

FCC SAR Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT1922-6, XT1922-7, XT1922-9
FCC ID : IHDT56XB1
STANDARD : FCC 47 CFR Part 2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2013

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

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



Approved by: Mark Qu / Manager



Sporton International (Shenzhen) Inc.
1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City
Guangdong Province 518055 China

Table of Contents

1. Statement of Compliance	4
2. Administration Data.....	6
3. Guidance Applied	6
4. Equipment Under Test (EUT) Information.....	7
4.1 General Information	7
4.2 Specification of Accessory	9
4.3 General LTE SAR Test and Reporting Considerations.....	10
5. RF Exposure Limits	13
5.1 Uncontrolled Environment.....	13
5.2 Controlled Environment	13
6. Specific Absorption Rate (SAR)	14
6.1 Introduction	14
6.2 SAR Definition	14
7. System Description and Setup	15
7.1 E-Field Probe	16
7.2 Data Acquisition Electronics (DAE)	16
7.3 Phantom	17
7.4 Device Holder	18
8. Measurement Procedures	19
8.1 Spatial Peak SAR Evaluation.....	19
8.2 Power Reference Measurement	20
8.3 Area Scan	20
8.4 Zoom Scan	21
8.5 Volume Scan Procedures	21
8.6 Power Drift Monitoring	21
9. Test Equipment List.....	22
10. System Verification.....	23
10.1 Tissue Simulating Liquids	23
10.2 Tissue Verification	24
10.3 System Performance Check Results	25
11. RF Exposure Positions.....	27
11.1 Ear and handset reference point	27
11.2 Definition of the cheek position	28
11.3 Definition of the tilt position	29
11.4 Body Worn Accessory	30
11.5 Product Specific 10g SAR Exposure	31
11.6 Wireless Router.....	31
12. Conducted RF Output Power (Unit: dBm).....	32
13. Antenna Location.....	124
14. SAR Test Results	126
14.1 Head SAR	126
14.2 Hotspot SAR	128
14.3 Body Worn Accessory SAR.....	132
14.4 Product specific 10g SAR	135
14.5 Repeated SAR Measurement	138
15. Simultaneous Transmission Analysis.....	139
15.1 Head Exposure Conditions	140
15.2 Hotspot Exposure Conditions	142
15.3 Body-Worn Accessory Exposure Conditions.....	145
15.4 Product specific 10g SAR Exposure Conditions	146
15.5 SPLSR Evaluation and Analysis	147
16. Uncertainty Assessment	152
17. References.....	155
Appendix A. Plots of System Performance Check	
Appendix B. Plots of High SAR Measurement	
Appendix C. DASY Calibration Certificate	
Appendix D. Test Setup Photos	
Appendix E. Product Equality Declaration	

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA832002	Rev. 01	Initial issue of report	May 31, 2018

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT1922-6, XT1922-7, XT1922-9**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.20	0.74	0.74	1.56
		GSM1900	<0.10	1.02	0.79	
	WCDMA	Band V	0.33	0.68	0.68	
		Band IV	0.14	0.71	0.51	
		Band II	0.17	0.71	0.53	
	CDMA2000	BC10	0.32	0.64	1.09	
		BC0	0.30	0.94	1.11	
		BC1	0.24	0.68	0.54	
	LTE	Band 12/Band 17	0.21	0.76	0.76	
		Band 13	0.35	1.10	1.10	
		Band 14	0.10	0.36	0.36	
		Band 26/Band 5	0.35	0.69	0.69	
		Band 66/Band 4	0.10	0.72	0.52	
		Band 25/Band 2	0.21	0.82	0.61	
		Band 30	0.24	0.50	0.41	
		Band 7	0.58	0.66	0.61	
		Band 41/Band 38	0.35	1.11	1.04	
DTS	WLAN	2.4GHz WLAN	0.79	0.29	0.23	1.37
NII		5GHz WLAN	0.96	1.11	1.11	1.56
DSS	Bluetooth	2.4GHz Bluetooth		<0.10	<0.10	1.18

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM1900	2.14	3.87
	WCDMA	Band V	1.75	
		Band IV	2.33	
		Band II	2.31	
	CDMA2000	BC1	2.89	
	LTE	Band 26/Band 5	1.58	
		Band 66/Band 4	2.36	
		Band 25/Band 2	2.60	
		Band 30	3.22	
		Band 7	3.22	
Band 41/Band 38		3.07		
NII	WLAN	5GHz WLAN	1.46	3.87
Date of Testing:			2018/3/30~2018/5/1	
Remark: This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41.				

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

2. Administration Data

Testing Laboratory	
Test Site	Sporton International (Shenzhen) Inc.
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595

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

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

3. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1922-6, XT1922-7, XT1922-9
FCC ID	IHDT56XB1
IMEI Code	Sample 1: 351864090041066 Sample 2: 351864090043971
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz CDMA 2000 BC10: 817.9 MHz ~ 823.1 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 14: 790.5 MHz ~ 795.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink is not supported) CDMA2000 : 1xRTT/1xEv-Do(Rev.0)/1xEv-Do(Rev.A) LTE: QPSK, 16QAM, 64QAM WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 Bluetooth v3.0+EDR, Bluetooth v4.0 LE, Bluetooth v4.1 LE, Bluetooth v4.2 LE
HW Version	DVT2
SW Version	jeter_oem_userdebug_8.0.0_OPP27.34_970_intcfg-test-keys_oem
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype
Remark: 1. WLAN operation in 5600 MHz ~ 5650 MHz is notched. 2. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation. 3. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications. 4. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN	

- supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
5. This device does not support DTM operation and supports GRPS/EGRPS mode up to multi-slot class 12.
 6. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, GSM1900, WCDMA band II/IV/V, CDMA2000 BC0/1/10 and LTE band 2/4/5/7/25/26/30/38/41/66 reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.)
 7. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM1900, WCDMA band II/IV/V, CDMA2000 BC0/1/10 and LTE band 2/4/5/7/25/26/30/38/41/66.
 8. This device hotspot reduced power and P-sensor reduced power level are the same. So only show one reduced power level for hotspot reduced power and P-sensor reduced power for this application.
 9. The device additionally employs proximity sensors that detect the presence of tissue near the currently active transmit antenna, the handheld reduced power table which at WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/7/25/66 reduced powers will be active.
 10. The model names (XT1922-6, XT1922-7, XT1922-9) are the same product except model name different for carrier.
 11. The device can adjust uplink/downlink configuration automatically according to the transmitting power class level for LTE band 41.
 12. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the left side of bottom edge of the device and WWAN antenna 2 is located at the right side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V, CDMA BC0/1/10, and LTE Band 2/4/5/12/13/14/17/25/26/66, and WWAN antenna 2 frequency bands include LTE Band 7/30/38/41. They can't transmit simultaneously.
 13. This is a variant report XT1922-6, XT1922-7, XT1922-9, the product equality declaration could be referred to Appendix E. Based on the similarity between two models, WLAN 2.4/5GHz were full SAR testing, and other bands only verified the worse cases from original report (Sporton Report Number FA7D1310) for differences.
 14. There are four samples of EUT, the product equality declaration could be referred to Appendix E. According to the difference, we chose sample 1 for full test, sample 2 only verified the worst case of sample 1.

4.2 Specification of Accessory

Specification of Accessory				
AC Adapter 1	Brand Name	Motorola (Acbel)	Model Name	C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc,2000mA		
AC Adapter 2	Brand Name	Motorola (Salom)	Model Name	SSW-2919UMTJ C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc,2000mA		
Battery	Brand Name	Lenovo (ATL)	Model Name	BL270
	Power Rating	3.85/4.4Vdc,4000mAh	Type	Li-ion, ATL426580
USB Cable 1	Brand Name	Motorola (Saibao)	Model Name	SLQ-A077A
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		
USB Cable 2	Brand Name	Motorola (Saibao)	Model Name	SLQ-A077A
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		

4.3 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																										
FCC ID		IHDT56XB1																																																																								
Equipment Name		Mobile Cellular Phone																																																																								
Operating Frequency Range of each LTE transmission band		LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 14: 790.5 MHz ~ 795.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~1779.3 MHz																																																																								
Channel Bandwidth		LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz,5MHz, 10MHz, 15MHz, 20MHz																																																																								
Uplink Modulations Used		QPSK, 16QAM and 64QAM																																																																								
LTE Voice / Data requirements		Voice and Data																																																																								
LTE Release Version		R11, Cat7																																																																								
CA Support		Yes, Uplink and Downlink																																																																								
LTE MPR permanently built-in by design		<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><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><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></table>			Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								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
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3																																																																										
Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)																																																																			
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																																																				
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																																																			
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																																																			
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																																																			
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2																																																																			
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3																																																																			
256 QAM	≥ 1						≤ 5																																																																			
LTE A-MPR		In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																																								
Spectrum plots for RB configuration		A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																																								
Power reduction applied to satisfy SAR compliance		Yes 1. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, LTE band 2/4/5/7/25/26/30/38/41/66 reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.) 2. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of LTE band 2/4/5/7/25/26/30/38/41/66. 3. P-sensor can detect handheld state, for product specific 10g SAR condition, LTE band 2/4/7/25/66 reduced powers will be active. For LTE band 5/26/30/38/41, the power levels are the same as the full power.																																																																								
LTE Carrier Aggregation Combinations		Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 12.																																																																								
LTE Carrier Aggregation Additional Information		(1) This device supports LTE Carrier Aggregation (CA) in the uplink for LTE B41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.																																																																								

(2) This device supports maximum of 2 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	23205		779.5		23230		782					
M	23230		782									
H	23255		784.5									
LTE Band 14												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)					
L	23305		790.5		23330		793					
M	23330		793									
H	23355		795.5									

LTE Band 17												
	Bandwidth 5 MHz						Bandwidth 10 MHz					
	Channel #		Freq.(MHz)				Channel #		Freq. (MHz)			
L	23755		706.5				23780		709			
M	23790		710				23790		710			
H	23825		713.5				23800		711			
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5	26765	821.5
M	26865	831.5	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	26965	841.5
LTE Band 30												
	Bandwidth 5 MHz						Bandwidth 10 MHz					
	Channel #		Freq.(MHz)				Channel #		Freq.(MHz)			
L	27685		2307.5				27710		2310			
M	27710		2310									
H	27735		2312.5									
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580	37850	2580	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610	38150	2610	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	39750	2506	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5	40185	2549.5	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5	41055	2636.5	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680	41490	2680	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

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

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:

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

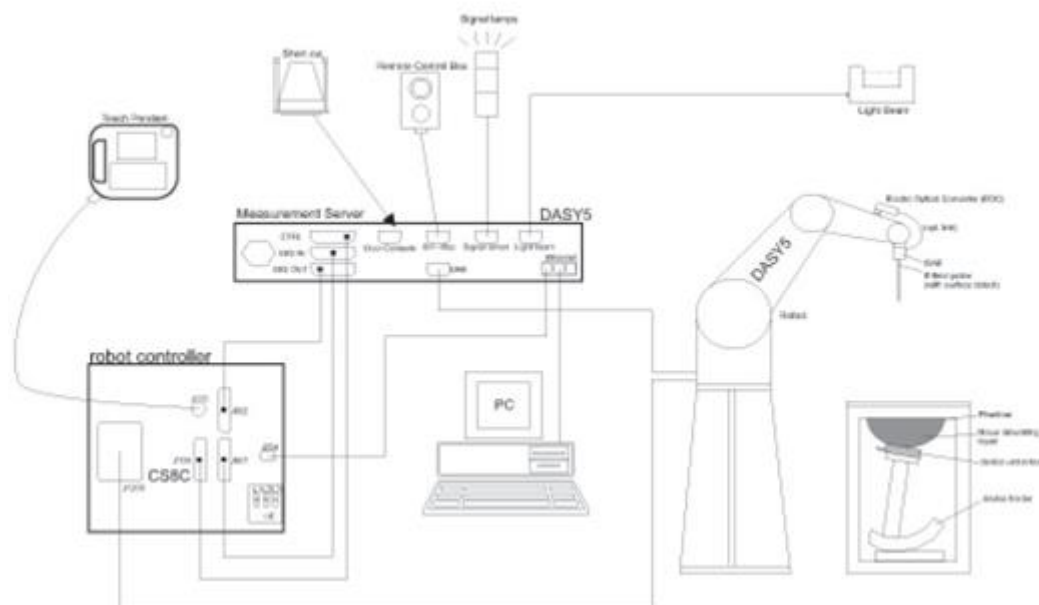
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

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.

<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.



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.

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

8.4 Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 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: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: 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
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
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 to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remains in the same test position for all measurements and all volume scans use the same spatial resolution and grid spacing. When all volume scans were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculate 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	1099	Dec. 04, 2017	Dec. 03, 2018
SPEAG	835MHz System Validation Kit	D835V2	4d162	Dec. 05, 2017	Dec. 04, 2018
SPEAG	1750MHz System Validation Kit	D1750V2	1137	Jun. 05, 2017	Jun. 04, 2018
SPEAG	1900MHz System Validation Kit	D1900V2	5d182	Dec. 06, 2017	Dec. 05, 2018
SPEAG	2300MHz System Validation Kit	D2300V2	1056	Sep. 18, 2017	Sep. 17, 2018
SPEAG	2450MHz System Validation Kit	D2450V2	924	Mar. 22, 2018	Mar. 21, 2019
SPEAG	2600MHz System Validation Kit	D2600V2	1070	Dec. 07, 2017	Dec. 06, 2018
SPEAG	5000MHz System Validation Kit	D5GHzV2	1167	Jul. 26, 2017	Jul. 25, 2018
SPEAG	Data Acquisition Electronics	DAE4	1386	Jul. 20, 2017	Jul. 19, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	3911	Nov. 28, 2017	Nov. 27, 2018
SPEAG	SAM Twin Phantom	QD 000 P40 CD	TP-1671	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	Jul. 19, 2017	Jul. 18, 2018
Agilent	Wireless Communication Test Set	E5515C	MY50267224	Sep. 12, 2017	Sep. 11, 2018
Agilent	Network Analyzer	E5071C	MY46523671	Oct. 18, 2017	Oct. 17, 2018
SPEAG	Dielectric Assessment Kit	DAK-3.5	1071	Nov. 28, 2017	Nov. 27, 2018
Agilent	Signal Generator	N5181A	MY50145381	Dec. 26, 2017	Dec. 25, 2018
Anritsu	Power Sensor	MA2411B	1306099	Aug. 21, 2017	Aug. 20, 2018
Anritsu	Power Meter	ML2495A	1349001	Jul. 19, 2017	Jul. 18, 2018
R&S	CBT BLUETOOTH TESTER	CBT	100963	Dec. 26, 2017	Dec. 25, 2018
R&S	Spectrum Analyzer	FSP7	100818	Jul. 19, 2017	Jul. 18, 2018
LKM electronic	Hygrometer	DTM3000	3241	Jul. 21, 2017	Jul. 20, 2018
Anymetre	Thermo-Hygrometer	JR593	2015030903	Jan. 01, 2018	Dec. 31, 2018
Anymetre	Thermo-Hygrometer	JR593	2015102801	Jan. 01, 2018	Dec. 31, 2018
ARRA	Power Divider	A3200-2	N/A	Note	
MCL	Attenuation1	BW-S10W5	N/A	Note	
Weinschel	Attenuation2	3M-20	N/A	Note	
Zhongjilianhe	Attenuation3	MVE2214-03	N/A	Note	
mini-circuits	Amplifier	ZHL-42W+	QA1341002	Note	
mini-circuits	Amplifier	ZVE-3W-83+	599201528	Note	
PASTERNAK	Dual Directional Coupler	PE2214-10	N/A	Note	
Agilent	Dual Directional Coupler	778D	50422	Note	

Note:

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

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.

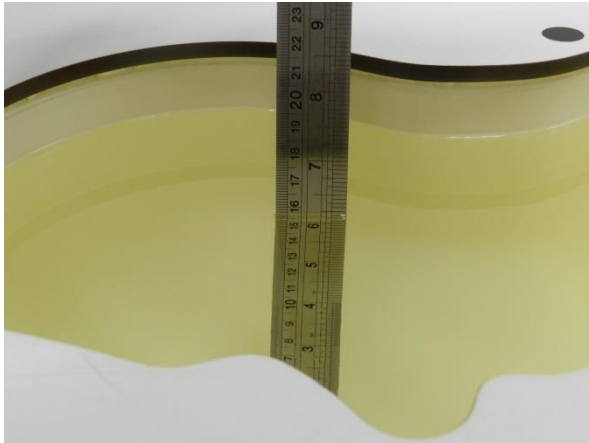


Fig 10.1 Photo of Liquid Height for Head SAR

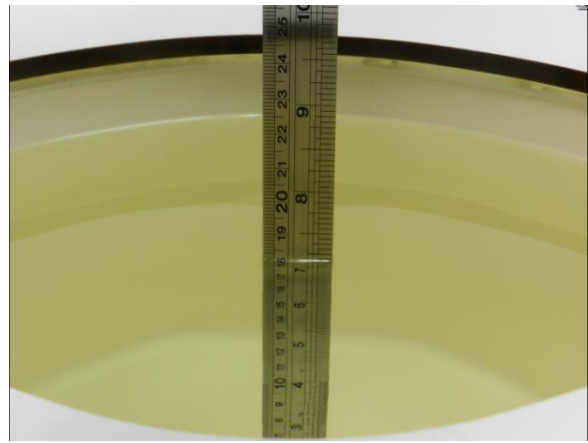


Fig 10.2 Photo of Liquid Height for Body SAR

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
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
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	Head	22.4	0.881	40.783	0.89	41.90	-1.01	-2.67	±5	2018/3/31
835	Head	22.4	0.914	41.826	0.90	41.50	1.56	0.79	±5	2018/3/31
1750	Head	22.5	1.382	41.560	1.37	40.10	0.88	3.64	±5	2018/3/30
1900	Head	22.6	1.417	40.994	1.40	40.00	1.21	2.49	±5	2018/3/30
2300	Head	22.7	1.687	38.801	1.67	39.50	1.02	-1.77	±5	2018/3/31
2450	Head	22.8	1.825	39.664	1.80	39.20	1.39	1.18	±5	2018/5/1
2600	Head	22.6	2.056	37.575	1.96	39.00	4.90	-3.65	±5	2018/3/31
5250	Head	22.4	4.703	36.115	4.71	35.90	-0.15	0.60	±5	2018/4/2
5750	Head	22.4	5.303	35.218	5.22	35.40	1.59	-0.51	±5	2018/4/2
750	Body	22.6	0.960	53.914	0.96	55.50	0.00	-2.86	±5	2018/4/1
835	Body	22.7	0.961	55.830	0.97	55.20	-0.93	1.14	±5	2018/4/1
1750	Body	22.6	1.527	52.020	1.49	53.40	2.48	-2.58	±5	2018/4/21
1900	Body	22.7	1.535	54.579	1.52	53.30	0.99	2.40	±5	2018/4/21
2300	Body	22.4	1.764	53.765	1.81	52.90	-2.54	1.64	±5	2018/4/27
2450	Body	22.5	1.938	51.276	1.95	52.70	-0.62	-2.70	±5	2018/4/28
2600	Body	22.6	2.192	50.732	2.16	52.50	1.48	-3.37	±5	2018/4/27
5250	Body	22.5	5.290	50.979	5.36	48.90	-1.31	4.25	±5	2018/4/3
5750	Body	22.5	6.084	47.724	5.94	48.30	2.42	-1.19	±5	2018/4/3

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.

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2018/3/31	750	Head	250	1099	3911	1386	2.03	8.33	8.12	-2.52
2018/3/31	835	Head	250	4d162	3911	1386	2.47	9.56	9.88	3.35
2018/3/30	1750	Head	250	1137	3911	1386	9.06	36.60	36.24	-0.98
2018/3/30	1900	Head	250	5d182	3911	1386	9.63	40.10	38.52	-3.94
2018/3/31	2300	Head	250	1056	3911	1386	12.20	47.70	48.80	2.31
2018/5/1	2450	Head	250	924	3911	1386	12.60	51.80	50.40	-2.70
2018/3/31	2600	Head	250	1070	3911	1386	13.60	58.20	54.40	-6.53
2018/4/2	5250	Head	100	1167	3911	1386	7.95	79.90	79.50	-0.50
2018/4/2	5750	Head	100	1167	3911	1386	8.09	80.60	80.90	0.37
2018/4/1	750	Body	250	1099	3911	1386	2.08	8.64	8.32	-3.70
2018/4/1	835	Body	250	4d162	3911	1386	2.35	9.56	9.40	-1.67
2018/4/21	1750	Body	250	1137	3911	1386	9.51	37.00	38.04	2.81
2018/4/21	1900	Body	250	5d182	3911	1386	9.93	40.40	39.72	-1.68
2018/4/27	2300	Body	250	1056	3911	1386	11.30	47.90	45.20	-5.64
2018/4/28	2450	Body	250	924	3911	1386	12.70	50.70	50.80	0.20
2018/4/27	2600	Body	250	1070	3911	1386	14.20	55.20	56.80	2.90
2018/4/3	5250	Body	100	1167	3911	1386	7.36	76.90	73.60	-4.29
2018/4/3	5750	Body	100	1167	3911	1386	7.51	77.50	75.10	-3.10

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2018/4/1	835	Body	250	4d162	3911	1386	1.55	6.34	6.20	-2.21
2018/4/21	1750	Body	250	1137	3911	1386	5.00	19.70	20.00	1.52
2018/4/21	1900	Body	250	5d182	3911	1386	5.04	21.00	20.16	-4.00
2018/4/27	2300	Body	250	1056	3911	1386	5.43	23.00	21.72	-5.57
2018/4/27	2600	Body	250	1070	3911	1386	6.23	24.50	24.92	1.71
2018/4/3	5250	Body	100	1167	3911	1386	2.01	21.50	20.10	-6.51
2018/4/3	5750	Body	100	1167	3911	1386	2.06	21.60	20.60	-4.63

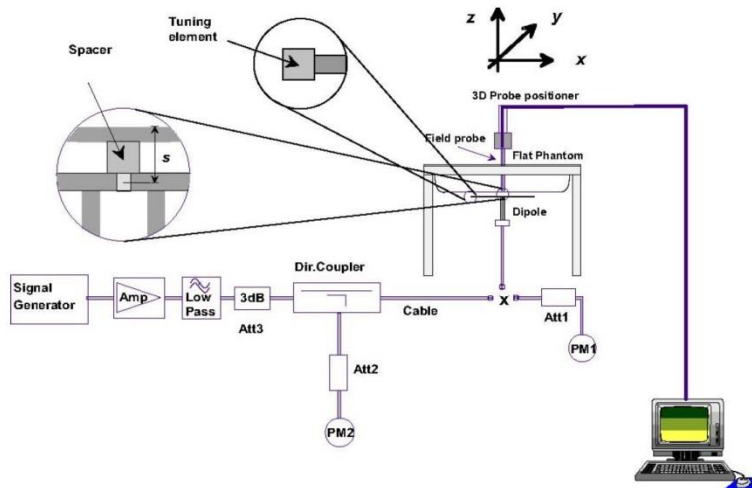


Fig 10.3.1 System Performance Check Setup



Fig 10.3.2 Setup Photo

11. RF Exposure Positions

11.1 Ear and handset reference point

Figure 11.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled "M," the left ear reference point (ERP) is marked "LE," and the right ERP is marked "RE." Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 11.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 11.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 11.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

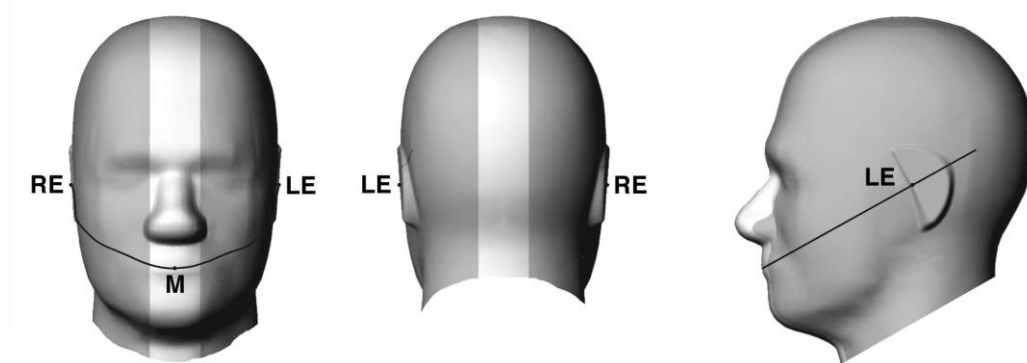


Fig 11.1.1 Front, back, and side views of SAM twin phantom

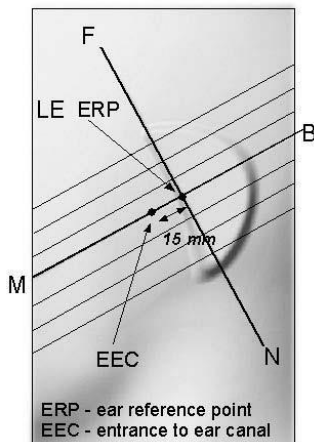


Fig 11.1.2 Close-up side view of phantom showing the ear region.

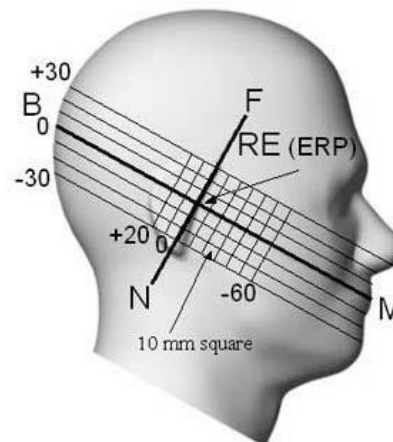


Fig 11.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

11.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width w_t of the handset at the level of the acoustic output (point A in Figure 11.2.1 and Figure 11.2.2), and the midpoint of the width w_b of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 11.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 11.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 11.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 11.2.3. The actual rotation angles should be documented in the test report.

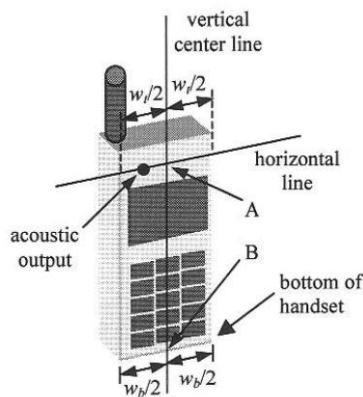


Fig 11.2.1 Handset vertical and horizontal reference lines—"fixed case"

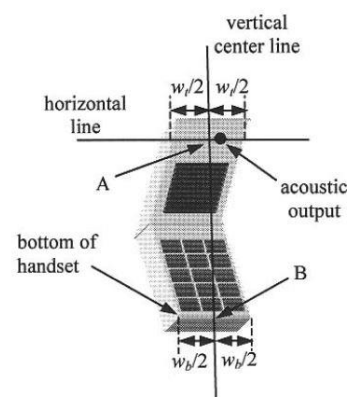


Fig 11.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

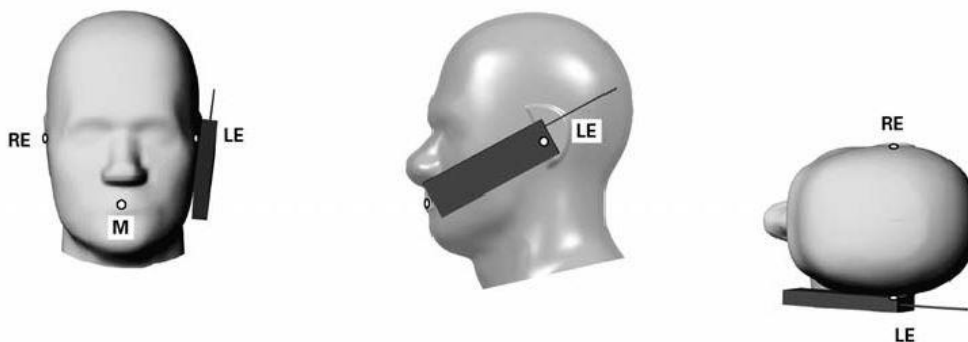


Fig 11.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

11.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 11.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

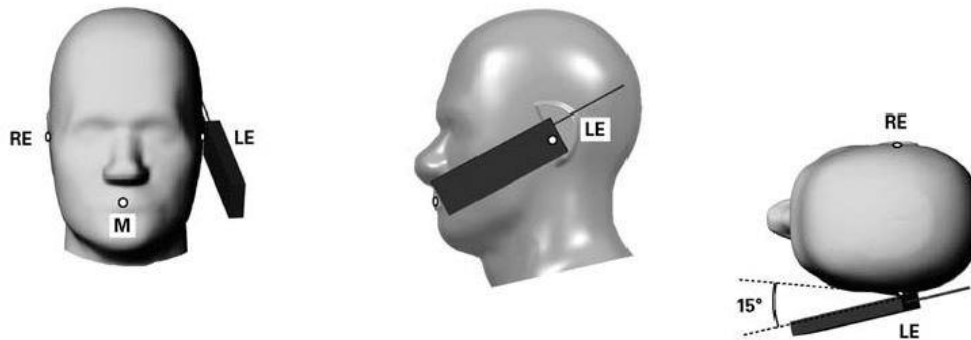


Fig 11.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

11.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 11.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

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

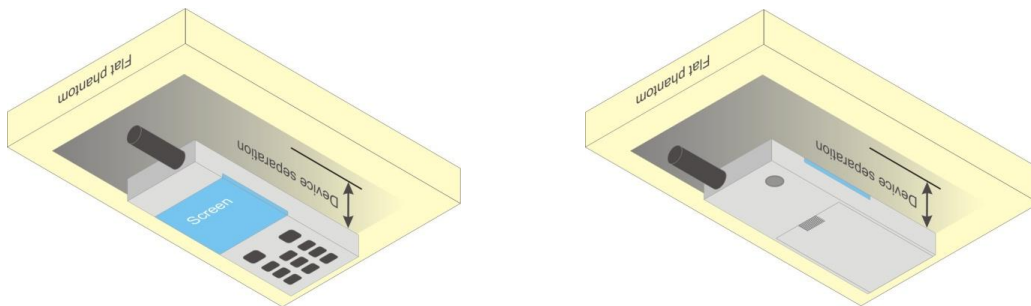


Fig 11.4 Body Worn Position

11.5 Product Specific 10g SAR Exposure

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

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

11.6 Wireless Router

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

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

12. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

<Full Power Mode>

GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GSM 1 Tx slot	32.33	32.36	32.34	32.50	23.33	23.36	23.34	23.50
GPRS 1 Tx slot	32.31	32.35	32.32	32.50	23.31	23.35	23.32	23.50
GPRS 2 Tx slots	29.23	29.26	29.21	29.50	23.23	23.26	23.21	23.50
GPRS 3 Tx slots	27.14	27.20	27.16	27.50	22.88	22.94	22.90	23.24
GPRS 4 Tx slots	26.68	26.76	26.75	27.00	23.68	23.76	23.75	24.00
EDGE 1 Tx slot	25.97	25.98	25.79	26.00	16.97	16.98	16.79	17.00
EDGE 2 Tx slots	25.89	25.83	25.72	26.00	19.89	19.83	19.72	20.00
EDGE 3 Tx slots	24.41	24.34	24.26	24.50	20.15	20.08	20.00	20.24
EDGE 4 Tx slots	23.08	23.01	22.92	23.50	20.08	20.01	19.92	20.50
GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	29.36	29.40	29.43	29.50	20.36	20.40	20.43	20.50
GPRS 1 Tx slot	29.35	29.38	29.41	29.50	20.35	20.38	20.41	20.50
GPRS 2 Tx slots	26.28	26.36	26.42	26.50	20.28	20.36	20.42	20.50
GPRS 3 Tx slots	24.28	24.31	24.38	24.50	20.02	20.05	20.12	20.24
GPRS 4 Tx slots	23.77	23.75	23.78	24.00	20.77	20.75	20.78	21.00
EDGE 1 Tx slot	24.94	24.98	24.76	25.00	15.94	15.98	15.76	16.00
EDGE 2 Tx slots	24.61	24.60	24.51	25.00	18.61	18.60	18.51	19.00
EDGE 3 Tx slots	23.09	23.12	23.19	23.50	18.83	18.86	18.93	19.24
EDGE 4 Tx slots	21.79	21.70	21.71	22.00	18.79	18.70	18.71	19.00

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<Reduced Power Mode for Hotspot On/P-Sensor On>

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	25.36	25.46	25.53	26.00	16.36	16.46	16.53	17.00
GPRS 1 Tx slot	25.23	25.33	25.45	26.00	16.23	16.33	16.45	17.00
GPRS 2 Tx slots	22.10	22.03	22.10	22.50	16.10	16.03	16.10	16.50
GPRS 3 Tx slots	20.10	20.08	20.16	20.50	15.84	15.82	15.90	16.24
GPRS 4 Tx slots	18.59	18.58	18.70	19.00	15.59	15.58	15.70	16.00
EDGE 1 Tx slot	21.67	21.57	21.43	22.00	12.67	12.57	12.43	13.00
EDGE 2 Tx slots	21.54	21.51	21.26	22.00	15.54	15.51	15.26	16.00
EDGE 3 Tx slots	20.01	19.87	19.74	20.50	15.75	15.61	15.48	16.24
EDGE 4 Tx slots	18.57	18.41	18.36	19.00	15.57	15.41	15.36	16.00

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<WCDMA Conducted Power>
<Full Power Mode>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	23.34	23.36	23.37	23.50	23.35	23.40	23.42	23.50	23.03	22.95	23.10	23.50
3GPP Rel 99	RMC 12.2Kbps	23.36	23.37	23.38	23.50	23.38	23.41	23.44	23.50	23.06	22.97	23.12	23.50
3GPP Rel 6	HSDPA Subtest-1	22.75	22.62	22.53	23.00	22.54	22.64	22.57	23.00	22.52	22.45	22.45	23.00
3GPP Rel 6	HSDPA Subtest-2	22.76	22.64	22.57	23.00	22.51	22.63	22.56	23.00	22.49	22.45	22.47	23.00
3GPP Rel 6	HSDPA Subtest-3	22.20	22.14	22.04	22.50	22.02	22.12	22.10	22.50	21.96	21.99	21.94	22.50
3GPP Rel 6	HSDPA Subtest-4	22.21	22.15	22.06	22.50	22.03	22.15	22.07	22.50	21.97	21.95	21.95	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	22.66	22.55	22.49	23.00	22.50	22.55	22.56	23.00	22.45	22.42	22.43	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	22.60	22.53	22.47	23.00	22.48	22.52	22.50	23.00	22.42	22.38	22.41	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	22.15	22.05	21.99	22.50	22.00	22.02	22.03	22.50	21.92	21.89	21.90	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	22.13	22.02	21.96	22.50	21.98	22.01	22.04	22.50	21.93	21.86	21.92	22.50
3GPP Rel 6	HSUPA Subtest-1	22.76	22.62	22.53	23.00	22.44	22.61	22.52	23.00	22.34	22.33	22.49	23.00
3GPP Rel 6	HSUPA Subtest-2	20.71	20.67	20.58	21.00	20.41	20.63	20.49	21.00	20.40	20.38	20.42	21.00
3GPP Rel 6	HSUPA Subtest-3	21.70	21.64	21.56	22.00	21.46	21.61	21.52	22.00	21.34	21.36	21.45	22.00
3GPP Rel 6	HSUPA Subtest-4	20.73	20.65	20.58	21.00	20.42	20.62	20.50	21.00	20.35	20.35	20.51	21.00
3GPP Rel 6	HSUPA Subtest-5	22.70	22.70	22.60	23.00	22.40	22.70	22.50	23.00	22.30	22.40	22.50	23.00

<Reduced Power Mode for Hotspot On/P-Sensor On>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	15.08	15.01	15.10	15.50	15.97	15.98	15.99	16.50	20.96	20.75	21.06	21.50
3GPP Rel 99	RMC 12.2Kbps	15.11	15.02	15.13	15.50	15.99	16.01	16.03	16.50	20.97	20.79	21.08	21.50
3GPP Rel 6	HSDPA Subtest-1	14.13	14.09	14.17	14.50	14.88	15.02	14.88	15.50	19.98	19.90	19.95	20.50
3GPP Rel 6	HSDPA Subtest-2	14.15	14.07	14.16	14.50	14.89	15.03	14.87	15.50	20.00	19.90	19.88	20.50
3GPP Rel 6	HSDPA Subtest-3	13.66	13.57	13.66	14.00	14.39	14.53	14.37	15.00	19.59	19.39	19.44	20.00
3GPP Rel 6	HSDPA Subtest-4	13.63	13.57	13.66	14.00	14.39	14.53	14.36	15.00	19.58	19.37	19.44	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	14.08	13.99	14.05	14.50	14.85	14.99	14.85	15.50	19.95	19.90	19.90	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	14.06	13.95	14.03	14.50	14.80	14.95	14.83	15.50	19.91	19.88	19.88	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	13.60	13.45	13.62	14.00	14.33	14.45	14.35	15.00	19.45	19.38	19.35	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	13.55	13.48	13.60	14.00	14.31	14.43	14.31	15.00	19.41	19.36	19.33	20.00
3GPP Rel 6	HSUPA Subtest-1	14.05	14.00	14.08	14.50	14.97	14.98	14.88	15.50	19.98	19.86	19.97	20.50
3GPP Rel 6	HSUPA Subtest-2	12.14	12.04	12.17	12.50	12.88	13.01	12.92	13.50	18.04	17.87	17.94	18.50
3GPP Rel 6	HSUPA Subtest-3	13.06	13.05	13.07	13.50	13.89	13.99	13.90	14.50	19.03	18.88	18.95	19.50
3GPP Rel 6	HSUPA Subtest-4	12.12	12.05	12.16	12.50	12.89	13.06	12.90	13.50	18.05	17.89	17.90	18.50
3GPP Rel 6	HSUPA Subtest-5	14.10	14.10	14.10	14.50	14.90	15.10	14.90	15.50	20.10	19.90	20.00	20.50

<Reduced Power Mode for Product Specific 10g SAR>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	20.08	20.02	20.10	20.50	19.92	20.00	20.01	20.50
3GPP Rel 99	RMC 12.2Kbps	20.11	20.04	20.12	20.50	19.94	20.02	20.03	20.50
3GPP Rel 6	HSDPA Subtest-1	19.22	19.25	19.33	20.00	19.00	19.12	19.01	20.00
3GPP Rel 6	HSDPA Subtest-2	19.20	19.23	19.30	20.00	18.98	19.08	18.96	20.00
3GPP Rel 6	HSDPA Subtest-3	18.77	18.82	18.80	19.50	18.49	18.65	18.44	19.50
3GPP Rel 6	HSDPA Subtest-4	18.72	18.80	18.78	19.50	18.46	18.61	18.45	19.50
3GPP Rel 8	DC-HSDPA Subtest-1	19.18	19.08	19.25	20.00	18.95	18.90	19.03	20.00
3GPP Rel 8	DC-HSDPA Subtest-2	19.15	19.05	19.23	20.00	18.90	18.88	19.00	20.00
3GPP Rel 8	DC-HSDPA Subtest-3	18.72	18.59	18.73	19.50	18.44	18.38	18.45	19.50
3GPP Rel 8	DC-HSDPA Subtest-4	18.65	18.55	18.72	19.50	18.42	18.40	18.41	19.50
3GPP Rel 6	HSUPA Subtest-1	19.18	19.28	19.35	20.00	19.05	19.15	19.02	20.00
3GPP Rel 6	HSUPA Subtest-2	17.19	17.25	17.29	18.00	17.05	17.08	17.01	18.00
3GPP Rel 6	HSUPA Subtest-3	18.18	18.22	18.31	19.00	18.06	18.14	18.05	19.00
3GPP Rel 6	HSUPA Subtest-4	17.15	17.26	17.25	18.00	17.22	17.15	17.05	18.00
3GPP Rel 6	HSUPA Subtest-5	19.20	19.30	19.30	20.00	19.10	19.20	19.00	20.00



<CDMA2000 Conducted Power>

<Full Power Mode>

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)	CDMA2000 BC10			Tune-up Limit (dBm)
Tx Channel	1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55	24.41	24.33	24.24	24.50	24.90	24.79	24.72	25.00	24.60	24.60	24.63	25.00
RC3 SO55	24.40	24.32	24.23	24.50	24.89	24.75	24.71	25.00	24.58	24.59	24.61	25.00
RC3 SO32 (F+SCH)	24.39	24.33	24.21	24.50	24.80	24.72	24.75	25.00	24.32	24.44	24.45	25.00
RC3 SO32 (+SCH)	24.38	24.32	24.20	24.50	24.78	24.71	24.72	25.00	24.31	24.42	24.43	25.00
RTAP 153.6Kbps	24.36	24.29	24.10	24.50	24.80	24.69	24.68	25.00	24.57	24.53	24.54	25.00
RETAP 4096Bits	24.27	24.20	24.01	24.50	24.65	24.52	24.52	25.00	24.52	24.51	24.52	25.00

<Reduced Power Mode for Hotspot On/P-Sensor On>

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)	CDMA2000 BC10			Tune-up Limit (dBm)
Tx Channel	1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55	22.98	22.92	22.73	23.50	14.81	14.73	14.78	15.00	22.88	22.98	22.90	23.50
RC3 SO55	22.96	22.85	22.70	23.50	14.80	14.72	14.76	15.00	22.86	22.95	22.68	23.50
RC3 SO32 (F+SCH)	22.95	22.91	22.72	23.50	14.63	14.39	14.43	15.00	22.76	22.91	22.87	23.50
RC3 SO32 (+SCH)	22.93	22.90	22.71	23.50	14.62	14.36	14.42	15.00	22.75	22.90	22.85	23.50
RTAP 153.6Kbps	22.92	22.89	22.83	23.50	14.72	14.42	14.56	15.00	22.87	22.85	22.79	23.50
RETAP 4096Bits	22.90	22.76	22.70	23.50	14.70	14.40	14.55	15.00	22.85	22.93	22.70	23.50

<Reduced Power Mode for Product Specific 10g SAR>

Band	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	25	600	1175	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	17.52	17.28	17.48	18.00
RC3 SO55	17.46	17.20	17.45	18.00
RC3 SO32 (F+SCH)	17.46	17.26	17.45	18.00
RC3 SO32 (+SCH)	17.43	17.25	17.43	18.00
RTAP 153.6Kbps	17.50	17.28	17.47	18.00
RETAP 4096Bits	17.48	17.23	17.39	18.00

