

FCC SAR Test Report

APPLICANT : LC Future Center
EQUIPMENT : Tablet PC
BRAND NAME : Lenovo
MODEL NAME : TP00089A
FCC ID : 2AJN7-TP00089ASI
STANDARD : FCC 47 CFR Part 2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2013

The product were integrated the WWAN module (Model Name: EM7455, FCC ID: N7NEM7455) and the BT/WLAN module: 2x2 PCIe M.2 1216 SD adapter card (Brand Name: Intel, Model Name: 8265D2W, FCC ID: PD98265D2) during the test.

We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.



Approved by: Mark Qu / Manager



Sporton International (Kunshan) Inc.

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA790812	Rev. 01	Initial issue of report	Nov. 29, 2017

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for LC Future Center, Tablet PC, TP00089A are as follows.

Highest Standalone 1g SAR Summary				
Equipment Class	Frequency Band		Body	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)	
Licensed	WCDMA	Band V	1.10	1.59
		Band IV	1.29	
		Band II	1.39	
	LTE	Band 12	1.14	
		Band 13	1.23	
		Band 26/Band 5	1.03	
		Band 4	1.09	
		Band 25/Band 2	1.30	
		Band 7	1.35	
		Band 41	1.44	
DTS	WLAN	2.4GHz WLAN	0.94	1.59
NII		5GHz WLAN	1.13	1.59
DSS	Bluetooth	Bluetooth	0.29	1.56
Date of Testing:		2017/10/25 ~ 2017/11/2		
Remark: This device supports both LTE B26/5 and B25/2. Since the supported frequency span for LTE B5/2 falls completely within the supports frequency span for LTE B26/25, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B26/25.				

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

2. Administration Data

Testing Laboratory

Test Site	Sporton International (Kunshan) Inc.
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958

Applicant

Company Name	LC Future Center
Address	7F., No.780, Beian Rd., Zhongshan Dist., Taipei, Taiwan

Manufacturer

Company Name	Lenovo PC HK Limited
Address	23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, HongKong

3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Tablet PC
Brand Name	Lenovo
Model Name	TP00089A
FCC ID	2AJN7-TP00089ASI
IMEI Code	014583000473123
Wireless Technology and Frequency Range	WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2472 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink is not supported) LTE: QPSK, 16QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth v3.0+EDR, Bluetooth v4.0 LE, Bluetooth v4.1 LE
HW Version	1.0
SW Version	Win 10 Pro 10.0.15063
EUT Stage	Identical Prototype

Remark:

1. This device has no voice function.
2. This device implanted proximity sensor function at bottom face and edge 1, power reduction will be implemented immediately at all WWAN bands.
3. There are two batteries of EUT, due the similarity between two types of battery, we chose battery #1 to evaluate SAR for full test, and battery #2 only verified the worst cases of battery #1.
4. There are two samples of EUT, the only difference between two samples are just for the WWAN antenna and WLAN/BT antenna with different suppliers, they are equivalent-type antennas, antenna type and gain are all the same between sample 1 and sample 2. According to the difference, we evaluate sample 1 for full test, sample 2 only verified the worst cases of sample 1.

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																							
FCC ID	2AJN7-TP00089ASI																																						
Equipment Name	Tablet PC																																						
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz																																						
Channel Bandwidth	LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 25: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz																																						
Uplink modulations used	QPSK, and 16QAM																																						
LTE Voice / Data requirements	Data only																																						
LTE Release	R11, Cat9																																						
CA Support	Downlink Only																																						
LTE MPR permanently built-in by design	<table border="1"> <caption>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3</caption> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th> <th rowspan="2">MPR (dB)</th> </tr> <tr> <th>1.4 MHz</th> <th>3.0 MHz</th> <th>5 MHz</th> <th>10 MHz</th> <th>15 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <tr> <td>QPSK</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 2</td> </tr> </tbody> </table>	Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)																																
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																						
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																						
Power reduction applied to satisfy SAR compliance	1. Yes, Proximity Sensor. 2. Power reduction will be active at all WWAN bands.																																						

Transmission (H, M, L) channel numbers and frequencies in each LTE band																
LTE Band 2																
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860				
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880				
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900				
LTE Band 4																
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720				
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5				
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745				
LTE Band 5																
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844				
LTE Band 7																
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560				
LTE Band 12																
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711				
LTE Band 13																
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz				Bandwidth 20 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23230		782		23230		782	
M	23230		782		23230		782		23230		782		23230		782	
H	23255		784.5		23230		782		23230		782		23230		782	
LTE Band 25																
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860				
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880				
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905				



LTE Band 26										
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5

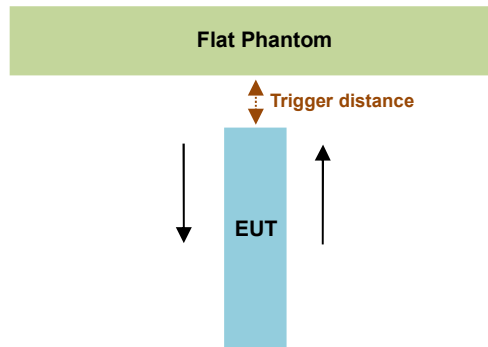
LTE Band 41								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680

5. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance (KDB 616217 D04 section 6.2)>:

Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed. The details are illustrated in the exhibit "P-Sensor operational description", and the shortest triggering distances were reported and used for SAR assessment.

In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance, and the tissue-equivalent medium was used for formal proximity sensor triggering testing.



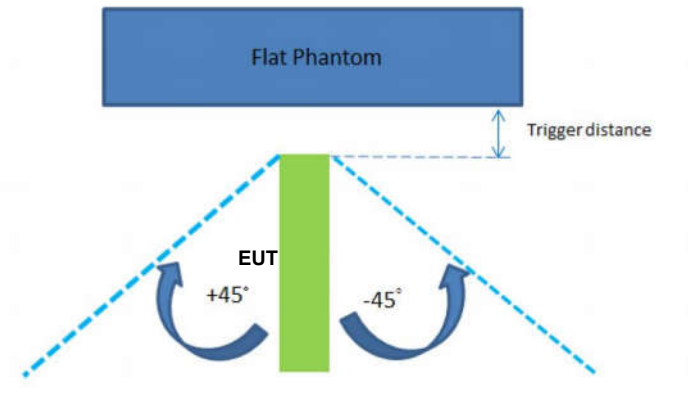
Proximity Sensor Trigger Distance (mm)		
Position	Bottom Face	Edge 1
Minimum	19	22

<Proximity Sensor Triggering Coverage (KDB 616217 D04 section 6.3)>:

If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and "along the direction of maximum antenna and sensor offset". Illustrated in the internal photo exhibit, although the sensor is spatially offset, there is no trigger condition where the antenna is next to the user but the sensor is laterally further away, therefore proximity sensor coverage testing is not required. This procedure is not required because antenna and sensor are collocated and the peak SAR location is overlapping with the sensor.

<Tablet Tilt angle influences to proximity sensor triggering (KDB 616217 D04 section 6.4)>:

The influence of table tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom, at 22 mm separation. Rotating the tablet around the edge next to the phantom in $\leq 10^\circ$ increments until the tablet is $\pm 45^\circ$ from the vertical position at 0° , and the maximum output power remains in the reduced mode.



Proximity Sensor Trigger Distance (mm)	
Position	Edge 1
Minimum	22

Proximity sensor power reduction

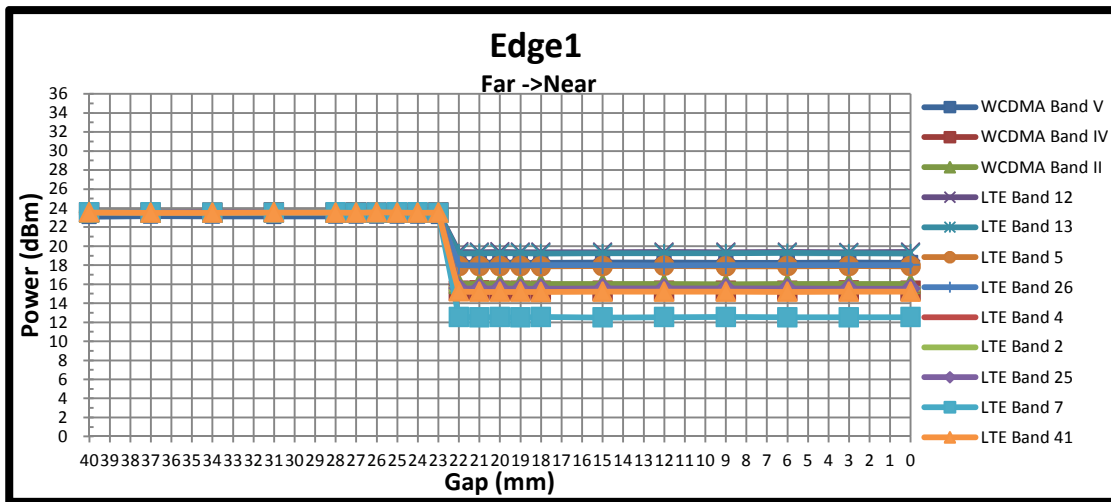
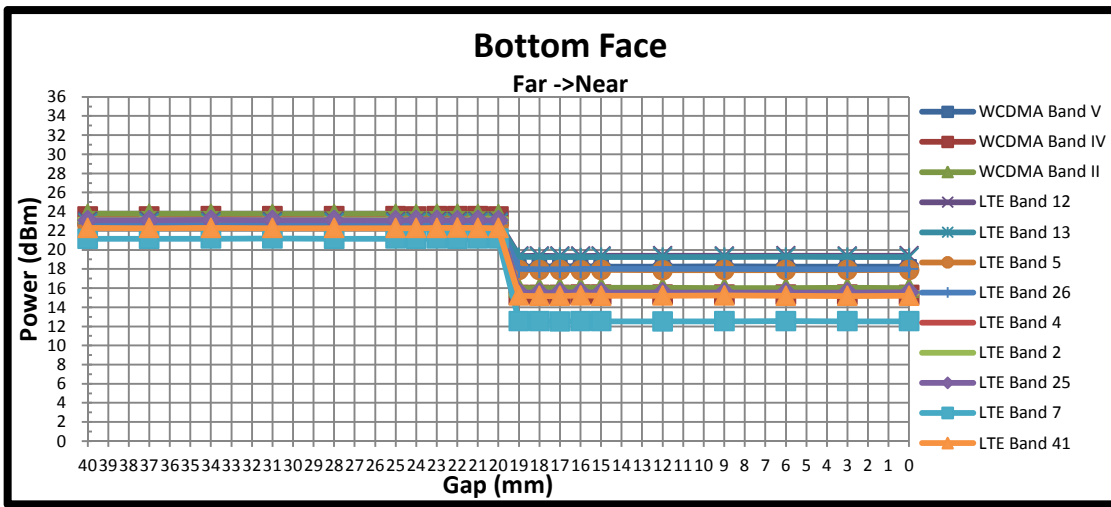
Exposure Position / wireless mode	Bottom Face ⁽¹⁾	Edge 1 ⁽¹⁾	Edge 2	Edge 3	Edge 4
WCDMA Band V	4.5 dB	4.5 dB	0 dB	0 dB	0 dB
WCDMA Band IV	8.0 dB	8.0 dB	0 dB	0 dB	0 dB
WCDMA Band II	7.5 dB	7.5 dB	0 dB	0 dB	0 dB
Band 2	7.5 dB	7.5 dB	0 dB	0 dB	0 dB
Band 4	7.5 dB	7.5 dB	0 dB	0 dB	0 dB
Band 5	4.5 dB	4.5 dB	0 dB	0 dB	0 dB
Band 7	8.5 dB	8.5 dB	0 dB	0 dB	0 dB
Band 12	3.5 dB	3.5 dB	0 dB	0 dB	0 dB
Band 13	3.5 dB	3.5 dB	0 dB	0 dB	0 dB
Band 25	7.5 dB	7.5 dB	0 dB	0 dB	0 dB
Band 26	4.5 dB	4.5 dB	0 dB	0 dB	0 dB
Band 41	7.0 dB	7.0 dB	0 dB	0 dB	0 dB

Remark:

1. ⁽¹⁾: Reduced maximum limit applied by activation of proximity sensor.
2. Power reduction is not applicable for WLAN and Bluetooth.
3. Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown and described in exhibit "P-Sensor operational description"
4. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed:
 - Bottom Face: 12 mm
 - Edge 1: 15 mm

Power Measurement during Sensor Trigger distance testing

Band/Mode	Ch #	Measured power reduction (dBm)		Reduction Levels (dB)
		w/o power back-off	w/ power back-off	
WCDMA Band V (RMC 12.2Kbps)	4182	22.88	18.21	4.67
WCDMA Band IV (RMC 12.2Kbps)	1413	23.30	15.24	8.06
WCDMA Band II (RMC 12.2Kbps)	9400	23.72	15.99	7.73
Band 2 (QPSK, 20M, 1RB 0 offset)	18900	23.13	15.46	7.67
Band 4 (QPSK, 20M, 1RB 0 offset)	20175	23.18	15.38	7.80
Band 5 (QPSK, 10M, 1RB 0 offset)	20525	22.39	17.86	4.53
Band 7 (QPSK, 20M, 1RB 0 offset)	21100	21.13	12.50	8.63
Band 12 (QPSK, 10M, 1RB 0 offset)	23095	22.96	19.35	3.61
Band 13 (QPSK, 10M, 1RB 0 offset)	23230	22.80	19.23	3.57
Band 25 (QPSK, 20M, 1RB 0 offset)	26340	23.07	15.52	7.55
Band 26 (QPSK, 15M, 1RB 0 offset)	26865	22.74	18.33	4.41
Band 41 (QPSK, 20M, 1RB 0 offset)	40620	22.26	15.17	7.09



6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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. The 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.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

7. Specific Absorption Rate (SAR)

7.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

7.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

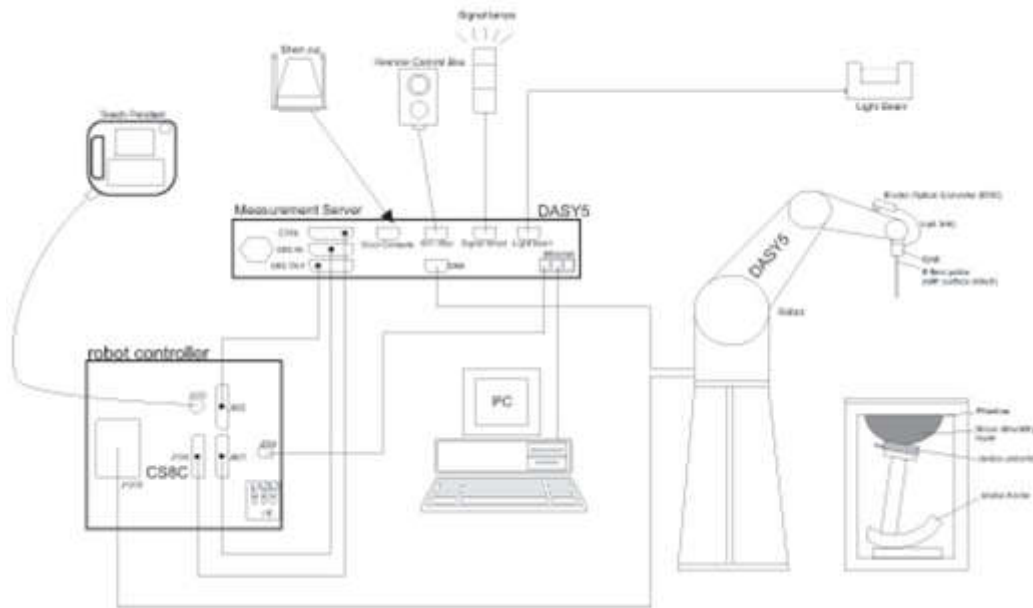
SAR is expressed in units of Watts per kilogram (W/kg)

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

8. System Description and Setup

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




- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

8.1 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)	
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

8.2 Data Acquisition Electronics (DAE)

The data acquisition electronics (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 measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.


The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.



Fig 5.1 Photo of DAE

8.3 Phantom

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)	
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm	

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

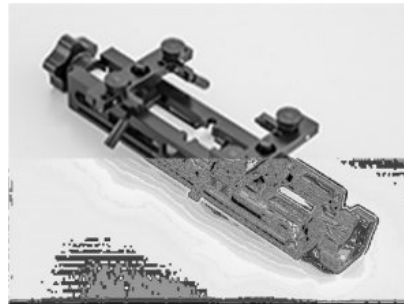
8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

- (a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- (b) Read the WWAN RF power level from the base station simulator.
- (c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
- (d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

- (a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
- (b) Place the EUT in the positions as Appendix D demonstrates.
- (c) Set scan area, grid size and other setting on the DASY software.
- (d) Measure SAR results for the highest power channel on each testing position.
- (e) Find out the largest SAR result on these testing positions of each band
- (f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

9.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

9.2 Power Reference Measurement

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

9.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

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

9.4 Zoom Scan

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

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

		≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom} , Δy_{Zoom}		≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$
Minimum zoom scan volume	x, y, z	≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: 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 <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> 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.			

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

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

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1065	2016/11/21	2017/11/20
SPEAG	835MHz System Validation Kit	D835V2	4d091	2016/11/22	2017/11/21
SPEAG	1750MHz System Validation Kit	D1750V2	1069	2016/11/23	2017/11/22
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	2016/11/24	2017/11/23
SPEAG	2450MHz System Validation Kit	D2450V2	840	2016/11/25	2017/11/24
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2016/11/24	2017/11/23
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2016/12/13	2017/12/12
SPEAG	Data Acquisition Electronics	DAE4	1210	2017/5/25	2018/5/24
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	2017/5/26	2018/5/25
SPEAG	ELI4 Phantom	QD OVA 001 BB	TP-1127	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201563814	2017/1/19	2018/1/18
Agilent	Wireless Communication Test Set	E5515C	MY52102706	2017/4/18	2018/4/17
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2017/4/18	2018/4/17
SPEAG	DAK Kit	DAK3.5	1144	2016/11/23	2017/11/22
R&S	Signal Generator	SMR40	100455	2017/1/19	2018/1/18
R&S	CBT BLUETOOTH TESTER	CBT	101137	2016/8/9	2017/8/8
Anritsu	Power Sensor	MA2411B	1644003	2016/12/23	2017/12/22
Anritsu	Power Meter	ML2495A	1531197	2016/12/23	2017/12/22
Anritsu	Power Sensor	MA2411B	1644004	2016/12/23	2017/12/22
Anritsu	Power Meter	ML2495A	1531198	2016/12/23	2017/12/22
WISEWIND	Hygrometer	WISEWIND 0905	0905	2017/4/20	2018/4/19
JM	DIGITAC THERMOMETER	JM222	AA1207166	2017/4/19	2018/4/18
R&S	Spectrum Analyzer	N9010A	MY55150244	2017/4/18	2018/4/17
ARRA	Power Divider	A3200-2	N/A		Note
Agilent	Dual Directional Coupler	778D	50422		Note
PASTERNAK	Dual Directional Coupler	PE2214-10	N/A		Note
MCL	Attenuation1	BW-S10W5+	N/A		Note
MCL	Attenuation2	BW-S10W5+	N/A		Note
MCL	Attenuation3	BW-S10W5+	N/A		Note
AR	Amplifier	5S1G4	333096		Note
mini-circuits	Amplifier	ZVE-3W-83+	162601250		Note

Note:

Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.

11. System Verification

11.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1.



Fig 10.1 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ϵ_r)
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	Body	22.8	0.960	56.111	0.96	55.50	0.00	1.10	±5	2017/10/25
835	Body	22.8	0.965	55.211	0.97	55.20	-0.52	0.02	±5	2017/10/25
1750	Body	22.7	1.475	53.957	1.49	53.40	-1.01	1.04	±5	2017/10/26
1900	Body	22.7	1.547	52.476	1.52	53.30	1.78	-1.55	±5	2017/10/26
2450	Body	22.7	2.037	53.175	1.95	52.70	4.46	0.90	±5	2017/10/28
2600	Body	22.8	2.197	50.896	2.16	52.50	1.71	-3.06	±5	2017/11/2
5250	Body	22.8	5.354	48.459	5.36	48.90	-0.11	-0.90	±5	2017/10/28
5600	Body	22.6	5.849	47.666	5.77	48.50	1.37	-1.72	±5	2017/10/30
5750	Body	22.6	6.058	47.348	5.94	48.30	1.99	-1.97	±5	2017/10/30

11.3 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2017/10/25	750	Body	250	1065	3857	1210	2.18	8.71	8.72	0.11
2017/10/25	835	Body	250	4d091	3857	1210	2.34	9.68	9.36	-3.31
2017/10/26	1750	Body	250	1069	3857	1210	9.55	37.70	38.20	1.33
2017/10/26	1900	Body	250	5d118	3857	1210	10.30	40.80	41.20	0.98
2017/10/28	2450	Body	250	840	3857	1210	12.50	50.90	50.00	-1.77
2017/11/2	2600	Body	250	1061	3857	1210	13.80	55.40	55.20	-0.36
2017/10/28	5250	Body	100	1113	3857	1210	7.85	76.10	78.50	3.15
2017/10/30	5600	Body	100	1113	3857	1210	8.00	79.80	80.00	0.25
2017/10/30	5750	Body	100	1113	3857	1210	7.39	75.20	73.90	-1.73

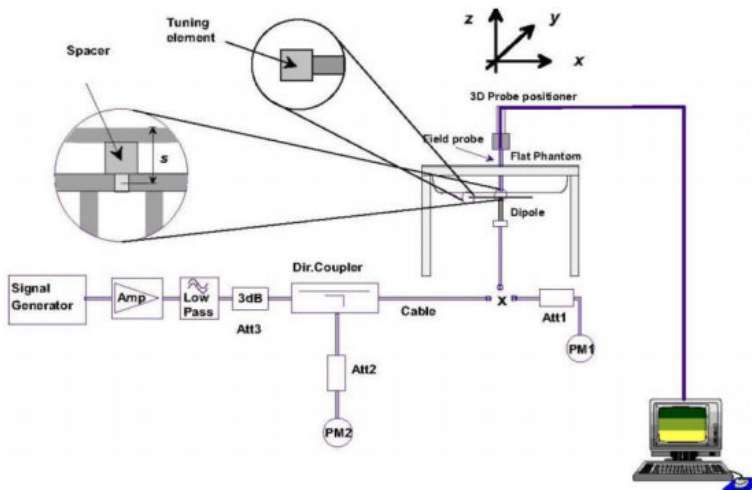


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

12. RF Exposure Positions

12.1 SAR Testing for Tablet

This device can be used also in full sized tablet exposure conditions, due to its size. Per FCC KDB 616217, 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 configurations. 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.

This EUT was tested in three different positions. They are bottom-face, Edge1, Edge2 and Edge4. EUT has proximity sensor function, it would be on bottom-face and Edge1, the distance is 12 mm for bottom-face and 15 mm for Edge1 when EUT transmitting full power was performed and 0mm for bottom-face and Edge1 with reduced power. Additional the surface of EUT is touching with phantom 0 cm for Edge2 and Edge4 with full power.

13. Conducted RF Output Power (Unit: dBm)

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set Gain Factors (β_c and β_d) and parameters were set according to each
 - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - iii. Set RMC 12.2Kbps + HSDPA mode.
 - iv. Set Cell Power = -86 dBm
 - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
 - vi. Select HSDPA Uplink Parameters
 - vii. Set Delta ACK, Delta NACK and Delta CQI = 8
 - viii. Set Ack-Nack Repetition Factor to 3
 - ix. Set CQI Feedback Cycle (k) to 4 ms
 - x. Set CQI Repetition Factor to 2
 - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: $\Delta_{ACK}, \Delta_{NACK}$ and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{HS} = 24/15 * \beta_c$.

Note 3: CM = 1 for $\beta_c/\beta_d = 12/15, \beta_{HS}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.

Setup Configuration

HSUPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting * :
 - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
 - ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
 - iii. Set Cell Power = -86 dBm
 - iv. Set Channel Type = 12.2k + HSPA
 - v. Set UE Target Power
 - vi. Power Ctrl Mode= Alternating bits
 - vii. Set and observe the E-TFCI
 - viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1} : 47/15 β_{ed2} : 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 5/15$ with $\beta_{hs} = 5/15 * \beta_c$.

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

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

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set RMC 12.2Kbps + HSDPA mode.
 - ii. Set Cell Power = -25 dBm
 - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
 - iv. Select HSDPA Uplink Parameters
 - v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - a). Subtest 1: $\beta_c/\beta_d=2/15$
 - b). Subtest 2: $\beta_c/\beta_d=12/15$
 - c). Subtest 3: $\beta_c/\beta_d=15/8$
 - d). Subtest 4: $\beta_c/\beta_d=15/4$
 - vi. Set Delta ACK, Delta NACK and Delta CQI = 8
 - vii. Set Ack-Nack Repetition Factor to 3
 - viii. Set CQI Feedback Cycle (k) to 4 ms
 - ix. Set CQI Repetition Factor to 2
 - x. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{inf})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.		
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

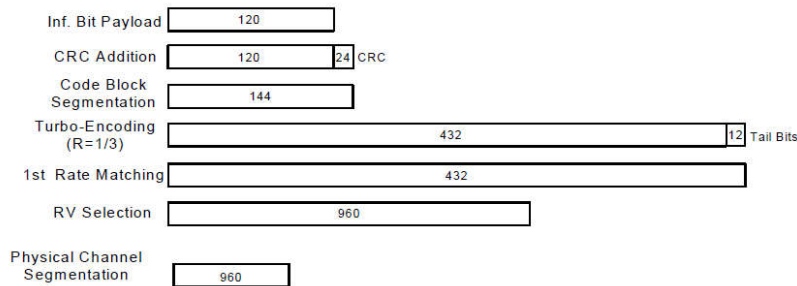


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration



<WCDMA Conducted Power>

General Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

<Maximum Average RF Power (Proximity Sensor Inactive)>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	23.68	23.72	23.54	24.00	23.34	23.30	23.48	24.00	22.92	22.88	23.10	23.50
3GPP Rel 6	HSDPA Subtest-1	22.33	22.50	22.37	23.00	22.25	22.22	22.30	23.00	21.75	21.62	21.72	22.50
3GPP Rel 6	HSDPA Subtest-2	22.36	22.53	22.40	23.00	22.28	22.25	22.34	23.00	21.77	21.66	21.78	22.50
3GPP Rel 6	HSDPA Subtest-3	21.49	22.02	21.90	22.50	21.76	21.75	21.82	22.50	21.25	21.15	21.28	22.00
3GPP Rel 6	HSDPA Subtest-4	21.84	22.02	21.53	22.50	21.76	21.74	21.82	22.50	20.89	21.15	21.27	22.00
3GPP Rel 8	DC-HSDPA Subtest-1	21.72	21.80	21.69	23.00	21.78	21.67	21.85	23.00	21.54	21.53	21.69	22.50
3GPP Rel 8	DC-HSDPA Subtest-2	21.73	21.75	21.66	23.00	21.77	21.64	21.88	23.00	21.53	21.54	21.68	22.50
3GPP Rel 8	DC-HSDPA Subtest-3	21.75	21.81	21.67	22.50	21.76	21.63	21.89	22.50	21.55	21.55	21.67	22.00
3GPP Rel 8	DC-HSDPA Subtest-4	21.74	21.89	21.63	22.50	21.79	21.65	21.90	22.50	21.51	21.52	21.66	22.00
3GPP Rel 6	HSUPA Subtest-1	22.10	22.25	22.09	22.50	21.97	21.89	22.04	22.50	21.48	21.40	21.38	22.00
3GPP Rel 6	HSUPA Subtest-2	21.40	21.56	21.45	22.00	21.26	21.21	21.30	22.00	20.65	20.66	20.78	21.50
3GPP Rel 6	HSUPA Subtest-3	21.01	21.18	21.05	21.50	20.88	20.80	20.94	21.50	20.33	20.30	20.31	21.50
3GPP Rel 6	HSUPA Subtest-4	21.29	21.45	21.34	21.50	21.14	21.10	21.19	21.50	20.92	20.62	20.66	21.50
3GPP Rel 6	HSUPA Subtest-5	22.40	22.60	22.40	23.00	22.30	22.20	22.30	23.00	21.70	21.60	21.80	22.50



<Maximum Average RF Power (Proximity Sensor Active)>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	15.91	15.99	15.84	16.50	15.21	15.24	15.28	16.00	18.20	18.21	18.23	19.00
3GPP Rel 6	HSDPA Subtest-1	14.67	14.71	14.67	15.00	14.13	14.17	14.09	14.50	17.04	16.96	16.92	17.50
3GPP Rel 6	HSDPA Subtest-2	14.68	14.77	14.71	15.00	14.15	14.19	14.12	14.50	17.03	17.01	16.96	17.50
3GPP Rel 6	HSDPA Subtest-3	13.84	14.26	14.19	14.50	13.65	13.65	13.62	14.00	16.54	16.51	16.45	17.00
3GPP Rel 6	HSDPA Subtest-4	14.18	14.23	13.83	14.50	13.64	13.69	13.61	14.00	16.18	16.49	16.47	17.00
3GPP Rel 8	DC-HSDPA Subtest-1	14.04	14.04	14.00	15.00	13.65	13.61	13.63	14.50	16.17	16.88	16.87	17.50
3GPP Rel 8	DC-HSDPA Subtest-2	14.08	13.99	13.95	15.00	13.66	13.54	13.68	14.50	16.82	16.90	16.85	17.50
3GPP Rel 8	DC-HSDPA Subtest-3	14.09	14.02	13.97	14.50	13.64	13.58	13.68	14.00	16.84	16.89	16.87	17.00
3GPP Rel 8	DC-HSDPA Subtest-4	14.06	14.13	13.94	14.50	13.66	13.59	13.68	14.00	16.83	16.87	16.84	17.00
3GPP Rel 6	HSUPA Subtest-1	14.45	14.49	14.38	14.50	13.86	13.79	13.84	14.00	16.77	16.76	16.55	17.00
3GPP Rel 6	HSUPA Subtest-2	13.74	13.77	13.75	14.00	13.14	13.16	13.09	13.50	15.94	16.00	15.98	16.50
3GPP Rel 6	HSUPA Subtest-3	13.33	13.42	13.36	13.50	12.75	12.74	12.72	13.00	15.93	15.65	15.49	16.00
3GPP Rel 6	HSUPA Subtest-4	13.64	13.69	13.63	14.00	13.03	13.00	12.99	13.50	16.21	15.98	15.83	16.50
3GPP Rel 6	HSUPA Subtest-5	14.74	14.81	14.70	15.00	14.18	14.15	14.09	14.50	16.99	16.94	17.00	17.50



<FDD LTE Conducted Power>

General Note:

1. Anritsu MT8820C/MT8821C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B12 / B26 the maximum 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 middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2 / 5 SAR test was covered by Band 25 / 26; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

<Maximum Average RF Power (Proximity Sensor Inactive)>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	22.97	23.13	23.09	23.50	0
20	QPSK	1	49	22.9	23.1	23.07		
20	QPSK	1	99	22.89	22.92	22.9		
20	QPSK	50	0	21.97	22.19	22.11	22.50	1
20	QPSK	50	24	21.94	22.12	22.05		
20	QPSK	50	50	21.95	22.07	21.96		
20	QPSK	100	0	21.93	22.07	22.04	22.50	1
20	16QAM	1	0	22.09	22.41	22.25		
20	16QAM	1	49	22.28	22.43	22.33		
20	16QAM	1	99	22.21	22.22	22.14	21.50	2
20	16QAM	50	0	20.99	21.11	20.91		
20	16QAM	50	24	20.93	21.2	21.09		
20	16QAM	50	50	20.89	21.19	21.04	21.50	2
20	16QAM	100	0	20.92	21.07	21.06		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	22.92	23.06	23.02	23.50	0
15	QPSK	1	37	22.93	22.98	23.06		
15	QPSK	1	74	22.81	23.01	22.97		
15	QPSK	36	0	21.88	22.09	21.98	22.50	1
15	QPSK	36	20	21.92	22.19	22.05		
15	QPSK	36	39	21.86	22.19	21.98		
15	QPSK	75	0	21.84	22.09	22.06	22.50	1
15	16QAM	1	0	22.23	22.33	22.2		
15	16QAM	1	37	22.06	22.37	22.28		
15	16QAM	1	74	21.83	22.28	22.27	21.50	2
15	16QAM	36	0	20.97	21.06	20.95		
15	16QAM	36	20	20.95	21.16	21.04		
15	16QAM	36	39	20.9	21.19	20.98	21.50	2
15	16QAM	75	0	20.93	21.09	21.09		



Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.93	23.02	22.91	23.50	0
10	QPSK	1	25	23.07	23.09	23.11		
10	QPSK	1	49	22.82	23.06	22.98		
10	QPSK	25	0	21.98	21.97	21.9	22.50	1
10	QPSK	25	12	21.96	21.95	21.9		
10	QPSK	25	25	21.88	22.02	21.86		
10	QPSK	50	0	21.92	21.96	21.88	22.50	1
10	16QAM	1	0	22.26	22.26	22.19		
10	16QAM	1	25	22.31	22.27	22.28		
10	16QAM	1	49	22.17	22.28	22.15	21.50	2
10	16QAM	25	0	21.02	21.01	20.88		
10	16QAM	25	12	21.01	20.91	20.92		
10	16QAM	25	25	20.93	20.99	20.89	21.50	2
10	16QAM	50	0	20.89	20.97	20.89		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.95	23.07	22.9	23.50	0
5	QPSK	1	12	23.04	22.97	23		
5	QPSK	1	24	22.98	23.1	22.97		
5	QPSK	12	0	21.89	21.95	21.83	22.50	1
5	QPSK	12	7	22.04	22.01	21.92		
5	QPSK	12	13	21.97	22.04	21.95		
5	QPSK	25	0	21.98	21.98	21.87	22.50	1
5	16QAM	1	0	22.22	22.38	22.11		
5	16QAM	1	12	22.31	22.42	22.3		
5	16QAM	1	24	22.29	22.41	22.32	21.50	2
5	16QAM	12	0	20.95	20.99	20.89		
5	16QAM	12	7	21.02	20.99	20.95		
5	16QAM	12	13	20.98	20.98	20.98	21.50	2
5	16QAM	25	0	21	20.97	20.87		



Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.88	23.03	22.83	23.50	0
3	QPSK	1	8	23.07	23.11	23.03		
3	QPSK	1	14	22.85	22.97	22.9		
3	QPSK	8	0	21.8	21.92	21.81	22.50	1
3	QPSK	8	4	21.86	21.97	21.87		
3	QPSK	8	7	21.85	21.96	21.86		
3	QPSK	15	0	21.84	21.9	21.85	22.50	1
3	16QAM	1	0	22.02	22.2	22.03		
3	16QAM	1	8	22.17	22.29	22.21		
3	16QAM	1	14	22.06	22.23	22.14	21.50	2
3	16QAM	8	0	20.91	20.99	20.87		
3	16QAM	8	4	20.91	20.96	20.95		
3	16QAM	8	7	20.91	20.96	20.95	21.50	2
3	16QAM	15	0	20.89	20.9	20.89		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.84	23.02	22.92	23.50	0
1.4	QPSK	1	3	22.85	23.02	22.97		
1.4	QPSK	1	5	22.8	23.03	22.92		
1.4	QPSK	3	0	22.66	22.86	22.77		
1.4	QPSK	3	1	22.92	22.96	22.85		
1.4	QPSK	3	3	22.91	22.99	22.95	22.50	1
1.4	QPSK	6	0	21.81	21.9	21.82		
1.4	16QAM	1	0	22.21	22.39	22.16	22.50	1
1.4	16QAM	1	3	22.24	22.29	22.17		
1.4	16QAM	1	5	22.15	22.36	22.2		
1.4	16QAM	3	0	21.85	21.93	21.89		
1.4	16QAM	3	1	21.89	21.96	21.91		
1.4	16QAM	3	3	21.94	22.03	21.95	21.50	2
1.4	16QAM	6	0	20.9	20.95	20.89		

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.16	23.18	23.12	23.50	0
20	QPSK	1	49	23.12	23.13	23.11		
20	QPSK	1	99	22.97	22.92	22.79		
20	QPSK	50	0	22.11	22.21	22.13	22.50	1
20	QPSK	50	24	22.09	22.11	22.09		
20	QPSK	50	50	22.07	22.13	22.06		
20	QPSK	100	0	22.07	22.09	22.08	22.50	1
20	16QAM	1	0	22.45	22.39	22.37		
20	16QAM	1	49	22.36	22.4	22.36		
20	16QAM	1	99	22.21	22.2	21.98	21.50	2
20	16QAM	50	0	21.05	21.11	20.74		
20	16QAM	50	24	21.15	21.12	20.43		
20	16QAM	50	50	21	21.09	20.34	21.50	2
20	16QAM	100	0	21.03	21.07	20.49		
Channel				20025	20175	20325		
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.13	23.12	23.16	23.50	0
15	QPSK	1	37	22.94	23.15	23.1		
15	QPSK	1	74	22.92	22.99	22.95		
15	QPSK	36	0	22.04	22.09	22.11	22.50	1
15	QPSK	36	20	21.99	22.14	22.12		
15	QPSK	36	39	22	22.1	22.13		
15	QPSK	75	0	21.95	22.12	22.11	22.50	1
15	16QAM	1	0	22.22	22.36	22.39		
15	16QAM	1	37	22.24	22.36	22.29		
15	16QAM	1	74	22.08	22.23	22.11	21.50	2
15	16QAM	36	0	20.89	21.08	21.1		
15	16QAM	36	20	20.85	21.11	21.09		
15	16QAM	36	39	20.82	21.05	21.05	21.50	2
15	16QAM	75	0	20.86	21.12	21.07		



Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.32	23.27	23.21	23.50	0
10	QPSK	1	25	23.26	23.26	23.19		
10	QPSK	1	49	23.2	23.08	23.1		
10	QPSK	25	0	22.28	22.14	22	22.50	1
10	QPSK	25	12	22.22	22.15	22.03		
10	QPSK	25	25	22.15	22.05	22.02		
10	QPSK	50	0	22.23	22.09	22.01	22.50	1
10	16QAM	1	0	22.48	22.47	22.42		
10	16QAM	1	25	22.47	22.46	22.35		
10	16QAM	1	49	22.46	22.3	22.3	21.50	2
10	16QAM	25	0	21.22	21.12	20.98		
10	16QAM	25	12	21.18	21.14	21.03		
10	16QAM	25	25	21.18	21.06	21.02	21.50	2
10	16QAM	50	0	21.18	21.1	21.03		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.26	23.22	23.14	23.50	0
5	QPSK	1	12	23.33	23.15	23.08		
5	QPSK	1	24	23.27	23.08	23.15		
5	QPSK	12	0	22.25	22.03	22.12	22.50	1
5	QPSK	12	7	22.29	22.05	22.12		
5	QPSK	12	13	22.23	22.07	22.11		
5	QPSK	25	0	22.27	22.03	22.11	22.50	1
5	16QAM	1	0	22.41	22.44	22.38		
5	16QAM	1	12	22.46	22.39	22.48		
5	16QAM	1	24	22.49	22.4	22.46	21.50	2
5	16QAM	12	0	21.19	21.05	21.07		
5	16QAM	12	7	21.26	21.04	21.05		
5	16QAM	12	13	21.14	21.05	21.02	21.50	2
5	16QAM	25	0	21.23	21.02	21.11		



Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	23.19	23.19	23.08	23.50	0
3	QPSK	1	8	23.31	23.21	23.1		
3	QPSK	1	14	23.15	23.01	22.97		
3	QPSK	8	0	22.16	22.1	21.87	22.50	1
3	QPSK	8	4	22.15	22.07	21.92		
3	QPSK	8	7	22.08	22.01	21.89		
3	QPSK	15	0	22.1	22.01	21.89	22.50	1
3	16QAM	1	0	22.31	22.34	22.1		
3	16QAM	1	8	22.46	22.35	22.36		
3	16QAM	1	14	22.32	22.22	22.12	21.50	2
3	16QAM	8	0	21.11	21.15	20.85		
3	16QAM	8	4	21.13	21.07	20.91		
3	16QAM	8	7	21.08	21.04	20.88	21.50	2
3	16QAM	15	0	21.03	20.99	20.87		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	23.22	23.06	23.17	23.50	0
1.4	QPSK	1	3	23.19	23.18	23.14		
1.4	QPSK	1	5	23.31	23.15	23.11		
1.4	QPSK	3	0	23.12	23.05	22.97		
1.4	QPSK	3	1	23.19	23.15	23.05		
1.4	QPSK	3	3	23.28	23.12	23.05	22.50	1
1.4	QPSK	6	0	22.07	21.96	21.92		
1.4	16QAM	1	0	22.5	22.37	22.28	22.50	1
1.4	16QAM	1	3	22.5	22.42	22.25		
1.4	16QAM	1	5	22.44	22.48	22.29		
1.4	16QAM	3	0	22.18	22.14	21.95		
1.4	16QAM	3	1	22.19	22.15	21.94		
1.4	16QAM	3	3	22.3	22.09	21.98	21.50	2
1.4	16QAM	6	0	21.15	21.05	20.93		

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	22.53	22.39	22.57	23.50	0
10	QPSK	1	25	22.48	22.35	22.55		
10	QPSK	1	49	22.26	22.31	22.41		
10	QPSK	25	0	21.37	21.35	21.43	22.50	1
10	QPSK	25	12	21.31	21.19	21.35		
10	QPSK	25	25	21.23	21.33	21.41		
10	QPSK	50	0	21.36	21.28	21.43	22.50	1
10	16QAM	1	0	21.79	21.66	21.69		
10	16QAM	1	25	21.7	21.67	21.78		
10	16QAM	1	49	21.58	21.64	21.72	21.50	2
10	16QAM	25	0	20.34	20.21	20.34		
10	16QAM	25	12	20.41	20.36	20.45		
10	16QAM	25	25	20.27	20.36	20.44	21.50	2
10	16QAM	50	0	20.38	20.27	20.43		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.58	22.39	22.61	23.50	0
5	QPSK	1	12	22.62	22.31	22.52		
5	QPSK	1	24	22.47	22.35	22.59		
5	QPSK	12	0	21.51	21.31	21.42	22.50	1
5	QPSK	12	7	21.49	21.41	21.5		
5	QPSK	12	13	21.51	21.34	21.54		
5	QPSK	25	0	21.44	21.43	21.58	22.50	1
5	16QAM	1	0	21.8	21.68	21.88		
5	16QAM	1	12	21.92	21.76	21.87		
5	16QAM	1	24	21.7	21.73	21.93	21.50	2
5	16QAM	12	0	20.54	20.38	20.49		
5	16QAM	12	7	20.5	20.44	20.54		
5	16QAM	12	13	20.47	20.36	20.63	21.50	2
5	16QAM	25	0	20.5	20.45	20.55		



Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.59	22.39	22.58	23.50	0
3	QPSK	1	8	22.95	22.66	22.84		
3	QPSK	1	14	22.52	22.38	22.64		
3	QPSK	8	0	21.49	21.37	21.52	22.50	1
3	QPSK	8	4	21.52	21.43	21.64		
3	QPSK	8	7	21.43	21.36	21.64		
3	QPSK	15	0	21.5	21.38	21.62	22.50	1
3	16QAM	1	0	21.84	21.65	21.76		
3	16QAM	1	8	21.9	21.82	21.89		
3	16QAM	1	14	21.75	21.65	21.89	21.50	2
3	16QAM	8	0	20.59	20.4	20.55		
3	16QAM	8	4	20.57	20.47	20.66		
3	16QAM	8	7	20.51	20.43	20.68	21.50	2
3	16QAM	15	0	20.53	20.37	20.64		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.69	22.5	22.75	23.50	0
1.4	QPSK	1	3	22.64	22.5	22.73		
1.4	QPSK	1	5	22.54	22.41	22.72		
1.4	QPSK	3	0	22.53	22.29	22.58		
1.4	QPSK	3	1	22.57	22.36	22.78		
1.4	QPSK	3	3	22.55	22.4	22.72		
1.4	QPSK	6	0	21.47	21.35	21.55	22.50	1
1.4	16QAM	1	0	21.95	21.72	21.98	22.50	1
1.4	16QAM	1	3	21.94	21.74	21.91		
1.4	16QAM	1	5	21.88	21.78	21.95		
1.4	16QAM	3	0	21.57	21.37	21.61		
1.4	16QAM	3	1	21.57	21.41	21.67		
1.4	16QAM	3	3	21.59	21.44	21.72		
1.4	16QAM	6	0	20.57	20.42	20.73	21.50	2

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	20.76	21.13	20.83	21.50	0
20	QPSK	1	49	20.91	21.1	20.8		
20	QPSK	1	99	20.92	20.98	20.72		
20	QPSK	50	0	21.01	21.25	20.84	21.50	0
20	QPSK	50	24	20.85	21.2	20.77		
20	QPSK	50	50	21	21.24	20.83		
20	QPSK	100	0	20.89	21.13	20.81	21.50	0
20	16QAM	1	0	21.04	21.38	21.11		
20	16QAM	1	49	21.2	21.41	21.14		
20	16QAM	1	99	21.21	21.26	21.11	20.50	1
20	16QAM	50	0	19.91	20.14	19.76		
20	16QAM	50	24	19.97	20.19	19.84		
20	16QAM	50	50	20.01	20.19	19.85	20.50	1
20	16QAM	100	0	19.89	20.16	19.81		
Channel				20825	21100	21375		
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	20.72	21.14	20.71	21.50	0
15	QPSK	1	37	20.76	21.28	20.65		
15	QPSK	1	74	20.96	21.09	20.76		
15	QPSK	36	0	20.78	21.16	20.75	21.50	0
15	QPSK	36	20	20.9	21.24	20.83		
15	QPSK	36	39	20.96	21.19	20.85		
15	QPSK	75	0	20.86	21.16	20.82	21.50	0
15	16QAM	1	0	21.02	21.4	21.06		
15	16QAM	1	37	21.22	21.33	21.03		
15	16QAM	1	74	21.2	21.4	21.04	20.50	1
15	16QAM	36	0	19.79	20.15	19.74		
15	16QAM	36	20	19.93	20.18	19.83		
15	16QAM	36	39	19.92	20.18	19.86	20.50	1
15	16QAM	75	0	19.9	20.19	19.84		



Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	20.84	21.12	20.77	21.50	0
10	QPSK	1	25	20.91	21.13	20.78		
10	QPSK	1	49	20.99	21.08	20.72		
10	QPSK	25	0	20.76	21.08	20.72	21.50	0
10	QPSK	25	12	20.82	21.07	20.78		
10	QPSK	25	25	20.86	21.12	20.74		
10	QPSK	50	0	20.83	21.07	20.74	21.50	0
10	16QAM	1	0	21.16	21.48	21.15		
10	16QAM	1	25	21.22	21.5	21.22		
10	16QAM	1	49	21.32	21.5	21.14	20.50	1
10	16QAM	25	0	19.82	20.1	19.74		
10	16QAM	25	12	19.85	20.12	19.77		
10	16QAM	25	25	19.89	20.12	19.78	20.50	1
10	16QAM	50	0	19.86	20.18	19.77		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	20.86	21.11	20.75	21.50	0
5	QPSK	1	12	20.74	21.11	20.81		
5	QPSK	1	24	20.81	21.1	20.72		
5	QPSK	12	0	20.72	21.06	20.66	21.50	0
5	QPSK	12	7	20.77	21.13	20.82		
5	QPSK	12	13	20.83	21.12	20.76		
5	QPSK	25	0	20.76	21.09	20.73	21.50	0
5	16QAM	1	0	21.1	21.38	21.02		
5	16QAM	1	12	21.17	21.47	21.16		
5	16QAM	1	24	21.13	21.42	21.07	20.50	1
5	16QAM	12	0	19.83	20.15	19.83		
5	16QAM	12	7	19.8	20.17	19.84		
5	16QAM	12	13	19.84	20.17	19.77	20.50	1
5	16QAM	25	0	19.81	20.14	19.79		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	23.08	22.96	22.94	23.50	0
10	QPSK	1	25	23.07	22.95	22.9		
10	QPSK	1	49	22.95	22.93	22.87		
10	QPSK	25	0	21.93	21.88	21.9	22.50	1
10	QPSK	25	12	21.92	21.86	21.83		
10	QPSK	25	25	21.86	21.84	21.85		
10	QPSK	50	0	21.98	21.93	21.86	22.50	1
10	16QAM	1	0	22.32	22.17	22.22		
10	16QAM	1	25	22.3	22.25	22.18		
10	16QAM	1	49	22.11	22.13	22.2	21.50	2
10	16QAM	25	0	20.96	20.86	20.78		
10	16QAM	25	12	20.92	20.87	20.86		
10	16QAM	25	25	20.88	20.84	20.85	21.50	2
10	16QAM	50	0	20.92	20.88	20.84		
Channel				23035	23095	23155		
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	23.08	23.02	22.88	23.50	0
5	QPSK	1	12	23	22.83	22.84		
5	QPSK	1	24	23.01	22.78	22.85		
5	QPSK	12	0	21.91	21.89	21.79	22.50	1
5	QPSK	12	7	22.02	21.93	21.92		
5	QPSK	12	13	21.93	21.88	21.83		
5	QPSK	25	0	22.02	21.87	21.92	22.50	1
5	16QAM	1	0	22.27	22.22	22.16		
5	16QAM	1	12	22.43	22.31	22.41		
5	16QAM	1	24	22.24	22.1	22.17	21.50	2
5	16QAM	12	0	20.92	20.92	20.79		
5	16QAM	12	7	21	20.93	20.88		
5	16QAM	12	13	20.86	20.85	20.83	21.50	2
5	16QAM	25	0	21.03	20.86	20.85		



Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.14	22.94	22.89	23.50	0
3	QPSK	1	8	22.43	23.21	23.19		
3	QPSK	1	14	22.95	22.89	22.81		
3	QPSK	8	0	22.01	21.87	21.88	22.50	1
3	QPSK	8	4	22.07	21.92	21.9		
3	QPSK	8	7	21.93	21.91	21.9		
3	QPSK	15	0	22.02	21.89	21.87		
3	16QAM	1	0	22.33	22.22	22.12	22.50	1
3	16QAM	1	8	22.48	22.33	22.27		
3	16QAM	1	14	22.21	22.2	22.05		
3	16QAM	8	0	21.08	20.9	20.94	21.50	2
3	16QAM	8	4	21.15	20.94	20.87		
3	16QAM	8	7	21.01	20.96	20.91		
3	16QAM	15	0	21.04	20.86	20.85		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	23.23	22.95	23	23.50	0
1.4	QPSK	1	3	23.19	22.99	22.99		
1.4	QPSK	1	5	23.24	22.94	22.95		
1.4	QPSK	3	0	22.95	22.91	22.87		
1.4	QPSK	3	1	23.14	22.96	22.95		
1.4	QPSK	3	3	23.13	22.92	22.88		
1.4	QPSK	6	0	21.91	21.8	21.75	22.50	1
1.4	16QAM	1	0	22.46	22.21	22.28	22.50	1
1.4	16QAM	1	3	22.47	22.36	22.35		
1.4	16QAM	1	5	22.5	22.31	22.35		
1.4	16QAM	3	0	22.01	21.93	21.88		
1.4	16QAM	3	1	22.1	21.92	21.9		
1.4	16QAM	3	3	22.16	21.99	21.89		
1.4	16QAM	6	0	21.04	20.89	20.84	21.50	2

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		22.8		23.50	0
10	QPSK	1	25		22.74			
10	QPSK	1	49		22.76			
10	QPSK	25	0		21.72		22.50	1
10	QPSK	25	12		21.66			
10	QPSK	25	25		21.71			
10	QPSK	50	0		21.75		22.50	1
10	16QAM	1	0		21.96			
10	16QAM	1	25		22.06			
10	16QAM	1	49		22		21.50	2
10	16QAM	25	0		20.7			
10	16QAM	25	12		20.71			
10	16QAM	25	25		20.79		21.50	2
10	16QAM	25	0		20.7			
10	16QAM	50	0		20.7			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.77	22.79	22.75	23.50	0
5	QPSK	1	12	22.74	22.75	22.77		
5	QPSK	1	24	22.69	22.72	22.74		
5	QPSK	12	0	21.65	21.67	21.73	22.50	1
5	QPSK	12	7	21.7	21.75	21.8		
5	QPSK	12	13	21.72	21.68	21.73		
5	QPSK	25	0	21.74	21.68	21.7	22.50	1
5	16QAM	1	0	22	22.07	22.02		
5	16QAM	1	12	22.19	22.14	22.24		
5	16QAM	1	24	21.98	22.02	21.98	21.50	2
5	16QAM	12	0	20.64	20.71	20.75		
5	16QAM	12	7	20.72	20.76	20.79		
5	16QAM	12	13	20.71	20.65	20.71	21.50	2
5	16QAM	25	0	20.78	20.71	20.77		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	23.05	23.07	23.06	23.50	0
20	QPSK	1	49	22.96	23.02	22.96		
20	QPSK	1	99	22.91	22.93	23		
20	QPSK	50	0	22.11	22.13	22	22.50	1
20	QPSK	50	24	22.09	22.08	21.92		
20	QPSK	50	50	22.07	22.07	21.98		
20	QPSK	100	0	22.05	22.07	22.05	22.50	1
20	16QAM	1	0	22.26	22.32	22.31		
20	16QAM	1	49	22.31	22.35	22.32		
20	16QAM	1	99	22.21	22.17	22.35	21.50	2
20	16QAM	50	0	20.97	21.12	20.94		
20	16QAM	50	24	21.11	21.12	21.05		
20	16QAM	50	50	21.07	21.06	21.05	21.50	2
20	16QAM	100	0	21.08	21.11	21.02		
Channel				26115	26340	26615		
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.08	23.08	22.85	23.50	0
15	QPSK	1	37	23.33	23.37	23.07		
15	QPSK	1	74	22.99	22.98	23.13		
15	QPSK	36	0	22	22.15	21.93	22.50	1
15	QPSK	36	20	22.05	22.22	22.01		
15	QPSK	36	39	22.01	22.13	22.01		
15	QPSK	75	0	22.01	22.14	22.01	22.50	1
15	16QAM	1	0	22.2	22.4	22.19		
15	16QAM	1	37	22.34	22.43	22.35		
15	16QAM	1	74	22.24	22.3	22.34	21.50	2
15	16QAM	36	0	21.04	21.13	20.92		
15	16QAM	36	20	21.07	21.2	21.02		
15	16QAM	36	39	21.04	21.11	20.98	21.50	2
15	16QAM	75	0	21.02	21.17	20.98		



Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23	23.12	23.09	23.50	0
10	QPSK	1	25	22.97	23.19	23.2		
10	QPSK	1	49	22.89	23.16	23.19		
10	QPSK	25	0	21.89	22.09	22.02	22.50	1
10	QPSK	25	12	21.91	22.14	22.11		
10	QPSK	25	25	21.93	22.13	22.15		
10	QPSK	50	0	21.92	22.15	22.1	22.50	1
10	16QAM	1	0	22.21	22.43	22.38		
10	16QAM	1	25	22.28	22.45	22.44		
10	16QAM	1	49	22.18	22.4	22.49	21.50	2
10	16QAM	25	0	20.9	21.1	21.03		
10	16QAM	25	12	20.93	21.18	21.12		
10	16QAM	25	25	20.97	21.22	21.18	21.50	2
10	16QAM	50	0	20.93	21.2	21.17		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	22.93	23.12	23.22	23.50	0
5	QPSK	1	12	22.93	23.17	23.19		
5	QPSK	1	24	22.9	23.13	23.18		
5	QPSK	12	0	21.79	22.05	22.1	22.50	1
5	QPSK	12	7	21.91	22.13	22.26		
5	QPSK	12	13	21.82	22.12	22.22		
5	QPSK	25	0	21.79	22.08	22.2	22.50	1
5	16QAM	1	0	22.12	22.38	22.41		
5	16QAM	1	12	22.19	22.33	22.49		
5	16QAM	1	24	22.3	22.42	22.47	21.50	2
5	16QAM	12	0	20.89	21.21	21.15		
5	16QAM	12	7	20.97	21.26	21.18		
5	16QAM	12	13	20.87	21.26	21.02	21.50	2
5	16QAM	25	0	20.82	21.17	21.2		



Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.96	23.15	23.24	23.50	0
3	QPSK	1	8	23.04	23.46	23.32		
3	QPSK	1	14	22.89	23.17	23.02		
3	QPSK	8	0	21.85	22.19	22.15	22.50	1
3	QPSK	8	4	21.88	22.19	22.23		
3	QPSK	8	7	21.83	22.17	22.13		
3	QPSK	15	0	21.81	22.14	22.09	22.50	1
3	16QAM	1	0	22.07	22.35	22.29		
3	16QAM	1	8	21.99	22.43	22.44		
3	16QAM	1	14	22.12	22.5	22.28	21.50	2
3	16QAM	8	0	20.95	21.23	21.17		
3	16QAM	8	4	21.03	21.29	21.21		
3	16QAM	8	7	20.95	21.27	21.12	21.50	2
3	16QAM	15	0	20.9	21.16	21.04		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	22.96	23.06	23.27	23.50	0
1.4	QPSK	1	3	22.86	23.12	23.14		
1.4	QPSK	1	5	22.71	23.2	23.05		
1.4	QPSK	3	0	22.79	23.11	23.01		
1.4	QPSK	3	1	22.92	23.11	23.09		
1.4	QPSK	3	3	22.89	23.17	23.14	22.50	1
1.4	QPSK	6	0	21.76	22.02	21.93		
1.4	16QAM	1	0	22.1	22.41	22.5	22.50	1
1.4	16QAM	1	3	22.17	22.39	22.45		
1.4	16QAM	1	5	22.08	22.45	22.4		
1.4	16QAM	3	0	21.83	22.18	22		
1.4	16QAM	3	1	21.94	22.19	22.13		
1.4	16QAM	3	3	21.93	22.25	22.2	21.50	2
1.4	16QAM	6	0	20.88	21.17	21		



<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	23	22.74	22.55		
15	QPSK	1	37	22.82	22.53	22.5	23.50	0
15	QPSK	1	74	22.63	22.59	22.51		
15	QPSK	36	0	21.98	21.6	21.6		
15	QPSK	36	20	21.91	21.53	21.49	22.50	1
15	QPSK	36	39	21.77	21.52	21.59		
15	QPSK	75	0	21.86	21.51	21.61		
15	16QAM	1	0	22.33	21.86	20.97	22.50	1
15	16QAM	1	37	22.2	21.59	21.13		
15	16QAM	1	74	21.94	21.8	21.11		
15	16QAM	36	0	20.92	20.46	19.66	21.50	2
15	16QAM	36	20	20.86	20.55	19.76		
15	16QAM	36	39	20.73	20.42	19.83		
15	16QAM	75	0	20.88	20.54	19.95		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	22.72	22.5	22.48	23.50	0
10	QPSK	1	25	22.69	22.48	22.69		
10	QPSK	1	49	22.46	22.32	22.47		
10	QPSK	25	0	21.64	21.4	21.38	22.50	1
10	QPSK	25	12	21.56	21.28	21.45		
10	QPSK	25	25	21.5	21.17	21.41		
10	QPSK	50	0	21.57	21.36	21.55		
10	16QAM	1	0	22.06	21.81	21.76	22.50	1
10	16QAM	1	25	21.89	21.62	21.87		
10	16QAM	1	49	21.78	21.54	21.77		
10	16QAM	25	0	20.62	20.39	20.37	21.50	2
10	16QAM	25	12	20.54	20.28	20.43		
10	16QAM	25	25	20.53	20.2	20.42		
10	16QAM	50	0	20.5	20.3	20.48		



Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	22.8	22.31	22.44	23.50	0
5	QPSK	1	12	22.63	22.17	22.43		
5	QPSK	1	24	22.68	22.18	22.43		
5	QPSK	12	0	21.68	21.12	21.32	22.50	1
5	QPSK	12	7	21.78	21.31	21.4		
5	QPSK	12	13	21.64	21.13	21.41		
5	QPSK	25	0	21.61	21.15	21.39	22.50	1
5	16QAM	1	0	22.05	21.56	21.64		
5	16QAM	1	12	22.12	21.67	21.72		
5	16QAM	1	24	21.98	21.39	21.7	21.50	2
5	16QAM	12	0	20.66	20.12	20.37		
5	16QAM	12	7	20.7	20.25	20.41		
5	16QAM	12	13	20.58	20.11	20.4	21.50	2
5	16QAM	25	0	20.59	20.14	20.33		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	22.8	22.44	22.54	23.50	0
3	QPSK	1	8	22.93	22.51	22.72		
3	QPSK	1	14	22.63	22.32	22.5		
3	QPSK	8	0	21.7	21.33	21.46	22.50	1
3	QPSK	8	4	21.77	21.28	21.5		
3	QPSK	8	7	21.66	21.29	21.5		
3	QPSK	15	0	21.7	21.35	21.49	22.50	1
3	16QAM	1	0	21.95	21.62	21.77		
3	16QAM	1	8	22.19	21.66	21.95		
3	16QAM	1	14	21.87	21.54	21.75	21.50	2
3	16QAM	8	0	20.75	20.34	20.48		
3	16QAM	8	4	20.78	20.33	20.52		
3	16QAM	8	7	20.71	20.33	20.53	21.50	2
3	16QAM	15	0	20.68	20.38	20.45		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	22.84	22.48	22.59	23.50	0
1.4	QPSK	1	3	22.79	22.44	22.63		
1.4	QPSK	1	5	22.77	22.44	22.56		
1.4	QPSK	3	0	22.67	22.41	22.49		
1.4	QPSK	3	1	22.76	22.35	22.53		
1.4	QPSK	3	3	22.8	22.37	22.59	22.50	1
1.4	QPSK	6	0	21.67	21.24	21.44	22.50	1
1.4	16QAM	1	0	22.15	21.77	21.91		
1.4	16QAM	1	3	22.14	21.63	21.84		
1.4	16QAM	1	5	22.04	21.75	21.91	22.50	1
1.4	16QAM	3	0	21.75	21.4	21.56		
1.4	16QAM	3	1	21.75	21.29	21.56		
1.4	16QAM	3	3	21.85	21.35	21.66	21.50	2
1.4	16QAM	6	0	20.72	20.34	20.51		

<Maximum Average RF Power (Proximity Sensor Active)>
<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100	16.00	0
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	15.18	15.46	15.35	16.00	0
20	QPSK	1	49	15.13	15.43	15.36		
20	QPSK	1	99	15.1	15.29	15.27		
20	QPSK	50	0	15.23	15.38	15.4	16.00	0
20	QPSK	50	24	15.23	15.52	15.44		
20	QPSK	50	50	15.19	15.52	15.38		
20	QPSK	100	0	15.17	15.39	15.42	16.00	0
20	16QAM	1	0	15.51	15.68	15.59		
20	16QAM	1	49	15.41	15.79	15.66		
20	16QAM	1	99	15.41	15.56	15.55	16.00	0
20	16QAM	50	0	15.2	15.41	15.26		
20	16QAM	50	24	15.2	15.49	15.31		
20	16QAM	50	50	15.17	15.48	15.26	16.00	0
20	16QAM	100	0	15.2	15.42	15.3		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	15.23	15.31	15.29	16.00	0
15	QPSK	1	37	15.09	15.4	15.13		
15	QPSK	1	74	15.11	15.31	15.29		
15	QPSK	36	0	15.15	15.4	15.29	16.00	0
15	QPSK	36	20	15.21	15.48	15.39		
15	QPSK	36	39	15.13	15.5	15.35		
15	QPSK	75	0	15.11	15.4	15.4	16.00	0
15	16QAM	1	0	15.43	15.57	15.48		
15	16QAM	1	37	15.41	15.68	15.65		
15	16QAM	1	74	15.44	15.64	15.58	16.00	0
15	16QAM	36	0	15.15	15.32	15.27		
15	16QAM	36	20	15.19	15.46	15.4		
15	16QAM	36	39	15.09	15.47	15.34	16.00	0
15	16QAM	75	0	15.18	15.41	15.4		



Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	15.17	15.28	15.26	16.00	0
10	QPSK	1	25	15.33	15.46	15.41		
10	QPSK	1	49	15.08	15.4	15.28		
10	QPSK	25	0	15.24	15.3	15.2	16.00	0
10	QPSK	25	12	15.21	15.3	15.24		
10	QPSK	25	25	15.14	15.32	15.19		
10	QPSK	50	0	15.15	15.29	15.23	16.00	0
10	16QAM	1	0	15.43	15.53	15.53		
10	16QAM	1	25	15.5	15.65	15.55		
10	16QAM	1	49	15.35	15.58	15.57	16.00	0
10	16QAM	25	0	15.24	15.27	15.19		
10	16QAM	25	12	15.25	15.28	15.25		
10	16QAM	25	25	15.16	15.37	15.22	16.00	0
10	16QAM	50	0	15.13	15.27	15.22		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	15.18	15.31	15.17	16.00	0
5	QPSK	1	12	15.26	15.31	15.26		
5	QPSK	1	24	15.15	15.38	15.24		
5	QPSK	12	0	15.16	15.23	15.16	16.00	0
5	QPSK	12	7	15.2	15.32	15.24		
5	QPSK	12	13	15.14	15.31	15.26		
5	QPSK	25	0	15.21	15.28	15.22	16.00	0
5	16QAM	1	0	15.44	15.59	15.42		
5	16QAM	1	12	15.57	15.63	15.57		
5	16QAM	1	24	15.45	15.64	15.6	16.00	0
5	16QAM	12	0	15.17	15.21	15.24		
5	16QAM	12	7	15.25	15.31	15.33		
5	16QAM	12	13	15.19	15.3	15.29	16.00	0
5	16QAM	25	0	15.22	15.28	15.2		



Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	15.18	15.35	15.2	16.00	0
3	QPSK	1	8	15.28	15.47	15.42		
3	QPSK	1	14	15.15	15.31	15.28		
3	QPSK	8	0	15.19	15.29	15.21	16.00	0
3	QPSK	8	4	15.22	15.3	15.32		
3	QPSK	8	7	15.17	15.29	15.3		
3	QPSK	15	0	15.1	15.26	15.25	16.00	0
3	16QAM	1	0	15.28	15.52	15.43		
3	16QAM	1	8	15.55	15.73	15.55		
3	16QAM	1	14	15.36	15.52	15.58	16.00	0
3	16QAM	8	0	15.17	15.38	15.3		
3	16QAM	8	4	15.24	15.36	15.34		
3	16QAM	8	7	15.25	15.36	15.31	16.00	0
3	16QAM	15	0	15.12	15.31	15.24		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	15.02	15.25	15.24	16.00	0
1.4	QPSK	1	3	15.14	15.25	15.31		
1.4	QPSK	1	5	15.13	15.28	15.21		
1.4	QPSK	3	0	15	15.14	15.17		
1.4	QPSK	3	1	15.1	15.27	15.28		
1.4	QPSK	3	3	15.12	15.29	15.34		
1.4	QPSK	6	0	15.07	15.18	15.15	16.00	0
1.4	16QAM	1	0	15.45	15.51	15.48	16.00	0
1.4	16QAM	1	3	15.37	15.56	15.53		
1.4	16QAM	1	5	15.4	15.51	15.51		
1.4	16QAM	3	0	15.07	15.3	15.14		
1.4	16QAM	3	1	15.12	15.34	15.19		
1.4	16QAM	3	3	15.15	15.33	15.28		
1.4	16QAM	6	0	15.13	15.3	15.26	16.00	0



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	15.37	15.38	15.45	16.00	0
20	QPSK	1	49	15.31	15.38	15.41		
20	QPSK	1	99	15.19	15.19	15.05		
20	QPSK	50	0	15.31	15.36	15.44	16.00	0
20	QPSK	50	24	15.41	15.35	15.39		
20	QPSK	50	50	15.29	15.34	15.36		
20	QPSK	100	0	15.27	15.36	15.4	16.00	0
20	16QAM	1	0	15.67	15.6	15.72		
20	16QAM	1	49	15.59	15.64	15.66		
20	16QAM	1	99	15.43	15.43	15.37	16.00	0
20	16QAM	50	0	15.31	15.36	15.4		
20	16QAM	50	24	15.35	15.37	15.41		
20	16QAM	50	50	15.28	15.35	15.34	16.00	0
20	16QAM	100	0	15.3	15.34	15.41		
Channel				20025	20175	20325		
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	15.39	15.41	15.37	16.00	0
15	QPSK	1	37	15.24	15.51	15.3		
15	QPSK	1	74	15.2	15.27	15.12		
15	QPSK	36	0	15.36	15.37	15.37	16.00	0
15	QPSK	36	20	15.33	15.41	15.42		
15	QPSK	36	39	15.32	15.36	15.34		
15	QPSK	75	0	15.31	15.4	15.36	16.00	0
15	16QAM	1	0	15.64	15.58	15.6		
15	16QAM	1	37	15.64	15.62	15.51		
15	16QAM	1	74	15.46	15.49	15.38	16.00	0
15	16QAM	36	0	15.37	15.33	15.34		
15	16QAM	36	20	15.36	15.41	15.32		
15	16QAM	36	39	15.31	15.36	15.37	16.00	0
15	16QAM	75	0	15.34	15.41	15.33		



Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	15.56	15.48	15.43	16.00	0
10	QPSK	1	25	15.71	15.5	15.27		
10	QPSK	1	49	15.48	15.31	15.27		
10	QPSK	25	0	15.52	15.39	15.26	16.00	0
10	QPSK	25	12	15.48	15.41	15.29		
10	QPSK	25	25	15.46	15.33	15.27		
10	QPSK	50	0	15.46	15.39	15.3	16.00	0
10	16QAM	1	0	15.83	15.78	15.71		
10	16QAM	1	25	15.76	15.75	15.58		
10	16QAM	1	49	15.72	15.52	15.61	16.00	0
10	16QAM	25	0	15.48	15.38	15.26		
10	16QAM	25	12	15.49	15.41	15.28		
10	16QAM	25	25	15.44	15.34	15.29	16.00	0
10	16QAM	50	0	15.47	15.39	15.29		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	15.54	15.44	15.38	16.00	0
5	QPSK	1	12	15.35	15.33	15.28		
5	QPSK	1	24	15.47	15.35	15.38		
5	QPSK	12	0	15.51	15.32	15.35	16.00	0
5	QPSK	12	7	15.55	15.36	15.39		
5	QPSK	12	13	15.46	15.37	15.4		
5	QPSK	25	0	15.49	15.33	15.36	16.00	0
5	16QAM	1	0	15.78	15.78	15.63		
5	16QAM	1	12	15.87	15.73	15.71		
5	16QAM	1	24	15.75	15.84	15.67	16.00	0
5	16QAM	12	0	15.52	15.38	15.39		
5	16QAM	12	7	15.57	15.39	15.39		
5	16QAM	12	13	15.46	15.35	15.34	16.00	0
5	16QAM	25	0	15.53	15.33	15.36		



Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	15.52	15.46	15.22	16.00	0
3	QPSK	1	8	15.59	15.38	15.46		
3	QPSK	1	14	15.53	15.37	15.33		
3	QPSK	8	0	15.5	15.42	15.25	16.00	0
3	QPSK	8	4	15.49	15.37	15.28		
3	QPSK	8	7	15.45	15.29	15.27		
3	QPSK	15	0	15.47	15.33	15.27	16.00	0
3	16QAM	1	0	15.65	15.67	15.42		
3	16QAM	1	8	15.79	15.74	15.65		
3	16QAM	1	14	15.75	15.49	15.61	16.00	0
3	16QAM	8	0	15.59	15.47	15.29		
3	16QAM	8	4	15.56	15.43	15.34		
3	16QAM	8	7	15.55	15.37	15.34	16.00	0
3	16QAM	15	0	15.48	15.36	15.31		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	15.39	15.39	15.53	16.00	0
1.4	QPSK	1	3	15.44	15.52	15.48		
1.4	QPSK	1	5	15.57	15.47	15.41		
1.4	QPSK	3	0	15.41	15.35	15.27		
1.4	QPSK	3	1	15.44	15.44	15.36		
1.4	QPSK	3	3	15.57	15.37	15.38		
1.4	QPSK	6	0	15.4	15.28	15.26	16.00	0
1.4	16QAM	1	0	15.73	15.56	15.7	16.00	0
1.4	16QAM	1	3	15.75	15.7	15.69		
1.4	16QAM	1	5	15.77	15.73	15.75		
1.4	16QAM	3	0	15.52	15.44	15.29		
1.4	16QAM	3	1	15.5	15.56	15.36		
1.4	16QAM	3	3	15.68	15.45	15.32		
1.4	16QAM	6	0	15.47	15.36	15.41	16.00	0



<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	18.02	17.86	17.91	19.00	0
10	QPSK	1	25	17.93	17.94	18		
10	QPSK	1	49	17.76	17.81	17.93		
10	QPSK	25	0	17.83	17.73	17.88	19.00	0
10	QPSK	25	12	17.91	17.85	17.95		
10	QPSK	25	25	17.76	17.84	17.95		
10	QPSK	50	0	17.87	17.8	17.95	19.00	0
10	16QAM	1	0	18.3	18.18	18.33		
10	16QAM	1	25	18.13	18.22	18.32		
10	16QAM	1	49	18.07	18.13	18.34	19.00	0
10	16QAM	25	0	17.9	17.74	17.88		
10	16QAM	25	12	17.92	17.87	17.96		
10	16QAM	25	25	17.77	17.86	17.96	19.00	0
10	16QAM	50	0	17.86	17.8	17.96		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	17.93	17.8	18.01	19.00	0
5	QPSK	1	12	17.93	17.79	17.98		
5	QPSK	1	24	17.82	17.8	18.04		
5	QPSK	12	0	17.87	17.75	17.81	19.00	0
5	QPSK	12	7	17.82	17.8	17.88		
5	QPSK	12	13	17.9	17.72	17.96		
5	QPSK	25	0	17.81	17.83	17.96	19.00	0
5	16QAM	1	0	18.21	18.06	18.26		
5	16QAM	1	12	18.36	18.24	18.34		
5	16QAM	1	24	18.16	18.16	18.33	19.00	0
5	16QAM	12	0	17.97	17.79	17.9		
5	16QAM	12	7	17.86	17.84	17.98		
5	16QAM	12	13	17.89	17.76	18.03	19.00	0
5	16QAM	25	0	17.85	17.84	17.94		



Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	17.95	17.78	17.92	19.00	0
3	QPSK	1	8	18.13	18.26	18.24		
3	QPSK	1	14	17.84	17.78	18		
3	QPSK	8	0	17.87	17.75	17.92	19.00	0
3	QPSK	8	4	17.9	17.8	18.05		
3	QPSK	8	7	17.83	17.74	18.05		
3	QPSK	15	0	17.9	17.74	18.02	19.00	0
3	16QAM	1	0	18.22	18.04	18.13		
3	16QAM	1	8	18.28	18.16	18.44		
3	16QAM	1	14	18.15	18.03	18.2	19.00	0
3	16QAM	8	0	17.96	17.82	17.99		
3	16QAM	8	4	17.95	17.88	18.05		
3	16QAM	8	7	17.93	17.8	18.1	19.00	0
3	16QAM	15	0	17.95	17.77	18.03		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	17.92	17.77	18.08	19.00	0
1.4	QPSK	1	3	17.96	17.83	18.06		
1.4	QPSK	1	5	17.78	17.81	18.03		
1.4	QPSK	3	0	17.85	17.69	17.98		
1.4	QPSK	3	1	17.96	17.75	18.06		
1.4	QPSK	3	3	17.91	17.78	18.05		
1.4	QPSK	6	0	17.82	17.69	17.95	19.00	0
1.4	16QAM	1	0	18.24	18.08	18.42	19.00	0
1.4	16QAM	1	3	18.37	18.11	18.37		
1.4	16QAM	1	5	18.21	18.06	18.27		
1.4	16QAM	3	0	17.89	17.71	17.99		
1.4	16QAM	3	1	18.01	17.77	18.02		
1.4	16QAM	3	3	18	17.83	18.06		
1.4	16QAM	6	0	17.96	17.76	18.04	19.00	0



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	12.3	12.5	12.26	13.00	0
20	QPSK	1	49	12.22	12.49	12.16		
20	QPSK	1	99	12.25	12.37	12.13		
20	QPSK	50	0	12.45	12.55	12.27	13.00	0
20	QPSK	50	24	12.39	12.4	12.24		
20	QPSK	50	50	12.35	12.45	12.25		
20	QPSK	100	0	12.35	12.49	12.19	13.00	0
20	16QAM	1	0	12.52	12.68	12.44		
20	16QAM	1	49	12.61	12.8	12.41		
20	16QAM	1	99	12.64	12.63	12.35	13.00	0
20	16QAM	50	0	12.31	12.46	12.18		
20	16QAM	50	24	12.4	12.58	12.24		
20	16QAM	50	50	12.46	12.56	12.21	13.00	0
20	16QAM	100	0	12.34	12.52	12.18		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	12.14	12.51	12.09	13.00	0
15	QPSK	1	37	12.1	12.42	12.23		
15	QPSK	1	74	12.28	12.48	12.18		
15	QPSK	36	0	12.15	12.5	12.13	13.00	0
15	QPSK	36	20	12.3	12.57	12.21		
15	QPSK	36	39	12.33	12.57	12.2		
15	QPSK	75	0	12.28	12.53	12.15	13.00	0
15	16QAM	1	0	12.36	12.75	12.37		
15	16QAM	1	37	12.45	12.67	12.42		
15	16QAM	1	74	12.5	12.76	12.37	13.00	0
15	16QAM	36	0	12.16	12.49	12.15		
15	16QAM	36	20	12.26	12.57	12.21		
15	16QAM	36	39	12.31	12.53	12.21	13.00	0
15	16QAM	75	0	12.26	12.52	12.19		



Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	12.25	12.5	12.12	13.00	0
10	QPSK	1	25	12.27	12.49	12.18		
10	QPSK	1	49	12.36	12.5	12.15		
10	QPSK	25	0	12.15	12.45	12.09	13.00	0
10	QPSK	25	12	12.21	12.45	12.13		
10	QPSK	25	25	12.22	12.48	12.15		
10	QPSK	50	0	12.2	12.44	12.12	13.00	0
10	16QAM	1	0	12.62	12.86	12.44		
10	16QAM	1	25	12.58	12.91	12.5		
10	16QAM	1	49	12.69	12.82	12.5	13.00	0
10	16QAM	25	0	12.15	12.42	12.1		
10	16QAM	25	12	12.22	12.46	12.14		
10	16QAM	25	25	12.23	12.49	12.15	13.00	0
10	16QAM	50	0	12.2	12.46	12.12		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	12.32	12.46	12.26	13.00	0
5	QPSK	1	12	12.14	12.42	12.18		
5	QPSK	1	24	12.19	12.45	12.27		
5	QPSK	12	0	12.15	12.43	12.17	13.00	0
5	QPSK	12	7	12.14	12.48	12.23		
5	QPSK	12	13	12.23	12.45	12.23		
5	QPSK	25	0	12.12	12.43	12.19	13.00	0
5	16QAM	1	0	12.47	12.73	12.47		
5	16QAM	1	12	12.57	12.85	12.55		
5	16QAM	1	24	12.48	12.81	12.55	13.00	0
5	16QAM	12	0	12.12	12.47	12.2		
5	16QAM	12	7	12.15	12.5	12.29		
5	16QAM	12	13	12.23	12.49	12.25	13.00	0
5	16QAM	25	0	12.14	12.44	12.22		



<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	19.53	19.35	19.3	20.00	0
10	QPSK	1	25	19.39	19.34	19.35		
10	QPSK	1	49	19.32	19.34	19.33		
10	QPSK	25	0	19.34	19.3	19.17	20.00	0
10	QPSK	25	12	19.33	19.29	19.29		
10	QPSK	25	25	19.3	19.24	19.31		
10	QPSK	50	0	19.39	19.33	19.28	20.00	0
10	16QAM	1	0	19.82	19.64	19.6		
10	16QAM	1	25	19.7	19.67	19.61		
10	16QAM	1	49	19.64	19.62	19.56	20.00	0
10	16QAM	25	0	19.37	19.31	19.18		
10	16QAM	25	12	19.34	19.33	19.29		
10	16QAM	25	25	19.32	19.3	19.31	20.00	0
10	16QAM	50	0	19.37	19.34	19.25		
Channel				23035	23095	23155		
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	19.42	19.36	19.28	20.00	0
5	QPSK	1	12	19.34	19.3	19.24		
5	QPSK	1	24	19.28	19.2	19.25		
5	QPSK	12	0	19.35	19.25	19.21	20.00	0
5	QPSK	12	7	19.4	19.32	19.31		
5	QPSK	12	13	19.31	19.29	19.23		
5	QPSK	25	0	19.4	19.22	19.29	20.00	0
5	16QAM	1	0	19.71	19.64	19.51		
5	16QAM	1	12	19.96	19.69	19.71		
5	16QAM	1	24	19.68	19.58	19.53	20.00	0
5	16QAM	12	0	19.34	19.28	19.25		
5	16QAM	12	7	19.37	19.36	19.31		
5	16QAM	12	13	19.3	19.26	19.26	20.00	0
5	16QAM	25	0	19.43	19.25	19.32		



Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	19.58	19.29	19.31	20.00	0
3	QPSK	1	8	19.74	19.68	19.64		
3	QPSK	1	14	19.28	19.23	19.25		
3	QPSK	8	0	19.37	19.23	19.29	20.00	0
3	QPSK	8	4	19.41	19.3	19.3		
3	QPSK	8	7	19.33	19.3	19.29		
3	QPSK	15	0	19.4	19.27	19.26	20.00	0
3	16QAM	1	0	19.7	19.52	19.5		
3	16QAM	1	8	19.88	19.66	19.6		
3	16QAM	1	14	19.5	19.51	19.46	20.00	0
3	16QAM	8	0	19.48	19.3	19.37		
3	16QAM	8	4	19.5	19.33	19.33		
3	16QAM	8	7	19.32	19.32	19.31	20.00	0
3	16QAM	15	0	19.38	19.3	19.26		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	19.59	19.4	19.43	20.00	0
1.4	QPSK	1	3	19.69	19.28	19.37		
1.4	QPSK	1	5	19.59	19.39	19.31		
1.4	QPSK	3	0	19.37	19.24	19.23		
1.4	QPSK	3	1	19.49	19.36	19.39		
1.4	QPSK	3	3	19.53	19.33	19.29		
1.4	QPSK	6	0	19.31	19.22	19.16	20.00	0
1.4	16QAM	1	0	19.82	19.65	19.59	20.00	0
1.4	16QAM	1	3	19.7	19.68	19.56		
1.4	16QAM	1	5	19.8	19.79	19.62		
1.4	16QAM	3	0	19.41	19.27	19.28		
1.4	16QAM	3	1	19.48	19.35	19.32		
1.4	16QAM	3	3	19.52	19.33	19.28		
1.4	16QAM	6	0	19.4	19.34	19.3	20.00	0



<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		19.23		20.00	0
10	QPSK	1	25		19.2			
10	QPSK	1	49		19.09			
10	QPSK	25	0		19.2		20.00	0
10	QPSK	25	12		19.14			
10	QPSK	25	25		19.11			
10	QPSK	50	0		19.25		20.00	0
10	16QAM	1	0		19.35			
10	16QAM	1	25		19.49			
10	16QAM	1	49		19.37		20.00	0
10	16QAM	25	0		19.11			
10	16QAM	25	12		19.16			
10	16QAM	25	25		19.2		20.00	0
10	16QAM	25	0		19.13			
10	16QAM	50	0		19.13			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	19.12	19.22	19.16	20.00	0
5	QPSK	1	12	19.11	19.23	19.09		
5	QPSK	1	24	19.08	19.24	19.08		
5	QPSK	12	0	19.05	19.12	19.13	20.00	0
5	QPSK	12	7	19.15	19.18	19.21		
5	QPSK	12	13	19.15	19.08	19.12		
5	QPSK	25	0	19.11	19.07	19.1	20.00	0
5	16QAM	1	0	19.37	19.47	19.38		
5	16QAM	1	12	19.49	19.63	19.54		
5	16QAM	1	24	19.33	19.43	19.44	20.00	0
5	16QAM	12	0	19.03	19.14	19.15		
5	16QAM	12	7	19.11	19.16	19.17		
5	16QAM	12	13	19.14	19.08	19.1	20.00	0
5	16QAM	25	0	19.15	19.13	19.16		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	15.39	15.52	15.44	16.00	0
20	QPSK	1	49	15.3	15.45	15.35		
20	QPSK	1	99	15.31	15.27	15.38		
20	QPSK	50	0	15.34	15.44	15.28	16.00	0
20	QPSK	50	24	15.27	15.43	15.27		
20	QPSK	50	50	15.3	15.42	15.27		
20	QPSK	100	0	15.32	15.42	15.35	16.00	0
20	16QAM	1	0	15.53	15.64	15.63		
20	16QAM	1	49	15.68	15.74	15.67		
20	16QAM	1	99	15.57	15.57	15.62	16.00	0
20	16QAM	50	0	15.28	15.45	15.26		
20	16QAM	50	24	15.38	15.47	15.34		
20	16QAM	50	50	15.44	15.44	15.36	16.00	0
20	16QAM	100	0	15.41	15.49	15.41		
Channel				26115	26340	26615		
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	15.23	15.29	15.27	16.00	0
15	QPSK	1	37	15.38	15.48	15.83		
15	QPSK	1	74	15.17	15.3	15.38		
15	QPSK	36	0	15.27	15.38	15.22	16.00	0
15	QPSK	36	20	15.33	15.49	15.34		
15	QPSK	36	39	15.29	15.4	15.32		
15	QPSK	75	0	15.27	15.43	15.36	16.00	0
15	16QAM	1	0	15.63	15.78	15.56		
15	16QAM	1	37	15.71	15.8	15.75		
15	16QAM	1	74	15.56	15.67	15.65	16.00	0
15	16QAM	36	0	15.34	15.43	15.36		
15	16QAM	36	20	15.33	15.53	15.38		
15	16QAM	36	39	15.32	15.43	15.32	16.00	0
15	16QAM	75	0	15.31	15.47	15.42		



Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	15.25	15.41	15.45	16.00	0
10	QPSK	1	25	15.3	15.56	15.51		
10	QPSK	1	49	15.29	15.46	15.52		
10	QPSK	25	0	15.22	15.33	15.38	16.00	0
10	QPSK	25	12	15.27	15.46	15.47		
10	QPSK	25	25	15.27	15.47	15.52		
10	QPSK	50	0	15.29	15.48	15.48	16.00	0
10	16QAM	1	0	15.51	15.79	15.82		
10	16QAM	1	25	15.67	15.85	15.81		
10	16QAM	1	49	15.54	15.86	15.9	16.00	0
10	16QAM	25	0	15.28	15.42	15.44		
10	16QAM	25	12	15.35	15.5	15.47		
10	16QAM	25	25	15.32	15.55	15.56	16.00	0
10	16QAM	50	0	15.31	15.51	15.61		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	15.25	15.42	15.58	16.00	0
5	QPSK	1	12	15.25	15.45	15.52		
5	QPSK	1	24	15.26	15.52	15.58		
5	QPSK	12	0	15.12	15.39	15.43	16.00	0
5	QPSK	12	7	15.26	15.42	15.56		
5	QPSK	12	13	15.16	15.46	15.48		
5	QPSK	25	0	15.11	15.4	15.5	16.00	0
5	16QAM	1	0	15.57	15.83	15.81		
5	16QAM	1	12	15.53	15.77	15.75		
5	16QAM	1	24	15.67	15.91	15.86	16.00	0
5	16QAM	12	0	15.37	15.59	15.69		
5	16QAM	12	7	15.52	15.6	15.67		
5	16QAM	12	13	15.34	15.62	15.55	16.00	0
5	16QAM	25	0	15.23	15.5	15.51		



Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	15.18	15.47	15.57	16.00	0
3	QPSK	1	8	15.66	15.62	15.69		
3	QPSK	1	14	15.24	15.54	15.54		
3	QPSK	8	0	15.2	15.45	15.54	16.00	0
3	QPSK	8	4	15.29	15.56	15.64		
3	QPSK	8	7	15.2	15.49	15.55		
3	QPSK	15	0	15.13	15.37	15.45	16.00	0
3	16QAM	1	0	15.51	15.68	15.79		
3	16QAM	1	8	15.39	15.63	15.85		
3	16QAM	1	14	15.51	15.79	15.72	16.00	0
3	16QAM	8	0	15.4	15.45	15.6		
3	16QAM	8	4	15.44	15.61	15.7		
3	16QAM	8	7	15.42	15.59	15.59	16.00	0
3	16QAM	15	0	15.24	15.42	15.5		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	15.04	15.29	15.58	16.00	0
1.4	QPSK	1	3	15.2	15.47	15.55		
1.4	QPSK	1	5	15.12	15.45	15.4		
1.4	QPSK	3	0	15.03	15.42	15.38		
1.4	QPSK	3	1	15.07	15.3	15.49		
1.4	QPSK	3	3	15.19	15.4	15.53		
1.4	QPSK	6	0	15.09	15.28	15.37	16.00	0
1.4	16QAM	1	0	15.42	15.69	15.81	16.00	0
1.4	16QAM	1	3	15.43	15.88	15.73		
1.4	16QAM	1	5	15.25	15.62	15.78		
1.4	16QAM	3	0	15.03	15.44	15.51		
1.4	16QAM	3	1	15.24	15.5	15.62		
1.4	16QAM	3	3	15.3	15.52	15.64		
1.4	16QAM	6	0	15.19	15.42	15.49	16.00	0



<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	18.36	18.33	17.99	19.00	0
15	QPSK	1	37	17.82	17.79	17.89		
15	QPSK	1	74	17.92	17.89	17.98		
15	QPSK	36	0	18.24	18.21	18.07	19.00	0
15	QPSK	36	20	18.23	18.2	17.99		
15	QPSK	36	39	18.09	18.06	17.95		
15	QPSK	75	0	18.22	18.19	18.07	19.00	0
15	16QAM	1	0	18.65	18.62	18.28		
15	16QAM	1	37	18.56	18.53	18.15		
15	16QAM	1	74	18.25	18.22	18.32	19.00	0
15	16QAM	36	0	18.28	18.25	17.92		
15	16QAM	36	20	18.24	18.21	18		
15	16QAM	36	39	18.09	18.06	18.04	19.00	0
15	16QAM	75	0	18.23	18.2	18.13		
Channel				26740	26865	26990		
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	18.15	17.88	17.85	19.00	0
10	QPSK	1	25	18.05	17.78	18.02		
10	QPSK	1	49	17.88	17.68	17.81		
10	QPSK	25	0	17.99	17.77	17.78	19.00	0
10	QPSK	25	12	17.95	17.67	17.85		
10	QPSK	25	25	17.89	17.6	17.79		
10	QPSK	50	0	17.96	17.75	17.92	19.00	0
10	16QAM	1	0	18.44	18.21	18.16		
10	16QAM	1	25	18.27	18.02	18.2		
10	16QAM	1	49	18.12	17.97	18.09	19.00	0
10	16QAM	25	0	18.03	17.79	17.8		
10	16QAM	25	12	17.96	17.7	17.84		
10	16QAM	25	25	17.95	17.63	17.82	19.00	0
10	16QAM	50	0	17.9	17.75	17.9		



Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	18.16	17.76	17.85	19.00	0
5	QPSK	1	12	17.99	17.54	17.9		
5	QPSK	1	24	18.12	17.61	17.86		
5	QPSK	12	0	18.07	17.63	17.8	19.00	0
5	QPSK	12	7	18.08	17.78	17.88		
5	QPSK	12	13	17.98	17.62	17.85		
5	QPSK	25	0	17.96	17.64	17.85		
5	16QAM	1	0	18.41	18.03	18.13	19.00	0
5	16QAM	1	12	18.41	18.13	18.23		
5	16QAM	1	24	18.27	17.94	18.16		
5	16QAM	12	0	18.1	17.67	17.86	19.00	0
5	16QAM	12	7	18.1	17.82	17.95		
5	16QAM	12	13	18	17.62	17.92		
5	16QAM	25	0	17.99	17.67	17.82		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	18.21	17.78	17.89	19.00	0
3	QPSK	1	8	18.19	17.88	18.01		
3	QPSK	1	14	17.96	17.6	17.9		
3	QPSK	8	0	18.08	17.73	17.84	19.00	0
3	QPSK	8	4	18.13	17.69	17.91		
3	QPSK	8	7	17.98	17.73	17.86		
3	QPSK	15	0	18.07	17.73	17.83		
3	16QAM	1	0	18.42	18	18.12	19.00	0
3	16QAM	1	8	18.53	18.15	18.26		
3	16QAM	1	14	18.2	17.93	18.11		
3	16QAM	8	0	18.19	17.77	17.91	19.00	0
3	16QAM	8	4	18.25	17.79	17.93		
3	16QAM	8	7	18.08	17.78	17.94		
3	16QAM	15	0	18.08	17.78	17.87		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	18.19	17.81	17.85	19.00	0
1.4	QPSK	1	3	18.07	17.73	17.95		
1.4	QPSK	1	5	18.04	17.75	17.88		
1.4	QPSK	3	0	17.96	17.67	17.78		
1.4	QPSK	3	1	18.04	17.69	17.82		
1.4	QPSK	3	3	18.12	17.68	17.87		
1.4	QPSK	6	0	18	17.56	17.76	19.00	0
1.4	16QAM	1	0	18.47	18.11	18.18	19.00	0
1.4	16QAM	1	3	18.38	18	18.16		
1.4	16QAM	1	5	18.42	18.12	18.2		
1.4	16QAM	3	0	17.99	17.72	17.76		
1.4	16QAM	3	1	18.08	17.67	17.81		
1.4	16QAM	3	3	18.17	17.73	17.9		
1.4	16QAM	6	0	18.11	17.68	17.87	19.00	0

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
- c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

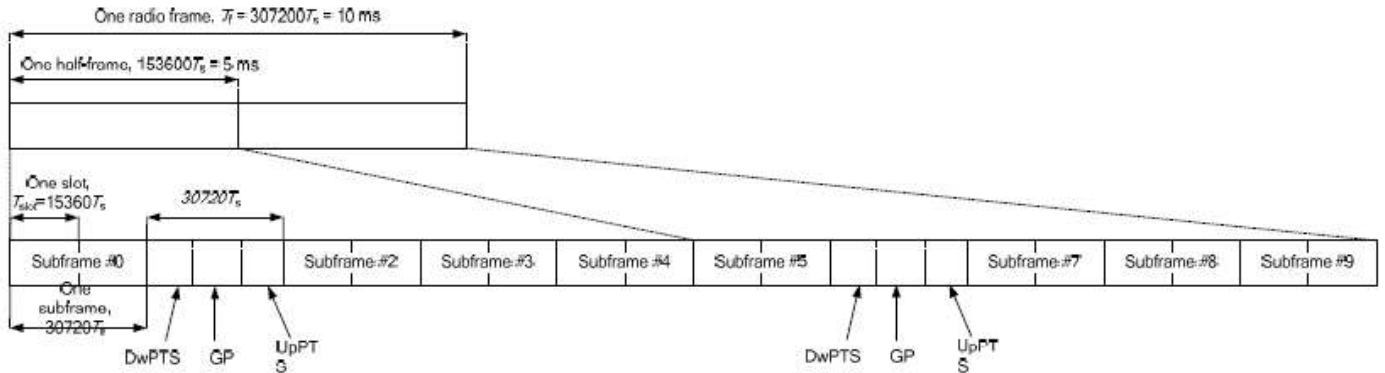


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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

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 · Ts	2192 · Ts	2560 · Ts	7680 · Ts	2192 · Ts	2560 · Ts	
1	19760 · Ts			20480 · Ts			
2	21952 · Ts			23040 · Ts			
3	24144 · Ts			25600 · Ts			
4	26336 · Ts			7680 · Ts			
5	6592 · Ts	4384 · Ts	5120 · Ts	20480 · Ts	4384 · Ts	5120 · Ts	
6	19760 · Ts			23040 · Ts			
7	21952 · Ts			12800 · Ts			
8	24144 · Ts			-			-
9	13168 · Ts			-			-

Special subframe (30720·T _s): Normal cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
Uplink duty factor in one special subframe	0~4	7.13%	8.33%
	5~9	14.3%	16.7%

Special subframe(30720·T _s): Extended cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
Uplink duty factor in one special subframe	0~3	7.13%	8.33%
	4~7	14.3%	16.7%

The highest duty factor is resulted from:

- i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(3+0.167)/5 = 63.3\%$
- iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(3+0.143)/5 = 62.9\%$
- v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

<Maximum Average RF Power (Proximity Sensor Inactive)>

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	21.88	22.18	22.26	21.93	22.18	22.50	0
20	QPSK	1	49	21.77	22.06	22.04	21.92	22.03		
20	QPSK	1	99	21.76	21.95	22.11	21.93	21.91		
20	QPSK	50	0	20.88	21.04	21.27	21.04	21.2	21.50	1
20	QPSK	50	24	20.68	21.03	21.22	20.98	21.13		
20	QPSK	50	50	20.25	21.02	21.13	20.94	21.08		
20	QPSK	100	0	20.19	20.98	21.21	20.93	21.11	21.50	1
20	16QAM	1	0	20.98	21.19	21.15	20.91	21.2		
20	16QAM	1	49	21.1	21.15	21.29	20.97	21.16		
20	16QAM	1	99	21.02	21.01	21.15	20.97	20.99	20.50	2
20	16QAM	50	0	20.15	20.01	20.2	19.96	20.16		
20	16QAM	50	24	20.15	20	20.22	20	20.15		
20	16QAM	50	50	20.08	20.05	20.11	20.05	20.09	20.50	2
20	16QAM	100	0	20.08	20	20.21	19.97	20.13		
Channel				39725	40173	40620	41068	41515		
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	22.11	22.05	22.15	21.78	22.16	22.50	0
15	QPSK	1	37	22.28	22.07	22.26	21.93	22.15		
15	QPSK	1	74	22.04	21.99	22.08	21.93	22.02		
15	QPSK	36	0	21.11	21.08	21.18	20.9	21.11	21.50	1
15	QPSK	36	20	21.16	21.05	21.29	20.99	21.14		
15	QPSK	36	39	21.17	21.04	21.15	21.02	21.04		
15	QPSK	75	0	21.22	21.04	21.2	20.91	21.09	21.50	1
15	16QAM	1	0	21.06	21.18	21.23	20.91	21.23		
15	16QAM	1	37	21.32	21.28	21.4	21.21	21.18		
15	16QAM	1	74	21.28	21.04	21.15	20.98	21.08	20.50	2
15	16QAM	36	0	20.03	20.05	20.12	19.86	20.06		
15	16QAM	36	20	20.1	20.04	20.19	19.94	20.1		
15	16QAM	36	39	20.1	20.02	20.08	19.97	20	20.50	2
15	16QAM	75	0	20.19	20.02	20.2	19.92	20.05		



Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	22.04	22.36	22.3	22.25	22.23	22.50	0
10	QPSK	1	25	22.25	22.31	22.33	22.24	22.19		
10	QPSK	1	49	22.21	22.17	22.31	22.31	21.78		
10	QPSK	25	0	21.19	21.17	21.17	21.14	21.09	21.50	1
10	QPSK	25	12	21.26	21.12	21.21	21.11	21.12		
10	QPSK	25	25	21.2	21.07	21.15	21.2	21.15		
10	QPSK	50	0	21.24	21.11	21.16	21.08	21.07	21.50	1
10	16QAM	1	0	21.23	21.27	21.35	21.24	21.35		
10	16QAM	1	25	21.47	21.32	21.44	21.28	21.35		
10	16QAM	1	49	21.3	21.12	21.31	21.23	20.88	20.50	2
10	16QAM	25	0	20.22	20.15	20.16	20.16	20.13		
10	16QAM	25	12	20.28	20.14	20.23	20.16	20.15		
10	16QAM	25	25	20.16	20.05	20.14	20.18	20.08	20.50	2
10	16QAM	50	0	20.25	20.13	20.2	20.14	20.05		
Channel				39675	40148	40620	41093	41565		
Frequency (MHz)				2498.5	2545.8	2593	2640.3	2687.5		
5	QPSK	1	0	21.96	22.16	22.14	22.15	22.09	22.50	0
5	QPSK	1	12	22.06	22.12	22.24	22.23	22.18		
5	QPSK	1	24	22.11	22.08	22.17	22.22	21.96		
5	QPSK	12	0	21.15	21.14	21.24	21.24	21.11	21.50	1
5	QPSK	12	7	21.24	21.21	21.24	21.26	21.17		
5	QPSK	12	13	21.24	21.12	21.19	21.19	21.25		
5	QPSK	25	0	21.16	21.17	21.17	21.25	21.13	21.50	1
5	16QAM	1	0	21.18	21.19	21.26	21.26	21.29		
5	16QAM	1	12	21.45	21.37	21.38	21.47	21.32		
5	16QAM	1	24	21.44	21.2	21.33	21.36	21.07	20.50	2
5	16QAM	12	0	20.15	20.09	20.19	20.25	20.08		
5	16QAM	12	7	20.24	20.18	20.23	20.25	20.19		
5	16QAM	12	13	20.23	20.07	20.19	20.23	20.21	20.50	2
5	16QAM	25	0	20.24	20.22	20.22	20.29	20.18		



<Reduced Average RF Power (Proximity Sensor Active)>

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	15.02	15.12	15.17	14.81	15.04	15.50	0
20	QPSK	1	49	15	14.95	15.07	14.75	15		
20	QPSK	1	99	14.98	14.85	14.92	14.74	14.94		
20	QPSK	50	0	15.03	14.95	15.15	14.92	15.05	15.50	0
20	QPSK	50	24	14.99	14.94	15.08	14.83	14.96		
20	QPSK	50	50	14.93	14.92	14.97	14.91	14.94		
20	QPSK	100	0	14.94	14.88	15.07	14.79	14.95	15.50	0
20	16QAM	1	0	14.86	15.1	15	14.73	15.11		
20	16QAM	1	49	15.06	15.02	15.1	14.81	15.03		
20	16QAM	1	99	14.87	14.89	14.96	14.81	14.86	15.50	0
20	16QAM	50	0	15.01	14.98	15.09	14.82	15.02		
20	16QAM	50	24	15.01	14.93	15.12	14.83	15.04		
20	16QAM	50	50	14.96	14.95	15.01	14.94	14.97	15.50	0
20	16QAM	100	0	14.99	14.92	15.12	14.81	15.02		
Channel				39725	40173	40620	41068	41515		
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	14.87	15	14.99	14.68	14.87	15.50	0
15	QPSK	1	37	14.94	14.97	15.12	14.81	14.91		
15	QPSK	1	74	14.86	14.89	14.97	14.84	14.73		
15	QPSK	36	0	15.01	15.02	15.06	14.78	14.96	15.50	0
15	QPSK	36	20	15.08	14.95	15.11	14.82	14.95		
15	QPSK	36	39	15.08	14.95	14.99	14.87	14.88		
15	QPSK	75	0	15.12	14.93	15.06	14.79	14.93	15.50	0
15	16QAM	1	0	14.95	15.04	15.05	14.74	15.01		
15	16QAM	1	37	15.08	15.13	14.96	14.81	15.19		
15	16QAM	1	74	15.15	14.93	14.98	14.84	14.89	15.50	0
15	16QAM	36	0	14.99	14.97	15.02	14.76	14.91		
15	16QAM	36	20	14.99	14.93	15.11	14.76	14.99		
15	16QAM	36	39	15.04	14.95	14.98	14.85	14.88	15.50	0
15	16QAM	75	0	15.09	14.95	15.06	14.79	14.97		



Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	14.97	15.11	15.07	14.96	15	15.50	0
10	QPSK	1	25	15.23	15.03	15.08	14.94	15.09		
10	QPSK	1	49	15.16	14.91	15.05	15.02	15.14		
10	QPSK	25	0	14.94	14.94	14.9	14.87	14.88	15.50	0
10	QPSK	25	12	15.03	14.92	14.96	14.87	14.85		
10	QPSK	25	25	14.97	14.81	14.9	14.95	14.9		
10	QPSK	50	0	15.01	14.87	14.93	14.82	14.82	15.50	0
10	16QAM	1	0	15	15.05	15.02	14.98	15.03		
10	16QAM	1	25	15.28	15.11	15.09	15.04	15.07		
10	16QAM	1	49	15.1	14.87	14.96	14.95	14.96	15.50	0
10	16QAM	25	0	15	14.96	14.93	14.92	14.93		
10	16QAM	25	12	15.07	14.95	15.02	14.9	14.92		
10	16QAM	25	25	14.94	14.84	14.9	14.95	14.91	15.50	0
10	16QAM	50	0	15.04	14.91	14.99	14.85	14.85		
Channel				39675	40148	40620	41093	41565		
Frequency (MHz)				2498.5	2545.8	2593	2640.3	2687.5		
5	QPSK	1	0	14.87	14.92	14.89	14.85	14.98	15.50	0
5	QPSK	1	12	14.98	14.86	14.95	14.92	15.06		
5	QPSK	1	24	15.06	14.79	14.88	14.93	15.07		
5	QPSK	12	0	14.89	14.93	14.99	14.97	14.79	15.50	0
5	QPSK	12	7	14.97	14.98	14.98	14.99	14.93		
5	QPSK	12	13	14.94	14.89	14.94	14.97	14.98		
5	QPSK	25	0	14.9	14.96	14.93	14.92	14.88	15.50	0
5	16QAM	1	0	14.88	14.94	14.94	14.89	14.89		
5	16QAM	1	12	15.27	15.12	15.08	15.06	15.31		
5	16QAM	1	24	15.19	14.95	15.01	15.06	15.12	15.50	0
5	16QAM	12	0	14.88	14.9	14.96	14.92	14.81		
5	16QAM	12	7	14.99	14.98	14.98	14.99	14.94		
5	16QAM	12	13	14.98	14.89	14.93	14.95	14.97	15.50	0
5	16QAM	25	0	14.99	15	15.01	15	14.91		

<LTE Carrier Aggregation>

General Note:

This device supports Carrier Aggregation on downlink for inter and intra band. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.

<Inter-Band Carrier Combination>

E-UTRA CA configuration / Bandwidth combination set										
E-UTRA CA Configuration	Uplink CA configurations	E- UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_2A-5A	-	2			Yes	Yes	Yes	Yes	30	0
		5			Yes	Yes				
		2			Yes	Yes			20	1
		5			Yes	Yes				
CA_2A-12A	-	2			Yes	Yes	Yes	Yes	30	0
		12			Yes	Yes				
		2			Yes	Yes	Yes	Yes	30	1
		12		Yes	Yes	Yes				
		2			Yes	Yes			20	2
		12			Yes	Yes				
CA_2A-13A	-	2			Yes	Yes	Yes	Yes	30	0
		13				Yes				
		2			Yes	Yes			20	1
CA_4A-5A	-	4			Yes	Yes			20	0
		5			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	0
		5			Yes	Yes				
CA_4A-12A	-	4	Yes	Yes	Yes	Yes			20	0
		12			Yes	Yes				
		4	Yes	Yes	Yes	Yes	Yes	Yes	30	1
		12			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	2
		12		Yes	Yes	Yes				
		4			Yes	Yes			20	3
		12			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	4
		12			Yes	Yes				
4			Yes	Yes	Yes		20	5		
12			Yes							
CA_4A-13A	-	4			Yes	Yes	Yes	Yes	30	0
		13				Yes				
		4			Yes	Yes			20	1
		13				Yes				

<Intra-Band Carrier Combination>

E-UTRA CA configuration / Bandwidth combination set							
E-UTRA CA configuration	Uplink CA configurations	Component carriers in order of increasing carrier frequency				Maximum aggregated bandwidth [MHz]	Bandwidth combination set
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_7C	CA_7C	15	15			40	0
		20	20				
		10	20			40	1
		15	15, 20				
		20	10, 15, 20			40	2
		15	10, 15				
CA_41C	CA_41C	10	20			40	0
		15	15, 20				
		20	10, 15, 20			40	1
		5, 10	20				
		15	15, 20			40	2
		20	5, 10, 15, 20				
		10	15, 20			40	3
		15	10, 15, 20				
		20	10, 15, 20				
		10	20			40	3
20	20						
CA_2A-2A	-	5, 10, 15, 20	5, 10, 15, 20			40	0
CA_4A-4A	-	5, 10, 15, 20	5, 10, 15, 20			40	0
		5, 10	5, 10			20	1
CA_7A-7A	-	5	15			40	0
		10	10, 15				
		15	15, 20			40	1
		20	20				
		5, 10, 15, 20	5, 10, 15, 20			40	1
		5, 10, 15, 20	5, 10			30	2
10, 15, 20	10, 15, 20			40	3		
CA_41A-41A	-	10, 15, 20	10, 15, 20			40	0
		5, 10, 15, 20	5, 10, 15, 20			40	1

LTE Carrier Aggregation Conducted Power (Downlink)

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.
- vi. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- vii. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lceil \frac{BW_{\text{Channel}(1)} + BW_{\text{Channel}(2)} - 0.1|BW_{\text{Channel}(1)} - BW_{\text{Channel}(2)}|}{0.6} \right\rceil 0.3 \text{ [MHz]}$$

<Reduced Average RF Power (Proximity Sensor Inactive)>

		PCC						SCC				Power		
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Configure		Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	23.11	23.13
		Band 5	10M	844	20600	QPSK	1	0	Band 2	20M	1960	900	22.52	22.57
		Band 2	20M	1880	18900	QPSK	1	0	Band 12	10M	737.5	5095	23.12	23.13
		Band 12	10M	704	23060	QPSK	1	0	Band 2	20M	1960	900	23.01	23.08
		Band 2	20M	1880	18900	QPSK	1	0	Band 13	10M	751	5230	23.08	23.13
		Band 13	10M	782	23230	QPSK	1	0	Band 2	20M	1960	900	22.75	22.80
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 5	10M	881.5	2525	23.12	23.18
		Band 5	10M	844	20600	QPSK	1	0	Band 4	20M	2132.5	2175	22.52	22.57
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 12	10M	737.5	5095	23.15	23.18
		Band 12	10M	704	23060	QPSK	1	0	Band 4	20M	2132.5	2175	23.02	23.08
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 13	10M	751	5230	23.06	23.18
		Band 13	10M	782	23230	QPSK	1	0	Band 4	20M	2132.5	2175	22.78	22.80
Intra-Band	Contiguous	Band 7	20M	2535	21100	16QAM	1	49	Band 7	20M	2674.8	3298	21.38	21.41
		Band 41	20M	2593	40620	QPSK	1	0	Band 41	20M	2612.8	40818	22.16	22.26
	Non-Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	23.10	23.13
		Band 4	20M	1732.5	20175	QPSK	1	0	Band 4	5M	2152.5	2375	23.15	23.18
		Band 7	20M	2535	21100	16QAM	1	49	Band 7	5M	2687.5	3425	21.38	21.41
	Band 41	20M	2593	40620	QPSK	1	0	Band 41	5M	2687.5	41565	22.25	22.26	

<Reduced Average RF Power (Proximity Sensor Active)>

		PCC						SCC				Power		
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Configure		Band 2	20M	1880	18900	16QAM	1	49	Band 5	10M	881.5	2525	15.78	15.79
		Band 5	10M	844	20600	16QAM	1	49	Band 2	20M	1960	900	18.31	18.34
		Band 2	20M	1880	18900	16QAM	1	49	Band 12	10M	737.5	5095	15.72	15.79
		Band 12	10M	704	23060	16QAM	1	0	Band 2	20M	1960	900	19.81	19.82
		Band 2	20M	1880	18900	16QAM	1	49	Band 13	10M	751	5230	15.76	15.79
		Band 13	10M	782	23230	16QAM	1	25	Band 2	20M	1960	900	19.43	19.49
		Band 4	20M	1745	20300	16QAM	1	0	Band 5	10M	881.5	2525	15.71	15.72
		Band 5	10M	844	20600	16QAM	1	49	Band 4	20M	2132.5	2175	18.30	18.34
		Band 4	20M	1745	20300	16QAM	1	0	Band 12	10M	737.5	5095	15.68	15.72
		Band 12	10M	704	23060	16QAM	1	0	Band 4	20M	2132.5	2175	19.81	19.82
		Band 4	20M	1745	20300	16QAM	1	0	Band 13	10M	751	5230	15.71	15.72
		Band 13	10M	782	23230	16QAM	1	25	Band 4	20M	2132.5	2175	19.42	19.49
Intra-Band	Contiguous	Band 7	20M	2535	21100	16QAM	1	49	Band 7	20M	2674.8	3298	12.80	12.80
		Band 41	20M	2593	40620	QPSK	1	0	Band 41	20M	2612.8	40818	15.15	15.17
	Non-Contiguous	Band 2	20M	1880	18900	16QAM	1	49	Band 2	5M	1987.5	1175	15.72	15.79
		Band 4	20M	1745	20300	16QAM	1	0	Band 4	5M	2112.5	1975	15.71	15.72
		Band 7	20M	2535	21100	16QAM	1	49	Band 7	5M	2687.5	3425	12.73	12.80
	Band 41	20M	2593	40620	QPSK	1	0	Band 41	5M	2687.5	41565	15.15	15.17	

<WLAN Conducted Power>

General Note:

1. For each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
3. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
4. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
5. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

<2.4GHz WLAN Ant.1>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN Ant. 1	802.11b 1Mbps	1	2412	13.46	14.00	100.00
		6	2437	13.52	14.00	
		7	2442	13.36	14.00	
		11	2462	13.49	14.00	
		12	2467	13.39	14.00	
		13	2472	8.46	9.00	
	802.11g 6Mbps	1	2412	12.80	13.00	94.63
		6	2437	12.85	13.00	
		7	2442	12.76	13.00	
		11	2462	12.83	13.00	
		12	2467	11.32	13.00	
		13	2472	-2.52	-2.50	
	802.11n-HT20 MCS0	1	2412	12.78	13.00	95.65
		6	2437	12.77	13.00	
		7	2442	12.66	13.00	
		11	2462	12.81	13.00	
		12	2467	10.93	12.00	
		13	2472	-2.62	-2.50	
	802.11n-HT40 MCS0	3	2422	12.76	13.00	84.31
		6	2437	12.80	13.00	
		7	2442	12.68	13.00	
		9	2452	12.78	13.00	
		10	2457	12.45	13.00	
		11	2462	-2.65	-2.50	

<2.4GHz WLAN Ant.2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN Ant.2	802.11b 1Mbps	1	2412	13.48	14.00	100.00
		6	2437	13.53	14.00	
		7	2442	13.39	14.00	
		11	2462	13.54	14.00	
		12	2467	13.32	14.00	
		13	2472	8.56	9.00	
	802.11g 6Mbps	1	2412	12.88	13.00	94.63
		6	2437	12.83	13.00	
		7	2442	12.81	13.00	
		11	2462	12.86	13.00	
		12	2467	10.60	12.00	
		13	2472	-2.63	-2.50	
	802.11n-HT20 MCS0	1	2412	12.83	13.00	95.65
		6	2437	12.75	13.00	
		7	2442	12.70	13.00	
		11	2462	12.81	13.00	
		12	2467	10.75	12.00	
		13	2472	-2.84	-2.50	
	802.11n-HT40 MCS0	3	2422	12.76	13.00	84.31
		6	2437	12.78	13.00	
		7	2442	12.67	13.00	
9		2452	12.73	13.00		
10		2457	12.63	13.00		
11		2462	-2.79	-2.50		



<2.4GHz WLAN ANT.1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN Ant.1+2	802.11n-HT20 MCS8	1	2412	15.82	16.00	95.65
		6	2437	15.77	16.00	
		7	2442	15.69	16.00	
		11	2462	15.82	16.00	
		12	2467	13.85	15.00	
		13	2472	0.28	0.50	
	802.11n-HT40 MCS8	3	2422	15.77	16.00	84.31
		6	2437	15.80	16.00	
		7	2442	15.69	16.00	
		9	2452	15.77	16.00	
		10	2457	15.55	16.00	
		11	2462	0.29	0.50	

<5GHz WLAN Ant.1>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN Ant.1	802.11a 6Mbps	36	5180	12.48	13.00	94.65
		40	5200	12.46	13.00	
		44	5220	12.49	13.00	
		48	5240	12.50	13.00	
	802.11n-HT20 MCS0	36	5180	11.85	12.50	95.63
		40	5200	11.81	12.50	
		44	5220	11.84	12.50	
		48	5240	11.82	12.50	
	802.11n-HT40 MCS0	38	5190	11.82	12.50	84.31
		46	5230	11.85	12.50	
	802.11ac-VHT20 MCS0	36	5180	11.84	12.50	94.98
		40	5200	11.79	12.50	
		44	5220	11.75	12.50	
		48	5240	11.78	12.50	
	802.11ac-VHT40 MCS0	38	5190	11.81	12.50	84.42
		46	5230	11.75	12.50	
802.11ac-VHT80 MCS0	42	5210	11.80	12.50	84.13	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN Ant.1	802.11a 6Mbps	52	5260	12.45	13.00	94.65
		56	5280	12.53	13.00	
		60	5300	12.55	13.00	
		64	5320	12.47	13.00	
	802.11n-HT20 MCS0	52	5260	11.79	12.50	95.63
		56	5280	11.83	12.50	
		60	5300	11.87	12.50	
		64	5320	11.82	12.50	
	802.11n-HT40 MCS0	54	5270	11.83	12.50	84.31
		62	5310	11.49	12.50	
	802.11ac-VHT20 MCS0	52	5260	11.77	12.50	94.98
		56	5280	11.79	12.50	
		60	5300	11.83	12.50	
		64	5320	11.81	12.50	
	802.11ac-VHT40 MCS0	54	5270	11.80	12.50	84.42
		62	5310	11.46	12.50	
802.11ac-VHT80 MCS0	58	5290	10.28	12.00	84.13	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN Ant.1	802.11a 6Mbps	100	5500	12.48	13.00	94.65
		116	5580	12.51	13.00	
		124	5620	12.47	13.00	
		132	5660	12.49	13.00	
		140	5700	12.53	13.00	
		144	5720	12.46	13.00	
	802.11n-HT20 MCS0	100	5500	11.80	12.50	95.63
		116	5580	11.79	12.50	
		124	5620	11.83	12.50	
		132	5660	11.75	12.50	
		140	5700	11.76	12.50	
		144	5720	11.75	12.50	
	802.11n-HT40 MCS0	102	5510	11.79	12.50	84.31
		110	5550	11.77	12.50	
		126	5630	11.83	12.50	
		134	5670	11.80	12.50	
		142	5710	11.78	12.50	
	802.11ac-VHT20 MCS0	100	5500	11.78	12.50	94.98
		116	5580	11.83	12.50	
		124	5620	11.79	12.50	
		132	5660	11.84	12.50	
140		5700	11.82	12.50		
144		5720	11.74	12.50		
802.11ac-VHT40 MCS0	102	5510	11.79	12.50	84.42	
	110	5550	11.82	12.50		
	126	5630	11.78	12.50		
	134	5670	11.76	12.50		
	142	5710	11.81	12.50		
802.11ac-VHT80 MCS0	106	5530	10.05	12.00	84.13	
	122	5610	11.80	12.50		
	138	5690	11.83	12.50		

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN Ant.1	802.11a 6Mbps	149	5745	12.47	13.00	94.65
		157	5785	12.49	13.00	
		165	5825	12.51	13.00	
	802.11n-HT20 MCS0	149	5745	11.84	12.50	95.63
		157	5785	11.73	12.50	
		165	5825	11.83	12.50	
	802.11n-HT40 MCS0	151	5755	11.79	12.50	84.31
		159	5795	11.85	12.50	
	802.11ac-VHT20 MCS0	149	5745	11.78	12.50	94.98
		157	5785	11.75	12.50	
		165	5825	11.79	12.50	
	802.11ac-VHT40 MCS0	151	5755	11.77	12.50	84.42
		159	5795	11.83	12.50	
	802.11ac-VHT80 MCS0		155	5775	11.81	12.50

<5GHz WLAN Ant.2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN Ant.2	802.11a 6Mbps	36	5180	13.01	13.50	94.66
		40	5200	13.05	13.50	
		44	5220	13.03	13.50	
		48	5240	12.95	13.50	
	802.11n-HT20 MCS0	36	5180	12.43	13.00	95.64
		40	5200	12.34	13.00	
		44	5220	12.41	13.00	
		48	5240	12.31	13.00	
	802.11n-HT40 MCS0	38	5190	12.38	13.00	84.38
		46	5230	12.41	13.00	
	802.11ac-VHT20 MCS0	36	5180	12.35	13.00	95.66
		40	5200	12.30	13.00	
		44	5220	12.38	13.00	
		48	5240	12.32	13.00	
	802.11ac-VHT40 MCS0	38	5190	12.39	13.00	84.48
		46	5230	12.37	13.00	
802.11ac-VHT80 MCS0	42	5210	12.38	13.00	84.08	

5.3GHz WLAN Ant.2	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	52	5260	12.96	13.50	94.66
		56	5280	12.97	13.50	
		60	5300	13.02	13.50	
		64	5320	12.99	13.50	
	802.11n-HT20 MCS0	52	5260	12.38	13.00	95.64
		56	5280	12.35	13.00	
		60	5300	12.30	13.00	
		64	5320	12.40	13.00	
	802.11n-HT40 MCS0	54	5270	12.35	13.00	84.38
62		5310	12.09	13.00		
802.11ac-VHT20 MCS0	52	5260	12.35	13.00	95.66	
	56	5280	12.39	13.00		
	60	5300	12.37	13.00		
	64	5320	12.33	13.00		
802.11ac-VHT40 MCS0	54	5270	12.38	13.00	84.48	
	62	5310	12.04	13.00		
802.11ac-VHT80 MCS0	58	5290	10.89	12.00	84.08	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN Ant.2	802.11a 6Mbps	100	5500	13.01	13.50	94.66
		116	5580	12.99	13.50	
		124	5620	13.07	13.50	
		132	5660	13.03	13.50	
		140	5700	13.09	13.50	
		144	5720	12.99	13.50	
	802.11n-HT20 MCS0	100	5500	12.42	12.50	95.64
		116	5580	12.41	12.50	
		124	5620	12.35	12.50	
		132	5660	12.36	12.50	
		140	5700	12.34	12.50	
		144	5720	12.33	12.50	
	802.11n-HT40 MCS0	102	5510	12.31	12.50	84.38
		110	5550	12.36	12.50	
		126	5630	12.38	12.50	
		134	5670	12.41	12.50	
		142	5710	12.35	12.50	
	802.11ac-VHT20 MCS0	100	5500	12.38	12.50	95.66
		116	5580	12.36	12.50	
		124	5620	12.29	12.50	
		132	5660	12.32	12.50	
		140	5700	12.33	12.50	
		144	5720	12.37	12.50	
	802.11ac-VHT40 MCS0	102	5510	12.35	12.50	84.48
110		5550	12.36	12.50		
126		5630	12.39	12.50		
134		5670	12.32	12.50		
142		5710	12.38	12.50		
802.11ac-VHT80 MCS0	106	5530	10.64	11.00	84.08	
	122	5610	12.33	12.50		
	138	5690	12.32	12.50		

5.8GHz WLAN Ant. 2	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	149	5745	13.45	14.00	94.66
		157	5785	13.56	14.00	
		165	5825	13.46	14.00	
	802.11n-HT20 MCS0	149	5745	12.83	13.50	95.64
		157	5785	12.81	13.50	
		165	5825	12.82	13.50	
	802.11n-HT40 MCS0	151	5755	12.86	13.50	84.38
		159	5795	12.91	13.50	
	802.11ac-VHT20 MCS0	149	5745	12.86	13.50	95.66
157		5785	12.82	13.50		
165		5825	12.85	13.50		
802.11ac-VHT40 MCS0	151	5755	12.86	13.50	84.48	
	159	5795	12.82	13.50		
802.11ac-VHT80 MCS0	155	5775	12.86	13.50	84.08	



<5GHz WLAN Ant.1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN Ant.1+2	802.11n-HT20 MCS8	36	5180	15.16	15.50	95.64
		40	5200	15.10	15.50	
		44	5220	15.15	15.50	
		48	5240	15.09	15.50	
	802.11n-HT40 MCS8	38	5190	15.12	15.50	84.38
		46	5230	15.15	15.50	
	802.11ac-VHT20 MCS0	36	5180	15.12	15.50	95.66
		40	5200	15.07	15.50	
		44	5220	15.09	15.50	
		48	5240	15.07	15.50	
	802.11ac-VHT40 MCS0	38	5190	15.12	15.50	84.48
		46	5230	15.08	15.50	
	802.11ac-VHT80 MCS0	42	5210	15.11	15.50	84.13

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN Ant.1+2	802.11n-HT20 MCS8	52	5260	15.11	15.50	95.64
		56	5280	15.11	15.50	
		60	5300	15.10	15.50	
		64	5320	15.13	15.50	
	802.11n-HT40 MCS8	54	5270	15.11	15.50	84.38
		62	5310	14.81	15.50	
	802.11ac-VHT20 MCS0	52	5260	15.08	15.50	95.66
		56	5280	15.11	15.50	
		60	5300	15.12	15.50	
		64	5320	15.09	15.50	
	802.11ac-VHT40 MCS0	54	5270	15.11	15.50	84.48
		62	5310	14.77	15.50	
	802.11ac-VHT80 MCS0	58	5290	13.61	15.50	84.13

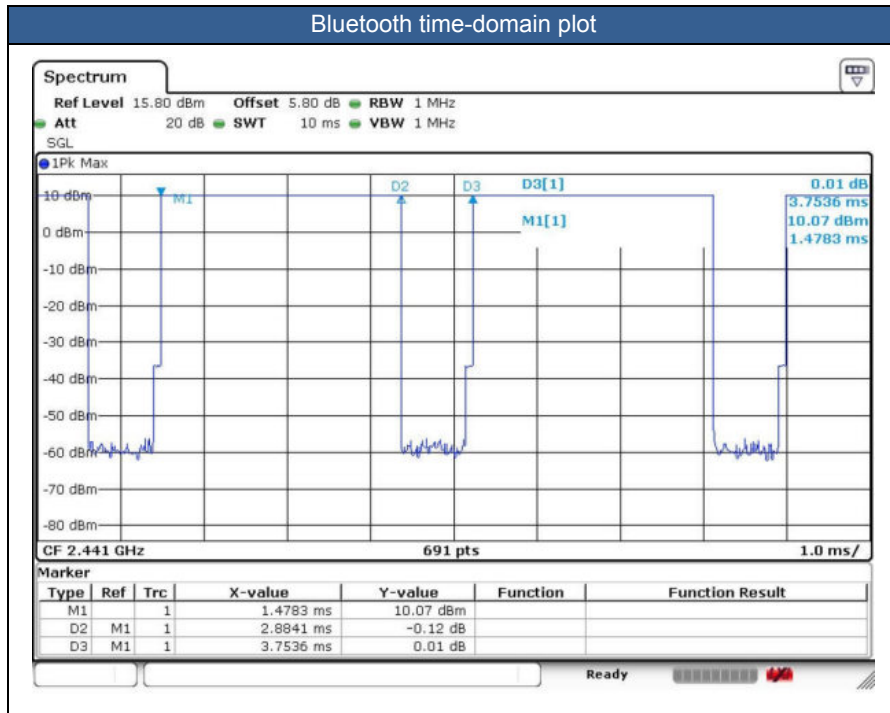
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN Ant.1+2	802.11n-HT20 MCS8	100	5500	15.14	15.50	95.64
		116	5580	15.13	15.50	
		124	5620	15.11	15.50	
		132	5660	15.08	15.50	
		140	5700	15.07	15.50	
		144	5720	15.06	15.50	
	802.11n-HT40 MCS8	102	5510	15.07	15.50	84.38
		110	5550	15.08	15.50	
		126	5630	15.12	15.50	
		134	5670	15.13	15.50	
		142	5710	15.08	15.50	
	802.11ac-VHT20 MCS0	100	5500	15.10	15.50	95.66
		116	5580	15.12	15.50	
		124	5620	15.06	15.50	
		132	5660	15.10	15.50	
		140	5700	15.10	15.50	
		144	5720	15.08	15.50	
	802.11ac-VHT40 MCS0	102	5510	15.09	15.50	84.48
		110	5550	15.11	15.50	
		126	5630	15.11	15.50	
		134	5670	15.06	15.50	
142		5710	15.11	15.50		
802.11ac-VHT80 MCS0	106	5530	13.37	15.00	84.13	
	122	5610	15.09	15.50		
	138	5690	15.09	15.50		

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN Ant. 1+2	802.11n-HT20 MCS8	149	5745	15.38	15.50	95.64
		157	5785	15.32	15.50	
		165	5825	15.37	15.50	
	802.11n-HT40 MCS8	151	5755	15.37	15.50	84.38
		159	5795	15.42	15.50	
	802.11ac-VHT20 MCS0	149	5745	15.37	15.50	95.66
		157	5785	15.33	15.50	
		165	5825	15.37	15.50	
	802.11ac-VHT40 MCS0	151	5755	15.36	15.50	84.48
		159	5795	15.36	15.50	
	802.11ac-VHT80 MCS0	155	5775	15.38	15.50	84.13

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.84 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation.



