



FCC SAR TEST REPORT

FCC ID : UZ7RTL10B1
Equipment : Tablet
Brand Name : Zebra
Model Name : RTL10B1
Applicant : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Manufacturer : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Standard : FCC 47 CFR Part 2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2013

The product was received on Mar.15, 2019 and testing was started from Apr. 03, 2019 and completed on Apr. 22, 2019. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Zebra Technologies Corporation, Tablet, RTL10B1, are as follows.

Table with 4 columns: Equipment Class, Frequency Band, Highest SAR Summary (Body, 1g SAR (W/kg)), and Highest Simultaneous Transmission (1g SAR (W/kg)). Rows include Licensed (WCDMA II-IV, LTE Band 7-66), DTS (2.4GHz WLAN), NII (5GHz WLAN), and DSS (Bluetooth). Date of Testing: 2019/4/3 ~ 2019/4/22.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications

Reviewed by: Jason Wang
Report Producer: Wan Liu

2. Guidance Applied

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

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



3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Tablet
Brand Name	Zebra
Model Name	RTL10B1
FCC ID	UZ7RTL10B1
Wireless Technology and Frequency Range	WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 14: 790.5 MHz ~ 795.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 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 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 ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink) LTE: QPSK, 16QAM, 64QAM WLAN 2.4GHz : 802.11b/g/n/ac HT20/HT40/VHT20/VHT40 WLAN 5GHz : 802.11a/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK
HW Version	DV0
SW Version	Android version 8.1.0
FW Version – Xpad	01-17-09.00-OG-U00-PLT (RF sample; Engineering build image for TXBF)
FW Version - Xslate	01-17-05.00-OG-U00-PRD (RF sample; Engineering build image)
FW Version - Xbook	01-17-05.00-OG-U00-PRD (RF sample; Engineering build image)
MFD - Xpad	19MAR01
MFD - Xslate	19MAR01
MFD - Xbook	19MAR01
EUT Stage	Identical Prototype
Remark: 1. There are five kinds sample of this device, the larger difference between sample 1/2 and sample 3/4/5 is the handle, RF evaluation chose sample 2 as the main test, and sample 3 was spot check bottom face of sample 2 to show compliance. 2. Sample 1 is the similar device to sample 2, thus sample 1 didn't be performed SAR evaluation. 3. Sample 4/5 is the similar device to sample 3 and the varied part is far away from the transmitter antenna, thus sample 4/5 didn't be performed SAR evaluation.	

<Sample Information>

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	
DV0	SKU 1+ Keyboard	L10A - SKU1	L10A - SKU2	L10A - SKU3	L10A - SKU4	
ID	Xbook	XSLATE	XPAD	XPAD	XPAD	
OS	Refer Sample 2	Android O	Android O	Android O	Android O	
CPU		Qualcomm SDM660	Qualcomm SDM660	Qualcomm SDM660	Qualcomm SDM660	
Display with touch		Panasonic EP101R1912N500TG	Panasonic EP101R1912N500TG	Panasonic EP101R1912N500TG	Panasonic EP101R1912N500TG	Panasonic EP101R1912N500TG
		10.1" LCD (500nits)	10.1" LCD (500nits)	10.1" LCD (1000nits)	10.1" LCD (1000nits) with digitizer	
Memory		Samsung LPDDR4 4GB	Samsung LPDDR4 4GB	Samsung LPDDR4 4GB	Samsung LPDDR4 4GB	
		Hynix LPDDR4 4 GB	Hynix LPDDR4 4 GB	Micron LPDDR4 4 GB	Micron LPDDR4 4 GB	
eMMC		TOSHIBA 64GB	TOSHIBA 64GB	TOSHIBA 64GB	TOSHIBA 64GB	
GPS		Qualcomm	Qualcomm	Qualcomm	Qualcomm	
WWAN		Qualcomm	Qualcomm	Qualcomm	Qualcomm	
WLAN		Qualcomm WCN3990	Qualcomm WCN3990	Qualcomm WCN3990	Qualcomm WCN3990	
Antenna		WLAN*2/NFC	WLAN*2/NFC	WLAN*2/NFC	WLAN*2/NFC	
		/GPS/WWAN*2	/GPS/WWAN*2	/GPS/WWAN*2	/GPS/WWAN*2	
Barcode Reader		No	Yes	Yes	Yes	
HDMI		No	No	Yes	No	
Serial Port		No	Yes	No	No	

Accessories Information

	Brand Name		Model Name	
AC Adapter	Delta		ADP-65JH HB	
Spare Standard Battery 36Whr	XPLORE		XLBM1	
Keyboard dock	XPLORE		LX-KB	
Touch Pen	WACOM		CP-903-05B-2	
Touch Pen	EMPIA		EPNB-8C1000-000040820A01	
Touch Pen	HAO SHUAN		440007	



3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																															
FCC ID	UZ7RTL10B1																																																														
Equipment Name	Tablet																																																														
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 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 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																																																														
Channel Bandwidth	LTE Band 02: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 04: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 05: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 07: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 25: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz																																																														
uplink modulations used	QPSK / 16QAM / 64QAM																																																														
LTE Voice / Data requirements	Data only																																																														
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">≥ 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
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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	1. Yes, Proximity Sensor.																																																														
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 12																																																														
LTE Carrier Aggregation Additional Information	This device supports maximum of 3 carriers in the downlink. 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		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844				
LTE Band 7																
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560				
LTE Band 12																
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711				
LTE Band 13																
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz				Bandwidth 20 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23255		784.5		23280		787	
M	23230		782		23255		784.5		23280		787		23305		789.5	
H	23255		784.5		23280		787		23305		789.5		23330		792	
LTE Band 14																
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz				Bandwidth 20 MHz			
	Channel #		Channel #		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23305		790.5		23330		793		23355		795.5		23380		798	
M	23330		793		23355		795.5		23380		798		23405		800.5	
H	23355		795.5		23380		798		23405		800.5		23430		803	
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				



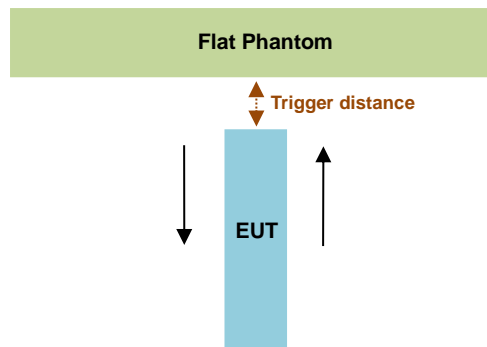
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	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 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)	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
L	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
H	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

4. Proximity Sensor Triggering Test

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

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

In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance than that for 1900MHz, and the tissue-equivalent medium for 1900MHz was used for formal proximity sensor triggering testing.



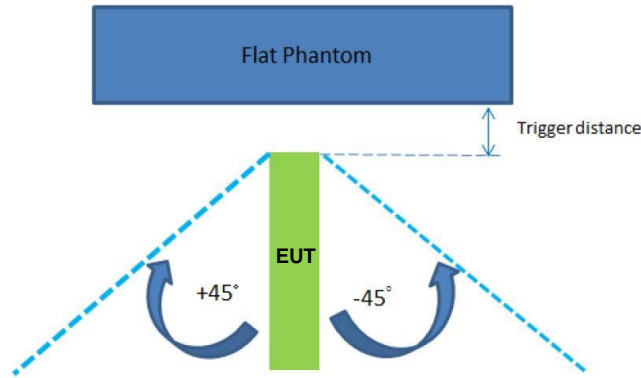
Proximity Sensor Trigger Distance (mm)		
Position	Bottom Face	Edge 1
Minimum	4	16

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

Since the antenna and sensor are collocated and all of the peak SAR location is overlapping with the sensor pad, therefore, According to KDB 616217 section 6.3, these procedures do not apply and are not required for bottom face and Edge 1 due to the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor on this device

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

The influence of table tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom, at 13 mm separation. Rotating the tablet around the edge next to the phantom in $\leq 10^\circ$ increments until the tablet is $\pm 45^\circ$ from the vertical position at 0° , and the maximum output power remains in the reduced mode.



The Sensor Trigger Distance (mm)	
Position	Edge 1
Minimum	16

Proximity sensor power reduction

Exposure Position / wireless mode	Bottom Face ⁽¹⁾	Edge 1 ⁽¹⁾	Edge 2	Edge 3	Edge 4
WCDMA Band II	4 dB	4 dB	0 dB	0 dB	0 dB
WCDMA Band IV	6 dB	6 dB	0 dB	0 dB	0 dB
WCDMA Band V	3 dB	3 dB	0 dB	0 dB	0 dB
LTE Band 2	4 dB	4 dB	0 dB	0 dB	0 dB
LTE Band 4	5.5 dB	5.5 dB	0 dB	0 dB	0 dB
LTE Band 5	2.5 dB	2.5 dB	0 dB	0 dB	0 dB
LTE Band 7	6 dB	6 dB	0 dB	0 dB	0 dB
LTE Band 13	2.5 dB	2.5 dB	0 dB	0 dB	0 dB
LTE Band 14	3 dB	3 dB	0 dB	0 dB	0 dB
LTE Band 25	4 dB	4 dB	0 dB	0 dB	0 dB
LTE Band 26	2.5 dB	2.5 dB	0 dB	0 dB	0 dB
LTE Band 38	5 dB	5 dB	0 dB	0 dB	0 dB
LTE Band 41	5 dB	5 dB	0 dB	0 dB	0 dB
LTE Band 66	6 dB	6 dB	0 dB	0 dB	0 dB

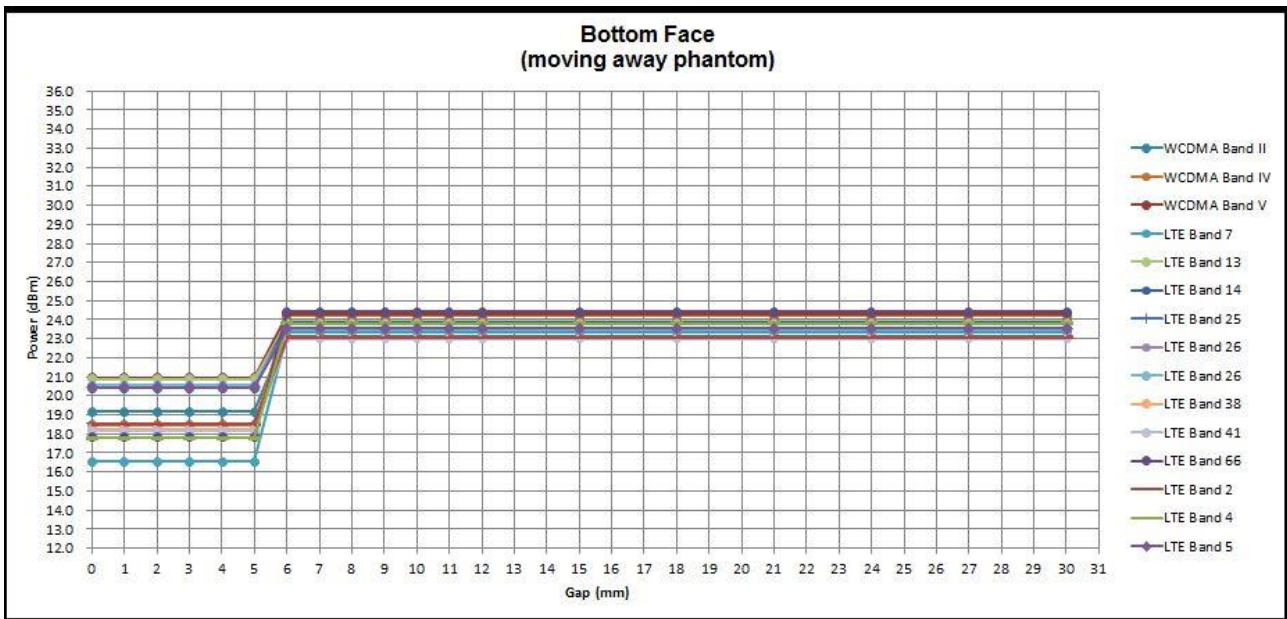
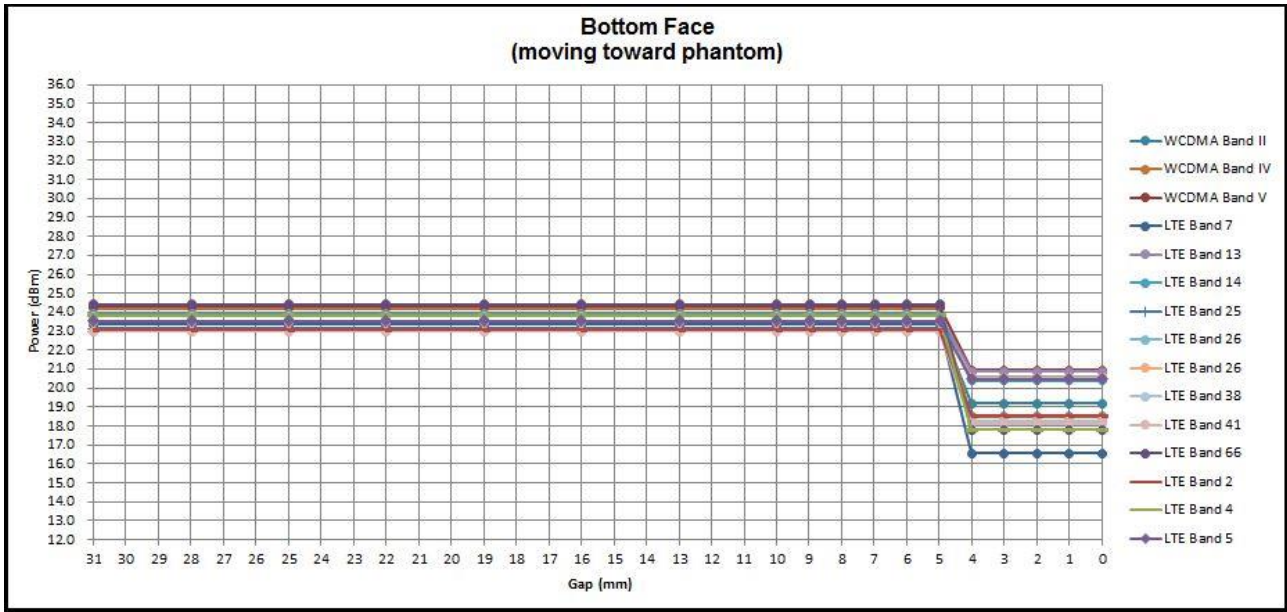
Remark:

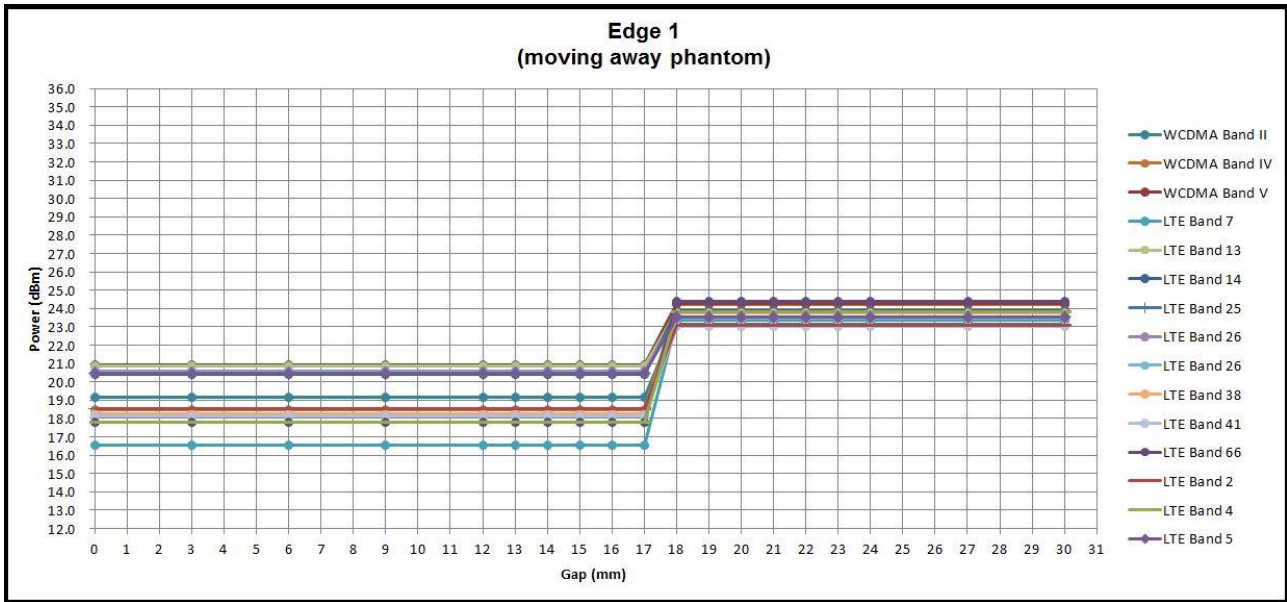
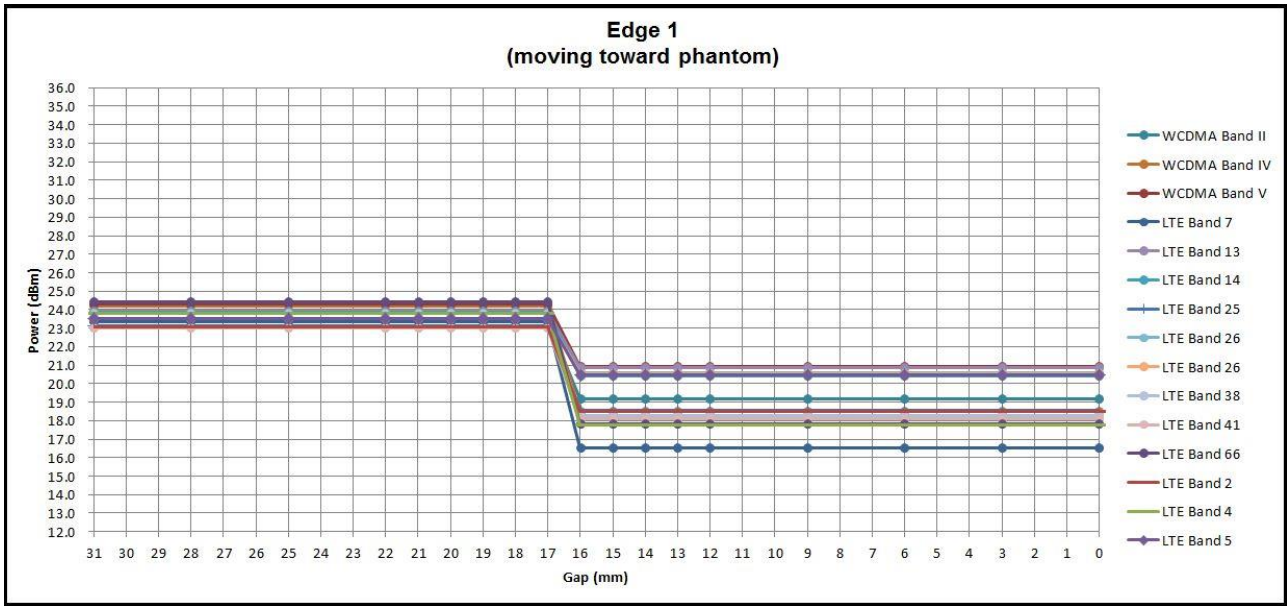
1. ⁽¹⁾: Reduced maximum limit applied by activation of proximity sensor.
2. Power reduction is not applicable for WLAN and Bluetooth.
3. Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown and described in exhibit "P-Sensor operational description"
4. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed:
 - Bottom Face: [3 mm](#)
 - Edge1: [15 mm](#)



Power Measurement during Sensor Trigger distance testing

Band/Mode	Measured power reduction (dBm)		Reduction Levels (dB)
	w/o power back-off	w/ power back-off	
WCDMA Band II	23.39	19.18	4.21
WCDMA Band IV	24.20	18.48	5.72
WCDMA Band V	24.30	20.94	3.36
LTE Band 2	23.07	18.51	4.56
LTE Band 4	23.81	17.78	6.03
LTE Band 5	23.53	20.45	3.08
LTE Band 7	23.36	16.55	6.81
LTE Band 13	23.89	20.88	3.01
LTE Band 14	23.86	20.39	3.47
LTE Band 25	23.12	18.54	4.58
LTE Band 26	23.53	20.57	2.96
LTE Band 38	23.79	18.27	5.52
LTE Band 41	23.00	18.13	4.87
LTE Band 66	24.41	17.81	6.6







5. RF Exposure Limits

5.1 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.

5.2 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

1. 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.



6. Specific Absorption Rate (SAR)

6.1 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.

6.2 SAR Definition

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

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

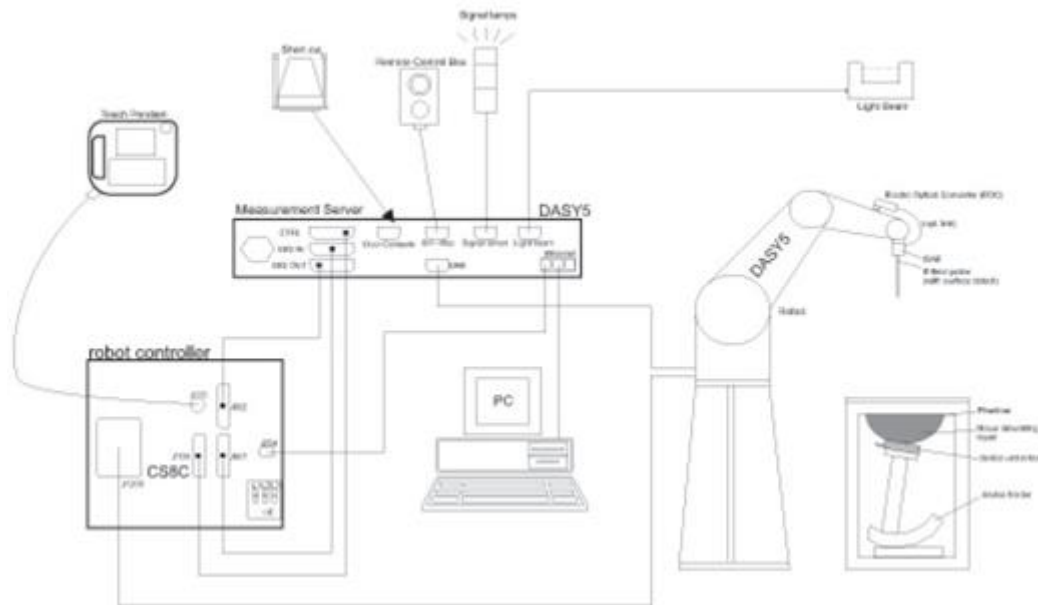
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. 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.


7.1 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.

<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 μ W/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	

<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 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/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	

7.2 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.


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



Fig 5.1 Photo of DAE

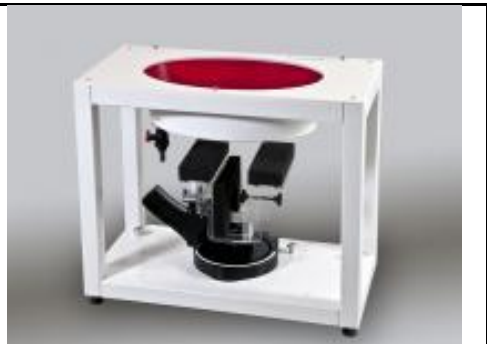
7.3 Phantom

<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.

7.4 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

8. 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

8.1 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

8.2 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.

8.3 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 dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

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

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

8.4 Zoom Scan

Zoom scans are used 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 shoes 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: $\Delta x_{Zoom}, \Delta y_{Zoom}$		≤ 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	
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

8.5 Volume Scan Procedures

The volume scan is used for 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.

8.6 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.



9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1012	Sep. 05, 2018	Sep. 04, 2019
SPEAG	835MHz System Validation Kit	D835V2	499	Sep. 06, 2018	Sep. 05, 2019
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 19, 2018	Nov. 18, 2019
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Sep. 11, 2018	Sep. 10, 2019
SPEAG	2450MHz System Validation Kit	D2450V2	736	Aug. 31, 2018	Aug. 30, 2019
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 31, 2018	Aug. 30, 2019
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Sep. 27, 2018	Sep. 26, 2019
SPEAG	Data Acquisition Electronics	DAE3	495	May. 24, 2018	May. 23, 2019
SPEAG	Data Acquisition Electronics	DAE4	1326	Sep. 18, 2018	Sep. 17, 2019
SPEAG	Data Acquisition Electronics	DAE4	1399	Nov. 16, 2018	Nov. 15, 2019
SPEAG	Dosimetric E-Field Probe	ES3DV3	3169	May. 28, 2018	May. 27, 2019
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Sep. 27, 2018	Sep. 26, 2019
SPEAG	Dosimetric E-Field Probe	EX3DV4	7306	Jul. 26, 2018	Jul. 25, 2019
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 12, 2018	Nov. 11, 2019
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 12, 2018	Nov. 11, 2019
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Apr. 17, 2018	Apr. 16, 2019
Agilent	Wireless Communication Test Set	E5515C	MY50266977	May. 21, 2018	May. 20, 2019
R&S	BT Base Station	CBT32	100519	May. 30, 2018	May. 29, 2019
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Dec. 11, 2018	Dec. 10, 2019
Agilent	ENA Network Analyzer	E5071C	MY46104758	Sep. 19, 2018	Sep. 18, 2019
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 19, 2018	Sep. 18, 2019
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3169	Sep. 11, 2018	Sep. 10, 2019
Anritsu	Power Meter	ML2495A	1419002	May. 18, 2018	May. 17, 2019
Anritsu	Power Sensor	MA2411B	1339124	May. 18, 2018	May. 17, 2019
Anritsu	Power Meter	ML2495A	1240001	Sep. 13, 2018	Sep. 12, 2019
Anritsu	Power Sensor	MA2411B	1207349	Sep. 13, 2018	Sep. 12, 2019
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 28, 2018	Aug. 27, 2019
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 23, 2018	Jun. 22, 2019
Mini-Circuits	Power Amplifier	ZVE-8G+	070501814	Oct. 08, 2018	Oct. 07, 2019
Mini-Circuits	Power Amplifier	ZVE-8G+	6382	Aug. 09, 2018	Aug. 08, 2019
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005-3	N/A	Note 1	

General 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 source.

10. System Verification

10.1 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. 10.1. 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. 10.2.

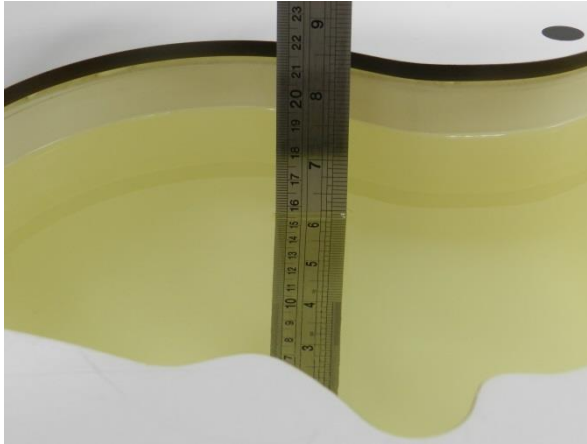


Fig 10.1 Photo of Liquid Height for Head SAR

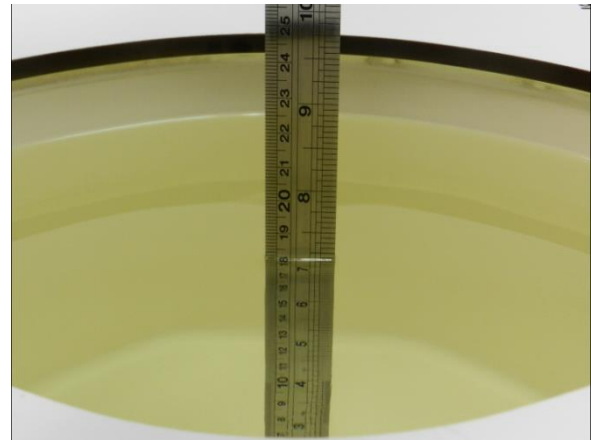


Fig 10.2 Photo of Liquid Height for Body SAR

10.2 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
900	40.3	57.9	0.2	1.4	0.2	0	0.97	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
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	MSL	22.6	0.951	54.242	0.96	55.50	-0.94	-2.27	±5	2019/4/4
750	MSL	22.7	0.968	55.233	0.96	55.50	0.83	-0.48	±5	2019/4/11
835	MSL	22.6	0.940	54.574	0.97	55.20	-3.09	-1.13	±5	2019/4/3
835	MSL	22.7	0.939	54.515	0.97	55.20	-3.20	-1.24	±5	2019/4/11
1750	MSL	22.4	1.448	55.766	1.49	53.40	-2.82	4.43	±5	2019/4/8
1750	MSL	22.2	1.518	53.357	1.49	53.40	1.88	-0.08	±5	2019/4/12
1900	MSL	22.4	1.536	53.065	1.52	53.30	1.05	-0.44	±5	2019/4/7
1900	MSL	22.2	1.523	52.039	1.52	53.30	0.20	-2.37	±5	2019/4/12
2450	MSL	22.3	1.992	52.989	1.95	52.70	2.15	0.55	±5	2019/4/22
2450	MSL	22.3	1.992	52.989	1.95	52.70	2.15	0.55	±5	2019/4/22
2600	MSL	22.5	2.215	51.508	2.16	52.50	2.55	-1.89	±5	2019/4/9
5250	MSL	22.5	5.433	47.893	5.36	48.95	1.36	-2.16	±5	2019/4/21
5600	MSL	22.5	5.892	47.241	5.77	48.50	2.11	-2.60	±5	2019/4/21
5750	MSL	22.5	6.112	46.912	5.94	48.28	2.90	-2.83	±5	2019/4/21

10.3 System Performance Check Results

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

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2019/4/4	750	MSL	250	D750V3-1012	ES3DV3 - SN3169	DAE4 Sn1326	2.27	8.76	9.08	3.65
2019/4/11	750	MSL	250	D750V3-1012	EX3DV4 - SN7306	DAE3 Sn495	2.30	8.76	9.2	5.02
2019/4/3	835	MSL	250	D835V2-499	ES3DV3 - SN3169	DAE4 Sn1326	2.35	9.82	9.4	-4.28
2019/4/11	835	MSL	250	D835V2-499	EX3DV4 - SN7306	DAE3 Sn495	2.48	9.82	9.92	1.02
2019/4/8	1750	MSL	250	D1750V2-1068	ES3DV3 - SN3169	DAE4 Sn1326	9.20	37.00	36.8	-0.54
2019/4/12	1750	MSL	250	D1750V2-1068	EX3DV4 - SN7306	DAE3 Sn495	9.65	37.00	38.6	4.32
2019/4/7	1900	MSL	250	D1900V2-5d041	ES3DV3 - SN3169	DAE4 Sn1326	9.98	40.20	39.92	-0.70
2019/4/12	1900	MSL	250	D1900V2-5d041	EX3DV4 - SN7306	DAE3 Sn495	10.50	40.20	42	4.48
2019/4/22	2450	MSL	250	D2450V2-736	EX3DV4 - SN3931	DAE4 Sn1399	13.00	51.50	52	0.97
2019/4/22	2450	MSL	250	D2450V2-736	ES3DV3 - SN3169	DAE4 Sn1399	12.80	51.50	51.2	-0.58
2019/4/9	2600	MSL	250	D2600V2-1008	EX3DV4 - SN7306	DAE3 Sn495	13.60	55.30	54.4	-1.63
2019/4/21	5250	MSL	100	D5GHzV2-1006	EX3DV4 - SN3931	DAE4 Sn1399	8.04	78.30	80.4	2.68
2019/4/21	5600	MSL	100	D5GHzV2-1006	EX3DV4 - SN3931	DAE4 Sn1399	8.39	81.00	83.9	3.58
2019/4/21	5750	MSL	100	D5GHzV2-1006	EX3DV4 - SN3931	DAE4 Sn1399	7.46	77.40	74.6	-3.62

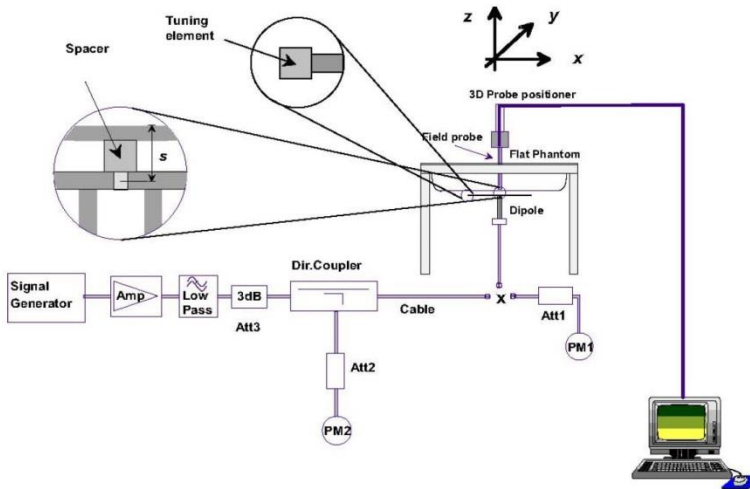


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

11. RF Exposure Positions

11.1 SAR Testing for Tablet

This device can be used also in full sized tablet exposure conditions, due to its size. Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR exclusion threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

12. Conducted RF Output Power (Unit: dBm)

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting * :
 - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
 - ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
 - iii. Set Cell Power = -86 dBm
 - iv. Set Channel Type = 12.2k + HSPA
 - v. Set UE Target Power
 - vi. Power Ctrl Mode= Alternating bits
 - vii. Set and observe the E-TFCl
 - viii. Confirm that E-TFCl is equal to the target E-TFCl of 75 for sub-test 1, and other subtest's E-TFCl
- 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-TFCl
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	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

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

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

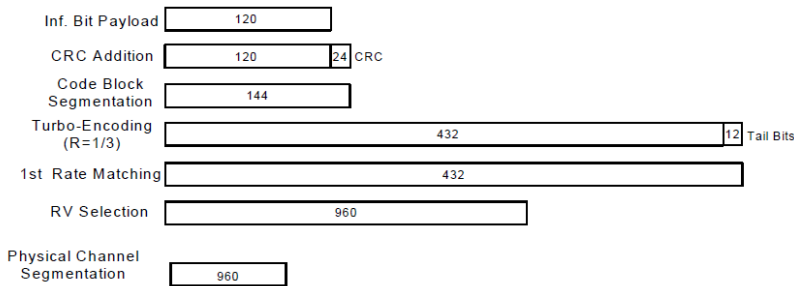


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration



HSPA+ 3GPP release 7 (uplink category 7) 16QAM, 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 = 5.2E:HSPA+:UL with 16QAM
 - 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, C11.1.4, quoted from the TS 34.121-1 s5.2E
 - iii. Set Channel Parmes
 - iv. Set Cell Power = -86 dBm
 - v. Set Channel Type = HSPA
 - vi. Set UE Target Power =21 dBm
 - vii. Power Ctrl Mode= All Up Bits
 - viii. Set Manual Uplink DPCH Bc/Bd = Manual
 - ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
 - x. Set HSPA Conn DL Channel Levels
 - xi. Set HS-SCCH Configs
 - xii. Set RB Test Mode Setup
 - xiii. Set Common HSUPA Parameters
 - xiv. Set Serving Grant
 - xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

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

Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).

Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.

Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

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 / HSPA+ 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 / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+ are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

<Default Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel	Rx Channel	9262	9400	9538		1312	1413	1513		4132	4182	4233	
Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6			
3GPP Rel 99	RMC 12.2Kbps	23.30	23.39	23.31	23.50	24.11	24.20	24.17	24.50	24.34	24.30	24.27	24.50
3GPP Rel 6	HSDPA Subtest-1	22.35	22.50	22.44	22.50	22.99	23.20	23.27	23.50	23.39	23.38	23.33	23.50
3GPP Rel 6	HSDPA Subtest-2	22.41	22.48	22.45	22.50	23.02	23.18	23.24	23.50	23.43	23.34	23.31	23.50
3GPP Rel 6	HSDPA Subtest-3	21.93	21.99	22.00	22.00	22.53	22.68	22.75	23.00	22.93	22.88	22.84	23.00
3GPP Rel 6	HSDPA Subtest-4	21.89	21.98	21.97	22.00	22.51	22.68	22.75	23.00	22.91	22.86	22.84	23.00
3GPP Rel 8	DC-HSDPA Subtest-1	22.34	22.44	22.38	22.50	22.96	23.12	23.25	23.50	23.35	23.30	23.33	23.50
3GPP Rel 8	DC-HSDPA Subtest-2	22.37	22.47	22.45	22.50	22.99	23.08	23.15	23.50	23.38	23.30	23.21	23.50
3GPP Rel 8	DC-HSDPA Subtest-3	21.87	21.97	21.91	22.00	22.47	22.59	22.74	23.00	22.93	22.84	22.79	23.00
3GPP Rel 8	DC-HSDPA Subtest-4	21.83	21.98	21.95	22.00	22.46	22.59	22.67	23.00	22.86	22.79	22.77	23.00
3GPP Rel 6	HSUPA Subtest-1	22.39	22.49	22.49	22.50	23.03	23.20	23.28	23.50	23.39	23.40	23.36	23.50
3GPP Rel 6	HSUPA Subtest-2	20.32	20.48	20.49	20.50	21.04	21.21	21.27	21.50	21.49	21.38	21.40	21.50
3GPP Rel 6	HSUPA Subtest-3	21.40	21.50	21.50	21.50	22.02	22.23	22.02	22.50	22.42	22.37	22.27	22.50
3GPP Rel 6	HSUPA Subtest-4	20.41	20.50	20.49	20.50	21.03	21.23	21.28	21.50	21.38	21.37	21.33	21.50
3GPP Rel 6	HSUPA Subtest-5	22.40	22.50	22.50	22.50	23.10	23.20	23.20	23.50	23.40	23.40	23.40	23.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	19.56	19.67	19.62	20.00	20.45	20.58	20.55	21.00	20.48	20.62	20.58	21.00

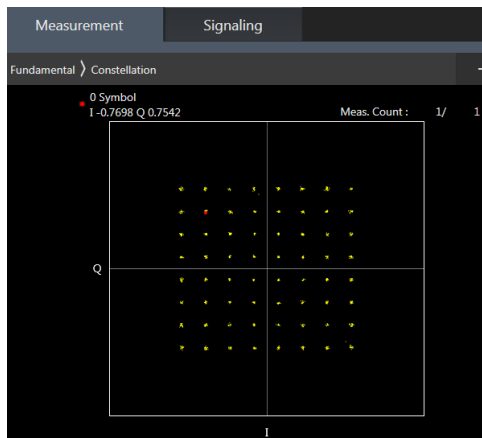
<Reduced Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel	Rx Channel	9262	9400	9538		1312	1413	1513		4132	4182	4233	
Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6			
3GPP Rel 99	RMC 12.2Kbps	18.82	19.18	18.57	19.50	17.88	18.48	18.29	18.50	20.91	20.94	20.89	21.50
3GPP Rel 6	HSDPA Subtest-1	17.72	17.85	17.84	18.50	16.90	17.05	17.08	17.50	19.74	19.73	19.71	20.50
3GPP Rel 6	HSDPA Subtest-2	17.78	17.93	17.88	18.50	16.90	17.08	17.12	17.50	19.80	19.73	19.69	20.50
3GPP Rel 6	HSDPA Subtest-3	16.86	17.03	17.40	18.00	16.43	16.55	16.57	17.00	19.27	19.21	19.25	20.00
3GPP Rel 6	HSDPA Subtest-4	17.28	17.38	17.39	18.00	16.38	16.58	16.57	17.00	19.27	19.27	19.23	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	17.70	17.85	17.75	18.50	16.82	16.96	17.01	17.50	19.70	19.69	19.70	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	17.78	17.92	17.80	18.50	16.89	16.99	17.07	17.50	19.72	19.64	19.66	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	16.83	16.93	17.38	18.00	16.34	16.53	16.52	17.00	19.17	19.21	19.21	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	17.22	17.32	17.35	18.00	16.28	16.48	16.51	17.00	19.26	19.27	19.18	20.00
3GPP Rel 6	HSUPA Subtest-1	17.66	17.77	17.82	18.50	16.90	17.01	16.90	17.50	19.78	19.73	19.73	20.50
3GPP Rel 6	HSUPA Subtest-2	15.70	15.67	15.77	16.50	15.03	15.01	15.00	15.50	17.73	17.72	17.73	18.50
3GPP Rel 6	HSUPA Subtest-3	16.70	16.66	16.58	17.50	16.02	16.01	15.99	16.50	18.79	18.76	18.73	19.50
3GPP Rel 6	HSUPA Subtest-4	15.80	15.77	15.72	16.50	15.00	15.03	15.06	15.50	17.72	17.70	17.66	18.50
3GPP Rel 6	HSUPA Subtest-5	17.70	17.80	17.90	18.50	16.90	17.00	16.60	17.50	19.80	19.70	19.60	20.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	15.56	15.62	15.65	16.00	14.52	14.65	14.58	15.00	17.51	17.61	17.54	18.00

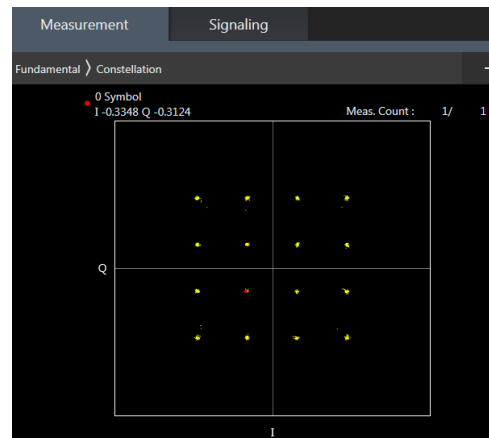
<LTE Conducted Power>

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 output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
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 B12/ B26 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2/4/5/38 SAR test was covered by Band 25/66/26/ 41; 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



<Default Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	23.05	23.07	22.97	23.5	0
20	QPSK	1	49	23.01	23.06	22.95		
20	QPSK	1	99	23.00	23.05	22.93		
20	QPSK	50	0	22.00	22.12	22.07	22.5	1
20	QPSK	50	24	22.06	22.11	22.05		
20	QPSK	50	50	22.02	22.10	21.99		
20	QPSK	100	0	22.02	22.10	22.09	22.5	1
20	16QAM	1	0	22.48	22.47	22.34		
20	16QAM	1	49	22.40	22.48	22.33		
20	16QAM	1	99	22.39	22.43	22.31	21.5	2
20	16QAM	50	0	21.15	21.21	21.19		
20	16QAM	50	24	21.21	21.26	21.14		
20	16QAM	50	50	21.19	21.22	21.14	21.5	2
20	16QAM	100	0	21.16	21.22	21.22		
20	64QAM	1	0	21.39	21.41	21.28		
20	64QAM	1	49	21.36	21.44	21.28	21.5	2
20	64QAM	1	99	21.33	21.36	21.22		
20	64QAM	50	0	20.15	20.24	20.23		
20	64QAM	50	24	20.22	20.27	20.17	20.5	3
20	64QAM	50	50	20.19	20.24	20.16		
20	64QAM	100	0	20.16	20.26	20.22		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.04	23.04	22.92	23.5	0
15	QPSK	1	37	22.94	23.06	22.94		
15	QPSK	1	74	22.90	22.96	22.92		
15	QPSK	36	0	21.99	22.11	22.06	22.5	1
15	QPSK	36	20	22.01	22.04	22.00		
15	QPSK	36	39	22.01	22.02	21.96		
15	QPSK	75	0	22.00	22.04	22.00	22.5	1
15	16QAM	1	0	22.39	22.44	22.25		
15	16QAM	1	37	22.36	22.38	22.25		
15	16QAM	1	74	22.33	22.41	22.23	21.5	2
15	16QAM	36	0	21.13	21.21	21.09		
15	16QAM	36	20	21.20	21.20	21.06		
15	16QAM	36	39	21.16	21.15	21.11	21.5	2
15	16QAM	75	0	21.16	21.16	21.15		
15	64QAM	1	0	21.35	21.39	21.24		
15	64QAM	1	37	21.26	21.41	21.18	21.5	2
15	64QAM	1	74	21.25	21.29	21.22		
15	64QAM	36	0	20.09	20.14	20.22		
15	64QAM	36	20	20.18	20.20	20.16	20.5	3
15	64QAM	36	39	20.18	20.17	20.13		
15	64QAM	75	0	20.06	20.23	20.13		



Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.99	22.99	22.96	23.5	0
10	QPSK	1	25	22.95	23.03	22.88		
10	QPSK	1	49	22.94	23.00	22.92		
10	QPSK	25	0	21.91	22.03	21.98	22.5	1
10	QPSK	25	12	22.03	22.04	21.99		
10	QPSK	25	25	21.97	22.03	21.91		
10	QPSK	50	0	21.94	22.05	22.08	22.5	1
10	16QAM	1	0	22.40	22.43	22.26		
10	16QAM	1	25	22.40	22.43	22.33		
10	16QAM	1	49	22.34	22.40	22.30	21.5	2
10	16QAM	25	0	21.12	21.18	21.17		
10	16QAM	25	12	21.13	21.26	21.08		
10	16QAM	25	25	21.11	21.13	21.04	21.5	2
10	16QAM	50	0	21.10	21.16	21.22		
10	64QAM	1	0	21.32	21.32	21.22		
10	64QAM	1	25	21.29	21.39	21.23	21.5	2
10	64QAM	1	49	21.31	21.27	21.12		
10	64QAM	25	0	20.06	20.24	20.22		
10	64QAM	25	12	20.13	20.25	20.11	20.5	3
10	64QAM	25	25	20.18	20.16	20.11		
10	64QAM	50	0	20.16	20.19	20.20		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.03	23.06	22.90	23.5	0
5	QPSK	1	12	22.97	23.01	22.91		
5	QPSK	1	24	22.92	23.00	22.89		
5	QPSK	12	0	21.91	22.07	22.04	22.5	1
5	QPSK	12	7	22.01	22.03	22.04		
5	QPSK	12	13	21.97	22.10	21.96		
5	QPSK	25	0	21.92	22.00	22.02	22.5	1
5	16QAM	1	0	22.44	22.37	22.28		
5	16QAM	1	12	22.37	22.43	22.29		
5	16QAM	1	24	22.38	22.43	22.31	21.5	2
5	16QAM	12	0	21.10	21.18	21.10		
5	16QAM	12	7	21.12	21.19	21.11		
5	16QAM	12	13	21.11	21.14	21.10	21.5	2
5	16QAM	25	0	21.16	21.16	21.12		
5	64QAM	1	0	21.30	21.34	21.24		
5	64QAM	1	12	21.33	21.39	21.24	21.5	2
5	64QAM	1	24	21.30	21.32	21.16		
5	64QAM	12	0	20.11	20.14	20.21		
5	64QAM	12	7	20.14	20.22	20.16	20.5	3
5	64QAM	12	13	20.11	20.16	20.14		
5	64QAM	25	0	20.06	20.17	20.21		



Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.95	22.99	22.95	23.5	0
3	QPSK	1	8	22.99	23.01	22.90		
3	QPSK	1	14	22.95	23.03	22.92		
3	QPSK	8	0	21.97	22.09	22.06	22.5	1
3	QPSK	8	4	21.99	22.03	22.01		
3	QPSK	8	7	21.94	22.01	21.92		
3	QPSK	15	0	21.94	22.10	22.06		
3	16QAM	1	0	22.39	22.42	22.29	22.5	1
3	16QAM	1	8	22.32	22.41	22.28		
3	16QAM	1	14	22.38	22.36	22.21		
3	16QAM	8	0	21.10	21.12	21.15	21.5	2
3	16QAM	8	4	21.17	21.16	21.10		
3	16QAM	8	7	21.19	21.15	21.12		
3	16QAM	15	0	21.09	21.16	21.12		
3	64QAM	1	0	21.37	21.32	21.25	21.5	2
3	64QAM	1	8	21.26	21.41	21.26		
3	64QAM	1	14	21.23	21.34	21.12		
3	64QAM	8	0	20.07	20.16	20.17	20.5	3
3	64QAM	8	4	20.21	20.17	20.17		
3	64QAM	8	7	20.15	20.17	20.12		
3	64QAM	15	0	20.06	20.26	20.19		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	23.00	23.06	22.90	23.5	0
1.4	QPSK	1	3	22.98	23.01	22.95		
1.4	QPSK	1	5	22.99	22.98	22.87		
1.4	QPSK	3	0	21.98	22.04	22.06		
1.4	QPSK	3	1	22.00	22.05	22.05		
1.4	QPSK	3	3	22.02	22.07	21.91		
1.4	QPSK	6	0	22.00	22.09	22.02	22.5	1
1.4	16QAM	1	0	22.45	22.37	22.24	22.5	1
1.4	16QAM	1	3	22.30	22.45	22.24		
1.4	16QAM	1	5	22.39	22.35	22.23		
1.4	16QAM	3	0	21.13	21.21	21.12		
1.4	16QAM	3	1	21.13	21.20	21.14		
1.4	16QAM	3	3	21.10	21.16	21.08		
1.4	16QAM	6	0	21.14	21.12	21.19	21.5	2
1.4	64QAM	1	0	21.38	21.39	21.21	21.5	2
1.4	64QAM	1	3	21.31	21.36	21.26		
1.4	64QAM	1	5	21.31	21.28	21.16		
1.4	64QAM	3	0	20.14	20.22	20.20		
1.4	64QAM	3	1	20.15	20.20	20.09		
1.4	64QAM	3	3	20.14	20.24	20.09		
1.4	64QAM	6	0	20.10	20.26	20.14	20.5	3



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.57	23.81	23.78	24	0
20	QPSK	1	49	23.59	23.72	23.71		
20	QPSK	1	99	23.63	23.68	23.70		
20	QPSK	50	0	22.63	22.88	22.82	23	1
20	QPSK	50	24	22.79	22.83	22.87		
20	QPSK	50	50	22.71	22.75	22.78		
20	QPSK	100	0	22.74	22.83	22.82		
20	16QAM	1	0	22.89	22.86	22.99	23	1
20	16QAM	1	49	22.92	22.88	23.00		
20	16QAM	1	99	22.93	22.88	22.88		
20	16QAM	50	0	21.77	21.89	21.96	22	2
20	16QAM	50	24	21.88	21.92	21.97		
20	16QAM	50	50	21.85	21.87	21.91		
20	16QAM	100	0	21.81	21.86	21.90		
20	64QAM	1	0	21.86	21.98	21.97	22	2
20	64QAM	1	49	21.91	21.91	21.98		
20	64QAM	1	99	21.92	21.98	21.96		
20	64QAM	50	0	20.76	20.93	20.96	21	3
20	64QAM	50	24	20.91	20.92	20.97		
20	64QAM	50	50	20.85	20.91	20.95		
20	64QAM	100	0	20.86	20.91	20.96		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.57	23.78	23.74	24	0
15	QPSK	1	37	23.50	23.63	23.69		
15	QPSK	1	74	23.59	23.61	23.63		
15	QPSK	36	0	22.60	22.84	22.77	23	1
15	QPSK	36	20	22.76	22.80	22.80		
15	QPSK	36	39	22.62	22.67	22.70		
15	QPSK	75	0	22.66	22.83	22.72		
15	16QAM	1	0	22.80	22.85	22.89	23	1
15	16QAM	1	37	22.83	22.85	22.98		
15	16QAM	1	74	22.92	22.80	22.88		
15	16QAM	36	0	21.76	21.80	21.92	22	2
15	16QAM	36	20	21.86	21.88	21.95		
15	16QAM	36	39	21.78	21.81	21.82		
15	16QAM	75	0	21.71	21.85	21.84		
15	64QAM	1	0	21.86	21.98	21.92	22	2
15	64QAM	1	37	21.81	21.89	21.88		
15	64QAM	1	74	21.91	21.98	21.94		
15	64QAM	36	0	20.76	20.85	20.91	21	3
15	64QAM	36	20	20.89	20.88	20.97		
15	64QAM	36	39	20.81	20.88	20.95		
15	64QAM	75	0	20.79	20.90	20.91		



Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.54	23.72	23.69	24	0
10	QPSK	1	25	23.53	23.68	23.67		
10	QPSK	1	49	23.59	23.64	23.66		
10	QPSK	25	0	22.53	22.83	22.77	23	1
10	QPSK	25	12	22.70	22.83	22.87		
10	QPSK	25	25	22.61	22.67	22.73		
10	QPSK	50	0	22.74	22.81	22.77	23	1
10	16QAM	1	0	22.82	22.76	22.96		
10	16QAM	1	25	22.83	22.78	22.94		
10	16QAM	1	49	22.91	22.84	22.88	22	2
10	16QAM	25	0	21.72	21.79	21.95		
10	16QAM	25	12	21.86	21.84	21.97		
10	16QAM	25	25	21.79	21.78	21.84	22	2
10	16QAM	50	0	21.72	21.80	21.85		
10	64QAM	1	0	21.79	21.88	21.88		
10	64QAM	1	25	21.83	21.91	21.89	22	2
10	64QAM	1	49	21.91	21.90	21.93		
10	64QAM	25	0	20.68	20.85	20.94		
10	64QAM	25	12	20.81	20.88	20.97	21	3
10	64QAM	25	25	20.77	20.90	20.91		
10	64QAM	50	0	20.81	20.81	20.86		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.49	23.79	23.71	24	0
5	QPSK	1	12	23.51	23.65	23.64		
5	QPSK	1	24	23.56	23.68	23.60		
5	QPSK	12	0	22.60	22.80	22.79	23	1
5	QPSK	12	7	22.74	22.83	22.79		
5	QPSK	12	13	22.66	22.73	22.69		
5	QPSK	25	0	22.72	22.77	22.73	23	1
5	16QAM	1	0	22.81	22.79	22.89		
5	16QAM	1	12	22.89	22.88	22.97		
5	16QAM	1	24	22.92	22.78	22.80	22	2
5	16QAM	12	0	21.72	21.88	21.86		
5	16QAM	12	7	21.80	21.86	21.89		
5	16QAM	12	13	21.85	21.86	21.86	22	2
5	16QAM	25	0	21.78	21.84	21.85		
5	64QAM	1	0	21.79	21.95	21.90		
5	64QAM	1	12	21.86	21.90	21.91	22	2
5	64QAM	1	24	21.86	21.94	21.93		
5	64QAM	12	0	20.69	20.93	20.93		
5	64QAM	12	7	20.91	20.90	20.88	21	3
5	64QAM	12	13	20.78	20.91	20.88		
5	64QAM	25	0	20.82	20.89	20.93		



Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	23.50	23.79	23.77	24	0
3	QPSK	1	8	23.49	23.71	23.62		
3	QPSK	1	14	23.56	23.67	23.70		
3	QPSK	8	0	22.54	22.79	22.74	23	1
3	QPSK	8	4	22.75	22.79	22.83		
3	QPSK	8	7	22.67	22.67	22.70		
3	QPSK	15	0	22.68	22.76	22.75		
3	16QAM	1	0	22.84	22.77	22.94	23	1
3	16QAM	1	8	22.82	22.86	22.95		
3	16QAM	1	14	22.88	22.82	22.83		
3	16QAM	8	0	21.70	21.88	21.93	22	2
3	16QAM	8	4	21.86	21.82	21.97		
3	16QAM	8	7	21.78	21.81	21.87		
3	16QAM	15	0	21.81	21.79	21.82		
3	64QAM	1	0	21.77	21.97	21.93	22	2
3	64QAM	1	8	21.84	21.90	21.96		
3	64QAM	1	14	21.83	21.94	21.86		
3	64QAM	8	0	20.66	20.86	20.93	21	3
3	64QAM	8	4	20.89	20.89	20.97		
3	64QAM	8	7	20.76	20.90	20.94		
3	64QAM	15	0	20.80	20.88	20.87		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	23.48	23.79	23.70	24	0
1.4	QPSK	1	3	23.50	23.64	23.63		
1.4	QPSK	1	5	23.60	23.64	23.65		
1.4	QPSK	3	0	22.62	22.85	22.73		
1.4	QPSK	3	1	22.77	22.81	22.86		
1.4	QPSK	3	3	22.63	22.72	22.75		
1.4	QPSK	6	0	22.64	22.75	22.80	23	1
1.4	16QAM	1	0	22.83	22.82	22.94	23	1
1.4	16QAM	1	3	22.89	22.81	22.95		
1.4	16QAM	1	5	22.85	22.80	22.80		
1.4	16QAM	3	0	21.77	21.84	21.91		
1.4	16QAM	3	1	21.81	21.86	21.95		
1.4	16QAM	3	3	21.85	21.81	21.84		
1.4	16QAM	6	0	21.79	21.85	21.90	22	2
1.4	64QAM	1	0	21.77	21.98	21.91	22	2
1.4	64QAM	1	3	21.81	21.90	21.98		
1.4	64QAM	1	5	21.84	21.91	21.87		
1.4	64QAM	3	0	20.71	20.83	20.88		
1.4	64QAM	3	1	20.89	20.89	20.87		
1.4	64QAM	3	3	20.77	20.91	20.86		
1.4	64QAM	6	0	20.77	20.91	20.92	21	3



<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	23.44	23.53	23.47	24	0
10	QPSK	1	25	23.49	23.52	23.51		
10	QPSK	1	49	23.47	23.41	23.40		
10	QPSK	25	0	22.56	22.62	22.50	23	1
10	QPSK	25	12	22.54	22.54	22.59		
10	QPSK	25	25	22.61	22.51	22.48		
10	QPSK	50	0	22.49	22.57	22.46	23	1
10	16QAM	1	0	22.78	22.75	22.84		
10	16QAM	1	25	22.79	22.87	22.82		
10	16QAM	1	49	22.76	22.76	22.73	22	2
10	16QAM	25	0	21.62	21.68	21.57		
10	16QAM	25	12	21.64	21.67	21.68		
10	16QAM	25	25	21.69	21.62	21.59	22	2
10	16QAM	50	0	21.60	21.68	21.55		
10	64QAM	1	0	21.70	21.69	21.76		
10	64QAM	1	25	21.73	21.83	21.80	22	2
10	64QAM	1	49	21.72	21.70	21.72		
10	64QAM	25	0	20.65	20.68	20.57		
10	64QAM	25	12	20.64	20.70	20.67	21	3
10	64QAM	25	25	20.69	20.65	20.61		
10	64QAM	50	0	20.62	20.68	20.56		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	23.43	23.44	23.42	24	0
5	QPSK	1	12	23.39	23.42	23.45		
5	QPSK	1	24	23.45	23.36	23.32		
5	QPSK	12	0	22.50	22.56	22.45	23	1
5	QPSK	12	7	22.54	22.49	22.59		
5	QPSK	12	13	22.54	22.46	22.38		
5	QPSK	25	0	22.47	22.51	22.42	23	1
5	16QAM	1	0	22.74	22.67	22.77		
5	16QAM	1	12	22.75	22.84	22.81		
5	16QAM	1	24	22.68	22.70	22.71	22	2
5	16QAM	12	0	21.61	21.63	21.57		
5	16QAM	12	7	21.62	21.66	21.67		
5	16QAM	12	13	21.65	21.54	21.55	22	2
5	16QAM	25	0	21.58	21.62	21.49		
5	64QAM	1	0	21.61	21.64	21.69		
5	64QAM	1	12	21.70	21.82	21.71	22	2
5	64QAM	1	24	21.67	21.66	21.65		
5	64QAM	12	0	20.65	20.62	20.49		
5	64QAM	12	7	20.58	20.61	20.63	21	3
5	64QAM	12	13	20.64	20.62	20.58		
5	64QAM	25	0	20.54	20.58	20.56		



Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	23.40	23.50	23.41	24	0
3	QPSK	1	8	23.41	23.45	23.49		
3	QPSK	1	14	23.42	23.31	23.32		
3	QPSK	8	0	22.51	22.59	22.45	23	1
3	QPSK	8	4	22.53	22.47	22.52		
3	QPSK	8	7	22.56	22.42	22.40		
3	QPSK	15	0	22.49	22.49	22.43	23	1
3	16QAM	1	0	22.73	22.66	22.83		
3	16QAM	1	8	22.77	22.78	22.82		
3	16QAM	1	14	22.75	22.68	22.63	22	2
3	16QAM	8	0	21.61	21.62	21.56		
3	16QAM	8	4	21.56	21.63	21.63		
3	16QAM	8	7	21.61	21.52	21.58	21	3
3	16QAM	15	0	21.53	21.58	21.52		
3	64QAM	1	0	21.68	21.66	21.72		
3	64QAM	1	8	21.73	21.81	21.76	22	2
3	64QAM	1	14	21.62	21.68	21.62		
3	64QAM	8	0	20.59	20.65	20.53		
3	64QAM	8	4	20.60	20.65	20.64	21	3
3	64QAM	8	7	20.66	20.61	20.57		
3	64QAM	15	0	20.52	20.67	20.53		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	23.37	23.50	23.39	24	0
1.4	QPSK	1	3	23.39	23.49	23.45		
1.4	QPSK	1	5	23.42	23.39	23.34		
1.4	QPSK	3	0	22.51	22.58	22.41		
1.4	QPSK	3	1	22.48	22.48	22.53		
1.4	QPSK	3	3	22.57	22.45	22.43		
1.4	QPSK	6	0	22.42	22.56	22.45	23	1
1.4	16QAM	1	0	22.71	22.65	22.78	23	1
1.4	16QAM	1	3	22.78	22.79	22.75		
1.4	16QAM	1	5	22.72	22.76	22.73		
1.4	16QAM	3	0	21.55	21.64	21.52		
1.4	16QAM	3	1	21.54	21.61	21.58		
1.4	16QAM	3	3	21.64	21.60	21.59		
1.4	16QAM	6	0	21.59	21.62	21.47	22	2
1.4	64QAM	1	0	21.70	21.65	21.68	22	2
1.4	64QAM	1	3	21.70	21.74	21.70		
1.4	64QAM	1	5	21.68	21.70	21.62		
1.4	64QAM	3	0	20.64	20.68	20.53		
1.4	64QAM	3	1	20.61	20.62	20.63		
1.4	64QAM	3	3	20.66	20.55	20.59		
1.4	64QAM	6	0	20.53	20.62	20.46	21	3



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.21	23.36	23.35	24	0
20	QPSK	1	49	23.20	23.32	23.33		
20	QPSK	1	99	23.10	23.24	23.23		
20	QPSK	50	0	22.29	22.45	22.44	23	1
20	QPSK	50	24	22.28	22.34	22.39		
20	QPSK	50	50	22.28	22.30	22.34		
20	QPSK	100	0	22.27	22.40	22.39		
20	16QAM	1	0	22.45	22.49	22.68	23	1
20	16QAM	1	49	22.60	22.61	22.73		
20	16QAM	1	99	22.66	22.78	22.78		
20	16QAM	50	0	21.38	21.37	21.46	22	2
20	16QAM	50	24	21.43	21.44	21.55		
20	16QAM	50	50	21.41	21.47	21.58		
20	16QAM	100	0	21.39	21.44	21.54		
20	64QAM	1	0	21.43	21.37	21.60	22	2
20	64QAM	1	49	21.57	21.56	21.69		
20	64QAM	1	99	21.56	21.72	21.77		
20	64QAM	50	0	20.41	20.41	20.50	21	3
20	64QAM	50	24	20.43	20.45	20.57		
20	64QAM	50	50	20.43	20.48	20.59		
20	64QAM	100	0	20.43	20.44	20.56		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	23.02	23.34	23.20	24	0
15	QPSK	1	37	23.11	23.23	23.34		
15	QPSK	1	74	23.20	23.23	23.30		
15	QPSK	36	0	22.18	22.43	22.24	23	1
15	QPSK	36	20	22.28	22.21	22.29		
15	QPSK	36	39	22.26	22.28	22.43		
15	QPSK	75	0	22.24	22.34	22.32		
15	16QAM	1	0	22.42	22.49	22.68	23	1
15	16QAM	1	37	22.57	22.61	22.67		
15	16QAM	1	74	22.56	22.71	22.71		
15	16QAM	36	0	21.37	21.28	21.36	22	2
15	16QAM	36	20	21.42	21.39	21.52		
15	16QAM	36	39	21.40	21.42	21.49		
15	16QAM	75	0	21.33	21.38	21.51		
15	64QAM	1	0	21.34	21.36	21.59	22	2
15	64QAM	1	37	21.54	21.46	21.61		
15	64QAM	1	74	21.51	21.72	21.75		
15	64QAM	36	0	20.36	20.41	20.47	21	3
15	64QAM	36	20	20.42	20.40	20.51		
15	64QAM	36	39	20.33	20.41	20.51		
15	64QAM	75	0	20.34	20.36	20.47		



Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.07	23.28	23.19	24	0
10	QPSK	1	25	23.18	23.14	23.33		
10	QPSK	1	49	23.15	23.22	23.25		
10	QPSK	25	0	22.21	22.37	22.27	23	1
10	QPSK	25	12	22.20	22.20	22.36		
10	QPSK	25	25	22.26	22.34	22.41		
10	QPSK	50	0	22.21	22.33	22.36	23	1
10	16QAM	1	0	22.39	22.47	22.64		
10	16QAM	1	25	22.54	22.60	22.72		
10	16QAM	1	49	22.61	22.75	22.74	22	2
10	16QAM	25	0	21.38	21.30	21.43		
10	16QAM	25	12	21.37	21.39	21.55		
10	16QAM	25	25	21.33	21.47	21.48	21	3
10	16QAM	50	0	21.39	21.34	21.51		
10	64QAM	1	0	21.38	21.37	21.53		
10	64QAM	1	25	21.49	21.50	21.66	22	2
10	64QAM	1	49	21.50	21.72	21.74		
10	64QAM	25	0	20.31	20.36	20.46		
10	64QAM	25	12	20.36	20.36	20.51	21	3
10	64QAM	25	25	20.33	20.43	20.50		
10	64QAM	50	0	20.35	20.40	20.47		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.04	23.28	23.20	24	0
5	QPSK	1	12	23.15	23.15	23.32		
5	QPSK	1	24	23.17	23.23	23.32		
5	QPSK	12	0	22.27	22.40	22.26	23	1
5	QPSK	12	7	22.18	22.28	22.31		
5	QPSK	12	13	22.22	22.32	22.39		
5	QPSK	25	0	22.25	22.38	22.31	23	1
5	16QAM	1	0	22.42	22.39	22.62		
5	16QAM	1	12	22.60	22.51	22.69		
5	16QAM	1	24	22.57	22.71	22.73	22	2
5	16QAM	12	0	21.31	21.30	21.46		
5	16QAM	12	7	21.33	21.39	21.50		
5	16QAM	12	13	21.35	21.46	21.58	22	2
5	16QAM	25	0	21.39	21.38	21.44		
5	64QAM	1	0	21.35	21.33	21.60		
5	64QAM	1	12	21.54	21.53	21.61	22	2
5	64QAM	1	24	21.56	21.69	21.67		
5	64QAM	12	0	20.31	20.35	20.47		
5	64QAM	12	7	20.34	20.39	20.57	21	3
5	64QAM	12	13	20.38	20.48	20.50		
5	64QAM	25	0	20.33	20.37	20.56		



<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	23.61	23.78	23.71	24.5	0
10	QPSK	1	25	23.72	23.76	23.73		
10	QPSK	1	49	23.68	23.72	23.75		
10	QPSK	25	0	22.75	22.88	22.75	23.5	1
10	QPSK	25	12	22.87	22.83	22.76		
10	QPSK	25	25	22.84	22.77	22.72		
10	QPSK	50	0	22.84	22.85	22.74	23.5	1
10	16QAM	1	0	22.96	23.08	23.08		
10	16QAM	1	25	23.12	23.13	23.09		
10	16QAM	1	49	23.14	23.12	23.09	22.5	2
10	16QAM	25	0	21.87	21.93	21.86		
10	16QAM	25	12	22.00	21.93	21.88		
10	16QAM	25	25	21.93	21.88	21.84	22.5	2
10	16QAM	50	0	21.94	21.90	21.86		
10	64QAM	1	0	21.90	21.99	22.04		
10	64QAM	1	25	22.05	22.09	22.04	22.5	2
10	64QAM	1	49	22.06	22.07	22.05		
10	64QAM	25	0	20.89	20.94	20.89		
10	64QAM	25	12	21.00	20.93	20.90	21.5	3
10	64QAM	25	25	20.96	20.91	20.87		
10	64QAM	50	0	20.97	20.92	20.88		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	23.55	23.76	23.70	24.5	0
5	QPSK	1	12	23.67	23.68	23.63		
5	QPSK	1	24	23.59	23.69	23.67		
5	QPSK	12	0	22.70	22.86	22.69	23.5	1
5	QPSK	12	7	22.87	22.77	22.68		
5	QPSK	12	13	22.75	22.71	22.70		
5	QPSK	25	0	22.81	22.83	22.64	23.5	1
5	16QAM	1	0	22.86	23.03	23.01		
5	16QAM	1	12	23.08	23.10	22.99		
5	16QAM	1	24	23.06	23.11	23.08	22.5	2
5	16QAM	12	0	21.85	21.88	21.77		
5	16QAM	12	7	21.93	21.85	21.78		
5	16QAM	12	13	21.83	21.80	21.75	22.5	2
5	16QAM	25	0	21.87	21.89	21.79		
5	64QAM	1	0	21.81	21.97	21.99		
5	64QAM	1	12	22.01	22.05	22.00	22.5	2
5	64QAM	1	24	22.02	21.97	22.02		
5	64QAM	12	0	20.80	20.89	20.84		
5	64QAM	12	7	20.95	20.87	20.81	21.5	3
5	64QAM	12	13	20.89	20.89	20.80		
5	64QAM	25	0	20.97	20.89	20.88		



Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.55	23.73	23.64	24.5	0
3	QPSK	1	8	23.70	23.76	23.71		
3	QPSK	1	14	23.67	23.71	23.70		
3	QPSK	8	0	22.71	22.80	22.68	23.5	1
3	QPSK	8	4	22.85	22.74	22.71		
3	QPSK	8	7	22.84	22.68	22.64		
3	QPSK	15	0	22.77	22.76	22.71	23.5	1
3	16QAM	1	0	22.96	23.02	23.07		
3	16QAM	1	8	23.09	23.12	23.08		
3	16QAM	1	14	23.08	23.06	23.07	22.5	2
3	16QAM	8	0	21.81	21.91	21.81		
3	16QAM	8	4	21.91	21.93	21.78		
3	16QAM	8	7	21.89	21.84	21.80	21.5	3
3	16QAM	15	0	21.86	21.85	21.79		
3	64QAM	1	0	21.83	21.98	22.00		
3	64QAM	1	8	21.97	22.05	21.97	22.5	2
3	64QAM	1	14	22.01	22.05	21.97		
3	64QAM	8	0	20.87	20.90	20.87		
3	64QAM	8	4	20.99	20.83	20.89	21.5	3
3	64QAM	8	7	20.94	20.88	20.82		
3	64QAM	15	0	20.92	20.83	20.82		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	23.57	23.72	23.67	24.5	0
1.4	QPSK	1	3	23.72	23.72	23.63		
1.4	QPSK	1	5	23.60	23.68	23.72		
1.4	QPSK	3	0	22.73	22.81	22.66		
1.4	QPSK	3	1	22.80	22.83	22.73		
1.4	QPSK	3	3	22.74	22.71	22.68		
1.4	QPSK	6	0	22.84	22.82	22.68	23.5	1
1.4	16QAM	1	0	22.91	23.01	23.04	23.5	1
1.4	16QAM	1	3	23.11	23.13	23.00		
1.4	16QAM	1	5	23.11	23.06	23.09		
1.4	16QAM	3	0	21.79	21.87	21.86		
1.4	16QAM	3	1	21.95	21.83	21.85		
1.4	16QAM	3	3	21.91	21.78	21.77		
1.4	16QAM	6	0	21.89	21.84	21.76	22.5	2
1.4	64QAM	1	0	21.83	21.99	21.99	22.5	2
1.4	64QAM	1	3	21.98	22.04	21.98		
1.4	64QAM	1	5	22.03	21.97	21.96		
1.4	64QAM	3	0	20.79	20.88	20.88		
1.4	64QAM	3	1	20.91	20.85	20.89		
1.4	64QAM	3	3	20.90	20.88	20.79		
1.4	64QAM	6	0	20.92	20.91	20.82	21.5	3



<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		23.89		24.5	0
10	QPSK	1	25		23.73			
10	QPSK	1	49		23.83			
10	QPSK	25	0		22.99		23.5	1
10	QPSK	25	12		22.88			
10	QPSK	25	25		22.94			
10	QPSK	50	0		22.96		23.5	1
10	16QAM	1	0		22.95			
10	16QAM	1	25		23.17			
10	16QAM	1	49		23.14		22.5	2
10	16QAM	25	0		21.95			
10	16QAM	25	12		22.08			
10	16QAM	25	25		22.00		22.5	2
10	16QAM	50	0		22.06			
10	64QAM	1	0		21.94			
10	64QAM	1	25		22.12		22.5	2
10	64QAM	1	49		22.09			
10	64QAM	25	0		20.97			
10	64QAM	25	12		21.06		21.5	3
10	64QAM	25	25		21.01			
10	64QAM	50	0		21.05			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	23.65	23.81	23.58	24.5	0
5	QPSK	1	12	23.52	23.64	23.47		
5	QPSK	1	24	23.64	23.74	23.62		
5	QPSK	12	0	22.72	22.92	22.68	23.5	1
5	QPSK	12	7	22.67	22.79	22.66		
5	QPSK	12	13	22.76	22.89	22.66		
5	QPSK	25	0	22.83	22.95	22.80	23.5	1
5	16QAM	1	0	22.72	22.87	22.69		
5	16QAM	1	12	22.95	23.13	22.88		
5	16QAM	1	24	22.92	23.04	22.91	22.5	2
5	16QAM	12	0	21.73	21.87	21.64		
5	16QAM	12	7	21.89	22.03	21.79		
5	16QAM	12	13	21.79	21.91	21.78	22.5	2
5	16QAM	25	0	21.88	22.01	21.86		
5	64QAM	1	0	21.76	21.91	21.76		
5	64QAM	1	12	21.87	22.05	21.77	22.5	2
5	64QAM	1	24	21.80	21.99	21.77		
5	64QAM	12	0	20.84	20.95	20.83		
5	64QAM	12	7	20.93	21.06	20.93	21.5	3
5	64QAM	12	13	20.81	20.98	20.76		
5	64QAM	25	0	20.93	21.05	20.91		



<LTE Band 14>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23330				
Frequency (MHz)				793				
10	QPSK	1	0		23.86		24.5	0
10	QPSK	1	25		23.80			
10	QPSK	1	49		23.70			
10	QPSK	25	0		22.89		23.5	1
10	QPSK	25	12		22.87			
10	QPSK	25	25		22.81			
10	QPSK	50	0		22.84		23.5	1
10	16QAM	1	0		23.18			
10	16QAM	1	25		23.12			
10	16QAM	1	49		22.94		22.5	2
10	16QAM	25	0		21.97			
10	16QAM	25	12		21.95			
10	16QAM	25	25		21.90		22.5	2
10	16QAM	50	0		21.91			
10	64QAM	1	0		22.10			
10	64QAM	1	25		22.05		22.5	2
10	64QAM	1	49		21.93			
10	64QAM	25	0		20.96			
10	64QAM	25	12		20.95		21.5	3
10	64QAM	25	25		20.91			
10	64QAM	50	0		20.94			
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	23.68	23.85	23.61	24.5	0
5	QPSK	1	12	23.57	23.74	23.48		
5	QPSK	1	24	23.44	23.64	23.36		
5	QPSK	12	0	22.67	22.85	22.58	23.5	1
5	QPSK	12	7	22.68	22.80	22.60		
5	QPSK	12	13	22.63	22.80	22.62		
5	QPSK	25	0	22.62	22.76	22.56	23.5	1
5	16QAM	1	0	22.92	23.08	22.84		
5	16QAM	1	12	22.89	23.02	22.85		
5	16QAM	1	24	22.71	22.84	22.70	22.5	2
5	16QAM	12	0	21.84	21.95	21.84		
5	16QAM	12	7	21.80	21.94	21.75		
5	16QAM	12	13	21.70	21.85	21.60	22.5	2
5	16QAM	25	0	21.68	21.83	21.64		
5	64QAM	1	0	21.88	22.02	21.79		
5	64QAM	1	12	21.93	22.03	21.91	22.5	2
5	64QAM	1	24	21.75	21.93	21.75		
5	64QAM	12	0	20.80	20.91	20.70		
5	64QAM	12	7	20.69	20.86	20.60	21.5	3
5	64QAM	12	13	20.72	20.91	20.70		
5	64QAM	25	0	20.67	20.87	20.58		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	23.10	23.12	22.99	23.5	0
20	QPSK	1	49	23.05	23.08	23.07		
20	QPSK	1	99	23.02	23.08	23.04		
20	QPSK	50	0	22.07	22.14	22.13	22.5	1
20	QPSK	50	24	22.04	22.12	22.12		
20	QPSK	50	50	22.03	22.07	22.08		
20	QPSK	100	0	22.03	22.12	22.11		
20	16QAM	1	0	22.43	22.42	22.37	22.5	1
20	16QAM	1	49	22.42	22.50	22.45		
20	16QAM	1	99	22.43	22.42	22.34		
20	16QAM	50	0	21.14	21.19	21.19	21.5	2
20	16QAM	50	24	21.23	21.26	21.22		
20	16QAM	50	50	21.17	21.21	21.21		
20	16QAM	100	0	21.14	21.20	21.20		
20	64QAM	1	0	21.42	21.38	21.31	21.5	2
20	64QAM	1	49	21.37	21.39	21.39		
20	64QAM	1	99	21.36	21.38	21.28		
20	64QAM	50	0	20.16	20.20	20.20	20.5	3
20	64QAM	50	24	20.23	20.25	20.26		
20	64QAM	50	50	20.21	20.22	20.23		
20	64QAM	100	0	20.17	20.22	20.23		
Channel				26115	26340	26615		
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.10	23.04	22.93	23.5	0
15	QPSK	1	37	22.95	23.07	23.04		
15	QPSK	1	74	22.95	23.01	23.00		
15	QPSK	36	0	21.94	22.04	21.99	22.5	1
15	QPSK	36	20	22.05	22.07	22.08		
15	QPSK	36	39	21.98	22.00	22.13		
15	QPSK	75	0	21.94	22.05	22.10		
15	16QAM	1	0	22.41	22.37	22.34	22.5	1
15	16QAM	1	37	22.36	22.42	22.39		
15	16QAM	1	74	22.36	22.38	22.34		
15	16QAM	36	0	21.06	21.15	21.17	21.5	2
15	16QAM	36	20	21.14	21.16	21.19		
15	16QAM	36	39	21.10	21.20	21.13		
15	16QAM	75	0	21.13	21.11	21.12		
15	64QAM	1	0	21.34	21.36	21.26	21.5	2
15	64QAM	1	37	21.28	21.30	21.36		
15	64QAM	1	74	21.32	21.33	21.28		
15	64QAM	36	0	20.06	20.15	20.15	20.5	3
15	64QAM	36	20	20.16	20.16	20.23		
15	64QAM	36	39	20.18	20.12	20.20		
15	64QAM	75	0	20.16	20.12	20.15		



Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23.08	23.10	22.93	23.5	0
10	QPSK	1	25	22.97	23.05	22.97		
10	QPSK	1	49	22.95	23.01	23.03		
10	QPSK	25	0	22.01	22.07	22.06	22.5	1
10	QPSK	25	12	22.04	22.12	22.09		
10	QPSK	25	25	22.04	22.07	22.06		
10	QPSK	50	0	22.00	22.10	22.04	22.5	1
10	16QAM	1	0	22.43	22.36	22.32		
10	16QAM	1	25	22.36	22.40	22.38		
10	16QAM	1	49	22.35	22.34	22.24	21.5	2
10	16QAM	25	0	21.05	21.10	21.11		
10	16QAM	25	12	21.21	21.17	21.17		
10	16QAM	25	25	21.07	21.17	21.11	21.5	2
10	16QAM	50	0	21.11	21.16	21.10		
10	64QAM	1	0	21.40	21.34	21.28		
10	64QAM	1	25	21.37	21.30	21.32	21.5	2
10	64QAM	1	49	21.32	21.31	21.27		
10	64QAM	25	0	20.10	20.13	20.15		
10	64QAM	25	12	20.19	20.17	20.16	20.5	3
10	64QAM	25	25	20.17	20.15	20.21		
10	64QAM	50	0	20.13	20.20	20.23		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	23.08	23.11	22.99	23.5	0
5	QPSK	1	12	23.05	23.06	22.99		
5	QPSK	1	24	22.96	23.05	23.04		
5	QPSK	12	0	21.98	22.08	21.99	22.5	1
5	QPSK	12	7	22.06	22.10	22.09		
5	QPSK	12	13	22.02	22.04	22.05		
5	QPSK	25	0	22.01	22.05	22.05	22.5	1
5	16QAM	1	0	22.33	22.37	22.30		
5	16QAM	1	12	22.40	22.48	22.44		
5	16QAM	1	24	22.36	22.32	22.27	21.5	2
5	16QAM	12	0	21.06	21.19	21.12		
5	16QAM	12	7	21.23	21.19	21.19		
5	16QAM	12	13	21.17	21.17	21.16	21.5	2
5	16QAM	25	0	21.14	21.16	21.14		
5	64QAM	1	0	21.38	21.38	21.25		
5	64QAM	1	12	21.33	21.39	21.31	21.5	2
5	64QAM	1	24	21.28	21.33	21.18		
5	64QAM	12	0	20.10	20.11	20.12		
5	64QAM	12	7	20.20	20.23	20.26	20.5	3
5	64QAM	12	13	20.13	20.16	20.23		
5	64QAM	25	0	20.16	20.16	20.21		



Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	23.10	23.07	22.98	23.5	0
3	QPSK	1	8	22.96	22.98	23.02		
3	QPSK	1	14	22.94	23.01	23.01		
3	QPSK	8	0	21.98	22.11	21.99	22.5	1
3	QPSK	8	4	22.00	22.10	22.10		
3	QPSK	8	7	21.98	21.99	22.11		
3	QPSK	15	0	21.99	22.02	22.05	22.5	1
3	16QAM	1	0	22.43	22.37	22.29		
3	16QAM	1	8	22.37	22.47	22.38		
3	16QAM	1	14	22.39	22.39	22.24	21.5	2
3	16QAM	8	0	21.12	21.13	21.19		
3	16QAM	8	4	21.18	21.19	21.22		
3	16QAM	8	7	21.07	21.20	21.14	21.5	2
3	16QAM	15	0	21.04	21.17	21.10		
3	64QAM	1	0	21.42	21.31	21.26		
3	64QAM	1	8	21.30	21.35	21.37	21.5	2
3	64QAM	1	14	21.29	21.33	21.20		
3	64QAM	8	0	20.06	20.10	20.11		
3	64QAM	8	4	20.15	20.15	20.17	20.5	3
3	64QAM	8	7	20.11	20.18	20.22		
3	64QAM	15	0	20.16	20.13	20.18		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	23.01	23.08	22.89	23.5	0
1.4	QPSK	1	3	22.99	23.08	22.98		
1.4	QPSK	1	5	22.94	23.04	23.03		
1.4	QPSK	3	0	21.96	22.14	21.98		
1.4	QPSK	3	1	22.01	22.02	22.06		
1.4	QPSK	3	3	22.04	22.03	22.07		
1.4	QPSK	6	0	21.94	22.04	22.07	22.5	1
1.4	16QAM	1	0	22.36	22.40	22.27	22.5	1
1.4	16QAM	1	3	22.39	22.45	22.35		
1.4	16QAM	1	5	22.39	22.32	22.28		
1.4	16QAM	3	0	21.06	21.18	21.16		
1.4	16QAM	3	1	21.14	21.16	21.15		
1.4	16QAM	3	3	21.13	21.21	21.14		
1.4	16QAM	6	0	21.09	21.13	21.17	21.5	2
1.4	64QAM	1	0	21.35	21.35	21.30	21.5	2
1.4	64QAM	1	3	21.29	21.29	21.33		
1.4	64QAM	1	5	21.31	21.30	21.22		
1.4	64QAM	3	0	20.16	20.14	20.16		
1.4	64QAM	3	1	20.22	20.16	20.18		
1.4	64QAM	3	3	20.14	20.21	20.19		
1.4	64QAM	6	0	20.13	20.12	20.19	20.5	3



<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	23.51	23.53	23.39		
15	QPSK	1	37	23.45	23.37	23.37	24	0
15	QPSK	1	74	23.45	23.41	23.38		
15	QPSK	36	0	22.48	22.59	22.35		
15	QPSK	36	20	22.58	22.46	22.42	23	1
15	QPSK	36	39	22.53	22.40	22.34		
15	QPSK	75	0	22.57	22.58	22.39		
15	16QAM	1	0	22.57	22.85	22.71	23	1
15	16QAM	1	37	22.79	22.66	22.73		
15	16QAM	1	74	22.76	22.79	22.70		
15	16QAM	36	0	21.61	21.57	21.45	22	2
15	16QAM	36	20	21.69	21.53	21.54		
15	16QAM	36	39	21.63	21.50	21.47		
15	16QAM	75	0	21.68	21.53	21.50	22	2
15	64QAM	1	0	21.75	21.79	21.67		
15	64QAM	1	37	21.73	21.62	21.67		
15	64QAM	1	74	21.69	21.70	21.64	22	2
15	64QAM	36	0	20.65	20.61	20.50		
15	64QAM	36	20	20.71	20.58	20.57		
15	64QAM	36	39	20.67	20.52	20.50	21	3
15	64QAM	75	0	20.68	20.54	20.53		
Channel				26740	26865	26990		
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	23.48	23.52	23.36		
10	QPSK	1	25	23.45	23.36	23.33		
10	QPSK	1	49	23.41	23.32	23.29		
10	QPSK	25	0	22.46	22.56	22.28		
10	QPSK	25	12	22.52	22.40	22.33	23	1
10	QPSK	25	25	22.46	22.30	22.29		
10	QPSK	50	0	22.51	22.50	22.32		
10	16QAM	1	0	22.53	22.83	22.71	23	1
10	16QAM	1	25	22.70	22.58	22.68		
10	16QAM	1	49	22.74	22.71	22.68		
10	16QAM	25	0	21.53	21.57	21.41	22	2
10	16QAM	25	12	21.69	21.46	21.45		
10	16QAM	25	25	21.63	21.42	21.46		
10	16QAM	50	0	21.63	21.49	21.46	22	2
10	64QAM	1	0	21.70	21.79	21.64		
10	64QAM	1	25	21.69	21.56	21.61		
10	64QAM	1	49	21.69	21.63	21.59	21	3
10	64QAM	25	0	20.63	20.58	20.49		
10	64QAM	25	12	20.68	20.57	20.57		
10	64QAM	25	25	20.66	20.47	20.49	21	3
10	64QAM	50	0	20.62	20.50	20.49		



Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	23.46	23.49	23.31	24	0
5	QPSK	1	12	23.41	23.33	23.27		
5	QPSK	1	24	23.35	23.31	23.32		
5	QPSK	12	0	22.44	22.49	22.28	23	1
5	QPSK	12	7	22.51	22.41	22.36		
5	QPSK	12	13	22.52	22.30	22.29		
5	QPSK	25	0	22.52	22.48	22.34	23	1
5	16QAM	1	0	22.47	22.82	22.66		
5	16QAM	1	12	22.69	22.61	22.71		
5	16QAM	1	24	22.69	22.75	22.66	22	2
5	16QAM	12	0	21.61	21.48	21.43		
5	16QAM	12	7	21.69	21.49	21.52		
5	16QAM	12	13	21.62	21.43	21.44	21	3
5	16QAM	12	13	21.62	21.43	21.44		
5	16QAM	25	0	21.58	21.51	21.50		
5	64QAM	1	0	21.69	21.79	21.67	22	2
5	64QAM	1	12	21.67	21.60	21.59		
5	64QAM	1	24	21.64	21.70	21.63		
5	64QAM	12	0	20.62	20.51	20.46	21	3
5	64QAM	12	7	20.62	20.56	20.51		
5	64QAM	12	13	20.57	20.48	20.48		
5	64QAM	25	0	20.64	20.53	20.43		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	23.41	23.52	23.29	24	0
3	QPSK	1	8	23.40	23.37	23.33		
3	QPSK	1	14	23.45	23.41	23.28		
3	QPSK	8	0	22.43	22.58	22.30	23	1
3	QPSK	8	4	22.53	22.37	22.34		
3	QPSK	8	7	22.50	22.32	22.25		
3	QPSK	15	0	22.47	22.48	22.31	23	1
3	16QAM	1	0	22.51	22.75	22.61		
3	16QAM	1	8	22.72	22.59	22.73		
3	16QAM	1	14	22.69	22.72	22.68	22	2
3	16QAM	8	0	21.58	21.55	21.39		
3	16QAM	8	4	21.60	21.48	21.49		
3	16QAM	8	7	21.61	21.48	21.41	22	2
3	16QAM	8	7	21.61	21.48	21.41		
3	16QAM	15	0	21.60	21.53	21.44		
3	64QAM	1	0	21.74	21.78	21.65	22	2
3	64QAM	1	8	21.71	21.61	21.57		
3	64QAM	1	14	21.69	21.68	21.60		
3	64QAM	8	0	20.59	20.56	20.43	21	3
3	64QAM	8	4	20.62	20.51	20.56		
3	64QAM	8	7	20.60	20.49	20.40		
3	64QAM	15	0	20.63	20.44	20.48		



Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	23.42	23.43	23.35	24	0
1.4	QPSK	1	3	23.43	23.37	23.27		
1.4	QPSK	1	5	23.45	23.38	23.38		
1.4	QPSK	3	0	22.47	22.54	22.27		
1.4	QPSK	3	1	22.52	22.36	22.41		
1.4	QPSK	3	3	22.52	22.35	22.32		
1.4	QPSK	6	0	22.52	22.51	22.29	23	1
1.4	16QAM	1	0	22.57	22.78	22.64	23	1
1.4	16QAM	1	3	22.72	22.59	22.73		
1.4	16QAM	1	5	22.76	22.78	22.60		
1.4	16QAM	3	0	21.58	21.47	21.44		
1.4	16QAM	3	1	21.63	21.47	21.54		
1.4	16QAM	3	3	21.55	21.43	21.41		
1.4	16QAM	6	0	21.66	21.53	21.43	22	2
1.4	64QAM	1	0	21.71	21.78	21.61	22	2
1.4	64QAM	1	3	21.67	21.58	21.58		
1.4	64QAM	1	5	21.63	21.61	21.64		
1.4	64QAM	3	0	20.58	20.54	20.49		
1.4	64QAM	3	1	20.63	20.52	20.54		
1.4	64QAM	3	3	20.59	20.50	20.42		
1.4	64QAM	6	0	20.60	20.53	20.48	21	3



<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	24.21	24.41	24.26	24.5	0
20	QPSK	1	49	24.11	24.39	24.23		
20	QPSK	1	99	24.07	24.21	24.04		
20	QPSK	50	0	23.10	23.33	23.22	23.5	1
20	QPSK	50	24	23.10	23.27	23.19		
20	QPSK	50	50	23.09	23.24	23.19		
20	QPSK	100	0	23.10	23.28	23.20		
20	16QAM	1	0	23.37	23.36	23.44	23.5	1
20	16QAM	1	49	23.50	23.45	23.37		
20	16QAM	1	99	23.32	23.49	23.12		
20	16QAM	50	0	22.22	22.41	22.29	22.5	2
20	16QAM	50	24	22.20	22.36	22.27		
20	16QAM	50	50	22.18	22.35	22.22		
20	16QAM	100	0	22.17	22.39	22.22		
20	64QAM	1	0	22.33	22.34	22.44	22.5	2
20	64QAM	1	49	22.44	22.50	22.46		
20	64QAM	1	99	22.27	22.44	22.17		
20	64QAM	50	0	21.19	21.39	21.30	21.5	3
20	64QAM	50	24	21.22	21.40	21.26		
20	64QAM	50	50	21.19	21.39	21.24		
20	64QAM	100	0	21.22	21.35	21.23		
Channel				132047	132322	132597		
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	24.01	24.32	24.17	24.5	0
15	QPSK	1	37	24.17	24.36	24.21		
15	QPSK	1	74	24.01	24.18	23.97		
15	QPSK	36	0	23.07	23.25	23.16	23.5	1
15	QPSK	36	20	23.04	23.27	23.09		
15	QPSK	36	39	23.04	23.24	23.18		
15	QPSK	75	0	23.00	23.27	23.14		
15	16QAM	1	0	23.36	23.26	23.40	23.5	1
15	16QAM	1	37	23.45	23.40	23.30		
15	16QAM	1	74	23.30	23.43	23.10		
15	16QAM	36	0	22.22	22.34	22.21	22.5	2
15	16QAM	36	20	22.16	22.34	22.17		
15	16QAM	36	39	22.17	22.33	22.21		
15	16QAM	75	0	22.14	22.32	22.17		
15	64QAM	1	0	22.31	22.34	22.40	22.5	2
15	64QAM	1	37	22.42	22.41	22.41		
15	64QAM	1	74	22.25	22.40	22.14		
15	64QAM	36	0	21.18	21.37	21.24	21.5	3
15	64QAM	36	20	21.17	21.33	21.22		
15	64QAM	36	39	21.16	21.38	21.14		
15	64QAM	75	0	21.16	21.30	21.13		



Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	24.09	24.40	24.13	24.5	0
10	QPSK	1	25	24.18	24.32	24.20		
10	QPSK	1	49	24.00	24.20	23.97		
10	QPSK	25	0	23.01	23.33	23.19	23.5	1
10	QPSK	25	12	23.01	23.23	23.11		
10	QPSK	25	25	23.08	23.21	23.13		
10	QPSK	50	0	23.06	23.22	23.13	23.5	1
10	16QAM	1	0	23.32	23.28	23.36		
10	16QAM	1	25	23.43	23.36	23.28		
10	16QAM	1	49	23.29	23.47	23.05	22.5	2
10	16QAM	25	0	22.21	22.32	22.28		
10	16QAM	25	12	22.10	22.33	22.26		
10	16QAM	25	25	22.12	22.31	22.21	22.5	2
10	16QAM	50	0	22.12	22.33	22.18		
10	64QAM	1	0	22.27	22.32	22.42		
10	64QAM	1	25	22.44	22.41	22.39	22.5	2
10	64QAM	1	49	22.18	22.37	22.16		
10	64QAM	25	0	21.13	21.29	21.27		
10	64QAM	25	12	21.18	21.34	21.22	21.5	3
10	64QAM	25	25	21.10	21.34	21.22		
10	64QAM	25	25	21.10	21.34	21.22		
10	64QAM	50	0	21.21	21.30	21.20	21.5	3
Channel				131997	132322	132647		
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	24.06	24.34	24.18	24.5	0
5	QPSK	1	12	24.14	24.29	24.19		
5	QPSK	1	24	23.99	24.21	23.98		
5	QPSK	12	0	23.09	23.32	23.17	23.5	1
5	QPSK	12	7	23.10	23.19	23.09		
5	QPSK	12	13	23.08	23.23	23.09		
5	QPSK	25	0	23.02	23.24	23.18	23.5	1
5	16QAM	1	0	23.36	23.36	23.38		
5	16QAM	1	12	23.40	23.42	23.36		
5	16QAM	1	24	23.32	23.45	23.06	22.5	2
5	16QAM	12	0	22.19	22.37	22.24		
5	16QAM	12	7	22.17	22.35	22.24		
5	16QAM	12	13	22.12	22.33	22.21	22.5	2
5	16QAM	25	0	22.07	22.33	22.19		
5	64QAM	1	0	22.26	22.33	22.38		
5	64QAM	1	12	22.34	22.40	22.40	22.5	2
5	64QAM	1	24	22.19	22.43	22.14		
5	64QAM	12	0	21.10	21.36	21.28		
5	64QAM	12	7	21.14	21.37	21.20	21.5	3
5	64QAM	12	13	21.15	21.35	21.21		
5	64QAM	25	0	21.20	21.26	21.20		



Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	24.06	24.33	24.15	24.5	0
3	QPSK	1	8	24.21	24.33	24.25		
3	QPSK	1	14	24.07	24.18	24.04		
3	QPSK	8	0	23.01	23.26	23.14	23.5	1
3	QPSK	8	4	23.02	23.17	23.12		
3	QPSK	8	7	23.00	23.19	23.18		
3	QPSK	15	0	23.09	23.28	23.13		
3	16QAM	1	0	23.33	23.32	23.35	23.5	1
3	16QAM	1	8	23.42	23.42	23.32		
3	16QAM	1	14	23.32	23.39	23.03		
3	16QAM	8	0	22.17	22.34	22.24	22.5	2
3	16QAM	8	4	22.15	22.35	22.20		
3	16QAM	8	7	22.15	22.35	22.13		
3	16QAM	15	0	22.15	22.37	22.12		
3	64QAM	1	0	22.26	22.33	22.43	22.5	2
3	64QAM	1	8	22.44	22.41	22.43		
3	64QAM	1	14	22.19	22.37	22.13		
3	64QAM	8	0	21.13	21.29	21.23	21.5	3
3	64QAM	8	4	21.20	21.37	21.17		
3	64QAM	8	7	21.17	21.37	21.24		
3	64QAM	15	0	21.21	21.28	21.19		
3	64QAM	15	0	21.21	21.28	21.19		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	24.11	24.31	24.15	24.5	0
1.4	QPSK	1	3	24.12	24.37	24.16		
1.4	QPSK	1	5	24.03	24.21	23.95		
1.4	QPSK	3	0	23.07	23.27	23.13		
1.4	QPSK	3	1	23.01	23.21	23.10		
1.4	QPSK	3	3	23.03	23.16	23.18		
1.4	QPSK	6	0	23.08	23.21	23.10	23.5	1
1.4	16QAM	1	0	23.37	23.30	23.42	23.5	1
1.4	16QAM	1	3	23.49	23.40	23.28		
1.4	16QAM	1	5	23.25	23.40	23.03		
1.4	16QAM	3	0	22.17	22.37	22.25		
1.4	16QAM	3	1	22.19	22.30	22.26		
1.4	16QAM	3	3	22.13	22.35	22.12		
1.4	16QAM	6	0	22.07	22.32	22.16	22.5	2
1.4	64QAM	1	0	22.26	22.27	22.35	22.5	2
1.4	64QAM	1	3	22.35	22.47	22.36		
1.4	64QAM	1	5	22.26	22.41	22.09		
1.4	64QAM	3	0	21.18	21.38	21.30		
1.4	64QAM	3	1	21.21	21.36	21.16		
1.4	64QAM	3	3	21.10	21.30	21.20		
1.4	64QAM	6	0	21.12	21.26	21.15	21.5	3



<Reduced Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	18.47	18.51	18.37	19.5	0
20	QPSK	1	49	18.44	18.46	18.34		
20	QPSK	1	99	18.43	18.45	18.33		
20	QPSK	50	0	17.42	17.42	17.42	18.5	1
20	QPSK	50	24	17.47	17.46	17.34		
20	QPSK	50	50	17.43	17.44	17.37		
20	QPSK	100	0	17.43	17.43	17.44		
20	16QAM	1	0	17.94	17.96	17.83	18.5	1
20	16QAM	1	49	17.91	17.93	17.78		
20	16QAM	1	99	17.91	17.88	17.78		
20	16QAM	50	0	16.57	16.57	16.57	17.5	2
20	16QAM	50	24	16.60	16.63	16.50		
20	16QAM	50	50	16.58	16.60	16.50		
20	16QAM	100	0	16.55	16.58	16.54		
20	64QAM	1	0	16.86	16.88	16.74	17.5	2
20	64QAM	1	49	16.82	16.83	16.70		
20	64QAM	1	99	16.81	16.81	16.70		
20	64QAM	50	0	15.57	15.59	15.57	16.5	3
20	64QAM	50	24	15.62	15.63	15.51		
20	64QAM	50	50	15.60	15.61	15.50		
20	64QAM	100	0	15.56	15.60	15.57		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	18.42	18.42	18.33	19.5	0
15	QPSK	1	37	18.40	18.40	18.34		
15	QPSK	1	74	18.39	18.35	18.28		
15	QPSK	36	0	17.32	17.32	17.41	18.5	1
15	QPSK	36	20	17.45	17.44	17.29		
15	QPSK	36	39	17.34	17.34	17.36		
15	QPSK	75	0	17.40	17.43	17.37		
15	16QAM	1	0	17.93	17.92	17.76	18.5	1
15	16QAM	1	37	17.90	17.91	17.77		
15	16QAM	1	74	17.83	17.86	17.78		
15	16QAM	36	0	16.47	16.57	16.47	17.5	2
15	16QAM	36	20	16.50	16.56	16.46		
15	16QAM	36	39	16.49	16.58	16.48		
15	16QAM	75	0	16.50	16.51	16.51		
15	64QAM	1	0	16.76	16.87	16.71	17.5	2
15	64QAM	1	37	16.78	16.83	16.68		
15	64QAM	1	74	16.72	16.78	16.69		
15	64QAM	36	0	15.52	15.57	15.47	16.5	3
15	64QAM	36	20	15.59	15.55	15.42		
15	64QAM	36	39	15.59	15.58	15.49		
15	64QAM	75	0	15.54	15.53	15.51		



Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	18.40	18.49	18.36	19.5	0
10	QPSK	1	25	18.38	18.40	18.26		
10	QPSK	1	49	18.37	18.43	18.24		
10	QPSK	25	0	17.40	17.37	17.42	18.5	1
10	QPSK	25	12	17.40	17.45	17.27		
10	QPSK	25	25	17.38	17.34	17.31		
10	QPSK	50	0	17.42	17.38	17.41		
10	16QAM	1	0	17.93	17.87	17.76	18.5	1
10	16QAM	1	25	17.83	17.92	17.74		
10	16QAM	1	49	17.91	17.84	17.78		
10	16QAM	25	0	16.48	16.48	16.56	17.5	2
10	16QAM	25	12	16.53	16.61	16.42		
10	16QAM	25	25	16.49	16.52	16.40		
10	16QAM	50	0	16.52	16.57	16.50		
10	64QAM	1	0	16.80	16.82	16.66	17.5	2
10	64QAM	1	25	16.75	16.75	16.67		
10	64QAM	1	49	16.76	16.75	16.66		
10	64QAM	25	0	15.57	15.51	15.49	16.5	3
10	64QAM	25	12	15.60	15.59	15.47		
10	64QAM	25	25	15.54	15.61	15.42		
10	64QAM	50	0	15.54	15.57	15.53		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	18.46	18.42	18.27	19.5	0
5	QPSK	1	12	18.35	18.42	18.27		
5	QPSK	1	24	18.39	18.37	18.31		
5	QPSK	12	0	17.33	17.41	17.38	18.5	1
5	QPSK	12	7	17.46	17.40	17.34		
5	QPSK	12	13	17.37	17.39	17.36		
5	QPSK	25	0	17.42	17.35	17.36		
5	16QAM	1	0	17.93	17.88	17.73	18.5	1
5	16QAM	1	12	17.85	17.92	17.76		
5	16QAM	1	24	17.82	17.81	17.68		
5	16QAM	12	0	16.47	16.56	16.56	17.5	2
5	16QAM	12	7	16.57	16.56	16.49		
5	16QAM	12	13	16.51	16.53	16.41		
5	16QAM	25	0	16.47	16.50	16.49		
5	64QAM	1	0	16.82	16.79	16.70	17.5	2
5	64QAM	1	12	16.72	16.80	16.65		
5	64QAM	1	24	16.81	16.77	16.62		
5	64QAM	12	0	15.51	15.58	15.55	16.5	3
5	64QAM	12	7	15.57	15.62	15.43		
5	64QAM	12	13	15.50	15.59	15.42		
5	64QAM	25	0	15.53	15.50	15.53		



Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	18.46	18.44	18.29	19.5	0
3	QPSK	1	8	18.41	18.45	18.32		
3	QPSK	1	14	18.39	18.37	18.23		
3	QPSK	8	0	17.40	17.34	17.36	18.5	1
3	QPSK	8	4	17.45	17.42	17.27		
3	QPSK	8	7	17.34	17.44	17.35		
3	QPSK	15	0	17.35	17.33	17.39		
3	16QAM	1	0	17.89	17.90	17.82	18.5	1
3	16QAM	1	8	17.89	17.93	17.75		
3	16QAM	1	14	17.81	17.85	17.77		
3	16QAM	8	0	16.50	16.49	16.54	17.5	2
3	16QAM	8	4	16.51	16.54	16.42		
3	16QAM	8	7	16.54	16.55	16.46		
3	16QAM	15	0	16.55	16.49	16.45		
3	64QAM	1	0	16.84	16.81	16.72	17.5	2
3	64QAM	1	8	16.76	16.82	16.65		
3	64QAM	1	14	16.77	16.78	16.62		
3	64QAM	8	0	15.52	15.53	15.53	16.5	3
3	64QAM	8	4	15.62	15.62	15.50		
3	64QAM	8	7	15.55	15.60	15.50		
3	64QAM	15	0	15.46	15.60	15.51		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	18.47	18.48	18.34	19.5	0
1.4	QPSK	1	3	18.34	18.40	18.32		
1.4	QPSK	1	5	18.38	18.43	18.24		
1.4	QPSK	3	0	17.55	17.59	17.59		
1.4	QPSK	3	1	17.66	17.57	17.50		
1.4	QPSK	3	3	17.58	17.54	17.51		
1.4	QPSK	6	0	17.33	17.40	17.39	18.5	1
1.4	16QAM	1	0	17.94	17.88	17.76	18.5	1
1.4	16QAM	1	3	17.81	17.89	17.72		
1.4	16QAM	1	5	17.86	17.80	17.71		
1.4	16QAM	3	0	16.51	16.53	16.50		
1.4	16QAM	3	1	16.54	16.58	16.52		
1.4	16QAM	3	3	16.52	16.51	16.53		
1.4	16QAM	6	0	16.55	16.53	16.49	17.5	2
1.4	64QAM	1	0	16.82	16.87	16.69	17.5	2
1.4	64QAM	1	3	16.80	16.78	16.66		
1.4	64QAM	1	5	16.81	16.79	16.68		
1.4	64QAM	3	0	15.51	15.51	15.51		
1.4	64QAM	3	1	15.58	15.58	15.53		
1.4	64QAM	3	3	15.58	15.57	15.50		
1.4	64QAM	6	0	15.54	15.56	15.57	16.5	3



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	17.57	17.78	17.77	18.5	0
20	QPSK	1	49	17.60	17.71	17.76		
20	QPSK	1	99	17.62	17.60	17.67		
20	QPSK	50	0	16.60	16.85	16.78	17.5	1
20	QPSK	50	24	16.74	16.76	16.84		
20	QPSK	50	50	16.71	16.74	16.77		
20	QPSK	100	0	16.74	16.80	16.79		
20	16QAM	1	0	17.00	17.10	17.15	17.5	1
20	16QAM	1	49	17.01	17.11	17.16		
20	16QAM	1	99	17.00	17.05	17.04		
20	16QAM	50	0	15.74	15.87	15.92	16.5	2
20	16QAM	50	24	15.85	15.89	15.92		
20	16QAM	50	50	15.82	15.86	15.85		
20	16QAM	100	0	15.83	15.87	15.90		
20	64QAM	1	0	15.90	16.01	16.05	16.5	2
20	64QAM	1	49	15.93	16.00	16.08		
20	64QAM	1	99	15.91	15.93	15.98		
20	64QAM	50	0	14.74	14.89	14.93	15.5	3
20	64QAM	50	24	14.88	14.92	14.96		
20	64QAM	50	50	14.85	14.87	14.89		
20	64QAM	100	0	14.87	14.87	14.91		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	17.51	17.68	17.75	18.5	0
15	QPSK	1	37	17.59	17.63	17.75		
15	QPSK	1	74	17.59	17.56	17.59		
15	QPSK	36	0	16.59	16.76	16.76	17.5	1
15	QPSK	36	20	16.64	16.75	16.82		
15	QPSK	36	39	16.66	16.66	16.67		
15	QPSK	75	0	16.70	16.78	16.76		
15	16QAM	1	0	16.94	17.01	17.11	17.5	1
15	16QAM	1	37	16.99	17.08	17.09		
15	16QAM	1	74	16.94	17.02	16.99		
15	16QAM	36	0	15.65	15.81	15.90	16.5	2
15	16QAM	36	20	15.84	15.81	15.85		
15	16QAM	36	39	15.72	15.83	15.85		
15	16QAM	75	0	15.73	15.77	15.88		
15	64QAM	1	0	15.80	15.92	15.95	16.5	2
15	64QAM	1	37	15.89	15.90	16.06		
15	64QAM	1	74	15.91	15.90	15.89		
15	64QAM	36	0	14.68	14.88	14.89	15.5	3
15	64QAM	36	20	14.81	14.87	14.87		
15	64QAM	36	39	14.84	14.85	14.83		
15	64QAM	75	0	14.86	14.80	14.81		



Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	17.55	17.78	17.77	18.5	0
10	QPSK	1	25	17.57	17.66	17.69		
10	QPSK	1	49	17.61	17.52	17.65		
10	QPSK	25	0	16.53	16.81	16.73	17.5	1
10	QPSK	25	12	16.70	16.68	16.81		
10	QPSK	25	25	16.70	16.73	16.76		
10	QPSK	50	0	16.74	16.70	16.70	17.5	1
10	16QAM	1	0	16.98	17.03	17.14		
10	16QAM	1	25	16.94	17.01	17.07		
10	16QAM	1	49	16.98	16.98	17.01	16.5	2
10	16QAM	25	0	15.74	15.78	15.83		
10	16QAM	25	12	15.78	15.79	15.83		
10	16QAM	25	25	15.75	15.79	15.82	16.5	2
10	16QAM	50	0	15.80	15.78	15.86		
10	64QAM	1	0	15.85	15.94	16.04		
10	64QAM	1	25	15.92	15.98	16.07	16.5	2
10	64QAM	1	49	15.86	15.92	15.98		
10	64QAM	25	0	14.65	14.83	14.93		
10	64QAM	25	12	14.87	14.87	14.86	15.5	3
10	64QAM	25	25	14.75	14.81	14.83		
10	64QAM	50	0	14.85	14.77	14.81		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	17.47	17.76	17.73	18.5	0
5	QPSK	1	12	17.56	17.68	17.71		
5	QPSK	1	24	17.62	17.60	17.62		
5	QPSK	12	0	16.56	16.75	16.69	17.5	1
5	QPSK	12	7	16.67	16.76	16.76		
5	QPSK	12	13	16.68	16.70	16.71		
5	QPSK	25	0	16.74	16.75	16.75	17.5	1
5	16QAM	1	0	16.90	17.01	17.05		
5	16QAM	1	12	17.00	17.02	17.10		
5	16QAM	1	24	16.95	16.98	16.96	16.5	2
5	16QAM	12	0	15.67	15.84	15.90		
5	16QAM	12	7	15.84	15.82	15.90		
5	16QAM	12	13	15.78	15.79	15.78	16.5	2
5	16QAM	25	0	15.76	15.77	15.84		
5	64QAM	1	0	15.82	15.93	15.98		
5	64QAM	1	12	15.83	15.92	15.99	16.5	2
5	64QAM	1	24	15.89	15.86	15.94		
5	64QAM	12	0	14.64	14.80	14.91		
5	64QAM	12	7	14.78	14.84	14.89	15.5	3
5	64QAM	12	13	14.81	14.79	14.83		
5	64QAM	25	0	14.84	14.82	14.89		



Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	17.50	17.71	17.67	18.5	0
3	QPSK	1	8	17.55	17.62	17.75		
3	QPSK	1	14	17.57	17.54	17.66		
3	QPSK	8	0	16.60	16.85	16.73	17.5	1
3	QPSK	8	4	16.70	16.66	16.84		
3	QPSK	8	7	16.68	16.73	16.77		
3	QPSK	15	0	16.66	16.72	16.79		
3	16QAM	1	0	16.94	17.05	17.15	17.5	1
3	16QAM	1	8	16.93	17.08	17.11		
3	16QAM	1	14	16.92	16.99	16.96		
3	16QAM	8	0	15.70	15.77	15.91	16.5	2
3	16QAM	8	4	15.85	15.89	15.88		
3	16QAM	8	7	15.73	15.85	15.77		
3	16QAM	15	0	15.78	15.79	15.83		
3	64QAM	1	0	15.83	15.97	16.01	16.5	2
3	64QAM	1	8	15.86	16.00	16.02		
3	64QAM	1	14	15.88	15.84	15.96		
3	64QAM	8	0	14.70	14.86	14.91	15.5	3
3	64QAM	8	4	14.82	14.85	14.87		
3	64QAM	8	7	14.80	14.80	14.81		
3	64QAM	8	7	14.80	14.80	14.81		
3	64QAM	15	0	14.77	14.82	14.89		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	17.56	17.77	17.72	18.5	0
1.4	QPSK	1	3	17.55	17.68	17.71		
1.4	QPSK	1	5	17.56	17.50	17.64		
1.4	QPSK	3	0	16.51	16.81	16.77		
1.4	QPSK	3	1	16.69	16.68	16.74		
1.4	QPSK	3	3	16.70	16.70	16.67		
1.4	QPSK	6	0	16.67	16.79	16.72	17.5	1
1.4	16QAM	1	0	16.97	17.01	17.12	17.5	1
1.4	16QAM	1	3	16.96	17.08	17.10		
1.4	16QAM	1	5	17.00	16.98	16.99		
1.4	16QAM	3	0	15.65	15.85	15.87		
1.4	16QAM	3	1	15.78	15.85	15.91		
1.4	16QAM	3	3	15.81	15.83	15.75		
1.4	16QAM	6	0	15.83	15.82	15.85		
1.4	64QAM	1	0	15.83	15.94	16.00	16.5	2
1.4	64QAM	1	3	15.88	15.92	16.02		
1.4	64QAM	1	5	15.91	15.84	15.96		
1.4	64QAM	3	0	14.64	14.80	14.90		
1.4	64QAM	3	1	14.84	14.85	14.89		
1.4	64QAM	3	3	14.83	14.79	14.87		
1.4	64QAM	3	3	14.83	14.79	14.87		
1.4	64QAM	6	0	14.82	14.82	14.86		



<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	20.36	20.45	20.38	21.5	0
10	QPSK	1	25	20.42	20.44	20.42		
10	QPSK	1	49	20.42	20.34	20.34		
10	QPSK	25	0	19.51	19.57	19.40	20.5	1
10	QPSK	25	12	19.49	19.50	19.50		
10	QPSK	25	25	19.56	19.47	19.44		
10	QPSK	50	0	19.48	19.50	19.39		
10	16QAM	1	0	19.79	19.77	19.77	20.5	1
10	16QAM	1	25	19.81	19.84	19.81		
10	16QAM	1	49	19.83	19.74	19.74		
10	16QAM	25	0	18.62	18.62	18.56	19.5	2
10	16QAM	25	12	18.63	18.64	18.61		
10	16QAM	25	25	18.65	18.57	18.54		
10	16QAM	50	0	18.59	18.61	18.52		
10	64QAM	1	0	18.69	18.69	18.72	19.5	2
10	64QAM	1	25	18.75	18.76	18.74		
10	64QAM	1	49	18.73	18.65	18.67		
10	64QAM	25	0	17.65	17.66	17.55	18.5	3
10	64QAM	25	12	17.64	17.65	17.64		
10	64QAM	25	25	17.68	17.59	17.59		
10	64QAM	50	0	17.61	17.64	17.54		
Channel				20425	20525	20625		
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	20.26	20.40	20.38	21.5	0
5	QPSK	1	12	20.32	20.34	20.37		
5	QPSK	1	24	20.39	20.30	20.28		
5	QPSK	12	0	19.47	19.48	19.34	20.5	1
5	QPSK	12	7	19.42	19.40	19.41		
5	QPSK	12	13	19.49	19.43	19.34		
5	QPSK	25	0	19.47	19.47	19.33		
5	16QAM	1	0	19.77	19.69	19.70	20.5	1
5	16QAM	1	12	19.77	19.77	19.77		
5	16QAM	1	24	19.78	19.74	19.65		
5	16QAM	12	0	18.52	18.59	18.49	19.5	2
5	16QAM	12	7	18.54	18.55	18.59		
5	16QAM	12	13	18.57	18.47	18.49		
5	16QAM	25	0	18.58	18.60	18.43		
5	64QAM	1	0	18.67	18.61	18.65	19.5	2
5	64QAM	1	12	18.71	18.72	18.66		
5	64QAM	1	24	18.64	18.61	18.57		
5	64QAM	12	0	17.59	17.64	17.47	18.5	3
5	64QAM	12	7	17.64	17.59	17.56		
5	64QAM	12	13	17.62	17.57	17.50		
5	64QAM	25	0	17.56	17.58	17.44		



Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	20.28	20.41	20.28	21.5	0
3	QPSK	1	8	20.42	20.44	20.40		
3	QPSK	1	14	20.33	20.27	20.30		
3	QPSK	8	0	19.47	19.49	19.37	20.5	1
3	QPSK	8	4	19.41	19.44	19.45		
3	QPSK	8	7	19.48	19.39	19.37		
3	QPSK	15	0	19.44	19.49	19.38		
3	16QAM	1	0	19.76	19.69	19.74	20.5	1
3	16QAM	1	8	19.78	19.81	19.73		
3	16QAM	1	14	19.79	19.65	19.65		
3	16QAM	8	0	18.58	18.56	18.52	19.5	2
3	16QAM	8	4	18.60	18.64	18.59		
3	16QAM	8	7	18.60	18.50	18.47		
3	16QAM	15	0	18.58	18.55	18.51		
3	64QAM	1	0	18.68	18.62	18.68	19.5	2
3	64QAM	1	8	18.66	18.68	18.70		
3	64QAM	1	14	18.71	18.64	18.65		
3	64QAM	8	0	17.57	17.66	17.48	18.5	3
3	64QAM	8	4	17.56	17.65	17.56		
3	64QAM	8	7	17.58	17.53	17.57		
3	64QAM	8	7	17.58	17.53	17.57		
3	64QAM	15	0	17.58	17.63	17.52		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	20.31	20.37	20.38	21.5	0
1.4	QPSK	1	3	20.41	20.41	20.32		
1.4	QPSK	1	5	20.36	20.24	20.34		
1.4	QPSK	3	0	19.53	19.60	19.50		
1.4	QPSK	3	1	19.50	19.52	19.59		
1.4	QPSK	3	3	19.57	19.55	19.52		
1.4	QPSK	6	0	19.40	19.41	19.35	20.5	1
1.4	16QAM	1	0	19.73	19.71	19.76	20.5	1
1.4	16QAM	1	3	19.78	19.84	19.76		
1.4	16QAM	1	5	19.78	19.68	19.71		
1.4	16QAM	3	0	18.56	18.57	18.50		
1.4	16QAM	3	1	18.59	18.56	18.53		
1.4	16QAM	3	3	18.61	18.50	18.51		
1.4	16QAM	6	0	18.52	18.59	18.45	19.5	2
1.4	64QAM	1	0	18.67	18.66	18.71	19.5	2
1.4	64QAM	1	3	18.65	18.76	18.64		
1.4	64QAM	1	5	18.66	18.65	18.58		
1.4	64QAM	3	0	17.65	17.56	17.50		
1.4	64QAM	3	1	17.64	17.55	17.59		
1.4	64QAM	3	3	17.68	17.54	17.59		
1.4	64QAM	6	0	17.56	17.58	17.49		



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	16.17	16.55	16.31	18	0
20	QPSK	1	49	16.30	16.33	16.42		
20	QPSK	1	99	16.34	16.40	16.54		
20	QPSK	50	0	15.36	15.55	15.44	17	1
20	QPSK	50	24	15.35	15.39	15.51		
20	QPSK	50	50	15.35	15.41	15.54		
20	QPSK	100	0	15.36	15.48	15.47		
20	16QAM	1	0	15.55	15.60	15.71	17	1
20	16QAM	1	49	15.67	15.70	15.82		
20	16QAM	1	99	15.73	15.76	15.86		
20	16QAM	50	0	14.49	14.47	14.57	16	2
20	16QAM	50	24	14.51	14.52	14.67		
20	16QAM	50	50	14.50	14.54	14.66		
20	16QAM	100	0	14.55	14.51	14.61		
20	64QAM	1	0	14.62	14.66	14.82	16	2
20	64QAM	1	49	14.83	14.81	14.93		
20	64QAM	1	99	14.79	14.86	14.98		
20	64QAM	50	0	13.47	13.49	13.60	15	3
20	64QAM	50	24	13.53	13.53	13.65		
20	64QAM	50	50	13.54	13.55	13.66		
20	64QAM	100	0	13.52	13.50	13.68		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	16.13	16.49	16.30	18	0
15	QPSK	1	37	16.24	16.27	16.41		
15	QPSK	1	74	16.34	16.34	16.51		
15	QPSK	36	0	15.30	15.45	15.35	17	1
15	QPSK	36	20	15.33	15.35	15.42		
15	QPSK	36	39	15.26	15.35	15.50		
15	QPSK	75	0	15.26	15.46	15.42		
15	16QAM	1	0	15.47	15.57	15.70	17	1
15	16QAM	1	37	15.58	15.62	15.72		
15	16QAM	1	74	15.72	15.75	15.76		
15	16QAM	36	0	14.46	14.44	14.55	16	2
15	16QAM	36	20	14.47	14.49	14.67		
15	16QAM	36	39	14.47	14.48	14.62		
15	16QAM	75	0	14.45	14.51	14.60		
15	64QAM	1	0	14.53	14.66	14.75	16	2
15	64QAM	1	37	14.74	14.72	14.88		
15	64QAM	1	74	14.73	14.85	14.88		
15	64QAM	36	0	13.47	13.41	13.57	15	3
15	64QAM	36	20	13.53	13.48	13.65		
15	64QAM	36	39	13.46	13.54	13.56		
15	64QAM	75	0	13.42	13.48	13.63		



Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	16.11	16.51	16.29	18	0
10	QPSK	1	25	16.24	16.25	16.36		
10	QPSK	1	49	16.33	16.39	16.50		
10	QPSK	25	0	15.30	15.45	15.37	17	1
10	QPSK	25	12	15.28	15.35	15.51		
10	QPSK	25	25	15.25	15.35	15.47		
10	QPSK	50	0	15.27	15.38	15.37	17	1
10	16QAM	1	0	15.45	15.56	15.66		
10	16QAM	1	25	15.65	15.65	15.82		
10	16QAM	1	49	15.71	15.66	15.76	16	2
10	16QAM	25	0	14.44	14.41	14.50		
10	16QAM	25	12	14.45	14.51	14.64		
10	16QAM	25	25	14.40	14.51	14.57	16	2
10	16QAM	50	0	14.55	14.51	14.58		
10	64QAM	1	0	14.62	14.63	14.82		
10	64QAM	1	25	14.77	14.81	14.90	16	2
10	64QAM	1	49	14.79	14.79	14.90		
10	64QAM	25	0	13.47	13.39	13.56		
10	64QAM	25	12	13.44	13.47	13.63	15	3
10	64QAM	25	25	13.47	13.53	13.61		
10	64QAM	50	0	13.48	13.49	13.63		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	16.07	16.54	16.28	18	0
5	QPSK	1	12	16.25	16.24	16.41		
5	QPSK	1	24	16.26	16.34	16.54		
5	QPSK	12	0	15.31	15.54	15.36	17	1
5	QPSK	12	7	15.25	15.32	15.45		
5	QPSK	12	13	15.29	15.31	15.49		
5	QPSK	25	0	15.26	15.45	15.47	17	1
5	16QAM	1	0	15.47	15.56	15.63		
5	16QAM	1	12	15.61	15.63	15.72		
5	16QAM	1	24	15.63	15.68	15.86	16	2
5	16QAM	12	0	14.39	14.42	14.53		
5	16QAM	12	7	14.43	14.45	14.63		
5	16QAM	12	13	14.46	14.48	14.65	16	2
5	16QAM	25	0	14.46	14.47	14.56		
5	64QAM	1	0	14.61	14.58	14.73		
5	64QAM	1	12	14.79	14.75	14.84	16	2
5	64QAM	1	24	14.71	14.77	14.95		
5	64QAM	12	0	13.43	13.42	13.58		
5	64QAM	12	7	13.50	13.49	13.56	15	3
5	64QAM	12	13	13.53	13.51	13.60		
5	64QAM	25	0	13.48	13.47	13.67		



<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		20.88		22	0
10	QPSK	1	25		20.87			
10	QPSK	1	49		20.81			
10	QPSK	25	0		19.97		21	1
10	QPSK	25	12		19.96			
10	QPSK	25	25		19.87			
10	QPSK	50	0		19.90		21	1
10	16QAM	1	0		20.09			
10	16QAM	1	25		20.30			
10	16QAM	1	49		20.20		20	2
10	16QAM	25	0		18.98			
10	16QAM	25	12		19.08			
10	16QAM	25	25		18.99		20	2
10	16QAM	50	0		19.05			
10	64QAM	1	0		19.01			
10	64QAM	1	25		19.18		20	2
10	64QAM	1	49		19.14			
10	64QAM	25	0		17.98			
10	64QAM	25	12		18.09		19	3
10	64QAM	25	25		18.00			
10	64QAM	50	0		18.06			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	20.68	20.87	20.58	22	0
5	QPSK	1	12	20.74	20.85	20.64		
5	QPSK	1	24	20.64	20.74	20.54		
5	QPSK	12	0	19.79	19.95	19.76	21	1
5	QPSK	12	7	19.74	19.94	19.68		
5	QPSK	12	13	19.66	19.86	19.56		
5	QPSK	25	0	19.74	19.85	19.72	21	1
5	16QAM	1	0	19.90	20.00	19.90		
5	16QAM	1	12	20.08	20.28	20.08		
5	16QAM	1	24	20.09	20.19	20.05	20	2
5	16QAM	12	0	18.78	18.91	18.72		
5	16QAM	12	7	18.86	19.06	18.78		
5	16QAM	12	13	18.78	18.98	18.72	20	2
5	16QAM	25	0	18.84	19.02	18.79		
5	64QAM	1	0	18.79	18.98	18.77		
5	64QAM	1	12	19.07	19.17	19.06	20	2
5	64QAM	1	24	18.97	19.14	18.92		
5	64QAM	12	0	17.82	17.97	17.79		
5	64QAM	12	7	17.90	18.03	17.89	19	3
5	64QAM	12	13	17.78	17.94	17.75		
5	64QAM	25	0	17.90	18.05	17.86		



<LTE Band 14>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23330				
Frequency (MHz)				793				
10	QPSK	1	0		20.39		21.5	0
10	QPSK	1	25		20.38			
10	QPSK	1	49		20.21			
10	QPSK	25	0		19.64		20.5	1
10	QPSK	25	12		19.33			
10	QPSK	25	25		19.26			
10	QPSK	50	0		19.32		20.5	1
10	16QAM	1	0		19.73			
10	16QAM	1	25		19.73			
10	16QAM	1	49		19.61		19.5	2
10	16QAM	25	0		18.47			
10	16QAM	25	12		18.47			
10	16QAM	25	25		18.39		19.5	2
10	16QAM	50	0		18.44			
10	64QAM	1	0		18.70			
10	64QAM	1	25		18.73		19.5	2
10	64QAM	1	49		18.61			
10	64QAM	25	0		17.47			
10	64QAM	25	12		17.49		18.5	3
10	64QAM	25	25		17.51			
10	64QAM	50	0		17.53			
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	20.14	20.31	20.07	21.5	0
5	QPSK	1	12	20.21	20.38	20.17		
5	QPSK	1	24	19.97	20.12	19.96		
5	QPSK	12	0	19.50	19.62	19.50	20.5	1
5	QPSK	12	7	19.09	19.23	18.99		
5	QPSK	12	13	19.02	19.21	18.93		
5	QPSK	25	0	19.08	19.23	19.08	20.5	1
5	16QAM	1	0	19.59	19.72	19.51		
5	16QAM	1	12	19.57	19.71	19.49		
5	16QAM	1	24	19.39	19.52	19.34	19.5	2
5	16QAM	12	0	18.24	18.43	18.19		
5	16QAM	12	7	18.28	18.41	18.20		
5	16QAM	12	13	18.24	18.34	18.17	19.5	2
5	16QAM	25	0	18.18	18.34	18.18		
5	64QAM	1	0	18.57	18.70	18.55		
5	64QAM	1	12	18.52	18.69	18.42	19.5	2
5	64QAM	1	24	18.44	18.57	18.42		
5	64QAM	12	0	17.30	17.45	17.27		
5	64QAM	12	7	17.36	17.48	17.34	18.5	3
5	64QAM	12	13	17.30	17.49	17.29		
5	64QAM	25	0	17.29	17.45	17.20		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	18.89	18.90	18.81	19.5	0
20	QPSK	1	49	18.82	18.85	18.86		
20	QPSK	1	99	18.82	18.84	18.87		
20	QPSK	50	0	17.93	17.95	17.94	18.5	1
20	QPSK	50	24	17.83	17.88	17.88		
20	QPSK	50	50	17.77	17.85	17.85		
20	QPSK	100	0	17.83	17.88	17.87		
20	16QAM	1	0	18.34	18.25	18.25	18.5	1
20	16QAM	1	49	18.28	18.30	18.31		
20	16QAM	1	99	18.24	18.30	18.29		
20	16QAM	50	0	16.97	16.96	16.96	17.5	2
20	16QAM	50	24	17.03	17.02	17.01		
20	16QAM	50	50	16.98	16.99	17.03		
20	16QAM	100	0	16.97	16.99	17.00		
20	64QAM	1	0	17.23	17.15	17.12	17.5	2
20	64QAM	1	49	17.18	17.19	17.20		
20	64QAM	1	99	17.16	17.19	17.16		
20	64QAM	50	0	15.97	15.96	15.97	16.5	3
20	64QAM	50	24	16.03	16.03	16.03		
20	64QAM	50	50	15.98	15.99	16.03		
20	64QAM	100	0	15.96	16.01	15.98		
Channel				26115	26340	26615		
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	18.84	18.88	18.81	19.5	0
15	QPSK	1	37	18.77	18.81	18.85		
15	QPSK	1	74	18.77	18.74	18.78		
15	QPSK	36	0	17.74	17.92	17.83	18.5	1
15	QPSK	36	20	17.79	17.84	17.84		
15	QPSK	36	39	17.80	17.85	17.78		
15	QPSK	75	0	17.74	17.85	17.85		
15	16QAM	1	0	18.24	18.23	18.16	18.5	1
15	16QAM	1	37	18.24	18.28	18.24		
15	16QAM	1	74	18.20	18.22	18.22		
15	16QAM	36	0	16.90	16.89	16.96	17.5	2
15	16QAM	36	20	16.95	16.97	16.96		
15	16QAM	36	39	16.96	16.96	16.96		
15	16QAM	75	0	16.92	16.92	16.95		
15	64QAM	1	0	17.23	17.14	17.09	17.5	2
15	64QAM	1	37	17.10	17.14	17.19		
15	64QAM	1	74	17.14	17.10	17.11		
15	64QAM	36	0	15.93	15.95	15.87	16.5	3
15	64QAM	36	20	16.01	16.00	16.01		
15	64QAM	36	39	15.92	15.89	15.95		
15	64QAM	75	0	15.95	16.00	15.88		



Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	18.80	18.84	18.72	19.5	0
10	QPSK	1	25	18.72	18.83	18.82		
10	QPSK	1	49	18.73	18.81	18.78		
10	QPSK	25	0	17.80	17.87	17.78	18.5	1
10	QPSK	25	12	17.82	17.83	17.81		
10	QPSK	25	25	17.80	17.75	17.85		
10	QPSK	50	0	17.81	17.79	17.81		
10	16QAM	1	0	18.27	18.20	18.23	18.5	1
10	16QAM	1	25	18.20	18.24	18.26		
10	16QAM	1	49	18.24	18.22	18.28		
10	16QAM	25	0	16.96	16.86	16.93	17.5	2
10	16QAM	25	12	16.93	16.92	16.91		
10	16QAM	25	25	16.94	16.94	16.97		
10	16QAM	50	0	16.90	16.97	16.92		
10	64QAM	1	0	17.15	17.14	17.11	17.5	2
10	64QAM	1	25	17.09	17.12	17.10		
10	64QAM	1	49	17.09	17.13	17.06		
10	64QAM	25	0	15.92	15.88	15.92	16.5	3
10	64QAM	25	12	15.94	15.95	16.03		
10	64QAM	25	25	15.90	15.97	16.00		
10	64QAM	50	0	15.89	15.95	15.94		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	18.79	18.88	18.72	19.5	0
5	QPSK	1	12	18.72	18.81	18.76		
5	QPSK	1	24	18.74	18.80	18.83		
5	QPSK	12	0	17.74	17.85	17.82	18.5	1
5	QPSK	12	7	17.85	17.86	17.89		
5	QPSK	12	13	17.80	17.84	17.81		
5	QPSK	25	0	17.83	17.86	17.84		
5	16QAM	1	0	18.30	18.19	18.16	18.5	1
5	16QAM	1	12	18.22	18.23	18.31		
5	16QAM	1	24	18.18	18.30	18.20		
5	16QAM	12	0	16.91	16.90	16.90	17.5	2
5	16QAM	12	7	16.93	17.01	17.01		
5	16QAM	12	13	16.90	16.92	16.99		
5	16QAM	25	0	16.91	16.96	16.94		
5	64QAM	1	0	17.16	17.15	17.02	17.5	2
5	64QAM	1	12	17.09	17.15	17.15		
5	64QAM	1	24	17.08	17.11	17.12		
5	64QAM	12	0	15.87	15.94	15.91	16.5	3
5	64QAM	12	7	15.99	15.95	16.01		
5	64QAM	12	13	15.96	15.94	15.98		
5	64QAM	25	0	15.90	16.01	15.97		



Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	18.84	18.81	18.73	19.5	0
3	QPSK	1	8	18.77	18.84	18.86		
3	QPSK	1	14	18.72	18.76	18.83		
3	QPSK	8	0	17.73	17.87	17.83	18.5	1
3	QPSK	8	4	17.83	17.88	17.84		
3	QPSK	8	7	17.75	17.81	17.88		
3	QPSK	15	0	17.74	17.86	17.83		
3	16QAM	1	0	18.31	18.16	18.25	18.5	1
3	16QAM	1	8	18.20	18.25	18.31		
3	16QAM	1	14	18.23	18.25	18.28		
3	16QAM	8	0	16.87	16.95	16.89	17.5	2
3	16QAM	8	4	16.95	16.97	16.97		
3	16QAM	8	7	16.93	16.97	17.03		
3	16QAM	15	0	16.96	16.97	16.92		
3	64QAM	1	0	17.21	17.07	17.11	17.5	2
3	64QAM	1	8	17.08	17.13	17.16		
3	64QAM	1	14	17.08	17.14	17.06		
3	64QAM	8	0	15.96	15.88	15.93	16.5	3
3	64QAM	8	4	15.95	15.94	15.96		
3	64QAM	8	7	15.96	15.91	15.98		
3	64QAM	15	0	15.91	15.99	15.98		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	18.85	18.81	18.76	19.5	0
1.4	QPSK	1	3	18.77	18.80	18.86		
1.4	QPSK	1	5	18.73	18.75	18.85		
1.4	QPSK	3	0	17.87	17.93	17.91		
1.4	QPSK	3	1	17.95	17.90	17.99		
1.4	QPSK	3	3	17.86	17.94	17.96		
1.4	QPSK	6	0	17.74	17.79	17.87	18.5	1
1.4	16QAM	1	0	18.24	18.18	18.23	18.5	1
1.4	16QAM	1	3	18.26	18.24	18.29		
1.4	16QAM	1	5	18.19	18.27	18.23		
1.4	16QAM	3	0	16.96	16.96	16.91		
1.4	16QAM	3	1	16.93	16.92	16.98		
1.4	16QAM	3	3	16.98	16.93	17.02		
1.4	16QAM	6	0	16.91	16.99	16.91	17.5	2
1.4	64QAM	1	0	17.19	17.09	17.12	17.5	2
1.4	64QAM	1	3	17.16	17.11	17.19		
1.4	64QAM	1	5	17.15	17.13	17.15		
1.4	64QAM	3	0	15.94	15.88	15.88		
1.4	64QAM	3	1	16.02	15.97	15.94		
1.4	64QAM	3	3	15.93	15.89	15.93		
1.4	64QAM	6	0	15.89	15.99	15.91	16.5	3



<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	20.54	20.57	20.42		
15	QPSK	1	37	20.49	20.42	20.39	21.5	0
15	QPSK	1	74	20.47	20.41	20.41		
15	QPSK	36	0	19.51	19.63	19.36		
15	QPSK	36	20	19.62	19.46	19.45	20.5	1
15	QPSK	36	39	19.52	19.42	19.38		
15	QPSK	75	0	19.54	19.58	19.44		
15	16QAM	1	0	19.97	19.93	19.83	20.5	1
15	16QAM	1	37	19.87	19.84	19.81		
15	16QAM	1	74	19.86	19.85	19.78		
15	16QAM	36	0	18.65	18.61	18.49	19.5	2
15	16QAM	36	20	18.74	18.61	18.58		
15	16QAM	36	39	18.65	18.53	18.48		
15	16QAM	75	0	18.73	18.56	18.59	19.5	2
15	64QAM	1	0	18.87	18.86	18.73		
15	64QAM	1	37	18.80	18.72	18.70		
15	64QAM	1	74	18.79	18.76	18.68	18.5	3
15	64QAM	36	0	17.68	17.67	17.54		
15	64QAM	36	20	17.77	17.63	17.62		
15	64QAM	36	39	17.71	17.55	17.55	18.5	3
15	64QAM	75	0	17.71	17.60	17.56		
Channel				26740	26865	26990		
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	20.45	20.48	20.33	21.5	0
10	QPSK	1	25	20.46	20.42	20.29		
10	QPSK	1	49	20.38	20.33	20.41		
10	QPSK	25	0	19.48	19.57	19.32	20.5	1
10	QPSK	25	12	19.52	19.39	19.35		
10	QPSK	25	25	19.52	19.39	19.28		
10	QPSK	50	0	19.45	19.55	19.39	20.5	1
10	16QAM	1	0	19.92	19.84	19.77		
10	16QAM	1	25	19.82	19.79	19.76		
10	16QAM	1	49	19.77	19.75	19.77	19.5	2
10	16QAM	25	0	18.60	18.61	18.44		
10	16QAM	25	12	18.68	18.54	18.48		
10	16QAM	25	25	18.55	18.49	18.39	19.5	2
10	16QAM	50	0	18.67	18.54	18.50		
10	64QAM	1	0	18.78	18.85	18.67		
10	64QAM	1	25	18.74	18.72	18.65	19.5	2
10	64QAM	1	49	18.76	18.70	18.66		
10	64QAM	25	0	17.68	17.63	17.47		
10	64QAM	25	12	17.70	17.58	17.57	18.5	3
10	64QAM	25	25	17.61	17.51	17.50		
10	64QAM	50	0	17.68	17.55	17.48		



Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	20.44	20.47	20.32	21.5	0
5	QPSK	1	12	20.46	20.37	20.30		
5	QPSK	1	24	20.46	20.34	20.31		
5	QPSK	12	0	19.51	19.53	19.27	20.5	1
5	QPSK	12	7	19.56	19.41	19.42		
5	QPSK	12	13	19.52	19.34	19.31		
5	QPSK	25	0	19.44	19.53	19.44	20.5	1
5	16QAM	1	0	19.88	19.84	19.79		
5	16QAM	1	12	19.77	19.78	19.81		
5	16QAM	1	24	19.81	19.76	19.77	19.5	2
5	16QAM	12	0	18.55	18.53	18.46		
5	16QAM	12	7	18.64	18.54	18.56		
5	16QAM	12	13	18.57	18.50	18.42	19.5	2
5	16QAM	25	0	18.67	18.50	18.57		
5	64QAM	1	0	18.81	18.78	18.67		
5	64QAM	1	12	18.80	18.70	18.62	19.5	2
5	64QAM	1	24	18.71	18.70	18.68		
5	64QAM	12	0	17.59	17.61	17.52		
5	64QAM	12	7	17.70	17.57	17.57	18.5	3
5	64QAM	12	13	17.69	17.45	17.51		
5	64QAM	25	0	17.65	17.60	17.55		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	20.47	20.53	20.37	21.5	0
3	QPSK	1	8	20.49	20.35	20.32		
3	QPSK	1	14	20.37	20.38	20.33		
3	QPSK	8	0	19.46	19.56	19.32	20.5	1
3	QPSK	8	4	19.60	19.46	19.40		
3	QPSK	8	7	19.44	19.36	19.31		
3	QPSK	15	0	19.47	19.55	19.34	20.5	1
3	16QAM	1	0	19.91	19.88	19.78		
3	16QAM	1	8	19.82	19.74	19.71		
3	16QAM	1	14	19.82	19.80	19.72	19.5	2
3	16QAM	8	0	18.65	18.55	18.45		
3	16QAM	8	4	18.66	18.57	18.50		
3	16QAM	8	7	18.65	18.46	18.43	19.5	2
3	16QAM	15	0	18.68	18.54	18.51		
3	64QAM	1	0	18.83	18.78	18.65		
3	64QAM	1	8	18.73	18.69	18.70	19.5	2
3	64QAM	1	14	18.69	18.67	18.58		
3	64QAM	8	0	17.63	17.57	17.54		
3	64QAM	8	4	17.68	17.57	17.57	18.5	3
3	64QAM	8	7	17.66	17.48	17.51		
3	64QAM	15	0	17.61	17.59	17.54		



Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	20.54	20.49	20.35	21.5	0
1.4	QPSK	1	3	20.46	20.33	20.30		
1.4	QPSK	1	5	20.42	20.33	20.34		
1.4	QPSK	3	0	19.70	19.73	19.56		
1.4	QPSK	3	1	19.75	19.64	19.65		
1.4	QPSK	3	3	19.69	19.54	19.52		
1.4	QPSK	6	0	19.53	19.51	19.42	20.5	1
1.4	16QAM	1	0	19.92	19.87	19.83	20.5	1
1.4	16QAM	1	3	19.79	19.79	19.79		
1.4	16QAM	1	5	19.84	19.78	19.78		
1.4	16QAM	3	0	18.61	18.60	18.50		
1.4	16QAM	3	1	18.70	18.56	18.54		
1.4	16QAM	3	3	18.55	18.57	18.52		
1.4	16QAM	6	0	18.64	18.54	18.53	19.5	2
1.4	64QAM	1	0	18.85	18.81	18.71	19.5	2
1.4	64QAM	1	3	18.75	18.63	18.67		
1.4	64QAM	1	5	18.77	18.73	18.63		
1.4	64QAM	3	0	17.67	17.60	17.58		
1.4	64QAM	3	1	17.77	17.56	17.52		
1.4	64QAM	3	3	17.67	17.52	17.58		
1.4	64QAM	6	0	17.67	17.53	17.55	18.5	3



<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	18.03	18.23	18.11	18.5	0
20	QPSK	1	49	18.10	18.11	18.17		
20	QPSK	1	99	17.98	18.07	17.99		
20	QPSK	50	0	17.02	17.18	17.06	17.5	1
20	QPSK	50	24	16.98	17.13	17.06		
20	QPSK	50	50	16.95	17.10	17.02		
20	QPSK	100	0	16.98	17.12	17.03		
20	16QAM	1	0	17.41	17.46	17.47	17.5	1
20	16QAM	1	49	17.45	17.43	17.42		
20	16QAM	1	99	17.33	17.45	17.33		
20	16QAM	50	0	16.11	16.28	16.15	16.5	2
20	16QAM	50	24	16.11	16.23	16.16		
20	16QAM	50	50	16.09	16.19	16.13		
20	16QAM	100	0	16.10	16.22	16.10		
20	64QAM	1	0	16.33	16.45	16.39	16.5	2
20	64QAM	1	49	16.40	16.45	16.40		
20	64QAM	1	99	16.23	16.35	16.24		
20	64QAM	50	0	15.11	15.29	15.19	15.5	3
20	64QAM	50	24	15.12	15.24	15.10		
20	64QAM	50	50	15.11	15.20	15.12		
20	64QAM	100	0	15.12	15.21	15.12		
Channel				132047	132322	132597		
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	18.01	18.19	18.11	18.5	0
15	QPSK	1	37	18.09	18.10	18.15		
15	QPSK	1	74	17.88	18.02	17.92		
15	QPSK	36	0	16.93	17.18	16.98	17.5	1
15	QPSK	36	20	16.96	17.03	17.05		
15	QPSK	36	39	16.86	17.09	16.96		
15	QPSK	75	0	16.88	17.11	16.97		
15	16QAM	1	0	17.41	17.47	17.44	17.5	1
15	16QAM	1	37	17.45	17.40	17.47		
15	16QAM	1	74	17.23	17.42	17.32		
15	16QAM	36	0	16.07	16.20	16.07	16.5	2
15	16QAM	36	20	16.11	16.20	16.14		
15	16QAM	36	39	16.08	16.10	16.07		
15	16QAM	75	0	16.07	16.12	16.08		
15	64QAM	1	0	16.25	16.36	16.33	16.5	2
15	64QAM	1	37	16.39	16.50	16.32		
15	64QAM	1	74	16.14	16.33	16.19		
15	64QAM	36	0	15.09	15.19	15.09	15.5	3
15	64QAM	36	20	15.09	15.17	15.02		
15	64QAM	36	39	15.11	15.18	15.08		
15	64QAM	75	0	15.10	15.18	15.10		



Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	17.94	18.16	18.09	18.5	0
10	QPSK	1	25	18.06	18.08	18.08		
10	QPSK	1	49	17.90	18.05	17.89		
10	QPSK	25	0	16.94	17.14	17.02	17.5	1
10	QPSK	25	12	16.91	17.11	17.02		
10	QPSK	25	25	16.87	17.06	16.94		
10	QPSK	50	0	16.90	17.08	16.94	17.5	1
10	16QAM	1	0	17.33	17.44	17.37		
10	16QAM	1	25	17.35	17.43	17.41		
10	16QAM	1	49	17.30	17.44	17.28	16.5	2
10	16QAM	25	0	16.03	16.18	16.14		
10	16QAM	25	12	16.09	16.17	16.11		
10	16QAM	25	25	16.05	16.12	16.13	16.5	2
10	16QAM	50	0	16.07	16.17	16.07		
10	64QAM	1	0	16.24	16.41	16.35		
10	64QAM	1	25	16.30	16.45	16.35	16.5	2
10	64QAM	1	49	16.21	16.27	16.24		
10	64QAM	25	0	15.02	15.23	15.19		
10	64QAM	25	12	15.05	15.23	15.00	15.5	3
10	64QAM	25	25	15.11	15.12	15.10		
10	64QAM	50	0	15.09	15.16	15.12		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	17.98	18.19	18.09	18.5	0
5	QPSK	1	12	18.05	18.11	18.16		
5	QPSK	1	24	17.91	18.06	17.98		
5	QPSK	12	0	16.98	17.16	16.99	17.5	1
5	QPSK	12	7	16.94	17.12	17.06		
5	QPSK	12	13	16.85	17.09	16.96		
5	QPSK	25	0	16.92	17.02	17.03	17.5	1
5	16QAM	1	0	17.39	17.43	17.46		
5	16QAM	1	12	17.37	17.40	17.42		
5	16QAM	1	24	17.26	17.42	17.32	16.5	2
5	16QAM	12	0	16.03	16.18	16.08		
5	16QAM	12	7	16.04	16.13	16.14		
5	16QAM	12	13	16.00	16.10	16.11	16.5	2
5	16QAM	25	0	16.08	16.20	16.06		
5	64QAM	1	0	16.31	16.39	16.38		
5	64QAM	1	12	16.32	16.48	16.30	16.5	2
5	64QAM	1	24	16.23	16.30	16.16		
5	64QAM	12	0	15.07	15.22	15.13		
5	64QAM	12	7	15.03	15.23	15.06	15.5	3
5	64QAM	12	13	15.03	15.10	15.03		
5	64QAM	25	0	15.11	15.18	15.05		



Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	17.96	18.19	18.06	18.5	0
3	QPSK	1	8	18.04	18.04	18.09		
3	QPSK	1	14	17.89	18.02	17.94		
3	QPSK	8	0	16.99	17.09	16.97	17.5	1
3	QPSK	8	4	16.97	17.05	17.06		
3	QPSK	8	7	16.93	17.10	16.99		
3	QPSK	15	0	16.95	17.03	16.97	17.5	1
3	16QAM	1	0	17.41	17.50	17.44		
3	16QAM	1	8	17.38	17.43	17.45		
3	16QAM	1	14	17.31	17.38	17.32	16.5	2
3	16QAM	8	0	16.03	16.24	16.13		
3	16QAM	8	4	16.01	16.18	16.12		
3	16QAM	8	7	16.05	16.12	16.11	16.5	2
3	16QAM	15	0	16.02	16.17	16.02		
3	64QAM	1	0	16.24	16.45	16.37		
3	64QAM	1	8	16.36	16.45	16.40	16.5	2
3	64QAM	1	14	16.13	16.35	16.22		
3	64QAM	8	0	15.01	15.27	15.12		
3	64QAM	8	4	15.09	15.19	15.09	15.5	3
3	64QAM	8	7	15.09	15.20	15.06		
3	64QAM	15	0	15.07	15.12	15.07		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	17.94	18.22	18.08	18.5	0
1.4	QPSK	1	3	18.05	18.08	18.17		
1.4	QPSK	1	5	17.95	18.05	17.90		
1.4	QPSK	3	0	17.00	17.18	17.03		
1.4	QPSK	3	1	16.94	17.11	16.96		
1.4	QPSK	3	3	16.92	17.00	16.99		
1.4	QPSK	6	0	16.88	17.12	16.98	17.5	1
1.4	16QAM	1	0	17.34	17.46	17.37	17.5	1
1.4	16QAM	1	3	17.44	17.43	17.49		
1.4	16QAM	1	5	17.30	17.37	17.29		
1.4	16QAM	3	0	16.01	16.26	16.06		
1.4	16QAM	3	1	16.05	16.13	16.10		
1.4	16QAM	3	3	16.05	16.11	16.11		
1.4	16QAM	6	0	16.00	16.13	16.05	16.5	2
1.4	64QAM	1	0	16.25	16.37	16.39	16.5	2
1.4	64QAM	1	3	16.38	16.46	16.30		
1.4	64QAM	1	5	16.19	16.33	16.21		
1.4	64QAM	3	0	15.06	15.27	15.18		
1.4	64QAM	3	1	15.12	15.23	15.07		
1.4	64QAM	3	3	15.05	15.12	15.08		
1.4	64QAM	6	0	15.10	15.11	15.08	15.5	3

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

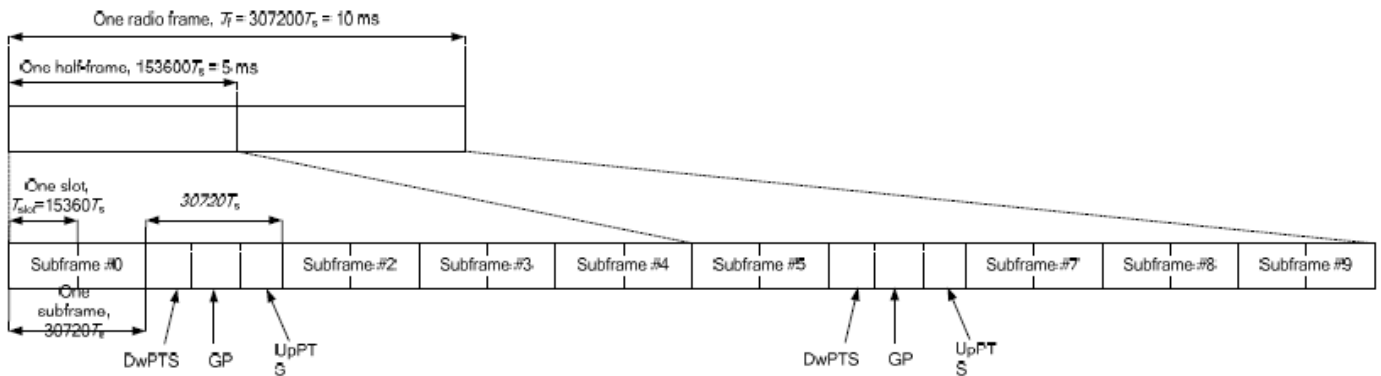


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	6592 · Ts	2192 · Ts	2560 · Ts	7680 · Ts	2192 · Ts	2560 · Ts
1	19760 · Ts			20480 · Ts		
2	21952 · Ts			23040 · Ts		
3	24144 · Ts			25600 · Ts		
4	26336 · Ts			7680 · Ts	4384 · Ts	5120 · Ts
5	6592 · Ts	4384 · Ts	5120 · Ts	20480 · Ts		
6	19760 · Ts			23040 · Ts		
7	21952 · Ts			12800 · Ts		
8	24144 · Ts			-	-	-
9	13168 · Ts			-	-	-

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

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

The highest duty factor is resulted from:

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



<Default Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	23.55	23.79	23.55	24.5	0
20	QPSK	1	49	23.64	23.68	23.70		
20	QPSK	1	99	23.66	23.67	23.76		
20	QPSK	50	0	22.58	22.73	22.59	23.5	1
20	QPSK	50	24	22.68	22.66	22.61		
20	QPSK	50	50	22.68	22.70	22.72		
20	QPSK	100	0	22.67	22.68	22.57	23.5	1
20	16QAM	1	0	22.75	22.87	22.78		
20	16QAM	1	49	22.81	22.91	22.94		
20	16QAM	1	99	22.94	22.85	22.98	22.5	2
20	16QAM	50	0	21.74	21.81	21.79		
20	16QAM	50	24	21.89	21.84	21.82		
20	16QAM	50	50	21.89	21.86	21.91	22.5	2
20	16QAM	100	0	21.87	21.84	21.77		
20	64QAM	1	0	21.55	21.65	21.59		
20	64QAM	1	49	21.53	21.64	21.68	22.5	2
20	64QAM	1	99	21.66	21.66	21.68		
20	64QAM	50	0	20.75	20.85	20.78		
20	64QAM	50	24	20.88	20.84	20.78	21.5	3
20	64QAM	50	50	20.87	20.84	20.91		
20	64QAM	100	0	20.89	20.85	20.78		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	23.54	23.74	23.45	24.5	0
15	QPSK	1	37	23.60	23.68	23.67		
15	QPSK	1	74	23.65	23.65	23.71		
15	QPSK	36	0	22.57	22.65	22.54	23.5	1
15	QPSK	36	20	22.63	22.61	22.54		
15	QPSK	36	39	22.62	22.69	22.62		
15	QPSK	75	0	22.64	22.64	22.56	23.5	1
15	16QAM	1	0	22.73	22.83	22.73		
15	16QAM	1	37	22.78	22.85	22.88		
15	16QAM	1	74	22.87	22.75	22.91	22.5	2
15	16QAM	36	0	21.70	21.73	21.76		
15	16QAM	36	20	21.81	21.78	21.73		
15	16QAM	36	39	21.88	21.80	21.82	22.5	2
15	16QAM	75	0	21.84	21.74	21.75		
15	64QAM	1	0	21.52	21.63	21.57		
15	64QAM	1	37	21.45	21.64	21.68	22.5	2
15	64QAM	1	74	21.58	21.66	21.64		
15	64QAM	36	0	20.66	20.85	20.76		
15	64QAM	36	20	20.83	20.82	20.73	21.5	3
15	64QAM	36	39	20.82	20.84	20.86		
15	64QAM	75	0	20.81	20.77	20.68		



Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	23.49	23.73	23.54	24.5	0
10	QPSK	1	25	23.62	23.64	23.65		
10	QPSK	1	49	23.64	23.64	23.70		
10	QPSK	25	0	22.57	22.71	22.49	23.5	1
10	QPSK	25	12	22.62	22.63	22.51		
10	QPSK	25	25	22.64	22.66	22.64		
10	QPSK	50	0	22.63	22.67	22.54	23.5	1
10	16QAM	1	0	22.67	22.80	22.73		
10	16QAM	1	25	22.75	22.90	22.88		
10	16QAM	1	49	22.88	22.80	22.92	22.5	2
10	16QAM	25	0	21.72	21.78	21.76		
10	16QAM	25	12	21.80	21.79	21.81		
10	16QAM	25	25	21.81	21.82	21.84	21.5	3
10	16QAM	50	0	21.87	21.81	21.75		
10	64QAM	1	0	21.50	21.62	21.55		
10	64QAM	1	25	21.49	21.57	21.65	22.5	2
10	64QAM	1	49	21.58	21.63	21.68		
10	64QAM	25	0	20.67	20.85	20.74		
10	64QAM	25	12	20.82	20.77	20.71	21.5	3
10	64QAM	25	25	20.79	20.79	20.86		
10	64QAM	50	0	20.87	20.84	20.77		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	23.55	23.78	23.54	24.5	0
5	QPSK	1	12	23.59	23.66	23.64		
5	QPSK	1	24	23.58	23.63	23.71		
5	QPSK	12	0	22.49	22.66	22.54	23.5	1
5	QPSK	12	7	22.63	22.56	22.58		
5	QPSK	12	13	22.65	22.64	22.69		
5	QPSK	25	0	22.67	22.66	22.55	23.5	1
5	16QAM	1	0	22.69	22.82	22.77		
5	16QAM	1	12	22.80	22.89	22.91		
5	16QAM	1	24	22.93	22.85	22.88	22.5	2
5	16QAM	12	0	21.67	21.79	21.70		
5	16QAM	12	7	21.80	21.80	21.72		
5	16QAM	12	13	21.79	21.77	21.88	22.5	2
5	16QAM	25	0	21.77	21.75	21.72		
5	64QAM	1	0	21.51	21.61	21.51		
5	64QAM	1	12	21.44	21.62	21.66	22.5	2
5	64QAM	1	24	21.60	21.60	21.63		
5	64QAM	12	0	20.66	20.81	20.72		
5	64QAM	12	7	20.87	20.80	20.75	21.5	3
5	64QAM	12	13	20.84	20.76	20.90		
5	64QAM	25	0	20.85	20.75	20.77		



<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	22.70	22.86	23.00	22.89	24.39	24.5	0
20	QPSK	1	49	22.72	22.87	23.13	22.91	22.82		
20	QPSK	1	99	22.85	22.96	23.16	22.94	24.50		
20	QPSK	50	0	21.80	21.94	22.19	21.97	21.98	23.5	1
20	QPSK	50	24	21.82	22.06	22.18	21.97	21.95		
20	QPSK	50	50	21.91	22.04	22.05	22.01	22.16		
20	QPSK	100	0	21.93	22.06	22.18	21.98	22.19	23.5	1
20	16QAM	1	0	21.80	21.98	22.19	22.05	23.28		
20	16QAM	1	49	21.81	21.99	22.33	22.11	22.09		
20	16QAM	1	99	21.92	22.10	22.32	22.17	23.47	22.5	2
20	16QAM	50	0	20.88	21.03	21.28	21.09	21.16		
20	16QAM	50	24	20.91	21.14	21.34	21.11	21.13		
20	16QAM	50	50	21.01	21.15	21.32	21.13	21.22	22.5	2
20	16QAM	100	0	21.00	21.17	21.30	21.11	21.22		
20	64QAM	1	0	20.57	20.75	20.95	20.84	22.49		
20	64QAM	1	49	20.54	20.75	21.08	20.85	20.88	22.5	2
20	64QAM	1	99	20.69	20.88	21.11	20.88	22.48		
20	64QAM	50	0	19.89	20.06	20.29	20.12	20.18		
20	64QAM	50	24	19.90	20.19	20.30	20.15	20.15	21.5	3
20	64QAM	50	50	20.04	20.16	20.30	20.14	20.24		
20	64QAM	100	0	20.00	20.13	20.34	20.15	20.24		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	22.77	22.98	23.21	23.04	22.88	24.5	0
15	QPSK	1	37	22.73	22.94	23.30	23.03	22.92		
15	QPSK	1	74	22.81	23.19	23.33	23.14	22.96		
15	QPSK	36	0	21.84	22.05	22.26	22.06	22.00	23.5	1
15	QPSK	36	20	21.83	22.14	22.27	22.07	21.97		
15	QPSK	36	39	21.81	22.13	22.27	22.04	22.00		
15	QPSK	75	0	21.79	22.15	22.27	22.00	21.94	23.5	1
15	16QAM	1	0	21.82	22.12	22.37	22.22	22.11		
15	16QAM	1	37	21.88	22.08	22.44	22.29	22.16		
15	16QAM	1	74	21.92	22.31	22.54	22.30	22.17	22.5	2
15	16QAM	36	0	20.80	21.06	21.31	21.14	21.12		
15	16QAM	36	20	20.87	21.24	21.37	21.14	21.12		
15	16QAM	36	39	20.85	21.25	21.36	21.13	21.14	22.5	2
15	16QAM	75	0	20.92	21.21	21.34	21.18	21.15		
15	64QAM	1	0	20.64	20.87	21.10	20.97	20.94		
15	64QAM	1	37	20.61	20.84	21.18	20.98	20.96	22.5	2
15	64QAM	1	74	20.70	21.07	21.27	21.06	20.95		
15	64QAM	36	0	19.84	20.12	20.38	20.17	20.18		
15	64QAM	36	20	19.90	20.26	20.40	20.21	20.21	21.5	3
15	64QAM	36	39	19.90	20.25	20.39	20.17	20.20		
15	64QAM	75	0	19.87	20.27	20.38	20.20	20.17		