<LTE Conducted Power>
<Full 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	23.61	23.66	23.64	24	0
20	QPSK	1	49	23.52	23.31	23.40		
20	QPSK	1	99	23.49	23.48	23.59		
20	QPSK	50	0	22.46	22.60	22.53	23	1
20	QPSK	50	24	22.41	22.31	22.37		
20	QPSK	50	50	22.35	22.43	22.46		
20	QPSK	100	0	22.40	22.48	22.39	23	1
20	16QAM	1	0	22.80	22.66	22.86		
20	16QAM	1	49	22.61	22.50	22.75		
20	16QAM	1	99	22.75	22.88	22.74	22	2
20	16QAM	50	0	21.45	21.46	21.47		
20	16QAM	50	24	21.41	21.41	21.50		
20	16QAM	50	50	21.40	21.46	21.59	22	2
20	16QAM	100	0	21.41	21.49	21.57		
20	64QAM	1	0	23.60	23.64	23.52	24	0
20	64QAM	1	49	23.52	23.59	23.48		
20	64QAM	1	99	23.49	23.60	23.56		
20	64QAM	50	0	23.57	23.62	23.60	24	0
20	64QAM	50	24	23.60	23.58	23.57		
20	64QAM	50	50	23.55	23.57	23.53		
20	64QAM	100	0	23.52	23.63	23.60		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.54	23.52	23.56	24	0
15	QPSK	1	37	23.12	23.33	23.36		
15	QPSK	1	74	23.56	23.57	23.58		
15	QPSK	36	0	22.37	22.42	22.48	23	1
15	QPSK	36	20	22.39	22.37	22.50		
15	QPSK	36	39	22.44	22.48	22.64		
15	QPSK	75	0	22.44	22.36	22.50	23	1
15	16QAM	1	0	22.89	22.72	22.95		
15	16QAM	1	37	22.61	22.65	22.61		
15	16QAM	1	74	22.86	22.91	22.95	22	2
15	16QAM	36	0	21.41	21.46	21.46		
15	16QAM	36	20	21.44	21.42	21.56		
15	16QAM	36	39	21.43	21.43	21.60	24	0
15	16QAM	75	0	21.44	21.33	21.47		
15	64QAM	1	0	23.60	23.62	23.55		
15	64QAM	1	37	23.51	23.45	23.53	24	0
15	64QAM	1	74	23.54	23.55	23.57		
15	64QAM	36	0	23.49	23.50	23.44		
15	64QAM	36	20	23.45	23.41	23.45	24	0
15	64QAM	36	39	23.56	23.52	23.48		
15	64QAM	75	0	23.58	23.51	23.52		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.56	23.64	23.58	24	0
10	QPSK	1	25	23.35	23.39	23.59		
10	QPSK	1	49	23.57	23.60	23.58		
10	QPSK	25	0	22.47	22.51	22.55	23	1
10	QPSK	25	12	22.46	22.41	22.61		
10	QPSK	25	25	22.63	22.67	22.65		
10	QPSK	50	0	22.50	22.46	22.56	23	1
10	16QAM	1	0	22.87	22.85	22.93		
10	16QAM	1	25	22.71	22.48	22.70		
10	16QAM	1	49	22.81	22.85	22.94	22	2
10	16QAM	25	0	21.41	21.53	21.54		
10	16QAM	25	12	21.46	21.43	21.51		
10	16QAM	25	25	21.54	21.55	21.62	24	0
10	16QAM	50	0	21.51	21.45	21.57		
10	64QAM	1	0	23.61	23.63	23.54		
10	64QAM	1	25	23.56	23.57	23.51	24	0
10	64QAM	1	49	23.47	23.49	23.58		
10	64QAM	25	0	23.50	23.56	23.47		
10	64QAM	25	12	23.54	23.55	23.48	24	0
10	64QAM	25	25	23.57	23.54	23.60		
10	64QAM	50	0	23.49	23.61	23.59		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.24	23.25	23.41	24	0
5	QPSK	1	12	23.16	23.29	23.52		
5	QPSK	1	24	23.33	23.39	23.41		
5	QPSK	12	0	22.43	22.40	22.56	23	1
5	QPSK	12	7	22.40	22.39	22.50		
5	QPSK	12	13	22.35	22.32	22.50		
5	QPSK	25	0	22.42	22.43	22.55	23	1
5	16QAM	1	0	22.68	22.70	22.74		
5	16QAM	1	12	22.48	22.60	22.69		
5	16QAM	1	24	22.54	22.77	22.70	22	2
5	16QAM	12	0	21.46	21.48	21.64		
5	16QAM	12	7	21.41	21.41	21.52		
5	16QAM	12	13	21.43	21.38	21.47	24	0
5	16QAM	25	0	21.42	21.46	21.63		
5	64QAM	1	0	23.59	23.65	23.57		
5	64QAM	1	12	23.57	23.62	23.60	24	0
5	64QAM	1	24	23.50	23.52	23.57		
5	64QAM	12	0	23.54	23.59	23.54		
5	64QAM	12	7	23.50	23.47	23.50	24	0
5	64QAM	12	13	23.62	23.61	23.64		
5	64QAM	25	0	23.51	23.46	23.52		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	23.19	23.12	23.42	24	0
3	QPSK	1	8	23.31	23.33	23.49		
3	QPSK	1	14	23.23	23.30	23.40		
3	QPSK	8	0	22.37	22.39	22.52	23	1
3	QPSK	8	4	22.33	22.33	22.53		
3	QPSK	8	7	22.31	22.33	22.52		
3	QPSK	15	0	22.36	22.38	22.50		
3	16QAM	1	0	22.58	22.71	22.85	23	1
3	16QAM	1	8	22.58	22.53	22.78		
3	16QAM	1	14	22.55	22.86	22.73		
3	16QAM	8	0	21.43	21.46	21.61	22	2
3	16QAM	8	4	21.45	21.47	21.59		
3	16QAM	8	7	21.41	21.40	21.54		
3	16QAM	15	0	21.37	21.41	21.54		
3	64QAM	1	0	23.54	23.60	23.58	24	0
3	64QAM	1	8	23.47	23.52	23.50		
3	64QAM	1	14	23.55	23.59	23.57		
3	64QAM	8	0	23.40	23.45	23.42	24	0
3	64QAM	8	4	23.55	23.44	23.46		
3	64QAM	8	7	23.50	23.53	23.43		
3	64QAM	15	0	23.57	23.61	23.55		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	23.31	23.10	23.29	24	0
1.4	QPSK	1	3	23.32	23.32	23.41		
1.4	QPSK	1	5	23.21	23.27	23.38		
1.4	QPSK	3	0	23.23	23.26	23.39		
1.4	QPSK	3	1	23.30	23.28	23.47		
1.4	QPSK	3	3	23.28	23.33	23.50		
1.4	QPSK	6	0	22.29	22.33	22.47	23	1
1.4	16QAM	1	0	22.53	22.54	22.75	23	1
1.4	16QAM	1	3	22.70	22.59	22.70		
1.4	16QAM	1	5	22.53	22.56	22.62		
1.4	16QAM	3	0	22.29	22.38	22.53		
1.4	16QAM	3	1	22.38	22.34	22.47		
1.4	16QAM	3	3	22.30	22.30	22.46		
1.4	16QAM	6	0	21.39	21.36	21.53	22	2
1.4	64QAM	1	0	23.57	23.59	23.60	24	0
1.4	64QAM	1	3	23.49	23.56	23.51		
1.4	64QAM	1	5	23.52	23.47	23.43		
1.4	64QAM	3	0	23.53	23.57	23.58		
1.4	64QAM	3	1	23.48	23.43	23.49		
1.4	64QAM	3	3	23.52	23.56	23.56		
1.4	64QAM	6	0	23.46	23.55	23.54	24	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.10	23.12	23.04	23.5	0
20	QPSK	1	49	23.17	23.20	23.13		
20	QPSK	1	99	22.92	22.99	22.91		
20	QPSK	50	0	22.06	22.13	22.11	22.5	1
20	QPSK	50	24	22.10	22.04	22.02		
20	QPSK	50	50	22.07	22.00	21.95		
20	QPSK	100	0	22.10	22.12	21.94	22.5	1
20	16QAM	1	0	22.38	22.20	22.29		
20	16QAM	1	49	22.21	22.27	22.23		
20	16QAM	1	99	22.17	22.22	22.08	21.5	2
20	16QAM	50	0	21.09	21.00	21.07		
20	16QAM	50	24	21.10	21.02	21.04		
20	16QAM	50	50	21.03	21.00	21.10	23.5	0
20	16QAM	100	0	21.06	20.97	20.98		
20	64QAM	1	0	23.17	23.19	23.13		
20	64QAM	1	49	23.10	23.17	23.15	23.5	0
20	64QAM	1	99	23.05	23.07	23.13		
20	64QAM	50	0	23.06	23.05	23.10		
20	64QAM	50	24	23.10	23.08	23.16	23.5	0
20	64QAM	50	50	23.15	23.17	23.15		
20	64QAM	100	0	23.11	23.18	23.19		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.11	23.12	23.02	23.5	0
15	QPSK	1	37	22.95	23.02	23.12		
15	QPSK	1	74	22.95	22.96	23.01		
15	QPSK	36	0	22.28	22.08	22.05	22.5	1
15	QPSK	36	20	22.19	22.10	22.12		
15	QPSK	36	39	22.10	22.03	21.99		
15	QPSK	75	0	22.16	22.04	22.12	22.5	1
15	16QAM	1	0	22.45	22.42	22.47		
15	16QAM	1	37	22.12	22.35	22.41		
15	16QAM	1	74	22.29	22.29	22.14	21.5	2
15	16QAM	36	0	21.10	21.03	21.08		
15	16QAM	36	20	21.16	21.07	21.17		
15	16QAM	36	39	21.08	21.01	21.03	23.5	0
15	16QAM	75	0	21.01	21.05	21.10		
15	64QAM	1	0	23.14	23.11	23.16		
15	64QAM	1	37	23.11	23.14	23.13	23.5	0
15	64QAM	1	74	23.16	23.17	23.14		
15	64QAM	36	0	23.14	23.09	23.12		
15	64QAM	36	20	23.10	23.13	23.15	23.5	0
15	64QAM	36	39	23.18	23.18	23.16		
15	64QAM	75	0	23.19	23.15	23.17		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.19	23.14	23.10	23.5	0
10	QPSK	1	25	23.11	22.99	23.09		
10	QPSK	1	49	23.12	23.17	23.16		
10	QPSK	25	0	22.28	22.11	22.08	22.5	1
10	QPSK	25	12	22.16	22.13	22.10		
10	QPSK	25	25	22.31	22.12	22.16		
10	QPSK	50	0	22.28	22.14	22.19	22.5	1
10	16QAM	1	0	22.47	22.48	22.49		
10	16QAM	1	25	22.40	22.37	22.31		
10	16QAM	1	49	22.45	22.46	22.41	21.5	2
10	16QAM	25	0	21.18	21.09	21.06		
10	16QAM	25	12	21.18	21.12	21.08		
10	16QAM	25	25	21.25	21.14	21.20	23.5	0
10	16QAM	50	0	21.30	21.11	21.13		
10	64QAM	1	0	23.15	23.16	23.17		
10	64QAM	1	25	23.09	23.11	23.11	23.5	0
10	64QAM	1	49	23.13	23.14	23.10		
10	64QAM	25	0	23.18	23.17	23.15		
10	64QAM	25	12	23.13	23.10	23.09	23.5	0
10	64QAM	25	25	23.14	23.11	23.14		
10	64QAM	50	0	23.18	23.17	23.09		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.10	23.04	23.08	23.5	0
5	QPSK	1	12	23.14	22.97	23.15		
5	QPSK	1	24	23.05	23.06	23.12		
5	QPSK	12	0	22.27	22.15	22.20	22.5	1
5	QPSK	12	7	22.11	22.05	22.12		
5	QPSK	12	13	22.16	22.03	22.13		
5	QPSK	25	0	22.18	22.07	22.13	22.5	1
5	16QAM	1	0	22.46	22.48	22.44		
5	16QAM	1	12	22.45	22.24	22.40		
5	16QAM	1	24	22.38	22.39	22.34	21.5	2
5	16QAM	12	0	21.31	21.14	21.23		
5	16QAM	12	7	21.12	21.05	21.15		
5	16QAM	12	13	21.21	21.03	21.13	23.5	0
5	16QAM	25	0	21.14	20.93	21.14		
5	64QAM	1	0	23.12	23.14	23.12		
5	64QAM	1	12	23.09	23.12	23.14	23.5	0
5	64QAM	1	24	23.16	23.09	23.09		
5	64QAM	12	0	23.14	23.13	23.15		
5	64QAM	12	7	23.14	23.15	23.10	23.5	0
5	64QAM	12	13	23.16	23.08	23.14		
5	64QAM	25	0	23.08	23.14	23.05		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	23.13	23.08	23.05	23.5	0
3	QPSK	1	8	23.07	23.02	23.12		
3	QPSK	1	14	23.03	22.97	23.02		
3	QPSK	8	0	22.19	22.09	22.12	22.5	1
3	QPSK	8	4	22.11	22.06	22.14		
3	QPSK	8	7	22.09	22.00	22.11		
3	QPSK	15	0	22.09	22.03	22.11		
3	16QAM	1	0	22.42	22.30	22.40	22.5	1
3	16QAM	1	8	22.38	22.42	22.32		
3	16QAM	1	14	22.45	22.25	22.34		
3	16QAM	8	0	21.25	21.18	21.17	21.5	2
3	16QAM	8	4	21.23	21.07	21.18		
3	16QAM	8	7	21.17	21.08	21.14		
3	16QAM	15	0	21.13	21.00	21.14		
3	64QAM	1	0	23.10	23.11	23.15		
3	64QAM	1	8	23.14	23.16	23.18	23.5	0
3	64QAM	1	14	23.17	23.08	23.10		
3	64QAM	8	0	23.15	23.14	23.10		
3	64QAM	8	4	23.13	23.15	23.12	23.5	0
3	64QAM	8	7	23.15	23.18	23.11		
3	64QAM	15	0	23.12	23.13	23.12		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	23.14	23.03	23.02	23.5	0
1.4	QPSK	1	3	23.15	23.05	23.18		
1.4	QPSK	1	5	23.11	22.96	23.00		
1.4	QPSK	3	0	23.12	23.07	23.05		
1.4	QPSK	3	1	23.17	23.11	23.16		
1.4	QPSK	3	3	23.12	22.97	23.10		
1.4	QPSK	6	0	22.12	21.96	22.07	22.5	1
1.4	16QAM	1	0	22.50	22.39	22.38	22.5	1
1.4	16QAM	1	3	22.45	22.30	22.36		
1.4	16QAM	1	5	22.41	22.28	22.42		
1.4	16QAM	3	0	22.11	22.05	22.11		
1.4	16QAM	3	1	22.21	22.17	22.17		
1.4	16QAM	3	3	22.20	21.98	22.10	21.5	2
1.4	16QAM	6	0	21.11	21.02	21.13	23.5	0
1.4	64QAM	1	0	23.15	23.18	23.12		
1.4	64QAM	1	3	23.12	23.11	23.13		
1.4	64QAM	1	5	23.11	23.10	23.16		
1.4	64QAM	3	0	23.13	23.14	23.06		
1.4	64QAM	3	1	23.06	23.17	23.11		
1.4	64QAM	3	3	23.10	23.13	23.16		
1.4	64QAM	6	0	23.14	23.17	23.18	23.5	0

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	23.35	23.39	23.34		
10	QPSK	1	25	23.28	23.20	23.20	24	0
10	QPSK	1	49	23.57	23.55	23.51		
10	QPSK	25	0	22.49	22.19	22.25		
10	QPSK	25	12	22.43	22.37	22.32	23	1
10	QPSK	25	25	22.45	22.50	22.40		
10	QPSK	50	0	22.42	22.43	22.35		
10	16QAM	1	0	22.81	22.52	22.60	23	1
10	16QAM	1	25	22.65	22.42	22.49		
10	16QAM	1	49	22.83	22.85	22.55		
10	16QAM	25	0	21.42	21.24	21.28	22	2
10	16QAM	25	12	21.42	21.31	21.28		
10	16QAM	25	25	21.44	21.36	21.37		
10	16QAM	50	0	21.42	21.43	21.33	24	0
10	64QAM	1	0	23.49	23.52	23.55		
10	64QAM	1	25	23.48	23.50	23.47		
10	64QAM	1	49	23.54	23.58	23.49	24	0
10	64QAM	25	0	23.47	23.42	23.54		
10	64QAM	25	12	23.54	23.47	23.51		
10	64QAM	25	25	23.53	23.55	23.48	24	0
10	64QAM	50	0	23.50	23.48	23.43		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	23.09	23.13	23.15		
5	QPSK	1	12	23.07	23.13	23.18	24	0
5	QPSK	1	24	23.27	23.17	23.15		
5	QPSK	12	0	22.46	22.22	22.21	23	1
5	QPSK	12	7	22.35	22.27	22.28		
5	QPSK	12	13	22.43	22.25	22.26		
5	QPSK	25	0	22.39	22.34	22.26	23	1
5	16QAM	1	0	22.70	22.39	22.48		
5	16QAM	1	12	22.48	22.43	22.63		
5	16QAM	1	24	22.49	22.44	22.38	22	2
5	16QAM	12	0	21.42	21.23	21.26		
5	16QAM	12	7	21.40	21.28	21.34		
5	16QAM	12	13	21.45	21.25	21.17	24	0
5	16QAM	25	0	21.39	21.29	21.29		
5	64QAM	1	0	23.50	23.51	23.45		
5	64QAM	1	12	23.47	23.48	23.49	24	0
5	64QAM	1	24	23.46	23.52	23.51		
5	64QAM	12	0	23.53	23.57	23.58		
5	64QAM	12	7	23.52	23.51	23.51	24	0
5	64QAM	12	13	23.49	23.51	23.46		
5	64QAM	25	0	23.55	23.49	23.49		

Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	23.11	23.21	23.11	24	0
3	QPSK	1	8	23.34	23.12	23.19		
3	QPSK	1	14	23.22	23.16	23.14		
3	QPSK	8	0	22.36	22.19	22.18	23	1
3	QPSK	8	4	22.42	22.28	22.26		
3	QPSK	8	7	22.32	22.33	22.23		
3	QPSK	15	0	22.42	22.24	22.24	23	1
3	16QAM	1	0	22.48	22.32	22.44		
3	16QAM	1	8	22.75	22.48	22.48		
3	16QAM	1	14	22.41	22.50	22.45	22	2
3	16QAM	8	0	21.43	21.28	21.32		
3	16QAM	8	4	21.53	21.29	21.29		
3	16QAM	8	7	21.38	21.32	21.35	24	0
3	16QAM	15	0	21.41	21.23	21.28		
3	64QAM	1	0	23.51	23.53	23.56		
3	64QAM	1	8	23.47	23.48	23.46	24	0
3	64QAM	1	14	23.53	23.53	23.50		
3	64QAM	8	0	23.44	23.51	23.48		
3	64QAM	8	4	23.48	23.42	23.55	24	0
3	64QAM	8	7	23.51	23.44	23.50		
3	64QAM	15	0	23.50	23.49	23.52		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	23.18	23.12	23.14	24	0
1.4	QPSK	1	3	23.20	23.21	23.22		
1.4	QPSK	1	5	23.12	23.07	23.18		
1.4	QPSK	3	0	22.32	22.10	22.13	23	1
1.4	QPSK	3	1	22.38	22.16	22.11		
1.4	QPSK	3	3	22.27	22.08	22.09		
1.4	QPSK	6	0	22.40	22.28	22.13	22	2
1.4	16QAM	1	0	22.55	22.30	22.39		
1.4	16QAM	1	3	22.80	22.43	22.64		
1.4	16QAM	1	5	22.56	22.41	22.40	23	1
1.4	16QAM	3	0	21.38	21.07	21.20		
1.4	16QAM	3	1	21.40	21.23	21.09		
1.4	16QAM	3	3	21.31	21.14	21.18	22	2
1.4	16QAM	6	0	21.37	21.29	21.23		
1.4	64QAM	1	0	23.49	23.54	23.52		
1.4	64QAM	1	3	23.46	23.48	23.52	24	0
1.4	64QAM	1	5	23.53	23.51	23.48		
1.4	64QAM	3	0	23.51	23.56	23.57		
1.4	64QAM	3	1	23.52	23.51	23.50	24	0
1.4	64QAM	3	3	23.52	23.49	23.53		
1.4	64QAM	6	0	23.51	23.53	23.51		

<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	23.5	0
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.25	23.33	23.40		
20	QPSK	1	49	23.01	23.19	23.07	22.5	1
20	QPSK	1	99	23.21	23.06	22.98		
20	QPSK	50	0	22.04	22.02	22.09		
20	QPSK	50	24	22.13	22.10	22.16	22.5	1
20	QPSK	50	50	22.05	22.02	22.07		
20	QPSK	100	0	22.08	21.98	22.12		
20	16QAM	1	0	22.10	22.07	22.24	22.5	1
20	16QAM	1	49	22.25	22.08	22.20		
20	16QAM	1	99	22.16	22.24	22.28		
20	16QAM	50	0	21.05	21.04	21.12	21.5	2
20	16QAM	50	24	21.12	21.04	21.15		
20	16QAM	50	50	21.09	21.05	21.11		
20	16QAM	100	0	21.11	20.96	21.14	23.5	0
20	64QAM	1	0	23.28	23.31	23.35		
20	64QAM	1	49	23.29	23.34	23.30		
20	64QAM	1	99	23.34	23.36	23.11	23.5	0
20	64QAM	50	0	23.32	23.37	23.39		
20	64QAM	50	24	23.37	23.27	23.37		
20	64QAM	50	50	23.39	23.34	23.23	23.5	0
20	64QAM	100	0	23.33	23.37	23.32		
Channel				20825	21100	21375	23.5	0
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	23.10	23.12	23.17		
15	QPSK	1	37	23.03	23.06	23.11	22.5	1
15	QPSK	1	74	22.96	22.98	22.93		
15	QPSK	36	0	22.08	22.02	22.09		
15	QPSK	36	20	22.06	22.05	22.23	22.5	1
15	QPSK	36	39	22.15	21.99	22.19		
15	QPSK	75	0	22.07	22.04	22.18		
15	16QAM	1	0	22.10	22.16	22.29	22.5	1
15	16QAM	1	37	21.96	22.09	22.25		
15	16QAM	1	74	22.22	22.12	22.26		
15	16QAM	36	0	21.04	21.03	21.10	21.5	2
15	16QAM	36	20	21.09	21.08	21.20		
15	16QAM	36	39	21.09	20.99	21.18		
15	16QAM	75	0	21.01	21.01	21.21	23.5	0
15	64QAM	1	0	23.23	23.37	23.35		
15	64QAM	1	37	23.15	23.18	23.08		
15	64QAM	1	74	23.11	23.33	23.33	23.5	0
15	64QAM	36	0	23.24	23.09	23.09		
15	64QAM	36	20	23.27	23.39	23.39		
15	64QAM	36	39	23.39	23.37	23.37	23.5	0
15	64QAM	75	0	23.24	23.30	23.30		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.06	23.11	23.22	23.5	0
10	QPSK	1	25	23.09	23.11	23.18		
10	QPSK	1	49	23.12	23.13	23.18		
10	QPSK	25	0	22.07	22.16	22.30	22.5	1
10	QPSK	25	12	21.97	22.04	22.21		
10	QPSK	25	25	22.08	22.16	22.23		
10	QPSK	50	0	22.02	22.13	22.18	22.5	1
10	16QAM	1	0	22.32	22.44	22.46		
10	16QAM	1	25	22.12	22.20	22.36		
10	16QAM	1	49	22.36	22.31	22.45	21.5	2
10	16QAM	25	0	21.08	21.16	21.30		
10	16QAM	25	12	20.98	21.11	21.16		
10	16QAM	25	25	21.10	21.14	21.20	23.5	0
10	16QAM	50	0	21.07	21.10	21.27		
10	64QAM	1	0	23.37	23.36	23.33		
10	64QAM	1	25	23.23	23.34	23.30	23.5	0
10	64QAM	1	49	23.38	23.36	23.28		
10	64QAM	25	0	23.26	23.31	23.31		
10	64QAM	25	12	23.18	23.32	23.34	23.5	0
10	64QAM	25	25	23.35	23.16	23.25		
10	64QAM	50	0	23.23	23.29	23.30		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.03	23.05	23.10	23.5	0
5	QPSK	1	12	22.92	22.93	23.15		
5	QPSK	1	24	22.91	23.14	23.11		
5	QPSK	12	0	22.07	22.09	22.23	22.5	1
5	QPSK	12	7	22.05	22.06	22.19		
5	QPSK	12	13	22.00	22.05	22.20		
5	QPSK	25	0	22.08	22.07	22.22	22.5	1
5	16QAM	1	0	22.46	22.28	22.44		
5	16QAM	1	12	22.20	22.25	22.45		
5	16QAM	1	24	22.09	22.25	22.44	21.5	2
5	16QAM	12	0	21.04	21.14	21.28		
5	16QAM	12	7	21.09	21.10	21.22		
5	16QAM	12	13	21.03	21.12	21.23	23.5	0
5	16QAM	25	0	21.03	21.14	21.18		
5	64QAM	1	0	23.33	23.38	23.35		
5	64QAM	1	12	23.31	23.24	23.20	23.5	0
5	64QAM	1	24	23.36	23.23	23.25		
5	64QAM	12	0	23.23	23.26	23.28		
5	64QAM	12	7	23.35	23.33	23.35	23.5	0
5	64QAM	12	13	23.20	23.37	23.36		
5	64QAM	25	0	23.34	23.38	23.28		

<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	24	0
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	23.65	23.85	23.83		
10	QPSK	1	25	23.42	23.60	23.56	24	0
10	QPSK	1	49	23.70	23.86	23.65		
10	QPSK	25	0	22.55	22.61	22.51		
10	QPSK	25	12	22.47	22.49	22.57	23	1
10	QPSK	25	25	22.49	22.43	22.53		
10	QPSK	50	0	22.51	22.52	22.48		
10	16QAM	1	0	22.95	22.97	22.94	23	1
10	16QAM	1	25	22.67	22.65	22.66		
10	16QAM	1	49	22.88	22.90	22.83		
10	16QAM	25	0	21.65	21.42	21.51	22	2
10	16QAM	25	12	21.47	21.50	21.55		
10	16QAM	25	25	21.48	21.53	21.45		
10	16QAM	50	0	21.57	21.56	21.57	24	0
10	64QAM	1	0	23.77	23.80	23.77		
10	64QAM	1	25	23.70	23.71	23.81		
10	64QAM	1	49	23.78	23.74	23.80	24	0
10	64QAM	25	0	23.81	23.77	23.75		
10	64QAM	25	12	23.68	23.66	23.69		
10	64QAM	25	25	23.75	23.79	23.81	24	0
10	64QAM	50	0	23.74	23.77	23.82		
Channel				23035	23095	23155	24	0
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	23.49	23.47	23.48		
5	QPSK	1	12	23.48	23.42	23.52	24	0
5	QPSK	1	24	23.46	23.49	23.48		
5	QPSK	12	0	22.40	22.39	22.53	23	1
5	QPSK	12	7	22.48	22.48	22.50		
5	QPSK	12	13	22.48	22.44	22.42		
5	QPSK	25	0	22.47	22.50	22.49	23	1
5	16QAM	1	0	22.70	22.82	22.66		
5	16QAM	1	12	22.63	22.73	22.70		
5	16QAM	1	24	22.75	22.68	22.85	22	2
5	16QAM	12	0	21.42	21.45	21.54		
5	16QAM	12	7	21.52	21.49	21.51		
5	16QAM	12	13	21.48	21.52	21.43	24	0
5	16QAM	25	0	21.46	21.46	21.49		
5	64QAM	1	0	23.78	23.81	23.77		
5	64QAM	1	12	23.80	23.84	23.81	24	0
5	64QAM	1	24	23.69	23.77	23.80		
5	64QAM	12	0	23.71	23.68	23.72		
5	64QAM	12	7	23.76	23.66	23.76	24	0
5	64QAM	12	13	23.80	23.76	23.81		
5	64QAM	25	0	23.81	23.79	23.77		

Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.49	23.36	23.61	24	0
3	QPSK	1	8	23.46	23.37	23.52		
3	QPSK	1	14	23.44	23.38	23.40		
3	QPSK	8	0	22.43	22.44	22.44	23	1
3	QPSK	8	4	22.46	22.48	22.47		
3	QPSK	8	7	22.41	22.41	22.47		
3	QPSK	15	0	22.42	22.43	22.42	23	1
3	16QAM	1	0	22.44	22.60	22.73		
3	16QAM	1	8	22.39	22.66	22.74		
3	16QAM	1	14	22.70	22.62	22.79	22	2
3	16QAM	8	0	21.44	21.51	21.48		
3	16QAM	8	4	21.51	21.54	21.51		
3	16QAM	8	7	21.44	21.46	21.51	24	0
3	16QAM	15	0	21.50	21.46	21.44		
3	64QAM	1	0	23.72	23.81	23.82		
3	64QAM	1	8	23.76	23.75	23.77	24	0
3	64QAM	1	14	23.81	23.78	23.80		
3	64QAM	8	0	23.69	23.74	23.77		
3	64QAM	8	4	23.80	23.85	23.81	24	0
3	64QAM	8	7	23.79	23.78	23.75		
3	64QAM	15	0	23.73	23.81	23.77		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	23.32	23.25	23.40	24	0
1.4	QPSK	1	3	23.56	23.43	23.36		
1.4	QPSK	1	5	23.38	23.34	23.63		
1.4	QPSK	3	0	23.40	23.39	23.36	23	1
1.4	QPSK	3	1	23.43	23.44	23.43		
1.4	QPSK	3	3	23.44	23.38	23.46		
1.4	QPSK	6	0	22.39	22.43	22.38	23	1
1.4	16QAM	1	0	22.75	22.58	22.66		
1.4	16QAM	1	3	22.76	22.78	22.68		
1.4	16QAM	1	5	22.89	22.65	22.78	22	2
1.4	16QAM	3	0	22.29	22.40	22.43		
1.4	16QAM	3	1	22.35	22.43	22.47		
1.4	16QAM	3	3	22.37	22.35	22.43	24	0
1.4	16QAM	6	0	21.46	21.51	21.43		
1.4	64QAM	1	0	23.78	23.75	23.80		
1.4	64QAM	1	3	23.80	23.74	23.77	24	0
1.4	64QAM	1	5	23.69	23.80	23.70		
1.4	64QAM	3	0	23.72	23.69	23.71		
1.4	64QAM	3	1	23.74	23.81	23.75	24	0
1.4	64QAM	3	3	23.76	23.71	23.67		
1.4	64QAM	6	0	23.69	23.74	23.77		

<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		24.07		24.5	0
10	QPSK	1	25		24.02			
10	QPSK	1	49		23.75			
10	QPSK	25	0		23.10		23.5	1
10	QPSK	25	12		22.93			
10	QPSK	25	25		22.82			
10	QPSK	50	0		23.09		23.5	1
10	16QAM	1	0		23.32			
10	16QAM	1	25		23.25			
10	16QAM	1	49		23.08		22.5	2
10	16QAM	25	0		22.09			
10	16QAM	25	12		21.92			
10	16QAM	25	25		21.79		24.5	0
10	16QAM	50	0		22.08			
10	64QAM	1	0		24.05			
10	64QAM	1	25		24.03		24.5	0
10	64QAM	1	49		24.04			
10	64QAM	25	0		23.99			
10	64QAM	25	12		24.01		24.5	0
10	64QAM	25	25		23.97			
10	64QAM	50	0		24.02			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	23.94	23.77	23.62	24.5	0
5	QPSK	1	12	23.87	23.91	24.06		
5	QPSK	1	24	23.77	24.02	23.56		
5	QPSK	12	0	22.89	22.79	22.83	23.5	1
5	QPSK	12	7	22.78	22.83	22.80		
5	QPSK	12	13	22.83	22.82	22.64		
5	QPSK	25	0	22.95	22.80	22.77	23.5	1
5	16QAM	1	0	23.07	23.36	22.93		
5	16QAM	1	12	23.07	23.02	22.97		
5	16QAM	1	24	23.35	23.01	23.04	22.5	2
5	16QAM	12	0	21.89	21.90	21.84		
5	16QAM	12	7	21.95	21.86	21.83		
5	16QAM	12	13	21.76	21.73	21.78	24.5	0
5	16QAM	25	0	21.96	21.91	21.77		
5	64QAM	1	0	24.00	24.02	24.00		
5	64QAM	1	12	24.01	23.98	23.98	24.5	0
5	64QAM	1	24	23.98	23.93	23.96		
5	64QAM	12	0	24.03	24.05	24.01		
5	64QAM	12	7	23.94	23.97	24.05	24.5	0
5	64QAM	12	13	23.95	23.98	24.02		
5	64QAM	25	0	24.00	24.05	23.99		

<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		23.90		24	0
10	QPSK	1	25		23.59			
10	QPSK	1	49		23.66			
10	QPSK	25	0		22.59		23	1
10	QPSK	25	12		22.44			
10	QPSK	25	25		22.47			
10	QPSK	50	0		22.48		23	1
10	16QAM	1	0		22.95			
10	16QAM	1	25		22.81			
10	16QAM	1	49		22.79		22	2
10	16QAM	25	0		21.62			
10	16QAM	25	12		21.48			
10	16QAM	25	25		21.44		24	0
10	16QAM	50	0		21.45			
10	64QAM	1	0		23.80			
10	64QAM	1	25		23.81		24	0
10	64QAM	1	49		23.79			
10	64QAM	25	0		23.86			
10	64QAM	25	12		23.83		24	0
10	64QAM	25	25		23.86			
10	64QAM	50	0		23.81			
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	23.45	23.46	23.33	24	0
5	QPSK	1	12	23.46	23.33	23.63		
5	QPSK	1	24	23.36	23.38	23.40		
5	QPSK	12	0	22.56	22.39	22.51	23	1
5	QPSK	12	7	22.52	22.35	22.50		
5	QPSK	12	13	22.44	22.43	22.51		
5	QPSK	25	0	22.45	22.35	22.49	23	1
5	16QAM	1	0	22.62	22.82	22.77		
5	16QAM	1	12	22.84	22.76	22.72		
5	16QAM	1	24	22.69	22.71	22.60	22	2
5	16QAM	12	0	21.59	21.55	21.49		
5	16QAM	12	7	21.57	21.47	21.56		
5	16QAM	12	13	21.48	21.46	21.52	24	0
5	16QAM	25	0	21.55	21.53	21.47		
5	64QAM	1	0	23.81	23.85	23.84		
5	64QAM	1	12	23.84	23.79	23.81	24	0
5	64QAM	1	24	23.80	23.87	23.83		
5	64QAM	12	0	23.77	23.75	23.76		
5	64QAM	12	7	23.82	23.86	23.81	24	0
5	64QAM	12	13	23.86	23.78	23.84		
5	64QAM	25	0	23.79	23.85	23.81		

<LTE Band 17>

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				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	23.66	23.74	23.69		
10	QPSK	1	25	23.55	23.42	23.53	24	0
10	QPSK	1	49	23.69	23.78	23.65		
10	QPSK	25	0	22.53	22.51	22.53		
10	QPSK	25	12	22.52	22.43	22.45	23	1
10	QPSK	25	25	22.64	22.54	22.47		
10	QPSK	50	0	22.51	22.44	22.48		
10	16QAM	1	0	22.92	22.91	22.87	23	1
10	16QAM	1	25	22.69	22.70	22.73		
10	16QAM	1	49	22.94	22.96	22.77		
10	16QAM	25	0	21.56	21.55	21.55	22	2
10	16QAM	25	12	21.54	21.42	21.49		
10	16QAM	25	25	21.62	21.55	21.44		
10	16QAM	50	0	21.55	21.48	21.51	24	0
10	64QAM	1	0	23.72	23.75	23.63		
10	64QAM	1	25	23.74	23.77	23.74		
10	64QAM	1	49	23.68	23.74	23.77	24	0
10	64QAM	25	0	23.69	23.70	23.69		
10	64QAM	25	12	23.67	23.69	23.72		
10	64QAM	25	25	23.74	23.75	23.65	24	0
10	64QAM	50	0	23.70	23.71	23.77		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	23.14	23.21	23.24		
5	QPSK	1	12	23.41	23.39	23.23	24	0
5	QPSK	1	24	23.47	23.49	23.43		
5	QPSK	12	0	22.44	22.45	22.57	23	1
5	QPSK	12	7	22.49	22.51	22.46		
5	QPSK	12	13	22.48	22.45	22.47		
5	QPSK	25	0	22.42	22.40	22.60	23	1
5	16QAM	1	0	22.72	22.67	22.67		
5	16QAM	1	12	22.65	22.69	22.65		
5	16QAM	1	24	22.72	22.73	22.58	22	2
5	16QAM	12	0	21.45	21.47	21.56		
5	16QAM	12	7	21.51	21.49	21.45		
5	16QAM	12	13	21.48	21.54	21.46	24	0
5	16QAM	25	0	21.42	21.40	21.58		
5	64QAM	1	0	23.67	23.75	23.71		
5	64QAM	1	12	23.71	23.76	23.74	24	0
5	64QAM	1	24	23.76	23.71	23.73		
5	64QAM	12	0	23.71	23.68	23.72		
5	64QAM	12	7	23.68	23.74	23.37	24	0
5	64QAM	12	13	23.72	23.77	23.64		
5	64QAM	25	0	23.75	23.73	23.74		

<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	23.36	23.42	23.35		
20	QPSK	1	49	23.49	23.66	23.46	24	0
20	QPSK	1	99	23.22	23.47	23.34		
20	QPSK	50	0	22.52	22.53	22.47		
20	QPSK	50	24	22.43	22.37	22.38	23	1
20	QPSK	50	50	22.34	22.33	22.42		
20	QPSK	100	0	22.44	22.55	22.50		
20	16QAM	1	0	22.61	22.50	22.69	23	1
20	16QAM	1	49	22.56	22.52	22.43		
20	16QAM	1	99	22.32	22.36	22.27		
20	16QAM	50	0	21.46	21.34	21.43	22	2
20	16QAM	50	24	21.51	21.33	21.52		
20	16QAM	50	50	21.38	21.34	21.47		
20	16QAM	100	0	21.39	21.32	21.51	24	0
20	64QAM	1	0	23.55	23.54	23.53		
20	64QAM	1	49	23.61	23.63	23.61		
20	64QAM	1	99	23.59	23.62	23.57	24	0
20	64QAM	50	0	23.51	23.50	23.57		
20	64QAM	50	24	23.56	23.54	23.55		
20	64QAM	50	50	23.60	23.56	23.63	24	0
20	64QAM	100	0	23.61	23.58	23.62		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.20	23.34	23.15		
15	QPSK	1	37	23.24	23.40	23.26	24	0
15	QPSK	1	74	23.23	23.27	23.20		
15	QPSK	36	0	22.50	22.43	22.51	23	1
15	QPSK	36	20	22.51	22.42	22.59		
15	QPSK	36	39	22.52	22.48	22.57		
15	QPSK	75	0	22.44	22.42	22.45	23	1
15	16QAM	1	0	22.56	22.52	22.64		
15	16QAM	1	37	22.48	22.54	22.73		
15	16QAM	1	74	22.58	22.37	22.33	22	2
15	16QAM	36	0	21.52	21.44	21.50		
15	16QAM	36	20	21.47	21.42	21.61		
15	16QAM	36	39	21.48	21.52	21.60	24	0
15	16QAM	75	0	21.52	21.47	21.62		
15	64QAM	1	0	23.60	23.63	23.61		
15	64QAM	1	37	23.57	23.60	23.59	24	0
15	64QAM	1	74	23.53	23.57	23.57		
15	64QAM	36	0	23.62	23.59	23.63		
15	64QAM	36	20	23.60	23.57	23.60	24	0
15	64QAM	36	39	23.59	23.60	23.62		
15	64QAM	75	0	23.61	23.62	23.64		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23.45	23.40	23.47	24	0
10	QPSK	1	25	23.12	23.21	23.22		
10	QPSK	1	49	23.22	23.20	23.25		
10	QPSK	25	0	22.41	22.46	22.59	23	1
10	QPSK	25	12	22.41	22.49	22.58		
10	QPSK	25	25	22.45	22.45	22.64		
10	QPSK	50	0	22.39	22.53	22.65	23	1
10	16QAM	1	0	22.67	22.92	22.86		
10	16QAM	1	25	22.61	22.52	22.62		
10	16QAM	1	49	22.70	22.77	22.61	22	2
10	16QAM	25	0	21.39	21.46	21.59		
10	16QAM	25	12	21.41	21.50	21.58		
10	16QAM	25	25	21.42	21.55	21.57	24	0
10	16QAM	50	0	21.39	21.53	21.60		
10	64QAM	1	0	23.51	23.50	23.54		
10	64QAM	1	25	23.56	23.55	23.59	24	0
10	64QAM	1	49	23.57	23.53	23.60		
10	64QAM	25	0	23.59	23.57	23.53		
10	64QAM	25	12	23.64	23.62	23.61	24	0
10	64QAM	25	25	23.61	23.60	23.58		
10	64QAM	50	0	23.57	23.54	23.56		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	23.29	23.36	23.17	24	0
5	QPSK	1	12	23.19	23.08	23.04		
5	QPSK	1	24	23.09	23.00	23.07		
5	QPSK	12	0	22.38	22.51	22.54	23	1
5	QPSK	12	7	22.36	22.46	22.56		
5	QPSK	12	13	22.32	22.42	22.47		
5	QPSK	25	0	22.41	22.53	22.58	23	1
5	16QAM	1	0	22.73	22.65	22.76		
5	16QAM	1	12	22.58	22.51	22.77		
5	16QAM	1	24	22.55	22.67	22.41	22	2
5	16QAM	12	0	21.46	21.58	21.61		
5	16QAM	12	7	21.41	21.51	21.57		
5	16QAM	12	13	21.34	21.45	21.54	24	0
5	16QAM	25	0	21.39	21.51	21.55		
5	64QAM	1	0	23.55	23.52	23.58		
5	64QAM	1	12	23.60	23.57	23.61	24	0
5	64QAM	1	24	23.53	23.50	23.59		
5	64QAM	12	0	23.61	23.64	23.54		
5	64QAM	12	7	23.57	23.61	23.63	24	0
5	64QAM	12	13	23.59	23.55	23.58		
5	64QAM	25	0	23.60	23.61	23.58		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.81	22.82	22.92	24	0
3	QPSK	1	8	23.22	23.24	23.24		
3	QPSK	1	14	23.23	23.26	23.27		
3	QPSK	8	0	22.36	22.43	22.54	23	1
3	QPSK	8	4	22.34	22.50	22.55		
3	QPSK	8	7	22.36	22.42	22.53		
3	QPSK	15	0	22.40	22.48	22.54	23	1
3	16QAM	1	0	22.71	22.86	22.65		
3	16QAM	1	8	22.64	22.79	22.81		
3	16QAM	1	14	22.79	22.70	22.47	22	2
3	16QAM	8	0	21.43	21.51	21.58		
3	16QAM	8	4	21.45	21.53	21.59		
3	16QAM	8	7	21.41	21.46	21.54	24	0
3	16QAM	15	0	21.43	21.46	21.60		
3	64QAM	1	0	23.60	23.56	23.59		
3	64QAM	1	8	23.58	23.57	23.54	24	0
3	64QAM	1	14	23.57	23.61	23.54		
3	64QAM	8	0	23.60	23.64	23.57		
3	64QAM	8	4	23.54	23.60	23.62	24	0
3	64QAM	8	7	23.63	23.58	23.59		
3	64QAM	15	0	23.61	23.59	23.61		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	23.12	23.16	23.31	24	0
1.4	QPSK	1	3	23.13	23.28	23.26		
1.4	QPSK	1	5	23.13	23.22	23.28		
1.4	QPSK	3	0	23.24	23.26	23.17	23	1
1.4	QPSK	3	1	23.27	23.21	23.22		
1.4	QPSK	3	3	23.25	23.16	23.20		
1.4	QPSK	6	0	22.30	22.38	22.43	22	2
1.4	16QAM	1	0	22.50	22.63	22.80	23	1
1.4	16QAM	1	3	22.89	22.69	22.98		
1.4	16QAM	1	5	22.54	22.97	22.55		
1.4	16QAM	3	0	22.39	22.46	22.52	24	0
1.4	16QAM	3	1	22.42	22.44	22.70		
1.4	16QAM	3	3	22.28	22.38	22.49		
1.4	16QAM	6	0	21.45	21.51	21.62	24	0
1.4	64QAM	1	0	23.61	23.59	23.60		
1.4	64QAM	1	3	23.57	23.54	23.55		
1.4	64QAM	1	5	23.58	23.54	23.62	24	0
1.4	64QAM	3	0	23.62	23.57	23.59		
1.4	64QAM	3	1	23.53	23.62	23.60		
1.4	64QAM	3	3	23.55	23.59	23.57	24	0
1.4	64QAM	6	0	23.60	23.61	23.54		

<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	23.61	23.70	23.42	24	0
15	QPSK	1	37	23.33	23.38	23.55		
15	QPSK	1	74	23.75	23.78	23.72		
15	QPSK	36	0	22.57	22.58	22.54	23	1
15	QPSK	36	20	22.24	22.37	22.23		
15	QPSK	36	39	22.26	22.22	22.39		
15	QPSK	75	0	22.39	22.40	22.38	23	1
15	16QAM	1	0	22.67	22.76	22.40		
15	16QAM	1	37	22.40	22.41	22.43		
15	16QAM	1	74	22.84	22.85	22.87	22	2
15	16QAM	36	0	21.52	21.54	21.53		
15	16QAM	36	20	21.23	21.35	21.32		
15	16QAM	36	39	21.24	21.31	21.33	24	0
15	16QAM	75	0	21.40	21.25	21.47		
15	64QAM	1	0	23.75	23.72	23.65		
15	64QAM	1	37	23.70	23.63	23.70	24	0
15	64QAM	1	74	23.71	23.68	23.66		
15	64QAM	36	0	23.67	23.75	23.72		
15	64QAM	36	20	23.58	23.69	23.67	24	0
15	64QAM	36	39	23.66	23.62	23.68		
15	64QAM	75	0	23.67	23.66	23.70		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	23.66	23.62	23.50	24	0
10	QPSK	1	25	23.51	23.47	23.37		
10	QPSK	1	49	23.50	23.61	23.55		
10	QPSK	25	0	22.36	22.31	22.28	23	1
10	QPSK	25	12	22.42	22.36	22.35		
10	QPSK	25	25	22.48	22.38	22.38		
10	QPSK	50	0	22.47	22.39	22.36	23	1
10	16QAM	1	0	22.78	22.81	22.55		
10	16QAM	1	25	22.57	22.53	22.45		
10	16QAM	1	49	22.93	22.72	22.68	22	2
10	16QAM	25	0	21.49	21.35	21.29		
10	16QAM	25	12	21.44	21.33	21.31		
10	16QAM	25	25	21.45	21.34	21.33	24	0
10	16QAM	50	0	21.49	21.38	21.33		
10	64QAM	1	0	23.66	23.67	23.71		
10	64QAM	1	25	23.67	23.70	23.73	24	0
10	64QAM	1	49	23.70	23.66	23.68		
10	64QAM	25	0	23.68	23.71	23.70		
10	64QAM	25	12	23.69	23.67	23.69	24	0
10	64QAM	25	25	23.67	23.70	23.72		
10	64QAM	50	0	23.65	23.64	23.66		

Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	23.37	23.11	23.10	24	0
5	QPSK	1	12	23.32	23.36	23.20		
5	QPSK	1	24	23.39	23.30	23.20		
5	QPSK	12	0	22.44	22.31	22.26	23	1
5	QPSK	12	7	22.47	22.32	22.32		
5	QPSK	12	13	22.48	22.27	22.33		
5	QPSK	25	0	22.45	22.33	22.31		
5	16QAM	1	0	22.63	22.43	22.47	23	1
5	16QAM	1	12	22.65	22.43	22.56		
5	16QAM	1	24	22.66	22.39	22.52		
5	16QAM	12	0	21.49	21.29	21.30	22	2
5	16QAM	12	7	21.47	21.38	21.30		
5	16QAM	12	13	21.45	21.30	21.30		
5	16QAM	25	0	21.45	21.34	21.19		
5	64QAM	1	0	23.71	23.63	23.67	24	0
5	64QAM	1	12	23.68	23.71	23.67		
5	64QAM	1	24	23.66	23.74	23.70		
5	64QAM	12	0	23.65	23.68	23.64	24	0
5	64QAM	12	7	23.72	23.70	23.65		
5	64QAM	12	13	23.63	23.71	23.72		
5	64QAM	25	0	23.67	23.66	23.71		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	23.23	23.17	23.11	24	0
3	QPSK	1	8	23.30	23.23	23.24		
3	QPSK	1	14	23.29	23.20	23.20		
3	QPSK	8	0	22.41	22.24	22.29	23	1
3	QPSK	8	4	22.46	22.32	22.30		
3	QPSK	8	7	22.42	22.28	22.28		
3	QPSK	15	0	22.44	22.32	22.29		
3	16QAM	1	0	22.65	22.45	22.46	23	1
3	16QAM	1	8	22.53	22.44	22.50		
3	16QAM	1	14	22.45	22.19	22.53		
3	16QAM	8	0	21.39	21.30	21.29	22	2
3	16QAM	8	4	21.52	21.43	21.29		
3	16QAM	8	7	21.44	21.30	21.30		
3	16QAM	15	0	21.52	21.36	21.27		
3	64QAM	1	0	23.64	23.65	23.72	24	0
3	64QAM	1	8	23.67	23.69	23.66		
3	64QAM	1	14	23.72	23.70	23.67		
3	64QAM	8	0	23.68	23.67	23.70	24	0
3	64QAM	8	4	23.69	23.71	23.60		
3	64QAM	8	7	23.73	23.72	23.63		
3	64QAM	15	0	23.71	23.66	23.67		

Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	23.18	23.13	23.09	24	0
1.4	QPSK	1	3	23.26	23.28	23.15		
1.4	QPSK	1	5	23.32	23.12	23.12		
1.4	QPSK	3	0	23.36	23.26	23.08		
1.4	QPSK	3	1	23.29	23.25	23.18		
1.4	QPSK	3	3	23.30	23.26	23.18		
1.4	QPSK	6	0	22.30	22.31	22.27	23	1
1.4	16QAM	1	0	22.52	22.26	22.42	23	1
1.4	16QAM	1	3	22.60	22.48	22.43		
1.4	16QAM	1	5	22.55	22.45	22.54		
1.4	16QAM	3	0	22.36	22.25	22.13		
1.4	16QAM	3	1	22.34	22.26	22.24		
1.4	16QAM	3	3	22.34	22.18	22.18		
1.4	16QAM	6	0	21.43	21.39	21.26	22	2
1.4	64QAM	1	0	23.71	23.70	23.69	24	0
1.4	64QAM	1	3	23.70	23.67	23.68		
1.4	64QAM	1	5	23.74	23.63	23.65		
1.4	64QAM	3	0	23.67	23.70	23.69		
1.4	64QAM	3	1	23.66	23.67	23.72		
1.4	64QAM	3	3	23.70	23.71	23.71		
1.4	64QAM	6	0	23.72	23.68	23.66	24	0

<LTE Band 30>

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				27710				
Frequency (MHz)				2310				
10	QPSK	1	0		23.35		23.5	0
10	QPSK	1	25		22.99			
10	QPSK	1	49		23.12			
10	QPSK	25	0		22.00		22.5	1
10	QPSK	25	12		22.04			
10	QPSK	25	25		22.06			
10	QPSK	50	0		21.92		22.5	1
10	16QAM	1	0		22.31			
10	16QAM	1	25		22.15			
10	16QAM	1	49		22.39		22.5	1
10	16QAM	25	0		20.94			
10	16QAM	25	12		20.99			
10	16QAM	25	25		21.02		21.5	2
10	16QAM	50	0		20.93			
10	64QAM	1	0		23.18			
10	64QAM	1	25		23.16		23.5	0
10	64QAM	1	49		23.10			
10	64QAM	25	0		23.14			
10	64QAM	25	12		23.15		23.5	0
10	64QAM	25	25		23.15			
10	64QAM	50	0		23.12			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	23.11	23.17	23.14	23.5	0
5	QPSK	1	12	23.08	23.05	23.06		
5	QPSK	1	24	23.04	22.96	22.92		
5	QPSK	12	0	21.91	21.85	22.04	22.5	1
5	QPSK	12	7	21.93	21.82	21.99		
5	QPSK	12	13	21.83	21.92	21.98		
5	QPSK	25	0	21.85	21.99	21.97	22.5	1
5	16QAM	1	0	22.31	22.37	22.24		
5	16QAM	1	12	22.19	22.27	22.21		
5	16QAM	1	24	22.33	22.15	22.25	22.5	1
5	16QAM	12	0	20.94	21.02	21.03		
5	16QAM	12	7	20.95	20.97	21.03		
5	16QAM	12	13	20.86	20.94	20.96	21.5	2
5	16QAM	25	0	20.88	21.03	21.01		
5	64QAM	1	0	23.10	23.13	23.10		
5	64QAM	1	12	23.09	23.14	23.12	23.5	0
5	64QAM	1	24	23.08	23.12	23.16		
5	64QAM	12	0	23.11	23.07	23.08		
5	64QAM	12	7	23.12	23.10	23.11	23.5	0
5	64QAM	12	13	23.13	23.12	23.15		
5	64QAM	25	0	23.15	23.11	23.14		

<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	23.5	0
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	23.21	23.24	23.25		
20	QPSK	1	49	23.14	22.95	22.94	22.5	1
20	QPSK	1	99	23.35	23.36	23.33		
20	QPSK	50	0	22.13	21.99	21.98		
20	QPSK	50	24	22.14	22.06	22.14	23	0.5
20	QPSK	50	50	22.16	22.17	22.15		
20	QPSK	100	0	22.12	22.19	22.11		
20	16QAM	1	0	22.36	22.41	22.31	21.5	2
20	16QAM	1	49	22.25	22.21	22.42		
20	16QAM	1	99	22.67	22.53	22.56		
20	16QAM	50	0	21.12	20.98	21.02	23.5	0
20	16QAM	50	24	21.17	21.06	21.11		
20	16QAM	50	50	21.19	21.05	21.21		
20	16QAM	100	0	21.16	21.05	21.08	23.5	0
20	64QAM	1	0	23.25	23.34	23.35		
20	64QAM	1	49	23.29	23.29	23.32		
20	64QAM	1	99	23.24	23.27	23.25	23.5	0
20	64QAM	50	0	23.28	23.27	23.27		
20	64QAM	50	24	23.32	23.31	23.30		
20	64QAM	50	50	23.31	23.32	23.28	23.5	0
20	64QAM	100	0	23.26	23.28	23.31		
Channel				132047	132322	132597	23.5	0
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.04	23.01	23.03		
15	QPSK	1	37	22.87	23.11	23.10	22.5	1
15	QPSK	1	74	23.09	23.21	23.27		
15	QPSK	36	0	22.29	22.09	22.10		
15	QPSK	36	20	22.08	22.08	22.12	23	0.5
15	QPSK	36	39	22.02	21.99	22.09		
15	QPSK	75	0	22.08	22.05	22.48		
15	16QAM	1	0	22.63	22.77	22.49	21.5	2
15	16QAM	1	37	22.37	22.59	22.36		
15	16QAM	1	74	22.48	22.48	22.42		
15	16QAM	36	0	21.10	21.00	21.02	23.5	0
15	16QAM	36	20	21.08	21.02	21.02		
15	16QAM	36	39	21.01	20.90	21.13		
15	16QAM	75	0	21.02	21.05	21.06	23.5	0
15	64QAM	1	0	23.25	23.34	23.31		
15	64QAM	1	37	23.27	23.31	23.30		
15	64QAM	1	74	23.25	23.21	23.20	23.5	0
15	64QAM	36	0	23.26	23.24	23.26		
15	64QAM	36	20	23.30	23.29	23.27		
15	64QAM	36	39	23.28	23.28	23.25	23.5	0
15	64QAM	75	0	23.31	23.30	23.28		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	23.05	23.03	23.04	23.5	0
10	QPSK	1	25	23.09	23.16	23.08		
10	QPSK	1	49	23.26	23.27	23.26		
10	QPSK	25	0	22.08	22.02	22.11	22.5	1
10	QPSK	25	12	22.21	22.20	22.28		
10	QPSK	25	25	22.18	22.21	22.36		
10	QPSK	50	0	22.12	22.18	22.25	23	0.5
10	16QAM	1	0	21.97	21.99	21.95		
10	16QAM	1	25	22.34	22.43	22.41		
10	16QAM	1	49	22.35	22.40	22.44	21.5	2
10	16QAM	25	0	21.05	21.03	21.06		
10	16QAM	25	12	21.18	21.18	21.25		
10	16QAM	25	25	21.26	21.12	21.25	23.5	0
10	16QAM	50	0	21.28	21.11	21.17		
10	64QAM	1	0	23.24	23.31	23.28		
10	64QAM	1	25	23.25	23.29	23.31	23.5	0
10	64QAM	1	49	23.26	23.24	23.30		
10	64QAM	25	0	23.27	23.25	23.28		
10	64QAM	25	12	23.29	23.30	23.26	23.5	0
10	64QAM	25	25	23.24	23.30	23.27		
10	64QAM	50	0	23.26	23.31	23.29		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	23.06	23.01	23.05	23.5	0
5	QPSK	1	12	23.12	23.08	23.14		
5	QPSK	1	24	23.09	23.14	23.11		
5	QPSK	12	0	22.21	22.06	22.20	22.5	1
5	QPSK	12	7	22.09	22.15	22.21		
5	QPSK	12	13	22.11	22.05	22.20		
5	QPSK	25	0	22.26	22.15	22.24	23	0.5
5	16QAM	1	0	22.53	22.49	22.55		
5	16QAM	1	12	22.42	22.36	22.35		
5	16QAM	1	24	22.47	22.42	22.32	21.5	2
5	16QAM	12	0	21.18	21.15	21.27		
5	16QAM	12	7	21.19	21.16	21.18		
5	16QAM	12	13	21.19	21.16	21.15	23.5	0
5	16QAM	25	0	21.27	21.15	21.17		
5	64QAM	1	0	23.31	23.25	23.24		
5	64QAM	1	12	23.24	23.28	23.31	23.5	0
5	64QAM	1	24	23.26	23.24	23.29		
5	64QAM	12	0	23.28	23.27	23.27		
5	64QAM	12	7	23.30	23.31	23.28	23.5	0
5	64QAM	12	13	23.29	23.26	23.30		
5	64QAM	25	0	23.28	23.24	23.25		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	23.15	23.14	23.18	23.5	0
3	QPSK	1	8	23.15	23.18	23.13		
3	QPSK	1	14	22.97	23.01	23.07		
3	QPSK	8	0	22.20	22.17	22.22	22.5	1
3	QPSK	8	4	22.20	22.17	22.26		
3	QPSK	8	7	22.18	22.11	22.14		
3	QPSK	15	0	22.15	22.11	22.15		
3	16QAM	1	0	22.76	22.45	22.71	23	0.5
3	16QAM	1	8	22.45	22.63	22.39		
3	16QAM	1	14	22.44	22.41	22.68		
3	16QAM	8	0	21.29	21.21	21.27	21.5	2
3	16QAM	8	4	21.26	21.22	21.26		
3	16QAM	8	7	21.24	21.12	21.20		
3	16QAM	15	0	21.17	21.16	21.19		
3	64QAM	1	0	23.30	23.31	23.30		
3	64QAM	1	8	23.28	23.24	23.26	23.5	0
3	64QAM	1	14	23.31	23.26	23.28		
3	64QAM	8	0	23.25	23.28	23.32		
3	64QAM	8	4	23.26	23.30	23.34	23.5	0
3	64QAM	8	7	23.31	23.29	23.27		
3	64QAM	15	0	23.30	23.28	23.28		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	23.05	23.05	23.12	23.5	0
1.4	QPSK	1	3	23.10	23.25	23.05		
1.4	QPSK	1	5	23.09	23.11	23.10		
1.4	QPSK	3	0	23.05	23.15	23.21		
1.4	QPSK	3	1	23.12	23.16	23.10		
1.4	QPSK	3	3	23.06	23.07	23.09		
1.4	QPSK	6	0	22.09	22.09	22.31	22.5	1
1.4	16QAM	1	0	22.45	22.45	22.48	23	0.5
1.4	16QAM	1	3	22.49	22.47	22.41		
1.4	16QAM	1	5	22.43	22.50	22.12		
1.4	16QAM	3	0	22.13	22.10	22.19		
1.4	16QAM	3	1	22.21	22.19	22.21		
1.4	16QAM	3	3	22.06	22.07	22.10		
1.4	16QAM	6	0	21.13	21.12	21.06	21.5	2
1.4	64QAM	1	0	23.30	23.28	23.30	23.5	0
1.4	64QAM	1	3	23.28	23.31	23.29		
1.4	64QAM	1	5	23.24	23.30	23.28		
1.4	64QAM	3	0	23.31	23.25	23.24		
1.4	64QAM	3	1	23.28	23.26	23.29		
1.4	64QAM	3	3	23.33	23.32	23.27		
1.4	64QAM	6	0	23.25	23.34	23.31	23.5	0

<Reduced Power Mode for Hotspot On/P-Sensor On>
<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	15.53	15.63	15.46		
20	QPSK	1	49	15.03	14.87	14.83	16	0
20	QPSK	1	99	15.32	15.21	15.18		
20	QPSK	50	0	15.26	15.30	15.19		
20	QPSK	50	24	15.13	14.91	15.13		
20	QPSK	50	50	15.25	15.04	15.17	16	0
20	QPSK	100	0	15.23	15.30	15.29		
20	16QAM	1	0	15.46	15.29	15.46		
20	16QAM	1	49	15.13	14.96	15.17		
20	16QAM	1	99	15.42	15.15	15.45		
20	16QAM	50	0	15.21	15.11	15.11		
20	16QAM	50	24	15.13	15.05	15.16		
20	16QAM	50	50	15.30	15.21	15.19	16	0
20	16QAM	100	0	15.23	15.19	15.18		
20	64QAM	1	0	15.13	15.15	15.08		
20	64QAM	1	49	15.09	15.05	15.04		
20	64QAM	1	99	15.26	15.22	15.17		
20	64QAM	50	0	14.92	14.89	14.78		
20	64QAM	50	24	14.72	14.84	14.77		
20	64QAM	50	50	14.87	14.88	15.01	16	0
20	64QAM	100	0	14.83	14.84	14.96		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	15.40	15.32	15.42		
15	QPSK	1	37	14.93	14.74	14.69		
15	QPSK	1	74	15.22	15.41	15.55		
15	QPSK	36	0	15.10	15.10	15.10		
15	QPSK	36	20	14.95	14.97	15.11		
15	QPSK	36	39	15.18	15.02	15.21		
15	QPSK	75	0	15.16	15.08	15.13		
15	16QAM	1	0	15.41	15.59	15.55		
15	16QAM	1	37	15.44	15.02	15.50		
15	16QAM	1	74	15.43	15.42	15.47		
15	16QAM	36	0	15.13	15.11	15.17		
15	16QAM	36	20	15.04	14.99	15.14		
15	16QAM	36	39	15.19	15.09	15.22		
15	16QAM	75	0	15.23	15.06	15.00		
15	64QAM	1	0	15.33	15.22	15.15		
15	64QAM	1	37	15.28	15.21	15.14		
15	64QAM	1	74	15.35	15.33	15.28		
15	64QAM	36	0	15.15	15.08	15.06		
15	64QAM	36	20	15.26	15.21	15.18		
15	64QAM	36	39	15.22	15.17	15.09		
15	64QAM	75	0	15.05	14.96	14.91		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	15.24	15.32	15.25	16	0
10	QPSK	1	25	14.87	15.13	15.07		
10	QPSK	1	49	15.43	15.20	15.39		
10	QPSK	25	0	15.14	15.03	15.31	16	0
10	QPSK	25	12	15.08	15.10	15.31		
10	QPSK	25	25	15.19	15.19	15.37		
10	QPSK	50	0	15.24	15.17	15.26	16	0
10	16QAM	1	0	15.59	15.16	15.48		
10	16QAM	1	25	15.52	15.62	15.22		
10	16QAM	1	49	15.40	15.44	15.08	16	0
10	16QAM	25	0	15.08	15.09	15.22		
10	16QAM	25	12	15.01	15.09	15.18		
10	16QAM	25	25	15.08	15.13	15.27	16	0
10	16QAM	50	0	15.11	15.11	15.22		
10	64QAM	1	0	15.30	15.33	15.43		
10	64QAM	1	25	15.28	15.40	15.41	16	0
10	64QAM	1	49	15.16	15.22	15.25		
10	64QAM	25	0	15.15	15.28	15.31		
10	64QAM	25	12	15.09	15.17	15.20	16	0
10	64QAM	25	25	15.04	15.09	15.19		
10	64QAM	50	0	14.88	14.96	15.06		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	15.11	14.99	15.22	16	0
5	QPSK	1	12	14.85	15.10	15.27		
5	QPSK	1	24	14.99	14.84	15.07		
5	QPSK	12	0	15.09	15.19	15.26	16	0
5	QPSK	12	7	15.07	15.04	15.25		
5	QPSK	12	13	15.04	15.07	15.21		
5	QPSK	25	0	15.11	15.06	15.30	16	0
5	16QAM	1	0	15.57	15.11	15.52		
5	16QAM	1	12	15.12	14.95	15.30		
5	16QAM	1	24	15.09	15.45	15.23	16	0
5	16QAM	12	0	15.06	15.01	15.35		
5	16QAM	12	7	15.07	15.17	15.32		
5	16QAM	12	13	15.01	15.04	15.21	16	0
5	16QAM	25	0	15.13	15.02	15.21		
5	64QAM	1	0	15.30	15.32	15.28		
5	64QAM	1	12	15.28	15.30	15.21	16	0
5	64QAM	1	24	15.21	15.25	15.18		
5	64QAM	12	0	15.26	15.22	15.26		
5	64QAM	12	7	15.07	15.19	15.17	16	0
5	64QAM	12	13	14.96	15.07	15.05		
5	64QAM	25	0	15.22	14.95	14.91		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	15.12	14.97	15.23	16	0
3	QPSK	1	8	14.92	15.05	14.97		
3	QPSK	1	14	14.86	14.86	15.04		
3	QPSK	8	0	15.03	15.08	15.17	16	0
3	QPSK	8	4	15.00	15.05	15.18		
3	QPSK	8	7	14.96	15.06	15.07		
3	QPSK	15	0	15.05	15.00	15.15	16	0
3	16QAM	1	0	15.12	15.54	15.40		
3	16QAM	1	8	14.93	15.15	15.39		
3	16QAM	1	14	15.00	15.13	15.59	16	0
3	16QAM	8	0	15.02	15.13	15.24		
3	16QAM	8	4	15.14	14.97	15.16		
3	16QAM	8	7	15.54	15.02	15.31	16	0
3	16QAM	15	0	15.04	15.06	15.31		
3	64QAM	1	0	15.31	15.36	15.32		
3	64QAM	1	8	15.22	15.28	15.21	16	0
3	64QAM	1	14	15.31	15.34	15.30		
3	64QAM	8	0	15.05	15.11	15.06		
3	64QAM	8	4	15.23	15.28	15.20	16	0
3	64QAM	8	7	15.09	15.21	15.16		
3	64QAM	15	0	15.21	15.28	15.21		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	14.96	14.99	14.99	16	0
1.4	QPSK	1	3	15.05	15.06	15.11		
1.4	QPSK	1	5	14.83	14.81	15.02		
1.4	QPSK	3	0	14.98	14.96	15.03	16	0
1.4	QPSK	3	1	14.97	14.97	15.16		
1.4	QPSK	3	3	14.89	14.85	15.05		
1.4	QPSK	6	0	14.89	14.99	15.07	16	0
1.4	16QAM	1	0	15.14	15.00	15.11	16	0
1.4	16QAM	1	3	14.89	15.20	15.61		
1.4	16QAM	1	5	15.23	14.96	14.94		
1.4	16QAM	3	0	15.03	15.01	15.14	16	0
1.4	16QAM	3	1	14.93	15.01	15.14		
1.4	16QAM	3	3	14.97	15.04	15.03		
1.4	16QAM	6	0	15.01	15.07	15.21	16	0
1.4	64QAM	1	0	15.06	14.90	15.11	16	0
1.4	64QAM	1	3	15.01	14.97	15.07		
1.4	64QAM	1	5	14.96	14.94	15.00		
1.4	64QAM	3	0	14.88	14.79	15.06	16	0
1.4	64QAM	3	1	14.96	14.87	14.99		
1.4	64QAM	3	3	14.91	14.77	14.95		
1.4	64QAM	6	0	14.88	14.74	15.00	16	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300	16	0
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	15.62	15.45	15.58		
20	QPSK	1	49	15.66	15.88	15.82	16	0
20	QPSK	1	99	15.60	15.63	15.77		
20	QPSK	50	0	15.77	15.78	15.67		
20	QPSK	50	24	15.57	15.65	15.65	16	0
20	QPSK	50	50	15.56	15.70	15.63		
20	QPSK	100	0	15.67	15.76	15.69		
20	16QAM	1	0	15.64	15.65	15.78	16	0
20	16QAM	1	49	15.57	15.75	15.82		
20	16QAM	1	99	15.57	15.85	15.80		
20	16QAM	50	0	15.71	15.65	15.68	16	0
20	16QAM	50	24	15.66	15.62	15.67		
20	16QAM	50	50	15.60	15.70	15.66		
20	16QAM	100	0	15.59	15.63	15.68	16	0
20	64QAM	1	0	15.66	15.75	15.76		
20	64QAM	1	49	15.61	15.73	15.70		
20	64QAM	1	99	15.59	15.76	15.68	16	0
20	64QAM	50	0	15.80	15.81	15.55		
20	64QAM	50	24	15.76	15.77	15.68		
20	64QAM	50	50	15.77	15.80	15.60	16	0
20	64QAM	100	0	15.69	15.76	15.77		
Channel				20025	20175	20325	16	0
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	15.78	15.82	15.73		
15	QPSK	1	37	15.48	15.83	15.74	16	0
15	QPSK	1	74	15.54	15.58	15.72		
15	QPSK	36	0	15.79	15.72	15.74		
15	QPSK	36	20	15.71	15.75	15.81	16	0
15	QPSK	36	39	15.56	15.58	15.71		
15	QPSK	75	0	15.68	15.67	15.73		
15	16QAM	1	0	15.83	15.82	15.85	16	0
15	16QAM	1	37	15.74	15.84	15.79		
15	16QAM	1	74	15.77	15.79	15.42		
15	16QAM	36	0	15.75	15.70	15.70	16	0
15	16QAM	36	20	15.69	15.77	15.76		
15	16QAM	36	39	15.66	15.69	15.66		
15	16QAM	75	0	15.63	15.65	15.78	16	0
15	64QAM	1	0	15.81	15.86	15.80		
15	64QAM	1	37	15.80	15.85	15.83		
15	64QAM	1	74	15.61	15.63	15.66	16	0
15	64QAM	36	0	15.77	15.81	15.80		
15	64QAM	36	20	15.68	15.83	15.77		
15	64QAM	36	39	15.70	15.75	15.63	16	0
15	64QAM	75	0	15.82	15.86	15.77		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	15.66	15.76	15.72	16	0
10	QPSK	1	25	15.26	15.33	15.33		
10	QPSK	1	49	15.83	15.86	15.77		
10	QPSK	25	0	15.46	15.63	15.51	16	0
10	QPSK	25	12	15.60	15.50	15.54		
10	QPSK	25	25	15.57	15.76	15.61		
10	QPSK	50	0	15.64	15.53	15.57	16	0
10	16QAM	1	0	15.49	15.55	15.53		
10	16QAM	1	25	15.82	15.59	15.58		
10	16QAM	1	49	15.58	15.60	15.80	16	0
10	16QAM	25	0	15.58	15.59	15.62		
10	16QAM	25	12	15.61	15.51	15.50		
10	16QAM	25	25	15.66	15.65	15.49	16	0
10	16QAM	50	0	15.62	15.68	15.59		
10	64QAM	1	0	15.78	15.87	15.66		
10	64QAM	1	25	15.70	15.81	15.72	16	0
10	64QAM	1	49	15.55	15.49	15.38		
10	64QAM	25	0	15.80	15.79	15.82		
10	64QAM	25	12	15.75	15.83	15.81	16	0
10	64QAM	25	25	15.72	15.83	15.77		
10	64QAM	50	0	15.71	15.77	15.69		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	15.84	15.78	15.83	16	0
5	QPSK	1	12	15.84	15.57	15.82		
5	QPSK	1	24	15.84	15.74	15.75		
5	QPSK	12	0	15.79	15.83	15.83	16	0
5	QPSK	12	7	15.84	15.80	15.78		
5	QPSK	12	13	15.86	15.83	15.72		
5	QPSK	25	0	15.81	15.83	15.79	16	0
5	16QAM	1	0	15.80	15.85	15.80		
5	16QAM	1	12	15.75	15.81	15.78		
5	16QAM	1	24	15.79	15.86	15.86	16	0
5	16QAM	12	0	15.83	15.81	15.81		
5	16QAM	12	7	15.82	15.85	15.77		
5	16QAM	12	13	15.81	15.75	15.80	16	0
5	16QAM	25	0	15.81	15.78	15.80		
5	64QAM	1	0	15.77	15.82	15.81		
5	64QAM	1	12	15.82	15.83	15.75	16	0
5	64QAM	1	24	15.77	15.81	15.69		
5	64QAM	12	0	15.75	15.77	15.73		
5	64QAM	12	7	15.73	15.75	15.82	16	0
5	64QAM	12	13	15.75	15.71	15.80		
5	64QAM	25	0	15.66	15.33	15.80		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	15.78	15.75	15.66	16	0
3	QPSK	1	8	15.57	15.68	15.67		
3	QPSK	1	14	15.75	15.78	15.72		
3	QPSK	8	0	15.85	15.70	15.81	16	0
3	QPSK	8	4	15.80	15.79	15.74		
3	QPSK	8	7	15.83	15.77	15.72		
3	QPSK	15	0	15.81	15.68	15.80	16	0
3	16QAM	1	0	15.78	15.82	15.84		
3	16QAM	1	8	15.86	15.72	15.81		
3	16QAM	1	14	15.84	15.82	15.86	16	0
3	16QAM	8	0	15.79	15.79	15.85		
3	16QAM	8	4	15.84	15.78	15.78		
3	16QAM	8	7	15.77	15.87	15.83	16	0
3	16QAM	15	0	15.83	15.72	15.83		
3	64QAM	1	0	15.77	15.82	15.79		
3	64QAM	1	8	15.79	15.81	15.81	16	0
3	64QAM	1	14	15.82	15.78	15.73		
3	64QAM	8	0	15.76	15.71	15.75		
3	64QAM	8	4	15.79	15.73	15.79	16	0
3	64QAM	8	7	15.72	15.69	15.72		
3	64QAM	15	0	15.77	15.70	15.75		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	15.74	15.62	15.62	16	0
1.4	QPSK	1	3	15.69	15.62	15.62		
1.4	QPSK	1	5	15.73	15.64	15.59		
1.4	QPSK	3	0	15.75	15.73	15.76	16	0
1.4	QPSK	3	1	15.86	15.74	15.82		
1.4	QPSK	3	3	15.85	15.70	15.76		
1.4	QPSK	6	0	15.81	15.71	15.75	16	0
1.4	16QAM	1	0	15.71	15.76	15.79	16	0
1.4	16QAM	1	3	15.74	15.77	15.84		
1.4	16QAM	1	5	15.85	15.61	15.79		
1.4	16QAM	3	0	15.86	15.78	15.84	16	0
1.4	16QAM	3	1	15.80	15.82	15.86		
1.4	16QAM	3	3	15.79	15.77	15.65		
1.4	16QAM	6	0	15.68	15.79	15.82	16	0
1.4	64QAM	1	0	15.81	15.77	15.81	16	0
1.4	64QAM	1	3	15.73	15.72	15.75		
1.4	64QAM	1	5	15.82	15.81	15.82		
1.4	64QAM	3	0	15.82	15.73	15.66	16	0
1.4	64QAM	3	1	15.72	15.69	15.79		
1.4	64QAM	3	3	15.85	15.82	15.85		
1.4	64QAM	6	0	15.70	15.72	15.78	16	0

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600	22	0
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	20.67	20.88	20.82		
10	QPSK	1	25	20.71	20.75	20.41	22	0
10	QPSK	1	49	20.71	20.75	21.03		
10	QPSK	25	0	20.93	20.85	20.75		
10	QPSK	25	12	20.90	20.84	20.80	22	0
10	QPSK	25	25	20.87	20.80	20.66		
10	QPSK	50	0	20.90	20.94	20.81		
10	16QAM	1	0	21.19	21.13	20.98	22	0
10	16QAM	1	25	21.12	20.80	21.03		
10	16QAM	1	49	21.28	21.24	21.28		
10	16QAM	25	0	20.96	20.89	20.78	22	0
10	16QAM	25	12	20.98	20.83	20.76		
10	16QAM	25	25	20.97	20.83	20.55		
10	16QAM	50	0	20.99	20.91	20.86	22	0
10	64QAM	1	0	21.12	21.22	20.96		
10	64QAM	1	25	20.96	20.88	20.91		
10	64QAM	1	49	21.15	21.18	21.06	22	0
10	64QAM	25	0	20.66	20.55	20.65		
10	64QAM	25	12	20.49	20.57	20.51		
10	64QAM	25	25	20.44	20.62	20.55	22	0
10	64QAM	50	0	20.50	20.53	20.59		
Channel				20425	20525	20625	22	0
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	20.74	20.75	20.53		
5	QPSK	1	12	20.71	20.69	20.43	22	0
5	QPSK	1	24	20.70	20.65	20.63		
5	QPSK	12	0	20.86	20.83	20.64	22	0
5	QPSK	12	7	20.81	20.88	20.53		
5	QPSK	12	13	20.82	20.81	20.64		
5	QPSK	25	0	20.89	20.87	20.64	22	0
5	16QAM	1	0	21.01	20.93	20.75		
5	16QAM	1	12	20.93	21.21	21.01		
5	16QAM	1	24	21.17	20.92	20.80	22	0
5	16QAM	12	0	20.78	20.81	20.70		
5	16QAM	12	7	20.77	20.96	20.60		
5	16QAM	12	13	20.79	20.83	20.67	22	0
5	16QAM	25	0	20.85	20.86	20.57		
5	64QAM	1	0	21.15	21.22	21.28		
5	64QAM	1	12	21.09	21.16	21.09	22	0
5	64QAM	1	24	21.09	21.19	21.21		
5	64QAM	12	0	20.51	20.56	20.66		
5	64QAM	12	7	20.69	20.62	20.51	22	0
5	64QAM	12	13	20.55	20.42	20.45		
5	64QAM	25	0	20.56	20.42	20.45		

Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	20.61	20.62	20.45	22	0
3	QPSK	1	8	20.70	20.73	20.46		
3	QPSK	1	14	20.57	20.63	20.55		
3	QPSK	8	0	20.77	20.80	20.52	22	0
3	QPSK	8	4	20.78	20.75	20.60		
3	QPSK	8	7	20.81	20.73	20.62		
3	QPSK	15	0	20.70	20.86	20.61	22	0
3	16QAM	1	0	21.32	20.76	20.97		
3	16QAM	1	8	21.14	20.96	20.44		
3	16QAM	1	14	21.02	20.76	20.80	22	0
3	16QAM	8	0	20.84	20.87	20.42		
3	16QAM	8	4	20.92	20.71	20.60		
3	16QAM	8	7	20.66	20.88	20.78	22	0
3	16QAM	15	0	20.78	20.81	20.65		
3	64QAM	1	0	21.09	21.27	21.15		
3	64QAM	1	8	21.15	21.22	21.19	22	0
3	64QAM	1	14	21.21	21.25	21.22		
3	64QAM	8	0	20.65	20.56	20.62		
3	64QAM	8	4	20.85	20.51	20.48	22	0
3	64QAM	8	7	20.32	20.38	20.41		
3	64QAM	15	0	20.48	20.50	20.48		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	20.49	20.66	20.21	22	0
1.4	QPSK	1	3	20.55	20.86	20.64		
1.4	QPSK	1	5	20.55	20.62	20.31		
1.4	QPSK	3	0	20.55	20.58	20.56	22	0
1.4	QPSK	3	1	20.61	20.65	20.52		
1.4	QPSK	3	3	20.54	20.66	20.61		
1.4	QPSK	6	0	20.72	20.78	20.65	22	0
1.4	16QAM	1	0	21.20	21.13	20.34	22	0
1.4	16QAM	1	3	21.09	20.90	20.86		
1.4	16QAM	1	5	20.56	20.76	20.46		
1.4	16QAM	3	0	20.76	20.67	20.73	22	0
1.4	16QAM	3	1	20.75	20.83	20.56		
1.4	16QAM	3	3	20.66	20.68	20.39		
1.4	16QAM	6	0	20.63	20.86	20.56	22	0
1.4	64QAM	1	0	21.12	21.26	21.31	22	0
1.4	64QAM	1	3	21.18	21.21	21.08		
1.4	64QAM	1	5	21.11	21.16	21.09		
1.4	64QAM	3	0	21.08	21.17	21.09	22	0
1.4	64QAM	3	1	21.17	21.14	21.08		
1.4	64QAM	3	3	21.09	21.15	21.16		
1.4	64QAM	6	0	20.49	20.47	20.51	22	0

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350	18	0
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	17.55	17.57	17.77		
20	QPSK	1	49	17.39	17.22	17.36	18	0
20	QPSK	1	99	17.53	17.56	17.47		
20	QPSK	50	0	17.51	17.52	17.46		
20	QPSK	50	24	17.56	17.53	17.57	18	0
20	QPSK	50	50	17.54	17.51	17.48		
20	QPSK	100	0	17.64	17.50	17.65		
20	16QAM	1	0	17.71	17.72	17.65	18	0
20	16QAM	1	49	17.54	17.61	17.71		
20	16QAM	1	99	17.65	17.43	17.70		
20	16QAM	50	0	17.54	17.51	17.53	18	0
20	16QAM	50	24	17.61	17.49	17.53		
20	16QAM	50	50	17.62	17.59	17.56		
20	16QAM	100	0	17.72	17.48	17.59	18	0
20	64QAM	1	0	17.05	17.00	17.15		
20	64QAM	1	49	16.00	16.76	17.09		
20	64QAM	1	99	16.82	16.65	17.01	18	0
20	64QAM	50	0	17.02	16.78	17.05		
20	64QAM	50	24	16.88	16.71	17.02		
20	64QAM	50	50	16.75	16.70	16.99	18	0
20	64QAM	100	0	16.77	16.81	16.92		
Channel				20825	21100	21375	18	0
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	17.24	17.24	17.26		
15	QPSK	1	37	17.36	17.33	16.87	18	0
15	QPSK	1	74	17.65	17.43	17.40		
15	QPSK	36	0	17.51	17.52	17.47	18	0
15	QPSK	36	20	17.46	17.44	17.43		
15	QPSK	36	39	17.62	17.48	17.48		
15	QPSK	75	0	17.54	17.48	17.48	18	0
15	16QAM	1	0	17.76	17.66	17.65		
15	16QAM	1	37	17.34	17.22	17.67		
15	16QAM	1	74	17.66	17.73	17.57	18	0
15	16QAM	36	0	17.49	17.44	17.53		
15	16QAM	36	20	17.56	17.51	17.46		
15	16QAM	36	39	17.58	17.51	17.42	18	0
15	16QAM	75	0	17.52	17.44	17.37		
15	64QAM	1	0	17.12	17.08	17.05		
15	64QAM	1	37	16.88	16.72	16.82	18	0
15	64QAM	1	74	16.85	16.81	16.91		
15	64QAM	36	0	16.79	16.77	16.85		
15	64QAM	36	20	16.79	16.73	16.90	18	0
15	64QAM	36	39	16.80	16.70	16.75		
15	64QAM	75	0	16.81	16.84	16.88		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	17.24	17.49	17.58	18	0
10	QPSK	1	25	16.94	17.22	17.16		
10	QPSK	1	49	17.48	17.54	17.55		
10	QPSK	25	0	17.33	17.40	17.39	18	0
10	QPSK	25	12	17.28	17.36	17.39		
10	QPSK	25	25	17.51	17.44	17.46		
10	QPSK	50	0	17.34	17.45	17.47	18	0
10	16QAM	1	0	17.76	17.74	17.56		
10	16QAM	1	25	17.72	17.23	17.41		
10	16QAM	1	49	17.75	17.53	17.66	18	0
10	16QAM	25	0	17.36	17.54	17.49		
10	16QAM	25	12	17.38	17.34	17.40		
10	16QAM	25	25	17.44	17.51	17.39	18	0
10	16QAM	50	0	17.34	17.40	17.42		
10	64QAM	1	0	17.22	17.30	17.32		
10	64QAM	1	25	16.82	16.88	16.81	18	0
10	64QAM	1	49	16.77	16.75	16.75		
10	64QAM	25	0	16.95	16.84	16.88		
10	64QAM	25	12	16.86	16.83	16.81	18	0
10	64QAM	25	25	16.83	16.53	16.66		
10	64QAM	50	0	16.76	16.66	16.78		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	17.04	17.20	17.26	18	0
5	QPSK	1	12	17.10	16.98	17.14		
5	QPSK	1	24	17.32	17.28	17.42		
5	QPSK	12	0	17.31	17.43	17.43	18	0
5	QPSK	12	7	17.37	17.37	17.44		
5	QPSK	12	13	17.36	17.33	17.35		
5	QPSK	25	0	17.42	17.43	17.47	18	0
5	16QAM	1	0	17.75	17.33	17.65		
5	16QAM	1	12	17.76	17.22	17.25		
5	16QAM	1	24	17.70	17.50	17.49	18	0
5	16QAM	12	0	17.42	17.53	17.45		
5	16QAM	12	7	17.35	17.39	17.46		
5	16QAM	12	13	17.35	17.43	17.34	18	0
5	16QAM	25	0	17.32	17.38	17.39		
5	64QAM	1	0	17.06	16.84	16.91		
5	64QAM	1	12	16.92	16.83	16.80	18	0
5	64QAM	1	24	16.82	16.68	16.72		
5	64QAM	12	0	16.85	16.71	16.75		
5	64QAM	12	7	16.72	16.65	16.61	18	0
5	64QAM	12	13	16.72	16.62	16.55		
5	64QAM	25	0	16.70	16.60	16.52		

<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	14.14	14.30	14.12		
20	QPSK	1	49	14.16	14.39	14.26	16	0
20	QPSK	1	99	14.09	14.06	14.00		
20	QPSK	50	0	14.17	14.21	14.20		
20	QPSK	50	24	14.11	14.15	14.18	16	0
20	QPSK	50	50	14.06	14.15	14.09		
20	QPSK	100	0	14.10	14.21	14.20		
20	16QAM	1	0	14.31	14.35	14.35	16	0
20	16QAM	1	49	14.27	14.27	14.30		
20	16QAM	1	99	14.31	14.12	14.38		
20	16QAM	50	0	14.15	14.18	14.19	16	0
20	16QAM	50	24	14.12	14.18	14.17		
20	16QAM	50	50	14.12	14.15	14.04		
20	16QAM	100	0	14.11	14.22	14.25	16	0
20	64QAM	1	0	14.11	14.05	14.10		
20	64QAM	1	49	14.08	14.03	14.05		
20	64QAM	1	99	14.02	14.06	14.09	16	0
20	64QAM	50	0	14.00	14.02	14.11		
20	64QAM	50	24	14.02	14.05	14.06		
20	64QAM	50	50	14.09	14.08	14.05	16	0
20	64QAM	100	0	14.11	14.09	14.02		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	14.17	14.19	14.05		
15	QPSK	1	37	14.17	14.14	14.08	16	0
15	QPSK	1	74	14.03	14.20	14.03		
15	QPSK	36	0	14.14	14.25	14.14	16	0
15	QPSK	36	20	14.10	14.13	14.18		
15	QPSK	36	39	14.23	14.19	14.24		
15	QPSK	75	0	14.17	14.31	14.21	16	0
15	16QAM	1	0	14.07	14.18	14.10		
15	16QAM	1	37	14.06	14.29	14.04		
15	16QAM	1	74	14.22	14.34	14.06	16	0
15	16QAM	36	0	14.14	14.23	14.15		
15	16QAM	36	20	14.09	14.13	14.22		
15	16QAM	36	39	14.18	14.33	14.27	16	0
15	16QAM	75	0	14.19	14.24	14.32		
15	64QAM	1	0	14.06	14.09	14.05		
15	64QAM	1	37	14.02	14.05	14.01	16	0
15	64QAM	1	74	14.06	14.02	14.05		
15	64QAM	36	0	14.01	14.00	14.05		
15	64QAM	36	20	14.09	14.16	14.08	16	0
15	64QAM	36	39	14.03	14.05	14.03		
15	64QAM	75	0	14.02	14.09	14.02		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	14.35	14.24	14.32	16	0
10	QPSK	1	25	14.14	14.07	14.16		
10	QPSK	1	49	14.32	14.32	14.32		
10	QPSK	25	0	14.14	14.06	14.18	16	0
10	QPSK	25	12	14.16	14.03	14.15		
10	QPSK	25	25	14.28	14.10	14.14		
10	QPSK	50	0	14.20	14.09	14.03	16	0
10	16QAM	1	0	14.22	14.22	14.35		
10	16QAM	1	25	14.30	14.19	14.34		
10	16QAM	1	49	14.28	14.25	14.07	16	0
10	16QAM	25	0	14.15	14.07	14.08		
10	16QAM	25	12	14.18	14.09	14.04		
10	16QAM	25	25	14.19	14.13	14.15	16	0
10	16QAM	50	0	14.25	14.15	14.24		
10	64QAM	1	0	14.06	14.01	14.11		
10	64QAM	1	25	14.08	14.06	14.09	16	0
10	64QAM	1	49	14.28	14.13	14.28		
10	64QAM	25	0	14.05	14.04	14.03		
10	64QAM	25	12	14.02	14.02	14.06	16	0
10	64QAM	25	25	14.03	14.06	14.05		
10	64QAM	50	0	14.07	14.02	14.09		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	14.36	14.32	14.28	16	0
5	QPSK	1	12	14.07	14.08	14.08		
5	QPSK	1	24	14.04	14.08	14.04		
5	QPSK	12	0	14.18	14.10	14.12	16	0
5	QPSK	12	7	14.17	14.04	14.01		
5	QPSK	12	13	14.14	14.01	14.05		
5	QPSK	25	0	14.08	14.11	14.05	16	0
5	16QAM	1	0	14.15	14.20	14.11		
5	16QAM	1	12	14.23	14.07	14.32		
5	16QAM	1	24	14.18	14.12	14.15	16	0
5	16QAM	12	0	14.18	14.11	14.08		
5	16QAM	12	7	14.19	14.10	14.08		
5	16QAM	12	13	14.12	14.05	14.03	16	0
5	16QAM	25	0	14.18	14.06	14.12		
5	64QAM	1	0	14.01	14.06	14.05		
5	64QAM	1	12	14.00	14.01	14.08	16	0
5	64QAM	1	24	14.07	14.08	14.07		
5	64QAM	12	0	14.06	14.05	14.06		
5	64QAM	12	7	14.11	14.05	14.01	16	0
5	64QAM	12	13	14.02	14.08	14.02		
5	64QAM	25	0	14.03	14.07	14.00		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	14.13	14.12	14.26	16	0
3	QPSK	1	8	14.04	14.06	14.15		
3	QPSK	1	14	14.07	14.00	14.02		
3	QPSK	8	0	14.10	14.05	14.11	16	0
3	QPSK	8	4	14.15	14.02	14.00		
3	QPSK	8	7	14.07	14.02	14.04		
3	QPSK	15	0	14.10	14.01	14.00	16	0
3	16QAM	1	0	14.13	14.25	14.33		
3	16QAM	1	8	14.13	14.35	14.33		
3	16QAM	1	14	14.05	14.02	14.06	16	0
3	16QAM	8	0	14.16	14.12	14.06		
3	16QAM	8	4	14.01	14.11	14.05		
3	16QAM	8	7	14.21	14.04	14.13	16	0
3	16QAM	15	0	14.19	14.05	14.14		
3	64QAM	1	0	14.01	14.07	14.02		
3	64QAM	1	8	14.03	14.05	14.05	16	0
3	64QAM	1	14	14.06	14.04	14.08		
3	64QAM	8	0	14.02	14.09	14.07		
3	64QAM	8	4	14.05	14.03	14.02	16	0
3	64QAM	8	7	14.08	14.02	14.03		
3	64QAM	15	0	14.01	14.05	14.03		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	14.06	14.09	14.05	16	0
1.4	QPSK	1	3	14.07	14.25	14.19		
1.4	QPSK	1	5	14.09	14.02	14.02		
1.4	QPSK	3	0	14.06	14.03	14.07		
1.4	QPSK	3	1	14.07	14.07	14.07		
1.4	QPSK	3	3	14.11	14.06	14.04		
1.4	QPSK	6	0	14.01	14.02	14.01	16	0
1.4	16QAM	1	0	14.24	14.31	14.05	16	0
1.4	16QAM	1	3	14.29	14.24	14.26		
1.4	16QAM	1	5	14.29	14.05	14.38		
1.4	16QAM	3	0	14.03	14.00	14.04		
1.4	16QAM	3	1	14.06	14.01	14.05		
1.4	16QAM	3	3	14.05	14.00	14.01		
1.4	16QAM	6	0	14.10	14.06	14.05	16	0
1.4	64QAM	1	0	14.02	14.08	14.01	16	0
1.4	64QAM	1	3	14.09	14.15	14.05		
1.4	64QAM	1	5	14.07	14.09	14.08		
1.4	64QAM	3	0	14.06	14.02	14.01		
1.4	64QAM	3	1	14.11	14.03	14.09		
1.4	64QAM	3	3	14.05	14.07	14.01		
1.4	64QAM	6	0	14.02	14.03	14.08	16	0