Mode	Channel	Frequency (MHz)	Average power (dBm)
			1Mbps
v3.0+EDR	CH 00	2402	8.92
	CH 39	2441	9.50
	CH 78	2480	8.88
Tune-up limit (dBm)			10.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
v4.0/4.1 LE	CH 00	2402	4.90
	CH 19	2440	5.09
	CH 39	2480	4.46
Tune-up limit (dBm)			5.50



14. Antenna Dimensions and Separation Distances

Please refer to the separate filing document.

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For BTWLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
4. The device can work with a keyboard which has no radio frequency. The device can work in laptop and tablet mode. For tablet mode, we evaluate full SAR testing. For laptop mode, the WWAN/WLAN/BT antennas location distance to laptop of bottom is all larger than 200mm, so laptop SAR is excluded.
5. There are two batteries of EUT, due the similarity between two types of battery, we chose battery #1 to evaluate SAR for full test, and battery #2 only verified the worst cases of battery #1.
6. There are two samples of EUT, the only difference between two samples are just for the WWAN antenna and WLAN/BT antenna with different suppliers, they are equivalent-type antennas , antenna type and gain are all the same between sample 1 and sample 2 . According to the difference, we evaluate sample 1 for full test, sample 2 only verified the worst cases of sample 1.

Tablet Note:

1. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in normal mode was performed; 12mm for bottom face, 15mm for edge1.
2. Per KDB 616217 D04v01r02, the additional separation introduced by the contour against a flat phantom is < 5 mm on this device and reported SAR is < 1.2 W/kg, a curved or contoured back surface or edge SAR is not required, more detail information please refer to the setup photo.

WCDMA Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq 1/4$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than $1/4$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B12 / B26 the maximum 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 middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2 / 5 SAR test was covered by Band 25 / 26; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. Additional BT/WLAN 2.4GHz SAR test with 12mm separation for bottom face and 15mm separation for edge 1 was for conservative simultaneous transmission analysis.

15.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
01	WCDMA Band V	RMC 12.2Kbps	Bottom Face	0	ON	1	1	4233	846.6	18.23	19.00	1.194	-0.02	0.921	1.100
	WCDMA Band V	RMC 12.2Kbps	Bottom Face	0	ON	1	1	4132	826.4	18.20	19.00	1.202	0.14	0.900	1.082
	WCDMA Band V	RMC 12.2Kbps	Bottom Face	0	ON	1	1	4182	836.4	18.21	19.00	1.199	-0.04	0.887	1.064
	WCDMA Band V	RMC 12.2Kbps	Edge1	0	ON	1	1	4233	846.6	18.23	19.00	1.194	0.09	0.411	0.491
	WCDMA Band V	RMC 12.2Kbps	Edge4	0	OFF	1	1	4233	846.6	23.10	23.50	1.096	0.02	0.497	0.545
	WCDMA Band V	RMC 12.2Kbps	Bottom Face	12	OFF	1	1	4233	846.6	23.10	23.50	1.096	-0.08	0.544	0.596
	WCDMA Band V	RMC 12.2Kbps	Edge1	15	OFF	1	1	4233	846.6	23.10	23.50	1.096	0.01	0.201	0.220
	WCDMA Band V	RMC 12.2Kbps	Bottom Face	0	ON	1	2	4233	846.6	18.23	19.00	1.194	-0.01	0.910	1.087
	WCDMA Band V	RMC 12.2Kbps	Bottom Face	0	ON	1	2	4132	826.4	18.20	19.00	1.202	0.02	0.818	0.983
	WCDMA Band V	RMC 12.2Kbps	Bottom Face	0	ON	1	2	4182	836.4	18.21	19.00	1.199	0.05	0.890	1.068
	WCDMA Band IV	RMC 12.2Kbps	Bottom Face	0	ON	1	1	1513	1752.6	15.28	16.00	1.180	0.07	0.948	1.119
	WCDMA Band IV	RMC 12.2Kbps	Bottom Face	0	ON	1	1	1312	1712.4	15.21	16.00	1.199	-0.03	0.964	1.156
	WCDMA Band IV	RMC 12.2Kbps	Bottom Face	0	ON	1	1	1413	1732.6	15.24	16.00	1.191	0.02	0.943	1.123
	WCDMA Band IV	RMC 12.2Kbps	Edge1	0	ON	1	1	1513	1752.6	15.28	16.00	1.180	0.06	0.862	1.017
	WCDMA Band IV	RMC 12.2Kbps	Edge1	0	ON	1	1	1312	1712.4	15.21	16.00	1.199	0.01	0.838	1.005
	WCDMA Band IV	RMC 12.2Kbps	Edge1	0	ON	1	1	1413	1732.6	15.24	16.00	1.191	0.06	0.872	1.039
	WCDMA Band IV	RMC 12.2Kbps	Edge4	0	OFF	1	1	1513	1752.6	23.48	24.00	1.127	-0.05	1.050	1.184
	WCDMA Band IV	RMC 12.2Kbps	Edge4	0	OFF	1	1	1312	1712.4	23.34	24.00	1.164	0.08	0.942	1.097
	WCDMA Band IV	RMC 12.2Kbps	Edge4	0	OFF	1	1	1413	1732.6	23.30	24.00	1.175	-0.02	0.975	1.146
	WCDMA Band IV	RMC 12.2Kbps	Bottom Face	12	OFF	1	1	1513	1752.6	23.48	24.00	1.127	0.17	1.120	1.262
	WCDMA Band IV	RMC 12.2Kbps	Bottom Face	12	OFF	1	1	1312	1712.4	23.34	24.00	1.164	-0.11	0.903	1.051
02	WCDMA Band IV	RMC 12.2Kbps	Bottom Face	12	OFF	1	1	1413	1732.6	23.30	24.00	1.175	-0.07	1.100	1.292
	WCDMA Band IV	RMC 12.2Kbps	Edge1	15	OFF	1	1	1513	1752.6	23.48	24.00	1.127	-0.08	0.900	1.014
	WCDMA Band IV	RMC 12.2Kbps	Edge1	15	OFF	1	1	1312	1712.4	23.34	24.00	1.164	-0.19	0.927	1.079
	WCDMA Band IV	RMC 12.2Kbps	Edge1	15	OFF	1	1	1413	1732.6	23.30	24.00	1.175	-0.18	0.951	1.117
	WCDMA Band IV	RMC 12.2Kbps	Bottom Face	12	OFF	1	2	1413	1732.6	23.30	24.00	1.175	-0.03	1.020	1.198
	WCDMA Band IV	RMC 12.2Kbps	Bottom Face	12	OFF	1	2	1312	1712.4	23.34	24.00	1.164	-0.05	0.910	1.059
	WCDMA Band IV	RMC 12.2Kbps	Bottom Face	12	OFF	1	2	1513	1752.6	23.48	24.00	1.127	-0.01	1.030	1.161
	WCDMA Band II	RMC 12.2Kbps	Bottom Face	0	ON	1	1	9400	1880	15.99	16.50	1.125	-0.01	0.938	1.055
	WCDMA Band II	RMC 12.2Kbps	Bottom Face	0	ON	1	1	9262	1852.4	15.91	16.50	1.146	-0.13	0.955	1.094
	WCDMA Band II	RMC 12.2Kbps	Bottom Face	0	ON	1	1	9538	1907.6	15.84	16.50	1.164	-0.05	0.930	1.083
	WCDMA Band II	RMC 12.2Kbps	Edge1	0	ON	1	1	9400	1880	15.99	16.50	1.125	0.02	0.885	0.995
	WCDMA Band II	RMC 12.2Kbps	Edge1	0	ON	1	1	9262	1852.4	15.91	16.50	1.146	0.08	0.899	1.030
	WCDMA Band II	RMC 12.2Kbps	Edge1	0	ON	1	1	9538	1907.6	15.84	16.50	1.164	0.02	0.951	1.107
	WCDMA Band II	RMC 12.2Kbps	Edge4	0	OFF	1	1	9400	1880	23.72	24.00	1.067	-0.17	1.250	1.333
03	WCDMA Band II	RMC 12.2Kbps	Edge4	0	OFF	1	1	9262	1852.4	23.68	24.00	1.076	-0.04	1.290	1.389
	WCDMA Band II	RMC 12.2Kbps	Edge4	0	OFF	1	1	9538	1907.6	23.54	24.00	1.112	-0.06	1.200	1.334
	WCDMA Band II	RMC 12.2Kbps	Bottom Face	12	OFF	1	1	9400	1880	23.72	24.00	1.067	0.15	0.987	1.053
	WCDMA Band II	RMC 12.2Kbps	Bottom Face	12	OFF	1	1	9262	1852.4	23.68	24.00	1.076	0.03	1.010	1.087
	WCDMA Band II	RMC 12.2Kbps	Bottom Face	12	OFF	1	1	9538	1907.6	23.54	24.00	1.112	-0.09	0.927	1.031
	WCDMA Band II	RMC 12.2Kbps	Edge1	15	OFF	1	1	9400	1880	23.72	24.00	1.067	0.18	0.737	0.786
	WCDMA Band II	RMC 12.2Kbps	Edge4	0	OFF	1	2	9262	1852.4	23.68	24.00	1.076	0.02	1.210	1.303
	WCDMA Band II	RMC 12.2Kbps	Edge4	0	OFF	1	2	9400	1880	23.72	24.00	1.067	0.01	1.180	1.259
	WCDMA Band II	RMC 12.2Kbps	Edge4	0	OFF	1	2	9538	1907.6	23.54	24.00	1.112	0	1.160	1.290



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Reduction	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
04	LTE Band 12	10M	QPSK	1	0	Bottom Face	0	ON	1	1	23095	707.5	19.35	20.00	1.161	-0.09	0.982	1.141	
	LTE Band 12	10M	QPSK	25	0	Bottom Face	0	ON	1	1	23095	707.5	19.30	20.00	1.175	0.07	0.961	1.129	
	LTE Band 12	10M	QPSK	50	0	Bottom Face	0	ON	1	1	23095	707.5	19.33	20.00	1.167	0.01	0.960	1.120	
	LTE Band 12	10M	QPSK	1	0	Edge1	0	ON	1	1	23095	707.5	19.35	20.00	1.161	-0.03	0.379	0.440	
	LTE Band 12	10M	QPSK	25	0	Edge1	0	ON	1	1	23095	707.5	19.30	20.00	1.175	0.12	0.366	0.430	
	LTE Band 12	10M	QPSK	1	0	Edge4	0	OFF	1	1	23095	707.5	22.96	23.50	1.132	0.14	0.296	0.335	
	LTE Band 12	10M	QPSK	25	0	Edge4	0	OFF	1	1	23095	707.5	21.88	22.50	1.153	0.12	0.228	0.263	
	LTE Band 12	10M	QPSK	1	0	Bottom Face	12	OFF	1	1	23095	707.5	22.96	23.50	1.132	-0.07	0.221	0.250	
	LTE Band 12	10M	QPSK	25	0	Bottom Face	12	OFF	1	1	23095	707.5	21.88	22.50	1.153	-0.15	0.168	0.194	
	LTE Band 12	10M	QPSK	1	0	Edge1	15	OFF	1	1	23095	707.5	22.96	23.50	1.132	-0.07	0.076	0.086	
	LTE Band 12	10M	QPSK	25	0	Edge1	15	OFF	1	1	23095	707.5	21.88	22.50	1.153	0.04	0.059	0.068	
	LTE Band 12	10M	QPSK	1	0	Bottom Face	0	ON	1	2	23095	707.5	19.35	20.00	1.161	-0.08	0.950	1.103	
	05	LTE Band 13	10M	QPSK	1	0	Bottom Face	0	ON	1	1	23230	782	19.23	20.00	1.194	-0.03	1.030	1.230
		LTE Band 13	10M	QPSK	25	0	Bottom Face	0	ON	1	1	23230	782	19.20	20.00	1.202	0.06	1.010	1.214
LTE Band 13		10M	QPSK	50	0	Bottom Face	0	ON	1	1	23230	782	19.25	20.00	1.189	0.09	1.030	1.224	
LTE Band 13		10M	QPSK	1	0	Edge1	0	ON	1	1	23230	782	19.23	20.00	1.194	-0.15	0.420	0.501	
LTE Band 13		10M	QPSK	25	0	Edge1	0	ON	1	1	23230	782	19.20	20.00	1.202	0.05	0.403	0.485	
LTE Band 13		10M	QPSK	1	0	Edge4	0	OFF	1	1	23230	782	22.80	23.50	1.175	0.11	0.490	0.576	
LTE Band 13		10M	QPSK	25	0	Edge4	0	OFF	1	1	23230	782	21.72	22.50	1.197	0.13	0.374	0.448	
LTE Band 13		10M	QPSK	1	0	Bottom Face	12	OFF	1	1	23230	782	22.80	23.50	1.175	0.12	0.313	0.368	
LTE Band 13		10M	QPSK	25	0	Bottom Face	12	OFF	1	1	23230	782	21.72	22.50	1.197	-0.07	0.235	0.281	
LTE Band 13		10M	QPSK	1	0	Edge1	15	OFF	1	1	23230	782	22.80	23.50	1.175	0.11	0.146	0.172	
LTE Band 13		10M	QPSK	25	0	Edge1	15	OFF	1	1	23230	782	21.72	22.50	1.197	-0.02	0.110	0.132	
LTE Band 13		10M	QPSK	1	0	Bottom Face	0	ON	1	2	23230	782	19.23	20.00	1.194	-0.06	1.010	1.206	
LTE Band 26		15M	QPSK	1	0	Bottom Face	0	ON	1	1	26865	831.5	18.33	19.00	1.167	-0.12	0.849	0.991	
06		LTE Band 26	15M	QPSK	36	0	Bottom Face	0	ON	1	1	26865	831.5	18.21	19.00	1.199	0.01	0.857	1.028
	LTE Band 26	15M	QPSK	75	0	Bottom Face	0	ON	1	1	26865	831.5	18.19	19.00	1.205	0.02	0.842	1.015	
	LTE Band 26	15M	QPSK	1	0	Edge1	0	ON	1	1	26865	831.5	18.33	19.00	1.167	-0.15	0.420	0.490	
	LTE Band 26	15M	QPSK	36	0	Edge1	0	ON	1	1	26865	831.5	18.21	19.00	1.199	0.05	0.383	0.459	
	LTE Band 26	15M	QPSK	1	0	Edge4	0	OFF	1	1	26865	831.5	22.74	23.50	1.191	0.11	0.497	0.592	
	LTE Band 26	15M	QPSK	36	0	Edge4	0	OFF	1	1	26865	831.5	21.60	22.50	1.230	0.04	0.389	0.479	
	LTE Band 26	15M	QPSK	1	0	Bottom Face	12	OFF	1	1	26865	831.5	22.74	23.50	1.191	-0.07	0.310	0.369	
	LTE Band 26	15M	QPSK	36	0	Bottom Face	12	OFF	1	1	26865	831.5	21.60	22.50	1.230	-0.09	0.246	0.303	
	LTE Band 26	15M	QPSK	1	0	Edge1	15	OFF	1	1	26865	831.5	22.74	23.50	1.191	-0.02	0.142	0.169	
	LTE Band 26	15M	QPSK	36	0	Edge1	15	OFF	1	1	26865	831.5	21.60	22.50	1.230	0.08	0.110	0.135	
	LTE Band 26	15M	QPSK	36	0	Bottom Face	0	ON	1	2	26865	831.5	18.21	19.00	1.199	-0.07	0.835	1.002	



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Reduction	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	0	Bottom Face	0	ON	1	1	21100	2535	12.50	13.00	1.122	-0.02	0.955	1.072
	LTE Band 7	20M	QPSK	1	0	Bottom Face	0	ON	1	1	20850	2510	12.30	13.00	1.175	-0.04	0.939	1.103
	LTE Band 7	20M	QPSK	1	0	Bottom Face	0	ON	1	1	21350	2560	12.26	13.00	1.186	-0.09	1.040	1.233
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0	ON	1	1	21100	2535	12.55	13.00	1.109	0.04	0.898	0.996
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0	ON	1	1	20850	2510	12.45	13.00	1.135	0.08	0.860	0.976
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0	ON	1	1	21350	2560	12.27	13.00	1.183	0.08	0.916	1.084
	LTE Band 7	20M	QPSK	100	0	Bottom Face	0	ON	1	1	21100	2535	12.49	13.00	1.125	0.08	0.908	1.021
	LTE Band 7	20M	QPSK	1	0	Edge1	0	ON	1	1	21100	2535	12.50	13.00	1.122	0.04	0.391	0.439
	LTE Band 7	20M	QPSK	50	0	Edge1	0	ON	1	1	21100	2535	12.55	13.00	1.109	0.07	0.384	0.426
	LTE Band 7	20M	QPSK	1	0	Edge4	0	OFF	1	1	21100	2535	21.13	21.50	1.089	0.14	0.779	0.848
	LTE Band 7	20M	QPSK	1	0	Edge4	0	OFF	1	1	20850	2510	20.76	21.50	1.186	-0.02	0.755	0.895
	LTE Band 7	20M	QPSK	1	0	Edge4	0	OFF	1	1	21350	2560	20.83	21.50	1.167	0.19	1.100	1.283
	LTE Band 7	20M	QPSK	50	0	Edge4	0	OFF	1	1	21100	2535	21.25	21.50	1.059	0.1	0.942	0.998
	LTE Band 7	20M	QPSK	50	0	Edge4	0	OFF	1	1	20850	2510	21.01	21.50	1.119	0.09	0.804	0.900
09	LTE Band 7	20M	QPSK	50	0	Edge4	0	OFF	1	1	21350	2560	20.84	21.50	1.164	0.04	1.160	1.350
	LTE Band 7	20M	QPSK	100	0	Edge4	0	OFF	1	1	21100	2535	21.13	21.50	1.089	0.12	0.984	1.072
	LTE Band 7	20M	QPSK	1	0	Bottom Face	12	OFF	1	1	21100	2535	21.13	21.50	1.089	0.12	0.657	0.715
	LTE Band 7	20M	QPSK	50	0	Bottom Face	12	OFF	1	1	21100	2535	21.25	21.50	1.059	-0.12	0.638	0.676
	LTE Band 7	20M	QPSK	1	0	Edge1	15	OFF	1	1	21100	2535	21.13	21.50	1.089	-0.18	0.524	0.571
	LTE Band 7	20M	QPSK	50	0	Edge1	15	OFF	1	1	21100	2535	21.25	21.50	1.059	-0.11	0.522	0.553
	LTE Band 7	20M	QPSK	50	0	Edge4	0	OFF	1	2	21350	2560	20.84	21.50	1.164	0.03	1.140	1.327
	LTE Band 7	20M	QPSK	50	0	Edge4	0	OFF	1	2	20850	2510	21.01	21.50	1.119	-0.04	0.726	0.813
	LTE Band 7	20M	QPSK	50	0	Edge4	0	OFF	1	2	21100	2535	21.25	21.50	1.059	-0.06	0.900	0.980



<TDD LTE SAR>

Table with 21 columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB Offset, Test Position, Gap (mm), Power Reduction, Sample, Battery, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). The table contains 40 rows of test data, with the 10th row (Plot No. 10) highlighted in yellow, showing a Reported 1g SAR of 1.440.

<WLAN 2.4GHz SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	1	6	2437	13.52	14.00	1.117	100	1.000	-0.03	0.790	0.882
	1	WLAN2.4GHz	802.11b 1Mbps	Edge1	0	1	1	6	2437	13.52	14.00	1.117	100	1.000	-0.11	0.107	0.120
	1	WLAN2.4GHz	802.11b 1Mbps	Edge2	0	1	1	6	2437	13.52	14.00	1.117	100	1.000	-0.04	0.254	0.284
	1	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	12	1	1	6	2437	13.52	14.00	1.117	100	1.000	0.04	0.050	0.056
	1	WLAN2.4GHz	802.11b 1Mbps	Edge1	15	1	1	6	2437	13.52	14.00	1.117	100	1.000	-0.05	0.014	0.016
11	1	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	1	1	2412	13.46	14.00	1.132	100	1.000	-0.16	0.784	0.888
	1	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	1	11	2462	13.49	14.00	1.125	100	1.000	0.11	0.741	0.833
	1	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	2	1	2412	13.46	14.00	1.132	100	1.000	0.09	0.756	0.856
	1	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	2	6	2437	13.52	14.00	1.117	100	1.000	-0.09	0.773	0.863
	1	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	2	11	2462	13.49	14.00	1.125	100	1.000	-0.06	0.688	0.774
	2	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	1	11	2462	13.54	14.00	1.112	100	1.000	-0.05	0.735	0.817
	2	WLAN2.4GHz	802.11b 1Mbps	Edge1	0	1	1	11	2462	13.54	14.00	1.112	100	1.000	0.09	0.140	0.156
	2	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	12	1	1	11	2462	13.54	14.00	1.112	100	1.000	-0.03	0.051	0.057
	2	WLAN2.4GHz	802.11b 1Mbps	Edge1	15	1	1	11	2462	13.54	14.00	1.112	100	1.000	-0.12	0.029	0.032
	2	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	1	1	2412	13.48	14.00	1.127	100	1.000	-0.02	0.713	0.804
12	2	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	1	6	2437	13.53	14.00	1.114	100	1.000	-0.09	0.846	0.943
	2	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	1	13	2472	8.56	9.00	1.107	100	1.000	-0.03	0.278	0.308
	2	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	2	6	2437	13.53	14.00	1.114	100	1.000	-0.05	0.828	0.923
	2	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	2	1	2412	13.48	14.00	1.127	100	1.000	-0.06	0.731	0.824
	2	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	2	11	2462	13.54	14.00	1.112	100	1.000	-0.03	0.747	0.830
	2	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0	1	2	13	2472	8.56	9.00	1.107	100	1.000	-0.03	0.251	0.278



<WLAN 5GHz SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	1	1	60	5300	12.55	13.00	1.109	94.65	1.057	-0.12	0.452	0.530
	1	WLAN 5.3GHz	802.11a 6Mbps	Edge1	0	1	1	60	5300	12.55	13.00	1.109	94.65	1.057	-0.07	0.581	0.681
	1	WLAN 5.3GHz	802.11a 6Mbps	Edge2	0	1	1	60	5300	12.55	13.00	1.109	94.65	1.057	0.15	0.193	0.226
	1	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	12	1	1	60	5300	12.55	13.00	1.109	94.65	1.057	-0.03	0.140	0.164
	1	WLAN 5.3GHz	802.11a 6Mbps	Edge1	15	1	1	60	5300	12.55	13.00	1.109	94.65	1.057	-0.1	0.075	0.088
13	1	WLAN 5.3GHz	802.11a 6Mbps	Edge1	0	1	1	52	5260	12.45	13.00	1.135	94.65	1.057	0.03	0.595	0.714
	1	WLAN 5.3GHz	802.11a 6Mbps	Edge1	0	1	1	64	5320	12.47	13.00	1.130	94.65	1.057	-0.18	0.557	0.665
	1	WLAN 5.3GHz	802.11a 6Mbps	Edge1	0	1	2	52	5260	12.45	13.00	1.135	94.65	1.057	0.16	0.527	0.632
14	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	1	1	60	5300	13.02	13.50	1.117	94.66	1.056	-0.18	0.956	1.128
	2	WLAN 5.3GHz	802.11a 6Mbps	Edge1	0	1	1	60	5300	13.02	13.50	1.117	94.66	1.056	-0.16	0.442	0.521
	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	12	1	1	60	5300	13.02	13.50	1.117	94.66	1.056	0.04	0.105	0.124
	2	WLAN 5.3GHz	802.11a 6Mbps	Edge1	15	1	1	60	5300	13.02	13.50	1.117	94.66	1.056	0.1	0.063	0.074
	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	1	1	52	5260	12.96	13.50	1.132	94.66	1.056	0.14	0.897	1.073
	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	1	1	64	5320	12.99	13.50	1.125	94.66	1.056	0.12	0.925	1.099
	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	1	2	60	5300	13.02	13.50	1.117	94.66	1.056	0.1	0.822	0.969
	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	1	2	52	5260	12.96	13.50	1.132	94.66	1.056	-0.12	0.797	0.953
	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	1	2	64	5320	12.99	13.50	1.125	94.66	1.056	0.15	0.907	1.077
	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	2	1	60	5300	13.02	13.50	1.117	94.66	1.056	0.05	0.930	1.097
	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	2	1	52	5260	12.96	13.50	1.132	94.66	1.056	-0.12	0.885	1.058
	2	WLAN 5.3GHz	802.11a 6Mbps	Bottom Face	0	2	1	64	5320	12.99	13.50	1.125	94.66	1.056	-0.06	0.911	1.082
	1	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	1	140	5700	12.53	13.00	1.114	94.65	1.057	-0.05	0.774	0.912
	1	WLAN 5.5GHz	802.11a 6Mbps	Edge1	0	1	1	140	5700	12.53	13.00	1.114	94.65	1.057	0.01	0.835	0.983
	1	WLAN 5.5GHz	802.11a 6Mbps	Edge2	0	1	1	140	5700	12.53	13.00	1.114	94.65	1.057	-0.11	0.206	0.243
	1	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	12	1	1	140	5700	12.53	13.00	1.114	94.65	1.057	0.08	0.080	0.094
	1	WLAN 5.5GHz	802.11a 6Mbps	Edge1	15	1	1	140	5700	12.53	13.00	1.114	94.65	1.057	-0.01	0.075	0.088
	1	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	1	116	5580	12.51	13.00	1.119	94.65	1.057	-0.01	0.722	0.854
	1	WLAN 5.5GHz	802.11a 6Mbps	Edge1	0	1	1	116	5580	12.51	13.00	1.119	94.65	1.057	0.09	0.832	0.984
	1	WLAN 5.5GHz	802.11a 6Mbps	Edge1	0	1	1	100	5500	12.48	13.00	1.127	94.65	1.057	0.02	0.612	0.729
15	1	WLAN 5.5GHz	802.11a 6Mbps	Edge1	0	1	1	144	5720	12.46	13.00	1.132	94.65	1.057	0.14	0.835	0.999
	1	WLAN 5.5GHz	802.11a 6Mbps	Edge1	0	1	2	144	5720	12.46	13.00	1.132	94.65	1.057	0.05	0.800	0.958
	1	WLAN 5.5GHz	802.11a 6Mbps	Edge1	0	1	2	140	5700	12.53	13.00	1.114	94.65	1.057	0.15	0.833	0.981
	1	WLAN 5.5GHz	802.11a 6Mbps	Edge1	0	1	2	100	5500	12.48	13.00	1.127	94.65	1.057	-0.1	0.583	0.695
	1	WLAN 5.5GHz	802.11a 6Mbps	Edge1	0	1	2	116	5580	12.51	13.00	1.119	94.65	1.057	-0.11	0.835	0.988
	2	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	1	140	5700	13.09	13.50	1.099	94.66	1.056	0.1	0.594	0.689
	2	WLAN 5.5GHz	802.11a 6Mbps	Edge1	0	1	1	140	5700	13.09	13.50	1.099	94.66	1.056	0.14	0.461	0.535
	2	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	12	1	1	140	5700	13.09	13.50	1.099	94.66	1.056	0.07	0.091	0.106
	2	WLAN 5.5GHz	802.11a 6Mbps	Edge1	15	1	1	140	5700	13.09	13.50	1.099	94.66	1.056	0.03	0.065	0.075
16	2	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	1	100	5500	13.01	13.50	1.119	94.66	1.056	-0.09	0.819	0.968
	2	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	1	116	5580	12.99	13.50	1.125	94.66	1.056	0.07	0.712	0.846
	2	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	1	144	5720	12.99	13.50	1.125	94.66	1.056	-0.12	0.428	0.508
	2	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	2	100	5500	13.01	13.50	1.119	94.66	1.056	-0.1	0.772	0.913
	2	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	2	140	5700	13.09	13.50	1.099	94.66	1.056	0.05	0.422	0.490
	2	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	2	116	5580	12.99	13.50	1.125	94.66	1.056	0.16	0.671	0.797
	2	WLAN 5.5GHz	802.11a 6Mbps	Bottom Face	0	1	2	144	5720	12.99	13.50	1.125	94.66	1.056	-0.1	0.447	0.531

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN 5.8GHz	802.11a 6Mbps	Bottom Face	0	1	1	165	5825	12.51	13.00	1.119	94.65	1.057	-0.06	0.413	0.489
	1	WLAN 5.8GHz	802.11a 6Mbps	Edge1	0	1	1	165	5825	12.51	13.00	1.119	94.65	1.057	-0.09	0.487	0.576
	1	WLAN 5.8GHz	802.11a 6Mbps	Edge2	0	1	1	165	5825	12.51	13.00	1.119	94.65	1.057	0.02	0.065	0.077
	1	WLAN 5.8GHz	802.11a 6Mbps	Bottom Face	12	1	1	165	5825	12.51	13.00	1.119	94.65	1.057	-0.01	0.049	0.058
	1	WLAN 5.8GHz	802.11a 6Mbps	Edge1	15	1	1	165	5825	12.51	13.00	1.119	94.65	1.057	0.02	0.036	0.043
	1	WLAN 5.8GHz	802.11a 6Mbps	Edge1	0	1	1	157	5785	12.49	13.00	1.125	94.65	1.057	0.09	0.604	0.718
17	1	WLAN 5.8GHz	802.11a 6Mbps	Edge1	0	1	1	149	5745	12.47	13.00	1.130	94.65	1.057	-0.04	0.719	0.859
	1	WLAN 5.8GHz	802.11a 6Mbps	Edge1	0	1	2	149	5745	12.47	13.00	1.130	94.65	1.057	-0.11	0.69	0.824
	1	WLAN 5.8GHz	802.11a 6Mbps	Edge1	0	1	2	157	5785	12.49	13.00	1.125	94.65	1.057	0.01	0.608	0.723
	1	WLAN 5.8GHz	802.11a 6Mbps	Edge1	0	1	2	165	5825	12.51	13.00	1.119	94.65	1.057	0.11	0.473	0.560
18	2	WLAN 5.8GHz	802.11a 6Mbps	Bottom Face	0	1	1	157	5785	13.56	14.00	1.107	94.66	1.056	-0.09	0.653	0.763
	2	WLAN 5.8GHz	802.11a 6Mbps	Edge1	0	1	1	157	5785	13.56	14.00	1.107	94.66	1.056	-0.11	0.465	0.543
	2	WLAN 5.8GHz	802.11a 6Mbps	Bottom Face	12	1	1	157	5785	13.56	14.00	1.107	94.66	1.056	-0.02	0.087	0.102
	2	WLAN 5.8GHz	802.11a 6Mbps	Edge1	15	1	1	157	5785	13.56	14.00	1.107	94.66	1.056	-0.12	0.052	0.061
	2	WLAN 5.8GHz	802.11a 6Mbps	Bottom Face	0	1	1	149	5745	13.45	14.00	1.135	94.66	1.056	-0.15	0.584	0.700
	2	WLAN 5.8GHz	802.11a 6Mbps	Bottom Face	0	1	1	165	5825	13.46	14.00	1.132	94.66	1.056	0.07	0.613	0.733
	2	WLAN 5.8GHz	802.11a 6Mbps	Bottom Face	0	1	2	157	5785	13.56	14.00	1.107	94.66	1.056	0.13	0.567	0.663

<Bluetooth SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
19	2	Bluetooth	1Mbps	Bottom Face	0	1	1	39	2441	9.50	10.00	1.122	76.84	1.084	-0.09	0.240	0.292
	2	Bluetooth	1Mbps	Edge1	0	1	1	39	2441	9.50	10.00	1.122	76.84	1.084	-0.16	0.048	0.058
	2	Bluetooth	1Mbps	Bottom Face	12	1	1	39	2441	9.50	10.00	1.122	76.84	1.084	0.01	0.012	0.015
	2	Bluetooth	1Mbps	Edge1	15	1	1	39	2441	9.50	10.00	1.122	76.84	1.084	-0.06	0.008	0.010
	2	Bluetooth	1Mbps	Bottom Face	0	1	1	0	2402	8.92	10.00	1.282	76.84	1.084	0.09	0.153	0.213
	2	Bluetooth	1Mbps	Bottom Face	0	1	1	78	2480	8.88	10.00	1.294	76.84	1.084	0.08	0.177	0.248
	2	Bluetooth	1Mbps	Bottom Face	0	1	2	39	2441	9.50	10.00	1.122	76.84	1.084	-0.19	0.210	0.255
	2	Bluetooth	1Mbps	Bottom Face	0	1	2	0	2402	8.92	10.00	1.282	76.84	1.084	-0.17	0.152	0.211
	2	Bluetooth	1Mbps	Bottom Face	0	1	2	78	2480	8.88	10.00	1.294	76.84	1.084	0.01	0.172	0.241

15.2 Repeated SAR Measurement

No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Mode	Test Position	Gap (mm)	Power Reduction	Sample	Battery	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA Band IV	-	-	-	-	RMC 12.2Kbps	Bottom Face	12	OFF	1	1	1513	1752.6	23.48	24.00	1.127	-	-	0.17	1.120	1	1.262
2nd	WCDMA Band IV	-	-	-	-	RMC 12.2Kbps	Bottom Face	12	OFF	1	1	1513	1752.6	23.48	24.00	1.127	-	-	0.17	1.100	1.018	1.240
1st	WCDMA Band II	-	-	-	-	RMC 12.2Kbps	Edge4	0	OFF	1	1	9262	1852.4	23.68	24.00	1.076	-	-	-0.04	1.290	1	1.389
2nd	WCDMA Band II	-	-	-	-	RMC 12.2Kbps	Edge4	0	OFF	1	1	9262	1852.4	23.68	24.00	1.076	-	-	0.03	1.220	1.057	1.313
1st	LTE Band 12	10M	QPSK	1	0	-	Bottom Face	0	ON	1	1	23095	707.5	19.35	20.00	1.161	-	-	-0.09	0.982	1	1.141
2nd	LTE Band 12	10M	QPSK	1	0	-	Bottom Face	0	ON	1	1	23095	707.5	19.35	20.00	1.161	-	-	0.05	0.979	1.003	1.137
1st	LTE Band 13	10M	QPSK	1	0	-	Bottom Face	0	ON	1	1	23230	782	19.23	20.00	1.194	-	-	-0.03	1.030	1	1.230
2nd	LTE Band 13	10M	QPSK	1	0	-	Bottom Face	0	ON	1	1	23230	782	19.23	20.00	1.194	-	-	-0.16	0.999	1.031	1.193
1st	LTE Band 41	20M	QPSK	1	0	-	Edge4	0	OFF	1	1	41490	2680	22.18	22.50	1.076	62.9	1.006	0.07	1.330	1	1.440
2nd	LTE Band 41	20M	QPSK	1	0	-	Edge4	0	OFF	1	1	41490	2680	22.18	22.50	1.076	62.9	1.006	-0.11	1.290	1.031	1.397
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Bottom Face	0	-	1	1	6	2437	13.53	14.00	1.114	100	1.000	-0.09	0.846	1	0.943
2nd	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Bottom Face	0	-	1	1	6	2437	13.53	14.00	1.114	100	1.000	-0.16	0.833	1.016	0.928
1st	WLAN 5.3GHz	-	-	-	-	802.11a 6Mbps	Bottom Face	0	-	1	1	60	5300	13.02	13.50	1.117	94.66	1.056	-0.18	0.956	1	1.128
2nd	WLAN 5.3GHz	-	-	-	-	802.11a 6Mbps	Bottom Face	0	-	1	1	60	5300	13.02	13.50	1.117	94.66	1.056	0.17	0.948	1.008	1.118
1st	WLAN 5.5GHz	-	-	-	-	802.11a 6Mbps	Edge1	0	-	1	1	140	5700	12.53	13.00	1.114	94.65	1.057	0.01	0.835	1	0.983
2nd	WLAN 5.5GHz	-	-	-	-	802.11a 6Mbps	Edge1	0	-	1	1	140	5700	12.53	13.00	1.114	94.65	1.057	0.08	0.835	1.000	0.983

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8W/kg$.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR $< 1.45W/kg$, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

16. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Body
1.	WCDMA(Data) + WLAN2.4GHz Ant.1(data)	Yes
2.	WCDMA(Data) + WLAN2.4GHz Ant.2(data)	Yes
3.	WCDMA(Data) + WLAN2.4GHz Ant.1(data) + WLAN2.4GHz Ant.2(data)	Yes
4.	WCDMA(Data) + WLAN5GHz Ant.1(data)	Yes
5.	WCDMA(Data) + WLAN5GHz Ant.2(data)	Yes
6.	WCDMA(Data) + WLAN5GHz Ant.1(data) + WLAN5GHz Ant.2(data)	Yes
7.	WCDMA(Data) + WLAN2.4GHz Ant.1(data) + WLAN5GHz Ant.2(data)	Yes
8.	WCDMA(Data) + WLAN2.4GHz Ant.2(data) + WLAN5GHz Ant.1(data)	Yes
9.	WCDMA(Data) + Bluetooth Ant.2(data)	Yes
10.	WCDMA(Data) + WLAN2.4GHz Ant.1(data) + Bluetooth Ant.2(data)	Yes
11.	WCDMA(Data) + WLAN5GHz Ant.1(data) + Bluetooth Ant.2(data)	Yes
12.	LTE(Data) + WLAN2.4GHz Ant.1(data)	Yes
13.	LTE(Data) + WLAN2.4GHz Ant.2(data)	Yes
14.	LTE(Data) + WLAN2.4GHz Ant.1(data) + WLAN2.4GHz Ant.2(data)	Yes
15.	LTE(Data) + WLAN5GHz Ant.1(data)	Yes
16.	LTE(Data) + WLAN5GHz Ant.2(data)	Yes
17.	LTE(Data) + WLAN5GHz Ant.1(data) + WLAN5GHz Ant.2(data)	Yes
18.	LTE(Data) + WLAN2.4GHz Ant.1(data) + WLAN5GHz Ant.2(data)	Yes
19.	LTE(Data) + WLAN2.4GHz Ant.2(data) + WLAN5GHz Ant.1(data)	Yes
20.	LTE(Data) + Bluetooth Ant.2(data)	Yes
21.	LTE(Data) + WLAN2.4GHz Ant.1(data) + Bluetooth Ant.2(data)	Yes
22.	LTE(Data) + WLAN5GHz Ant.1(data) + Bluetooth Ant.2(data)	Yes
23.	WLAN2.4GHz Ant.1(data) + WLAN2.4GHz Ant.2(data)	Yes
24.	WLAN5GHz Ant.1(data) + WLAN5GHz Ant.2(data)	Yes
25.	WLAN2.4GHz Ant.1(data) + WLAN5GHz Ant.2(data)	Yes
26.	WLAN2.4GHz Ant.2(data) + WLAN5GHz Ant.1(data)	Yes
27.	WLAN2.4GHz Ant.1(data) + Bluetooth Ant.2(data)	Yes
28.	WLAN5GHz Ant.1(data) + Bluetooth Ant.2(data)	Yes

General Note:

1. For each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. WLAN Ant.2 and Bluetooth share the same antenna, and cannot transmit simultaneously.
3. EUT will choose either WCDMA or LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
4. The worst case 5 GHz WLAN reported SAR for each configuration was used for SAR summation.
5. For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
6. The reported SAR summation is calculated based on the same configuration and test position.
7. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) Scalar SAR summation < 1.6W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\min. \text{separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - iii) If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
 - v) The SPLSR calculated results please refer to section 16.2.

