FCC SAR Test Report

APPLICANT	**:**	**Motorola Mobility LLC**
EQUIPMENT	**:**	**Mobile Cellular Phone**
BRAND NAME	**:**	**Motorola**
MODEL NAME	**:**	**XT1980-4**
FCC ID	**:**	**IHDT56XS1**
STANDARD	**:**	**FCC 47 CFR Part 2 (2.1093)** **ANSI/IEEE C95.1-1992** **IEEE 1528-2013**

The product was received on Dec. 28, 2018 and testing was started from Jan. 23, 2019 and completed on Feb. 05, 2019. We, Sporton International (Kunshan) Inc, would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in compliance with the applicable technical standards.

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

Mark Qu

Approved by: Mark Qu / Manager

NVLAP TESTING
NVLAP LAB CODE 600155-0

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone,
Jiangsu Province 215335, China

Table of Contents

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA8D2801-01	Rev. 01	Initial issue of report	Mar. 12, 2019

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT1980-4**, 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	0.31	1.40	1.40	1.57
		GSM1900	<0.10	1.37	1.37	
	WCDMA	Band V	0.26	1.42	1.42	
		Band II	0.12	1.37	1.37	
	CDMA2000	BC0	0.28	1.31	1.38	
		BC1	0.14	1.31	1.32	
	LTE	Band 12	0.22	1.32	1.32	
		Band 5	0.24	1.32	1.32	
		Band 13	0.20	1.30	1.42	
		Band 66	0.25	**1.44**	**1.44**	
		Band 2	0.13	1.30	1.30	
		Band 7	0.28	1.38	1.38	
DTS	WLAN	2.4GHz WLAN	0.74	0.25	0.25	1.57
NII		5GHz WLAN	**1.16**	0.55	0.55	1.53
DSS	Bluetooth	2.4GHz Bluetooth	0.22	<0.10	<0.10	1.53

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	GSM850	2.69	3.98
		GSM1900	2.86	
	WCDMA	Band V	2.57	
		Band II	3.02	
	CDMA2000	BC0	2.72	
		BC1	3.35	
	LTE	Band 12	2.18	
		Band 5	3.26	
		Band 13	1.97	
		Band 66	**3.60**	
		Band 2	3.22	
		Band 7	3.34	
NII	WLAN	5GHz WLAN	0.69	3.98
Date of Testing:			2019/1/23 ~ 2019/2/5	
Remark: This device supports LTE B4 and B66. Since the supported frequency span for LTE B4 falls completely within the supports frequency span for LTE B66, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66.				

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 (Kunshan) Inc.
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone, Jiangsu Province 215335, China TEL : 86-512-57900158 FAX : 86-512-57900958

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

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

3. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1980-4
FCC ID	IHDT56XS1
IMEI Code	352157100008640
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 V: 826.4 MHz ~ 846.6 MHz CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 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 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 NFC : 13.56 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/n HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC
HW Version	DVT 2
SW Version	PDF29.58
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, 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, GSM850/1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1, and LTE B2 / B4 / B5 / B7 / B12 / B13 / B66 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 GSM850/1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1 and LTE B2 / B4 / B5 / B7 / B12 / B13 / B66.
8. This device hotspot reduced power and P-sensor reduced power level are the same for GSM850, WCDMA B5, CDMA2000 BC0 and LTE B5 / B7 / B12 / B13. And for other bands are different.
9. For P-sensor reduced power level is higher than hotspot reduced power for GSM1900, WCDMA B2 and LTE B2 / B4 / B66, so for those bands, front/back P-sensor SAR can represent conservatively for front/back hotspot SAR.
10. P-sensor can detect handheld state, GSM1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1 and LTE B2 / B4 / B7 / B66 for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active.
11. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the right side of bottom edge of the device and WWAN antenna 2 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1, LTE B2 / B4 / B5 / B12 / B13 / B66, WWAN antenna 2 frequency bands include LTE B7.
12. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the GSM, WCDMA, CDMA and LTE modes of WWAN antenna 1. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information on section17.

4.2 General LTE SAR Test and Reporting Considerations

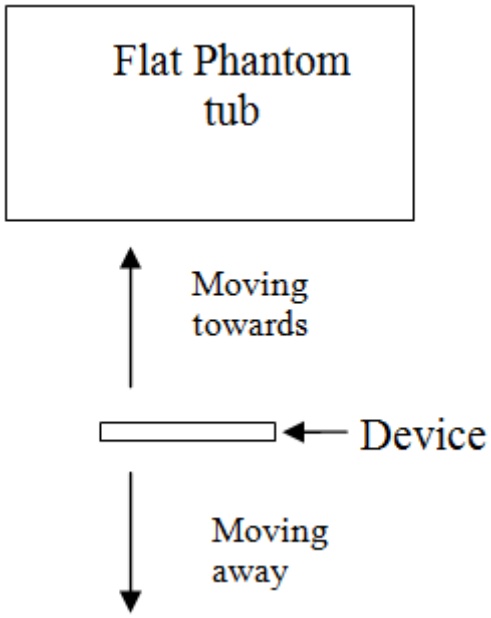
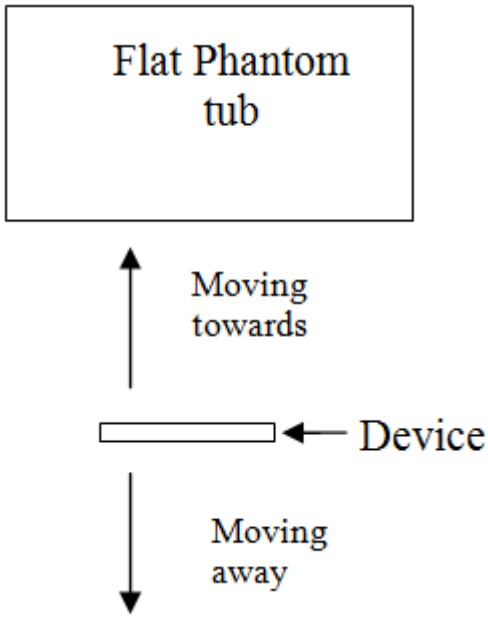
<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r05</th></tr>
<tr><td>FCC ID</td><td>IHDT56XS1</td></tr>
<tr><td>Equipment Name</td><td>Mobile Cellular Phone</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>LTE Band 2: 1850.7 MHz ~ 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 66: 1710.7 MHz ~1779.3 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>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 66: 1.4MHz, 3MHz,5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>Uplink Modulations Used</td><td>QPSK, 16QAM and 64QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R12, Cat13</td></tr>
<tr><td>CA Support</td><td>Yes, Uplink and Downlink</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3
<table>
<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></td></tr>
<tr><td>LTE A-MPR</td><td>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)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>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.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>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 B2 / B4 / B5 / B7 / B12 / B13 / B66 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 B2 / B4 / B5 / B7 / B12 / B13 / B66.
3. P-sensor can detect handheld state, LTE B2 / B4 / B7 / B66 for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active.</td></tr>
<tr><td>LTE Carrier Aggregation Combinations</td><td>Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 13.</td></tr>
<tr><td>LTE Carrier Aggregation Additional Information</td><td>(1) This device supports LTE Carrier Aggregation (CA) in the uplink for CA_5B with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.
(2) This device supports maximum of 3 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.</td></tr>
</table>

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)
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)
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)
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 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. Proximity Sensor Triggering Test

5.1 Proximity sensor triggering distances(Per KDB616217§6.2)

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (2600MHz) and lowest (750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensor placed coincident with antenna elements at the bottom end of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back side surface of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
3. When the sensor is active, GSM850/1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1, and LTE B2 / B4 / B5 / B7 / B12 / B13 / B66 reduced power will be active.
4. The sensors used to detect the proximity of the user's body at the front or back side surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).
5. P-sensor can detect handheld state, GSM1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1 and LTE B2 / B4 / B7 / B66 for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active.

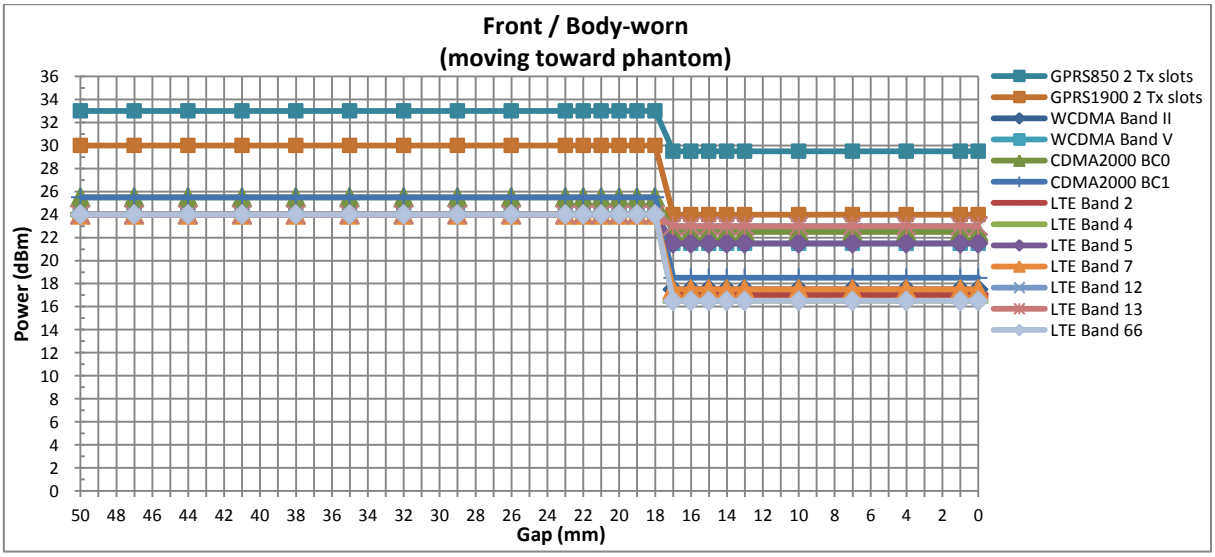
	
Sensor/handheld detection test set-up, front and back faces	handheld detection test set-up, bottom side

<P-Sensor>

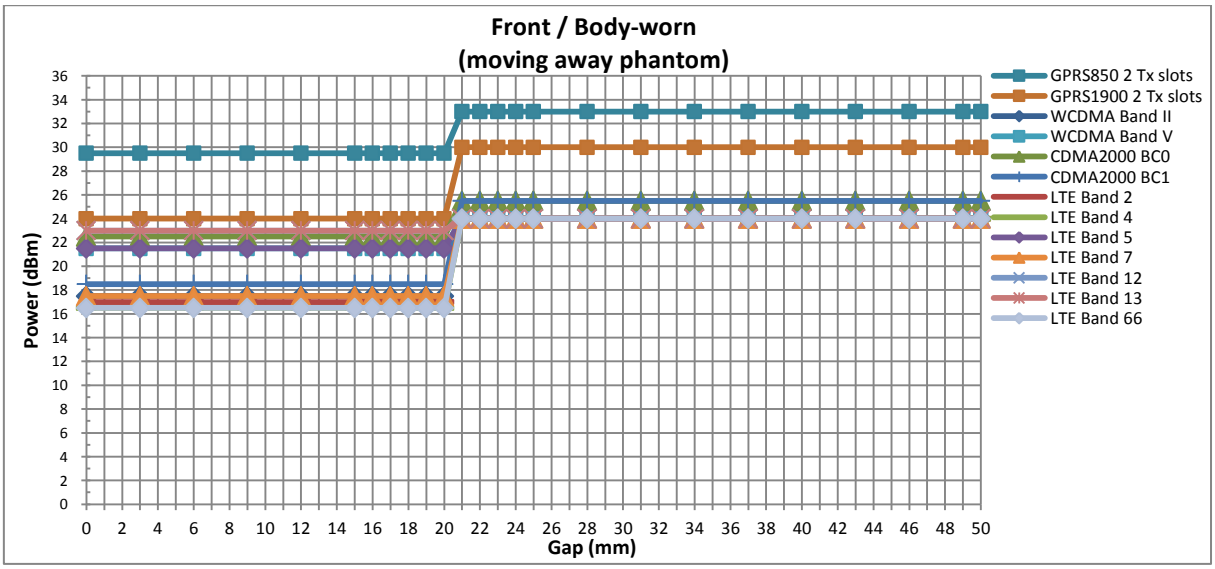
Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	17	20	20	25

TX. Band	Proximity Sensor Triggering Power (dBm)		
	Full	Reduced	Power Reduction (dB)
	Max. Tune Up Limit (dBm)	Max. Tune Up Limit (dBm)	
GSM850 GPRS 2Tx slots	33.00	29.50	3.50
GSM1900 GPRS 2Tx slots	30.00	24.00	6.00
WCDMA Band II	24.00	17.50	6.50
WCDMA Band V	24.00	21.50	2.50
CDMA2000 BC0	25.50	22.50	3.00
CDMA2000 BC1	25.50	18.50	7.00
LTE Band 2	24.00	17.00	7.00
LTE Band 4	24.00	16.50	7.50
LTE Band 5	24.00	21.50	2.50
LTE Band 7	24.00	17.50	6.50
LTE Band 12	24.00	23.00	1.00
LTE Band 13	24.00	23.00	1.00
LTE Band 66	24.00	16.50	7.50

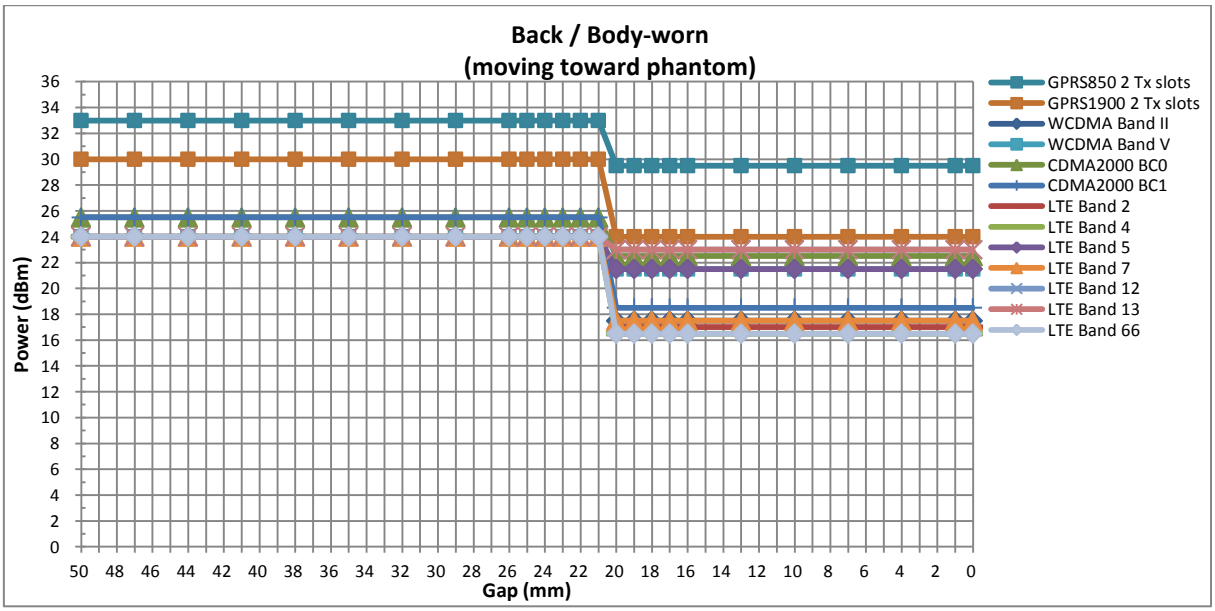
Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																									
Front / Body-worn (moving toward phantom)																									
Distance	50	47	44	41	38	35	32	29	26	23	22	21	20	19	18	17	16	15	14	13	10	7	4	1	0
GSM850 GPRS 2Tx slots	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
GSM1900 GPRS 2Tx slots	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
WCDMA Band II	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
WCDMA Band V	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
CDMA2000 BC0	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
CDMA2000 BC1	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
LTE Band 2	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
LTE Band 4	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
LTE Band 5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band 7	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 12	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
LTE Band 13	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
LTE Band 66	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5



