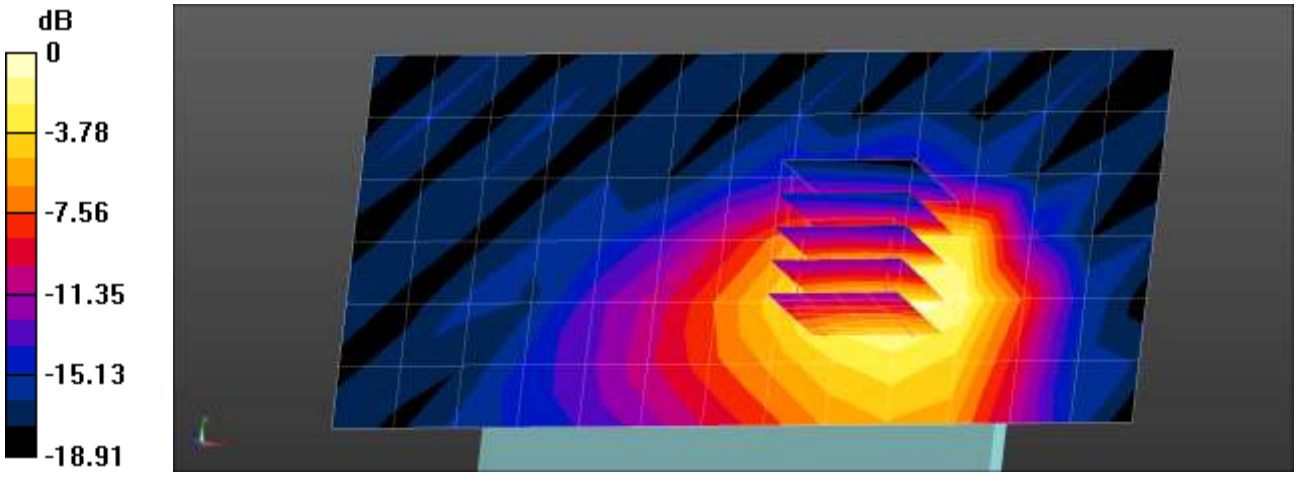
DUT: SM-T307U

Communication System: UID 0, LTE 71 (0); Frequency: 688 MHz;Duty Cycle: 1:1
Medium parameters used: f = 688 MHz; σ = 0.937 S/m; ε_r = 55.827; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(10.41, 10.41, 10.41); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: MFP_V5.1C_20171020
- Measurement SW: DASY52, Version 52.10 (2);

LTE 71 Body Rear QPSK 20MHz 50RB 0offset 133372ch Back-off 0mm/Area Scan (14x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.348 W/kg
LTE 71 Body Rear QPSK 20MHz 50RB 0offset 133372ch Back-off 0mm/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.715 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.839 W/kg
SAR(1 g) = 0.269 W/kg; SAR(10 g) = 0.152 W/kg
Maximum value of SAR (measured) = 0.566 W/kg



0 dB = 0.348 W/kg = −4.58 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.2 ℃
Ambient Temperature:	20.2 ℃
Test Date:	11/21/2019
Plot No.:	18

DUT: SM-T307U

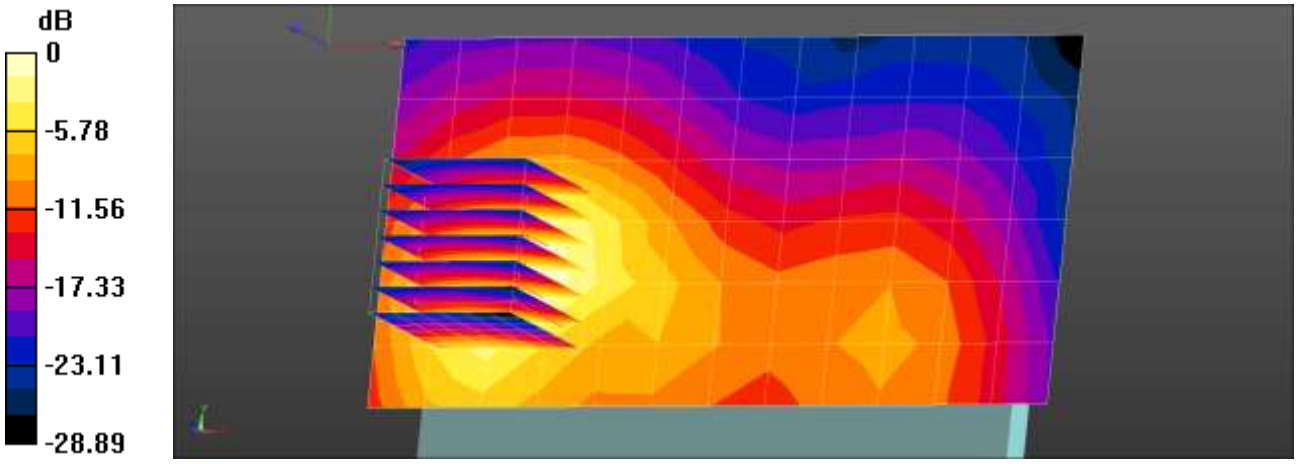
Communication System: UID 0, 2450MHz FCC (0); Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.931 S/m; ε_r = 53.702; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(7.68, 7.68, 7.68); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

802.11b Body Rear 1Mbps 6ch/Area Scan (13x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.07 W/kg

802.11b Body Rear 1Mbps 6ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.994 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.56 W/kg
SAR(1 g) = 0.734 W/kg; SAR(10 g) = 0.337 W/kg
Maximum value of SAR (measured) = 1.24 W/kg



0 dB = 1.07 W/kg = 0.30 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.2 ℃
Ambient Temperature:	20.3 ℃
Test Date:	11/25/2019
Plot No.:	19

DUT: SM-T307U

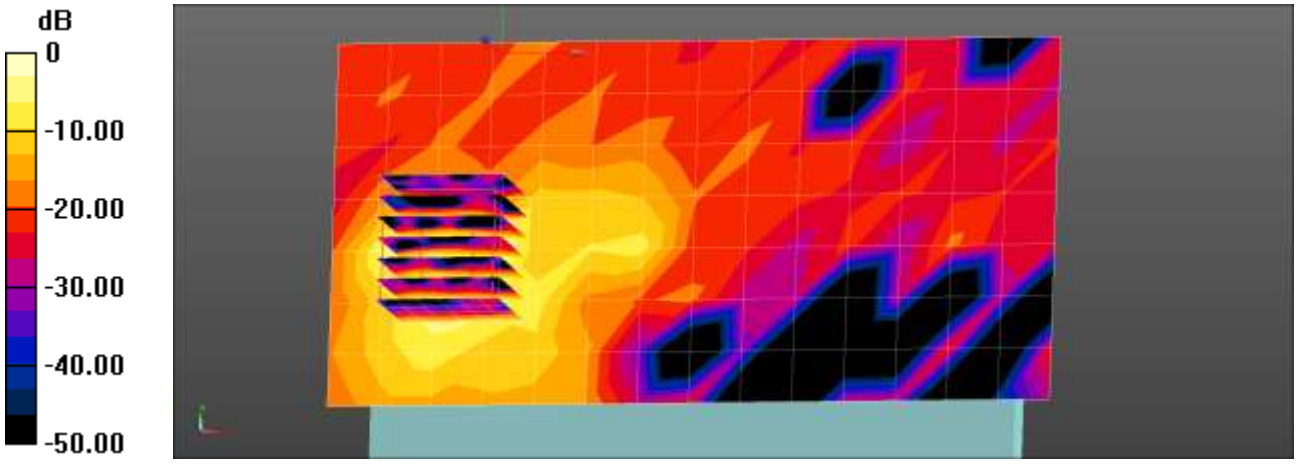
Communication System: UID 0, WIFI 5GHz (0); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.827 S/m; ε_r = 47.238; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(4.37, 4.37, 4.37); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.10 (2);

802.11a Body Rear 6Mbps 116ch/Area Scan (15x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.18 W/kg

802.11a Body Rear 6 ; Graded Ratio:1.4Mbps 116ch/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.180 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 2.78 W/kg
SAR(1 g) = 0.472 W/kg; SAR(10 g) = 0.120 W/kg
Maximum value of SAR (measured) = 1.31 W/kg



0 dB = 1.18 W/kg = 0.71 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.2 ℃
Ambient Temperature:	20.3 ℃
Test Date:	11/25/2019
Plot No.:	20

