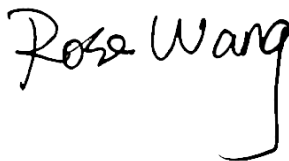


FCC SAR Test Report

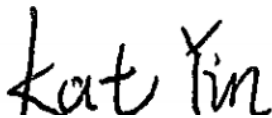
APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2045-3
FCC ID : IHDT56YK1
STANDARD : FCC 47 CFR Part 2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2013

The product was received on Jan. 04, 2020 and testing was started from Jan. 25, 2020 and completed on Mar. 09, 2020. 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.



Reviewed by: Rose Wang / Supervisor



Approved by: Kat Yin / Manager



Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA010402	Rev. 01	Initial issue of report	Mar. 20, 2020



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2045-3**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.74	0.98	0.82	1.59
		GSM1900	<0.10	1.32	1.32	
	WCDMA	Band II	0.14	1.35	1.35	
		Band IV	0.17	1.40	1.37	
		Band V	0.60	1.31	1.31	
	CDMA	BC0	0.60	1.28	1.33	
		BC10	0.55	1.35	1.35	
		BC1	0.11	1.26	1.18	
	LTE	Band 12/Band 17	0.34	1.00	1.00	
		Band 13	0.49	1.24	1.24	
		Band 14	0.48	1.16	1.16	
		Band 26/Band 5	0.50	1.37	1.37	
		Band 71	0.35	0.66	0.66	
		Band 25/Band 2	0.15	1.30	1.30	
		Band 66/Band 4	0.18	1.36	1.26	
Band 7		0.47	1.36	1.32		
	Band 30	0.35	1.27	1.30		
	Band 41/Band 38	0.31	1.36	1.36		
DTS	WLAN	2.4GHz WLAN	1.10	1.19	1.19	1.57
NII		5GHz WLAN	0.67	1.09	1.16	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.18	0.10	<0.10	1.59
Highest 10g SAR Summary						
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)		Highest Simultaneous Transmission 10g SAR (W/kg)	
Licensed	GSM	GSM1900	3.13		3.94	
		WCDMA	Band II	3.46		
	Band IV		3.44			
	Band V		2.12			
	CDMA	BC0	2.71			
		BC10	2.76			
		BC1	3.53			
	LTE	Band 13	1.69			
		Band 26/Band 5	1.92			
		Band 25/Band 2	3.16			
		Band 66/Band 4	2.71			
		Band 7	2.91			
		Band 30	3.10			
Band 41/Band 38		2.99				
DTS	WLAN	2.4GHz WLAN	3.08		3.94	
NII		5GHz WLAN	3.11		3.81	
Date of Testing:			2020/1/25~2020/3/9			



Remark: This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) 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

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory		
Test Firm	Sporton International (Kunshan) Inc.	
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958	
Test Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CN1257	314309

Applicant	
Company Name	Motorola Mobility LLC
Address	222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

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 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- 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
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01



4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2045-3
FCC ID	IHDT56YK1
IMEI Code	359109100035563
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz 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 CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz CDMA 2000 BC10: 817.9 MHz ~ 823.1 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 14: 790.5 MHz ~ 795.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is not supported) CDMA2000 : 1xRTT/1xEv-Do(Rev.0)/1xEv-Do(Rev.A) LTE: QPSK, 16QAM, 64QAM WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	DVT2
SW Version	QPJ30.85
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype
Remark: 1. 802.11n-HT40 is not supported in 2.4GHz WLAN. 2. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.	



3. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
4. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
5. This device does not support DTM operation and supports GRPS/EGRPS mode up to multi-slot class 12.
6. This device supports HPUE for LTE band 41 with class 2 power level, so HPUE SAR has been performed.
7. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at WLAN2.4GHz.
8. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, GSM1900, WCDMA band II/IV/V, CDMA BC0/1, LTE band 2/4/7/25/30/66/38/41/41HPUE and WLAN2.4GHz/WLAN5.2GHz/5.3GHz/5.5GHz/5.8GHz reduced power will be active.
9. P-sensor can detect handheld state, WCDMA band II/IV, CDMA BC1 and LTE B2/4/7/25/30/66/41/41HPUE for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active.
10. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM1900, WCDMA band II/IV/V, CDMA BC0/1, LTE band 2/4/7/25/30/66/38/41/41HPUE and 2.4GHz /WLAN/5.2GHz/ WLAN/5.8GHz.
11. For P-sensor reduced power level is higher than hotspot reduced power for GSM1900, WCDMA band II/IV, LTE band 2/4/25/66, so for front/back P-sensor SAR can represent conservatively for front/back hotspot SAR.
12. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the right of bottom edge of the device and WWAN antenna 2 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V, CDMA2000 BC0/BC1/BC10, and LTE Band 2/4/5/12/13/14/17/25/26/66/71, WWAN antenna 2 frequency band include LTE Band 7/30/38/41.
13. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the WCDMA and LTE modes of WWAN antenna 1. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information on section16.



4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																															
FCC ID	IHDT56YK1																																																														
Equipment Name	Mobile Cellular Phone																																																														
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 14: 790.5 MHz ~ 795.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 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 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																														
uplink modulations used	QPSK / 16QAM / 64QAM																																																														
LTE Voice / Data requirements	Voice and Data																																																														
LTE Release Version	R12, Cat13																																																														
CA Support	Supported, Uplink and Downlink																																																														
LTE MPR permanently built-in by design	<p>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N_{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> <tr> <td>64 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 3</td> </tr> <tr> <td>256 QAM</td> <td colspan="6" style="text-align: center;">≥ 1</td> <td>≤ 5</td> </tr> </tbody> </table>	Modulation	Channel bandwidth / Transmission bandwidth (N _{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	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
Modulation	Channel bandwidth / Transmission bandwidth (N _{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																																																								
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2																																																								
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3																																																								
256 QAM	≥ 1						≤ 5																																																								
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	Yes 1. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, LTE band 2/4/7/25/30/66/38/41/41HPUE reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.) 2. P-sensor can detect handheld state, LTE B2/4/7/25/30/66/41/41HPUE for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active. 3. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of LTE band 2/4/7/25/30/66/38/41/41HPUE.																																																														



LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 13.
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for LTE B41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 2 carriers in the downlink and uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.



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					
	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				
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				
LTE Band 7												
	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	20775	2502.5	20800	2505	20825	2507.5	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				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 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				
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				
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782					
M	23230		782									
H	23255		784.5									
LTE Band 14												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Channel #		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23305		790.5		23330		793					
M	23330		793									
H	23355		795.5									
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)		Channel #		Freq. (MHz)	
L	23755		706.5		23780		709					
M	23790		710		23790		710					
H	23825		713.5		23800		711					
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

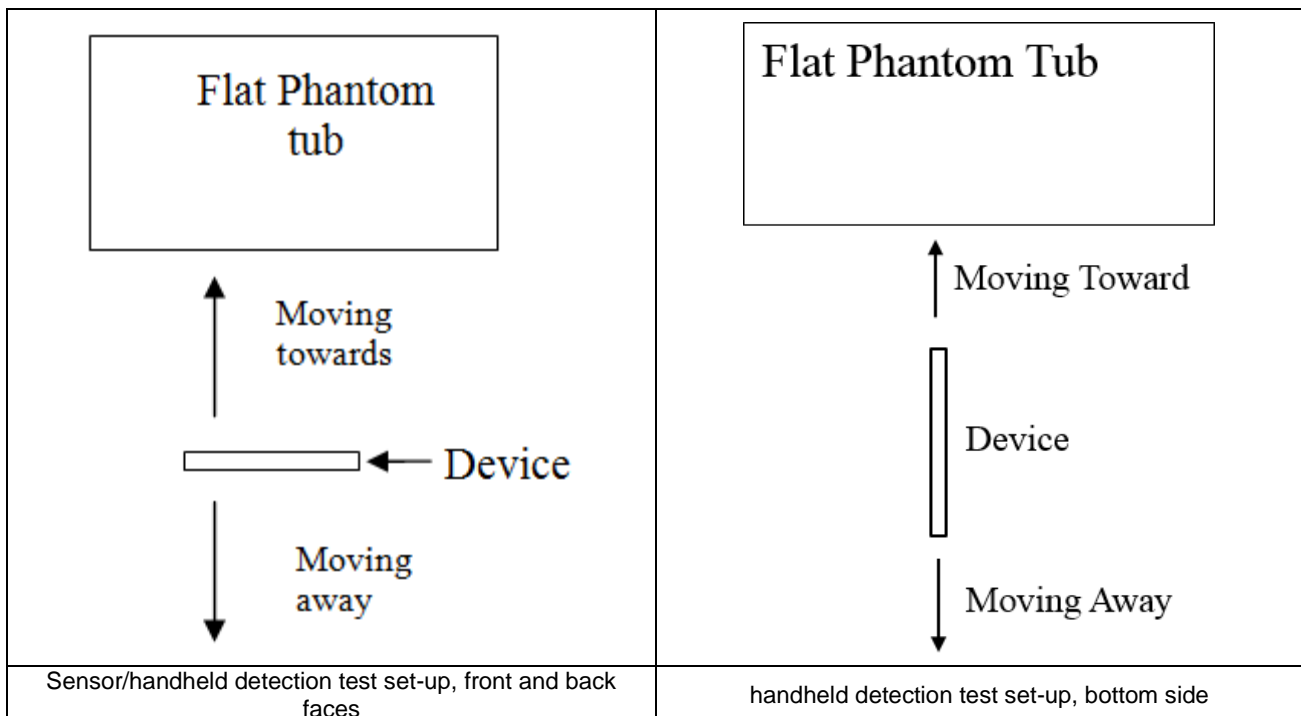


LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	26865	831.5	26865	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 30												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	27685		2307.5		27710	2310						
M	27710		2310									
H	27735		2312.5									
LTE Band 38												
	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	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
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				
LTE Band 66												
	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	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 71												
	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	133147	665.5	133172	668	133197	670.5	133222	673				
M	133247	675.5	133272	678	133297	680.5	133322	683				
H	133447	695.5	133422	693	133397	690.5	133372	688				

5. Proximity Sensor Triggering Test

5.1 Proximity sensor triggering distances(Per KDB616217§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 and the tissue-equivalent medium for highest frequency (5825MHz) and lowest (835MHz) frequency was used for proximity sensor triggering testing.
- Capacitive proximity sensor placed coincident with antenna elements at the bottom end of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back or bottom or left side surface of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
- When the proximity sensor is active, GSM1900, WCDMA band II/IV/V, CDMA BC0/1, LTE band 2/4/7/25/30/66/38/41/41HPUE and WLAN2.4GHz/WLAN5.2GHz/5.3GHz/5.5GHz/5.8GHz reduced power will be active for front/ back body worn SAR.
- P-sensor can detect handheld state, WCDMA band II/IV, CDMA BC1 and LTE B2/4/7/25/30/66/41/41HPUE for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active for handheld SAR.
- The proximity sensors used to detect the proximity of the user's body at the front or back or bottom side surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).
- 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 for body worn:
Front: [17 mm](#)
Back: [19 mm](#)
- 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 for handheld:
Front: [6 mm](#)
Back: [7 mm](#)
bottom side: [9 mm](#)





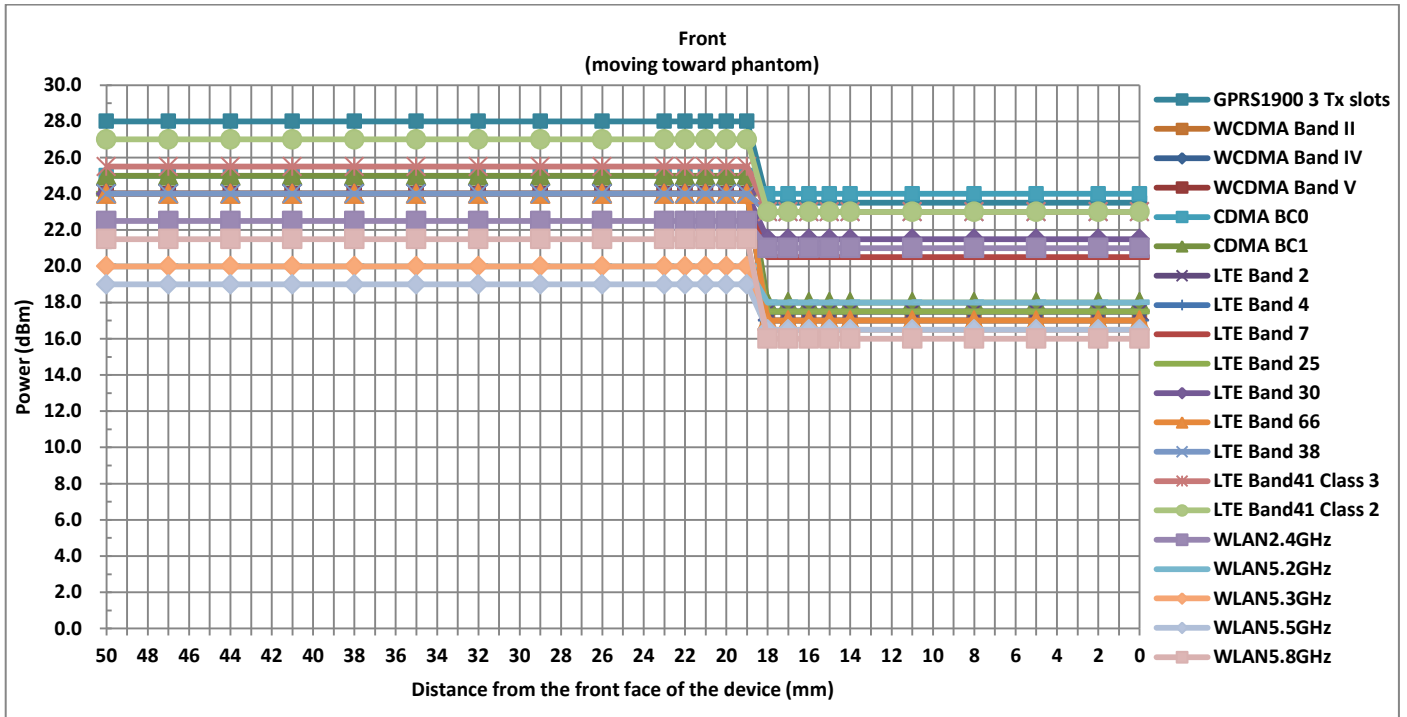
<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	18	25	24	31

TX. Band	Proximity Sensor Triggering Power (dBm)		
	Full	Reduced	power reduction (dB)
	max. tune up limit (dBm)	max. tune up limit(dBm)	
GPRS1900 3 Tx slots	28	23.5	4.5
WCDMA Band II	24	17	7
WCDMA Band IV	24	17.5	6.5
WCDMA Band V	24	23	1
CDMA BC0	25	24	1
CDMA BC1	25	18	7
LTE Band 2	24	17.5	6.5
LTE Band 4	24	17	7
LTE Band 7	24	20.5	3.5
LTE Band 25	24	17.5	6.5
LTE Band 30	24	21.5	2.5
LTE Band 66	24	17	7
LTE Band 38	24	23	1
LTE Band 41 PL3	25.5	23	2.5
LTE Band 41 PL2	27	23	4
WLAN2.4GHz	22.5	21	1.5
WLAN5.2GHz	20	18	2
WLAN5.3GHz	20	16.5	3.5
WLAN5.5GHz	19	16.5	2.5
WLAN5.8GHz	21.5	16	5.5

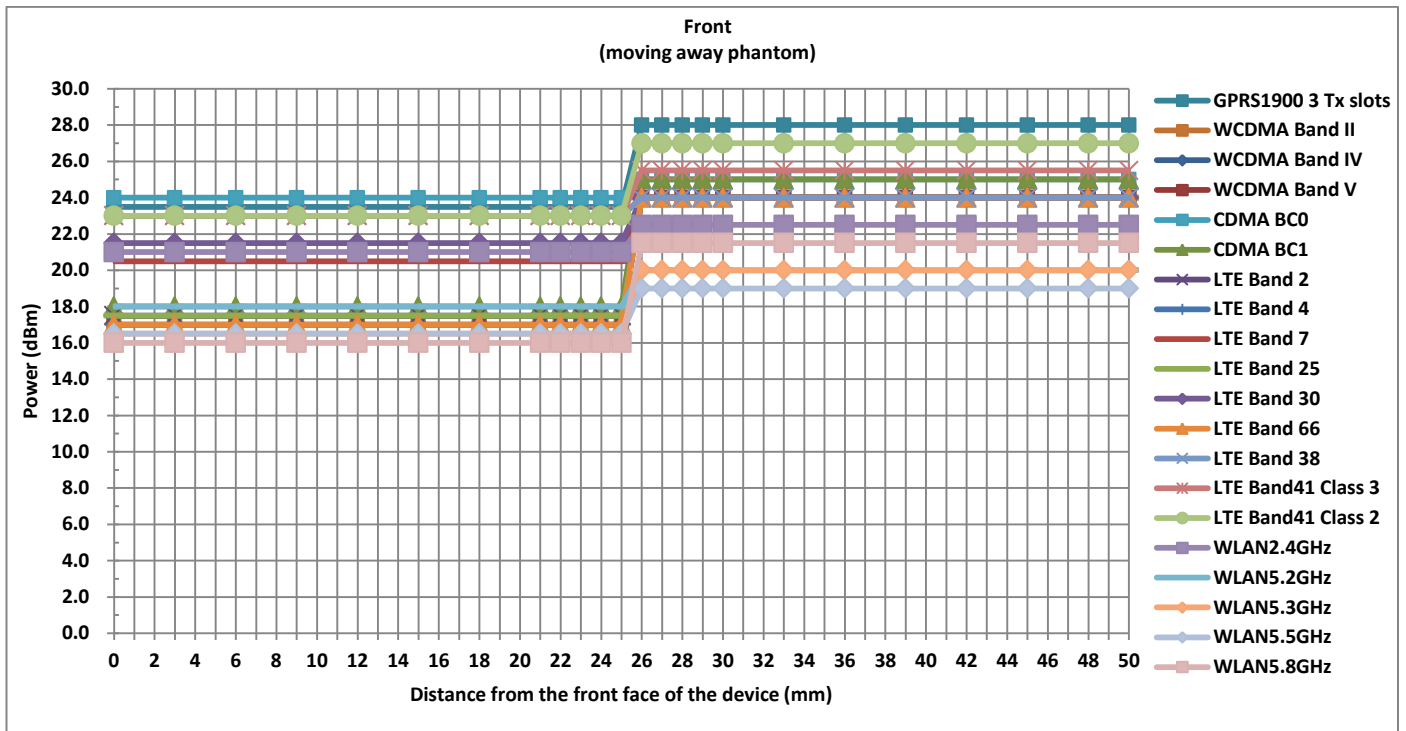


Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																								
Front																								
Distance	50	47	44	41	38	35	32	29	26	23	22	21	20	19	18	17	16	15	14	11	8	5	2	0
GPRS1900 3 Tx slots	28	28	28	28	28	28	28	28	28	28	28	28	28	28	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
WCDMA Band II	24	24	24	24	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17
WCDMA Band IV	24	24	24	24	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
WCDMA Band V	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	23
CDMA BC0	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	24	24	24	24	24	24	24	24	24
CDMA BC1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	18	18	18	18	18	18	18	18	18	18
LTE Band 2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 4	24	24	24	24	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17
LTE Band 7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
LTE Band 25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 30	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band 66	24	24	24	24	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17
LTE Band 38	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	23
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	23	23	23	23	23	23	23	23	23	23
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	27	27	27	27	23	23	23	23	23	23	23	23	23	23
WLAN2.4GHz	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	21	21	21	21	21	21	21	21	21	21
WLAN5.2GHz	20	20	20	20	20	20	20	20	20	20	20	20	20	20	18	18	18	18	18	18	18	18	18	18
WLAN5.3GHz	20	20	20	20	20	20	20	20	20	20	20	20	20	20	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
WLAN5.5GHz	19	19	19	19	19	19	19	19	19	19	19	19	19	19	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
WLAN5.8GHz	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	16	16	16	16	16	16	16	16	16	16



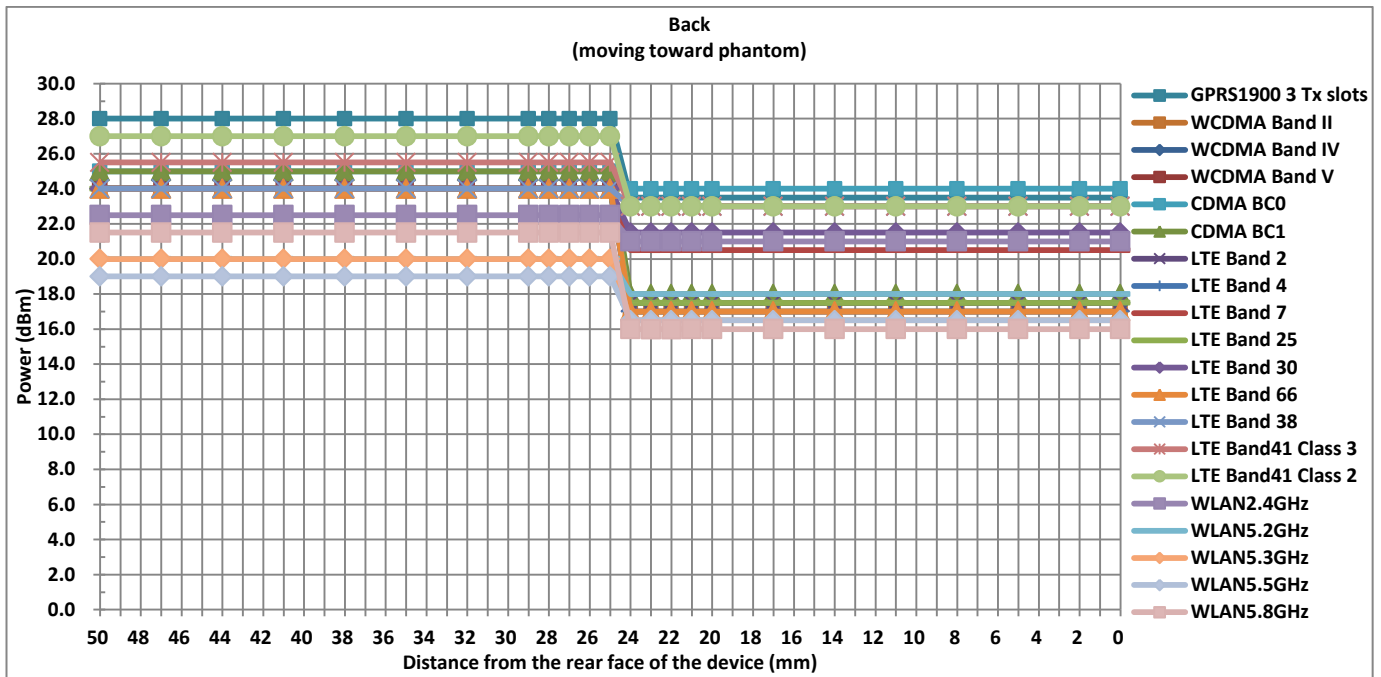


Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																								
Front																								
Distance	50	48	45	42	39	36	33	30	29	28	27	26	25	24	23	22	21	18	15	12	9	6	3	0
GPRS1900 3 Tx slots	28	28	28	28	28	28	28	28	28	28	28	28	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
WCDMA Band II	24	24	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17	17	17
WCDMA Band IV	24	24	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
WCDMA Band V	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	23	23	23
CDMA BC0	25	25	25	25	25	25	25	25	25	25	25	25	24	24	24	24	24	24	24	24	24	24	24	24
CDMA BC1	25	25	25	25	25	25	25	25	25	25	25	25	18	18	18	18	18	18	18	18	18	18	18	18
LTE Band 2	24	24	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 4	24	24	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17	17	17
LTE Band 7	24	24	24	24	24	24	24	24	24	24	24	24	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
LTE Band 25	24	24	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 30	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band 66	24	24	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17	17	17
LTE Band 38	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	23	23	23
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	23	23	23	23	23	23	23	23	23	23	23	23
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	27	27	23	23	23	23	23	23	23	23	23	23	23	23
WLAN2.4GHz	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	21	21	21	21	21	21	21	21	21	21	21	21
WLAN5.2GHz	20	20	20	20	20	20	20	20	20	20	20	20	18	18	18	18	18	18	18	18	18	18	18	18
WLAN5.3GHz	20	20	20	20	20	20	20	20	20	20	20	20	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
WLAN5.5GHz	19	19	19	19	19	19	19	19	19	19	19	19	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
WLAN5.8GHz	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	16	16	16	16	16	16	16	16	16	16	16	16



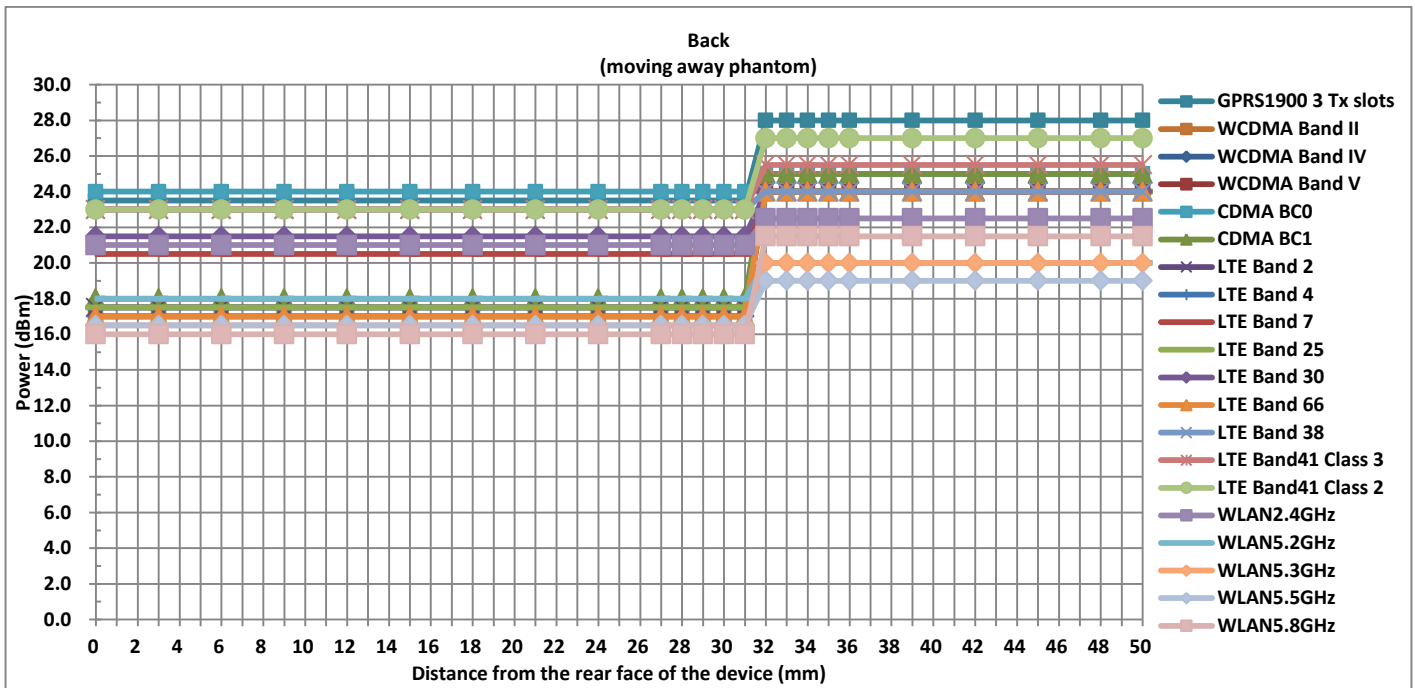


Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																								
Back																								
Distance	50	47	44	41	38	35	32	29	28	27	26	25	24	23	22	21	20	17	14	11	8	5	2	0
GPRS1900 3 Tx slots	28	28	28	28	28	28	28	28	28	28	28	28	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
WCDMA Band II	24	24	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17	17	17
WCDMA Band IV	24	24	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
WCDMA Band V	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	23	23	23
CDMA BC0	25	25	25	25	25	25	25	25	25	25	25	25	24	24	24	24	24	24	24	24	24	24	24	24
CDMA BC1	25	25	25	25	25	25	25	25	25	25	25	25	18	18	18	18	18	18	18	18	18	18	18	18
LTE Band 2	24	24	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 4	24	24	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17	17	17
LTE Band 7	24	24	24	24	24	24	24	24	24	24	24	24	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
LTE Band 25	24	24	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 30	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band 66	24	24	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17	17	17
LTE Band 38	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	23	23	23
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	23	23	23	23	23	23	23	23	23	23	23	23
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	27	27	23	23	23	23	23	23	23	23	23	23	23	23
WLAN2.4GHz	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	21	21	21	21	21	21	21	21	21	21	21	21
WLAN5.2GHz	20	20	20	20	20	20	20	20	20	20	20	20	18	18	18	18	18	18	18	18	18	18	18	18
WLAN5.3GHz	20	20	20	20	20	20	20	20	20	20	20	20	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
WLAN5.5GHz	19	19	19	19	19	19	19	19	19	19	19	19	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
WLAN5.8GHz	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	16	16	16	16	16	16	16	16	16	16	16	16





Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																								
Back																								
Distance	50	48	45	42	39	36	35	34	33	32	31	30	29	28	27	24	21	18	15	12	9	6	3	0
GPRS1900 3 Tx slots	28	28	28	28	28	28	28	28	28	28	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
WCDMA Band II	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17	17	17	17	17
WCDMA Band IV	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
WCDMA Band V	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	23	23	23	23	23
CDMA BC0	25	25	25	25	25	25	25	25	25	25	24	24	24	24	24	24	24	24	24	24	24	24	24	24
CDMA BC1	25	25	25	25	25	25	25	25	25	25	18	18	18	18	18	18	18	18	18	18	18	18	18	18
LTE Band 2	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 4	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LTE Band 7	24	24	24	24	24	24	24	24	24	24	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
LTE Band 25	24	24	24	24	24	24	24	24	24	24	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 30	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band 66	24	24	24	24	24	24	24	24	24	24	17	17	17	17	17	17	17	17	17	17	17	17	17	17
LTE Band 38	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23	23	23	23	23	23
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	23	23	23	23	23	23	23	23	23	23	23	23	23	23
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	23	23	23	23	23	23	23	23	23	23	23	23	23	23
WLAN2.4GHz	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	21	21	21	21	21	21	21	21	21	21	21	21	21	21
WLAN5.2GHz	20	20	20	20	20	20	20	20	20	20	18	18	18	18	18	18	18	18	18	18	18	18	18	18
WLAN5.3GHz	20	20	20	20	20	20	20	20	20	20	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
WLAN5.5GHz	19	19	19	19	19	19	19	19	19	19	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
WLAN5.8GHz	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	16	16	16	16	16	16	16	16	16	16	16	16	16	16



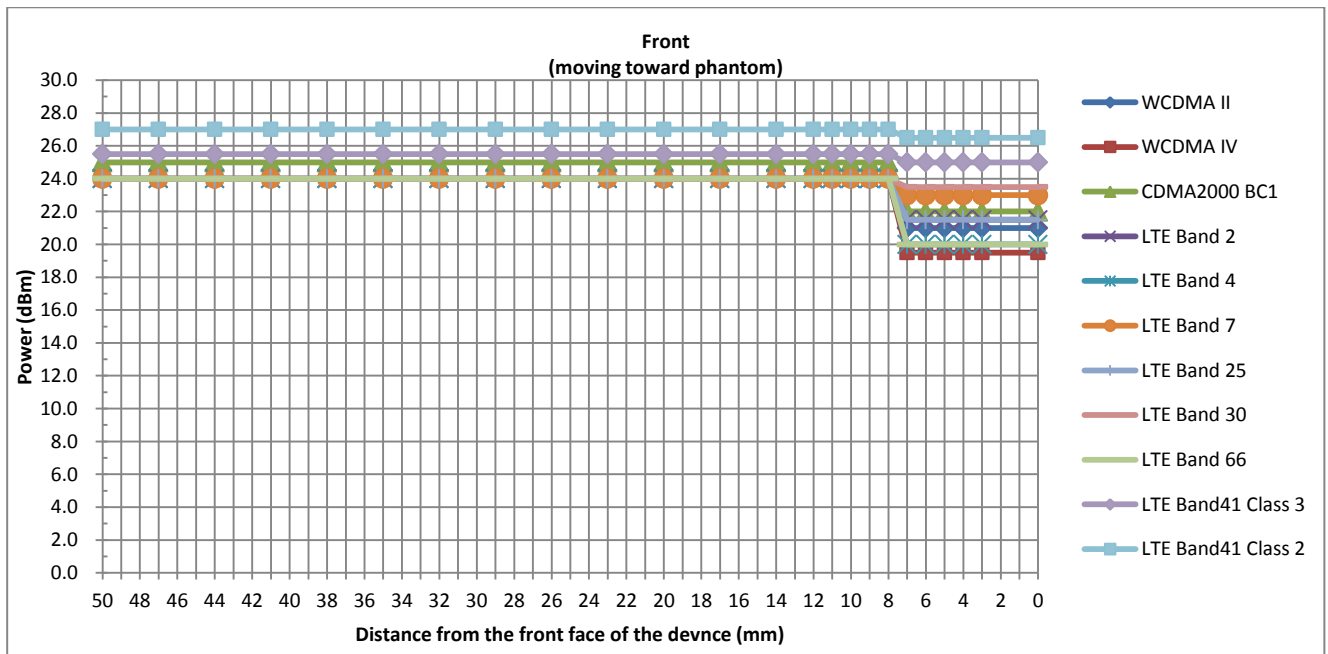
<Handheld>

Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	7	11	8	16	10	15

TX. Band	Handheld Triggering Power (dBm)		
	Full	Reduced	power reduction (dB)
	max. tune up limit (dBm)	max. tune up limit(dBm)	
WCDMA II	24	21	3
WCDMA IV	24	19.5	4.5
CDMA BC1	25	22	3
LTE Band2	24	21.5	2.5
LTE Band4	24	20	4
LTE Band7	24	23	1
LTE Band25	24	21.5	2.5
LTE Band30	24	23.5	0.5
LTE Band66	24	20	4
LTE Band 41 PL3	25.5	25	0.5
LTE Band 41 PL2	27	26.5	0.5

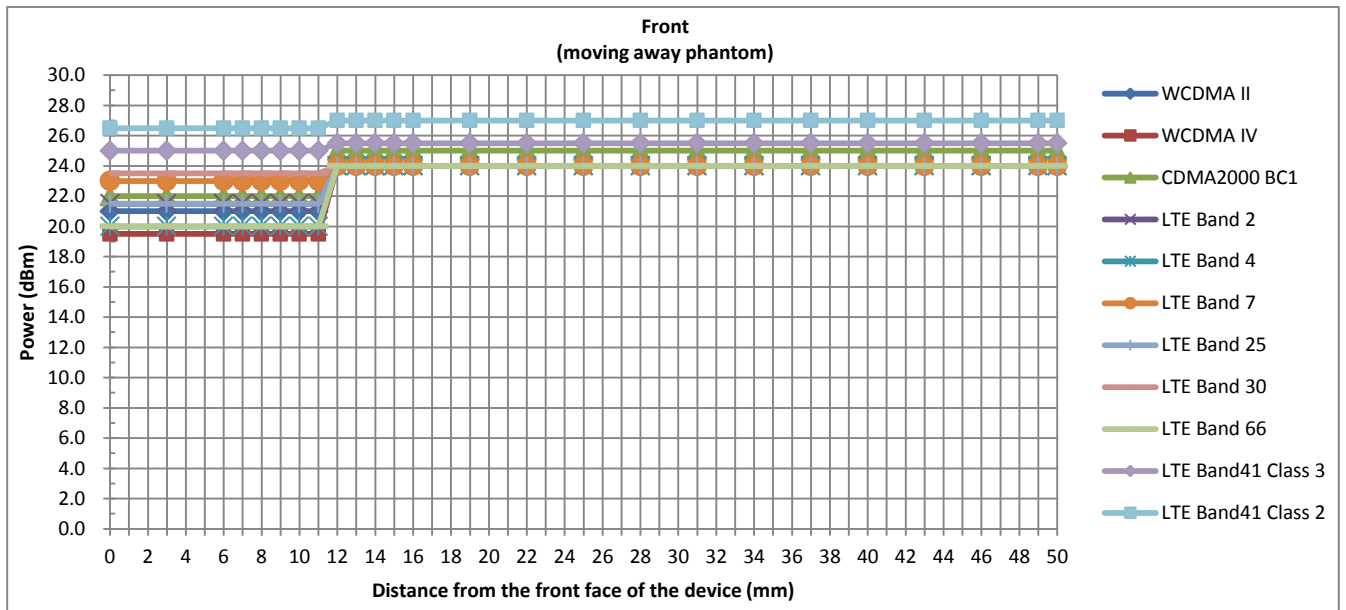


Handheld Triggering Distance (mm) and Triggering Power (dBm)																								
Front																								
Distance	50	47	44	41	38	35	32	29	26	23	20	17	14	12	11	10	9	8	7	6	5	4	3	0
WCDMA II	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21	21	21	21	21	21
WCDMA IV	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	19.5	19.5	19.5	19.5	19.5	19.5
CDMA BC1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	22	22	22	22	22	22
LTE Band2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band4	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20
LTE Band7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23
LTE Band25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band30	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23.5	23.5	23.5	23.5	23.5	23.5
LTE Band66	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25	25	25	25	25	25
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	26.5	26.5	26.5	26.5	26.5	26.5





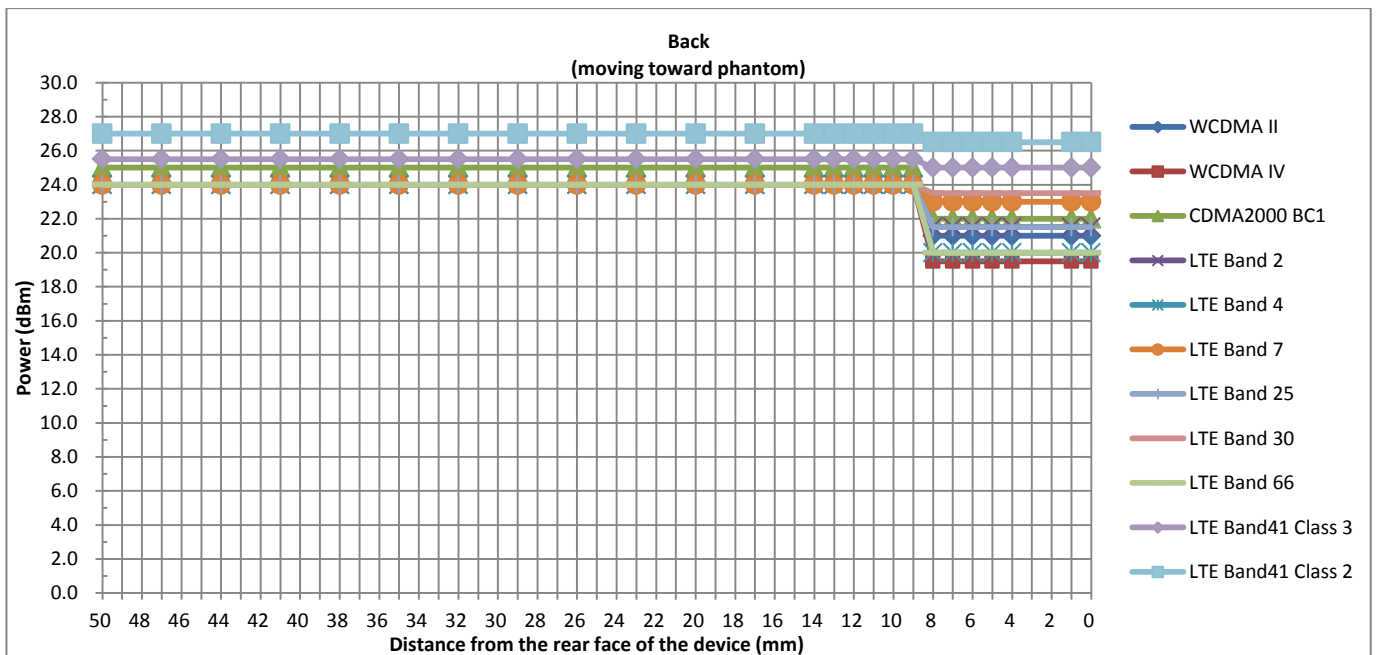
Handheld Triggering Distance (mm) and Triggering Power (dBm)																									
Front																									
Distance	50	49	46	43	40	37	34	31	28	25	22	19	16	15	14	13	12	11	10	9	8	7	6	3	0
WCDMA II	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21	21	21	21	21	21	21	21
WCDMA IV	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
CDMA BC1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	22	22	22	22	22	22	22	22
LTE Band2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band4	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20	20
LTE Band7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23
LTE Band25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band30	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
LTE Band66	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20	20
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25	25	25	25	25	25	25	25
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5





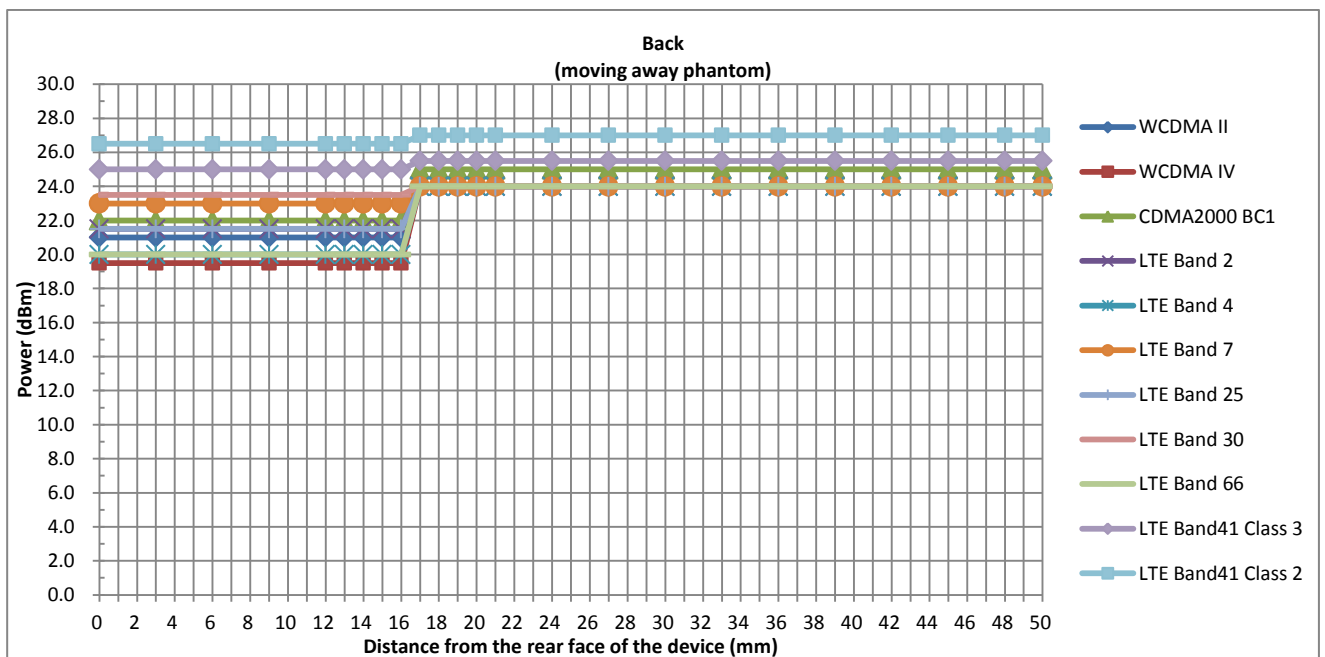
Handheld Triggering Distance (mm) and Triggering Power (dBm)

Back																									
Distance	50	47	44	41	38	35	32	29	26	23	20	17	14	13	12	11	10	9	8	7	6	5	4	1	0
WCDMA II	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21	21	21	21	21	21	21
WCDMA IV	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	19.5	19.5	19.5	19.5	19.5	19.5	19.5
CDMA BC1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	22	22	22	22	22	22	22
LTE Band2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band4	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20
LTE Band7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23
LTE Band25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band30	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23.5	23.5	23.5	23.5	23.5	23.5	23.5
LTE Band66	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25	25	25	25	25	25	25
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	26.5	26.5	26.5	26.5	26.5	26.5	26.5



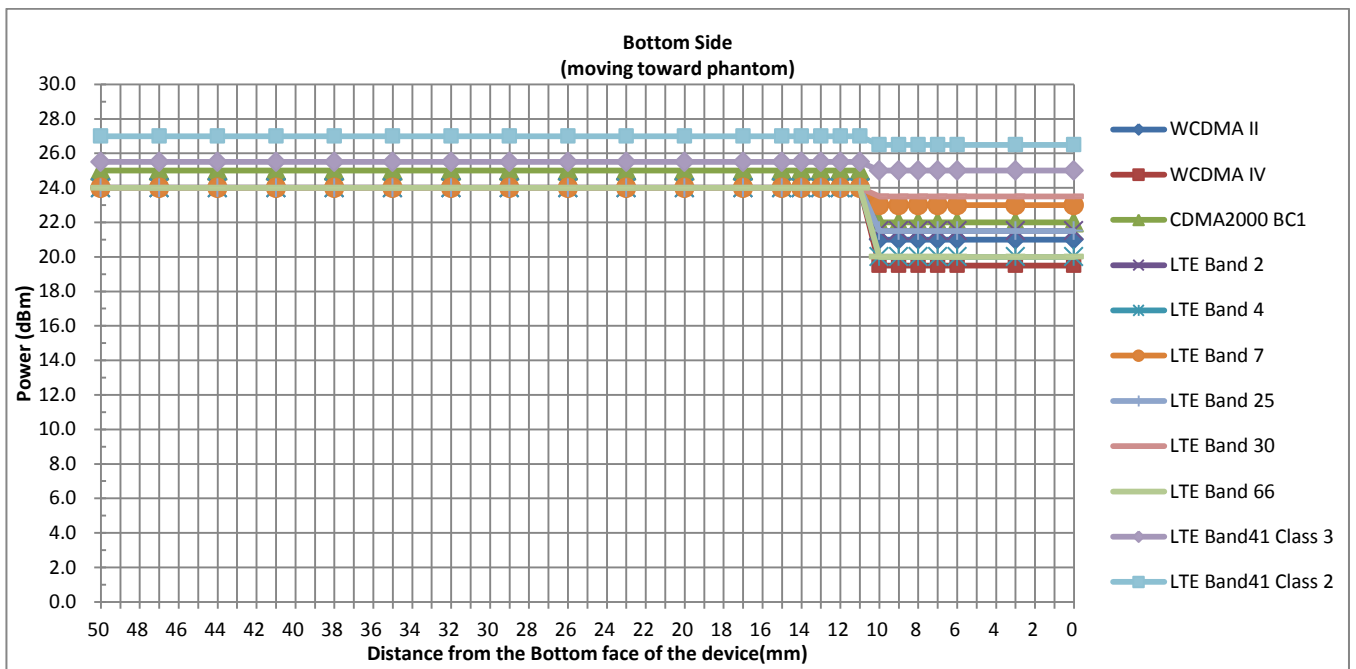


Handheld Triggering Distance (mm) and Triggering Power (dBm)																								
Back																								
Distance	50	48	45	42	39	36	33	30	27	24	21	20	19	18	17	16	15	14	13	12	9	6	3	0
WCDMA II	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21	21	21	21	21	21	21	21	21
WCDMA IV	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
CDMA BC1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	22	22	22	22	22	22	22	22	22
LTE Band2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band4	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20	20	20
LTE Band7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23
LTE Band25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band30	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
LTE Band66	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20	20	20
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25	25	25	25	25	25	25	25	25
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5



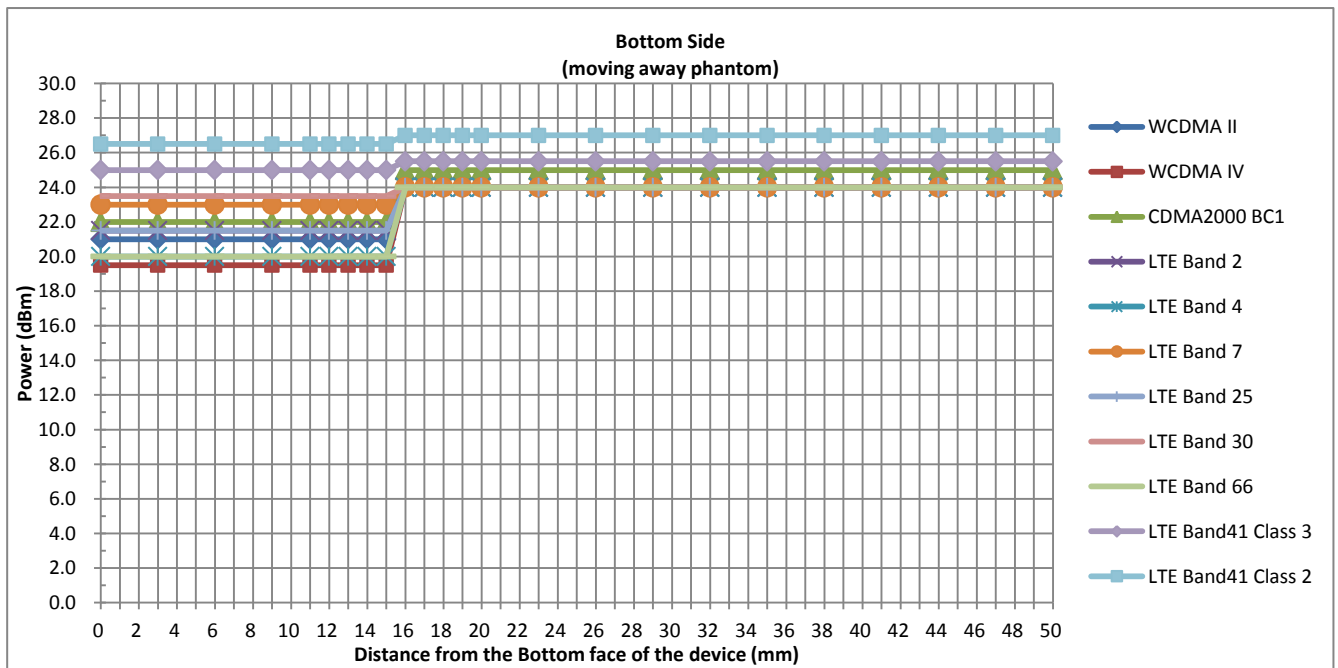


Handheld Triggering Distance (mm) and Triggering Power (dBm)																								
Bottom Side																								
Distance	50	47	44	41	38	35	32	29	26	23	20	17	15	14	13	12	11	10	9	8	7	6	3	0
WCDMA II	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21	21	21	21	21	21	21
WCDMA IV	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	19.5	19.5	19.5	19.5	19.5	19.5	19.5
CDMA BC1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	22	22	22	22	22	22	22
LTE Band2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band4	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20
LTE Band7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23
LTE Band25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band30	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23.5	23.5	23.5	23.5	23.5	23.5	23.5
LTE Band66	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25	25	25	25	25	25	25
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	26.5	26.5	26.5	26.5	26.5	26.5	26.5





Handheld Triggering Distance (mm) and Triggering Power (dBm)																								
Bottom Side																								
Distance	50	47	44	41	38	35	32	29	26	23	20	19	18	17	16	15	14	13	12	11	9	6	3	0
WCDMA II	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21	21	21	21	21	21	21	21	21
WCDMA IV	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
CDMA BC1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	22	22	22	22	22	22	22	22	22
LTE Band2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band4	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20	20	20
LTE Band7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23	23	23	23
LTE Band25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band30	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
LTE Band66	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	20	20	20	20	20	20	20	20	20
LTE Band 41 PL3	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25	25	25	25	25	25	25	25	25
LTE Band 41 PL2	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5



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:

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

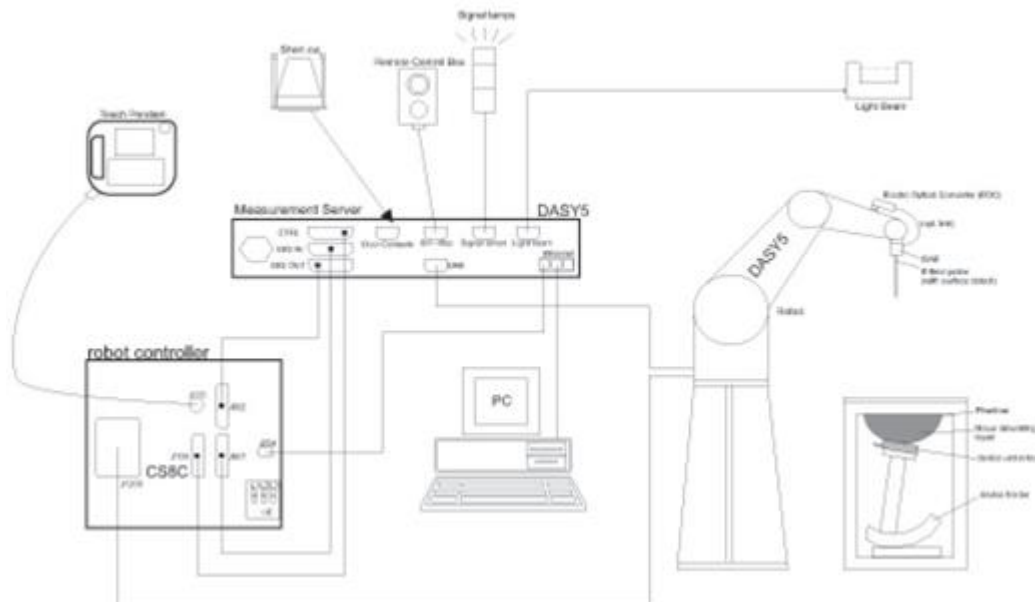
SAR is expressed in units of Watts per kilogram (W/kg)

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

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	

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)	
Directivity	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 µW/g – >100 mW/g; Linearity: ±0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 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.