16.1 Body Exposure Conditions

WWAN Band		Exposure Position	1	2	3	1+2+3		
			WWAN	2.4GHz WLAN Ant.1	2.4GHz WLAN Ant.2	Summed 1g SAR (W/kg)	SPLSR	Case No
		1g SAR(W/kg)	1g SAR(W/kg)	1g SAR(W/kg)				
WCDMA	Band V	Bottom Face at 0mm	1.100	0.888	0.943	2.93	0.03	#1
		Edge 1 at 0mm	0.491	0.120	0.156	0.77		
		Edge 2 at 0mm		0.284		0.28		
		Edge 4 at 0mm	0.545			0.55		
		Bottom Face at 12mm	0.596	0.056	0.057	0.71		
	Edge 1 at 15mm	0.220	0.016	0.032	0.27			
	Band IV	Bottom Face at 0mm	1.156	0.888	0.943	2.99	0.03	#2
		Edge 1 at 0mm	1.039	0.120	0.156	1.32		
		Edge 2 at 0mm		0.284		0.28		
		Edge 4 at 0mm	1.184			1.18		
		Bottom Face at 12mm	1.292	0.056	0.057	1.41		
	Edge 1 at 15mm	1.117	0.016	0.032	1.17			
	Band II	Bottom Face at 0mm	1.094	0.888	0.943	2.93	0.03	#3
		Edge 1 at 0mm	1.107	0.120	0.156	1.38		
		Edge 2 at 0mm		0.284		0.28		
Edge 4 at 0mm		1.389			1.39			
Bottom Face at 12mm		1.087	0.056	0.057	1.20			
Edge 1 at 15mm	0.786	0.016	0.032	0.83				
LTE	Band 12	Bottom Face at 0mm	1.141	0.888	0.943	2.97	0.03	#4
		Edge 1 at 0mm	0.440	0.120	0.156	0.72		
		Edge 2 at 0mm		0.284		0.28		
		Edge 4 at 0mm	0.335			0.34		
		Bottom Face at 12mm	0.250	0.056	0.057	0.36		
	Edge 1 at 15mm	0.086	0.016	0.032	0.13			
	Band 13	Bottom Face at 0mm	1.230	0.888	0.943	3.06	0.03	#5
		Edge 1 at 0mm	0.501	0.120	0.156	0.78		
		Edge 2 at 0mm		0.284		0.28		
		Edge 4 at 0mm	0.576			0.58		
		Bottom Face at 12mm	0.368	0.056	0.057	0.48		
	Edge 1 at 15mm	0.172	0.016	0.032	0.22			
	Band 26	Bottom Face at 0mm	1.028	0.888	0.943	2.86	0.03	#6
		Edge 1 at 0mm	0.490	0.120	0.156	0.77		
		Edge 2 at 0mm		0.284		0.28		
		Edge 4 at 0mm	0.592			0.59		
		Bottom Face at 12mm	0.369	0.056	0.057	0.48		
	Edge 1 at 15mm	0.169	0.016	0.032	0.22			
	Band 4	Bottom Face at 0mm	1.089	0.888	0.943	2.92	0.03	#7
		Edge 1 at 0mm	1.000	0.120	0.156	1.28		
		Edge 2 at 0mm		0.284		0.28		
		Edge 4 at 0mm	1.008			1.01		
		Bottom Face at 12mm	1.036	0.056	0.057	1.15		
	Edge 1 at 15mm	0.919	0.016	0.032	0.97			
	Band 25	Bottom Face at 0mm	1.012	0.888	0.943	2.84	0.03	#8
		Edge 1 at 0mm	0.931	0.120	0.156	1.21		
		Edge 2 at 0mm		0.284		0.28		
		Edge 4 at 0mm	1.295			1.30		
		Bottom Face at 12mm	0.875	0.056	0.057	0.99		
	Edge 1 at 15mm	0.759	0.016	0.032	0.81			
Band 7	Bottom Face at 0mm	1.233	0.888	0.943	3.06	0.03	#9	
	Edge 1 at 0mm	0.439	0.120	0.156	0.72			
	Edge 2 at 0mm		0.284		0.28			
	Edge 4 at 0mm	1.350			1.35			
	Bottom Face at 12mm	0.715	0.056	0.057	0.83			
Edge 1 at 15mm	0.571	0.016	0.032	0.62				
Band 41	Bottom Face at 0mm	1.256	0.888	0.943	3.09	0.03	#10	
	Edge 1 at 0mm	0.406	0.120	0.156	0.68			
	Edge 2 at 0mm		0.284		0.28			
	Edge 4 at 0mm	1.440			1.44			
	Bottom Face at 12mm	0.376	0.056	0.057	0.49			
Edge 1 at 15mm	0.266	0.016	0.032	0.31				

WWAN Band	Exposure Position	1	4	5	1+4+5			
		WWAN	5GHz WLAN Ant.1	5GHz WLAN Ant.2	Summed 1g SAR (W/kg)	SPLSR	Case No	
		1g SAR(W/kg)	1g SAR(W/kg)	1g SAR(W/kg)				
WCDMA	Band V	Bottom Face at 0mm	1.100	0.912	1.128	3.14	0.04	#11
		Edge 1 at 0mm	0.491	0.999	0.543	2.03	0.02	#12
		Edge 2 at 0mm		0.243		0.24		
		Edge 4 at 0mm	0.545			0.55		
		Bottom Face at 12mm	0.596	0.164	0.124	0.88		
		Edge 1 at 15mm	0.220	0.088	0.075	0.38		
	Band IV	Bottom Face at 0mm	1.156	0.912	1.128	3.20	0.04	#13
		Edge 1 at 0mm	1.039	0.999	0.543	2.58	0.02	#14
		Edge 2 at 0mm		0.243		0.24		
		Edge 4 at 0mm	1.184			1.18		
		Bottom Face at 12mm	1.292	0.164	0.124	1.58		
		Edge 1 at 15mm	1.117	0.088	0.075	1.28		
	Band II	Bottom Face at 0mm	1.094	0.912	1.128	3.13	0.04	#15
		Edge 1 at 0mm	1.107	0.999	0.543	2.65	0.02	#16
		Edge 2 at 0mm		0.243		0.24		
		Edge 4 at 0mm	1.389			1.39		
Bottom Face at 12mm		1.087	0.164	0.124	1.38			
Edge 1 at 15mm		0.786	0.088	0.075	0.95			
LTE	Band 12	Bottom Face at 0mm	1.141	0.912	1.128	3.18	0.04	#17
		Edge 1 at 0mm	0.440	0.999	0.543	1.98	0.02	#18
		Edge 2 at 0mm		0.243		0.24		
		Edge 4 at 0mm	0.335			0.34		
		Bottom Face at 12mm	0.250	0.164	0.124	0.54		
		Edge 1 at 15mm	0.086	0.088	0.075	0.25		
	Band 13	Bottom Face at 0mm	1.230	0.912	1.128	3.27	0.04	#19
		Edge 1 at 0mm	0.501	0.999	0.543	2.04	0.02	#20
		Edge 2 at 0mm		0.243		0.24		
		Edge 4 at 0mm	0.576			0.58		
		Bottom Face at 12mm	0.368	0.164	0.124	0.66		
		Edge 1 at 15mm	0.172	0.088	0.075	0.34		
	Band 26	Bottom Face at 0mm	1.028	0.912	1.128	3.07	0.04	#21
		Edge 1 at 0mm	0.490	0.999	0.543	2.03	0.02	#22
		Edge 2 at 0mm		0.243		0.24		
		Edge 4 at 0mm	0.592			0.59		
		Bottom Face at 12mm	0.369	0.164	0.124	0.66		
		Edge 1 at 15mm	0.169	0.088	0.075	0.33		
	Band 4	Bottom Face at 0mm	1.089	0.912	1.128	3.13	0.04	#23
		Edge 1 at 0mm	1.000	0.999	0.543	2.54	0.02	#24
		Edge 2 at 0mm		0.243		0.24		
		Edge 4 at 0mm	1.008			1.01		
		Bottom Face at 12mm	1.036	0.164	0.124	1.32		
		Edge 1 at 15mm	0.919	0.088	0.075	1.08		
	Band 25	Bottom Face at 0mm	1.012	0.912	1.128	3.05	0.04	#25
		Edge 1 at 0mm	0.931	0.999	0.543	2.47	0.02	#26
		Edge 2 at 0mm		0.243		0.24		
		Edge 4 at 0mm	1.295			1.30		
		Bottom Face at 12mm	0.875	0.164	0.124	1.16		
		Edge 1 at 15mm	0.759	0.088	0.075	0.92		
Band 7	Bottom Face at 0mm	1.233	0.912	1.128	3.27	0.04	#27	
	Edge 1 at 0mm	0.439	0.999	0.543	1.98	0.02	#28	
	Edge 2 at 0mm		0.243		0.24			
	Edge 4 at 0mm	1.350			1.35			
	Bottom Face at 12mm	0.715	0.164	0.124	1.00			
	Edge 1 at 15mm	0.571	0.088	0.075	0.73			
Band 41	Bottom Face at 0mm	1.256	0.912	1.128	3.30	0.04	#29	
	Edge 1 at 0mm	0.406	0.999	0.543	1.95	0.02	#30	
	Edge 2 at 0mm		0.243		0.24			
	Edge 4 at 0mm	1.440			1.44			
	Bottom Face at 12mm	0.376	0.164	0.124	0.66			
	Edge 1 at 15mm	0.266	0.088	0.075	0.43			



WWAN Band	Exposure Position	1	2	3	4	5	1+2+5			1+3+4			
		WWAN	2.4GHz WLAN Ant.1	2.4GHz WLAN Ant.2	5GHz WLAN Ant.1	5GHz WLAN Ant.2	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)							
WCDMA	Band V	Bottom Face at 0mm	1.100	0.888	0.943	0.912	1.128	3.12	0.03	#31	2.96	0.03	#32
		Edge 1 at 0mm	0.491	0.120	0.156	0.999	0.543	1.15			1.65	0.01	#33
		Edge 2 at 0mm		0.284		0.243		0.28			0.24		
		Edge 4 at 0mm	0.545					0.55			0.55		
		Bottom Face at 12mm	0.596	0.056	0.057	0.164	0.124	0.78			0.82		
	Edge 1 at 15mm	0.220	0.016	0.032	0.088	0.075	0.31			0.34			
	Band IV	Bottom Face at 0mm	1.156	0.888	0.943	0.912	1.128	3.17	0.03	#34	3.01	0.03	#35
		Edge 1 at 0mm	1.039	0.120	0.156	0.999	0.543	1.70	0.02	#36	2.19	0.01	#37
		Edge 2 at 0mm		0.284		0.243		0.28			0.24		
		Edge 4 at 0mm	1.184					1.18			1.18		
		Bottom Face at 12mm	1.292	0.056	0.057	0.164	0.124	1.47			1.51		
	Edge 1 at 15mm	1.117	0.016	0.032	0.088	0.075	1.21			1.24			
	Band II	Bottom Face at 0mm	1.094	0.888	0.943	0.912	1.128	3.11	0.03	#38	2.95	0.03	#39
		Edge 1 at 0mm	1.107	0.120	0.156	0.999	0.543	1.77	0.02	#40	2.26	0.01	#41
		Edge 2 at 0mm		0.284		0.243		0.28			0.24		
Edge 4 at 0mm		1.389					1.39			1.39			
Bottom Face at 12mm		1.087	0.056	0.057	0.164	0.124	1.27			1.31			
Edge 1 at 15mm	0.786	0.016	0.032	0.088	0.075	0.88			0.91				
LTE	Band 12	Bottom Face at 0mm	1.141	0.888	0.943	0.912	1.128	3.16	0.03	#42	3.00	0.03	#43
		Edge 1 at 0mm	0.440	0.120	0.156	0.999	0.543	1.10			1.60	0.01	#44
		Edge 2 at 0mm		0.284		0.243		0.28			0.24		
		Edge 4 at 0mm	0.335					0.34			0.34		
		Bottom Face at 12mm	0.250	0.056	0.057	0.164	0.124	0.43			0.47		
	Edge 1 at 15mm	0.086	0.016	0.032	0.088	0.075	0.18			0.21			
	Band 13	Bottom Face at 0mm	1.230	0.888	0.943	0.912	1.128	3.25	0.03	#45	3.09	0.03	#46
		Edge 1 at 0mm	0.501	0.120	0.156	0.999	0.543	1.16			1.66	0.01	#47
		Edge 2 at 0mm		0.284		0.243		0.28			0.24		
		Edge 4 at 0mm	0.576					0.58			0.58		
		Bottom Face at 12mm	0.368	0.056	0.057	0.164	0.124	0.55			0.59		
	Edge 1 at 15mm	0.172	0.016	0.032	0.088	0.075	0.26			0.29			
	Band 26	Bottom Face at 0mm	1.028	0.888	0.943	0.912	1.128	3.04	0.03	#48	2.88	0.03	#49
		Edge 1 at 0mm	0.490	0.120	0.156	0.999	0.543	1.15			1.65	0.01	#50
		Edge 2 at 0mm		0.284		0.243		0.28			0.24		
Edge 4 at 0mm		0.592					0.59			0.59			
Bottom Face at 12mm		0.369	0.056	0.057	0.164	0.124	0.55			0.59			
Edge 1 at 15mm	0.169	0.016	0.032	0.088	0.075	0.26			0.29				
Band 4	Bottom Face at 0mm	1.089	0.888	0.943	0.912	1.128	3.11	0.03	#51	2.94	0.03	#52	
	Edge 1 at 0mm	1.000	0.120	0.156	0.999	0.543	1.66	0.01	#53	2.16	0.01	#54	
	Edge 2 at 0mm		0.284		0.243		0.28			0.24			
	Edge 4 at 0mm	1.008					1.01			1.01			
	Bottom Face at 12mm	1.036	0.056	0.057	0.164	0.124	1.22			1.26			
Edge 1 at 15mm	0.919	0.016	0.032	0.088	0.075	1.01			1.04				
Band 25	Bottom Face at 0mm	1.012	0.888	0.943	0.912	1.128	3.03	0.03	#55	2.87	0.03	#56	
	Edge 1 at 0mm	0.931	0.120	0.156	0.999	0.543	1.59			2.09	0.01	#57	
	Edge 2 at 0mm		0.284		0.243		0.28			0.24			
	Edge 4 at 0mm	1.295					1.30			1.30			
	Bottom Face at 12mm	0.875	0.056	0.057	0.164	0.124	1.06			1.10			
Edge 1 at 15mm	0.759	0.016	0.032	0.088	0.075	0.85			0.88				
Band 7	Bottom Face at 0mm	1.233	0.888	0.943	0.912	1.128	3.25	0.03	#58	3.09	0.03	#59	
	Edge 1 at 0mm	0.439	0.120	0.156	0.999	0.543	1.10			1.59			
	Edge 2 at 0mm		0.284		0.243		0.28			0.24			
	Edge 4 at 0mm	1.350					1.35			1.35			
	Bottom Face at 12mm	0.715	0.056	0.057	0.164	0.124	0.90			0.94			
Edge 1 at 15mm	0.571	0.016	0.032	0.088	0.075	0.66			0.69				
Band 41	Bottom Face at 0mm	1.256	0.888	0.943	0.912	1.128	3.27	0.03	#60	3.11	0.03	#61	
	Edge 1 at 0mm	0.406	0.120	0.156	0.999	0.543	1.07			1.56			
	Edge 2 at 0mm		0.284		0.243		0.28			0.24			
	Edge 4 at 0mm	1.440					1.44			1.44			
	Bottom Face at 12mm	0.376	0.056	0.057	0.164	0.124	0.56			0.60			
Edge 1 at 15mm	0.266	0.016	0.032	0.088	0.075	0.36			0.39				



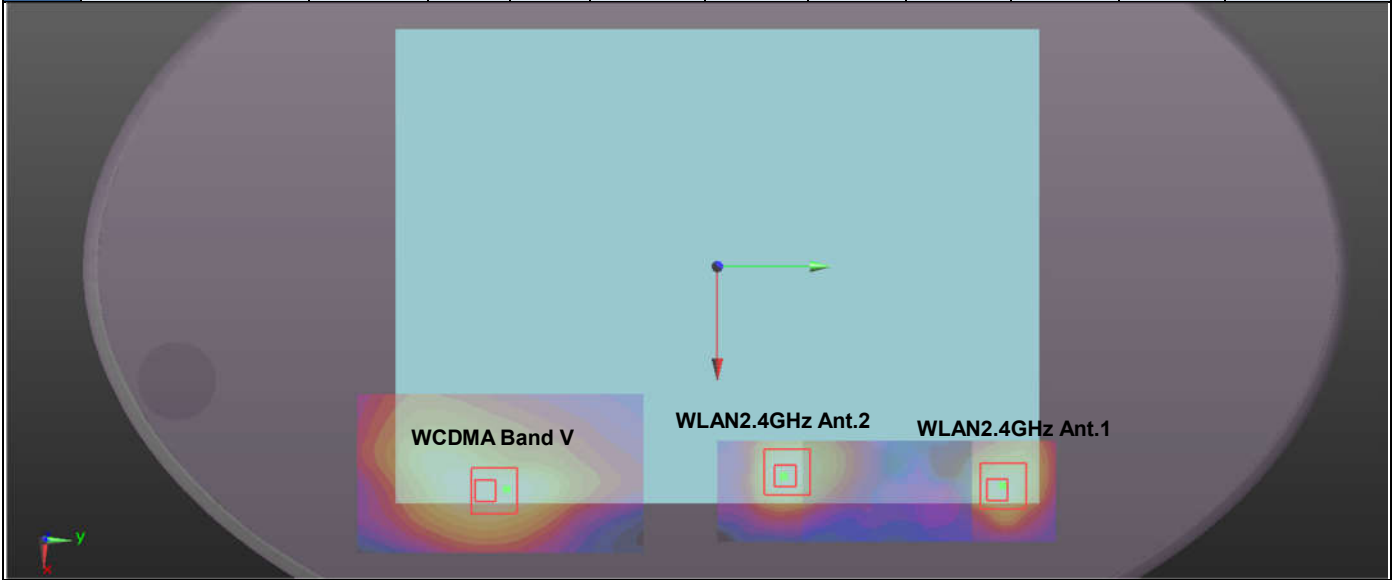
WWAN Band	Exposure Position	1	2	4	6	1+2+6			1+4+6			
		WWAN	2.4GHz WLAN Ant.1	5GHz WLAN Ant.1	Bluetooth Ant.2	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)							
WCDMA	Band V	Bottom Face at 0mm	1.100	0.888	0.912	0.292	2.28	0.01	#62	2.30	0.02	#63
		Edge 1 at 0mm	0.491	0.120	0.999	0.058	0.67			1.55		
		Edge 2 at 0mm		0.284	0.243		0.28			0.24		
		Edge 4 at 0mm	0.545				0.55			0.55		
		Bottom Face at 12mm	0.596	0.056	0.164	0.015	0.67			0.78		
	Edge 1 at 15mm	0.220	0.016	0.088	0.010	0.25			0.32			
	Band IV	Bottom Face at 0mm	1.156	0.888	0.912	0.292	2.34	0.01	#64	2.36	0.02	#65
		Edge 1 at 0mm	1.039	0.120	0.999	0.058	1.22			2.10	0.01	#66
		Edge 2 at 0mm		0.284	0.243		0.28			0.24		
		Edge 4 at 0mm	1.184				1.18			1.18		
		Bottom Face at 12mm	1.292	0.056	0.164	0.015	1.36			1.47		
	Edge 1 at 15mm	1.117	0.016	0.088	0.010	1.14			1.22			
	Band II	Bottom Face at 0mm	1.094	0.888	0.912	0.292	2.27	0.01	#67	2.30	0.02	#68
		Edge 1 at 0mm	1.107	0.120	0.999	0.058	1.29			2.16	0.01	#69
		Edge 2 at 0mm		0.284	0.243		0.28			0.24		
Edge 4 at 0mm		1.389				1.39			1.39			
Bottom Face at 12mm		1.087	0.056	0.164	0.015	1.16			1.27			
Edge 1 at 15mm	0.786	0.016	0.088	0.010	0.81			0.88				
LTE	Band 12	Bottom Face at 0mm	1.141	0.888	0.912	0.292	2.32	0.01	#70	2.35	0.02	#71
		Edge 1 at 0mm	0.440	0.120	0.999	0.058	0.62			1.50		
		Edge 2 at 0mm		0.284	0.243		0.28			0.24		
		Edge 4 at 0mm	0.335				0.34			0.34		
		Bottom Face at 12mm	0.250	0.056	0.164	0.015	0.32			0.43		
	Edge 1 at 15mm	0.086	0.016	0.088	0.010	0.11			0.18			
	Band 13	Bottom Face at 0mm	1.230	0.888	0.912	0.292	2.41	0.01	#72	2.43	0.02	#73
		Edge 1 at 0mm	0.501	0.120	0.999	0.058	0.68			1.56		
		Edge 2 at 0mm		0.284	0.243		0.28			0.24		
		Edge 4 at 0mm	0.576				0.58			0.58		
		Bottom Face at 12mm	0.368	0.056	0.164	0.015	0.44			0.55		
	Edge 1 at 15mm	0.172	0.016	0.088	0.010	0.20			0.27			
	Band 26	Bottom Face at 0mm	1.028	0.888	0.912	0.292	2.21	0.01	#74	2.23	0.02	#75
		Edge 1 at 0mm	0.490	0.120	0.999	0.058	0.67			1.55		
		Edge 2 at 0mm		0.284	0.243		0.28			0.24		
		Edge 4 at 0mm	0.592				0.59			0.59		
		Bottom Face at 12mm	0.369	0.056	0.164	0.015	0.44			0.55		
	Edge 1 at 15mm	0.169	0.016	0.088	0.010	0.20			0.27			
	Band 4	Bottom Face at 0mm	1.089	0.888	0.912	0.292	2.27	0.01	#76	2.29	0.02	#77
		Edge 1 at 0mm	1.000	0.120	0.999	0.058	1.18			2.06	0.01	#78
		Edge 2 at 0mm		0.284	0.243		0.28			0.24		
		Edge 4 at 0mm	1.008				1.01			1.01		
		Bottom Face at 12mm	1.036	0.056	0.164	0.015	1.11			1.22		
	Edge 1 at 15mm	0.919	0.016	0.088	0.010	0.95			1.02			
	Band 25	Bottom Face at 0mm	1.012	0.888	0.912	0.292	2.19	0.01	#79	2.22	0.02	#80
		Edge 1 at 0mm	0.931	0.120	0.999	0.058	1.11			1.99	0.01	#81
		Edge 2 at 0mm		0.284	0.243		0.28			0.24		
Edge 4 at 0mm		1.295				1.30			1.30			
Bottom Face at 12mm		0.875	0.056	0.164	0.015	0.95			1.05			
Edge 1 at 15mm	0.759	0.016	0.088	0.010	0.79			0.86				
Band 7	Bottom Face at 0mm	1.233	0.888	0.912	0.292	2.41	0.01	#82	2.44	0.02	#83	
	Edge 1 at 0mm	0.439	0.120	0.999	0.058	0.62			1.50			
	Edge 2 at 0mm		0.284	0.243		0.28			0.24			
	Edge 4 at 0mm	1.350				1.35			1.35			
	Bottom Face at 12mm	0.715	0.056	0.164	0.015	0.79			0.89			
Edge 1 at 15mm	0.571	0.016	0.088	0.010	0.60			0.67				
Band 41	Bottom Face at 0mm	1.256	0.888	0.912	0.292	2.44	0.01	#84	2.46	0.02	#85	
	Edge 1 at 0mm	0.406	0.120	0.999	0.058	0.58			1.46			
	Edge 2 at 0mm		0.284	0.243		0.28			0.24			
	Edge 4 at 0mm	1.440				1.44			1.44			
	Bottom Face at 12mm	0.376	0.056	0.164	0.015	0.45			0.56			
Edge 1 at 15mm	0.266	0.016	0.088	0.010	0.29			0.36				

16.2 SPLSR Evaluation and Analysis

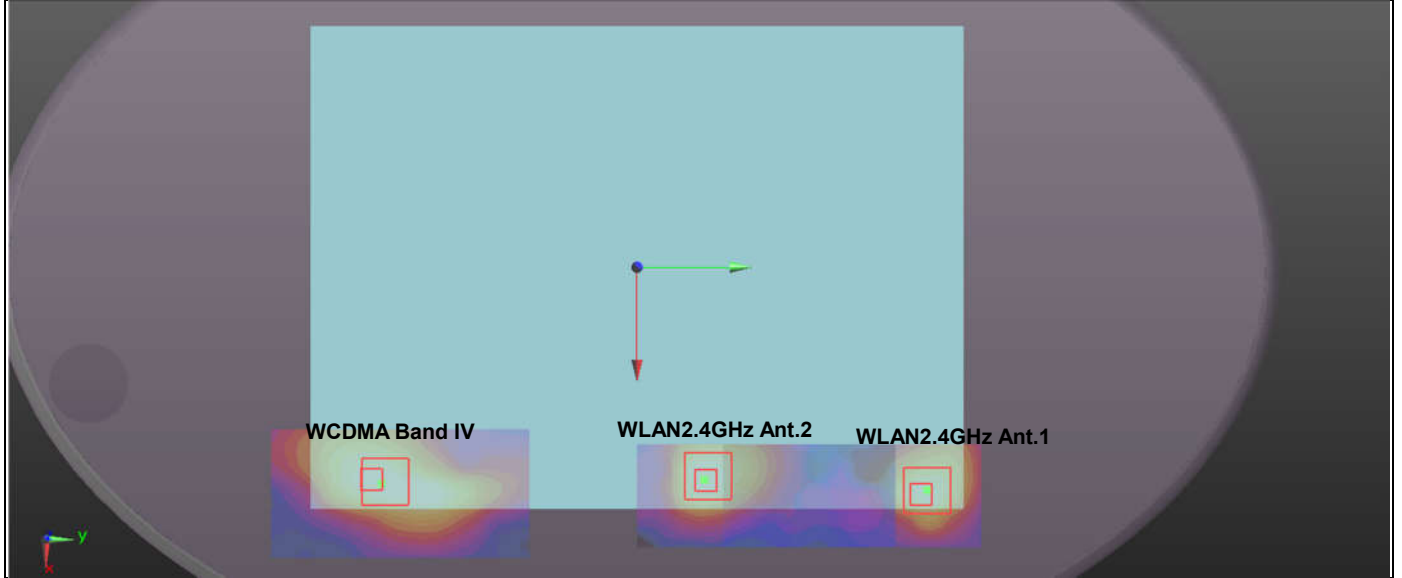
General Note:

1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. $SPLSR = (SAR_1 + SAR_2)^{1.5} / (min. \text{ separation distance, mm})$. If $SPLSR \leq 0.04$, simultaneous transmission SAR measurement is not necessary.

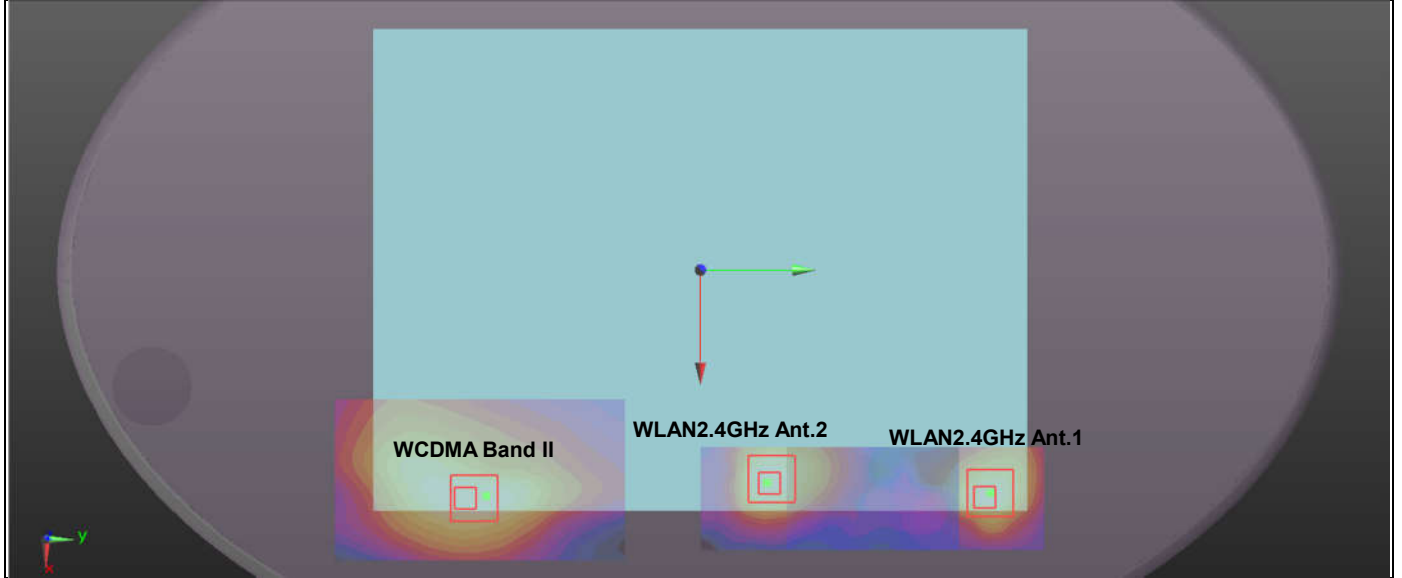
Case #1	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band V	Bottom Face	1.100	0	0.105	-0.108	-0.18	238.08	1.99	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	WCDMA Band V		1.100	0	0.105	-0.108	-0.18	139.43	2.04	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



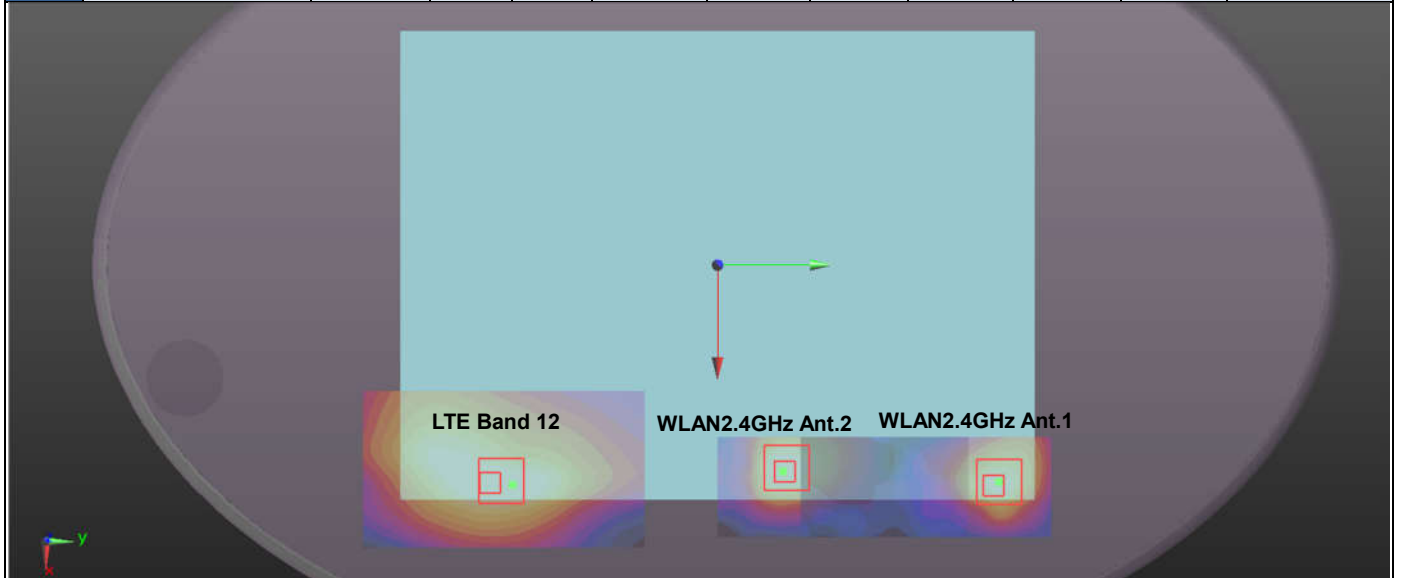
Case #2	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band IV	Bottom Face	1.156	0	0.101	-0.127	-0.179	257.07	2.04	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	WCDMA Band IV		1.156	0	0.101	-0.127	-0.179	158.27	2.10	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



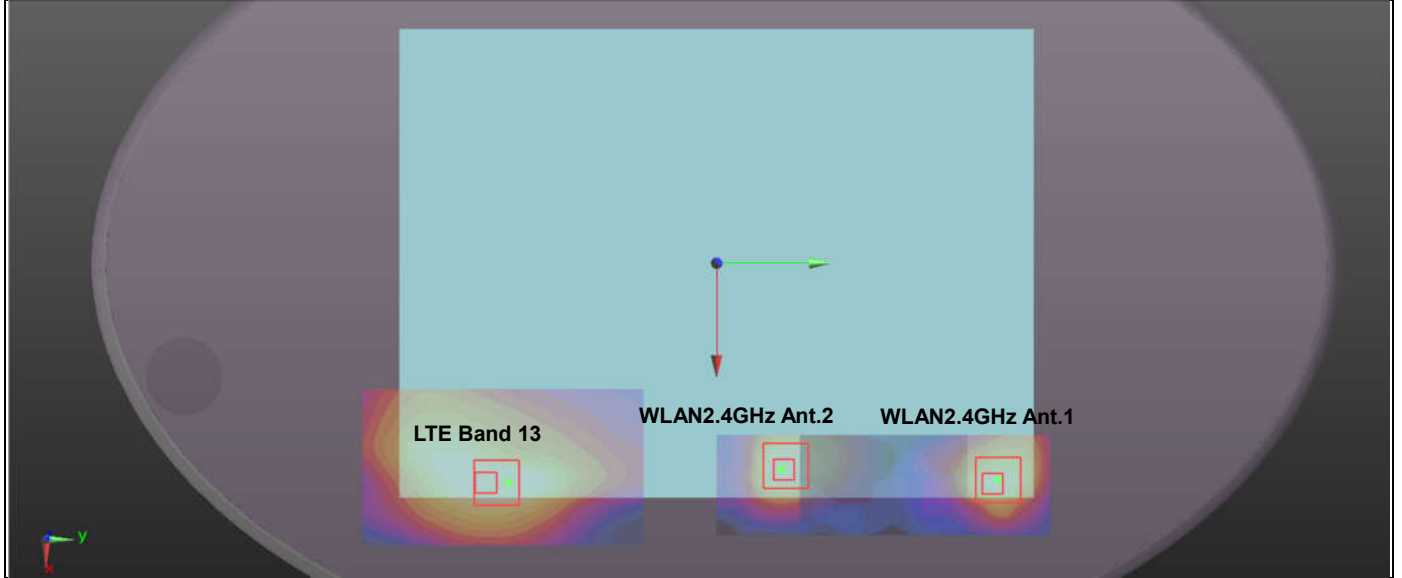
Case #3	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band II	Bottom Face	1.094	0	0.099	-0.127	-0.179	257.10	1.98	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	WCDMA Band II		1.094	0	0.099	-0.127	-0.179	158.25	2.04	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



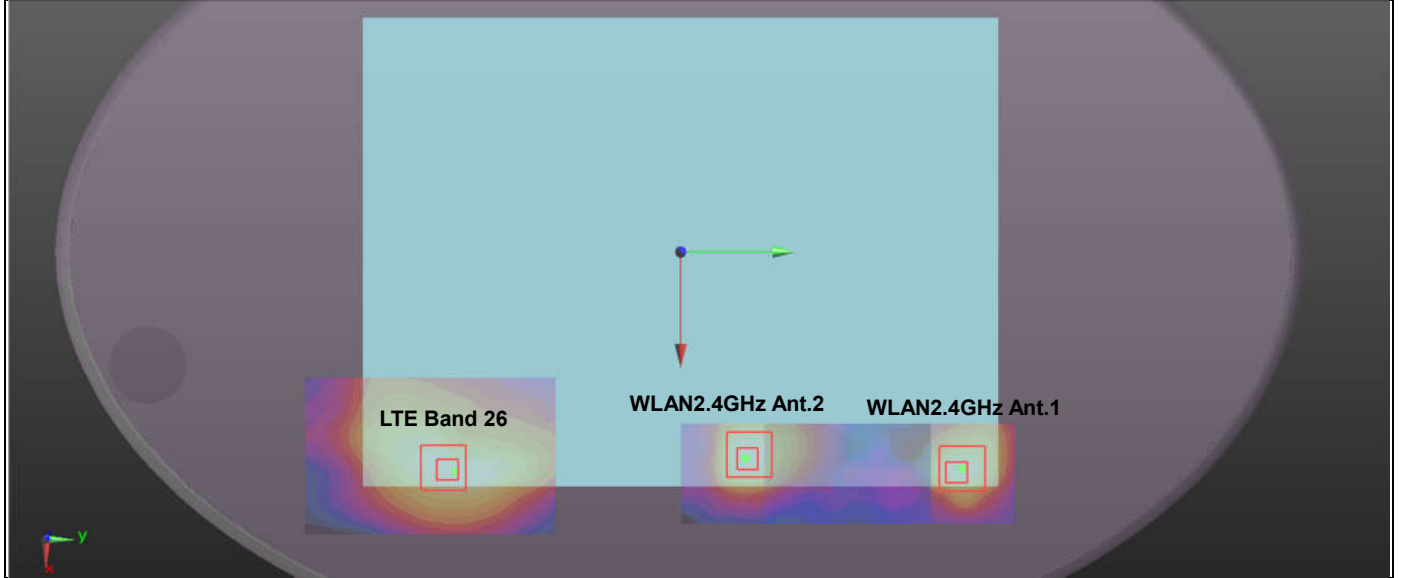
Case #4	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 12	Bottom Face	1.141	0	0.105	-0.098	-0.18	228.08	2.03	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 12		1.141	0	0.105	-0.098	-0.18	129.45	2.08	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



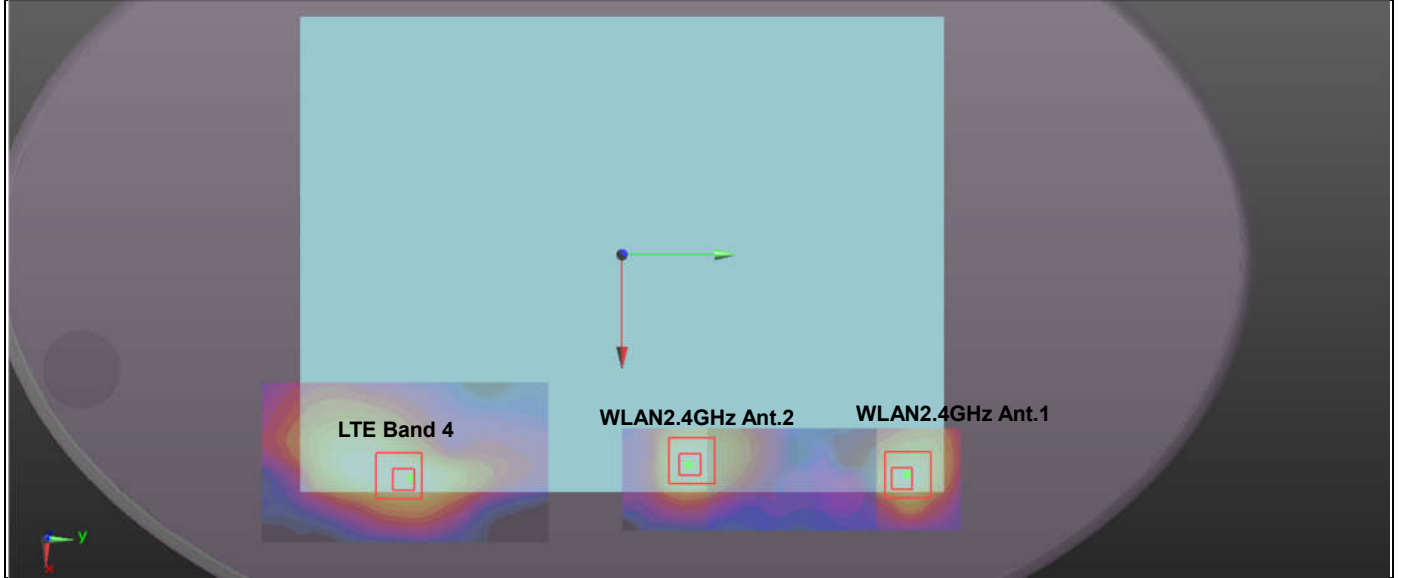
Case #5	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 13	Bottom Face	1.230	0	0.105	-0.108	-0.18	238.08	2.12	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 13		1.230	0	0.105	-0.108	-0.18	139.43	2.17	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



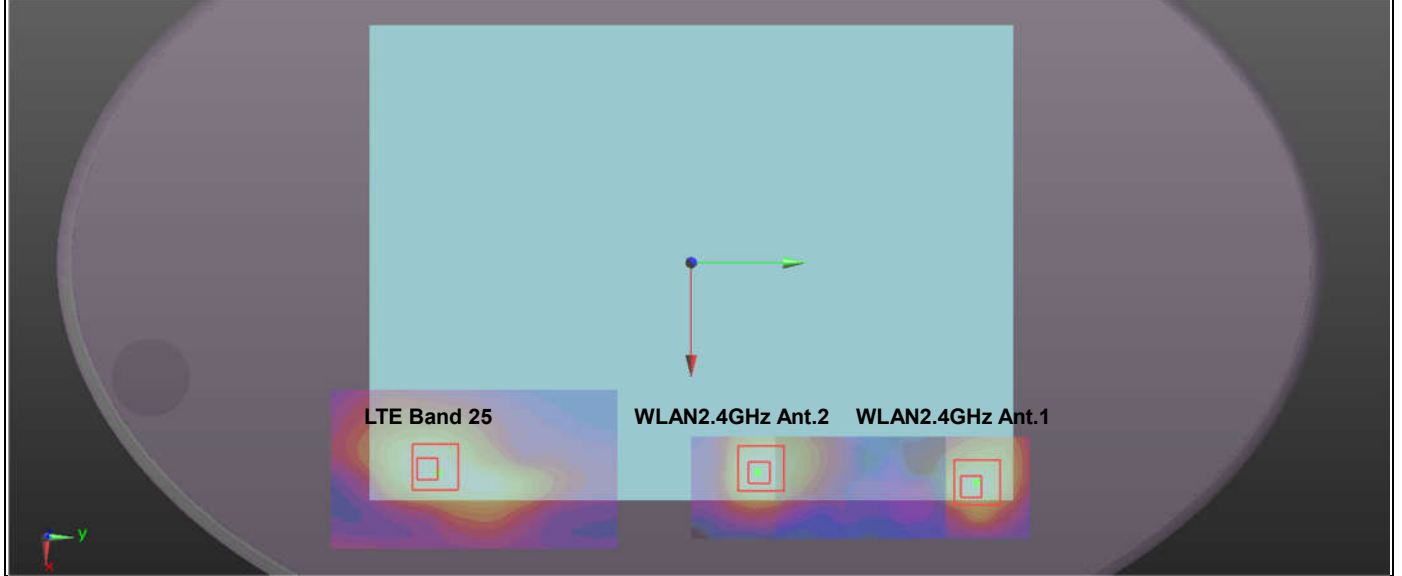
Case #6	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 26	Bottom Face	1.028	0	0.105	-0.108	-0.18	238.08	1.92	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 26		1.028	0	0.105	-0.108	-0.18	139.43	1.97	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