DUT: SM-T307U

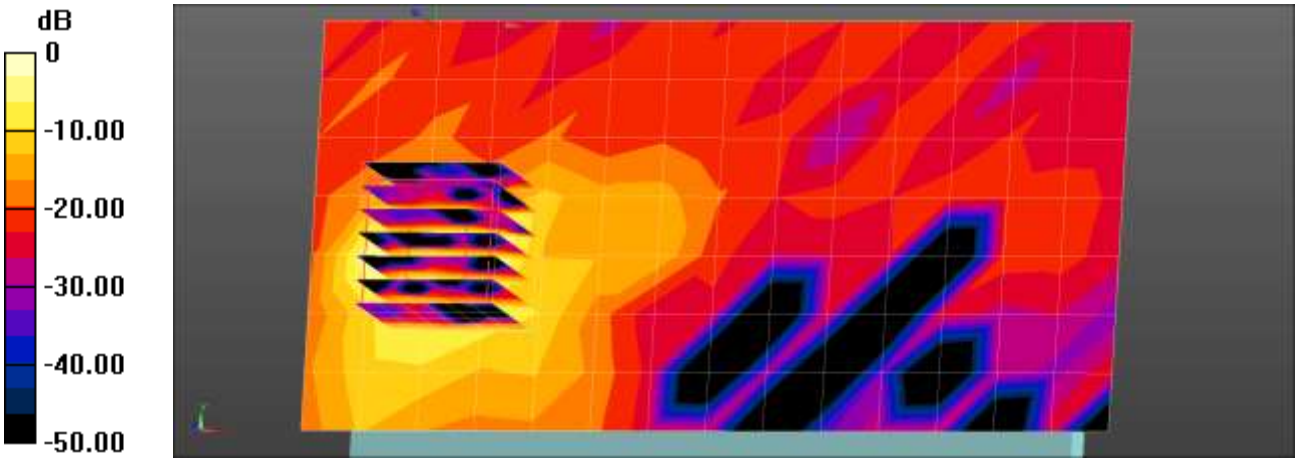
Communication System: UID 0, WIFI 5GHz (0); Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5745 MHz; σ = 6.05 S/m; ε_r = 46.728; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(4.52, 4.52, 4.52); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.10 (2);

802.11a Body Rear 6Mbps 149ch/Area Scan (15x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.26 W/kg

802.11a Body Rear 6Mbps 149ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm ; Graded Ratio:1.4
Reference Value = 1.558 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 3.18 W/kg
SAR(1 g) = 0.464 W/kg; SAR(10 g) = 0.114 W/kg
Maximum value of SAR (measured) = 1.28 W/kg



0 dB = 1.26 W/kg = 0.99 dBW/kg

Test Laboratory:	HCT CO., LTD
EUT Type:	Tablet
Liquid Temperature:	20.2 ℃
Ambient Temperature:	20.2 ℃
Test Date:	11/21/2019
Plot No.:	21

DUT: SM-T307U

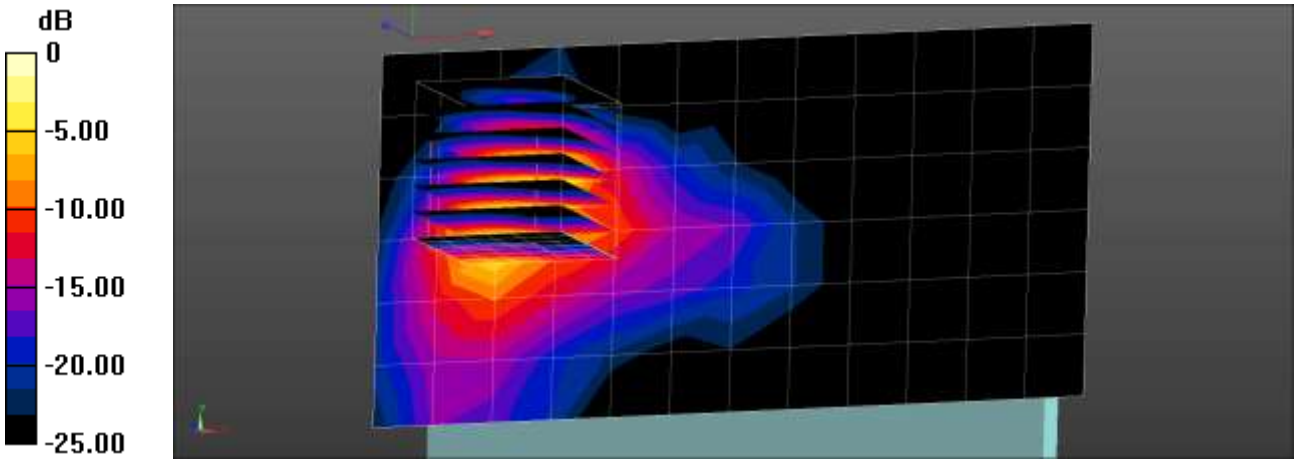
Communication System: UID 0, Bluetooth (0); Frequency: 2480 MHz;Duty Cycle: 1:1.302
Medium parameters used: f = 2480 MHz; σ = 1.985 S/m; ε_r = 53.559; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(7.68, 7.68, 7.68); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Bluetooth Body Rear DH5 78ch 0mm/Area Scan (13x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.547 W/kg

Bluetooth Body Rear DH5 78ch 0mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.440 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.368 W/kg; SAR(10 g) = 0.123 W/kg
Maximum value of SAR (measured) = 0.840 W/kg



0 dB = 0.840 W/kg = −0.76 dBW/kg

Attachment 2. – Dipole Verification Plots

■ **Verification Data (750 ㎒ Body)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	18.6 ℃
Test Date:	11/08/2019

DUT: Dipole 750 MHz D750V3; Type: D750V3

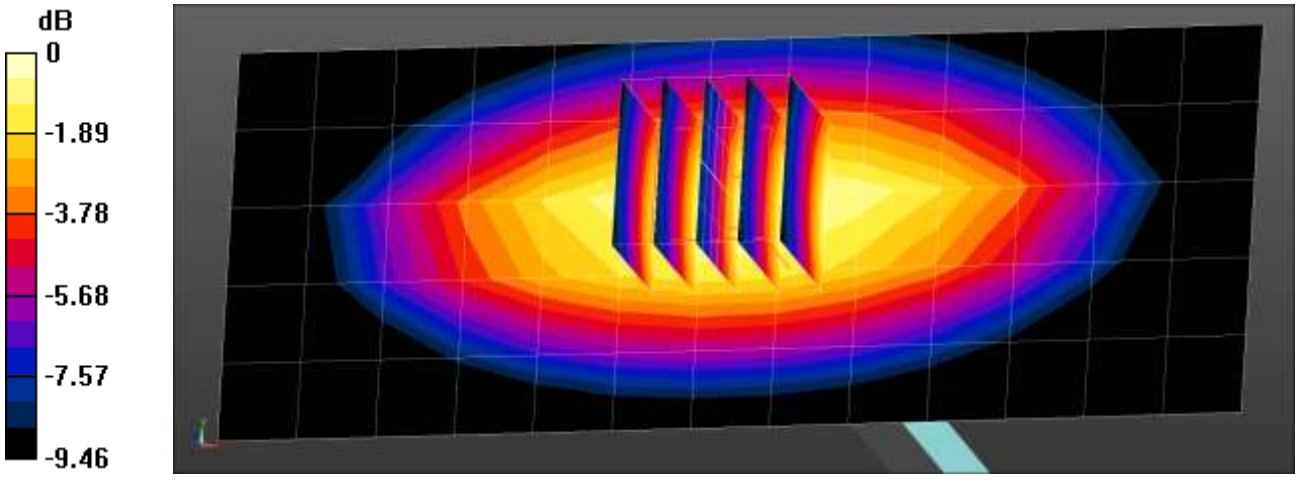
Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.972 S/m; ε_r = 55.246; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(6.12, 6.12, 6.12); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/750MHz Body Verification/Area Scan (6x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.484 W/kg

Dipole/750MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.72 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.644 W/kg
SAR(1 g) = 0.442 W/kg; SAR(10 g) = 0.297 W/kg
Maximum value of SAR (measured) = 0.513 W/kg



0 dB = 0.513 W/kg = −2.90 dBW/kg

■ **Verification Data (750 MHz Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 20.1℃
Test Date: 11/05/2019

DUT: Dipole 750 MHz D750V3; Type: D750V3

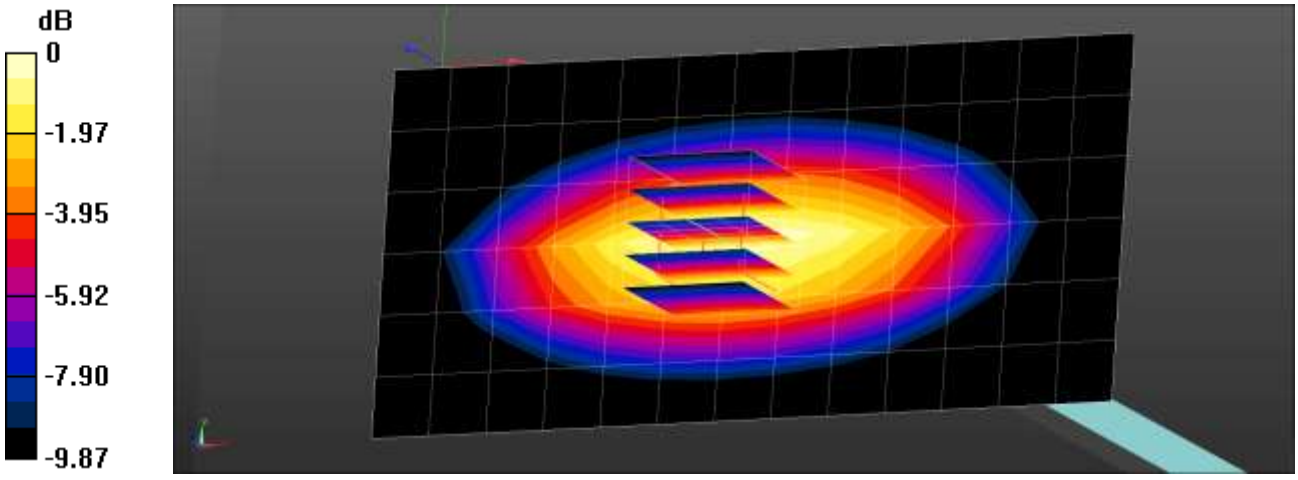
Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 1.002 S/m; ε_r = 55.255; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(10.41, 10.41, 10.41); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: MFP_V5.1C
- Measurement SW: DASY52, Version 52.10 (2);