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	20.87	21.07	20.79		
15	QPSK	1	37	20.63	20.45	21.11	22	0
15	QPSK	1	74	21.36	21.38	21.15		
15	QPSK	36	0	21.24	21.25	20.94		
15	QPSK	36	20	20.96	20.91	20.56	22	0
15	QPSK	36	39	20.92	20.76	20.51		
15	QPSK	75	0	21.01	21.08	20.81		
15	16QAM	1	0	21.17	21.33	20.70	22	0
15	16QAM	1	37	21.12	20.95	20.41		
15	16QAM	1	74	21.37	21.04	20.57		
15	16QAM	36	0	21.16	21.21	20.96	22	0
15	16QAM	36	20	20.94	20.96	20.56		
15	16QAM	36	39	20.85	20.70	20.40		
15	16QAM	75	0	20.98	20.97	20.72	22	0
15	64QAM	1	0	21.22	21.31	21.26		
15	64QAM	1	37	21.26	21.32	21.28		
15	64QAM	1	74	21.22	21.30	21.27	22	0
15	64QAM	36	0	21.09	21.01	21.06		
15	64QAM	36	20	20.55	20.62	20.65		
15	64QAM	36	39	20.47	20.51	20.53	22	0
15	64QAM	75	0	20.61	20.68	20.62		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	21.13	21.06	20.81		
10	QPSK	1	25	20.77	20.67	20.42	22	0
10	QPSK	1	49	21.11	20.79	20.61		
10	QPSK	25	0	20.89	20.82	20.69		
10	QPSK	25	12	20.85	20.79	20.68	22	0
10	QPSK	25	25	21.17	20.96	20.60		
10	QPSK	50	0	20.92	20.80	20.71		
10	16QAM	1	0	21.33	21.22	21.02	22	0
10	16QAM	1	25	20.94	20.88	20.69		
10	16QAM	1	49	21.36	20.84	20.57		
10	16QAM	25	0	21.02	20.91	20.72	22	0
10	16QAM	25	12	20.95	20.81	20.68		
10	16QAM	25	25	21.13	20.94	20.66		
10	16QAM	50	0	20.92	20.88	20.76	22	0
10	64QAM	1	0	21.18	21.24	21.17		
10	64QAM	1	25	21.19	21.26	21.16		
10	64QAM	1	49	21.16	21.19	21.15	22	0
10	64QAM	25	0	20.55	20.63	20.60		
10	64QAM	25	12	20.48	20.51	20.45		
10	64QAM	25	25	20.61	20.64	20.61	22	0
10	64QAM	50	0	20.51	20.60	20.54		

Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	20.73	20.71	20.50	22	0
5	QPSK	1	12	20.79	20.61	20.38		
5	QPSK	1	24	20.88	20.78	20.53		
5	QPSK	12	0	20.78	20.77	20.64	22	0
5	QPSK	12	7	20.84	20.86	20.59		
5	QPSK	12	13	20.79	20.78	20.59		
5	QPSK	25	0	20.86	20.76	20.58	22	0
5	16QAM	1	0	20.77	21.08	21.00		
5	16QAM	1	12	20.55	20.91	20.67		
5	16QAM	1	24	21.26	20.43	20.41	22	0
5	16QAM	12	0	20.75	20.83	20.67		
5	16QAM	12	7	20.88	20.84	20.74		
5	16QAM	12	13	20.93	20.77	20.60	22	0
5	16QAM	25	0	20.76	20.78	20.75		
5	64QAM	1	0	21.15	21.24	21.22		
5	64QAM	1	12	21.09	21.16	21.13	22	0
5	64QAM	1	24	21.15	21.19	21.14		
5	64QAM	12	0	20.48	20.52	20.47		
5	64QAM	12	7	20.51	20.57	20.51	22	0
5	64QAM	12	13	20.41	20.46	20.45		
5	64QAM	25	0	20.46	20.49	20.42		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	20.82	20.75	20.51	22	0
3	QPSK	1	8	20.77	20.76	20.52		
3	QPSK	1	14	20.71	20.74	20.46		
3	QPSK	8	0	20.81	20.80	20.55	22	0
3	QPSK	8	4	20.84	20.76	20.63		
3	QPSK	8	7	20.81	20.82	20.53		
3	QPSK	15	0	20.74	20.70	20.65	22	0
3	16QAM	1	0	20.87	20.64	20.77		
3	16QAM	1	8	20.71	21.23	20.96		
3	16QAM	1	14	21.16	20.91	20.45	22	0
3	16QAM	8	0	20.92	20.87	20.60		
3	16QAM	8	4	20.81	20.88	20.56		
3	16QAM	8	7	20.94	20.73	20.65	22	0
3	16QAM	15	0	20.75	20.81	20.58		
3	64QAM	1	0	21.26	21.28	21.06		
3	64QAM	1	8	21.15	21.12	21.07	22	0
3	64QAM	1	14	21.09	21.16	21.11		
3	64QAM	8	0	20.32	20.40	20.35		
3	64QAM	8	4	20.51	20.56	20.53	22	0
3	64QAM	8	7	20.43	20.45	20.41		
3	64QAM	15	0	20.32	20.35	20.29		

Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	20.66	20.60	20.41	22	0
1.4	QPSK	1	3	20.71	20.76	20.47		
1.4	QPSK	1	5	20.65	20.66	20.49		
1.4	QPSK	3	0	20.72	20.59	20.39		
1.4	QPSK	3	1	20.84	20.59	20.46		
1.4	QPSK	3	3	20.69	20.68	20.39		
1.4	QPSK	6	0	20.70	20.63	20.61	22	0
1.4	16QAM	1	0	20.79	21.05	20.92	22	0
1.4	16QAM	1	3	21.17	20.95	20.66		
1.4	16QAM	1	5	20.85	20.82	20.97		
1.4	16QAM	3	0	20.67	20.68	20.56		
1.4	16QAM	3	1	20.66	20.65	20.54		
1.4	16QAM	3	3	20.64	20.52	20.47		
1.4	16QAM	6	0	20.71	20.80	20.66	22	0
1.4	64QAM	1	0	21.18	21.22	21.11	22	0
1.4	64QAM	1	3	21.06	21.18	21.16		
1.4	64QAM	1	5	21.10	21.25	21.21		
1.4	64QAM	3	0	21.05	21.08	21.06		
1.4	64QAM	3	1	21.06	21.11	21.05		
1.4	64QAM	3	3	21.18	21.23	21.18		
1.4	64QAM	6	0	20.51	20.53	20.48	22	0

<LTE Band 30>

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				27710				
Frequency (MHz)				2310				
10	QPSK	1	0		17.38		17.5	0
10	QPSK	1	25		16.91			
10	QPSK	1	49		17.24			
10	QPSK	25	0		16.99		17.5	0
10	QPSK	25	12		16.99			
10	QPSK	25	25		17.18			
10	QPSK	50	0		17.09		17.5	0
10	16QAM	1	0		17.16			
10	16QAM	1	25		17.21			
10	16QAM	1	49		17.29		17.5	0
10	16QAM	25	0		17.11			
10	16QAM	25	12		16.99			
10	16QAM	25	25		17.21		17.5	0
10	16QAM	50	0		17.12			
10	64QAM	1	0		16.89			
10	64QAM	1	25		17.02		17.5	0
10	64QAM	1	49		17.16			
10	64QAM	25	0		17.09			
10	64QAM	25	12		16.84		17.5	0
10	64QAM	25	25		16.80			
10	64QAM	50	0		16.85			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	17.05	17.09	17.09	17.5	0
5	QPSK	1	12	17.04	17.02	16.96		
5	QPSK	1	24	17.12	16.97	16.95		
5	QPSK	12	0	17.15	17.03	17.06	17.5	0
5	QPSK	12	7	17.02	17.05	17.02		
5	QPSK	12	13	16.95	17.06	17.13		
5	QPSK	25	0	17.07	16.92	17.14	17.5	0
5	16QAM	1	0	17.31	17.35	17.26		
5	16QAM	1	12	17.12	17.35	16.99		
5	16QAM	1	24	16.96	17.30	17.33	17.5	0
5	16QAM	12	0	17.12	17.09	17.16		
5	16QAM	12	7	16.97	17.10	17.03		
5	16QAM	12	13	17.02	17.13	17.10	17.5	0
5	16QAM	25	0	17.00	16.93	17.03		
5	64QAM	1	0	17.06	17.12	17.06		
5	64QAM	1	12	16.91	16.96	16.93	17.5	0
5	64QAM	1	24	16.80	16.78	16.72		
5	64QAM	12	0	16.70	16.72	16.66		
5	64QAM	12	7	16.82	16.87	16.81	17.5	0
5	64QAM	12	13	16.81	16.84	16.82		
5	64QAM	25	0	16.71	16.75	16.69		

<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	16	0
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	15.26	15.43	15.36		
20	QPSK	1	49	15.02	15.40	15.65	16	0
20	QPSK	1	99	15.78	15.85	15.72		
20	QPSK	50	0	15.19	15.31	15.28		
20	QPSK	50	24	15.32	15.30	15.35	16	0
20	QPSK	50	50	15.44	15.45	15.42		
20	QPSK	100	0	15.37	15.45	15.44		
20	16QAM	1	0	15.30	15.13	15.47	16	0
20	16QAM	1	49	15.09	15.20	15.82		
20	16QAM	1	99	15.75	15.76	15.49		
20	16QAM	50	0	15.32	15.36	15.31	16	0
20	16QAM	50	24	15.34	15.36	15.37		
20	16QAM	50	50	15.49	15.48	15.48		
20	16QAM	100	0	15.26	15.32	15.47	16	0
20	64QAM	1	0	15.32	15.29	15.31		
20	64QAM	1	49	15.59	15.62	15.69		
20	64QAM	1	99	15.78	15.74	15.75	16	0
20	64QAM	50	0	15.32	15.29	15.35		
20	64QAM	50	24	15.36	15.34	15.37		
20	64QAM	50	50	15.38	15.36	15.42	16	0
20	64QAM	100	0	15.42	15.40	15.45		
Channel				132047	132322	132597	16	0
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	15.64	15.66	15.62		
15	QPSK	1	37	15.43	15.81	15.39	16	0
15	QPSK	1	74	15.53	15.48	15.51		
15	QPSK	36	0	15.37	15.27	15.34	16	0
15	QPSK	36	20	15.27	15.25	15.31		
15	QPSK	36	39	15.15	15.25	15.42		
15	QPSK	75	0	15.36	15.32	15.40	16	0
15	16QAM	1	0	15.82	15.70	15.65		
15	16QAM	1	37	15.76	15.45	15.69		
15	16QAM	1	74	15.59	15.45	15.78	16	0
15	16QAM	36	0	15.33	15.27	15.45		
15	16QAM	36	20	15.22	15.29	15.40		
15	16QAM	36	39	15.23	15.33	15.29	16	0
15	16QAM	75	0	15.32	15.38	15.43		
15	64QAM	1	0	15.72	15.78	15.82		
15	64QAM	1	37	15.66	15.57	15.51	16	0
15	64QAM	1	74	15.52	15.46	15.52		
15	64QAM	36	0	15.42	15.35	15.37		
15	64QAM	36	20	15.53	15.52	15.62	16	0
15	64QAM	36	39	15.32	15.27	15.31		
15	64QAM	75	0	15.36	15.33	15.42		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	15.20	15.21	15.22	16	0
10	QPSK	1	25	15.20	15.28	15.32		
10	QPSK	1	49	15.79	15.83	15.48		
10	QPSK	25	0	15.37	15.41	15.36	16	0
10	QPSK	25	12	15.47	15.53	15.51		
10	QPSK	25	25	15.44	15.36	15.67		
10	QPSK	50	0	15.44	15.39	15.50	16	0
10	16QAM	1	0	15.06	15.12	15.44		
10	16QAM	1	25	15.27	15.12	15.66		
10	16QAM	1	49	15.84	15.71	15.35	16	0
10	16QAM	25	0	15.48	15.41	15.43		
10	16QAM	25	12	15.44	15.35	15.56		
10	16QAM	25	25	15.58	15.50	15.61	16	0
10	16QAM	50	0	15.42	15.46	15.50		
10	64QAM	1	0	15.11	14.92	15.00		
10	64QAM	1	25	15.32	15.38	15.40	16	0
10	64QAM	1	49	15.78	15.76	15.75		
10	64QAM	25	0	15.62	15.64	15.59		
10	64QAM	25	12	15.51	15.55	15.48	16	0
10	64QAM	25	25	15.42	15.36	15.39		
10	64QAM	50	0	15.56	15.51	15.49		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	15.40	15.55	15.44	16	0
5	QPSK	1	12	15.23	15.34	15.30		
5	QPSK	1	24	15.44	15.35	15.53		
5	QPSK	12	0	15.44	15.41	15.61	16	0
5	QPSK	12	7	15.49	15.39	15.52		
5	QPSK	12	13	15.39	15.37	15.46		
5	QPSK	25	0	15.46	15.39	15.53	16	0
5	16QAM	1	0	15.84	15.79	15.74		
5	16QAM	1	12	15.56	15.20	15.59		
5	16QAM	1	24	15.49	15.74	15.46	16	0
5	16QAM	12	0	15.57	15.50	15.60		
5	16QAM	12	7	15.50	15.40	15.48		
5	16QAM	12	13	15.42	15.34	15.41	16	0
5	16QAM	25	0	15.52	15.53	15.51		
5	64QAM	1	0	15.72	15.71	15.75		
5	64QAM	1	12	15.42	15.48	15.42	16	0
5	64QAM	1	24	15.53	15.52	15.56		
5	64QAM	12	0	15.65	15.61	15.57		
5	64QAM	12	7	15.51	15.54	15.51	16	0
5	64QAM	12	13	15.32	15.39	15.33		
5	64QAM	25	0	15.48	15.51	15.45		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	15.29	15.25	15.46	16	0
3	QPSK	1	8	15.27	15.28	15.48		
3	QPSK	1	14	15.43	15.26	15.35		
3	QPSK	8	0	15.50	15.46	15.45	16	0
3	QPSK	8	4	15.52	15.42	15.46		
3	QPSK	8	7	15.42	15.35	15.45		
3	QPSK	15	0	15.46	15.36	15.43	16	0
3	16QAM	1	0	15.59	15.61	15.54		
3	16QAM	1	8	15.59	15.35	15.65		
3	16QAM	1	14	15.30	15.60	15.80	16	0
3	16QAM	8	0	15.55	15.57	15.48		
3	16QAM	8	4	15.47	15.49	15.50		
3	16QAM	8	7	15.38	15.46	15.38	16	0
3	16QAM	8	7	15.38	15.43	15.59		
3	16QAM	15	0	15.38	15.43	15.59		
3	64QAM	1	0	15.62	15.68	15.71	16	0
3	64QAM	1	8	15.55	15.60	15.65		
3	64QAM	1	14	15.62	15.67	15.62		
3	64QAM	8	0	15.46	15.45	15.48	16	0
3	64QAM	8	4	15.56	15.46	15.52		
3	64QAM	8	7	15.38	15.36	15.42		
3	64QAM	15	0	15.49	15.46	15.51		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	15.33	15.22	15.19	16	0
1.4	QPSK	1	3	15.44	15.22	15.35		
1.4	QPSK	1	5	15.32	15.28	15.38		
1.4	QPSK	3	0	15.45	15.37	15.41	16	0
1.4	QPSK	3	1	15.50	15.33	15.45		
1.4	QPSK	3	3	15.41	15.29	15.43		
1.4	QPSK	6	0	15.45	15.32	15.40	16	0
1.4	16QAM	1	0	15.75	15.83	15.50	16	0
1.4	16QAM	1	3	15.79	15.75	15.81		
1.4	16QAM	1	5	15.56	15.62	15.42		
1.4	16QAM	3	0	15.46	15.44	15.45	16	0
1.4	16QAM	3	1	15.49	15.46	15.31		
1.4	16QAM	3	3	15.47	15.40	15.42		
1.4	16QAM	6	0	15.39	15.43	15.49	16	0
1.4	64QAM	1	0	15.50	15.54	15.52	16	0
1.4	64QAM	1	3	15.60	15.56	15.62		
1.4	64QAM	1	5	15.60	15.62	15.55		
1.4	64QAM	3	0	15.51	15.43	15.49	16	0
1.4	64QAM	3	1	15.35	15.41	15.43		
1.4	64QAM	3	3	15.36	15.40	15.45		
1.4	64QAM	6	0	15.32	15.37	15.42	16	0

<Reduced Power Mode for Product Specific 10g SAR>

<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	19.55	19.72	19.54	20.5	0
20	QPSK	1	49	19.15	18.98	19.32		
20	QPSK	1	99	19.51	19.23	19.45		
20	QPSK	50	0	19.37	19.39	19.25	20.5	0
20	QPSK	50	24	19.26	19.15	19.38		
20	QPSK	50	50	19.35	19.21	19.37		
20	QPSK	100	0	19.46	19.53	19.51	20.5	0
20	16QAM	1	0	19.52	19.49	19.56		
20	16QAM	1	49	19.36	19.36	19.52		
20	16QAM	1	99	19.69	19.67	19.53	20.5	0
20	16QAM	50	0	19.38	19.22	19.35		
20	16QAM	50	24	19.26	19.19	19.37		
20	16QAM	50	50	19.33	19.29	19.40	20.5	0
20	16QAM	100	0	19.43	19.28	19.33		
20	64QAM	1	0	19.61	19.65	19.62		
20	64QAM	1	49	19.22	19.27	19.31	20.5	0
20	64QAM	1	99	19.48	19.53	19.55		
20	64QAM	50	0	19.45	19.44	19.40		
20	64QAM	50	24	19.27	19.34	19.32	20.5	0
20	64QAM	50	50	19.28	19.35	19.27		
20	64QAM	100	0	19.36	19.42	19.45		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	19.56	19.33	19.49	20.5	0
15	QPSK	1	37	19.26	18.96	19.09		
15	QPSK	1	74	19.58	19.61	19.59		
15	QPSK	36	0	19.38	19.24	19.41	20.5	0
15	QPSK	36	20	19.24	19.16	19.42		
15	QPSK	36	39	19.34	19.28	19.42		
15	QPSK	75	0	19.37	19.25	19.38	20.5	0
15	16QAM	1	0	19.70	19.54	19.56		
15	16QAM	1	37	19.49	19.34	19.41		
15	16QAM	1	74	19.56	19.54	19.55	20.5	0
15	16QAM	36	0	19.40	19.21	19.43		
15	16QAM	36	20	19.23	19.18	19.41		
15	16QAM	36	39	19.39	19.21	19.37	20.5	0
15	16QAM	75	0	19.36	19.33	19.39		
15	64QAM	1	0	19.61	19.68	19.63		
15	64QAM	1	37	19.48	19.44	19.48	20.5	0
15	64QAM	1	74	19.62	19.68	19.63		
15	64QAM	36	0	19.51	19.57	19.44		
15	64QAM	36	20	19.45	19.40	19.49	20.5	0
15	64QAM	36	39	19.52	19.50	19.55		
15	64QAM	75	0	19.43	19.45	19.47		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	19.49	19.46	19.47	20.5	0
10	QPSK	1	25	19.22	19.10	19.23		
10	QPSK	1	49	19.56	19.47	19.54		
10	QPSK	25	0	19.36	19.24	19.35	20.5	0
10	QPSK	25	12	19.34	19.23	19.31		
10	QPSK	25	25	19.31	19.36	19.44		
10	QPSK	50	0	19.37	19.24	19.33	20.5	0
10	16QAM	1	0	19.58	19.62	19.70		
10	16QAM	1	25	19.47	19.42	19.56		
10	16QAM	1	49	19.53	19.59	19.54	20.5	0
10	16QAM	25	0	19.37	19.28	19.34		
10	16QAM	25	12	19.32	19.21	19.34		
10	16QAM	25	25	19.42	19.39	19.34	20.5	0
10	16QAM	50	0	19.38	19.22	19.40		
10	64QAM	1	0	19.68	19.71	19.65		
10	64QAM	1	25	19.62	19.63	19.57	20.5	0
10	64QAM	1	49	19.49	19.59	19.55		
10	64QAM	25	0	19.52	19.58	19.56		
10	64QAM	25	12	19.38	19.41	19.32	20.5	0
10	64QAM	25	25	19.25	19.40	19.38		
10	64QAM	50	0	19.42	19.48	19.42		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	19.30	19.28	19.33	20.5	0
5	QPSK	1	12	19.20	19.12	19.13		
5	QPSK	1	24	19.20	19.15	19.21		
5	QPSK	12	0	19.33	19.24	19.29	20.5	0
5	QPSK	12	7	19.30	19.17	19.30		
5	QPSK	12	13	19.25	19.09	19.25		
5	QPSK	25	0	19.31	19.19	19.31	20.5	0
5	16QAM	1	0	19.55	19.47	19.49		
5	16QAM	1	12	19.54	19.22	19.46		
5	16QAM	1	24	19.48	19.42	19.44	20.5	0
5	16QAM	12	0	19.35	19.25	19.38		
5	16QAM	12	7	19.35	19.20	19.29		
5	16QAM	12	13	19.27	19.15	19.28	20.5	0
5	16QAM	25	0	19.29	19.18	19.34		
5	64QAM	1	0	19.42	19.55	19.50		
5	64QAM	1	12	19.41	19.48	19.42	20.5	0
5	64QAM	1	24	19.38	19.41	19.43		
5	64QAM	12	0	19.44	19.50	19.48		
5	64QAM	12	7	19.42	19.46	19.41	20.5	0
5	64QAM	12	13	19.31	19.37	19.34		
5	64QAM	25	0	19.42	19.46	19.41		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	19.20	19.21	19.26	20.5	0
3	QPSK	1	8	19.18	19.08	19.21		
3	QPSK	1	14	19.15	19.15	19.13		
3	QPSK	8	0	19.26	19.16	19.26	20.5	0
3	QPSK	8	4	19.29	19.17	19.29		
3	QPSK	8	7	19.25	19.15	19.25		
3	QPSK	15	0	19.23	19.16	19.24		
3	16QAM	1	0	19.50	19.43	19.53	20.5	0
3	16QAM	1	8	19.50	19.35	19.51		
3	16QAM	1	14	19.45	19.37	19.46		
3	16QAM	8	0	19.32	19.23	19.31	20.5	0
3	16QAM	8	4	19.33	19.23	19.33		
3	16QAM	8	7	19.28	19.15	19.31		
3	16QAM	15	0	19.29	19.16	19.27		
3	64QAM	1	0	19.48	19.51	19.42		
3	64QAM	1	8	19.56	19.59	19.53	20.5	0
3	64QAM	1	14	19.50	19.52	19.42		
3	64QAM	8	0	19.32	19.39	19.31		
3	64QAM	8	4	19.27	19.33	19.28	20.5	0
3	64QAM	8	7	19.28	19.31	19.29		
3	64QAM	15	0	19.35	19.42	19.35		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	19.16	19.09	19.13	20.5	0
1.4	QPSK	1	3	19.18	19.16	19.19		
1.4	QPSK	1	5	19.21	19.02	19.11		
1.4	QPSK	3	0	19.19	19.04	19.10		
1.4	QPSK	3	1	19.25	19.10	19.15		
1.4	QPSK	3	3	19.16	19.05	19.15		
1.4	QPSK	6	0	19.22	19.07	19.20	20.5	0
1.4	16QAM	1	0	19.46	19.32	19.39	20.5	0
1.4	16QAM	1	3	19.44	19.39	19.45		
1.4	16QAM	1	5	19.43	19.30	19.40		
1.4	16QAM	3	0	19.21	19.07	19.21		
1.4	16QAM	3	1	19.28	19.08	19.23		
1.4	16QAM	3	3	19.16	19.07	19.12		
1.4	16QAM	6	0	19.41	19.25	19.35	20.5	0
1.4	64QAM	1	0	19.38	19.55	19.57	20.5	0
1.4	64QAM	1	3	19.44	19.56	19.51		
1.4	64QAM	1	5	19.50	19.56	19.53		
1.4	64QAM	3	0	19.30	19.36	19.42		
1.4	64QAM	3	1	19.31	19.39	19.35		
1.4	64QAM	3	3	19.40	19.32	19.38		
1.4	64QAM	6	0	19.35	19.37	19.32	20.5	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	19.32	19.38	19.10		
20	QPSK	1	49	19.54	19.71	19.35	20	0
20	QPSK	1	99	18.96	18.95	19.12		
20	QPSK	50	0	19.09	19.06	19.21		
20	QPSK	50	24	18.98	18.98	19.11	20	0
20	QPSK	50	50	18.92	18.95	19.06		
20	QPSK	100	0	18.95	18.89	19.06		
20	16QAM	1	0	19.41	19.20	19.36	20	0
20	16QAM	1	49	19.28	19.41	19.49		
20	16QAM	1	99	19.35	19.12	19.49		
20	16QAM	50	0	19.10	18.98	19.04	20	0
20	16QAM	50	24	19.04	18.96	19.11		
20	16QAM	50	50	18.89	18.88	19.15		
20	16QAM	100	0	18.98	18.93	19.09	20	0
20	64QAM	1	0	19.25	19.27	19.18		
20	64QAM	1	49	19.63	19.65	19.59		
20	64QAM	1	99	19.40	19.44	19.37	20	0
20	64QAM	50	0	19.32	19.35	19.28		
20	64QAM	50	24	19.35	19.41	19.39		
20	64QAM	50	50	19.39	19.41	19.35	20	0
20	64QAM	100	0	19.28	19.33	19.32		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	19.30	19.29	19.26		
15	QPSK	1	37	18.99	18.96	19.14	20	0
15	QPSK	1	74	19.15	19.13	19.21		
15	QPSK	36	0	19.10	19.15	19.18	20	0
15	QPSK	36	20	19.11	19.05	19.18		
15	QPSK	36	39	19.03	19.06	19.10		
15	QPSK	75	0	19.08	19.06	19.22	20	0
15	16QAM	1	0	19.51	19.66	19.58		
15	16QAM	1	37	19.31	19.31	19.24		
15	16QAM	1	74	19.39	19.42	19.48	20	0
15	16QAM	36	0	19.07	19.14	19.20		
15	16QAM	36	20	19.06	19.09	19.16		
15	16QAM	36	39	19.14	19.01	19.11	20	0
15	16QAM	75	0	19.08	19.12	19.19		
15	64QAM	1	0	19.58	19.61	19.56		
15	64QAM	1	37	19.41	19.44	19.50	20	0
15	64QAM	1	74	19.48	19.47	19.42		
15	64QAM	36	0	19.41	19.43	19.38		
15	64QAM	36	20	19.38	19.42	19.36	20	0
15	64QAM	36	39	19.30	19.34	19.28		
15	64QAM	75	0	19.35	19.41	19.29		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	18.13	18.71	18.53	20	0
10	QPSK	1	25	19.04	18.15	18.18		
10	QPSK	1	49	18.29	18.56	18.19		
10	QPSK	25	0	19.28	19.22	19.28	20	0
10	QPSK	25	12	19.36	19.21	19.21		
10	QPSK	25	25	19.44	19.36	19.29		
10	QPSK	50	0	19.33	19.26	19.26	20	0
10	16QAM	1	0	19.42	19.51	19.42		
10	16QAM	1	25	19.43	19.58	19.51		
10	16QAM	1	49	19.48	19.41	19.66	20	0
10	16QAM	25	0	19.40	19.25	19.30		
10	16QAM	25	12	19.33	19.22	19.27		
10	16QAM	25	25	19.39	19.35	19.25	20	0
10	16QAM	50	0	19.23	19.26	19.29		
10	64QAM	1	0	19.62	19.67	19.63		
10	64QAM	1	25	19.52	19.62	19.50	20	0
10	64QAM	1	49	19.61	19.69	19.65		
10	64QAM	25	0	19.48	19.53	19.52		
10	64QAM	25	12	19.38	19.41	19.36	20	0
10	64QAM	25	25	19.32	19.36	19.28		
10	64QAM	50	0	19.55	19.62	19.59		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	19.28	19.17	19.05	20	0
5	QPSK	1	12	19.16	19.08	19.14		
5	QPSK	1	24	19.30	19.20	19.07		
5	QPSK	12	0	19.37	19.31	19.21	20	0
5	QPSK	12	7	19.29	19.19	19.25		
5	QPSK	12	13	19.26	19.16	19.22		
5	QPSK	25	0	19.27	19.17	19.27	20	0
5	16QAM	1	0	19.62	19.39	19.68		
5	16QAM	1	12	19.52	19.45	19.49		
5	16QAM	1	24	19.59	19.59	19.51	20	0
5	16QAM	12	0	19.37	19.34	19.23		
5	16QAM	12	7	19.27	19.21	19.24		
5	16QAM	12	13	19.30	19.22	19.19	20	0
5	16QAM	25	0	19.19	19.22	19.26		
5	64QAM	1	0	19.58	19.63	19.61		
5	64QAM	1	12	19.50	19.54	19.58	20	0
5	64QAM	1	24	19.30	19.37	19.38		
5	64QAM	12	0	19.38	19.41	19.35		
5	64QAM	12	7	19.31	19.39	19.35	20	0
5	64QAM	12	13	19.20	19.27	19.25		
5	64QAM	25	0	19.30	19.36	19.31		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	19.11	19.15	18.99	20	0
3	QPSK	1	8	19.16	19.15	19.17		
3	QPSK	1	14	19.17	19.10	19.13		
3	QPSK	8	0	19.33	19.16	19.19	20	0
3	QPSK	8	4	19.35	19.20	19.24		
3	QPSK	8	7	19.16	19.16	19.12		
3	QPSK	15	0	19.29	19.16	19.16	20	0
3	16QAM	1	0	19.58	19.60	19.42		
3	16QAM	1	8	19.49	19.49	19.54		
3	16QAM	1	14	19.59	19.44	19.22	20	0
3	16QAM	8	0	19.37	19.28	19.26		
3	16QAM	8	4	19.43	19.26	19.28		
3	16QAM	8	7	19.29	19.18	19.23	20	0
3	16QAM	15	0	19.28	19.18	19.20		
3	64QAM	1	0	19.58	19.61	19.51		
3	64QAM	1	8	19.48	19.51	19.42	20	0
3	64QAM	1	14	19.40	19.44	19.42		
3	64QAM	8	0	19.28	19.31	19.38		
3	64QAM	8	4	19.25	19.31	19.26	20	0
3	64QAM	8	7	19.26	19.32	19.28		
3	64QAM	15	0	19.27	19.34	19.30		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	19.22	19.02	19.00	20	0
1.4	QPSK	1	3	19.30	19.22	19.11		
1.4	QPSK	1	5	19.21	19.13	19.10		
1.4	QPSK	3	0	19.23	19.06	19.13	20	0
1.4	QPSK	3	1	19.31	19.17	19.17		
1.4	QPSK	3	3	19.31	19.13	19.12		
1.4	QPSK	6	0	19.27	19.14	19.14	20	0
1.4	16QAM	1	0	19.36	19.26	19.43	20	0
1.4	16QAM	1	3	19.47	19.45	19.50		
1.4	16QAM	1	5	19.31	19.22	19.18		
1.4	16QAM	3	0	19.30	19.19	19.18	20	0
1.4	16QAM	3	1	19.31	19.25	19.24		
1.4	16QAM	3	3	19.26	19.11	19.19		
1.4	16QAM	6	0	19.26	19.14	19.18	20	0
1.4	64QAM	1	0	19.20	19.44	19.42	20	0
1.4	64QAM	1	3	19.50	19.52	19.55		
1.4	64QAM	1	5	19.38	19.43	19.41		
1.4	64QAM	3	0	19.20	19.29	19.25	20	0
1.4	64QAM	3	1	19.35	19.40	19.42		
1.4	64QAM	3	3	19.18	19.32	19.25		
1.4	64QAM	6	0	19.26	19.33	19.30	20	0

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350	23	0
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	22.68	22.59	22.61		
20	QPSK	1	49	22.85	22.52	22.90	22	1
20	QPSK	1	99	22.86	22.83	22.96		
20	QPSK	50	0	20.99	20.86	20.97		
20	QPSK	50	24	21.06	20.90	21.10	22	1
20	QPSK	50	50	21.03	20.87	21.01		
20	QPSK	100	0	21.02	20.87	21.07		
20	16QAM	1	0	21.33	21.14	21.16	22	1
20	16QAM	1	49	21.30	21.01	21.18		
20	16QAM	1	99	21.11	21.18	21.24		
20	16QAM	50	0	20.13	19.91	19.89	21	2
20	16QAM	50	24	20.10	19.90	20.00		
20	16QAM	50	50	20.02	19.84	20.02		
20	16QAM	100	0	20.08	19.82	20.00	23	0
20	64QAM	1	0	22.78	22.81	22.85		
20	64QAM	1	49	22.79	22.84	22.80		
20	64QAM	1	99	22.84	22.86	22.61	23	0
20	64QAM	50	0	22.82	22.87	22.89		
20	64QAM	50	24	22.87	22.77	22.87		
20	64QAM	50	50	22.89	22.84	22.73	23	0
20	64QAM	100	0	22.83	22.87	22.82		
Channel				20825	21100	21375	23	0
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	22.57	22.49	22.60		
15	QPSK	1	37	22.74	22.86	22.80	22	1
15	QPSK	1	74	22.74	22.65	22.93		
15	QPSK	36	0	20.99	20.78	20.95		
15	QPSK	36	20	20.96	20.81	21.05	22	1
15	QPSK	36	39	20.90	20.74	21.04		
15	QPSK	75	0	20.97	20.76	20.97		
15	16QAM	1	0	21.16	20.97	21.18	22	1
15	16QAM	1	37	21.07	20.86	21.21		
15	16QAM	1	74	21.09	20.97	21.23		
15	16QAM	36	0	19.99	19.77	19.96	21	2
15	16QAM	36	20	19.99	19.76	20.01		
15	16QAM	36	39	19.93	19.77	20.00		
15	16QAM	75	0	19.93	19.74	19.99	23	0
15	64QAM	1	0	22.73	22.87	22.85		
15	64QAM	1	37	22.65	22.68	22.58		
15	64QAM	1	74	22.61	22.83	22.83	23	0
15	64QAM	36	0	22.74	22.59	22.59		
15	64QAM	36	20	22.77	22.89	22.89		
15	64QAM	36	39	22.89	22.87	22.87	23	0
15	64QAM	75	0	22.74	22.80	22.80		
15	64QAM	75	0	22.74	22.80	22.80		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	22.93	22.77	22.94	23	0
10	QPSK	1	25	22.92	22.54	22.88		
10	QPSK	1	49	22.85	22.83	22.89		
10	QPSK	25	0	20.97	20.74	21.00	22	1
10	QPSK	25	12	20.92	20.68	20.98		
10	QPSK	25	25	20.89	20.69	20.99		
10	QPSK	50	0	20.94	20.68	21.00	22	1
10	16QAM	1	0	21.28	21.16	21.39		
10	16QAM	1	25	21.10	20.89	21.15		
10	16QAM	1	49	21.19	21.04	21.30	21	2
10	16QAM	25	0	19.94	19.78	20.00		
10	16QAM	25	12	19.89	19.69	19.94		
10	16QAM	25	25	19.86	19.77	19.97	23	0
10	16QAM	50	0	19.92	19.68	20.00		
10	64QAM	1	0	22.87	22.86	22.83		
10	64QAM	1	25	22.73	22.84	22.80	23	0
10	64QAM	1	49	22.88	22.86	22.78		
10	64QAM	25	0	22.76	22.81	22.81		
10	64QAM	25	12	22.68	22.82	22.84	23	0
10	64QAM	25	25	22.85	22.66	22.75		
10	64QAM	50	0	22.73	22.79	22.80		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.80	22.59	22.86	23	0
5	QPSK	1	12	22.86	22.68	22.89		
5	QPSK	1	24	22.78	22.62	22.88		
5	QPSK	12	0	20.96	20.78	21.04	22	1
5	QPSK	12	7	20.92	20.70	21.01		
5	QPSK	12	13	20.89	20.68	21.02		
5	QPSK	25	0	20.93	20.74	21.03	22	1
5	16QAM	1	0	21.14	20.97	21.27		
5	16QAM	1	12	21.00	20.87	21.12		
5	16QAM	1	24	21.02	20.88	21.20	21	2
5	16QAM	12	0	19.98	19.72	20.02		
5	16QAM	12	7	19.91	19.73	19.99		
5	16QAM	12	13	19.90	19.73	19.93	23	0
5	16QAM	25	0	19.95	19.69	20.03		
5	64QAM	1	0	22.83	22.88	22.85		
5	64QAM	1	12	22.81	22.74	22.70	23	0
5	64QAM	1	24	22.86	22.73	22.75		
5	64QAM	12	0	22.73	22.76	22.78		
5	64QAM	12	7	22.85	22.83	22.85	23	0
5	64QAM	12	13	22.70	22.87	22.86		
5	64QAM	25	0	22.84	22.88	22.78		

<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	19.54	19.67	19.68		
20	QPSK	1	49	19.35	19.93	19.65	20.5	0
20	QPSK	1	99	19.45	19.47	19.28		
20	QPSK	50	0	19.57	19.68	19.65		
20	QPSK	50	24	19.53	19.57	19.63	20.5	0
20	QPSK	50	50	19.53	19.64	19.55		
20	QPSK	100	0	19.54	19.65	19.61		
20	16QAM	1	0	19.75	19.71	19.81	20.5	0
20	16QAM	1	49	19.77	19.73	19.82		
20	16QAM	1	99	19.65	19.58	19.66		
20	16QAM	50	0	19.54	19.61	19.58	20.5	0
20	16QAM	50	24	19.58	19.61	19.55		
20	16QAM	50	50	19.46	19.58	19.61		
20	16QAM	100	0	19.47	19.58	19.61	20.5	0
20	64QAM	1	0	19.60	19.65	19.61		
20	64QAM	1	49	19.55	19.63	19.81		
20	64QAM	1	99	19.08	19.12	19.20	20.5	0
20	64QAM	50	0	19.37	19.45	19.42		
20	64QAM	50	24	19.35	19.45	19.40		
20	64QAM	50	50	19.38	19.42	19.38	20.5	0
20	64QAM	100	0	19.38	19.50	19.42		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	19.59	19.72	19.64		
15	QPSK	1	37	19.23	19.31	18.91	20.5	0
15	QPSK	1	74	19.40	19.77	19.65		
15	QPSK	36	0	19.52	19.63	19.60	20.5	0
15	QPSK	36	20	19.51	19.65	19.61		
15	QPSK	36	39	19.66	19.76	19.69		
15	QPSK	75	0	19.58	19.74	19.67	20.5	0
15	16QAM	1	0	19.88	19.89	19.82		
15	16QAM	1	37	19.83	19.75	19.62		
15	16QAM	1	74	19.75	19.74	19.75	20.5	0
15	16QAM	36	0	19.58	19.62	19.61		
15	16QAM	36	20	19.51	19.67	19.60		
15	16QAM	36	39	19.62	19.76	19.64	20.5	0
15	16QAM	75	0	19.57	19.77	19.76		
15	64QAM	1	0	19.71	19.75	19.76		
15	64QAM	1	37	19.20	19.22	19.25	20.5	0
15	64QAM	1	74	19.65	19.61	19.63		
15	64QAM	36	0	19.55	19.51	19.55	20.5	0
15	64QAM	36	20	19.43	19.49	19.56		
15	64QAM	36	39	19.52	19.55	19.26		
15	64QAM	75	0	19.55	19.58	19.66		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	19.73	19.74	19.72	20.5	0
10	QPSK	1	25	19.51	19.35	19.50		
10	QPSK	1	49	19.80	19.75	19.77		
10	QPSK	25	0	19.58	19.50	19.61	20.5	0
10	QPSK	25	12	19.58	19.54	19.55		
10	QPSK	25	25	19.67	19.51	19.66		
10	QPSK	50	0	19.64	19.54	19.62	20.5	0
10	16QAM	1	0	19.89	19.84	19.88		
10	16QAM	1	25	19.86	19.65	19.72		
10	16QAM	1	49	19.91	19.79	19.84	20.5	0
10	16QAM	25	0	19.60	19.49	19.61		
10	16QAM	25	12	19.53	19.54	19.59		
10	16QAM	25	25	19.58	19.57	19.55	20.5	0
10	16QAM	50	0	19.59	19.57	19.55		
10	64QAM	1	0	19.77	19.80	19.82		
10	64QAM	1	25	19.58	19.55	19.43	20.5	0
10	64QAM	1	49	19.79	19.75	19.60		
10	64QAM	25	0	19.55	19.43	19.35		
10	64QAM	25	12	19.57	19.42	19.34	20.5	0
10	64QAM	25	25	19.48	19.40	19.38		
10	64QAM	50	0	19.49	19.46	19.41		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	19.60	19.63	19.65	20.5	0
5	QPSK	1	12	19.41	19.35	19.35		
5	QPSK	1	24	19.51	19.35	19.43		
5	QPSK	12	0	19.64	19.51	19.55	20.5	0
5	QPSK	12	7	19.55	19.48	19.48		
5	QPSK	12	13	19.54	19.45	19.47		
5	QPSK	25	0	19.57	19.51	19.50	20.5	0
5	16QAM	1	0	19.84	19.83	19.92		
5	16QAM	1	12	19.74	19.76	19.61		
5	16QAM	1	24	19.83	19.73	19.82	20.5	0
5	16QAM	12	0	19.63	19.53	19.59		
5	16QAM	12	7	19.57	19.48	19.59		
5	16QAM	12	13	19.58	19.45	19.52	20.5	0
5	16QAM	25	0	19.55	19.49	19.49		
5	64QAM	1	0	19.61	19.68	19.61		
5	64QAM	1	12	19.48	19.50	19.48	20.5	0
5	64QAM	1	24	19.40	19.45	19.42		
5	64QAM	12	0	19.32	19.39	19.35		
5	64QAM	12	7	19.40	19.44	19.40	20.5	0
5	64QAM	12	13	19.30	19.34	19.31		
5	64QAM	25	0	19.42	19.45	19.40		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	19.46	19.55	19.56	20.5	0
3	QPSK	1	8	19.47	19.42	19.38		
3	QPSK	1	14	19.47	19.32	19.34		
3	QPSK	8	0	19.54	19.47	19.49	20.5	0
3	QPSK	8	4	19.52	19.51	19.48		
3	QPSK	8	7	19.51	19.42	19.46		
3	QPSK	15	0	19.54	19.49	19.51	20.5	0
3	16QAM	1	0	19.76	19.65	19.73		
3	16QAM	1	8	19.83	19.83	19.76		
3	16QAM	1	14	19.86	19.63	19.61	20.5	0
3	16QAM	8	0	19.65	19.56	19.52		
3	16QAM	8	4	19.58	19.55	19.56		
3	16QAM	8	7	19.58	19.48	19.54	20.5	0
3	16QAM	15	0	19.53	19.45	19.57		
3	64QAM	1	0	19.51	19.56	19.42		
3	64QAM	1	8	19.48	19.54	19.52	20.5	0
3	64QAM	1	14	19.49	19.53	19.51		
3	64QAM	8	0	19.32	19.39	19.42		
3	64QAM	8	4	19.30	19.34	19.32	20.5	0
3	64QAM	8	7	19.30	19.32	19.18		
3	64QAM	15	0	19.31	19.36	19.32		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	19.61	19.59	19.55	20.5	0
1.4	QPSK	1	3	19.59	19.40	19.61		
1.4	QPSK	1	5	19.52	19.34	19.36		
1.4	QPSK	3	0	19.51	19.43	19.44	20.5	0
1.4	QPSK	3	1	19.52	19.47	19.46		
1.4	QPSK	3	3	19.47	19.36	19.45		
1.4	QPSK	6	0	19.57	19.43	19.42	20.5	0
1.4	16QAM	1	0	19.76	19.69	19.67	20.5	0
1.4	16QAM	1	3	19.77	19.82	19.72		
1.4	16QAM	1	5	19.75	19.70	19.71		
1.4	16QAM	3	0	19.55	19.51	19.46	20.5	0
1.4	16QAM	3	1	19.59	19.53	19.44		
1.4	16QAM	3	3	19.57	19.47	19.44		
1.4	16QAM	6	0	19.56	19.43	19.46	20.5	0
1.4	64QAM	1	0	19.38	19.51	19.55	20.5	0
1.4	64QAM	1	3	19.44	19.59	19.60		
1.4	64QAM	1	5	19.42	19.47	19.42		
1.4	64QAM	3	0	19.30	19.33	19.30	20.5	0
1.4	64QAM	3	1	19.40	19.49	19.40		
1.4	64QAM	3	3	19.40	19.35	19.32		
1.4	64QAM	6	0	19.42	19.38	19.50	20.5	0