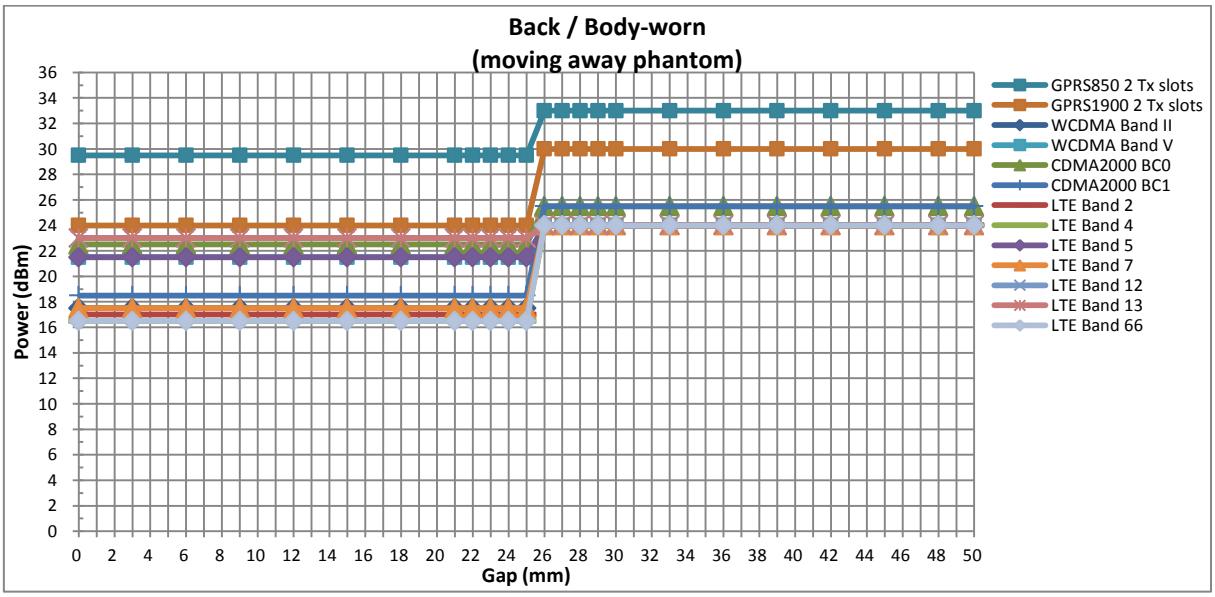
Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																									
Front / Body-worn (moving away phantom)																									
Distance	0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	28	31	34	37	40	43	46	49	50
GSM850 GPRS 2Tx slots	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
GSM1900 GPRS 2Tx slots	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
WCDMA Band II	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
WCDMA Band V	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
CDMA2000 BC0	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
CDMA2000 BC1	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
LTE Band 2	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 4	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 7	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 12	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 13	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 66	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0



Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																									
Back / Body-worn (moving toward phantom)																									
Distance	50	47	44	41	38	35	32	29	26	25	24	23	22	21	20	19	18	17	16	13	10	7	4	1	0
GSM850 GPRS 2Tx slots	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5
GSM1900 GPRS 2Tx slots	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
WCDMA Band II	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
WCDMA Band V	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
CDMA2000 BC0	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
CDMA2000 BC1	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
LTE Band 2	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
LTE Band 4	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
LTE Band 5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
LTE Band 7	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
LTE Band 12	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
LTE Band 13	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
LTE Band 66	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5



Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																								
Back / Body-worn (moving away phantom)																								
Distance	0	3	6	9	12	15	18	21	22	23	24	25	26	27	28	29	30	33	36	39	42	45	48	50
GSM850 GPRS 2Tx slots	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	29.5	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
GSM1900 GPRS 2Tx slots	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
WCDMA Band II	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
WCDMA Band V	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
CDMA2000 BC0	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
CDMA2000 BC1	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
LTE Band 2	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 4	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 7	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 12	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 13	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 66	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0

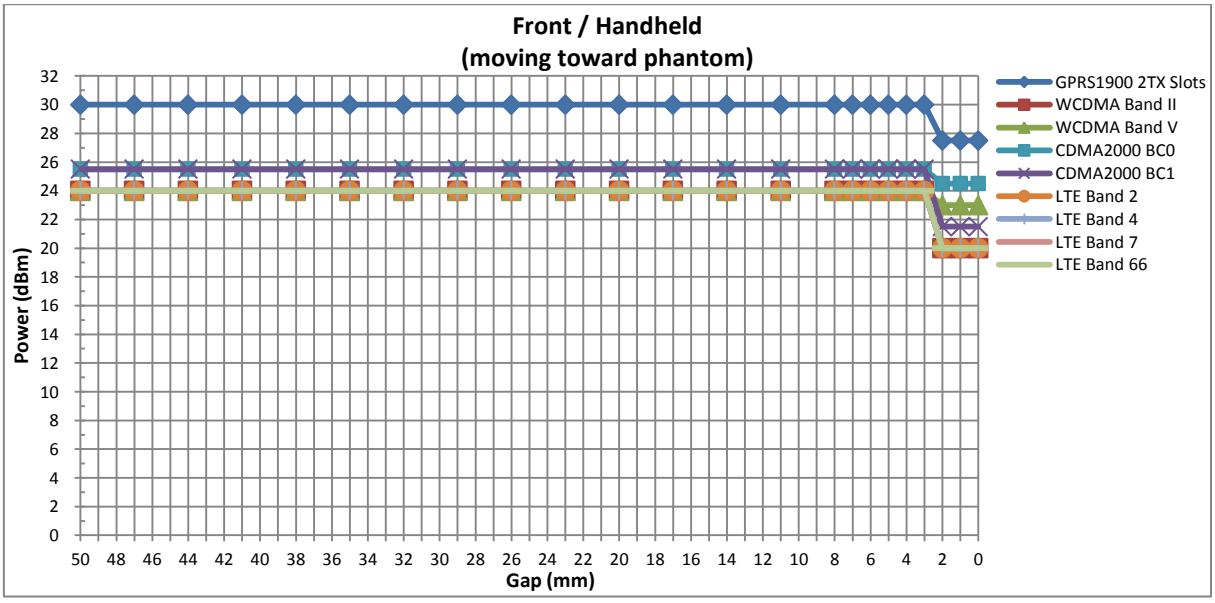


<Handheld>

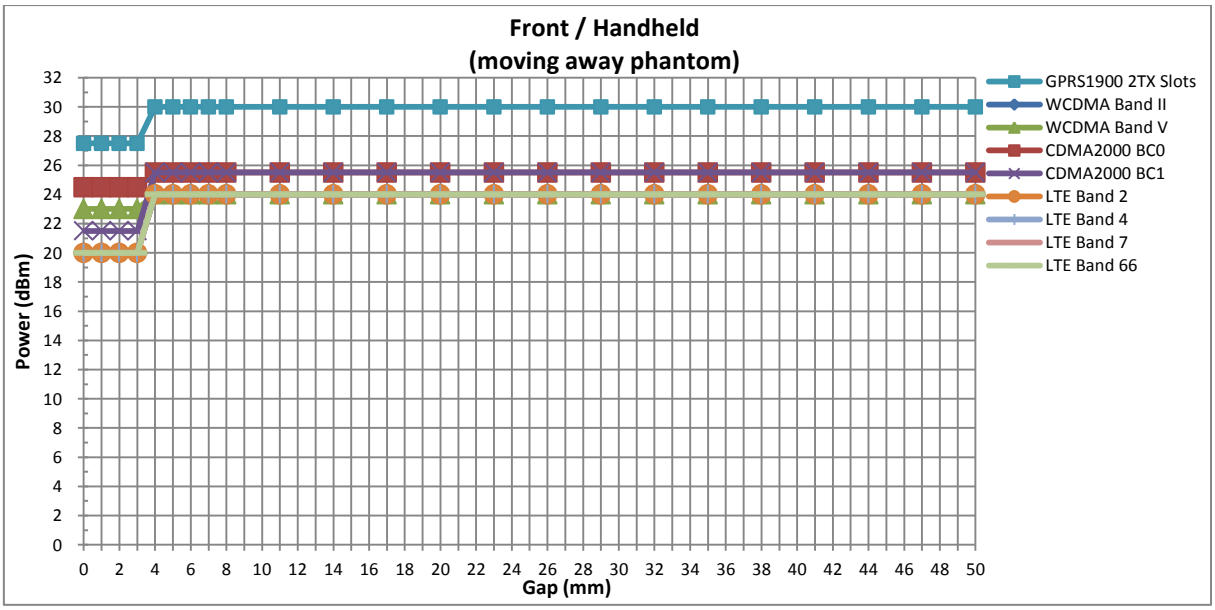
Handheld Triggering Distance (mm)						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	2	3	3	4	4	4

TX. Band	Handheld Triggering Power (dBm)		
	Full	Reduced	Power Reduction (dB)
	Max. Tune Up Limit (dBm)	Max. Tune Up Limit (dBm)	
GSM1900 GPRS 2Tx slots	30.00	27.50	2.50
WCDMA Band II	24.00	20.00	4.00
WCDMA Band V	24.00	23.00	1.00
CDMA2000 BC0	25.50	24.50	1.00
CDMA2000 BC1	25.50	21.50	4.00
LTE Band 2	24.00	20.00	4.00
LTE Band 4	24.00	20.00	4.00
LTE Band 7	24.00	20.00	4.00
LTE Band 66	24.00	20.00	4.00

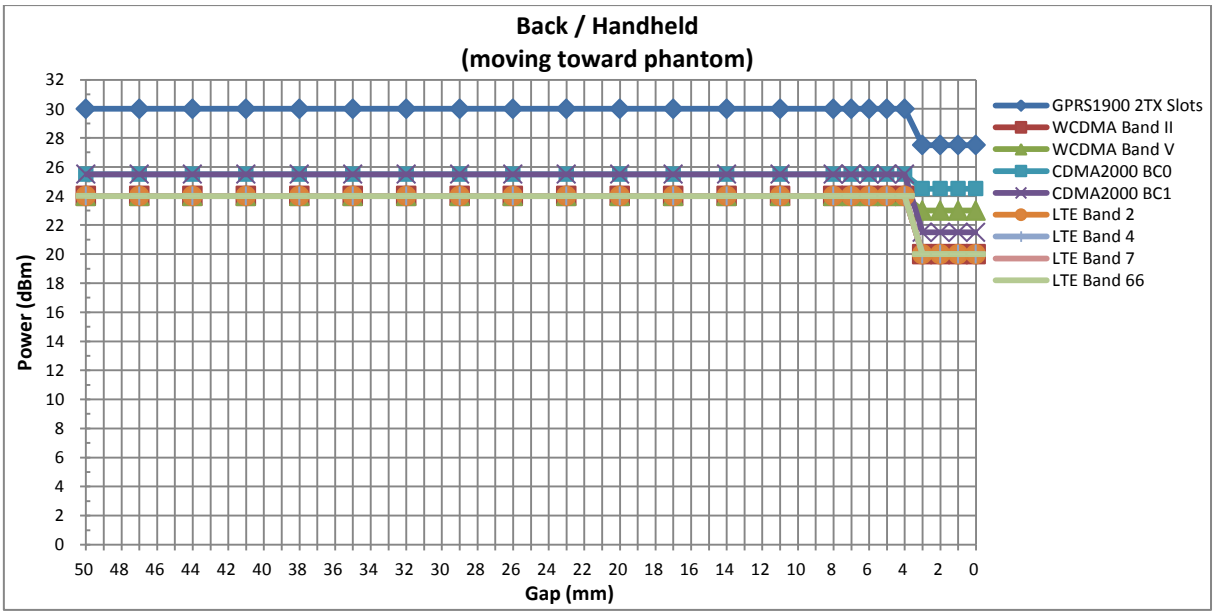
Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																							
Front / Handheld (moving toward phantom)																							
Distance	50	47	44	41	38	35	32	29	26	23	20	17	14	11	8	7	6	5	4	3	2	1	0
GSM1900 GPRS 4Tx slots	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	27.5	27.5	27.5
WCDMA Band II	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0
WCDMA Band IV	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0
CDMA2000 BC0	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	24.5	24.5	24.5
CDMA2000 BC1	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	21.5	21.5	21.5
LTE Band 2	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0
LTE Band 4	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0
LTE Band 7	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0
LTE Band 66	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0



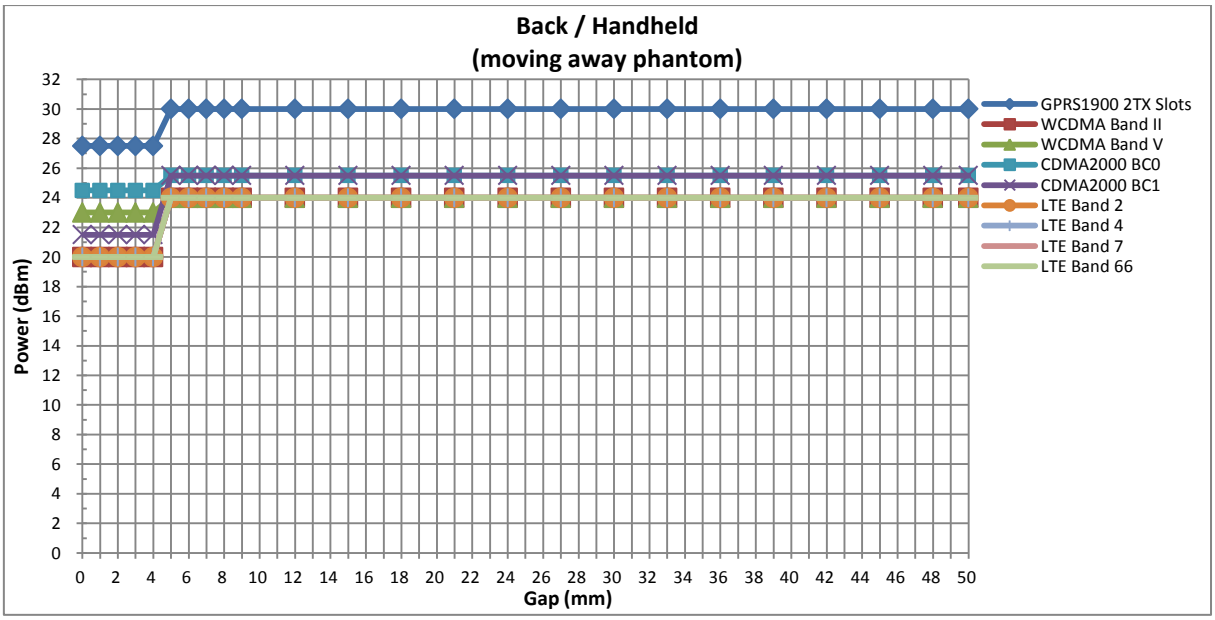
Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																							
Front / Handheld (moving away phantom)																							
Distance	0	1	2	3	4	5	6	7	8	11	14	17	20	23	26	29	32	35	38	41	44	47	50
GSM1900 GPRS 4Tx slots	27.5	27.5	27.5	27.5	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
WCDMA Band II	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
WCDMA Band IV	23.0	23.0	23.0	23.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
CDMA2000 BC0	24.5	24.5	24.5	24.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
CDMA2000 BC1	21.5	21.5	21.5	21.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
LTE Band 2	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 4	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 7	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 66	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0