Photo of DAE

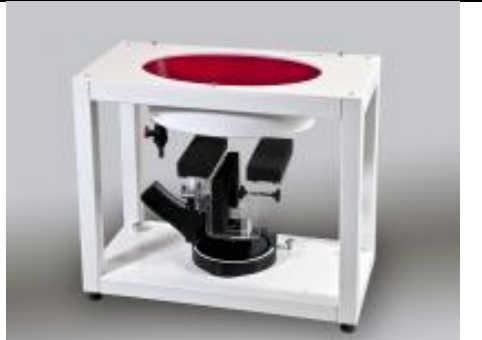
8.3 Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	
Filling Volume	Approx. 25 liters	
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
Measurement Areas	Left Hand, Right Hand, Flat Phantom	

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<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	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$	≤ 2 GHz: ≤ 15 mm $2 - 3$ GHz: ≤ 12 mm	$3 - 4$ GHz: ≤ 12 mm $4 - 6$ GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be \leq 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	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 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	
<p>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.</p> <p>* 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.</p>				

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 remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

9.6 Power Drift Monitoring

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



10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2019/3/27	2020/3/26
SPEAG	835MHz System Validation Kit	D835V2	4d151	2019/3/27	2020/3/26
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2019/3/27	2020/3/26
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2019/3/26	2020/3/25
SPEAG	2300MHz System Validation Kit	D2300V2	1055	2018/9/20	2021/9/19
SPEAG	2450MHz System Validation Kit	D2450V2	908	2019/3/25	2020/3/24
SPEAG	2600MHz System Validation Kit	D2600V2	1070	2018/12/7	2021/12/6
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2020/9/23
SPEAG	Data Acquisition Electronics	DAE4	1210	2019/7/23	2020/7/22
SPEAG	Data Acquisition Electronics	DAE4	1338	2019/11/20	2020/11/19
SPEAG	Dosimetric E-Field Probe	ES3DV3	3293	2019/11/25	2020/11/24
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	2019/5/27	2020/5/26
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1503	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1697	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6201432831	2019/4/17	2020/4/16
Agilent	Wireless Communication Test Set	E5515C	MY52102706	2019/4/17	2020/4/16
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2019/4/17	2020/4/16
SPEAG	Dielectric Probe Kit	DAK-3.5	1071	2019/10/28	2020/10/27
Anritsu	Vector Signal Generator	MG3710A	6201682672	2020/1/8	2021/1/7
Rohde & Schwarz	Power Meter	NRVD	102081	2019/8/15	2020/8/14
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2019/8/14	2020/8/13
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2019/8/14	2020/8/13
R&S	CBT BLUETOOTH TESTER	CBT	101641	2020/1/8	2021/1/7
EXA	Spectrum Analyzer	FSV7	101631	2020/1/8	2021/1/7
Testo	Hygrometer	608-H1	1241332088	2020/1/8	2021/1/7
FLUKE	DIGITAC THERMOMETER	51II	97240029	2019/8/15	2020/8/14
ARRA	Power Divider	A3200-2	N/A		Note
MCL	Attenuation1	BW-S10W5+	N/A		Note
MCL	Attenuation2	BW-S10W5+	N/A		Note
MCL	Attenuation3	BW-S10W5+	N/A		Note
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A		Note
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B		Note
Agilent	Dual Directional Coupler	778D	20500		Note
Agilent	Dual Directional Coupler	11691D	MY48151020		Note

Note:

1. 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
2. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole D2300V2, SN: 1055, D2600V2, SN: 1070 can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

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 head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.1. 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. 11.2.

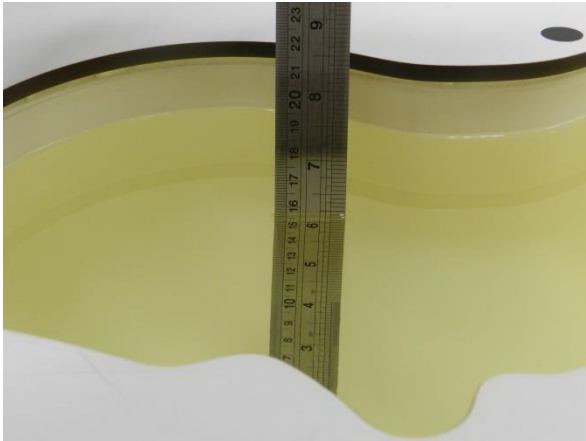


Fig 11.1 Photo of Liquid Height for Head SAR

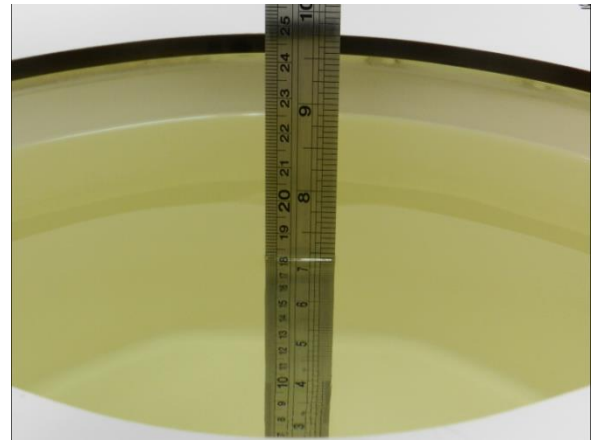


Fig 11.2 Photo of Liquid Height for Body SAR

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 Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

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	Head	22.6	0.931	43.513	0.89	41.90	4.61	3.85	±5	2020/1/25
750	Head	22.6	0.872	41.171	0.89	41.90	-2.02	-1.74	±5	2020/2/25
835	Head	22.7	0.911	42.671	0.90	41.50	1.22	2.82	±5	2020/1/30
835	Head	22.7	0.898	41.217	0.90	41.50	-0.22	-0.68	±5	2020/2/1
1750	Head	22.7	1.343	38.540	1.37	40.10	-1.97	-3.89	±5	2020/2/5
1750	Head	22.7	1.354	39.118	1.37	40.10	-1.17	-2.45	±5	2020/2/7
1750	Head	22.7	1.366	40.296	1.37	40.10	-0.29	0.49	±5	2020/2/9
1900	Head	22.9	1.390	40.638	1.40	40.00	-0.71	1.60	±5	2020/2/10
1900	Head	22.9	1.435	40.072	1.40	40.00	2.50	0.18	±5	2020/2/11
1900	Head	22.9	1.431	39.102	1.40	40.00	2.21	-2.25	±5	2020/2/14
2300	Head	22.6	1.687	41.316	1.67	39.50	1.02	4.60	±5	2020/2/15
2450	Head	22.7	1.818	38.299	1.80	39.20	1.00	-2.30	±5	2020/3/2
2600	Head	22.8	2.049	37.828	1.96	39.00	4.54	-3.01	±5	2020/2/22
2600	Head	22.8	2.056	38.481	1.96	39.00	4.90	-1.33	±5	2020/2/29
2600	Head	22.8	2.030	37.740	1.96	39.00	3.57	-3.23	±5	2020/3/9
5250	Head	22.7	4.595	36.403	4.71	35.90	-2.44	1.40	±5	2020/3/5
5600	Head	22.9	4.985	35.823	5.07	35.50	-1.68	0.91	±5	2020/3/6
5750	Head	22.6	5.160	35.570	5.22	35.40	-1.15	0.48	±5	2020/3/7



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.

<1g SAR>

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 (%)
2020/1/25	750	Head	250	1087	3293	1338	2.17	8.36	8.68	3.83
2020/2/25	750	Head	250	1087	3293	1338	1.97	8.36	7.88	-5.74
2020/1/30	835	Head	250	4d151	3293	1338	2.48	9.30	9.92	6.67
2020/2/1	835	Head	250	4d151	3293	1338	2.37	9.30	9.48	1.94
2020/2/5	1750	Head	250	1090	3293	1338	8.50	36.40	34	-6.59
2020/2/7	1750	Head	250	1090	3293	1338	9.22	36.40	36.88	1.32
2020/2/9	1750	Head	250	1090	3293	1338	9.17	36.40	36.68	0.77
2020/2/10	1900	Head	250	5d170	3293	1338	10.10	39.00	40.4	3.59
2020/2/11	1900	Head	250	5d170	3293	1338	10.00	39.00	40	2.56
2020/2/14	1900	Head	250	5d170	3293	1338	10.10	39.00	40.4	3.59
2020/2/15	2300	Head	250	1055	3293	1338	12.50	48.70	50	2.67
2020/3/2	2450	Head	250	908	3293	1338	13.70	52.80	54.8	3.79
2020/2/22	2600	Head	250	1070	3293	1338	14.80	58.10	59.2	1.89
2020/2/29	2600	Head	250	1070	3293	1338	14.60	58.10	58.4	0.52
2020/3/9	2600	Head	250	1070	3293	1338	14.90	58.10	59.6	2.58
2020/3/5	5250	Head	100	1113	3857	1210	8.11	80.50	81.1	0.75
2020/3/6	5600	Head	100	1113	3857	1210	8.34	83.40	83.4	0.00
2020/3/7	5750	Head	100	1113	3857	1210	7.62	80.00	76.2	-4.75

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2020/2/25	750	Head	250	1087	3293	1338	1.38	5.65	5.52	-2.30
2020/1/30	835	Head	250	4d151	3293	1338	1.64	6.16	6.56	6.49
2020/2/1	835	Head	250	4d151	3293	1338	1.55	6.16	6.2	0.65
2020/2/5	1750	Head	250	1090	3293	1338	4.66	19.20	18.64	-2.92
2020/2/9	1750	Head	250	1090	3293	1338	4.84	19.20	19.36	0.83
2020/2/10	1900	Head	250	5d170	3293	1338	5.31	20.30	21.24	4.63
2020/2/11	1900	Head	250	5d170	3293	1338	5.10	20.30	20.4	0.49
2020/2/14	1900	Head	250	5d170	3293	1338	5.24	20.30	20.96	3.25
2020/2/15	2300	Head	250	1055	3293	1338	5.86	23.20	23.44	1.03
2020/3/2	2450	Head	250	908	3293	1338	6.23	24.20	24.92	2.98
2020/2/22	2600	Head	250	1070	3293	1338	6.59	26.10	26.36	1.00
2020/3/9	2600	Head	250	1070	3293	1338	6.51	26.10	26.04	-0.23
2020/3/5	5250	Head	100	1113	3857	1210	2.35	23.10	23.5	1.73
2020/3/6	5600	Head	100	1113	3857	1210	2.39	23.80	23.9	0.42
2020/3/7	5750	Head	100	1113	3857	1210	2.18	22.80	21.8	-4.39

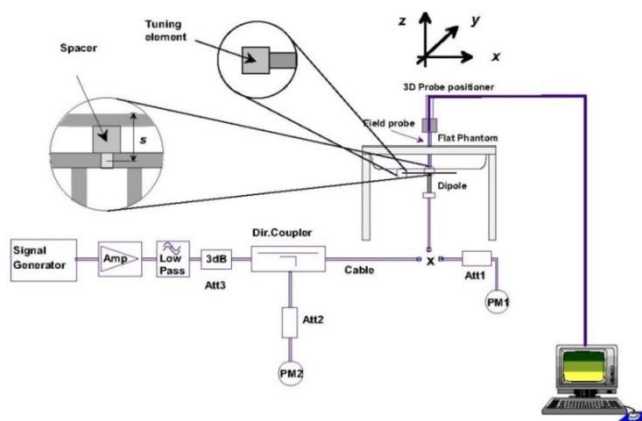


Fig 11.3.1 System Performance Check Setup



Fig 11.3.2 Setup Photo

12. RF Exposure Positions

12.1 Ear and handset reference point

Figure 12.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 12.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 12.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 12.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

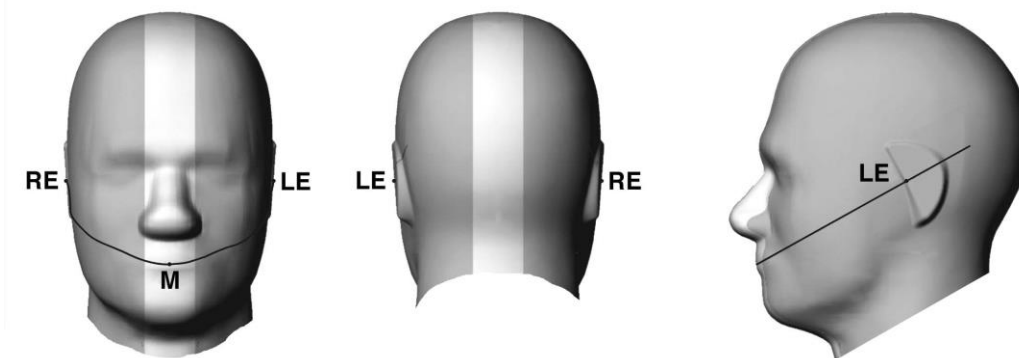


Fig 12.1.1 Front, back, and side views of SAM twin phantom

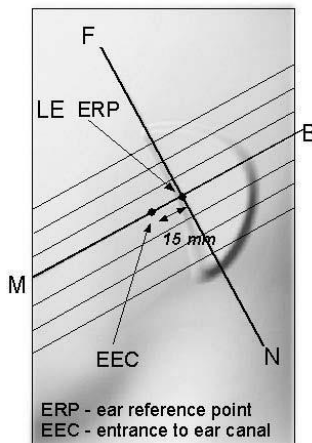


Fig 12.1.2 Close-up side view of phantom showing the ear region.

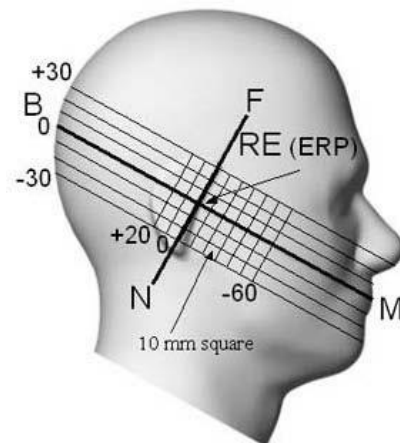


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width w_t of the handset at the level of the acoustic output (point A in Figure 12.2.1 and Figure 12.2.2), and the midpoint of the width w_b of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 12.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 12.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 12.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 12.2.3. The actual rotation angles should be documented in the test report.

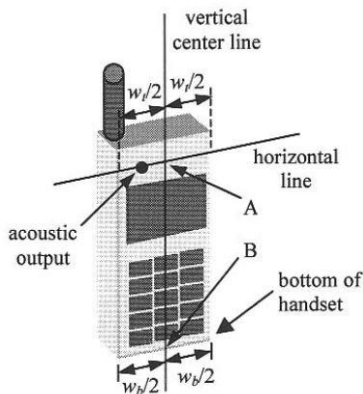


Fig 12.2.1 Handset vertical and horizontal reference lines—“fixed case”

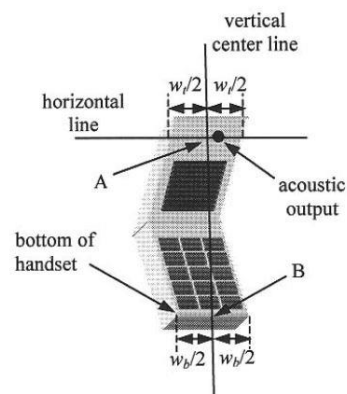


Fig 12.2.2 Handset vertical and horizontal reference lines—“clam-shell case”

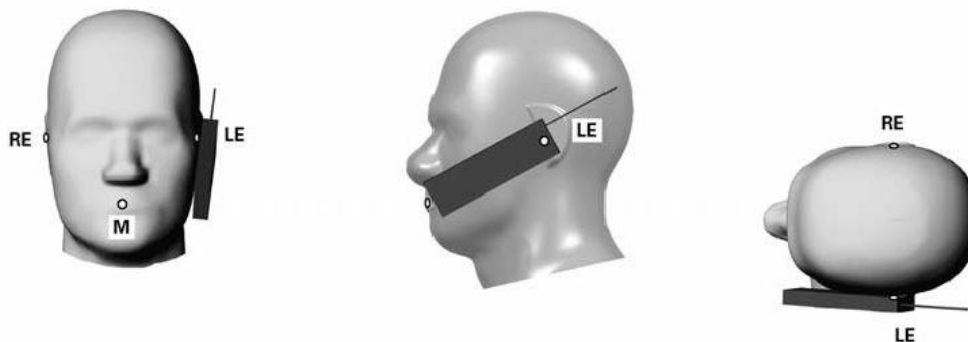


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 12.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

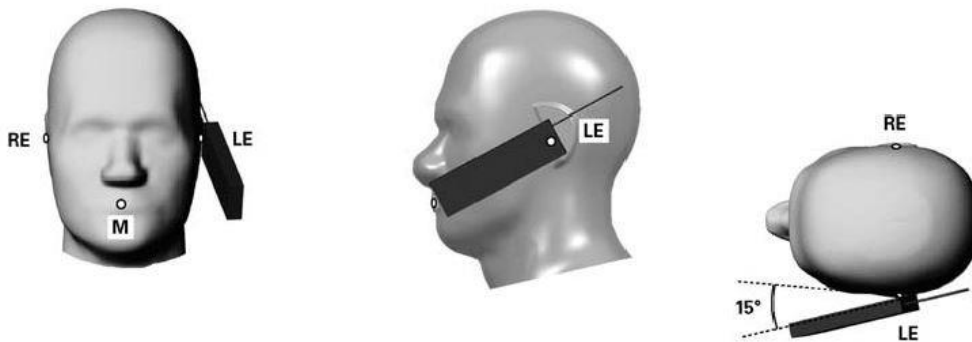


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 12.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

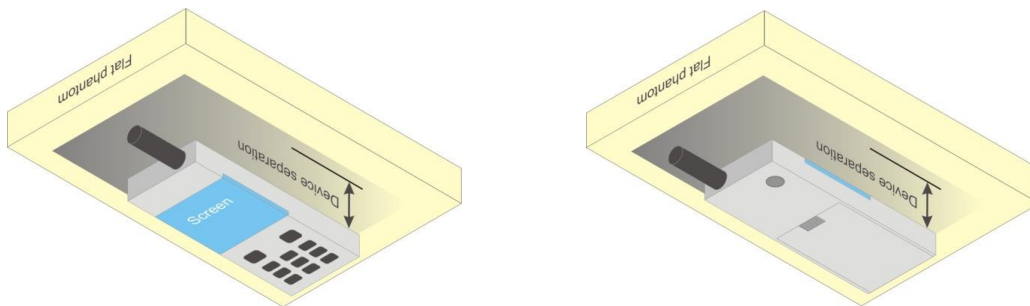


Fig 12.4 Body Worn Position

12.5 Product Specific 10g SAR Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

12.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

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

Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN Antenna 1	≤ 25 mm	≤ 25 mm	>25mm	≤ 25 mm	≤ 25 mm	≤ 25 mm
WWAN Antenna 2	≤ 25 mm	≤ 25 mm	>25mm	≤ 25 mm	>25mm	≤ 25 mm
2.4GHz WLAN & BT	≤ 25 mm	≤ 25 mm	≤ 25 mm	>25mm	≤ 25 mm	>25mm
5GHz WLAN	≤ 25 mm	≤ 25 mm	≤ 25 mm	>25mm	≤ 25 mm	>25mm

Positions for SAR tests; Hotspot mode						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN Antenna 1	Yes	Yes	No	Yes	Yes	Yes
WWAN Antenna 2	Yes	Yes	No	Yes	No	Yes
2.4GHz WLAN & BT	Yes	Yes	Yes	No	Yes	No
5GHz WLAN	Yes	Yes	Yes	No	Yes	No

Note:

1. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the right of bottom edge of the device and WWAN antenna 2 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V, CDMA2000 BC0/BC1/BC10, and LTE Band 2/4/5/12/13/14/17/25/26/66/71, WWAN antenna 2 frequency band include LTE Band 7/30/38/41.
2. 2.4GHz WLAN & BT Antenna is located at the Right-top of the device
3. 5GHz WLAN Antenna is located at the Right-top of the device

13. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS 2Tx slots for GSM850 and the GPRS 3Tx slots for GSM1900 are considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<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: Δ_{ACK} , Δ_{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 DPDCCH, 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, TF0) 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 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.		

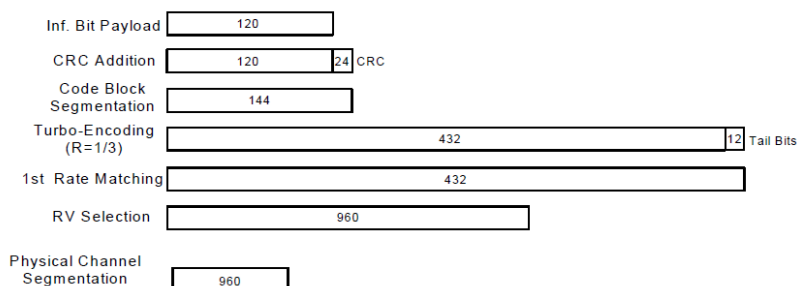


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

<CDMA2000 Conducted Power>

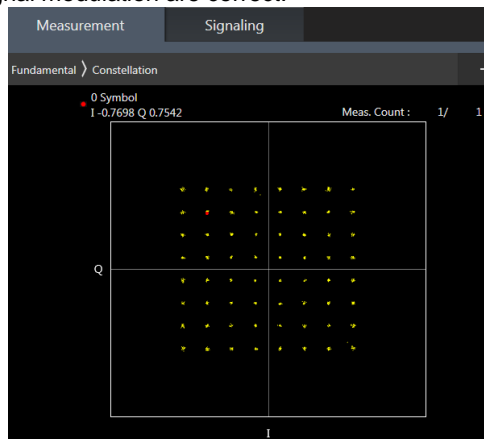
General Note:

1. Per KDB 941225 D01v03r01, SAR for head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

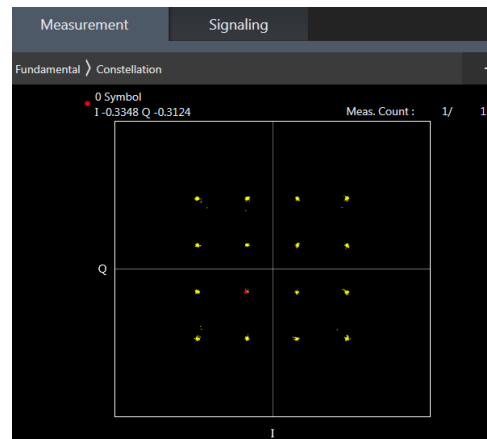
<LTE Conducted Power>

General Note:

1. Anritsu MT8820C 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 / B5 / B12 / B17 / B26 / B38 / B71 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 B17 / B2 / B5 / B4 / B38 SAR test was covered by B12 / B25 / B26 / B66 /B41; 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
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM



16QAM

<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.

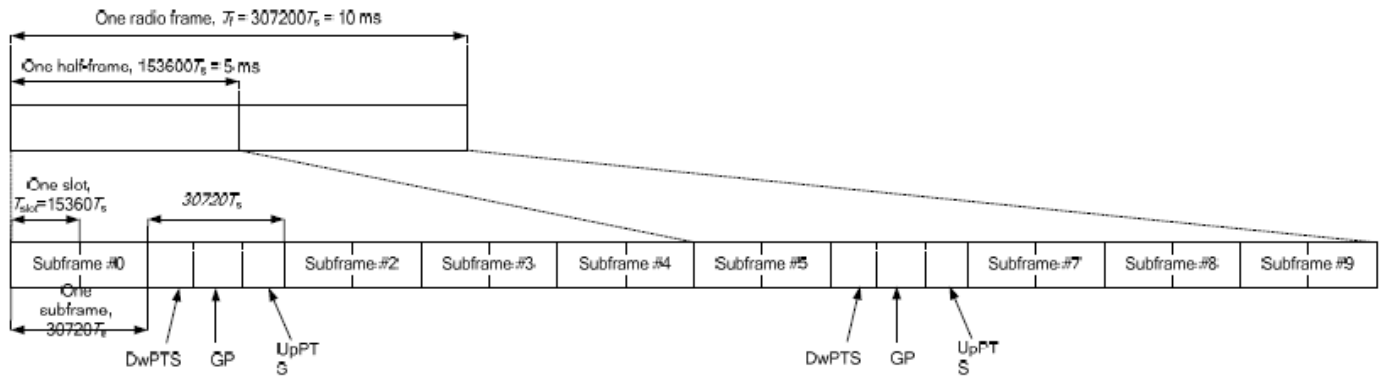


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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

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:

For LTE Band 41 Power class 2

- i. Uplink-downlink configuration: 1. In a half-frame consisted of 5 subframes, uplink operation is in 2 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: $(2+0.167)/5 = 43.3\%$
- iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.143)/5 = 42.9\%$
- v. For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $43.3\%/42.9\% = 1.009$ 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.

For LTE Band 41 Power class 3

- 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.

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level, as followings:

LTE TDD Band	Power Class level	support uplink/downlink configuration
LTE Band 41	> 23	1,2,3,4,5
	=23	0,1,2,3,4,5,6
	< 23	0,1,2,3,4,5,6



<LTE Carrier Aggregation>

General Note:

1. 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.
2. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and for this device that all the configurations were choose to power measurement.
3. All permutations exist. No restrictions on Pcell & Scell combinations. Only LTE Band 29A is limited to Scell.

Index	2CC	Index	2CC
2CC #1	CA_2A-4A	2CC #36	CA_2C
2CC #2	CA_2A-5A	2CC #37	CA_5B
2CC #3	CA_2A-7A	2CC #38	CA_7C
2CC #4	CA_2A-12A	2CC #39	CA_12B
2CC #5	CA_2A-13A	2CC #40	CA_41C
2CC #6	CA_2A-14A	2CC #41	CA_66B
2CC #7	CA_2A-17A	2CC #42	CA_66C
2CC #8	CA_2A-29A	2CC #43	CA_2A-2A
2CC #9	CA_2A-30A	2CC #44	CA_4A-4A
2CC #10	CA_2A-66A	2CC #45	CA_7A-7A
2CC #11	CA_2A-71A	2CC #46	CA_25A-25A
2CC #12	CA_4A-5A	2CC #47	CA_41A-41A
2CC #13	CA_4A-7A	2CC #48	CA_66A-66A
2CC #14	CA_4A-12A		
2CC #15	CA_4A-13A		
2CC #16	CA_4A-17A		
2CC #17	CA_4A-29A		
2CC #18	CA_4A-30A		
2CC #19	CA_4A-71A		
2CC #20	CA_5A-7A		
2CC #21	CA_5A-66A		
2CC #22	CA_7A-12A		
2CC #23	CA_7A-66A		
2CC #24	CA_12A-30A		
2CC #25	CA_12A-66A		
2CC #26	CA_13A-66A		
2CC #27	CA_14A-30A		
2CC #28	CA_14A-66A		
2CC #29	CA_25A-26A		
2CC #30	CA_25A-41A		
2CC #31	CA_26A-41A		
2CC #32	CA_29A-30A		
2CC #33	CA_29A-66A		
2CC #34	CA_30A-66A		
2CC #35	CA_71A-66A		

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. The device supports downlink two carrier aggregation. 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.

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

LTE Carrier Aggregation Conducted Power (Uplink)

1. This device supports uplink carrier aggregation for LTE CA_5B/CA_41C with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. For the non-contiguously allocated resource blocks which the MPR level is determined by various RB separation and RB sizes requirement, and the allowed MPR levels, settings and the conducted powers are permanently implemented in this device per the 3GPP 36.36.101 section 6.2.3A.1.3 requirements.
2. According to FCC guidance, the output power with uplink CA active was measured for the high / middle / low channel configuration with the highest reported SAR for each exposure condition, the power was measured with wideband signal integration over both component carriers.
3. In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs
4. Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05. The required test channel should be associated with the UL PCC. For channels at the ends of a frequency band, the SCC and subsequent CCs are added to the side within the transmission band. Otherwise, the CCs should be added alternatively to either side of the PCC.



<WLAN Conducted Power>

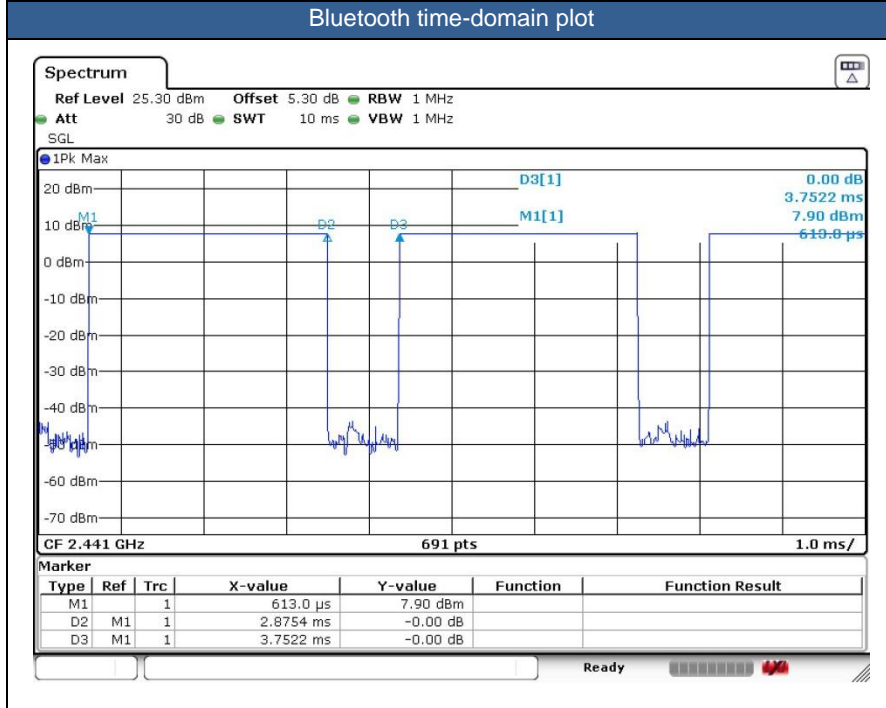
General Note:

1. 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.
2. 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).
3. 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.
4. 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 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 76.63 % 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



14. 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 BT/WLAN: 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 when the measured SAR is ≥ 0.8 W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. Pre KDB648474 D04v01r03, when the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset. When headset SAR is less than or equal than without headset SAR, no need to verify the remaining channels for headset SAR.
5. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at WLAN2.4GHz.
6. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, GSM1900, WCDMA band II/IV/V, CDMA BC0/1, LTE band 2/4/7/25/30/66/38/41/41HPUE and WLAN2.4GHz/WLAN5.2GHz/5.3GHz/5.5GHz/5.8GHz reduced power will be active.
7. P-sensor can detect handheld state, WCDMA band II/IV, CDMA BC1 and LTE B2/4/7/25/30/66/41/41HPUE for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active.
8. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM1900, WCDMA band II/IV/V, CDMA BC0/1, LTE band 2/4/7/25/30/66/38/41/41HPUE and 2.4GHz /WLAN/5.2GHz/ WLAN/5.8GHz.
9. For P-sensor reduced power level is higher than hotspot reduced power for GSM1900, WCDMA band II/IV, LTE band 2/4/25/66, so for front/back P-sensor SAR can represent conservatively for front/back hotspot SAR.
10. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the right of bottom edge of the device and WWAN antenna 2 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V, CDMA2000 BC0/BC1/BC10, and LTE Band 2/4/5/12/13/14/17/25/26/66/71, WWAN antenna 2 frequency band include LTE Band 7/30/38/41.
11. 2.4GHz WLAN & BT Antenna is located at the Right-top of the device
12. 5GHz WLAN Antenna is located at the Right-top of the device
13. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power (for handheld on state, the maximum full power means reduced power), including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
 - a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM1900, WCDMA Band II/IV/V, CDMA BC0/ BC1/ BC10, LTE Band 2/4/5/7/13/ 25/26/30/41/66, and WLAN 5.2/5.8GHz therefore product specific 10g SAR is necessary.
 - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.



- c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
14. 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 for body worn:
Front: [17 mm](#)
Back: [19 mm](#)
15. 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 for handheld:
Front: [6 mm](#)
Back: [7 mm](#)
bottom side: [9 mm](#)

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS 2Tx slots for GSM850 and the GPRS 3Tx slots for GSM1900 are considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is \leq ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

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 ¼ 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 \leq 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 ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

CDMA Note:

1. Per KDB 941225 D01v03r01, SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

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/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.
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. This device supports HPUE for LTE band 41 with class 2 level, so HPUE SAR has been performed.
7. For LTE B4 / B5 / B12 / B17 / B26 / B38 / B71 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.
8. LTE B2 / B4 / B5 / B17 / B38 SAR test was covered by LTE B25 / B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - c. the maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion
 - d. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

WLAN/Bluetooth 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 closest/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. Based on WLAN 2.4GHz and Bluetooth share the same antenna, so Bluetooth RF exposure evaluation chose the worst position of WLAN 2.4GHz Ant to perform Bluetooth SAR test, and used this Bluetooth SAR value conservatively represent other position do co-located analysis with WWAN.



14.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Power Reduction	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)
	GSM850	GPRS(2 Tx slots)	Right Cheek	Full	128	824.2	31.61	32.50	1.227	-0.07	0.466	0.572
	GSM850	GPRS(2 Tx slots)	Right Tilted	Full	128	824.2	31.61	32.50	1.227	-0.03	0.226	0.277
	GSM850	GPRS(2 Tx slots)	Left Cheek	Full	128	824.2	31.61	32.50	1.227	-0.07	0.409	0.502
	GSM850	GPRS(2 Tx slots)	Left Tilted	Full	128	824.2	31.61	32.50	1.227	-0.01	0.204	0.250
	GSM850	GPRS(2 Tx slots)	Right Cheek	Full	189	836.4	31.45	32.50	1.274	-0.05	0.552	0.703
01	GSM850	GPRS(2 Tx slots)	Right Cheek	Full	251	848.8	31.18	32.50	1.355	-0.03	0.548	0.743
	GSM1900	GPRS(3 Tx slots)	Right Cheek	Full	512	1850.2	27.43	28.00	1.140	-0.07	0.043	0.049
	GSM1900	GPRS(3 Tx slots)	Right Tilted	Full	512	1850.2	27.43	28.00	1.140	0.08	0.030	0.034
	GSM1900	GPRS(3 Tx slots)	Left Cheek	Full	512	1850.2	27.43	28.00	1.140	0.07	0.044	0.050
	GSM1900	GPRS(3 Tx slots)	Left Tilted	Full	512	1850.2	27.43	28.00	1.140	0.04	0.024	0.027
02	GSM1900	GPRS(3 Tx slots)	Left Cheek	Full	661	1880	27.03	28.00	1.250	0.06	0.058	0.073
	GSM1900	GPRS(3 Tx slots)	Left Cheek	Full	810	1909.8	27.41	28.00	1.146	0.08	0.051	0.058

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Power Reduction	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)
	WCDMA II	RMC 12.2Kbps	Right Cheek	Full	9262	1852.4	23.06	24.00	1.242	-0.03	0.075	0.094
	WCDMA II	RMC 12.2Kbps	Right Tilted	Full	9262	1852.4	23.06	24.00	1.242	0.08	0.054	0.067
	WCDMA II	RMC 12.2Kbps	Left Cheek	Full	9262	1852.4	23.06	24.00	1.242	0.09	0.098	0.122
	WCDMA II	RMC 12.2Kbps	Left Tilted	Full	9262	1852.4	23.06	24.00	1.242	0.06	0.039	0.048
03	WCDMA II	RMC 12.2Kbps	Left Cheek	Full	9400	1880	22.83	24.00	1.309	0.05	0.108	0.141
	WCDMA II	RMC 12.2Kbps	Left Cheek	Full	9538	1907.6	22.91	24.00	1.285	0.04	0.086	0.110
	WCDMA IV	RMC 12.2Kbps	Right Cheek	Full	1513	1752.6	23.08	24.00	1.236	-0.02	0.117	0.145
	WCDMA IV	RMC 12.2Kbps	Right Tilted	Full	1513	1752.6	23.08	24.00	1.236	0.13	0.068	0.084
	WCDMA IV	RMC 12.2Kbps	Left Cheek	Full	1513	1752.6	23.08	24.00	1.236	0.03	0.073	0.090
	WCDMA IV	RMC 12.2Kbps	Left Tilted	Full	1513	1752.6	23.08	24.00	1.236	0.09	0.064	0.078
04	WCDMA IV	RMC 12.2Kbps	Right Cheek	Full	1312	1712.4	22.95	24.00	1.274	0.08	0.132	0.168
	WCDMA IV	RMC 12.2Kbps	Right Cheek	Full	1413	1732.6	22.93	24.00	1.279	0.18	0.097	0.124
	WCDMA V	RMC 12.2Kbps	Right Cheek	Full	4182	836.4	23.31	24.00	1.172	0.09	0.438	0.513
	WCDMA V	RMC 12.2Kbps	Right Tilted	Full	4182	836.4	23.31	24.00	1.172	0.02	0.225	0.264
	WCDMA V	RMC 12.2Kbps	Left Cheek	Full	4182	836.4	23.31	24.00	1.172	0.08	0.369	0.433
	WCDMA V	RMC 12.2Kbps	Left Tilted	Full	4182	836.4	23.31	24.00	1.172	0.09	0.192	0.225
	WCDMA V	RMC 12.2Kbps	Right Cheek	Full	4132	826.4	23.25	24.00	1.189	0.06	0.448	0.532
05	WCDMA V	RMC 12.2Kbps	Right Cheek	Full	4233	846.6	23.09	24.00	1.233	0.04	0.486	0.599



<CDMA SAR>

Plot No.	Band	Mode	Test Position	Power Reduction	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)
	CDMA2000 BC0	RC3 SO55	Right Cheek	Full	1013	824.7	24.36	25.00	1.159	0.09	0.429	0.497
	CDMA2000 BC0	RC3 SO55	Right Tilted	Full	1013	824.7	24.36	25.00	1.159	-0.01	0.237	0.275
	CDMA2000 BC0	RC3 SO55	Left Cheek	Full	1013	824.7	24.36	25.00	1.159	0.01	0.301	0.349
	CDMA2000 BC0	RC3 SO55	Left Tilted	Full	1013	824.7	24.36	25.00	1.159	0.05	0.074	0.085
	CDMA2000 BC0	RC3 SO55	Right Cheek	Full	384	836.52	24.35	25.00	1.161	0.02	0.454	0.527
06	CDMA2000 BC0	RC3 SO55	Right Cheek	Full	777	848.31	24.10	25.00	1.230	0.02	0.484	0.595
	CDMA2000 BC10	RC3 SO55	Right Cheek	Full	684	823.1	24.33	25.00	1.167	-0.14	0.421	0.491
	CDMA2000 BC10	RC3 SO55	Right Tilted	Full	684	823.1	24.33	25.00	1.167	0.01	0.185	0.216
	CDMA2000 BC10	RC3 SO55	Left Cheek	Full	684	823.1	24.33	25.00	1.167	0.01	0.367	0.428
	CDMA2000 BC10	RC3 SO55	Left Tilted	Full	684	823.1	24.33	25.00	1.167	0.06	0.070	0.082
07	CDMA2000 BC10	RC3 SO55	Right Cheek	Full	476	817.9	24.11	25.00	1.227	0.05	0.451	0.554
	CDMA2000 BC10	RC3 SO55	Right Cheek	Full	580	820.5	24.29	25.00	1.178	-0.01	0.440	0.518
	CDMA2000 BC1	RC3 SO55	Right Cheek	Full	600	1880	24.04	25.00	1.247	-0.05	0.045	0.056
	CDMA2000 BC1	RC3 SO55	Right Tilted	Full	600	1880	24.04	25.00	1.247	0.04	0.020	0.025
08	CDMA2000 BC1	RC3 SO55	Left Cheek	Full	600	1880	24.04	25.00	1.247	0.05	0.087	0.108
	CDMA2000 BC1	RC3 SO55	Left Tilted	Full	600	1880	24.04	25.00	1.247	0.02	0.033	0.041
	CDMA2000 BC1	RC3 SO55	Left Cheek	Full	25	1851.25	23.87	25.00	1.297	0.05	0.082	0.106
	CDMA2000 BC1	RC3 SO55	Left Cheek	Full	1175	1908.75	23.92	25.00	1.282	0.08	0.074	0.095



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Power Reduction	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 12	10M	QPSK	1	25	Right Cheek	Full	23095	707.5	23.18	24.00	1.208	0.05	0.280	0.338
	LTE Band 12	10M	QPSK	25	0	Right Cheek	Full	23095	707.5	22.27	23.00	1.183	0.08	0.174	0.206
	LTE Band 12	10M	QPSK	1	25	Right Tilted	Full	23095	707.5	23.18	24.00	1.208	-0.11	0.144	0.174
	LTE Band 12	10M	QPSK	25	0	Right Tilted	Full	23095	707.5	22.27	23.00	1.183	-0.11	0.093	0.110
09	LTE Band 12	10M	QPSK	1	25	Left Cheek	Full	23095	707.5	23.18	24.00	1.208	0.04	0.281	0.339
	LTE Band 12	10M	QPSK	25	0	Left Cheek	Full	23095	707.5	22.27	23.00	1.183	0.04	0.148	0.175
	LTE Band 12	10M	QPSK	1	25	Left Tilted	Full	23095	707.5	23.18	24.00	1.208	0.11	0.138	0.167
	LTE Band 12	10M	QPSK	25	0	Left Tilted	Full	23095	707.5	22.27	23.00	1.183	-0.06	0.075	0.089
10	LTE Band 13	10M	QPSK	1	0	Right Cheek	Full	23230	782	22.95	24.00	1.274	0.01	0.383	0.488
	LTE Band 13	10M	QPSK	25	0	Right Cheek	Full	23230	782	21.87	23.00	1.297	0.03	0.204	0.265
	LTE Band 13	10M	QPSK	1	0	Right Tilted	Full	23230	782	22.95	24.00	1.274	-0.06	0.192	0.245
	LTE Band 13	10M	QPSK	25	0	Right Tilted	Full	23230	782	21.87	23.00	1.297	-0.01	0.104	0.135
	LTE Band 13	10M	QPSK	1	0	Left Cheek	Full	23230	782	22.95	24.00	1.274	0.02	0.351	0.447
	LTE Band 13	10M	QPSK	25	0	Left Cheek	Full	23230	782	21.87	23.00	1.297	0.03	0.191	0.248
	LTE Band 13	10M	QPSK	1	0	Left Tilted	Full	23230	782	22.95	24.00	1.274	0.19	0.175	0.223
	LTE Band 13	10M	QPSK	25	0	Left Tilted	Full	23230	782	21.87	23.00	1.297	0.06	0.091	0.118
11	LTE Band 14	10M	QPSK	1	0	Right Cheek	Full	23330	793	22.77	24.00	1.327	0.06	0.360	0.478
	LTE Band 14	10M	QPSK	25	12	Right Cheek	Full	23330	793	21.82	23.00	1.312	0.03	0.201	0.264
	LTE Band 14	10M	QPSK	1	0	Right Tilted	Full	23330	793	22.77	24.00	1.327	0.06	0.195	0.259
	LTE Band 14	10M	QPSK	25	12	Right Tilted	Full	23330	793	21.82	23.00	1.312	-0.03	0.105	0.138
	LTE Band 14	10M	QPSK	1	0	Left Cheek	Full	23330	793	22.77	24.00	1.327	0.11	0.301	0.400
	LTE Band 14	10M	QPSK	25	12	Left Cheek	Full	23330	793	21.82	23.00	1.312	0.07	0.170	0.223
	LTE Band 14	10M	QPSK	1	0	Left Tilted	Full	23330	793	22.77	24.00	1.327	0.11	0.148	0.196
	LTE Band 14	10M	QPSK	25	12	Left Tilted	Full	23330	793	21.82	23.00	1.312	0.11	0.087	0.115
12	LTE Band 26	15M	QPSK	1	37	Right Cheek	Full	26865	831.5	23.18	24.00	1.208	-0.08	0.412	0.498
	LTE Band 26	15M	QPSK	36	0	Right Cheek	Full	26865	831.5	22.24	23.00	1.191	0.06	0.209	0.249
	LTE Band 26	15M	QPSK	1	37	Right Tilted	Full	26865	831.5	23.18	24.00	1.208	0.09	0.214	0.258
	LTE Band 26	15M	QPSK	36	0	Right Tilted	Full	26865	831.5	22.24	23.00	1.191	0.07	0.117	0.139
	LTE Band 26	15M	QPSK	1	37	Left Cheek	Full	26865	831.5	23.18	24.00	1.208	0.07	0.317	0.383
	LTE Band 26	15M	QPSK	36	0	Left Cheek	Full	26865	831.5	22.24	23.00	1.191	-0.1	0.184	0.219
	LTE Band 26	15M	QPSK	1	37	Left Tilted	Full	26865	831.5	23.18	24.00	1.208	-0.09	0.195	0.236
	LTE Band 26	15M	QPSK	36	0	Left Tilted	Full	26865	831.5	22.24	23.00	1.191	-0.1	0.098	0.117
13	LTE Band 71	20M	QPSK	1	0	Right Cheek	Full	133322	683	23.45	24.00	1.135	-0.07	0.305	0.346
	LTE Band 71	20M	QPSK	50	0	Right Cheek	Full	133322	683	22.49	23.00	1.125	0.03	0.168	0.189
	LTE Band 71	20M	QPSK	1	0	Right Tilted	Full	133322	683	23.45	24.00	1.135	0.155	0.190	0.216
	LTE Band 71	20M	QPSK	50	0	Right Tilted	Full	133322	683	22.49	23.00	1.125	0.07	0.107	0.120
	LTE Band 71	20M	QPSK	1	0	Left Cheek	Full	133322	683	23.45	24.00	1.135	0.19	0.296	0.336
	LTE Band 71	20M	QPSK	50	0	Left Cheek	Full	133322	683	22.49	23.00	1.125	0.02	0.151	0.170
	LTE Band 71	20M	QPSK	1	0	Left Tilted	Full	133322	683	23.45	24.00	1.135	-0.01	0.171	0.194
	LTE Band 71	20M	QPSK	50	0	Left Tilted	Full	133322	683	22.49	23.00	1.125	0.06	0.085	0.095



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Power Reduction	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 25	20M	QPSK	1	0	Right Cheek	Full	26340	1880	22.89	24.00	1.291	0.07	0.027	0.035
	LTE Band 25	20M	QPSK	50	0	Right Cheek	Full	26340	1880	21.82	23.00	1.312	0.09	0.020	0.026
	LTE Band 25	20M	QPSK	1	0	Right Tilted	Full	26340	1880	22.89	24.00	1.291	0.05	0.039	0.050
	LTE Band 25	20M	QPSK	50	0	Right Tilted	Full	26340	1880	21.82	23.00	1.312	0.01	0.023	0.030
14	LTE Band 25	20M	QPSK	1	0	Left Cheek	Full	26340	1880	22.89	24.00	1.291	0.04	0.113	0.146
	LTE Band 25	20M	QPSK	50	0	Left Cheek	Full	26340	1880	21.82	23.00	1.312	0.02	0.070	0.092
	LTE Band 25	20M	QPSK	1	0	Left Tilted	Full	26340	1880	22.89	24.00	1.291	0.06	0.047	0.060
	LTE Band 25	20M	QPSK	50	0	Left Tilted	Full	26340	1880	21.82	23.00	1.312	0.04	0.029	0.039
	LTE Band 25	20M	QPSK	1	0	Left Cheek	Full	26140	1860	22.84	24.00	1.306	0.03	0.073	0.095
	LTE Band 25	20M	QPSK	1	0	Left Cheek	Full	26590	1905	22.46	24.00	1.426	0.02	0.074	0.106
	LTE Band 66	20M	QPSK	1	0	Right Cheek	Full	132572	1770	22.61	24.00	1.377	0.09	0.091	0.125
	LTE Band 66	20M	QPSK	50	0	Right Cheek	Full	132572	1770	21.70	23.00	1.349	0.02	0.060	0.080
	LTE Band 66	20M	QPSK	1	0	Right Tilted	Full	132572	1770	22.61	24.00	1.377	-0.04	0.035	0.049
	LTE Band 66	20M	QPSK	50	0	Right Tilted	Full	132572	1770	21.70	23.00	1.349	0.01	0.025	0.034
	LTE Band 66	20M	QPSK	1	0	Left Cheek	Full	132572	1770	22.61	24.00	1.377	0.09	0.080	0.109
	LTE Band 66	20M	QPSK	50	0	Left Cheek	Full	132572	1770	21.70	23.00	1.349	0.08	0.056	0.076
	LTE Band 66	20M	QPSK	1	0	Left Tilted	Full	132572	1770	22.61	24.00	1.377	0.02	0.041	0.056
	LTE Band 66	20M	QPSK	50	0	Left Tilted	Full	132572	1770	21.70	23.00	1.349	0.01	0.027	0.037
15	LTE Band 66	20M	QPSK	1	0	Right Cheek	Full	132072	1720	22.42	24.00	1.439	0.06	0.125	0.180
	LTE Band 66	20M	QPSK	1	0	Right Cheek	Full	132322	1745	22.53	24.00	1.403	-0.07	0.092	0.128
	LTE Band 7	20M	QPSK	1	0	Right Cheek	Full	21100	2535	22.96	24.00	1.271	0.07	0.247	0.314
	LTE Band 7	20M	QPSK	50	0	Right Cheek	Full	21100	2535	22.03	23.00	1.250	0.02	0.146	0.183
	LTE Band 7	20M	QPSK	1	0	Right Tilted	Full	21100	2535	22.96	24.00	1.271	0.01	0.241	0.306
	LTE Band 7	20M	QPSK	50	0	Right Tilted	Full	21100	2535	22.03	23.00	1.250	-0.04	0.174	0.218
16	LTE Band 7	20M	QPSK	1	0	Left Cheek	Full	21100	2535	22.96	24.00	1.271	0.02	0.370	0.470
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Full	21100	2535	22.03	23.00	1.250	0.06	0.242	0.303
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Full	21100	2535	22.96	24.00	1.271	0.08	0.148	0.188
	LTE Band 7	20M	QPSK	50	0	Left Tilted	Full	21100	2535	22.03	23.00	1.250	0.03	0.091	0.114
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Full	20850	2510	22.86	24.00	1.300	0.03	0.298	0.387
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Full	21350	2560	22.62	24.00	1.374	0.162	0.305	0.419
	LTE Band 30	10M	QPSK	1	0	Right Cheek	Full	27710	2310	22.95	24.00	1.274	0.04	0.174	0.222
	LTE Band 30	10M	QPSK	25	25	Right Cheek	Full	27710	2310	21.95	23.00	1.274	0.09	0.114	0.145
	LTE Band 30	10M	QPSK	1	0	Right Tilted	Full	27710	2310	22.95	24.00	1.274	0.02	0.130	0.166
	LTE Band 30	10M	QPSK	25	25	Right Tilted	Full	27710	2310	21.95	23.00	1.274	0.07	0.079	0.100
17	LTE Band 30	10M	QPSK	1	0	Left Cheek	Full	27710	2310	22.95	24.00	1.274	0.05	0.272	0.346
	LTE Band 30	10M	QPSK	25	25	Left Cheek	Full	27710	2310	21.95	23.00	1.274	0.05	0.157	0.200
	LTE Band 30	10M	QPSK	1	0	Left Tilted	Full	27710	2310	22.95	24.00	1.274	0.07	0.137	0.174
	LTE Band 30	10M	QPSK	25	25	Left Tilted	Full	27710	2310	21.95	23.00	1.274	0.03	0.087	0.111



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Power Reduction	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)
	LTE Band 41	20M	QPSK	1	0	Right Cheek	Full	40185	2549.5	24.43	25.50	1.279	62.9	1.006	0.05	0.147	0.189
	LTE Band 41	20M	QPSK	50	24	Right Cheek	Full	40185	2549.5	22.35	23.50	1.303	62.9	1.006	0.02	0.080	0.105
	LTE Band 41	20M	QPSK	1	0	Right Tilted	Full	40185	2549.5	24.43	25.50	1.279	62.9	1.006	0.19	0.160	0.206
	LTE Band 41	20M	QPSK	50	24	Right Tilted	Full	40185	2549.5	22.35	23.50	1.303	62.9	1.006	0.05	0.088	0.116
	LTE Band 41	20M	QPSK	1	0	Left Cheek	Full	40185	2549.5	24.43	25.50	1.279	62.9	1.006	0.04	0.210	0.270
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Full	40185	2549.5	22.35	23.50	1.303	62.9	1.006	0.01	0.116	0.152
	LTE Band 41	20M	QPSK	1	0	Left Tilted	Full	40185	2549.5	24.43	25.50	1.279	62.9	1.006	0.13	0.089	0.115
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Full	40185	2549.5	22.35	23.50	1.303	62.9	1.006	0.02	0.048	0.063
	LTE Band 41	20M	QPSK	1	0	Left Cheek	Full	39750	2506	24.34	25.50	1.306	62.9	1.006	0.16	0.191	0.251
	LTE Band 41	20M	QPSK	1	0	Left Cheek	Full	40620	2593	24.21	25.50	1.346	62.9	1.006	0.03	0.207	0.280
	LTE Band 41	20M	QPSK	1	0	Left Cheek	Full	41055	2636.5	24.24	25.50	1.337	62.9	1.006	0.16	0.215	0.289
	LTE Band 41C	20M	QPSK	1	0	Left Cheek	Full	41055+40857	2636.5+2616.7	24.48	25.50	1.265	62.9	1.006	0.09	0.221	0.281
18	LTE Band 41-HPUE	20M	QPSK	1	0	Left Cheek	Full	41055	2636.5	26.18	27.00	1.208	42.9	1.009	-0.08	0.250	0.305
	LTE Band 41	20M	QPSK	1	0	Left Cheek	Full	41490	2680	24.26	25.50	1.330	62.9	1.006	-0.06	0.137	0.183