Case #7	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #7	LTE Band 4	Bottom Face	1.089	0	0.105	-0.0995	-0.179	229.56	1.98	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 4		1.089	0	0.105	-0.0995	-0.179	130.91	2.03	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



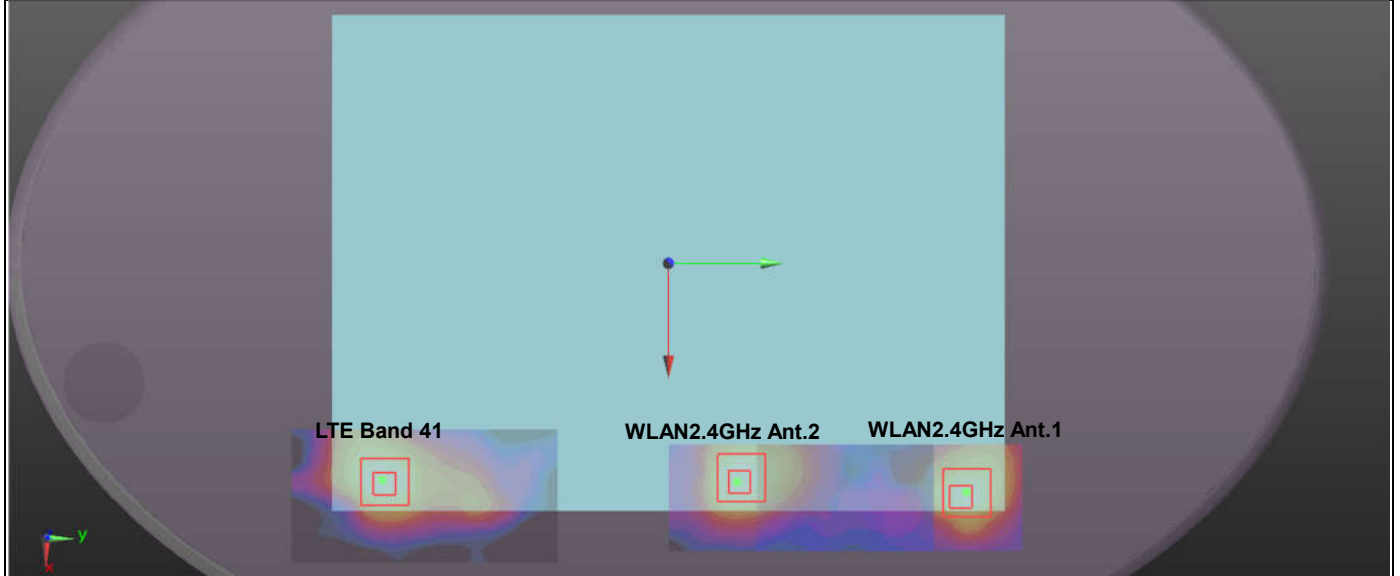
Case #8	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 25	Bottom Face	1.012	0	0.099	-0.127	-0.179	257.10	1.90	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 25		1.012	0	0.099	-0.127	-0.179	158.25	1.96	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



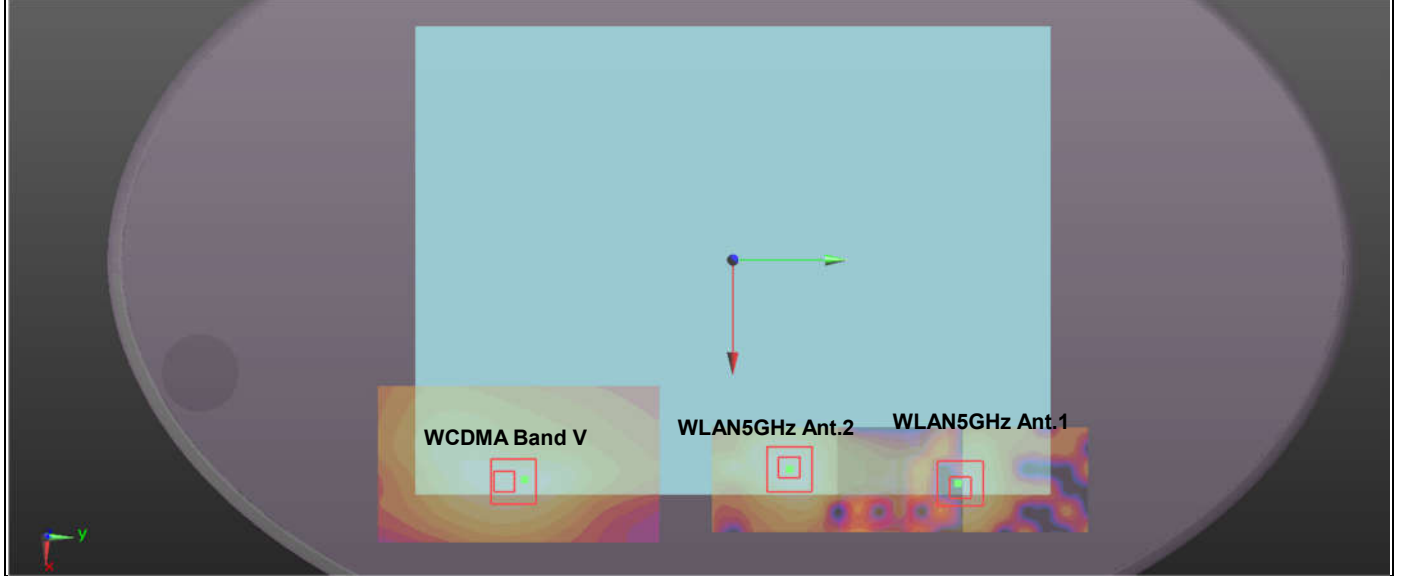
Case #9	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7	Bottom Face	1.233	0	0.103	-0.133	-0.179	263.05	2.12	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 7		1.233	0	0.103	-0.133	-0.179	164.30	2.18	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



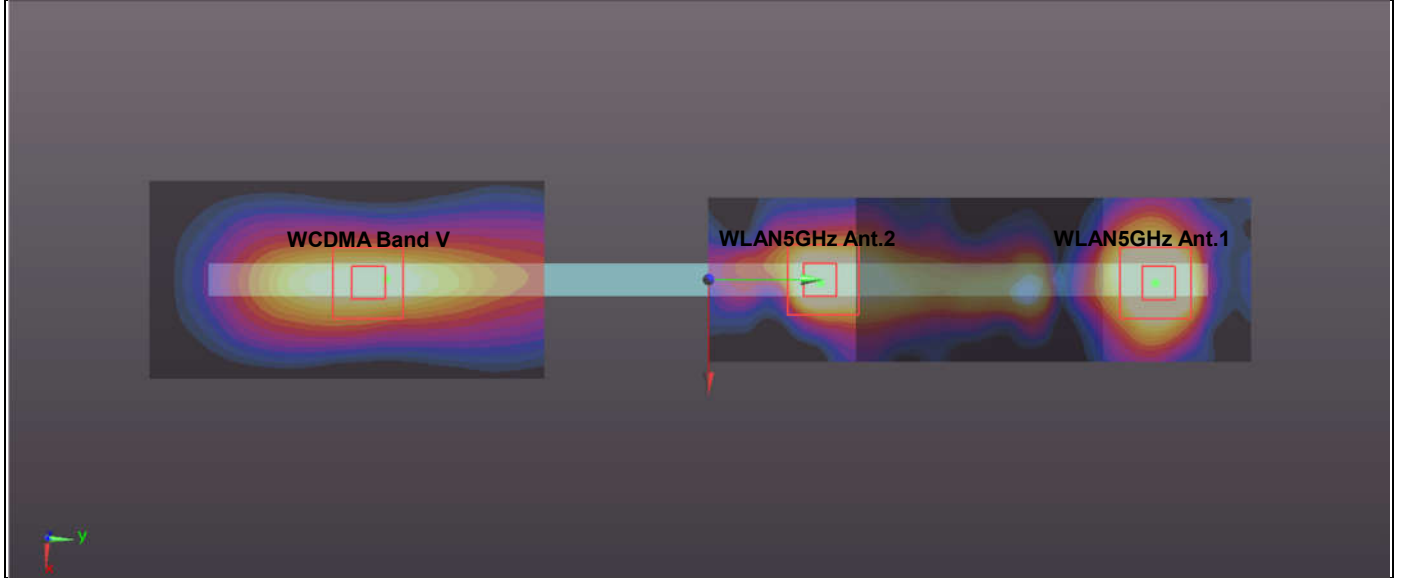
Case #10	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #10	LTE Band 41	Bottom Face	1.256	0	0.0978	-0.129	-0.18	259.14	2.14	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 41		1.256	0	0.0978	-0.129	-0.18	160.28	2.20	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	98.94	1.83	0.03	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				



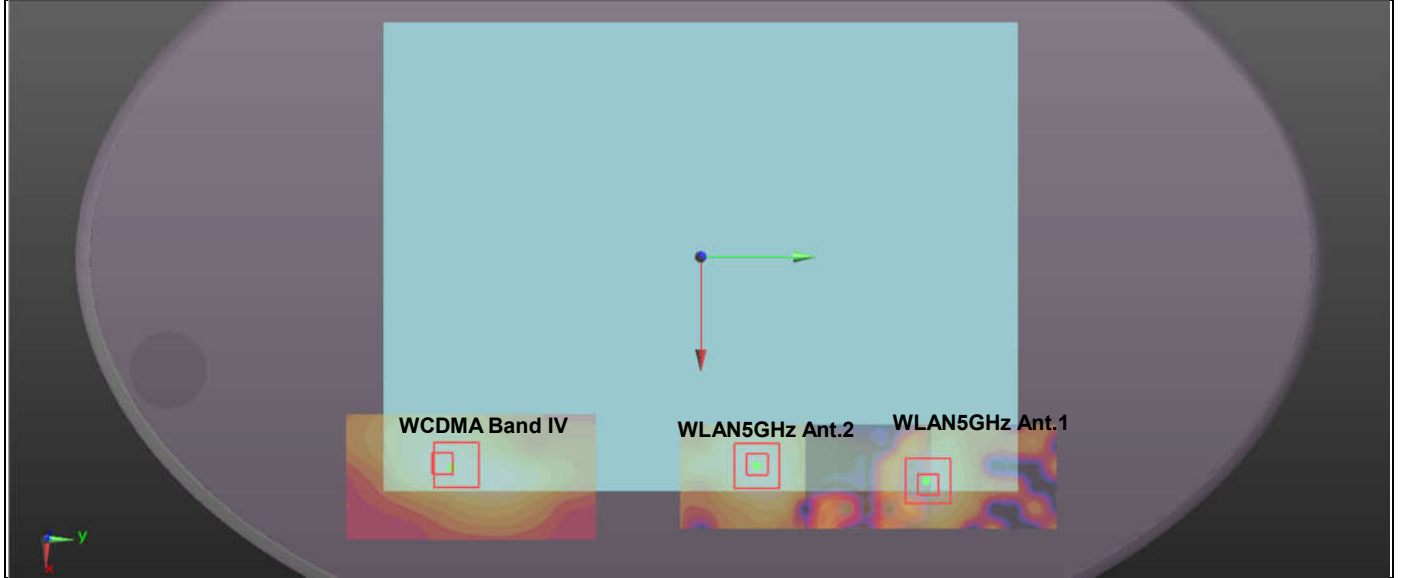
Case #11	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band V	Bottom Face	1.100	0	0.105	-0.108	-0.18	216.09	2.01	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WCDMA Band V		1.100	0	0.105	-0.108	-0.18	135.23	2.23	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



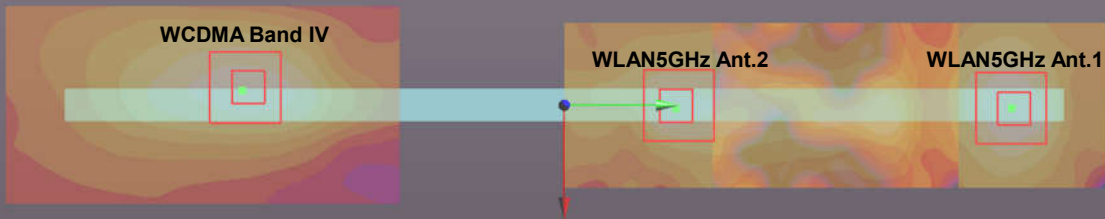
Case #12	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #12	WCDMA Band V	Edge 1	0.491	0	8.74E-11	-0.098	-0.181	234.06	1.49	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WCDMA Band V		0.491	0	8.74E-11	-0.098	-0.181	132.06	1.03	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



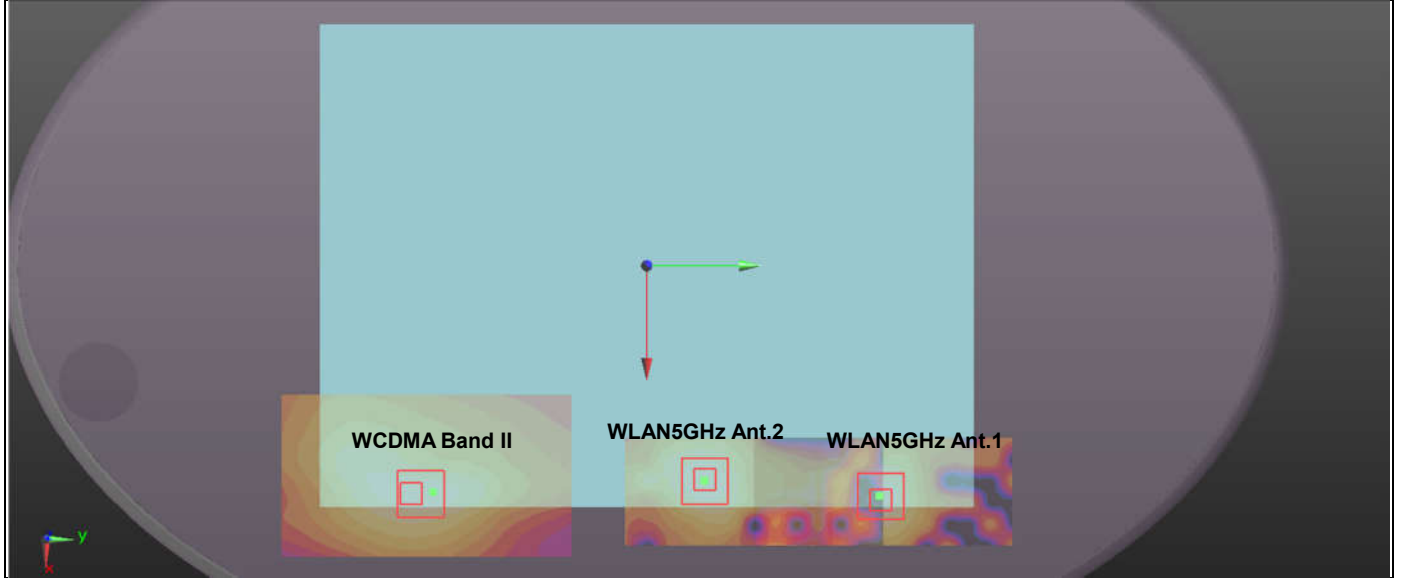
Case #13	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #13	WCDMA Band IV	Bottom Face	1.156	0	0.101	-0.127	-0.179	235.13	2.07	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WCDMA Band IV		1.156	0	0.101	-0.127	-0.179	154.08	2.28	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



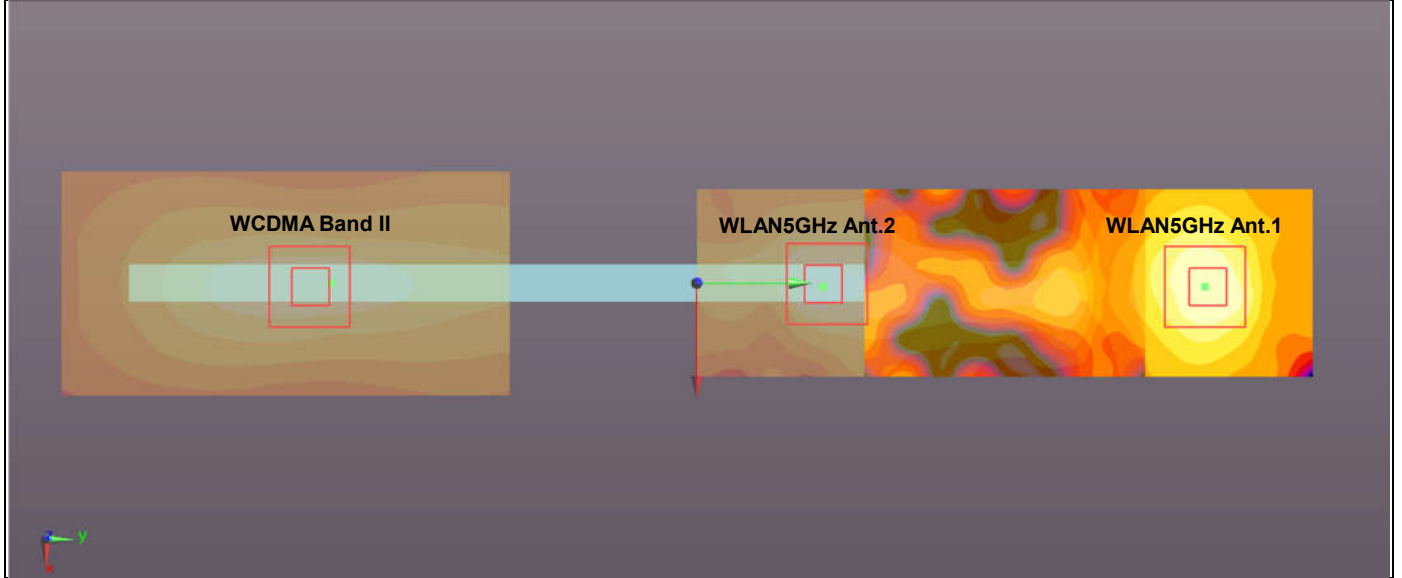
Case #14	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #14	WCDMA Band IV	Edge 1	1.039	0	-0.0045	-0.098	-0.181	234.12	2.04	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WCDMA Band IV		1.039	0	-0.0045	-0.098	-0.181	132.18	1.58	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



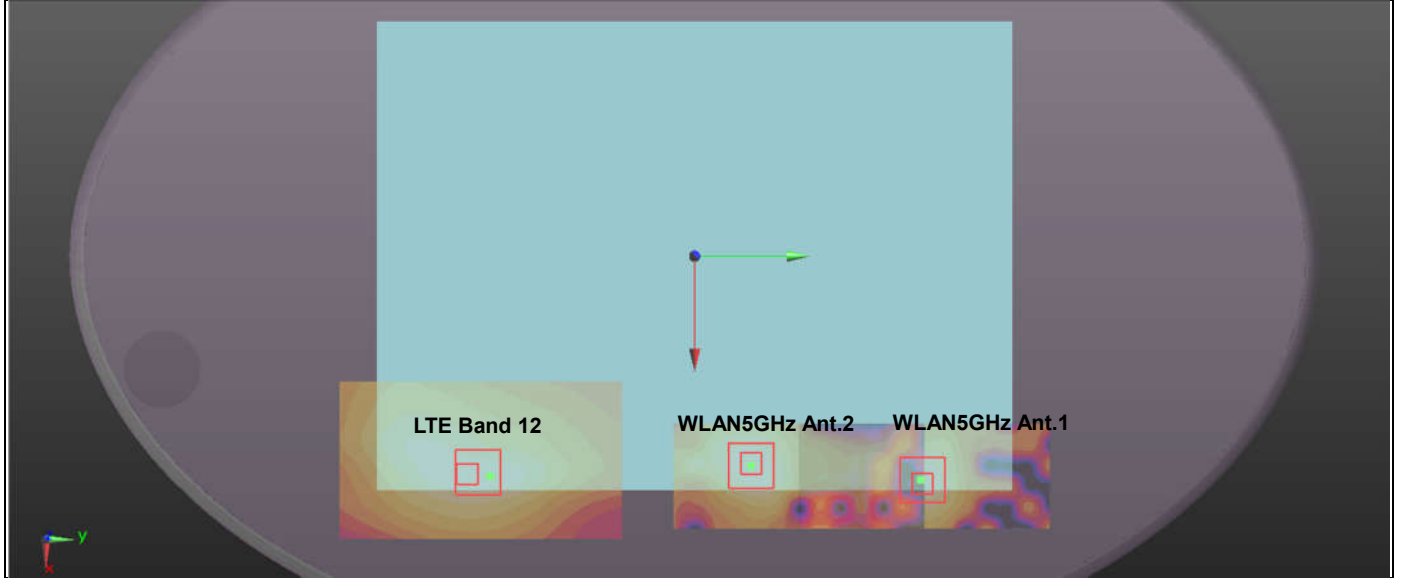
Case #15	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #15	WCDMA Band II	Bottom Face	1.094	0	0.099	-0.127	-0.179	235.19	2.01	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WCDMA Band II		1.094	0	0.099	-0.127	-0.179	154.08	2.22	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



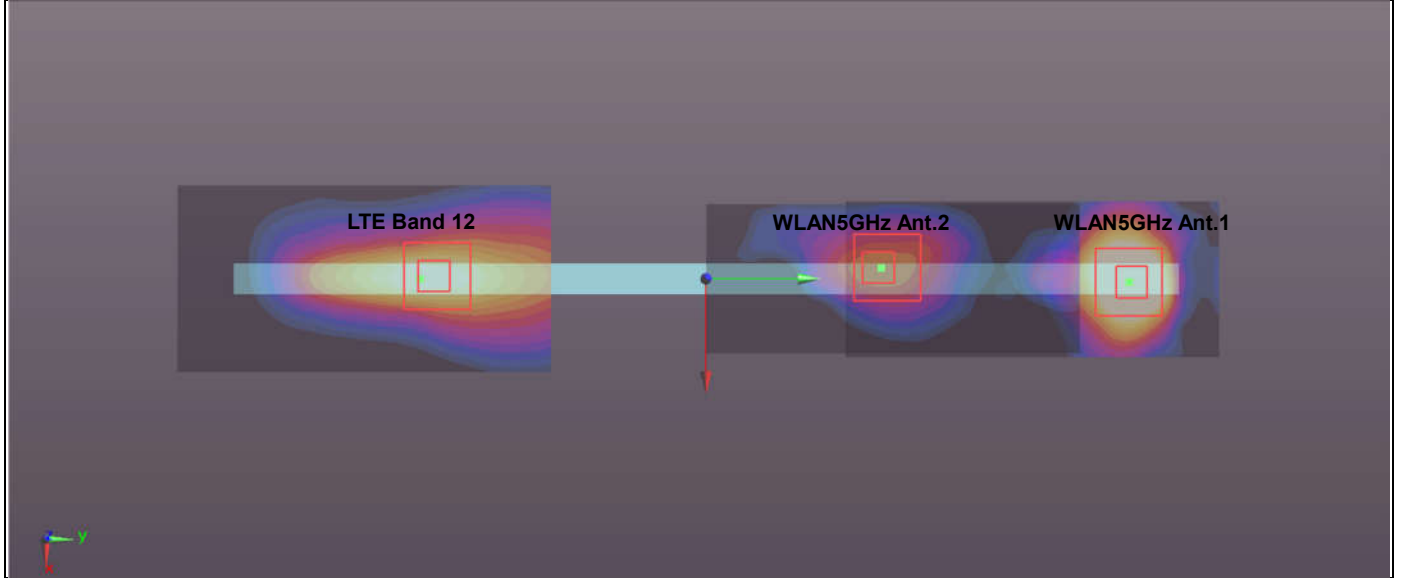
Case #16	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band II	Edge 1	1.107	0	-0.0045	-0.098	-0.181	234.12	2.11	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WCDMA Band II		1.107	0	-0.0045	-0.098	-0.181	132.18	1.65	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



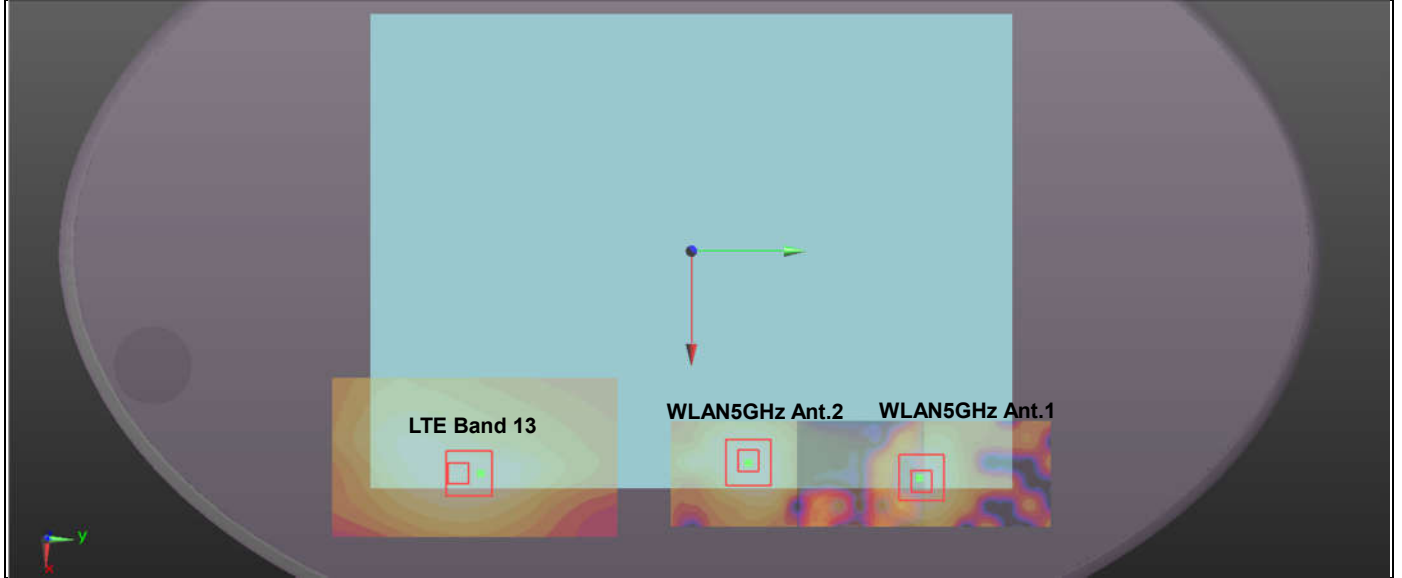
Case #17	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #17	LTE Band 12	Bottom Face	1.141	0	0.105	-0.098	-0.18	206.10	2.05	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	LTE Band 12		1.141	0	0.105	-0.098	-0.18	125.24	2.27	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



Case #18	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #18	LTE Band 12	Edge 1	0.440	0	8.74E-11	-0.084	-0.182	220.08	1.44	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	LTE Band 12		0.440	0	8.74E-11	-0.084	-0.182	118.11	0.98	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



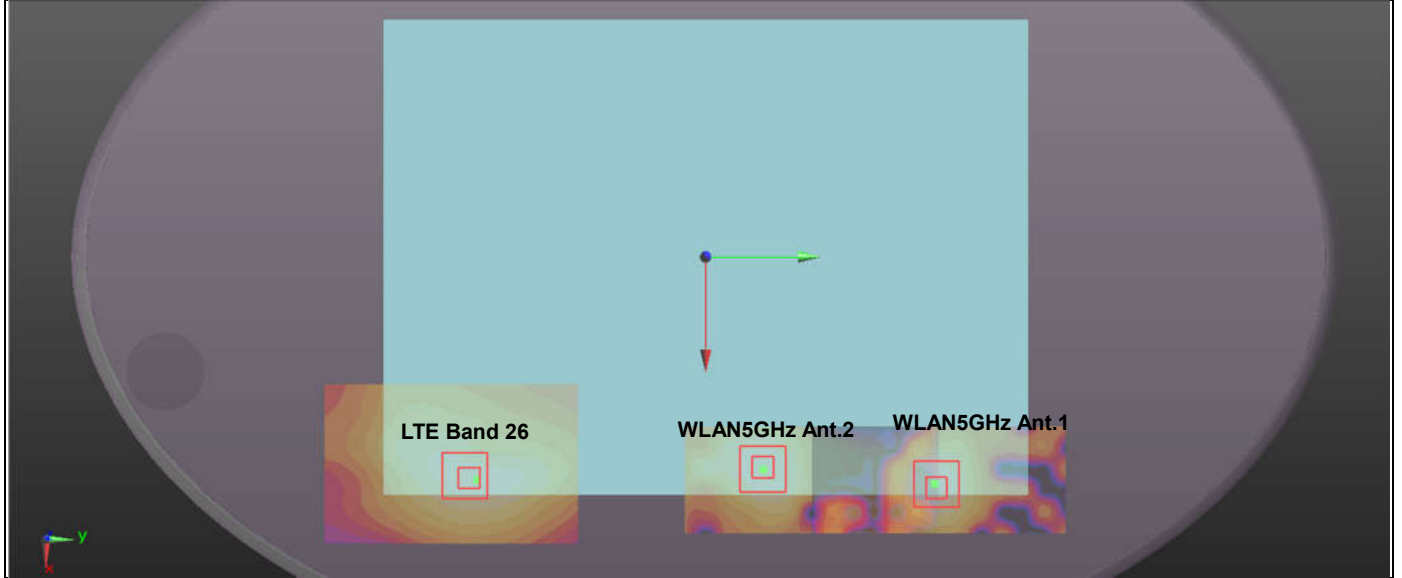
Case #19	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #19	LTE Band 13	Bottom Face	1.230	0	0.105	-0.108	-0.18	216.09	2.14	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	LTE Band 13		1.230	0	0.105	-0.108	-0.18	135.23	2.36	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



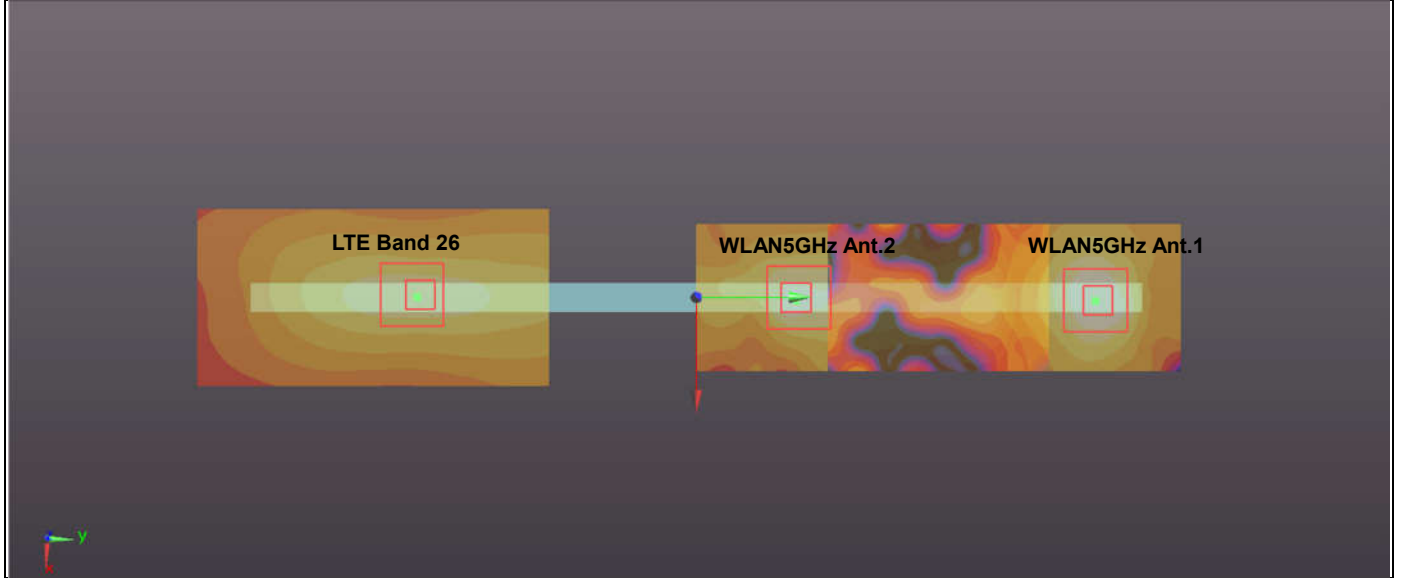
Case #20	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #20	LTE Band 13	Edge 1	0.501	0	8.74E-11	-0.0855	-0.182	221.58	1.50	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	LTE Band 13		0.501	0	8.74E-11	-0.0855	-0.182	119.61	1.04	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



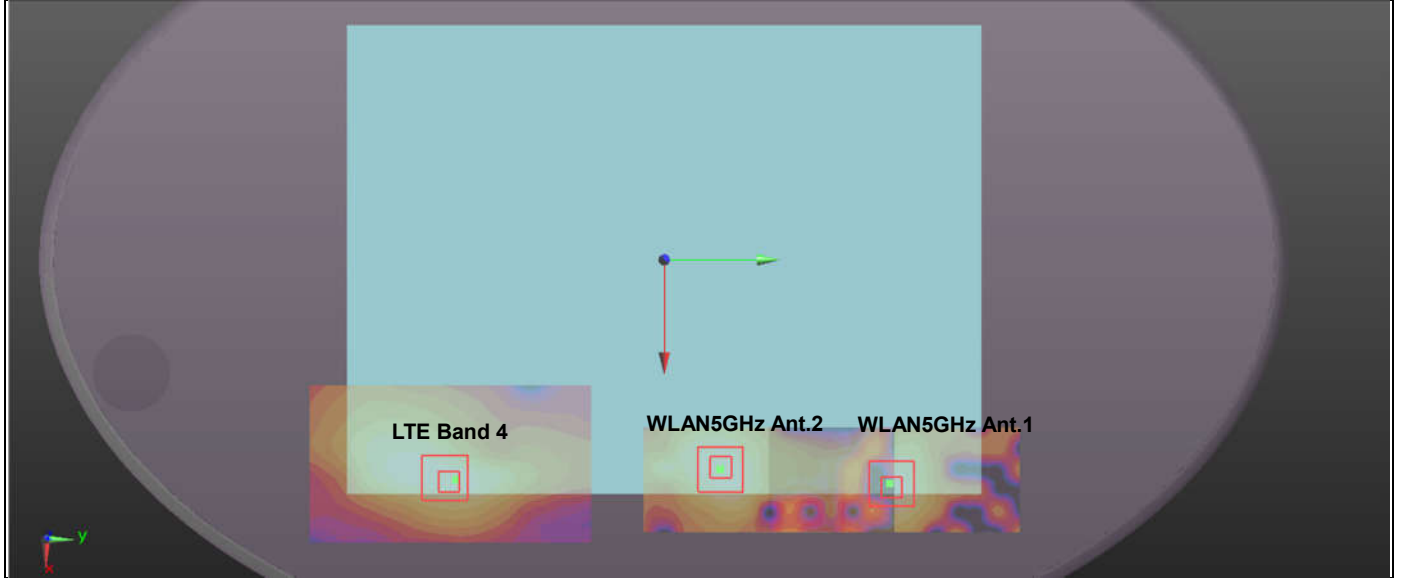
Case #21	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 26	Bottom Face	1.028	0	0.105	-0.108	-0.18	216.09	1.94	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	LTE Band 26		1.028	0	0.105	-0.108	-0.18	135.23	2.16	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



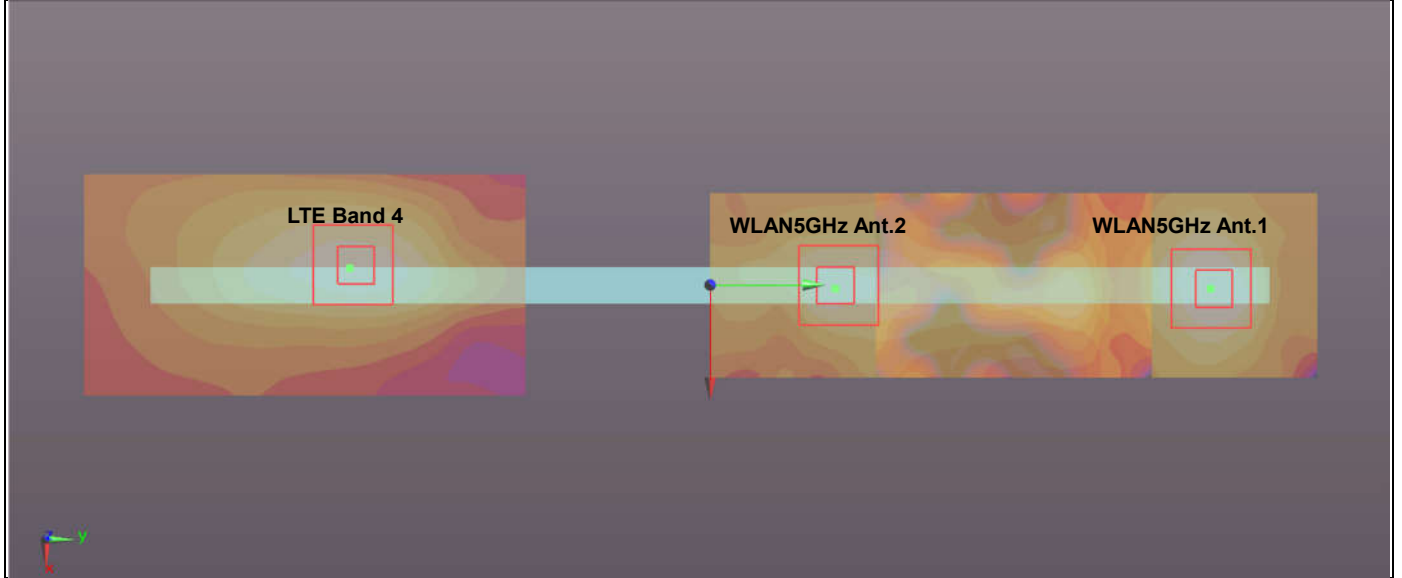
Case #22	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #22	LTE Band 26	Edge 1	0.490	0	8.74E-11	-0.095	-0.182	231.08	1.49	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	LTE Band 26		0.490	0	8.74E-11	-0.095	-0.182	129.10	1.03	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



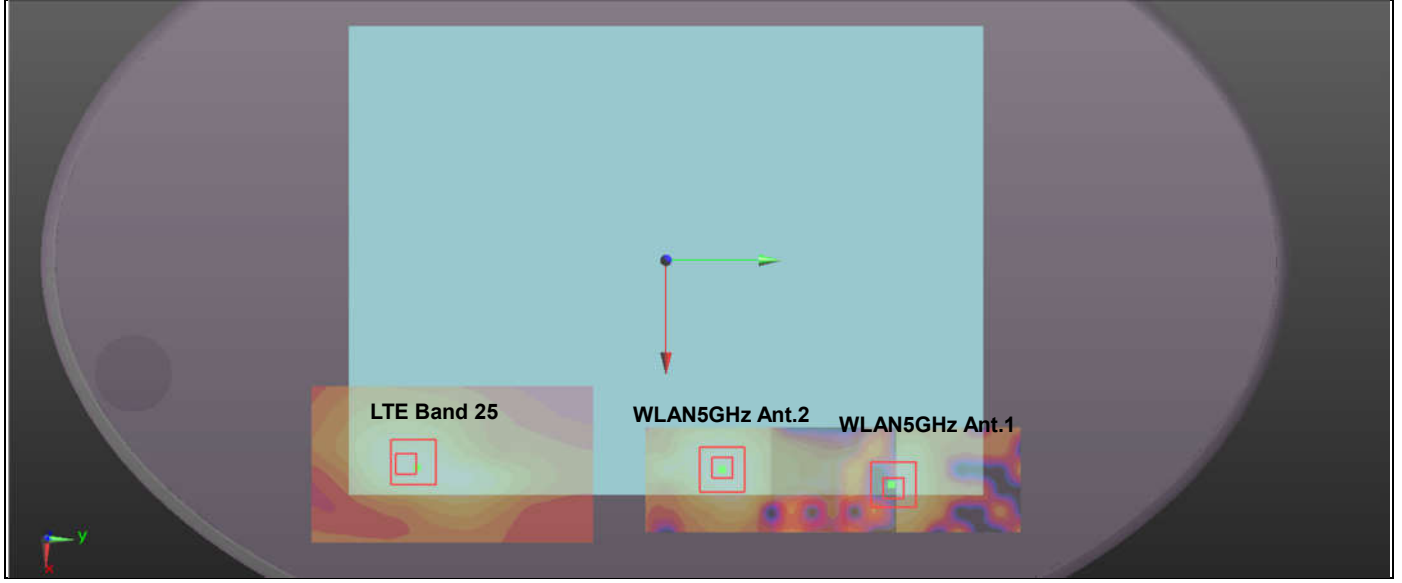
Case #23	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #23	LTE Band 4	Bottom Face	1.089	0	0.105	-0.0995	-0.179	207.57	2.00	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	LTE Band 4		1.089	0	0.105	-0.0995	-0.179	126.70	2.22	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



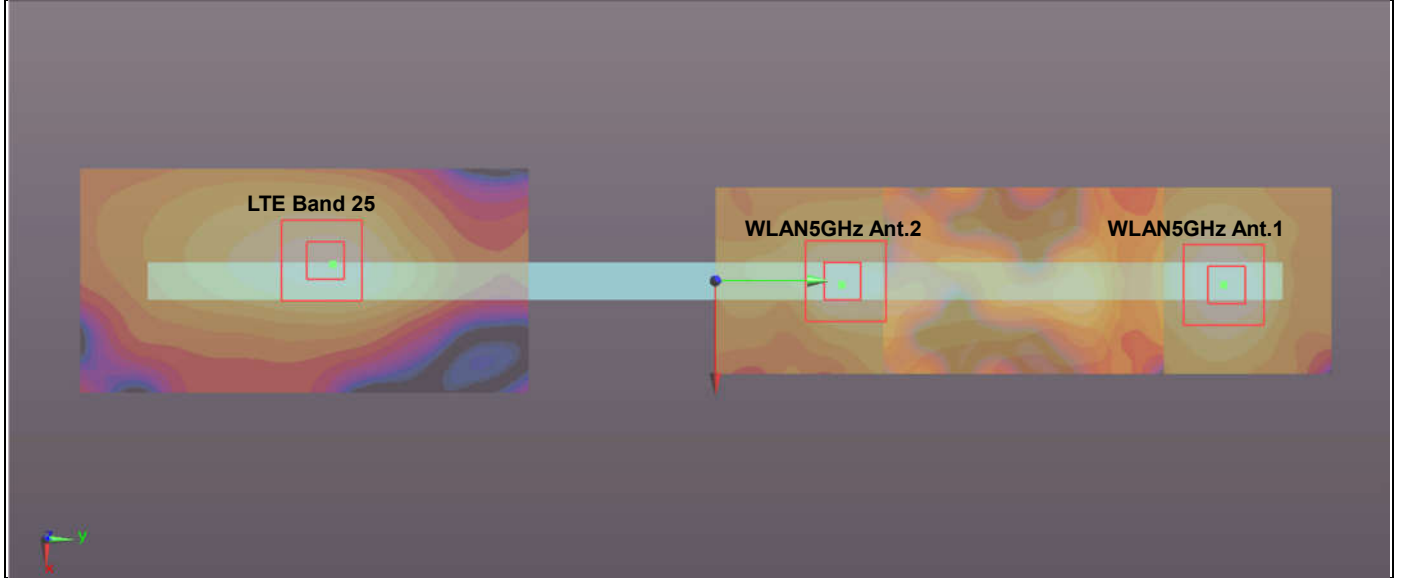
Case #24	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	Edge 1	1.000	0	-0.0045	-0.098	-0.181	234.12	2.00	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	LTE Band 4		1.000	0	-0.0045	-0.098	-0.181	132.18	1.54	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