FCC SAR TEST REPORT

Report No. : FA922214

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	22.66	22.88	23.08	22.95	23.41	24.5	0
10	QPSK	1	25	22.67	22.91	23.23	22.97	22.90		
10	QPSK	1	49	22.67	23.07	23.20	23.05	23.42		
10	QPSK	25	0	21.70	21.97	22.20	21.88	22.10	23.5	1
10	QPSK	25	12	21.76	21.96	22.24	21.94	21.93		
10	QPSK	25	25	21.77	22.09	22.20	21.95	22.02		
10	QPSK	50	0	21.73	22.08	22.20	21.94	22.03	23.5	1
10	16QAM	1	0	21.78	22.02	22.27	22.19	22.59		
10	16QAM	1	25	21.80	22.07	22.44	22.23	22.06		
10	16QAM	1	49	21.78	22.15	22.35	22.10	22.64	22.5	2
10	16QAM	25	0	20.78	21.04	21.30	21.11	21.27		
10	16QAM	25	12	20.82	21.11	21.30	21.10	21.16		
10	16QAM	25	25	20.79	21.12	21.33	21.15	21.31	22.5	2
10	16QAM	50	0	20.83	21.15	21.30	21.11	21.19		
10	64QAM	1	0	20.51	20.73	20.98	20.87	21.50		
10	64QAM	1	25	20.53	20.78	21.12	20.90	20.84	22.5	2
10	64QAM	1	49	20.55	20.89	21.18	20.97	21.34		
10	64QAM	25	0	19.87	20.11	20.34	20.13	20.29		
10	64QAM	25	12	19.84	20.12	20.37	20.21	20.19	21.5	3
10	64QAM	25	25	19.87	20.23	20.31	20.20	20.33		
10	64QAM	50	0	19.83	20.17	20.34	20.11	20.24		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	22.63	22.76	23.05	22.80	22.73	24.5	0
5	QPSK	1	12	22.66	22.75	23.12	22.84	22.81		
5	QPSK	1	24	22.66	22.78	23.06	22.93	22.68		
5	QPSK	12	0	21.70	21.85	22.02	21.80	21.80	23.5	1
5	QPSK	12	7	21.72	21.89	22.08	21.86	21.76		
5	QPSK	12	13	21.72	21.87	22.11	21.85	21.75		
5	QPSK	25	0	21.69	21.86	22.03	21.80	21.76	23.5	1
5	16QAM	1	0	21.74	21.87	22.24	21.94	21.93		
5	16QAM	1	12	21.81	21.95	22.22	22.01	21.97		
5	16QAM	1	24	21.78	21.92	22.23	22.04	21.97	22.5	2
5	16QAM	12	0	20.75	20.87	21.17	20.93	20.88		
5	16QAM	12	7	20.76	20.93	21.15	20.92	20.93		
5	16QAM	12	13	20.77	20.92	21.15	20.96	20.93	22.5	2
5	16QAM	25	0	20.79	20.95	21.23	21.00	20.94		
5	64QAM	1	0	20.51	20.66	20.97	20.72	20.68		
5	64QAM	1	12	20.50	20.67	21.02	20.79	20.64	22.5	2
5	64QAM	1	24	20.54	20.71	20.98	20.75	20.74		
5	64QAM	12	0	19.78	20.04	20.22	20.02	20.03		
5	64QAM	12	7	19.83	20.00	20.21	19.97	20.05	21.5	3
5	64QAM	12	13	19.82	19.98	20.22	19.96	19.99		
5	64QAM	25	0	19.80	20.02	20.24	20.06	20.04		



<Reduced Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	18.11	18.27	18.12	19.5	0
20	QPSK	1	49	18.09	18.18	18.20		
20	QPSK	1	99	18.23	18.21	18.26		
20	QPSK	50	0	17.16	17.32	17.22	18.5	1
20	QPSK	50	24	17.28	17.28	17.21		
20	QPSK	50	50	17.30	17.28	17.31		
20	QPSK	100	0	17.32	17.33	17.22		
20	16QAM	1	0	17.24	17.36	17.24	18.5	1
20	16QAM	1	49	17.25	17.34	17.38		
20	16QAM	1	99	17.36	17.35	17.40		
20	16QAM	50	0	16.30	16.33	16.26	17.5	2
20	16QAM	50	24	16.38	16.32	16.29		
20	16QAM	50	50	16.38	16.34	16.42		
20	16QAM	100	0	16.37	16.33	16.26		
20	64QAM	1	0	15.98	16.04	16.00	17.5	2
20	64QAM	1	49	15.99	16.05	16.09		
20	64QAM	1	99	16.13	16.10	16.12		
20	64QAM	50	0	15.24	15.36	15.27	16.5	3
20	64QAM	50	24	15.37	15.33	15.28		
20	64QAM	50	50	15.41	15.35	15.39		
20	64QAM	100	0	15.39	15.38	15.30		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	18.11	18.21	18.04	19.5	0
15	QPSK	1	37	18.00	18.10	18.14		
15	QPSK	1	74	18.15	18.15	18.16		
15	QPSK	36	0	17.09	17.28	17.13	18.5	1
15	QPSK	36	20	17.26	17.24	17.20		
15	QPSK	36	39	17.20	17.22	17.28		
15	QPSK	75	0	17.22	17.29	17.20		
15	16QAM	1	0	17.20	17.32	17.22	18.5	1
15	16QAM	1	37	17.25	17.31	17.34		
15	16QAM	1	74	17.26	17.32	17.34		
15	16QAM	36	0	16.26	16.29	16.18	17.5	2
15	16QAM	36	20	16.37	16.28	16.24		
15	16QAM	36	39	16.33	16.24	16.39		
15	16QAM	75	0	16.36	16.24	16.17		
15	64QAM	1	0	15.89	15.99	15.93	17.5	2
15	64QAM	1	37	15.96	16.05	16.05		
15	64QAM	1	74	16.10	16.02	16.04		
15	64QAM	36	0	15.16	15.36	15.22	16.5	3
15	64QAM	36	20	15.29	15.28	15.27		
15	64QAM	36	39	15.32	15.25	15.32		
15	64QAM	75	0	15.36	15.35	15.23		



Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	18.09	18.19	18.08	19.5	0
10	QPSK	1	25	18.09	18.08	18.15		
10	QPSK	1	49	18.17	18.13	18.22		
10	QPSK	25	0	17.10	17.26	17.15	18.5	1
10	QPSK	25	12	17.21	17.21	17.19		
10	QPSK	25	25	17.25	17.23	17.23		
10	QPSK	50	0	17.27	17.30	17.15		
10	16QAM	1	0	17.20	17.36	17.17	18.5	1
10	16QAM	1	25	17.20	17.30	17.30		
10	16QAM	1	49	17.26	17.25	17.32		
10	16QAM	25	0	16.28	16.33	16.24	17.5	2
10	16QAM	25	12	16.34	16.24	16.21		
10	16QAM	25	25	16.30	16.31	16.33		
10	16QAM	50	0	16.35	16.24	16.21		
10	64QAM	1	0	15.88	16.04	15.91	17.5	2
10	64QAM	1	25	15.91	15.97	16.08		
10	64QAM	1	49	16.05	16.10	16.09		
10	64QAM	25	0	15.20	15.28	15.17	16.5	3
10	64QAM	25	12	15.34	15.32	15.28		
10	64QAM	25	25	15.41	15.32	15.36		
10	64QAM	25	25	15.41	15.32	15.36		
10	64QAM	50	0	15.36	15.37	15.25		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	18.02	18.17	18.12	19.5	0
5	QPSK	1	12	18.06	18.11	18.19		
5	QPSK	1	24	18.14	18.15	18.25		
5	QPSK	12	0	17.06	17.31	17.16	18.5	1
5	QPSK	12	7	17.18	17.18	17.17		
5	QPSK	12	13	17.25	17.18	17.22		
5	QPSK	25	0	17.25	17.30	17.21		
5	QPSK	25	0	17.25	17.30	17.21		
5	16QAM	1	0	17.15	17.35	17.17	18.5	1
5	16QAM	1	12	17.17	17.27	17.35		
5	16QAM	1	24	17.28	17.31	17.38		
5	16QAM	12	0	16.24	16.23	16.23	17.5	2
5	16QAM	12	7	16.31	16.25	16.29		
5	16QAM	12	13	16.32	16.24	16.39		
5	16QAM	25	0	16.31	16.31	16.25		
5	16QAM	25	0	16.31	16.31	16.25		
5	64QAM	1	0	15.93	15.98	15.94	17.5	2
5	64QAM	1	12	15.90	16.00	15.99		
5	64QAM	1	24	16.12	16.09	16.07		
5	64QAM	12	0	15.22	15.32	15.21	16.5	3
5	64QAM	12	7	15.30	15.25	15.18		
5	64QAM	12	13	15.37	15.25	15.31		
5	64QAM	12	13	15.37	15.25	15.31		
5	64QAM	25	0	15.39	15.29	15.20		



<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	17.77	17.96	18.13	18.00	19.43	19.5	0
20	QPSK	1	49	17.75	17.97	18.15	18.02	17.88		
20	QPSK	1	99	17.91	18.11	18.25	18.08	19.50		
20	QPSK	50	0	16.79	17.04	17.21	17.03	17.07	18.5	1
20	QPSK	50	24	16.81	17.13	17.26	17.16	17.02		
20	QPSK	50	50	16.95	17.20	17.27	17.17	17.34		
20	QPSK	100	0	16.92	17.18	17.12	17.13	17.25	18.5	1
20	16QAM	1	0	16.93	17.11	17.26	17.17	18.41		
20	16QAM	1	49	16.93	17.12	17.35	17.13	17.08		
20	16QAM	1	99	17.02	17.23	17.40	17.13	18.43	17.5	2
20	16QAM	50	0	15.89	16.10	16.41	16.14	16.12		
20	16QAM	50	24	15.93	16.25	16.43	16.23	16.06		
20	16QAM	50	50	16.06	16.23	16.42	16.10	16.18	17.5	2
20	16QAM	100	0	16.01	16.27	16.42	16.18	16.15		
20	64QAM	1	0	15.65	15.84	15.93	15.80	17.39		
20	64QAM	1	49	15.66	15.84	16.13	15.81	15.80	17.5	2
20	64QAM	1	99	15.75	16.01	16.15	15.86	17.48		
20	64QAM	50	0	14.93	15.17	15.45	15.11	15.19		
20	64QAM	50	24	14.97	15.29	15.48	15.12	15.19	16.5	3
20	64QAM	50	50	15.05	15.27	15.45	15.29	15.23		
20	64QAM	100	0	15.08	15.29	15.44	15.30	15.27		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	17.74	17.91	18.16	17.94	17.82	19.5	0
15	QPSK	1	37	17.72	17.91	18.25	18.01	17.88		
15	QPSK	1	74	17.78	18.14	18.25	18.06	17.93		
15	QPSK	36	0	16.75	17.00	17.21	16.96	16.99	18.5	1
15	QPSK	36	20	16.79	17.14	17.20	17.01	16.97		
15	QPSK	36	39	16.74	17.06	17.24	17.00	16.99		
15	QPSK	75	0	16.75	17.05	17.23	16.95	16.85	18.5	1
15	16QAM	1	0	16.74	17.08	17.32	17.22	17.03		
15	16QAM	1	37	16.83	16.98	17.42	17.19	17.16		
15	16QAM	1	74	16.90	17.28	17.50	17.29	17.09	17.5	2
15	16QAM	36	0	15.79	16.04	16.21	16.05	16.12		
15	16QAM	36	20	15.84	16.20	16.34	16.13	16.08		
15	16QAM	36	39	15.83	16.16	16.26	16.10	16.14	17.5	2
15	16QAM	75	0	15.83	16.18	16.33	16.12	16.06		
15	64QAM	1	0	15.55	15.84	16.10	15.89	15.94		
15	64QAM	1	37	15.59	15.80	16.13	15.98	15.86	17.5	2
15	64QAM	1	74	15.70	16.04	16.21	15.96	15.92		
15	64QAM	36	0	14.76	15.02	15.29	15.16	15.08		
15	64QAM	36	20	14.87	15.26	15.38	15.17	15.11	16.5	3
15	64QAM	36	39	14.90	15.19	15.30	15.08	15.20		
15	64QAM	75	0	14.87	15.17	15.30	15.20	15.16		



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Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	17.77	17.97	18.16	17.99	17.80	19.5	0
10	QPSK	1	25	17.69	17.88	18.23	18.01	17.89		
10	QPSK	1	49	17.76	18.16	18.24	18.10	17.91		
10	QPSK	25	0	16.84	16.96	17.17	16.99	16.99	18.5	1
10	QPSK	25	12	16.79	17.10	17.20	17.06	16.91		
10	QPSK	25	25	16.73	17.05	17.25	17.01	17.00		
10	QPSK	50	0	16.69	17.07	17.26	16.99	16.89	18.5	1
10	16QAM	1	0	16.81	17.08	17.34	17.15	17.07		
10	16QAM	1	25	16.87	16.98	17.40	17.25	17.10		
10	16QAM	1	49	16.82	17.26	17.50	17.23	17.16	17.5	2
10	16QAM	25	0	15.76	16.02	16.21	16.04	16.05		
10	16QAM	25	12	15.81	16.22	16.30	16.10	16.03		
10	16QAM	25	25	15.84	16.19	16.34	16.07	16.14	17.5	2
10	16QAM	50	0	15.87	16.17	16.26	16.17	16.10		
10	64QAM	1	0	15.54	15.83	16.10	15.93	15.93		
10	64QAM	1	25	15.56	15.83	16.12	15.92	15.94	17.5	2
10	64QAM	1	49	15.68	16.06	16.19	15.98	15.85		
10	64QAM	25	0	14.76	15.10	15.28	15.17	15.11		
10	64QAM	25	12	14.83	15.23	15.40	15.14	15.13	16.5	3
10	64QAM	25	25	14.88	15.25	15.30	15.12	15.14		
10	64QAM	50	0	14.81	15.23	15.36	15.19	15.15		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	17.77	17.93	18.12	18.03	17.86	19.5	0
5	QPSK	1	12	17.67	17.91	18.22	17.95	17.83		
5	QPSK	1	24	17.73	18.16	18.32	18.07	17.86		
5	QPSK	12	0	16.80	17.04	17.26	17.04	16.99	18.5	1
5	QPSK	12	7	16.81	17.04	17.18	17.07	16.96		
5	QPSK	12	13	16.80	17.12	17.24	17.01	17.00		
5	QPSK	25	0	16.73	17.14	17.17	16.92	16.91	18.5	1
5	16QAM	1	0	16.78	17.07	17.31	17.15	17.05		
5	16QAM	1	12	16.79	17.05	17.44	17.28	17.13		
5	16QAM	1	24	16.85	17.29	17.44	17.22	17.10	17.5	2
5	16QAM	12	0	15.71	15.97	16.31	16.13	16.10		
5	16QAM	12	7	15.77	16.16	16.29	16.13	16.10		
5	16QAM	12	13	15.85	16.24	16.33	16.06	16.08	17.5	2
5	16QAM	25	0	15.82	16.12	16.33	16.11	16.07		
5	64QAM	1	0	15.59	15.86	16.10	15.87	15.91		
5	64QAM	1	12	15.55	15.83	16.09	15.88	15.94	17.5	2
5	64QAM	1	24	15.69	15.98	16.27	15.96	15.87		
5	64QAM	12	0	14.82	15.05	15.36	15.10	15.11		
5	64QAM	12	7	14.80	15.26	15.36	15.13	15.11	16.5	3
5	64QAM	12	13	14.86	15.19	15.33	15.12	15.15		
5	64QAM	25	0	14.81	15.23	15.31	15.12	15.09		



<LTE Carrier Aggregation combinations>

General Note:

1. This device supports Carrier Aggregation on downlink only for inter and intra band, Uplink CA is not supported. For the device supports combination bands and configurations are according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.
3. All permutations exist. No restrictions on Pcell & Scell combinations. Only LTE Band 29A is limited to Scell.

2CC Downlink Carrier Aggregation				3CC Downlink Carrier Aggregation			
Number	Combination	Restriction	Covered by Measurement Superset	Number	Combination	Restriction	Covered by Measurement Superset
1	2C		3CC-46	31	41A-41C		
2	5B		3CC-43	32	2A-2A-5A		
3	7B			33	2A-2A-13A		
4	7C		3CC-51	34	4A-4A-5A		
5	12B		3CC-36	35	4A-4A-12A		
6	41C		3CC-31	36	4A-12B		
7	2A-2A		3CC-32	37	4A-4A-13A		
8	4A-4A		3CC-34	38	41D		
9	5A-5A		3CC-49	39	66A-66B		
10	7A-7A		3CC-50	40	66A-66C		
11	25A-25A			41	2A-2A-12A		
12	41A-41A			42	2A-2A-14A		
13	66A-66A		3CC-52	43	2A-5B		
14	2A-5A		3CC-32	44	2A-12A-12A		
15	2A-12A		3CC-41	45	2A-12B		
16	2A-13A		3CC-33	46	2C-5A		
17	4A-5A		3CC-34	47	4A-5B		
18	4A-12A		3CC-35	48	4A-12A-12A		
19	4A-13A		3CC-37	49	5A-5A-66A		
20	26A-41A			50	5A-7A-7A		
21	4A-17A			51	5A-7C		
22	66B		3CC-39	52	13A-66A-66A		
23	66C		3CC-40	53	13A-66B		
24	38C			54	13A-66C		
25	12A-12A		3CC-44				
26	2A-14A		3CC-42				
27	5A-7A		3CC-50				
28	5A-66A		3CC-49				
29	13A-66A		3CC-52				
30	25A-26A						

<Power verification when LTE Carrier Aggregation Active>

General Note:

- 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 non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- vi. 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.

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

<Two Carrier power verification>

Configure		PCC							SCC				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band		26	15	831.5	26865	QPSK	1	0	41	20	25.93	40620	23.50	23.53
		4	20	1732.5	20175	QPSK	1	0	17	10	740	5790	23.72	23.81
		25	20	1880	26340	QPSK	1	0	26	15	876.5	8865	23.09	23.12
Intra-Band	Non-Contiguous	25	20	1880	26340	QPSK	1	0	25	5	1992.5	8665	23.11	23.12
		41	20	2680	41490	QPSK	1	99	41	5	2545.8	40148	24.46	24.50
	Contiguous	7	15	2535	21100	QPSK	1	0	7	5	2687.5	3425	23.30	23.36
		38	20	2595	38000	QPSK	1	0	38	20	2614.8	38198	23.68	23.79



<Three Carrier power verification>

Configure	PCC							SCC1				SCC2				Power		
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)	
Inter-Band	41	20	2680	41490	QPSK	1	99	41	5	2498.5	39675	41	5	2503.3	39725	24.42	24.50	
	2	20	1880	18900	QPSK	1	0	2	5	625	1932.5	5	10	881.5	2525	23.03	23.07	
	2	20	1880	18900	QPSK	1	0	2	5	625	1932.5	13	10	751	5230	23.02	23.07	
	4	20	1732.5	20175	QPSK	1	0	4	5	2112.5	1975	5	10	881.5	2525	23.73	23.81	
	4	20	1732.5	20175	QPSK	1	0	4	5	2112.5	1975	12	10	737.5	5095	23.78	23.81	
	4	20	1732.5	20175	QPSK	1	0	12	5	737.5	5095	12	10	744.7	5167	23.80	23.81	
	4	20	1732.5	20175	QPSK	1	0	4	5	2112.5	1975	13	10	751	5230	23.78	23.81	
	66	20	1745	132322	QPSK	1	0	66	5	2112.5	66461	66	15	2121.8	66554	24.32	24.41	
	66	20	1745	132322	QPSK	1	0	66	5	2112.5	66461	66	5	2117.3	66509	24.40	24.41	
	2	20	1880	18900	QPSK	1	0	2	5	625	1932.5	12	10	737.5	5095	23.00	23.07	
	2	20	1880	18900	QPSK	1	0	2	5	625	1932.5	14	10	763	5330	23.04	23.07	
	2	20	1880	18900	QPSK	1	0	5	10	881.5	2525	5	5	879.7	2507	23.02	23.07	
	2	20	1880	18900	QPSK	1	0	12	5	737.5	5095	12	5	731.5	5035	23.02	23.07	
	2	20	1880	18900	QPSK	1	0	12	5	737.5	5095	12	10	744.7	5167	23.00	23.07	
	2	20	1880	18900	QPSK	1	0	2	20	1098	1979.8	5	10	881.5	2525	23.04	23.07	
	4	20	1732.5	20175	QPSK	1	0	5	10	881.5	2525	5	5	879.7	2507	23.74	23.81	
	4	20	1732.5	20175	QPSK	1	0	12	5	737.5	5095	12	5	731.5	5035	23.71	23.81	
	5	10	836.5	20525	QPSK	1	0	5	5	871.5	2425	66	20	2155	66886	23.52	23.53	
	5	10	836.5	20525	QPSK	1	0	7	20	2655	3100	7	5	2622.5	2775	23.48	23.53	
	5	10	836.5	20525	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	23.47	23.53	
13	10	782	23230	QPSK	1	0	66	20	2155	66886	66	5	2112.5	66461	23.89	23.89		
13	10	782	23230	QPSK	1	0	66	15	2155	66886	66	5	2162.2	66958	23.85	23.89		
13	10	782	23230	QPSK	1	0	66	20	2155	66886	66	20	2174.8	67084	23.82	23.89		
Intra-Band	Contiguous	41	20	2680	41490	QPSK	1	99	41	10	2593	40620	41	20	2593	40620	24.40	24.50



<WLAN Conducted Power>

General Note:

1. For each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6W/kg and SAR peak to location ratio ≤ 0.04 , no additional SAR measurements for MIMO.
3. 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.
4. 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).
5. 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.
6. 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.



<Non-beamforming mode>

<2.4GHz WLAN ANT 1>

2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	20.00	20.50	100.00
		6	2437	20.20	20.50	
		11	2462	20.10	20.50	
	802.11g 6Mbps	1	2412	14.80	15.00	94.85
		6	2437	20.40	20.50	
		11	2462	14.80	15.00	
	802.11n-HT20 MCS0	1	2412	13.40	13.50	94.59
		6	2437	19.30	19.50	
		11	2462	14.50	15.00	
802.11n-HT40 MCS0	3	2422	12.80	13.00	90.87	
	6	2437	15.70	16.00		
	9	2452	11.10	11.50		
802.11ac-VHT20 MCS0	1	2412	13.50	14.00	94.84	
	6	2437	20.40	20.50		
	11	2462	14.60	15.00		
802.11ac-VHT40 MCS0	3	2422	12.90	13.00	89.67	
	6	2437	15.90	16.00		
	9	2452	11.20	11.50		

<2.4GHz WLAN ANT 2>

2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	20.10	20.50	100.00
		6	2437	20.30	20.50	
		11	2462	20.10	20.50	
	802.11g 6Mbps	1	2412	14.70	15.00	94.85
		6	2437	20.10	20.50	
		11	2462	14.80	15.00	
	802.11n-HT20 MCS0	1	2412	13.50	13.50	94.85
		6	2437	19.40	19.50	
		11	2462	14.60	15.00	
802.11n-HT40 MCS0	3	2422	12.60	13.00	90.43	
	6	2437	15.50	16.00		
	9	2452	11.30	11.50		
802.11ac-VHT20 MCS0	1	2412	13.60	14.00	94.84	
	6	2437	20.10	20.50		
	11	2462	14.70	15.00		
802.11ac-VHT40 MCS0	3	2422	12.70	13.00	90.91	
	6	2437	15.70	16.00		
	9	2452	11.40	11.50		



<2.4GHz WLAN ANT 1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	23.31	23.50	100.00
		6	2437	22.84	23.50	
		11	2462	22.98	23.50	
	802.11g 6Mbps	1	2412	17.97	18.00	94.86
		6	2437	22.75	23.50	
		11	2462	18.08	18.50	
	802.11n-HT20 MCS0	1	2412	15.87	16.00	95.09
		6	2437	22.64	23.50	
		11	2462	17.52	18.00	
	802.11n-HT40 MCS0	3	2422	14.44	14.50	90.91
		6	2437	18.37	18.50	
		9	2452	15.08	15.50	
	802.11ac-VHT20 MCS0	1	2412	15.97	16.00	94.62
		6	2437	22.74	23.50	
		11	2462	17.62	18.00	
802.11ac-VHT40 MCS0	3	2422	14.58	15.00	90.91	
	6	2437	18.47	18.50		
	9	2452	15.23	15.50		

<5GHz WLAN ANT1>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	16.40	16.50	94.93
		40	5200	16.20	16.50	
		44	5220	16.30	16.50	
		48	5240	16.30	16.50	
	802.11n-HT20 MCS0	36	5180	16.10	16.50	94.58
		40	5200	16.00	16.50	
		44	5220	16.00	16.50	
		48	5240	16.00	16.50	
	802.11n-HT40 MCS0	38	5190	16.20	16.50	89.52
		46	5230	16.00	16.50	
	802.11ac-VHT20 MCS0	36	5180	16.20	16.50	95.10
		40	5200	16.10	16.50	
		44	5220	16.10	16.50	
		48	5240	16.10	16.50	
	802.11ac-VHT40 MCS0	38	5190	16.30	16.50	90.48
46		5230	16.10	16.50		
802.11ac-VHT80 MCS0	42	5210	13.60	14.00	89.02	



	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	16.20	16.50	94.93
		56	5280	16.10	16.50	
		60	5300	16.30	16.50	
		64	5320	16.10	16.50	
	802.11n-HT20 MCS0	52	5260	16.10	16.50	94.58
		56	5280	15.90	16.50	
		60	5300	16.00	16.50	
		64	5320	15.90	16.50	
	802.11n-HT40 MCS0	54	5270	16.00	16.50	89.52
		62	5310	13.60	14.00	
	802.11ac-VHT20 MCS0	52	5260	16.20	16.50	95.10
		56	5280	16.00	16.50	
		60	5300	16.10	16.50	
		64	5320	16.00	16.50	
	802.11ac-VHT40 MCS0	54	5270	16.10	16.50	90.48
		62	5310	13.70	14.00	
802.11ac-VHT80 MCS0	58	5290	10.00	10.00	89.02	



	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	13.50	14.00	94.93
		116	5580	13.70	14.00	
		124	5620	13.60	14.00	
		132	5660	13.60	14.00	
		144	5720	13.60	14.00	
	802.11n-HT20 MCS0	100	5500	13.80	14.00	94.58
		116	5580	13.70	14.00	
		124	5620	13.50	14.00	
		132	5660	13.50	14.00	
		144	5720	13.90	14.00	
	802.11n-HT40 MCS0	102	5510	13.80	14.00	89.52
		110	5550	13.50	14.00	
		126	5630	13.50	14.00	
		134	5670	13.50	14.00	
		142	5710	13.40	14.00	
	802.11ac-VHT20 MCS0	100	5500	13.90	14.00	95.10
		116	5580	13.80	14.00	
		124	5620	13.60	14.00	
		132	5660	13.60	14.00	
		144	5720	14.00	14.00	
802.11ac-VHT40 MCS0	102	5510	13.90	14.00	90.48	
	110	5550	13.60	14.00		
	126	5630	13.60	14.00		
	134	5670	13.60	14.00		
	142	5710	13.50	14.00		
802.11ac-VHT80 MCS0	106	5530	13.90	14.00	89.02	
	122	5610	14.00	14.00		
	138	5690	14.00	14.00		

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	13.80	14.00	94.93
		157	5785	13.90	14.00	
		165	5825	13.80	14.00	
	802.11n-HT20 MCS0	149	5745	13.80	14.00	94.58
		157	5785	13.70	14.00	
		165	5825	13.70	14.00	
	802.11n-HT40 MCS0	151	5755	13.90	14.00	89.52
		159	5795	13.70	14.00	
	802.11ac-VHT20 MCS0	149	5745	13.90	14.00	95.10
		157	5785	13.80	14.00	
		165	5825	13.80	14.00	
	802.11ac-VHT40 MCS0	151	5755	14.00	14.00	90.48
		159	5795	13.80	14.00	
802.11ac-VHT80 MCS0	155	5775	13.80	14.00	89.02	



<5GHz WLAN ANT2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	16.20	16.50	95.39
		40	5200	16.10	16.50	
		44	5220	16.10	16.50	
		48	5240	16.40	16.50	
	802.11n-HT20 MCS0	36	5180	15.90	16.50	94.58
		40	5200	15.90	16.50	
		44	5220	15.90	16.50	
		48	5240	16.20	16.50	
	802.11n-HT40 MCS0	38	5190	15.90	16.50	89.62
		46	5230	16.40	16.50	
	802.11ac-VHT20 MCS0	36	5180	16.00	16.50	94.61
		40	5200	16.00	16.50	
		44	5220	16.00	16.50	
		48	5240	16.30	16.50	
	802.11ac-VHT40 MCS0	38	5190	16.00	16.50	89.62
		46	5230	16.50	16.50	
802.11ac-VHT80 MCS0	42	5210	14.00	14.00	89.16	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	16.40	16.50	95.39
		56	5280	16.20	16.50	
		60	5300	16.30	16.50	
		64	5320	16.10	16.50	
	802.11n-HT20 MCS0	52	5260	16.20	16.50	94.58
		56	5280	16.00	16.50	
		60	5300	15.90	16.50	
		64	5320	16.30	16.50	
	802.11n-HT40 MCS0	54	5270	16.10	16.50	89.62
		62	5310	13.40	14.00	
	802.11ac-VHT20 MCS0	52	5260	16.30	16.50	94.61
		56	5280	16.10	16.50	
		60	5300	16.00	16.50	
		64	5320	16.40	16.50	
	802.11ac-VHT40 MCS0	54	5270	16.20	16.50	89.62
		62	5310	13.50	14.00	
802.11ac-VHT80 MCS0	58	5290	10.00	10.00	89.16	



	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	14.00	14.00	95.39
		116	5580	13.90	14.00	
		124	5620	13.80	14.00	
		132	5660	13.70	14.00	
		144	5720	13.70	14.00	
	802.11n-HT20 MCS0	100	5500	13.90	14.00	94.58
		116	5580	13.80	14.00	
		124	5620	13.70	14.00	
		132	5660	13.60	14.00	
		144	5720	13.50	14.00	
	802.11n-HT40 MCS0	102	5510	13.60	14.00	89.62
		110	5550	13.80	14.00	
		126	5630	13.70	14.00	
		134	5670	13.80	14.00	
		142	5710	13.90	14.00	
	802.11ac-VHT20 MCS0	100	5500	14.00	14.00	94.61
		116	5580	13.90	14.00	
		124	5620	13.80	14.00	
		132	5660	13.70	14.00	
		144	5720	13.60	14.00	
802.11ac-VHT40 MCS0	102	5510	13.70	14.00	89.62	
	110	5550	13.90	14.00		
	126	5630	13.80	14.00		
	134	5670	13.90	14.00		
	142	5710	14.00	14.00		
802.11ac-VHT80 MCS0	106	5530	13.90	14.00	89.16	
	122	5610	13.80	14.00		
	138	5690	14.00	14.00		

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	13.70	14.00	95.39
		157	5785	13.90	14.00	
		165	5825	13.80	14.00	
	802.11n-HT20 MCS0	149	5745	13.60	14.00	94.58
		157	5785	13.80	14.00	
		165	5825	13.70	14.00	
	802.11n-HT40 MCS0	151	5755	13.50	14.00	89.62
		159	5795	13.90	14.00	
	802.11ac-VHT20 MCS0	149	5745	13.70	14.00	94.61
		157	5785	13.90	14.00	
		165	5825	13.80	14.00	
	802.11ac-VHT40 MCS0	151	5755	13.60	14.00	89.62
		159	5795	13.80	14.00	
802.11ac-VHT80 MCS0	155	5775	13.90	14.00	89.16	



<5GHz WLAN ANT1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	19.07	19.50	95.39
		40	5200	19.06	19.50	
		44	5220	19.06	19.50	
		48	5240	18.91	19.50	
	802.11n-HT20 MCS0	36	5180	18.91	19.50	94.58
		40	5200	18.76	19.50	
		44	5220	18.87	19.50	
		48	5240	18.77	19.50	
	802.11n-HT40 MCS0	38	5190	18.81	19.50	89.62
		46	5230	18.76	19.50	
	802.11ac-VHT20 MCS0	36	5180	19.01	19.50	94.61
		40	5200	18.81	19.50	
		44	5220	18.97	19.50	
		48	5240	18.87	19.50	
	802.11ac-VHT40 MCS0	38	5190	17.81	19.50	90.57
		46	5230	18.86	19.50	
802.11ac-VHT80 MCS0	42	5210	17.41	17.50	89.02	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	18.86	19.50	95.39
		56	5280	19.01	19.50	
		60	5300	19.26	19.50	
		64	5320	19.06	19.50	
	802.11n-HT20 MCS0	52	5260	19.21	19.50	94.58
		56	5280	19.16	19.50	
		60	5300	19.06	19.50	
		64	5320	18.86	19.50	
	802.11n-HT40 MCS0	54	5270	19.21	19.50	89.62
		62	5310	14.51	15.00	
	802.11ac-VHT20 MCS0	52	5260	19.31	19.50	94.61
		56	5280	19.21	19.50	
		60	5300	19.16	19.50	
		64	5320	18.96	19.50	
	802.11ac-VHT40 MCS0	54	5270	19.31	19.50	90.57
		62	5310	14.61	15.00	
802.11ac-VHT80 MCS0	58	5290	11.97	12.00	89.02	



	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	16.57	17.00	95.39
		116	5580	16.71	17.00	
		124	5620	16.46	17.00	
		132	5660	16.41	17.00	
		144	5720	16.28	17.00	
	802.11n-HT20 MCS0	100	5500	16.21	17.00	94.58
		116	5580	16.36	17.00	
		124	5620	16.24	17.00	
		132	5660	16.19	17.00	
		144	5720	16.01	17.00	
	802.11n-HT40 MCS0	102	5510	16.31	17.00	89.62
		110	5550	16.46	17.00	
		126	5630	16.31	17.00	
		134	5670	16.47	17.00	
		142	5710	16.23	17.00	
	802.11ac-VHT20 MCS0	100	5500	16.47	17.00	94.61
		116	5580	16.61	17.00	
		124	5620	16.48	17.00	
		132	5660	16.37	17.00	
		144	5720	16.24	17.00	
802.11ac-VHT40 MCS0	102	5510	16.41	17.00	90.57	
	110	5550	16.56	17.00		
	126	5630	16.48	17.00		
	134	5670	16.57	17.00		
	142	5710	16.33	17.00		
802.11ac-VHT80 MCS0	106	5530	16.47	17.00	89.02	
	122	5610	16.37	17.00		
	138	5690	16.37	17.00		

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	16.77	17.00	95.39
		157	5785	16.81	17.00	
		165	5825	16.47	17.00	
	802.11n-HT20 MCS0	149	5745	16.62	17.00	94.58
		157	5785	16.61	17.00	
		165	5825	16.27	17.00	
	802.11n-HT40 MCS0	151	5755	16.67	17.00	89.62
		159	5795	16.52	17.00	
	802.11ac-VHT20 MCS0	149	5745	16.72	17.00	95.10
		157	5785	16.71	17.00	
		165	5825	16.37	17.00	
	802.11ac-VHT40 MCS0	151	5755	16.77	17.00	90.57
		159	5795	16.62	17.00	
802.11ac-VHT80 MCS0	155	5775	16.56	17.00	89.02	



<Beamforming mode>

<2.4GHz WLAN ANT 1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11ac-VHT20 MCS0	1	2412	21.41	21.50	100.00
		6	2437	21.46	21.50	
		11	2462	21.11	21.50	
	802.11ac-VHT40 MCS0	3	2422	21.16	21.50	100.00
		6	2437	21.21	21.50	
		9	2452	21.21	21.50	

<5GHz WLAN ANT1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11ac-VHT20 MCS0	36	5180	19.36	19.50	100.00
		40	5200	19.34	19.50	
		44	5220	19.36	19.50	
		48	5240	19.36	19.50	
	802.11ac-VHT40 MCS0	38	5190	19.41	19.50	100.00
		46	5230	19.36	19.50	
	802.11ac-VHT80 MCS0	42	5210	19.41	19.50	100.00

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11ac-VHT20 MCS0	52	5260	19.21	19.50	100.00
		60	5300	19.36	19.50	
		64	5320	19.31	19.50	
	802.11ac-VHT40 MCS0	54	5270	19.36	19.50	100.00
		62	5310	19.26	19.50	
	802.11ac-VHT80 MCS0	58	5290	19.26	19.50	100.00



	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
5.5GHz WLAN	802.11ac-VHT20 MCS0	100	5500	16.76	17.00	100.00	
		116	5580	16.56	17.00		
		140	5700	16.61	17.00		
		144	5720	16.66	17.00		
	802.11ac-VHT40 MCS0	102	5510	16.66	17.00	100.00	
		110	5550	16.66	17.00		
		134	5670	16.76	17.00		
	802.11ac-VHT80 MCS0	142	5710	16.71	17.00	100.00	
		106	5530	16.66	17.00		
		122	5610	16.91	17.00		
			138	5690	16.76	17.00	100.00

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11ac-VHT20 MCS0	149	5745	16.76	17.00	100.00
		157	5785	16.66	17.00	
		165	5825	16.61	17.00	
	802.11ac-VHT40 MCS0	151	5755	16.56	17.00	100.00
		159	5795	16.61	17.00	
	802.11ac-VHT80 MCS0	155	5775	16.66	17.00	100.00



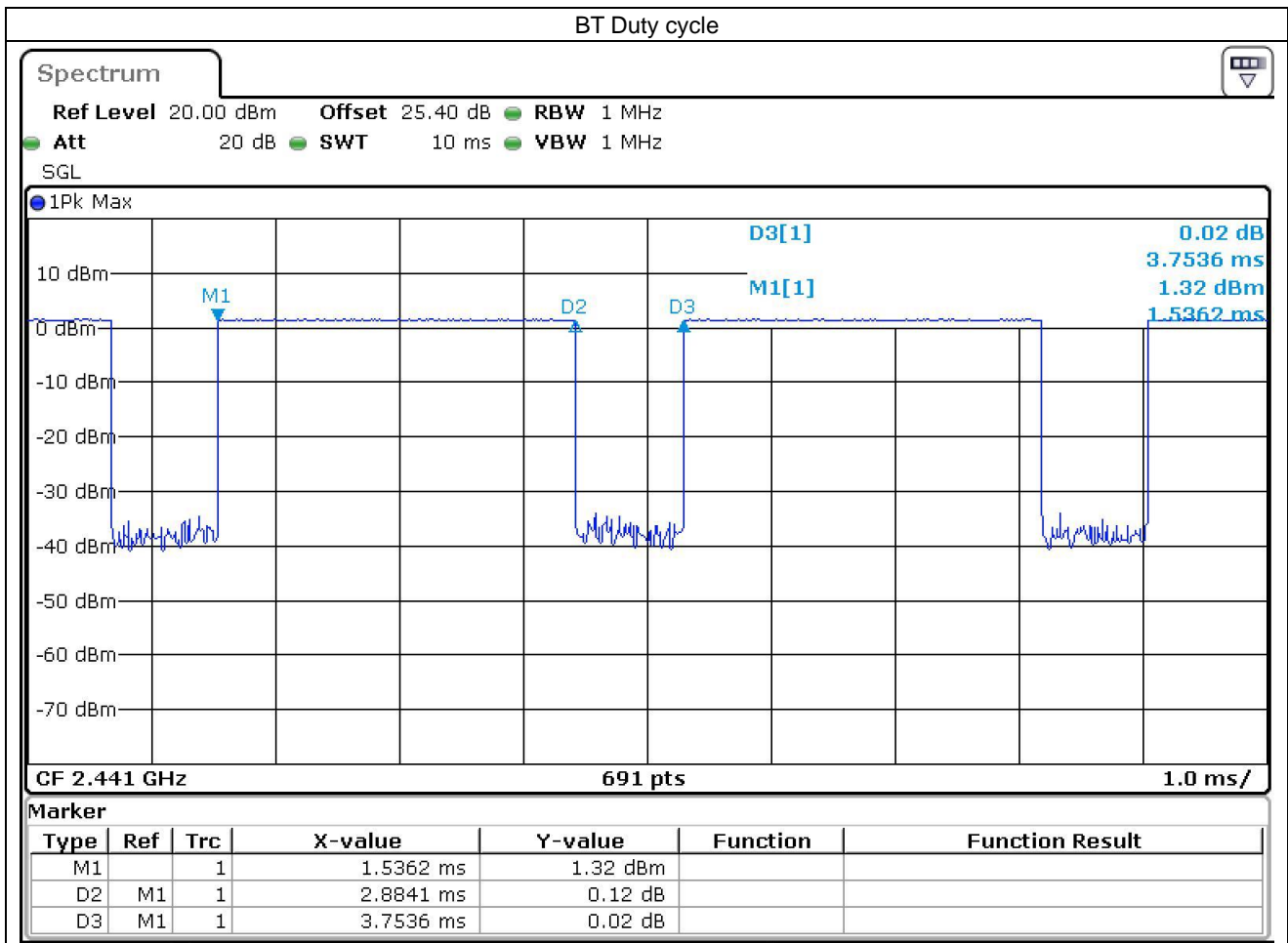
<2.4GHz Bluetooth>

Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	2.40	-0.55	-0.53
	CH 39	2441	1.93	-1.58	-1.57
	CH 78	2480	1.68	-1.20	-1.18
Tune-up Limit			3.00	1.00	1.00

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			1Mbps	2Mbps
LE	CH 00	2402	2.20	2.20
	CH 19	2440	1.80	1.80
	CH 39	2480	1.50	1.50
Tune-up Limit			3.00	3.00

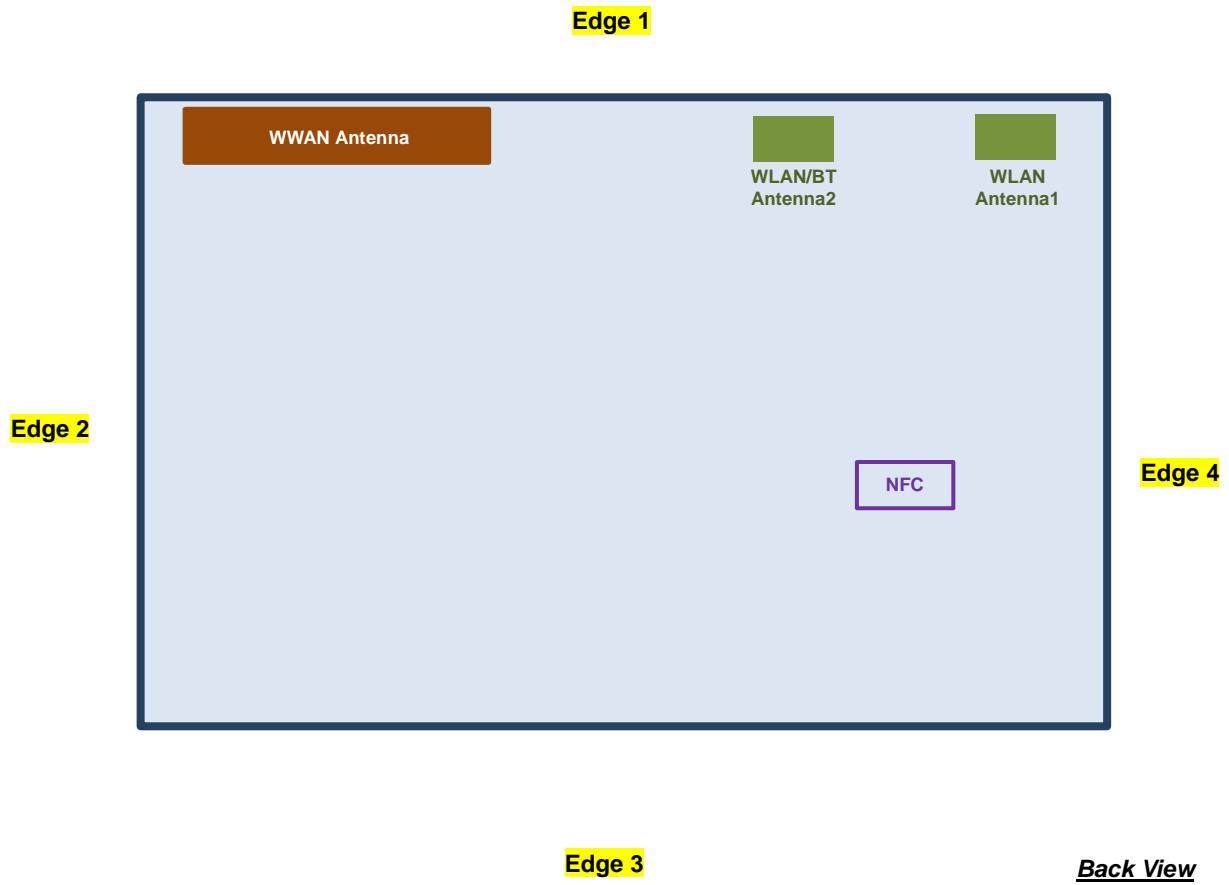
General Note:

- For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 76.84% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.