Dipole/750MHz Body Verification/Area Scan (14x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.523 W/kg

Dipole/750MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.21 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.613 W/kg
SAR(1 g) = 0.405 W/kg; SAR(10 g) = 0.271 W/kg
Maximum value of SAR (measured) = 0.541 W/kg



0 dB = 0.541 W/kg = −2.67 dBW/kg

■ **Verification Data (835 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 20.6 ℃
Test Date: 10/24/2019

DUT: Dipole 835 MHz D835V2; Type: D835V2

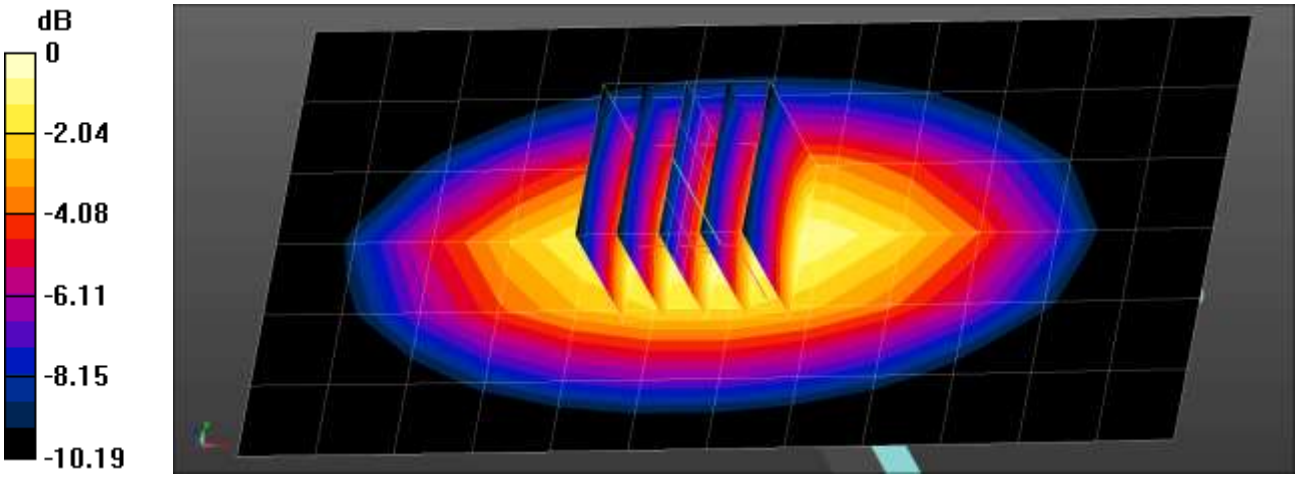
Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.962 S/m; ε_r = 56.332; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.97, 5.97, 5.97); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/835MHz Body Verification/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.563 W/kg

Dipole/835MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.03 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.726 W/kg
SAR(1 g) = 0.497 W/kg; SAR(10 g) = 0.329 W/kg
Maximum value of SAR (measured) = 0.579 W/kg



0 dB = 0.579 W/kg = −2.37 dBW/kg

■ **Verification Data (835 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 21.4 ℃
Test Date: 10/31/2019

DUT: Dipole 835 MHz D835V2; Type: D835V2

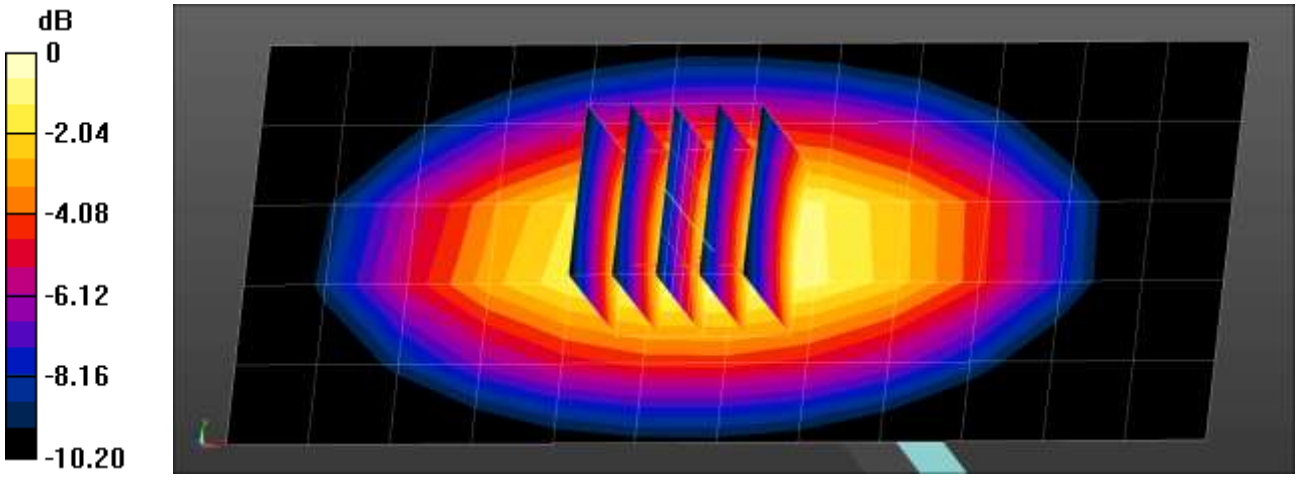
Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.962 S/m; ε_r = 56.306; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(5.97, 5.97, 5.97); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C
- Measurement SW: DASY52, Version 52.8 (8);

835MHz Body Verification/Area Scan (6x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.511 W/kg

835MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.19 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.732 W/kg
SAR(1 g) = 0.501 W/kg; SAR(10 g) = 0.331 W/kg
Maximum value of SAR (measured) = 0.583 W/kg



0 dB = 0.583 W/kg = −2.34 dBW/kg

■ **Verification Data (1 800 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 21.1 ℃
Test Date: 10/29/2019

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2

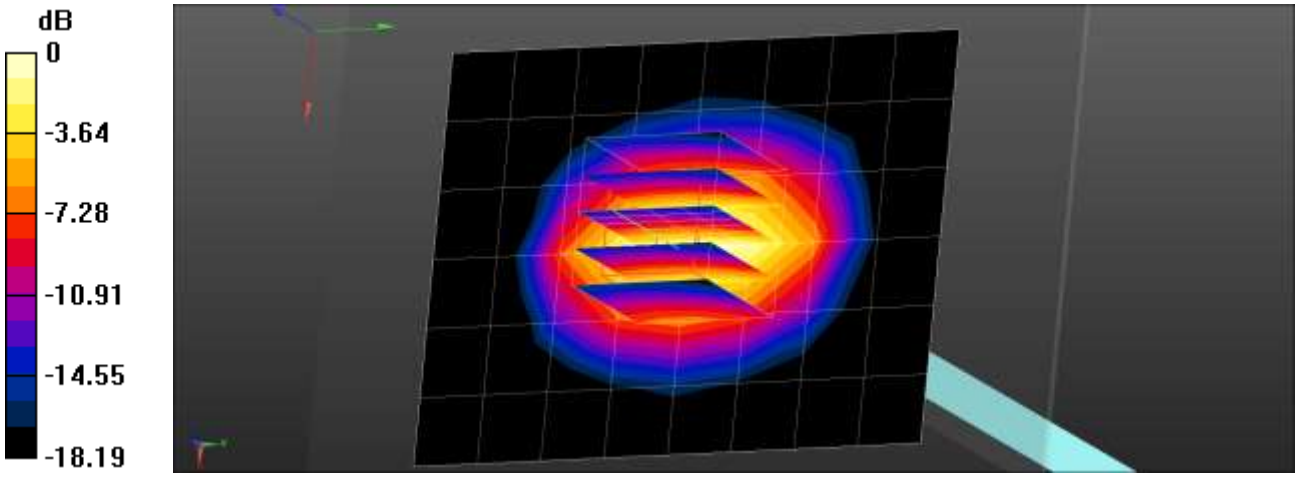
Communication System: UID 0, CW (0); Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.484 S/m; ε_r = 54.723; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.89, 4.89, 4.89); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/1800MHz Body Verification/Area Scan (9x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.45 W/kg

Dipole/1800MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 41.63 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.48 W/kg
SAR(1 g) = 1.92 W/kg; SAR(10 g) = 1 W/kg
Maximum value of SAR (measured) = 2.40 W/kg



0 dB = 2.40 W/kg = 3.80 dBW/kg

■ **Verification Data (1 800 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 21.1 ℃
Test Date: 10/29/2019