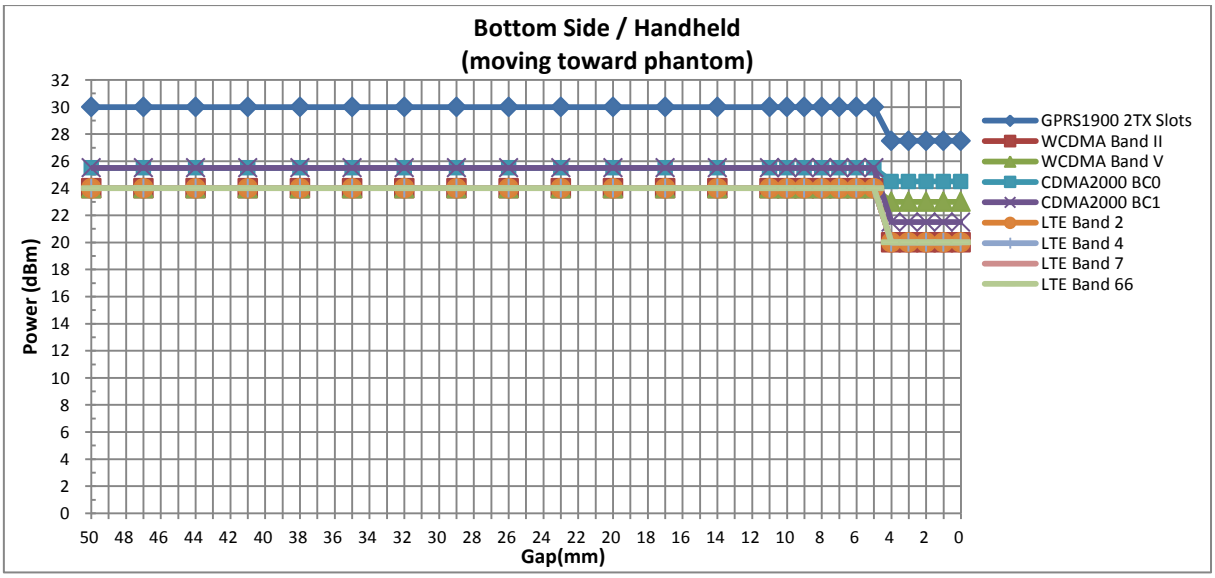
Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																							
Back / Handheld (moving toward phantom)																							
Distance	50	47	44	41	38	35	32	29	26	23	20	17	14	11	8	7	6	5	4	3	2	1	0
GSM1900 GPRS 4Tx slots	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	27.5	27.5	27.5	27.5
WCDMA Band II	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0
WCDMA Band IV	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0
CDMA2000 BC0	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	24.5	24.5	24.5	24.5
CDMA2000 BC1	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	21.5	21.5	21.5	21.5
LTE Band 2	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0
LTE Band 4	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0
LTE Band 7	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0
LTE Band 66	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0



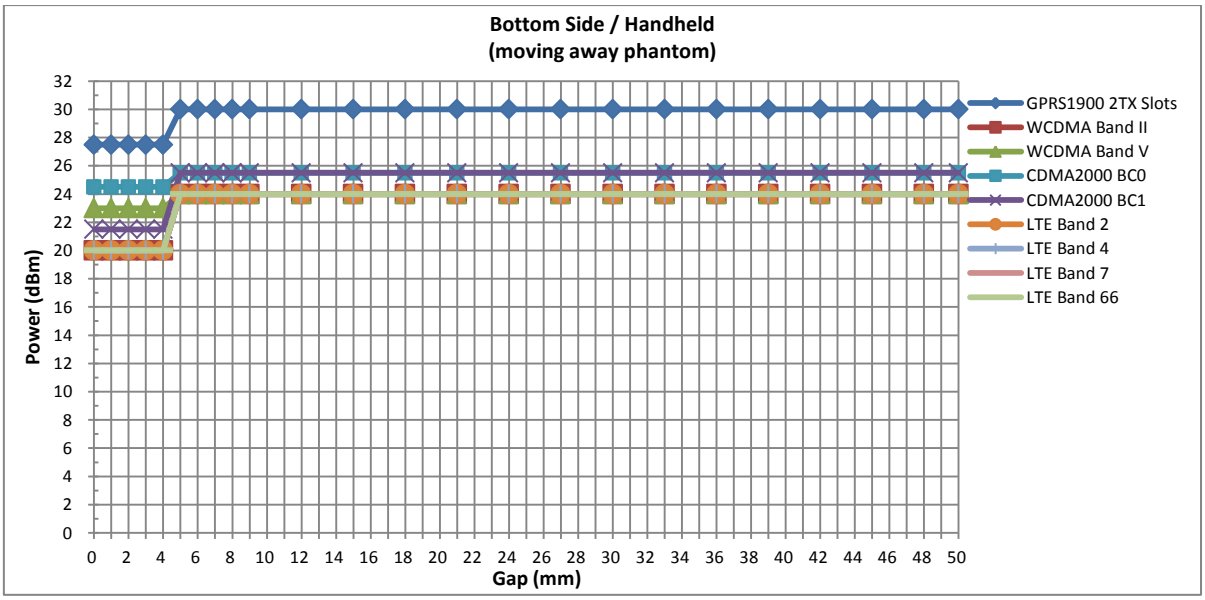
Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																								
Back / Handheld (moving away phantom)																								
Distance	0	1	2	3	4	5	6	7	8	9	12	15	18	21	24	27	30	33	36	39	42	45	48	50
GSM1900 GPRS 4Tx slots	27.5	27.5	27.5	27.5	27.5	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
WCDMA Band II	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
WCDMA Band IV	23.0	23.0	23.0	23.0	23.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
CDMA2000 BC0	24.5	24.5	24.5	24.5	24.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
CDMA2000 BC1	21.5	21.5	21.5	21.5	21.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
LTE Band 2	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 4	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 7	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 66	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0



Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																									
Bottom Side / Handheld (moving toward phantom)																									
Distance	50	47	44	41	38	35	32	29	26	23	20	17	14	11	10	9	8	7	6	5	4	3	2	1	0
GSM1900 GPRS 4Tx slots	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	27.5	27.5	27.5	27.5	27.5
WCDMA Band II	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0	20.0
WCDMA Band IV	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	23.0	23.0	23.0	23.0	23.0
CDMA2000 BC0	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	24.5	24.5	24.5	24.5	24.5
CDMA2000 BC1	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	21.5	21.5	21.5	21.5	21.5
LTE Band 2	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0	20.0
LTE Band 4	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0	20.0
LTE Band 7	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0	20.0
LTE Band 66	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	20.0	20.0	20.0	20.0	20.0



Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)																								
Bottom Side / Handheld (moving away phantom)																								
Distance	0	1	2	3	4	5	6	7	8	9	12	15	18	21	24	27	30	33	36	39	42	45	48	50
GSM1900 GPRS 4Tx slots	27.5	27.5	27.5	27.5	27.5	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
WCDMA Band II	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
WCDMA Band IV	23.0	23.0	23.0	23.0	23.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
CDMA2000 BC0	24.5	24.5	24.5	24.5	24.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
CDMA2000 BC1	21.5	21.5	21.5	21.5	21.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
LTE Band 2	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 4	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 7	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 66	20.0	20.0	20.0	20.0	20.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0



6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

7. Specific Absorption Rate (SAR)

7.1 Introduction

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

7.2 SAR Definition

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

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

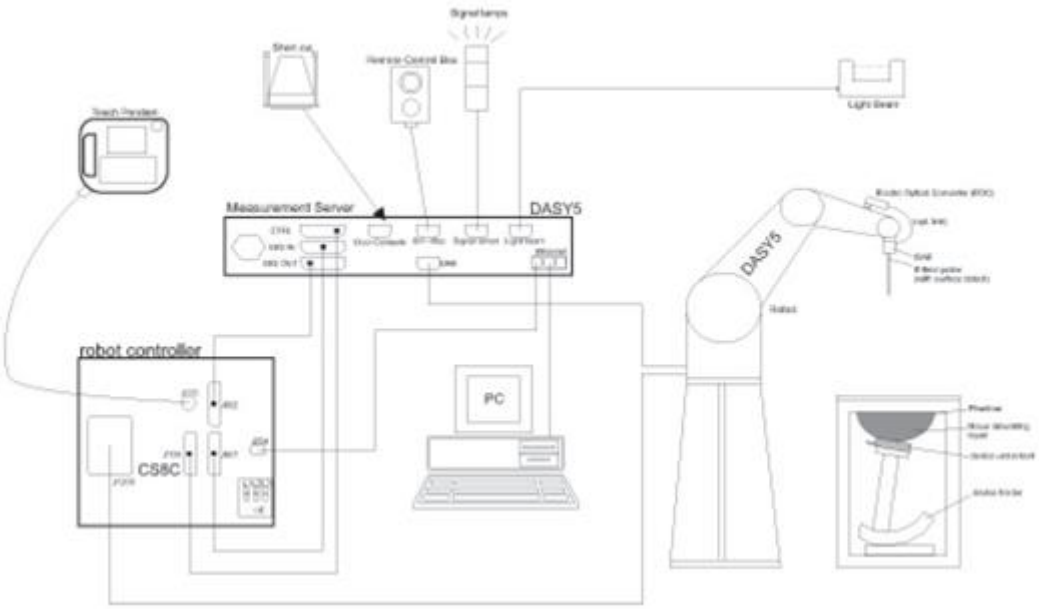
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



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

8.1 E-Field Probe

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

<EX3DV4 Probe>

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

8.2 Data Acquisition Electronics (DAE)

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

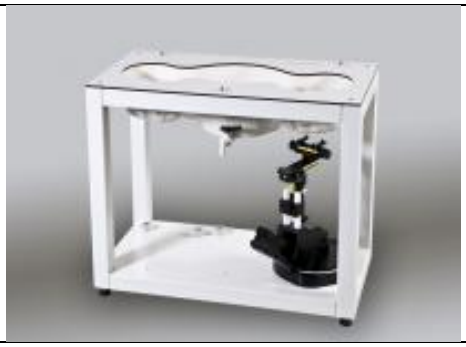
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

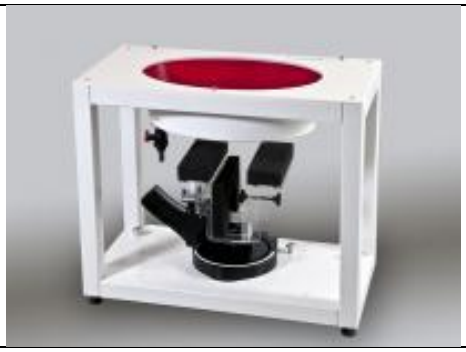
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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

<ELI Phantom>

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



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

8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

9.1 Spatial Peak SAR Evaluation

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

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

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

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

9.2 Power Reference Measurement

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

9.3 Area Scan

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

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ $1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

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

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2018/3/21	2019/3/20
SPEAG	835MHz System Validation Kit	D835V2	4d151	2018/3/26	2019/3/25
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2018/3/23	2019/3/22
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2018/3/25	2019/3/24
SPEAG	2450MHz System Validation Kit	D2450V2	908	2018/3/22	2019/3/21
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2018/12/7	2019/12/6
SPEAG	5000MHz System Validation Kit	D5GHzV2	1006	2018/9/27	2019/9/26
SPEAG	Data Acquisition Electronics	DAE4	1358	2018/4/19	2019/4/18
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	2018/5/31	2019/5/30
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1754	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1839	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201274349	2018/8/16	2019/8/15
Agilent	Wireless Communication Test Set	E5515C	MY52102706	2018/4/17	2019/4/16
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2018/4/17	2019/4/16
SPEAG	Dielectric Probe Kit	DAK-3.5	1138	2018/11/20	2019/11/19
Anritsu	Vector Signal Generator	MG3710A	6201682672	2019/1/14	2020/1/13
R&S	Power Meter	NRVD	102081	2018/8/20	2019/8/19
R&S	Power Sensor	NRV-Z5	100538	2018/8/20	2019/8/19
R&S	Power Sensor	NRV-Z5	100539	2018/8/20	2019/8/19
R&S	CBT BLUETOOTH TESTER	CBT	101641	2019/1/14	2020/1/13
EXA	Spectrum Analyzer	FSV7	101631	2019/1/14	2020/1/13
Testo	Hygrometer	608-H1	1241332126	2018/8/21	2019/8/20
FLUKE	DIGITAC THERMOMETER	51II	97240029	2018/8/8	2019/8/7
ARRA	Power Divider	A3200-2	N/A	Note	
MCL	Attenuation1	BW-S10W5+	N/A	Note	
MCL	Attenuation2	BW-S10W5+	N/A	Note	
MCL	Attenuation3	BW-S10W5+	N/A	Note	
Agilent	Dual Directional Coupler	778D	20500	Note	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note	
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	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.

11. System Verification

11.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.2.

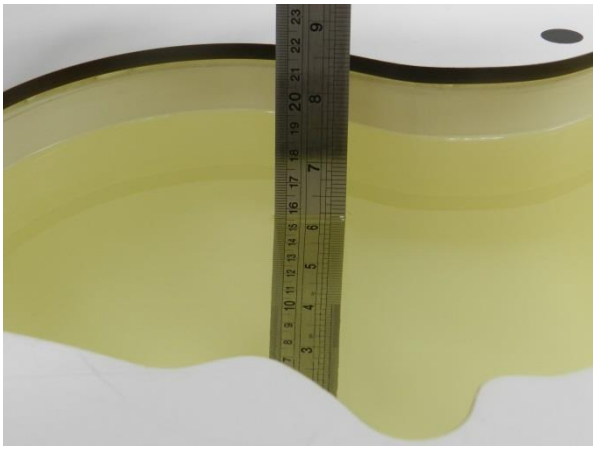


Fig 11.1 Photo of Liquid Height for Head SAR

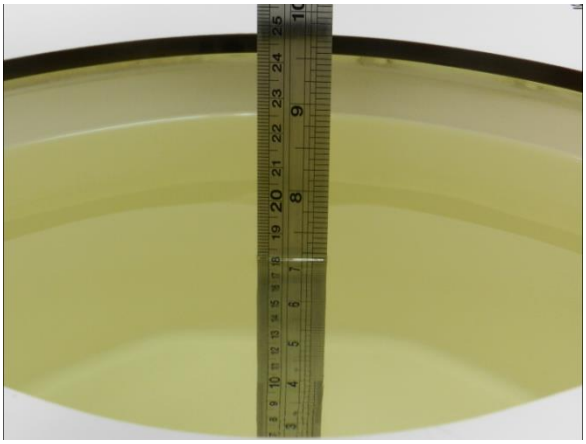


Fig 11.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
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. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.7	0.903	41.772	0.89	41.90	1.46	-0.31	±5	2019/1/25
835	Head	22.8	0.895	40.862	0.90	41.50	-0.56	-1.54	±5	2019/1/26
1750	Head	22.6	1.355	39.596	1.37	40.10	-1.09	-1.26	±5	2019/1/28
1900	Head	22.7	1.402	39.391	1.40	40.00	0.14	-1.52	±5	2019/1/27
2450	Head	22.9	1.854	38.587	1.80	39.20	3.00	-1.56	±5	2019/1/29
2600	Head	22.8	2.053	37.801	1.96	39.00	4.74	-3.07	±5	2019/1/24
5250	Head	22.7	4.629	36.742	4.71	35.90	-1.72	2.35	±5	2019/1/23
5600	Head	22.6	5.038	35.958	5.07	35.50	-0.63	1.29	±5	2019/1/23
5750	Head	22.9	5.219	35.635	5.22	35.40	-0.02	0.66	±5	2019/1/23
750	Body	22.6	0.963	56.779	0.96	55.50	0.31	2.30	±5	2019/1/30
835	Body	22.6	0.976	55.067	0.97	55.20	0.62	-0.24	±5	2019/1/30
1750	Body	22.8	1.457	54.330	1.49	53.40	-2.21	1.74	±5	2019/1/31
1900	Body	22.9	1.539	51.270	1.52	53.30	1.25	-3.81	±5	2019/2/1
2450	Body	22.8	1.990	51.939	1.95	52.70	2.05	-1.44	±5	2019/2/2
2600	Body	22.9	2.201	51.345	2.16	52.50	1.90	-2.20	±5	2019/2/3
5250	Body	22.6	5.350	47.942	5.36	48.90	-0.19	-1.96	±5	2019/2/5
5600	Body	22.8	5.793	47.327	5.77	48.50	0.40	-2.42	±5	2019/2/5
5750	Body	22.9	5.997	47.119	5.94	48.30	0.96	-2.45	±5	2019/2/5