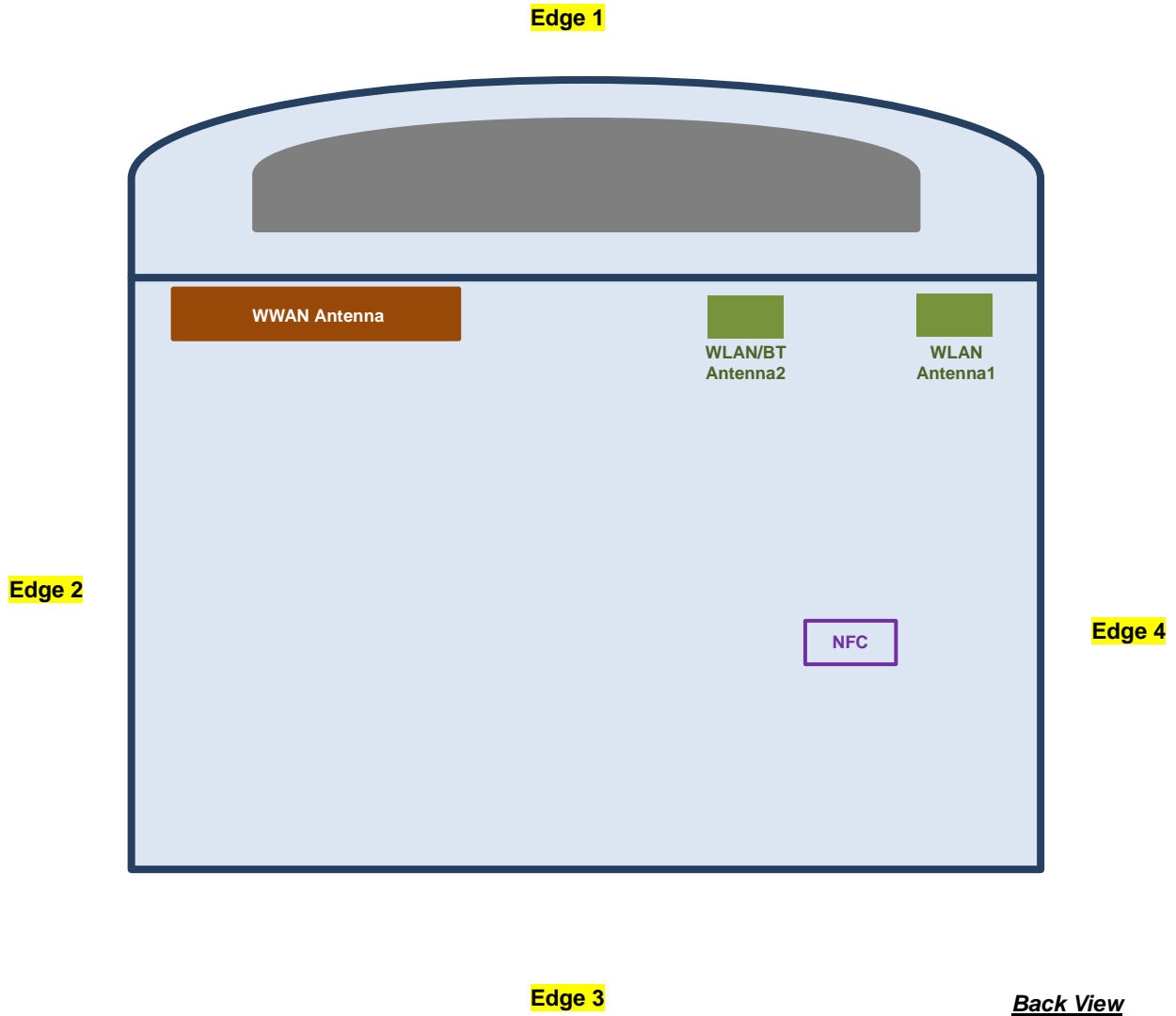


13. Antenna Location

<Sample 1 & 2>



<Sample 3, 4 & 5>





<SAR test exclusion table>

General Note:

- The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
- Maximum power is the source-based time-average power and represents the maximum RF output power among production units
- Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
- Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
- Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
 - $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
 - f(GHz) is the RF channel transmit frequency in GHz
 - Power and distance are rounded to the nearest mW and mm before calculation
 - The result is rounded to one decimal place for comparison
- Per KDB 447498 D01v06, at 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following
 - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · (f(MHz)/150)] mW, at 100 MHz to 1500 MHz
 - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz
- For the sample3, the Edge1 SAR is not necessary, due to the transmit antenna to the edge is higher the sample 2

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 12	LTE Band 14	LTE Band 13	LTE Band 5	LTE Band 26	LTE Band 4	LTE Band 66	LTE Band 2	LTE Band 25	LTE Band 7	LTE Band 38	LTE Band 41
	Calculated Frequency	846MHz	1750MHz	1907MHz	715MHz	793MHz	784MHz	848MHz	848MHz	1754MHz	1779MHz	1909MHz	1914MHz	2567MHz	2617MHz	2687MHz
	Maximum power (dBm)	24.50	24.5	23.5	24.5	24.5	24.5	24	24	24	24.5	23.5	23.5	24	24.5	24.5
	Maximum rated power(mW)	282.0	282.0	224.0	282.0	282.0	282.0	251.0	251.0	251.0	282.0	224.0	224.0	251.0	282.0	282.0
Bottom Face	Separation distance(mm)	5.0														
	exclusion threshold	51.9	74.6	61.9	47.7	47.6	49.9	46.2	46.2	66.5	75.2	61.9	62.0	80.4	91.2	92.5
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	5.4														
	exclusion threshold	48.5	69.7	57.8	44.6	44.5	46.7	43.2	43.2	62.1	70.3	57.9	57.9	75.2	85.3	86.4
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1 ⁽⁷⁾	Separation distance(mm)	63.3														
	exclusion threshold	238.0	246.0	241.0	241.0	241.0	239.0	238.0	238.0	246.0	245.0	241.0	241.0	226.0	225.0	224.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Edge 2	Separation distance(mm)	22.7														
	exclusion threshold	11.4	16.4	13.6	10.5	10.5	11.0	10.2	10.2	14.6	16.6	13.6	13.7	17.7	20.1	20.4
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 3	Separation distance(mm)	175.4														
	exclusion threshold	870.0	1367.0	1362.0	775.0	774.0	825.0	872.0	872.0	1367.0	1366.0	1362.0	1362.0	1347.0	1347.0	1345.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Edge 4	Separation distance(mm)	171.5														
	exclusion threshold	848.0	1328.0	1324.0	757.0	755.0	804.0	850.0	850.0	1328.0	1328.0	1324.0	1324.0	1309.0	1308.0	1307.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No



Exposure Position	Wireless Interface	2.4GHz WLAN ANT 1	2.4GHz WLAN ANT 2	5GHz WLAN ANT 1	5GHz WLAN ANT 2
	Calculated Frequency	2462MHz	2462MHz	5825MHz	5825MHz
	Maximum power (dBm)	20.5	20.5	16.5	16.5
Bottom Face	Maximum rated power(mW)	112.0	112.0	45.0	45.0
	Separation distance(mm)	5.0	5.0	5.0	5.0
	exclusion threshold	35.2	35.2	21.7	21.7
	Testing required?	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	11.8	8.6	11.8	8.6
	exclusion threshold	14.8	20.4	9.2	12.6
	Testing required?	Yes	Yes	Yes	Yes
Edge 1 ⁽⁷⁾	Separation distance(mm)	71.8	68.6	71.8	68.6
	exclusion threshold	314.0	281.0	280.0	248.0
	Testing required?	No	No	No	No
Edge 2	Separation distance(mm)	171.6	241.4	171.6	241.4
	exclusion threshold	1312.0	2010.0	1278.0	1976.0
	Testing required?	No	No	No	No
Edge 3	Separation distance(mm)	179.1	178.7	179.1	178.7
	exclusion threshold	1386.0	1383.0	1353.0	1349.0
	Testing required?	No	No	No	No
Edge 4	Separation distance(mm)	91.6	21.9	91.6	21.9
	exclusion threshold	512.0	8.0	478.0	5.0
	Testing required?	No	Yes	No	Yes



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 WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result.
The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
4. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in normal mode was performed; 3mm for bottom face, 15mm for edge1.

UMTS 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 / HSPA+ 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 / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, 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 / HSPA+.

**LTE Note:**

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B12 / B26 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/5/38 SAR test was covered by Band 25/66/26/ 41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. The maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion.
 - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. For WLAN SAR testing was performed on single antenna RF power in SISO mode is larger or equal to the single antenna RF power in MIMO mode, and for RF exposure assessment of MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode.
6. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6 W/kg and SAR peak to location ratio ≤ 0.04 , no additional SAR measurements for MIMO.
7. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
8. Since the same RF amplifier and antenna2 is used for WiFi / Bluetooth transmitter and the Bluetooth output power is least 2 dB below the output power of WiFi, for the Bluetooth exposure positions were according to WiFi.



14.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sample	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	Bottom Face	3mm	Sample 2	OFF	9400	1880	23.39	23.50	1.026	-0.06	1.380	1.415
	WCDMA II	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	9262	1852.4	23.30	23.50	1.047	0.06	1.250	1.309
01	WCDMA II	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	9538	1907.6	23.31	23.50	1.045	-0.01	1.380	1.442
	WCDMA II	RMC 12.2Kbps	Bottom Face	3mm	Sample 3	OFF	9538	1907.6	23.31	23.50	1.045	0.04	1.350	1.410
	WCDMA II	RMC 12.2Kbps	Edge 1	15mm	Sample 2	OFF	9400	1880	23.39	23.50	1.026	-0.03	0.874	0.896
	WCDMA II	RMC 12.2Kbps	Edge 1	15mm	Sample 2	OFF	9262	1852.4	23.30	23.50	1.047	-0.05	0.807	0.845
	WCDMA II	RMC 12.2Kbps	Edge 1	15mm	Sample 2	OFF	9538	1907.6	23.31	23.50	1.045	0	0.863	0.902
	WCDMA II	RMC 12.2Kbps	Edge 2	0mm	Sample 2	OFF	9400	1880	23.39	23.50	1.026	0.07	0.038	0.039
	WCDMA II	RMC 12.2Kbps	Bottom Face	0mm	Sample 2	ON	9400	1880	19.18	19.50	1.076	0.02	0.782	0.842
	WCDMA II	RMC 12.2Kbps	Bottom Face	0mm	Sample 2	ON	9262	1852.4	18.82	19.50	1.169	0.03	0.739	0.864
	WCDMA II	RMC 12.2Kbps	Bottom Face	0mm	Sample 2	ON	9538	1907.6	18.57	19.50	1.239	0.05	0.805	0.997
	WCDMA II	RMC 12.2Kbps	Edge 1	0mm	Sample 2	ON	9400	1880	19.18	19.50	1.076	0.19	1.110	1.195
	WCDMA II	RMC 12.2Kbps	Edge 1	0mm	Sample 2	ON	9262	1852.4	18.82	19.50	1.169	0.06	1.020	1.193
	WCDMA II	RMC 12.2Kbps	Edge 1	0mm	Sample 2	ON	9538	1907.6	18.57	19.50	1.239	0.17	0.945	1.171
02	WCDMA IV	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	1413	1732.6	24.20	24.50	1.072	-0.01	1.350	1.447
	WCDMA IV	RMC 12.2Kbps	Bottom Face	3mm	Sample 3	OFF	1413	1732.6	24.20	24.50	1.072	0.17	1.210	1.297
	WCDMA IV	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	1312	1712.4	24.11	24.50	1.094	-0.04	1.300	1.422
	WCDMA IV	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	1513	1752.6	24.17	24.50	1.079	-0.01	1.340	1.446
	WCDMA IV	RMC 12.2Kbps	Edge 1	15mm	Sample 2	OFF	1413	1732.6	24.20	24.50	1.072	-0.02	0.763	0.818
	WCDMA IV	RMC 12.2Kbps	Edge 1	15mm	Sample 2	OFF	1312	1712.4	24.11	24.50	1.094	-0.04	0.673	0.736
	WCDMA IV	RMC 12.2Kbps	Edge 1	15mm	Sample 2	OFF	1513	1752.6	24.17	24.50	1.079	-0.01	0.823	0.888
	WCDMA IV	RMC 12.2Kbps	Edge 2	0mm	Sample 2	OFF	1413	1732.6	24.20	24.50	1.072	0.04	0.059	0.063
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0mm	Sample 2	ON	1413	1732.6	18.48	18.50	1.005	-0.01	0.620	0.623
	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	Sample 2	ON	1413	1732.6	18.48	18.50	1.005	-0.17	1.020	1.025
	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	Sample 2	ON	1312	1712.4	17.88	18.50	1.153	-0.15	0.876	1.010
	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	Sample 2	ON	1513	1752.6	18.29	18.50	1.050	-0.15	1.110	1.165
	WCDMA V	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	4132	826.4	24.34	24.50	1.038	-0.02	1.340	1.390
03	WCDMA V	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	4182	836.4	24.30	24.50	1.047	-0.03	1.380	1.445
	WCDMA V	RMC 12.2Kbps	Bottom Face	3mm	Sample 3	OFF	4182	836.4	24.30	24.50	1.047	-0.07	1.330	1.393
	WCDMA V	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	4233	846.6	24.27	24.50	1.054	-0.06	1.350	1.423
	WCDMA V	RMC 12.2Kbps	Edge 1	15mm	Sample 2	OFF	4132	826.4	24.34	24.50	1.038	0	0.405	0.420
	WCDMA V	RMC 12.2Kbps	Edge 2	0mm	Sample 2	OFF	4132	826.4	24.34	24.50	1.038	0.01	0.098	0.102
	WCDMA V	RMC 12.2Kbps	Bottom Face	0mm	Sample 2	ON	4182	836.4	20.94	21.50	1.138	0.11	0.824	0.937
	WCDMA V	RMC 12.2Kbps	Bottom Face	0mm	Sample 2	ON	4132	826.4	20.91	21.50	1.146	0.08	0.799	0.915
	WCDMA V	RMC 12.2Kbps	Bottom Face	0mm	Sample 2	ON	4233	846.6	20.89	21.50	1.151	0.09	0.845	0.972
	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	Sample 2	ON	4182	836.4	20.94	21.50	1.138	-0.04	1.000	1.138
	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	Sample 2	ON	4132	826.4	20.91	21.50	1.146	0.12	0.977	1.119
	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	Sample 2	ON	4233	846.6	20.89	21.50	1.151	0.1	1.040	1.197



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	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	Bottom Face	3mm	Sample 2	OFF	21100	2535	23.36	24.00	1.159	-0.11	1.180	1.367
	LTE Band 7	20M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	20850	2510	23.21	24.00	1.199	-0.16	1.120	1.343
04	LTE Band 7	20M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	21350	2560	23.35	24.00	1.161	-0.14	1.180	1.371
	LTE Band 7	20M	QPSK	1	0	Bottom Face	3mm	Sample 3	OFF	21350	2560	23.35	24.00	1.161	-0.01	0.716	0.832
	LTE Band 7	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	21100	2535	22.45	23.00	1.135	-0.07	0.997	1.132
	LTE Band 7	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	20850	2510	22.29	23.00	1.178	-0.04	0.965	1.136
	LTE Band 7	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	21350	2560	22.44	23.00	1.138	-0.09	0.938	1.067
	LTE Band 7	20M	QPSK	100	0	Bottom Face	3mm	Sample 2	OFF	21100	2535	22.40	23.00	1.148	-0.1	0.976	1.121
	LTE Band 7	20M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	21100	2535	23.36	24.00	1.159	-0.05	0.808	0.936
	LTE Band 7	20M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	20850	2510	23.21	24.00	1.199	-0.05	0.749	0.898
	LTE Band 7	20M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	21350	2560	23.35	24.00	1.161	-0.04	0.848	0.985
	LTE Band 7	20M	QPSK	50	0	Edge 1	15mm	Sample 2	OFF	21100	2535	22.45	23.00	1.135	-0.03	0.662	0.751
	LTE Band 7	20M	QPSK	50	0	Edge 1	15mm	Sample 2	OFF	20850	2510	22.29	23.00	1.178	-0.04	0.603	0.710
	LTE Band 7	20M	QPSK	50	0	Edge 1	15mm	Sample 2	OFF	21350	2560	22.44	23.00	1.138	-0.05	0.685	0.779
	LTE Band 7	20M	QPSK	100	0	Edge 1	15mm	Sample 2	OFF	21100	2535	22.40	23.00	1.148	-0.07	0.667	0.766
	LTE Band 7	20M	QPSK	1	0	Edge 2	0mm	Sample 2	OFF	21100	2535	23.36	24.00	1.159	0.03	0.457	0.530
	LTE Band 7	20M	QPSK	50	0	Edge 2	0mm	Sample 2	OFF	21100	2535	22.45	23.00	1.135	0.07	0.371	0.421
	LTE Band 7	20M	QPSK	1	0	Bottom Face	0mm	Sample 2	ON	21100	2535	16.55	18.00	1.396	-0.07	0.425	0.593
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0mm	Sample 2	ON	21100	2535	15.55	17.00	1.396	-0.03	0.342	0.478
	LTE Band 7	20M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	21100	2535	16.55	18.00	1.396	0.07	0.684	0.955
	LTE Band 7	20M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	20850	2510	16.17	18.00	1.524	-0.1	0.651	0.992
	LTE Band 7	20M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	21350	2560	16.31	18.00	1.476	0.04	0.764	1.127
	LTE Band 7	20M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	21100	2535	15.55	17.00	1.396	0	0.666	0.930
	LTE Band 7	20M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	20850	2510	15.36	17.00	1.459	0.04	0.542	0.791
	LTE Band 7	20M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	21350	2560	15.44	17.00	1.432	0.02	0.632	0.905
	LTE Band 7	20M	QPSK	100	0	Edge 1	0mm	Sample 2	ON	21100	2535	15.48	17.00	1.419	-0.18	0.581	0.824
	LTE Band 12	10M	QPSK	1	0	Bottom Face	0mm	Sample 2	OFF	23095	707.5	23.78	24.50	1.180	-0.04	0.918	1.084
	LTE Band 12	10M	QPSK	1	0	Bottom Face	0mm	Sample 3	OFF	23095	707.5	23.78	24.50	1.180	0.05	0.768	0.906
	LTE Band 12	10M	QPSK	25	0	Bottom Face	0mm	Sample 2	OFF	23095	707.5	22.88	23.50	1.153	-0.01	0.799	0.922
	LTE Band 12	10M	QPSK	50	0	Bottom Face	0mm	Sample 2	OFF	23095	707.5	22.85	23.50	1.161	0.04	0.818	0.950
05	LTE Band 12	10M	QPSK	1	0	Edge 1	0mm	Sample 2	OFF	23095	707.5	23.78	24.50	1.180	0.08	1.090	1.287
	LTE Band 12	10M	QPSK	25	0	Edge 1	0mm	Sample 2	OFF	23095	707.5	22.88	23.50	1.153	0.06	0.920	1.061
	LTE Band 12	10M	QPSK	50	0	Edge 1	0mm	Sample 2	OFF	23095	707.5	22.85	23.50	1.161	0.06	0.925	1.074
	LTE Band 12	10M	QPSK	1	0	Edge 2	0mm	Sample 2	OFF	23095	707.5	23.78	24.50	1.180	0	0.115	0.136
	LTE Band 12	10M	QPSK	25	0	Edge 2	0mm	Sample 2	OFF	23095	707.5	22.88	23.50	1.153	-0.02	0.103	0.119



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	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)
06	LTE Band 13	10M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	23230	782	23.89	24.50	1.151	-0.01	1.080	1.243
	LTE Band 13	10M	QPSK	1	0	Bottom Face	3mm	Sample 3	OFF	23230	782	23.89	24.50	1.151	-0.04	1.050	1.209
	LTE Band 13	10M	QPSK	25	0	Bottom Face	3mm	Sample 2	OFF	23230	782	22.99	23.50	1.125	-0.04	0.906	1.019
	LTE Band 13	10M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	23230	782	22.96	23.50	1.132	-0.02	0.907	1.027
	LTE Band 13	10M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	23230	782	23.89	24.50	1.151	-0.02	0.211	0.243
	LTE Band 13	10M	QPSK	25	0	Edge 1	15mm	Sample 2	OFF	23230	782	22.99	23.50	1.125	-0.02	0.181	0.204
	LTE Band 13	10M	QPSK	1	0	Edge 2	0mm	Sample 2	OFF	23230	782	23.89	24.50	1.151	0.03	0.118	0.136
	LTE Band 13	10M	QPSK	25	0	Edge 2	0mm	Sample 2	OFF	23230	782	22.99	23.50	1.125	-0.02	0.095	0.107
	LTE Band 13	10M	QPSK	1	0	Bottom Face	0mm	Sample 2	ON	23230	782	20.88	22.00	1.294	-0.02	0.730	0.945
	LTE Band 13	10M	QPSK	25	0	Bottom Face	0mm	Sample 2	ON	23230	782	19.97	21.00	1.268	-0.02	0.598	0.758
	LTE Band 13	10M	QPSK	50	0	Bottom Face	0mm	Sample 2	ON	23230	782	19.90	21.00	1.288	-0.01	0.595	0.767
	LTE Band 13	10M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	23230	782	20.88	22.00	1.294	-0.11	0.871	1.127
	LTE Band 13	10M	QPSK	25	0	Edge 1	0mm	Sample 2	ON	23230	782	19.97	21.00	1.268	-0.14	0.722	0.915
	LTE Band 13	10M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	23230	782	19.90	21.00	1.288	-0.13	0.720	0.928
07	LTE Band 14	10M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	23330	793	23.86	24.50	1.159	-0.03	1.180	1.367
	LTE Band 14	10M	QPSK	1	0	Bottom Face	3mm	Sample 3	OFF	23330	793	23.86	24.50	1.159	-0.02	1.120	1.298
	LTE Band 14	10M	QPSK	25	0	Bottom Face	3mm	Sample 2	OFF	23330	793	22.89	23.50	1.151	-0.06	0.989	1.138
	LTE Band 14	10M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	23330	793	22.84	23.50	1.164	-0.01	0.987	1.149
	LTE Band 14	10M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	23330	793	23.86	24.50	1.159	0	0.251	0.291
	LTE Band 14	10M	QPSK	25	0	Edge 1	15mm	Sample 2	OFF	23330	793	22.89	23.50	1.151	0.04	0.211	0.243
	LTE Band 14	10M	QPSK	1	0	Edge 2	0mm	Sample 2	OFF	23330	793	23.86	24.50	1.159	-0.01	0.121	0.140
	LTE Band 14	10M	QPSK	25	0	Edge 2	0mm	Sample 2	OFF	23330	793	22.89	23.50	1.151	0	0.098	0.113
	LTE Band 14	10M	QPSK	1	0	Bottom Face	0mm	Sample 2	ON	23330	793	20.39	21.50	1.291	0	0.708	0.914
	LTE Band 14	10M	QPSK	25	0	Bottom Face	0mm	Sample 2	ON	23330	793	19.64	20.50	1.219	-0.03	0.586	0.714
	LTE Band 14	10M	QPSK	50	0	Bottom Face	0mm	Sample 2	ON	23330	793	19.32	20.50	1.312	-0.03	0.582	0.764
	LTE Band 14	10M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	23330	793	20.39	21.50	1.291	-0.16	0.856	1.105
	LTE Band 14	10M	QPSK	25	0	Edge 1	0mm	Sample 2	ON	23330	793	19.64	20.50	1.219	-0.18	0.700	0.853
	LTE Band 14	10M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	23330	793	19.32	20.50	1.312	-0.11	0.697	0.915



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	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	Bottom Face	3mm	Sample 2	OFF	26340	1880	23.12	23.50	1.091	-0.08	1.130	1.233
	LTE Band 25	20M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	26140	1860	23.10	23.50	1.096	0.04	1.080	1.184
08	LTE Band 25	20M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	26590	1905	22.99	23.50	1.125	-0.04	1.210	1.361
	LTE Band 25	20M	QPSK	1	0	Bottom Face	3mm	Sample 3	OFF	26590	1905	22.99	23.50	1.125	0.04	1.190	1.338
	LTE Band 25	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	26340	1880	22.14	22.50	1.086	0	0.927	1.007
	LTE Band 25	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	26140	1860	22.07	22.50	1.104	0.04	0.869	0.959
	LTE Band 25	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	26590	1905	22.13	22.50	1.089	0	0.987	1.075
	LTE Band 25	20M	QPSK	100	0	Bottom Face	3mm	Sample 2	OFF	26340	1880	22.12	22.50	1.091	0.02	0.952	1.039
	LTE Band 25	20M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	26340	1880	23.12	23.50	1.091	0.04	0.843	0.920
	LTE Band 25	20M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	26140	1860	23.10	23.50	1.096	0.01	0.807	0.885
	LTE Band 25	20M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	26590	1905	22.99	23.50	1.125	-0.04	0.842	0.947
	LTE Band 25	20M	QPSK	50	0	Edge 1	15mm	Sample 2	OFF	26340	1880	22.14	22.50	1.086	0.09	0.661	0.718
	LTE Band 25	20M	QPSK	100	0	Edge 1	15mm	Sample 2	OFF	26340	1880	22.12	22.50	1.091	0.12	0.678	0.740
	LTE Band 25	20M	QPSK	1	0	Edge 2	0mm	Sample 2	OFF	26340	1880	23.12	23.50	1.091	-0.07	0.039	0.043
	LTE Band 25	20M	QPSK	50	0	Edge 2	0mm	Sample 2	OFF	26340	1880	22.14	22.50	1.086	-0.06	0.030	0.033
	LTE Band 25	20M	QPSK	1	0	Bottom Face	0mm	Sample 2	ON	26340	1880	18.90	19.50	1.148	-0.03	0.694	0.797
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0mm	Sample 2	ON	26340	1880	17.95	18.50	1.135	-0.03	0.566	0.642
	LTE Band 25	20M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	26340	1880	18.90	19.50	1.148	-0.1	1.030	1.183
	LTE Band 25	20M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	26140	1860	18.89	19.50	1.151	-0.07	1.040	1.197
	LTE Band 25	20M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	26590	1905	18.81	19.50	1.172	-0.03	1.010	1.184
	LTE Band 25	20M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	26340	1880	17.95	18.50	1.135	-0.15	0.971	1.102
	LTE Band 25	20M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	26140	1860	17.93	18.50	1.140	-0.14	1.050	1.197
	LTE Band 25	20M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	26590	1905	17.94	18.50	1.138	-0.09	0.807	0.918
	LTE Band 25	20M	QPSK	100	0	Edge 1	0mm	Sample 2	ON	26340	1880	17.88	18.50	1.153	-0.08	0.937	1.081
09	LTE Band 26	15M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	26865	831.5	23.53	24.00	1.114	0.01	1.110	1.237
	LTE Band 26	15M	QPSK	1	0	Bottom Face	3mm	Sample 3	OFF	26865	831.5	23.53	24.00	1.114	0.13	1.070	1.192
	LTE Band 26	15M	QPSK	36	0	Bottom Face	3mm	Sample 2	OFF	26865	831.5	22.59	23.00	1.099	0	0.921	1.012
	LTE Band 26	15M	QPSK	75	0	Bottom Face	3mm	Sample 2	OFF	26865	831.5	22.58	23.00	1.102	0	0.924	1.018
	LTE Band 26	15M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	26865	831.5	23.53	24.00	1.114	-0.04	0.292	0.325
	LTE Band 26	15M	QPSK	36	0	Edge 1	15mm	Sample 2	OFF	26865	831.5	22.59	23.00	1.099	0.03	0.229	0.252
	LTE Band 26	15M	QPSK	1	0	Edge 2	0mm	Sample 2	OFF	26865	831.5	23.53	24.00	1.114	-0.01	0.096	0.107
	LTE Band 26	15M	QPSK	36	0	Edge 2	0mm	Sample 2	OFF	26865	831.5	22.59	23.00	1.099	-0.01	0.076	0.084
	LTE Band 26	15M	QPSK	1	0	Bottom Face	0mm	Sample 2	ON	26865	831.5	20.57	21.50	1.239	0.07	0.718	0.889
	LTE Band 26	15M	QPSK	36	0	Bottom Face	0mm	Sample 2	ON	26865	831.5	19.63	20.50	1.222	0.06	0.591	0.722
	LTE Band 26	15M	QPSK	75	0	Bottom Face	0mm	Sample 2	ON	26865	831.5	19.58	20.50	1.236	0.02	0.588	0.727
	LTE Band 26	15M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	26865	831.5	20.57	21.50	1.239	-0.13	0.871	1.079
	LTE Band 26	15M	QPSK	36	0	Edge 1	0mm	Sample 2	ON	26865	831.5	19.63	20.50	1.222	-0.15	0.723	0.883
	LTE Band 26	15M	QPSK	75	0	Edge 1	0mm	Sample 2	ON	26865	831.5	19.58	20.50	1.236	-0.12	0.729	0.901



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	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)
10	LTE Band 66	20M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	132322	1745	24.41	24.50	1.021	0.03	1.360	1.388
	LTE Band 66	20M	QPSK	1	0	Bottom Face	3mm	Sample 3	OFF	132322	1745	24.41	24.50	1.021	0.09	1.330	1.358
	LTE Band 66	20M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	132072	1720	24.21	24.50	1.069	-0.13	1.220	1.304
	LTE Band 66	20M	QPSK	1	0	Bottom Face	3mm	Sample 2	OFF	132572	1770	24.26	24.50	1.057	-0.02	1.260	1.332
	LTE Band 66	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	132322	1745	23.33	23.50	1.040	-0.01	1.090	1.134
	LTE Band 66	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	132072	1720	23.10	23.50	1.096	-0.07	1.020	1.118
	LTE Band 66	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	132572	1770	23.22	23.50	1.067	0.03	1.030	1.099
	LTE Band 66	20M	QPSK	100	0	Bottom Face	3mm	Sample 2	OFF	132322	1745	23.28	23.50	1.052	0.02	1.100	1.157
	LTE Band 66	20M	QPSK	1	0	Edge 1	15mm	Sample 2	OFF	132322	1745	24.41	24.50	1.021	-0.06	0.762	0.778
	LTE Band 66	20M	QPSK	50	0	Edge 1	15mm	Sample 2	OFF	132322	1745	23.33	23.50	1.040	-0.01	0.631	0.656
	LTE Band 66	20M	QPSK	1	0	Edge 2	0mm	Sample 2	OFF	132322	1745	24.41	24.50	1.021	-0.07	0.068	0.069
	LTE Band 66	20M	QPSK	50	0	Edge 2	0mm	Sample 2	OFF	132322	1745	23.33	23.50	1.040	-0.03	0.054	0.056
	LTE Band 66	20M	QPSK	1	0	Bottom Face	0mm	Sample 2	ON	132322	1745	18.23	18.50	1.064	-0.17	0.556	0.592
	LTE Band 66	20M	QPSK	50	0	Bottom Face	0mm	Sample 2	ON	132322	1745	17.18	17.50	1.076	-0.04	0.452	0.487
	LTE Band 66	20M	QPSK	1	0	Edge 1	0mm	Sample 2	ON	132322	1745	18.23	18.50	1.064	-0.11	1.020	1.085
	LTE Band 66	20M	QPSK	1	49	Edge 1	0mm	Sample 2	ON	132072	1720	18.10	18.50	1.096	-0.16	0.871	0.955
	LTE Band 66	20M	QPSK	1	49	Edge 1	0mm	Sample 2	ON	132572	1770	18.17	18.50	1.079	-0.09	1.110	1.198
	LTE Band 66	20M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	132322	1745	17.18	17.50	1.076	-0.09	0.789	0.849
	LTE Band 66	20M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	132072	1720	17.02	17.50	1.117	-0.18	0.628	0.701
	LTE Band 66	20M	QPSK	50	0	Edge 1	0mm	Sample 2	ON	132572	1770	17.06	17.50	1.107	-0.14	0.854	0.945
	LTE Band 66	20M	QPSK	100	0	Edge 1	0mm	Sample 2	ON	132322	1745	17.12	17.50	1.091	-0.17	0.812	0.886



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sample	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	99	Bottom Face	3mm	Sample 2	OFF	41490	2680	24.50	24.50	1.000	62.9	1.006	-0.11	1.000	1.006
11	LTE Band 41	20M	QPSK	1	99	Bottom Face	3mm	Sample 2	OFF	39750	2506	22.85	24.50	1.462	62.9	1.006	-0.1	0.828	1.218
	LTE Band 41	20M	QPSK	1	99	Bottom Face	3mm	Sample 3	OFF	39750	2506	22.85	24.50	1.462	62.9	1.006	-0.01	0.675	0.993
	LTE Band 41	20M	QPSK	1	99	Bottom Face	3mm	Sample 2	OFF	40185	2549.5	22.96	24.50	1.426	62.9	1.006	-0.05	0.742	1.064
	LTE Band 41	20M	QPSK	1	99	Bottom Face	3mm	Sample 2	OFF	40620	2593	23.16	24.50	1.361	62.9	1.006	-0.05	0.711	0.974
	LTE Band 41	20M	QPSK	1	99	Bottom Face	3mm	Sample 2	OFF	41055	2636.5	22.94	24.50	1.432	62.9	1.006	0	0.680	0.980
	LTE Band 41	20M	QPSK	50	0	Bottom Face	3mm	Sample 2	OFF	40620	2593	22.19	23.50	1.352	62.9	1.006	-0.02	0.629	0.856
	LTE Band 41	20M	QPSK	50	50	Bottom Face	3mm	Sample 2	OFF	39750	2506	21.91	23.50	1.442	62.9	1.006	-0.11	0.606	0.879
	LTE Band 41	20M	QPSK	50	24	Bottom Face	3mm	Sample 2	OFF	40185	2549.5	22.06	23.50	1.393	62.9	1.006	-0.06	0.610	0.855
	LTE Band 41	20M	QPSK	50	50	Bottom Face	3mm	Sample 2	OFF	41055	2636.5	22.01	23.50	1.409	62.9	1.006	-0.03	0.557	0.790
	LTE Band 41	20M	QPSK	50	50	Bottom Face	3mm	Sample 2	OFF	41490	2680	22.16	23.50	1.361	62.9	1.006	-0.06	0.572	0.783
	LTE Band 41	20M	QPSK	100	0	Bottom Face	3mm	Sample 2	OFF	41490	2680	22.19	23.50	1.352	62.9	1.006	0.03	0.542	0.737
	LTE Band 41	20M	QPSK	1	99	Edge 1	15mm	Sample 2	OFF	41490	2680	24.50	24.50	1.000	62.9	1.006	-0.1	0.773	0.778
	LTE Band 41	20M	QPSK	1	99	Edge 1	15mm	Sample 2	OFF	39750	2506	22.85	24.50	1.462	62.9	1.006	-0.03	0.475	0.699
	LTE Band 41	20M	QPSK	1	99	Edge 1	15mm	Sample 2	OFF	40185	2549.5	22.96	24.50	1.426	62.9	1.006	-0.06	0.546	0.783
	LTE Band 41	20M	QPSK	1	99	Edge 1	15mm	Sample 2	OFF	40620	2593	23.16	24.50	1.361	62.9	1.006	-0.03	0.584	0.800
	LTE Band 41	20M	QPSK	1	99	Edge 1	15mm	Sample 2	OFF	41055	2636.5	22.94	24.50	1.432	62.9	1.006	-0.07	0.653	0.941
	LTE Band 41	20M	QPSK	50	0	Edge 1	15mm	Sample 2	OFF	40620	2593	22.19	23.50	1.352	62.9	1.006	-0.04	0.467	0.635
	LTE Band 41	20M	QPSK	50	50	Edge 1	15mm	Sample 2	OFF	39750	2506	21.91	23.50	1.442	62.9	1.006	-0.03	0.388	0.563
	LTE Band 41	20M	QPSK	50	24	Edge 1	15mm	Sample 2	OFF	40185	2549.5	22.06	23.50	1.393	62.9	1.006	-0.06	0.458	0.642
	LTE Band 41	20M	QPSK	50	50	Edge 1	15mm	Sample 2	OFF	41055	2636.5	22.01	23.50	1.409	62.9	1.006	-0.08	0.522	0.740
	LTE Band 41	20M	QPSK	50	50	Edge 1	15mm	Sample 2	OFF	41490	2680	22.16	23.50	1.361	62.9	1.006	-0.08	0.458	0.627
	LTE Band 41	20M	QPSK	100	0	Edge 1	15mm	Sample 2	OFF	41490	2680	22.19	23.50	1.352	62.9	1.006	-0.06	0.483	0.657
	LTE Band 41	20M	QPSK	1	99	Edge 2	0mm	Sample 2	OFF	41490	2680	24.50	24.50	1.000	62.9	1.006	-0.02	0.329	0.331
	LTE Band 41	20M	QPSK	50	0	Edge 2	0mm	Sample 2	OFF	40620	2593	22.19	23.50	1.352	62.9	1.006	0.07	0.182	0.248
	LTE Band 41	20M	QPSK	1	99	Bottom Face	0mm	Sample 2	ON	41490	2680	19.50	19.50	1.000	62.9	1.006	0.07	0.381	0.383
	LTE Band 41	20M	QPSK	50	50	Bottom Face	0mm	Sample 2	ON	41490	2680	17.34	18.50	1.306	62.9	1.006	0.07	0.214	0.281
	LTE Band 41	20M	QPSK	1	99	Edge 1	0mm	Sample 2	ON	41490	2680	19.50	19.50	1.000	62.9	1.006	-0.02	1.150	1.157
	LTE Band 41	20M	QPSK	1	99	Edge 1	0mm	Sample 2	ON	39750	2506	17.91	19.50	1.442	62.9	1.006	-0.15	0.595	0.863
	LTE Band 41	20M	QPSK	1	99	Edge 1	0mm	Sample 2	ON	40185	2549.5	18.11	19.50	1.377	62.9	1.006	-0.08	0.714	0.989
	LTE Band 41	20M	QPSK	1	99	Edge 1	0mm	Sample 2	ON	40620	2593	18.25	19.50	1.334	62.9	1.006	-0.09	0.773	1.037
	LTE Band 41	20M	QPSK	1	99	Edge 1	0mm	Sample 2	ON	41055	2636.5	18.08	19.50	1.387	62.9	1.006	-0.13	0.772	1.077
	LTE Band 41	20M	QPSK	50	50	Edge 1	0mm	Sample 2	ON	41490	2680	17.34	18.50	1.306	62.9	1.006	-0.12	0.591	0.777
	LTE Band 41	20M	QPSK	50	50	Edge 1	0mm	Sample 2	ON	39750	2506	16.95	18.50	1.429	62.9	1.006	-0.12	0.473	0.680
	LTE Band 41	20M	QPSK	50	50	Edge 1	0mm	Sample 2	ON	40185	2549.5	17.20	18.50	1.349	62.9	1.006	-0.12	0.566	0.768
	LTE Band 41	20M	QPSK	50	50	Edge 1	0mm	Sample 2	ON	40620	2593	17.27	18.50	1.327	62.9	1.006	-0.12	0.625	0.835
	LTE Band 41	20M	QPSK	50	50	Edge 1	0mm	Sample 2	ON	41055	2636.5	17.17	18.50	1.358	62.9	1.006	-0.14	0.623	0.851
	LTE Band 41	20M	QPSK	100	0	Edge 1	0mm	Sample 2	ON	41490	2680	17.25	18.50	1.334	62.9	1.006	-0.1	0.651	0.873