<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	19.13	19.12	19.24		
20	QPSK	1	49	19.26	19.23	19.32	20	0
20	QPSK	1	99	19.81	19.83	19.36		
20	QPSK	50	0	19.08	19.07	18.89		
20	QPSK	50	24	19.05	19.06	18.95	20	0
20	QPSK	50	50	19.16	19.18	18.98		
20	QPSK	100	0	19.07	19.09	18.98		
20	16QAM	1	0	19.42	19.56	19.29	20	0
20	16QAM	1	49	19.34	19.35	19.20		
20	16QAM	1	99	19.66	19.61	19.63		
20	16QAM	50	0	19.05	19.04	18.85	20	0
20	16QAM	50	24	19.03	19.10	18.94		
20	16QAM	50	50	19.14	19.09	19.00		
20	16QAM	100	0	19.03	19.04	18.91	20	0
20	64QAM	1	0	19.42	19.45	19.42		
20	64QAM	1	49	19.48	19.51	19.42		
20	64QAM	1	99	19.78	19.81	19.75	20	0
20	64QAM	50	0	19.20	19.27	19.22		
20	64QAM	50	24	19.27	19.28	19.21		
20	64QAM	50	50	19.50	19.31	19.32	20	0
20	64QAM	100	0	19.32	19.34	19.36		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	19.59	19.46	19.19		
15	QPSK	1	37	18.67	19.15	18.89	20	0
15	QPSK	1	74	19.17	19.13	19.06		
15	QPSK	36	0	19.03	19.09	18.98	20	0
15	QPSK	36	20	18.93	18.98	18.87		
15	QPSK	36	39	18.99	18.98	18.85		
15	QPSK	75	0	18.92	19.01	18.92	20	0
15	16QAM	1	0	19.81	19.70	19.55		
15	16QAM	1	37	19.20	19.32	18.89		
15	16QAM	1	74	19.47	19.50	19.42	20	0
15	16QAM	36	0	19.02	19.13	19.00		
15	16QAM	36	20	18.94	19.01	18.88		
15	16QAM	36	39	18.94	18.94	18.85	20	0
15	16QAM	75	0	18.99	19.02	18.94		
15	64QAM	1	0	19.70	19.72	19.65		
15	64QAM	1	37	19.38	19.42	19.45	20	0
15	64QAM	1	74	19.65	19.66	19.59		
15	64QAM	36	0	19.41	19.43	19.38		
15	64QAM	36	20	19.35	19.28	19.36	20	0
15	64QAM	36	39	19.36	19.34	19.39		
15	64QAM	75	0	19.30	19.32	19.35		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	18.59	18.52	18.95	20	0
10	QPSK	1	25	18.93	18.90	18.67		
10	QPSK	1	49	19.44	19.41	19.21		
10	QPSK	25	0	19.06	19.06	18.83	20	0
10	QPSK	25	12	19.09	19.10	18.91		
10	QPSK	25	25	19.11	19.12	19.01		
10	QPSK	50	0	19.10	19.06	18.90	20	0
10	16QAM	1	0	18.89	18.83	18.85		
10	16QAM	1	25	19.36	19.44	19.03		
10	16QAM	1	49	19.80	19.64	19.56	20	0
10	16QAM	25	0	19.11	19.05	18.86		
10	16QAM	25	12	19.07	19.09	18.89		
10	16QAM	25	25	19.06	19.10	18.99	20	0
10	16QAM	50	0	19.07	19.07	18.84		
10	64QAM	1	0	19.22	19.08	19.11		
10	64QAM	1	25	19.45	19.53	19.49	20	0
10	64QAM	1	49	19.71	19.75	19.72		
10	64QAM	25	0	19.45	19.40	19.43		
10	64QAM	25	12	19.41	19.46	19.38	20	0
10	64QAM	25	25	19.53	19.63	19.55		
10	64QAM	50	0	19.22	19.47	19.40		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	19.01	19.09	18.83	20	0
5	QPSK	1	12	19.01	18.91	18.76		
5	QPSK	1	24	18.97	18.90	18.78		
5	QPSK	12	0	19.10	19.08	18.94	20	0
5	QPSK	12	7	19.09	19.01	18.86		
5	QPSK	12	13	19.00	19.00	18.82		
5	QPSK	25	0	19.09	19.03	18.87	20	0
5	16QAM	1	0	19.38	19.52	19.15		
5	16QAM	1	12	19.24	19.30	19.13		
5	16QAM	1	24	19.32	19.21	19.09	20	0
5	16QAM	12	0	19.11	19.16	18.92		
5	16QAM	12	7	19.06	19.05	18.89		
5	16QAM	12	13	18.95	18.99	18.80	20	0
5	16QAM	25	0	19.10	19.03	18.85		
5	64QAM	1	0	19.72	19.79	19.81		
5	64QAM	1	12	19.62	19.67	19.70	20	0
5	64QAM	1	24	19.42	19.58	19.65		
5	64QAM	12	0	19.52	19.56	19.61		
5	64QAM	12	7	19.52	19.47	19.44	20	0
5	64QAM	12	13	19.42	19.40	19.35		
5	64QAM	25	0	19.45	19.42	19.40		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	19.02	18.98	18.75	20	0
3	QPSK	1	8	18.96	18.90	18.74		
3	QPSK	1	14	18.94	18.83	18.73		
3	QPSK	8	0	18.99	19.02	18.82	20	0
3	QPSK	8	4	19.03	19.00	18.84		
3	QPSK	8	7	19.00	18.95	18.79		
3	QPSK	15	0	18.99	18.95	18.83	20	0
3	16QAM	1	0	19.29	19.36	19.08		
3	16QAM	1	8	19.21	19.24	19.10		
3	16QAM	1	14	19.20	19.21	19.08	20	0
3	16QAM	8	0	19.09	19.06	18.87		
3	16QAM	8	4	19.04	19.07	18.89		
3	16QAM	8	7	19.02	19.00	18.83	20	0
3	16QAM	15	0	19.01	18.99	18.78		
3	64QAM	1	0	19.55	19.64	19.61		
3	64QAM	1	8	19.61	19.69	19.65	20	0
3	64QAM	1	14	19.52	19.56	19.50		
3	64QAM	8	0	19.42	19.43	19.45		
3	64QAM	8	4	19.32	19.37	19.33	20	0
3	64QAM	8	7	19.41	19.44	19.35		
3	64QAM	15	0	19.35	19.42	19.35		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	18.84	18.89	18.69	20	0
1.4	QPSK	1	3	19.02	18.97	18.81		
1.4	QPSK	1	5	18.94	18.91	18.74		
1.4	QPSK	3	0	18.94	18.92	18.75	20	0
1.4	QPSK	3	1	18.99	18.97	18.80		
1.4	QPSK	3	3	18.94	18.90	18.72		
1.4	QPSK	6	0	18.93	18.86	18.81	20	0
1.4	16QAM	1	0	19.12	19.16	19.03	20	0
1.4	16QAM	1	3	19.18	19.35	19.09		
1.4	16QAM	1	5	19.23	19.13	18.92		
1.4	16QAM	3	0	18.99	19.00	18.85	20	0
1.4	16QAM	3	1	19.05	19.06	18.88		
1.4	16QAM	3	3	18.96	18.97	18.78		
1.4	16QAM	6	0	18.91	18.94	18.78	20	0
1.4	64QAM	1	0	19.58	19.61	19.55	20	0
1.4	64QAM	1	3	19.65	19.71	19.62		
1.4	64QAM	1	5	19.51	19.53	19.58		
1.4	64QAM	3	0	19.32	19.37	19.39	20	0
1.4	64QAM	3	1	19.40	19.43	19.47		
1.4	64QAM	3	3	19.40	19.41	19.45		
1.4	64QAM	6	0	19.32	19.37	19.35	20	0

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

- 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- “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
- Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

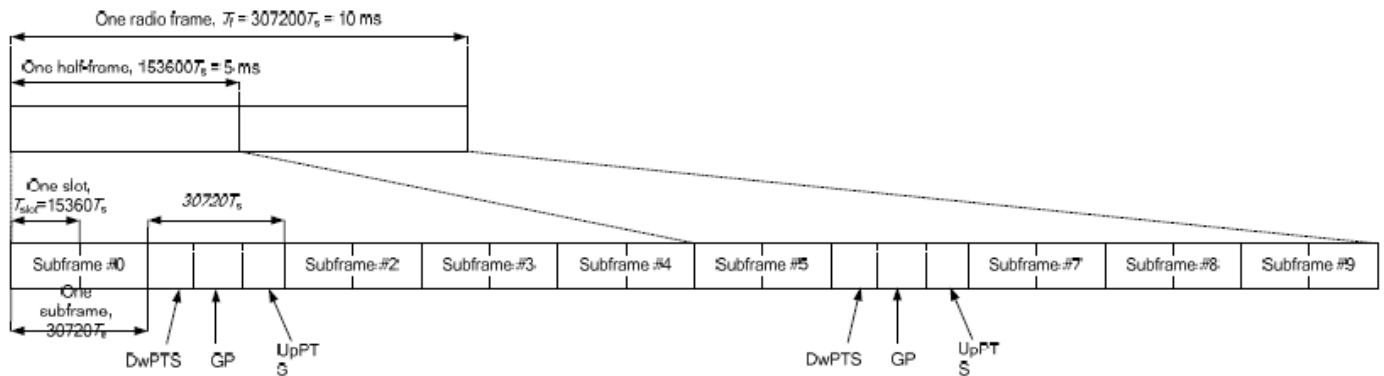


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

For LTE Band 41 Power class 2

- Uplink-downlink configuration: 1. In a half-frame consisted of 5 subframes, uplink operation is in 2 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.167)/5 = 43.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.143)/5 = 42.9\%$
- For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $43.3\%/42.9\% = 1.009$ is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

For LTE Band 41 Power class 3

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

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level for LTE band 41.

<Full 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	22.90	23.00	22.96		
20	QPSK	1	49	22.91	22.96	23.07	24.5	0
20	QPSK	1	99	23.10	23.13	23.15		
20	QPSK	50	0	21.70	21.80	21.83		
20	QPSK	50	24	21.76	21.81	21.86	23.5	1
20	QPSK	50	50	21.74	21.75	21.92		
20	QPSK	100	0	21.64	21.75	21.87		
20	16QAM	1	0	21.90	21.94	22.21	23.5	1
20	16QAM	1	49	21.90	22.01	22.17		
20	16QAM	1	99	22.37	22.10	22.21		
20	16QAM	50	0	20.56	20.94	20.85	22.5	2
20	16QAM	50	24	20.71	20.87	20.74		
20	16QAM	50	50	20.87	20.86	20.89		
20	16QAM	100	0	20.63	20.84	20.82	24.5	0
20	64QAM	1	0	23.12	23.13	23.07		
20	64QAM	1	49	23.14	23.13	23.06		
20	64QAM	1	99	23.12	23.13	23.13	24.5	0
20	64QAM	50	0	23.13	23.05	23.01		
20	64QAM	50	24	22.93	23.07	22.96		
20	64QAM	50	50	23.06	22.95	23.08	24.5	0
20	64QAM	100	0	22.92	22.99	22.97		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	22.90	22.96	22.91		
15	QPSK	1	37	23.01	23.14	23.04	24.5	0
15	QPSK	1	74	22.92	23.03	23.01		
15	QPSK	36	0	21.88	21.65	21.69	23.5	1
15	QPSK	36	20	21.97	21.71	21.66		
15	QPSK	36	39	21.89	21.69	21.70		
15	QPSK	75	0	21.79	21.67	21.68	23.5	1
15	16QAM	1	0	22.03	22.03	21.94		
15	16QAM	1	37	22.06	21.99	21.92		
15	16QAM	1	74	21.89	22.16	22.20	22.5	2
15	16QAM	36	0	20.58	20.82	20.95		
15	16QAM	36	20	20.73	20.76	20.94		
15	16QAM	36	39	20.64	20.80	20.97	24.5	0
15	16QAM	75	0	20.59	20.92	20.97		
15	64QAM	1	0	23.10	23.03	23.08		
15	64QAM	1	37	23.13	23.11	23.09	24.5	0
15	64QAM	1	74	23.09	23.14	22.99		
15	64QAM	36	0	22.84	23.10	22.87		
15	64QAM	36	20	22.88	23.12	22.92	24.5	0
15	64QAM	36	39	22.81	23.11	22.91		
15	64QAM	75	0	23.01	23.07	23.02		

Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	22.98	22.96	22.97	24.5	0
10	QPSK	1	25	22.91	23.07	23.11		
10	QPSK	1	49	23.05	23.10	23.06		
10	QPSK	25	0	21.62	21.56	22.06	23.5	1
10	QPSK	25	12	21.68	21.90	21.81		
10	QPSK	25	25	21.74	21.91	21.82		
10	QPSK	50	0	21.70	21.97	21.84	23.5	1
10	16QAM	1	0	22.11	22.29	22.11		
10	16QAM	1	25	21.93	22.15	21.92		
10	16QAM	1	49	22.18	22.42	22.15	22.5	2
10	16QAM	25	0	20.75	20.92	20.78		
10	16QAM	25	12	20.76	20.99	20.74		
10	16QAM	25	25	20.84	20.70	20.76	22.5	2
10	16QAM	50	0	20.89	20.97	20.77		
10	64QAM	1	0	23.10	23.12	23.07		
10	64QAM	1	25	22.96	22.95	22.94	24.5	0
10	64QAM	1	49	23.02	23.12	22.91		
10	64QAM	25	0	22.93	23.02	22.96		
10	64QAM	25	12	23.09	23.08	22.94	24.5	0
10	64QAM	25	25	23.03	23.06	23.12		
10	64QAM	50	0	22.87	22.85	22.95		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	22.88	22.95	22.94	24.5	0
5	QPSK	1	12	22.92	23.01	23.05		
5	QPSK	1	24	23.01	23.05	23.00		
5	QPSK	12	0	21.94	21.87	21.96	23.5	1
5	QPSK	12	7	21.85	21.98	21.70		
5	QPSK	12	13	22.00	21.76	21.93		
5	QPSK	25	0	21.93	21.72	22.01	23.5	1
5	16QAM	1	0	22.24	21.97	22.21		
5	16QAM	1	12	22.08	21.83	22.21		
5	16QAM	1	24	22.17	21.88	22.13	22.5	2
5	16QAM	12	0	21.07	20.82	21.01		
5	16QAM	12	7	20.90	20.77	21.10		
5	16QAM	12	13	20.88	20.99	20.98	22.5	2
5	16QAM	25	0	20.91	21.00	21.04		
5	64QAM	1	0	23.14	23.11	23.13		
5	64QAM	1	12	23.06	23.12	23.00	24.5	0
5	64QAM	1	24	22.96	23.02	23.06		
5	64QAM	12	0	22.89	22.96	23.04		
5	64QAM	12	7	23.04	23.13	23.02	24.5	0
5	64QAM	12	13	22.84	23.08	23.03		
5	64QAM	25	0	23.03	23.06	23.13		

<LTE Band 41 Power Class 2>

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	24.94	24.90	24.88	25.02	25.11	25.5	0
20	QPSK	1	49	24.81	25.09	24.84	24.79	25.08		
20	QPSK	1	99	25.38	25.39	25.20	24.97	24.97		
20	QPSK	50	0	24.39	24.22	24.32	24.22	23.77	24.5	1
20	QPSK	50	24	24.17	24.38	24.24	23.89	23.72		
20	QPSK	50	50	24.13	24.15	24.22	23.93	23.90		
20	QPSK	100	0	24.31	24.30	24.00	24.09	24.18		
20	16QAM	1	0	22.70	23.89	23.98	23.87	23.99	24.5	1
20	16QAM	1	49	24.26	23.99	24.04	24.13	23.94		
20	16QAM	1	99	24.41	24.44	24.29	24.18	23.20		
20	16QAM	50	0	23.24	23.29	23.03	23.04	23.06	24	1.5
20	16QAM	50	24	23.20	23.22	23.21	22.99	23.05		
20	16QAM	50	50	23.30	23.39	23.47	23.02	23.20		
20	16QAM	100	0	23.28	23.33	23.36	22.93	22.92		
20	64QAM	1	0	25.17	25.16	25.30	25.23	25.20	25.5	0
20	64QAM	1	49	25.03	25.10	24.94	24.97	25.08		
20	64QAM	1	99	25.14	25.08	25.28	25.21	25.10		
20	64QAM	50	0	25.10	24.99	25.10	25.20	25.16	25.5	0
20	64QAM	50	24	25.02	25.01	24.96	25.12	25.14		
20	64QAM	50	50	25.00	25.03	24.92	25.11	25.05		
20	64QAM	100	0	24.96	25.03	25.06	25.13	24.72		
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	25.24	25.27	25.02	25.23	25.31	25.5	0
15	QPSK	1	37	25.03	25.13	25.15	25.06	25.29		
15	QPSK	1	74	24.98	25.25	25.14	24.94	25.27		
15	QPSK	36	0	24.02	24.24	24.13	23.92	24.27	24.5	1
15	QPSK	36	20	24.34	24.29	24.37	24.09	24.36		
15	QPSK	36	39	24.27	24.36	24.18	24.02	24.31		
15	QPSK	75	0	24.24	24.39	24.19	24.36	24.24		
15	16QAM	1	0	22.92	24.13	24.42	24.15	24.25	24.5	1
15	16QAM	1	37	24.15	24.04	24.46	23.94	24.24		
15	16QAM	1	74	24.20	24.30	24.34	24.28	23.50		
15	16QAM	36	0	23.08	22.94	22.97	22.79	23.19	24	1.5
15	16QAM	36	20	22.98	23.05	22.94	22.75	23.05		
15	16QAM	36	39	23.12	23.29	23.18	23.19	23.13		
15	16QAM	75	0	23.06	23.29	23.42	22.90	23.18		
15	64QAM	1	0	25.12	25.06	25.20	25.13	25.20	25.5	0
15	64QAM	1	37	25.03	25.10	24.94	25.00	25.08		
15	64QAM	1	74	25.02	25.01	25.27	25.21	25.07		
15	64QAM	36	0	25.17	25.04	25.10	25.20	25.21	25.5	0
15	64QAM	36	20	25.13	25.12	25.00	25.14	25.18		
15	64QAM	36	39	25.01	25.07	24.92	25.19	25.08		
15	64QAM	75	0	25.03	25.05	25.06	25.14	24.92		

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	25.24	25.31	25.19	25.29	25.34	25.5	0
10	QPSK	1	25	25.29	24.96	25.25	25.34	25.29		
10	QPSK	1	49	25.26	25.31	25.22	25.31	25.35		
10	QPSK	25	0	24.23	24.00	24.11	24.43	24.50	24.5	1
10	QPSK	25	12	24.22	24.07	24.21	24.43	24.32		
10	QPSK	25	25	24.29	24.21	24.42	24.35	24.45		
10	QPSK	50	0	24.27	24.05	24.20	24.47	24.44		
10	16QAM	1	0	23.43	24.40	24.49	24.47	24.49	24.5	1
10	16QAM	1	25	24.19	24.18	24.47	24.41	24.47		
10	16QAM	1	49	24.43	24.49	24.42	24.42	23.90		
10	16QAM	25	0	23.47	23.13	23.23	23.45	23.30	24	1.5
10	16QAM	25	12	23.42	23.42	23.26	23.54	23.00		
10	16QAM	25	25	23.51	23.55	23.20	23.50	23.22		
10	16QAM	50	0	23.49	23.47	23.22	23.58	23.14		
10	64QAM	1	0	25.13	25.04	25.16	25.17	25.08	25.5	0
10	64QAM	1	25	25.05	25.03	24.98	25.00	25.06		
10	64QAM	1	49	25.14	25.08	25.28	25.21	25.03		
10	64QAM	25	0	25.10	25.00	25.10	25.20	25.14	25.5	0
10	64QAM	25	12	24.99	25.06	25.03	25.13	25.07		
10	64QAM	25	25	25.01	25.07	24.95	25.01	25.05		
10	64QAM	50	0	25.03	25.15	25.13	25.17	24.99		
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	25.25	25.16	25.14	25.28	25.27	25.5	0
5	QPSK	1	12	24.85	25.18	25.32	25.28	24.77		
5	QPSK	1	24	24.96	25.06	25.00	25.27	24.98		
5	QPSK	12	0	23.00	24.41	24.12	24.42	23.90	24.5	1
5	QPSK	12	7	23.05	24.40	24.48	24.35	23.21		
5	QPSK	12	13	24.18	24.31	24.15	24.36	23.18		
5	QPSK	25	0	24.22	24.33	24.13	24.37	24.23		
5	16QAM	1	0	24.28	24.19	24.34	24.49	24.49	24.5	1
5	16QAM	1	12	22.80	24.14	24.49	24.37	23.49		
5	16QAM	1	24	24.43	24.44	24.45	24.49	23.40		
5	16QAM	12	0	22.14	23.45	23.58	23.51	22.98	24	1.5
5	16QAM	12	7	22.22	23.27	23.53	23.45	22.20		
5	16QAM	12	13	23.34	23.42	23.48	23.46	22.18		
5	16QAM	25	0	23.40	23.46	23.58	23.50	22.96		
5	64QAM	1	0	25.11	25.10	25.13	25.03	25.10	25.5	0
5	64QAM	1	12	25.15	25.09	25.00	25.02	25.10		
5	64QAM	1	24	25.12	24.98	25.20	25.04	25.04		
5	64QAM	12	0	25.20	25.13	25.08	25.13	25.16	25.5	0
5	64QAM	12	7	25.14	25.17	24.95	25.16	25.15		
5	64QAM	12	13	25.08	24.99	24.92	25.09	25.07		
5	64QAM	25	0	25.16	25.00	25.08	25.10	24.93		

<LTE Band 41 Power Class 3>

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	24.23	24.37	24.13	24.21	23.94	24.5	0
20	QPSK	1	49	24.35	24.18	24.22	24.20	24.23		
20	QPSK	1	99	24.45	24.46	24.23	24.26	24.28		
20	QPSK	50	0	22.19	22.20	22.05	22.02	22.08	23.5	1
20	QPSK	50	24	22.12	21.97	22.08	21.91	22.07		
20	QPSK	50	50	21.86	22.04	22.02	21.95	22.03		
20	QPSK	100	0	22.05	22.06	21.99	22.03	21.91	23.5	1
20	16QAM	1	0	21.61	21.97	22.08	22.32	21.81		
20	16QAM	1	49	22.13	22.05	21.96	21.84	22.23		
20	16QAM	1	99	22.07	22.17	22.15	22.14	21.66	22.5	2
20	16QAM	50	0	21.15	21.12	21.00	20.99	20.85		
20	16QAM	50	24	21.02	20.95	21.26	21.14	21.21		
20	16QAM	50	50	21.12	21.27	21.20	20.79	20.99	24.5	0
20	16QAM	100	0	20.96	21.16	21.17	21.19	21.07		
20	64QAM	1	0	24.04	24.44	24.20	24.06	24.35		
20	64QAM	1	49	24.02	24.26	24.21	24.35	24.25	24.5	0
20	64QAM	1	99	24.32	24.24	24.13	23.96	24.20		
20	64QAM	50	0	24.40	24.40	24.13	24.21	24.41		
20	64QAM	50	24	24.13	24.32	23.98	23.95	24.40	24.5	0
20	64QAM	50	50	24.05	24.36	23.95	24.02	24.25		
20	64QAM	100	0	24.20	23.70	24.07	24.10	24.04		
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	23.03	24.40	24.42	24.43	24.34	24.5	0
15	QPSK	1	37	24.04	24.24	24.33	24.16	24.25		
15	QPSK	1	74	24.32	24.38	24.40	24.41	23.04		
15	QPSK	36	0	21.87	22.12	22.14	22.16	21.86	23.5	1
15	QPSK	36	20	22.06	21.95	22.18	21.79	21.95		
15	QPSK	36	39	21.87	22.00	22.00	21.81	21.81		
15	QPSK	75	0	21.98	22.10	22.07	21.99	22.16	23.5	1
15	16QAM	1	0	21.89	22.46	22.37	22.13	22.00		
15	16QAM	1	37	22.03	21.67	21.76	21.57	21.64		
15	16QAM	1	74	22.16	22.28	22.47	22.43	21.88	22.5	2
15	16QAM	36	0	21.17	20.90	21.09	20.93	21.24		
15	16QAM	36	20	20.93	21.13	21.18	21.01	20.78		
15	16QAM	36	39	20.96	20.98	21.09	20.81	21.12	24.5	0
15	16QAM	75	0	20.91	21.09	21.31	21.13	21.02		
15	64QAM	1	0	23.14	24.31	24.40	24.29	23.98		
15	64QAM	1	37	23.87	24.36	24.21	24.13	24.02	24.5	0
15	64QAM	1	74	24.00	24.39	24.39	24.13	23.82		
15	64QAM	36	0	24.06	24.04	24.35	24.16	24.42		
15	64QAM	36	20	24.14	24.06	23.90	24.21	24.39	24.5	0
15	64QAM	36	39	24.08	24.35	23.99	24.20	24.12		
15	64QAM	75	0	23.72	24.36	23.97	24.03	24.38		

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	23.13	24.37	24.41	24.37	24.41	24.5	0
10	QPSK	1	25	24.15	24.42	24.01	23.99	23.83		
10	QPSK	1	49	24.37	24.39	24.43	24.33	23.10		
10	QPSK	25	0	22.02	22.07	22.42	22.39	22.29	23.5	1
10	QPSK	25	12	22.16	22.28	22.24	22.16	22.30		
10	QPSK	25	25	22.28	22.39	22.50	22.20	22.37		
10	QPSK	50	0	22.18	22.20	22.20	22.08	22.38		
10	16QAM	1	0	21.85	22.41	22.58	22.47	22.55	23.5	1
10	16QAM	1	25	22.24	22.23	22.44	22.33	22.23		
10	16QAM	1	49	22.41	22.48	22.58	22.66	21.69		
10	16QAM	25	0	21.16	21.15	21.52	21.07	21.39	22.5	2
10	16QAM	25	12	21.29	21.18	21.25	21.24	21.34		
10	16QAM	25	25	21.16	21.47	21.26	21.23	20.96		
10	16QAM	50	0	21.32	21.26	21.26	21.47	21.20		
10	64QAM	1	0	24.28	24.40	24.39	24.40	24.30	24.5	0
10	64QAM	1	25	24.21	24.37	24.43	24.36	24.24		
10	64QAM	1	49	24.39	24.40	24.16	24.04	24.35		
10	64QAM	25	0	24.34	24.18	24.21	24.27	23.71	24.5	0
10	64QAM	25	12	24.28	24.22	24.40	24.32	24.32		
10	64QAM	25	25	24.39	24.19	24.26	24.24	24.04		
10	64QAM	50	0	24.30	24.30	24.14	24.26	24.21		
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	22.94	24.41	24.31	24.38	24.32	24.5	0
5	QPSK	1	12	22.99	24.34	24.11	24.35	23.21		
5	QPSK	1	24	24.23	24.28	24.39	24.42	23.16		
5	QPSK	12	0	21.65	22.02	22.20	21.96	22.09	23.5	1
5	QPSK	12	7	21.57	22.03	22.45	22.27	21.67		
5	QPSK	12	13	22.05	22.04	22.37	22.28	21.79		
5	QPSK	25	0	22.31	22.29	22.28	22.06	22.12		
5	16QAM	1	0	21.96	22.45	22.82	22.39	22.36	23.5	1
5	16QAM	1	12	21.80	22.21	22.44	22.26	21.74		
5	16QAM	1	24	22.27	22.30	22.29	22.13	21.70		
5	16QAM	12	0	20.85	21.12	21.44	21.49	21.45	22.5	2
5	16QAM	12	7	20.74	21.05	21.44	21.40	20.64		
5	16QAM	12	13	21.05	21.15	21.34	21.34	20.84		
5	16QAM	25	0	21.33	21.26	21.29	21.24	21.38		
5	64QAM	1	0	23.30	24.35	24.40	24.41	24.15	24.5	0
5	64QAM	1	12	23.18	24.25	24.33	24.32	23.10		
5	64QAM	1	24	24.28	24.39	24.40	24.40	23.35		
5	64QAM	12	0	23.07	24.12	24.12	24.16	24.26	24.5	0
5	64QAM	12	7	23.03	24.19	24.11	24.17	23.15		
5	64QAM	12	13	24.07	24.07	24.41	24.11	23.04		
5	64QAM	25	0	24.40	24.17	24.12	24.21	24.22		

<Reduced Power Mode for Hotspot On/P-Sensor On>
<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	20.22	20.09	19.96		
20	QPSK	1	49	20.08	19.98	19.98	21	0
20	QPSK	1	99	20.53	20.50	20.63	21	0
20	QPSK	50	0	20.42	20.28	20.22		
20	QPSK	50	24	20.37	20.18	20.36		
20	QPSK	50	50	20.47	20.36	20.37	21	0
20	QPSK	100	0	20.27	20.30	20.31		
20	16QAM	1	0	20.57	20.40	20.38		
20	16QAM	1	49	20.49	20.51	20.32	21	0
20	16QAM	1	99	20.52	20.54	20.47	21	0
20	16QAM	50	0	20.24	20.29	20.05		
20	16QAM	50	24	20.46	20.30	20.41		
20	16QAM	50	50	20.37	20.20	20.34	21	0
20	16QAM	100	0	20.46	20.33	20.31		
20	64QAM	1	0	19.88	19.79	19.81		
20	64QAM	1	49	19.61	19.56	19.66	20.5	0.5
20	64QAM	1	99	19.45	19.35	19.65	20.5	0.5
20	64QAM	50	0	19.55	19.54	19.75		
20	64QAM	50	24	19.38	19.34	19.55		
20	64QAM	50	50	19.42	19.38	19.55	20.5	0.5
20	64QAM	100	0	19.31	19.32	19.49		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	20.12	19.88	20.23		
15	QPSK	1	37	20.20	20.00	19.11	21	0
15	QPSK	1	74	20.36	20.15	19.49	21	0
15	QPSK	36	0	20.27	20.01	20.04		
15	QPSK	36	20	20.37	20.35	20.29		
15	QPSK	36	39	20.23	20.35	20.09	21	0
15	QPSK	75	0	20.48	20.10	20.01		
15	16QAM	1	0	20.47	20.46	20.45		
15	16QAM	1	37	20.09	20.35	20.20	21	0
15	16QAM	1	74	20.56	20.45	20.31	21	0
15	16QAM	36	0	20.27	20.30	20.20		
15	16QAM	36	20	20.24	20.32	20.24		
15	16QAM	36	39	20.38	20.14	20.34	21	0
15	16QAM	75	0	20.46	20.09	20.20		
15	64QAM	1	0	20.01	19.80	19.88		
15	64QAM	1	37	19.75	19.53	19.57	20.5	0.5
15	64QAM	1	74	19.77	19.56	19.66	20.5	0.5
15	64QAM	36	0	19.55	19.36	19.48		
15	64QAM	36	20	19.62	19.42	19.57		
15	64QAM	36	39	19.66	19.42	19.66	20.5	0.5
15	64QAM	75	0	19.77	19.46	19.63		

Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	20.09	20.33	20.26	21	0
10	QPSK	1	25	19.90	20.10	20.09		
10	QPSK	1	49	20.58	20.32	20.25		
10	QPSK	25	0	20.07	20.34	20.22	21	0
10	QPSK	25	12	20.39	20.16	20.25		
10	QPSK	25	25	20.28	20.13	20.32		
10	QPSK	50	0	20.43	20.33	20.21	21	0
10	16QAM	1	0	20.54	20.55	20.46		
10	16QAM	1	25	20.54	20.33	20.25		
10	16QAM	1	49	20.60	20.60	20.48	21	0
10	16QAM	25	0	20.34	20.26	20.24		
10	16QAM	25	12	20.37	20.17	20.27		
10	16QAM	25	25	20.46	20.34	20.33	21	0
10	16QAM	50	0	20.24	20.15	20.04		
10	64QAM	1	0	19.92	19.99	20.06		
10	64QAM	1	25	19.91	19.96	20.01	20.5	0.5
10	64QAM	1	49	19.93	19.94	20.08		
10	64QAM	25	0	19.78	19.76	20.04		
10	64QAM	25	12	19.88	19.83	20.06	20.5	0.5
10	64QAM	25	25	19.74	19.85	19.88		
10	64QAM	50	0	19.77	19.80	19.89		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	20.15	19.99	19.92	21	0
5	QPSK	1	12	19.71	20.07	19.72		
5	QPSK	1	24	20.28	19.89	19.85		
5	QPSK	12	0	20.13	20.27	20.03	21	0
5	QPSK	12	7	20.16	20.17	20.32		
5	QPSK	12	13	20.19	20.05	20.31		
5	QPSK	25	0	20.08	20.31	19.96	21	0
5	16QAM	1	0	20.40	20.45	20.55		
5	16QAM	1	12	20.54	20.29	20.47		
5	16QAM	1	24	20.38	20.34	20.22	21	0
5	16QAM	12	0	20.19	20.09	20.36		
5	16QAM	12	7	20.35	20.38	20.05		
5	16QAM	12	13	20.32	20.27	20.04	21	0
5	16QAM	25	0	20.36	20.13	20.00		
5	64QAM	1	0	20.11	19.94	20.05		
5	64QAM	1	12	20.12	19.79	19.85	20.5	0.5
5	64QAM	1	24	20.01	19.81	19.95		
5	64QAM	12	0	19.66	19.59	19.65		
5	64QAM	12	7	19.78	19.64	19.72	20.5	0.5
5	64QAM	12	13	19.71	19.57	19.66		
5	64QAM	25	0	19.88	19.78	19.83		

<LTE Band 41 Power Class 2/3>

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	20.05	19.96	19.91	20.04	19.94	21	0
20	QPSK	1	49	19.89	20.08	20.02	20.03	20.13		
20	QPSK	1	99	20.57	20.58	20.13	20.44	20.15		
20	QPSK	50	0	20.33	20.34	20.27	20.27	20.24	21	0
20	QPSK	50	24	20.20	20.31	20.25	20.01	20.17		
20	QPSK	50	50	20.17	20.31	20.17	20.13	20.22		
20	QPSK	100	0	20.40	20.42	20.39	20.31	20.35	21	0
20	16QAM	1	0	20.24	20.37	20.31	20.05	20.25		
20	16QAM	1	49	20.12	20.27	20.35	20.19	20.27		
20	16QAM	1	99	20.32	20.45	20.07	20.45	19.95	21	0
20	16QAM	50	0	20.10	20.35	20.40	20.28	20.39		
20	16QAM	50	24	20.19	20.13	20.33	20.21	20.05		
20	16QAM	50	50	20.18	20.42	20.20	20.31	20.07	21	0
20	16QAM	100	0	20.26	20.27	20.24	20.34	20.14		
20	64QAM	1	0	19.99	19.93	19.77	19.65	19.72		
20	64QAM	1	49	19.91	19.87	19.81	19.53	19.66	20.5	0.5
20	64QAM	1	99	19.85	19.73	19.75	19.51	19.57		
20	64QAM	50	0	19.88	19.96	19.66	19.58	19.62		
20	64QAM	50	24	19.78	19.84	19.85	19.40	19.56	20.5	0.5
20	64QAM	50	50	19.81	19.88	19.45	19.36	19.38		
20	64QAM	100	0	19.82	19.77	19.45	19.40	19.47		
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	20.29	20.14	20.32	20.36	20.27	21	0
15	QPSK	1	37	19.95	19.59	19.22	19.74	20.14		
15	QPSK	1	74	20.12	20.32	18.50	20.59	20.23		
15	QPSK	36	0	20.06	20.17	20.20	20.35	20.32	21	0
15	QPSK	36	20	20.00	20.30	20.30	19.89	20.09		
15	QPSK	36	39	20.03	20.18	20.19	20.28	20.27		
15	QPSK	75	0	20.27	20.08	20.14	20.24	20.11	21	0
15	16QAM	1	0	20.39	20.36	20.47	20.46	20.33		
15	16QAM	1	37	20.20	20.21	20.31	20.13	20.05		
15	16QAM	1	74	20.45	20.50	20.61	20.54	20.22	21	0
15	16QAM	36	0	20.01	20.08	20.34	20.29	20.05		
15	16QAM	36	20	19.97	20.28	20.10	20.14	20.27		
15	16QAM	36	39	20.18	20.35	20.35	20.27	20.09	21	0
15	16QAM	75	0	20.27	20.44	20.43	20.30	20.23		
15	64QAM	1	0	19.85	19.91	19.99	19.89	19.92		
15	64QAM	1	37	19.89	19.90	20.02	19.53	19.64	20.5	0.5
15	64QAM	1	74	19.95	20.01	19.99	19.86	19.92		
15	64QAM	36	0	19.88	19.85	19.95	19.48	19.62		
15	64QAM	36	20	19.87	19.93	19.65	19.45	19.65	20.5	0.5
15	64QAM	36	39	19.71	19.64	19.61	19.39	19.72		
15	64QAM	75	0	19.82	19.86	19.65	19.55	19.88		

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	20.02	20.26	20.33	20.05	20.42	21	0
10	QPSK	1	25	19.99	20.07	20.14	19.73	20.05		
10	QPSK	1	49	20.28	20.30	20.39	20.39	20.05		
10	QPSK	25	0	20.06	20.08	20.37	20.26	20.12	21	0
10	QPSK	25	12	20.09	20.14	20.19	20.29	20.09		
10	QPSK	25	25	20.22	20.29	20.25	20.11	20.18		
10	QPSK	50	0	20.34	20.34	20.15	20.32	20.32	21	0
10	16QAM	1	0	20.36	20.37	20.37	20.35	20.33		
10	16QAM	1	25	20.37	20.25	20.37	20.34	20.37		
10	16QAM	1	49	20.39	20.23	20.26	20.26	20.41	21	0
10	16QAM	25	0	20.14	20.18	20.41	19.98	20.10		
10	16QAM	25	12	20.27	20.31	20.42	20.04	20.08		
10	16QAM	25	25	20.30	20.32	20.18	20.11	20.34	21	0
10	16QAM	50	0	20.21	20.19	20.30	20.16	20.19		
10	64QAM	1	0	20.15	20.07	19.99	19.83	19.77		
10	64QAM	1	25	20.19	20.16	19.85	19.80	19.85	20.5	0.5
10	64QAM	1	49	20.01	19.94	19.78	19.81	19.75		
10	64QAM	25	0	19.85	19.80	19.88	19.46	19.65		
10	64QAM	25	12	19.92	19.97	19.89	19.44	19.61	20.5	0.5
10	64QAM	25	25	19.85	19.81	19.81	19.48	19.55		
10	64QAM	50	0	19.88	19.87	19.65	19.56	19.57		
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	20.10	19.94	20.26	20.21	20.28	21	0
5	QPSK	1	12	20.05	19.87	19.94	20.03	20.01		
5	QPSK	1	24	20.11	20.07	20.25	20.00	19.95		
5	QPSK	12	0	20.07	20.05	20.17	20.01	20.35	21	0
5	QPSK	12	7	20.23	20.34	20.35	20.03	20.38		
5	QPSK	12	13	20.19	20.08	20.33	20.25	20.04		
5	QPSK	25	0	20.24	20.12	20.19	20.28	20.13	21	0
5	16QAM	1	0	20.50	20.37	20.44	20.35	20.36		
5	16QAM	1	12	20.21	20.26	20.50	20.17	20.45		
5	16QAM	1	24	20.22	20.51	20.48	20.29	20.30	21	0
5	16QAM	12	0	20.25	20.35	20.20	20.05	20.03		
5	16QAM	12	7	20.29	20.34	20.18	20.07	20.13		
5	16QAM	12	13	20.27	20.04	20.15	19.96	20.09	21	0
5	16QAM	25	0	20.15	20.31	20.14	20.03	20.49		
5	64QAM	1	0	20.08	20.17	19.95	19.80	19.85		
5	64QAM	1	12	20.06	20.11	19.85	19.63	19.81	20.5	0.5
5	64QAM	1	24	20.01	19.92	19.66	19.69	19.62		
5	64QAM	12	0	19.88	19.81	19.71	19.48	19.55		
5	64QAM	12	7	19.89	19.85	19.65	19.54	19.62	20.5	0.5
5	64QAM	12	13	19.96	19.93	19.73	19.52	19.63		
5	64QAM	25	0	19.91	19.98	19.66	19.50	19.55		

<LTE Carrier Aggregation>
General Note:

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

<Inter-Band Carrier Combination>

E-UTRA CA configuration / Bandwidth combination set										
E-UTRA CA Configuration	Uplink CA configurations	E-UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_2A-4A	-	2	Yes	Yes	Yes	Yes	Yes	Yes	40	0
		4			Yes	Yes	Yes	Yes		
		2			Yes	Yes			20	1
		4			Yes	Yes				
		2			Yes	Yes	Yes	Yes	40	2
		4			Yes	Yes	Yes	Yes		
CA_2A-5A	-	2			Yes	Yes	Yes	Yes	30	0
		5			Yes	Yes				
		2			Yes	Yes			20	1
		5			Yes	Yes				
CA_2A-12A	-	2			Yes	Yes	Yes	Yes	30	0
		12			Yes	Yes				
		2			Yes	Yes	Yes	Yes	30	1
		12		Yes	Yes	Yes				
		2			Yes	Yes			20	2
		12			Yes	Yes				
CA_2A-13A	-	2			Yes	Yes	Yes	Yes	30	0
		13				Yes				
		2			Yes	Yes			20	1
		13				Yes				
CA_2A-14A	-	2			Yes	Yes	Yes	Yes	30	0
		14			Yes	Yes				
CA_2A-29A	-	2			Yes	Yes			20	0
		29		Yes	Yes	Yes				
		2			Yes	Yes			20	1
		29			Yes	Yes				
		2			Yes	Yes	Yes	Yes	30	2
		29			Yes	Yes				
CA_2A-30A	-	2			Yes	Yes	Yes	Yes	30	0
		30			Yes	Yes				
CA_2A-66A	-	2	Yes	Yes	Yes	Yes	Yes	Yes	40	0
		66			Yes	Yes	Yes	Yes		
		2			Yes	Yes			20	1
		66			Yes	Yes				
		2			Yes	Yes	Yes	Yes	40	2
		66			Yes	Yes	Yes	Yes		

E-UTRA CA configuration / Bandwidth combination set										
E-UTRA CA Configuration	Uplink CA configurations	E-UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_4A-5A	-	4			Yes	Yes			20	0
		5			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	0
		5			Yes	Yes				
CA_4A-7A	-	4			Yes	Yes			30	0
		7			Yes	Yes	Yes	Yes		
		4			Yes	Yes	Yes	Yes	40	1
		7			Yes	Yes	Yes	Yes		
CA_4A-12A	-	4	Yes	Yes	Yes	Yes			20	0
		12			Yes	Yes				
		4	Yes	Yes	Yes	Yes	Yes	Yes	30	1
		12			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	2
		12		Yes	Yes	Yes				
		4			Yes	Yes			20	3
		12			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	4
		12			Yes	Yes				
		4			Yes	Yes	Yes		20	5
		12			Yes					
CA_4A-13A	-	4			Yes	Yes	Yes	Yes	30	0
		13				Yes				
		4			Yes	Yes			20	1
		13				Yes				
CA_4A-29A	-	4			Yes	Yes			20	0
		29		Yes	Yes	Yes				
		4			Yes	Yes			20	1
		29			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	2
		29			Yes	Yes				
CA_4A-30A	-	4			Yes	Yes	Yes	Yes	30	0
		30			Yes	Yes				
CA_5A-30A	-	5			Yes	Yes			20	0
		30			Yes	Yes				
CA_5A-66A	-	5			Yes	Yes			30	0
		66			Yes	Yes	Yes	Yes		
CA_12A-30A	-	12			Yes	Yes			20	0
		30			Yes	Yes				
CA_12A-66A	-	12			Yes	Yes			20	0
		66	Yes	Yes	Yes	Yes				
		12			Yes	Yes			30	1
		66	Yes	Yes	Yes	Yes	Yes	Yes		
		12		Yes	Yes	Yes			30	2
		66			Yes	Yes	Yes	Yes		
		12			Yes	Yes			20	3
		66			Yes	Yes				
		12			Yes	Yes			30	4
		66			Yes	Yes	Yes	Yes		
		12			Yes				20	5
		66			Yes	Yes	Yes			