<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Power Reduction	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)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	Reduced	11	2462	16.50	17.50	1.259	98.97	1.010	0.02	0.368	0.468
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	Reduced	11	2462	16.50	17.50	1.259	98.97	1.010	0.01	0.446	0.567
19	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Reduced	11	2462	16.50	17.50	1.259	98.97	1.010	0.1	0.866	1.101
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Reduced	11	2462	16.50	17.50	1.259	98.97	1.010	-0.02	0.715	0.909
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Reduced	1	2412	16.35	17.50	1.302	98.97	1.010	0.01	0.780	1.025
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Reduced	6	2437	16.49	17.50	1.260	98.97	1.010	-0.05	0.841	1.071
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Reduced	6	2437	16.49	17.50	1.260	98.97	1.010	-0.05	0.618	0.787

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Power Reduction	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)
	Bluetooth	1Mbps	Left Cheek	Full	0	2402	8.37	10.00	1.455	76.63	1.087	0.07	0.093	0.148
	Bluetooth	1Mbps	Left Cheek	Full	39	2441	8.05	10.00	1.567	76.63	1.087	0.02	0.105	0.179
20	Bluetooth	1Mbps	Left Cheek	Full	78	2480	8.87	10.00	1.297	76.63	1.087	0.16	0.127	0.179

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Power Reduction	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)
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Full	52	5260	18.27	20.00	1.489	97.46	1.026	-0.09	0.129	0.197
21	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Full	52	5260	18.27	20.00	1.489	97.46	1.026	-0.05	0.265	0.405
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Full	52	5260	18.27	20.00	1.489	97.46	1.026	-0.06	0.088	0.134
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Full	52	5260	18.27	20.00	1.489	97.46	1.026	-0.06	0.118	0.180
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Full	60	5300	18.03	20.00	1.574	97.46	1.026	0.11	0.231	0.373
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Full	64	5320	18.13	20.00	1.538	97.46	1.026	-0.07	0.254	0.401
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	Full	140	5700	18.56	19.00	1.106	97.46	1.026	-0.06	0.241	0.274
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	Full	140	5700	18.56	19.00	1.106	97.46	1.026	0.02	0.252	0.286
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Full	140	5700	18.56	19.00	1.106	97.46	1.026	-0.09	0.248	0.281
22	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Full	140	5700	18.56	19.00	1.106	97.46	1.026	-0.02	0.314	0.356
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Full	100	5500	17.76	19.00	1.330	97.46	1.026	-0.01	0.101	0.138
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Full	116	5580	17.27	19.00	1.489	97.46	1.026	-0.01	0.145	0.221
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Full	132	5660	17.90	19.00	1.288	97.46	1.026	0.02	0.184	0.243
	WLAN5.8GHz	802.11a 6Mbps	Right Cheek	Full	157	5785	20.23	21.50	1.340	97.46	1.026	-0.01	0.275	0.378
	WLAN5.8GHz	802.11a 6Mbps	Right Tilted	Full	157	5785	20.23	21.50	1.340	97.46	1.026	-0.02	0.295	0.405
	WLAN5.8GHz	802.11a 6Mbps	Left Cheek	Full	157	5785	20.23	21.50	1.340	97.46	1.026	-0.08	0.316	0.434
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	Full	157	5785	20.23	21.50	1.340	97.46	1.026	-0.02	0.398	0.547
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	Full	149	5745	19.81	21.50	1.476	97.46	1.026	-0.02	0.269	0.407
23	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	Full	165	5825	20.00	21.50	1.413	97.46	1.026	-0.01	0.460	0.667

14.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	GSM850	GPRS(2 Tx slots)	Front	5mm	Full	128	824.2	31.61	32.50	1.227	-0.14	0.436	0.535
	GSM850	GPRS(2 Tx slots)	Back	5mm	Full	128	824.2	31.61	32.50	1.227	-0.12	0.376	0.462
	GSM850	GPRS(2 Tx slots)	Front	5mm	Full	189	836.4	31.45	32.50	1.274	-0.09	0.645	0.821
	GSM850	GPRS(2 Tx slots)	Front	5mm	Full	251	848.8	31.18	32.50	1.355	0.06	0.587	0.795
	GSM850	GPRS(2 Tx slots)	Left Side	5mm	Full	128	824.2	31.61	32.50	1.227	0.01	0.420	0.516
24	GSM850	GPRS(2 Tx slots)	Right Side	5mm	Full	128	824.2	31.61	32.50	1.227	0.02	0.798	0.979
	GSM850	GPRS(2 Tx slots)	Bottom Side	5mm	Full	128	824.2	31.61	32.50	1.227	0.03	0.457	0.561
	GSM850	GPRS(2 Tx slots)	Right Side	5mm	Full	189	836.4	31.45	32.50	1.274	0.02	0.769	0.979
	GSM850	GPRS(2 Tx slots)	Right Side	5mm	Full	251	848.8	31.18	32.50	1.355	0.08	0.704	0.954
	GSM1900	GPRS(3 Tx slots)	Front	5mm	Reduced	512	1850.2	22.59	23.50	1.233	0.02	0.937	1.155
25	GSM1900	GPRS(3 Tx slots)	Front	5mm	Reduced	661	1880	22.31	23.50	1.315	-0.07	1.000	1.315
	GSM1900	GPRS(3 Tx slots)	Front	5mm	Reduced	810	1909.8	22.58	23.50	1.236	0.18	0.999	1.235
	GSM1900	GPRS(3 Tx slots)	Back	5mm	Reduced	512	1850.2	22.59	23.50	1.233	-0.06	0.917	1.131
	GSM1900	GPRS(3 Tx slots)	Back	5mm	Reduced	661	1880	22.31	23.50	1.315	0.02	0.879	1.156
	GSM1900	GPRS(3 Tx slots)	Back	5mm	Reduced	810	1909.8	22.58	23.50	1.236	0.04	0.900	1.112
	GSM1900	GPRS(3 Tx slots)	Left Side	5mm	Reduced	512	1850.2	21.75	22.00	1.059	0.19	0.043	0.046
	GSM1900	GPRS(3 Tx slots)	Right Side	5mm	Reduced	512	1850.2	21.75	22.00	1.059	0.16	0.026	0.028
	GSM1900	GPRS(3 Tx slots)	Bottom Side	5mm	Reduced	512	1850.2	21.75	22.00	1.059	0.03	1.210	1.282
	GSM1900	GPRS(3 Tx slots)	Bottom Side	5mm	Reduced	661	1880	21.72	22.00	1.067	0.09	1.230	1.312
	GSM1900	GPRS(3 Tx slots)	Bottom Side	5mm	Reduced	810	1909.8	21.74	22.00	1.062	0.03	1.200	1.274



<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	WCDMA II	RMC 12.2Kbps	Front	5mm	Reduced	9262	1852.4	16.43	17.00	1.140	0.03	1.090	1.243
	WCDMA II	RMC 12.2Kbps	Front	5mm	Reduced	9400	1880	16.37	17.00	1.156	0.04	1.140	1.318
	WCDMA II	RMC 12.2Kbps	Front	5mm	Reduced	9538	1907.6	16.27	17.00	1.183	0.01	1.050	1.242
	WCDMA II	RMC 12.2Kbps	Back	5mm	Reduced	9262	1852.4	16.43	17.00	1.140	0.17	1.150	1.311
26	WCDMA II	RMC 12.2Kbps	Back	5mm	Reduced	9400	1880	16.37	17.00	1.156	0.05	1.170	1.353
	WCDMA II	RMC 12.2Kbps	Back	5mm	Reduced	9538	1907.6	16.27	17.00	1.183	-0.06	1.040	1.230
	WCDMA II	RMC 12.2Kbps	Left Side	5mm	Reduced	9262	1852.4	13.89	14.50	1.151	0.05	0.022	0.025
	WCDMA II	RMC 12.2Kbps	Right Side	5mm	Reduced	9262	1852.4	13.89	14.50	1.151	0.06	0.016	0.018
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	Reduced	9262	1852.4	13.89	14.50	1.151	-0.08	1.120	1.289
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	Reduced	9400	1880	13.67	14.50	1.211	-0.19	1.100	1.332
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	Reduced	9538	1907.6	13.75	14.50	1.189	-0.18	1.120	1.331
	WCDMA IV	RMC 12.2Kbps	Front	5mm	Reduced	1513	1752.6	16.85	17.50	1.161	0.02	1.005	1.167
	WCDMA IV	RMC 12.2Kbps	Front	5mm	Reduced	1312	1712.4	16.84	17.50	1.164	0.04	1.020	1.187
	WCDMA IV	RMC 12.2Kbps	Front	5mm	Reduced	1413	1732.6	16.78	17.50	1.180	0.07	1.040	1.228
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Reduced	1513	1752.6	16.85	17.50	1.161	0.01	1.180	1.371
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Reduced	1312	1712.4	16.84	17.50	1.164	0.17	1.100	1.281
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Reduced	1413	1732.6	16.78	17.50	1.180	0.07	1.150	1.357
	WCDMA IV	RMC 12.2Kbps	Left Side	5mm	Reduced	1513	1752.6	14.31	15.00	1.172	0.14	0.023	0.027
	WCDMA IV	RMC 12.2Kbps	Right Side	5mm	Reduced	1513	1752.6	14.31	15.00	1.172	0.06	0.026	0.030
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	Reduced	1513	1752.6	14.31	15.00	1.172	0.05	1.150	1.348
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	Reduced	1312	1712.4	14.28	15.00	1.180	0.01	1.090	1.287
27	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	Reduced	1413	1732.6	14.21	15.00	1.199	0.02	1.170	1.403
	WCDMA V	RMC 12.2Kbps	Front	5mm	Reduced	4182	836.4	22.25	23.00	1.189	-0.13	0.942	1.120
	WCDMA V	RMC 12.2Kbps	Front	5mm	Reduced	4132	826.4	22.21	23.00	1.199	-0.1	0.838	1.005
28	WCDMA V	RMC 12.2Kbps	Front	5mm	Reduced	4233	846.6	22.15	23.00	1.216	-0.07	1.080	1.313
	WCDMA V	RMC 12.2Kbps	Back	5mm	Reduced	4182	836.4	22.25	23.00	1.189	-0.09	0.714	0.849
	WCDMA V	RMC 12.2Kbps	Back	5mm	Reduced	4132	826.4	22.21	23.00	1.199	0.04	0.750	0.900
	WCDMA V	RMC 12.2Kbps	Back	5mm	Reduced	4233	846.6	22.15	23.00	1.216	0.06	0.929	1.130
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	Reduced	4182	836.4	22.25	23.00	1.189	0.1	0.370	0.440
	WCDMA V	RMC 12.2Kbps	Right Side	5mm	Reduced	4182	836.4	22.25	23.00	1.189	0.1	0.798	0.948
	WCDMA V	RMC 12.2Kbps	Right Side	5mm	Reduced	4132	826.4	22.21	23.00	1.199	0.08	0.844	1.012
	WCDMA V	RMC 12.2Kbps	Right Side	5mm	Reduced	4233	846.6	22.15	23.00	1.216	0.06	0.837	1.018
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	Reduced	4182	836.4	22.25	23.00	1.189	0.08	0.854	1.015
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	Reduced	4132	826.4	22.21	23.00	1.199	0.01	0.701	0.841
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	Reduced	4233	846.6	22.15	23.00	1.216	0.05	0.959	1.166



<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	CDMA2000 BC0	RTAP 153.6Kbps	Front	5mm	Reduced	384	836.52	23.01	24.00	1.256	-0.06	0.977	1.227
	CDMA2000 BC0	RTAP 153.6Kbps	Front	5mm	Reduced	1013	824.7	22.93	24.00	1.279	0.1	0.779	0.997
29	CDMA2000 BC0	RTAP 153.6Kbps	Front	5mm	Reduced	777	848.31	22.96	24.00	1.271	0.06	1.010	1.283
	CDMA2000 BC0	RTAP 153.6Kbps	Back	5mm	Reduced	384	836.52	23.01	24.00	1.256	-0.01	0.919	1.154
	CDMA2000 BC0	RTAP 153.6Kbps	Back	5mm	Reduced	1013	824.7	22.93	24.00	1.279	0.05	0.962	1.231
	CDMA2000 BC0	RTAP 153.6Kbps	Back	5mm	Reduced	777	848.31	22.96	24.00	1.271	-0.03	1.010	1.283
	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	5mm	Reduced	384	836.52	23.01	24.00	1.256	0.08	0.231	0.290
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	5mm	Reduced	384	836.52	23.01	24.00	1.256	0.13	0.465	0.584
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	5mm	Reduced	384	836.52	23.01	24.00	1.256	0.02	0.923	1.159
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	5mm	Reduced	1013	824.7	22.93	24.00	1.279	0.05	0.740	0.947
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	5mm	Reduced	777	848.31	22.96	24.00	1.271	0.03	0.939	1.193
	CDMA2000 BC10	RTAP 153.6Kbps	Front	5mm	Full	684	823.1	24.11	25.00	1.227	-0.06	1.080	1.326
	CDMA2000 BC10	RTAP 153.6Kbps	Front	5mm	Full	476	817.9	23.93	25.00	1.279	-0.08	1.050	1.343
30	CDMA2000 BC10	RTAP 153.6Kbps	Front	5mm	Full	580	820.5	24.07	25.00	1.239	-0.03	1.090	1.350
	CDMA2000 BC10	RTAP 153.6Kbps	Back	5mm	Full	684	823.1	24.11	25.00	1.227	0.01	1.070	1.313
	CDMA2000 BC10	RTAP 153.6Kbps	Back	5mm	Full	476	817.9	23.93	25.00	1.279	0.03	0.943	1.206
	CDMA2000 BC10	RTAP 153.6Kbps	Back	5mm	Full	580	820.5	24.07	25.00	1.239	0.01	0.978	1.212
	CDMA2000 BC10	RTAP 153.6Kbps	Left Side	5mm	Full	684	823.1	24.11	25.00	1.227	0.05	0.110	0.135
	CDMA2000 BC10	RTAP 153.6Kbps	Right Side	5mm	Full	684	823.1	24.11	25.00	1.227	0.02	0.100	0.123
	CDMA2000 BC10	RTAP 153.6Kbps	Bottom Side	5mm	Full	684	823.1	24.11	25.00	1.227	0.05	1.060	1.301
	CDMA2000 BC10	RTAP 153.6Kbps	Bottom Side	5mm	Full	476	817.9	23.93	25.00	1.279	0.03	1.030	1.318
	CDMA2000 BC10	RTAP 153.6Kbps	Bottom Side	5mm	Full	580	820.5	24.07	25.00	1.239	0.01	1.040	1.288
	CDMA2000 BC1	RTAP 153.6Kbps	Front	5mm	Reduced	25	1851.25	14.32	15.50	1.312	0.06	0.452	0.593
	CDMA2000 BC1	RTAP 153.6Kbps	Back	5mm	Reduced	25	1851.25	14.32	15.50	1.312	-0.08	0.445	0.584
	CDMA2000 BC1	RTAP 153.6Kbps	Left Side	5mm	Reduced	25	1851.25	14.32	15.50	1.312	0.13	0.031	0.040
	CDMA2000 BC1	RTAP 153.6Kbps	Right Side	5mm	Reduced	25	1851.25	14.32	15.50	1.312	0.05	0.019	0.025
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5mm	Reduced	25	1851.25	14.32	15.50	1.312	-0.02	0.887	1.164
31	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5mm	Reduced	600	1880	14.31	15.50	1.315	-0.15	0.954	1.255
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5mm	Reduced	1175	1908.75	14.29	15.50	1.321	-0.18	0.885	1.169



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
32	LTE Band 12	10M	QPSK	1	25	Front	5mm	Full	23095	707.5	23.18	24.00	1.208	-0.16	0.825	0.996
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Full	23095	707.5	22.27	23.00	1.183	-0.01	0.452	0.535
	LTE Band 12	10M	QPSK	50	0	Front	5mm	Full	23095	707.5	22.25	23.00	1.189	-0.15	0.399	0.474
	LTE Band 12	10M	QPSK	1	25	Back	5mm	Full	23095	707.5	23.18	24.00	1.208	-0.12	0.654	0.790
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Full	23095	707.5	22.27	23.00	1.183	-0.03	0.382	0.452
	LTE Band 12	10M	QPSK	1	25	Left Side	5mm	Full	23095	707.5	23.18	24.00	1.208	0.06	0.428	0.517
	LTE Band 12	10M	QPSK	25	0	Left Side	5mm	Full	23095	707.5	22.27	23.00	1.183	0.03	0.215	0.254
	LTE Band 12	10M	QPSK	1	25	Right Side	5mm	Full	23095	707.5	23.18	24.00	1.208	0.15	0.659	0.796
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	Full	23095	707.5	22.27	23.00	1.183	0.19	0.334	0.395
	LTE Band 12	10M	QPSK	1	25	Bottom Side	5mm	Full	23095	707.5	23.18	24.00	1.208	-0.06	0.628	0.759
	LTE Band 12	10M	QPSK	25	0	Bottom Side	5mm	Full	23095	707.5	22.27	23.00	1.183	0.12	0.359	0.425
33	LTE Band 13	10M	QPSK	1	0	Front	5mm	Full	23230	782	22.95	24.00	1.274	-0.03	0.972	1.238
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Full	23230	782	21.87	23.00	1.297	-0.02	0.615	0.798
	LTE Band 13	10M	QPSK	50	0	Front	5mm	Full	23230	782	21.82	23.00	1.312	-0.02	0.555	0.728
	LTE Band 13	10M	QPSK	1	0	Back	5mm	Full	23230	782	22.95	24.00	1.274	-0.09	0.851	1.084
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Full	23230	782	21.87	23.00	1.297	-0.04	0.461	0.598
	LTE Band 13	10M	QPSK	50	0	Back	5mm	Full	23230	782	21.82	23.00	1.312	-0.14	0.477	0.626
	LTE Band 13	10M	QPSK	1	0	Left Side	5mm	Full	23230	782	22.95	24.00	1.274	0.08	0.552	0.703
	LTE Band 13	10M	QPSK	25	0	Left Side	5mm	Full	23230	782	21.87	23.00	1.297	0.01	0.299	0.388
	LTE Band 13	10M	QPSK	1	0	Right Side	5mm	Full	23230	782	22.95	24.00	1.274	0.07	0.832	1.060
	LTE Band 13	10M	QPSK	25	0	Right Side	5mm	Full	23230	782	21.87	23.00	1.297	0.17	0.455	0.590
	LTE Band 13	10M	QPSK	50	0	Right Side	5mm	Full	23230	782	21.82	23.00	1.312	0.02	0.443	0.581
	LTE Band 13	10M	QPSK	1	0	Bottom Side	5mm	Full	23230	782	22.95	24.00	1.274	0.07	0.848	1.080
	LTE Band 13	10M	QPSK	25	0	Bottom Side	5mm	Full	23230	782	21.87	23.00	1.297	0.04	0.488	0.633
	LTE Band 13	10M	QPSK	50	0	Bottom Side	5mm	Full	23230	782	21.82	23.00	1.312	-0.01	0.463	0.608
34	LTE Band 14	10M	QPSK	1	0	Front	5mm	Full	23330	793	22.77	24.00	1.327	-0.16	0.870	1.155
	LTE Band 14	10M	QPSK	25	12	Front	5mm	Full	23330	793	21.82	23.00	1.312	-0.14	0.614	0.806
	LTE Band 14	10M	QPSK	50	0	Front	5mm	Full	23330	793	21.77	23.00	1.327	-0.16	0.584	0.775
	LTE Band 14	10M	QPSK	1	0	Back	5mm	Full	23330	793	22.77	24.00	1.327	-0.17	0.785	1.042
	LTE Band 14	10M	QPSK	25	12	Back	5mm	Full	23330	793	21.82	23.00	1.312	-0.01	0.456	0.598
	LTE Band 14	10M	QPSK	50	0	Back	5mm	Full	23330	793	21.77	23.00	1.327	-0.05	0.486	0.645
	LTE Band 14	10M	QPSK	1	0	Left Side	5mm	Full	23330	793	22.77	24.00	1.327	-0.03	0.518	0.688
	LTE Band 14	10M	QPSK	25	12	Left Side	5mm	Full	23330	793	21.82	23.00	1.312	-0.04	0.280	0.367
	LTE Band 14	10M	QPSK	1	0	Right Side	5mm	Full	23330	793	22.77	24.00	1.327	0.05	0.755	1.002
	LTE Band 14	10M	QPSK	25	12	Right Side	5mm	Full	23330	793	21.82	23.00	1.312	0.12	0.414	0.543
	LTE Band 14	10M	QPSK	50	0	Right Side	5mm	Full	23330	793	21.77	23.00	1.327	0.1	0.412	0.547
	LTE Band 14	10M	QPSK	1	0	Bottom Side	5mm	Full	23330	793	22.77	24.00	1.327	0.02	0.846	1.123
	LTE Band 14	10M	QPSK	25	12	Bottom Side	5mm	Full	23330	793	21.82	23.00	1.312	0.04	0.496	0.651
	LTE Band 14	10M	QPSK	50	0	Bottom Side	5mm	Full	23330	793	21.77	23.00	1.327	0.07	0.456	0.605



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
35	LTE Band 26	15M	QPSK	1	37	Front	5mm	Full	26865	831.5	23.18	24.00	1.208	0.02	1.130	1.365
	LTE Band 26	15M	QPSK	36	0	Front	5mm	Full	26865	831.5	22.24	23.00	1.191	0.09	0.678	0.808
	LTE Band 26	15M	QPSK	75	0	Front	5mm	Full	26865	831.5	22.19	23.00	1.205	-0.15	0.697	0.840
	LTE Band 26	15M	QPSK	1	37	Back	5mm	Full	26865	831.5	23.18	24.00	1.208	0.03	1.120	1.353
	LTE Band 26	15M	QPSK	36	0	Back	5mm	Full	26865	831.5	22.24	23.00	1.191	-0.01	0.573	0.683
	LTE Band 26	15M	QPSK	75	0	Back	5mm	Full	26865	831.5	22.19	23.00	1.205	-0.05	0.585	0.705
	LTE Band 26	15M	QPSK	1	37	Left Side	5mm	Full	26865	831.5	23.18	24.00	1.208	0.06	0.324	0.391
	LTE Band 26	15M	QPSK	36	0	Left Side	5mm	Full	26865	831.5	22.24	23.00	1.191	0.08	0.182	0.217
	LTE Band 26	15M	QPSK	1	37	Right Side	5mm	Full	26865	831.5	23.18	24.00	1.208	0.06	0.545	0.658
	LTE Band 26	15M	QPSK	36	0	Right Side	5mm	Full	26865	831.5	22.24	23.00	1.191	-0.03	0.226	0.269
	LTE Band 26	15M	QPSK	1	37	Bottom Side	5mm	Full	26865	831.5	23.18	24.00	1.208	0.08	1.040	1.256
	LTE Band 26	15M	QPSK	36	0	Bottom Side	5mm	Full	26865	831.5	22.24	23.00	1.191	0.08	0.520	0.619
	LTE Band 26	15M	QPSK	75	0	Bottom Side	5mm	Full	26865	831.5	22.19	23.00	1.205	0.07	0.553	0.666
	LTE Band 71	20M	QPSK	1	0	Front	5mm	Full	133322	683	23.45	24.00	1.135	0.09	0.577	0.655
	LTE Band 71	20M	QPSK	50	0	Front	5mm	Full	133322	683	22.49	23.00	1.125	-0.04	0.297	0.334
36	LTE Band 71	20M	QPSK	1	0	Back	5mm	Full	133322	683	23.45	24.00	1.135	-0.04	0.582	0.661
	LTE Band 71	20M	QPSK	50	0	Back	5mm	Full	133322	683	22.49	23.00	1.125	0.07	0.289	0.325
	LTE Band 71	20M	QPSK	1	0	Left Side	5mm	Full	133322	683	23.45	24.00	1.135	0.09	0.348	0.395
	LTE Band 71	20M	QPSK	50	0	Left Side	5mm	Full	133322	683	22.49	23.00	1.125	0.05	0.194	0.218
	LTE Band 71	20M	QPSK	1	0	Right Side	5mm	Full	133322	683	23.45	24.00	1.135	-0.02	0.506	0.574
	LTE Band 71	20M	QPSK	50	0	Right Side	5mm	Full	133322	683	22.49	23.00	1.125	0.01	0.279	0.314
	LTE Band 71	20M	QPSK	1	0	Bottom Side	5mm	Full	133322	683	23.45	24.00	1.135	-0.01	0.464	0.527
	LTE Band 71	20M	QPSK	50	0	Bottom Side	5mm	Full	133322	683	22.49	23.00	1.125	0.01	0.248	0.279



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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 25	20M	QPSK	1	0	Front	5mm	Reduced	26340	1880	16.64	17.50	1.219	-0.02	0.928	1.131
	LTE Band 25	20M	QPSK	1	0	Front	5mm	Reduced	26140	1860	16.32	17.50	1.312	0.05	0.890	1.168
	LTE Band 25	20M	QPSK	1	0	Front	5mm	Reduced	26590	1905	16.28	17.50	1.324	0.02	0.812	1.075
	LTE Band 25	20M	QPSK	50	0	Front	5mm	Reduced	26340	1880	16.32	17.50	1.312	0.03	0.945	1.240
	LTE Band 25	20M	QPSK	50	0	Front	5mm	Reduced	26140	1860	16.19	17.50	1.352	0.19	0.885	1.197
	LTE Band 25	20M	QPSK	50	0	Front	5mm	Reduced	26590	1905	16.21	17.50	1.346	0.07	0.828	1.114
	LTE Band 25	20M	QPSK	100	0	Front	5mm	Reduced	26340	1880	16.35	17.50	1.303	0.02	0.910	1.186
	LTE Band 25	20M	QPSK	1	0	Back	5mm	Reduced	26340	1880	16.64	17.50	1.219	-0.05	0.958	1.168
	LTE Band 25	20M	QPSK	1	0	Back	5mm	Reduced	26140	1860	16.32	17.50	1.312	0.03	0.887	1.164
	LTE Band 25	20M	QPSK	1	0	Back	5mm	Reduced	26590	1905	16.28	17.50	1.324	0.07	0.851	1.127
37	LTE Band 25	20M	QPSK	50	0	Back	5mm	Reduced	26340	1880	16.32	17.50	1.312	-0.02	0.988	1.296
	LTE Band 25	20M	QPSK	50	0	Back	5mm	Reduced	26140	1860	16.19	17.50	1.352	0.04	0.936	1.266
	LTE Band 25	20M	QPSK	50	0	Back	5mm	Reduced	26590	1905	16.21	17.50	1.346	0.01	0.869	1.170
	LTE Band 25	20M	QPSK	100	0	Back	5mm	Reduced	26340	1880	16.35	17.50	1.303	0.02	0.990	1.290
	LTE Band 25	20M	QPSK	1	0	Left Side	5mm	Reduced	26340	1880	13.65	15.00	1.365	0.06	0.015	0.020
	LTE Band 25	20M	QPSK	50	0	Left Side	5mm	Reduced	26340	1880	13.55	15.00	1.396	0.01	0.016	0.022
	LTE Band 25	20M	QPSK	1	0	Right Side	5mm	Reduced	26340	1880	13.65	15.00	1.365	0.08	0.008	0.011
	LTE Band 25	20M	QPSK	50	0	Right Side	5mm	Reduced	26340	1880	13.55	15.00	1.396	0.06	0.008	0.012
	LTE Band 25	20M	QPSK	1	0	Bottom Side	5mm	Reduced	26340	1880	13.65	15.00	1.365	0.09	0.845	1.153
	LTE Band 25	20M	QPSK	1	0	Bottom Side	5mm	Reduced	26140	1860	13.53	15.00	1.403	-0.15	0.778	1.091
	LTE Band 25	20M	QPSK	1	0	Bottom Side	5mm	Reduced	26590	1905	13.41	15.00	1.442	-0.14	0.764	1.102
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5mm	Reduced	26340	1880	13.55	15.00	1.396	-0.14	0.869	1.213
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5mm	Reduced	26140	1860	13.53	15.00	1.403	-0.16	0.808	1.133
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5mm	Reduced	26590	1905	13.28	15.00	1.486	-0.17	0.786	1.168
	LTE Band 25	20M	QPSK	100	0	Bottom Side	5mm	Reduced	26340	1880	13.49	15.00	1.416	-0.19	0.864	1.223
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Reduced	132572	1770	16.14	17.00	1.219	0.05	0.850	1.036
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Reduced	132072	1720	16.10	17.00	1.230	-0.07	0.830	1.021
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Reduced	132322	1745	15.73	17.00	1.340	0.18	0.827	1.108
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Reduced	132572	1770	15.83	17.00	1.309	0.02	0.841	1.101
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Reduced	132072	1720	15.70	17.00	1.349	-0.14	0.835	1.126
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Reduced	132322	1745	15.69	17.00	1.352	0.01	0.844	1.141
	LTE Band 66	20M	QPSK	100	0	Front	5mm	Reduced	132572	1770	15.73	17.00	1.340	0.05	0.862	1.155
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Reduced	132572	1770	16.14	17.00	1.219	0.04	0.913	1.113
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Reduced	132072	1720	16.10	17.00	1.230	0.07	0.862	1.060
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Reduced	132322	1745	15.73	17.00	1.340	-0.11	0.884	1.184
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Reduced	132572	1770	15.83	17.00	1.309	-0.04	0.931	1.219
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Reduced	132072	1720	15.70	17.00	1.349	0.03	0.882	1.190
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Reduced	132322	1745	15.69	17.00	1.352	0.02	0.908	1.228
	LTE Band 66	20M	QPSK	100	0	Back	5mm	Reduced	132572	1770	15.73	17.00	1.340	0.09	0.942	1.262
	LTE Band 66	20M	QPSK	1	0	Left Side	5mm	Reduced	132572	1770	15.09	15.50	1.099	0.02	0.020	0.022
	LTE Band 66	20M	QPSK	50	0	Left Side	5mm	Reduced	132572	1770	14.95	15.50	1.135	0.03	0.021	0.024
	LTE Band 66	20M	QPSK	1	0	Right Side	5mm	Reduced	132572	1770	15.09	15.50	1.099	0.09	0.021	0.024
	LTE Band 66	20M	QPSK	50	0	Right Side	5mm	Reduced	132572	1770	14.95	15.50	1.135	0.09	0.022	0.025
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	Reduced	132572	1770	15.09	15.50	1.099	0.05	1.070	1.176
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	Reduced	132072	1720	14.88	15.50	1.153	-0.15	1.120	1.292
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	Reduced	132322	1745	15.00	15.50	1.122	-0.07	1.140	1.279
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	Reduced	132572	1770	14.95	15.50	1.135	0.02	1.090	1.237
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	Reduced	132072	1720	14.80	15.50	1.175	-0.05	1.150	1.351
38	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	Reduced	132322	1745	14.89	15.50	1.151	-0.16	1.180	1.358
	LTE Band 66	20M	QPSK	100	0	Bottom Side	5mm	Reduced	132572	1770	14.95	15.50	1.135	0.02	1.080	1.226



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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	Front	5mm	Reduced	21100	2535	19.28	20.50	1.324	0.12	0.794	1.052
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Reduced	20850	2510	19.04	20.50	1.400	0.09	0.837	1.171
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Reduced	21350	2560	18.96	20.50	1.426	0.11	0.759	1.082
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Reduced	20850	2510	19.10	20.50	1.380	-0.11	0.809	1.117
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Reduced	21350	2560	19.01	20.50	1.409	0.07	0.800	1.127
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Reduced	21100	2535	19.17	20.50	1.358	0.13	0.752	1.021
	LTE Band 7	20M	QPSK	100	0	Front	5mm	Reduced	21100	2535	19.10	20.50	1.380	0.01	0.778	1.074
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Reduced	21100	2535	19.28	20.50	1.324	-0.01	0.911	1.206
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Reduced	20850	2510	19.04	20.50	1.400	-0.07	0.907	1.269
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Reduced	21350	2560	18.96	20.50	1.426	-0.03	0.924	1.317
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Reduced	20850	2510	19.10	20.50	1.380	-0.02	0.891	1.230
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Reduced	21350	2560	19.01	20.50	1.409	0.01	0.906	1.277
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Reduced	21100	2535	19.17	20.50	1.358	-0.02	0.888	1.206
	LTE Band 7	20M	QPSK	100	0	Back	5mm	Reduced	21100	2535	19.10	20.50	1.380	-0.16	0.885	1.222
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	Reduced	21100	2535	19.28	20.00	1.180	-0.05	0.421	0.497
	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	Reduced	21100	2535	19.17	20.00	1.211	-0.04	0.428	0.518
	LTE Band 7	20M	QPSK	1	0	Right Side	5mm	Reduced	21100	2535	19.28	20.00	1.180	-0.17	0.100	0.118
	LTE Band 7	20M	QPSK	50	0	Right Side	5mm	Reduced	21100	2535	19.17	20.00	1.211	-0.15	0.102	0.123
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Reduced	21100	2535	19.28	20.00	1.180	-0.1	1.090	1.287
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Reduced	20850	2510	19.04	20.00	1.247	0.01	1.020	1.272
39	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Reduced	21350	2560	18.96	20.00	1.271	0.03	1.070	1.360
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Reduced	21100	2535	19.17	20.00	1.211	0.08	0.904	1.094
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Reduced	20850	2510	19.10	20.00	1.230	0.08	0.916	1.127
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Reduced	21350	2560	19.01	20.00	1.256	-0.03	0.878	1.103
	LTE Band 7	20M	QPSK	100	0	Bottom Side	5mm	Reduced	21100	2535	19.10	20.00	1.230	0.03	0.859	1.057
	LTE Band 30	10M	QPSK	1	0	Front	5mm	Reduced	27710	2310	20.65	21.50	1.216	0.18	0.985	1.198
	LTE Band 30	10M	QPSK	25	25	Front	5mm	Reduced	27710	2310	20.56	21.50	1.242	0.08	0.890	1.105
	LTE Band 30	10M	QPSK	50	0	Front	5mm	Reduced	27710	2310	20.53	21.50	1.250	0.14	0.886	1.108
40	LTE Band 30	10M	QPSK	1	0	Back	5mm	Reduced	27710	2310	20.65	21.50	1.216	-0.04	1.040	1.265
	LTE Band 30	10M	QPSK	25	25	Back	5mm	Reduced	27710	2310	20.56	21.50	1.242	-0.1	0.922	1.145
	LTE Band 30	10M	QPSK	50	0	Back	5mm	Reduced	27710	2310	20.53	21.50	1.250	-0.05	0.912	1.140
	LTE Band 30	10M	QPSK	1	0	Left Side	5mm	Reduced	27710	2310	20.65	21.50	1.216	-0.02	0.574	0.698
	LTE Band 30	10M	QPSK	25	25	Left Side	5mm	Reduced	27710	2310	20.56	21.50	1.242	-0.02	0.511	0.634
	LTE Band 30	10M	QPSK	1	0	Right Side	5mm	Reduced	27710	2310	20.65	21.50	1.216	-0.19	0.125	0.152
	LTE Band 30	10M	QPSK	25	25	Right Side	5mm	Reduced	27710	2310	20.56	21.50	1.242	-0.04	0.122	0.151
	LTE Band 30	10M	QPSK	1	0	Bottom Side	5mm	Reduced	27710	2310	20.65	21.50	1.216	-0.03	0.718	0.873
	LTE Band 30	10M	QPSK	25	25	Bottom Side	5mm	Reduced	27710	2310	20.56	21.50	1.242	-0.08	0.488	0.606
	LTE Band 30	10M	QPSK	50	0	Bottom Side	5mm	Reduced	27710	2310	20.53	21.50	1.250	-0.02	0.478	0.598



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Reduced	40185	2549.5	22.20	23.00	1.202	62.9	1.006	0.06	0.925	1.119
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Reduced	39750	2506	21.88	23.00	1.294	62.9	1.006	0.01	0.945	1.230
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Reduced	40620	2593	21.60	23.00	1.380	62.9	1.006	0.02	0.898	1.247
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Reduced	41055	2636.5	21.96	23.00	1.271	62.9	1.006	0.18	0.745	0.952
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Reduced	41490	2680	22.14	23.00	1.219	62.9	1.006	0.09	0.696	0.854
	LTE Band 41	20M	QPSK	50	24	Front	5mm	Reduced	40185	2549.5	21.89	23.00	1.291	62.9	1.006	0.08	0.817	1.061
	LTE Band 41	20M	QPSK	50	24	Front	5mm	Reduced	39750	2506	21.77	23.00	1.327	62.9	1.006	0.01	0.687	0.917
	LTE Band 41	20M	QPSK	50	24	Front	5mm	Reduced	40620	2593	21.65	23.00	1.365	62.9	1.006	0.05	0.665	0.913
	LTE Band 41	20M	QPSK	50	24	Front	5mm	Reduced	41055	2636.5	21.82	23.00	1.312	62.9	1.006	0.01	0.650	0.858
	LTE Band 41	20M	QPSK	50	24	Front	5mm	Reduced	41490	2680	21.87	23.00	1.297	62.9	1.006	0.04	0.594	0.775
	LTE Band 41	20M	QPSK	100	0	Front	5mm	Reduced	40185	2549.5	21.69	23.00	1.352	62.9	1.006	0.12	0.638	0.868
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Reduced	40185	2549.5	22.20	23.00	1.202	62.9	1.006	0.03	1.020	1.234
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Reduced	39750	2506	21.88	23.00	1.294	62.9	1.006	0.07	1.030	1.341
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Reduced	40620	2593	21.60	23.00	1.380	62.9	1.006	0.05	0.967	1.343
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Reduced	41055	2636.5	21.96	23.00	1.271	62.9	1.006	-0.05	0.929	1.187
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Reduced	41490	2680	22.14	23.00	1.219	62.9	1.006	0.06	0.822	1.008
	LTE Band 41	20M	QPSK	50	24	Back	5mm	Reduced	40185	2549.5	21.89	23.00	1.291	62.9	1.006	0.12	0.900	1.169
	LTE Band 41	20M	QPSK	50	24	Back	5mm	Reduced	39750	2506	21.77	23.00	1.327	62.9	1.006	0.13	1.010	1.349
	LTE Band 41	20M	QPSK	50	24	Back	5mm	Reduced	40620	2593	21.65	23.00	1.365	62.9	1.006	0.18	0.978	1.343
	LTE Band 41	20M	QPSK	50	24	Back	5mm	Reduced	41055	2636.5	21.82	23.00	1.312	62.9	1.006	0.01	0.902	1.191
	LTE Band 41	20M	QPSK	50	24	Back	5mm	Reduced	41490	2680	21.87	23.00	1.297	62.9	1.006	0.02	0.789	1.030
41	LTE Band 41	20M	QPSK	100	0	Back	5mm	Reduced	40185	2549.5	21.69	23.00	1.352	62.9	1.006	0.19	0.996	1.355
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	Reduced	40185+2549.5+39987	2529.7	21.95	23.00	1.274	62.9	1.006	-0.12	1.030	1.320
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	Reduced	39750+2506+39948	2525.8	22.24	23.00	1.191	62.9	1.006	0.01	1.120	1.342
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	Reduced	40620+2593+40422	2573.2	22.37	23.00	1.156	62.9	1.006	0.01	1.140	1.326
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	Reduced	41055+2636.5+40857	2616.7	22.22	23.00	1.197	62.9	1.006	0.05	1.060	1.276
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	Reduced	41490+2680+41292	2660.2	22.35	23.00	1.161	62.9	1.006	0.04	0.885	1.034
	LTE Band 41 HPUE	20M	QPSK	1	0	Back	5mm	Reduced	40185	2549.5	22.04	23.00	1.247	42.9	1.009	0.04	0.791	0.996
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Reduced	40185	2549.5	22.20	23.00	1.202	62.9	1.006	0.05	0.611	0.739
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Reduced	39750	2506	21.88	23.00	1.294	62.9	1.006	-0.01	0.629	0.819
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Reduced	40620	2593	21.60	23.00	1.380	62.9	1.006	0.01	0.603	0.837
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Reduced	41055	2636.5	21.96	23.00	1.271	62.9	1.006	0.02	0.585	0.748
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Reduced	41490	2680	22.14	23.00	1.219	62.9	1.006	0.02	0.510	0.625
	LTE Band 41	20M	QPSK	50	24	Left Side	5mm	Reduced	40185	2549.5	21.89	23.00	1.291	62.9	1.006	-0.05	0.531	0.690
	LTE Band 41	20M	QPSK	50	24	Left Side	5mm	Reduced	39750	2506	21.77	23.00	1.327	62.9	1.006	-0.05	0.541	0.722
	LTE Band 41	20M	QPSK	50	24	Left Side	5mm	Reduced	40620	2593	21.65	23.00	1.365	62.9	1.006	-0.07	0.531	0.729
	LTE Band 41	20M	QPSK	50	24	Left Side	5mm	Reduced	41055	2636.5	21.82	23.00	1.312	62.9	1.006	0.02	0.488	0.644
	LTE Band 41	20M	QPSK	50	24	Left Side	5mm	Reduced	41490	2680	21.87	23.00	1.297	62.9	1.006	0.02	0.430	0.561
	LTE Band 41	20M	QPSK	100	0	Left Side	5mm	Reduced	40185	2549.5	21.69	23.00	1.352	62.9	1.006	-0.05	0.533	0.725
	LTE Band 41	20M	QPSK	1	0	Right Side	5mm	Reduced	40185	2549.5	22.20	23.00	1.202	62.9	1.006	-0.03	0.135	0.163
	LTE Band 41	20M	QPSK	50	24	Right Side	5mm	Reduced	40185	2549.5	21.89	23.00	1.291	62.9	1.006	0.01	0.100	0.130
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Reduced	40185	2549.5	22.20	23.00	1.202	62.9	1.006	-0.14	0.763	0.923
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Reduced	39750	2506	21.88	23.00	1.294	62.9	1.006	-0.04	0.742	0.966
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Reduced	40620	2593	21.60	23.00	1.380	62.9	1.006	-0.04	0.726	1.008
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Reduced	41055	2636.5	21.96	23.00	1.271	62.9	1.006	-0.06	0.690	0.882
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Reduced	41490	2680	22.14	23.00	1.219	62.9	1.006	-0.04	0.618	0.758
	LTE Band 41	20M	QPSK	50	24	Bottom Side	5mm	Reduced	40185	2549.5	21.89	23.00	1.291	62.9	1.006	-0.03	0.659	0.856
	LTE Band 41	20M	QPSK	50	24	Bottom Side	5mm	Reduced	39750	2506	21.77	23.00	1.327	62.9	1.006	-0.04	0.660	0.881
	LTE Band 41	20M	QPSK	50	24	Bottom Side	5mm	Reduced	40620	2593	21.65	23.00	1.365	62.9	1.006	-0.01	0.638	0.876



	LTE Band 41	20M	QPSK	50	24	Bottom Side	5mm	Reduced	41055	2636.5	21.82	23.00	1.312	62.9	1.006	-0.06	0.590	0.779
	LTE Band 41	20M	QPSK	50	24	Bottom Side	5mm	Reduced	41490	2680	21.87	23.00	1.297	62.9	1.006	-0.01	0.526	0.686
	LTE Band 41	20M	QPSK	100	0	Bottom Side	5mm	Reduced	40185	2549.5	21.69	23.00	1.352	62.9	1.006	-0.04	0.642	0.873

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Reduced	11	2462	20.08	21.00	1.235	98.97	1.010	0.01	0.778	0.970
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Reduced	1	2412	20.13	21.00	1.220	98.97	1.010	0.01	0.662	0.816
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Reduced	6	2437	20.16	21.00	1.213	98.97	1.010	0.02	0.741	0.908
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Reduced	11	2462	20.08	21.00	1.235	98.97	1.010	0.01	0.954	1.190
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Reduced	1	2412	20.13	21.00	1.220	98.97	1.010	0.01	0.771	0.950
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Reduced	6	2437	20.16	21.00	1.213	98.97	1.010	-0.16	0.897	1.099
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Reduced	11	2462	19.06	19.50	1.105	98.97	1.010	0.05	0.457	0.510
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Reduced	11	2462	19.06	19.50	1.105	98.97	1.010	-0.05	0.965	1.077
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Reduced	1	2412	18.90	19.50	1.147	98.97	1.010	0.03	0.881	1.020
42	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Reduced	6	2437	18.82	19.50	1.168	98.97	1.010	0.07	1.010	1.192

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	Bluetooth	1Mbps	Back	5mm	Full	78	2480	8.87	10.00	1.297	76.63	1.087	0.07	0.047	0.066
	Bluetooth	1Mbps	Back	5mm	Full	0	2402	8.37	10.00	1.455	76.63	1.087	0.07	0.033	0.052
	Bluetooth	1Mbps	Back	5mm	Full	39	2441	8.05	10.00	1.567	76.63	1.087	0.07	0.036	0.061
	Bluetooth	1Mbps	Top Side	5mm	Full	0	2402	8.37	10.00	1.455	76.63	1.087	-0.12	0.050	0.080
43	Bluetooth	1Mbps	Top Side	5mm	Full	39	2441	8.05	10.00	1.567	76.63	1.087	-0.08	0.057	0.097
	Bluetooth	1Mbps	Top Side	5mm	Full	78	2480	8.87	10.00	1.297	76.63	1.087	-0.13	0.067	0.094



<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
	WLAN5.2GHz	802.11a 6Mbps	Front	5mm	Reduced	36	5180	16.83	18.00	1.309	97.46	1.026	-0.09	0.025	0.034
	WLAN5.2GHz	802.11a 6Mbps	Back	5mm	Reduced	36	5180	16.83	18.00	1.309	97.46	1.026	-0.05	0.738	0.991
	WLAN5.2GHz	802.11a 6Mbps	Right Side	5mm	Reduced	36	5180	16.83	18.00	1.309	97.46	1.026	0.01	0.084	0.113
	WLAN5.2GHz	802.11a 6Mbps	Top Side	5mm	Reduced	36	5180	16.83	18.00	1.309	97.46	1.026	0.01	0.165	0.222
	WLAN5.2GHz	802.11a 6Mbps	Back	5mm	Reduced	44	5220	16.82	18.00	1.312	97.46	1.026	-0.03	0.743	1.000
44	WLAN5.2GHz	802.11a 6Mbps	Back	5mm	Reduced	48	5240	16.81	18.00	1.315	97.46	1.026	-0.08	0.805	1.086
	WLAN5.8GHz	802.11a 6Mbps	Front	5mm	Reduced	157	5785	15.54	16.00	1.111	97.46	1.026	0.02	0.043	0.049
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	Reduced	157	5785	15.54	16.00	1.111	97.46	1.026	-0.08	0.915	1.043
	WLAN5.8GHz	802.11a 6Mbps	Right Side	5mm	Reduced	157	5785	15.54	16.00	1.111	97.46	1.026	0.01	0.187	0.213
	WLAN5.8GHz	802.11a 6Mbps	Top Side	5mm	Reduced	157	5785	15.54	16.00	1.111	97.46	1.026	0.06	0.284	0.324
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	Reduced	149	5745	15.25	16.00	1.188	97.46	1.026	-0.09	0.755	0.920
45	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	Reduced	165	5825	15.37	16.00	1.156	97.46	1.026	-0.02	0.920	1.091



14.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	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)
	GSM850	GPRS(2 Tx slots)	Front	5mm	-	Full	128	824.2	31.61	32.50	1.227	-0.14	0.436	0.535
	GSM850	GPRS(2 Tx slots)	Back	5mm	-	Full	128	824.2	31.61	32.50	1.227	-0.12	0.376	0.462
46	GSM850	GPRS(2 Tx slots)	Front	5mm	-	Full	189	836.4	31.45	32.50	1.274	-0.09	0.645	0.821
	GSM850	GPRS(2 Tx slots)	Front	5mm	-	Full	251	848.8	31.18	32.50	1.355	0.06	0.587	0.795
	GSM1900	GPRS(3 Tx slots)	Front	5mm	-	Reduced	512	1850.2	22.59	23.50	1.233	0.02	0.937	1.155
47	GSM1900	GPRS(3 Tx slots)	Front	5mm	-	Reduced	661	1880	22.31	23.50	1.315	-0.07	1.000	1.315
	GSM1900	GPRS(3 Tx slots)	Front	5mm	-	Reduced	810	1909.8	22.58	23.50	1.236	0.18	0.999	1.235
	GSM1900	GPRS(3 Tx slots)	Front	5mm	Headset	Reduced	661	1880	22.31	23.50	1.315	-0.07	0.913	1.201
	GSM1900	GPRS(3 Tx slots)	Back	5mm	-	Reduced	512	1850.2	22.59	23.50	1.233	-0.06	0.917	1.131
	GSM1900	GPRS(3 Tx slots)	Back	5mm	-	Reduced	661	1880	22.31	23.50	1.315	0.02	0.879	1.156
	GSM1900	GPRS(3 Tx slots)	Back	5mm	-	Reduced	810	1909.8	22.58	23.50	1.236	0.04	0.900	1.112
	GSM1900	GPRS(3 Tx slots)	Front	17mm	-	Full	661	1880	27.03	28.00	1.250	-0.09	0.352	0.440
	GSM1900	GPRS(3 Tx slots)	Back	19mm	-	Full	661	1880	27.03	28.00	1.250	0.12	0.385	0.481

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	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)
	WCDMA II	RMC 12.2Kbps	Front	5mm	-	Reduced	9262	1852.4	16.43	17.00	1.140	0.03	1.090	1.243
	WCDMA II	RMC 12.2Kbps	Front	5mm	-	Reduced	9400	1880	16.37	17.00	1.156	0.04	1.140	1.318
	WCDMA II	RMC 12.2Kbps	Front	5mm	-	Reduced	9538	1907.6	16.27	17.00	1.183	0.01	1.050	1.242
	WCDMA II	RMC 12.2Kbps	Back	5mm	-	Reduced	9262	1852.4	16.43	17.00	1.140	0.17	1.150	1.311
48	WCDMA II	RMC 12.2Kbps	Back	5mm	-	Reduced	9400	1880	16.37	17.00	1.156	0.05	1.170	1.353
	WCDMA II	RMC 12.2Kbps	Back	5mm	-	Reduced	9538	1907.6	16.27	17.00	1.183	-0.06	1.040	1.230
	WCDMA II	RMC 12.2Kbps	Back	5mm	Headset	Reduced	9400	1880	16.37	17.00	1.156	0.09	1.140	1.318
	WCDMA II	RMC 12.2Kbps	Front	17mm	-	Full	9400	1880	22.83	24.00	1.309	0.08	0.657	0.860
	WCDMA II	RMC 12.2Kbps	Back	19mm	-	Full	9400	1880	22.83	24.00	1.309	-0.06	0.674	0.882
	WCDMA IV	RMC 12.2Kbps	Front	5mm	-	Reduced	1513	1752.6	16.85	17.50	1.161	0.02	1.005	1.167
	WCDMA IV	RMC 12.2Kbps	Front	5mm	-	Reduced	1312	1712.4	16.84	17.50	1.164	0.04	1.020	1.187
	WCDMA IV	RMC 12.2Kbps	Front	5mm	-	Reduced	1413	1732.6	16.78	17.50	1.180	0.07	1.040	1.228
49	WCDMA IV	RMC 12.2Kbps	Back	5mm	-	Reduced	1513	1752.6	16.85	17.50	1.161	0.01	1.180	1.371
	WCDMA IV	RMC 12.2Kbps	Back	5mm	-	Reduced	1312	1712.4	16.84	17.50	1.164	0.17	1.100	1.281
	WCDMA IV	RMC 12.2Kbps	Back	5mm	-	Reduced	1413	1732.6	16.78	17.50	1.180	0.07	1.150	1.357
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Headset	Reduced	1513	1752.6	16.85	17.50	1.161	0.05	1.130	1.312
	WCDMA IV	RMC 12.2Kbps	Front	17mm	-	Full	1413	1732.6	22.93	24.00	1.279	0.14	0.717	0.917
	WCDMA IV	RMC 12.2Kbps	Back	19mm	-	Full	1513	1752.6	23.08	24.00	1.236	-0.05	0.736	0.910
	WCDMA V	RMC 12.2Kbps	Front	5mm	-	Reduced	4182	836.4	22.25	23.00	1.189	-0.13	0.942	1.120
	WCDMA V	RMC 12.2Kbps	Front	5mm	-	Reduced	4132	826.4	22.21	23.00	1.199	-0.1	0.838	1.005
50	WCDMA V	RMC 12.2Kbps	Front	5mm	-	Reduced	4233	846.6	22.15	23.00	1.216	-0.07	1.080	1.313
	WCDMA V	RMC 12.2Kbps	Front	5mm	Headset	Reduced	4233	846.6	22.15	23.00	1.216	-0.06	0.984	1.197
	WCDMA V	RMC 12.2Kbps	Back	5mm	-	Reduced	4182	836.4	22.25	23.00	1.189	-0.09	0.714	0.849
	WCDMA V	RMC 12.2Kbps	Back	5mm	-	Reduced	4132	826.4	22.21	23.00	1.199	0.04	0.750	0.900
	WCDMA V	RMC 12.2Kbps	Back	5mm	-	Reduced	4233	846.6	22.15	23.00	1.216	0.06	0.929	1.130
	WCDMA V	RMC 12.2Kbps	Front	17mm	-	Full	4233	846.6	23.09	24.00	1.233	0.04	0.399	0.492
	WCDMA V	RMC 12.2Kbps	Back	19mm	-	Full	4233	846.6	23.09	24.00	1.233	0.02	0.351	0.433