11.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2019/1/25	750	Head	250	1087	3857	1358	2.12	8.25	8.48	2.79
2019/1/26	835	Head	250	4d151	3857	1358	2.42	9.66	9.68	0.21
2019/1/28	1750	Head	250	1090	3857	1358	9.66	37.40	38.64	3.32
2019/1/27	1900	Head	250	5d170	3857	1358	9.32	39.90	37.28	-6.57
2019/1/29	2450	Head	250	908	3857	1358	13.10	51.80	52.40	1.16
2019/1/24	2600	Head	250	1061	3857	1358	13.80	57.70	55.20	-4.33
2019/1/23	5250	Head	100	1006	3857	1358	7.63	80.70	76.30	-5.45
2019/1/23	5600	Head	100	1006	3857	1358	7.74	83.30	77.40	-7.08
2019/1/23	5750	Head	100	1006	3857	1358	7.55	80.40	75.50	-6.09
2019/1/30	750	Body	250	1087	3857	1358	2.08	8.57	8.32	-2.92
2019/1/30	835	Body	250	4d151	3857	1358	2.37	9.58	9.48	-1.04
2019/1/31	1750	Body	250	1090	3857	1358	10.00	37.50	40.00	6.67
2019/2/1	1900	Body	250	5d170	3857	1358	9.58	40.70	38.32	-5.85
2019/2/2	2450	Body	250	908	3857	1358	13.50	50.70	54.00	6.51
2019/2/3	2600	Body	250	1061	3857	1358	14.20	54.20	56.80	4.80
2019/2/5	5250	Body	100	1006	3857	1358	7.28	78.30	72.80	-7.02
2019/2/5	5600	Body	100	1006	3857	1358	7.53	81.00	75.30	-7.04
2019/2/5	5750	Body	100	1006	3857	1358	7.37	77.40	73.70	-4.78

<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 (%)
2019/1/30	750	Body	250	1087	3857	1358	1.51	5.77	6.04	4.68
2019/1/30	835	Body	250	4d151	3857	1358	1.69	6.31	6.76	7.13
2019/1/31	1750	Body	250	1090	3857	1358	5.34	19.90	21.36	7.34
2019/2/1	1900	Body	250	5d170	3857	1358	4.88	20.90	19.52	-6.60
2019/2/3	2600	Body	250	1061	3857	1358	6.46	24.30	25.84	6.34
2019/2/5	5250	Body	100	1006	3857	1358	2.11	21.70	21.1	-2.76
2019/2/5	5600	Body	100	1006	3857	1358	2.25	22.50	22.5	0.00

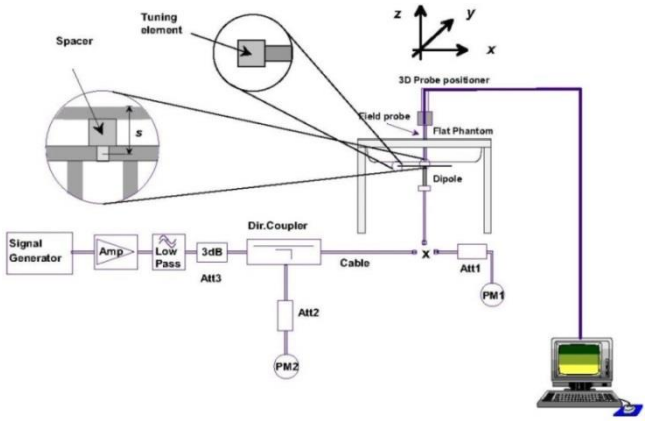


Fig 11.3.1 System Performance Check Setup

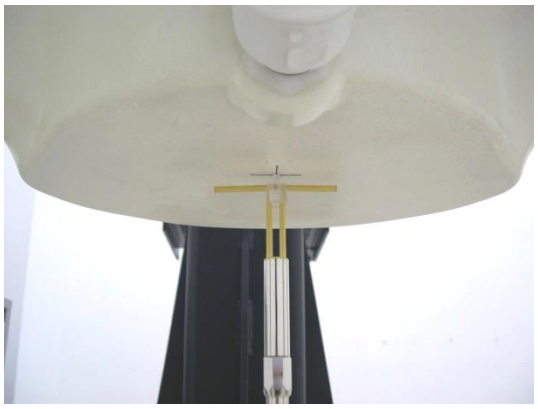


Fig 11.3.2 Setup Photo

12. RF Exposure Positions

12.1 Ear and handset reference point

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

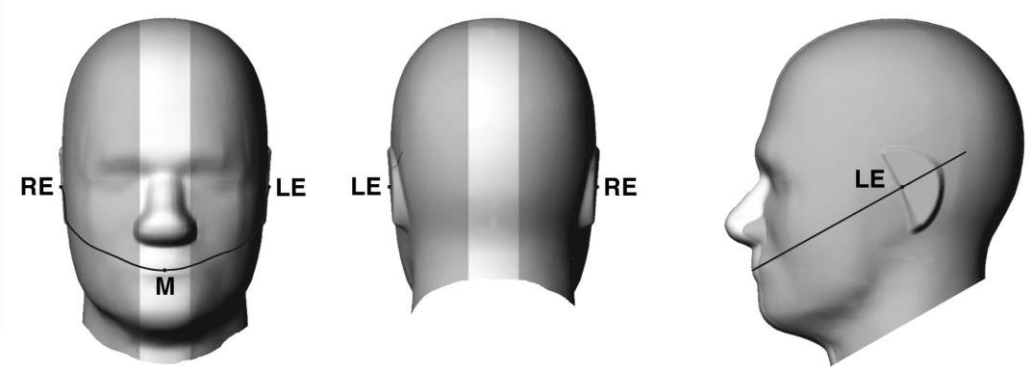


Fig 12.1.1 Front, back, and side views of SAM twin phantom

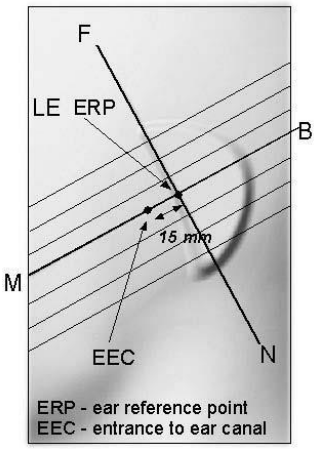


Fig 12.1.2 Close-up side view of phantom showing the ear region.

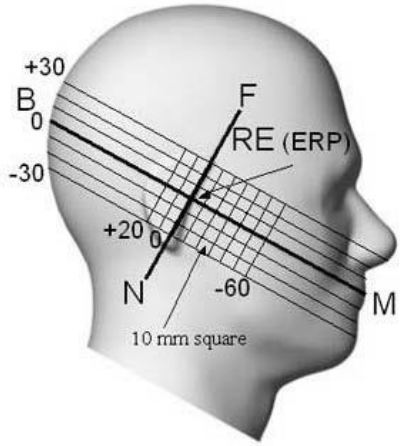


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 Definition of the cheek position

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

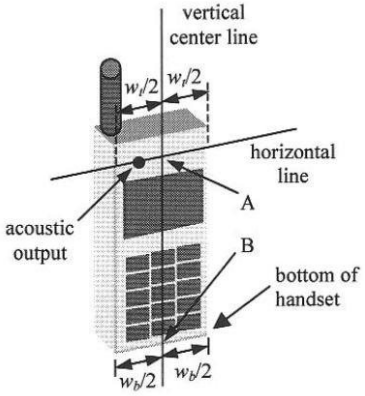


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

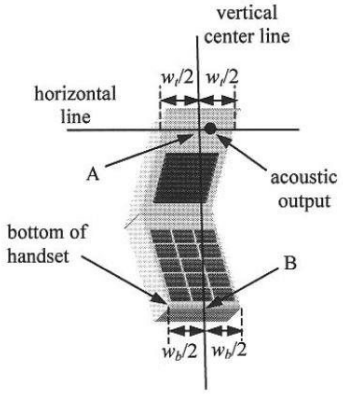


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

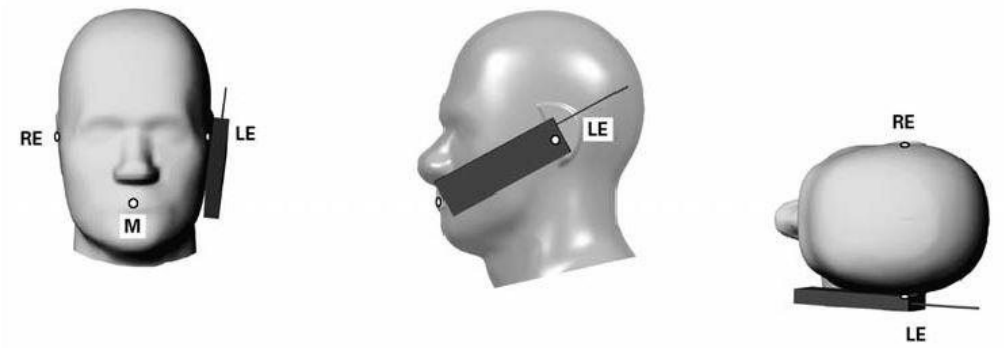


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 Definition of the tilt position

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

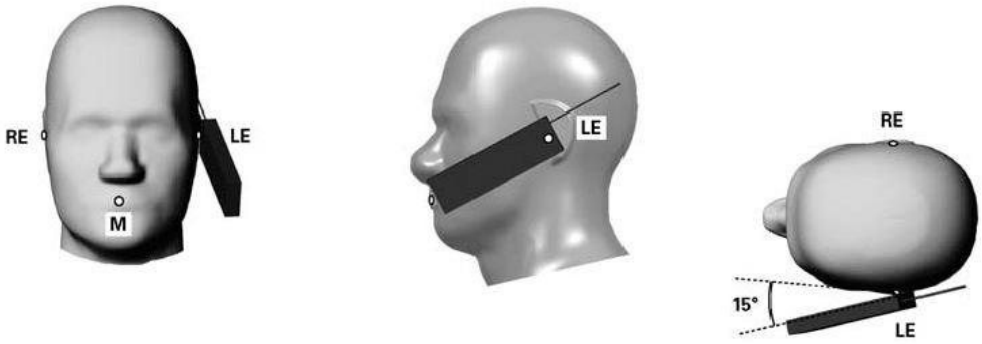


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 Body Worn Accessory

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

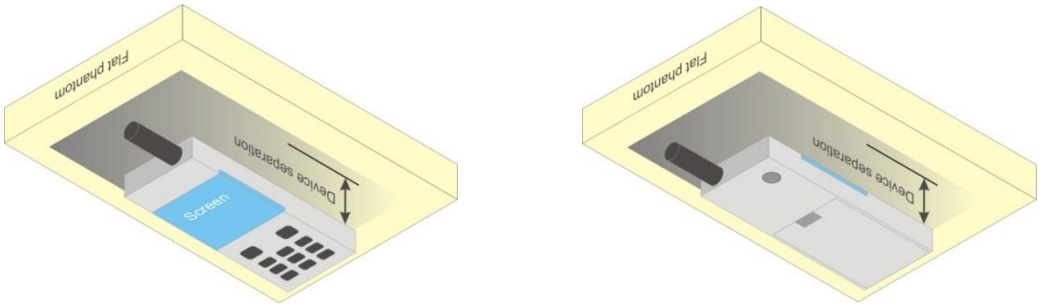


Fig 12.4 Body Worn Position

12.5 Product Specific 10g SAR Exposure

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

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

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

12.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined form 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.

13. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS 2 Tx slots for GSM850/GSM1900 are considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.
4. Power reduction which is triggered by hotspot mode/p-sensor on/handheld on are implemented in GSM850/1900 band, for SAR testing EUT was set in reduced power mode and GPRS 2 Tx slots due to its highest frame-average 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	33.21	33.25	33.00	34.00	24.21	24.25	24.00	25.00
GPRS 1 Tx slot	33.20	33.23	32.98	34.00	24.20	24.23	23.98	25.00
GPRS 2 Tx slots	31.87	31.86	31.89	33.00	25.87	25.86	25.89	**27.00**
GPRS 3 Tx slots	30.26	29.89	30.03	31.00	26.00	25.63	25.77	26.74
GPRS 4 Tx slots	28.27	28.01	28.12	29.00	25.27	25.01	25.12	26.00
EDGE 1 Tx slot	26.58	26.35	26.28	27.00	17.58	17.35	17.28	18.00
EDGE 2 Tx slots	25.41	25.24	25.15	26.00	19.41	19.24	19.15	20.00
EDGE 3 Tx slots	23.74	23.78	23.68	25.00	19.48	19.52	19.42	20.74
EDGE 4 Tx slots	22.04	21.85	21.92	23.00	19.04	18.85	18.92	20.00
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	30.03	29.76	29.97	31.00	21.03	20.76	20.97	22.00
GPRS 1 Tx slot	30.01	29.75	29.95	31.00	21.01	20.75	20.95	22.00
GPRS 2 Tx slots	28.61	28.64	28.95	30.00	22.61	22.64	22.95	**24.00**
GPRS 3 Tx slots	27.02	26.93	27.13	28.00	22.76	22.67	22.87	23.74
GPRS 4 Tx slots	25.42	25.22	25.31	26.00	22.42	22.22	22.31	23.00
EDGE 1 Tx slot	25.15	25.11	25.26	26.00	16.15	16.11	16.26	17.00
EDGE 2 Tx slots	24.11	24.16	24.10	25.00	18.11	18.16	18.10	19.00
EDGE 3 Tx slots	22.33	22.58	22.48	23.00	18.07	18.32	18.22	18.74
EDGE 4 Tx slots	20.69	20.71	20.77	22.00	17.69	17.71	17.77	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 P-Sensor On>

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	30.09	30.16	30.02	30.50	21.09	21.16	21.02	21.50
GPRS 1 Tx slot	30.08	30.15	30.01	30.50	21.08	21.15	21.01	21.50
GPRS 2 Tx slots	28.68	28.57	28.72	29.50	22.68	22.57	22.72	**23.50**
GPRS 3 Tx slots	26.75	26.86	27.05	27.50	22.49	22.60	22.79	23.24
GPRS 4 Tx slots	25.19	25.29	25.38	25.50	22.19	22.29	22.38	22.50
EDGE 1 Tx slot	23.98	23.96	23.85	24.00	14.98	14.96	14.85	15.00
EDGE 2 Tx slots	22.35	22.26	22.20	22.50	16.35	16.26	16.20	16.50
EDGE 3 Tx slots	20.88	20.65	20.72	21.50	16.62	16.39	16.46	17.24
EDGE 4 Tx slots	19.22	19.16	19.12	19.50	16.22	16.16	16.12	16.50
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	24.15	24.08	24.20	25.00	15.15	15.08	15.20	16.00
GPRS 1 Tx slot	24.14	24.06	24.19	25.00	15.14	15.06	15.19	16.00
GPRS 2 Tx slots	23.01	22.89	23.05	24.00	17.01	16.89	17.05	**18.00**
GPRS 3 Tx slots	21.32	21.22	21.30	22.00	17.06	16.96	17.04	17.74
GPRS 4 Tx slots	19.49	19.51	19.45	20.00	16.49	16.51	16.45	17.00
EDGE 1 Tx slot	20.14	20.06	19.95	20.50	11.14	11.06	10.95	11.50
EDGE 2 Tx slots	18.64	18.65	18.40	19.00	12.64	12.65	12.40	13.00
EDGE 3 Tx slots	16.98	16.96	16.94	17.00	12.72	12.70	12.68	12.74
EDGE 4 Tx slots	15.62	15.75	15.78	16.00	12.62	12.75	12.78	13.00