E-UTRA CA configuration / Bandwidth combination set										
E-UTRA CA Configuration	Uplink CA configurations	E- UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_13A-66A	-	13			Yes	Yes			30	0
		66			Yes	Yes	Yes	Yes		
CA_14A-66A	-	14			Yes	Yes			30	0
		66			Yes	Yes	Yes	Yes		
CA_14A-30A	-	14			Yes	Yes			20	0
		30			Yes	Yes				
CA_25A-26A	-	25		Yes	Yes	Yes	Yes	Yes	35	0
		26	Yes	Yes	Yes	Yes	Yes			
		25		Yes	Yes	Yes			20	1
		26		Yes	Yes	Yes				
		25			Yes	Yes			20	2
		26			Yes	Yes				
CA_29A-30A	-	29			Yes	Yes			20	0
		30			Yes	Yes				
CA_29A-66A	-	29			Yes	Yes			30	0
		66			Yes	Yes	Yes	Yes		
CA_30A-66A	-	30			Yes	Yes			30	0
		66			Yes	Yes	Yes	Yes		

<Intra-Band Carrier Combination>

E-UTRA CA configuration / Bandwidth combination set							
E-UTRA CA configuration	Uplink CA configurations	Component carriers in order of increasing carrier frequency				Maximum aggregated bandwidth [MHz]	Bandwidth combination set
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_2C	-	5	20			40	0
		10	15, 20				
		15	10, 15, 20				
		20	5, 10, 15, 20				
CA_5B	-	5, 10	10			20	0
		10	5				
		3	5			8	1
		5	3				
CA_41C	CA_41C	10	20			40	0
		15	15, 20				
		20	10, 15, 20				
		5, 10	20			40	1
		15	15, 20				
		20	5, 10, 15, 20				
		10	15, 20			40	2
		15	10, 15, 20				
		20	10, 15, 20				
		10	20			40	3
		20	20				
CA_66B	-	5	5, 10, 15			20	0
		10	5, 10				
		15	5				
CA_66C	-	5	20			40	0
		10	15, 20				
		15	10, 15, 20				
		20	5, 10, 15, 20				

E-UTRA CA configuration / Bandwidth combination set							
E-UTRA CA configuration	Uplink CA configurations	Component carriers in order of increasing carrier frequency				Maximum aggregated bandwidth [MHz]	Bandwidth combination set
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_2A-2A	-	5, 10, 15, 20	5, 10, 15, 20			40	0
CA_4A-4A	-	5, 10, 15, 20	5, 10, 15, 20			40	0
		5, 10	5, 10			20	1
CA_7A-7A	-	5	15			40	0
		10	10, 15				
		15	15, 20				
		20	20				
		5, 10, 15, 20	5, 10, 15, 20			40	1
		5, 10, 15, 20	5, 10			30	2
		10, 15, 20	10, 15, 20			40	3
CA_25A-25A	-	5, 10	5, 10			20	0
		5, 10, 15, 20	5, 10, 15, 20			40	1
CA_41A-41A	-	10, 15, 20	10, 15, 20			40	0
		5, 10, 15, 20	5, 10, 15, 20			40	1
CA_66A-66A	-	5, 10, 15, 20	5, 10, 15, 20			40	0

LTE Carrier Aggregation Conducted Power (Downlink)

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 carrier aggregation only. Uplink carrier aggregation is not supported. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.
- vi. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.
- vii. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

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

<Full Power Mode>

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)	Without CA Tx. Power (dBm)
Inter-Band	Band 2	20M	1880	18900	QPSK	1	0	Band 4	20M	2132.5	2175	23.41	23.66
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 2	20M	1960	900	23.30	23.20
	Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	23.39	23.66
	Band 5	10M	829	20450	QPSK	1	49	Band 2	20M	1960	900	23.72	23.57
	Band 2	20M	1880	18900	QPSK	1	0	Band 12	10M	737.5	5095	23.40	23.66
	Band 12	10M	707.5	23095	QPSK	1	49	Band 2	20M	1960	900	23.75	23.86
	Band 2	20M	1880	18900	QPSK	1	0	Band 13	10M	751	5230	23.49	23.66
	Band 13	10M	782	23230	QPSK	1	0	Band 2	20M	1960	900	23.93	24.07
	Band 2	20M	1880	18900	QPSK	1	0	Band 14	10M	763	5330	23.38	23.66
	Band 14	10M	793	23330	QPSK	1	0	Band 2	20M	1960	900	23.89	23.90
	Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	23.50	23.66
	Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	23.36	23.66
	Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	23.32	23.20
	Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	66886	23.43	23.66
	Band 66	20M	1745	132322	QPSK	1	99	Band 2	20M	1960	900	23.52	23.36
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 5	10M	881.5	2525	23.43	23.20
	Band 5	10M	829	20450	QPSK	1	49	Band 4	20M	2132.5	2175	23.74	23.57
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 7	20M	2655	3100	23.30	23.20
	Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	22.85	23.40
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 12	10M	737.5	5095	23.41	23.20
	Band 12	10M	707.5	23095	QPSK	1	49	Band 4	20M	2132.5	2175	23.63	23.86
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 13	10M	751	5230	23.40	23.20
	Band 13	10M	782	23230	QPSK	1	0	Band 4	20M	2132.5	2175	24.04	24.07
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 29	10M	722.5	9715	23.25	23.20
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 30	10M	2355	9820	23.38	23.20
	Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	23.37	23.20
	Band 5	10M	829	20450	QPSK	1	49	Band 30	10M	2355	9820	23.76	23.57
	Band 30	10M	2310	27710	QPSK	1	0	Band 5	10M	881.5	2525	23.32	23.20
	Band 5	10M	829	20450	QPSK	1	49	Band 66	20M	2155	66886	23.71	23.57
	Band 66	20M	1745	132322	QPSK	1	99	Band 5	10M	881.5	2525	23.55	23.36
	Band 12	10M	707.5	23095	QPSK	1	49	Band 30	10M	2355	9820	23.88	23.86
	Band 30	10M	2310	27710	QPSK	1	0	Band 12	10M	737.5	5095	23.33	23.20
	Band 12	10M	707.5	23095	QPSK	1	49	Band 66	20M	2155	66886	23.86	23.86
	Band 66	20M	1745	132322	QPSK	1	99	Band 12	10M	737.5	5095	23.54	23.36
	Band 13	10M	782	23230	QPSK	1	0	Band 66	20M	2155	66886	23.92	24.07
	Band 66	20M	1745	132322	QPSK	1	99	Band 13	10M	751	5230	23.52	23.36
	Band 14	10M	793	23330	QPSK	1	0	Band 66	20M	2155	66886	23.82	23.90
	Band 66	20M	1745	132322	QPSK	1	99	Band 14	10M	763	5330	23.42	23.36
	Band 14	10M	793	23330	QPSK	1	0	Band 30	10M	2355	9820	23.81	23.90
	Band 30	10M	2310	27710	QPSK	1	0	Band 14	10M	763	5330	23.41	23.20
	Band 25	20M	1880	26340	QPSK	1	49	Band 26	15M	876.5	8865	23.28	23.66
	Band 26	15M	831.5	26865	QPSK	1	74	Band 25	20M	1962.5	8365	23.55	23.78
	Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	23.29	23.20
	Band 66	20M	1745	132322	QPSK	1	99	Band 29	10M	722.5	9715	23.24	23.36
	Band 30	10M	2310	27710	QPSK	1	0	Band 66	20M	2155	66886	23.31	23.20
	Band 66	20M	1745	132322	QPSK	1	99	Band 30	10M	2355	9820	23.43	23.36

Intra-Band	Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	20M	1979.8	1098	23.43	23.66
		Band 5	10M	829	20450	QPSK	1	49	Band 5	10M	883.9	2549	23.39	23.57
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	25.32	25.39
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	24.60	24.46
		Band 66	15M	1772.5	132597	QPSK	1	74	Band 66	5M	2188.2	67218	23.50	23.27
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	20M	2174.8	67084	23.39	23.36
	Non-Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	23.39	23.66
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 4	5M	2152.5	2375	23.41	23.20
		Band 7	20M	2560	21350	QPSK	1	0	Band 7	5M	2622.5	2775	22.95	23.40
		Band 25	20M	1880	26340	QPSK	1	49	Band 25	5M	1992.5	8665	23.22	23.66
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	25.32	25.39
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	24.65	24.46
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	5M	2197.5	67311	23.53	23.36

<Reduced Power Mode for Hotspot On/P-Sensor On>

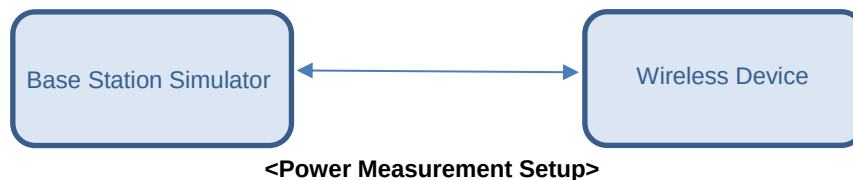
Configure		PCC						SCC				Power		
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	Band 2	20M	1880	18900	QPSK	1	0	Band 4	20M	2132.5	2175	15.75	15.63	
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 2	20M	1960	900	15.89	15.88	
	Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	15.77	15.63	
	Band 5	10M	829	20450	16QAM	1	49	Band 2	20M	1960	900	21.27	21.28	
	Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	15.58	15.63	
	Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	15.45	15.63	
	Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	17.42	17.38	
	Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	66886	15.77	15.63	
	Band 66	20M	1745	132322	QPSK	1	99	Band 2	20M	1960	900	15.89	15.85	
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 5	10M	881.5	2525	15.81	15.88	
	Band 5	10M	829	20450	16QAM	1	49	Band 4	20M	2132.5	2175	21.22	21.28	
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 7	20M	2655	3100	15.66	15.88	
	Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	17.61	17.77	
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 29	10M	722.5	9715	15.80	15.88	
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 30	10M	2355	9820	15.81	15.88	
	Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	17.44	17.38	
	Band 5	10M	829	20450	16QAM	1	49	Band 30	10M	2355	9820	21.32	21.28	
	Band 30	10M	2310	27710	QPSK	1	0	Band 5	10M	881.5	2525	17.35	17.38	
	Band 5	10M	829	20450	16QAM	1	49	Band 66	20M	2155	66886	21.33	21.28	
	Band 66	20M	1745	132322	QPSK	1	99	Band 5	10M	881.5	2525	15.66	15.85	
	Band 25	20M	1880	26340	QPSK	1	49	Band 26	15M	876.5	8865	14.44	14.39	
	Band 26	15M	831.5	26865	QPSK	1	74	Band 25	20M	1962.5	8365	21.45	21.38	
	Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	17.39	17.38	
	Band 66	20M	1745	132322	QPSK	1	99	Band 29	10M	722.5	9715	15.84	15.85	
	Band 30	10M	2310	27710	QPSK	1	0	Band 66	20M	2155	66886	17.31	17.38	
	Band 66	20M	1745	132322	QPSK	1	99	Band 30	10M	2355	9820	15.75	15.85	
Intra-Band	Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	20M	1979.8	1098	15.66	15.63
		Band 5	10M	829	20450	QPSK	1	49	Band 5	10M	883.9	2549	21.29	21.28
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	20.65	20.58
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	20.60	20.58
		Band 66	15M	1745	132322	QPSK	1	37	Band 66	5M	2164.3	66979	15.83	15.81
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	20M	2174.8	67084	15.92	15.85
	Non-Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	15.65	15.63
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 4	5M	2152.5	2375	15.71	15.88
		Band 7	20M	2560	21350	QPSK	1	0	Band 7	5M	2622.5	2775	17.68	17.77
		Band 25	20M	1880	26340	QPSK	1	49	Band 25	5M	1992.5	8665	14.21	14.39
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	20.66	20.58
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	20.55	20.58
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	5M	2197.5	67311	15.80	15.85

<Reduced Power Mode for Product Specific 10g SAR>

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)	Without CA Tx. Power (dBm)
Inter-Band		Band 2	20M	1880	18900	QPSK	1	0	Band 4	20M	2132.5	2175	19.88	19.72
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 2	20M	1960	900	19.65	19.71
		Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	19.69	19.72
		Band 5	10M	829	20450	QPSK	1	49	Band 2	20M	1960	900	23.72	23.57
		Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	19.50	19.72
		Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	19.66	19.72
		Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	23.32	23.20
		Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	66886	19.73	19.72
		Band 66	20M	1745	132322	QPSK	1	99	Band 2	20M	1960	900	19.92	19.83
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 5	10M	881.5	2525	19.63	19.71
		Band 5	10M	829	20450	QPSK	1	49	Band 4	20M	2132.5	2175	23.74	23.57
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 7	20M	2655	3100	19.80	19.71
		Band 7	20M	2560	21350	QPSK	1	99	Band 4	20M	2132.5	2175	22.85	22.96
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 29	10M	722.5	9715	19.75	19.71
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 30	10M	2355	9820	19.68	19.71
		Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	23.37	23.20
		Band 5	10M	829	20450	QPSK	1	49	Band 30	10M	2355	9820	23.76	23.57
		Band 30	10M	2310	27710	QPSK	1	0	Band 5	10M	881.5	2525	23.32	23.20
		Band 5	10M	829	20450	QPSK	1	49	Band 66	20M	2155	66886	23.71	23.57
		Band 66	20M	1745	132322	QPSK	1	99	Band 5	10M	881.5	2525	19.75	19.83
		Band 25	20M	1880	26340	QPSK	1	49	Band 26	15M	876.5	8865	19.88	19.93
		Band 26	15M	831.5	26865	QPSK	1	74	Band 25	20M	1962.5	8365	23.55	23.78
		Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	23.29	23.20
		Band 66	20M	1745	132322	QPSK	1	99	Band 29	10M	722.5	9715	19.84	19.83
		Band 30	10M	2310	27710	QPSK	1	0	Band 66	20M	2155	66886	23.31	23.20
		Band 66	20M	1745	132322	QPSK	1	99	Band 30	10M	2355	9820	19.93	19.83
Intra-Band	Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	20M	1979.8	1098	19.74	19.72
		Band 5	10M	829	20450	QPSK	1	49	Band 5	10M	883.9	2549	23.39	23.57
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	25.32	25.39
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	24.60	24.46
		Band 66	15M	1717.5	132047	QPSK	1	0	Band 66	5M	2121.8	66554	19.50	19.59
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	20M	2174.8	67084	19.79	19.83
	Non-Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	19.69	19.72
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 4	5M	2152.5	2375	19.74	19.71
		Band 7	20M	2560	21350	QPSK	1	99	Band 7	5M	2622.5	2775	22.95	22.96
		Band 25	20M	1880	26340	QPSK	1	49	Band 25	5M	1992.5	8665	19.82	19.93
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	25.32	25.39
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	24.65	24.46
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	5M	2197.5	67311	19.93	19.83

LTE Carrier Aggregation Conducted Power (Uplink)

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



<Full Power>

<LTE Band 41 Power Class 2>

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	99	0	0	1	0	23.67	25.50
40185	40383	QPSK	1	99	0	0	1	0	23.61	25.50
40620	40818	QPSK	1	99	0	0	1	0	23.55	25.50
41055	41253	QPSK	1	99	0	0	1	0	23.64	25.50
41490	41292	QPSK	1	99	0	0	1	0	23.71	25.50

<LTE Band 41 Power Class 3>

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	99	0	0	1	0	22.86	24.50
40185	40383	QPSK	1	99	0	0	1	0	22.53	24.50
40620	40818	QPSK	1	99	0	0	1	0	22.65	24.50
41055	41253	QPSK	1	99	0	0	1	0	22.96	24.50
41490	41292	QPSK	1	99	0	0	1	0	22.75	24.50

<Reduced Power Mode for Hotspot On/P-Sensor On>

<LTE Band 41 Power Class 2/3>

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	50	0	0	0	50	0	19.83	21.00
40185	40383	QPSK	50	0	0	0	50	0	19.35	21.00
40620	40818	QPSK	50	0	0	0	50	0	19.24	21.00
41055	41253	QPSK	50	0	0	0	50	0	19.66	21.00
41490	41292	QPSK	50	0	0	0	50	0	19.31	21.00

<WLAN Conducted Power>
General Note:

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

<2.4GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	17.45	18.00	97.42
		6	2437	17.17	17.50	
		11	2462	17.22	17.50	
	802.11g 6Mbps	1	2412	14.66	15.00	87.44
		2	2417	16.63	17.00	
		6	2437	17.00	17.50	
		10	2457	16.81	17.00	
		11	2462	14.99	15.50	
	802.11n-HT20 MCS0	1	2412	14.36	15.00	86.70
		2	2417	16.66	17.00	
		6	2437	17.07	17.50	
		10	2457	16.02	16.50	
		11	2462	13.70	14.00	

<5GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	18.08	18.50	87.44
		40	5200	17.71	18.50	
		44	5220	17.90	18.50	
		48	5240	17.83	18.50	
	802.11n-HT20 MCS0	36	5180	17.86	18.50	86.76
		40	5200	17.21	18.00	
		44	5220	17.93	18.50	
		48	5240	17.90	18.50	
	802.11n-HT40 MCS0	38	5190	17.00	17.50	75.99
		46	5230	17.12	17.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	17.91	18.50	87.44
		56	5280	17.35	18.50	
		60	5300	17.94	18.50	
		64	5320	17.85	18.50	
	802.11n-HT20 MCS0	52	5260	17.74	18.50	86.76
		56	5280	17.38	18.00	
		60	5300	17.92	18.50	
		64	5320	17.87	18.50	
	802.11n-HT40 MCS0	54	5270	17.21	17.50	75.99
		62	5310	17.08	17.50	

5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	100	5500	15.74	16.00	87.44
		116	5580	16.30	16.50	
		132	5660	16.38	16.50	
		140	5700	16.58	17.00	
	802.11n-HT20 MCS0	100	5500	15.72	16.00	86.76
		116	5580	16.18	16.50	
		132	5660	16.33	16.50	
		140	5700	16.28	16.50	
	802.11n-HT40 MCS0	102	5510	15.73	16.00	75.99
		110	5550	16.24	16.50	
		134	5670	16.34	16.50	

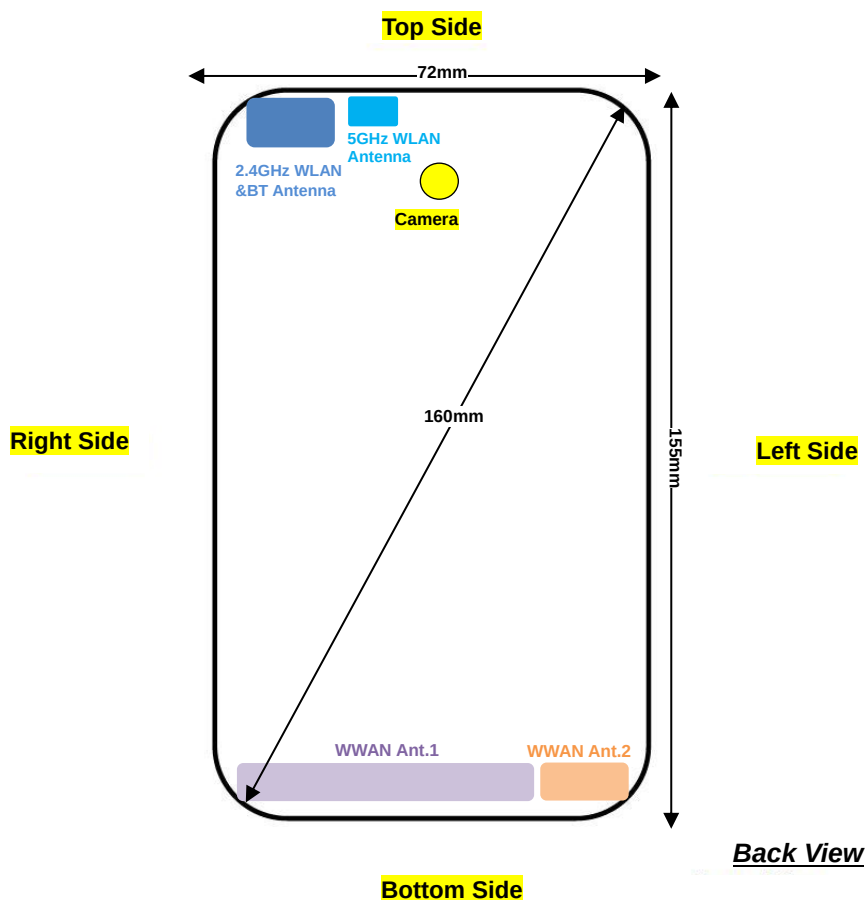
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	149	5745	16.48	17.00	87.44
		157	5785	15.93	16.50	
		165	5825	15.28	15.50	
	802.11n-HT20 MCS0	149	5745	16.13	16.50	86.76
		157	5785	15.73	16.00	
		165	5825	14.95	15.50	
	802.11n-HT40 MCS0	151	5755	16.19	16.50	75.99
		159	5795	16.09	16.50	

<2.4GHz Bluetooth>

Mode	Channel	Frequency (MHz)	Average power (dBm)
			1Mbps
v3.0 with EDR	CH 00	2402	11.23
	CH 39	2441	11.32
	CH 78	2480	10.67
Tune-up limit (dBm)			11.50

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
v4.0/4.1/4.2 with LE	CH 00	2402	1.54
	CH 19	2440	1.60
	CH 39	2480	1.01
Tune-up Limit			2.00

13. Antenna Location



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

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

General Note:

1. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the left side of bottom edge of the device and WWAN antenna 2 is located at the right side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V, CDMA BC0/1/10 and LTE Band 2/4/5/12/13/14/17/25/26/66, and WWAN antenna 2 frequency bands include LTE Band 7/30/38/41. They can't transmit simultaneously.
2. Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

14. SAR Test Results

14.1 Head SAR

<GSM SAR>

Plot No.	Sample	Band	Mode	Test Position	Power Mode	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)
	1	GSM850	GPRS(4 Tx slots)	Right Cheek	Full	128	824.2	26.68	27.00	1.076	0.01	0.138	0.149
01	2	GSM850	GPRS(4 Tx slots)	Right Cheek	Full	128	824.2	26.68	27.00	1.076	0.08	0.182	0.196
	1	GSM1900	GPRS(4 Tx slots)	Right Cheek	Full	512	1850.2	23.77	24.00	1.054	0.03	0.045	0.048
02	2	GSM1900	GPRS(4 Tx slots)	Right Cheek	Full	512	1850.2	23.77	24.00	1.054	0.01	0.047	0.050

<WCDMA SAR>

Plot No.	Sample	Band	Mode	Test Position	Power Mode	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)
	1	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Full	4182	836.4	22.97	23.50	1.130	0.06	0.112	0.127
03	2	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Full	4182	836.4	22.97	23.50	1.130	0.01	0.295	0.333
04	1	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Full	1513	1752.6	23.44	23.50	1.014	0.05	0.135	0.137
	2	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Full	1513	1752.6	23.44	23.50	1.014	0.01	0.132	0.134
05	1	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Full	9262	1852.4	23.36	23.50	1.033	0.08	0.162	0.167
	2	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Full	9262	1852.4	23.36	23.50	1.033	0.03	0.145	0.150

<CDMA2000 SAR>

Plot No.	Sample	Band	Mode	Test Position	Power Mode	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)
	1	CDMA2000 BC10	RC3 SO55	Right Cheek	Full	476	817.9	24.58	25.00	1.102	-0.01	0.273	0.301
06	2	CDMA2000 BC10	RC3 SO55	Right Cheek	Full	476	817.9	24.58	25.00	1.102	0.05	0.288	0.317
	1	CDMA2000 BC0	RC3 SO55	Right Cheek	Full	1013	824.7	24.40	24.50	1.023	0.02	0.268	0.274
07	2	CDMA2000 BC0	RC3 SO55	Right Cheek	Full	1013	824.7	24.40	24.50	1.023	0.06	0.293	0.300
08	1	CDMA2000 BC1	RC3 SO55	Right Cheek	Full	600	1880	24.75	25.00	1.059	0.09	0.225	0.238
	2	CDMA2000 BC1	RC3 SO55	Right Cheek	Full	600	1880	24.75	25.00	1.059	0.06	0.213	0.226

<FDD LTE SAR>

Plot No.	Sample	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Power Mode	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)
	1	LTE Band 12	10M	QPSK	1	49	Right Cheek	Full	23095	707.5	23.86	24.00	1.033	0.04	0.150	0.155
09	2	LTE Band 12	10M	QPSK	1	49	Right Cheek	Full	23095	707.5	23.86	24.00	1.033	0.02	0.207	0.214
	1	LTE Band 13	10M	QPSK	1	0	Right Cheek	Full	23230	782	24.07	24.50	1.104	0.01	0.205	0.226
10	2	LTE Band 13	10M	QPSK	1	0	Right Cheek	Full	23230	782	24.07	24.50	1.104	0.02	0.321	0.354
	1	LTE Band 14	10M	QPSK	1	0	Right Cheek	Full	23330	793	23.90	24.00	1.023	0.03	0.087	0.089
11	2	LTE Band 14	10M	QPSK	1	0	Right Cheek	Full	23330	793	23.90	24.00	1.023	0.01	0.093	0.095
	1	LTE Band 26	15M	QPSK	1	74	Right Cheek	Full	26765	821.5	23.75	24.00	1.059	0.05	0.252	0.267
12	2	LTE Band 26	15M	QPSK	1	74	Right Cheek	Full	26765	821.5	23.75	24.00	1.059	0.07	0.328	0.347
13	1	LTE Band 66	20M	QPSK	1	99	Right Cheek	Full	132322	1745	23.36	23.50	1.033	0.07	0.101	0.104
	2	LTE Band 66	20M	QPSK	1	99	Right Cheek	Full	132322	1745	23.36	23.50	1.033	0.04	0.089	0.092

Plot No.	Sample	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Power Mode	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)
14	1	LTE Band 25	20M	QPSK	1	49	Right Cheek	Full	26140	1860	23.49	24.00	1.125	0.02	0.189	0.213
	2	LTE Band 25	20M	QPSK	1	49	Right Cheek	Full	26140	1860	23.49	24.00	1.125	0.01	0.188	0.211
	1	LTE Band 30	10M	QPSK	1	0	Left Cheek	Full	27710	2310	23.35	23.50	1.035	0.01	0.208	0.215
15	2	LTE Band 30	10M	QPSK	1	0	Left Cheek	Full	27710	2310	23.35	23.50	1.035	0.09	0.234	0.242
	1	LTE Band 7	20M	QPSK	1	0	Left Cheek	Full	20850	2510	23.25	23.50	1.059	0.05	0.427	0.452
16	2	LTE Band 7	20M	QPSK	1	0	Left Cheek	Full	20850	2510	23.25	23.50	1.059	0.01	0.549	0.582

<TDD LTE SAR>

Plot No.	Sample	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Power Mode	Power Class	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	3	39750	2506	24.45	24.50	1.012	62.9	1.006	0.03	0.290	0.295
17	2	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	3	39750	2506	24.45	24.50	1.012	62.9	1.006	0.02	0.341	0.347

<WLAN 2.4GHz SAR>

Plot No.	Sample	Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	1	2412	17.45	18.00	1.135	97.42	1.026	0.06	0.281	0.327
	1	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	1	2412	17.45	18.00	1.135	97.42	1.026	-0.01	0.244	0.284
18	1	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	1	2412	17.45	18.00	1.135	97.42	1.026	0.05	0.680	0.792
	1	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	1	2412	17.45	18.00	1.135	97.42	1.026	0.06	0.314	0.366
	2	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	1	2412	17.45	18.00	1.135	97.42	1.026	0.02	0.422	0.491

<WLAN 5GHz SAR>

Plot No.	Sample	Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	60	5300	17.94	18.50	1.137	87.44	1.144	-0.04	0.446	0.580
	1	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	60	5300	17.94	18.50	1.137	87.44	1.144	-0.03	0.406	0.528
	1	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	60	5300	17.94	18.50	1.137	87.44	1.144	0.06	0.636	0.827
	1	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	60	5300	17.94	18.50	1.137	87.44	1.144	0.05	0.564	0.734
	1	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	52	5260	17.91	18.50	1.145	87.44	1.144	0.04	0.704	0.922
19	2	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	52	5260	17.91	18.50	1.145	87.44	1.144	0.03	0.731	0.957
	2	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	60	5300	17.94	18.50	1.137	87.44	1.144	0.03	0.707	0.920
	1	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	140	5700	16.58	17.00	1.102	87.44	1.144	0.05	0.430	0.542
	1	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	140	5700	16.58	17.00	1.102	87.44	1.144	-0.02	0.403	0.508
	1	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	140	5700	16.58	17.00	1.102	87.44	1.144	0.04	0.382	0.481
20	1	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	140	5700	16.58	17.00	1.102	87.44	1.144	0.06	0.526	0.663
	2	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	140	5700	16.58	17.00	1.102	87.44	1.144	0.02	0.410	0.517
	1	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	149	5745	16.48	17.00	1.127	87.44	1.144	-0.02	0.222	0.286
	1	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	149	5745	16.48	17.00	1.127	87.44	1.144	0.06	0.203	0.262
	1	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	149	5745	16.48	17.00	1.127	87.44	1.144	0.04	0.266	0.343
21	1	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	149	5745	16.48	17.00	1.127	87.44	1.144	0.03	0.287	0.370
	2	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	149	5745	16.48	17.00	1.127	87.44	1.144	0.05	0.280	0.361

14.2 Hotspot SAR

<GSM SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	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)
	1	GSM850	GPRS(4 Tx slots)	Front	5	Full	128	824.2	26.68	27.00	1.076	0.18	0.559	0.602
22	2	GSM850	GPRS(4 Tx slots)	Front	5	Full	128	824.2	26.68	27.00	1.076	0.04	0.685	0.737
	1	GSM1900	GPRS(1 Tx slot)	Front	5	Hotspot On	661	1880	25.33	26.00	1.167	0.1	0.673	0.785
	2	GSM1900	GPRS(1 Tx slot)	Front	5	Hotspot On	661	1880	25.33	26.00	1.167	0.06	0.645	0.753
	1	GSM1900	GPRS(1 Tx slot)	Bottom Side	5	Hotspot On	661	1880	25.33	26.00	1.167	0.09	0.860	1.003
	1	GSM1900	GPRS(1 Tx slot)	Bottom Side	5	Hotspot On	512	1850.2	25.23	26.00	1.194	0.08	0.793	0.947
23	1	GSM1900	GPRS(1 Tx slot)	Bottom Side	5	Hotspot On	810	1909.8	25.45	26.00	1.135	0.09	0.901	1.023
	2	GSM1900	GPRS(1 Tx slot)	Bottom Side	5	Hotspot On	810	1909.8	25.45	26.00	1.135	0.09	0.895	1.016
	2	GSM1900	GPRS(1 Tx slot)	Bottom Side	5	Hotspot On	661	1880	25.33	26.00	1.167	0.05	0.854	0.996
	2	GSM1900	GPRS(1 Tx slot)	Bottom Side	5	Hotspot On	512	1850.2	25.23	26.00	1.194	0.01	0.801	0.956

<WCDMA SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	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)
24	1	WCDMA Band V	RMC 12.2Kbps	Front	5	Hotspot On	4182	836.4	20.79	21.50	1.178	0.08	0.574	0.676
	2	WCDMA Band V	RMC 12.2Kbps	Front	5	Hotspot On	4182	836.4	20.79	21.50	1.178	0.08	0.537	0.632
	1	WCDMA Band IV	RMC 12.2Kbps	Front	5	Hotspot On	1413	1732.6	16.01	16.50	1.119	0.06	0.434	0.486
	2	WCDMA Band IV	RMC 12.2Kbps	Front	5	Hotspot On	1413	1732.6	16.01	16.50	1.119	0.19	0.454	0.508
25	1	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	5	Hotspot On	1513	1752.6	16.03	16.50	1.114	0.13	0.641	0.714
	2	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	5	Hotspot On	1513	1752.6	16.03	16.50	1.114	0.04	0.626	0.698
	1	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9400	1880	15.02	15.50	1.117	0.05	0.458	0.512
	2	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9400	1880	15.02	15.50	1.117	0.08	0.472	0.527
26	1	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9400	1880	15.02	15.50	1.117	0.10	0.637	0.711
	2	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9400	1880	15.02	15.50	1.117	0.04	0.623	0.696

<CDMA2000 SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	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)
	1	CDMA2000 BC10	RTAP 153.6Kbps	Front	5	Hotspot On	580	820.5	22.85	23.50	1.161	0.02	0.519	0.603
27	2	CDMA2000 BC10	RTAP 153.6Kbps	Front	5	Hotspot On	580	820.5	22.85	23.50	1.161	0.06	0.549	0.638
	1	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	777	848.31	22.83	23.50	1.167	0.01	0.747	0.872
	2	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	777	848.31	22.83	23.50	1.167	0.01	0.689	0.804
	1	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	1013	824.7	22.92	23.50	1.143	0.05	0.772	0.882
	1	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	384	836.52	22.89	23.50	1.151	0.05	0.773	0.890
	2	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	1013	824.7	22.92	23.50	1.143	0.01	0.809	0.925
28	2	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	384	836.52	22.89	23.50	1.151	0.07	0.817	0.940
	1	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	1175	1908.75	14.56	15.00	1.107	0.01	0.591	0.654
29	2	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	1175	1908.75	14.56	15.00	1.107	0.03	0.615	0.681



<FDD LTE SAR>

Plot No.	Sample	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	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)
	1	LTE Band 12	10M	QPSK	1	49	Front	5	Full	23095	707.5	23.86	24.00	1.033	0.03	0.696	0.719
30	2	LTE Band 12	10M	QPSK	1	49	Front	5	Full	23095	707.5	23.86	24.00	1.033	0.03	0.736	0.760
31	1	LTE Band 13	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	0.04	0.999	1.103
	2	LTE Band 13	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	0.03	0.997	1.101
32	1	LTE Band 14	10M	QPSK	1	0	Front	5	Full	23330	793	23.90	24.00	1.023	0.09	0.349	0.357
	2	LTE Band 14	10M	QPSK	1	0	Front	5	Full	23330	793	23.90	24.00	1.023	0.07	0.340	0.348
33	1	LTE Band 26	15M	QPSK	1	74	Front	5	Hotspot On	26965	841.5	21.15	22.00	1.216	0.07	0.569	0.692
	2	LTE Band 26	15M	QPSK	1	74	Front	5	Hotspot On	26965	841.5	21.15	22.00	1.216	0.09	0.560	0.681
	1	LTE Band 66	20M	QPSK	1	99	Front	5	Hotspot On	132572	1770	15.72	16.00	1.067	0.18	0.486	0.518
	2	LTE Band 66	20M	QPSK	1	99	Front	5	Hotspot On	132572	1770	15.72	16.00	1.067	0.16	0.462	0.493
34	1	LTE Band 66	20M	QPSK	1	99	Bottom Side	5	Hotspot On	132572	1770	15.72	16.00	1.067	0.05	0.679	0.724
	2	LTE Band 66	20M	QPSK	1	99	Bottom Side	5	Hotspot On	132572	1770	15.72	16.00	1.067	0.05	0.616	0.657
	1	LTE Band 25	20M	QPSK	50	0	Front	5	Hotspot On	26590	1905	14.20	16.00	1.514	0.01	0.405	0.613
	2	LTE Band 25	20M	QPSK	50	0	Front	5	Hotspot On	26590	1905	14.20	16.00	1.514	0.02	0.400	0.605
35	1	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26590	1905	14.20	16.00	1.514	0.03	0.542	0.820
	1	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26140	1860	14.17	16.00	1.524	0.09	0.507	0.773
	1	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26340	1880	14.21	16.00	1.510	0.03	0.460	0.695
	2	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26590	1905	14.20	16.00	1.514	0.05	0.535	0.810
	2	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26140	1860	14.17	16.00	1.524	0.04	0.481	0.733
	2	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26340	1880	14.21	16.00	1.510	0.05	0.444	0.670
	1	LTE Band 30	10M	QPSK	25	25	Front	5	Hotspot On	27710	2310	17.18	17.50	1.076	0.01	0.305	0.328
	2	LTE Band 30	10M	QPSK	25	25	Front	5	Hotspot On	27710	2310	17.18	17.50	1.076	0.02	0.379	0.408
	1	LTE Band 30	10M	QPSK	25	25	Bottom Side	5	Hotspot On	27710	2310	17.18	17.50	1.076	0.01	0.439	0.473
36	2	LTE Band 30	10M	QPSK	25	25	Bottom Side	5	Hotspot On	27710	2310	17.18	17.50	1.076	0.09	0.467	0.503
	1	LTE Band 7	20M	QPSK	50	24	Front	5	Hotspot On	21100	2535	17.53	18.00	1.114	0.09	0.451	0.503
	2	LTE Band 7	20M	QPSK	50	24	Front	5	Hotspot On	21100	2535	17.53	18.00	1.114	0.01	0.544	0.606
37	1	LTE Band 7	20M	QPSK	50	24	Bottom Side	5	Hotspot On	20850	2510	17.56	18.00	1.107	0.02	0.595	0.658
	2	LTE Band 7	20M	QPSK	50	24	Bottom Side	5	Hotspot On	20850	2510	17.56	18.00	1.107	0.01	0.565	0.625



<TDD LTE SAR>

Plot No.	Sample	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	Power Class	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	62.9	1.006	0.04	0.673	0.999
	1	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	-0.06	0.477	0.628
	1	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	62.9	1.006	0.03	0.290	0.427
	1	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	62.9	1.006	0.05	0.539	0.813
	1	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	62.9	1.006	-0.02	0.367	0.503
	2	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	62.9	1.006	0.08	0.698	1.036
	2	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	0.04	0.592	0.780
	2	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	62.9	1.006	0.01	0.641	0.943
	2	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	62.9	1.006	0.07	0.659	0.994
	2	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	62.9	1.006	0.08	0.653	0.894
	1	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	0.02	0.718	0.843
	1	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	62.9	1.006	0.09	0.584	0.859
	1	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	62.9	1.006	0.04	0.462	0.697
	1	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	62.9	1.006	-0.02	0.329	0.451
	1	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	62.9	1.006	0.01	0.224	0.333
38	2	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	0.01	0.842	1.109
	2	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	62.9	1.006	0.05	0.638	0.938
	2	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	62.9	1.006	0.03	0.446	0.673
	2	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	62.9	1.006	0.04	0.355	0.486
	2	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	62.9	1.006	0.08	0.341	0.506

<WLAN 2.4GHz SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN2.4GHz	802.11b 1Mbps	Front	5	1	2412	17.45	18.00	1.135	97.42	1.026	0.01	0.179	0.208
	1	WLAN2.4GHz	802.11b 1Mbps	Back	5	1	2437	17.45	18.00	1.135	97.42	1.026	0.01	0.195	0.227
	1	WLAN2.4GHz	802.11b 1Mbps	Right Side	5	1	2412	17.45	18.00	1.135	97.42	1.026	0.09	0.181	0.211
	1	WLAN2.4GHz	802.11b 1Mbps	Top Side	5	1	2412	17.45	18.00	1.135	97.42	1.026	-0.02	0.209	0.243
39	2	WLAN2.4GHz	802.11b 1Mbps	Top Side	5	1	2437	17.45	18.00	1.135	97.42	1.026	0.01	0.248	0.289

<WLAN 5GHz SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN5.2GHz	802.11a 6Mbps	Front	5	36	5180	18.08	18.50	1.101	87.44	1.144	0.1	0.342	0.431
40	1	WLAN5.2GHz	802.11a 6Mbps	Back	5	36	5180	18.08	18.50	1.101	87.44	1.144	0.09	0.704	0.887
	1	WLAN5.2GHz	802.11a 6Mbps	Right Side	5	36	5180	18.08	18.50	1.101	87.44	1.144	0.06	0.123	0.155
	1	WLAN5.2GHz	802.11a 6Mbps	Top Side	5	36	5180	18.08	18.50	1.101	87.44	1.144	0.03	0.365	0.460
	1	WLAN5.2GHz	802.11a 6Mbps	Back	5	44	5220	17.90	18.50	1.147	87.44	1.144	-0.04	0.615	0.807
	2	WLAN5.2GHz	802.11a 6Mbps	Back	5	36	5180	18.08	18.50	1.101	87.44	1.144	0.07	0.463	0.583
	1	WLAN 5.8GHz	802.11a 6Mbps	Front	5	149	5745	16.48	17.00	1.126	87.44	1.144	0.04	0.073	0.094
	1	WLAN 5.8GHz	802.11a 6Mbps	Back	5	149	5745	16.48	17.00	1.126	87.44	1.144	-0.05	0.849	1.094
	2	WLAN 5.8GHz	802.11a 6Mbps	Back	5	149	5745	16.48	17.00	1.126	87.44	1.144	0.04	0.848	1.093
	1	WLAN 5.8GHz	802.11a 6Mbps	Right Side	5	149	5745	16.48	17.00	1.126	87.44	1.144	0.02	0.044	0.057
	1	WLAN 5.8GHz	802.11a 6Mbps	Top Side	5	149	5745	16.48	17.00	1.126	87.44	1.144	-0.04	0.556	0.717
	1	WLAN 5.8GHz	802.11a 6Mbps	Back	5	157	5785	15.93	16.50	1.140	87.44	1.144	0.01	0.831	1.083
41	2	WLAN 5.8GHz	802.11a 6Mbps	Back	5	157	5785	15.93	16.50	1.140	87.44	1.144	-0.07	0.850	1.108

<Bluetooth SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	Bluetooth	1Mbps	Back	5	39	2441	11.32	11.50	1.042	76.85	1.084	0.01	0.023	0.026
42	2	Bluetooth	1Mbps	Back	5	39	2441	11.32	11.50	1.042	76.85	1.084	-0.02	0.023	0.026

14.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	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)
	1	GSM850	GPRS(4 Tx slots)	Front	5	Full	128	824.2	26.68	27.00	1.076	0.18	0.559	0.602
43	2	GSM850	GPRS(4 Tx slots)	Front	5	Full	128	824.2	26.68	27.00	1.076	0.04	0.685	0.737
44	1	GSM1900	GPRS(1 Tx slot)	Front	5	P-Sensor On	661	1880	25.33	26.00	1.167	0.10	0.673	0.785
	2	GSM1900	GPRS(1 Tx slot)	Front	5	P-Sensor On	661	1880	25.33	26.00	1.167	0.06	0.645	0.753

<WCDMA SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	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)
45	1	WCDMA Band V	RMC 12.2Kbps	Front	5	P-Sensor On	4182	836.4	20.79	21.50	1.178	0.08	0.574	0.676
	2	WCDMA Band V	RMC 12.2Kbps	Front	5	P-Sensor On	4182	836.4	20.79	21.50	1.178	0.08	0.537	0.632
	1	WCDMA Band IV	RMC 12.2Kbps	Front	5	P-Sensor On	1413	1732.6	16.01	16.50	1.119	0.06	0.434	0.486
46	2	WCDMA Band IV	RMC 12.2Kbps	Front	5	P-Sensor On	1413	1732.6	16.01	16.50	1.119	0.19	0.454	0.508
	1	WCDMA Band II	RMC 12.2Kbps	Front	5	P-Sensor On	9400	1880	15.02	15.50	1.117	0.05	0.458	0.512
47	2	WCDMA Band II	RMC 12.2Kbps	Front	5	P-Sensor On	9400	1880	15.02	15.50	1.117	0.08	0.472	0.527