<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	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)
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5mm	-	Reduced	384	836.52	23.03	24.00	1.250	-0.07	0.981	1.227
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5mm	-	Reduced	1013	824.7	23.01	24.00	1.256	-0.05	0.792	0.995
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5mm	-	Reduced	777	848.31	22.98	24.00	1.265	-0.11	1.010	1.277
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5mm	-	Reduced	384	836.52	23.03	24.00	1.250	0.04	0.953	1.191
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5mm	-	Reduced	1013	824.7	23.01	24.00	1.256	0.04	0.776	0.975
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5mm	-	Reduced	777	848.31	22.98	24.00	1.265	-0.01	1.020	1.290
51	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5mm	Headset	Reduced	777	848.31	22.98	24.00	1.265	0.06	1.050	1.328
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5mm	Headset	Reduced	384	836.52	23.03	24.00	1.250	0.03	1.030	1.288
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5mm	Headset	Reduced	1013	824.7	23.01	24.00	1.256	0.06	1.010	1.269
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	17mm	-	Full	777	848.31	24.15	25.00	1.216	-0.13	0.290	0.353
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	19mm	Headset	Full	777	848.31	24.15	25.00	1.216	-0.06	0.210	0.255
	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5mm	-	Full	684	823.1	24.31	25.00	1.172	0.05	1.130	1.325
52	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5mm	-	Full	580	820.5	24.30	25.00	1.175	-0.06	1.150	1.351
	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5mm	-	Full	476	817.9	24.15	25.00	1.216	-0.01	1.070	1.301
	CDMA2000 BC10	RC3 SO32 (F+SCH)	Back	5mm	-	Full	684	823.1	24.31	25.00	1.172	0.11	1.010	1.184
	CDMA2000 BC10	RC3 SO32 (F+SCH)	Back	5mm	-	Full	580	820.5	24.30	25.00	1.175	-0.05	0.958	1.126
	CDMA2000 BC10	RC3 SO32 (F+SCH)	Back	5mm	-	Full	476	817.9	24.15	25.00	1.216	0.01	0.948	1.153
	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5mm	Headset	Full	580	820.5	24.30	25.00	1.175	-0.04	0.492	0.578
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5mm	-	Reduced	25	1851.25	17.35	18.00	1.161	0.02	0.868	1.008
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5mm	-	Reduced	600	1880	17.32	18.00	1.169	0.01	0.943	1.103
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5mm	-	Reduced	1175	1908.75	17.34	18.00	1.164	0.01	0.902	1.050
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Back	5mm	-	Reduced	25	1851.25	17.35	18.00	1.161	0.03	0.919	1.067
53	CDMA2000 BC1	RC3 SO32 (F+SCH)	Back	5mm	-	Reduced	600	1880	17.32	18.00	1.169	0.12	1.010	1.181
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Back	5mm	-	Reduced	1175	1908.75	17.34	18.00	1.164	0.04	0.940	1.094
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	17mm	-	Full	600	1880	23.91	25.00	1.285	0.05	0.717	0.922
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Back	19mm	-	Full	600	1880	23.91	25.00	1.285	-0.04	0.850	1.092



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Headset	Power Reduction	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)
54	LTE Band 12	10M	QPSK	1	25	Front	5mm	-	Full	23095	707.5	23.18	24.00	1.208	-0.16	0.825	0.996
	LTE Band 12	10M	QPSK	25	0	Front	5mm	-	Full	23095	707.5	22.27	23.00	1.183	-0.01	0.452	0.535
	LTE Band 12	10M	QPSK	50	0	Front	5mm	-	Full	23095	707.5	22.25	23.00	1.189	-0.15	0.399	0.474
	LTE Band 12	10M	QPSK	1	25	Back	5mm	-	Full	23095	707.5	23.18	24.00	1.208	-0.12	0.654	0.790
	LTE Band 12	10M	QPSK	25	0	Back	5mm	-	Full	23095	707.5	22.27	23.00	1.183	-0.03	0.382	0.452
55	LTE Band 13	10M	QPSK	1	0	Front	5mm	-	Full	23230	782	22.95	24.00	1.274	-0.03	0.972	1.238
	LTE Band 13	10M	QPSK	25	0	Front	5mm	-	Full	23230	782	21.87	23.00	1.297	-0.02	0.615	0.798
	LTE Band 13	10M	QPSK	50	0	Front	5mm	-	Full	23230	782	21.82	23.00	1.312	-0.02	0.555	0.728
	LTE Band 13	10M	QPSK	1	0	Back	5mm	-	Full	23230	782	22.95	24.00	1.274	-0.09	0.851	1.084
	LTE Band 13	10M	QPSK	25	0	Back	5mm	-	Full	23230	782	21.87	23.00	1.297	-0.04	0.461	0.598
	LTE Band 13	10M	QPSK	50	0	Back	5mm	-	Full	23230	782	21.82	23.00	1.312	-0.14	0.477	0.626
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Headset	Full	23230	782	22.95	24.00	1.274	-0.11	0.274	0.349
56	LTE Band 14	10M	QPSK	1	0	Front	5mm	-	Full	23330	793	22.77	24.00	1.327	-0.16	0.870	1.155
	LTE Band 14	10M	QPSK	25	12	Front	5mm	-	Full	23330	793	21.82	23.00	1.312	-0.14	0.614	0.806
	LTE Band 14	10M	QPSK	50	0	Front	5mm	-	Full	23330	793	21.77	23.00	1.327	-0.16	0.584	0.775
	LTE Band 14	10M	QPSK	1	0	Back	5mm	-	Full	23330	793	22.77	24.00	1.327	-0.17	0.785	1.042
	LTE Band 14	10M	QPSK	25	12	Back	5mm	-	Full	23330	793	21.82	23.00	1.312	-0.01	0.456	0.598
	LTE Band 14	10M	QPSK	50	0	Back	5mm	-	Full	23330	793	21.77	23.00	1.327	-0.05	0.486	0.645
57	LTE Band 26	15M	QPSK	1	37	Front	5mm	-	Full	26865	831.5	23.18	24.00	1.208	0.02	1.130	1.365
	LTE Band 26	15M	QPSK	36	0	Front	5mm	-	Full	26865	831.5	22.24	23.00	1.191	0.09	0.678	0.808
	LTE Band 26	15M	QPSK	75	0	Front	5mm	-	Full	26865	831.5	22.19	23.00	1.205	-0.15	0.697	0.840
	LTE Band 26	15M	QPSK	1	37	Back	5mm	-	Full	26865	831.5	23.18	24.00	1.208	0.03	1.120	1.353
	LTE Band 26	15M	QPSK	36	0	Back	5mm	-	Full	26865	831.5	22.24	23.00	1.191	-0.01	0.573	0.683
	LTE Band 26	15M	QPSK	75	0	Back	5mm	-	Full	26865	831.5	22.19	23.00	1.205	-0.05	0.585	0.705
	LTE Band 26	15M	QPSK	1	37	Front	5mm	Headset	Full	26865	831.5	23.18	24.00	1.208	0.09	1.040	1.256
	LTE Band 71	20M	QPSK	1	0	Front	5mm	-	Full	133322	683	23.45	24.00	1.135	0.09	0.577	0.655
	LTE Band 71	20M	QPSK	50	0	Front	5mm	-	Full	133322	683	22.49	23.00	1.125	-0.04	0.297	0.334
58	LTE Band 71	20M	QPSK	1	0	Back	5mm	-	Full	133322	683	23.45	24.00	1.135	-0.04	0.582	0.661
	LTE Band 71	20M	QPSK	50	0	Back	5mm	-	Full	133322	683	22.49	23.00	1.125	0.07	0.289	0.325



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Headset	Power Reduction	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 25	20M	QPSK	1	0	Front	5mm	-	Reduced	26340	1880	16.64	17.50	1.219	-0.02	0.928	1.131
	LTE Band 25	20M	QPSK	1	0	Front	5mm	-	Reduced	26140	1860	16.32	17.50	1.312	0.05	0.890	1.168
	LTE Band 25	20M	QPSK	1	0	Front	5mm	-	Reduced	26590	1905	16.28	17.50	1.324	0.02	0.812	1.075
	LTE Band 25	20M	QPSK	50	0	Front	5mm	-	Reduced	26340	1880	16.32	17.50	1.312	0.03	0.945	1.240
	LTE Band 25	20M	QPSK	50	0	Front	5mm	-	Reduced	26140	1860	16.19	17.50	1.352	0.19	0.885	1.197
	LTE Band 25	20M	QPSK	50	0	Front	5mm	-	Reduced	26590	1905	16.21	17.50	1.346	0.07	0.828	1.114
	LTE Band 25	20M	QPSK	100	0	Front	5mm	-	Reduced	26340	1880	16.35	17.50	1.303	0.02	0.910	1.186
	LTE Band 25	20M	QPSK	1	0	Back	5mm	-	Reduced	26340	1880	16.64	17.50	1.219	-0.05	0.958	1.168
	LTE Band 25	20M	QPSK	1	0	Back	5mm	-	Reduced	26140	1860	16.32	17.50	1.312	0.03	0.887	1.164
	LTE Band 25	20M	QPSK	1	0	Back	5mm	-	Reduced	26590	1905	16.28	17.50	1.324	0.07	0.851	1.127
59	LTE Band 25	20M	QPSK	50	0	Back	5mm	-	Reduced	26340	1880	16.32	17.50	1.312	-0.02	0.988	1.296
	LTE Band 25	20M	QPSK	50	0	Back	5mm	-	Reduced	26140	1860	16.19	17.50	1.352	0.04	0.936	1.266
	LTE Band 25	20M	QPSK	50	0	Back	5mm	-	Reduced	26590	1905	16.21	17.50	1.346	0.01	0.869	1.170
	LTE Band 25	20M	QPSK	100	0	Back	5mm	-	Reduced	26340	1880	16.35	17.50	1.303	0.02	0.990	1.290
	LTE Band 25	20M	QPSK	50	0	Back	5mm	Headset	Reduced	26340	1880	16.32	17.50	1.312	0.08	0.947	1.243
	LTE Band 25	20M	QPSK	1	0	Front	17mm	-	Full	26340	1880	22.89	24.00	1.291	0.07	0.913	1.179
	LTE Band 25	20M	QPSK	1	0	Back	19mm	-	Full	26340	1880	22.89	24.00	1.291	-0.04	0.933	1.205
	LTE Band 66	20M	QPSK	1	0	Front	5mm	-	Reduced	132572	1770	16.14	17.00	1.219	0.05	0.850	1.036
	LTE Band 66	20M	QPSK	1	0	Front	5mm	-	Reduced	132072	1720	16.10	17.00	1.230	-0.07	0.830	1.021
	LTE Band 66	20M	QPSK	1	0	Front	5mm	-	Reduced	132322	1745	15.73	17.00	1.340	0.18	0.827	1.108
	LTE Band 66	20M	QPSK	50	0	Front	5mm	-	Reduced	132572	1770	15.83	17.00	1.309	0.02	0.841	1.101
	LTE Band 66	20M	QPSK	50	0	Front	5mm	-	Reduced	132072	1720	15.70	17.00	1.349	-0.14	0.835	1.126
	LTE Band 66	20M	QPSK	50	0	Front	5mm	-	Reduced	132322	1745	15.69	17.00	1.352	0.01	0.844	1.141
	LTE Band 66	20M	QPSK	100	0	Front	5mm	-	Reduced	132572	1770	15.73	17.00	1.340	0.05	0.862	1.155
	LTE Band 66	20M	QPSK	1	0	Back	5mm	-	Reduced	132572	1770	16.14	17.00	1.219	0.04	0.913	1.113
	LTE Band 66	20M	QPSK	1	0	Back	5mm	-	Reduced	132072	1720	16.10	17.00	1.230	0.07	0.862	1.060
	LTE Band 66	20M	QPSK	1	0	Back	5mm	-	Reduced	132322	1745	15.73	17.00	1.340	-0.11	0.884	1.184
	LTE Band 66	20M	QPSK	50	0	Back	5mm	-	Reduced	132572	1770	15.83	17.00	1.309	-0.04	0.931	1.219
	LTE Band 66	20M	QPSK	50	0	Back	5mm	-	Reduced	132072	1720	15.70	17.00	1.349	0.03	0.882	1.190
	LTE Band 66	20M	QPSK	50	0	Back	5mm	-	Reduced	132322	1745	15.69	17.00	1.352	0.02	0.908	1.228
60	LTE Band 66	20M	QPSK	100	0	Back	5mm	-	Reduced	132572	1770	15.73	17.00	1.340	0.09	0.942	1.262
	LTE Band 66	20M	QPSK	100	0	Back	5mm	Headset	Reduced	132572	1770	15.73	17.00	1.340	0.01	0.934	1.251
	LTE Band 66	20M	QPSK	1	0	Front	17mm	-	Full	132572	1770	22.61	24.00	1.377	0.06	0.631	0.869
	LTE Band 66	20M	QPSK	1	0	Back	19mm	-	Full	132572	1770	22.61	24.00	1.377	0.05	0.670	0.923



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Headset	Power Reduction	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	Front	5mm	-	Reduced	21100	2535	19.28	20.50	1.324	0.12	0.794	1.052
	LTE Band 7	20M	QPSK	1	0	Front	5mm	-	Reduced	20850	2510	19.04	20.50	1.400	0.09	0.837	1.171
	LTE Band 7	20M	QPSK	1	0	Front	5mm	-	Reduced	21350	2560	18.96	20.50	1.426	0.11	0.759	1.082
	LTE Band 7	20M	QPSK	50	0	Front	5mm	-	Reduced	20850	2510	19.10	20.50	1.380	-0.11	0.809	1.117
	LTE Band 7	20M	QPSK	50	0	Front	5mm	-	Reduced	21350	2560	19.01	20.50	1.409	0.07	0.800	1.127
	LTE Band 7	20M	QPSK	50	0	Front	5mm	-	Reduced	21100	2535	19.17	20.50	1.358	0.13	0.752	1.021
	LTE Band 7	20M	QPSK	100	0	Front	5mm	-	Reduced	21100	2535	19.10	20.50	1.380	0.01	0.778	1.074
	LTE Band 7	20M	QPSK	1	0	Back	5mm	-	Reduced	21100	2535	19.28	20.50	1.324	-0.01	0.911	1.206
	LTE Band 7	20M	QPSK	1	0	Back	5mm	-	Reduced	20850	2510	19.04	20.50	1.400	-0.07	0.907	1.269
61	LTE Band 7	20M	QPSK	1	0	Back	5mm	-	Reduced	21350	2560	18.96	20.50	1.426	-0.03	0.924	1.317
	LTE Band 7	20M	QPSK	50	0	Back	5mm	-	Reduced	20850	2510	19.10	20.50	1.380	-0.02	0.891	1.230
	LTE Band 7	20M	QPSK	50	0	Back	5mm	-	Reduced	21350	2560	19.01	20.50	1.409	0.01	0.906	1.277
	LTE Band 7	20M	QPSK	50	0	Back	5mm	-	Reduced	21100	2535	19.17	20.50	1.358	-0.02	0.888	1.206
	LTE Band 7	20M	QPSK	100	0	Back	5mm	-	Reduced	21100	2535	19.10	20.50	1.380	-0.16	0.885	1.222
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Headset	Reduced	21350	2560	18.96	20.50	1.426	0.07	0.798	1.138
	LTE Band 7	20M	QPSK	1	0	Front	17mm	-	Full	21350	2560	22.62	24.00	1.374	-0.03	0.467	0.642
	LTE Band 7	20M	QPSK	1	0	Back	19mm	-	Full	21350	2560	22.62	24.00	1.374	-0.06	0.408	0.561
	LTE Band 30	10M	QPSK	1	0	Front	5mm	-	Reduced	27710	2310	20.65	21.50	1.216	0.18	0.985	1.198
	LTE Band 30	10M	QPSK	25	25	Front	5mm	-	Reduced	27710	2310	20.56	21.50	1.242	0.08	0.890	1.105
	LTE Band 30	10M	QPSK	50	0	Front	5mm	-	Reduced	27710	2310	20.53	21.50	1.250	0.14	0.886	1.108
	LTE Band 30	10M	QPSK	1	0	Back	5mm	-	Reduced	27710	2310	20.65	21.50	1.216	-0.04	1.040	1.265
	LTE Band 30	10M	QPSK	25	25	Back	5mm	-	Reduced	27710	2310	20.56	21.50	1.242	-0.1	0.922	1.145
	LTE Band 30	10M	QPSK	50	0	Back	5mm	-	Reduced	27710	2310	20.53	21.50	1.250	-0.05	0.912	1.140
62	LTE Band 30	10M	QPSK	1	0	Back	5mm	Headset	Reduced	27710	2310	20.65	21.50	1.216	-0.15	1.070	1.301
	LTE Band 30	10M	QPSK	25	25	Back	5mm	Headset	Reduced	27710	2310	20.56	21.50	1.242	-0.06	0.952	1.182
	LTE Band 30	10M	QPSK	50	0	Back	5mm	Headset	Reduced	27710	2310	20.53	21.50	1.250	-0.08	0.941	1.176
	LTE Band 30	10M	QPSK	1	0	Front	17mm	-	Full	27710	2310	22.95	24.00	1.274	0.02	0.303	0.386
	LTE Band 30	10M	QPSK	1	0	Back	19mm	-	Full	27710	2310	22.95	24.00	1.274	0.04	0.269	0.343



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Headset	Power Reduction	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)
	LTE Band 41	20M	QPSK	1	0	Front	5mm	-	Reduced	40185	2549.5	22.20	23.00	1.202	62.9	1.006	0.06	0.925	1.119
	LTE Band 41	20M	QPSK	1	0	Front	5mm	-	Reduced	39750	2506	21.88	23.00	1.294	62.9	1.006	0.01	0.945	1.230
	LTE Band 41	20M	QPSK	1	0	Front	5mm	-	Reduced	40620	2593	21.60	23.00	1.380	62.9	1.006	0.02	0.898	1.247
	LTE Band 41	20M	QPSK	1	0	Front	5mm	-	Reduced	41055	2636.5	21.96	23.00	1.271	62.9	1.006	0.18	0.745	0.952
	LTE Band 41	20M	QPSK	1	0	Front	5mm	-	Reduced	41490	2680	22.14	23.00	1.219	62.9	1.006	0.09	0.696	0.854
	LTE Band 41	20M	QPSK	50	24	Front	5mm	-	Reduced	40185	2549.5	21.89	23.00	1.291	62.9	1.006	0.08	0.817	1.061
	LTE Band 41	20M	QPSK	50	24	Front	5mm	-	Reduced	39750	2506	21.77	23.00	1.327	62.9	1.006	0.01	0.687	0.917
	LTE Band 41	20M	QPSK	50	24	Front	5mm	-	Reduced	40620	2593	21.65	23.00	1.365	62.9	1.006	0.05	0.665	0.913
	LTE Band 41	20M	QPSK	50	24	Front	5mm	-	Reduced	41055	2636.5	21.82	23.00	1.312	62.9	1.006	0.01	0.650	0.858
	LTE Band 41	20M	QPSK	50	24	Front	5mm	-	Reduced	41490	2680	21.87	23.00	1.297	62.9	1.006	0.04	0.594	0.775
	LTE Band 41	20M	QPSK	100	0	Front	5mm	-	Reduced	40185	2549.5	21.69	23.00	1.352	62.9	1.006	0.12	0.638	0.868
	LTE Band 41	20M	QPSK	1	0	Back	5mm	-	Reduced	40185	2549.5	22.20	23.00	1.202	62.9	1.006	0.03	1.020	1.234
	LTE Band 41	20M	QPSK	1	0	Back	5mm	-	Reduced	39750	2506	21.88	23.00	1.294	62.9	1.006	0.07	1.030	1.341
	LTE Band 41	20M	QPSK	1	0	Back	5mm	-	Reduced	40620	2593	21.60	23.00	1.380	62.9	1.006	0.05	0.967	1.343
	LTE Band 41	20M	QPSK	1	0	Back	5mm	-	Reduced	41055	2636.5	21.96	23.00	1.271	62.9	1.006	-0.05	0.929	1.187
	LTE Band 41	20M	QPSK	1	0	Back	5mm	-	Reduced	41490	2680	22.14	23.00	1.219	62.9	1.006	0.06	0.822	1.008
	LTE Band 41	20M	QPSK	50	24	Back	5mm	-	Reduced	40185	2549.5	21.89	23.00	1.291	62.9	1.006	0.12	0.900	1.169
	LTE Band 41	20M	QPSK	50	24	Back	5mm	-	Reduced	39750	2506	21.77	23.00	1.327	62.9	1.006	0.13	1.010	1.349
	LTE Band 41	20M	QPSK	50	24	Back	5mm	-	Reduced	40620	2593	21.65	23.00	1.365	62.9	1.006	0.18	0.978	1.343
	LTE Band 41	20M	QPSK	50	24	Back	5mm	-	Reduced	41055	2636.5	21.82	23.00	1.312	62.9	1.006	0.01	0.902	1.191
	LTE Band 41	20M	QPSK	50	24	Back	5mm	-	Reduced	41490	2680	21.87	23.00	1.297	62.9	1.006	0.02	0.789	1.030
63	LTE Band 41	20M	QPSK	100	0	Back	5mm	-	Reduced	40185	2549.5	21.69	23.00	1.352	62.9	1.006	0.02	0.996	1.355
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	-	Reduced	40185+39987	2549.5+2529.7	21.95	23.00	1.274	62.9	1.006	-0.12	1.030	1.320
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	-	Reduced	39750+39948	2506+2525.8	22.24	23.00	1.191	62.9	1.006	0.01	1.120	1.342
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	-	Reduced	40620+40422	2593+2573.2	22.37	23.00	1.156	62.9	1.006	0.01	1.140	1.326
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	-	Reduced	41055+40857	2636.5+2616.7	22.22	23.00	1.197	62.9	1.006	0.05	1.060	1.276
	LTE Band 41C	20M	QPSK	100	0	Back	5mm	-	Reduced	41490+41292	2680+2660.2	22.35	23.00	1.161	62.9	1.006	0.04	0.885	1.034
	LTE Band 41 HPUE	20M	QPSK	1	0	Back	5mm	-	Reduced	40185	2549.5	22.04	23.00	1.247	42.9	1.009	0.04	0.791	0.996
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Headset	Reduced	40185	2549.5	21.69	23.00	1.352	62.9	1.006	-0.03	0.895	1.217
	LTE Band 41	20M	QPSK	1	0	Front	17mm	-	Full	40620	2593	24.21	25.50	1.346	62.9	1.006	0.06	0.150	0.203
	LTE Band 41	20M	QPSK	1	0	Back	19mm	-	Full	40185	2549.5	24.43	25.50	1.279	62.9	1.006	-0.12	0.211	0.272
	LTE Band 41 HPUE	20M	QPSK	1	0	Back	19mm	-	Full	40185	2549.5	25.94	27.00	1.276	42.9	1.009	-0.15	0.213	0.274



<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	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)
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	-	Reduced	11	2462	20.08	21.00	1.235	98.97	1.010	0.01	0.778	0.970
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	-	Reduced	1	2412	20.13	21.00	1.220	98.97	1.010	0.01	0.662	0.816
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	-	Reduced	6	2437	20.16	21.00	1.213	98.97	1.010	0.02	0.741	0.908
64	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	-	Reduced	11	2462	20.08	21.00	1.235	98.97	1.010	-0.15	0.954	1.190
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	-	Reduced	1	2412	20.13	21.00	1.220	98.97	1.010	0.01	0.771	0.950
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	-	Reduced	6	2437	20.16	21.00	1.213	98.97	1.010	-0.16	0.897	1.099
	WLAN2.4GHz	802.11b 1Mbps	Front	17mm	-	Full	11	2462	20.08	21.50	1.385	98.97	1.010	0.08	0.102	0.143
	WLAN2.4GHz	802.11b 1Mbps	Back	19mm	-	Full	11	2462	20.08	21.50	1.385	98.97	1.010	0.02	0.112	0.157

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	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)
65	Bluetooth	1Mbps	Back	5mm	-	Full	78	2480	8.87	10.00	1.297	76.63	1.087	0.07	0.047	0.066
	Bluetooth	1Mbps	Back	5mm	-	Full	0	2402	8.37	10.00	1.455	76.63	1.087	0.07	0.033	0.052
	Bluetooth	1Mbps	Back	5mm	-	Full	39	2441	8.05	10.00	1.567	76.63	1.087	0.07	0.036	0.061
	Bluetooth	1Mbps	Back	19mm	-	Full	78	2480	8.87	10.00	1.297	76.63	1.087	-0.01	0.008	0.011

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	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)
	WLAN5.2GHz	802.11a 6Mbps	Front	5mm	-	Reduced	36	5180	16.83	18.00	1.309	97.46	1.026	-0.09	0.025	0.034
	WLAN5.2GHz	802.11a 6Mbps	Back	5mm	-	Reduced	36	5180	16.83	18.00	1.309	97.46	1.026	-0.05	0.738	0.991
	WLAN5.2GHz	802.11a 6Mbps	Back	5mm	-	Reduced	44	5220	16.82	18.00	1.312	97.46	1.026	-0.03	0.743	1.000
66	WLAN5.2GHz	802.11a 6Mbps	Back	5mm	-	Reduced	48	5240	16.81	18.00	1.315	97.46	1.026	-0.08	0.805	1.086
	WLAN5.2GHz	802.11a 6Mbps	Front	17mm	-	Full	36	5180	18.30	20.00	1.479	97.46	1.026	0.01	0.013	0.019
	WLAN5.2GHz	802.11a 6Mbps	Back	19mm	-	Full	48	5240	18.21	20.00	1.509	97.46	1.026	-0.16	0.194	0.300
	WLAN5.3GHz	802.11a 6Mbps	Front	5mm	-	Reduced	52	5260	15.84	16.50	1.164	97.46	1.026	0.01	0.028	0.033
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	-	Reduced	52	5260	15.84	16.50	1.164	97.46	1.026	-0.02	0.781	0.932
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	-	Reduced	60	5300	15.51	16.50	1.256	97.46	1.026	-0.08	0.828	1.067
67	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	-	Reduced	64	5320	15.61	16.50	1.227	97.46	1.026	0.06	0.887	1.117
	WLAN5.3GHz	802.11a 6Mbps	Front	17mm	-	Full	52	5260	18.27	20.00	1.489	97.46	1.026	0.02	0.021	0.033
	WLAN5.3GHz	802.11a 6Mbps	Back	19mm	-	Full	64	5320	18.13	20.00	1.538	97.46	1.026	0.01	0.247	0.390
	WLAN5.5GHz	802.11a 6Mbps	Front	5mm	-	Reduced	140	5700	16.16	16.50	1.081	97.46	1.026	0.01	0.030	0.033
	WLAN5.5GHz	802.11a 6Mbps	Back	5mm	-	Reduced	140	5700	16.16	16.50	1.081	97.46	1.026	-0.03	0.847	0.939
	WLAN5.5GHz	802.11a 6Mbps	Back	5mm	-	Reduced	100	5500	15.22	16.50	1.342	97.46	1.026	-0.09	0.828	1.140
68	WLAN5.5GHz	802.11a 6Mbps	Back	5mm	-	Reduced	116	5580	14.66	16.00	1.361	97.46	1.026	-0.09	0.828	1.156
	WLAN5.5GHz	802.11a 6Mbps	Back	5mm	-	Reduced	132	5660	15.39	16.50	1.291	97.46	1.026	0.01	0.776	1.028
	WLAN5.5GHz	802.11a 6Mbps	Front	17mm	-	Full	140	5700	18.56	19.00	1.106	97.46	1.026	0.01	0.018	0.020
	WLAN5.5GHz	802.11a 6Mbps	Back	19mm	-	Full	116	5580	17.76	19.00	1.330	97.46	1.026	-0.13	0.144	0.196
	WLAN5.8GHz	802.11a 6Mbps	Front	5mm	-	Reduced	157	5785	15.54	16.00	1.111	97.46	1.026	0.02	0.043	0.049
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	-	Reduced	157	5785	15.54	16.00	1.111	97.46	1.026	-0.08	0.915	1.043
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	-	Reduced	149	5745	15.25	16.00	1.188	97.46	1.026	-0.09	0.755	0.920
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	-	Reduced	165	5825	15.37	16.00	1.156	97.46	1.026	-0.02	0.920	1.091
	WLAN5.8GHz	802.11a 6Mbps	Front	17mm	-	Full	157	5785	20.23	21.50	1.339	97.46	1.026	0.09	0.038	0.052
69	WLAN5.8GHz	802.11a 6Mbps	Back	19mm	-	Full	165	5825	20.00	21.50	1.412	97.46	1.026	-0.03	0.794	1.150



14.4 Product specific 10g SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	GSM1900	GPRS(3 Tx slots)	Front	0mm	Full	512	1850.2	27.43	28.00	1.140	0.03	2.570	2.930
70	GSM1900	GPRS(3 Tx slots)	Front	0mm	Full	661	1880	27.03	28.00	1.250	0.09	2.500	3.126
	GSM1900	GPRS(3 Tx slots)	Front	0mm	Full	810	1909.8	27.41	28.00	1.146	0.04	2.090	2.394
	GSM1900	GPRS(3 Tx slots)	Back	0mm	Full	512	1850.2	27.43	28.00	1.140	0.01	1.710	1.950
	GSM1900	GPRS(3 Tx slots)	Back	0mm	Full	661	1880	27.03	28.00	1.250	0.02	1.830	2.288
	GSM1900	GPRS(3 Tx slots)	Back	0mm	Full	810	1909.8	27.41	28.00	1.146	0.09	1.870	2.142
	GSM1900	GPRS(3 Tx slots)	Bottom Side	0mm	Full	512	1850.2	27.43	28.00	1.140	0.01	1.530	1.745

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	0mm	Reduced	9262	1852.4	20.53	21.00	1.114	0.05	2.370	2.641
	WCDMA II	RMC 12.2Kbps	Front	0mm	Reduced	9400	1880	20.31	21.00	1.172	0.03	2.460	2.884
	WCDMA II	RMC 12.2Kbps	Front	0mm	Reduced	9538	1907.6	20.40	21.00	1.148	-0.08	2.120	2.434
	WCDMA II	RMC 12.2Kbps	Back	0mm	Reduced	9262	1852.4	20.53	21.00	1.114	0.01	2.490	2.775
	WCDMA II	RMC 12.2Kbps	Back	0mm	Reduced	9400	1880	20.31	21.00	1.172	-0.03	2.230	2.614
	WCDMA II	RMC 12.2Kbps	Back	0mm	Reduced	9538	1907.6	20.40	21.00	1.148	0.05	2.100	2.411
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	Reduced	9262	1852.4	20.53	21.00	1.114	-0.12	2.150	2.396
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	Reduced	9400	1880	20.31	21.00	1.172	-0.07	2.320	2.719
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	Reduced	9538	1907.6	20.40	21.00	1.148	-0.08	1.990	2.285
	WCDMA II	RMC 12.2Kbps	Front	6mm	Full	9400	1880	22.83	24.00	1.309	-0.07	2.570	3.365
	WCDMA II	RMC 12.2Kbps	Front	6mm	Full	9262	1852.4	23.06	24.00	1.242	0.04	2.450	3.042
	WCDMA II	RMC 12.2Kbps	Front	6mm	Full	9538	1907.6	22.91	24.00	1.285	0.07	2.310	2.969
	WCDMA II	RMC 12.2Kbps	Back	7mm	Full	9400	1880	22.83	24.00	1.309	0.05	2.620	3.430
	WCDMA II	RMC 12.2Kbps	Back	7mm	Full	9262	1852.4	23.06	24.00	1.242	-0.13	2.490	3.092
	WCDMA II	RMC 12.2Kbps	Back	7mm	Full	9538	1907.6	22.91	24.00	1.285	-0.06	2.380	3.059
71	WCDMA II	RMC 12.2Kbps	Bottom Side	9mm	Full	9400	1880	22.83	24.00	1.309	0.07	2.640	3.456
	WCDMA II	RMC 12.2Kbps	Bottom Side	9mm	Full	9262	1852.4	23.06	24.00	1.242	0.04	2.630	3.266
	WCDMA II	RMC 12.2Kbps	Bottom Side	9mm	Full	9538	1907.6	22.91	24.00	1.285	0.09	2.460	3.162
	WCDMA IV	RMC 12.2Kbps	Front	0mm	Reduced	1513	1752.6	18.70	19.50	1.202	0.09	1.870	2.248
	WCDMA IV	RMC 12.2Kbps	Front	0mm	Reduced	1312	1712.4	18.59	19.50	1.233	0.05	1.920	2.368
	WCDMA IV	RMC 12.2Kbps	Front	0mm	Reduced	1413	1732.6	18.63	19.50	1.222	-0.03	1.880	2.297
	WCDMA IV	RMC 12.2Kbps	Back	0mm	Reduced	1513	1752.6	18.70	19.50	1.202	0.08	2.010	2.417
	WCDMA IV	RMC 12.2Kbps	Back	0mm	Reduced	1312	1712.4	18.59	19.50	1.233	0.01	2.030	2.503
	WCDMA IV	RMC 12.2Kbps	Back	0mm	Reduced	1413	1732.6	18.63	19.50	1.222	0.03	1.960	2.395
	WCDMA IV	RMC 12.2Kbps	Bottom Side	0mm	Reduced	1513	1752.6	18.70	19.50	1.202	-0.17	2.060	2.477
72	WCDMA IV	RMC 12.2Kbps	Bottom Side	0mm	Reduced	1312	1712.4	18.59	19.50	1.233	0.08	2.790	3.440
	WCDMA IV	RMC 12.2Kbps	Bottom Side	0mm	Reduced	1413	1732.6	18.63	19.50	1.222	-0.19	2.190	2.676
	WCDMA IV	RMC 12.2Kbps	Front	6mm	Full	1513	1752.6	23.08	24.00	1.236	-0.05	2.290	2.830
	WCDMA IV	RMC 12.2Kbps	Front	6mm	Full	1312	1712.4	22.95	24.00	1.274	0.04	1.900	2.420
	WCDMA IV	RMC 12.2Kbps	Front	6mm	Full	1413	1732.6	22.93	24.00	1.279	-0.08	1.970	2.520
	WCDMA IV	RMC 12.2Kbps	Back	7mm	Full	1513	1752.6	23.08	24.00	1.236	-0.04	2.530	3.127
	WCDMA IV	RMC 12.2Kbps	Back	7mm	Full	1312	1712.4	22.95	24.00	1.274	0.05	2.140	2.725
	WCDMA IV	RMC 12.2Kbps	Back	7mm	Full	1413	1732.6	22.93	24.00	1.279	0.03	2.230	2.853
	WCDMA IV	RMC 12.2Kbps	Bottom Side	9mm	Full	1513	1752.6	23.08	24.00	1.236	0.09	2.550	3.152
	WCDMA IV	RMC 12.2Kbps	Bottom Side	9mm	Full	1312	1712.4	22.95	24.00	1.274	0.01	2.240	2.853
	WCDMA IV	RMC 12.2Kbps	Bottom Side	9mm	Full	1413	1732.6	22.93	24.00	1.279	0.08	2.330	2.981



Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Front	0mm	Full	4182	836.4	23.31	24.00	1.172	0.14	1.790	2.098
73	WCDMA V	RMC 12.2Kbps	Front	0mm	Full	4132	826.4	23.25	24.00	1.189	-0.02	1.780	2.116
	WCDMA V	RMC 12.2Kbps	Front	0mm	Full	4233	846.6	23.09	24.00	1.233	-0.04	1.620	1.998
	WCDMA V	RMC 12.2Kbps	Back	0mm	Full	4182	836.4	23.31	24.00	1.172	0.09	1.600	1.876
	WCDMA V	RMC 12.2Kbps	Bottom Side	0mm	Full	4182	836.4	23.31	24.00	1.172	0.08	1.310	1.536

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	CDMA BC0	RTAP 153.6Kbps	Front	0mm	Full	384	836.52	24.18	25.00	1.208	0.05	2.230	2.693
	CDMA BC0	RTAP 153.6Kbps	Front	0mm	Full	1013	824.7	24.17	25.00	1.211	-0.07	2.230	2.700
74	CDMA BC0	RTAP 153.6Kbps	Front	0mm	Full	777	848.31	24.12	25.00	1.225	-0.06	2.210	2.706
	CDMA BC0	RTAP 153.6Kbps	Back	0mm	Full	384	836.52	24.18	25.00	1.208	-0.04	1.890	2.283
	CDMA BC0	RTAP 153.6Kbps	Back	0mm	Full	1013	824.7	24.17	25.00	1.211	-0.02	1.630	1.973
	CDMA BC0	RTAP 153.6Kbps	Back	0mm	Full	777	848.31	24.12	25.00	1.225	0.13	1.510	1.849
	CDMA BC0	RTAP 153.6Kbps	Bottom Side	0mm	Full	384	836.52	24.18	25.00	1.208	0.04	1.720	2.077
	CDMA BC0	RTAP 153.6Kbps	Bottom Side	0mm	Full	1013	824.7	24.17	25.00	1.211	0.02	1.630	1.973
	CDMA BC0	RTAP 153.6Kbps	Bottom Side	0mm	Full	777	848.31	24.12	25.00	1.225	0.05	1.560	1.910
	CDMA BC10	RTAP 153.6Kbps	Front	0mm	Full	684	823.1	24.11	25.00	1.227	0.02	2.230	2.737
	CDMA BC10	RTAP 153.6Kbps	Front	0mm	Full	476	817.9	23.93	25.00	1.279	0.05	2.140	2.738
75	CDMA BC10	RTAP 153.6Kbps	Front	0mm	Full	580	820.5	24.07	25.00	1.239	0.01	2.230	2.763
	CDMA BC10	RTAP 153.6Kbps	Back	0mm	Full	684	823.1	24.11	25.00	1.227	-0.12	1.860	2.283
	CDMA BC10	RTAP 153.6Kbps	Back	0mm	Full	476	817.9	23.93	25.00	1.279	0.05	1.460	1.868
	CDMA BC10	RTAP 153.6Kbps	Back	0mm	Full	580	820.5	24.07	25.00	1.239	0.03	1.680	2.081
	CDMA BC10	RTAP 153.6Kbps	Bottom Side	0mm	Full	684	823.1	24.11	25.00	1.227	0.03	1.660	2.038
	CDMA BC10	RTAP 153.6Kbps	Bottom Side	0mm	Full	476	817.9	23.93	25.00	1.279	0.05	1.540	1.970
	CDMA BC10	RTAP 153.6Kbps	Bottom Side	0mm	Full	580	820.5	24.07	25.00	1.239	0.02	1.630	2.019
	CDMA BC1	RTAP 153.6Kbps	Front	0mm	Reduced	25	1851.25	21.42	22.00	1.143	0.02	2.670	3.051
	CDMA BC1	RTAP 153.6Kbps	Front	0mm	Reduced	600	1880	21.35	22.00	1.161	0.02	2.440	2.834
	CDMA BC1	RTAP 153.6Kbps	Front	0mm	Reduced	1175	1908.75	21.39	22.00	1.151	0.09	2.060	2.371
	CDMA BC1	RTAP 153.6Kbps	Back	0mm	Reduced	25	1851.25	21.42	22.00	1.143	0.08	2.580	2.949
	CDMA BC1	RTAP 153.6Kbps	Back	0mm	Reduced	600	1880	21.35	22.00	1.161	-0.03	1.930	2.242
	CDMA BC1	RTAP 153.6Kbps	Back	0mm	Reduced	1175	1908.75	21.39	22.00	1.151	-0.03	1.990	2.290
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	0mm	Reduced	25	1851.25	21.42	22.00	1.143	-0.06	1.980	2.263
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	0mm	Reduced	600	1880	21.35	22.00	1.161	-0.06	1.680	1.951
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	0mm	Reduced	1175	1908.75	21.39	22.00	1.151	-0.06	1.400	1.611
	CDMA BC1	RTAP 153.6Kbps	Front	6mm	Full	600	1880	23.90	25.00	1.288	0.09	2.650	3.414
76	CDMA BC1	RTAP 153.6Kbps	Front	6mm	Full	25	1851.25	23.74	25.00	1.337	-0.02	2.640	3.529
	CDMA BC1	RTAP 153.6Kbps	Front	6mm	Full	1175	1908.75	23.83	25.00	1.309	-0.09	2.380	3.116
	CDMA BC1	RTAP 153.6Kbps	Back	7mm	Full	600	1880	23.90	25.00	1.288	0.03	2.580	3.324
	CDMA BC1	RTAP 153.6Kbps	Back	7mm	Full	25	1851.25	23.74	25.00	1.337	0.01	2.500	3.341
	CDMA BC1	RTAP 153.6Kbps	Back	7mm	Full	1175	1908.75	23.83	25.00	1.309	0.01	2.310	3.024
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	9mm	Full	25	1851.25	23.74	25.00	1.337	0.05	2.290	3.061
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	9mm	Full	600	1880	23.90	25.00	1.288	0.06	2.620	3.375
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	9mm	Full	1175	1908.75	23.83	25.00	1.309	0.05	2.520	3.299



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
77	LTE Band 13	10M	QPSK	1	0	Front	0mm	Full	23230	782	22.95	24.00	1.274	0.19	1.330	1.694
	LTE Band 13	10M	QPSK	25	0	Front	0mm	Full	23230	782	21.87	23.00	1.297	0.02	0.741	0.961
78	LTE Band 26	15M	QPSK	1	37	Front	0mm	Full	26865	831.5	23.18	24.00	1.208	0.03	1.590	1.920
	LTE Band 26	15M	QPSK	36	0	Front	0mm	Full	26865	831.5	22.24	23.00	1.191	-0.03	0.913	1.088
	LTE Band 26	15M	QPSK	1	37	Back	0mm	Full	26865	831.5	23.18	24.00	1.208	0.04	1.260	1.522
	LTE Band 26	15M	QPSK	36	0	Back	0mm	Full	26865	831.5	22.24	23.00	1.191	0.05	0.724	0.862
	LTE Band 26	15M	QPSK	1	37	Bottom Side	0mm	Full	26865	831.5	23.18	24.00	1.208	-0.04	1.480	1.788
	LTE Band 26	15M	QPSK	36	0	Bottom Side	0mm	Full	26865	831.5	22.24	23.00	1.191	-0.15	0.842	1.003
	LTE Band 25	20M	QPSK	1	0	Front	0mm	Reduced	26340	1880	21.35	21.50	1.035	0.02	2.620	2.712
79	LTE Band 25	20M	QPSK	1	0	Front	0mm	Reduced	26140	1860	21.26	21.50	1.057	0.09	2.990	3.160
	LTE Band 25	20M	QPSK	1	0	Front	0mm	Reduced	26590	1905	21.21	21.50	1.069	0.02	2.490	2.662
	LTE Band 25	20M	QPSK	50	0	Front	0mm	Reduced	26340	1880	21.34	21.50	1.038	0.02	2.280	2.366
	LTE Band 25	20M	QPSK	50	0	Front	0mm	Reduced	26140	1860	21.33	21.50	1.040	0.03	2.430	2.527
	LTE Band 25	20M	QPSK	50	0	Front	0mm	Reduced	26590	1905	21.03	21.50	1.114	0.02	2.020	2.251
	LTE Band 25	20M	QPSK	100	0	Front	0mm	Reduced	26340	1880	21.25	21.50	1.059	0.01	2.230	2.362
	LTE Band 25	20M	QPSK	1	0	Back	0mm	Reduced	26340	1880	21.35	21.50	1.035	0.08	2.720	2.816
	LTE Band 25	20M	QPSK	1	0	Back	0mm	Reduced	26140	1860	21.26	21.50	1.057	0.04	2.850	3.012
	LTE Band 25	20M	QPSK	1	0	Back	0mm	Reduced	26590	1905	21.21	21.50	1.069	0.05	2.460	2.630
	LTE Band 25	20M	QPSK	50	0	Back	0mm	Reduced	26340	1880	21.34	21.50	1.038	0.01	2.290	2.376
	LTE Band 25	20M	QPSK	50	0	Back	0mm	Reduced	26140	1860	21.33	21.50	1.040	0.07	2.470	2.569
	LTE Band 25	20M	QPSK	50	0	Back	0mm	Reduced	26590	1905	21.03	21.50	1.114	0.09	1.990	2.217
	LTE Band 25	20M	QPSK	100	0	Back	0mm	Reduced	26340	1880	21.25	21.50	1.059	0.03	2.230	2.362
	LTE Band 25	20M	QPSK	1	0	Bottom Side	0mm	Reduced	26340	1880	21.35	21.50	1.035	-0.14	2.170	2.246
	LTE Band 25	20M	QPSK	1	0	Bottom Side	0mm	Reduced	26140	1860	21.26	21.50	1.057	-0.19	2.410	2.547
	LTE Band 25	20M	QPSK	1	0	Bottom Side	0mm	Reduced	26590	1905	21.21	21.50	1.069	-0.05	1.790	1.914
	LTE Band 25	20M	QPSK	50	0	Bottom Side	0mm	Reduced	26340	1880	21.34	21.50	1.038	-0.08	1.730	1.795
	LTE Band 25	20M	QPSK	50	0	Bottom Side	0mm	Reduced	26140	1860	21.33	21.50	1.040	-0.03	1.900	1.976
	LTE Band 25	20M	QPSK	50	0	Bottom Side	0mm	Reduced	26590	1905	21.03	21.50	1.114	-0.15	1.440	1.605
	LTE Band 25	20M	QPSK	100	0	Bottom Side	0mm	Reduced	26140	1860	21.25	21.50	1.059	-0.19	1.680	1.780
	LTE Band 25	20M	QPSK	1	0	Front	6mm	Full	26140	1860	22.84	24.00	1.306	-0.07	1.640	2.142
	LTE Band 25	20M	QPSK	1	0	Back	7mm	Full	26140	1860	22.84	24.00	1.306	0.09	1.550	2.025
	LTE Band 25	20M	QPSK	1	0	Bottom Side	9mm	Full	26140	1860	22.84	24.00	1.306	0.02	1.790	2.338



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 66	20M	QPSK	1	0	Front	0mm	Reduced	132572	1770	19.03	20.00	1.250	0.02	1.650	2.063
	LTE Band 66	20M	QPSK	1	0	Front	0mm	Reduced	132072	1720	18.98	20.00	1.265	0.02	1.830	2.314
	LTE Band 66	20M	QPSK	1	0	Front	0mm	Reduced	132322	1745	18.89	20.00	1.291	0.03	1.730	2.234
	LTE Band 66	20M	QPSK	50	0	Front	0mm	Reduced	132572	1770	18.89	20.00	1.291	0.01	1.680	2.169
	LTE Band 66	20M	QPSK	50	0	Front	0mm	Reduced	132072	1720	18.71	20.00	1.346	0.05	1.880	2.530
	LTE Band 66	20M	QPSK	50	0	Front	0mm	Reduced	132322	1745	18.68	20.00	1.355	0.03	1.780	2.412
	LTE Band 66	20M	QPSK	100	0	Front	0mm	Reduced	132572	1770	18.81	20.00	1.315	0.09	1.780	2.341
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Reduced	132572	1770	19.03	20.00	1.250	0.09	1.770	2.213
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Reduced	132072	1720	18.98	20.00	1.265	0.07	1.720	2.175
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Reduced	132322	1745	18.89	20.00	1.291	0.05	1.750	2.260
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Reduced	132572	1770	18.89	20.00	1.291	0.05	1.820	2.350
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Reduced	132072	1720	18.71	20.00	1.346	0.04	1.780	2.396
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Reduced	132322	1745	18.68	20.00	1.355	0.02	1.790	2.426
	LTE Band 66	20M	QPSK	100	0	Back	0mm	Reduced	132572	1770	18.81	20.00	1.315	0.06	1.800	2.367
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	Reduced	132572	1770	19.03	20.00	1.250	-0.19	1.620	2.025
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	Reduced	132072	1720	18.98	20.00	1.265	-0.01	1.670	2.112
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	Reduced	132322	1745	18.89	20.00	1.291	-0.03	1.580	2.040
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0mm	Reduced	132572	1770	18.89	20.00	1.291	-0.04	1.630	2.105
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0mm	Reduced	132072	1720	18.71	20.00	1.346	-0.05	1.700	2.288
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0mm	Reduced	132322	1745	18.68	20.00	1.355	-0.03	1.610	2.182
	LTE Band 66	20M	QPSK	100	0	Bottom Side	0mm	Reduced	132572	1770	18.81	20.00	1.315	-0.07	1.540	2.025
80	LTE Band 66	20M	QPSK	1	0	Front	6mm	Full	132572	1770	22.61	24.00	1.377	0.11	1.970	2.713
	LTE Band 66	20M	QPSK	1	0	Front	6mm	Full	132072	1720	22.42	24.00	1.439	0.12	1.670	2.403
	LTE Band 66	20M	QPSK	1	0	Front	6mm	Full	132322	1745	22.53	24.00	1.403	0.12	1.670	2.343
	LTE Band 66	20M	QPSK	1	0	Back	7mm	Full	132572	1770	22.61	24.00	1.377	0.01	1.650	2.272
	LTE Band 66	20M	QPSK	1	0	Back	7mm	Full	132072	1720	22.42	24.00	1.439	-0.01	1.570	2.259
	LTE Band 66	20M	QPSK	1	0	Back	7mm	Full	132322	1745	22.53	24.00	1.403	0.08	1.590	2.230
	LTE Band 66	20M	QPSK	1	0	Bottom Side	9mm	Full	132572	1770	22.61	24.00	1.377	0.01	1.770	2.438
	LTE Band 66	20M	QPSK	1	0	Bottom Side	9mm	Full	132072	1720	22.42	24.00	1.439	-0.04	1.800	2.590
	LTE Band 66	20M	QPSK	1	0	Bottom Side	9mm	Full	132322	1745	22.53	24.00	1.403	0.02	1.880	2.637
	LTE Band 7	20M	QPSK	1	0	Front	0mm	Reduced	21100	2535	21.70	23.00	1.349	0.05	1.780	2.401
	LTE Band 7	20M	QPSK	1	0	Front	0mm	Reduced	20850	2510	21.63	23.00	1.371	0.06	1.920	2.632
	LTE Band 7	20M	QPSK	1	0	Front	0mm	Reduced	21350	2560	21.56	23.00	1.393	0.01	2.050	2.856
	LTE Band 7	20M	QPSK	50	0	Front	0mm	Reduced	21100	2535	21.65	23.00	1.365	0.05	1.790	2.443
	LTE Band 7	20M	QPSK	50	0	Front	0mm	Reduced	20850	2510	21.52	23.00	1.406	0.09	1.780	2.503
	LTE Band 7	20M	QPSK	50	0	Front	0mm	Reduced	21350	2560	21.52	23.00	1.406	0.08	1.920	2.700
	LTE Band 7	20M	QPSK	100	0	Front	0mm	Reduced	21100	2535	21.58	23.00	1.387	0.05	1.790	2.482
	LTE Band 7	20M	QPSK	1	0	Back	0mm	Reduced	21100	2535	21.70	23.00	1.349	0.01	1.790	2.415
81	LTE Band 7	20M	QPSK	1	0	Back	0mm	Reduced	20850	2510	21.63	23.00	1.371	0.06	2.120	2.906
	LTE Band 7	20M	QPSK	1	0	Back	0mm	Reduced	21350	2560	21.56	23.00	1.393	0.01	2.050	2.856
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Reduced	21100	2535	21.65	23.00	1.365	0.04	1.950	2.661
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Reduced	20850	2510	21.52	23.00	1.406	0.09	1.950	2.742
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Reduced	21350	2560	21.52	23.00	1.406	0.08	1.720	2.418
	LTE Band 7	20M	QPSK	100	0	Back	0mm	Reduced	21100	2535	21.58	23.00	1.387	0.05	1.660	2.302
	LTE Band 7	20M	QPSK	1	0	Bottom Side	0mm	Reduced	21100	2535	21.70	23.00	1.349	-0.03	1.280	1.727
	LTE Band 7	20M	QPSK	50	0	Bottom Side	0mm	Reduced	21100	2535	21.65	23.00	1.365	-0.03	1.120	1.528
	LTE Band 7	20M	QPSK	1	0	Front	6mm	Full	21350	2560	22.62	24.00	1.374	0.01	0.615	0.845
	LTE Band 7	20M	QPSK	1	0	Back	7mm	Full	21350	2560	22.62	24.00	1.374	0.05	0.784	1.077
	LTE Band 7	20M	QPSK	1	0	Bottom Side	9mm	Full	21350	2560	22.62	24.00	1.374	-0.07	0.289	0.397