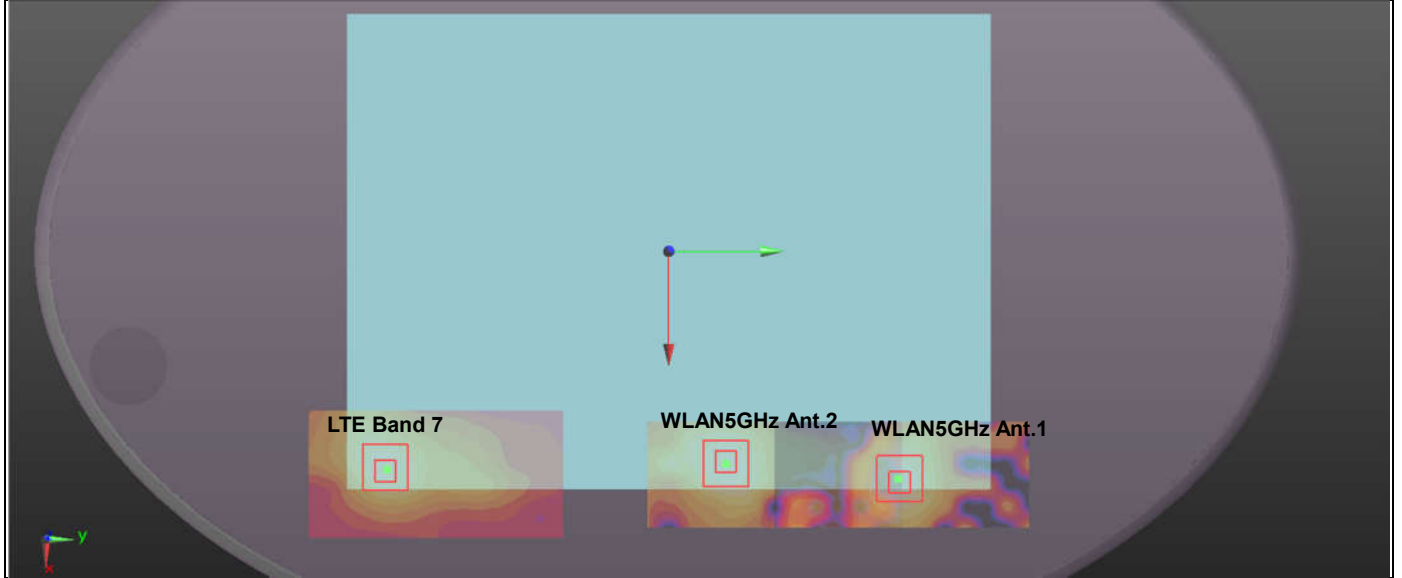
Case #25	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #25	LTE Band 25	Bottom Face	1.012	0	0.099	-0.127	-0.179	235.19	1.92	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	LTE Band 25		1.012	0	0.099	-0.127	-0.179	154.08	2.14	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



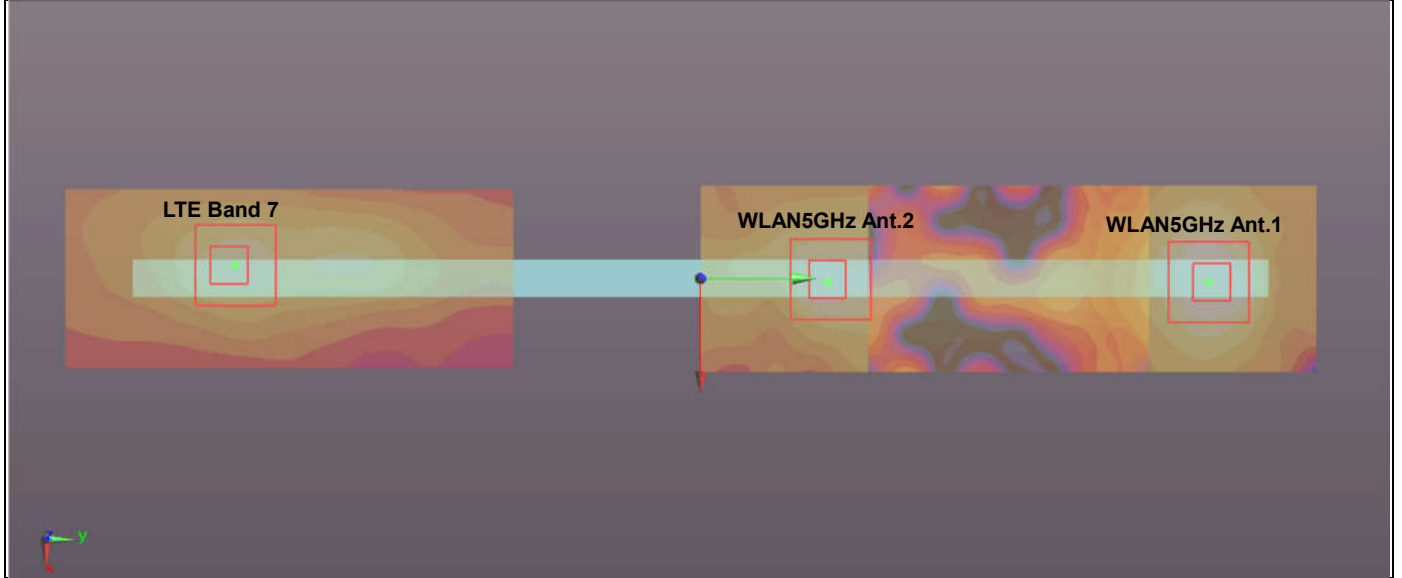
Case #26	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 25	Edge 1	0.931	0	-0.0045	-0.103	-0.181	239.12	1.93	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	LTE Band 25		0.931	0	-0.0045	-0.103	-0.181	137.17	1.47	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



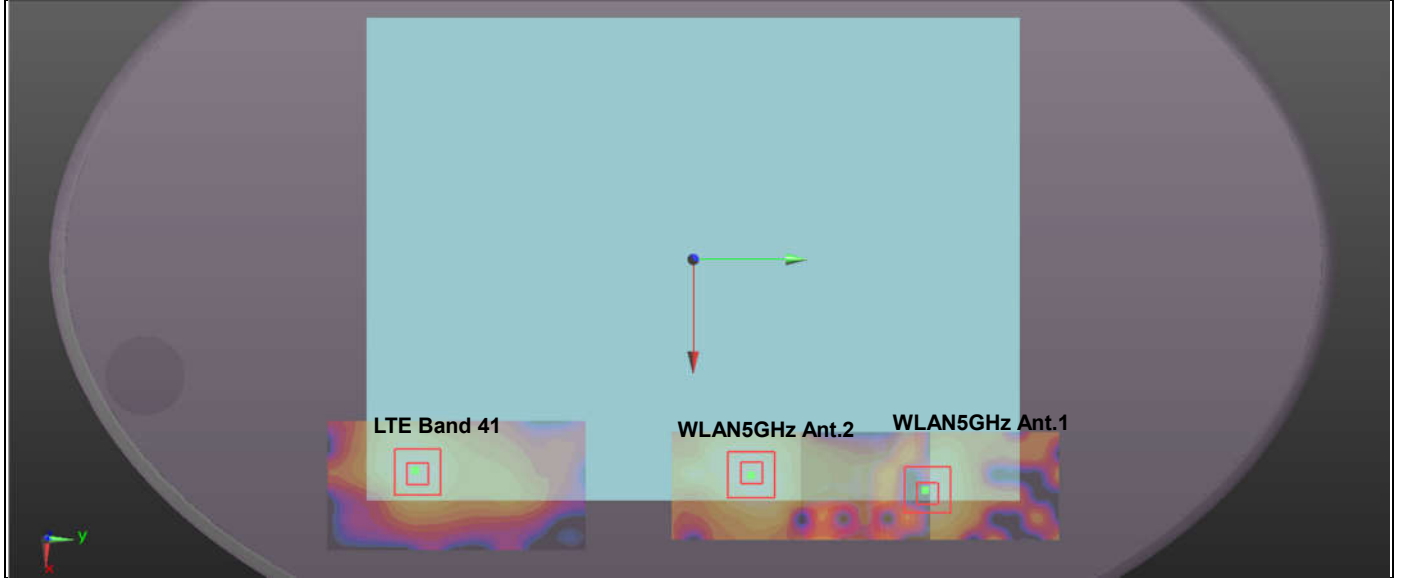
Case #27	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #27	LTE Band 7	Bottom Face	1.233	0	0.103	-0.133	-0.179	241.09	2.15	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	LTE Band 7		1.233	0	0.103	-0.133	-0.179	160.11	2.36	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



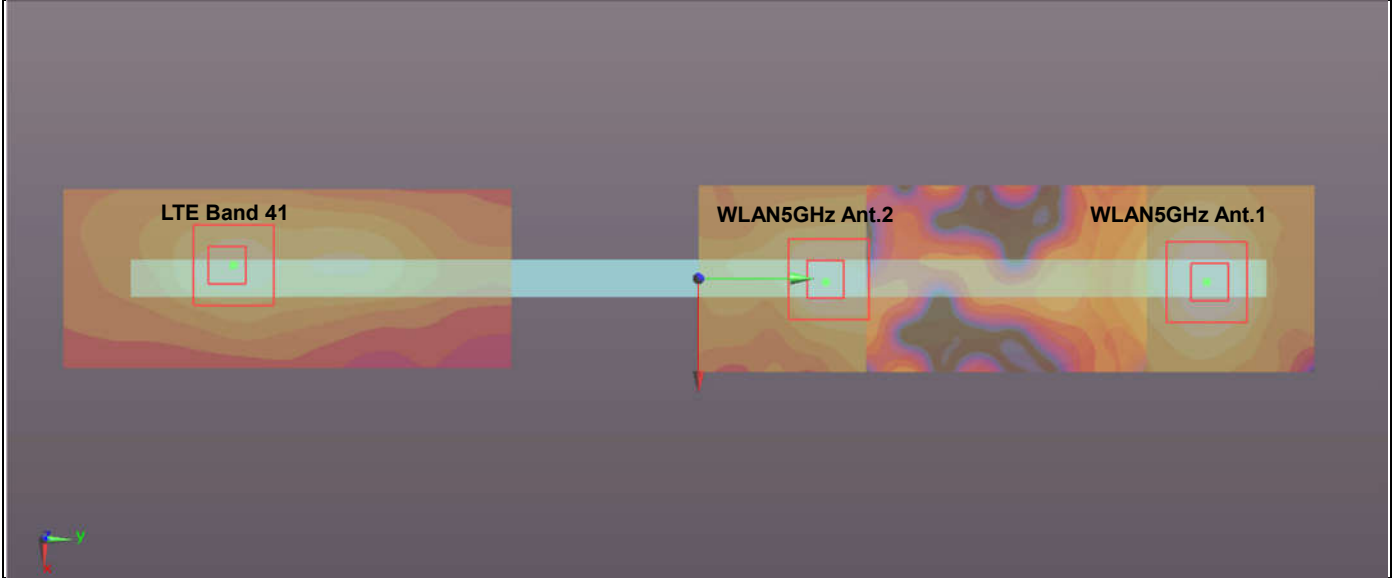
Case #28	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7	Edge 1	0.439	0	-0.0036	-0.124	-0.181	260.09	1.44	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	LTE Band 7		0.439	0	-0.0036	-0.124	-0.181	158.12	0.98	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



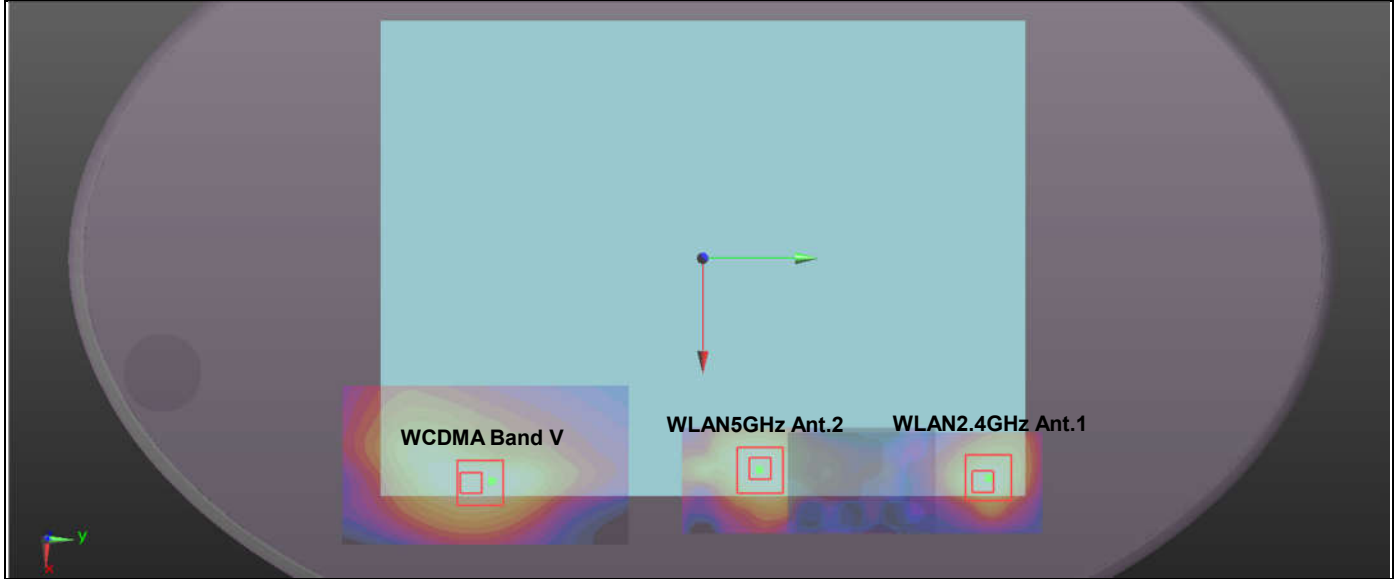
Case #29	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #29	LTE Band 41	Bottom Face	1.256	0	0.0978	-0.129	-0.18	237.25	2.17	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	LTE Band 41		1.256	0	0.0978	-0.129	-0.18	156.13	2.38	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174	81.30	2.04	0.04	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



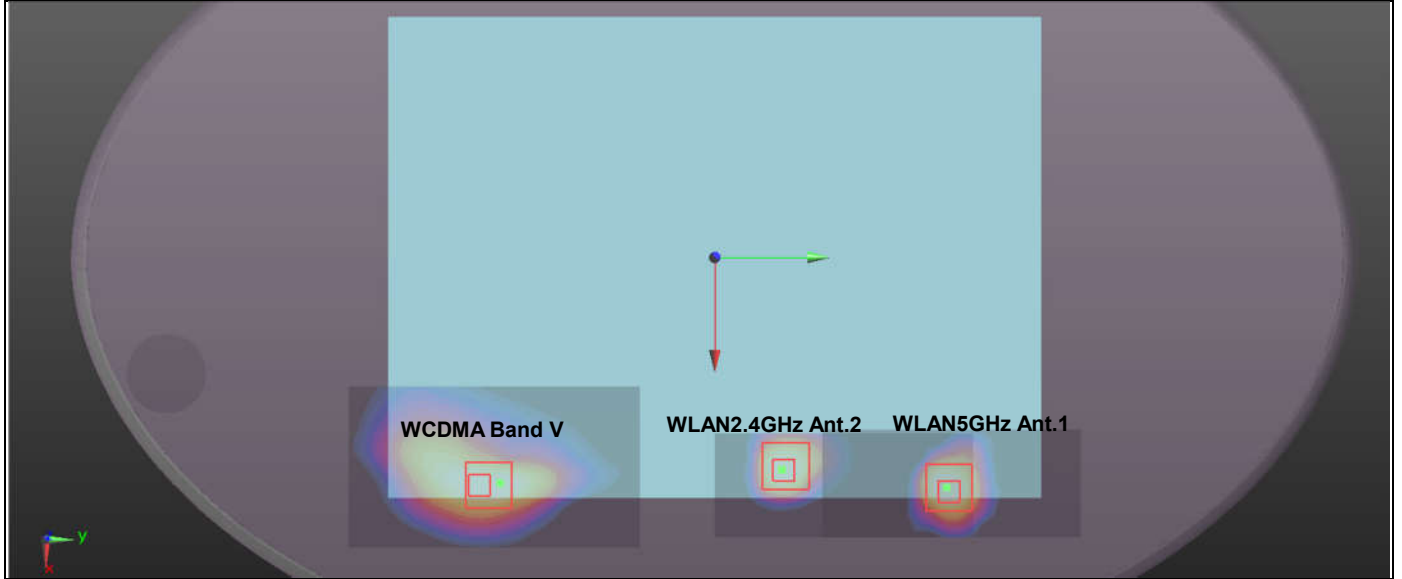
Case #30	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #30	LTE Band 41	Edge 1	0.406	0	-0.0012	-0.129	-0.181	265.06	1.41	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	LTE Band 41		0.406	0	-0.0012	-0.129	-0.181	163.06	0.95	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176	102.00	1.54	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



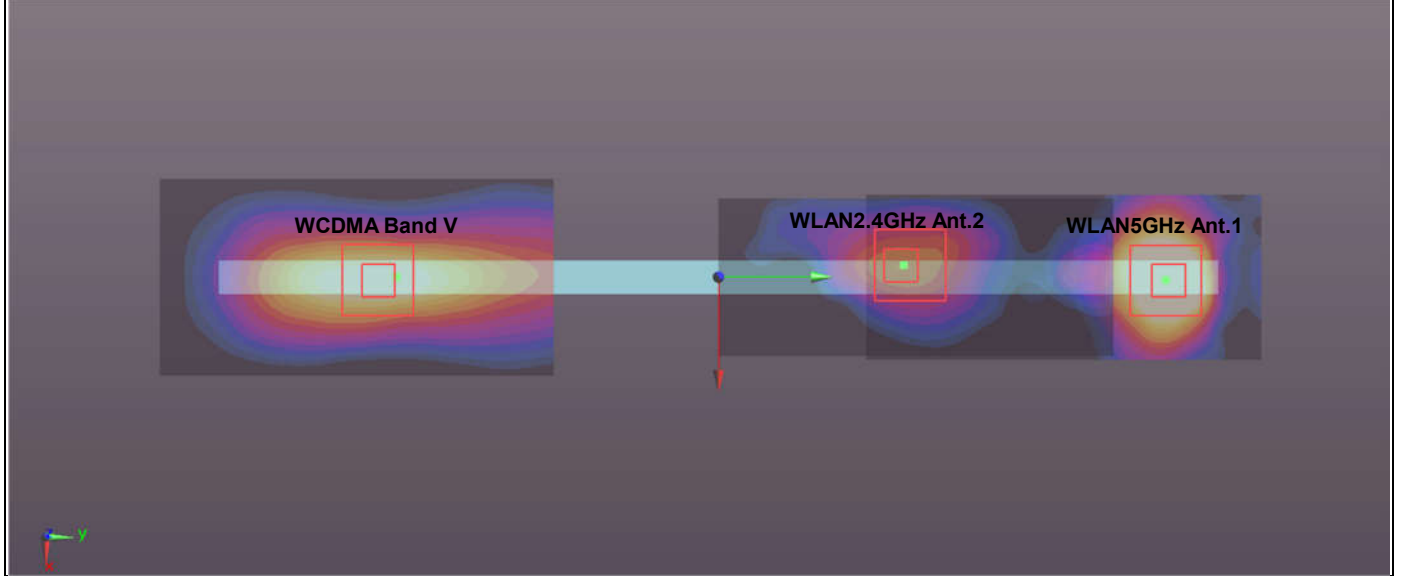
Case #31	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #31	WCDMA Band V	Bottom Face	1.100	0	0.105	-0.108	-0.18	238.08	1.99	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	WCDMA Band V		1.100	0	0.105	-0.108	-0.18	135.23	2.23	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



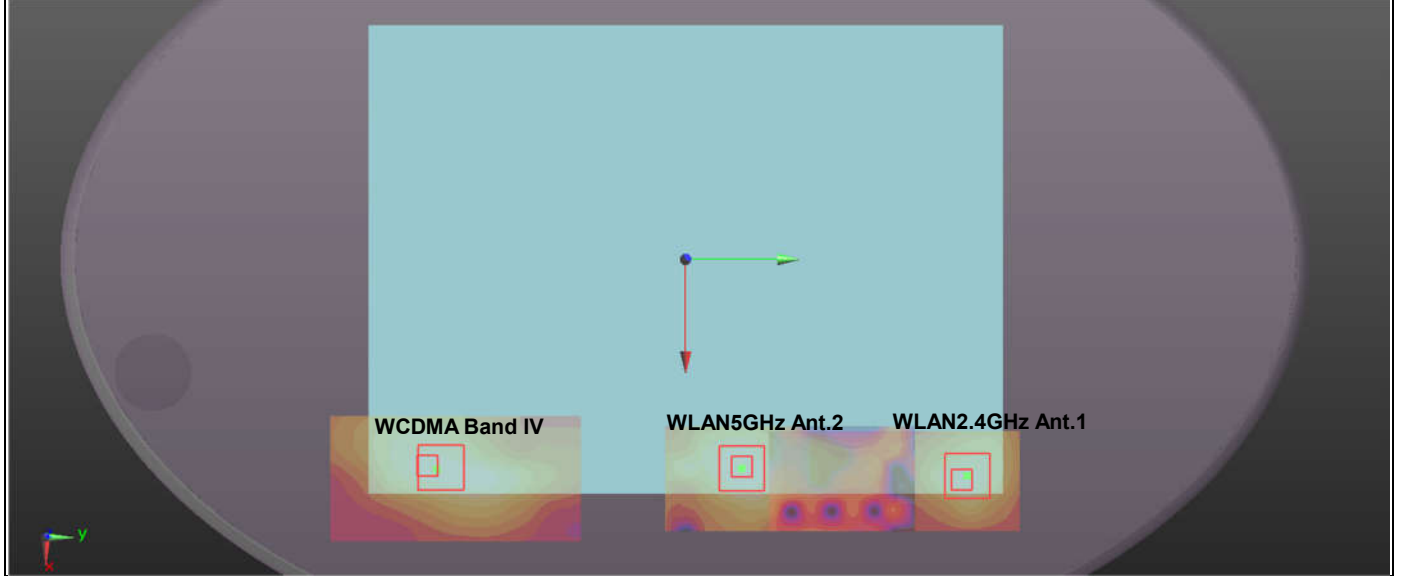
Case #32	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #32	WCDMA Band V	Bottom Face	1.100	0	0.105	-0.108	-0.18	139.43	2.04	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	WCDMA Band V		1.100	0	0.105	-0.108	-0.18	216.09	2.01	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				



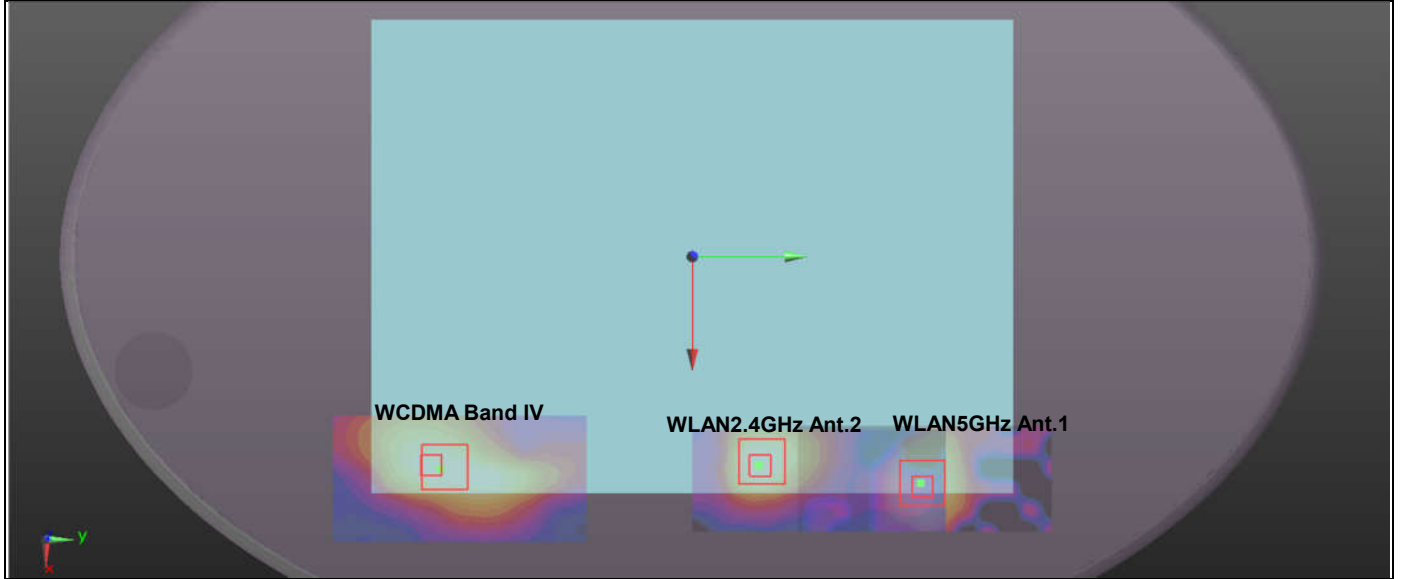
Case #33	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #33	WCDMA Band V	Edge 1	0.491	0	8.74E-11	-0.098	-0.181	149.56	0.65	0	Not required
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175				
	WCDMA Band V		0.491	0	8.74E-11	-0.098	-0.181	234.06	1.49	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175	84.73	1.16	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				



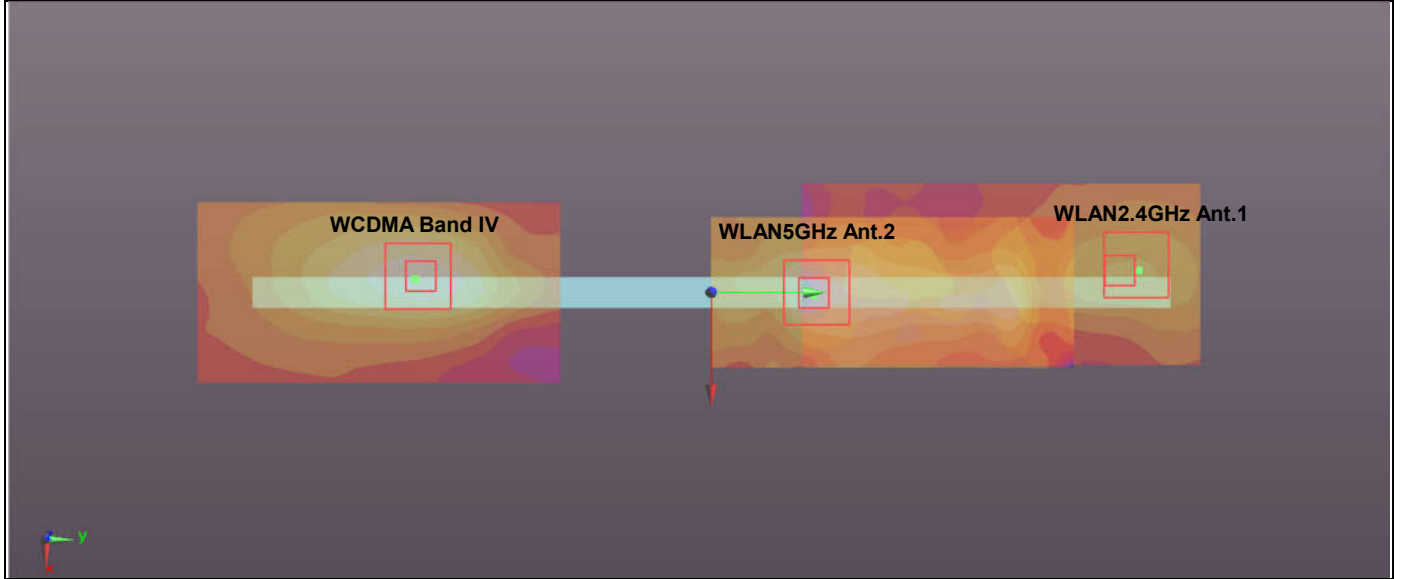
Case #34	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band IV	Bottom Face	1.156	0	0.101	-0.127	-0.179	257.07	2.04	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	WCDMA Band IV		1.156	0	0.101	-0.127	-0.179	154.08	2.28	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



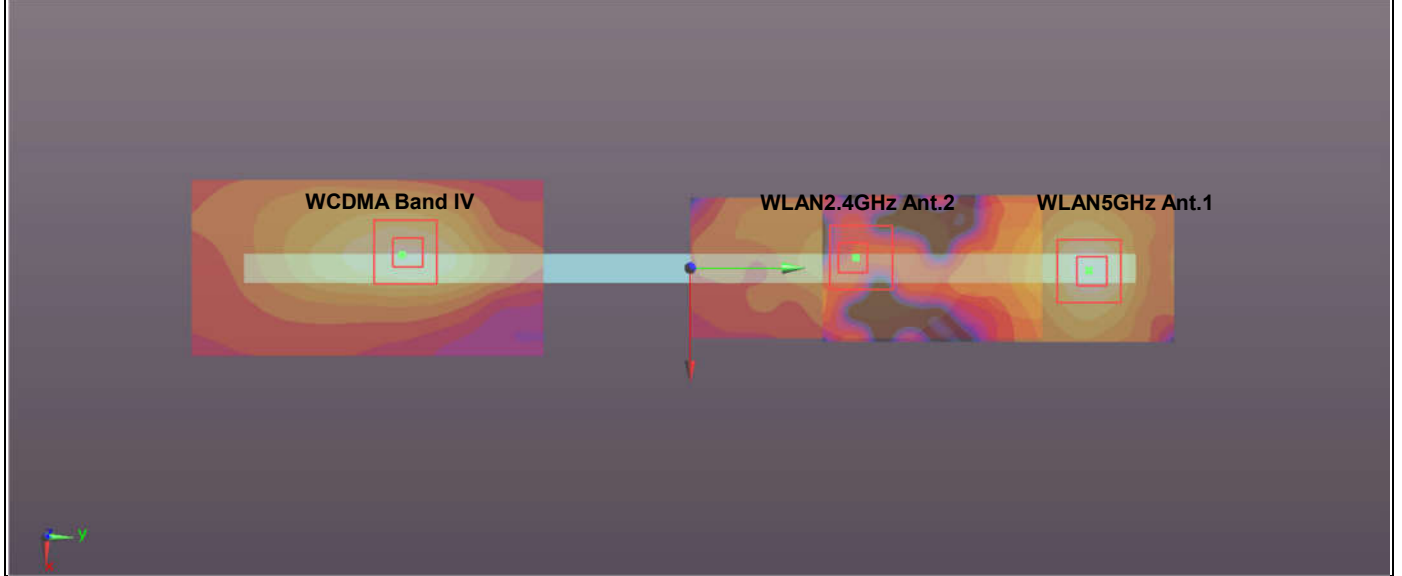
Case #35	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #35	WCDMA Band IV	Bottom Face	1.156	0	0.101	-0.127	-0.179	158.27	2.10	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	235.13	2.07	0.01	Not required
	WCDMA Band IV		1.156	0	0.101	-0.127	-0.179				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				



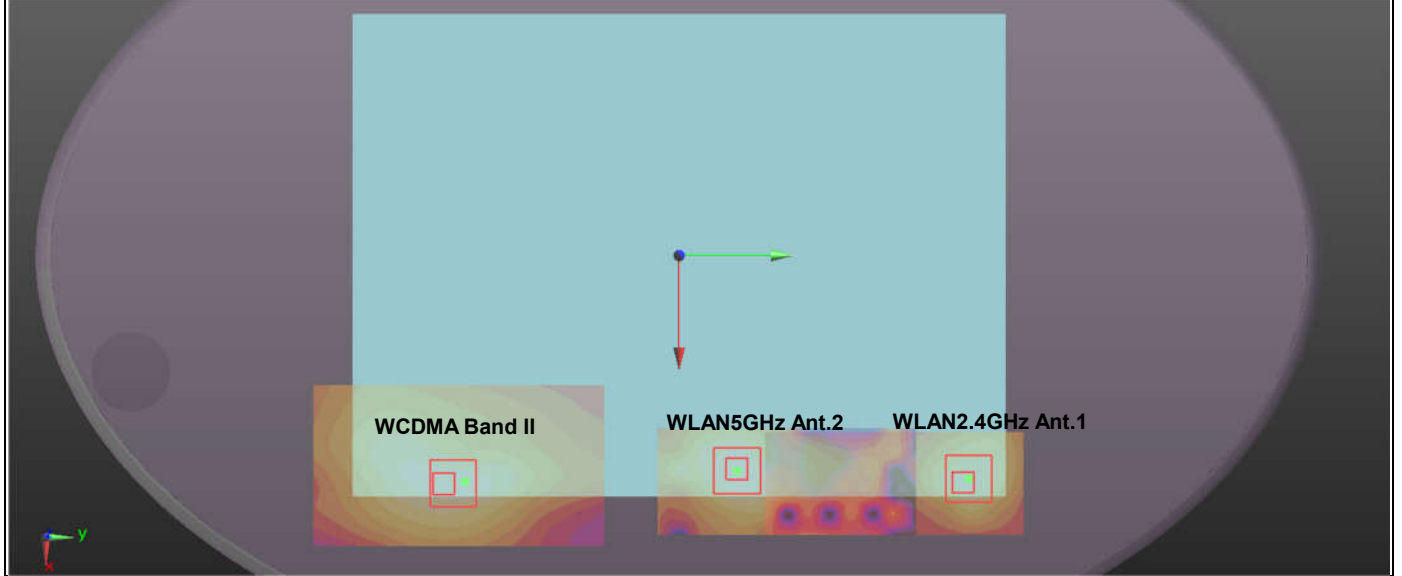
Case #36	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band IV	Edge 1	1.039	0	-0.0045	-0.098	-0.181	230.09	1.16	0.01	Not required
	WLAN2.4GHz Ant.1		0.120	0	-0.0072	0.132	-0.175				
	WCDMA Band IV		1.039	0	-0.0045	-0.098	-0.181	132.18	1.58	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN2.4GHz Ant.1		0.120	0	-0.0072	0.132	-0.175	98.36	0.66	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



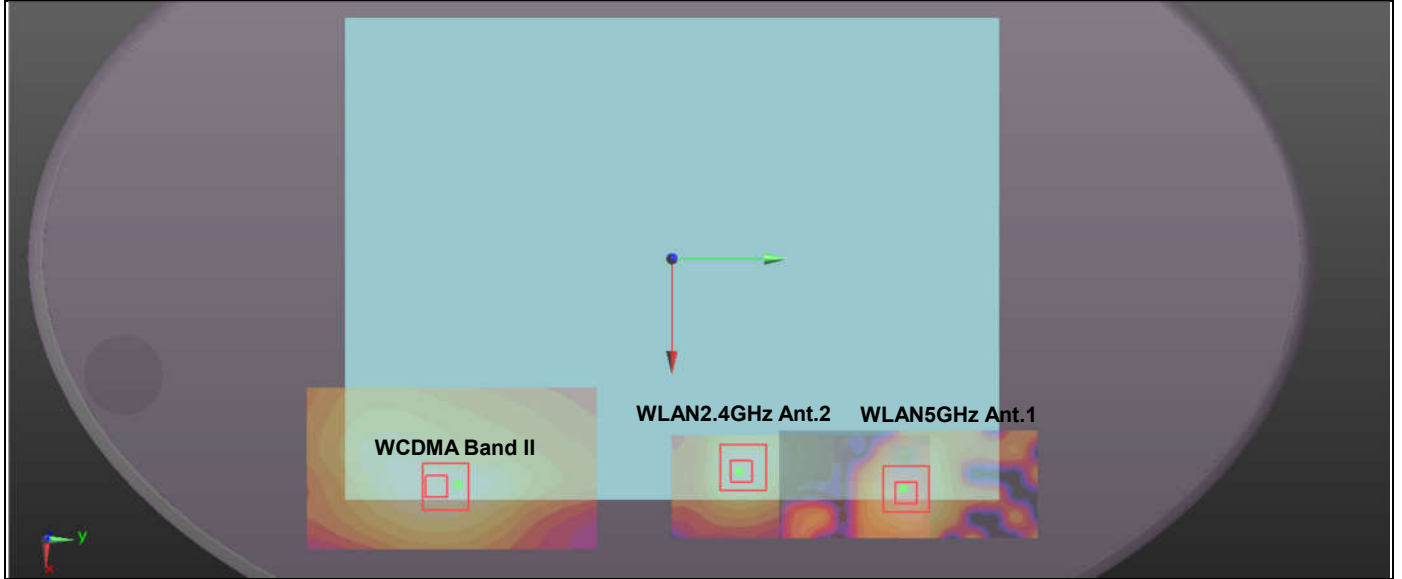
Case #37	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band IV	Edge 1	1.039	0	-0.0045	-0.098	-0.181	149.52	1.20	0.01	Not required
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175				
	WCDMA Band IV		1.039	0	-0.0045	-0.098	-0.181	234.12	2.04	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175	84.73	1.16	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				



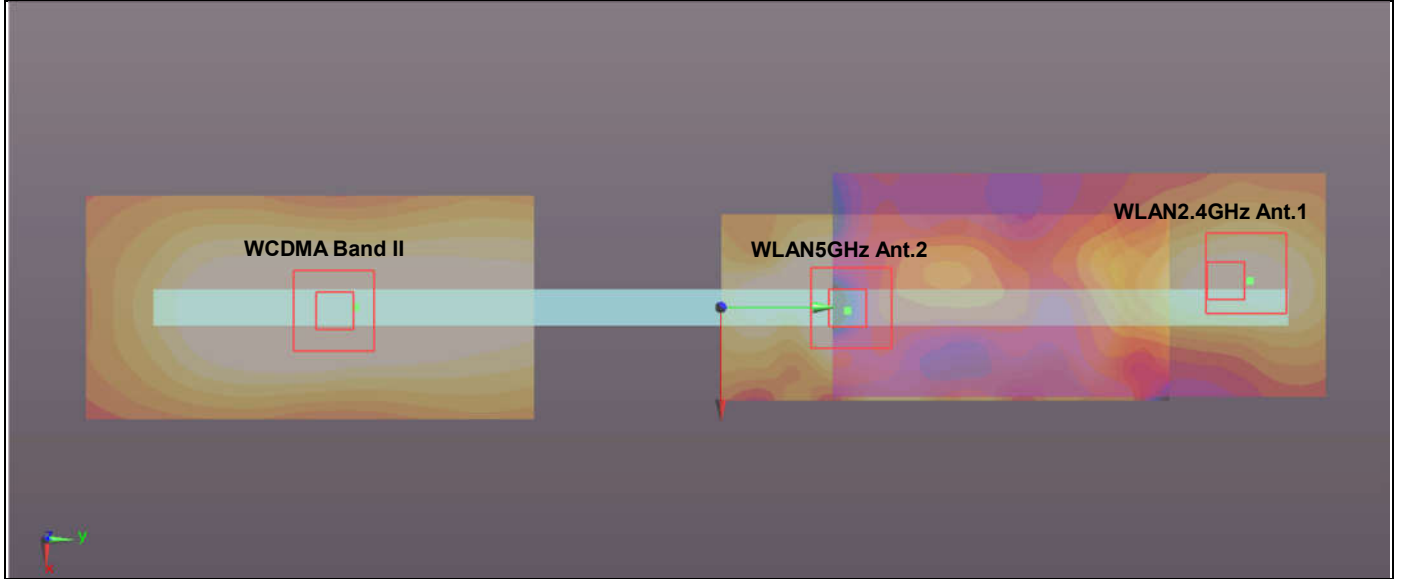
Case #38	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #38	WCDMA Band II	Bottom Face	1.094	0	0.099	-0.127	-0.179	257.10	1.98	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	WCDMA Band II		1.094	0	0.099	-0.127	-0.179	154.08	2.22	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



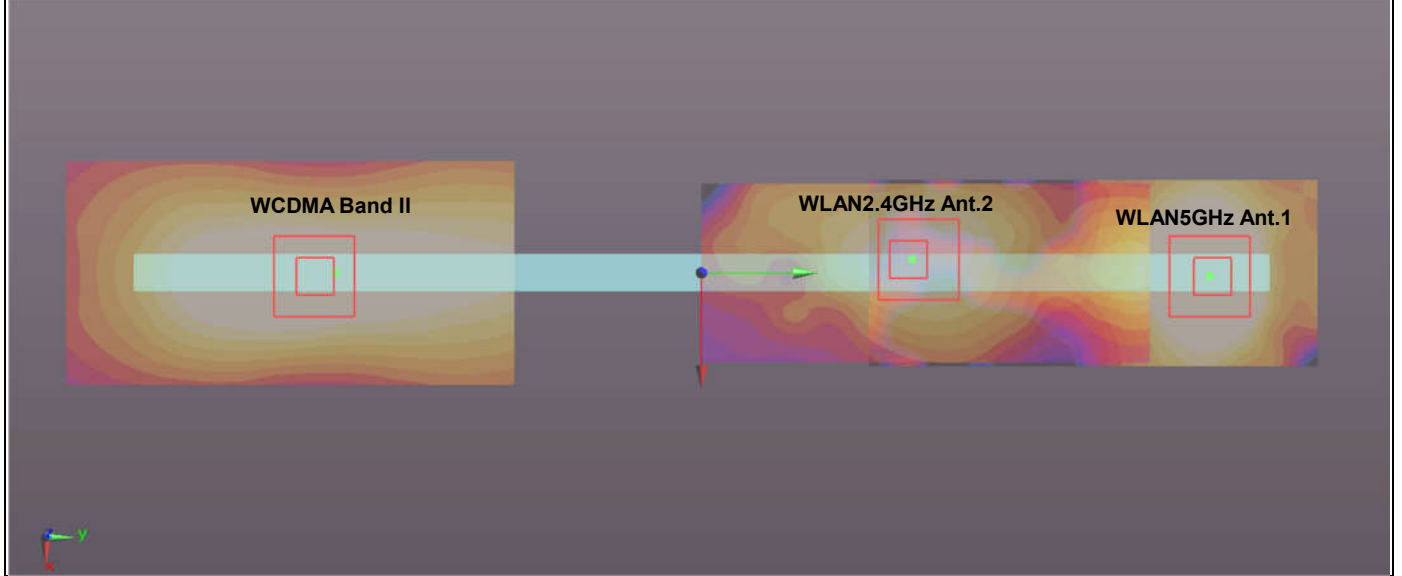
Case #39	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #39	WCDMA Band II	Bottom Face	1.094	0	0.099	-0.127	-0.179	158.25	2.04	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	235.19	2.01	0.01	Not required
	WCDMA Band II		1.094	0	0.099	-0.127	-0.179				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				