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Sample	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	Bottom Face	0mm	Ant 1	Sample 2	6	2437	20.20	20.50	1.072	100	1.000	0.04	0.493	0.528
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1	Sample 3	6	2437	20.20	20.50	1.072	100	1.000	0.04	0.482	0.516
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Ant 1	Sample 2	6	2437	20.20	20.50	1.072	100	1.000	-0.19	0.489	0.524
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	Sample 2	6	2437	20.30	20.50	1.047	100	1.000	-0.06	0.880	0.921
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	Sample 2	1	2412	20.10	20.50	1.096	100	1.000	-0.01	0.878	0.963
12	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	Sample 2	11	2462	20.10	20.50	1.096	100	1.000	-0.01	1.030	1.129
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	Sample 3	11	2462	20.10	20.50	1.096	100	1.000	-0.06	0.883	0.968
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Ant 2	Sample 2	6	2437	20.30	20.50	1.047	100	1.000	0	0.983	1.029
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Ant 2	Sample 2	1	2412	20.10	20.50	1.096	100	1.000	0.04	0.876	0.961
	WLAN2.4GHz	802.11b 1Mbps	Edge 1	0mm	Ant 2	Sample 2	11	2462	20.10	20.50	1.096	100	1.000	0.09	0.896	0.982
	WLAN2.4GHz	802.11b 1Mbps	Edge 4	0mm	Ant 2	Sample 2	6	2437	20.30	20.50	1.047	100	1.000	-0.17	0.296	0.310
	WLAN5GHz	802.11n-HT40 MCS0	Bottom Face	0mm	Ant 1	Sample 2	54	5270	16.00	16.50	1.122	89.52	1.117	-0.03	0.403	0.505
	WLAN5GHz	802.11n-HT40 MCS0	Bottom Face	0mm	Ant 1	Sample 3	54	5270	16.00	16.50	1.122	89.52	1.117	0.1	0.377	0.472
13	WLAN5GHz	802.11n-HT40 MCS0	Edge 1	0mm	Ant 1	Sample 2	54	5270	16.00	16.50	1.122	89.52	1.117	-0.19	0.939	1.177
	WLAN5GHz	802.11n-HT40 MCS0	Edge 1	0mm	Ant 1	Sample 2	62	5310	13.60	14.00	1.096	89.52	1.117	-0.15	0.642	0.786
	WLAN5GHz	802.11a 6Mbps	Edge 1	0mm	Ant 1	Sample 2	60	5300	16.30	16.50	1.047	94.93	1.053	0.15	1.010	1.114
	WLAN5GHz	802.11n-HT40 MCS0	Bottom Face	0mm	Ant 2	Sample 2	54	5270	16.10	16.50	1.096	89.62	1.116	-0.08	0.569	0.696
	WLAN5GHz	802.11n-HT40 MCS0	Bottom Face	0mm	Ant 2	Sample 3	54	5270	16.10	16.50	1.096	89.62	1.116	-0.03	0.552	0.675
	WLAN5GHz	802.11n-HT40 MCS0	Edge 1	0mm	Ant 2	Sample 2	54	5270	16.10	16.50	1.096	89.62	1.116	-0.01	0.914	1.118
	WLAN5GHz	802.11n-HT40 MCS0	Edge 1	0mm	Ant 2	Sample 2	62	5310	13.40	14.00	1.148	89.62	1.116	0.1	0.499	0.639
	WLAN5GHz	802.11a 6Mbps	Edge 1	0mm	Ant 2	Sample 2	52	5260	16.40	16.50	1.023	95.39	1.048	0.1	1.020	1.094
	WLAN5GHz	802.11n-HT40 MCS0	Edge 4	0mm	Ant 2	Sample 2	54	5270	16.10	16.50	1.096	89.62	1.116	0.08	0.092	0.113
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1	Sample 2	138	5690	14.00	14.00	1.000	89.02	1.123	0.06	0.188	0.211
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1	Sample 3	138	5690	14.00	14.00	1.000	89.02	1.123	-0.03	0.151	0.170
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1	Sample 2	138	5690	14.00	14.00	1.000	89.02	1.123	-0.12	0.938	1.053
14	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1	Sample 2	106	5530	13.90	14.00	1.023	89.02	1.123	-0.13	1.020	1.172
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1	Sample 2	122	5610	14.00	14.00	1.000	89.02	1.123	-0.19	0.997	1.120
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 2	Sample 2	138	5690	14.00	14.00	1.000	89.16	1.122	-0.03	0.342	0.384
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 2	Sample 3	138	5690	14.00	14.00	1.000	89.16	1.122	-0.03	0.320	0.359
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 2	Sample 2	138	5690	14.00	14.00	1.000	89.16	1.122	0.14	0.499	0.560
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 4	0mm	Ant 2	Sample 2	138	5690	14.00	14.00	1.000	89.16	1.122	0.12	0.045	0.050
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1	Sample 2	155	5775	13.80	14.00	1.047	89.02	1.123	0.13	0.198	0.233
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1	Sample 3	155	5775	13.80	14.00	1.047	89.02	1.123	0.11	0.190	0.223
15	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1	Sample 2	155	5775	13.80	14.00	1.047	89.02	1.123	0.19	0.942	1.108
	WLAN5GHz	802.11n-HT40 MCS0	Edge 1	0mm	Ant 1	Sample 2	151	5755	13.90	14.00	1.023	89.52	1.117	0.13	0.906	1.036
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 2	Sample 2	155	5775	13.90	14.00	1.023	89.16	1.122	-0.05	0.413	0.474
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 2	Sample 3	155	5775	13.90	14.00	1.023	89.16	1.122	0	0.334	0.383
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 2	Sample 2	155	5775	13.90	14.00	1.023	89.16	1.122	0.13	0.542	0.622
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 4	0mm	Ant 2	Sample 2	155	5775	13.90	14.00	1.023	89.16	1.122	0.02	0.071	0.082

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Sample	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	Bottom Face	0mm	Ant 1	Sample 2	0	2402	2.40	3.00	1.148	76.84	1.084	-0.19	0.005	0.007
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 1	Sample 3	0	2402	2.40	3.00	1.148	76.84	1.084	-0.19	0.004	0.005
16	Bluetooth	1Mbps	Edge 1	0mm	Ant 1	Sample 2	0	2402	2.40	3.00	1.148	76.84	1.084	0.09	0.010	0.012
	Bluetooth	1Mbps	Edge 1	0mm	Ant 1	Sample 2	39	2441	1.93	3.00	1.279	76.84	1.084	0.12	0.008	0.011
	Bluetooth	1Mbps	Edge 1	0mm	Ant 1	Sample 2	78	2480	1.68	3.00	1.355	76.84	1.084	0.01	0.006	0.009



14.2 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Sample	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA II	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	9538	1907.6	23.31	23.50	1.045	-0.01	1.380	-	1.442
2nd	WCDMA II	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	9538	1907.6	23.31	23.50	1.045	-0.01	1.340	1.03	1.400
1st	WCDMA V	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	4182	836.4	24.30	24.50	1.047	-0.03	1.380	-	1.445
2nd	WCDMA V	RMC 12.2Kbps	Bottom Face	3mm	Sample 2	OFF	4182	836.4	24.30	24.50	1.047	-0.05	1.300	1.06	1.361
1st	LTE Band 7	20M_QPSK_1_0	Bottom Face	3mm	Sample 2	OFF	21350	2560	23.35	24.00	1.161	-0.14	1.180	-	1.371
2nd	LTE Band 7	20M_QPSK_1_0	Bottom Face	3mm	Sample 2	OFF	21350	2560	23.35	24.00	1.161	-0.05	1.020	1.16	1.185
1st	LTE Band 14	10M_QPSK_1_0	Bottom Face	3mm	Sample 2	OFF	23330	793	23.86	24.50	1.159	-0.03	1.180	-	1.367
2nd	LTE Band 14	10M_QPSK_1_0	Bottom Face	3mm	Sample 2	OFF	23330	793	23.86	24.50	1.159	-0.04	1.160	1.02	1.344
1st	LTE Band 66	20M_QPSK_1_0	Bottom Face	3mm	Sample 2	OFF	132322	1745	24.41	24.50	1.021	0.03	1.360	-	1.388
2nd	LTE Band 66	20M_QPSK_1_0	Bottom Face	3mm	Sample 2	OFF	132322	1745	24.41	24.50	1.021	-0.01	1.240	1.10	1.266

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Sample	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	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	Sample 2	11	2462	20.10	20.50	1.096	100	1.000	-0.01	1.030	-	1.129
2nd	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	Sample 2	11	2462	20.10	20.50	1.096	100	1.000	-0.06	1.010	1.02	1.107
1st	WLAN5GHz	802.11a 6Mbps	Edge 1	0mm	Ant 2	Sample 2	52	5260	16.40	16.50	1.023	95.39	1.048	0.1	1.020	-	1.094
2nd	WLAN5GHz	802.11a 6Mbps	Edge 1	0mm	Ant 2	Sample 2	52	5260	16.40	16.50	1.023	95.39	1.048	-0.09	0.981	1.04	1.052
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1	Sample 2	106	5530	13.90	14.00	1.023	89.02	1.123	-0.13	1.020	-	1.172
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1	Sample 2	106	5530	13.90	14.00	1.023	89.02	1.123	-0.17	1.000	1.02	1.149
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1	Sample 2	155	5775	13.80	14.00	1.047	89.02	1.123	0.19	0.942	-	1.108
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 1	0mm	Ant 1	Sample 2	155	5775	13.80	14.00	1.047	89.02	1.123	0.15	0.922	1.02	1.084

General Note:

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

15. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN + WLAN 2.4GHz MIMO (Ant. 1 + Ant. 2)	Yes
2.	WWAN + WLAN 2.4GHz Ant.1 + WLAN 5GHz Ant. 2	Yes
3.	WWAN + WLAN 5GHz Ant. 2 + Bluetooth Ant. 1	Yes
4.	WWAN + WLAN 5GHz MIMO (Ant. 1 + Ant. 2)	Yes

General Note:

1. WLAN and Bluetooth share the same antenna1, and cannot transmit simultaneously.
2. All licensed modes share the same antenna part and cannot transmit simultaneously.
3. 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.
4. The Scaled SAR summation is calculated based on the same configuration and test position.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) Scalar SAR summation < 1.6W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, 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.
 - iii) If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
 - v) The SPLSR calculated results please refer to section 15.2.



15.1 Body Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+3 Summed 1g SAR (W/kg)	1+4+5 Summed 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	1+5+6 Summed 1g SAR (W/kg)	1+2+3 SPLSR	1+2+3 Case No	1+4+5 SPLSR	1+4+5 Case No	1+2+5 SPLSR	1+2+5 Case No	1+5+6 SPLSR	1+5+6 Case No	
		WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	5GHz WLAN Ant 1	5GHz WLAN Ant 2	Bluetooth Ant 1													
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)													
WCDMA	WCDMA II	Bottom Face at 3mm	1.442	0.528	1.129	0.505	0.696	0.007	3.099	2.643	2.666	2.145	0.04	Case 1	0.03	Case 44	0.02	Case 86	0.02	Case 129
		Edge 1 at 15mm	0.902	0.524	1.029	1.177	1.118	0.012	2.455	3.197	2.544	2.032	0.03	Case 2	0.04	Case 45	0.03	Case 87	0.02	Case 130
		Bottom Face at 0mm	0.997	0.528	1.129	0.505	0.696	0.007	2.654	2.198	2.221	1.700	0.04	Case 3	0.02	Case 46	0.02	Case 88	0.01	Case 131
		Edge 1 at 0mm	1.195	0.524	1.029	1.177	1.118	0.012	2.748	3.490	2.837	2.325	0.03	Case 4	0.04	Case 47	0.03	Case 89	0.02	Case 132
		Edge 2 at 0mm	0.039						0.039	0.039	0.039	0.039								
	WCDMA IV	Bottom Face at 3mm	1.447	0.528	1.129	0.505	0.696	0.007	3.104	2.648	2.671	2.150	0.04	Case 5	0.03	Case 48	0.02	Case 90	0.02	Case 133
		Edge 1 at 15mm	0.888	0.524	1.029	1.177	1.118	0.012	2.441	3.183	2.530	2.018	0.03	Case 6	0.04	Case 49	0.03	Case 91	0.02	Case 134
		Bottom Face at 0mm	0.623	0.528	1.129	0.505	0.696	0.007	2.280	1.824	1.847	1.326	0.04	Case 7	0.02	Case 50	0.02	Case 92		
		Edge 1 at 0mm	1.165	0.524	1.029	1.177	1.118	0.012	2.718	3.460	2.807	2.295	0.03	Case 8	0.04	Case 51	0.03	Case 93	0.02	Case 135
		Edge 2 at 0mm	0.063						0.063	0.063	0.063	0.063								
	WCDMA V	Bottom Face at 3mm	1.445	0.528	1.129	0.505	0.696	0.007	3.102	2.646	2.669	2.148	0.04	Case 9	0.03	Case 52	0.03	Case 94	0.02	Case 136
		Edge 1 at 15mm	0.420	0.524	1.029	1.177	1.118	0.012	1.973	2.715	2.062	1.550	0.03	Case 10	0.04	Case 53	0.03	Case 95		
		Bottom Face at 0mm	0.972	0.528	1.129	0.505	0.696	0.007	2.629	2.173	2.196	1.675	0.04	Case 11	0.02	Case 54	0.02	Case 96	0.01	Case 137
		Edge 1 at 0mm	1.197	0.524	1.029	1.177	1.118	0.012	2.750	3.492	2.839	2.327	0.03	Case 12	0.04	Case 55	0.03	Case 97	0.02	Case 138
		Edge 2 at 0mm	0.102						0.102	0.102	0.102	0.102								
LTE	LTE Band 7	Bottom Face at 3mm	1.371	0.528	1.129	0.505	0.696	0.007	3.028	2.572	2.595	2.074	0.04	Case 13	0.02	Case 56	0.02	Case 98	0.01	Case 139
		Edge 1 at 15mm	0.985	0.524	1.029	1.177	1.118	0.012	2.538	3.280	2.627	2.115	0.03	Case 14	0.04	Case 57	0.03	Case 99	0.02	Case 140
		Bottom Face at 0mm	0.593	0.528	1.129	0.505	0.696	0.007	2.250	1.794	1.817	1.296	0.04	Case 15	0.02	Case 58	0.02	Case 100		
		Edge 1 at 0mm	1.127	0.524	1.029	1.177	1.118	0.012	2.680	3.422	2.769	2.257	0.03	Case 16	0.04	Case 59	0.03	Case 101	0.02	Case 141
		Edge 2 at 0mm	0.530						0.530	0.530	0.530	0.530								
	LTE Band 12	Bottom Face at 3mm		0.528	1.129	0.505	0.696	0.007	1.657	1.201	1.224	0.703	0.04	Case 17						
		Edge 1 at 15mm		0.524	1.029	1.177	1.118	0.012	1.553	2.295	1.642	1.130			0.04	Case 60	0.03	Case 102		
		Bottom Face at 0mm	1.084	0.528	1.129	0.505	0.696	0.007	2.741	2.285	2.308	1.787	0.04	Case 18	0.02	Case 61	0.02	Case 103	0.01	Case 142
		Edge 1 at 0mm	1.287	0.524	1.029	1.177	1.118	0.012	2.840	3.582	2.929	2.417	0.03	Case 19	0.04	Case 62	0.03	Case 104	0.02	Case 143
		Edge 2 at 0mm	0.136						0.136	0.136	0.136	0.136								
	LTE Band 13	Bottom Face at 3mm	1.243	0.528	1.129	0.505	0.696	0.007	2.900	2.444	2.467	1.946	0.04	Case 20	0.02	Case 63	0.02	Case 105	0.02	Case 144
		Edge 1 at 15mm	0.243	0.524	1.029	1.177	1.118	0.012	1.796	2.538	1.885	1.373	0.03	Case 21	0.04	Case 64	0.03	Case 106		
		Bottom Face at 0mm	0.945	0.528	1.129	0.505	0.696	0.007	2.602	2.146	2.169	1.648	0.04	Case 22	0.02	Case 65	0.02	Case 107	0.01	Case 145
		Edge 1 at 0mm	1.127	0.524	1.029	1.177	1.118	0.012	2.680	3.422	2.769	2.257	0.03	Case 23	0.04	Case 66	0.03	Case 108	0.02	Case 146
		Edge 2 at 0mm	0.136						0.136	0.136	0.136	0.136								

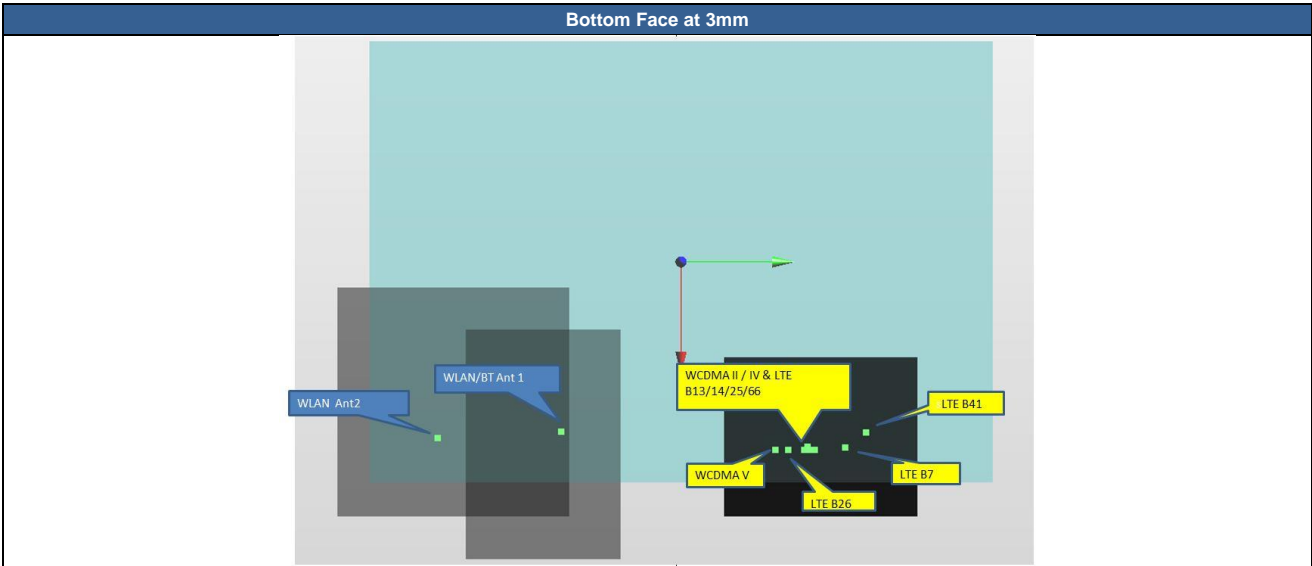


WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+4+5	1+2+5	1+5+6	1+2+3	1+2+3	1+4+5	1+4+5	1+2+5	1+2+5	1+5+6	1+5+6	
		WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	5GHz WLAN Ant 1	5GHz WLAN Ant 2	Bluetooth Ant 1	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No	SPLSR	Case No	SPLSR	Case No	SPLSR	Case No	
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)													
LTE	LTE Band 14	Bottom Face at 3mm	1.367	0.528	1.129	0.505	0.696	0.007	3.024	2.568	2.591	2.070	0.04	Case 24	0.03	Case 67	0.02	Case 109	0.02	Case 147
		Edge 1 at 15mm	0.291	0.524	1.029	1.177	1.118	0.012	1.844	2.586	1.933	1.421	0.03	Case 25	0.04	Case 68	0.03	Case 110		
		Bottom Face at 0mm	0.914	0.528	1.129	0.505	0.696	0.007	2.571	2.115	2.138	1.617	0.04	Case 26	0.02	Case 69	0.02	Case 111	0.01	Case 148
		Edge 1 at 0mm	1.105	0.524	1.029	1.177	1.118	0.012	2.658	3.400	2.747	2.235	0.03	Case 27	0.04	Case 70	0.03	Case 112	0.02	Case 149
		Edge 2 at 0mm	0.140						0.140	0.140	0.140	0.140								
	LTE Band 25	Bottom Face at 3mm	1.361	0.528	1.129	0.505	0.696	0.007	3.018	2.562	2.585	2.064	0.04	Case 28	0.02	Case 71	0.02	Case 113	0.01	Case 150
		Edge 1 at 15mm	0.947	0.524	1.029	1.177	1.118	0.012	2.500	3.242	2.589	2.077	0.03	Case 29	0.04	Case 72	0.03	Case 114	0.02	Case 151
		Bottom Face at 0mm	0.797	0.528	1.129	0.505	0.696	0.007	2.454	1.998	2.021	1.500	0.04	Case 30	0.02	Case 73	0.02	Case 115		
		Edge 1 at 0mm	1.197	0.524	1.029	1.177	1.118	0.012	2.750	3.492	2.839	2.327	0.03	Case 31	0.04	Case 74	0.03	Case 116	0.02	Case 152
		Edge 2 at 0mm	0.043						0.043	0.043	0.043	0.043								
	LTE Band 26	Bottom Face at 3mm	1.237	0.528	1.129	0.505	0.696	0.007	2.894	2.438	2.461	1.940	0.04	Case 32	0.02	Case 75	0.02	Case 117	0.02	Case 153
		Edge 1 at 15mm	0.325	0.524	1.029	1.177	1.118	0.012	1.878	2.620	1.967	1.455	0.03	Case 33	0.04	Case 76	0.03	Case 118		
		Bottom Face at 0mm	0.889	0.528	1.129	0.505	0.696	0.007	2.546	2.090	2.113	1.592	0.04	Case 34	0.02	Case 77	0.02	Case 119		
		Edge 1 at 0mm	1.079	0.524	1.029	1.177	1.118	0.012	2.632	3.374	2.721	2.209	0.03	Case 35	0.04	Case 78	0.03	Case 120	0.02	Case 154
		Edge 2 at 0mm	0.107						0.107	0.107	0.107	0.107								
	LTE Band 41	Bottom Face at 3mm	1.218	0.528	1.129	0.505	0.696	0.007	2.875	2.419	2.442	1.921	0.04	Case 36	0.02	Case 79	0.02	Case 121	0.01	Case 155
		Edge 1 at 15mm	0.941	0.524	1.029	1.177	1.118	0.012	2.494	3.236	2.583	2.071	0.03	Case 37	0.04	Case 80	0.03	Case 122	0.02	Case 156
		Bottom Face at 0mm	0.383	0.528	1.129	0.505	0.696	0.007	2.040	1.584	1.607	1.086	0.04	Case 38			0.02	Case 123		
		Edge 1 at 0mm	1.157	0.524	1.029	1.177	1.118	0.012	2.710	3.452	2.799	2.287	0.03	Case 39	0.04	Case 81	0.03	Case 124	0.02	Case 157
		Edge 2 at 0mm	0.331						0.331	0.331	0.331	0.331								
LTE Band 66	Bottom Face at 3mm	1.388	0.528	1.129	0.505	0.696	0.007	3.045	2.589	2.612	2.091	0.04	Case 40	0.02	Case 82	0.02	Case 125	0.02	Case 158	
	Edge 1 at 15mm	0.778	0.524	1.029	1.177	1.118	0.012	2.331	3.073	2.420	1.908	0.03	Case 41	0.04	Case 83	0.03	Case 126	0.02	Case 159	
	Bottom Face at 0mm	0.592	0.528	1.129	0.505	0.696	0.007	2.249	1.793	1.816	1.295	0.04	Case 42	0.02	Case 84	0.02	Case 127			
	Edge 1 at 0mm	1.198	0.524	1.029	1.177	1.118	0.012	2.751	3.493	2.840	2.328	0.03	Case 43	0.04	Case 85	0.03	Case 128	0.02	Case 160	
	Edge 2 at 0mm	0.069						0.069	0.069	0.069	0.069									

15.2 SPLSR Evaluation and Analysis

General Note:

1. $SPLSR = (SAR_1 + SAR_2)^{1.5} / (min. \text{ separation distance, mm})$. If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary
2. The detail hotspot point for each transmitter in each exposure condition are showing as below figure and the minimum 3D distance for each sum combination is used for SPLSR analysis.



	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 1	WCDMA II	Bottom Face	1.442	3mm	90.2	62.2	-1.39	116.2	1.97	0.02	Not required
	WLAN2.4GHz_Ant 1		0.528	0mm	81	-53.6	-0.5				
	WCDMA II	Bottom Face	1.442	3mm	90.2	62.2	-1.39	175.6	2.57	0.02	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				
	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				

Case 5	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	WLAN2.4GHz_Ant 1	Bottom Face	1.447	3mm	91.7	63.3	-1.33	117.4	1.98	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
WCDMA IV	WLAN2.4GHz_Ant 2	Bottom Face	1.447	3mm	91.7	63.3	-1.33	176.8	2.58	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

Case 9	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	WLAN2.4GHz_Ant 1	Bottom Face	1.445	3mm	90.1	47.2	-1.7	101.2	1.97	0.03	Not required
			0.528	0mm	81	-53.6	-0.5				
WCDMA V	WLAN2.4GHz_Ant 2	Bottom Face	1.445	3mm	90.1	47.2	-1.7	160.6	2.57	0.03	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

Case 13	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	WLAN2.4GHz_Ant 1	Bottom Face	1.371	3mm	85.6	80.4	-1.07	134.1	1.90	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 7	WLAN2.4GHz_Ant 2	Bottom Face	1.371	3mm	85.6	80.4	-1.07	193.7	2.50	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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				
LTE Band 13	WLAN2.4GHz_Ant 1	Bottom Face	1.243	3mm	88.5	59	-1.75	148.9	1.77	0.02	Not required
			0.528	0mm	5.4	-64.6	-0.56				
LTE Band 13	WLAN2.4GHz_Ant 2	Bottom Face	1.243	3mm	88.5	59	-1.75	199.2	2.37	0.02	Not required
			1.129	0mm	4.4	-121.6	0.55				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	5.4	-64.6	-0.56	57.0	1.66	0.04	Not required
			1.129	0mm	4.4	-121.6	0.55				

Case 24	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	WLAN2.4GHz_Ant 1	Bottom Face	1.367	3mm	88.5	59.1	-1.75	113.0	1.90	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 14	WLAN2.4GHz_Ant 2	Bottom Face	1.367	3mm	88.5	59.1	-1.75	172.5	2.50	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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 14	WLAN2.4GHz_Ant 1	Edge 1	0.291	15mm	0	64.4	-3.29	129.1	0.82	0.01	Not required
			0.524	0mm	5.4	-64.6	-0.56				
LTE Band 14	WLAN2.4GHz_Ant 2	Edge 1	0.291	15mm	0	64.4	-3.29	186.1	1.32	0.01	Not required
			1.029	0mm	4.4	-121.6	0.55				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
			1.029	0mm	4.4	-121.6	0.55				

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 14	WLAN2.4GHz_Ant 1	Bottom Face	0.914	0mm	91.3	52.9	3.28	107.1	1.44	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 14	WLAN2.4GHz_Ant 2	Bottom Face	0.914	0mm	91.3	52.9	3.28	166.4	2.04	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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 25	WLAN2.4GHz_Ant 1	Bottom Face	1.361	3mm	88.5	60.6	-1.41	114.4	1.89	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 25	WLAN2.4GHz_Ant 2	Bottom Face	1.361	3mm	-3	65.6	-2.63	197.9	2.49	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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 25	WLAN2.4GHz_Ant 1	Edge 1	0.947	15mm	-3	65.6	-2.63	130.5	1.47	0.01	Not required
			0.524	0mm	5.4	-64.6	-0.56				
LTE Band 25	WLAN2.4GHz_Ant 2	Edge 1	0.947	15mm	-3	65.6	-2.63	187.4	1.98	0.01	Not required
			1.029	0mm	4.4	-121.6	0.55				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
			1.029	0mm	4.4	-121.6	0.55				

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				
LTE Band 26	WLAN2.4GHz_Ant 1	Bottom Face	1.237	3mm	90.1	54.8	-1.94	108.8	1.77	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 26	WLAN2.4GHz_Ant 2	Bottom Face	1.237	3mm	90.1	54.8	-1.94	168.2	2.37	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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				
LTE Band 26	WLAN2.4GHz_Ant 1	Edge 1	0.325	15mm	1.4	64	-3.3	128.7	0.85	0.01	Not required
			0.524	0mm	5.4	-64.6	-0.56				
LTE Band 26	WLAN2.4GHz_Ant 2	Edge 1	0.325	15mm	1.4	64	-3.3	185.7	1.35	0.01	Not required
			1.029	0mm	4.4	-121.6	0.55				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
			1.029	0mm	4.4	-121.6	0.55				

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				
LTE Band 41	WLAN2.4GHz_Ant 1	Bottom Face	1.218	3mm	80.4	86	-1.13	139.6	1.75	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 41	WLAN2.4GHz_Ant 2	Bottom Face	1.218	3mm	80.4	86	-1.13	199.2	2.35	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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 66	WLAN2.4GHz_Ant 1	Bottom Face	1.388	3mm	88.5	62.1	-1.42	115.9	1.92	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 66	WLAN2.4GHz_Ant 2	Bottom Face	1.388	3mm	88.5	62.1	-1.42	175.4	2.52	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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				
WCDMA II	WLAN5GHz_Ant 1	Bottom Face	1.442	3mm	90.2	62.2	-1.39	105.7	1.95	0.03	Not required
			0.505	0mm	74.8	-42.4	0.75				
WCDMA II	WLAN5GHz_Ant 2	Bottom Face	1.442	3mm	90.2	62.2	-1.39	180.3	2.14	0.02	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				

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				
WCDMA IV	WLAN5GHz_Ant 1	Bottom Face	1.447	3mm	91.7	63.3	-1.33	107.1	1.95	0.03	Not required
			0.505	0mm	74.8	-42.4	0.75				
WCDMA IV	WLAN5GHz_Ant 2	Bottom Face	1.447	3mm	91.7	63.3	-1.33	181.4	2.14	0.02	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				

Case 52	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	WLAN5GHz_Ant 1	Bottom Face	1.445	3mm	90.1	47.2	-1.7	90.9	1.95	0.03	Not required
			0.505	0mm	74.8	-42.4	0.75				
WCDMA V	WLAN5GHz_Ant 2	Bottom Face	1.445	3mm	90.1	47.2	-1.7	165.3	2.14	0.02	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				

Case 56	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	WLAN5GHz_Ant 1	Bottom Face	1.371	3mm	85.6	80.4	-1.07	123.3	1.88	0.02	Not required
			0.505	0mm	74.8	-42.4	0.75				
LTE Band 7	WLAN5GHz_Ant 2	Bottom Face	1.371	3mm	85.6	80.4	-1.07	198.7	2.07	0.01	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				

Case 63	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	WLAN5GHz_Ant 1	Bottom Face	1.243	3mm	88.5	59	-1.75	102.4	1.75	0.02	Not required
			0.505	0mm	74.8	-42.4	0.75				
LTE Band 13	WLAN5GHz_Ant 2	Bottom Face	1.243	3mm	88.5	59	-1.75	177.2	1.94	0.02	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				



Case 67	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	Bottom Face	1.367	3mm	88.5	59.1	-1.75	102.5	1.87	0.03	Not required
	WLAN5GHz_Ant 1		0.505	0mm	74.8	-42.4	0.75				
	LTE Band 14	Bottom Face	1.367	3mm	88.5	59.1	-1.75	177.3	2.06	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	WLAN5GHz_Ant 1	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 71	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	Bottom Face	1.361	3mm	88.5	60.6	-1.41	103.9	1.87	0.02	Not required
	WLAN5GHz_Ant 1		0.505	0mm	74.8	-42.4	0.75				
	LTE Band 25	Bottom Face	1.361	3mm	-3	65.6	-2.63	208.8	2.06	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	WLAN5GHz_Ant 1	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 75	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	Bottom Face	1.237	3mm	90.1	54.8	-1.94	98.4	1.74	0.02	Not required
	WLAN5GHz_Ant 1		0.505	0mm	74.8	-42.4	0.75				
	LTE Band 26	Bottom Face	1.237	3mm	90.1	54.8	-1.94	172.9	1.93	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	WLAN5GHz_Ant 1	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 79	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 41	Bottom Face	1.218	3mm	80.4	86	-1.13	128.5	1.72	0.02	Not required
	WLAN5GHz_Ant 1		0.505	0mm	74.8	-42.4	0.75				
	LTE Band 41	Bottom Face	1.218	3mm	80.4	86	-1.13	204.6	1.91	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	WLAN5GHz_Ant 1	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 82	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	Bottom Face	1.388	3mm	88.5	62.1	-1.42	105.4	1.89	0.02	Not required
	WLAN5GHz_Ant 1		0.505	0mm	74.8	-42.4	0.75				
	LTE Band 66	Bottom Face	1.388	3mm	88.5	62.1	-1.42	180.3	2.08	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	WLAN5GHz_Ant 1	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 86	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	Bottom Face	1.442	3mm	90.2	62.2	-1.39	116.2	1.97	0.02	Not required
	WLAN2.4GHz_Ant 1		0.528	0mm	81	-53.6	-0.5				
	WCDMA II	Bottom Face	1.442	3mm	90.2	62.2	-1.39	180.3	2.14	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				



Case 90	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	Bottom Face	1.447	3mm	91.7	63.3	-1.33				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
WCDMA IV	Bottom Face	1.447	3mm	91.7	63.3	-1.33	181.4	2.14	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 94	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	Bottom Face	1.445	3mm	90.1	47.2	-1.7				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
WCDMA V	Bottom Face	1.445	3mm	90.1	47.2	-1.7	165.3	2.14	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 98	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	Bottom Face	1.371	3mm	85.6	80.4	-1.07				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 7	Bottom Face	1.371	3mm	85.6	80.4	-1.07	198.7	2.07	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 105	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	Bottom Face	1.243	3mm	88.5	59	-1.75				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 13	Bottom Face	1.243	3mm	88.5	59	-1.75	177.2	1.94	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 109	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	Bottom Face	1.367	3mm	88.5	59.1	-1.75				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 14	Bottom Face	1.367	3mm	88.5	59.1	-1.75	177.3	2.06	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 113	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	Bottom Face	1.361	3mm	88.5	60.6	-1.41				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 25	Bottom Face	1.361	3mm	-3	65.6	-2.63	208.8	2.06	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					



Case 117	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	Bottom Face	1.237	3mm	90.1	54.8	-1.94				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 26	Bottom Face	1.237	3mm	90.1	54.8	-1.94	172.9	1.93	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 121	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 41	Bottom Face	1.218	3mm	80.4	86	-1.13				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 41	Bottom Face	1.218	3mm	80.4	86	-1.13	204.6	1.91	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 125	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	Bottom Face	1.388	3mm	88.5	62.1	-1.42				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 66	Bottom Face	1.388	3mm	88.5	62.1	-1.42	180.3	2.08	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 129	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	Bottom Face	1.442	3mm	90.2	62.2	-1.39				
Bluetooth	0.007		0mm	81.2	-65.5	-0.38					
WCDMA II	Bottom Face	1.442	3mm	90.2	62.2	-1.39	180.3	2.14	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 133	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	Bottom Face	1.447	3mm	91.7	63.3	-1.33				
Bluetooth	0.007		0mm	81.2	-65.5	-0.38					
WCDMA IV	Bottom Face	1.447	3mm	91.7	63.3	-1.33	181.4	2.14	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
Bluetooth	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 136	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	Bottom Face	1.445	3mm	90.1	47.2	-1.7				
Bluetooth	0.007		0mm	81.2	-65.5	-0.38					
WCDMA V	Bottom Face	1.445	3mm	90.1	47.2	-1.7	165.3	2.14	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					



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Case 139	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	Bottom Face	1.371	3mm	85.6	80.4	-1.07	146.0	1.38	0.01	Not required
	Bluetooth		0.007	0mm	81.2	-65.5	-0.38				
	LTE Band 7	Bottom Face	1.371	3mm	85.6	80.4	-1.07	198.7	2.07	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 144	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	Bottom Face	1.243	3mm	88.5	59	-1.75	124.7	1.25	0.01	Not required
	Bluetooth		0.007	0mm	81.2	-65.5	-0.38				
	LTE Band 13	Bottom Face	1.243	3mm	88.5	59	-1.75	177.2	1.94	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

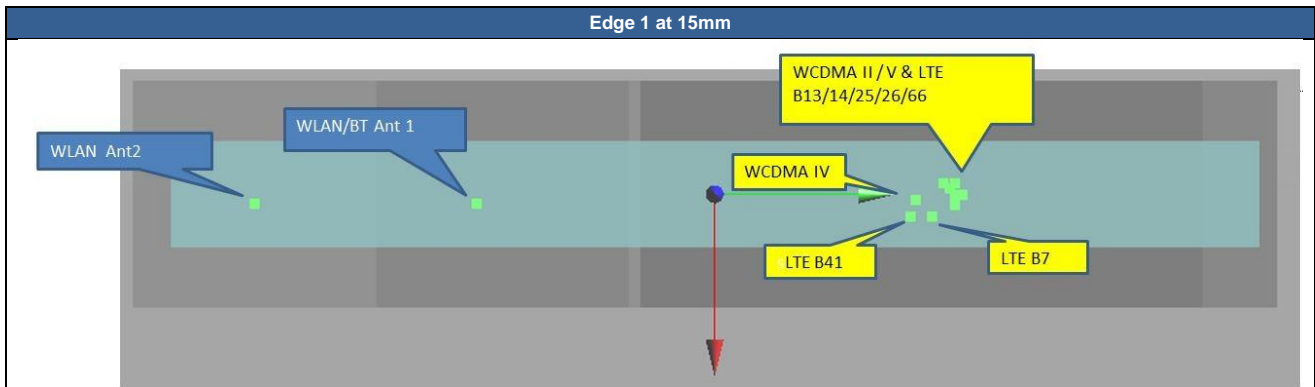
Case 147	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 14	Bottom Face	1.367	3mm	88.5	59.1	-1.75	124.8	1.37	0.01	Not required
	Bluetooth		0.007	0mm	81.2	-65.5	-0.38				
	LTE Band 14	Bottom Face	1.367	3mm	88.5	59.1	-1.75	177.3	2.06	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 150	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	Bottom Face	1.361	3mm	88.5	60.6	-1.41	126.3	1.37	0.01	Not required
	Bluetooth		0.007	0mm	81.2	-65.5	-0.38				
	LTE Band 25	Bottom Face	1.361	3mm	-3	65.6	-2.63	208.8	2.06	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 153	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	Bottom Face	1.237	3mm	90.1	54.8	-1.94	120.6	1.24	0.01	Not required
	Bluetooth		0.007	0mm	81.2	-65.5	-0.38				
	LTE Band 26	Bottom Face	1.237	3mm	90.1	54.8	-1.94	172.9	1.93	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 155	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 41	Bottom Face	1.218	3mm	80.4	86	-1.13	151.5	1.23	0.01	Not required
	Bluetooth		0.007	0mm	81.2	-65.5	-0.38				
	LTE Band 41	Bottom Face	1.218	3mm	80.4	86	-1.13	204.6	1.91	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case	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				
158	LTE Band 66	Bottom Face	1.388	3mm	88.5	62.1	-1.42	127.8	1.40	0.01	Not required
	Bluetooth		0.007	0mm	81.2	-65.5	-0.38				
	LTE Band 66	Bottom Face	1.388	3mm	88.5	62.1	-1.42	180.3	2.08	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
	Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				