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2

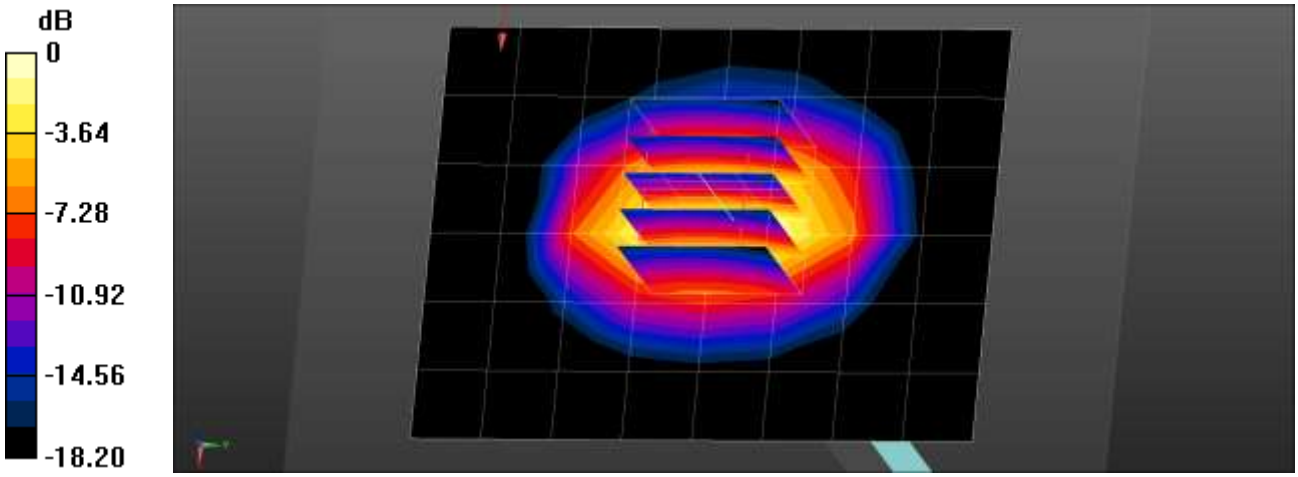
Communication System: UID 0, CW (0); Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.51 S/m; ε_r = 53.802; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.89, 4.89, 4.89); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/1800MHz Body Verification/Area Scan (9x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.42 W/kg

Dipole/1800MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 38.57 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 3.78 W/kg
SAR(1 g) = 2.05 W/kg; SAR(10 g) = 1.06 W/kg
Maximum value of SAR (measured) = 2.56 W/kg



0 dB = 2.56 W/kg = 4.08 dBW/kg

■ **Verification Data (1 900 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 20.0 ℃
Test Date: 10/28/2019

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

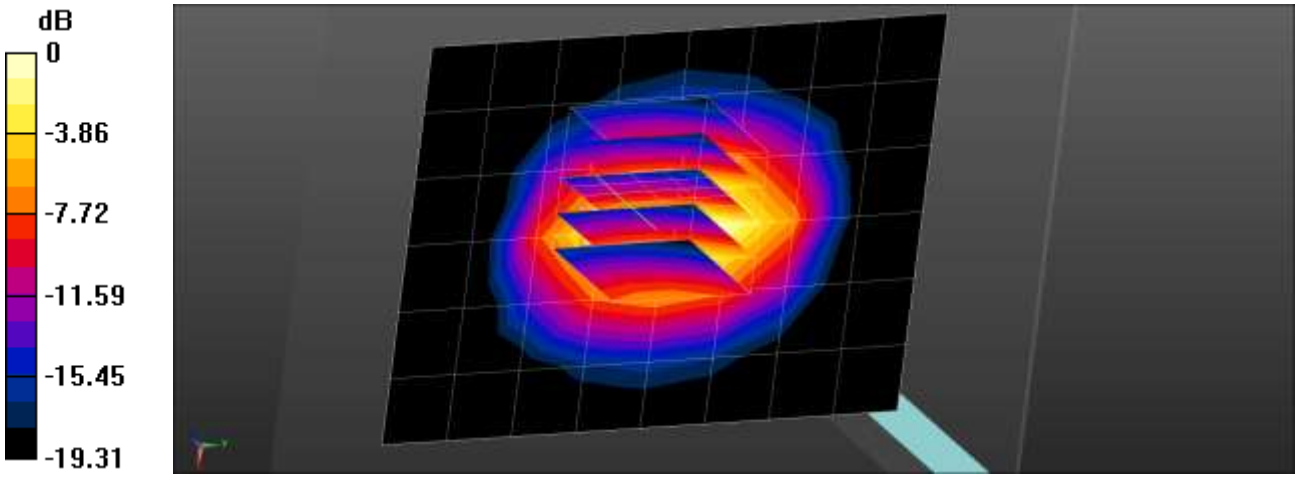
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.575 S/m; ε_r = 54.423; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.72, 4.72, 4.72); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/1900MHz Body Verification/Area Scan (9x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.47 W/kg

Dipole/1900MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 40.79 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.57 W/kg
SAR(1 g) = 1.92 W/kg; SAR(10 g) = 0.980 W/kg
Maximum value of SAR (measured) = 2.43 W/kg



0 dB = 2.43 W/kg = 3.86 dBW/kg

■ **Verification Data (1 900 ㎒ Body)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	20.0 ℃
Test Date:	10/28/2019

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

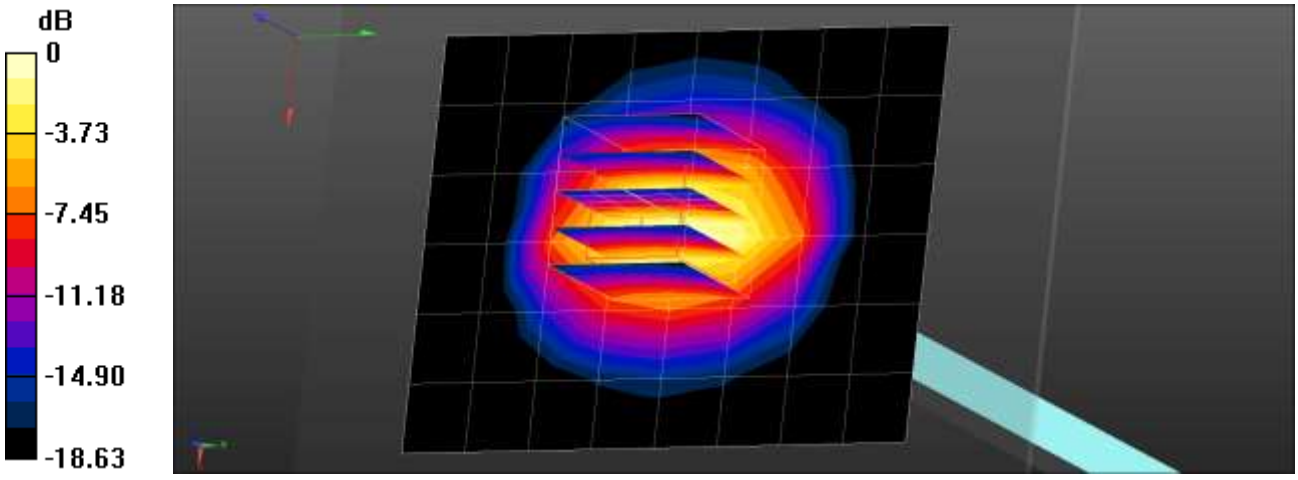
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.523 S/m; ε_r = 53.558; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3076; ConvF(4.72, 4.72, 4.72); Calibrated: 2019-07-23;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2019-09-04
- Phantom: MFP_V5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/1900MHz Body Verification/Area Scan (9x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.29 W/kg

Dipole/1900MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 38.24 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 3.43 W/kg
SAR(1 g) = 1.86 W/kg; SAR(10 g) = 0.947 W/kg
Maximum value of SAR (measured) = 2.34 W/kg



0 dB = 2.34 W/kg = 3.69 dBW/kg

■ **Verification Data (2 300 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 19.6 ℃
Test Date: 11/20/2019