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
82	LTE Band 30	10M	QPSK	1	0	Front	0mm	Reduced	27710	2310	22.45	23.50	1.274	0.03	2.430	3.095
	LTE Band 30	10M	QPSK	25	25	Front	0mm	Reduced	27710	2310	22.42	23.00	1.143	0.04	1.520	1.737
	LTE Band 30	10M	QPSK	50	0	Front	0mm	Reduced	27710	2310	22.32	23.00	1.169	0.03	1.550	1.813
	LTE Band 30	10M	QPSK	1	0	Back	0mm	Reduced	27710	2310	22.45	23.50	1.274	-0.1	2.250	2.865
	LTE Band 30	10M	QPSK	25	25	Back	0mm	Reduced	27710	2310	22.42	23.00	1.143	0.04	1.480	1.691
	LTE Band 30	10M	QPSK	50	0	Back	0mm	Reduced	27710	2310	22.32	23.00	1.169	0.17	1.460	1.707
	LTE Band 30	10M	QPSK	1	0	Bottom Side	0mm	Reduced	27710	2310	22.45	23.50	1.274	-0.05	1.100	1.401
	LTE Band 30	10M	QPSK	25	25	Bottom Side	0mm	Reduced	27710	2310	22.42	23.00	1.143	0.02	0.644	0.736
	LTE Band 30	10M	QPSK	1	0	Front	6mm	Full	27710	2310	22.95	24.00	1.274	0.17	0.514	0.655
	LTE Band 30	10M	QPSK	1	0	Back	7mm	Full	27710	2310	22.95	24.00	1.274	0.01	0.508	0.647
	LTE Band 30	10M	QPSK	1	0	Bottom Side	9mm	Full	27710	2310	22.95	24.00	1.274	-0.01	0.403	0.513



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	0	Front	0mm	Reduced	40185	2549.5	24.43	25.00	1.140	62.9	1.006	0.04	2.040	2.340
	LTE Band 41	20M	QPSK	1	0	Front	0mm	Reduced	39750	2506	24.34	25.00	1.164	62.9	1.006	-0.06	2.020	2.366
	LTE Band 41	20M	QPSK	1	0	Front	6mm	Full	39750	2506	24.34	25.50	1.306	62.9	1.006	0.09	0.481	0.632
	LTE Band 41	20M	QPSK	1	0	Front	0mm	Reduced	40620	2593	24.21	25.00	1.199	62.9	1.006	0.06	1.810	2.184
	LTE Band 41	20M	QPSK	1	0	Front	0mm	Reduced	41055	2636.5	24.24	25.00	1.191	62.9	1.006	0.02	1.680	2.013
	LTE Band 41	20M	QPSK	1	0	Front	0mm	Reduced	41490	2680	24.26	25.00	1.186	62.9	1.006	0.03	1.450	1.730
	LTE Band 41	20M	QPSK	50	24	Front	0mm	Reduced	40185	2549.5	22.35	23.50	1.303	62.9	1.006	0.03	1.040	1.363
	LTE Band 41	20M	QPSK	100	0	Front	0mm	Reduced	40185	2549.5	22.33	23.50	1.309	62.9	1.006	0.03	1.080	1.422
	LTE Band 41	20M	QPSK	1	0	Back	0mm	Reduced	40185	2549.5	24.43	25.00	1.140	62.9	1.006	-0.07	2.300	2.638
	LTE Band 41	20M	QPSK	1	0	Back	0mm	Reduced	39750	2506	24.34	25.00	1.164	62.9	1.006	-0.18	2.410	2.822
	LTE Band 41C	20M	QPSK	1	0	Back	0mm	Reduced	39750+2506+39948	2506+2525.8	24.28	25.00	1.180	62.9	1.006	0.09	2.310	2.743
	LTE Band 41	20M	QPSK	1	0	Back	7mm	Full	39750	2506	24.34	25.00	1.164	62.9	1.006	0.02	0.800	0.937
83	LTE Band 41-HPUE	20M	QPSK	1	0	Back	0mm	Reduced	39750	2506	26.24	26.50	1.062	42.9	1.009	0.11	2.790	2.989
	LTE Band 41-HPUE	20M	QPSK	1	0	Back	7mm	Full	39750	2506	26.24	27.00	1.191	42.9	1.009	-0.02	0.779	0.936
	LTE Band 41	20M	QPSK	1	0	Back	0mm	Reduced	40620	2593	24.21	25.00	1.199	62.9	1.006	0.02	1.610	1.943
	LTE Band 41	20M	QPSK	1	0	Back	0mm	Reduced	41055	2636.5	24.24	25.00	1.191	62.9	1.006	0.03	1.640	1.965
	LTE Band 41	20M	QPSK	1	0	Back	0mm	Reduced	41490	2680	24.26	25.00	1.186	62.9	1.006	0.02	1.470	1.754
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Reduced	40185	2549.5	22.35	23.50	1.303	62.9	1.006	0.04	1.250	1.639
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Reduced	39750	2506	22.13	23.50	1.371	62.9	1.006	-0.06	1.390	1.917
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Reduced	40620	2593	22.21	23.50	1.346	62.9	1.006	0.06	1.220	1.652
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Reduced	41055	2636.5	22.21	23.50	1.346	62.9	1.006	0.02	1.150	1.557
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Reduced	41490	2680	22.22	23.50	1.343	62.9	1.006	0.03	1.330	1.797
	LTE Band 41	20M	QPSK	100	0	Back	0mm	Reduced	40185	2549.5	22.33	23.50	1.309	62.9	1.006	-0.07	1.280	1.686
	LTE Band 41	20M	QPSK	1	0	Bottom Side	0mm	Reduced	40185	2549.5	24.43	25.00	1.140	62.9	1.006	0.02	1.440	1.652
	LTE Band 41	20M	QPSK	1	0	Bottom Side	0mm	Reduced	41490	2680	24.26	25.00	1.186	62.9	1.006	0.03	0.939	1.120
	LTE Band 41	20M	QPSK	1	0	Bottom Side	0mm	Reduced	39750	2506	24.34	25.00	1.164	62.9	1.006	-0.06	1.330	1.558
	LTE Band 41	20M	QPSK	1	0	Bottom Side	0mm	Reduced	40620	2593	24.21	25.00	1.199	62.9	1.006	0.06	1.100	1.327
	LTE Band 41	20M	QPSK	1	0	Bottom Side	0mm	Reduced	41055	2636.5	24.24	25.00	1.191	62.9	1.006	0.02	1.060	1.270
	LTE Band 41	20M	QPSK	50	24	Bottom Side	0mm	Reduced	40185	2549.5	22.35	23.50	1.303	62.9	1.006	0.03	0.756	0.991
	LTE Band 41	20M	QPSK	100	0	Bottom Side	0mm	Reduced	40185	2549.5	22.33	23.50	1.309	62.9	1.006	-0.07	0.628	0.827



<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
84	WLAN2.4GHz	802.11b 1Mbps	Front	0mm	Full	11	2462	20.08	21.50	1.385	98.97	1.010	0.09	2.200	3.078
	WLAN2.4GHz	802.11b 1Mbps	Front	0mm	Full	1	2412	20.13	21.50	1.369	98.97	1.010	0.06	2.060	2.849
	WLAN2.4GHz	802.11b 1Mbps	Front	0mm	Full	6	2437	20.96	22.50	1.426	98.97	1.010	0.01	1.880	2.707
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Full	11	2462	20.08	21.50	1.385	98.97	1.010	-0.01	2.090	2.924
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Full	1	2412	20.13	21.50	1.369	98.97	1.010	-0.02	1.760	2.434
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Full	6	2437	20.96	22.50	1.426	98.97	1.010	-0.04	1.770	2.549
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Full	11	2462	20.08	21.50	1.385	98.97	1.010	0.03	1.910	2.672
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Full	1	2412	20.13	21.50	1.369	98.97	1.010	0.01	1.630	2.254
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Full	6	2437	20.96	22.50	1.426	98.97	1.010	0.06	1.350	1.944
	WLAN2.4GHz	802.11b 1Mbps	Front	6mm	Full	11	2462	20.08	21.50	1.385	98.97	1.010	-0.11	0.412	0.576
	WLAN2.4GHz	802.11b 1Mbps	Back	7mm	Full	11	2462	20.08	21.50	1.385	98.97	1.010	0.09	0.427	0.597

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Full	36	5180	18.30	20.00	1.479	97.46	1.026	0.01	1.840	2.792
85	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Full	44	5220	18.28	20.00	1.485	97.46	1.026	0.01	1.840	2.804
	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Full	48	5240	18.21	20.00	1.509	97.46	1.026	0.09	1.800	2.788
	WLAN5.2GHz	802.11a 6Mbps	Back	7mm	Full	44	5220	18.28	20.00	1.485	97.46	1.026	-0.03	0.292	0.445
	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Full	52	5260	18.27	20.00	1.489	97.46	1.026	-0.09	0.064	0.098
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Full	52	5260	18.27	20.00	1.489	97.46	1.026	0.01	1.830	2.796
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Full	52	5260	18.27	20.00	1.489	97.46	1.026	0.01	0.124	0.189
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Full	52	5260	18.27	20.00	1.489	97.46	1.026	0.08	0.226	0.345
86	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Full	60	5300	18.03	20.00	1.574	97.46	1.026	0.02	1.830	2.955
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Full	64	5320	18.13	20.00	1.538	97.46	1.026	-0.09	1.730	2.730
	WLAN5.3GHz	802.11a 6Mbps	Back	7mm	Full	60	5300	18.03	20.00	1.574	97.46	1.026	-0.03	0.405	0.654
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Full	140	5700	18.56	19.00	1.107	97.46	1.026	0.11	0.066	0.075
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Full	140	5700	18.56	19.00	1.107	97.46	1.026	-0.09	1.970	2.237
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Full	140	5700	18.56	19.00	1.107	97.46	1.026	0.06	0.164	0.186
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Full	140	5700	18.56	19.00	1.107	97.46	1.026	0.07	0.266	0.302
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Full	100	5500	17.76	19.00	1.330	97.46	1.026	0.01	1.720	2.348
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Full	116	5580	17.27	19.00	1.489	97.46	1.026	-0.09	1.790	2.735
87	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Full	132	5660	17.90	19.00	1.288	97.46	1.026	0.01	2.350	3.106
	WLAN5.5GHz	802.11a 6Mbps	Back	7mm	Full	132	5660	17.90	19.00	1.288	97.46	1.026	0.11	0.379	0.501
	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Full	157	5785	20.23	21.50	1.339	97.46	1.026	-0.02	2.040	2.803
88	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Full	149	5745	19.81	21.50	1.475	97.46	1.026	0.11	1.890	2.860
	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Full	165	5825	20.00	21.50	1.412	97.46	1.026	-0.09	1.920	2.781
	WLAN5.8GHz	802.11a 6Mbps	Back	7mm	Full	149	5745	19.81	21.50	1.475	97.46	1.026	0.02	0.451	0.683



14.5 TDD LTE Band 41(HPUE) Linearity Data Analysis

LTE Band 41(HPUE)-Linearity Data for Head		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	25.50	27.00
Reported 1g SAR (W/kg)	0.289	0.305
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	224.60	217.01
Linearity SAR (W/kg)	0.279	
% deviation from expected linearity		9.22%

LTE Band 41(HPUE)-Linearity Data for Hotspot		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	23.00	23.00
Reported 1g SAR (W/kg)	1.355	0.996
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	126.30	86.39
Linearity SAR (W/kg)	0.927	
% deviation from expected linearity		7.46%

LTE Band 41(HPUE)-Linearity Data for Body-Worn		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	23.00	23.00
Reported 1g SAR (W/kg)	1.355	0.996
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	126.30	86.39
Linearity SAR (W/kg)	0.927	
% deviation from expected linearity		7.46%

LTE Band 41(HPUE)-Linearity Data for Body-Worn-19mm		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	25.50	27.00
Reported 1g SAR (W/kg)	0.272	0.274
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	224.60	217.01
Linearity SAR (W/kg)	0.263	
% deviation from expected linearity		4.26%



LTE Band 41(HPUE)-Linearity Data for Handheld		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	25.00	26.50
Reported 1g SAR (W/kg)	2.822	2.989
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	200.17	193.41
Linearity SAR (W/kg)	2.727	
% deviation from expected linearity		9.62%

LTE Band 41(HPUE)-Linearity Data for Handheld-for 7mm		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	25.50	27.00
Reported 1g SAR (W/kg)	0.937	0.936
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	224.60	217.01
Linearity SAR (W/kg)	0.905	
% deviation from expected linearity		3.38%

General Note:

1. The device can adjust uplink/downlink configuration automatically according to the transmitting power class level for LTE band 41.
2. According to TCB Workshop May 2017, Rel. 14 has introduced HPUE Power Class 2 for Band 41. HPUE Power Class 2 does not support uplink downlink configurations 0 and 6.
3. Power class 3 is expected to be the dominant use configuration; therefore, SAR should be tested as normally required.
4. Power class 2 is tested using the highest SAR test configuration in power class 3 of each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in power class 2.
5. Separate SAR testing for Power Class 2 is not required when
 - the reported SAR vs. output power can be linearly scaled with < 10%
 - discrepancy between power classes and all reported 1g SAR are < 1.4 W/kg (The same procedures should be adapted for measurements according to extremity limits by applying a factor of 2.5 for extremity exposure.)



14.6 Repeated SAR Measurement

<1g>

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	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	GSM1900	-	-	-	-	GPRS(3 Tx slots)	Bottom Side	5	Reduced	661	1880	21.72	22.00	1.067	-	-	0.09	1.230	1	1.312
2nd	GSM1900	-	-	-	-	GPRS(3 Tx slots)	Bottom Side	5	Reduced	661	1880	21.72	22.00	1.067	-	-	-0.13	1.170	1.051	1.248
1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5	Reduced	1513	1752.6	16.85	17.50	1.161	-	-	0.01	1.180	1	1.371
2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5	Reduced	1513	1752.6	16.85	17.50	1.161	-	-	-0.11	1.130	1.044	1.312
1st	LTE Band 13	10M	QPSK	1	0	-	Front	5	Full	23230	782	22.95	24.00	1.274	-	-	-0.03	0.972	1	1.238
2nd	LTE Band 13	10M	QPSK	1	0	-	Front	5	Full	23230	782	22.95	24.00	1.274	-	-	0.12	0.934	1.041	1.189
1st	LTE Band 30	10M	QPSK	1	0	-	Back	5	Reduced	27710	2310	20.65	21.50	1.216	-	-	-0.04	1.040	1	1.265
2nd	LTE Band 30	10M	QPSK	1	0	-	Back	5	Reduced	27710	2310	20.65	21.50	1.216	-	-	0.17	1.010	1.030	1.228
1st	LTE Band 41C	20M	QPSK	100	0	-	Back	5	Reduced	40620+40422	2593+2573.2	22.37	23.00	1.156	62.9	1.006	0.01	1.140	1	1.326
2nd	LTE Band 41C	20M	QPSK	100	0	-	Back	5	Reduced	40620+40422	2593+2573.2	22.37	23.00	1.156	62.9	1.006	0.01	1.090	1.046	1.268
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Top Side	5	Reduced	6	2437	18.82	19.50	1.168	98.97	1.010	0.07	1.010	1	1.192
2nd	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Top Side	5	Reduced	6	2437	18.82	19.50	1.168	98.97	1.010	-0.02	0.981	1.030	1.157
1st	WLAN5.8GHz	-	-	-	-	802.11a 6Mbps	Back	5	Reduced	165	5825	15.37	16.00	1.156	97.46	1.026	-0.02	0.920	1	1.091
2nd	WLAN5.8GHz	-	-	-	-	802.11a 6Mbps	Back	5	Reduced	165	5825	15.37	16.00	1.156	97.46	1.026	0.11	0.901	1.021	1.068
1st	CDMA2000 BC10	-	-	-	-	RC3 SO32 (F+SCH)	Front	5	Full	580	820.5	24.30	25.00	1.175	-	-	-0.06	1.150	1	1.351
2nd	CDMA2000 BC10	-	-	-	-	RC3 SO32 (F+SCH)	Front	5	Full	580	820.5	24.30	25.00	1.175	-	-	-0.11	1.130	1.018	1.328

<10g>

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0	Reduced	1312	1712.4	18.59	19.50	1.233	-	-	0.08	2.790	1	3.440
2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0	Reduced	1312	1712.4	18.59	19.50	1.233	-	-	-0.11	2.680	1.041	3.305
1st	LTE Band 25	20M	QPSK	1	0	-	Front	0	Reduced	26140	1860	21.26	21.50	1.057	-	-	0.09	2.990	1	3.160
2nd	LTE Band 25	20M	QPSK	1	0	-	Front	0	Reduced	26140	1860	21.26	21.50	1.057	-	-	-0.12	2.840	1.053	3.001
1st	LTE Band 30	10M	QPSK	1	0	-	Front	0	Reduced	27710	2310	22.45	23.50	1.274	-	-	0.03	2.430	1	3.095
2nd	LTE Band 30	10M	QPSK	1	0	-	Front	0	Reduced	27710	2310	22.45	23.50	1.274	-	-	0.09	2.330	1.043	2.967
1st	LTE Band 41-HPUE	20M	QPSK	1	0	-	Back	0	Reduced	39750	2506	26.24	26.50	1.062	42.9	1.009	0.11	2.790	1	2.989
2nd	LTE Band 41-HPUE	20M	QPSK	1	0	-	Back	0	Reduced	39750	2506	26.24	26.50	1.062	42.9	1.009	-0.09	2.730	1.22	2.925
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Front	0	Full	11	2462	20.08	21.50	1.385	98.97	1.010	0.09	2.200	1	3.078
2nd	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Front	0	Full	11	2462	20.08	21.50	1.385	98.97	1.010	0.08	2.110	1.043	2.952
1st	WLAN5.5GHz	-	-	-	-	802.11a 6Mbps	Back	0	Full	132	5660	17.90	19.00	1.288	97.46	1.026	0.01	2.350	1	3.106
2nd	WLAN5.5GHz	-	-	-	-	802.11a 6Mbps	Back	0	Full	132	5660	17.90	19.00	1.288	97.46	1.026	0.04	2.270	1.035	3.000

General Note:

- Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
- Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR < 1.45 W/kg, only one repeated measurement is required.
- Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
- The ratio is the difference in percentage between original and repeated *measured SAR*.
- All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

15. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	GSM Voice + WLAN2.4GHz	Yes	Yes		Yes
2.	GPRS/EDGE + WLAN2.4GHz	Yes	Yes	Yes	Yes
3.	WCDMA + WLAN2.4GHz	Yes	Yes	Yes	Yes
4.	LTE + WLAN2.4GHz	Yes	Yes	Yes	Yes
5.	GSM Voice + WLAN5.3/5.5GHz	Yes	Yes		Yes
6.	GPRS/EDGE + WLAN5.3/5.5GHz	Yes	Yes		Yes
7.	WCDMA + WLAN5.3/5.5GHz	Yes	Yes		Yes
8.	LTE + WLAN5.3/5.5GHz	Yes	Yes		Yes
9.	GSM Voice + WLAN5.2/5.8GHz	Yes	Yes		Yes
10.	GPRS/EDGE + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes
11.	WCDMA + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes
12.	LTE + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes
13.	GSM Voice + WLAN5.3/5.5GHz+Bluetooth	Yes	Yes		Yes
14.	GPRS/EDGE + WLAN5.3/5.5GHz+Bluetooth	Yes	Yes		Yes
15.	WCDMA + WLAN5.3/5.5GHz+Bluetooth	Yes	Yes		Yes
16.	LTE + WLAN5.3/5.5GHz+Bluetooth	Yes	Yes		Yes
17.	GSM Voice + WLAN5.2/5.8GHz+Bluetooth	Yes	Yes		Yes
18.	GPRS/EDGE + WLAN5.2/5.8GHz+Bluetooth	Yes	Yes	Yes	Yes
19.	WCDMA + WLAN5.2/5.8GHz+Bluetooth	Yes	Yes	Yes	Yes
20.	LTE + WLAN5.2/5.8GHz+Bluetooth	Yes	Yes	Yes	Yes
21.	WLAN5.2/5.8GHz+ Bluetooth	Yes	Yes	Yes	Yes
22.	WLAN5.3/5.5GHz + Bluetooth	Yes	Yes	Yes	Yes
23.	GSM Voice + Bluetooth	Yes	Yes		Yes
24.	GPRS/EDGE + Bluetooth	Yes	Yes	Yes	Yes
25.	WCDMA + Bluetooth	Yes	Yes	Yes	Yes
26.	LTE + Bluetooth	Yes	Yes	Yes	Yes

General Note:

- This device supports VoIP in GPRS, EGPRS, WCDMA, CDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
- EUT will choose each GSM, CDMA, WCDMA and LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
- This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
- This device 2.4GHz WLAN/ 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
- EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment though they have independent antenna.
- WLAN 2.4GHz and Bluetooth share the same antenna so can't transmit simultaneously.
- According to the EUT character, WLAN 5GHz and Bluetooth can transmit simultaneously. WWAN+WLAN5GHz+Bluetooth can represent WWAN+WLAN5GHz or WWAN+ Bluetooth, So no need to do co-located analysis separately.
- Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
- The reported SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
 - The SPLSR calculated results please refer to section 16.5.



15.2 Head Exposure Conditions

WWAN Band		Exposure Position	1	2	3	4	1+2	Case No	SPLSR	1+3+4
			WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed			Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			1g SAR (W/kg)
GSM	GSM850	Right Cheek at 0mm	0.743	0.468	0.378	0.179	1.21			1.30
		Right Tilted at 0mm	0.277	0.567	0.405	0.179	0.84			0.86
		Left Cheek at 0mm	0.502	1.101	0.434	0.179	1.60	#01	0.03	1.12
		Left Tilted at 0mm	0.250	0.909	0.667	0.179	1.16			1.10
	GSM1900	Right Cheek at 0mm	0.049	0.468	0.378	0.179	0.52			0.61
		Right Tilted at 0mm	0.034	0.567	0.405	0.179	0.60			0.62
		Left Cheek at 0mm	0.073	1.101	0.434	0.179	1.17			0.69
		Left Tilted at 0mm	0.027	0.909	0.667	0.179	0.94			0.87
WCDMA	WCDMA II	Right Cheek at 0mm	0.094	0.468	0.378	0.179	0.56			0.65
		Right Tilted at 0mm	0.067	0.567	0.405	0.179	0.63			0.65
		Left Cheek at 0mm	0.141	1.101	0.434	0.179	1.24			0.75
		Left Tilted at 0mm	0.048	0.909	0.667	0.179	0.96			0.89
	WCDMA IV	Right Cheek at 0mm	0.168	0.468	0.378	0.179	0.64			0.73
		Right Tilted at 0mm	0.084	0.567	0.405	0.179	0.65			0.67
		Left Cheek at 0mm	0.090	1.101	0.434	0.179	1.19			0.70
		Left Tilted at 0mm	0.078	0.909	0.667	0.179	0.99			0.92
	WCDMA V	Right Cheek at 0mm	0.599	0.468	0.378	0.179	1.07			1.16
		Right Tilted at 0mm	0.264	0.567	0.405	0.179	0.83			0.85
		Left Cheek at 0mm	0.433	1.101	0.434	0.179	1.53			1.05
		Left Tilted at 0mm	0.225	0.909	0.667	0.179	1.13			1.07
CDMA	CDMA2000 BC0	Right Cheek at 0mm	0.595	0.468	0.378	0.179	1.06			1.15
		Right Tilted at 0mm	0.275	0.567	0.405	0.179	0.84			0.86
		Left Cheek at 0mm	0.349	1.101	0.434	0.179	1.45			0.96
		Left Tilted at 0mm	0.085	0.909	0.667	0.179	0.99			0.93
	CDMA2000 BC1	Right Cheek at 0mm	0.056	0.468	0.378	0.179	0.52			0.61
		Right Tilted at 0mm	0.025	0.567	0.405	0.179	0.59			0.61
		Left Cheek at 0mm	0.108	1.101	0.434	0.179	1.21			0.72
		Left Tilted at 0mm	0.041	0.909	0.667	0.179	0.95			0.89
	CDMA2000 BC10	Right Cheek at 0mm	0.554	0.468	0.378	0.179	1.02			1.11
		Right Tilted at 0mm	0.216	0.567	0.405	0.179	0.78			0.80
		Left Cheek at 0mm	0.428	1.101	0.434	0.179	1.53			1.04
		Left Tilted at 0mm	0.082	0.909	0.667	0.179	0.99			0.93
LTE	LTE Band 7	Right Cheek at 0mm	0.314	0.468	0.378	0.179	0.78			0.87
		Right Tilted at 0mm	0.306	0.567	0.405	0.179	0.87			0.89
		Left Cheek at 0mm	0.470	1.101	0.434	0.179	1.57			1.08
		Left Tilted at 0mm	0.188	0.909	0.667	0.179	1.10			1.03
	LTE Band 12	Right Cheek at 0mm	0.338	0.468	0.378	0.179	0.81			0.90
		Right Tilted at 0mm	0.174	0.567	0.405	0.179	0.74			0.76



		Left Cheek at 0mm	0.339	1.101	0.434	0.179	1.44		0.95
		Left Tilted at 0mm	0.167	0.909	0.667	0.179	1.08		1.01
	LTE Band 13	Right Cheek at 0mm	0.488	0.468	0.378	0.179	0.96		1.05
		Right Tilted at 0mm	0.245	0.567	0.405	0.179	0.81		0.83
		Left Cheek at 0mm	0.447	1.101	0.434	0.179	1.55		1.06
		Left Tilted at 0mm	0.223	0.909	0.667	0.179	1.13		1.07
	LTE Band 14	Right Cheek at 0mm	0.478	0.468	0.378	0.179	0.95		1.04
		Right Tilted at 0mm	0.259	0.567	0.405	0.179	0.83		0.84
		Left Cheek at 0mm	0.400	1.101	0.434	0.179	1.50		1.01
		Left Tilted at 0mm	0.196	0.909	0.667	0.179	1.11		1.04
	LTE Band 25	Right Cheek at 0mm	0.035	0.468	0.378	0.179	0.50		0.59
		Right Tilted at 0mm	0.050	0.567	0.405	0.179	0.62		0.63
		Left Cheek at 0mm	0.146	1.101	0.434	0.179	1.25		0.76
		Left Tilted at 0mm	0.060	0.909	0.667	0.179	0.97		0.91
	LTE Band 26	Right Cheek at 0mm	0.498	0.468	0.378	0.179	0.97		1.06
		Right Tilted at 0mm	0.258	0.567	0.405	0.179	0.83		0.84
		Left Cheek at 0mm	0.383	1.101	0.434	0.179	1.48		1.00
		Left Tilted at 0mm	0.236	0.909	0.667	0.179	1.15		1.08
	LTE Band 30	Right Cheek at 0mm	0.222	0.468	0.378	0.179	0.69		0.78
		Right Tilted at 0mm	0.166	0.567	0.405	0.179	0.73		0.75
Left Cheek at 0mm		0.346	1.101	0.434	0.179	1.45		0.96	
Left Tilted at 0mm		0.174	0.909	0.667	0.179	1.08		1.02	
LTE Band 66	Right Cheek at 0mm	0.180	0.468	0.378	0.179	0.65		0.74	
	Right Tilted at 0mm	0.049	0.567	0.405	0.179	0.62		0.63	
	Left Cheek at 0mm	0.109	1.101	0.434	0.179	1.21		0.72	
	Left Tilted at 0mm	0.056	0.909	0.667	0.179	0.97		0.90	
LTE Band 71	Right Cheek at 0mm	0.346	0.468	0.378	0.179	0.81		0.90	
	Right Tilted at 0mm	0.216	0.567	0.405	0.179	0.78		0.80	
	Left Cheek at 0mm	0.336	1.101	0.434	0.179	1.44		0.95	
	Left Tilted at 0mm	0.194	0.909	0.667	0.179	1.10		1.04	
LTE Band 41	Right Cheek at 0mm	0.189	0.468	0.378	0.179	0.66		0.75	
	Right Tilted at 0mm	0.206	0.567	0.405	0.179	0.77		0.79	
	Left Cheek at 0mm	0.305	1.101	0.434	0.179	1.41		0.92	
	Left Tilted at 0mm	0.115	0.909	0.667	0.179	1.02		0.96	



15.3 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	Case No	SPLSR	1+3+4	Case No	SPLSR	
		WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed			Summed			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			1g SAR (W/kg)			
GSM	GSM850	Front at 5mm -	0.821	0.970	0.049	0.097	1.79	#02	0.01	0.97		
		Back at 5mm -	0.462	1.190	1.207	0.066	1.65	#03	0.01	1.74	#04	0.02
		Left side at 5mm -	0.516				0.52			0.52		
		Right side at 5mm -	0.979	0.510	0.213	0.097	1.49			1.29		
		Top side at 5mm -		1.192	0.324	0.097	1.19			0.42		
		Bottom side at 5mm -	0.561				0.56			0.56		
	GSM1900	Front at 5mm -	1.315	0.970	0.049	0.097	2.29	#05	0.02	1.46		
		Back at 5mm -	1.156	1.190	1.207	0.066	2.35	#06	0.02	2.43	#07	0.03
		Left side at 5mm -	0.046				0.05			0.05		
		Right side at 5mm -	0.028	0.510	0.213	0.097	0.54			0.34		
		Top side at 5mm -		1.192	0.324	0.097	1.19			0.42		
		Bottom side at 5mm -	1.312				1.31			1.31		
WCDMA	WCDMA II	Front at 5mm -	1.318	0.970	0.049	0.097	2.29	#08	0.02	1.46		
		Back at 5mm -	1.353	1.190	1.207	0.066	2.54	#09	0.03	2.63	#10	0.03
		Left side at 5mm -	0.025				0.03			0.03		
		Right side at 5mm -	0.018	0.510	0.213	0.097	0.53			0.33		
		Top side at 5mm -		1.192	0.324	0.097	1.19			0.42		
		Bottom side at 5mm -	1.332				1.33			1.33		
	WCDMA IV	Front at 5mm -	1.228	0.970	0.049	0.097	2.20	#11	0.02	1.37		
		Back at 5mm -	1.371	1.190	1.207	0.066	2.56	#12	0.03	2.64	#13	0.03
		Left side at 5mm -	0.027				0.03			0.03		
		Right side at 5mm -	0.030	0.510	0.213	0.097	0.54			0.34		
		Top side at 5mm -		1.192	0.324	0.097	1.19			0.42		
		Bottom side at 5mm -	1.403				1.40			1.40		
	WCDMA V	Front at 5mm -	1.313	0.970	0.049	0.097	2.28	#14	0.02	1.46		
		Back at 5mm -	1.130	1.190	1.207	0.066	2.32	#15	0.02	2.40	#16	0.03
		Left side at 5mm -	0.440				0.44			0.44		
		Right side at 5mm -	1.018	0.510	0.213	0.097	1.53			1.33		
		Top side at 5mm -		1.192	0.324	0.097	1.19			0.42		
		Bottom side at 5mm -	1.166				1.17			1.17		
CDMA	CDMA2000 BC0	Front at 5mm -	1.283	0.970	0.049	0.097	2.25	#17	0.02	1.43		
		Back at 5mm -	1.283	1.190	1.207	0.066	2.47	#18	0.02	2.56	#19	0.03
		Left side at 5mm -	0.290				0.29			0.29		
		Right side at 5mm -	0.584	0.510	0.213	0.097	1.09			0.89		
		Top side at 5mm -		1.192	0.324	0.097	1.19			0.42		
		Bottom side at 5mm -	1.193				1.19			1.19		
	CDMA2000 BC1	Front at 5mm -	0.593	0.970	0.049	0.097	1.56			0.74		
		Back at 5mm -	0.584	1.190	1.207	0.066	1.77	#20	0.02	1.86	#21	0.02



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CDMA2000 BC10	Left side at 5mm -	0.040				0.04			0.04				
	Right side at 5mm -	0.025	0.510	0.213	0.097	0.54			0.34				
	Top side at 5mm -		1.192	0.324	0.097	1.19			0.42				
	Bottom side at 5mm -	1.255				1.26			1.26				
	Front at 5mm -	1.350	0.970	0.049	0.097	2.32	#22	0.02	1.50				
	Back at 5mm -	1.313	1.190	1.207	0.066	2.50	# 23	0.03	2.59	# 24	0.03		
	Left side at 5mm -	0.135				0.14			0.14				
	Right side at 5mm -	0.123	0.510	0.213	0.097	0.63			0.43				
	Top side at 5mm -		1.192	0.324	0.097	1.19			0.42				
	Bottom side at 5mm -	1.318				1.32			1.32				
	LTE	LTE Band 7	Front at 5mm -	1.171	0.970	0.049	0.097	2.14	# 25	0.02	1.32		
			Back at 5mm -	1.317	1.190	1.207	0.066	2.51	# 26	0.03	2.59	#27	0.03
Left side at 5mm -			0.518				0.52			0.52			
Right side at 5mm -			0.123	0.510	0.213	0.097	0.63			0.43			
Top side at 5mm -				1.192	0.324	0.097	1.19			0.42			
Bottom side at 5mm -			1.360				1.36			1.36			
LTE Band 12		Front at 5mm -	0.996	0.970	0.049	0.097	1.97	# 28	0.02	1.14			
		Back at 5mm -	0.790	1.190	1.207	0.066	1.98	#29	0.02	2.06	# 30	0.02	
		Left side at 5mm -	0.517				0.52			0.52			
		Right side at 5mm -	0.796	0.510	0.213	0.097	1.31			1.11			
		Top side at 5mm -		1.192	0.324	0.097	1.19			0.42			
		Bottom side at 5mm -	0.759				0.76			0.76			
LTE Band 13	Front at 5mm -	1.238	0.970	0.049	0.097	2.21	# 31	0.02	1.38				
	Back at 5mm -	1.084	1.190	1.207	0.066	2.27	#32	0.02	2.36	# 33	0.03		
	Left side at 5mm -	0.703				0.70			0.70				
	Right side at 5mm -	1.060	0.510	0.213	0.097	1.57			1.37				
	Top side at 5mm -		1.192	0.324	0.097	1.19			0.42				
	Bottom side at 5mm -	1.080				1.08			1.08				
LTE Band 14	Front at 5mm -	1.155	0.970	0.049	0.097	2.13	# 34	0.02	1.30				
	Back at 5mm -	1.042	1.190	1.207	0.066	2.23	# 35	0.02	2.32	# 36	0.02		
	Left side at 5mm -	0.688				0.69			0.69				
	Right side at 5mm -	1.002	0.510	0.213	0.097	1.51			1.31				
	Top side at 5mm -		1.192	0.324	0.097	1.19			0.42				
	Bottom side at 5mm -	1.123				1.12			1.12				
LTE Band 25	Front at 5mm -	1.240	0.970	0.049	0.097	2.21	# 37	0.02	1.39				
	Back at 5mm -	1.296	1.190	1.207	0.066	2.49	# 38	0.03	2.57	# 39	0.03		
	Left side at 5mm -	0.022				0.02			0.02				
	Right side at 5mm -	0.012	0.510	0.213	0.097	0.52			0.32				
	Top side at 5mm -		1.192	0.324	0.097	1.19			0.42				
	Bottom side at 5mm -	1.223				1.22			1.22				
LTE Band 26	Front at 5mm -	1.365	0.970	0.049	0.097	2.34	# 40	0.02	1.51				
	Back at 5mm -	1.353	1.190	1.207	0.066	2.54	#41	0.03	2.63	# 42	0.03		
	Left side at 5mm -	0.391				0.39			0.39				



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		Right side at 5mm -	0.658	0.510	0.213	0.097	1.17			0.97			
		Top side at 5mm -		1.192	0.324	0.097	1.19			0.42			
		Bottom side at 5mm -	1.256				1.26			1.26			
	LTE Band 30		Front at 5mm -	1.198	0.970	0.049	0.097	2.17	# 43	0.02	1.34		
			Back at 5mm -	1.265	1.190	1.207	0.066	2.46	#44	0.03	2.54	# 45	0.03
			Left side at 5mm -	0.698				0.70			0.70		
			Right side at 5mm -	0.152	0.510	0.213	0.097	0.66			0.46		
			Top side at 5mm -		1.192	0.324	0.097	1.19			0.42		
			Bottom side at 5mm -	0.873				0.87			0.87		
			LTE Band 66		Front at 5mm -	1.155	0.970	0.049	0.097	2.13	#46	0.02	1.30
	Back at 5mm -	1.262			1.190	1.207	0.066	2.45	# 47	0.03	2.54	#48	0.03
	Left side at 5mm -	0.024						0.02			0.02		
	Right side at 5mm -	0.025			0.510	0.213	0.097	0.54			0.34		
	Top side at 5mm -				1.192	0.324	0.097	1.19			0.42		
	Bottom side at 5mm -	1.358						1.36			1.36		
	LTE Band 71		Front at 5mm -	0.655	0.970	0.049	0.097	1.63	# 49	0.01	0.80		
			Back at 5mm -	0.661	1.190	1.207	0.066	1.85	#50	0.02	1.93	# 51	0.02
			Left side at 5mm -	0.395				0.40			0.40		
			Right side at 5mm -	0.574	0.510	0.213	0.097	1.08			0.88		
			Top side at 5mm -		1.192	0.324	0.097	1.19			0.42		
			Bottom side at 5mm -	0.527				0.53			0.53		
	LTE Band 41		Front at 5mm -	1.247	0.970	0.049	0.097	2.22	#52	0.02	1.39		
			Back at 5mm -	1.355	1.190	1.207	0.066	2.55	#53	0.03	2.63	#54	0.03
			Left side at 5mm -	0.837				0.84			0.84		
Right side at 5mm -			0.163	0.510	0.213	0.097	0.67			0.47			
Top side at 5mm -				1.192	0.324	0.097	1.19			0.42			
Bottom side at 5mm -			1.008				1.01			1.01			



15.4 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	Case No	SPLSR	1+3+4	Case No	SPLSR	
		WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed			Summed			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			1g SAR (W/kg)			
GSM	GSM850	Front at 5mm -	0.821	0.970	0.049	0.066	1.79	#02	0.01	0.94		
		Back at 5mm -	0.462	1.190	1.207	0.066	1.65	#03	0.01	1.74	#04	0.02
	GSM1900	Front at 5mm -	1.315	0.970	0.049	0.066	2.29	#05	0.02	1.43		
		Back at 5mm -	1.156	1.190	1.207	0.066	2.35	#06	0.02	2.43	#07	0.03
		Front at 5mm Headset	1.201				1.20			1.20		
WCDMA	WCDMA II	Front at 5mm -	1.318	0.970	0.049	0.066	2.29	#08	0.02	1.43		
		Back at 5mm -	1.353	1.190	1.207	0.066	2.54	#09	0.03	2.63	#10	0.03
		Back at 5mm Headset	1.318				1.32			1.32		
	WCDMA IV	Front at 5mm -	1.228	0.970	0.049	0.066	2.20	#11	0.02	1.34		
		Back at 5mm -	1.371	1.190	1.207	0.066	2.56	#12	0.03	2.64	#13	0.03
		Back at 5mm Headset	1.312				1.31			1.31		
	WCDMA V	Front at 5mm -	1.313	0.970	0.049	0.066	2.28	#14	0.02	1.43		
		Back at 5mm -	1.130	1.190	1.207	0.066	2.32	#15	0.02	2.40	#16	0.03
		Front at 5mm Headset	1.197				1.20			1.20		
CDMA	CDMA2000 BC0	Front at 5mm -	1.277	0.970	0.049	0.066	2.25	#55	0.02	1.39		
		Back at 5mm -	1.290	1.190	1.207	0.066	2.48	#56	0.03	2.56	#57	0.03
		Back at 5mm Headset	1.328				1.33			1.33		
	CDMA2000 BC1	Front at 5mm -	1.103	0.970	0.049	0.066	2.07	#58	0.02	1.22		
		Back at 5mm -	1.181	1.190	1.207	0.066	2.37	#59	0.02	2.45	#60	0.03
	CDMA2000 BC10	Front at 5mm -	1.351	0.970	0.049	0.066	2.32	#61	0.02	1.47		
Back at 5mm -		1.184	1.190	1.207	0.066	2.37	#62	0.02	2.46	#63	0.03	
LTE	LTE Band 7	Front at 5mm	1.171	0.970	0.049	0.066	2.14	#25	0.02	1.29		
		Back at 5mm -	1.317	1.190	1.207	0.066	2.51	#26	0.03	2.59	#27	0.03
		Back at 5mm Headset	1.138				1.14			1.14		
	LTE Band 12	Front at 5mm -	0.996	0.970	0.049	0.066	1.97	#28	0.02	1.11		
		Back at 5mm -	0.790	1.190	1.207	0.066	1.98	#29	0.02	2.06	#30	0.02
	LTE Band 13	Front at 5mm -	1.238	0.970	0.049	0.066	2.21	#31	0.02	1.35		
		Back at 5mm -	1.084	1.190	1.207	0.066	2.27	#32	0.02	2.36	#33	0.03
	LTE Band 14	Front at 5mm -	1.155	0.970	0.049	0.066	2.13	#34	0.02	1.27		
		Back at 5mm -	1.042	1.190	1.207	0.066	2.23	#35	0.02	2.32	#36	0.02
	LTE Band 25	Front at 5mm -	1.240	0.970	0.049	0.066	2.21	#37	0.02	1.36		
		Back at 5mm -	1.296	1.190	1.207	0.066	2.49	#38	0.03	2.57	#39	0.03
		Back at 5mm Headset	1.243				1.24			1.24		
LTE Band 26	Front at 5mm -	1.365	0.970	0.049	0.066	2.34	#40	0.02	1.48			
	Back at 5mm -	1.353	1.190	1.207	0.066	2.54	#41	0.03	2.63	#42	0.03	



	Front at 5mm Headset	1.256				1.26			1.26		
LTE Band 30	Front at 5mm -	1.198	0.970	0.049	0.066	2.17	# 43	0.02	1.31		
	Back at 5mm -	1.265	1.190	1.207	0.066	2.46	#44	0.03	2.54	# 45	0.03
	Back at 5mm Headset	1.301				1.30			1.30		
LTE Band 66	Front at 5mm -	1.155	0.970	0.049	0.066	2.13	#46	0.02	1.27		
	Back at 5mm -	1.262	1.190	1.207	0.066	2.45	# 47	0.03	2.54	#48	0.03
	Back at 5mm Headset	1.251				1.25			1.25		
LTE Band 71	Front at 5mm -	0.655	0.970	0.049	0.066	1.63	# 49	0.01	0.77		
	Back at 5mm -	0.661	1.190	1.207	0.066	1.85	#50	0.02	1.93	# 51	0.02
LTE Band 41	Front at 5mm -	1.247	0.970	0.049	0.066	2.22	#52	0.02	1.36		
	Back at 5mm -	1.355	1.190	1.207	0.066	2.55	#53	0.03	2.63	#54	0.03
	Back at 5mm Headset	1.217				1.22			1.22		



WWAN Band		Exposure Position	1	2	3	4	1+2	1+3+4	Case No	SPLSR
			WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed	Summed		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM	GSM1900	Front at 17mm -	0.440	0.143	0.052	0.008	0.58	0.50		
		Back at 19mm -	0.481	0.157	1.150	0.008	0.64	1.64	# 64	0.02
WCDMA	WCDMA II	Front at 17mm -	0.860	0.143	0.052	0.008	1.00	0.92		
		Back at 19mm -	0.882	0.157	1.150	0.008	1.04	2.04	# 65	0.02
	WCDMA IV	Front at 17mm -	0.917	0.143	0.052	0.008	1.06	0.98		
		Back at 19mm -	0.910	0.157	1.150	0.008	1.07	2.07	# 66	0.02
	WCDMA V	Front at 17mm -	0.492	0.143	0.052	0.008	0.64	0.55		
		Back at 19mm -	0.433	0.157	1.150	0.008	0.59	1.59		
CDMA	CDMA2000 BC0	Front at 17mm -	0.353	0.143	0.052	0.008	0.50	0.41		
		Back at 19mm -	0.255	0.157	1.150	0.008	0.41	1.41		
	CDMA2000 BC1	Front at 17mm -	0.922	0.143	0.052	0.008	1.07	0.98		
		Back at 19mm -	1.092	0.157	1.150	0.008	1.25	2.25	#68	0.03
LTE	LTE Band 7	Front at 17mm -	0.642	0.143	0.052	0.008	0.79	0.70		
		Back at 19mm -	0.561	0.157	1.150	0.008	0.72	1.72	# 69	0.02
	LTE Band 25	Front at 17mm -	1.179	0.143	0.052	0.008	1.32	1.24		
		Back at 19mm -	1.205	0.157	1.150	0.008	1.36	2.36	# 70	0.03
	LTE Band 30	Front at 17mm -	0.386	0.143	0.052	0.008	0.53	0.45		
		Back at 19mm -	0.343	0.157	1.150	0.008	0.50	1.50		
	LTE Band 66	Front at 17mm -	0.869	0.143	0.052	0.008	1.01	0.93		
		Back at 19mm -	0.923	0.157	1.150	0.008	1.08	2.08	# 71	0.02
	LTE Band 41	Front at 17mm -	0.203	0.143	0.052	0.008	0.35	0.26		
		Back at 19mm -	0.274	0.157	1.150	0.008	0.43	1.43		



15.5 Product specific 10g SAR Exposure Conditions

WWAN Band	Exposure Position	1	2	3	1+2	Case No	SPLSR	1+3	Case No	SPLSR	
		WWAN	2.4GHz WLAN	5GHz WLAN	Summed			Summed			
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)			10g SAR (W/kg)			
GSM	GSM1900	Front at 0mm -	3.126	3.078	0.098	6.20	#01	0.10	3.22		
		Back at 0mm -	2.288	2.924	3.106	5.21	# 02	0.08	5.39	#0 3	0.08
		Top side at 0mm -		2.672		2.67			0.00		
		Bottom side at 0mm -	1.745			1.75			1.75		
WCDMA	WCDMA II	Front at 0mm -	2.884	3.078	0.098	5.96	#04	0.09	2.98		
		Back at 0mm -	2.775	2.924	3.106	5.70	# 05	0.10	5.88	# 06	0.10
		Top side at 0mm -		2.672		2.67			0.00		
		Bottom side at 0mm -	2.719			2.72			2.72		
	WCDMA IV	Front at 0mm -	2.368	3.078	0.098	5.45	#0 7	0.08	2.47		
		Back at 0mm -	2.503	2.924	3.106	5.43	#08	0.09	5.61	#0 9	0.09
		Top side at 0mm -		2.672		2.67			0.00		
		Bottom side at 0mm -	3.440			3.44			3.44		
	WCDMA V	Front at 0mm -	2.116	3.078	0.098	5.19	# 10	0.07	2.21		
		Back at 0mm -	1.876	2.924	3.106	4.80	#11	0.07	4.98	#12	0.07
		Top side at 0mm -		2.672		2.67			0.00		
		Bottom side at 0mm -	1.536			1.54			1.54		
CDMA	CDMA2000 BC0	Front at 0mm -	2.706	3.078	0.098	5.78	#13	0.09	2.80		
		Back at 0mm -	2.283	2.924	3.106	5.21	# 14	0.08	5.39	# 15	0.08
		Top side at 0mm -		2.672		2.67			0.00		
		Bottom side at 0mm -	2.077			2.08			2.08		
	CDMA2000 BC1	Front at 0mm -	3.051	3.078	0.098	6.13	# 16	0.09	3.15		
		Back at 0mm -	2.949	2.924	3.106	5.87	#17	0.10	6.06	# 18	0.10
		Top side at 0mm -		2.672		2.67			0.00		
		Bottom side at 0mm -	2.263			2.26			2.26		
	CDMA2000 BC10	Front at 0mm -	2.763	3.078	0.098	5.84	#19	0.09	2.86		
		Back at 0mm -	2.283	2.924	3.106	5.21	# 20	0.09	5.39	# 21	0.09
		Top side at 0mm -		2.672		2.67			0.00		
		Bottom side at 0mm -	2.038			2.04			2.04		
LTE	LTE Band 7	Front at 0mm -	2.856	3.078	0.098	5.93	# 22	0.09	2.95		
		Back at 0mm -	2.906	2.924	3.106	5.83	#3	0.10	6.01	# 24	0.10
		Top side at 0mm -		2.672		2.67			0.00		
		Bottom side at 0mm -	1.727			1.73			1.73		
	LTE Band 13	Front at 0mm -	1.694	3.078	0.098	4.77	# 25	0.07	1.79		
		Back at 0mm -		2.924	3.106	2.92			3.11		
		Top side at 0mm -		2.672		2.67			0.00		
	LTE Band 25	Front at 0mm -	3.160	3.078	0.098	6.24	# 26	0.10	3.26		



		Back at 0mm -	3.012	2.924	3.106	5.94	# 27	0.10	6.12	# 28	0.10
		Top side at 0mm -		2.672		2.67			0.00		
		Bottom side at 0mm -	2.547			2.55			2.55		
	LTE Band 26	Front at 0mm -	1.920	3.078	0.098	5.00	# 29	0.07	2.02		
		Back at 0mm -	1.522	2.924	3.106	4.45	#30	0.07	4.63	#31	0.07
		Top side at 0mm -		2.672		2.67			0.00		
	LTE Band 30	Bottom side at 0mm -	1.788			1.79			1.79		
		Front at 0mm -	3.095	3.078	0.098	6.17	# 32	0.10	3.19		
		Back at 0mm -	2.865	2.924	3.106	5.79	# 33	0.10	5.97	# 34	0.10
		Top side at 0mm -		2.672		2.67			0.00		
	LTE Band 66	Bottom side at 0mm -	1.401			1.40			1.40		
		Front at 0mm -	2.530	3.078	0.098	5.61	# 35	0.08	2.63		
		Back at 0mm -	2.426	2.924	3.106	5.35	#36	0.09	5.53	# 37	0.09
		Top side at 0mm -		2.672		2.67			0.00		
	LTE Band 41	Bottom side at 0mm -	2.288			2.29			2.29		
		Front at 0mm -	2.366	3.078	0.098	5.44	#38	0.08	2.46		
Back at 0mm -		2.989	2.924	3.106	5.91	# 39	0.10	6.10	# 40	0.10	
Top side at 0mm -			2.672		2.67			0.00			
		Bottom side at 0mm -	1.652					1.65			



WWAN Band		Exposure Position	1	2	3	1+2	Case No	SPLSR	1+3	Case No	SPLSR
			WWAN	2.4GHz WLAN	5GHz WLAN	Summed			Summed		
			10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)			10g SAR (W/kg)		
WCDMA	WCDMA II	Front at 6mm -	3.365	0.576	0.098	3.94			3.46		
		Back at 7mm -	3.430	0.597	0.683	4.03	#41	0.06	4.11	#42	0.06
		Bottom side at 9mm -	3.456			3.46			3.46		
	WCDMA IV	Front at 6mm -	2.830	0.576	0.098	3.41			2.93		
		Back at 7mm -	3.127	0.597	0.683	3.72			3.81		
		Bottom side at 9mm -	3.152			3.15			3.15		
CDMA	CDMA2000 BC1	Front at 6mm -	3.529	0.576	0.098	4.11	#43	0.05	3.63		
		Back at 7mm -	3.341	0.597	0.683	3.94			4.02	#44	0.06
		Bottom side at 9mm -	3.375			3.38			3.38		
LTE	LTE Band 7	Front at 6mm -	0.845	0.576	0.098	1.42			0.94		
		Back at 7mm -	1.077	0.597	0.683	1.67			1.76		
		Bottom side at 9mm -	0.397			0.40			0.40		
	LTE Band 25	Front at 6mm -	2.142	0.576	0.098	2.72			2.24		
		Back at 7mm -	2.025	0.597	0.683	2.62			2.71		
		Bottom side at 9mm -	2.338			2.34			2.34		
	LTE Band 30	Front at 6mm -	0.655	0.576	0.098	1.23			0.75		
		Back at 7mm -	0.647	0.597	0.683	1.24			1.33		
		Bottom side at 9mm -	0.513			0.51			0.51		
	LTE Band 66	Front at 6mm -	2.713	0.576	0.098	3.29			2.81		
		Back at 7mm -	2.272	0.597	0.683	2.87			2.96		
		Bottom side at 9mm -	2.637			2.64			2.64		
	LTE Band 41	Front at 6mm -	0.632	0.576	0.098	1.21			0.73		
		Back at 7mm -	0.937	0.597	0.683	1.53			1.62		
		Bottom side at 9mm -	1.853			1.85			1.85		

Remark:

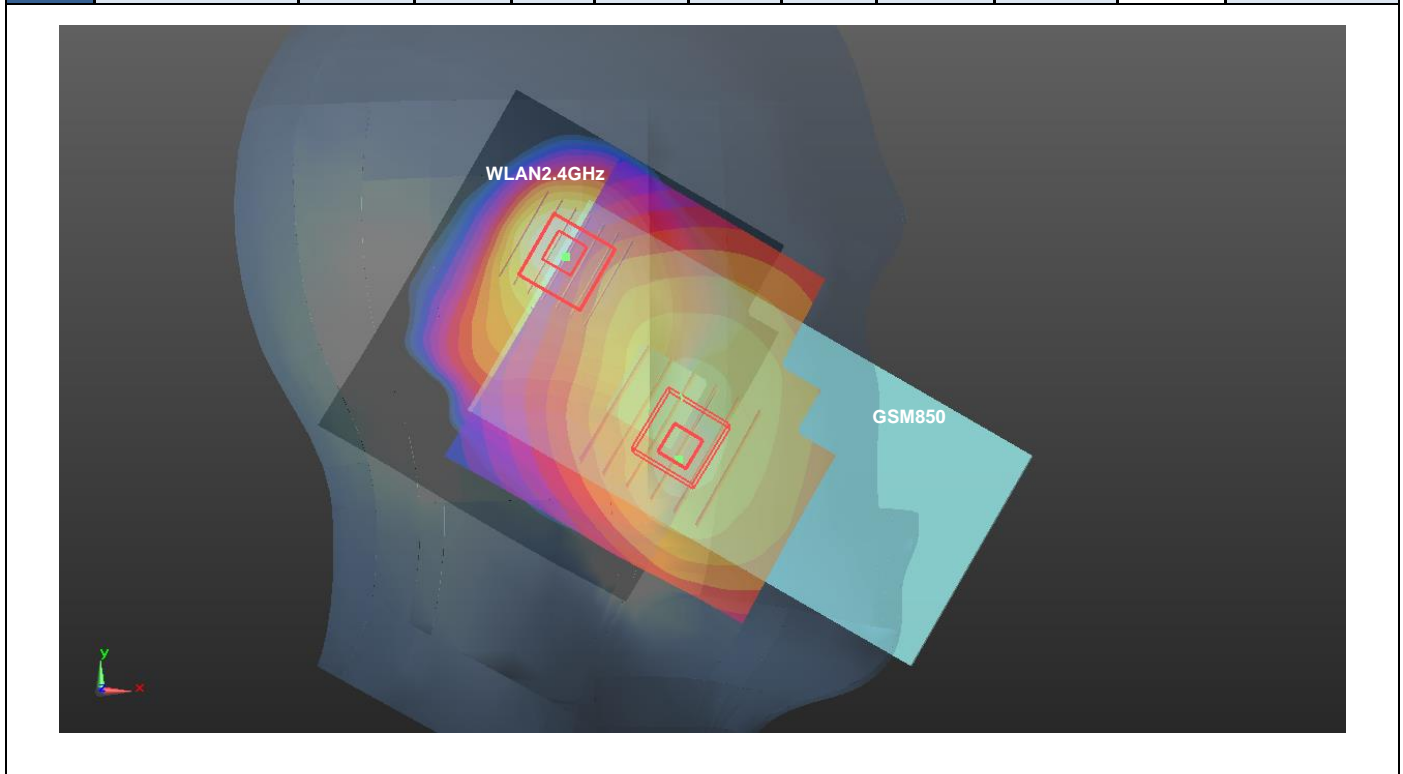
1. For Bluetooth Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.
2. If SPLSR ≤ 0.10 for 10g SAR, simultaneously transmission SAR measurement is not necessary.