<CDMA2000 SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	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)
	1	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	476	817.9	22.76	23.50	1.186	0.01	0.908	1.077
	1	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	580	820.5	22.91	23.50	1.146	0.09	0.864	0.990
	1	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	684	823.1	22.87	23.50	1.156	-0.02	0.891	1.030
	2	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	476	817.9	22.76	23.50	1.186	0.07	0.911	1.080
48	2	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	580	820.5	22.91	23.50	1.146	0.05	0.949	1.087
	2	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	684	823.1	22.87	23.50	1.156	0.01	0.937	1.083
	1	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	384	836.52	22.91	23.50	1.146	0.01	0.934	1.070
	1	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	1013	824.7	22.95	23.50	1.135	0.04	0.921	1.045
	1	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	777	848.31	22.72	23.50	1.197	-0.01	0.701	0.839
49	2	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	384	836.52	22.91	23.50	1.146	0.07	0.966	1.107
	2	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	1013	824.7	22.95	23.50	1.135	0.05	0.963	1.093
	2	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	777	848.31	22.72	23.50	1.197	-0.03	0.714	0.854
	1	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	1175	1908.75	14.43	15.00	1.140	0.04	0.423	0.482
50	2	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	1175	1908.75	14.43	15.00	1.140	0.02	0.471	0.537



<FDD LTE SAR>

Plot No.	Sample	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	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)
	1	LTE Band 12	10M	QPSK	1	49	Front	5	Full	23095	707.5	23.86	24.00	1.033	0.03	0.696	0.719
51	2	LTE Band 12	10M	QPSK	1	49	Front	5	Full	23095	707.5	23.86	24.00	1.033	0.03	0.736	0.760
52	1	LTE Band 13	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	0.04	0.999	1.103
	2	LTE Band 13	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	0.03	0.997	1.101
53	1	LTE Band 14	10M	QPSK	1	0	Front	5	Full	23330	793	23.90	24.00	1.023	0.09	0.349	0.357
	2	LTE Band 14	10M	QPSK	1	0	Front	5	Full	23330	793	23.90	24.00	1.023	0.07	0.340	0.348
54	1	LTE Band 26	15M	QPSK	1	74	Front	5	P-Sensor On	26965	841.5	21.15	22.00	1.216	0.07	0.569	0.692
	2	LTE Band 26	15M	QPSK	1	74	Front	5	P-Sensor On	26965	841.5	21.15	22.00	1.216	0.09	0.560	0.681
55	1	LTE Band 66	20M	QPSK	1	99	Front	5	P-Sensor On	132572	1770	15.72	16.00	1.067	0.18	0.486	0.518
	2	LTE Band 66	20M	QPSK	1	99	Front	5	P-Sensor On	132572	1770	15.72	16.00	1.067	0.16	0.462	0.493
56	1	LTE Band 25	20M	QPSK	50	0	Front	5	P-Sensor On	26590	1905	14.20	16.00	1.514	0.01	0.405	0.613
	2	LTE Band 25	20M	QPSK	50	0	Front	5	P-Sensor On	26590	1905	14.20	16.00	1.514	0.02	0.400	0.605
	1	LTE Band 30	10M	QPSK	25	25	Front	5	P-Sensor On	27710	2310	17.18	17.50	1.076	0.01	0.305	0.328
57	2	LTE Band 30	10M	QPSK	25	25	Front	5	P-Sensor On	27710	2310	17.18	17.50	1.076	0.02	0.379	0.408
	1	LTE Band 7	20M	QPSK	50	24	Front	5	P-Sensor On	21100	2535	17.53	18.00	1.114	0.09	0.451	0.503
58	2	LTE Band 7	20M	QPSK	50	24	Front	5	P-Sensor On	21100	2535	17.53	18.00	1.114	0.01	0.544	0.606

<TDD LTE SAR>

Plot No.	Sample	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	Power Class	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	62.9	1.006	0.04	0.673	0.999
	1	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	-0.06	0.477	0.628
	1	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	62.9	1.006	0.03	0.290	0.427
	1	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	62.9	1.006	0.05	0.539	0.813
	1	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	62.9	1.006	-0.02	0.367	0.503
59	2	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	62.9	1.006	0.08	0.698	1.036
	2	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	0.04	0.592	0.780
	2	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	62.9	1.006	0.01	0.641	0.943
	2	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	62.9	1.006	0.07	0.659	0.994
	2	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	62.9	1.006	0.08	0.653	0.894

<WLAN 2.4GHz SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN2.4GHz	802.11b 1Mbps	Front	5	1	2412	17.45	18.00	1.135	97.42	1.026	0.01	0.179	0.208
60	1	WLAN2.4GHz	802.11b 1Mbps	Back	5	1	2437	17.45	18.00	1.135	97.42	1.026	0.01	0.195	0.227
	2	WLAN2.4GHz	802.11b 1Mbps	Back	5	1	2437	17.45	18.00	1.135	97.42	1.026	0.04	0.189	0.220

<WLAN 5GHz SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN5.3GHz	802.11a 6Mbps	Front	5	60	5300	17.94	18.50	1.137	87.44	1.144	0.07	0.218	0.284
61	1	WLAN5.3GHz	802.11a 6Mbps	Back	5	60	5300	17.94	18.50	1.137	87.44	1.144	0.01	0.757	0.985
	1	WLAN5.3GHz	802.11a 6Mbps	Back	5	52	5260	17.91	18.50	1.145	87.44	1.144	0.08	0.684	0.896
	2	WLAN5.3GHz	802.11a 6Mbps	Back	5	60	5300	17.94	18.50	1.137	87.44	1.144	-0.03	0.635	0.826
	2	WLAN5.3GHz	802.11a 6Mbps	Back	5	52	5260	17.91	18.50	1.145	87.44	1.144	0.02	0.558	0.731
	1	WLAN5.5GHz	802.11a 6Mbps	Front	5	140	5700	16.58	17.00	1.102	87.44	1.144	0.01	0.084	0.106
	1	WLAN5.5GHz	802.11a 6Mbps	Back	5	140	5700	16.58	17.00	1.102	87.44	1.144	0.04	0.854	1.076
	1	WLAN5.5GHz	802.11a 6Mbps	Back	5	132	5660	16.38	16.50	1.028	87.44	1.144	0.04	0.835	0.982
62	2	WLAN5.5GHz	802.11a 6Mbps	Back	5	140	5700	16.58	17.00	1.102	87.44	1.144	0.07	0.870	1.096
	2	WLAN5.5GHz	802.11a 6Mbps	Back	5	132	5660	16.38	16.50	1.028	87.44	1.144	0.01	0.828	0.974
	1	WLAN 5.8GHz	802.11a 6Mbps	Front	5	149	5745	16.48	17.00	1.126	87.44	1.144	0.04	0.073	0.094
	1	WLAN 5.8GHz	802.11a 6Mbps	Back	5	149	5745	16.48	17.00	1.126	87.44	1.144	-0.05	0.849	1.094
	1	WLAN 5.8GHz	802.11a 6Mbps	Back	5	157	5785	15.93	16.50	1.140	87.44	1.144	0.01	0.831	1.083
	2	WLAN 5.8GHz	802.11a 6Mbps	Back	5	149	5745	16.48	17.00	1.126	87.44	1.144	0.04	0.848	1.093
63	2	WLAN 5.8GHz	802.11a 6Mbps	Back	5	157	5785	15.93	16.50	1.140	87.44	1.144	-0.07	0.850	1.108

<Bluetooth SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	Bluetooth	1Mbps	Back	5	39	2441	11.32	11.50	1.042	76.85	1.084	0.01	0.023	0.026
64	2	Bluetooth	1Mbps	Back	5	39	2441	11.32	11.50	1.042	76.85	1.084	-0.02	0.023	0.026



14.4 Product specific 10g SAR

<GSM SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	1	GSM1900	GPRS(4 Tx slots)	Bottom Side	0	Full	661	1880	23.75	24.00	1.059	0.08	1.830	1.938
65	2	GSM1900	GPRS(4 Tx slots)	Bottom Side	0	Full	661	1880	23.75	24.00	1.059	0.11	2.020	2.140
	2	GSM1900	GPRS(4 Tx slots)	Bottom Side	0	Full	512	1850.2	23.77	24.00	1.054	0.02	1.870	1.972
	2	GSM1900	GPRS(4 Tx slots)	Bottom Side	0	Full	810	1909.8	23.78	24.00	1.052	0.14	1.730	1.820

<WCDMA SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
66	1	WCDMA Band V	RMC 12.2Kbps	Front	0	Full	4182	836.4	22.97	23.50	1.130	0.02	1.550	1.751
	2	WCDMA Band V	RMC 12.2Kbps	Front	0	Full	4182	836.4	22.97	23.50	1.130	0.04	0.973	1.099
67	1	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	Handheld On	1513	1752.6	20.03	20.50	1.114	0.05	2.090	2.329
	1	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	Handheld On	1312	1712.4	19.94	20.50	1.138	0.06	1.890	2.150
	1	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	Handheld On	1413	1732.6	20.02	20.50	1.117	0.09	2.070	2.312
	2	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	Handheld On	1513	1752.6	20.03	20.50	1.114	0.05	2.070	2.307
	2	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	Handheld On	1312	1712.4	19.94	20.50	1.138	-0.02	2.010	2.287
	2	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	Handheld On	1413	1732.6	20.02	20.50	1.117	0.01	2.050	2.290
	1	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9400	1880	20.04	20.50	1.112	0.06	1.940	2.157
68	1	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9262	1852.4	20.11	20.50	1.094	0.08	2.110	2.308
	1	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9538	1907.6	20.12	20.50	1.091	0.08	1.770	1.932
	2	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9400	1880	20.04	20.50	1.112	0.05	2.070	2.301
	2	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9262	1852.4	20.11	20.50	1.094	-0.01	2.100	2.297
	2	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9538	1907.6	20.12	20.50	1.091	0.04	1.770	1.932

<CDMA2000 SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	1	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	600	1880	17.28	18.00	1.180	0.04	2.350	2.774
	1	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	25	1851.25	17.50	18.00	1.122	0.04	2.440	2.738
	1	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	1175	1908.75	17.47	18.00	1.130	0.06	2.290	2.587
	2	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	600	1880	17.28	18.00	1.180	0.01	2.180	2.573
	2	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	25	1851.25	17.50	18.00	1.122	0.01	2.120	2.379
69	2	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	1175	1908.75	17.47	18.00	1.130	0.07	2.560	2.892

<FDD LTE SAR>

Plot No.	Sample	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	1	LTE Band 26	15M	QPSK	1	74	Front	0	Full	26765	821.5	23.75	24.00	1.059	0.06	1.350	1.430
70	2	LTE Band 26	15M	QPSK	1	74	Front	0	Full	26765	821.5	23.75	24.00	1.059	0.07	1.490	1.578
71	1	LTE Band 66	20M	QPSK	1	99	Bottom Side	0	Handheld On	132572	1770	19.36	20.00	1.159	0.01	2.040	2.364
	2	LTE Band 66	20M	QPSK	1	99	Bottom Side	0	Handheld On	132572	1770	19.36	20.00	1.159	0.02	1.500	1.738
	1	LTE Band 66	20M	QPSK	1	99	Bottom Side	0	Handheld On	132072	1720	19.81	20.00	1.045	0.07	1.920	2.006
	1	LTE Band 66	20M	QPSK	1	99	Bottom Side	0	Handheld On	132322	1745	19.83	20.00	1.040	0.04	2.010	2.090
	1	LTE Band 25	20M	QPSK	50	0	Bottom Side	0	Handheld On	26590	1905	19.65	20.50	1.216	0.06	1.740	2.116
	1	LTE Band 25	20M	QPSK	50	0	Bottom Side	0	Handheld On	26140	1860	19.57	20.50	1.239	-0.02	1.970	2.440
	1	LTE Band 25	20M	QPSK	50	0	Bottom Side	0	Handheld On	26340	1880	19.68	20.50	1.208	0.04	1.710	2.065
	2	LTE Band 25	20M	QPSK	50	0	Bottom Side	0	Handheld On	26590	1905	19.65	20.50	1.216	0.07	1.900	2.311
72	2	LTE Band 25	20M	QPSK	50	0	Bottom Side	0	Handheld On	26140	1860	19.57	20.50	1.239	0.06	2.100	2.601
	2	LTE Band 25	20M	QPSK	50	0	Bottom Side	0	Handheld On	26340	1880	19.68	20.50	1.208	0.03	1.830	2.210
	1	LTE Band 30	10M	QPSK	1	0	Front	0	Full	27710	2310	23.35	23.50	1.035	0.03	2.410	2.495
73	2	LTE Band 30	10M	QPSK	1	0	Front	0	Full	27710	2310	23.35	23.50	1.035	0.07	3.110	3.219
	1	LTE Band 7	20M	QPSK	1	99	Front	0	Handheld On	21350	2560	22.96	23.00	1.009	-0.05	3.060	3.088
	1	LTE Band 7	20M	QPSK	1	99	Front	0	Handheld On	20850	2510	22.86	23.00	1.033	0.06	3.040	3.140
	1	LTE Band 7	20M	QPSK	1	99	Front	0	Handheld On	21100	2535	22.83	23.00	1.040	0.03	2.970	3.089
74	2	LTE Band 7	20M	QPSK	1	99	Front	0	Handheld On	21350	2560	22.96	23.00	1.009	0.15	3.190	3.220
	2	LTE Band 7	20M	QPSK	1	99	Front	0	Handheld On	20850	2510	22.86	23.00	1.033	0.06	3.080	3.181
	2	LTE Band 7	20M	QPSK	1	99	Front	0	Handheld On	21100	2535	22.83	23.00	1.040	0.02	2.890	3.005

<TDD LTE SAR>

Plot No.	Sample	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	Power Class	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	1	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	41055	2636.5	24.26	24.50	1.057	62.9	1.006	0.11	2.430	2.583
	1	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	39750	2506	24.45	24.50	1.012	62.9	1.006	0.06	2.260	2.300
	1	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	40185	2549.5	24.46	24.50	1.009	62.9	1.006	-0.04	2.340	2.376
	1	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	40620	2593	24.23	24.50	1.064	62.9	1.006	0.02	2.510	2.687
	1	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	41490	2680	24.28	24.50	1.052	62.9	1.006	0.04	2.720	2.879
	2	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	41055	2636.5	24.26	24.50	1.057	62.9	1.006	0.08	2.870	3.051
	2	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	39750	2506	24.45	24.50	1.012	62.9	1.006	-0.01	2.700	2.748
	2	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	40185	2549.5	24.46	24.50	1.009	62.9	1.006	0.03	2.750	2.792
	2	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	40620	2593	24.23	24.50	1.064	62.9	1.006	0.07	2.820	3.019
75	2	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	41490	2680	24.28	24.50	1.052	62.9	1.006	0.05	2.900	3.069

<WLAN 5GHz SAR>

Plot No.	Sample	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	1	WLAN5.3GHz	802.11a 6Mbps	Front	0	Full	60	5300	17.94	18.50	1.137	87.44	1.144	0.04	0.320	0.416
	1	WLAN5.3GHz	802.11a 6Mbps	Back	0	Full	60	5300	17.94	18.50	1.137	87.44	1.144	-0.05	0.751	0.977
	1	WLAN5.3GHz	802.11a 6Mbps	Right Side	0	Full	60	5300	17.94	18.50	1.137	87.44	1.144	0.01	0.068	0.089
	1	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	Full	60	5300	17.94	18.50	1.137	87.44	1.144	0.07	0.412	0.536
76	2	WLAN5.3GHz	802.11a 6Mbps	Back	0	Full	60	5300	17.94	18.50	1.137	87.44	1.144	0.04	0.810	1.053
	1	WLAN 5.5GHz	802.11a 6Mbps	Front	0	Full	140	5700	16.58	17.00	1.102	87.44	1.144	0.01	0.118	0.149
77	1	WLAN 5.5GHz	802.11a 6Mbps	Back	0	Full	140	5700	16.58	17.00	1.102	87.44	1.144	0.09	1.160	1.462
	1	WLAN 5.5GHz	802.11a 6Mbps	Right Side	0	Full	140	5700	16.58	17.00	1.102	87.44	1.144	0.01	0.043	0.054
	1	WLAN 5.5GHz	802.11a 6Mbps	Top Side	0	Full	140	5700	16.58	17.00	1.102	87.44	1.144	0.06	0.745	0.939
	2	WLAN 5.5GHz	802.11a 6Mbps	Back	0	Full	140	5700	16.58	17.00	1.102	87.44	1.144	0.05	0.955	1.203

14.5 Repeated SAR Measurement

<1g SAR>

No.	Sample	Band	Mode	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	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	2	CDMA2000 BC0	RC3+SO32 (F+SCH)	-	-	-	-	Front	5	P-Sensor On	384	836.52	22.91	23.50	1.146	-	-	0.07	0.966	1	1.107
2nd	2	CDMA2000 BC0	RC3+SO32 (F+SCH)	-	-	-	-	Front	5	P-Sensor On	384	836.52	22.91	23.50	1.146	-	-	0.06	0.961	1.005	1.101
1st	1	GSM1900	GPRS(1 Tx slots)	-	-	-	-	Bottom Side	5	Hotspot On	810	1909.8	25.45	26.00	1.135	-	-	0.09	0.901	1	1.023
2nd	1	GSM1900	GPRS(1 Tx slots)	-	-	-	-	Bottom Side	5	Hotspot On	810	1909.8	25.45	26.00	1.135	-	-	0.01	0.891	1.011	1.011
1st	1	LTE Band 13	-	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	-	-	0.04	0.999	1	1.103
2nd	1	LTE Band 13	-	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	-	-	0.05	0.998	1.001	1.102
1st	2	LTE Band 41	-	20M	QPSK	50	0	Bottom Side	5	Hotspot On	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	0.01	0.842	1	1.109
2nd	2	LTE Band 41	-	20M	QPSK	50	0	Bottom Side	5	Hotspot On	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	0.04	0.833	1.011	1.097
1st	2	WLAN5.5GHz	802.11a 6Mbps	-	-	-	-	Back	5	-	140	5700	16.58	17.00	1.102	87.44	1.144	0.07	0.870	1	1.096
2nd	2	WLAN5.5GHz	802.11a 6Mbps	-	-	-	-	Back	5	-	140	5700	16.58	17.00	1.102	87.44	1.144	0.05	0.861	1.010	1.085
1st	2	WLAN5.8GHz	802.11a 6Mbps	-	-	-	-	Back	5	-	157	5785	15.93	16.50	1.140	87.44	1.144	-0.07	0.850	1	1.108
2nd	2	WLAN5.8GHz	802.11a 6Mbps	-	-	-	-	Back	5	-	157	5785	15.93	16.50	1.140	87.44	1.144	-0.03	0.845	1.006	1.102

<10g SAR>

No.	Sample	Band	Mode	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	2	CDMA2000 BC1	RTAP 153.6Kbps	-	-	-	-	Bottom Side	0	Handheld On	1175	1908.75	17.47	18.00	1.130	0.07	2.560	1	2.892
2nd	2	CDMA2000 BC1	RTAP 153.6Kbps	-	-	-	-	Bottom Side	0	Handheld On	1175	1908.75	17.47	18.00	1.130	0.06	2.480	1.032	2.802
1st	1	LTE Band 66	-	20M	QPSK	1	99	Bottom Side	0	Handheld On	132572	1770	19.36	20.00	1.159	0.01	2.040	1	2.364
2nd	1	LTE Band 66	-	20M	QPSK	1	99	Bottom Side	0	Handheld On	132572	1770	19.36	20.00	1.159	0.06	2.010	1.015	2.329
1st	2	LTE Band 30	-	10M	QPSK	1	0	Front	0	Full	27710	2310	23.35	23.50	1.035	0.07	3.110	1	3.219
2nd	2	LTE Band 30	-	10M	QPSK	1	0	Front	0	Full	27710	2310	23.35	23.50	1.035	0.05	3.100	1.003	3.209
1st	1	LTE Band 7	-	20M	QPSK	1	99	Front	0	Handheld On	21350	2560	22.96	23.00	1.009	0.15	3.190	1	3.220
2nd	1	LTE Band 7	-	20M	QPSK	1	99	Front	0	Handheld On	21350	2560	22.96	23.00	1.009	0.04	3.150	1.013	3.179

General Note:

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

15. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset				Note
		Head	Body-worn	Hotspot	Product specific 10g SAR	
1.	GSM Voice + WLAN2.4GHz	Yes	Yes			
2.	GPRS/EDGE + WLAN2.4GHz	Yes	Yes	Yes	Yes	WLAN Hotspot
3.	WCDMA + WLAN2.4GHz	Yes	Yes	Yes	Yes	WLAN Hotspot
4.	CDMA + WLAN2.4GHz	Yes	Yes	Yes	Yes	WLAN Hotspot
5.	LTE + WLAN2.4GHz	Yes	Yes	Yes	Yes	WLAN Hotspot
6.	GSM Voice + WLAN5.3/5.5GHz	Yes	Yes			
7.	GPRS/EDGE + WLAN5.3/5.5GHz	Yes	Yes		Yes	WLAN Direct (GC only)
8.	WCDMA + WLAN5.3/5.5GHz	Yes	Yes		Yes	WLAN Direct (GC only)
9.	CDMA + WLAN5.3/5.5GHz	Yes	Yes		Yes	WLAN Direct (GC only)
10.	LTE + WLAN5.3/5.5GHz	Yes	Yes		Yes	WLAN Direct (GC only)
11.	GSM Voice + WLAN5.2/5.8GHz	Yes	Yes			
12.	GPRS/EDGE + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes	WLAN Hotspot/Direct(GC/GO)
13.	WCDMA + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes	WLAN Hotspot/Direct(GC/GO)
14.	CDMA + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes	WLAN Hotspot/Direct(GC/GO)
15.	LTE + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes	WLAN Hotspot/Direct(GC/GO)
16.	GSM Voice + Bluetooth		Yes			
17.	GPRS/EDGE + Bluetooth		Yes	Yes	Yes	BT Tethering
18.	WCDMA + Bluetooth		Yes	Yes	Yes	BT Tethering
19.	CDMA + Bluetooth		Yes	Yes	Yes	BT Tethering
20.	LTE + Bluetooth		Yes	Yes	Yes	BT Tethering

General Note:

- For simultaneously transmission SAR analysis, SAR values only considered WLAN 2.4/5GHz SAR test values and the worst position of other bands which we did perform SAR testing on FA832002, and other test results were leverage from the parent model which referred to the test report number FA7D1310.
- This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
- EUT will choose each GSM, WCDMA, CDMA and LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
- This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
- This device 2.4GHz WLAN/ 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
- EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment though they have independent antenna.
- WLAN 2.4GHz and Bluetooth share the same antenna so can't transmit simultaneously.
- According to the EUT character, WLAN 5GHz and Bluetooth can't transmit simultaneously.
- Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
- The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
- The reported SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - If $SPLSR \leq 0.04$ for 1g SAR, $SPLSR \leq 0.10$ for 10g SAR simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
 - The SPLSR calculated results please refer to section 15.5.

15.1 Head Exposure Conditions

WWAN Band		Exposure Position	1	2	3	1+2			1+3		
			WWAN	2.4GHz WLAN	5GHz WLAN	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)						
GSM	GSM850	Right Cheek	0.196	0.327	0.580	0.52			0.78		
		Right Tilted	0.117	0.284	0.528	0.40			0.65		
		Left Cheek	0.201	0.792	0.957	0.99			1.16		
		Left Tilted	0.126	0.366	0.734	0.49			0.86		
	GSM1900	Right Cheek	0.050	0.327	0.580	0.38			0.63		
		Right Tilted	0.010	0.284	0.528	0.29			0.54		
		Left Cheek	0.027	0.792	0.957	0.82			0.98		
		Left Tilted	0.053	0.366	0.734	0.42			0.79		
WCDMA	Band V	Right Cheek	0.333	0.327	0.580	0.66			0.91		
		Right Tilted	0.143	0.284	0.528	0.43			0.67		
		Left Cheek	0.241	0.792	0.957	1.03			1.20		
		Left Tilted	0.145	0.366	0.734	0.51			0.88		
	Band IV	Right Cheek	0.137	0.327	0.580	0.46			0.72		
		Right Tilted	0.075	0.284	0.528	0.36			0.60		
		Left Cheek	0.186	0.792	0.957	0.98			1.14		
		Left Tilted	0.087	0.366	0.734	0.45			0.82		
	Band II	Right Cheek	0.167	0.327	0.580	0.49			0.75		
		Right Tilted	0.069	0.284	0.528	0.35			0.60		
		Left Cheek	0.158	0.792	0.957	0.95			1.12		
		Left Tilted	0.108	0.366	0.734	0.47			0.84		
CDMA2000	BC10	Right Cheek	0.317	0.327	0.580	0.64			0.90		
		Right Tilted	0.162	0.284	0.528	0.45			0.69		
		Left Cheek	0.280	0.792	0.957	1.07			1.24		
		Left Tilted	0.182	0.366	0.734	0.55			0.92		
	BC0	Right Cheek	0.300	0.327	0.580	0.63			0.88		
		Right Tilted	0.157	0.284	0.528	0.44			0.69		
		Left Cheek	0.266	0.792	0.957	1.06			1.22		
		Left Tilted	0.170	0.366	0.734	0.54			0.90		
	BC1	Right Cheek	0.238	0.327	0.580	0.57			0.82		
		Right Tilted	0.131	0.284	0.528	0.42			0.66		
		Left Cheek	0.209	0.792	0.957	1.00			1.17		
		Left Tilted	0.120	0.366	0.734	0.49			0.85		



WWAN Band		Exposure Position	1	2	3	1+2		1+3			
			WWAN	2.4GHz WLAN	5GHz WLAN	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)						
LTE	Band 12	Right Cheek	0.214	0.327	0.580	0.54			0.79		
		Right Tilted	0.089	0.284	0.528	0.37			0.62		
		Left Cheek	0.203	0.792	0.957	1.00			1.16		
		Left Tilted	0.109	0.366	0.734	0.48			0.84		
	Band 13	Right Cheek	0.354	0.327	0.580	0.68			0.93		
		Right Tilted	0.105	0.284	0.528	0.39			0.63		
		Left Cheek	0.182	0.792	0.957	0.97			1.14		
		Left Tilted	0.147	0.366	0.734	0.51			0.88		
	Band 14	Right Cheek	0.095	0.327	0.580	0.42			0.68		
		Right Tilted	0.056	0.284	0.528	0.34			0.58		
		Left Cheek	0.096	0.792	0.957	0.89			1.05		
		Left Tilted	0.065	0.366	0.734	0.43			0.80		
	Band 26	Right Cheek	0.347	0.327	0.580	0.67			0.93		
		Right Tilted	0.168	0.284	0.528	0.45			0.70		
		Left Cheek	0.299	0.792	0.957	1.09			1.26		
		Left Tilted	0.175	0.366	0.734	0.54			0.91		
	Band 66	Right Cheek	0.104	0.327	0.580	0.43			0.68		
		Right Tilted	0.029	0.284	0.528	0.31			0.56		
		Left Cheek	0.078	0.792	0.957	0.87			1.04		
		Left Tilted	0.041	0.366	0.734	0.41			0.78		
	Band 25	Right Cheek	0.213	0.327	0.580	0.54			0.79		
		Right Tilted	0.065	0.284	0.528	0.35			0.59		
		Left Cheek	0.213	0.792	0.957	1.01			1.17		
		Left Tilted	0.115	0.366	0.734	0.48			0.85		
	Band 30	Right Cheek	0.177	0.327	0.580	0.50			0.76		
		Right Tilted	0.159	0.284	0.528	0.44			0.69		
		Left Cheek	0.242	0.792	0.957	1.03			1.20		
		Left Tilted	0.089	0.366	0.734	0.46			0.82		
	Band 7	Right Cheek	0.424	0.327	0.580	0.75			1.00		
		Right Tilted	0.288	0.284	0.528	0.57			0.82		
		Left Cheek	0.582	0.792	0.957	1.37			1.54		
		Left Tilted	0.185	0.366	0.734	0.55			0.92		
	Band 41	Right Cheek	0.277	0.327	0.580	0.60			0.86		
		Right Tilted	0.200	0.284	0.528	0.48			0.73		
		Left Cheek	0.347	0.792	0.957	1.14			1.30		
		Left Tilted	0.112	0.366	0.734	0.48			0.85		

15.2 Hotspot Exposure Conditions

WWAN Band		Exposure Position	1	2	3	4	1+2			1+3			1+4		
			WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)									
GSM	GSM850	Front	0.737	0.208	0.431	0.072	0.95			1.17			0.81		
		Back	0.611	0.227	1.108	0.026	0.84			1.72	0.02	#1	0.64		
		Left Side	0.229				0.23			0.23			0.23		
		Right Side	0.495	0.211	0.155	0.044	0.71			0.65			0.54		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.542				0.54			0.54			0.54		
	GSM1900	Front	0.785	0.208	0.431	0.072	0.99			1.22			0.86		
		Back	0.608	0.227	1.108	0.026	0.84			1.72	0.02	#2	0.63		
		Left Side	0.045				0.05			0.05			0.05		
		Right Side	0.046	0.211	0.155	0.044	0.26			0.20			0.09		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	1.023				1.02			1.02			1.02		
WCDMA	Band V	Front	0.676	0.208	0.431	0.072	0.88			1.11			0.75		
		Back	0.378	0.227	1.108	0.026	0.61			1.49			0.40		
		Left Side	0.142				0.14			0.14			0.14		
		Right Side	0.520	0.211	0.155	0.044	0.73			0.68			0.56		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.551				0.55			0.55			0.55		
	Band IV	Front	0.508	0.208	0.431	0.072	0.72			0.94			0.58		
		Back	0.425	0.227	1.108	0.026	0.65			1.53			0.45		
		Left Side	0.030				0.03			0.03			0.03		
		Right Side	0.059	0.211	0.155	0.044	0.27			0.21			0.10		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.714				0.71			0.71			0.71		
	Band II	Front	0.527	0.208	0.431	0.072	0.74			0.96			0.60		
		Back	0.428	0.227	1.108	0.026	0.66			1.54			0.45		
		Left Side	0.036				0.04			0.04			0.04		
		Right Side	0.037	0.211	0.155	0.044	0.25			0.19			0.08		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.711				0.71			0.71			0.71		
CDMA2000	BC10	Front	0.638	0.208	0.431	0.072	0.85			1.07			0.71		
		Back	0.357	0.227	1.108	0.026	0.58			1.47			0.38		
		Left Side	0.194				0.19			0.19			0.19		
		Right Side	0.329	0.211	0.155	0.044	0.54			0.48			0.37		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.673				0.67			0.67			0.67		
	BC0	Front	0.940	0.208	0.431	0.072	1.15			1.37			1.01		
		Back	0.410	0.227	1.108	0.026	0.64			1.52			0.44		
		Left Side	0.118				0.12			0.12			0.12		
		Right Side	0.360	0.211	0.155	0.044	0.57			0.52			0.40		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.906				0.91			0.91			0.91		
	BC1	Front	0.662	0.208	0.431	0.072	0.87			1.09			0.73		
		Back	0.304	0.227	1.108	0.026	0.53			1.41			0.33		
		Left Side	0.032				0.03			0.03			0.03		
		Right Side	0.039	0.211	0.155	0.044	0.25			0.19			0.08		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.681				0.68			0.68			0.68		

WWAN Band		Exposure Position	1	2	3	4	1+2			1+3			1+4		
			WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)									
LTE	Band 12	Front	0.760	0.208	0.431	0.072	0.97			1.19			0.83		
		Back	0.495	0.227	1.108	0.026	0.72			1.60	0.02	#3	0.52		
		Left Side	0.361				0.36			0.36			0.36		
		Right Side	0.708	0.211	0.155	0.044	0.92			0.86			0.75		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.416				0.42			0.42			0.42		
	Band 13	Front	1.103	0.208	0.431	0.072	1.31			1.53			1.18		
		Back	0.639	0.227	1.108	0.026	0.87			1.75	0.02	#4	0.67		
		Left Side	0.236				0.24			0.24			0.24		
		Right Side	0.520	0.211	0.155	0.044	0.73			0.68			0.56		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.432				0.43			0.43			0.43		
	Band 14	Front	0.357	0.208	0.431	0.072	0.57			0.79			0.43		
		Back	0.272	0.227	1.108	0.026	0.50			1.38			0.30		
		Left Side	0.099				0.10			0.10			0.10		
		Right Side	0.269	0.211	0.155	0.044	0.48			0.42			0.31		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.268				0.27			0.27			0.27		
	Band 26	Front	0.692	0.208	0.431	0.072	0.90			1.12			0.76		
		Back	0.449	0.227	1.108	0.026	0.68			1.56			0.48		
		Left Side	0.166				0.17			0.17			0.17		
		Right Side	0.197	0.211	0.155	0.044	0.41			0.35			0.24		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.415				0.42			0.42			0.42		
	Band 66	Front	0.518	0.208	0.431	0.072	0.73			0.95			0.59		
		Back	0.312	0.227	1.108	0.026	0.54			1.42			0.34		
		Left Side	0.020				0.02			0.02			0.02		
		Right Side	0.045	0.211	0.155	0.044	0.26			0.20			0.09		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.724				0.72			0.72			0.72		
	Band 25	Front	0.613	0.208	0.431	0.072	0.82			1.04			0.69		
		Back	0.494	0.227	1.108	0.026	0.72			1.60	0.02	#5	0.52		
		Left Side	0.039				0.04			0.04			0.04		
		Right Side	0.045	0.211	0.155	0.044	0.26			0.20			0.09		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.820				0.82			0.82			0.82		

WWAN Band		Exposure Position	1	2	3	4	1+2			1+3			1+4		
			WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)									
LTE	Band 30	Front	0.408	0.208	0.431	0.072	0.62			0.84			0.48		
		Back	0.267	0.227	1.108	0.026	0.49			1.38			0.29		
		Left Side	0.235				0.24			0.24			0.24		
		Right Side	0.046	0.211	0.155	0.044	0.26			0.20			0.09		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.503				0.50			0.50			0.50		
	Band 7	Front	0.606	0.208	0.431	0.072	0.81			1.04			0.68		
		Back	0.554	0.227	1.108	0.026	0.78			1.66	0.02	#6	0.58		
		Left Side	0.403				0.40			0.40			0.40		
		Right Side	0.075	0.211	0.155	0.044	0.29			0.23			0.12		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	0.658				0.66			0.66			0.66		
	Band 41	Front	1.036	0.208	0.431	0.072	1.24			1.47			1.11		
		Back	0.550	0.227	1.108	0.026	0.78			1.66	0.02	#7	0.58		
		Left Side	0.432				0.43			0.43			0.43		
		Right Side	0.079	0.211	0.155	0.044	0.29			0.23			0.12		
		Top Side		0.289	0.717	0.065	0.29			0.72			0.07		
		Bottom Side	1.109				1.11			1.11			1.11		

15.3 Body-Worn Accessory Exposure Conditions

WWAN Band		Exposure Position	1	2	3	4	1+2			1+3			1+4		
			WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			1g SAR (W/kg)			1g SAR (W/kg)		
GSM	GSM850	Front	0.737	0.208	0.284	0.072	0.95			1.02			0.81		
		Back	0.611	0.227	1.108	0.026	0.84			1.72	0.02	#1	0.64		
	GSM1900	Front	0.785	0.208	0.284	0.072	0.99			1.07			0.86		
		Back	0.608	0.227	1.108	0.026	0.84			1.72	0.02	#2	0.63		
WCDMA	Band V	Front	0.676	0.208	0.284	0.072	0.88			0.96			0.75		
		Back	0.378	0.227	1.108	0.026	0.61			1.49			0.40		
	Band IV	Front	0.508	0.208	0.284	0.072	0.72			0.79			0.58		
		Back	0.425	0.227	1.108	0.026	0.65			1.53			0.45		
	Band II	Front	0.527	0.208	0.284	0.072	0.74			0.81			0.60		
		Back	0.428	0.227	1.108	0.026	0.66			1.54			0.45		
CDMA2000	BC10	Front	1.087	0.208	0.284	0.072	1.30			1.37			1.16		
		Back	0.494	0.227	1.108	0.026	0.72			1.60	0.02	#8	0.52		
	BC0	Front	1.107	0.208	0.284	0.072	1.32			1.39			1.18		
		Back	0.363	0.227	1.108	0.026	0.59			1.47			0.39		
	BC1	Front	0.537	0.208	0.284	0.072	0.75			0.82			0.61		
		Back	0.341	0.227	1.108	0.026	0.57			1.45			0.37		
LTE	Band 12	Front	0.760	0.208	0.284	0.072	0.97			1.04			0.83		
		Back	0.495	0.227	1.108	0.026	0.72			1.60	0.02	#3	0.52		
	Band 13	Front	1.103	0.208	0.284	0.072	1.31			1.39			1.18		
		Back	0.639	0.227	1.108	0.026	0.87			1.75	0.02	#4	0.67		
	Band 14	Front	0.357	0.208	0.284	0.072	0.57			0.64			0.43		
		Back	0.272	0.227	1.108	0.026	0.50			1.38			0.30		
	Band 26	Front	0.692	0.208	0.284	0.072	0.90			0.98			0.76		
		Back	0.449	0.227	1.108	0.026	0.68			1.56			0.48		
	Band 66	Front	0.518	0.208	0.284	0.072	0.73			0.80			0.59		
		Back	0.312	0.227	1.108	0.026	0.54			1.42			0.34		
	Band 25	Front	0.613	0.208	0.284	0.072	0.82			0.90			0.69		
		Back	0.494	0.227	1.108	0.026	0.72			1.60	0.02	#5	0.52		
	Band 30	Front	0.408	0.208	0.284	0.072	0.62			0.69			0.48		
		Back	0.267	0.227	1.108	0.026	0.49			1.38			0.29		
	Band 7	Front	0.606	0.208	0.284	0.072	0.81			0.89			0.68		
		Back	0.554	0.227	1.108	0.026	0.78			1.66	0.02	#6	0.58		
	Band 41	Front	1.036	0.208	0.284	0.072	1.24			1.32			1.11		
		Back	0.550	0.227	1.108	0.026	0.78			1.66	0.02	#7	0.58		

15.4 Product specific 10g SAR Exposure Conditions

WWAN Band		Exposure Position	1	2	1+2		
			WWAN	5GHz WLAN	Summed 10g SAR (W/kg)	SPLSR	Case No
			10g SAR (W/kg)	10g SAR (W/kg)			
GSM	GSM1900	Front	2.945	0.416	3.36		
		Back	1.694	1.462	3.16		
		Bottom Side	2.140		2.14		
WCDMA	Band V	Front	1.751	0.416	2.17		
	Band IV	Front	1.727	0.416	2.14		
		Back	0.888	1.462	2.35		
		Bottom Side	2.329		2.33		
	Band II	Front	2.568	0.416	2.98		
		Back	1.495	1.462	2.96		
		Bottom Side	2.308		2.31		
CDMA2000	BC1	Front	3.069	0.416	3.49		
		Back	1.672	1.462	3.13		
		Bottom Side	2.892		2.89		
LTE	Band 26	Front	1.578	0.416	1.99		
	Band 66	Front	1.986	0.416	2.40		
		Back	0.800	1.462	2.26		
		Bottom Side	2.364		2.36		
	Band 25	Front	2.763	0.416	3.18		
		Back	1.461	1.462	2.92		
		Bottom Side	2.601		2.60		
	Band 30	Front	3.219	0.416	3.64		
		Back	2.660	1.462	4.12	0.07	#9
		Bottom Side	1.905		1.91		
	Band 7	Front	3.220	0.416	3.64		
		Back	3.203	1.462	4.67	0.07	#10
		Bottom Side	1.585		1.59		
	Band 41	Front	3.069	0.416	3.49		
		Back	2.403	1.462	3.87		
		Bottom Side	1.394		1.39		

Remark:

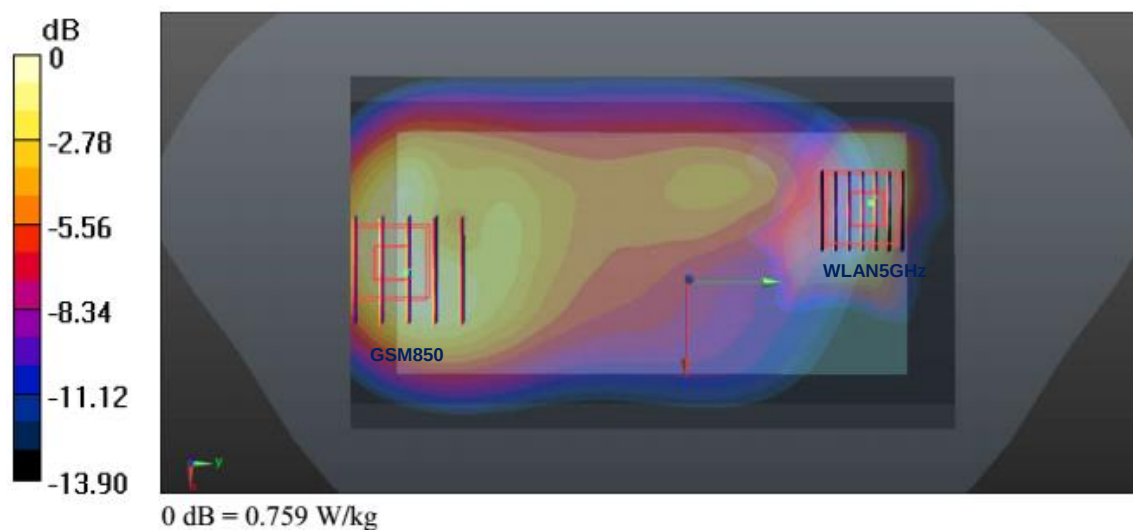
1. For Bluetooth/WLAN 2.4GHz Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.
2. SPLSR ≤ 0.10 for 10g SAR, simultaneously transmission SAR measurement is not necessary.

15.5 SPLSR Evaluation and Analysis

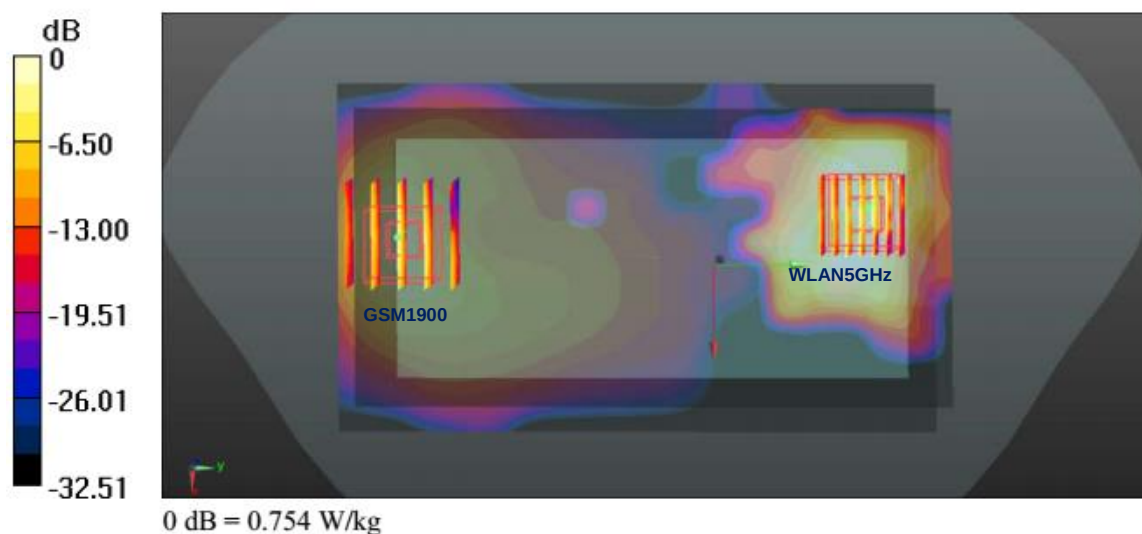
General Note:

- When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
- $SPLSR = (SAR_1 + SAR_2)^{1.5} / (\text{min. separation distance, mm})$. If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.