DUT: Dipole 2300 MHz D2300V2; Type: D2300V3

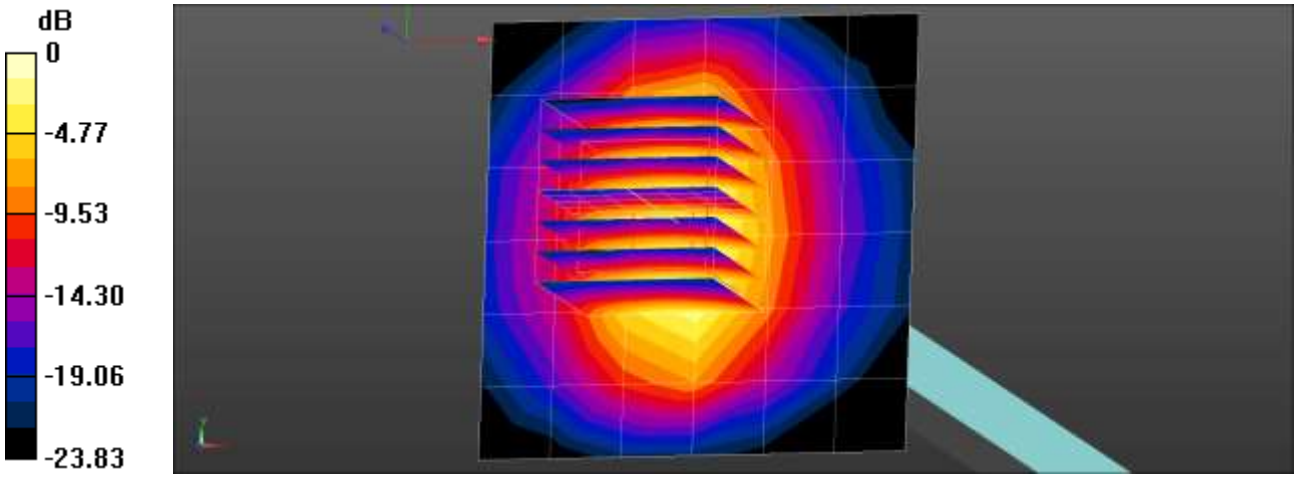
Communication System: UID 0, CW (0); Frequency: 2300 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2300 MHz; σ = 1.767 S/m; ε_r = 53.154; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3863; ConvF(7.87, 7.87, 7.87); Calibrated: 2019-05-15;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2019-01-25
- Phantom: MFP_V5.1C (20deg probe tilt)
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/2300MHz Body Verfication/Area Scan (7x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 3.64 W/kg

Dipole/2300MHz Body Verfication/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 47.65 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 5.09 W/kg
SAR(1 g) = 2.34 W/kg; SAR(10 g) = 1.08 W/kg
Maximum value of SAR (measured) = 4.04 W/kg



0 dB = 4.04 W/kg = 6.06 dBW/kg

■ **Verification Data (2 450 MHz Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 20.2 ℃
Test Date: 11/21/2019

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2

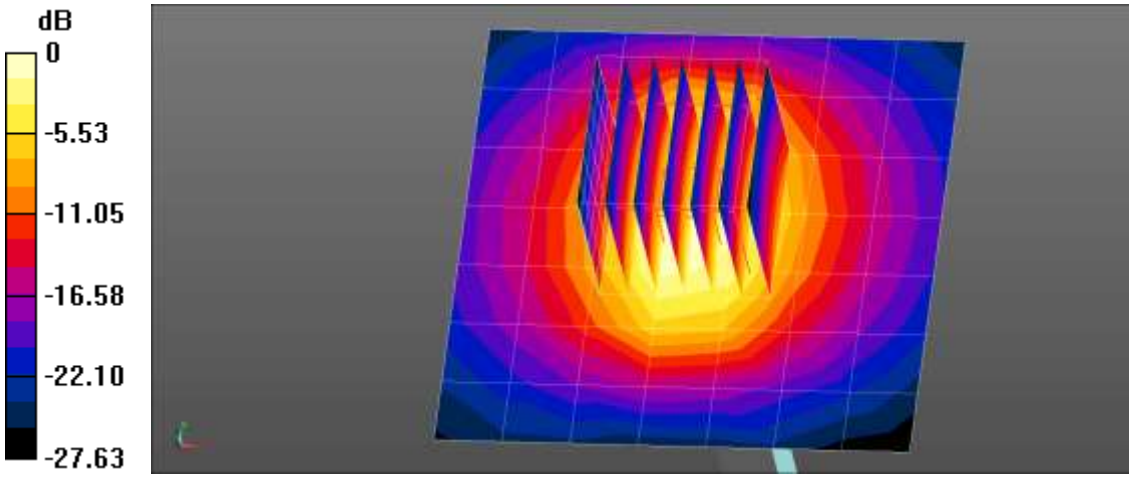
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.946 S/m; ε_r = 53.728; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(7.68, 7.68, 7.68); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/2450MHz Body Verification/Area Scan (8x8x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 3.38 W/kg

Dipole/2450MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 48.21 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 5.15 W/kg
SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.09 W/kg
Maximum value of SAR (measured) = 4.00 W/kg



0 dB = 3.38 W/kg = 5.29 dBW/kg

■ **Verification Data (2 600 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 20.1 ℃
Test Date: 11/01/2019

DUT: Dipole 2600 MHz D2600V2; Type: D2600V2

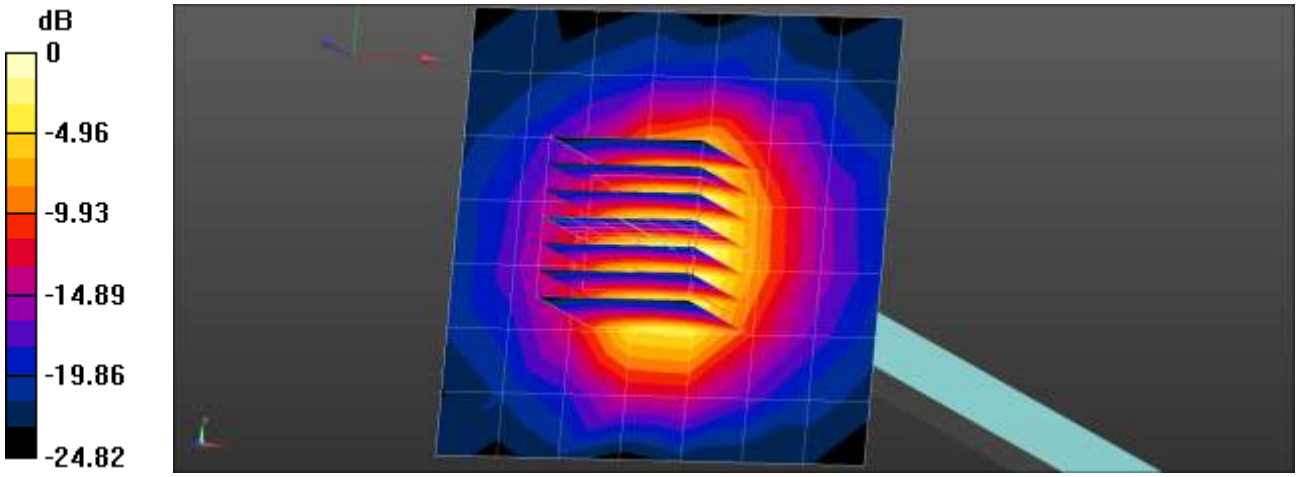
Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.122 S/m; ε_r = 53.236; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: MFP_V5.1C
- Measurement SW: DASY52, Version 52.10 (2);

2600MHz Body Verification (LTE7)/Area Scan (8x8x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 3.74 W/kg

2600MHz Body Verification (LTE7)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 48.15 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 6.20 W/kg
SAR(1 g) = 2.65 W/kg; SAR(10 g) = 1.13 W/kg
Maximum value of SAR (measured) = 4.77 W/kg



0 dB = 4.77 W/kg = 6.79 dBW/kg

■ **Verification Data (2 600 MHz Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 19.9 ℃
Test Date: 11/15/2019

DUT: Dipole 2600 MHz D2600V2; Type: D2600V2

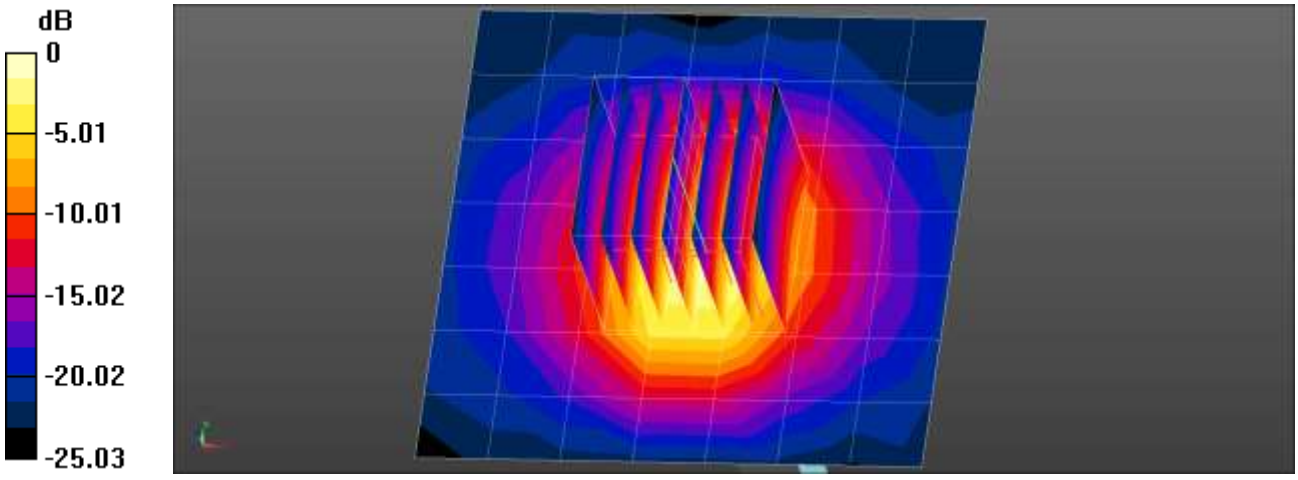
Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.123 S/m; ε_r = 53.16; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: MFP_V5.1C
- Measurement SW: DASY52, Version 52.10 (2);