15.6 SPLSR Evaluation and Analysis

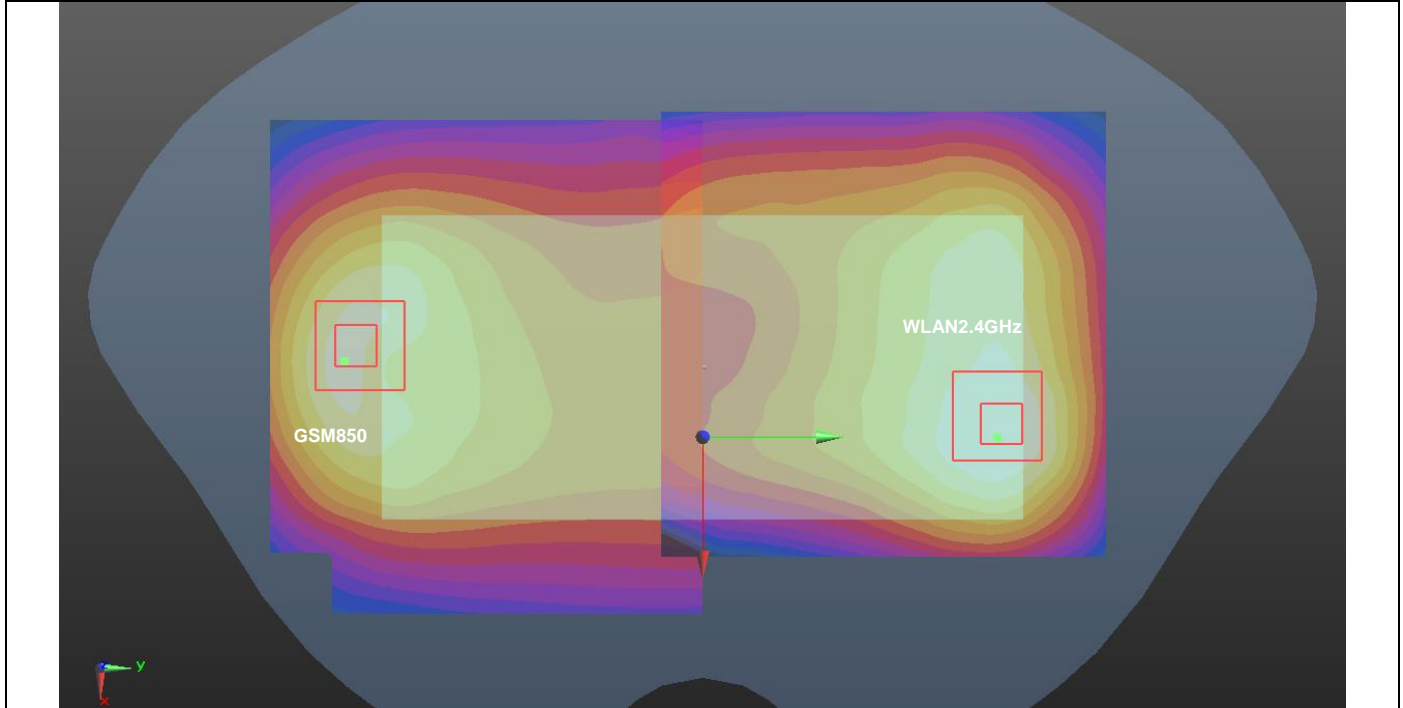
General Note:

1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. $SPLSR = (SAR1 + SAR2)1.5 / (\text{min. separation distance, mm})$. If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.

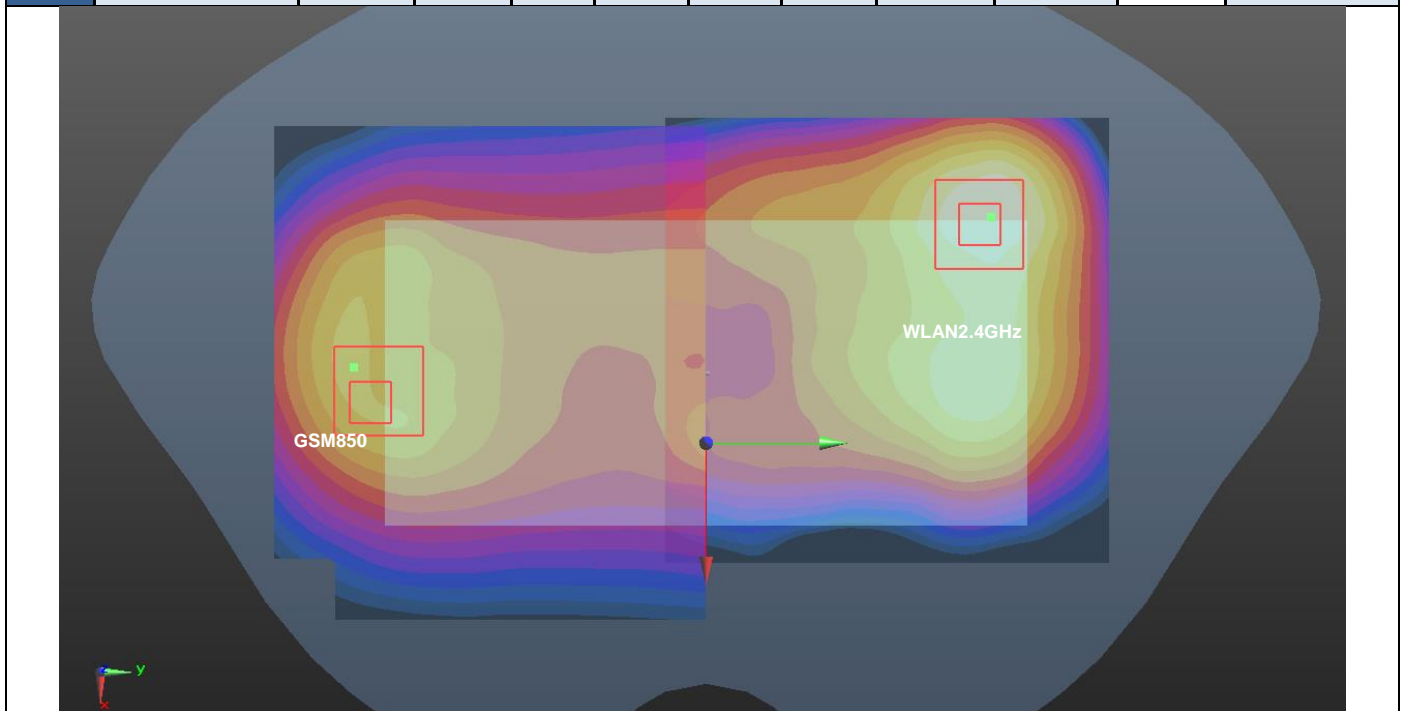
Case #01	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM850			(mm)	X	Y	Z				
	GSM850	Left Cheek	0.502	0	44.2	-46.4	-3.45	72.8	1.60	0.03	Not required
	WLAN2.4GHz		1.101	0	15.93	20.57	0.49				



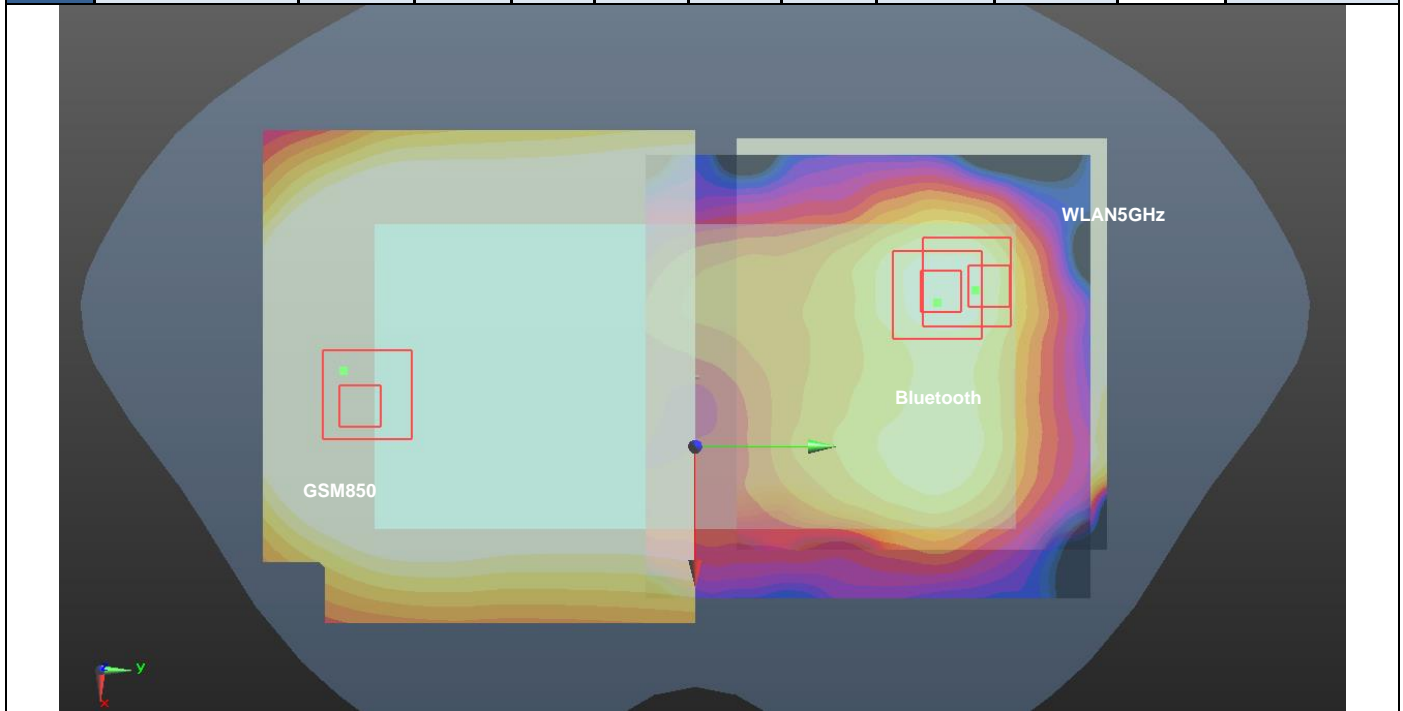
Case #02	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM850				WLAN2.4GHz	X	Y				
	GSM850	Front	0.821	5	-1.5	-85.4	-3.57	163.8	1.79	0.01	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



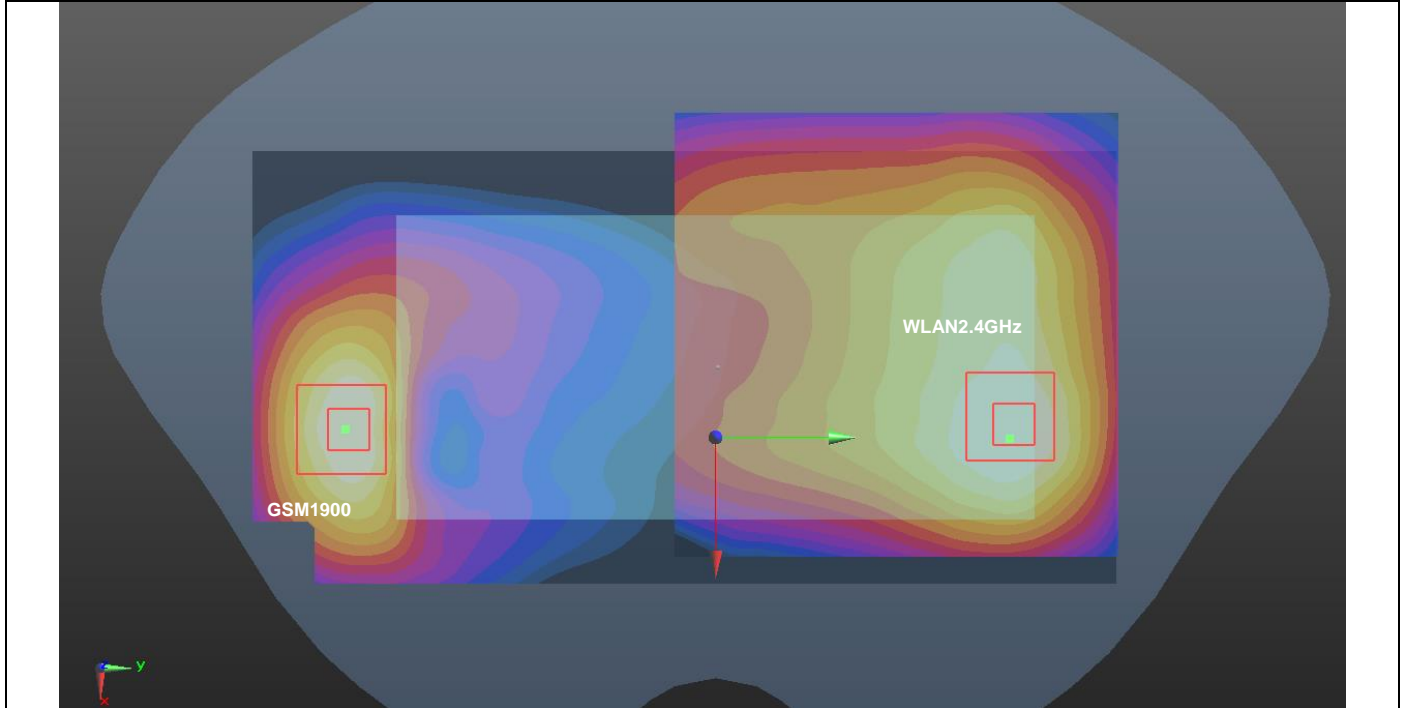
Case #03	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM850				WLAN2.4GHz	X	Y				
	GSM850	Back	0.462	5	6.5	-83.9	-3.41	155.3	1.65	0.01	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



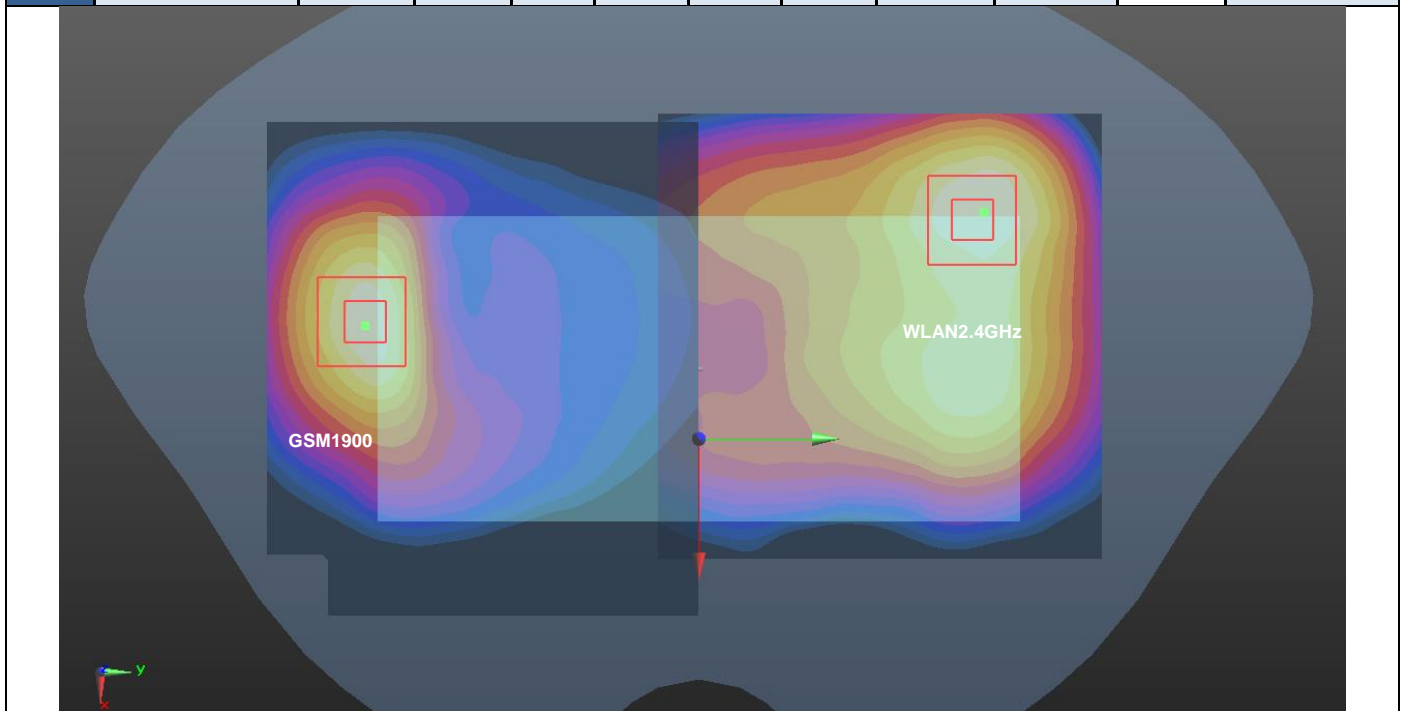
Case #04	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #04	GSM850	Back	0.462	5	6.5	-83.9	-3.41	147.3	1.74	0.02	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	GSM850	Back	0.462	5	6.5	-83.9	-3.41	155.1	1.74	0.01	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



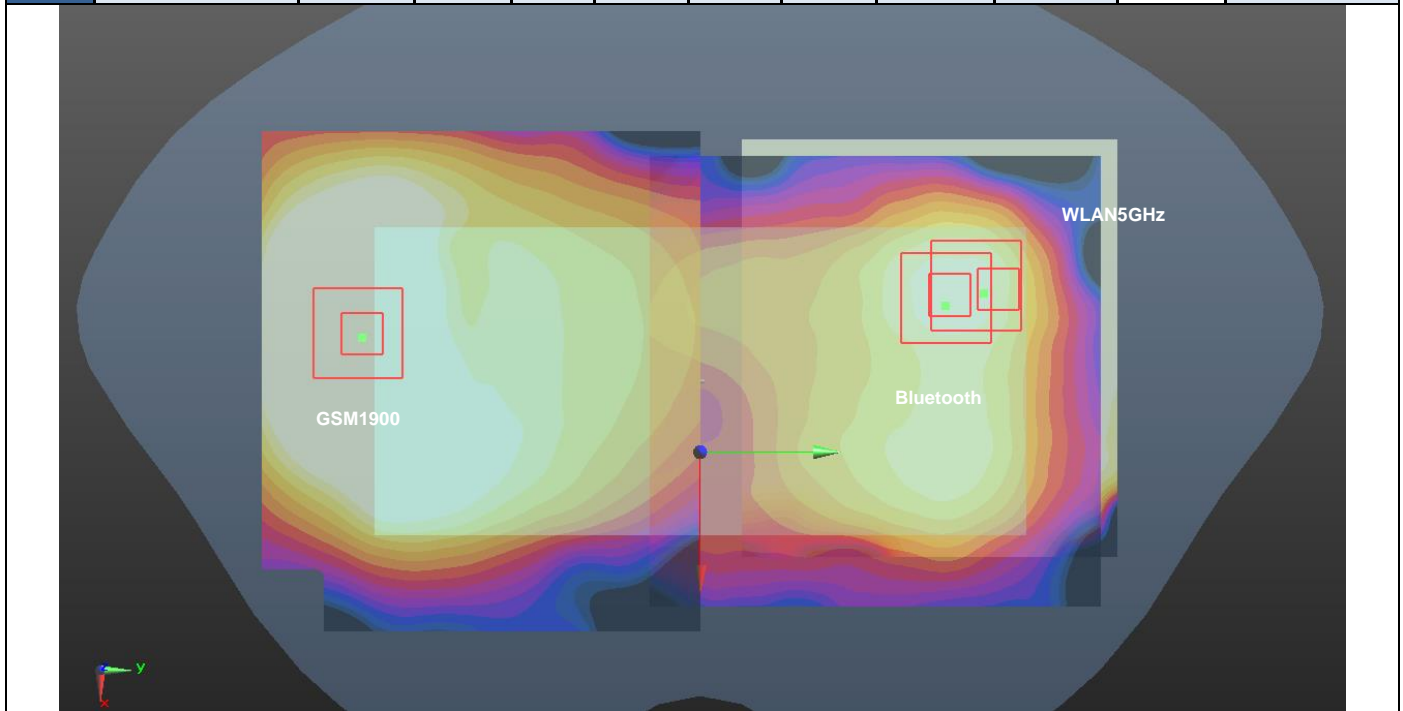
Case #05	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM1900	Front	1.315	5	16.6	-88.4	-1.58	165.1	2.29	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



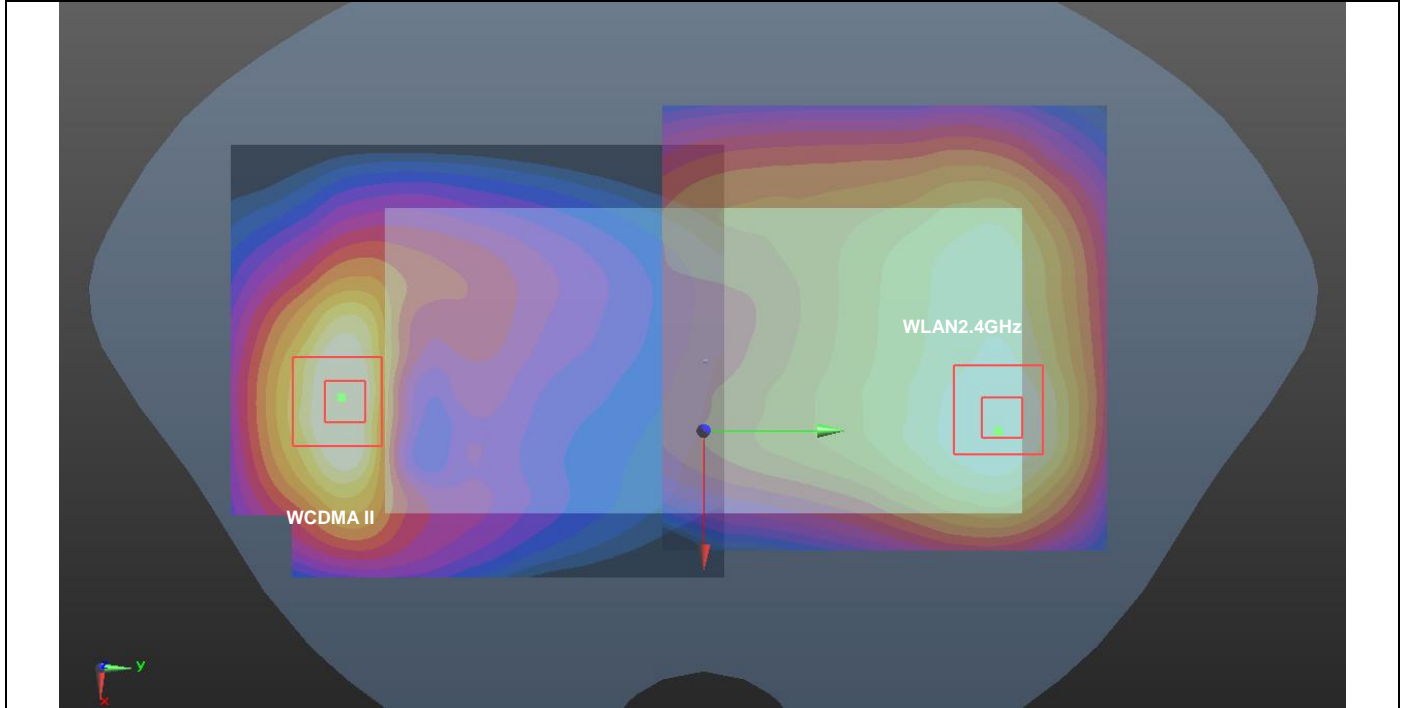
Case #06	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM1900	Back	1.156	5	-15.3	-81	-3.18	148.9	2.35	0.02	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



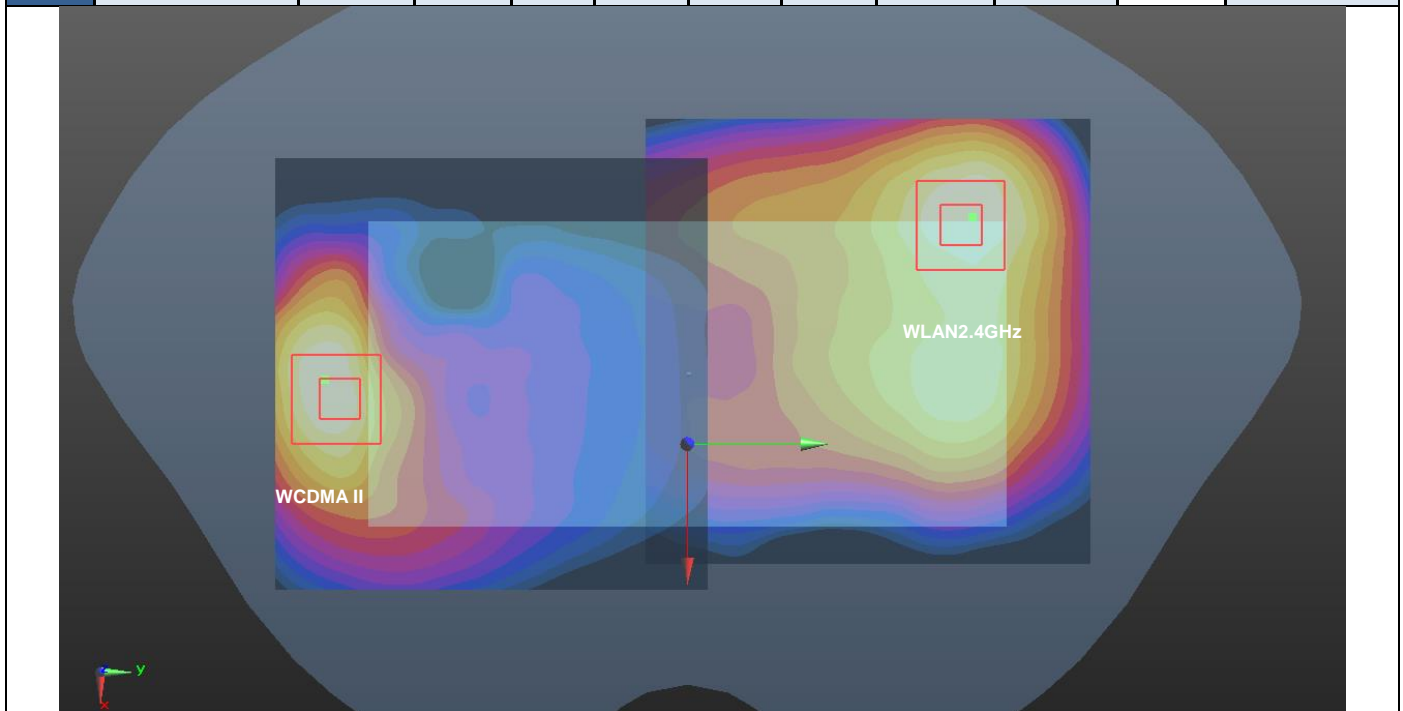
Case #07	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #07	GSM1900	Back	1.156	5	-15.3	-81	-3.18	141.9	2.43	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	GSM1900	Back	1.156	5	-15.3	-81	-3.18	150.7	2.43	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



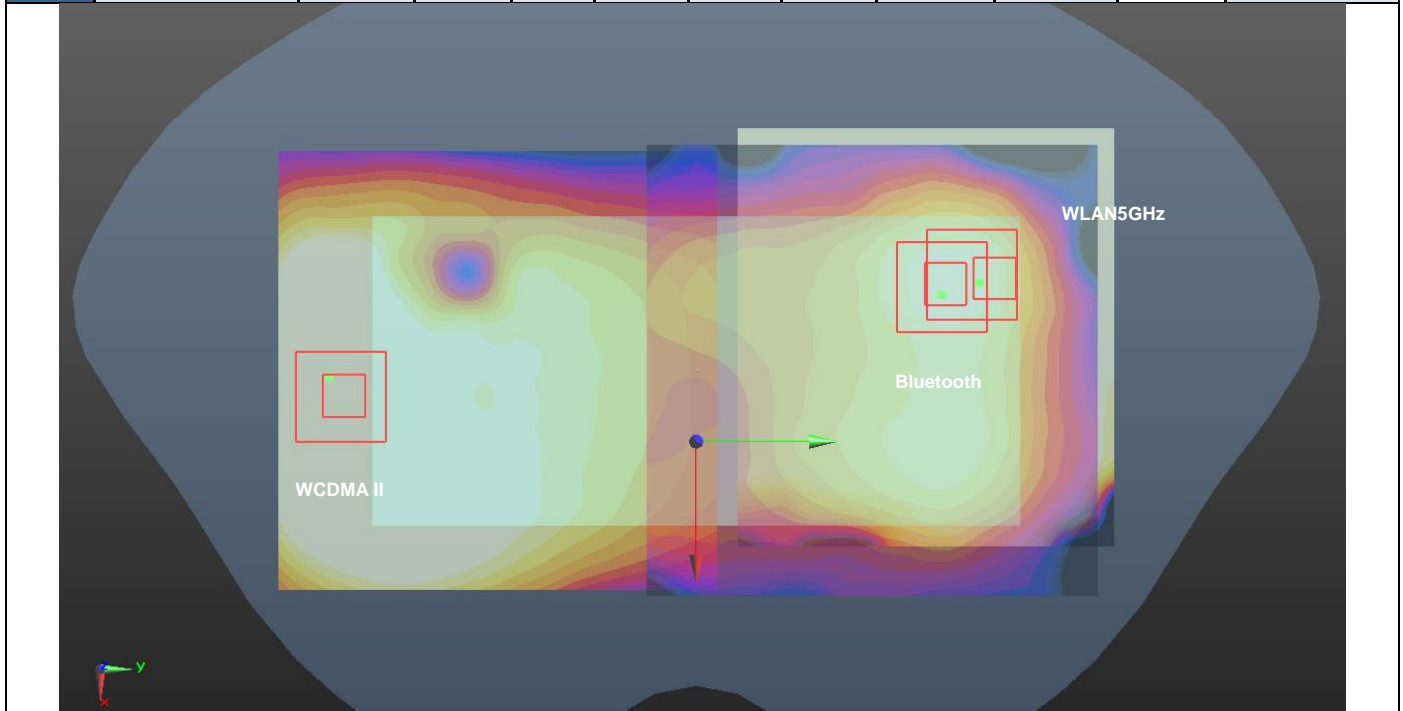
Case #08	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA II	Front	1.318	5	12.2	-86.4	-1.59	163.3	2.29	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



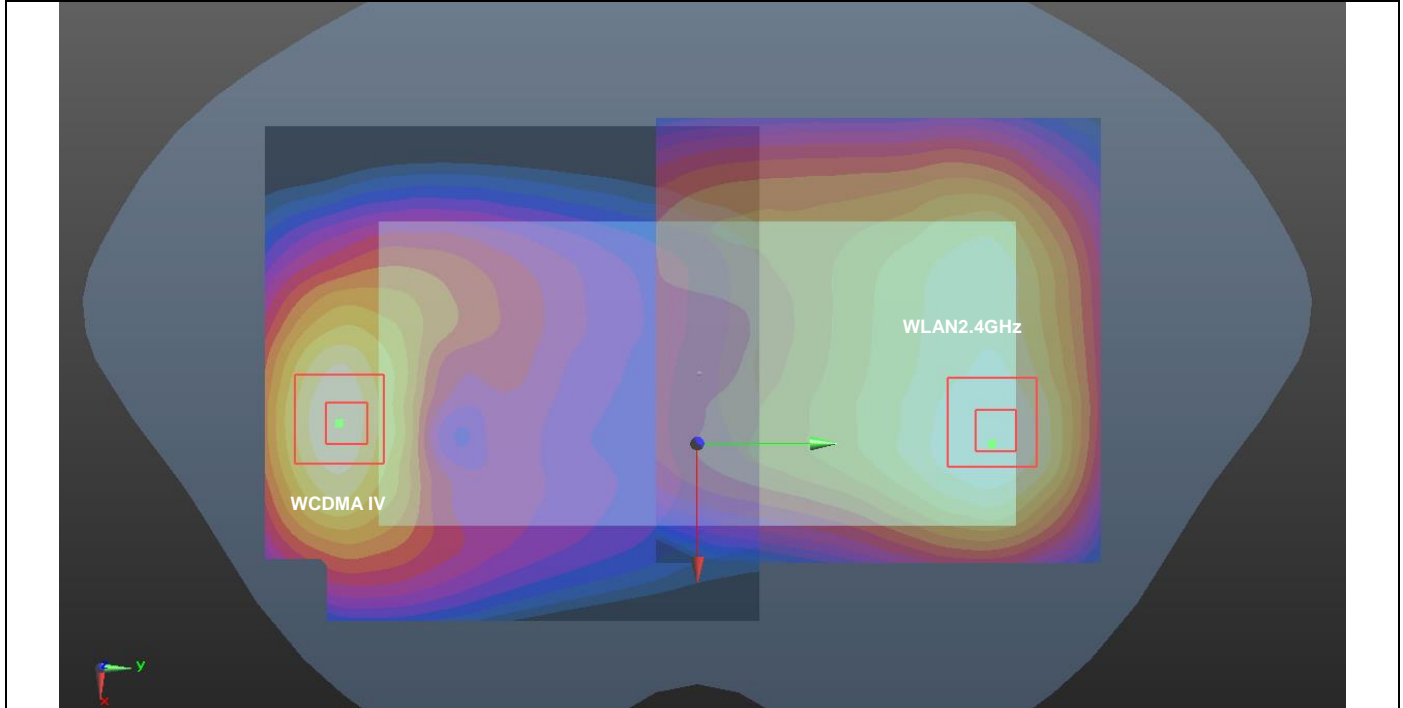
Case #09	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA II	Back	1.353	5	4.7	-84.8	-1.71	155.7	2.54	0.03	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



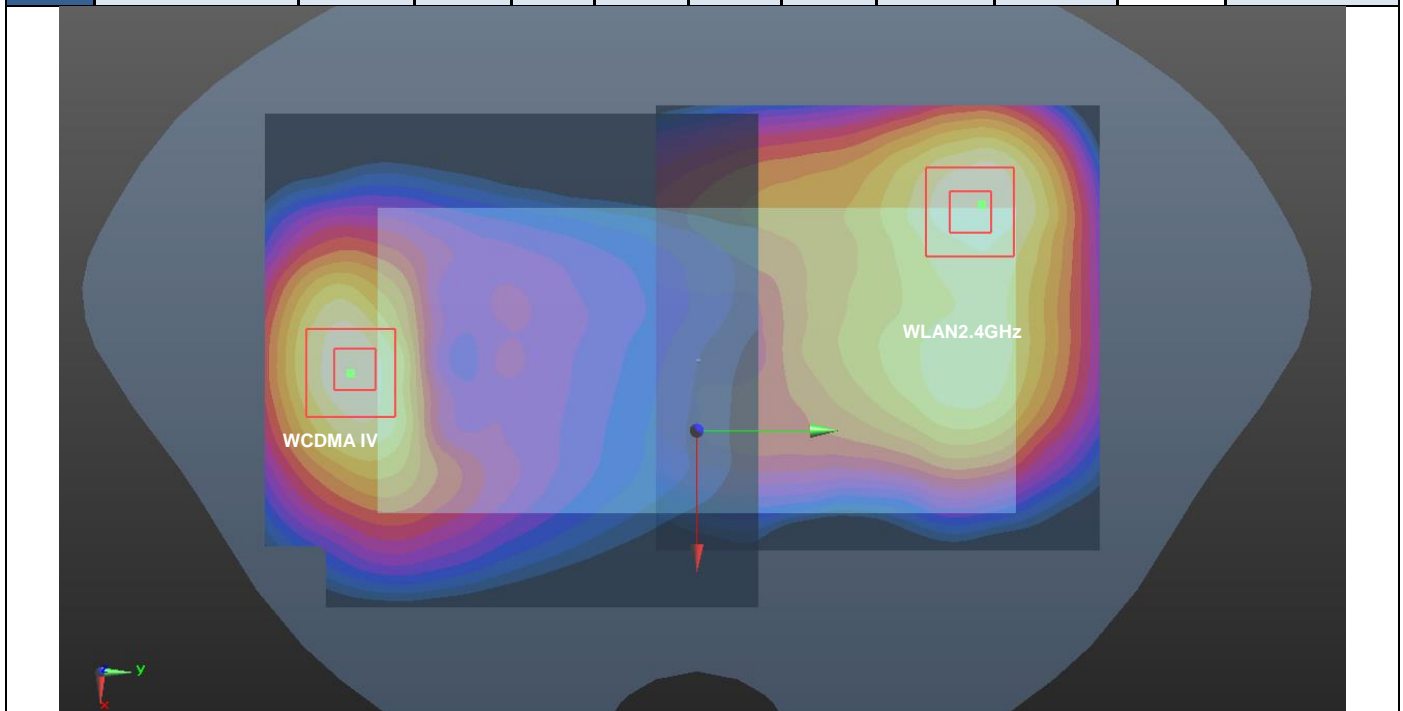
Case #10	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	WCDMA II	Back	1.353	5	4.7	-84.8	-1.71	147.9	2.63	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WCDMA II	Back	1.353	5	4.7	-84.8	-1.71	155.7	2.63	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



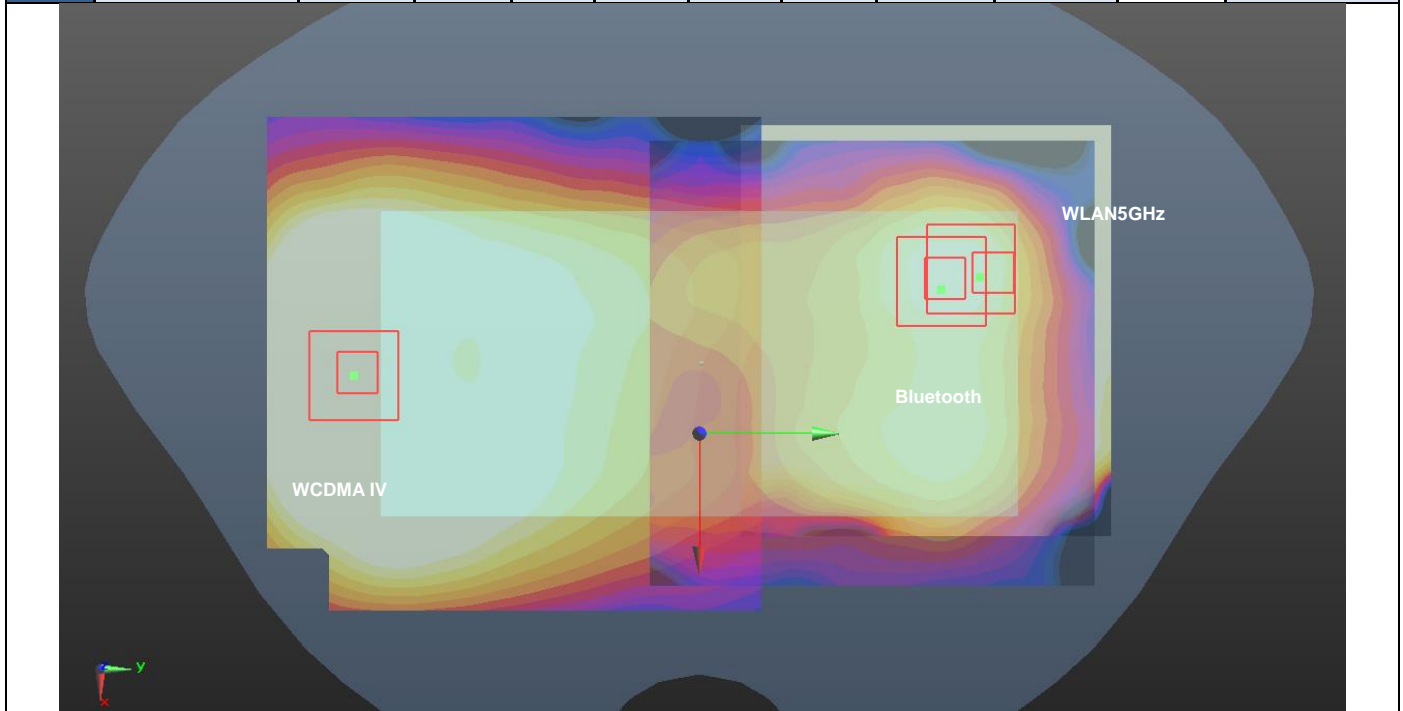
Case #11	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA IV	Front	1.228	5	12	-83.8	-1.62	160.8	2.20	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



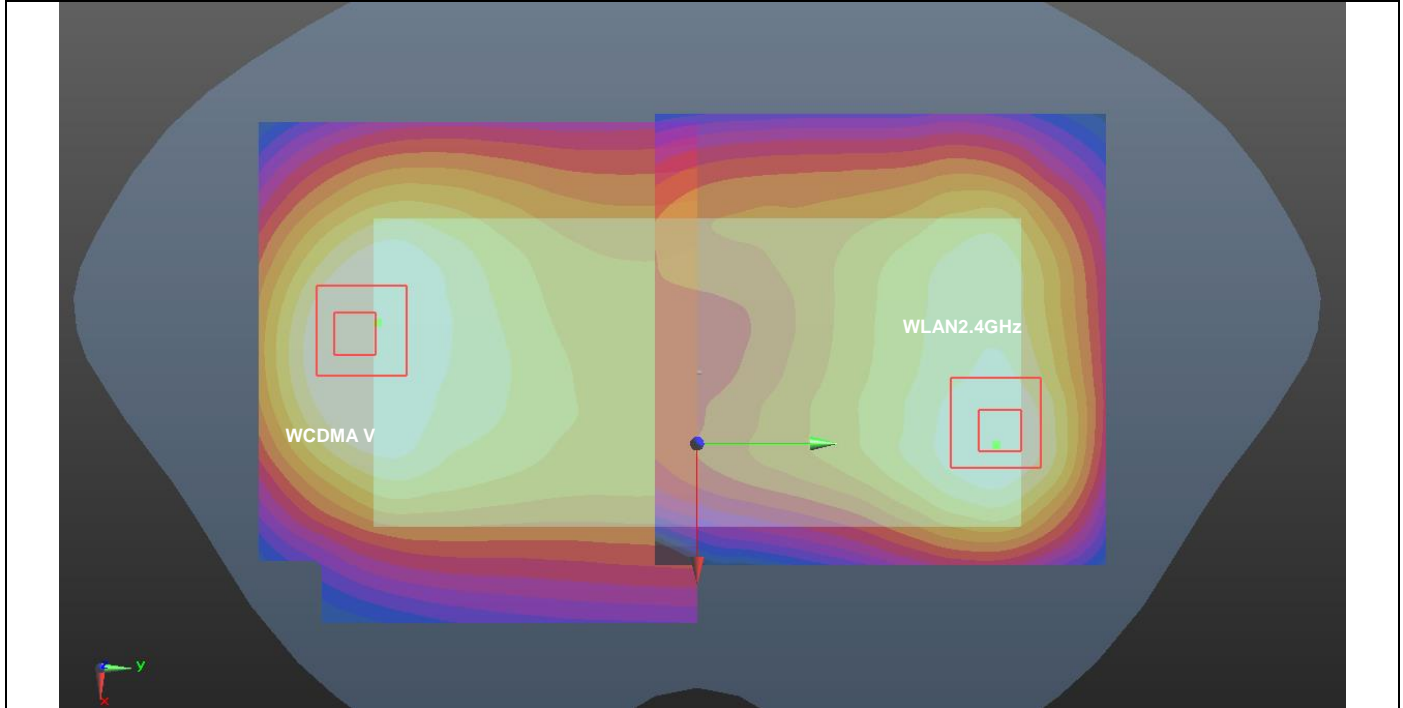
Case #12	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA IV	Back	1.371	5	1.4	-82.4	-1.73	152.7	2.56	0.03	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



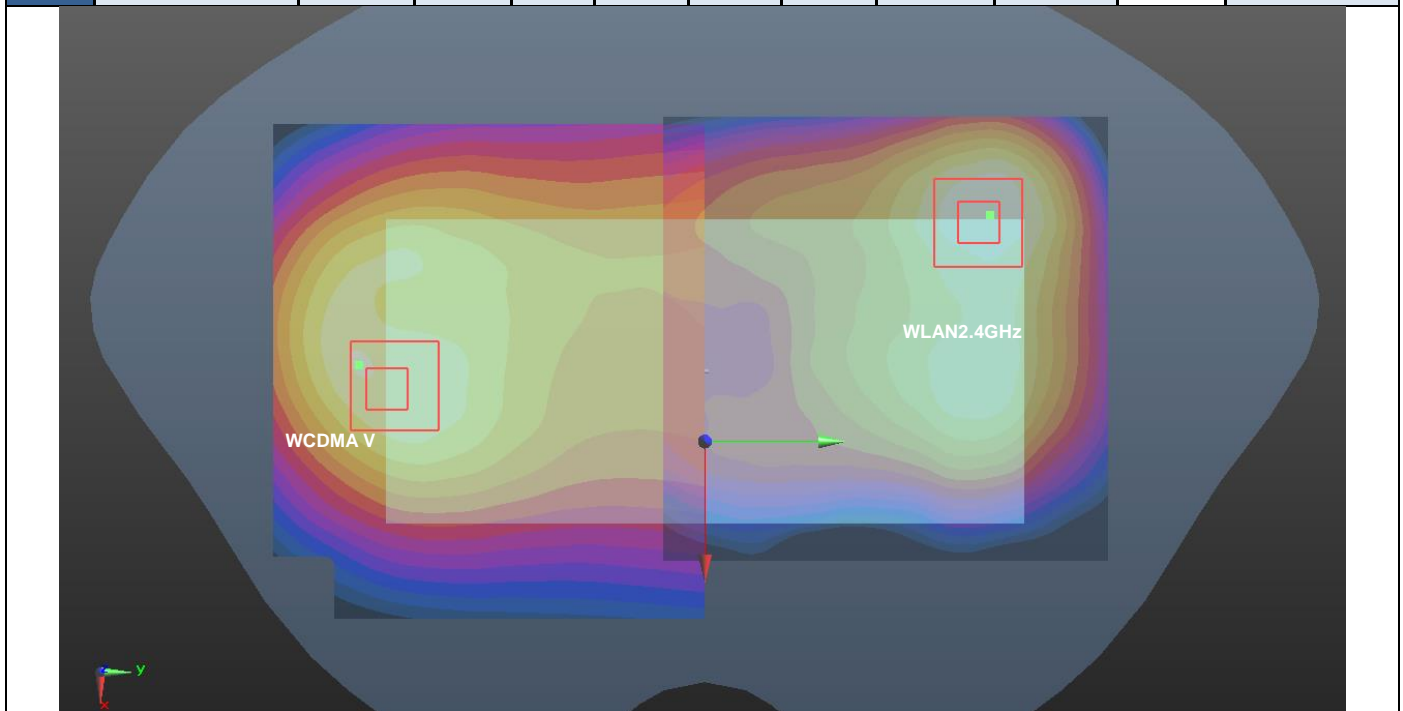
Case #13	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	WCDMA IV	Back	1.371	5	1.4	-82.4	-1.73	144.9	2.64	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WCDMA IV	Back	1.371	5	1.4	-82.4	-1.73	153.0	2.64	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



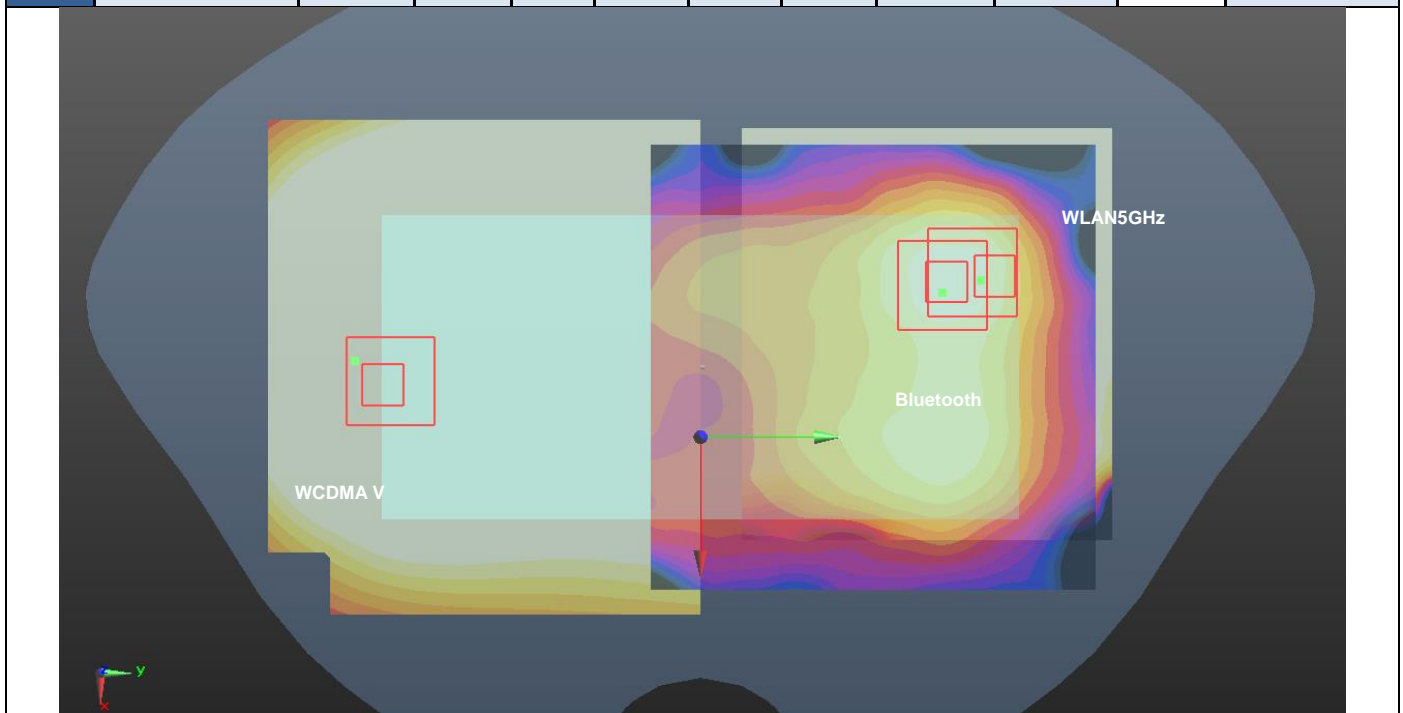
Case #14	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA V	Front	1.313	5	-10.4	-81.3	-3.33	161.3	2.28	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