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>

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	30.09	30.16	30.02	30.50	21.09	21.16	21.02	21.50
GPRS 1 Tx slot	30.08	30.15	30.01	30.50	21.08	21.15	21.01	21.50
GPRS 2 Tx slots	28.68	28.57	28.72	29.50	22.68	22.57	22.72	**23.50**
GPRS 3 Tx slots	26.75	26.86	27.05	27.50	22.49	22.60	22.79	23.24
GPRS 4 Tx slots	25.19	25.29	25.38	25.50	22.19	22.29	22.38	22.50
EDGE 1 Tx slot	23.98	23.96	23.85	24.00	14.98	14.96	14.85	15.00
EDGE 2 Tx slots	22.35	22.26	22.20	22.50	16.35	16.26	16.20	16.50
EDGE 3 Tx slots	20.88	20.65	20.72	21.50	16.62	16.39	16.46	17.24
EDGE 4 Tx slots	19.22	19.16	19.12	19.50	16.22	16.16	16.12	16.50
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	22.74	22.66	22.55	23.50	13.74	13.66	13.55	14.50
GPRS 1 Tx slot	22.73	22.65	22.54	23.50	13.73	13.65	13.54	14.50
GPRS 2 Tx slots	21.52	21.48	21.55	22.50	15.52	15.48	15.55	**16.50**
GPRS 3 Tx slots	19.90	19.79	19.82	20.50	15.64	15.53	15.56	16.24
GPRS 4 Tx slots	18.39	18.11	18.10	18.50	15.39	15.11	15.10	15.50
EDGE 1 Tx slot	18.86	17.79	18.70	19.00	9.86	8.79	9.70	10.00
EDGE 2 Tx slots	17.37	17.16	17.20	17.50	11.37	11.16	11.20	11.50
EDGE 3 Tx slots	16.01	16.07	16.28	16.50	11.75	11.81	12.02	12.24
EDGE 4 Tx slots	14.89	14.71	14.79	15.00	11.89	11.71	11.79	12.00

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 Handheld 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	28.04	27.90	27.84	28.50	19.04	18.90	18.84	19.50
GPRS 1 Tx slot	28.03	27.89	27.83	28.50	19.03	18.89	18.83	19.50
GPRS 2 Tx slots	26.83	26.69	26.86	27.50	20.83	20.69	20.86	**21.50**
GPRS 3 Tx slots	25.13	24.56	24.84	25.50	20.87	20.30	20.58	21.24
GPRS 4 Tx slots	23.45	23.22	23.29	23.50	20.45	20.22	20.29	20.50
EDGE 1 Tx slot	23.81	23.73	23.69	24.00	14.81	14.73	14.69	15.00
EDGE 2 Tx slots	22.31	22.20	22.18	22.50	16.31	16.20	16.18	16.50
EDGE 3 Tx slots	20.89	21.00	21.21	21.50	16.63	16.74	16.95	17.24
EDGE 4 Tx slots	19.78	19.67	19.73	20.00	16.78	16.67	16.73	17.00

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>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

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

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c. For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c.

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

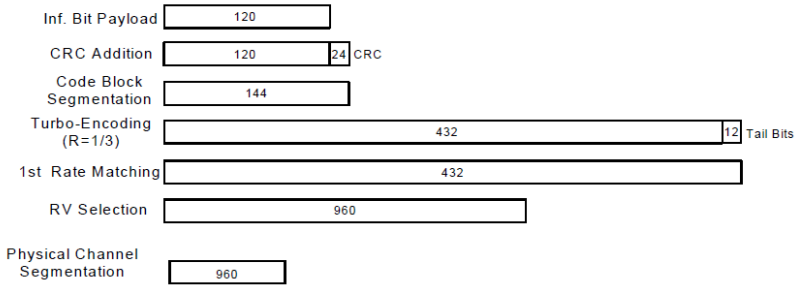


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

General Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

<Full Power Mode>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		4132	4182	4233	
Rx Channel		9662	9800	9938		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	23.21	23.18	23.40	24.00	23.52	23.42	23.27	24.00
3GPP Rel 99	RMC 12.2Kbps	23.22	23.19	**23.41**	24.00	**23.53**	23.43	23.28	24.00
3GPP Rel 6	HSDPA Subtest-1	22.26	22.21	22.32	23.00	22.44	22.36	22.31	23.00
3GPP Rel 6	HSDPA Subtest-2	22.26	22.24	22.38	23.00	22.46	22.32	22.36	23.00
3GPP Rel 6	HSDPA Subtest-3	21.79	21.38	21.50	22.50	21.96	21.82	21.81	22.50
3GPP Rel 6	HSDPA Subtest-4	21.77	21.74	21.88	22.50	22.00	21.88	21.83	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	22.11	22.09	22.20	23.00	22.32	22.21	22.21	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	22.09	22.05	22.22	23.00	22.30	22.19	22.17	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.68	21.25	21.42	22.50	21.87	21.75	21.71	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.66	21.62	21.76	22.50	21.89	21.79	21.67	22.50
3GPP Rel 6	HSUPA Subtest-1	22.24	22.16	22.47	23.00	22.57	22.46	22.31	23.00
3GPP Rel 6	HSUPA Subtest-2	20.23	20.24	20.38	21.00	20.47	20.46	20.27	21.00
3GPP Rel 6	HSUPA Subtest-3	21.21	21.19	21.36	22.00	21.43	21.29	21.30	22.00
3GPP Rel 6	HSUPA Subtest-4	20.23	20.24	20.39	21.00	20.49	20.29	20.31	21.00
3GPP Rel 6	HSUPA Subtest-5	22.30	22.30	22.40	23.00	22.40	22.40	22.30	23.00

<Reduced Power Mode for P-Sensor On>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		4132	4182	4233	
Rx Channel		9662	9800	9938		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	16.67	16.71	16.70	17.50	20.28	20.20	20.15	21.50
3GPP Rel 99	RMC 12.2Kbps	16.68	16.72	**16.73**	17.50	**20.29**	20.22	20.19	21.50
3GPP Rel 6	HSDPA Subtest-1	15.75	15.71	15.53	16.50	19.24	19.23	19.29	20.50
3GPP Rel 6	HSDPA Subtest-2	15.70	15.77	15.52	16.50	19.26	19.23	19.25	20.50
3GPP Rel 6	HSDPA Subtest-3	15.02	15.27	15.02	16.00	18.75	18.70	18.75	20.00
3GPP Rel 6	HSDPA Subtest-4	15.03	15.27	15.06	16.00	18.77	18.79	18.80	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	15.66	15.61	15.43	16.50	19.12	19.08	19.12	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	15.61	15.58	15.47	16.50	19.10	19.04	19.07	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	14.95	15.18	15.00	16.00	18.65	18.57	18.55	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	14.92	15.15	14.99	16.00	18.63	18.61	18.64	20.00
3GPP Rel 6	HSUPA Subtest-1	15.01	14.93	14.81	16.50	19.15	19.25	19.26	20.50
3GPP Rel 6	HSUPA Subtest-2	13.75	13.74	13.53	14.50	17.22	17.27	17.24	18.50
3GPP Rel 6	HSUPA Subtest-3	14.64	14.52	14.45	15.50	18.24	18.24	18.29	19.50
3GPP Rel 6	HSUPA Subtest-4	13.84	13.71	13.51	14.50	17.29	17.22	17.27	18.50
3GPP Rel 6	HSUPA Subtest-5	15.80	15.70	15.50	16.50	19.30	19.20	19.30	20.50

<Reduced Power Mode for Hotspot On>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		4132	4182	4233	
Rx Channel		9662	9800	9938		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	15.10	15.17	15.18	16.00	20.28	20.20	20.15	21.50
3GPP Rel 99	RMC 12.2Kbps	15.11	15.18	**15.20**	16.00	**20.29**	20.22	20.19	21.50
3GPP Rel 6	HSDPA Subtest-1	14.33	14.31	14.17	15.00	19.24	19.23	19.29	20.50
3GPP Rel 6	HSDPA Subtest-2	14.39	14.36	14.24	15.00	19.26	19.23	19.25	20.50
3GPP Rel 6	HSDPA Subtest-3	13.57	13.79	13.72	14.50	18.75	18.70	18.75	20.00
3GPP Rel 6	HSDPA Subtest-4	13.90	13.81	13.73	14.50	18.77	18.79	18.80	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	14.18	14.22	14.08	15.00	19.12	19.08	19.12	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	14.21	14.19	14.13	15.00	19.10	19.04	19.07	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	13.38	13.66	13.68	14.50	18.65	18.57	18.55	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	13.77	13.69	13.59	14.50	18.63	18.61	18.64	20.00
3GPP Rel 6	HSUPA Subtest-1	14.07	14.08	13.89	15.00	19.15	19.25	19.26	20.50
3GPP Rel 6	HSUPA Subtest-2	12.09	12.11	11.84	13.00	17.22	17.27	17.24	18.50
3GPP Rel 6	HSUPA Subtest-3	13.13	13.06	12.86	14.00	18.24	18.24	18.29	19.50
3GPP Rel 6	HSUPA Subtest-4	12.11	12.05	11.87	13.00	17.29	17.22	17.27	18.50
3GPP Rel 6	HSUPA Subtest-5	14.20	14.10	13.80	15.00	19.30	19.20	19.30	20.50

<Reduced Power Mode for Handheld On>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		4132	4182	4233	
Rx Channel		9662	9800	9938		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	19.73	19.73	19.79	20.00	22.94	22.90	22.95	23.00
3GPP Rel 99	RMC 12.2Kbps	19.75	19.75	**19.80**	20.00	**22.96**	22.90	22.95	23.00
3GPP Rel 6	HSDPA Subtest-1	18.93	18.83	18.75	19.00	21.81	21.68	21.76	22.00
3GPP Rel 6	HSDPA Subtest-2	18.94	18.84	18.73	19.00	21.81	21.71	21.79	22.00
3GPP Rel 6	HSDPA Subtest-3	18.42	18.30	18.23	18.50	21.35	21.21	21.34	21.50
3GPP Rel 6	HSDPA Subtest-4	18.44	18.35	18.31	18.50	21.29	21.21	21.29	21.50
3GPP Rel 8	DC-HSDPA Subtest-1	18.82	18.68	18.66	19.00	21.75	21.57	21.59	22.00
3GPP Rel 8	DC-HSDPA Subtest-2	18.80	18.76	18.68	19.00	21.73	21.60	21.60	22.00
3GPP Rel 8	DC-HSDPA Subtest-3	18.32	18.21	18.11	18.50	21.24	21.09	21.20	21.50
3GPP Rel 8	DC-HSDPA Subtest-4	18.27	18.19	18.19	18.50	21.11	21.10	21.15	21.50
3GPP Rel 6	HSUPA Subtest-1	18.89	18.83	18.76	19.00	21.70	21.63	21.75	22.00
3GPP Rel 6	HSUPA Subtest-2	16.92	16.87	16.70	17.00	19.68	19.68	19.76	20.00
3GPP Rel 6	HSUPA Subtest-3	17.85	17.87	17.72	18.00	20.72	20.68	20.74	21.00
3GPP Rel 6	HSUPA Subtest-4	16.84	16.84	16.76	17.00	19.73	19.72	19.75	20.00
3GPP Rel 6	HSUPA Subtest-5	19.00	18.90	18.70	19.00	21.80	21.70	21.80	22.00

<CDMA2000 Conducted Power>

General Note:

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

<Full Power Mode>

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	1013	384	777		25	600	1175	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75	
RC1 SO55	**24.70**	24.68	24.65	25.50	24.30	24.28	**24.33**	25.50
RC3 SO55	24.67	24.64	24.62	25.50	24.28	24.27	24.31	25.50
RC3 SO32 (F+SCH)	24.69	24.65	24.61	25.50	24.31	24.30	24.29	25.50
RC3 SO32 (+SCH)	24.67	24.65	24.62	25.50	24.30	24.30	24.27	25.50
RTAP 153.6Kbps	24.66	24.64	24.60	25.50	24.29	24.28	24.26	25.50
RETAP 4096Bits	24.69	24.63	24.59	25.50	24.28	24.28	24.27	25.50

<Reduced Power Mode for P-Sensor On>

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	1013	384	777		25	600	1175	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75	
RC1 SO55	**22.11**	22.09	21.99	22.50	17.69	17.78	17.88	18.50
RC3 SO55	22.07	22.07	21.50	22.50	17.66	17.74	17.83	18.50
RC3 SO32 (F+SCH)	22.09	22.06	21.92	22.50	17.67	17.76	**17.89**	18.50
RC3 SO32 (+SCH)	22.05	22.02	21.97	22.50	17.62	17.77	17.87	18.50
RTAP 153.6Kbps	22.08	22.04	21.92	22.50	17.66	17.75	17.88	18.50
RETAP 4096Bits	22.09	22.07	21.98	22.50	17.67	17.75	17.86	18.50

<Reduced Power Mode for Hotspot On>

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	1013	384	777		25	600	1175	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75	
RC1 SO55	**22.11**	22.09	21.99	22.50	16.33	16.35	**16.41**	17.00
RC3 SO55	22.07	22.07	21.50	22.50	16.31	16.30	16.35	17.00
RC3 SO32 (F+SCH)	22.09	22.06	21.92	22.50	16.34	16.30	16.38	17.00
RC3 SO32 (+SCH)	22.05	22.02	21.97	22.50	16.37	16.34	16.31	17.00
RTAP 153.6Kbps	22.08	22.04	21.92	22.50	16.31	16.29	16.34	17.00
RETAP 4096Bits	22.09	22.07	21.98	22.50	16.35	16.31	16.34	17.00

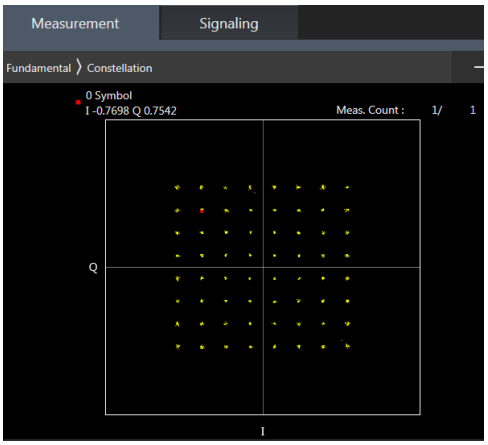
<Reduced Power Mode for Handheld On>

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	1013	384	777		25	600	1175	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75	
RC1 SO55	**24.10**	24.07	24.01	24.50	20.74	20.77	**20.86**	21.50
RC3 SO55	24.04	24.05	23.97	24.50	20.79	20.79	20.81	21.50
RC3 SO32 (F+SCH)	24.08	24.03	23.98	24.50	20.78	20.75	20.85	21.50
RC3 SO32 (+SCH)	24.06	24.05	23.99	24.50	20.76	20.73	20.84	21.50
RTAP 153.6Kbps	24.07	24.03	23.97	24.50	20.77	20.73	20.83	21.50
RETAP 4096Bits	24.08	24.06	23.95	24.50	20.78	20.75	20.85	21.50

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE B4 SAR test was covered by B66; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM

16QAM

<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	23.30	23.31	23.45	24	0
20	QPSK	1	49	23.00	23.11	23.25		
20	QPSK	1	99	23.11	23.24	23.22		
20	QPSK	50	0	22.19	22.30	22.40	23	1
20	QPSK	50	24	22.14	22.21	22.37		
20	QPSK	50	50	22.09	22.13	22.30		
20	QPSK	100	0	22.11	22.26	22.30		
20	16QAM	1	0	22.67	22.62	22.69	23	1
20	16QAM	1	49	22.38	22.47	22.61		
20	16QAM	1	99	22.41	22.59	22.65		
20	16QAM	50	0	21.33	21.41	21.40	22	2
20	16QAM	50	24	21.20	21.33	21.47		
20	16QAM	50	50	21.15	21.28	21.42		
20	16QAM	100	0	21.23	21.29	21.37		
20	64QAM	1	0	21.78	21.74	21.82	22	2
20	64QAM	1	49	21.50	21.54	21.72		
20	64QAM	1	99	21.54	21.69	21.74		
20	64QAM	50	0	20.49	20.59	20.58	21	3
20	64QAM	50	24	20.40	20.51	20.64		
20	64QAM	50	50	20.40	20.44	20.60		
20	64QAM	100	0	20.51	20.53	20.58		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.12	23.28	23.33	24	0
15	QPSK	1	37	22.94	23.12	23.35		
15	QPSK	1	74	22.97	23.12	23.38		
15	QPSK	36	0	22.07	22.28	22.48	23	1
15	QPSK	36	20	22.13	22.21	22.46		
15	QPSK	36	39	22.08	22.16	22.41		
15	QPSK	75	0	22.14	22.25	22.44		
15	16QAM	1	0	22.50	22.60	22.84	23	1
15	16QAM	1	37	22.30	22.47	22.72		
15	16QAM	1	74	22.35	22.54	22.77		
15	16QAM	36	0	21.18	21.36	21.57	22	2
15	16QAM	36	20	21.26	21.34	21.53		
15	16QAM	36	39	21.13	21.30	21.54		
15	16QAM	75	0	21.23	21.30	21.56		
15	64QAM	1	0	21.61	21.69	21.95	22	2
15	64QAM	1	37	21.39	21.52	21.82		
15	64QAM	1	74	21.43	21.59	21.89		
15	64QAM	36	0	20.39	20.57	20.78	21	3
15	64QAM	36	20	20.45	20.54	20.72		
15	64QAM	36	39	20.33	20.50	20.71		
15	64QAM	75	0	20.45	20.50	20.74		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.24	23.40	23.44	24	0
10	QPSK	1	25	22.95	23.13	23.34		
10	QPSK	1	49	23.20	23.32	23.29		
10	QPSK	25	0	22.04	22.25	22.41	23	1
10	QPSK	25	12	22.03	22.20	22.40		
10	QPSK	25	25	22.06	22.16	22.36		
10	QPSK	50	0	22.11	22.20	22.40		
10	16QAM	1	0	22.59	22.74	22.75	23	1
10	16QAM	1	25	22.29	22.47	22.70		
10	16QAM	1	49	22.60	22.66	22.76		
10	16QAM	25	0	21.16	21.33	21.55	22	2
10	16QAM	25	12	21.13	21.32	21.54		
10	16QAM	25	25	21.16	21.28	21.48		
10	16QAM	50	0	21.22	21.33	21.53		
10	64QAM	1	0	21.69	21.83	21.86	22	2
10	64QAM	1	25	21.39	21.56	21.78		
10	64QAM	1	49	21.68	21.78	21.79		
10	64QAM	25	0	20.34	20.52	20.75	21	3
10	64QAM	25	12	20.30	20.49	20.74		
10	64QAM	25	25	20.38	20.50	20.66		
10	64QAM	50	0	20.43	20.51	20.71		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.06	23.19	23.35	24	0
5	QPSK	1	12	22.95	23.11	23.33		
5	QPSK	1	24	22.98	23.13	23.32		
5	QPSK	12	0	22.03	22.21	22.38	23	1
5	QPSK	12	7	22.01	22.24	22.41		
5	QPSK	12	13	21.97	22.20	22.38		
5	QPSK	25	0	21.97	22.15	22.36		
5	16QAM	1	0	22.42	22.51	22.77	23	1
5	16QAM	1	12	22.34	22.47	22.74		
5	16QAM	1	24	22.33	22.48	22.70		
5	16QAM	12	0	21.16	21.29	21.55	22	2
5	16QAM	12	7	21.14	21.30	21.52		
5	16QAM	12	13	21.09	21.27	21.49		
5	16QAM	25	0	21.10	21.24	21.49		
5	64QAM	1	0	21.45	21.62	21.87	22	2
5	64QAM	1	12	21.47	21.50	21.81		
5	64QAM	1	24	21.50	21.57	21.81		
5	64QAM	12	0	20.36	20.48	20.71	21	3
5	64QAM	12	7	20.49	20.47	20.72		
5	64QAM	12	13	20.34	20.45	20.67		
5	64QAM	25	0	20.45	20.46	20.69		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	23.00	23.19	23.27	24	0
3	QPSK	1	8	22.97	23.10	23.31		
3	QPSK	1	14	22.92	23.11	23.28		
3	QPSK	8	0	21.99	22.20	22.36	23	1
3	QPSK	8	4	22.02	22.18	22.40		
3	QPSK	8	7	21.97	22.16	22.37		
3	QPSK	15	0	22.01	22.19	22.35		
3	16QAM	1	0	22.33	22.47	22.76	23	1
3	16QAM	1	8	22.34	22.51	22.71		
3	16QAM	1	14	22.31	22.45	22.73		
3	16QAM	8	0	21.17	21.30	21.56	22	2
3	16QAM	8	4	21.20	21.31	21.60		
3	16QAM	8	7	21.14	21.26	21.56		
3	16QAM	15	0	21.08	21.26	21.49		
3	64QAM	1	0	21.44	21.58	21.80	22	2
3	64QAM	1	8	21.39	21.50	21.81		
3	64QAM	1	14	21.39	21.59	21.82		
3	64QAM	8	0	20.32	20.48	20.73	21	3
3	64QAM	8	4	20.36	20.47	20.73		
3	64QAM	8	7	20.30	20.43	20.74		
3	64QAM	15	0	20.27	20.46	20.66		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.90	23.04	23.24	24	0
1.4	QPSK	1	3	22.95	23.13	23.32		
1.4	QPSK	1	5	22.87	23.07	23.21		
1.4	QPSK	3	0	22.93	23.12	23.27		
1.4	QPSK	3	1	22.95	23.11	23.30		
1.4	QPSK	3	3	22.97	23.07	23.30		
1.4	QPSK	6	0	21.93	22.12	22.29	23	1
1.4	16QAM	1	0	22.26	22.35	22.65	23	1
1.4	16QAM	1	3	22.31	22.42	22.76		
1.4	16QAM	1	5	22.24	22.33	22.65		
1.4	16QAM	3	0	22.05	22.17	22.42		
1.4	16QAM	3	1	22.11	22.24	22.48		
1.4	16QAM	3	3	22.05	22.19	22.40		
1.4	16QAM	6	0	21.08	21.29	21.48	22	2
1.4	64QAM	1	0	21.34	21.48	21.70	22	2
1.4	64QAM	1	3	21.40	21.58	21.80		
1.4	64QAM	1	5	21.35	21.47	21.71		
1.4	64QAM	3	0	21.29	21.43	21.65		
1.4	64QAM	3	1	21.31	21.46	21.67		
1.4	64QAM	3	3	21.23	21.39	21.64		
1.4	64QAM	6	0	20.24	20.38	20.61	21	3

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.05	22.96	22.85	24	0
20	QPSK	1	49	22.78	22.69	22.72		
20	QPSK	1	99	22.65	22.64	22.72		
20	QPSK	50	0	21.95	21.82	21.80	23	1
20	QPSK	50	24	21.87	21.75	21.73		
20	QPSK	50	50	21.73	21.71	21.80		
20	QPSK	100	0	21.86	21.74	21.75		
20	16QAM	1	0	22.32	22.31	22.27	23	1
20	16QAM	1	49	22.10	22.08	22.06		
20	16QAM	1	99	22.00	21.98	21.93		
20	16QAM	50	0	21.01	20.93	20.89	22	2
20	16QAM	50	24	20.98	20.84	20.82		
20	16QAM	50	50	20.81	20.80	20.89		
20	16QAM	100	0	20.93	20.82	20.84		
20	64QAM	1	0	21.41	21.41	21.32	22	2
20	64QAM	1	49	21.19	21.15	21.15		
20	64QAM	1	99	21.11	21.07	21.04		
20	64QAM	50	0	20.22	20.11	20.08	21	3
20	64QAM	50	24	20.16	20.01	20.01		
20	64QAM	50	50	19.99	19.97	20.03		
20	64QAM	100	0	20.16	20.03	20.04		

Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.04	22.94	22.81	24	0
15	QPSK	1	37	22.77	22.66	22.71		
15	QPSK	1	74	22.78	22.67	22.74		
15	QPSK	36	0	21.90	21.77	21.77	23	1
15	QPSK	36	20	21.84	21.70	21.81		
15	QPSK	36	39	21.81	21.73	21.76		
15	QPSK	75	0	21.83	21.70	21.74		
15	16QAM	1	0	22.27	22.34	22.11	23	1
15	16QAM	1	37	22.02	22.05	21.98		
15	16QAM	1	74	22.13	22.01	21.97		
15	16QAM	36	0	20.95	20.85	20.86	22	2
15	16QAM	36	20	20.89	20.83	20.91		
15	16QAM	36	39	20.87	20.81	20.78		
15	16QAM	75	0	20.93	20.80	20.80		
15	64QAM	1	0	21.40	21.42	21.30	22	2
15	64QAM	1	37	21.11	21.14	21.09		
15	64QAM	1	74	21.21	21.12	21.08		
15	64QAM	36	0	20.15	20.04	20.07	21	3
15	64QAM	36	20	20.08	20.02	20.10		
15	64QAM	36	39	20.06	20.01	20.01		
15	64QAM	75	0	20.13	20.00	19.99		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.94	22.73	22.83	24	0
10	QPSK	1	25	22.87	22.64	22.73		
10	QPSK	1	49	22.72	22.61	22.74		
10	QPSK	25	0	21.95	21.73	21.83	23	1
10	QPSK	25	12	21.82	21.71	21.82		
10	QPSK	25	25	21.79	21.67	21.78		
10	QPSK	50	0	21.83	21.68	21.81		
10	16QAM	1	0	22.22	22.11	22.06	23	1
10	16QAM	1	25	22.17	22.07	21.99		
10	16QAM	1	49	22.07	22.02	21.92		
10	16QAM	25	0	21.02	20.83	20.89	22	2
10	16QAM	25	12	20.91	20.81	20.87		
10	16QAM	25	25	20.90	20.78	20.83		
10	16QAM	50	0	20.89	20.78	20.86		
10	64QAM	1	0	21.33	21.18	21.19	22	2
10	64QAM	1	25	21.24	21.10	21.09		
10	64QAM	1	49	21.18	21.08	21.06		
10	64QAM	25	0	20.22	20.02	20.10	21	3
10	64QAM	25	12	20.11	20.00	20.09		
10	64QAM	25	25	20.09	19.95	20.01		
10	64QAM	50	0	20.09	19.97	20.05		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.87	22.66	22.73	24	0
5	QPSK	1	12	22.87	22.61	22.68		
5	QPSK	1	24	22.83	22.60	22.68		
5	QPSK	12	0	21.90	21.69	21.76	23	1
5	QPSK	12	7	21.89	21.71	21.75		
5	QPSK	12	13	21.88	21.66	21.74		
5	QPSK	25	0	21.89	21.66	21.75		
5	16QAM	1	0	22.09	22.04	21.96	23	1
5	16QAM	1	12	22.08	21.94	21.89		
5	16QAM	1	24	22.11	21.93	21.88		
5	16QAM	12	0	20.95	20.78	20.81	22	2
5	16QAM	12	7	20.94	20.78	20.81		
5	16QAM	12	13	20.91	20.76	20.76		
5	16QAM	25	0	20.95	20.76	20.81		
5	64QAM	1	0	21.21	21.15	21.12	22	2
5	64QAM	1	12	21.17	21.07	21.03		
5	64QAM	1	24	21.23	21.04	21.03		
5	64QAM	12	0	20.14	19.95	20.01	21	3
5	64QAM	12	7	20.12	19.96	19.98		
5	64QAM	12	13	20.12	19.96	19.98		
5	64QAM	25	0	20.15	19.94	19.98		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.82	22.60	22.70	24	0
3	QPSK	1	8	22.79	22.56	22.68		
3	QPSK	1	14	22.80	22.57	22.70		
3	QPSK	8	0	21.85	21.63	21.74	23	1
3	QPSK	8	4	21.89	21.65	21.73		
3	QPSK	8	7	21.86	21.59	21.72		
3	QPSK	15	0	21.87	21.63	21.74		
3	16QAM	1	0	22.08	21.97	21.96	23	1
3	16QAM	1	8	22.10	21.98	21.88		
3	16QAM	1	14	22.05	21.90	21.86		
3	16QAM	8	0	20.98	20.81	20.79	22	2
3	16QAM	8	4	20.96	20.77	20.84		
3	16QAM	8	7	20.92	20.78	20.76		
3	16QAM	15	0	20.94	20.74	20.79		
3	64QAM	1	0	21.19	21.06	20.99	22	2
3	64QAM	1	8	21.16	21.05	20.98		
3	64QAM	1	14	21.17	21.05	20.98		
3	64QAM	8	0	20.10	19.97	19.96	21	3
3	64QAM	8	4	20.11	19.92	19.99		
3	64QAM	8	7	20.07	19.91	19.94		
3	64QAM	15	0	20.11	19.92	19.96		

Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.77	22.50	22.61	24	0
1.4	QPSK	1	3	22.83	22.55	22.70		
1.4	QPSK	1	5	22.70	22.48	22.60		
1.4	QPSK	3	0	22.48	22.56	22.66		
1.4	QPSK	3	1	22.83	22.60	22.70		
1.4	QPSK	3	3	22.79	22.55	22.65		
1.4	QPSK	6	0	21.79	21.55	21.67	23	1
1.4	16QAM	1	0	21.99	21.87	21.81	23	1
1.4	16QAM	1	3	22.05	21.98	21.88		
1.4	16QAM	1	5	21.94	21.89	21.77		
1.4	16QAM	3	0	21.79	21.64	21.65		
1.4	16QAM	3	1	21.84	21.71	21.70		
1.4	16QAM	3	3	21.77	21.66	21.64		
1.4	16QAM	6	0	20.90	20.72	20.76	22	2
1.4	64QAM	1	0	21.09	21.00	20.94	22	2
1.4	64QAM	1	3	21.14	21.03	21.01		
1.4	64QAM	1	5	21.06	20.95	20.90		
1.4	64QAM	3	0	21.04	20.86	20.86		
1.4	64QAM	3	1	21.08	20.93	20.93		
1.4	64QAM	3	3	21.03	20.88	20.88		
1.4	64QAM	6	0	20.05	19.84	19.89	21	3

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	23.17	23.10	23.19	24	0
10	QPSK	1	25	23.22	23.15	23.15		
10	QPSK	1	49	23.30	23.02	23.07		
10	QPSK	25	0	22.29	22.22	22.22	23	1
10	QPSK	25	12	22.30	22.18	22.18		
10	QPSK	25	25	22.33	22.13	22.18		
10	QPSK	50	0	22.27	22.21	22.18		
10	16QAM	1	0	22.51	22.50	22.53	23	1
10	16QAM	1	25	22.56	22.43	22.47		
10	16QAM	1	49	22.62	22.32	22.50		
10	16QAM	25	0	21.37	21.31	21.29	22	2
10	16QAM	25	12	21.37	21.29	21.28		
10	16QAM	25	25	21.40	21.21	21.28		
10	16QAM	50	0	21.39	21.28	21.26		
10	64QAM	1	0	21.62	21.58	21.61	22	2
10	64QAM	1	25	21.62	21.57	21.57		
10	64QAM	1	49	21.69	21.45	21.58		
10	64QAM	25	0	20.55	20.46	20.49	21	3
10	64QAM	25	12	20.57	20.49	20.47		
10	64QAM	25	25	20.60	20.39	20.47		
10	64QAM	50	0	20.53	20.48	20.44		

Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	23.18	23.17	23.16	24	0
5	QPSK	1	12	23.13	23.12	23.10		
5	QPSK	1	24	23.22	23.10	23.07		
5	QPSK	12	0	22.21	22.17	22.17	23	1
5	QPSK	12	7	22.32	22.17	22.17		
5	QPSK	12	13	22.31	22.12	22.12		
5	QPSK	25	0	22.31	22.18	22.13		
5	16QAM	1	0	22.53	22.52	22.48	23	1
5	16QAM	1	12	22.41	22.41	22.48		
5	16QAM	1	24	22.51	22.41	22.47		
5	16QAM	12	0	21.26	21.28	21.25	22	2
5	16QAM	12	7	21.38	21.29	21.26		
5	16QAM	12	13	21.38	21.23	21.25		
5	16QAM	25	0	21.38	21.23	21.25		
5	64QAM	1	0	21.64	21.58	21.55	22	2
5	64QAM	1	12	21.54	21.52	21.61		
5	64QAM	1	24	21.62	21.49	21.55		
5	64QAM	12	0	20.46	20.47	20.43	21	3
5	64QAM	12	7	20.57	20.47	20.46		
5	64QAM	12	13	20.55	20.41	20.42		
5	64QAM	25	0	20.56	20.42	20.44		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	23.26	23.23	23.22	24	0
3	QPSK	1	8	23.18	23.19	23.15		
3	QPSK	1	14	23.22	23.19	23.18		
3	QPSK	8	0	22.28	22.27	22.23	23	1
3	QPSK	8	4	22.28	22.25	22.23		
3	QPSK	8	7	22.25	22.21	22.19		
3	QPSK	15	0	22.29	22.24	22.22		
3	16QAM	1	0	22.64	22.60	22.62	23	1
3	16QAM	1	8	22.58	22.52	22.62		
3	16QAM	1	14	22.51	22.49	22.59		
3	16QAM	8	0	21.41	21.39	21.40	22	2
3	16QAM	8	4	21.39	21.38	21.41		
3	16QAM	8	7	21.36	21.35	21.38		
3	16QAM	15	0	21.38	21.36	21.33		
3	64QAM	1	0	21.69	21.65	21.65	22	2
3	64QAM	1	8	21.62	21.61	21.65		
3	64QAM	1	14	21.62	21.60	21.67		
3	64QAM	8	0	20.58	20.55	20.55	21	3
3	64QAM	8	4	20.60	20.55	20.60		
3	64QAM	8	7	20.55	20.53	20.55		
3	64QAM	15	0	20.56	20.52	20.52		

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	23.13	23.11	24	0
1.4	QPSK	1	3	23.24	23.20	23.17		
1.4	QPSK	1	5	23.15	23.12	23.09		
1.4	QPSK	3	0	23.23	23.17	23.16		
1.4	QPSK	3	1	23.28	23.24	23.16		
1.4	QPSK	3	3	23.23	23.17	23.15		
1.4	QPSK	6	0	22.19	22.17	22.12	23	1
1.4	16QAM	1	0	22.55	22.44	22.51	23	1
1.4	16QAM	1	3	22.57	22.52	22.58		
1.4	16QAM	1	5	22.47	22.40	22.48		
1.4	16QAM	3	0	22.32	22.27	22.29		
1.4	16QAM	3	1	22.32	22.32	22.31		
1.4	16QAM	3	3	22.28	22.23	22.29		
1.4	16QAM	6	0	21.37	21.32	21.33	22	2
1.4	64QAM	1	0	21.61	21.55	21.57	22	2
1.4	64QAM	1	3	21.63	21.58	21.66		
1.4	64QAM	1	5	21.55	21.49	21.56		
1.4	64QAM	3	0	21.54	21.48	21.53		
1.4	64QAM	3	1	21.60	21.52	21.57		
1.4	64QAM	3	3	21.51	21.47	21.53		
1.4	64QAM	6	0	20.48	20.43	20.45	21	3

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.04	22.77	22.92	24	0
20	QPSK	1	49	22.97	22.70	22.84		
20	QPSK	1	99	22.92	22.72	22.98		
20	QPSK	50	0	22.05	21.79	21.93	23	1
20	QPSK	50	24	22.03	21.78	21.94		
20	QPSK	50	50	21.97	21.74	21.90		
20	QPSK	100	0	21.94	21.76	21.92		
20	16QAM	1	0	22.37	22.16	22.34	23	1
20	16QAM	1	49	22.30	22.05	22.22		
20	16QAM	1	99	22.26	22.15	22.35		
20	16QAM	50	0	21.13	20.87	20.98	22	2
20	16QAM	50	24	21.14	20.88	20.99		
20	16QAM	50	50	21.03	20.83	21.01		
20	16QAM	100	0	21.00	20.85	21.00		
20	64QAM	1	0	21.45	21.22	21.36	22	2
20	64QAM	1	49	21.39	21.15	21.31		
20	64QAM	1	99	21.36	21.24	21.47		
20	64QAM	50	0	20.29	20.06	20.19	21	3
20	64QAM	50	24	20.33	20.05	20.18		
20	64QAM	50	50	20.20	20.01	20.19		
20	64QAM	100	0	20.23	20.05	20.21		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	22.95	22.97	22.90	24	0
15	QPSK	1	37	22.93	22.80	22.86		
15	QPSK	1	74	22.93	22.83	22.85		
15	QPSK	36	0	21.95	21.83	21.87	23	1
15	QPSK	36	20	21.97	21.87	21.90		
15	QPSK	36	39	21.93	21.84	21.84		
15	QPSK	75	0	21.93	21.81	21.86		
15	16QAM	1	0	22.31	22.23	22.28	23	1
15	16QAM	1	37	22.26	22.10	22.23		
15	16QAM	1	74	22.30	22.13	22.18		
15	16QAM	36	0	21.07	20.96	21.00	22	2
15	16QAM	36	20	21.05	20.93	21.03		
15	16QAM	36	39	21.03	20.92	20.98		
15	16QAM	75	0	21.05	20.94	20.95		
15	64QAM	1	0	21.20	21.18	21.17	22	2
15	64QAM	1	37	21.14	21.02	21.09		
15	64QAM	1	74	21.17	21.05	21.07		
15	64QAM	36	0	20.05	19.96	19.98	21	3
15	64QAM	36	20	20.07	19.96	20.00		
15	64QAM	36	39	20.03	19.91	19.96		
15	64QAM	75	0	20.03	19.91	19.96		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	22.89	22.81	22.87	24	0
10	QPSK	1	25	22.87	22.80	22.81		
10	QPSK	1	49	22.88	22.80	22.84		
10	QPSK	25	0	21.76	21.82	21.84	23	1
10	QPSK	25	12	21.93	21.81	21.87		
10	QPSK	25	25	21.92	21.83	21.82		
10	QPSK	50	0	21.93	21.80	21.85		
10	16QAM	1	0	22.17	22.14	22.16	23	1
10	16QAM	1	25	22.18	22.17	22.15		
10	16QAM	1	49	22.13	22.09	22.08		
10	16QAM	25	0	21.06	20.96	20.98	22	2
10	16QAM	25	12	21.06	20.99	21.01		
10	16QAM	25	25	21.02	20.94	20.98		
10	16QAM	50	0	21.03	20.91	20.94		
10	64QAM	1	0	21.00	20.90	20.99	22	2
10	64QAM	1	25	21.01	20.90	21.00		
10	64QAM	1	49	21.03	20.89	20.93		
10	64QAM	25	0	19.89	19.83	19.86	21	3
10	64QAM	25	12	19.93	19.85	19.88		
10	64QAM	25	25	19.91	19.80	19.85		
10	64QAM	50	0	19.91	19.78	19.83		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.80	22.64	22.83	24	0
5	QPSK	1	12	22.87	22.80	22.86		
5	QPSK	1	24	22.78	22.73	22.82		
5	QPSK	12	0	22.83	22.74	22.82	23	1
5	QPSK	12	7	22.90	22.81	22.88		
5	QPSK	12	13	22.85	22.76	22.85		
5	QPSK	25	0	21.84	21.76	21.83		
5	16QAM	1	0	22.14	22.07	22.14	23	1
5	16QAM	1	12	22.23	22.15	22.20		
5	16QAM	1	24	22.13	22.07	22.08		
5	16QAM	12	0	21.93	21.85	21.90	22	2
5	16QAM	12	7	21.99	21.89	21.96		
5	16QAM	12	13	21.93	21.83	21.88		
5	16QAM	25	0	21.00	21.03	21.05		
5	64QAM	1	0	20.93	20.82	20.94	22	2
5	64QAM	1	12	20.98	20.90	21.04		
5	64QAM	1	24	20.94	20.80	20.91		
5	64QAM	12	0	20.87	20.80	20.85	21	3
5	64QAM	12	7	20.87	20.85	20.88		
5	64QAM	12	13	20.84	20.78	20.82		
5	64QAM	25	0	19.83	19.73	19.79		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	23.12	22.98	23.03	24	0
10	QPSK	1	25	23.11	23.03	23.00		
10	QPSK	1	49	23.05	23.01	23.08		
10	QPSK	25	0	22.21	22.13	22.12	23	1
10	QPSK	25	12	22.18	22.13	22.12		
10	QPSK	25	25	22.17	22.08	22.11		
10	QPSK	50	0	22.21	22.15	22.10		
10	16QAM	1	0	22.43	22.34	22.41	23	1
10	16QAM	1	25	22.48	22.42	22.35		
10	16QAM	1	49	22.45	22.31	22.33		
10	16QAM	25	0	21.28	21.24	21.22	22	2
10	16QAM	25	12	21.33	21.27	21.21		
10	16QAM	25	25	21.25	21.22	21.15		
10	16QAM	50	0	21.28	21.20	21.21		
10	64QAM	1	0	21.49	21.44	21.54	22	2
10	64QAM	1	25	21.56	21.52	21.47		
10	64QAM	1	49	21.56	21.44	21.44		
10	64QAM	25	0	20.48	20.43	20.39	21	3
10	64QAM	25	12	20.52	20.47	20.39		
10	64QAM	25	25	20.44	20.42	20.34		
10	64QAM	50	0	20.46	20.39	20.39		

Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	23.06	23.06	22.98	24	0
5	QPSK	1	12	23.01	23.02	23.06		
5	QPSK	1	24	23.11	23.01	23.06		
5	QPSK	12	0	22.10	22.14	22.06	23	1
5	QPSK	12	7	22.13	22.16	22.16		
5	QPSK	12	13	22.09	22.12	22.14		
5	QPSK	25	0	22.21	22.08	22.05		
5	16QAM	1	0	22.39	22.42	22.33	23	1
5	16QAM	1	12	22.41	22.41	22.39		
5	16QAM	1	24	22.49	22.41	22.34		
5	16QAM	12	0	21.22	21.21	21.14	22	2
5	16QAM	12	7	21.23	21.26	21.27		
5	16QAM	12	13	21.22	21.23	21.20		
5	16QAM	25	0	21.29	21.23	21.12		
5	64QAM	1	0	21.48	21.56	21.43	22	2
5	64QAM	1	12	21.48	21.53	21.50		
5	64QAM	1	24	21.50	21.52	21.46		
5	64QAM	12	0	20.41	20.39	20.28	21	3
5	64QAM	12	7	20.40	20.43	20.43		
5	64QAM	12	13	20.40	20.41	20.37		
5	64QAM	25	0	20.49	20.41	20.30		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.06	23.01	23.04	24	0
3	QPSK	1	8	23.02	23.02	23.02		
3	QPSK	1	14	23.01	23.02	23.03		
3	QPSK	8	0	22.11	22.08	22.09	23	1
3	QPSK	8	4	22.13	22.12	22.13		
3	QPSK	8	7	22.08	22.09	22.10		
3	QPSK	15	0	22.10	22.08	22.12		
3	16QAM	1	0	22.33	22.41	22.39	23	1
3	16QAM	1	8	22.39	22.39	22.34		
3	16QAM	1	14	22.39	22.38	22.30		
3	16QAM	8	0	21.27	21.25	21.22	22	2
3	16QAM	8	4	21.26	21.27	21.23		
3	16QAM	8	7	21.24	21.23	21.21		
3	16QAM	15	0	21.22	21.20	21.19		
3	64QAM	1	0	21.45	21.47	21.44	22	2
3	64QAM	1	8	21.47	21.51	21.41		
3	64QAM	1	14	21.48	21.48	21.41		
3	64QAM	8	0	20.39	20.42	20.36	21	3
3	64QAM	8	4	20.45	20.43	20.38		
3	64QAM	8	7	20.41	20.39	20.35		
3	64QAM	15	0	20.39	20.39	20.37		

Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	22.95	22.91	22.93	24	0
1.4	QPSK	1	3	23.05	23.02	23.01		
1.4	QPSK	1	5	22.94	22.93	22.96		
1.4	QPSK	3	0	23.03	23.02	22.99		
1.4	QPSK	3	1	23.08	23.01	23.05		
1.4	QPSK	3	3	23.05	23.03	23.02		
1.4	QPSK	6	0	22.04	22.00	22.02	23	1
1.4	16QAM	1	0	22.27	22.39	22.22	23	1
1.4	16QAM	1	3	22.42	22.42	22.30		
1.4	16QAM	1	5	22.30	22.35	22.22		
1.4	16QAM	3	0	22.08	22.05	22.04		
1.4	16QAM	3	1	22.12	22.13	22.06		
1.4	16QAM	3	3	22.13	22.06	22.02		
1.4	16QAM	6	0	21.22	21.20	21.17	22	2
1.4	64QAM	1	0	21.43	21.39	21.31	22	2
1.4	64QAM	1	3	21.49	21.49	21.38		
1.4	64QAM	1	5	21.35	21.39	21.32		
1.4	64QAM	3	0	21.32	21.30	21.28		
1.4	64QAM	3	1	21.38	21.37	21.33		
1.4	64QAM	3	3	21.37	21.32	21.25		
1.4	64QAM	6	0	20.35	20.31	20.30	21	3

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		23.05		24	0
10	QPSK	1	25		23.00			
10	QPSK	1	49		23.01			
10	QPSK	25	0		22.10		23	1
10	QPSK	25	12		22.09			
10	QPSK	25	25		22.05			
10	QPSK	50	0		22.04			
10	16QAM	1	0		22.34		23	1
10	16QAM	1	25		22.34			
10	16QAM	1	49		22.45			
10	16QAM	25	0		21.18		22	2
10	16QAM	25	12		21.15			
10	16QAM	25	25		21.09			
10	16QAM	50	0		21.13			
10	64QAM	1	0		21.44		22	2
10	64QAM	1	25		21.42			
10	64QAM	1	49		21.53			
10	64QAM	25	0		20.37		21	3
10	64QAM	25	12		20.33			
10	64QAM	25	25		20.30			
10	64QAM	50	0		20.32			

Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.96	23.05	22.98	24	0
5	QPSK	1	12	22.92	22.99	23.03		
5	QPSK	1	24	22.99	22.98	23.00		
5	QPSK	12	0	22.00	22.06	21.99	23	1
5	QPSK	12	7	22.13	22.03	22.03		
5	QPSK	12	13	22.11	22.03	22.07		
5	QPSK	25	0	22.06	22.04	22.02		
5	16QAM	1	0	22.32	22.48	22.32	23	1
5	16QAM	1	12	22.33	22.31	22.41		
5	16QAM	1	24	22.33	22.30	22.45		
5	16QAM	12	0	21.14	21.18	21.11	22	2
5	16QAM	12	7	21.24	21.17	21.10		
5	16QAM	12	13	21.20	21.09	21.22		
5	16QAM	25	0	21.19	21.10	21.09		
5	64QAM	1	0	21.46	21.52	21.41	22	2
5	64QAM	1	12	21.43	21.42	21.52		
5	64QAM	1	24	21.42	21.40	21.54		
5	64QAM	12	0	20.30	20.38	20.44	21	3
5	64QAM	12	7	20.40	20.35	20.38		
5	64QAM	12	13	20.39	20.27	20.38		
5	64QAM	25	0	20.38	20.29	20.26		