Dipole/2600MHz Body Verification (LTE 41)/Area Scan (8x8x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 3.51 W/kg

Dipole/2600MHz Body Verification (LTE 41)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 48.14 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 6.10 W/kg
SAR(1 g) = 2.62 W/kg; SAR(10 g) = 1.13 W/kg
Maximum value of SAR (measured) = 4.72 W/kg



0 dB = 4.72 W/kg = 6.74 dBW/kg

■ **Verification Data (2 600 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 19.7 ℃
Test Date: 12/04/2019

DUT: Dipole 2600 MHz D2600V2; Type: D2600V2

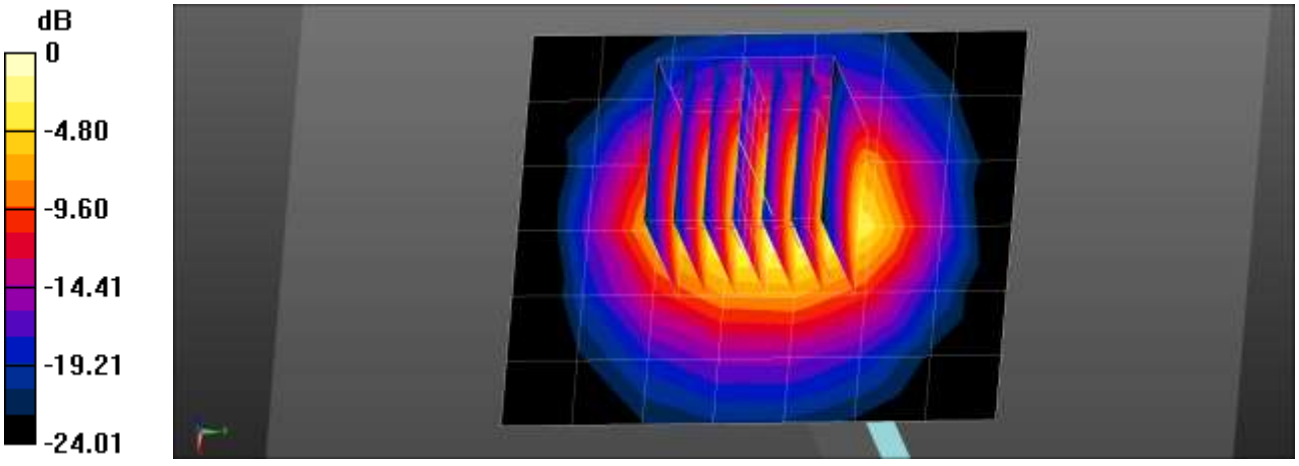
Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.117 S/m; ε_r = 53.165; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.49, 7.49, 7.49); Calibrated: 2019-08-29;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2019-07-18
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

2600MHz Body Verification/Area Scan (7x8x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 4.28 W/kg

2600MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 48.41 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 6.02 W/kg
SAR(1 g) = 2.68 W/kg; SAR(10 g) = 1.17 W/kg
Maximum value of SAR (measured) = 4.72 W/kg



0 dB = 4.72 W/kg = 6.74 dBW/kg

■ **Verification Data (5 250 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 20.2 ℃
Test Date: 11/25/2019

DUT: Dipole D5GHzV2; Type: D5GHzV2

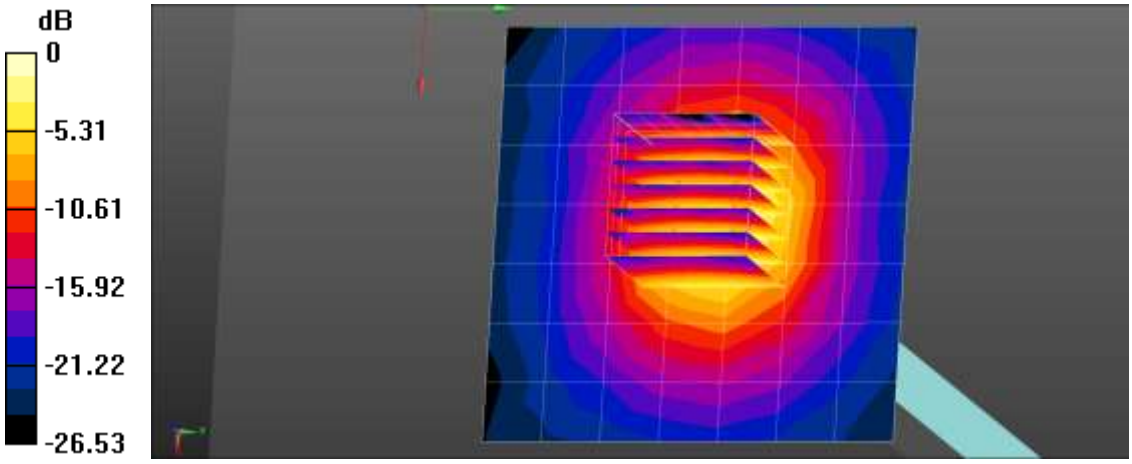
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 5.493 S/m; ε_r = 47.8; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(5.04, 5.04, 5.04); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/5250MHz Body Verification/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 7.41 W/kg

Dipole/5250MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 38.25 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 14.4 W/kg
SAR(1 g) = 3.68 W/kg; SAR(10 g) = 1.08 W/kg
Maximum value of SAR (measured) = 8.60 W/kg



0 dB = 7.41 W/kg = 8.70 dBW/kg

■ **Verification Data (5 600 MHz Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 20.2 ℃
Test Date: 11/25/2019

DUT: Dipole D5GHzV2; Type: D5GHzV2

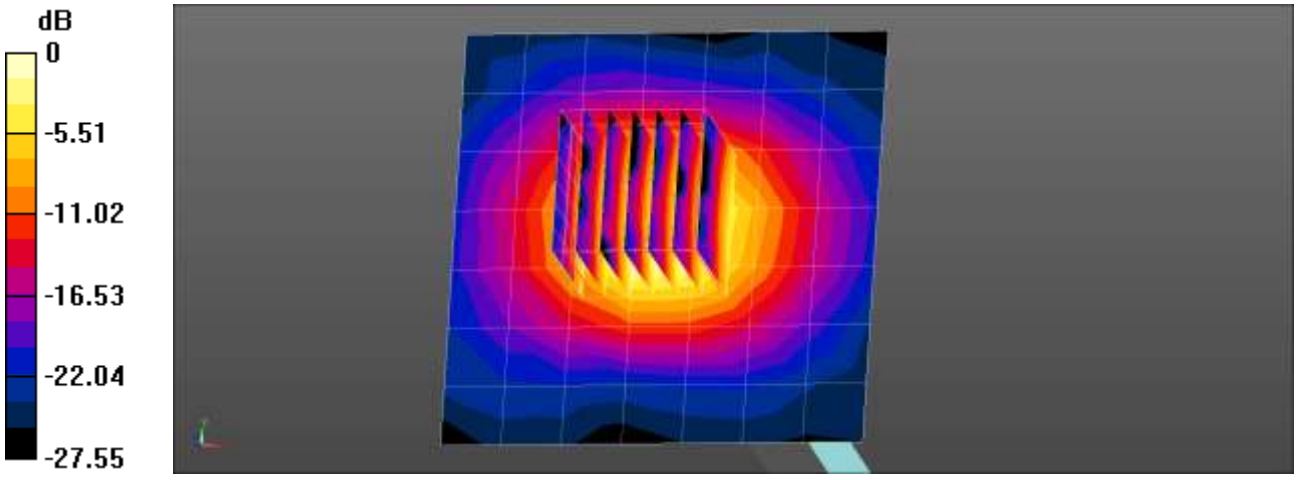
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.841 S/m; ε_r = 46.994; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(4.37, 4.37, 4.37); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/5600MHz Body Verification/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 7.13 W/kg

Dipole/5600MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 44.57 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 17.9 W/kg
SAR(1 g) = 4.09 W/kg; SAR(10 g) = 1.19 W/kg
Maximum value of SAR (measured) = 10.1 W/kg



0 dB = 7.13 W/kg = 8.53 dBW/kg

■ **Verification Data (5 750 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 20.2 ℃
Test Date: 11/25/2019