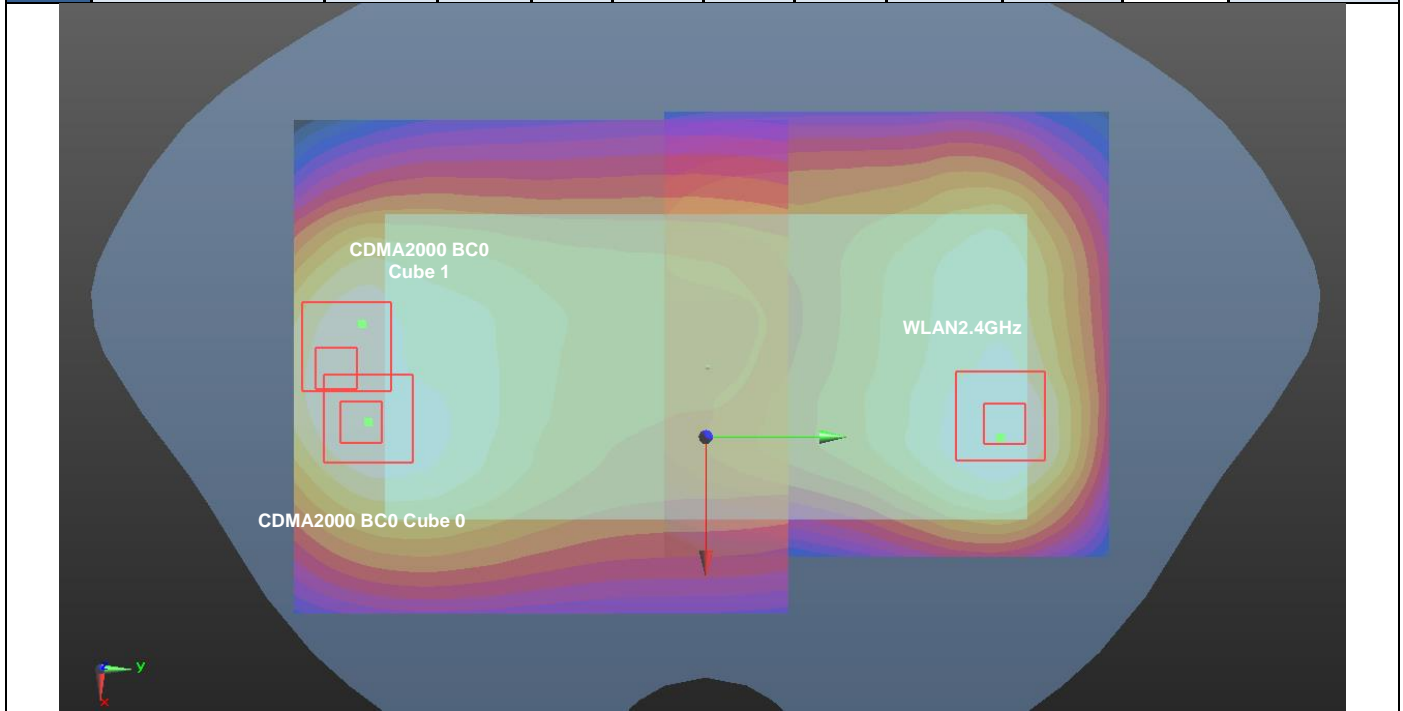
Case #15	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA V	Back	1.13	5	4.9	-77.6	-3.36	148.8	2.32	0.02	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



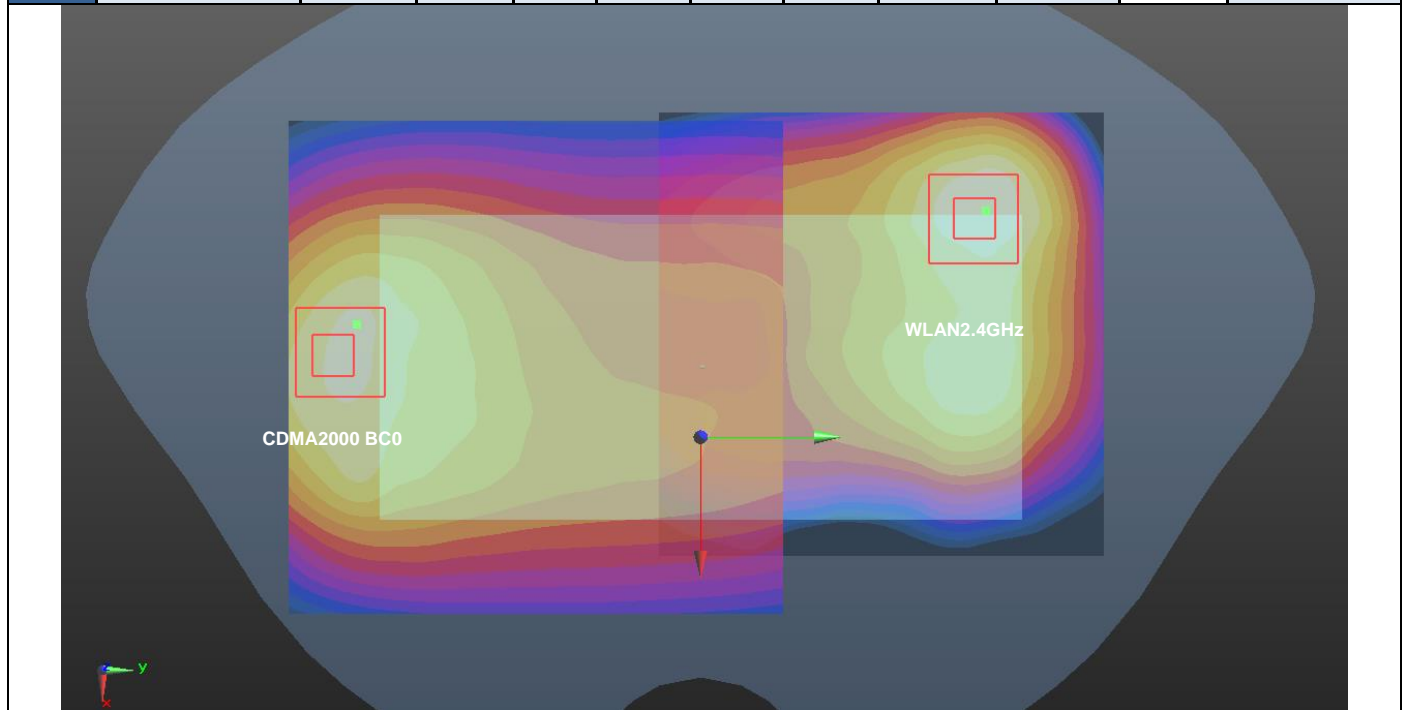
Case #16	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case #16	WCDMA V	Back	1.13	5	4.9	-77.6	-3.36	140.8	2.40	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WCDMA V	Back	1.13	5	4.9	-77.6	-3.36	148.7	2.40	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



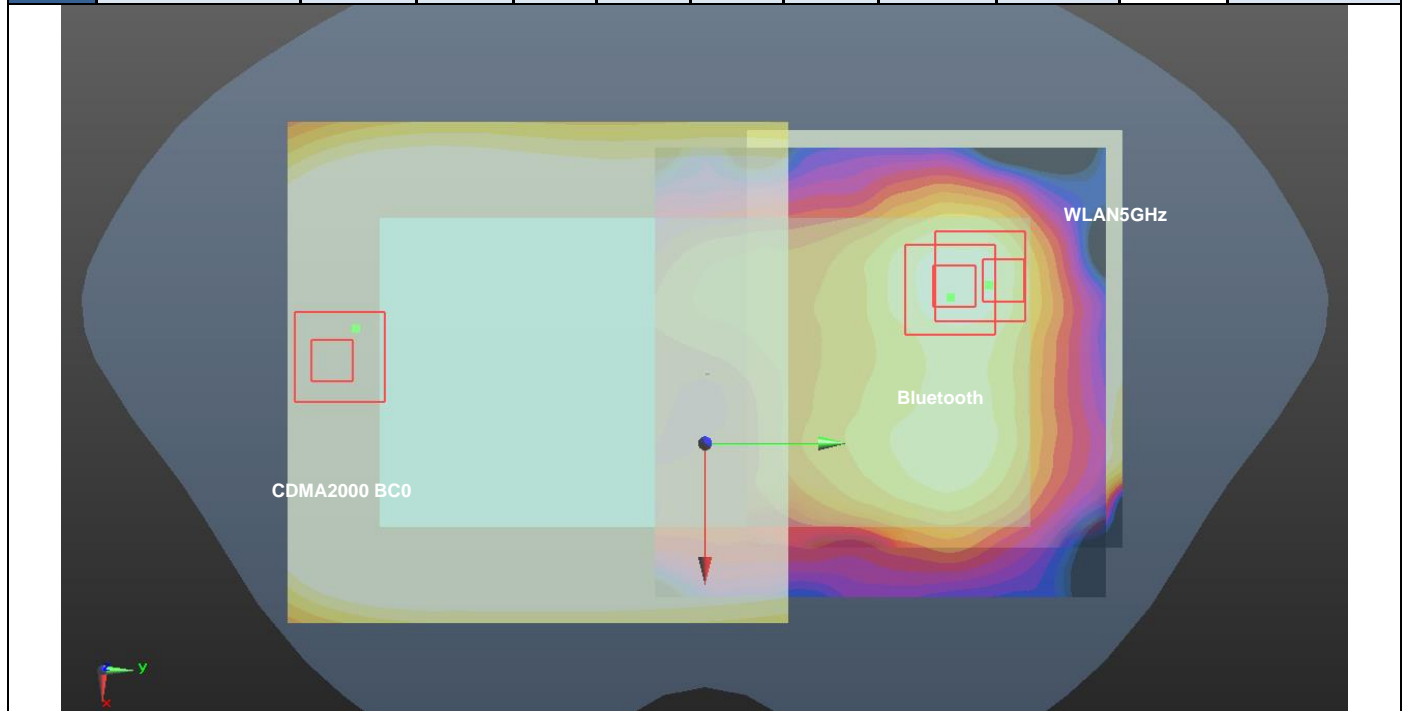
Case #17	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #17	CDMA2000 BC0 Cube 0	Front	1.283	5	13.5	-85.2	-1.94	162.1	2.25	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				
	CDMA2000 BC0 Cube 1	Front	1.283	5	5.5	-89.9	-1.99	167.4	2.25	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



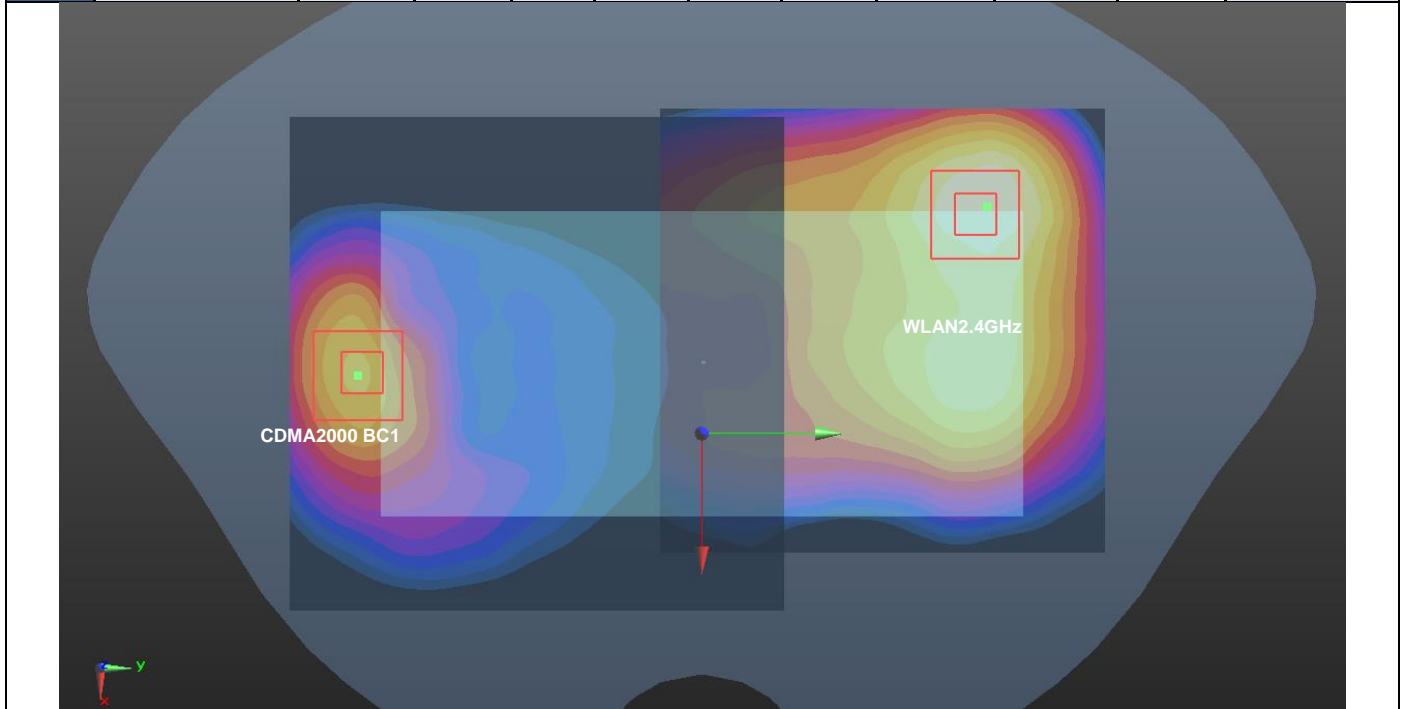
Case #18	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC0	Back	1.283	5	-0.9	-89.9	-2.06	159.6	2.47	0.02	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



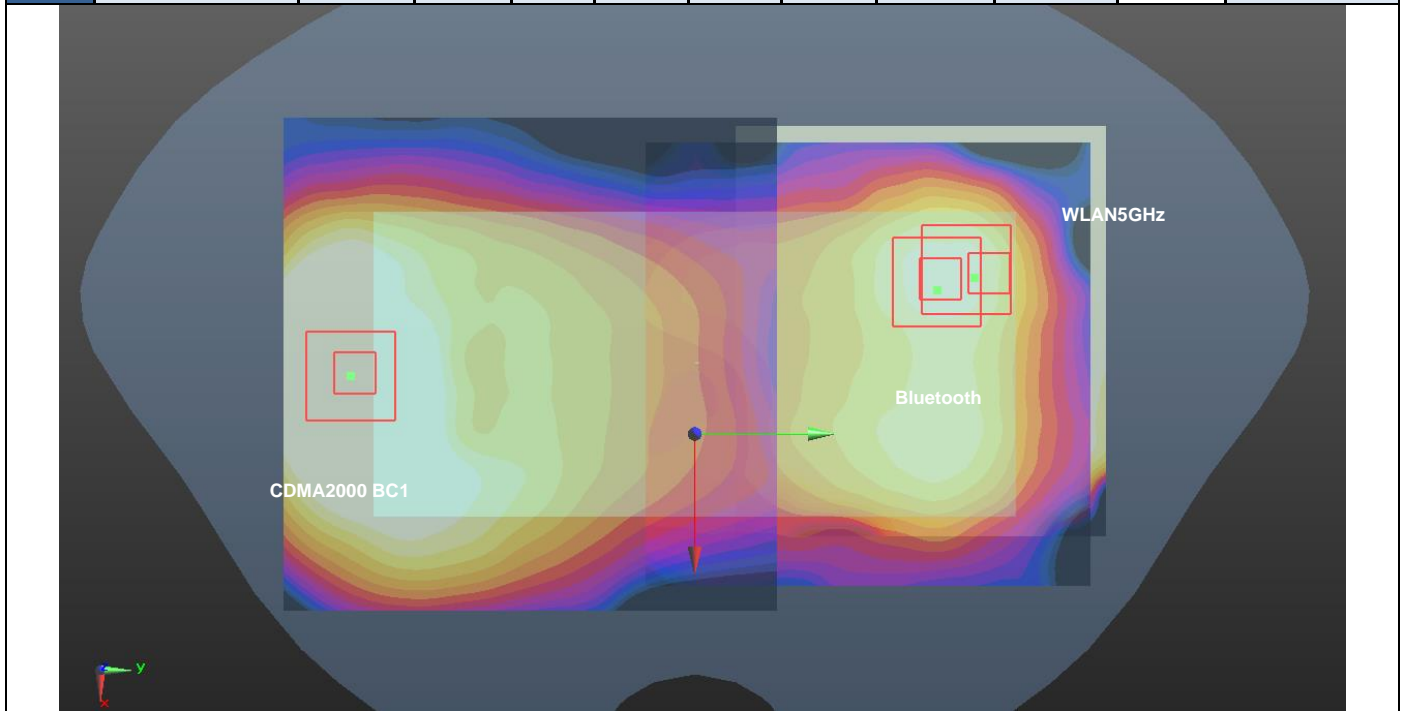
Case #19	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #19	CDMA2000 BC0	Back	1.283	5	-0.9	-89.9	-2.06	152.0	2.56	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	CDMA2000 BC0	Back	1.283	5	-0.9	-89.9	-2.06	160.2	2.56	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



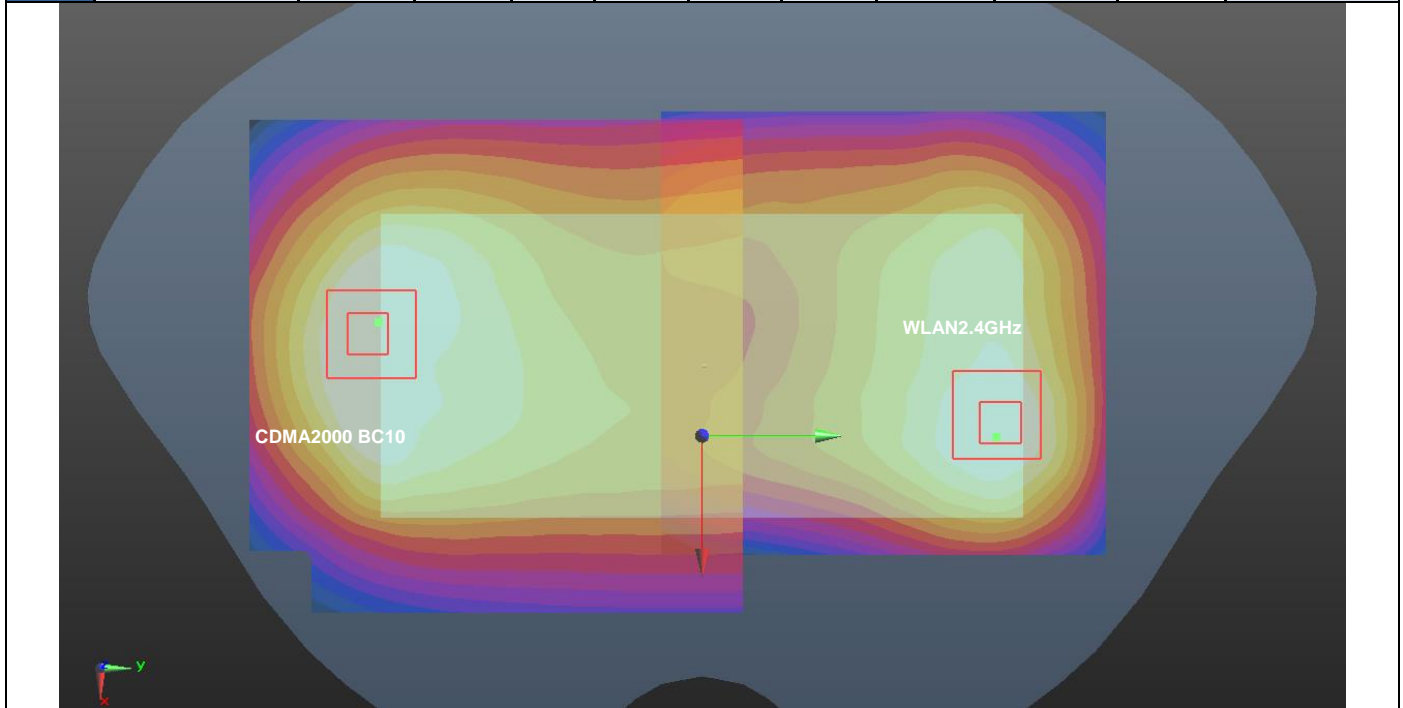
Case #20	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC1	Back	0.584	5	1.4	-81.9	-2.03	152.2	1.77	0.02	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



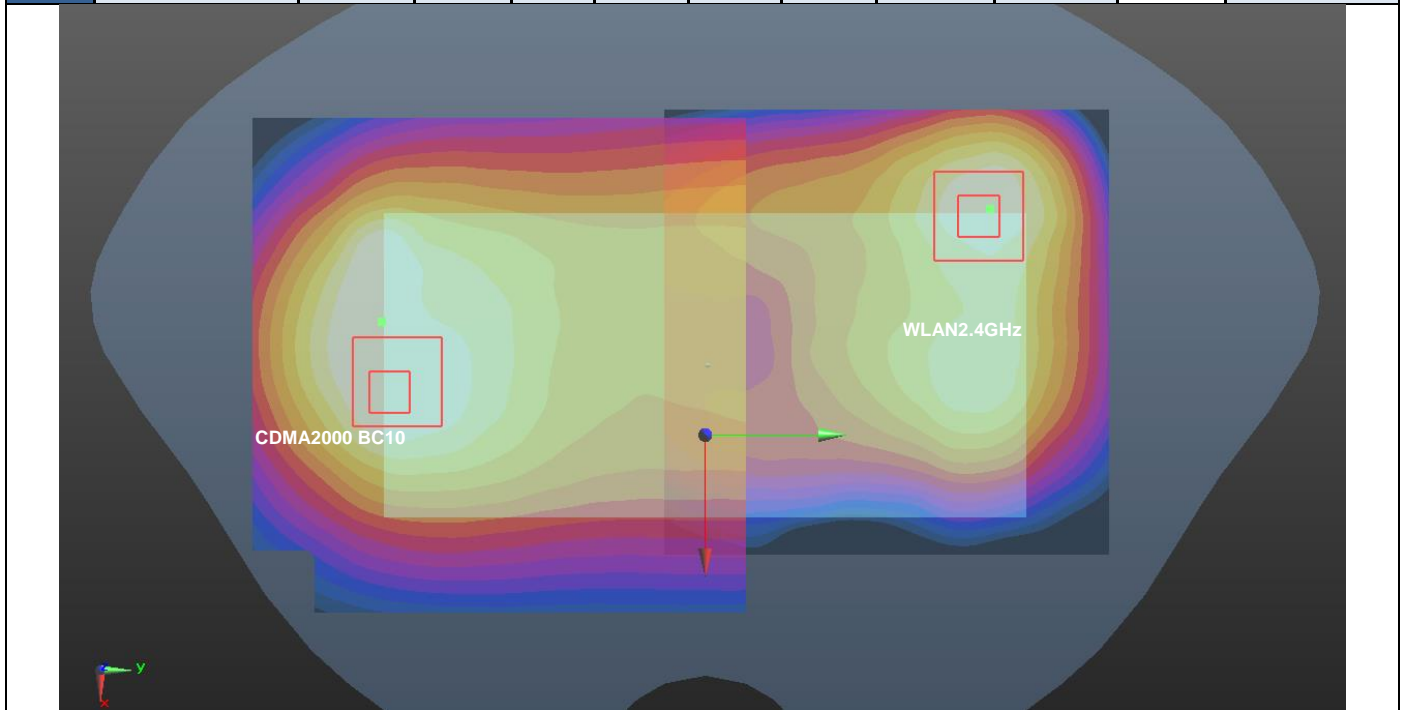
Case #21	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC1	Back	0.584	5	1.4	-81.9	-2.03	144.4	1.86	0.02	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	CDMA2000 BC1	Back	0.584	5	1.4	-81.9	-2.03	152.5	1.86	0.02	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



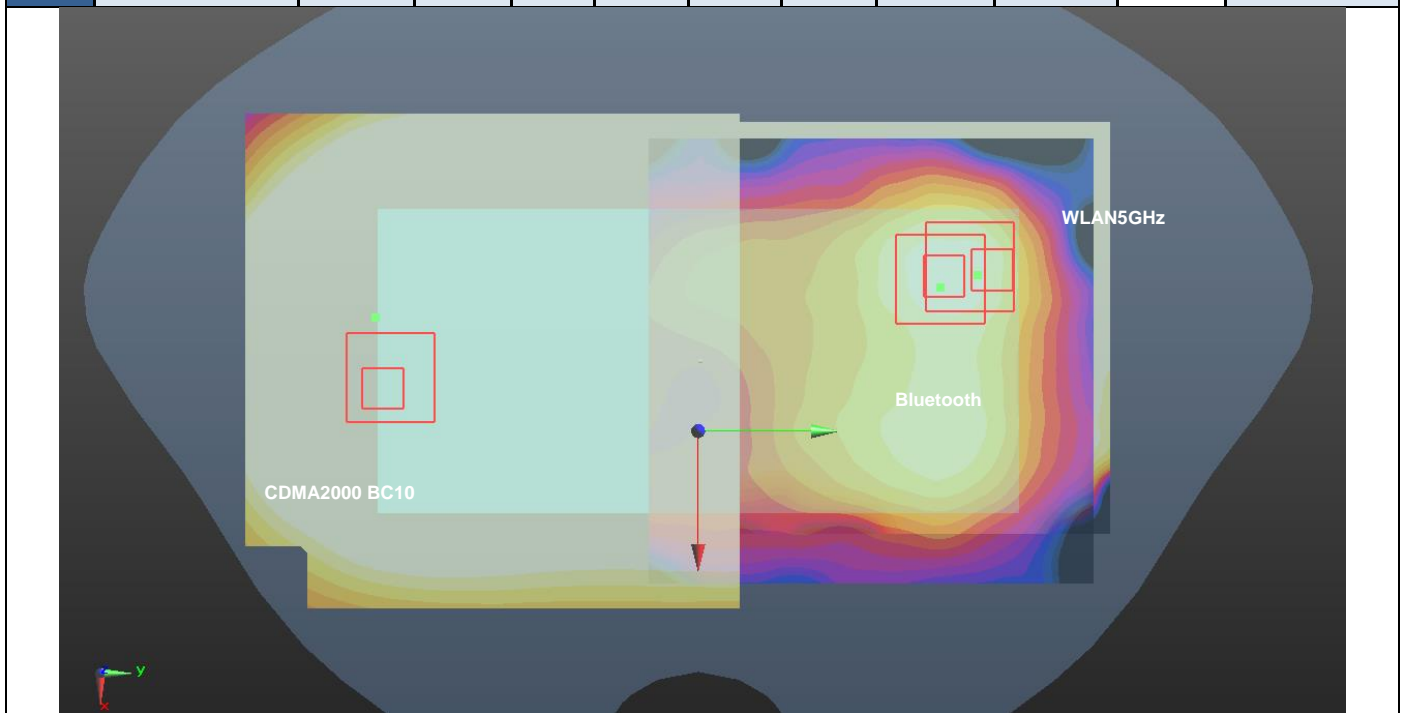
Case #22	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC10	Front	1.35	5	-8.9	-80.1	-3.05	159.8	2.32	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



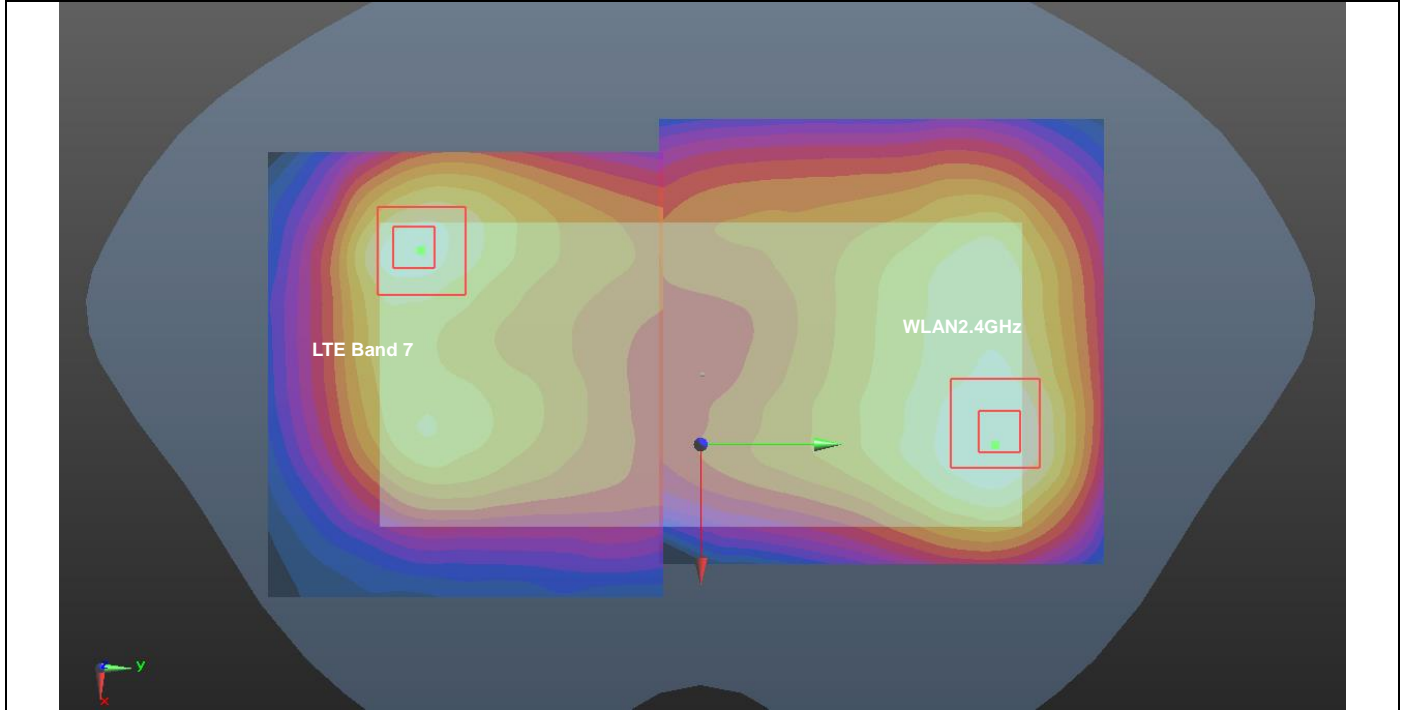
Case #23	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC10	Back	1.313	5	5.5	-78.5	-3.08	149.8	2.50	0.03	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



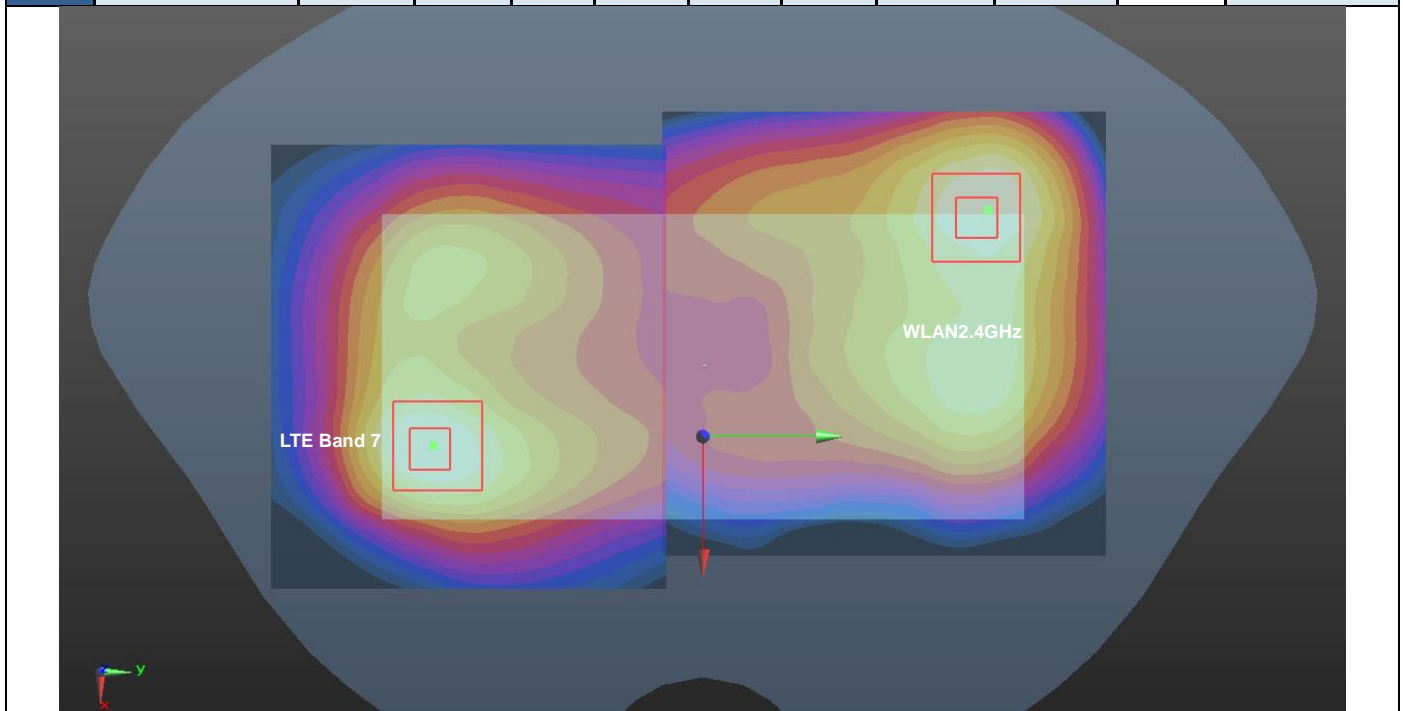
Case #24	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	CDMA2000 BC10	Back	1.313	5	5.5	-78.5	-3.08	141.8	2.59	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	CDMA2000 BC10	Back	1.313	5	5.5	-78.5	-3.08	149.6	2.59	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



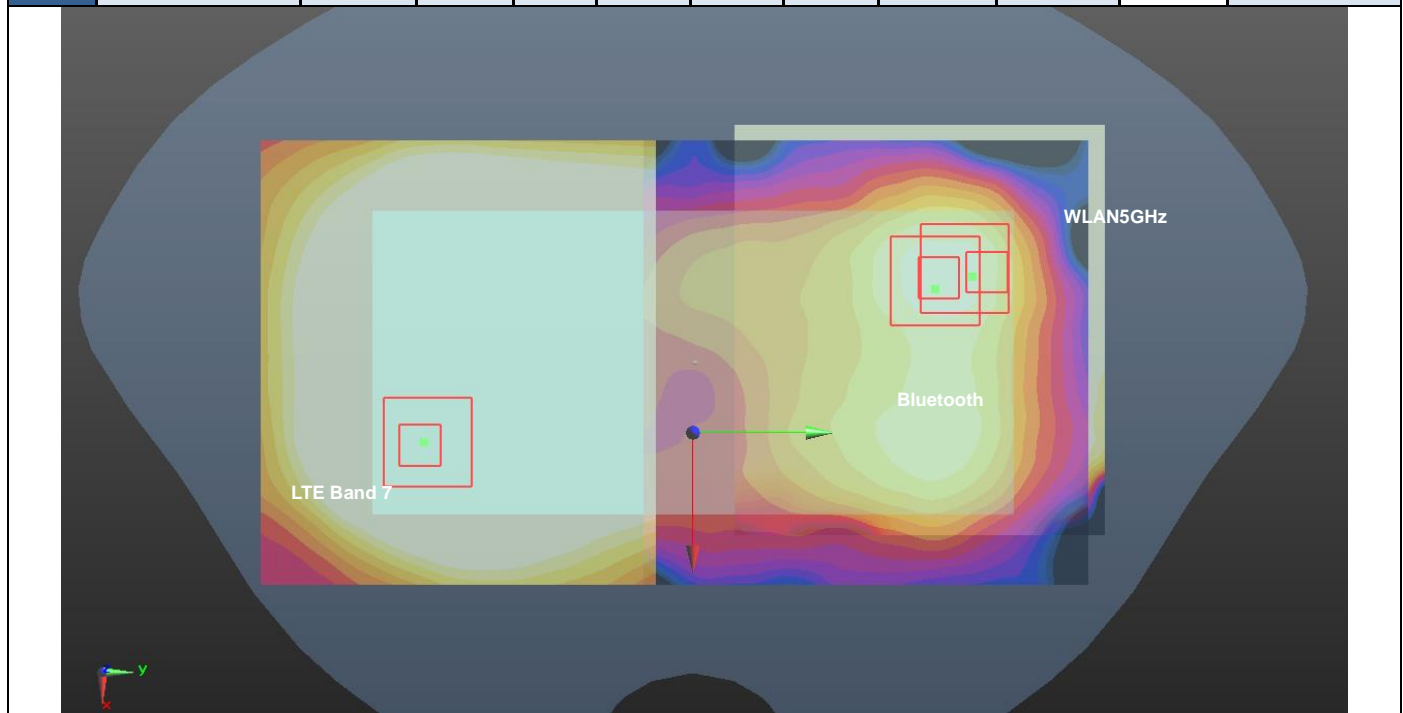
Case #25	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7	Front	1.171	5	-30	-71.8	-2.6	157.4	2.14	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



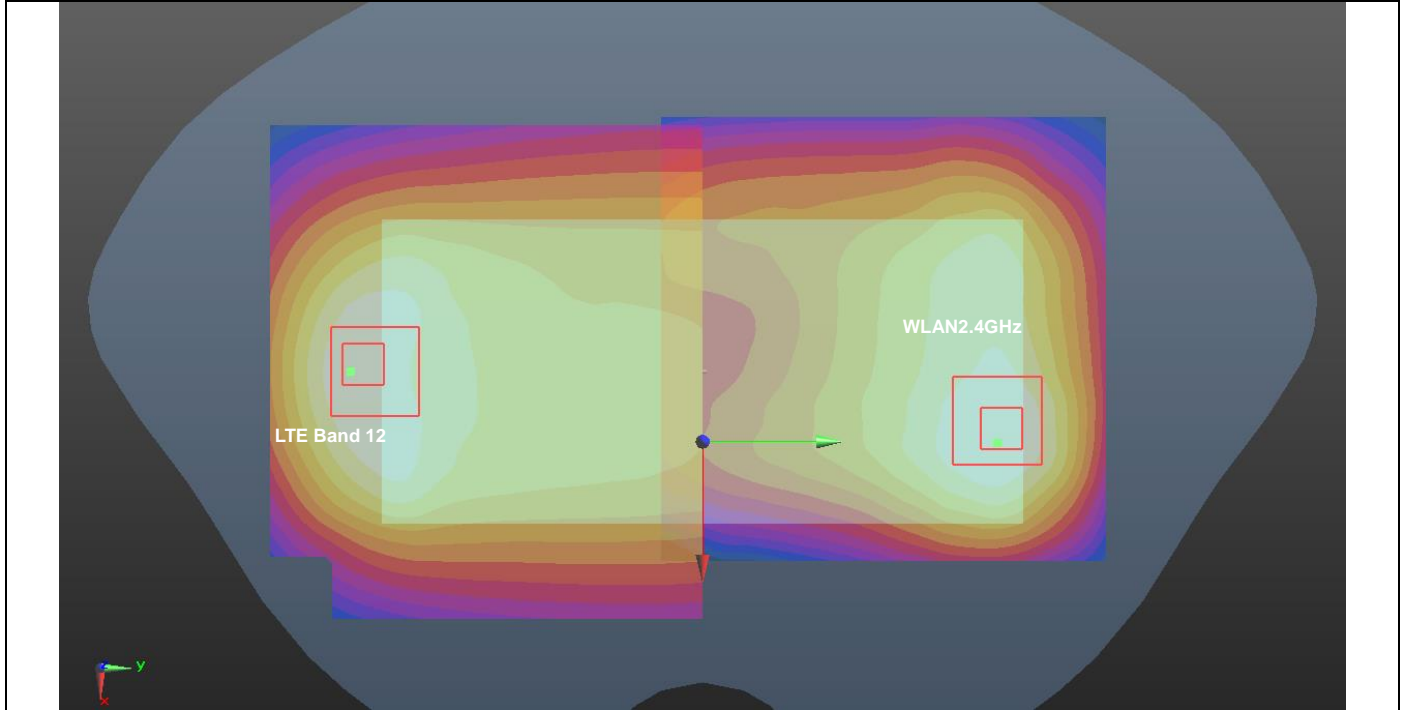
Case #26	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7	Back	1.317	5	20.2	-68.4	-2.7	144.3	2.51	0.03	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



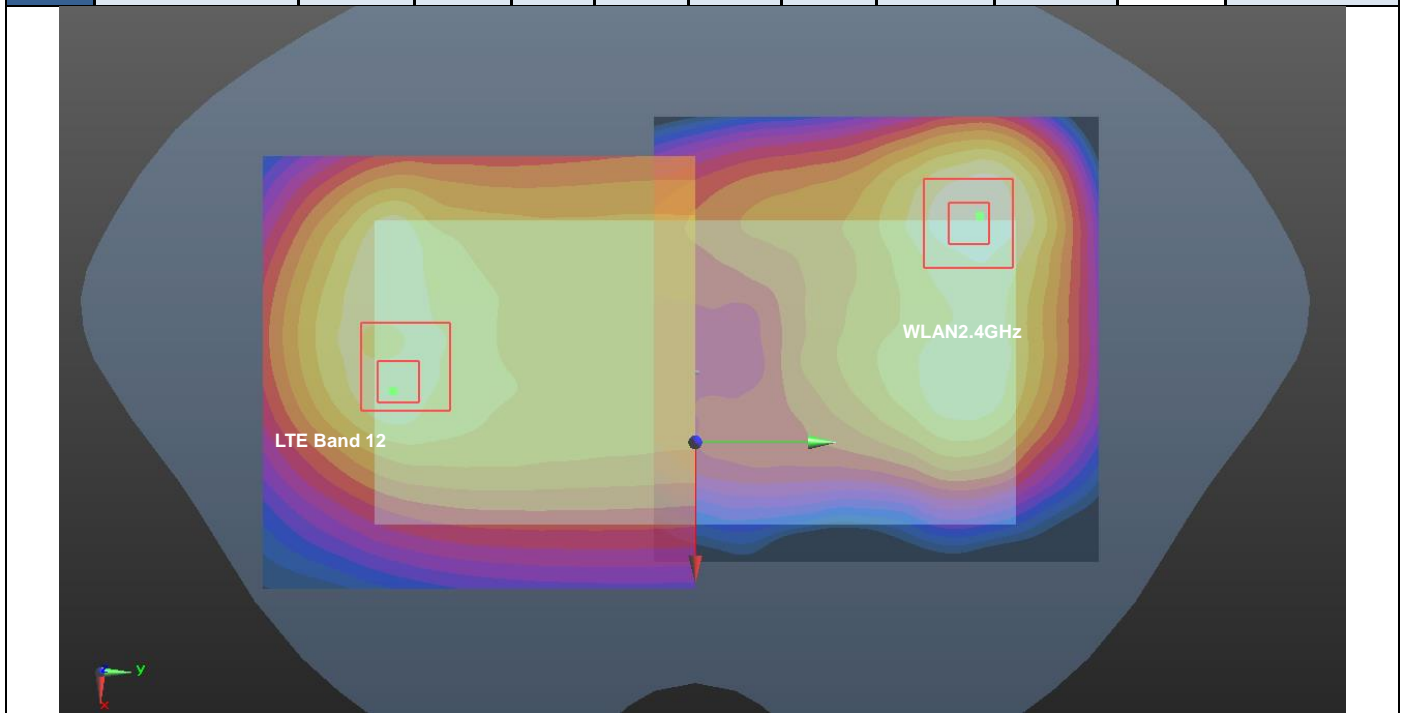
Case #27	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #27	LTE Band 7	Back	1.317	5	20.2	-68.4	-2.7	135.6	2.59	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
Case #27	LTE Band 7	Back	1.317	5	20.2	-68.4	-2.7	142.6	2.59	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



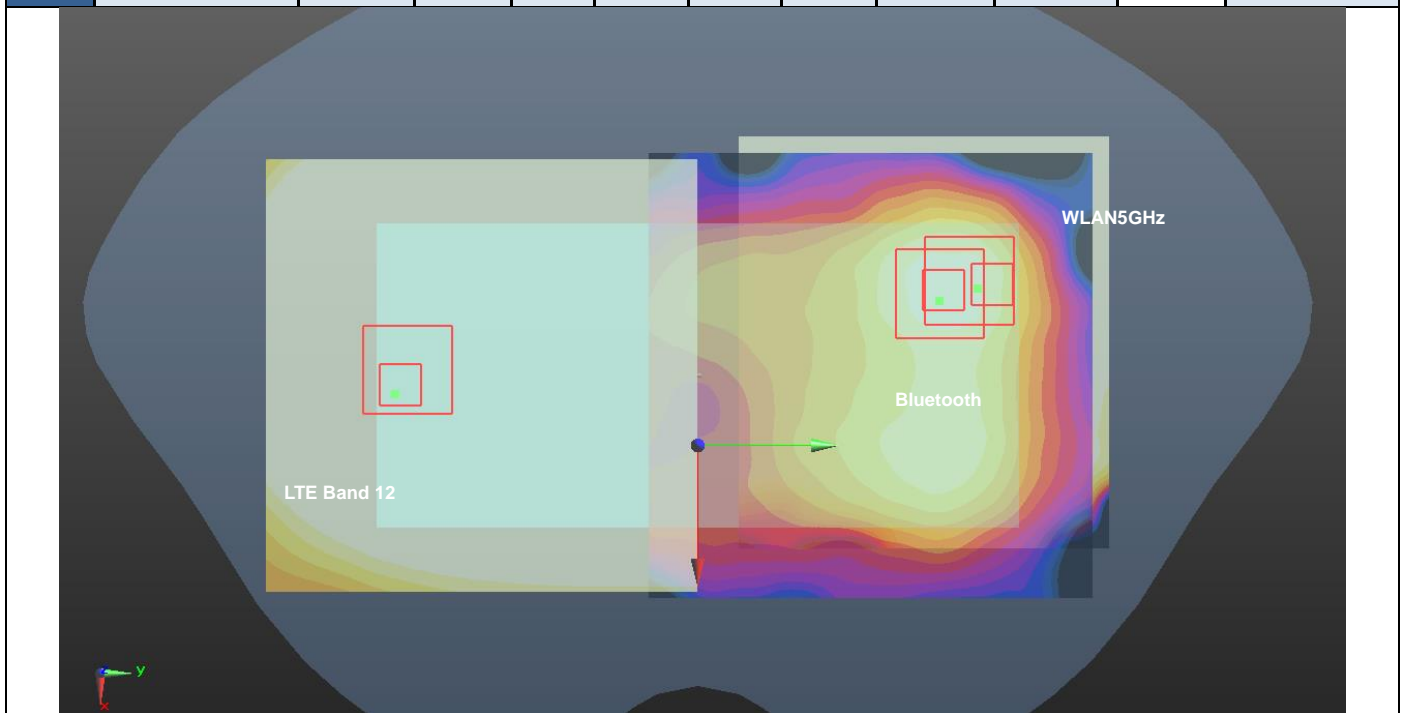
Case #28	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 12	Front	0.996	5	0	-83.9	-3.62	162.1	1.97	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



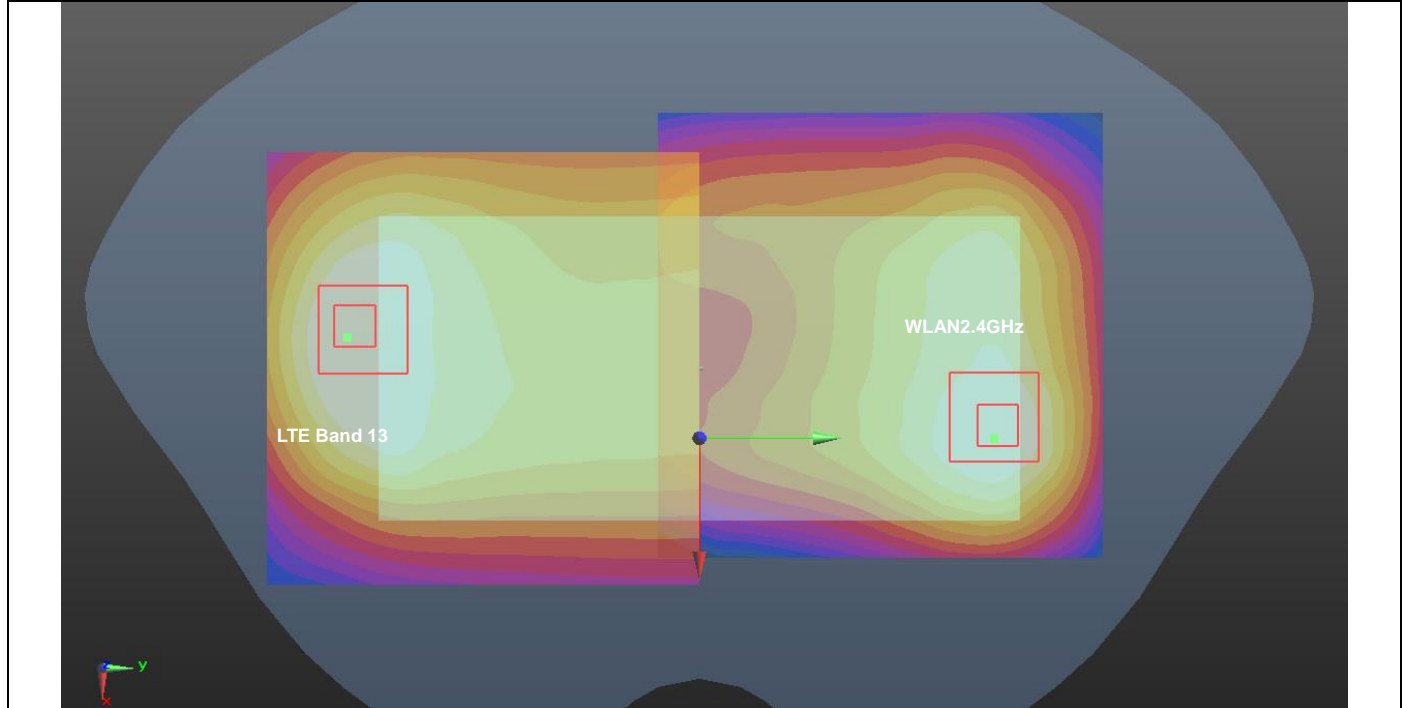
Case #29	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 12	Back	0.79	5	2.9	-78.3	-3.12	149.0	1.98	0.02	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



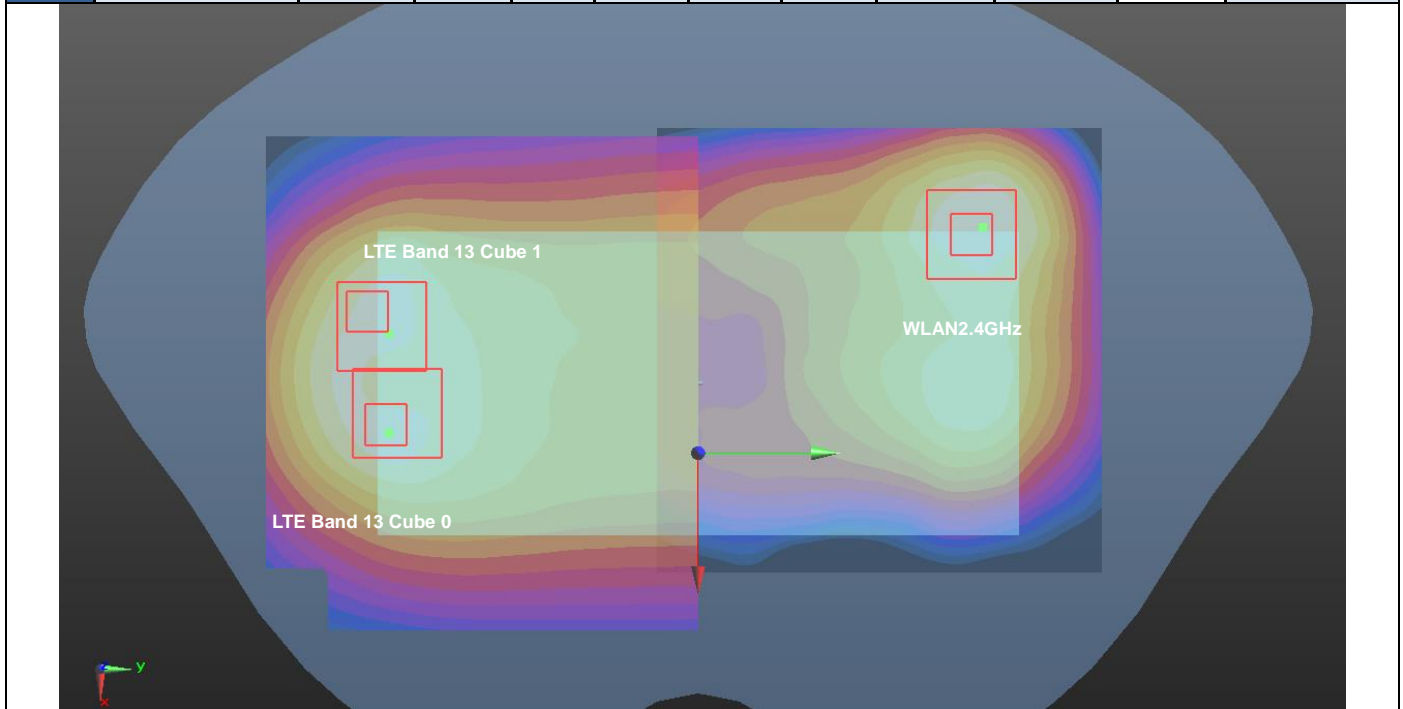
Case #30	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case #30	LTE Band 12	Back	0.79	5	2.9	-78.3	-3.12	141.1	2.06	0.02	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	LTE Band 12	Back	0.79	5	2.9	-78.3	-3.12	149.1	2.06	0.02	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