Case	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				
2	WCDMA II	Edge 1	0.902	15mm	0	65.6	-2.63	130.3	1.43	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	WCDMA II	Edge 1	0.902	15mm	0	65.6	-2.63	187.3	1.93	0.01	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				

Case	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				
6	WCDMA IV	Edge 1	0.888	15mm	1.5	58.3	-2.69	123.0	1.41	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	WCDMA IV	Edge 1	0.888	15mm	1.5	58.3	-2.69	180.0	1.92	0.01	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				

Case	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				
10	WCDMA V	Edge 1	0.42	15mm	-1.5	60.9	-2.92	125.7	0.94	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	WCDMA V	Edge 1	0.42	15mm	-1.5	60.9	-2.92	182.6	1.45	0.01	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				



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				
Case 14	LTE Band 7	Edge 1	0.985	15mm	6	60	-2.3	124.6	1.51	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
Case 14	LTE Band 7	Edge 1	0.985	15mm	6	60	-2.3	181.6	2.01	0.02	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
Case 14	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				

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				
Case 21	LTE Band 13	Edge 1	0.243	15mm	0	64.4	-3.31	129.1	0.77	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
Case 21	LTE Band 13	Edge 1	0.243	15mm	0	64.4	-3.31	186.1	1.27	0.01	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
Case 21	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				

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				
Case 25	LTE Band 14	Edge 1	0.291	15mm	0	64.4	-3.29	129.1	0.82	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
Case 25	LTE Band 14	Edge 1	0.291	15mm	0	64.4	-3.29	186.1	1.32	0.01	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
Case 25	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				

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				
Case 29	LTE Band 25	Edge 1	0.947	15mm	-3	65.6	-2.63	130.5	1.47	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
Case 29	LTE Band 25	Edge 1	0.947	15mm	-3	65.6	-2.63	187.4	1.98	0.01	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
Case 29	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				

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 26	Edge 1	0.325	15mm	1.4	64	-3.3	128.7	0.85	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
Case 33	LTE Band 26	Edge 1	0.325	15mm	1.4	64	-3.3	185.7	1.35	0.01	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
Case 33	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				

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				
Case 37	LTE Band 41	Edge 1	0.941	15mm	7	53	-2.35	117.6	1.47	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
Case 37	LTE Band 41	Edge 1	0.941	15mm	7	53	-2.35	174.6	1.97	0.02	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
Case 37	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				

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 66	Edge 1	0.778	15mm	-3	59.4	-2.69	124.3	1.30	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
Case 41	LTE Band 66	Edge 1	0.778	15mm	-3	59.4	-2.69	181.2	1.81	0.01	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				
Case 41	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
	WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55				

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	WCDMA II	Edge 1	0.902	15mm	0	65.6	-2.63	111.9	2.08	0.03	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 45	WCDMA II	Edge 1	0.902	15mm	0	65.6	-2.63	190.5	2.02	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 45	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 49	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 49	WCDMA IV	Edge 1	0.888	15mm	1.5	58.3	-2.69	104.5	2.07	0.03	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 49	WCDMA IV	Edge 1	0.888	15mm	1.5	58.3	-2.69	183.2	2.01	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 49	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 53	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 53	WCDMA V	Edge 1	0.42	15mm	-1.5	60.9	-2.92	107.4	1.60	0.02	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 53	WCDMA V	Edge 1	0.42	15mm	-1.5	60.9	-2.92	185.9	1.54	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 53	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 57	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 57	LTE Band 7	Edge 1	0.985	15mm	6	60	-2.3	106.0	2.16	0.03	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 57	LTE Band 7	Edge 1	0.985	15mm	6	60	-2.3	184.9	2.10	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 57	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 64	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 64	LTE Band 13	Edge 1	0.243	15mm	0	64.4	-3.31	110.7	1.42	0.02	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 64	LTE Band 13	Edge 1	0.243	15mm	0	64.4	-3.31	189.4	1.36	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 64	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				



Case 68	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 68	LTE Band 14	Edge 1	0.291	15mm	0	64.4	-3.29	110.7	1.47	0.02	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 68	LTE Band 14	Edge 1	0.291	15mm	0	64.4	-3.29	189.4	1.41	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 68	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 72	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 72	LTE Band 25	Edge 1	0.947	15mm	-3	65.6	-2.63	112.2	2.12	0.03	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 72	LTE Band 25	Edge 1	0.947	15mm	-3	65.6	-2.63	190.6	2.07	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 72	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 76	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 76	LTE Band 26	Edge 1	0.325	15mm	1.4	64	-3.3	110.2	1.50	0.02	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 76	LTE Band 26	Edge 1	0.325	15mm	1.4	64	-3.3	188.9	1.44	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 76	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 80	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 80	LTE Band 41	Edge 1	0.941	15mm	7	53	-2.35	99.0	2.12	0.03	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 80	LTE Band 41	Edge 1	0.941	15mm	7	53	-2.35	178.0	2.06	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 80	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 83	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 83	LTE Band 66	Edge 1	0.778	15mm	-3	59.4	-2.69	106.0	1.96	0.03	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
Case 83	LTE Band 66	Edge 1	0.778	15mm	-3	59.4	-2.69	184.4	1.90	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 83	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 87	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 87	WCDMA II	Edge 1	0.902	15mm	0	65.6	-2.63	130.3	1.43	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
Case 87	WCDMA II	Edge 1	0.902	15mm	0	65.6	-2.63	190.5	2.02	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 87	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				



Case	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				
91	WCDMA IV	Edge 1	0.888	15mm	1.5	58.3	-2.69	123.0	1.41	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	WCDMA IV	Edge 1	0.888	15mm	1.5	58.3	-2.69	183.2	2.01	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
95	WCDMA V	Edge 1	0.42	15mm	-1.5	60.9	-2.92	125.7	0.94	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	WCDMA V	Edge 1	0.42	15mm	-1.5	60.9	-2.92	185.9	1.54	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
99	LTE Band 7	Edge 1	0.985	15mm	6	60	-2.3	124.6	1.51	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 7	Edge 1	0.985	15mm	6	60	-2.3	184.9	2.10	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
106	LTE Band 13	Edge 1	0.243	15mm	0	64.4	-3.31	129.1	0.77	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 13	Edge 1	0.243	15mm	0	64.4	-3.31	189.4	1.36	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
110	LTE Band 14	Edge 1	0.291	15mm	0	64.4	-3.29	129.1	0.82	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 14	Edge 1	0.291	15mm	0	64.4	-3.29	189.4	1.41	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
114	LTE Band 25	Edge 1	0.947	15mm	-3	65.6	-2.63	130.5	1.47	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 25	Edge 1	0.947	15mm	-3	65.6	-2.63	190.6	2.07	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				



Case	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 118	LTE Band 26	Edge 1	0.325	15mm	1.4	64	-3.3	128.7	0.85	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 26	Edge 1	0.325	15mm	1.4	64	-3.3	188.9	1.44	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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 122	LTE Band 41	Edge 1	0.941	15mm	7	53	-2.35	117.6	1.47	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 41	Edge 1	0.941	15mm	7	53	-2.35	178.0	2.06	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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 126	LTE Band 66	Edge 1	0.778	15mm	-3	59.4	-2.69	124.3	1.30	0.01	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 66	Edge 1	0.778	15mm	-3	59.4	-2.69	184.4	1.90	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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 130	WCDMA II	Edge 1	0.902	15mm	0	65.6	-2.63	126.5	0.91	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	WCDMA II	Edge 1	0.902	15mm	0	65.6	-2.63	190.5	2.02	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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 134	WCDMA IV	Edge 1	0.888	15mm	1.5	58.3	-2.69	119.1	0.90	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	WCDMA IV	Edge 1	0.888	15mm	1.5	58.3	-2.69	183.2	2.01	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

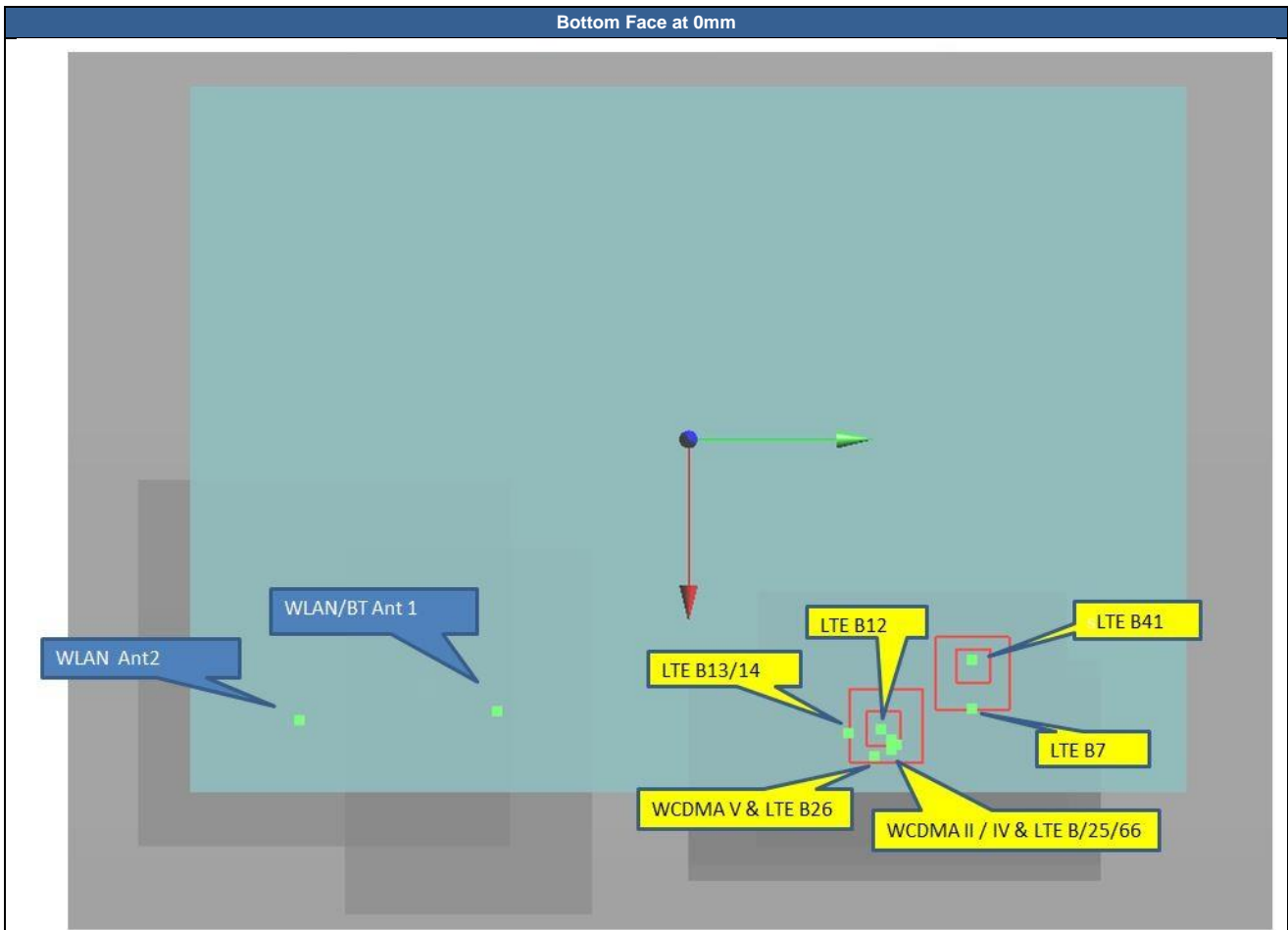
Case	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 140	LTE Band 7	Edge 1	0.985	15mm	6	60	-2.3	120.7	1.00	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	LTE Band 7	Edge 1	0.985	15mm	6	60	-2.3	184.9	2.10	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				



Case 151	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 151	LTE Band 25	Edge 1	0.947	15mm	-3	65.6	-2.63	126.6	0.96	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
Case 151	LTE Band 25	Edge 1	0.947	15mm	-3	65.6	-2.63	190.6	2.07	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 151	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 156	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 156	LTE Band 41	Edge 1	0.941	15mm	7	53	-2.35	113.7	0.95	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
Case 156	LTE Band 41	Edge 1	0.941	15mm	7	53	-2.35	178.0	2.06	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 156	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case 159	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 159	LTE Band 66	Edge 1	0.778	15mm	-3	59.4	-2.69	120.5	0.79	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
Case 159	LTE Band 66	Edge 1	0.778	15mm	-3	59.4	-2.69	184.4	1.90	0.01	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
Case 159	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				



Case 3	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 3	WCDMA II	Bottom Face	0.997	0mm	90.1	63.8	1.68	117.8	1.53	0.02	Not required
	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5				
	WCDMA II	Bottom Face	0.997	0mm	90.1	63.8	1.68	177.2	2.13	0.02	Not required
	WLAN2.4GHz_Ant 2	Bottom Face	1.129	0mm	81.8	-113.2	1.35				
	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
	WLAN2.4GHz_Ant 2	Bottom Face	1.129	0mm	81.8	-113.2	1.35				

Case 7	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 7	WCDMA IV	Bottom Face	0.623	0mm	91.6	65.3	1.66	119.4	1.15	0.01	Not required
	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5				
	WCDMA IV	Bottom Face	0.623	0mm	91.6	65.3	1.66	178.8	1.75	0.01	Not required
	WLAN2.4GHz_Ant 2	Bottom Face	1.129	0mm	81.8	-113.2	1.35				
	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
	WLAN2.4GHz_Ant 2	Bottom Face	1.129	0mm	81.8	-113.2	1.35				



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 V	WLAN2.4GHz_Ant 1	Bottom Face	0.972	0mm	93.5	57.2	0.99	111.5	1.50	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
WCDMA V	WLAN2.4GHz_Ant 2	Bottom Face	0.972	0mm	93.5	57.2	0.99	170.8	2.10	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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				
LTE Band 7	WLAN2.4GHz_Ant 1	Bottom Face	0.593	0mm	85.6	80.4	-1.07	134.1	1.12	0.01	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 7	WLAN2.4GHz_Ant 2	Bottom Face	0.593	0mm	85.6	80.4	-1.07	193.7	1.72	0.01	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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				
LTE Band 12	WLAN2.4GHz_Ant 1	Bottom Face	1.084	0mm	85.5	56	0.17	109.7	1.61	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 12	WLAN2.4GHz_Ant 2	Bottom Face	1.084	0mm	85.5	56	0.17	169.2	2.21	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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				
LTE Band 13	WLAN2.4GHz_Ant 1	Bottom Face	0.945	0mm	91.3	51.3	3.28	105.5	1.47	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 13	WLAN2.4GHz_Ant 2	Bottom Face	0.945	0mm	91.3	51.3	3.28	164.8	2.07	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

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 14	WLAN2.4GHz_Ant 1	Bottom Face	0.914	0mm	91.3	52.9	3.28	107.1	1.44	0.02	Not required
			0.528	0mm	81	-53.6	-0.5				
LTE Band 14	WLAN2.4GHz_Ant 2	Bottom Face	0.914	0mm	91.3	52.9	3.28	166.4	2.04	0.02	Not required
			1.129	0mm	81.8	-113.2	1.35				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
			1.129	0mm	81.8	-113.2	1.35				

Case 30	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 30	LTE Band 25	Bottom Face	0.797	0mm	91.6	63.8	3.65	118.0	1.33	0.01	Not required
	WLAN2.4GHz_Ant 1		0.528	0mm	81	-53.6	-0.5				
Case 30	LTE Band 25	Bottom Face	0.797	0mm	91.6	63.8	3.65	177.3	1.93	0.02	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				
Case 30	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				

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				
Case 34	LTE Band 26	Bottom Face	0.889	0mm	91.9	52.4	3.24	106.6	1.42	0.02	Not required
	WLAN2.4GHz_Ant 1		0.528	0mm	81	-53.6	-0.5				
Case 34	LTE Band 26	Bottom Face	0.889	0mm	91.9	52.4	3.24	165.9	2.02	0.02	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				
Case 34	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				

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				
Case 38	LTE Band 41	Bottom Face	0.383	0mm	80.4	86	-1.13	139.6	0.91	0.01	Not required
	WLAN2.4GHz_Ant 1		0.528	0mm	81	-53.6	-0.5				
Case 38	LTE Band 41	Bottom Face	0.383	0mm	80.4	86	-1.13	199.2	1.51	0.01	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				
Case 38	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				

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 66	Bottom Face	0.592	0mm	93.1	65.4	2.61	119.7	1.12	0.01	Not required
	WLAN2.4GHz_Ant 1		0.528	0mm	81	-53.6	-0.5				
Case 42	LTE Band 66	Bottom Face	0.592	0mm	93.1	65.4	2.61	179.0	1.72	0.01	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				
Case 42	WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	59.6	1.66	0.04	Not required
	WLAN2.4GHz_Ant 2		1.129	0mm	81.8	-113.2	1.35				

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				
Case 46	WCDMA II	Bottom Face	0.997	0mm	90.1	63.8	1.68	107.3	1.50	0.02	Not required
	WLAN5GHz_Ant 1		0.505	0mm	74.8	-42.4	0.75				
Case 46	WCDMA II	Bottom Face	0.997	0mm	90.1	63.8	1.68	181.9	1.69	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
Case 46	WLAN5GHz_Ant 1	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 50	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 50	WCDMA IV	Bottom Face	0.623	0mm	91.6	65.3	1.66	109.0	1.13	0.01	Not required
	WLAN5GHz_Ant 1		0.505	0mm	74.8	-42.4	0.75				
Case 50	WCDMA IV	Bottom Face	0.623	0mm	91.6	65.3	1.66	183.4	1.32	0.01	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				
Case 50	WLAN5GHz_Ant 1	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
	WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01				

Case 54	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	WLAN5GHz_Ant 1	Bottom Face	0.972	0mm	93.5	57.2	0.99	101.3	1.48	0.02	Not required
			0.505	0mm	74.8	-42.4	0.75				
WCDMA V	WLAN5GHz_Ant 2	Bottom Face	0.972	0mm	93.5	57.2	0.99	175.2	1.67	0.01	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				

Case 58	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	WLAN5GHz_Ant 1	Bottom Face	0.593	0mm	85.6	80.4	-1.07	123.3	1.10	0.01	Not required
			0.505	0mm	74.8	-42.4	0.75				
LTE Band 7	WLAN5GHz_Ant 2	Bottom Face	0.593	0mm	85.6	80.4	-1.07	198.7	1.29	0.01	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				

Case 61	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	WLAN5GHz_Ant 1	Bottom Face	1.084	0mm	85.5	56	0.17	99.0	1.59	0.02	Not required
			0.505	0mm	74.8	-42.4	0.75				
LTE Band 12	WLAN5GHz_Ant 2	Bottom Face	1.084	0mm	85.5	56	0.17	174.3	1.78	0.01	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				

Case 65	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	WLAN5GHz_Ant 1	Bottom Face	0.945	0mm	91.3	51.3	3.28	95.2	1.45	0.02	Not required
			0.505	0mm	74.8	-42.4	0.75				
LTE Band 13	WLAN5GHz_Ant 2	Bottom Face	0.945	0mm	91.3	51.3	3.28	169.4	1.64	0.01	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				

Case 69	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	WLAN5GHz_Ant 1	Bottom Face	0.914	0mm	91.3	52.9	3.28	96.8	1.42	0.02	Not required
			0.505	0mm	74.8	-42.4	0.75				
LTE Band 14	WLAN5GHz_Ant 2	Bottom Face	0.914	0mm	91.3	52.9	3.28	171.0	1.61	0.01	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				

Case 73	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	WLAN5GHz_Ant 1	Bottom Face	0.797	0mm	91.6	63.8	3.65	107.6	1.30	0.01	Not required
			0.505	0mm	74.8	-42.4	0.75				
LTE Band 25	WLAN5GHz_Ant 2	Bottom Face	0.797	0mm	91.6	63.8	3.65	181.9	1.49	0.01	Not required
			0.696	0mm	96.4	-118	1.01				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required
			0.696	0mm	96.4	-118	1.01				



Case 77	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	Bottom Face	0.889	0mm	91.9	52.4	3.24				
WLAN5GHz_Ant 1	0.505		0mm	74.8	-42.4	0.75					
LTE Band 26	Bottom Face	0.889	0mm	91.9	52.4	3.24	170.5	1.59	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN5GHz_Ant 1	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 84	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	Bottom Face	0.592	0mm	93.1	65.4	2.61				
WLAN5GHz_Ant 1	0.505		0mm	74.8	-42.4	0.75					
LTE Band 66	Bottom Face	0.592	0mm	93.1	65.4	2.61	183.4	1.29	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN5GHz_Ant 1	Bottom Face	0.505	0mm	74.8	-42.4	0.75	78.6	1.20	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 88	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	Bottom Face	0.997	0mm	90.1	63.8	1.68				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
WCDMA II	Bottom Face	0.997	0mm	90.1	63.8	1.68	181.9	1.69	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 92	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	Bottom Face	0.623	0mm	91.6	65.3	1.66				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
WCDMA IV	Bottom Face	0.623	0mm	91.6	65.3	1.66	183.4	1.32	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 96	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	Bottom Face	0.972	0mm	93.5	57.2	0.99				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
WCDMA V	Bottom Face	0.972	0mm	93.5	57.2	0.99	175.2	1.67	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 100	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	Bottom Face	0.593	0mm	85.6	80.4	-1.07				
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 7	Bottom Face	0.593	0mm	85.6	80.4	-1.07	198.7	1.29	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					



Case 103	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	Bottom Face	1.084	0mm	85.5	56	0.17	109.7	1.61	0.02	Not required
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 12	Bottom Face	1.084	0mm	85.5	56	0.17	174.3	1.78	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 107	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	Bottom Face	0.945	0mm	91.3	51.3	3.28	105.5	1.47	0.02	Not required
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 13	Bottom Face	0.945	0mm	91.3	51.3	3.28	169.4	1.64	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 111	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	Bottom Face	0.914	0mm	91.3	52.9	3.28	107.1	1.44	0.02	Not required
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 14	Bottom Face	0.914	0mm	91.3	52.9	3.28	171.0	1.61	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 115	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	Bottom Face	0.797	0mm	91.6	63.8	3.65	118.0	1.33	0.01	Not required
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 25	Bottom Face	0.797	0mm	91.6	63.8	3.65	181.9	1.49	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 119	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	Bottom Face	0.889	0mm	91.9	52.4	3.24	106.6	1.42	0.02	Not required
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 26	Bottom Face	0.889	0mm	91.9	52.4	3.24	170.5	1.59	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 123	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 41	Bottom Face	0.383	0mm	80.4	86	-1.13	139.6	0.91	0.01	Not required
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 41	Bottom Face	0.383	0mm	80.4	86	-1.13	204.6	1.08	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					



Case 127	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	Bottom Face	0.592	0mm	93.1	65.4	2.61	119.7	1.12	0.01	Not required
WLAN2.4GHz_Ant 1	0.528		0mm	81	-53.6	-0.5					
LTE Band 66	Bottom Face	0.592	0mm	93.1	65.4	2.61	183.4	1.29	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
WLAN2.4GHz_Ant 1	Bottom Face	0.528	0mm	81	-53.6	-0.5	66.2	1.22	0.02	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

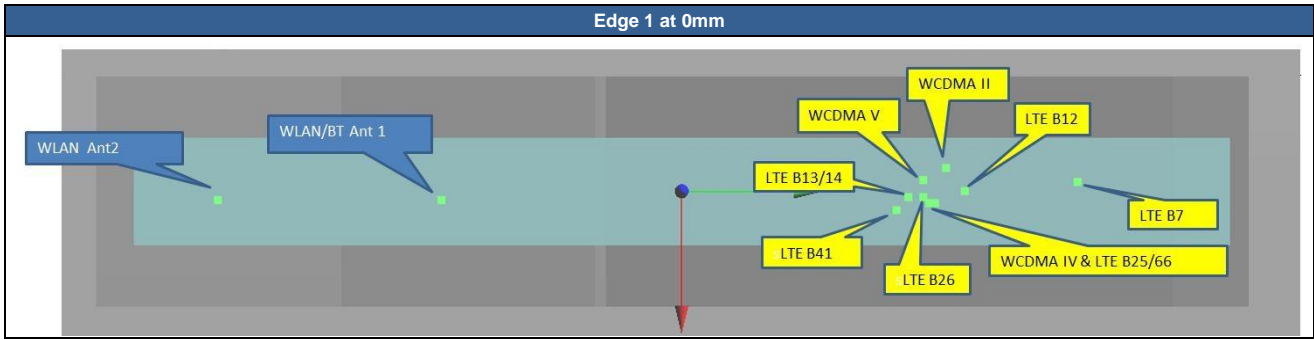
Case 131	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA II	Bottom Face	0.997	0mm	90.1	63.8	1.68	129.6	1.00	0.01	Not required
Bluetooth	0.007		0mm	81.2	-65.5	-0.38					
WCDMA II	Bottom Face	0.997	0mm	90.1	63.8	1.68	181.9	1.69	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 137	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	Bottom Face	0.972	0mm	93.5	57.2	0.99	123.3	0.98	0.01	Not required
Bluetooth	0.007		0mm	81.2	-65.5	-0.38					
WCDMA V	Bottom Face	0.972	0mm	93.5	57.2	0.99	175.2	1.67	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 142	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	Bottom Face	1.084	0mm	85.5	56	0.17	121.6	1.09	0.01	Not required
Bluetooth	0.007		0mm	81.2	-65.5	-0.38					
LTE Band 12	Bottom Face	1.084	0mm	85.5	56	0.17	174.3	1.78	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 145	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	Bottom Face	0.945	0mm	91.3	51.3	3.28	117.3	0.95	0.01	Not required
Bluetooth	0.007		0mm	81.2	-65.5	-0.38					
LTE Band 13	Bottom Face	0.945	0mm	91.3	51.3	3.28	169.4	1.64	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					

Case 148	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	Bottom Face	0.914	0mm	91.3	52.9	3.28	118.9	0.92	0.01	Not required
Bluetooth	0.007		0mm	81.2	-65.5	-0.38					
LTE Band 14	Bottom Face	0.914	0mm	91.3	52.9	3.28	171.0	1.61	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					
Bluetooth	Bottom Face	0.007	0mm	81.2	-65.5	-0.38	54.7	0.70	0.01	Not required	
WLAN5GHz_Ant 2		0.696	0mm	96.4	-118	1.01					



Case 4	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	Edge 1	1.195				
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56					
WCDMA II	Edge 1	1.195	0mm	-6	70	-2.55	191.9	2.22	0.02	Not required	
WLAN2.4GHz_Ant 2	Edge 1	1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2	Edge 1	1.029	0mm	4.4	-121.6	0.55					

Case 8	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	Edge 1	1.165				
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56					
WCDMA IV	Edge 1	1.165	0mm	3	68.7	-2.36	190.3	2.19	0.02	Not required	
WLAN2.4GHz_Ant 2	Edge 1	1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2	Edge 1	1.029	0mm	4.4	-121.6	0.55					

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 V	Edge 1	1.197				
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56					
WCDMA V	Edge 1	1.197	0mm	-3	62.4	-0.93	184.2	2.23	0.02	Not required	
WLAN2.4GHz_Ant 2	Edge 1	1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2	Edge 1	1.029	0mm	4.4	-121.6	0.55					

Case 16	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	Edge 1	1.127				
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56					
LTE Band 7	Edge 1	1.127	0mm	6	60	-2.3	181.6	2.16	0.02	Not required	
WLAN2.4GHz_Ant 2	Edge 1	1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2	Edge 1	1.029	0mm	4.4	-121.6	0.55					



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				
	LTE Band 12	Edge 1	1.287	0mm	-1.6	70.2	-1.16	135.0	1.81	0.02	Not required
WLAN2.4GHz_Ant 1	0.524		0mm	5.4	-64.6	-0.56					
LTE Band 12	Edge 1	1.287	0mm	-1.6	70.2	-1.16	191.9	2.32	0.02	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					

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				
	LTE Band 13	Edge 1	1.127	0mm	1.5	64.8	5.12	129.6	1.65	0.02	Not required
WLAN2.4GHz_Ant 1	0.524		0mm	5.4	-64.6	-0.56					
LTE Band 13	Edge 1	1.127	0mm	1.5	64.8	5.12	186.5	2.16	0.02	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					

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				
	LTE Band 14	Edge 1	1.105	0mm	1.5	64.8	5.12	129.6	1.63	0.02	Not required
WLAN2.4GHz_Ant 1	0.524		0mm	5.4	-64.6	-0.56					
LTE Band 14	Edge 1	1.105	0mm	1.5	64.8	5.12	186.5	2.13	0.02	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					

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 25	Edge 1	1.197	0mm	3	68.6	-2.3	133.2	1.72	0.02	Not required
WLAN2.4GHz_Ant 1	0.524		0mm	5.4	-64.6	-0.56					
LTE Band 25	Edge 1	1.197	0mm	3	68.6	-2.3	190.2	2.23	0.02	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					

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 26	Edge 1	1.079	0mm	1.5	62.4	5.16	127.2	1.60	0.02	Not required
WLAN2.4GHz_Ant 1	0.524		0mm	5.4	-64.6	-0.56					
LTE Band 26	Edge 1	1.079	0mm	1.5	62.4	5.16	184.1	2.11	0.02	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					

Case 39	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 41	Edge 1	1.157	0mm	7	53	-2.35	117.6	1.68	0.02	Not required
WLAN2.4GHz_Ant 1	0.524		0mm	5.4	-64.6	-0.56					
LTE Band 41	Edge 1	1.157	0mm	7	53	-2.35	174.6	2.19	0.02	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					
WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required	
WLAN2.4GHz_Ant 2		1.029	0mm	4.4	-121.6	0.55					

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 66	WLAN2.4GHz_Ant 1	Edge 1	1.198	0mm	3	68.7	-2.06	133.3	1.72	0.02	Not required
			0.524	0mm	5.4	-64.6	-0.56				
LTE Band 66	WLAN2.4GHz_Ant 2	Edge 1	1.198	0mm	3	68.7	-2.06	190.3	2.23	0.02	Not required
			1.029	0mm	4.4	-121.6	0.55				
WLAN2.4GHz_Ant 1	WLAN2.4GHz_Ant 2	Edge 1	0.524	0mm	5.4	-64.6	-0.56	57.0	1.55	0.03	Not required
			1.029	0mm	4.4	-121.6	0.55				

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				
WCDMA II	WLAN5GHz_Ant 1	Edge 1	1.195	0mm	-6	70	-2.55	116.9	2.37	0.03	Not required
			1.177	0mm	8.4	-46	-2.58				
WCDMA II	WLAN5GHz_Ant 2	Edge 1	1.195	0mm	-6	70	-2.55	195.1	2.31	0.02	Not required
			1.118	0mm	3.2	-124.9	0.04				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
			1.118	0mm	3.2	-124.9	0.04				

Case 51	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	WLAN5GHz_Ant 1	Edge 1	1.165	0mm	3	68.7	-2.36	114.8	2.34	0.03	Not required
			1.177	0mm	8.4	-46	-2.58				
WCDMA IV	WLAN5GHz_Ant 2	Edge 1	1.165	0mm	3	68.7	-2.36	193.6	2.28	0.02	Not required
			1.118	0mm	3.2	-124.9	0.04				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
			1.118	0mm	3.2	-124.9	0.04				

Case 55	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	WLAN5GHz_Ant 1	Edge 1	1.197	0mm	-3	62.4	-0.93	109.0	2.37	0.03	Not required
			1.177	0mm	8.4	-46	-2.58				
WCDMA V	WLAN5GHz_Ant 2	Edge 1	1.197	0mm	-3	62.4	-0.93	187.4	2.32	0.02	Not required
			1.118	0mm	3.2	-124.9	0.04				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
			1.118	0mm	3.2	-124.9	0.04				

Case 59	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	WLAN5GHz_Ant 1	Edge 1	1.127	0mm	6	60	-2.3	106.0	2.30	0.03	Not required
			1.177	0mm	8.4	-46	-2.58				
LTE Band 7	WLAN5GHz_Ant 2	Edge 1	1.127	0mm	6	60	-2.3	184.9	2.25	0.02	Not required
			1.118	0mm	3.2	-124.9	0.04				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
			1.118	0mm	3.2	-124.9	0.04				

Case 60	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				
WLAN5GHz_Ant 1	WLAN5GHz_Ant 2	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
			1.118	0mm	3.2	-124.9	0.04				



Case 62	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	Edge 1	1.287	0mm	-1.6	70.2	-1.16	116.6	2.46	0.03	Not required
WLAN5GHz_Ant 1	1.177		0mm	8.4	-46	-2.58					
LTE Band 12	Edge 1	1.287	0mm	-1.6	70.2	-1.16	195.2	2.41	0.02	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					
WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					

Case 66	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	Edge 1	1.127	0mm	1.5	64.8	5.12	111.3	2.30	0.03	Not required
WLAN5GHz_Ant 1	1.177		0mm	8.4	-46	-2.58					
LTE Band 13	Edge 1	1.127	0mm	1.5	64.8	5.12	189.8	2.25	0.02	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					
WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					

Case 70	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	Edge 1	1.105	0mm	1.5	64.8	5.12	111.3	2.28	0.03	Not required
WLAN5GHz_Ant 1	1.177		0mm	8.4	-46	-2.58					
LTE Band 14	Edge 1	1.105	0mm	1.5	64.8	5.12	189.8	2.22	0.02	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					
WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					

Case 74	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	Edge 1	1.197	0mm	3	68.6	-2.3	114.7	2.37	0.03	Not required
WLAN5GHz_Ant 1	1.177		0mm	8.4	-46	-2.58					
LTE Band 25	Edge 1	1.197	0mm	3	68.6	-2.3	193.5	2.32	0.02	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					
WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					

Case 78	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	Edge 1	1.079	0mm	1.5	62.4	5.16	108.9	2.26	0.03	Not required
WLAN5GHz_Ant 1	1.177		0mm	8.4	-46	-2.58					
LTE Band 26	Edge 1	1.079	0mm	1.5	62.4	5.16	187.4	2.20	0.02	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					
WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					

Case 81	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 41	Edge 1	1.157	0mm	7	53	-2.35	99.0	2.33	0.04	Not required
WLAN5GHz_Ant 1	1.177		0mm	8.4	-46	-2.58					
LTE Band 41	Edge 1	1.157	0mm	7	53	-2.35	178.0	2.28	0.02	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					
WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required	
WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04					



Case	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				
85	LTE Band 66	Edge 1	1.198	0mm	3	68.7	-2.06	114.8	2.38	0.03	Not required
	WLAN5GHz_Ant 1		1.177	0mm	8.4	-46	-2.58				
	LTE Band 66	Edge 1	1.198	0mm	3	68.7	-2.06	193.6	2.32	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN5GHz_Ant 1	Edge 1	1.177	0mm	8.4	-46	-2.58	79.1	2.30	0.04	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
89	WCDMA II	Edge 1	1.195	0mm	-6	70	-2.55	135.1	1.72	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	WCDMA II	Edge 1	1.195	0mm	-6	70	-2.55	195.1	2.31	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
93	WCDMA IV	Edge 1	1.165	0mm	3	68.7	-2.36	133.3	1.69	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	WCDMA IV	Edge 1	1.165	0mm	3	68.7	-2.36	193.6	2.28	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
97	WCDMA V	Edge 1	1.197	0mm	-3	62.4	-0.93	127.3	1.72	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	WCDMA V	Edge 1	1.197	0mm	-3	62.4	-0.93	187.4	2.32	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
101	LTE Band 7	Edge 1	1.127	0mm	6	60	-2.3	124.6	1.65	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 7	Edge 1	1.127	0mm	6	60	-2.3	184.9	2.25	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
102	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				



Case	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				
104	LTE Band 12	Edge 1	1.287	0mm	-1.6	70.2	-1.16	135.0	1.81	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 12	Edge 1	1.287	0mm	-1.6	70.2	-1.16	195.2	2.41	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
108	LTE Band 13	Edge 1	1.127	0mm	1.5	64.8	5.12	129.6	1.65	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 13	Edge 1	1.127	0mm	1.5	64.8	5.12	189.8	2.25	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
112	LTE Band 14	Edge 1	1.105	0mm	1.5	64.8	5.12	129.6	1.63	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 14	Edge 1	1.105	0mm	1.5	64.8	5.12	189.8	2.22	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
116	LTE Band 25	Edge 1	1.197	0mm	3	68.6	-2.3	133.2	1.72	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 25	Edge 1	1.197	0mm	3	68.6	-2.3	193.5	2.32	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
120	LTE Band 26	Edge 1	1.079	0mm	1.5	62.4	5.16	127.2	1.60	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 26	Edge 1	1.079	0mm	1.5	62.4	5.16	187.4	2.20	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
124	LTE Band 41	Edge 1	1.157	0mm	7	53	-2.35	117.6	1.68	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 41	Edge 1	1.157	0mm	7	53	-2.35	178.0	2.28	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				



Case	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				
128	LTE Band 66	Edge 1	1.198	0mm	3	68.7	-2.06	133.3	1.72	0.02	Not required
	WLAN2.4GHz_Ant 1		0.524	0mm	5.4	-64.6	-0.56				
	LTE Band 66	Edge 1	1.198	0mm	3	68.7	-2.06	193.6	2.32	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	WLAN2.4GHz_Ant 1	Edge 1	0.524	0mm	5.4	-64.6	-0.56	60.3	1.64	0.03	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
132	WCDMA II	Edge 1	1.195	0mm	-6	70	-2.55	131.3	1.21	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	WCDMA II	Edge 1	1.195	0mm	-6	70	-2.55	195.1	2.31	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
135	WCDMA IV	Edge 1	1.165	0mm	3	68.7	-2.36	129.4	1.18	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	WCDMA IV	Edge 1	1.165	0mm	3	68.7	-2.36	193.6	2.28	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
138	WCDMA V	Edge 1	1.197	0mm	-3	62.4	-0.93	123.4	1.21	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	WCDMA V	Edge 1	1.197	0mm	-3	62.4	-0.93	187.4	2.32	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
141	LTE Band 7	Edge 1	1.127	0mm	6	60	-2.3	120.7	1.14	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	LTE Band 7	Edge 1	1.127	0mm	6	60	-2.3	184.9	2.25	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
143	LTE Band 12	Edge 1	1.287	0mm	-1.6	70.2	-1.16	131.1	1.30	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	LTE Band 12	Edge 1	1.287	0mm	-1.6	70.2	-1.16	195.2	2.41	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				



Case	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				
146	LTE Band 13	Edge 1	1.127	0mm	1.5	64.8	5.12	125.7	1.14	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	LTE Band 13	Edge 1	1.127	0mm	1.5	64.8	5.12	189.8	2.25	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
149	LTE Band 14	Edge 1	1.105	0mm	1.5	64.8	5.12	125.7	1.12	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	LTE Band 14	Edge 1	1.105	0mm	1.5	64.8	5.12	189.8	2.22	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
152	LTE Band 25	Edge 1	1.197	0mm	3	68.6	-2.3	129.3	1.21	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	LTE Band 25	Edge 1	1.197	0mm	3	68.6	-2.3	193.5	2.32	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
154	LTE Band 26	Edge 1	1.079	0mm	1.5	62.4	5.16	123.3	1.09	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	LTE Band 26	Edge 1	1.079	0mm	1.5	62.4	5.16	187.4	2.20	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
157	LTE Band 41	Edge 1	1.157	0mm	7	53	-2.35	113.7	1.17	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	LTE Band 41	Edge 1	1.157	0mm	7	53	-2.35	178.0	2.28	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

Case	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				
160	LTE Band 66	Edge 1	1.198	0mm	3	68.7	-2.06	129.4	1.21	0.01	Not required
	Bluetooth		0.012	0mm	6.2	-60.7	-1.11				
	LTE Band 66	Edge 1	1.198	0mm	3	68.7	-2.06	193.6	2.32	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				
	Bluetooth	Edge 1	0.012	0mm	6.2	-60.7	-1.11	64.3	1.13	0.02	Not required
	WLAN5GHz_Ant 2		1.118	0mm	3.2	-124.9	0.04				

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16. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be $\leq 30\%$, for a confidence interval of $k = 2$. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg. Therefore, the measurement uncertainty table is not required in this report.

17. References

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [6] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [7] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [8] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [9] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [10] FCC KDB 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015
- [11] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [12] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.