DUT: Dipole D5GHzV2; Type: D5GHzV2

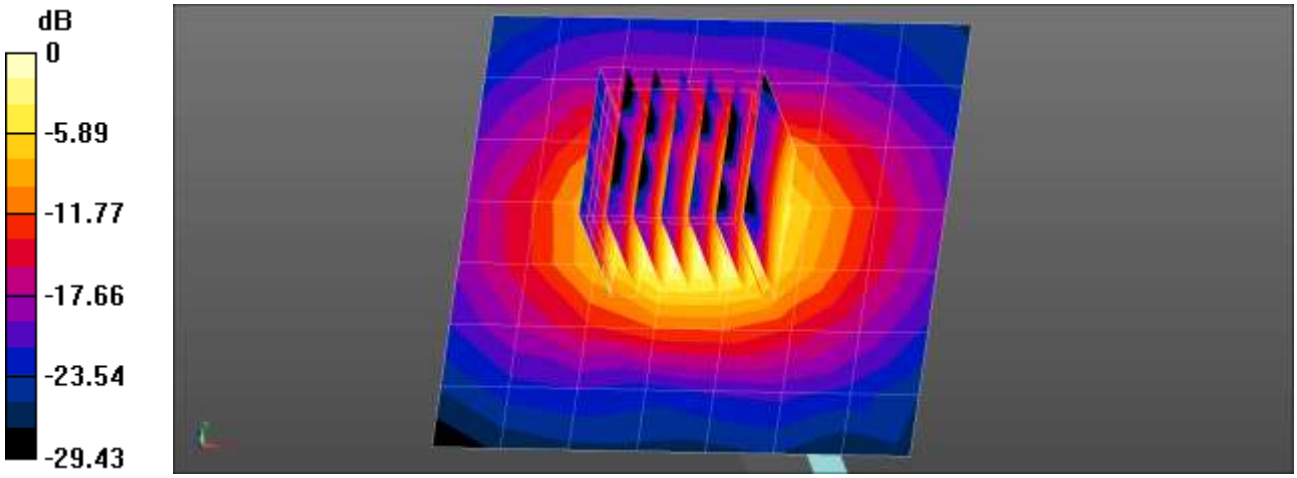
Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 6.064 S/m; ε_r = 46.56; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3968; ConvF(4.52, 4.52, 4.52); Calibrated: 2019-09-27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn869; Calibrated: 2019-09-19
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/5750MHz Body Verification/Area Scan (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 6.83 W/kg

Dipole/5750MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio:1.4
Reference Value = 43.61 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 3.97 W/kg; SAR(10 g) = 1.14 W/kg
Maximum value of SAR (measured) = 9.96 W/kg



0 dB = 6.83 W/kg = 8.34 dBW/kg

■ **Verification Data (1 800 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 22.7 ℃
Test Date: 12/18/2019

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2

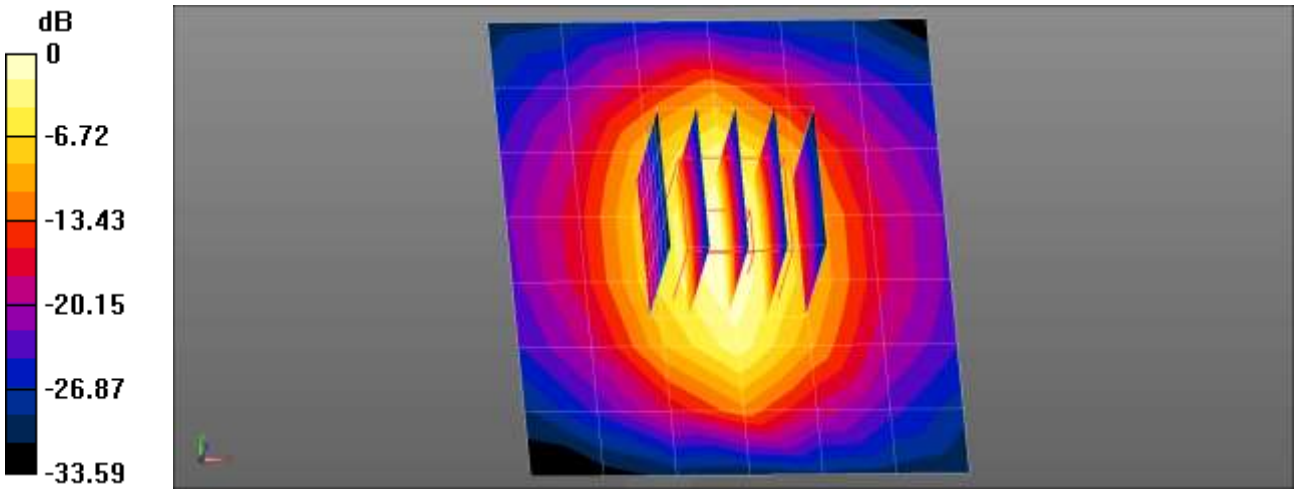
Communication System: UID 0, CW (0); Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.486 S/m; ε_r = 54.688; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(8.37, 8.37, 8.37) Calibrated: 2019-08-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2019-01-25
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/1800MHz Body Verification/Area Scan (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.53 W/kg

Dipole/1800MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 45.81 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.20 W/kg
SAR(1 g) = 1.78 W/kg; SAR(10 g) = 0.930 W/kg
Maximum value of SAR (measured) = 2.74 W/kg



0 dB = 2.53 W/kg = 4.03 dBW/kg

■ **Verification Data (1 800 ㎒ Body)**

Test Laboratory:	HCT CO., LTD
Input Power	0.05 W
Liquid Temp:	22.7 ℃
Test Date:	12/18/2019

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2

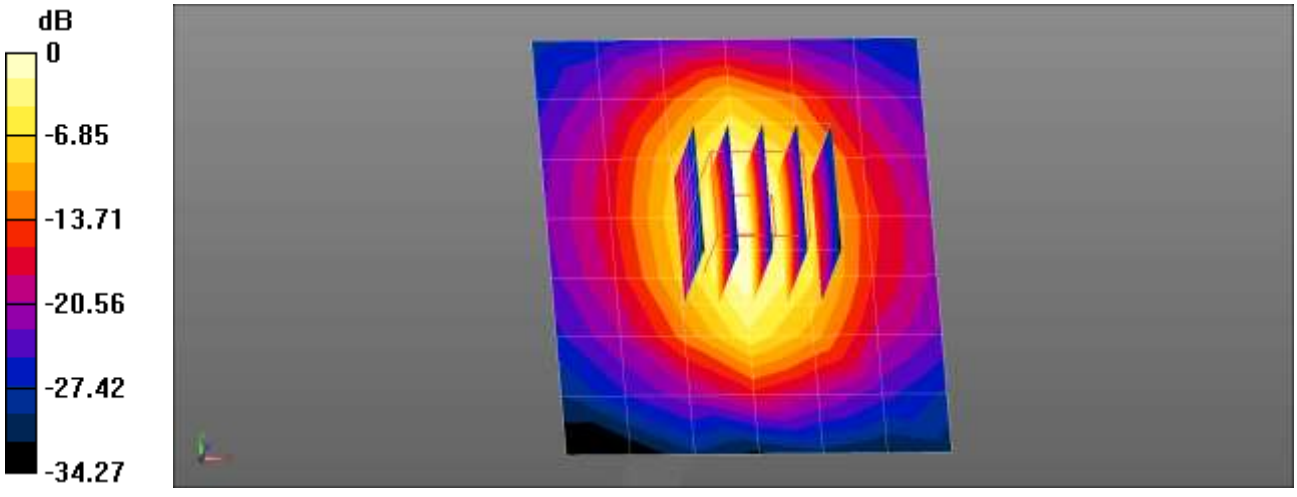
Communication System: UID 0, CW (0); Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.483 S/m; ε_r = 54.736; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3967; ConvF(7.91, 7.91, 7.91) Calibrated: 2019-02-01
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2019-01-25
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/1800MHz Body Verification/Area Scan (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.64 W/kg

Dipole/1800MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 43.61 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 3.22 W/kg
SAR(1 g) = 1.81 W/kg; SAR(10 g) = 0.962 W/kg
Maximum value of SAR (measured) = 2.73 W/kg



0 dB = 2.64 W/kg = 4.22 dBW/kg

■ **Verification Data (1 900 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 22.6 ℃
Test Date: 12/17/2019

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

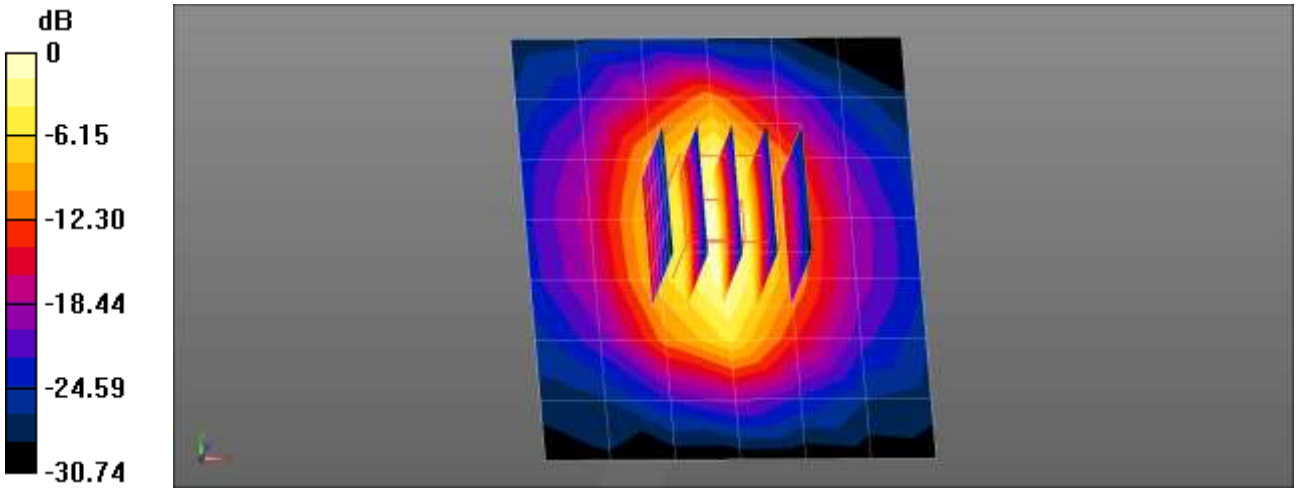
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.527 S/m; ε_r = 53.493; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3967; ConvF(7.64, 7.64, 7.64) Calibrated: 2019-02-01
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2019-01-25
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