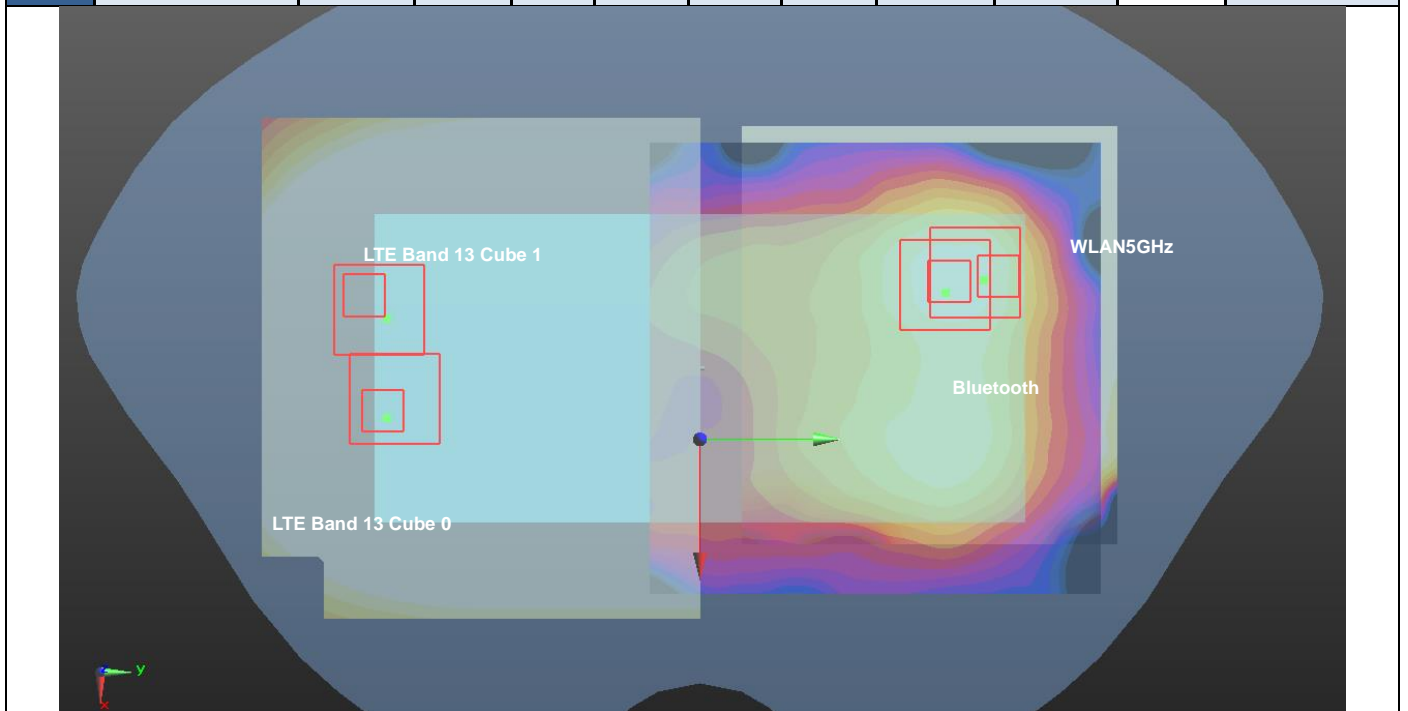
Case #31	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 13	Front	1.238	5	-7.5	-83.9	-3.09	163.3	2.21	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



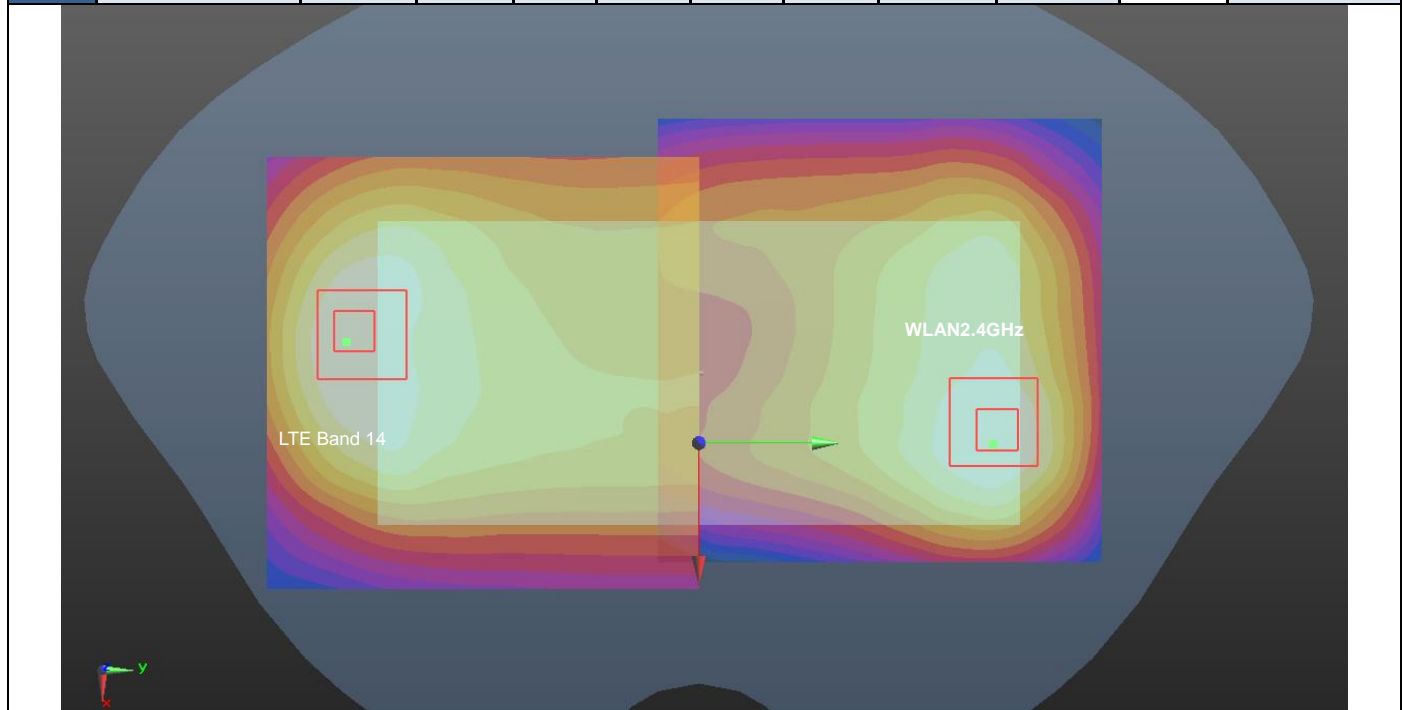
Case #32	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #32	LTE Band 13 Cube 0	Back	1.084	5	10.4	-79.8	-3.5	152.3	2.27	0.02	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				
	LTE Band 13 Cube 1	Back	1.084	5	-18.4	-81.4	-3.8	149.1	2.27	0.02	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



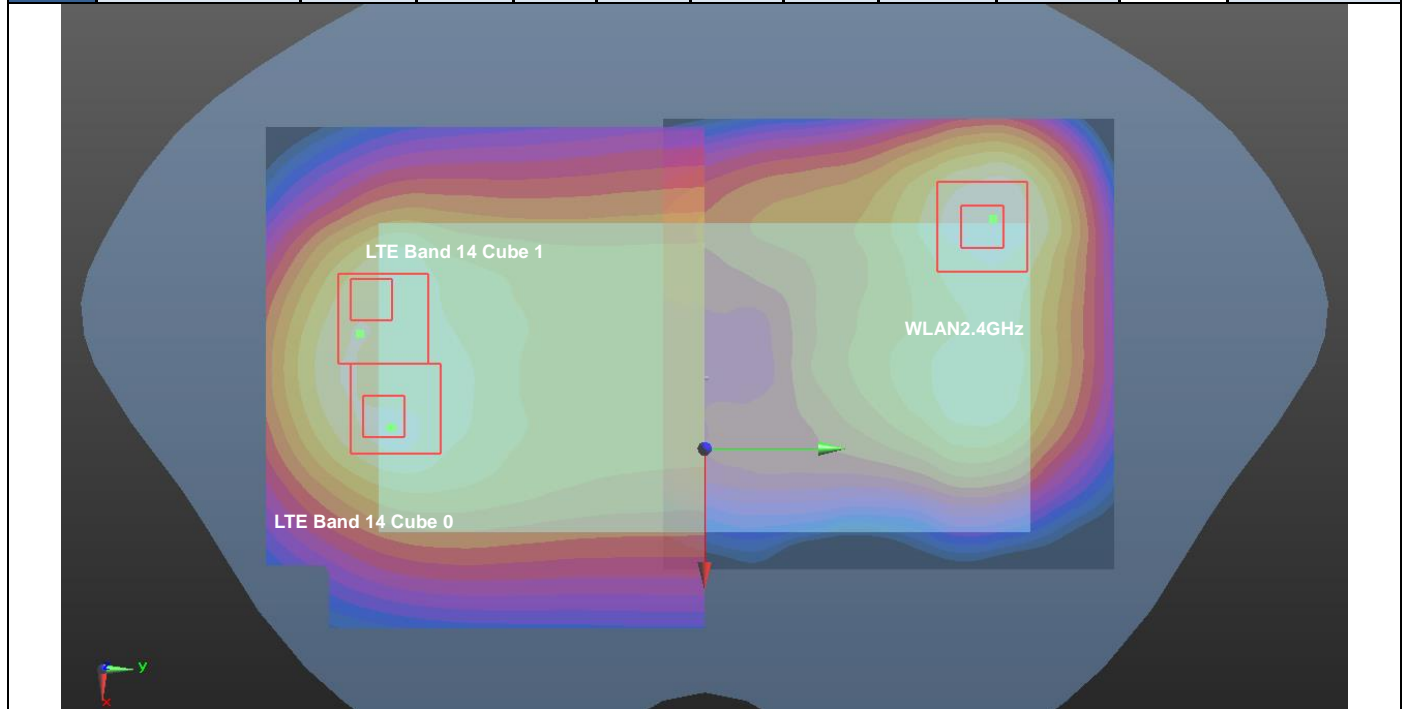
Case #33	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #33	LTE Band 13 Cube 0	Back	1.084	5	10.4	-79.8	-3.5	144.1	2.36	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	LTE Band 13 Cube 0	Back	1.084	5	10.4	-79.8	-3.5	151.7	2.36	0.02	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	LTE Band 13 Cube 1	Back	1.084	5	-18.4	-81.4	-3.8	142.2	2.36	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
LTE Band 13 Cube 1	Back	1.084	5	-18.4	-81.4	-3.8	151.1	2.36	0.02	Not required	
Bluetooth		0.066	5	-21	60.8	-1.97					
WLAN5GHz		1.207	5	-15.4	69.6	1.64					



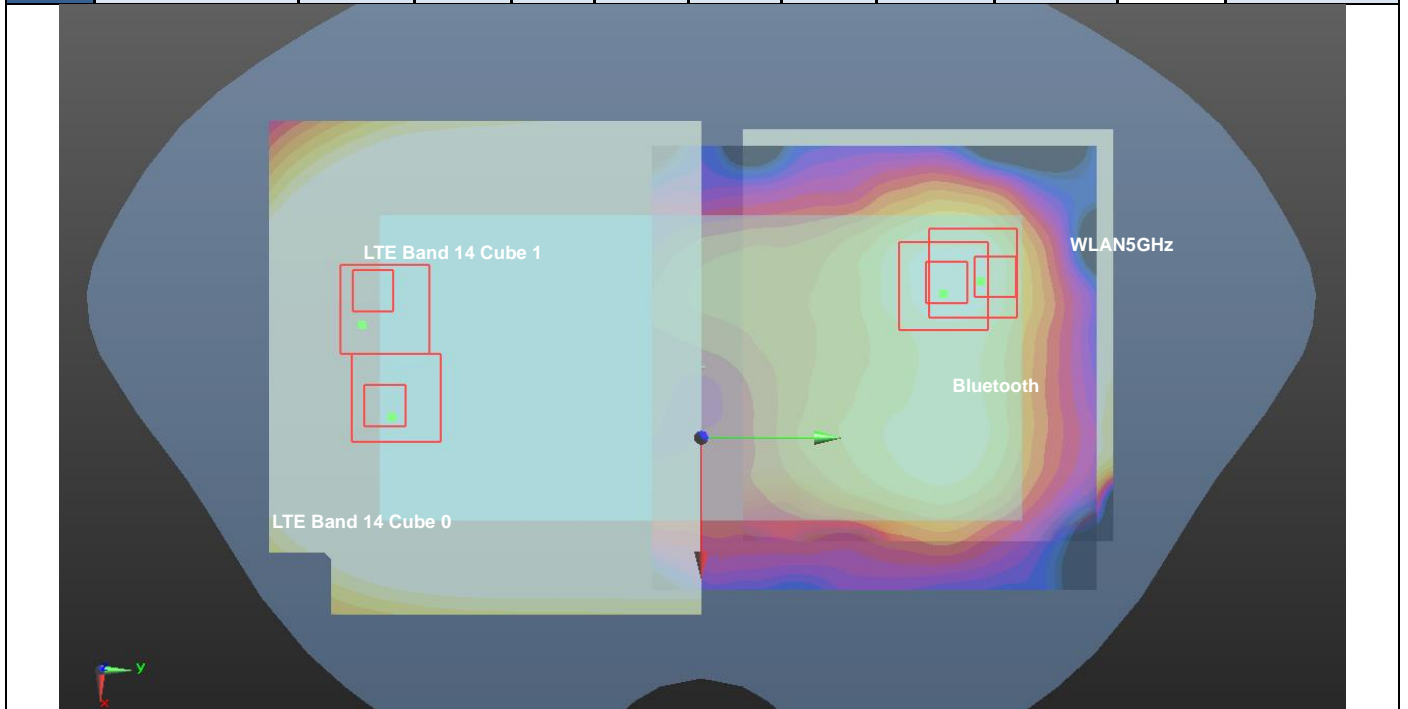
Case #34	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 14	Front	1.155	5	-7.5	-83.9	-3.08	163.3	2.13	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



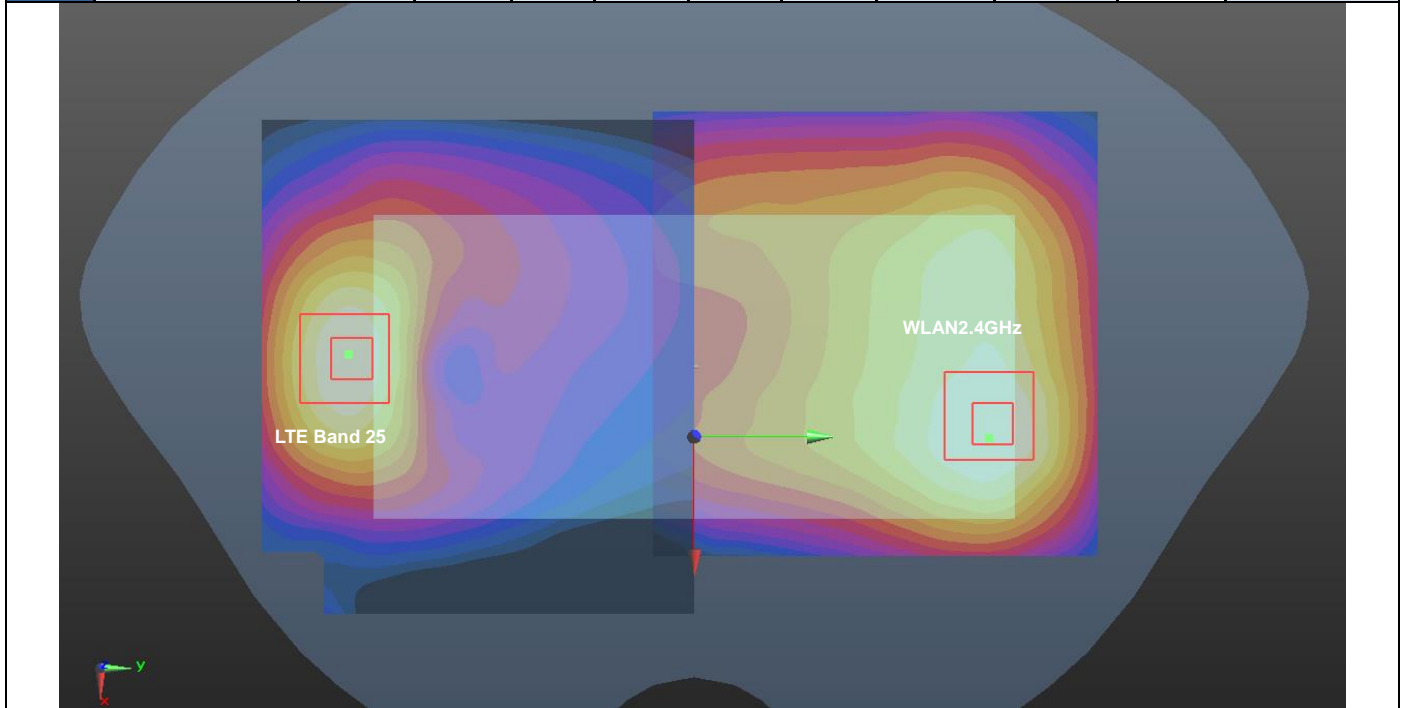
Case #35	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 14 Cube 0	Back	1.042	5	10.4	-79.8	-3.47	152.3	2.23	0.02	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				
	LTE Band 14 Cube 1	Back	1.042	5	-18.5	-80.9	-3.81	148.6	2.23	0.02	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



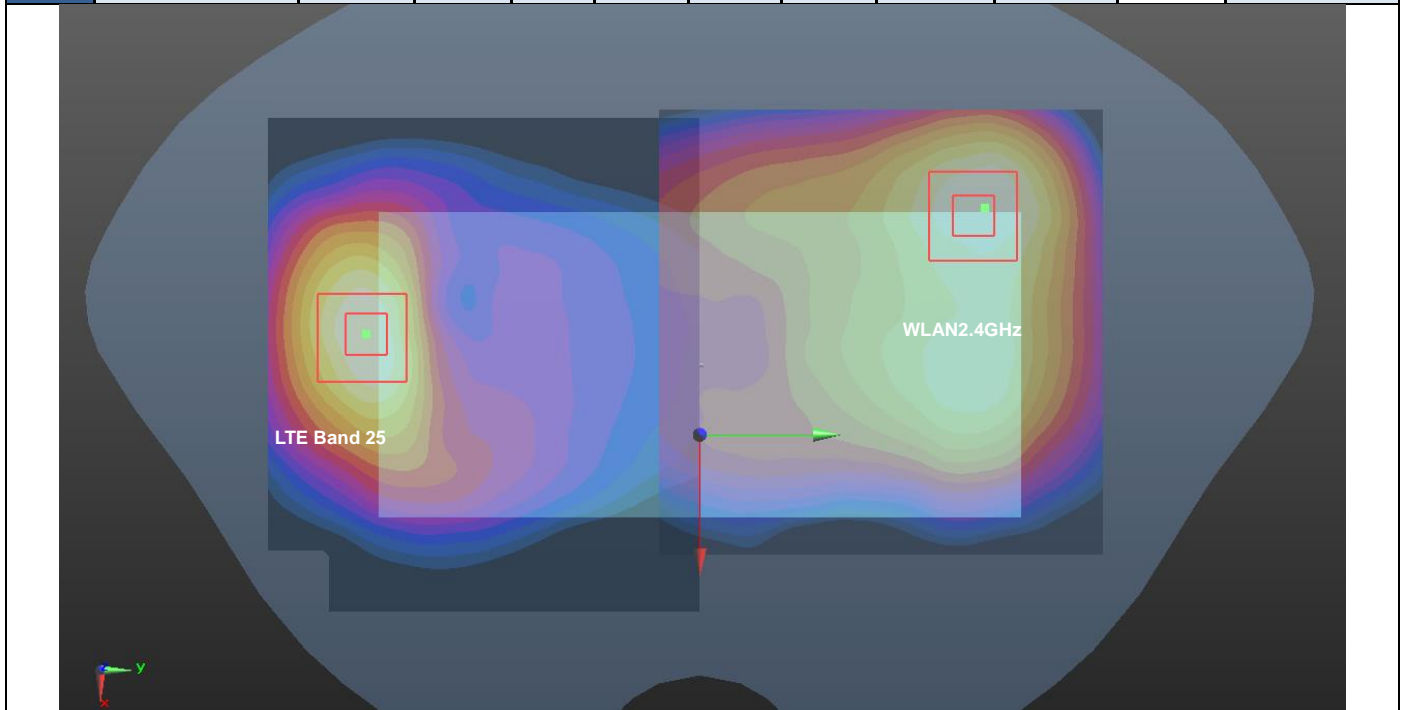
Case #36	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #36	LTE Band 14 Cube 0	Back	1.042	5	10.4	-79.8	-3.47	144.1	2.32	0.02	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	LTE Band 14 Cube 0	Back	1.042	5	10.4	-79.8	-3.47	151.7	2.32	0.02	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	LTE Band 14 Cube 1	Back	1.042	5	-18.5	-80.9	-3.81	141.7	2.32	0.02	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
LTE Band 14 Cube 1	Back	1.042	5	-18.5	-80.9	-3.81	150.6	2.32	0.02	Not required	
Bluetooth		0.066	5	-21	60.8	-1.97					
WLAN5GHz		1.207	5	-15.4	69.6	1.64					



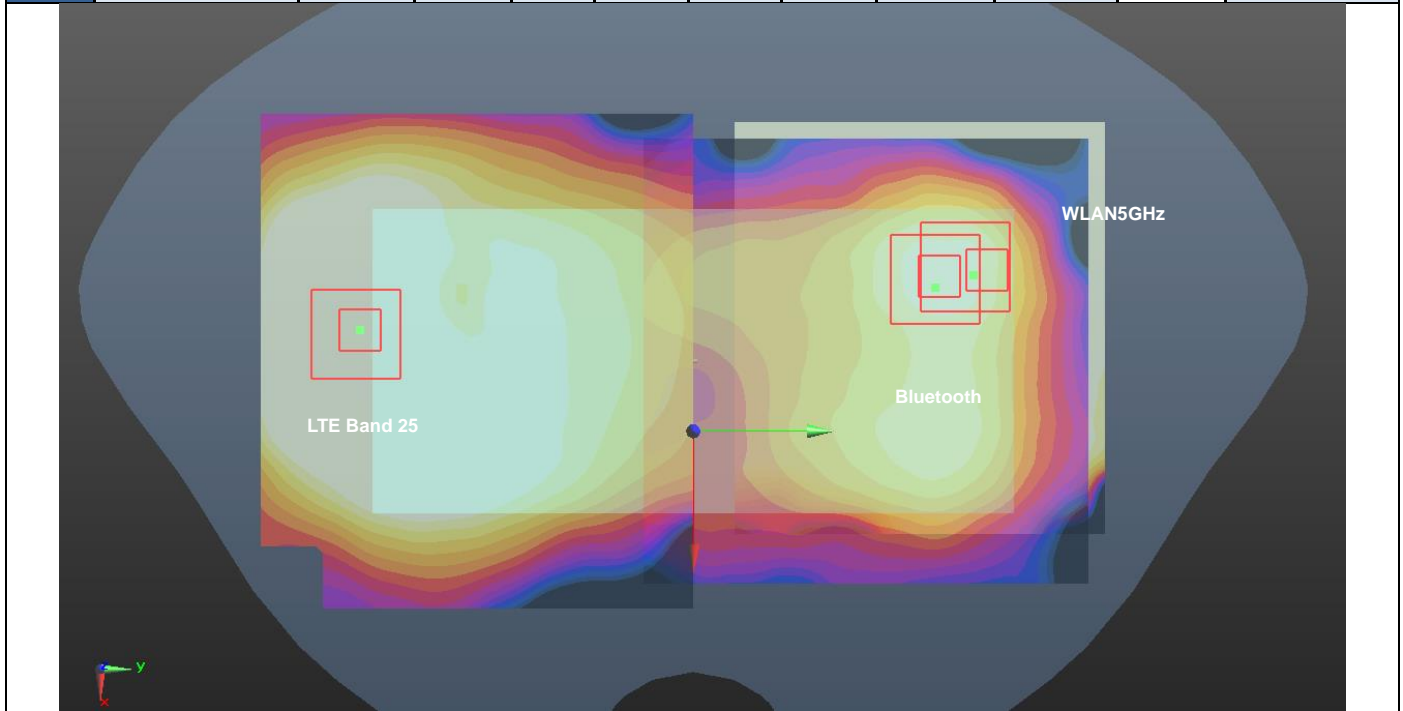
Case #37	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 25	Front	1.24	5	0.2	-82.4	-3.06	160.6	2.21	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



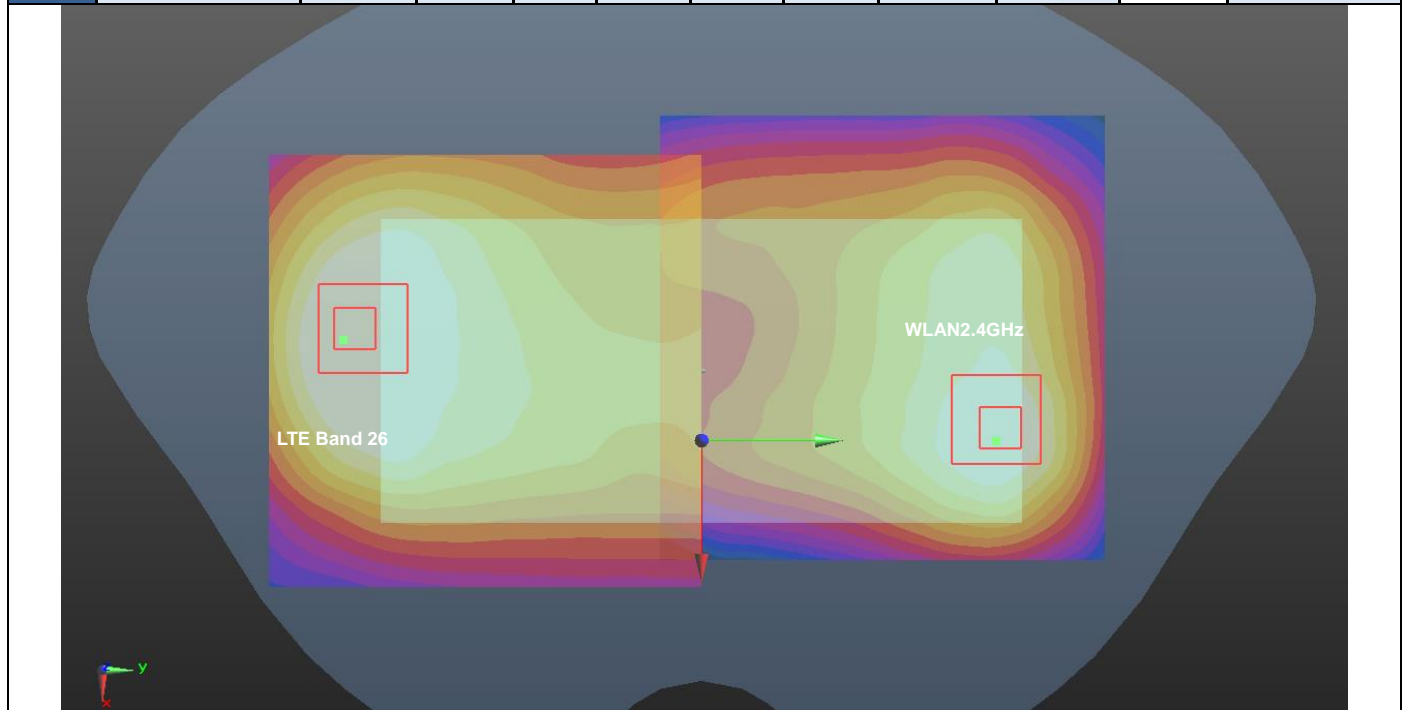
Case #38	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 25	Back	1.296	5	-9.1	-81	-3.01	149.6	2.49	0.03	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



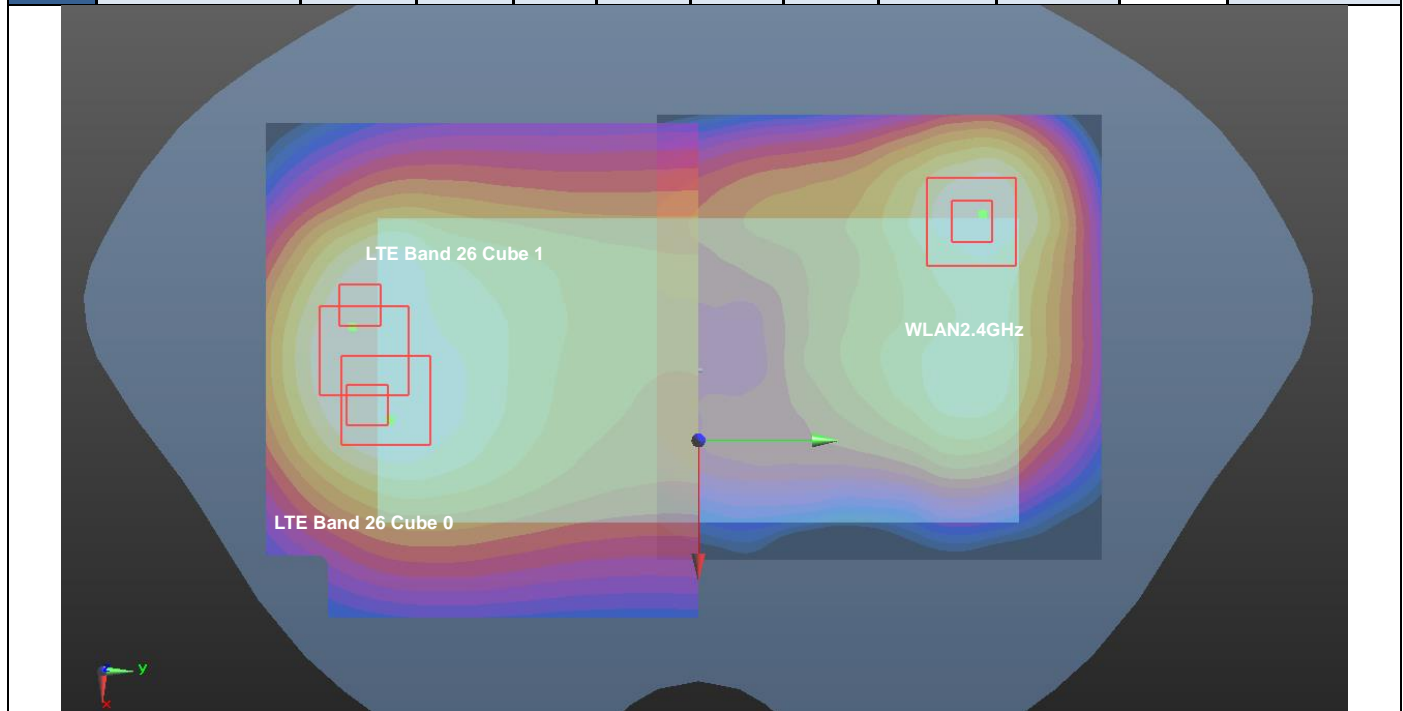
Case #39	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	LTE Band 25	Back	1.296	5	-9.1	-81	-3.01	142.3	2.57	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	LTE Band 25	Back	1.296	5	-9.1	-81	-3.01	150.8	2.57	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



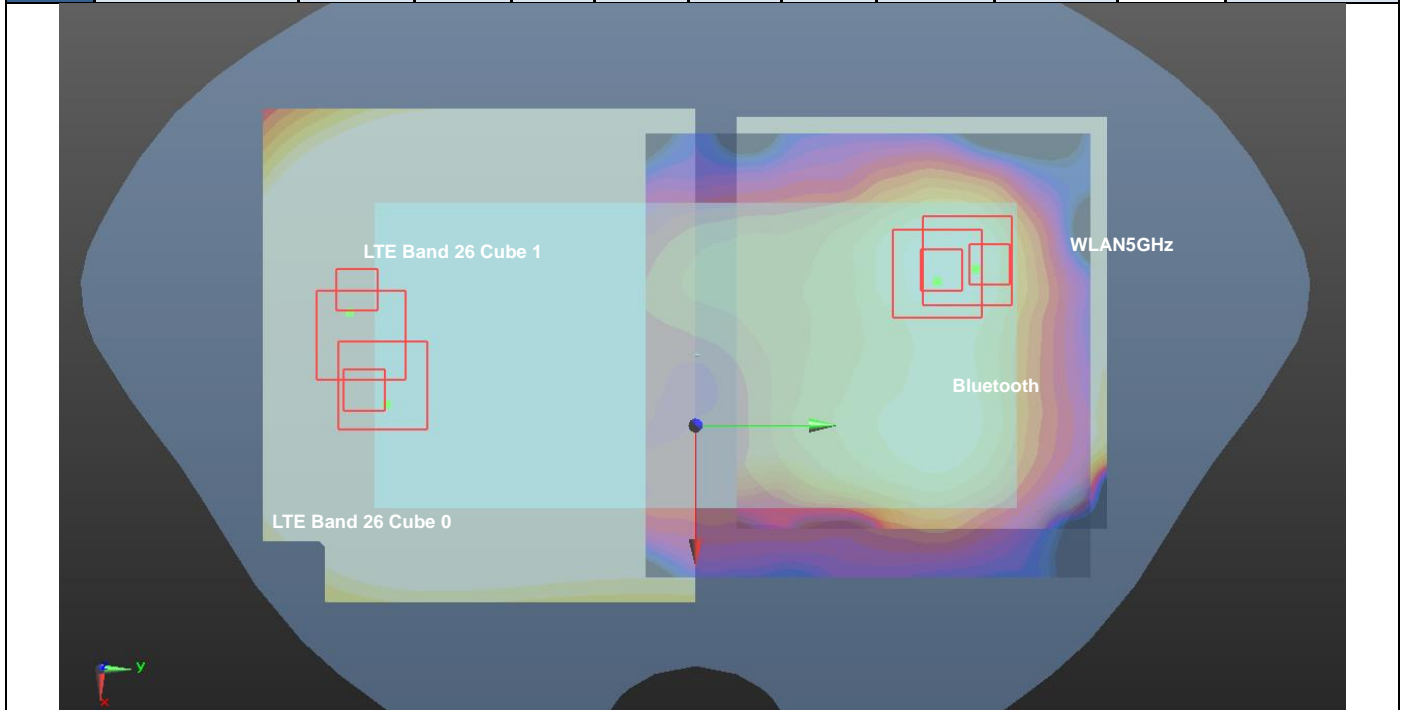
Case #40	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 26	Front	1.365	5	-10.7	-83.8	-3.09	163.8	2.34	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



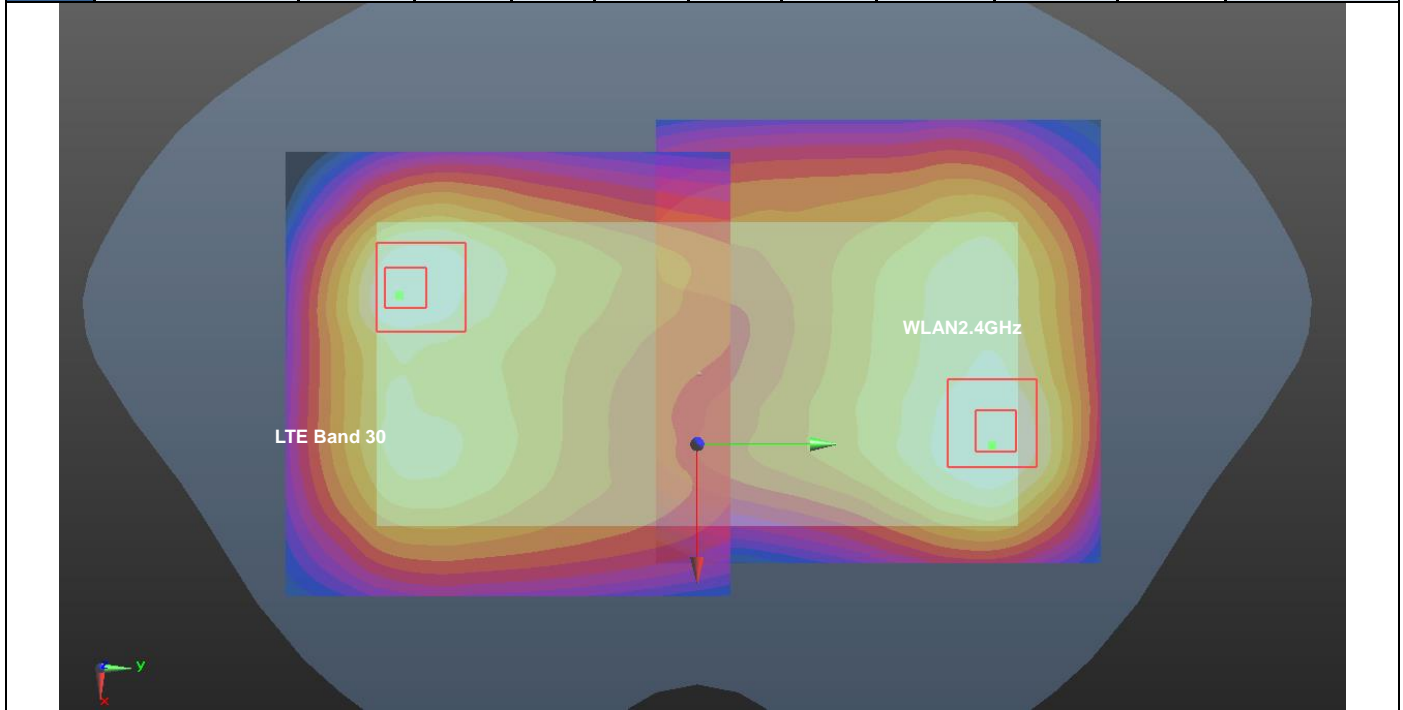
Case #41	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #41	LTE Band 26 Cube 0	Back	1.353	5	8.8	-81.4	-3.43	153.4	2.54	0.03	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				
	LTE Band 26 Cube 1	Back	1.353	5	5.5	-82.4	-3.48	153.6	2.54	0.03	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



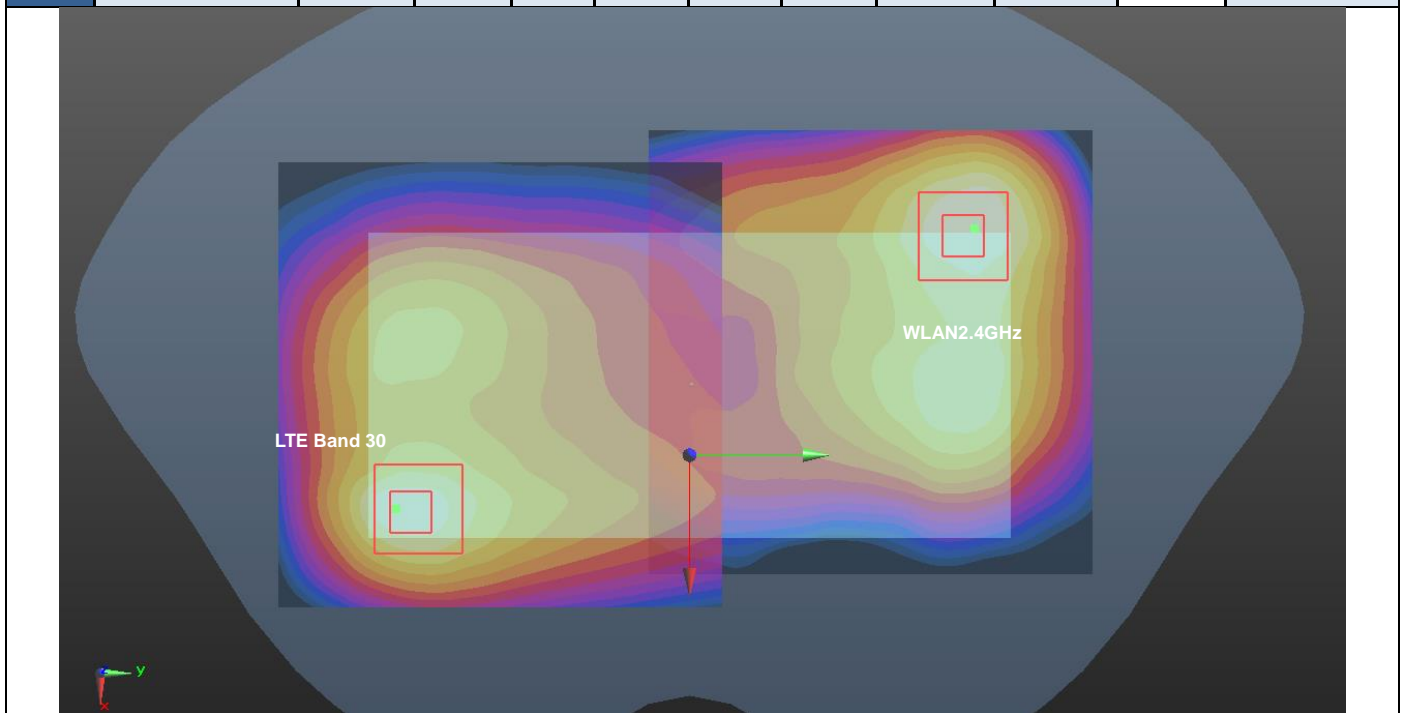
Case #42	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #42	LTE Band 26 Cube 0	Back	1.353	5	8.8	-81.4	-3.43	145.3	2.63	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	LTE Band 26 Cube	Back	1.353	5	8.8	-81.4	-3.43	153.0	2.63	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	LTE Band 26 Cube 1	Back	1.353	5	5.5	-82.4	-3.48	145.6	2.63	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	LTE Band 26 Cub1	Back	1.353	5	5.5	-82.4	-3.48	153.5	2.63	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



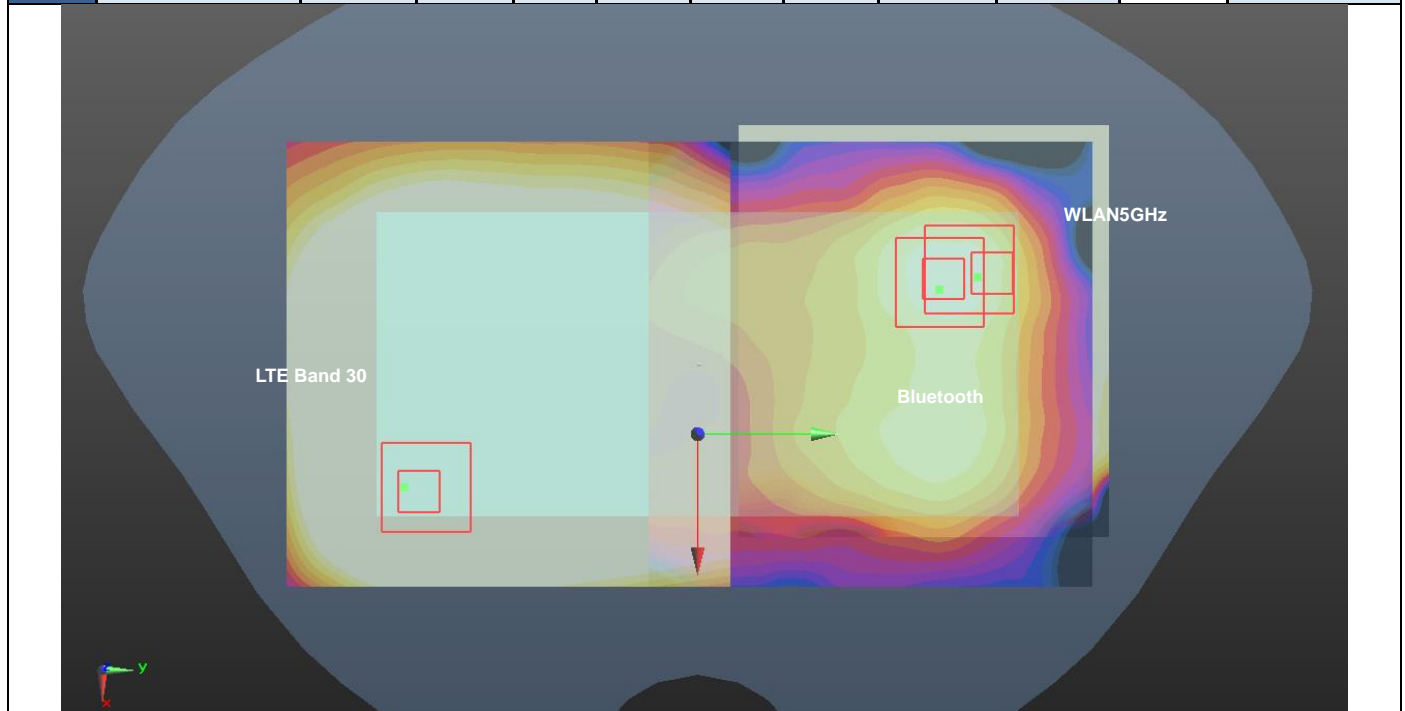
Case #43	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 30	Front	1.198	5	-22.2	-73.4	-1.97	156.5	2.17	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



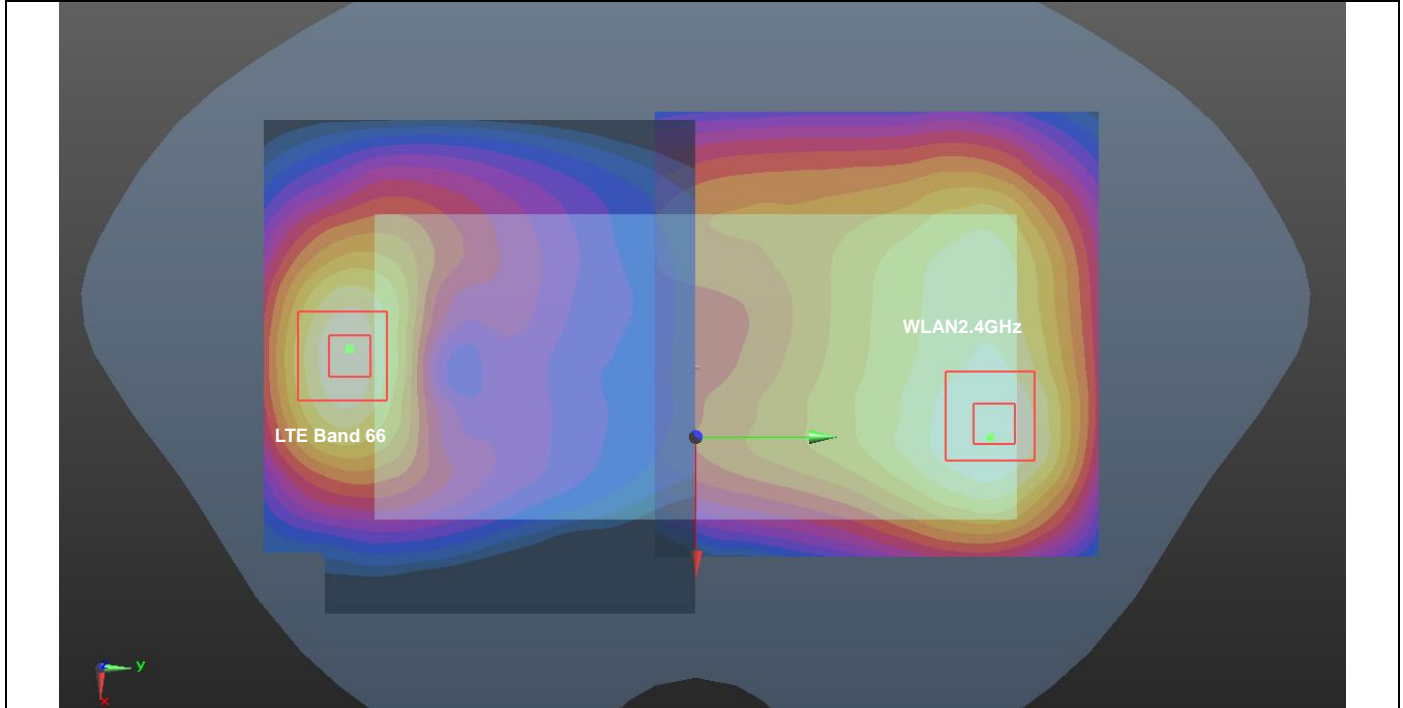
Case #44	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 30	Back	1.265	5	31	-70.2	-1.75	150.0	2.46	0.03	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



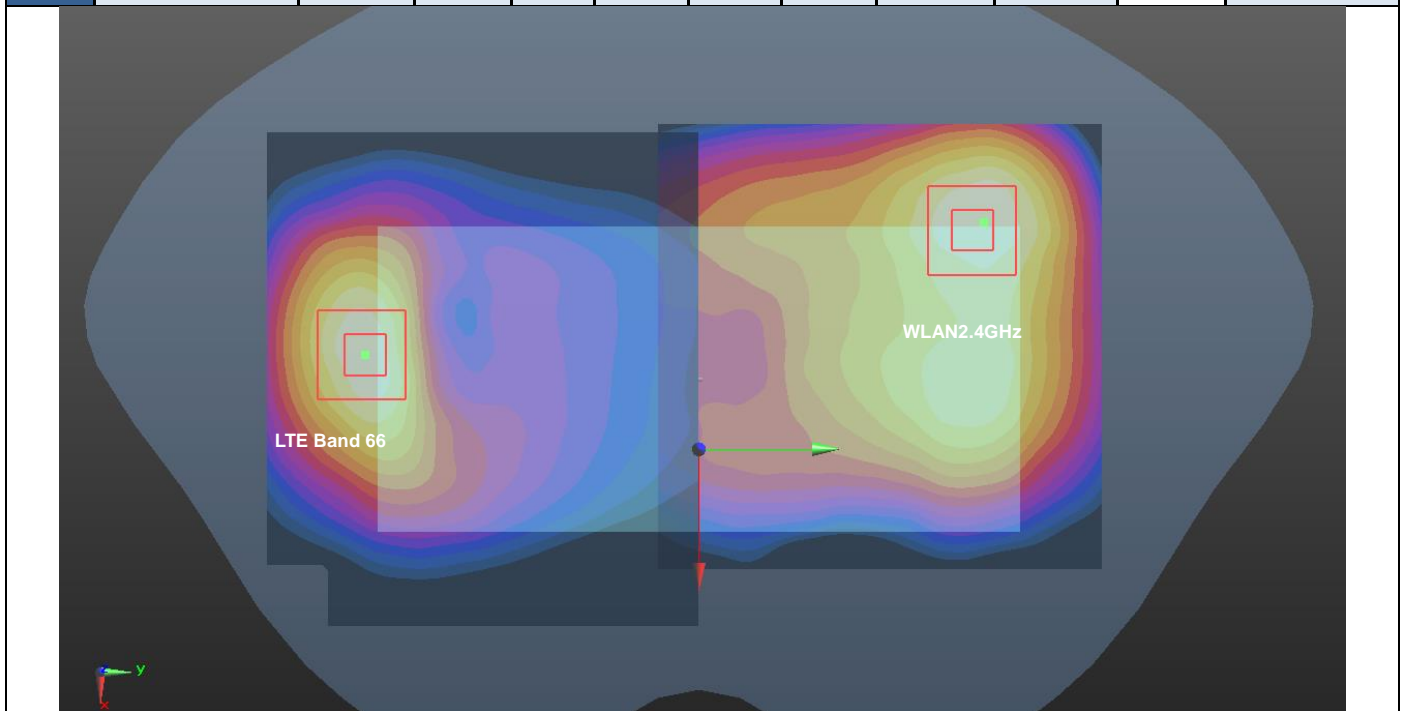
Case #45	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case #45	LTE Band 30	Back	1.265	5	31	-70.2	-1.75	140.9	2.54	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	LTE Band 30	Back	1.265	5	31	-70.2	-1.75	147.3	2.54	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				



Case #46	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 66	Front	1.155	5	-1.3	-82.4	-2.98	160.8	2.13	0.02	Not required
	WLAN2.4GHz		0.97	5	22.2	76.6	1.71				



Case #47	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 66	Back	1.262	5	-10.8	-82.6	-2.99	151.0	2.45	0.03	Not required
	WLAN2.4GHz		1.19	5	-29	67.2	1.56				



Case #48	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 66	Back	1.262	5	-10.8	-82.6	-2.99	143.8	2.54	0.03	Not required
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				
	Bluetooth		0.066	5	-21	60.8	-1.97				
	LTE Band 66	Back	1.262	5	-10.8	-82.6	-2.99	152.3	2.54	0.03	Not required
	Bluetooth		0.066	5	-21	60.8	-1.97				
	WLAN5GHz		1.207	5	-15.4	69.6	1.64				