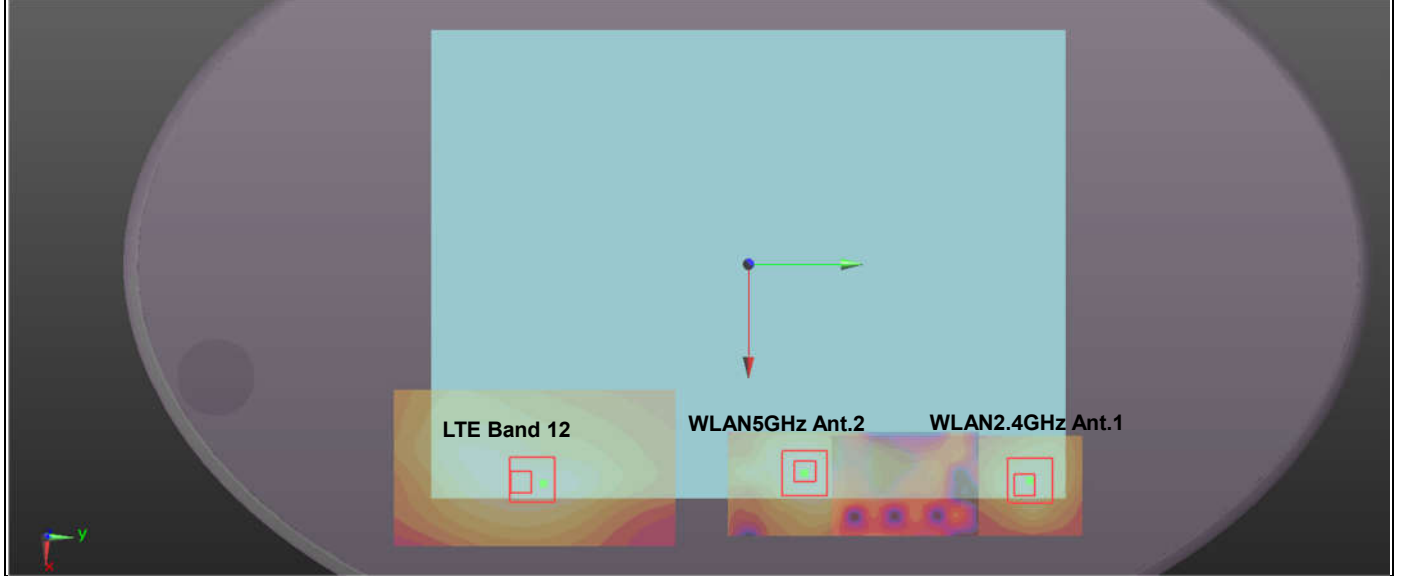
Case #40	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #40	WCDMA Band II	Edge 1	1.107	0	-0.0045	-0.098	-0.181	230.09	1.23	0.01	Not required
	WLAN2.4GHz Ant.1		0.120	0	-0.0072	0.132	-0.175				
	WCDMA Band II		1.107	0	-0.0045	-0.098	-0.181	132.18	1.65	0.02	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN2.4GHz Ant.1		0.120	0	-0.0072	0.132	-0.175	98.36	0.66	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



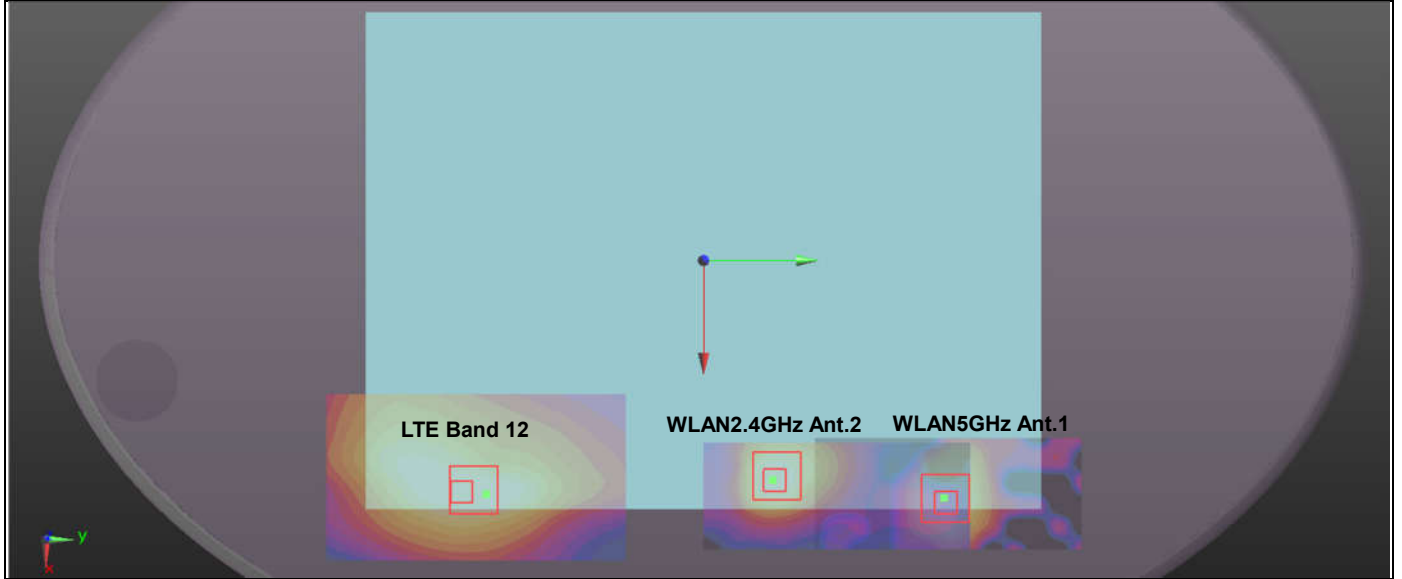
Case #41	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band II	Edge 1	1.107	0	-0.0045	-0.098	-0.181	149.52	1.26	0.01	Not required
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175				
	WCDMA Band II		1.107	0	-0.0045	-0.098	-0.181	234.12	2.11	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175	84.73	1.16	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				



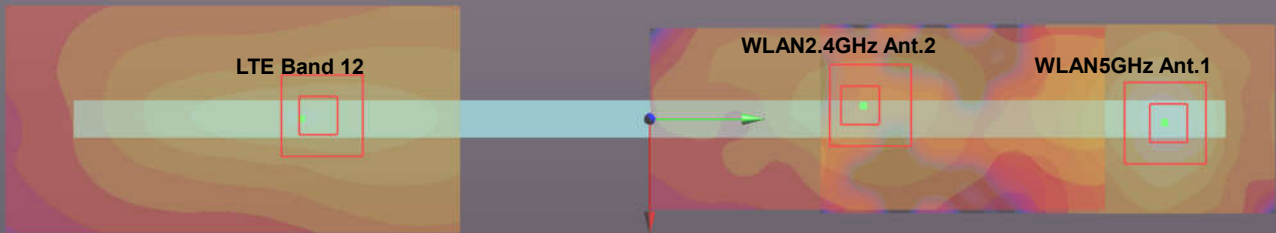
Case #42	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 12	Bottom Face	1.141	0	0.105	-0.098	-0.18	228.08	2.03	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 12		1.141	0	0.105	-0.098	-0.18	125.24	2.27	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



Case #43	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #43	LTE Band 12	Bottom Face	1.141	0	0.105	-0.098	-0.18	129.45	2.08	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	LTE Band 12		1.141	0	0.105	-0.098	-0.18	206.10	2.05	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				



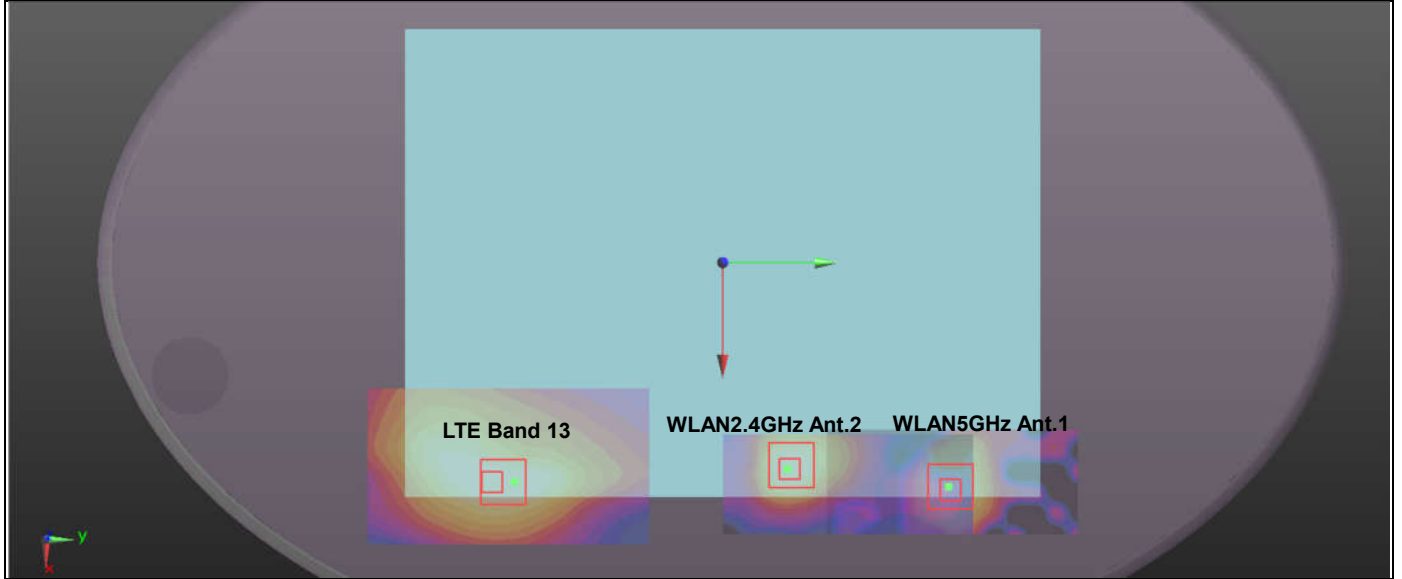
Case #44	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #44	LTE Band 12	Edge 1	0.440	0	8.74E-11	-0.084	-0.182	135.63	0.60	0	Not required
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175				
	LTE Band 12		0.440	0	8.74E-11	-0.084	-0.182	220.08	1.44	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175	84.73	1.16	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				



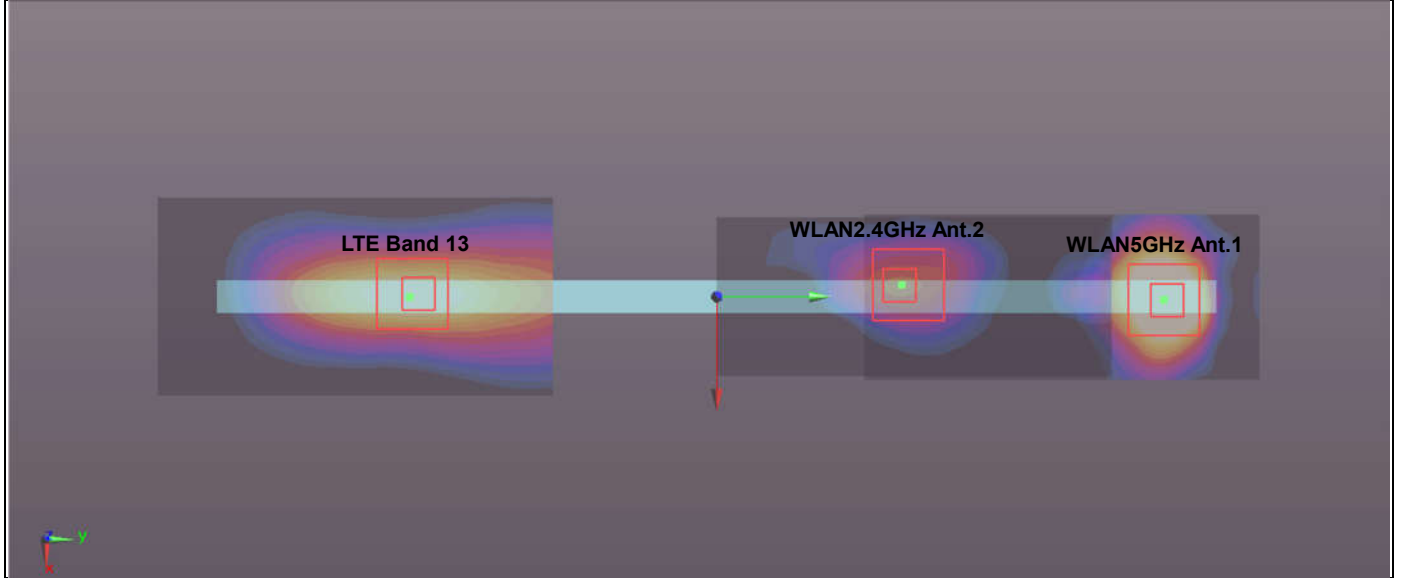
Case #45	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #45	LTE Band 13	Bottom Face	1.230	0	0.105	-0.108	-0.18	238.08	2.12	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 13		1.230	0	0.105	-0.108	-0.18	135.23	2.36	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



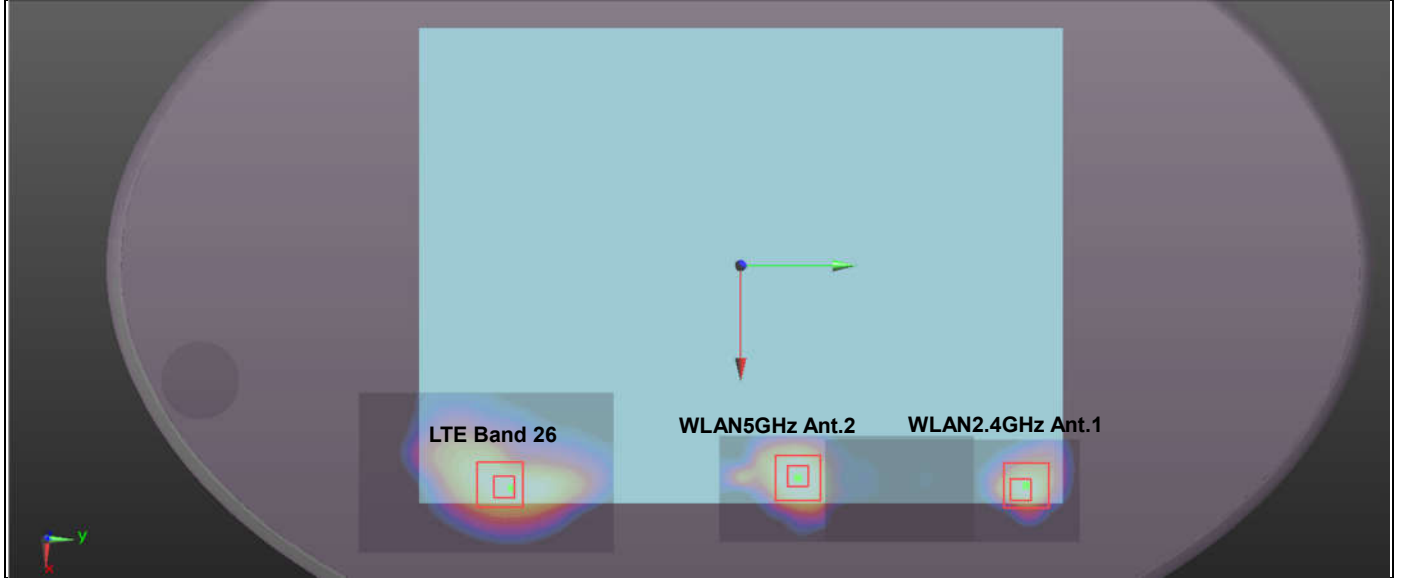
Case #46	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #46	LTE Band 13	Bottom Face	1.230	0	0.105	-0.108	-0.18	139.43	2.17	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	LTE Band 13		1.230	0	0.105	-0.108	-0.18	216.09	2.14	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				



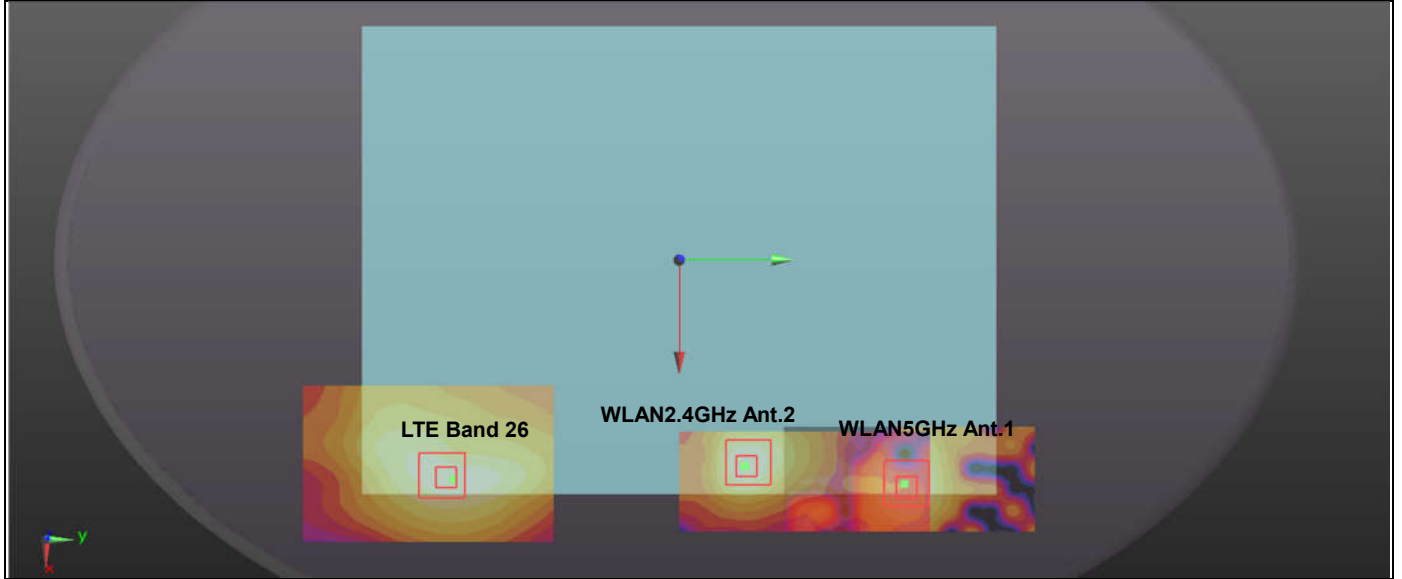
Case #47	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #47	LTE Band 13	Edge 1	0.501	0	8.74E-11	-0.0855	-0.182	137.13	0.66	0	Not required
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175				
	LTE Band 13		0.501	0	8.74E-11	-0.0855	-0.182	221.58	1.50	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175	84.73	1.16	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				



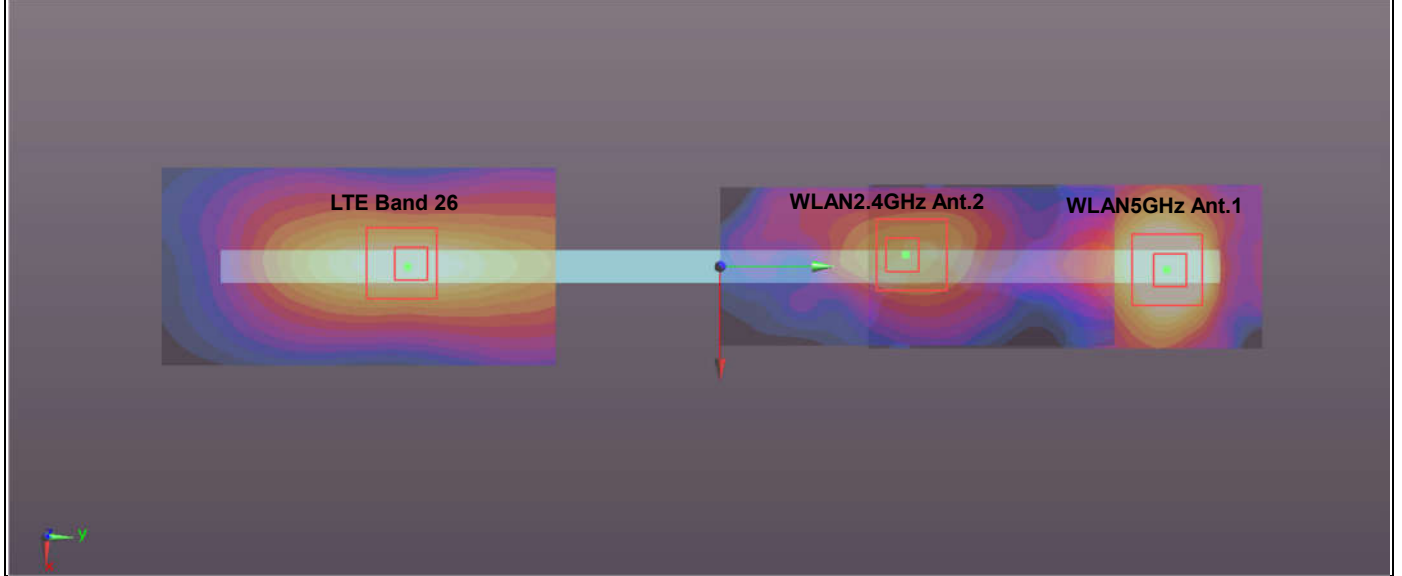
Case #48	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #48	LTE Band 26	Bottom Face	1.028	0	0.105	-0.108	-0.18	238.08	1.92	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 26		1.028	0	0.105	-0.108	-0.18	135.23	2.16	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



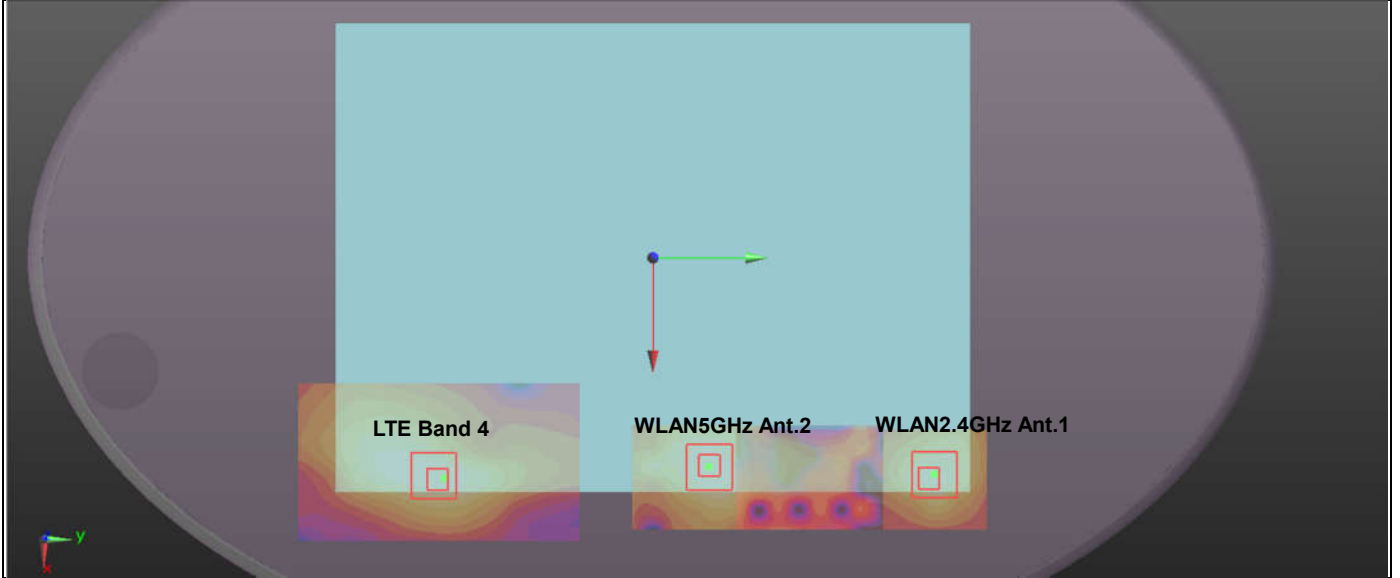
Case #49	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #49	LTE Band 26	Bottom Face	1.028	0	0.105	-0.108	-0.18	139.43	1.97	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	LTE Band 26		1.028	0	0.105	-0.108	-0.18	216.09	1.94	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				



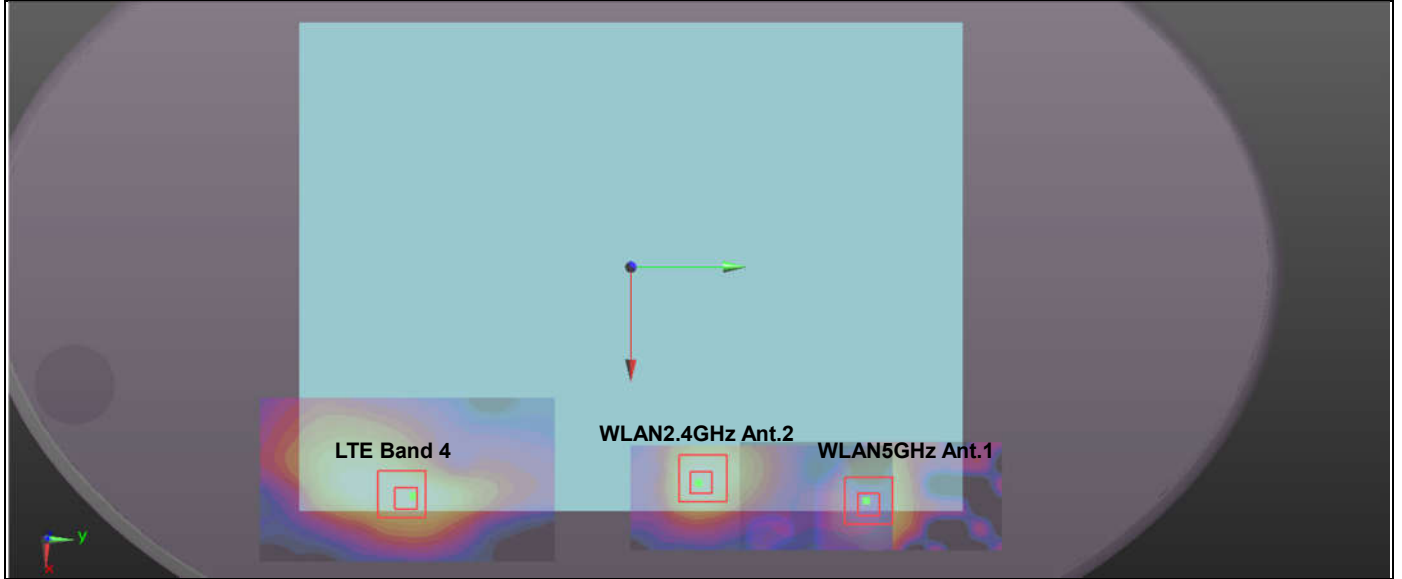
Case #50	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #50	LTE Band 26	Edge 1	0.490	0	8.74E-11	-0.095	-0.182	146.61	0.65	0	Not required
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175				
	LTE Band 26		0.490	0	8.74E-11	-0.095	-0.182	231.08	1.49	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175	84.73	1.16	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				



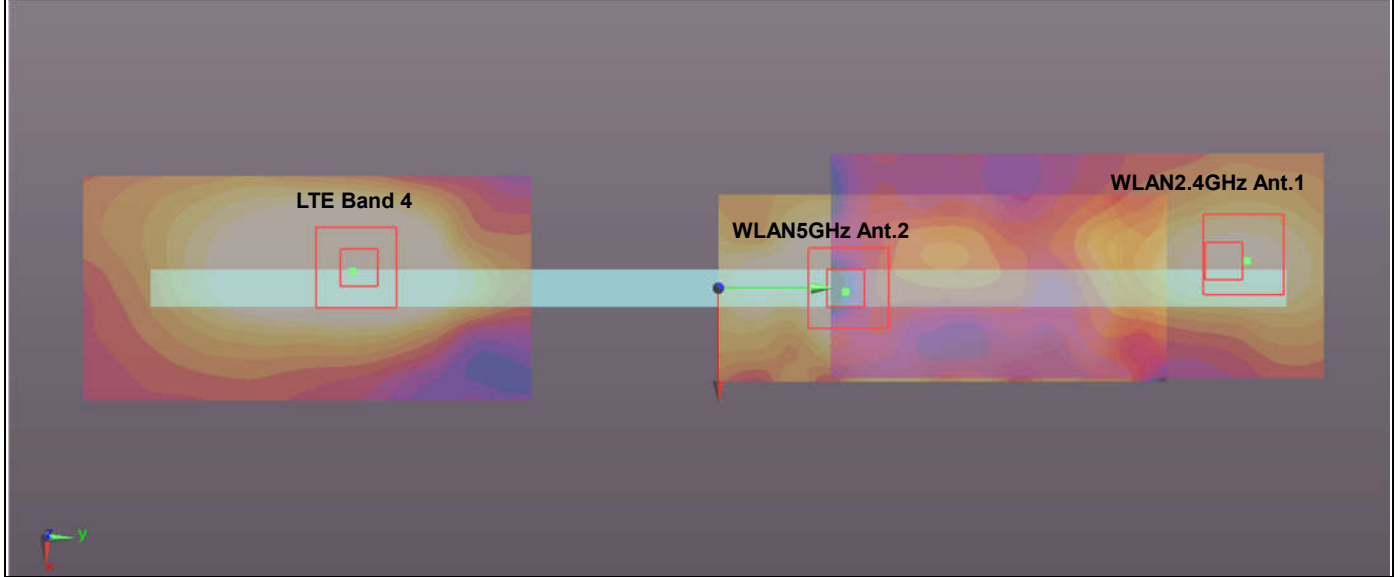
Case #51	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #51	LTE Band 4	Bottom Face	1.089	0	0.105	-0.0995	-0.179	229.56	1.98	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 4		1.089	0	0.105	-0.0995	-0.179	126.70	2.22	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



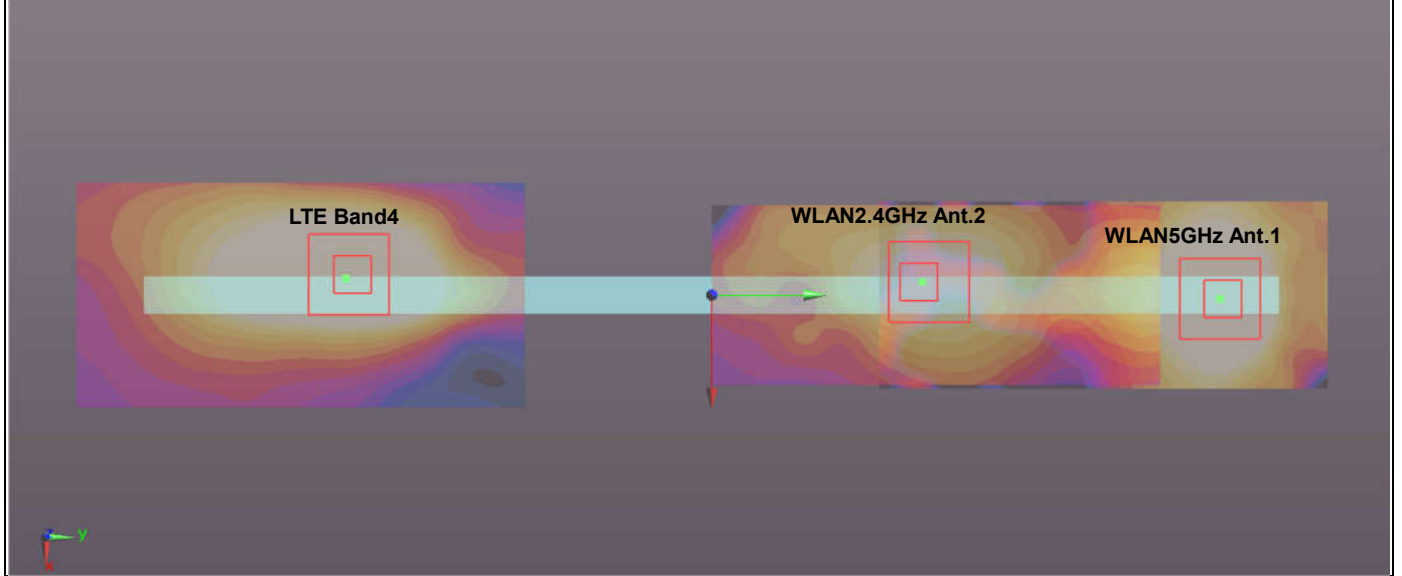
Case #52	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #52	LTE Band 4	Bottom Face	1.089	0	0.105	-0.0995	-0.179	130.91	2.03	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	207.57	2.00	0.01	Not required
	LTE Band 4		1.089	0	0.105	-0.0995	-0.179				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				



Case #53	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #53	LTE Band 4	Edge 1	1.000	0	-0.0045	-0.098	-0.181	230.09	1.12	0.01	Not required
	WLAN2.4GHz Ant.1		0.120	0	-0.0072	0.132	-0.175				
	LTE Band 4		1.000	0	-0.0045	-0.098	-0.181	132.18	1.54	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				
	WLAN2.4GHz Ant.1		0.120	0	-0.0072	0.132	-0.175	98.36	0.66	0.01	Not required
	WLAN5GHz Ant.2		0.543	0	0.001	0.034	-0.177				



Case #54	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	Edge 1	1.000	0	-0.0045	-0.098	-0.181	149.52	1.16	0.01	Not required
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175				
	LTE Band 4		1.000	0	-0.0045	-0.098	-0.181	234.12	2.00	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175	84.73	1.16	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				



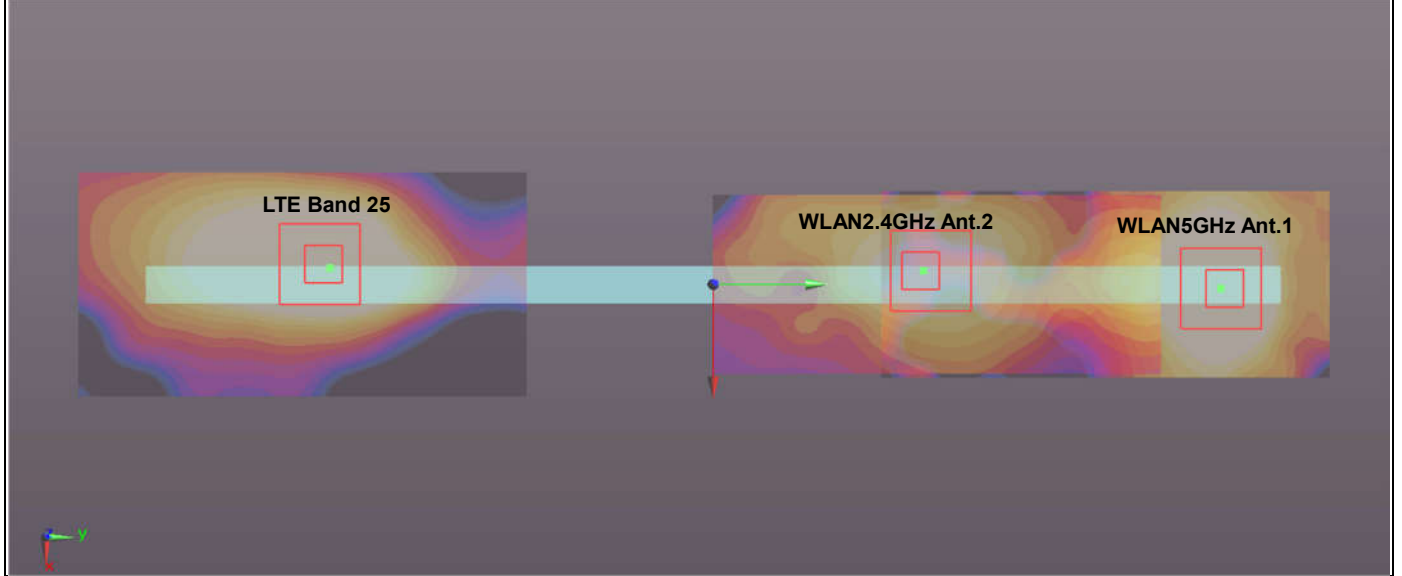
Case #55	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #55	LTE Band 25	Bottom Face	1.012	0	0.099	-0.127	-0.179	257.10	1.90	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 25		1.012	0	0.099	-0.127	-0.179	154.08	2.14	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



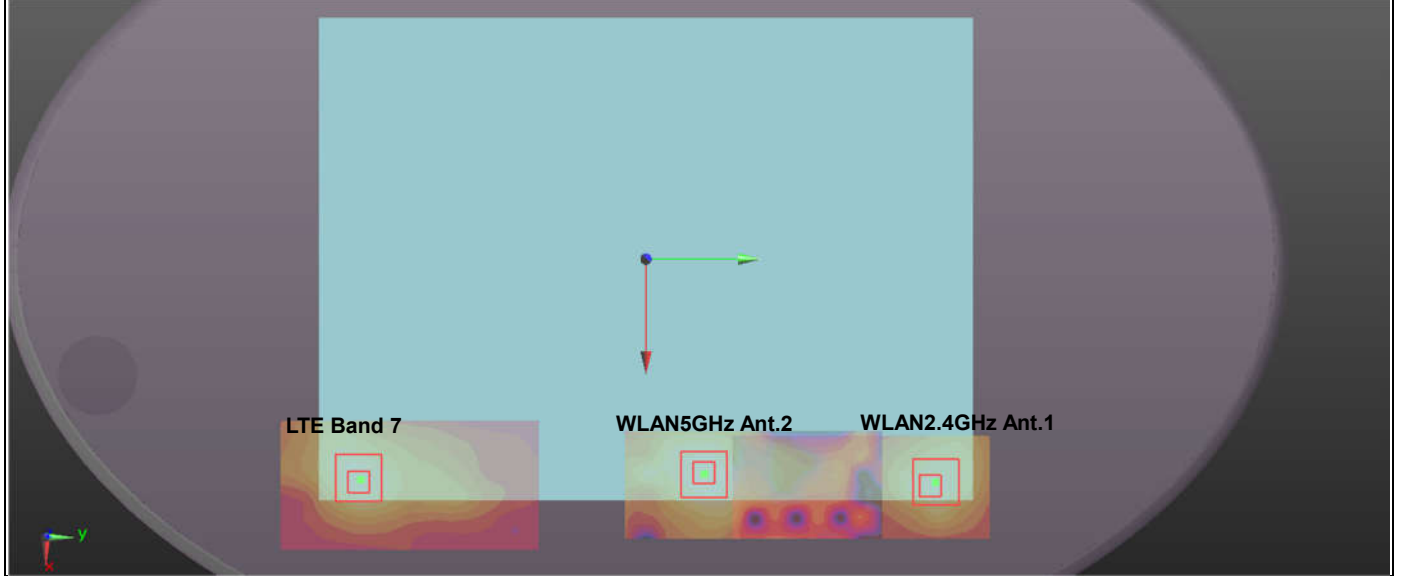
Case #56	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #56	LTE Band 25	Bottom Face	1.012	0	0.099	-0.127	-0.179	158.25	1.96	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	235.19	1.92	0.01	Not required
	LTE Band 25		1.012	0	0.099	-0.127	-0.179				
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				



Case #57	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 25	Edge 1	0.931	0	-0.0045	-0.103	-0.181	154.52	1.09	0.01	Not required
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175				
	LTE Band 25		0.931	0	-0.0045	-0.103	-0.181	239.12	1.93	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				
	WLAN2.4GHz Ant.2		0.156	0	-0.0036	0.0514	-0.175	84.73	1.16	0.01	Not required
	WLAN5GHz Ant.1		0.999	0	0.001	0.136	-0.176				



Case #58	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #58	LTE Band 7	Bottom Face	1.233	0	0.103	-0.133	-0.179	263.05	2.12	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	160.11	2.36	0.02	Not required
	LTE Band 7		1.233	0	0.103	-0.133	-0.179				
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



Case #59	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #59	LTE Band 7	Bottom Face	1.233	0	0.103	-0.133	-0.179	164.30	2.18	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	LTE Band 7		1.233	0	0.103	-0.133	-0.179	241.09	2.15	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				



Case #60	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #60	LTE Band 41	Bottom Face	1.256	0	0.0978	-0.129	-0.18	259.14	2.14	0.01	Not required
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174				
	LTE Band 41		1.256	0	0.0978	-0.129	-0.18	156.13	2.38	0.02	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				
	WLAN2.4GHz Ant.1		0.888	0	0.104	0.13	-0.174	103.08	2.02	0.03	Not required
	WLAN5GHz Ant.2		1.128	0	0.1	0.027	-0.174				



Case #61	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #61	LTE Band 41	Bottom Face	1.256	0	0.0978	-0.129	-0.18	160.28	2.20	0.02	Not required
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175				
	LTE Band 41		1.256	0	0.0978	-0.129	-0.18	237.25	2.17	0.01	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				
	WLAN2.4GHz Ant.2		0.943	0	0.0988	0.0312	-0.175	77.24	1.86	0.03	Not required
	WLAN5GHz Ant.1		0.912	0	0.107	0.108	-0.174				