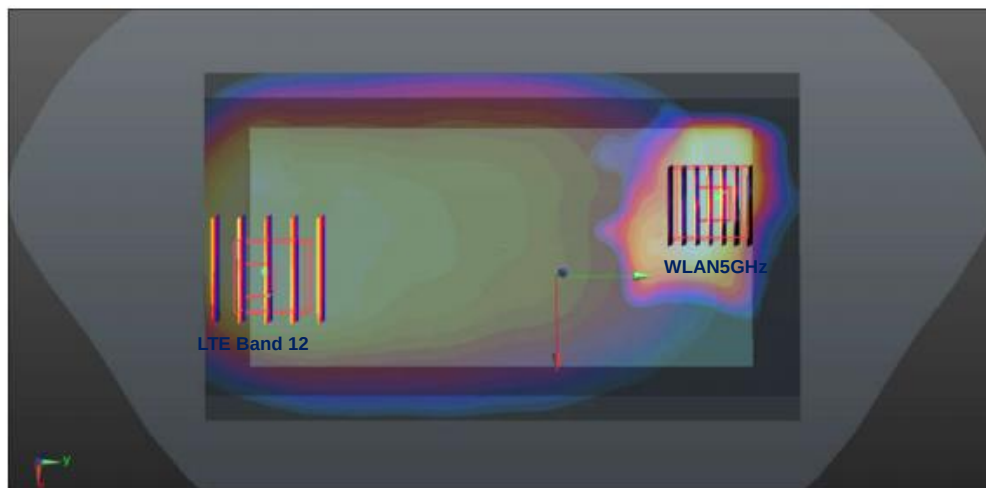
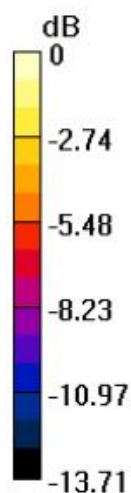
Case #1	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM850	Back	0.611	5	-0.011	-0.0735	-0.205	140.7	1.72	0.02	Not required
	WLAN5GHz		1.108	5	-0.029	0.066	-0.205				



Case #2	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM1900	Back	0.608	5	-0.023	-0.077	-0.205	143.1	1.72	0.02	Not required
	WLAN5GHz		1.108	5	-0.029	0.066	-0.205				

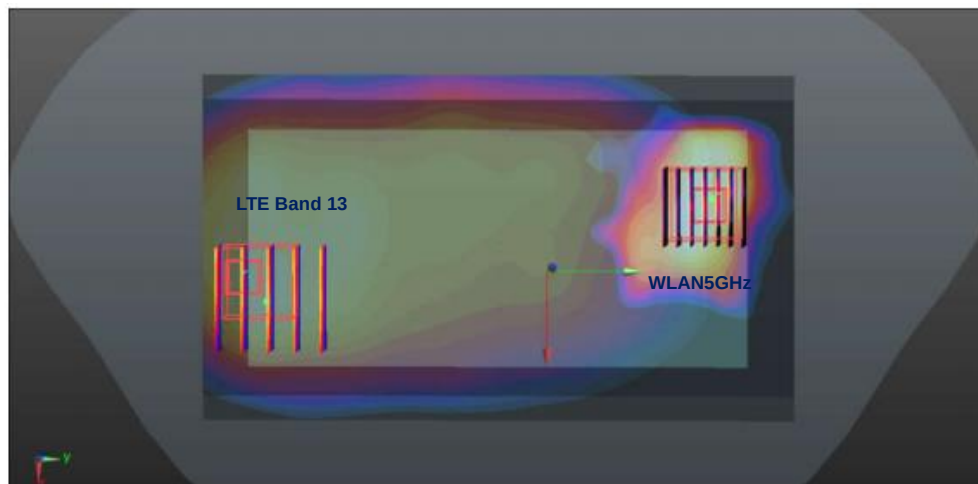
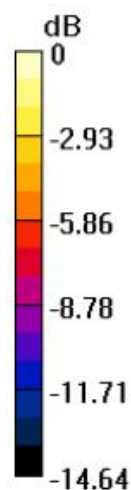


Case #3	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 12	Back	0.495	5	-0.0085	-0.0526	-0.205	120.4	1.60	0.02	Not required
	WLAN5GHz		1.108	5	-0.029	0.066	-0.205				



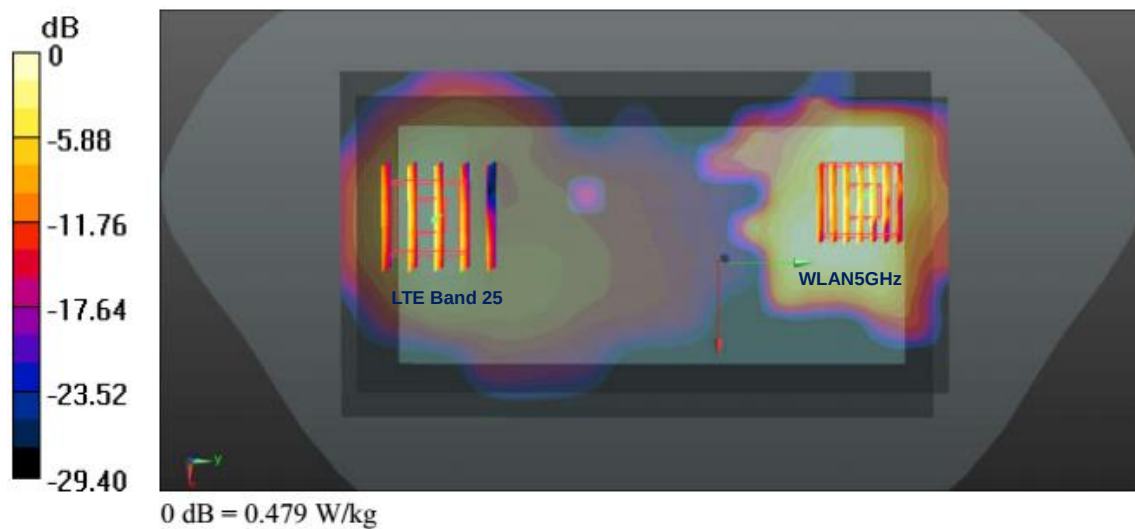
0 dB = 0.648 W/kg

Case #4	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 13	Back	0.639	5	-0.0085	-0.0785	-0.205	145.9	1.75	0.02	Not required
	WLAN5GHz		1.108	5	-0.029	0.066	-0.205				

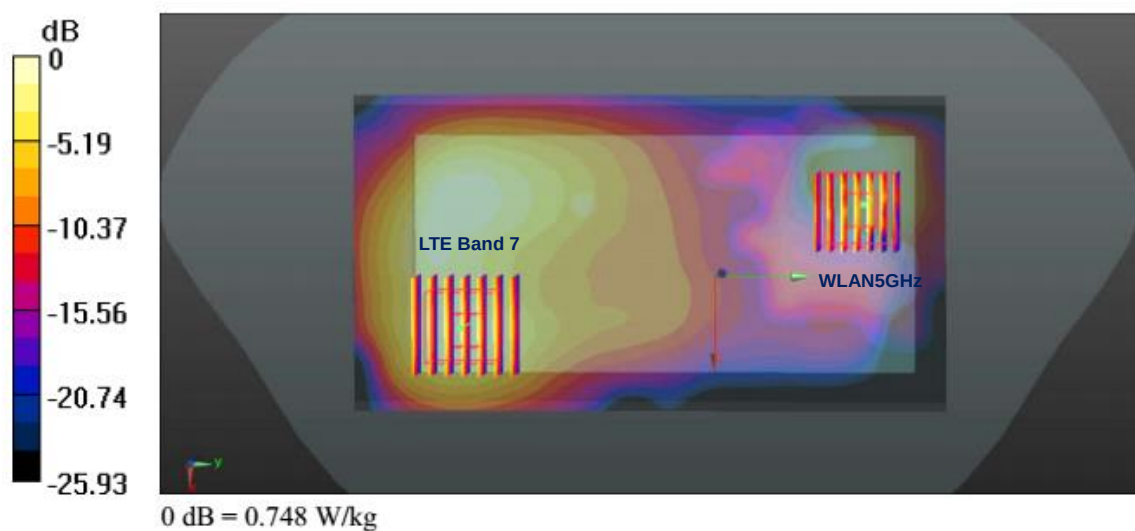


0 dB = 0.820 W/kg

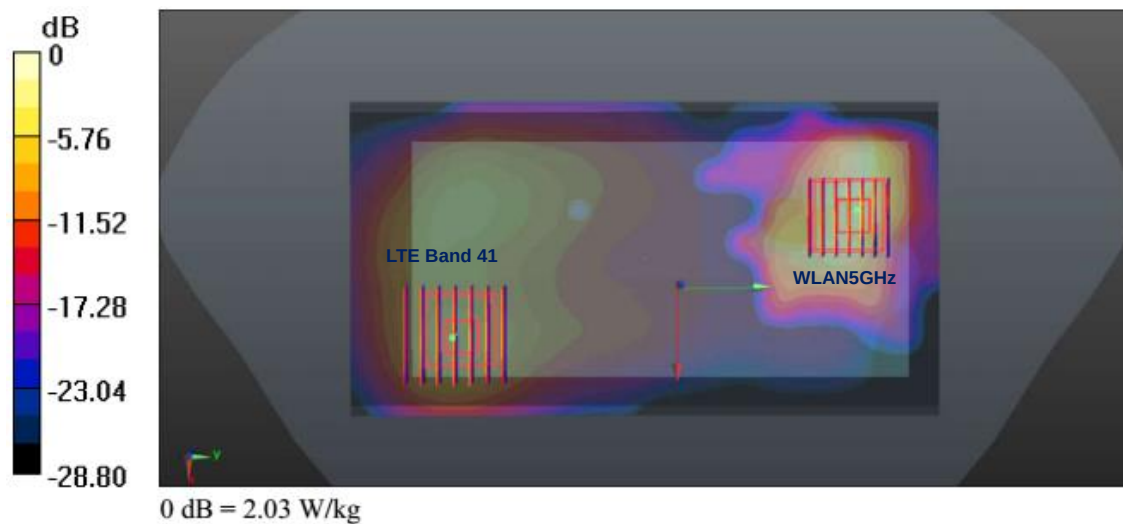
Case #5	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 25	Back	0.494	5	0.0058	-0.0526	-0.205	123.6	1.60	0.02	Not required
	WLAN5GHz		1.108	5	-0.029	0.066	-0.205				



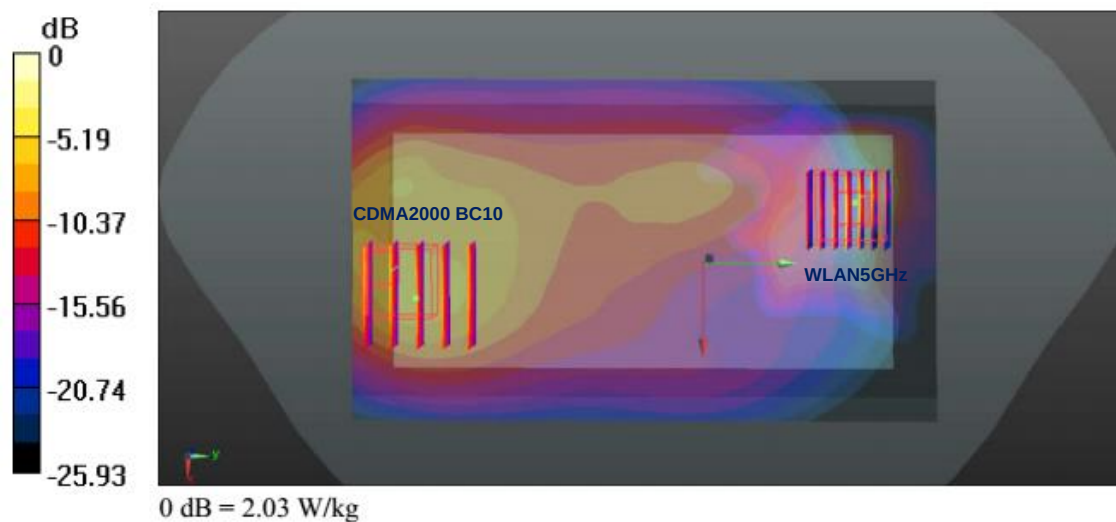
Case #6	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7	Back	0.554	5	0.0058	-0.0576	-0.205	128.4	1.66	0.02	Not required
	WLAN5GHz		1.108	5	-0.029	0.066	-0.205				



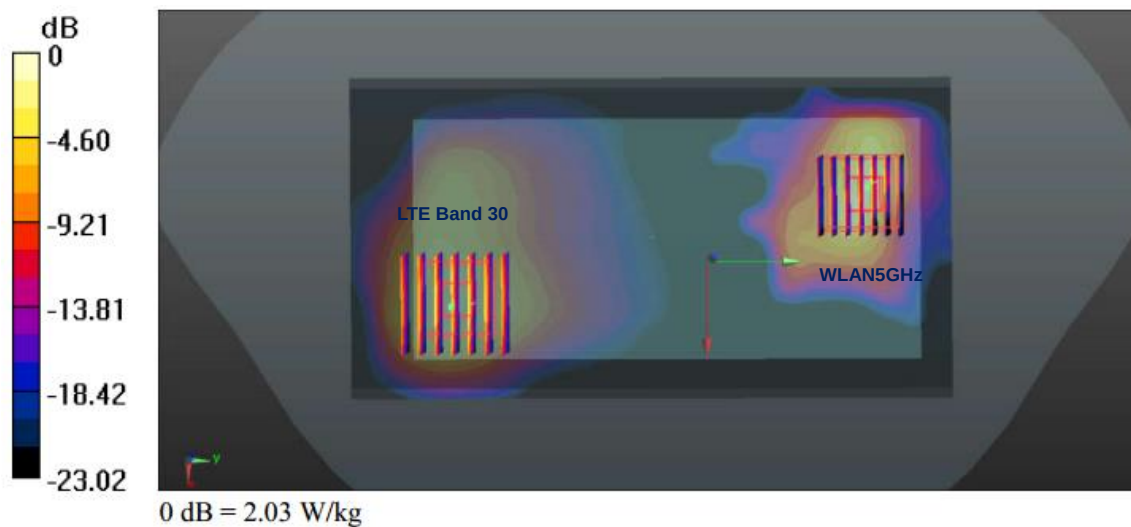
Case #7	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Back	0.550	5	0.007	-0.0588	-0.204	129.9	1.66	0.02	Not required
	WLAN5GHz		1.108	5	-0.029	0.066	-0.205				



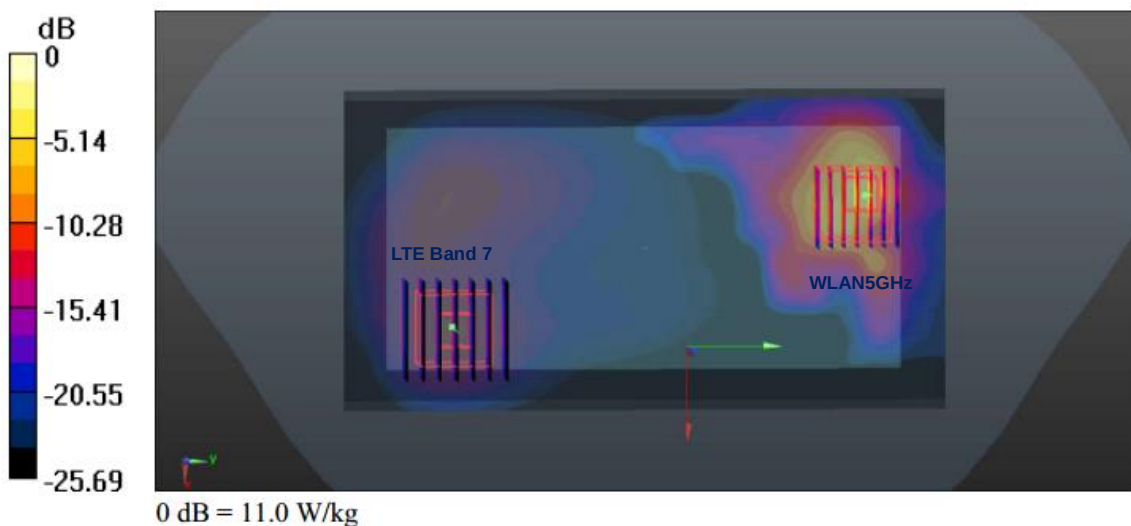
Case #8	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC10	Back	0.494	5	0.0058	-0.0526	-0.205	123.6	1.60	0.02	Not required
	WLAN5GHz		1.108	5	-0.029	0.066	-0.205				



Case #9	Band	Position	10g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 10g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 30	Back	2.660	0	0.0034	-0.055	-0.205	127.6	4.12	0.07	Not required
	WLAN5GHz		1.462	0	-0.034	0.067	-0.205				



Case #10	Band	Position	10g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed 10g SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7	Back	3.203	0	-0.032	-0.0875	-0.205	154.5	4.67	0.07	Not required
	WLAN5GHz		1.462	0	-0.034	0.067	-0.205				



Test Engineer : Weilong Chen

16. Uncertainty Assessment

The component of uncertainty may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainty by the statistical analysis of a series of observations is termed a Type A evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor ^(a)	$1/k^{(b)}$	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) k is the coverage factor

Table 16.1. Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
Measurement System							
Probe Calibration	6.0	N	1	1	1	6.0	6.0
Axial Isotropy	4.7	R	1.732	0.7	0.7	1.9	1.9
Hemispherical Isotropy	9.6	R	1.732	0.7	0.7	3.9	3.9
Boundary Effects	1.0	R	1.732	1	1	0.6	0.6
Linearity	4.7	R	1.732	1	1	2.7	2.7
System Detection Limits	1.0	R	1.732	1	1	0.6	0.6
Modulation Response	3.2	R	1.732	1	1	1.8	1.8
Readout Electronics	0.3	N	1	1	1	0.3	0.3
Response Time	0.0	R	1.732	1	1	0.0	0.0
Integration Time	2.6	R	1.732	1	1	1.5	1.5
RF Ambient Noise	3.0	R	1.732	1	1	1.7	1.7
RF Ambient Reflections	3.0	R	1.732	1	1	1.7	1.7
Probe Positioner	0.4	R	1.732	1	1	0.2	0.2
Probe Positioning	2.9	R	1.732	1	1	1.7	1.7
Max. SAR Eval.	2.0	R	1.732	1	1	1.2	1.2
Test Sample Related							
Device Positioning	3.0	N	1	1	1	3.0	3.0
Device Holder	3.6	N	1	1	1	3.6	3.6
Power Drift	5.0	R	1.732	1	1	2.9	2.9
Power Scaling	0.0	R	1.732	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty	6.1	R	1.732	1	1	3.5	3.5
SAR correction	0.0	R	1.732	1	0.84	0.0	0.0
Liquid Conductivity Repeatability	0.2	N	1	0.78	0.71	0.1	0.1
Liquid Conductivity (target)	5.0	R	1.732	0.78	0.71	2.3	2.0
Liquid Conductivity (mea.)	2.5	R	1.732	0.78	0.71	1.1	1.0
Temp. unc. - Conductivity	3.4	R	1.732	0.78	0.71	1.5	1.4
Liquid Permittivity Repeatability	0.15	N	1	0.23	0.26	0.0	0.0
Liquid Permittivity (target)	5.0	R	1.732	0.23	0.26	0.7	0.8
Liquid Permittivity (mea.)	2.5	R	1.732	0.23	0.26	0.3	0.4
Temp. unc. - Permittivity	0.83	R	1.732	0.23	0.26	0.1	0.1
Combined Std. Uncertainty						11.4%	11.4%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						22.9%	22.7%

Table 16.2. Uncertainty Budget for frequency range 300 MHz to 3 GHz

Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
Measurement System							
Probe Calibration	6.55	N	1	1	1	6.55	6.55
Axial Isotropy	4.7	R	1.732	0.7	0.7	1.9	1.9
Hemispherical Isotropy	9.6	R	1.732	0.7	0.7	3.9	3.9
Boundary Effects	2.0	R	1.732	1	1	1.2	1.2
Linearity	4.7	R	1.732	1	1	2.7	2.7
System Detection Limits	1.0	R	1.732	1	1	0.6	0.6
Modulation Response	3.2	R	1.732	1	1	1.8	1.8
Readout Electronics	0.3	N	1	1	1	0.3	0.3
Response Time	0.0	R	1.732	1	1	0.0	0.0
Integration Time	2.6	R	1.732	1	1	1.5	1.5
RF Ambient Noise	3.0	R	1.732	1	1	1.7	1.7
RF Ambient Reflections	3.0	R	1.732	1	1	1.7	1.7
Probe Positioner	0.4	R	1.732	1	1	0.2	0.2
Probe Positioning	6.7	R	1.732	1	1	3.9	3.9
Max. SAR Eval.	4.0	R	1.732	1	1	2.3	2.3
Test Sample Related							
Device Positioning	3.0	N	1	1	1	3.0	3.0
Device Holder	3.6	N	1	1	1	3.6	3.6
Power Drift	5.0	R	1.732	1	1	2.9	2.9
Power Scaling	0.0	R	1.732	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty	6.6	R	1.732	1	1	3.8	3.8
SAR correction	0.0	R	1.732	1	0.84	0.0	0.0
Liquid Conductivity Repeatability	0.2	N	1	0.78	0.71	0.1	0.1
Liquid Conductivity (target)	5.0	R	1.732	0.78	0.71	2.3	2.0
Liquid Conductivity (mea.)	2.5	R	1.732	0.78	0.71	1.1	1.0
Temp. unc. - Conductivity	3.4	R	1.732	0.78	0.71	1.5	1.4
Liquid Permittivity Repeatability	0.15	N	1	0.23	0.26	0.0	0.0
Liquid Permittivity (target)	5.0	R	1.732	0.23	0.26	0.7	0.8
Liquid Permittivity (mea.)	2.5	R	1.732	0.23	0.26	0.3	0.4
Temp. unc. - Permittivity	0.83	R	1.732	0.23	0.26	0.1	0.1
Combined Std. Uncertainty						12.5%	12.5%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						25.0%	24.9%

Table 16.3. Uncertainty Budget for frequency range 3 GHz to 6 GHz

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 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [6] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.
- [7] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [8] FCC KDB 648474 D04 v01r03, "SAR Evaluation Considerations for Wireless Handsets", Oct 2015.
- [9] FCC KDB 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [10] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [11] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [12] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [13] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.



Appendix A. Plots of System Performance Check

The plots are shown as follows.

System Check_Head_750MHz_180331**DUT: D750V3-SN:1099**

Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium: HSL_750_180331 Medium parameters used: $f = 750$ MHz; $\sigma = 0.881$ S/m; $\epsilon_r = 40.783$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3911; ConvF(11.04, 11.04, 11.04); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.54 W/kg

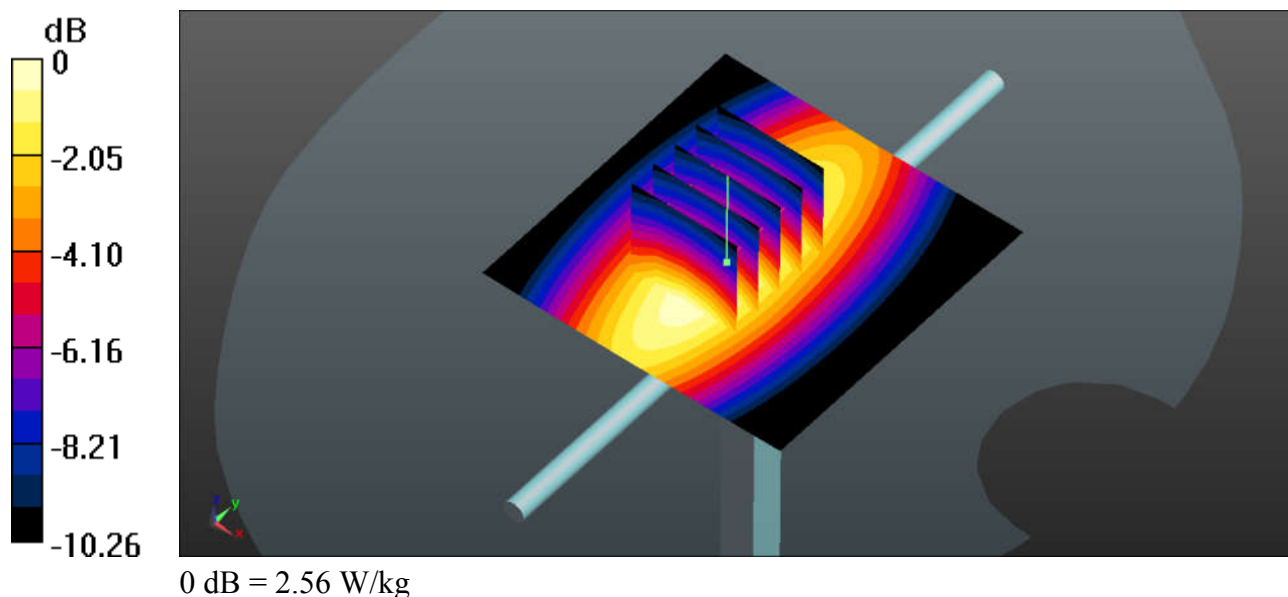
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.88 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 2.98 W/kg

SAR(1 g) = 2.03 W/kg; SAR(10 g) = 1.34 W/kg

Maximum value of SAR (measured) = 2.56 W/kg



System Check_Head_835MHz_180331**DUT: D835V2-SN:4d162**

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL_835_180331 Medium parameters used: $f = 835$ MHz; $\sigma = 0.914$ S/m; $\epsilon_r = 41.826$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3911; ConvF(10.3, 10.3, 10.3); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 3.12 W/kg

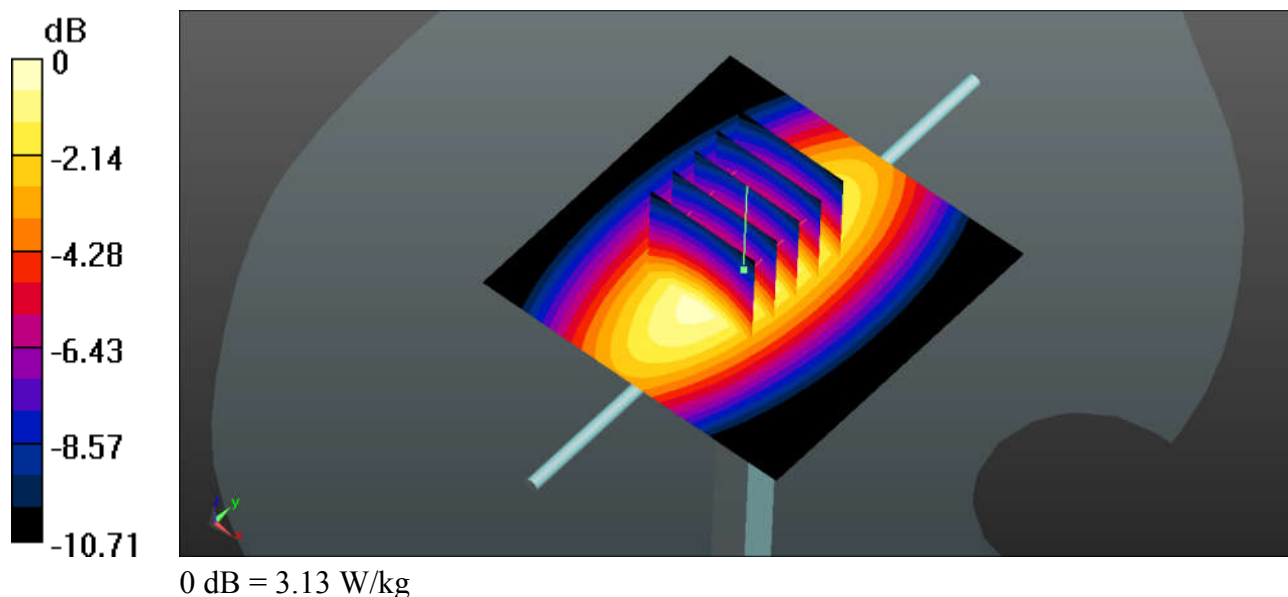
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 59.54 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.47 W/kg; SAR(10 g) = 1.62 W/kg

Maximum value of SAR (measured) = 3.13 W/kg



System Check_Head_1750MHz_180330**DUT: D1750V2-SN:1137**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: HSL_1750_180330 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.382$ S/m; $\epsilon_r = 41.56$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3911; ConvF(8.61, 8.61, 8.61); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 13.2 W/kg

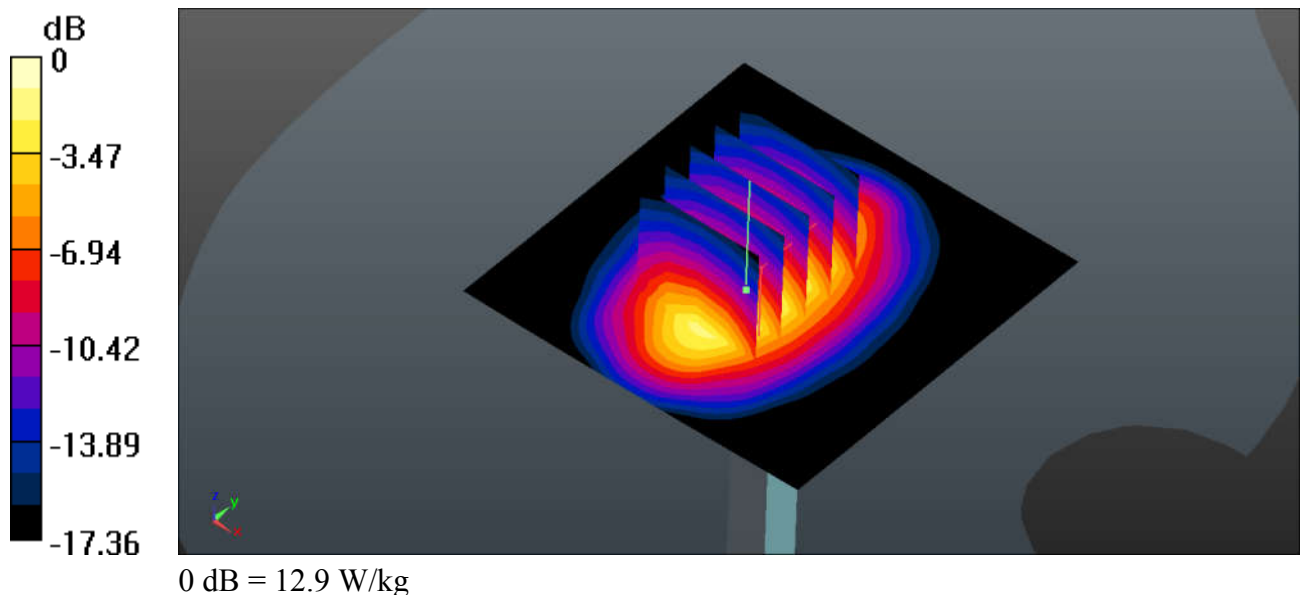
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 96.37 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 16.4 W/kg

SAR(1 g) = 9.06 W/kg; SAR(10 g) = 4.8 W/kg

Maximum value of SAR (measured) = 12.9 W/kg



System Check_Head_1900MHz_180330**DUT: D1900V2-SN:5d182**

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL_1900_180330 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.417$ S/m; $\epsilon_r = 40.994$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3911; ConvF(8.31, 8.31, 8.31); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 13.9 W/kg

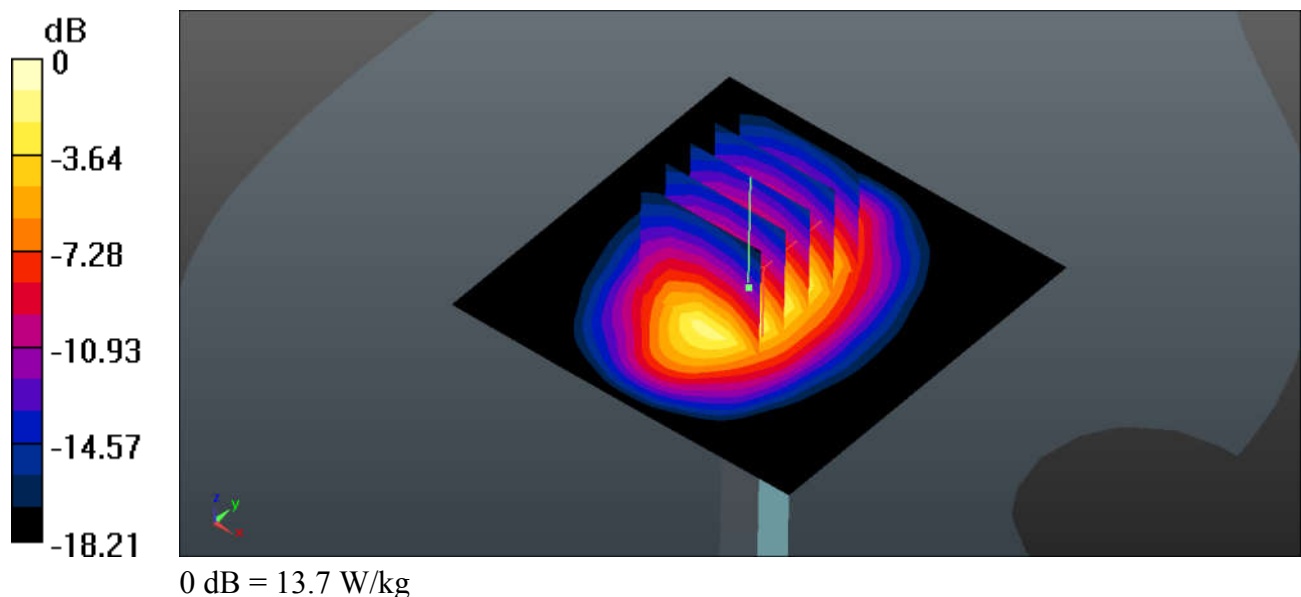
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 100.2 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 17.7 W/kg

SAR(1 g) = 9.63 W/kg; SAR(10 g) = 5 W/kg

Maximum value of SAR (measured) = 13.7 W/kg



System Check_Head_2300MHz_180331**DUT: D2300V2-SN:1056**

Communication System: UID 0, CW ; Frequency: 2300 MHz;Duty Cycle: 1:1

Medium: HSL_2300_180331 Medium parameters used: $f = 2300$ MHz; $\sigma = 1.687$ S/m; $\epsilon_r = 38.801$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3911; ConvF(7.86, 7.86, 7.86); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 18.2 W/kg

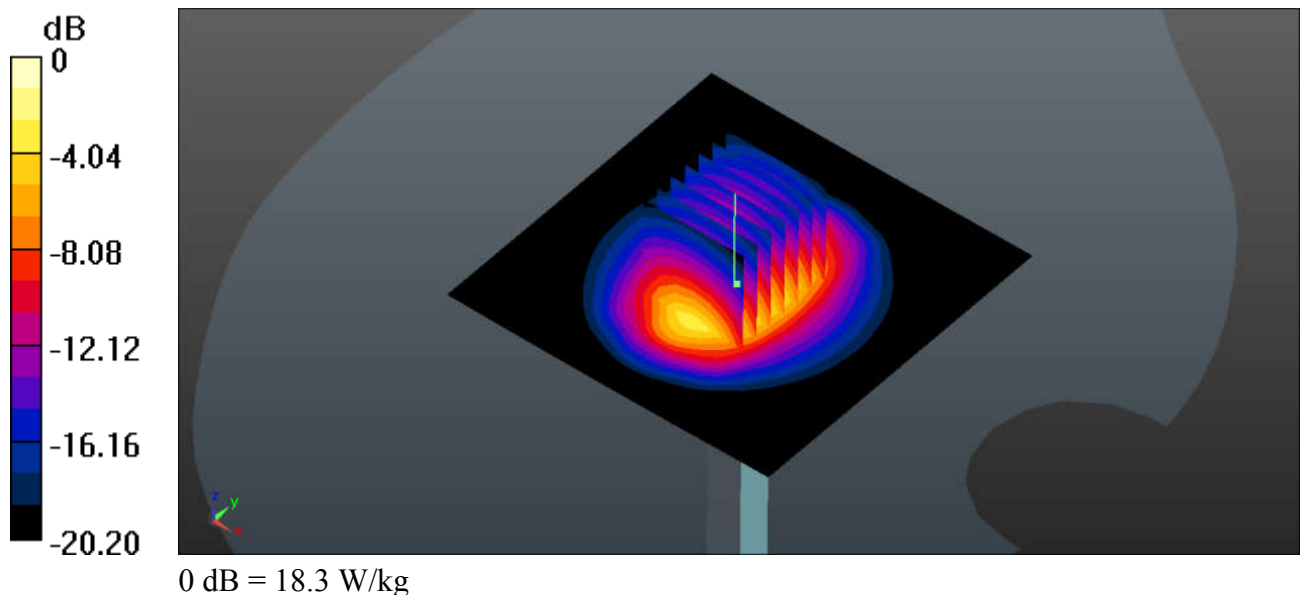
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.1 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 24.0 W/kg

SAR(1 g) = 12.2 W/kg; SAR(10 g) = 5.92 W/kg

Maximum value of SAR (measured) = 18.3 W/kg



System Check_Head_2450MHz_180501**DUT: D2450V2-SN:924**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL_2450_180501 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.825$ S/m; $\epsilon_r = 39.664$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3911; ConvF(7.53, 7.53, 7.53); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 19.7 W/kg

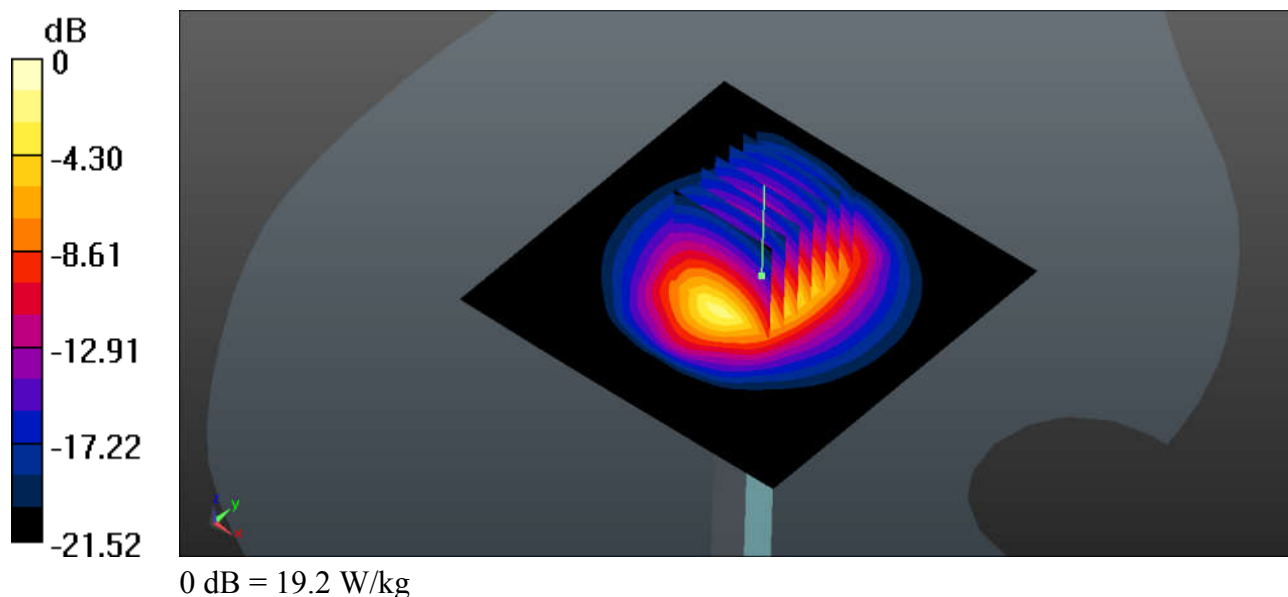
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.52 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 25.7 W/kg

SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.9 W/kg

Maximum value of SAR (measured) = 19.2 W/kg



System Check_Head_2600MHz_180331**DUT: D2600V2-SN:1070**

Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: HSL_2600_180331 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.056$ S/m; $\epsilon_r = 37.575$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3911; ConvF(7.32, 7.32, 7.32); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 21.6 W/kg

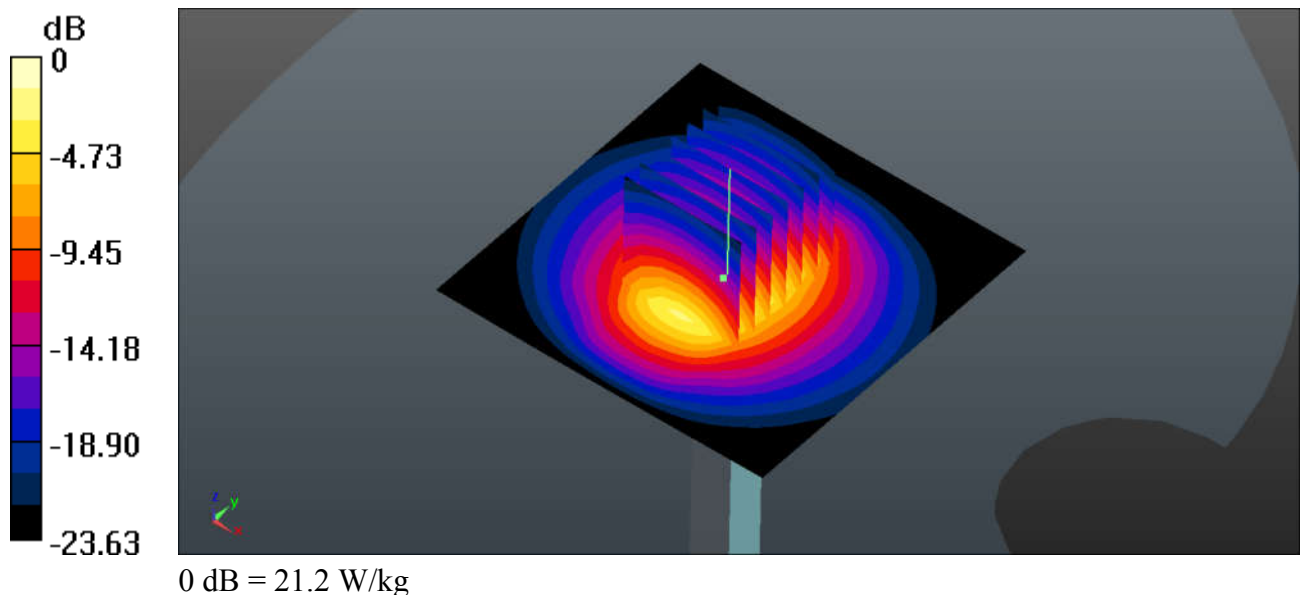
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 102.7 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 29.1 W/kg

SAR(1 g) = 13.6 W/kg; SAR(10 g) = 6.12 W/kg

Maximum value of SAR (measured) = 21.2 W/kg



System Check_Head_5250MHz_180402**DUT: D5GHzV2-SN:1167**

Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: HSL_5250_180402 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.703$ S/m; $\epsilon_r = 36.115$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3911; ConvF(5.25, 5.25, 5.25); Calibrated: 2017.11.28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 15.3 W/kg

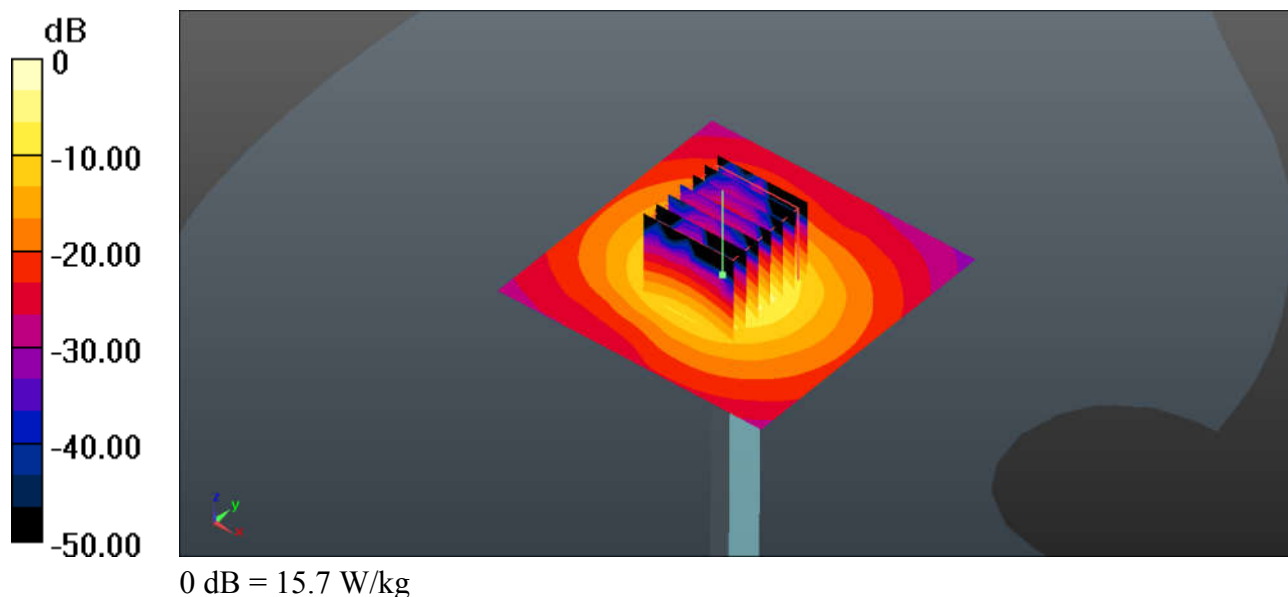
Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 54.96 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 31.7 W/kg

SAR(1 g) = 7.95 W/kg; SAR(10 g) = 2.24 W/kg

Maximum value of SAR (measured) = 15.7 W/kg



System Check_Head_5750MHz_180402**DUT: D5GHzV2-SN:1167**

Communication System: UID 0, CW (0); Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: HSL_5750_180402 Medium parameters used: $f = 5750$ MHz; $\sigma = 5.303$ S/m; $\epsilon_r = 35.218$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3911; ConvF(4.93, 4.93, 4.93); Calibrated: 2017.11.28;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.5 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 52.42 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 32.8 W/kg

SAR(1 g) = 8.09 W/kg; SAR(10 g) = 2.21 W/kg

Maximum value of SAR (measured) = 17.0 W/kg