Dipole/1900MHz Body Verification/Area Scan (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.09 W/kg

Dipole/1900MHz Body Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 46.78 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 3.87 W/kg
SAR(1 g) = 2.03 W/kg; SAR(10 g) = 1.02 W/kg
Maximum value of SAR (measured) = 3.22 W/kg



0 dB = 3.09 W/kg = 4.91 dBW/kg

■ **Verification Data (2 450 ㎒ Body)**

Test Laboratory: HCT CO., LTD
Input Power 0.05 W
Liquid Temp: 22.7 ℃
Test Date: 12/19/2019

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2

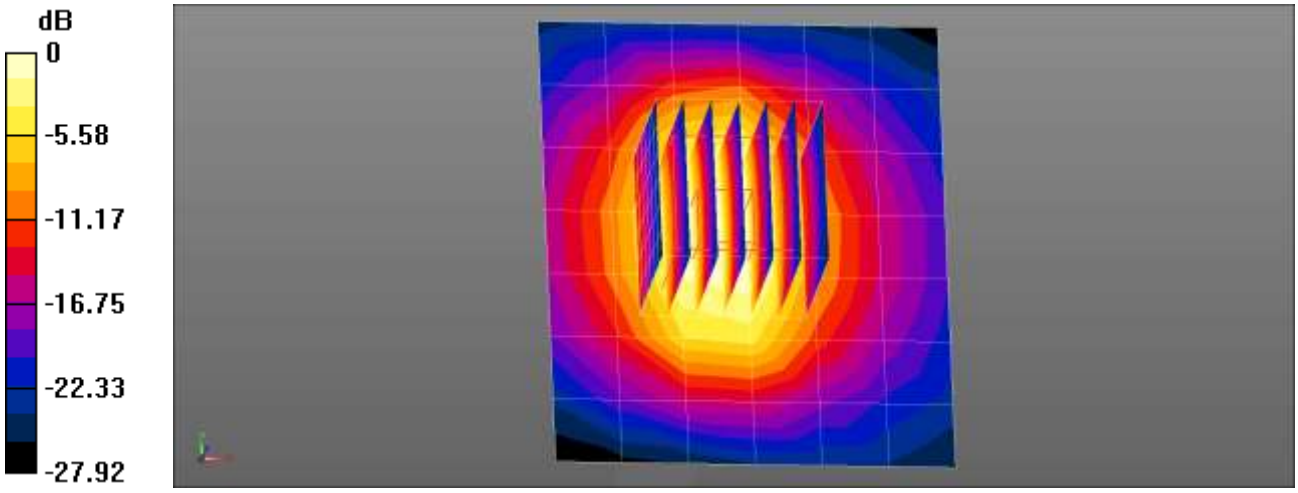
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.941 S/m; ε_r = 53.658; ρ = 1000 kg/m^3
Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3903; ConvF(7.6, 7.6, 7.6) Calibrated: 2019-08-29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1417; Calibrated: 2019-01-25
- Phantom: Triple Flat Phantom 5.1C
- Measurement SW: DASY52, Version 52.8 (8);

2450MHz Body Verification/Area Scan (8x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 3.03 W/kg

2450MHz Body Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 41.40 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 4.94 W/kg
SAR(1 g) = 2.36 W/kg; SAR(10 g) = 1.08 W/kg
Maximum value of SAR (measured) = 3.97 W/kg



0 dB = 3.03 W/kg = 4.81 dBW/kg

Attachment 3. – SAR Tissue Characterization

The brain and muscle mixtures consist of a viscous gel using hydrox-ethyl cellulose (HEC) gelling agent and
saline solution (see Table 3.1). Preservation with a bacteriacide is added and visual inspection is made to make sure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the desired tissue. The mixture characterizations used for
the brain and muscle tissue simulating liquids are according to the data by C. Gabriel and G. Harts grove.

Ingredients (% by weight)	Frequency (MHz)											
	750		835		1 750		1 900		2 450 – 2 700		5 200 - 5 800	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	41.1	51.7	40.45	53.06	52.6	68.8	54.9	70.17	71.88	73.2	65.52	78.66
Salt (NaCl)	1.4	0.9	1.45	0.94	0.4	0.2	0.18	0.39	0.16	0.1	0.0	0.0
Sugar	57.0	47.2	57.0	44.9	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
HEC	0.2	0	1.0	1.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
Bactericide	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.97	0.0	17.24	10.67
DGBE	0.0	0.0	0.0	0.0	47	31	44.92	29.44	7.99	26.7	0.0	0.0
Diethylene glycol hexyl ether	-	-	-	-	-	-	-	-	-	-	-	-

Salt:	99 % Pure Sodium Chloride	Sugar:	98 % Pure Sucrose
Water:	De-ionized, 16M resistivity	HEC:	Hydroxyethyl Cellulose
DGBE:	99 % Di(ethylene glycol) butyl ether,[2-(2-butoxyethoxy) ethanol]		
Triton X-100(ultra-pure):	Polyethylene glycol mono[4-(1,1,3,3-tetramethylbutyl)phenyl] ether		

Composition of the Tissue Equivalent Matter

Attachment 4. – SAR System Validation

Per FCC KCB 865664 D02v01r02, SAR system validation status should be document to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in IEEE 1528-2013 and FCC KDB 865664 D01v01r04. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.
A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

SAR System No.	Probe	Probe Type	Probe Calibration Point		Dipole	Date	Dielectric Parameters		CW Validation			Modulation Validation		
							Measured Permittivity	Measured Conductivity	Sensitivity	Probe Linearity	Probe Isotropy	MOD. Type	Duty Factor	PAR
11	3076	ES3DV3	Body	750	1014	2019-08-05	55.6	0.98	PASS	PASS	PASS	N/A	N/A	N/A
5	3903	EX3DV4	Body	750	1014	2019-08-05	55.6	0.98	PASS	PASS	PASS	N/A	N/A	N/A
11	3076	ES3DV3	Body	835	441	2019-09-10	55.5	0.97	PASS	PASS	PASS	N/A	N/A	N/A
11	3076	ES3DV3	Body	835	441	2019-09-10	55.5	0.97	PASS	PASS	PASS	GMSK	PASS	N/A
11	3076	ES3DV3	Body	1750	2d015	2019-09-30	53.5	1.52	PASS	PASS	PASS	N/A	N/A	N/A
11	3076	ES3DV3	Body	1750	2d015	2019-09-30	53.5	1.52	PASS	PASS	PASS	GMSK	PASS	N/A
5	3903	EX3DV4	Body	1750	2d015	2019-09-30	53.5	1.52	PASS	PASS	PASS	N/A	N/A	N/A
8	3967	EX3DV4	Body	1750	2d015	2019-09-30	53.5	1.52	PASS	PASS	PASS	GMSK	PASS	N/A
11	3076	ES3DV3	Body	1900	5d032	2019-08-05	53.3	1.53	PASS	PASS	PASS	N/A	N/A	N/A
11	3076	ES3DV3	Body	1900	5d032	2019-08-05	53.3	1.53	PASS	PASS	PASS	GMSK	PASS	N/A
8	3967	EX3DV4	Body	1900	5d032	2019-03-04	53.3	1.53	PASS	PASS	PASS	N/A	N/A	N/A
8	3967	EX3DV4	Body	1900	5d032	2019-03-04	53.3	1.53	PASS	PASS	PASS	GMSK	PASS	N/A
1	3863	EX3DV4	Body	2300	1010	2019-09-09	53.1	1.81	PASS	PASS	PASS	N/A	N/A	N/A
9	3968	EX3DV4	Body	2450	743	2019-10-11	52.8	1.94	PASS	PASS	PASS	OFDM	N/A	PASS
5	3903	EX3DV4	Body	2450	743	2019-09-11	52.8	1.94	PASS	PASS	PASS	OFDM	N/A	PASS
5	3903	EX3DV4	Body	2600	1106	2019-09-30	52.4	2.16	PASS	PASS	PASS	N/A	N/A	N/A
5	3903	EX3DV4	Body	2600	1106	2019-09-30	52.4	2.16	PASS	PASS	PASS	TDD	PASS	NA
9	3968	EX3DV4	Body	5250	1107	2019-10-14	48.8	5.36	PASS	PASS	PASS	OFDM	N/A	PASS
9	3968	EX3DV4	Body	5600	1107	2019-10-14	48.3	5.78	PASS	PASS	PASS	OFDM	N/A	PASS
9	3968	EX3DV4	Body	5750	1107	2019-10-14	48.4	5.95	PASS	PASS	PASS	OFDM	N/A	PASS

SAR System Validation Summary 1g

Note;
All measurement were performed using probes calibrated for CW signal only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04. SAR system were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to KDB 865664 D01v01r04.