<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	23.06	22.94	22.99	24	0
20	QPSK	1	49	22.74	22.72	22.75		
20	QPSK	1	99	22.72	22.70	22.74		
20	QPSK	50	0	22.04	21.93	21.59	23	1
20	QPSK	50	24	21.96	21.86	21.92		
20	QPSK	50	50	21.87	21.78	21.85		
20	QPSK	100	0	21.95	21.87	21.92		
20	16QAM	1	0	22.28	22.32	22.17	23	1
20	16QAM	1	49	22.13	22.01	22.01		
20	16QAM	1	99	22.19	21.93	22.01		
20	16QAM	50	0	21.07	21.02	21.02	22	2
20	16QAM	50	24	21.02	20.93	20.95		
20	16QAM	50	50	20.95	20.89	20.90		
20	16QAM	100	0	21.02	20.92	20.96		
20	64QAM	1	0	21.39	21.41	21.31	22	2
20	64QAM	1	49	21.29	21.11	21.14		
20	64QAM	1	99	21.28	21.04	21.15		
20	64QAM	50	0	20.24	20.20	20.22	21	3
20	64QAM	50	24	20.18	20.12	20.13		
20	64QAM	50	50	20.16	20.05	20.08		
20	64QAM	100	0	20.23	20.14	20.15		

Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.05	22.97	22.96	24	0
15	QPSK	1	37	22.86	22.73	22.79		
15	QPSK	1	74	22.89	22.76	22.78		
15	QPSK	36	0	22.03	21.90	21.93	23	1
15	QPSK	36	20	21.92	21.85	21.90		
15	QPSK	36	39	21.88	21.81	21.61		
15	QPSK	75	0	21.95	21.86	21.98		
15	16QAM	1	0	22.25	22.33	22.18	23	1
15	16QAM	1	37	22.16	22.01	22.04		
15	16QAM	1	74	22.26	21.99	22.04		
15	16QAM	36	0	21.09	20.98	20.97	22	2
15	16QAM	36	20	21.05	20.94	20.93		
15	16QAM	36	39	21.02	20.85	20.89		
15	16QAM	75	0	21.02	20.92	20.94		
15	64QAM	1	0	21.42	21.39	21.35	22	2
15	64QAM	1	37	21.26	21.21	21.36		
15	64QAM	1	74	21.32	21.39	21.20		
15	64QAM	36	0	20.26	20.12	20.19	21	3
15	64QAM	36	20	20.25	20.12	20.16		
15	64QAM	36	39	20.20	20.07	20.14		
15	64QAM	75	0	20.21	20.14	20.25		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	22.85	22.87	22.90	24	0
10	QPSK	1	25	22.78	22.80	22.81		
10	QPSK	1	49	22.70	22.72	22.74		
10	QPSK	25	0	22.02	21.91	21.90	23	1
10	QPSK	25	12	21.99	21.86	21.87		
10	QPSK	25	25	21.31	21.85	21.83		
10	QPSK	50	0	21.94	21.88	21.89		
10	16QAM	1	0	22.23	22.18	22.12	23	1
10	16QAM	1	25	22.19	22.08	22.09		
10	16QAM	1	49	22.27	22.00	22.01		
10	16QAM	25	0	21.07	20.94	20.97	22	2
10	16QAM	25	12	21.05	20.94	20.92		
10	16QAM	25	25	21.03	20.91	20.91		
10	16QAM	50	0	21.02	20.91	20.94		
10	64QAM	1	0	21.35	21.27	21.21	22	2
10	64QAM	1	25	21.32	21.19	21.17		
10	64QAM	1	49	21.31	21.10	21.16		
10	64QAM	25	0	20.25	20.14	20.16	21	3
10	64QAM	25	12	20.22	20.14	20.15		
10	64QAM	25	25	20.22	20.10	20.08		
10	64QAM	50	0	20.22	20.12	20.15		

Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	22.96	22.81	22.84	24	0
5	QPSK	1	12	22.69	22.77	22.78		
5	QPSK	1	24	22.75	22.77	22.77		
5	QPSK	12	0	21.95	21.83	21.85	23	1
5	QPSK	12	7	21.97	21.85	21.87		
5	QPSK	12	13	21.93	21.78	21.83		
5	QPSK	25	0	21.96	21.81	21.83		
5	16QAM	1	0	22.25	22.08	22.12	23	1
5	16QAM	1	12	22.16	22.03	22.06		
5	16QAM	1	24	22.16	21.99	22.00		
5	16QAM	12	0	21.03	20.89	20.90	22	2
5	16QAM	12	7	20.83	20.93	20.94		
5	16QAM	12	13	21.00	20.85	20.91		
5	16QAM	25	0	21.03	20.87	20.89		
5	64QAM	1	0	21.30	21.20	21.22	22	2
5	64QAM	1	12	21.13	21.15	21.17		
5	64QAM	1	24	21.07	21.10	21.18		
5	64QAM	12	0	20.17	20.08	20.09	21	3
5	64QAM	12	7	20.20	20.10	20.10		
5	64QAM	12	13	20.19	20.06	20.07		
5	64QAM	25	0	20.19	20.06	20.08		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	22.92	22.79	22.80	24	0
3	QPSK	1	8	22.89	22.77	22.77		
3	QPSK	1	14	22.87	22.73	22.75		
3	QPSK	8	0	21.94	21.98	21.81	23	1
3	QPSK	8	4	21.95	21.84	21.81		
3	QPSK	8	7	21.88	21.77	21.77		
3	QPSK	15	0	21.93	21.81	21.81		
3	16QAM	1	0	22.16	21.97	22.05	23	1
3	16QAM	1	8	22.13	21.96	22.02		
3	16QAM	1	14	22.13	21.96	22.00		
3	16QAM	8	0	21.04	20.93	20.89	22	2
3	16QAM	8	4	21.05	20.94	20.93		
3	16QAM	8	7	21.01	20.91	20.92		
3	16QAM	15	0	21.02	20.90	20.92		
3	64QAM	1	0	21.29	21.13	21.18	22	2
3	64QAM	1	8	21.28	21.12	21.16		
3	64QAM	1	14	21.23	21.09	21.11		
3	64QAM	8	0	20.15	20.09	20.06	21	3
3	64QAM	8	4	20.09	20.09	20.08		
3	64QAM	8	7	20.07	20.07	20.06		
3	64QAM	15	0	20.06	20.08	20.07		

Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	22.83	22.66	22.70	24	0
1.4	QPSK	1	3	22.90	22.73	22.76		
1.4	QPSK	1	5	22.82	22.66	22.71		
1.4	QPSK	3	0	22.89	22.74	22.74		
1.4	QPSK	3	1	22.92	22.77	22.76		
1.4	QPSK	3	3	22.85	22.75	22.74		
1.4	QPSK	6	0	21.83	21.74	21.74	23	1
1.4	16QAM	1	0	22.03	21.98	22.00	23	1
1.4	16QAM	1	3	22.12	22.03	22.09		
1.4	16QAM	1	5	22.07	21.94	21.97		
1.4	16QAM	3	0	21.88	21.77	21.80		
1.4	16QAM	3	1	21.93	21.79	21.84		
1.4	16QAM	3	3	21.88	21.73	21.77		
1.4	16QAM	6	0	20.96	20.88	20.88	22	2
1.4	64QAM	1	0	21.13	21.07	21.12	22	2
1.4	64QAM	1	3	21.28	21.14	21.15		
1.4	64QAM	1	5	21.19	21.95	21.11		
1.4	64QAM	3	0	21.08	20.99	21.01		
1.4	64QAM	3	1	21.07	21.08	21.09		
1.4	64QAM	3	3	21.13	21.00	21.01		
1.4	64QAM	6	0	20.08	20.03	20.02	21	3

<Reduced Power Mode for 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	16.53	16.48	16.60	17	0
20	QPSK	1	49	16.21	16.10	16.08		
20	QPSK	1	99	16.27	16.21	16.00		
20	QPSK	50	0	16.42	16.33	16.43	17	0
20	QPSK	50	24	16.34	16.27	16.22		
20	QPSK	50	50	16.27	16.18	16.14		
20	QPSK	100	0	16.36	16.27	16.40		
20	16QAM	1	0	16.60	16.83	16.91	17	0
20	16QAM	1	49	16.59	16.45	16.33		
20	16QAM	1	99	16.59	16.49	16.30		
20	16QAM	50	0	16.53	16.41	16.33	17	0
20	16QAM	50	24	16.44	16.34	16.29		
20	16QAM	50	50	16.35	16.27	16.21		
20	16QAM	100	0	16.40	16.32	16.25		
20	64QAM	1	0	16.82	16.68	16.52	17	0
20	64QAM	1	49	16.50	16.36	16.52		
20	64QAM	1	99	16.50	16.41	16.27		
20	64QAM	50	0	16.50	16.37	16.31	17	0
20	64QAM	50	24	16.45	16.33	16.28		
20	64QAM	50	50	16.34	16.26	16.19		
20	64QAM	100	0	16.44	16.34	16.28		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	16.49	16.38	16.43	17	0
15	QPSK	1	37	16.30	16.20	16.22		
15	QPSK	1	74	16.25	16.18	16.19		
15	QPSK	36	0	16.43	16.36	16.38	17	0
15	QPSK	36	20	16.39	16.32	16.31		
15	QPSK	36	39	16.33	16.25	16.25		
15	QPSK	75	0	16.40	16.30	16.33		
15	16QAM	1	0	16.84	16.59	16.74	17	0
15	16QAM	1	37	16.57	16.46	16.48		
15	16QAM	1	74	16.52	16.51	16.59		
15	16QAM	36	0	16.52	16.36	16.43	17	0
15	16QAM	36	20	16.47	16.31	16.36		
15	16QAM	36	39	16.40	16.33	16.30		
15	16QAM	75	0	16.39	16.38	16.38		
15	64QAM	1	0	16.74	16.57	16.67	17	0
15	64QAM	1	37	16.45	16.36	16.40		
15	64QAM	1	74	16.35	16.42	16.45		
15	64QAM	36	0	16.52	16.33	16.42	17	0
15	64QAM	36	20	16.47	16.31	16.36		
15	64QAM	36	39	16.37	16.29	16.29		
15	64QAM	75	0	16.48	16.38	16.41		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	16.68	16.53	16.37	17	0
10	QPSK	1	25	16.36	16.25	16.24		
10	QPSK	1	49	16.50	16.40	16.19		
10	QPSK	25	0	16.49	16.38	16.37	17	0
10	QPSK	25	12	16.47	16.37	16.34		
10	QPSK	25	25	16.41	16.33	16.29		
10	QPSK	50	0	16.44	16.36	16.31		
10	16QAM	1	0	16.93	16.77	16.61	17	0
10	16QAM	1	25	16.67	16.40	16.46		
10	16QAM	1	49	16.83	16.72	16.50		
10	16QAM	25	0	16.56	16.43	16.42	17	0
10	16QAM	25	12	16.53	16.41	16.42		
10	16QAM	25	25	16.46	16.35	16.39		
10	16QAM	50	0	16.53	16.40	16.40		
10	64QAM	1	0	16.88	16.67	16.56	17	0
10	64QAM	1	25	16.58	16.36	16.43		
10	64QAM	1	49	16.71	16.60	16.43		
10	64QAM	25	0	16.58	16.40	16.43	17	0
10	64QAM	25	12	16.54	16.38	16.43		
10	64QAM	25	25	16.45	16.35	16.38		
10	64QAM	50	0	16.55	16.42	16.41		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	16.49	16.34	16.33	17	0
5	QPSK	1	12	16.41	16.28	16.29		
5	QPSK	1	24	16.40	16.30	16.25		
5	QPSK	12	0	16.48	16.31	16.29	17	0
5	QPSK	12	7	16.47	16.34	16.31		
5	QPSK	12	13	16.40	16.31	16.31		
5	QPSK	25	0	16.44	16.32	16.32		
5	16QAM	1	0	16.70	16.56	16.58	17	0
5	16QAM	1	12	16.73	16.53	16.51		
5	16QAM	1	24	16.66	16.47	16.48		
5	16QAM	12	0	16.54	16.35	16.37	17	0
5	16QAM	12	7	16.55	16.37	16.37		
5	16QAM	12	13	16.47	16.33	16.36		
5	16QAM	25	0	16.51	16.38	16.39		
5	64QAM	1	0	16.70	16.55	16.48	17	0
5	64QAM	1	12	16.67	16.42	16.41		
5	64QAM	1	24	16.56	16.41	16.44		
5	64QAM	12	0	16.54	16.35	16.35	17	0
5	64QAM	12	7	16.52	16.31	16.35		
5	64QAM	12	13	16.47	16.30	16.35		
5	64QAM	25	0	16.52	16.39	16.36		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	16.53	16.41	16.34	17	0
3	QPSK	1	8	16.45	16.28	16.32		
3	QPSK	1	14	16.46	16.31	16.29		
3	QPSK	8	0	16.51	16.38	16.38	17	0
3	QPSK	8	4	16.52	16.41	16.40		
3	QPSK	8	7	16.47	16.39	16.37		
3	QPSK	15	0	16.51	16.39	16.33		
3	16QAM	1	0	16.77	16.64	16.64	17	0
3	16QAM	1	8	16.78	16.56	16.63		
3	16QAM	1	14	16.70	16.58	16.62		
3	16QAM	8	0	16.66	16.42	16.45	17	0
3	16QAM	8	4	16.60	16.43	16.49		
3	16QAM	8	7	16.57	16.40	16.44		
3	16QAM	15	0	16.60	16.46	16.44		
3	64QAM	1	0	16.67	16.53	16.55	17	0
3	64QAM	1	8	16.65	16.42	16.50		
3	64QAM	1	14	16.60	16.48	16.53		
3	64QAM	8	0	16.55	16.40	16.39	17	0
3	64QAM	8	4	16.54	16.40	16.43		
3	64QAM	8	7	16.50	16.35	16.39		
3	64QAM	15	0	16.58	16.44	16.39		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	16.42	16.26	16.22	17	0
1.4	QPSK	1	3	16.48	16.32	16.31		
1.4	QPSK	1	5	16.38	16.24	16.19		
1.4	QPSK	3	0	16.47	16.28	16.30		
1.4	QPSK	3	1	16.51	16.33	16.32		
1.4	QPSK	3	3	16.44	16.30	16.28		
1.4	QPSK	6	0	16.49	16.30	16.29	17	0
1.4	16QAM	1	0	16.70	16.51	16.53	17	0
1.4	16QAM	1	3	16.70	16.58	16.65		
1.4	16QAM	1	5	16.58	16.49	16.58		
1.4	16QAM	3	0	16.53	16.35	16.34		
1.4	16QAM	3	1	16.57	16.33	16.38		
1.4	16QAM	3	3	16.51	16.31	16.34		
1.4	16QAM	6	0	16.62	16.41	16.42	17	0
1.4	64QAM	1	0	16.63	16.48	16.38	17	0
1.4	64QAM	1	3	16.70	16.51	16.44		
1.4	64QAM	1	5	16.59	16.47	16.36		
1.4	64QAM	3	0	16.57	16.38	16.35		
1.4	64QAM	3	1	16.60	16.41	16.44		
1.4	64QAM	3	3	16.60	16.36	16.42		
1.4	64QAM	6	0	16.54	16.38	16.38	17	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	15.81	15.87	15.78	16.5	0
20	QPSK	1	49	15.65	15.63	15.67		
20	QPSK	1	99	15.54	15.47	15.55		
20	QPSK	50	0	15.72	15.79	15.68	16.5	0
20	QPSK	50	24	15.78	15.68	15.59		
20	QPSK	50	50	15.66	15.60	15.65		
20	QPSK	100	0	15.77	15.69	15.60		
20	16QAM	1	0	16.26	16.24	16.24	16.5	0
20	16QAM	1	49	15.99	16.19	16.25		
20	16QAM	1	99	16.01	16.02	16.02		
20	16QAM	50	0	15.87	15.91	15.82	16.5	0
20	16QAM	50	24	15.91	15.85	15.77		
20	16QAM	50	50	15.82	15.80	15.82		
20	16QAM	100	0	15.90	15.84	15.80		
20	64QAM	1	0	16.11	16.10	16.07	16.5	0
20	64QAM	1	49	15.89	16.00	16.09		
20	64QAM	1	99	15.89	15.88	15.84		
20	64QAM	50	0	15.87	15.90	15.82	16.5	0
20	64QAM	50	24	15.90	15.83	15.78		
20	64QAM	50	50	15.78	15.78	15.76		
20	64QAM	100	0	15.91	15.85	15.79		

Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	15.81	15.83	15.75	16.5	0
15	QPSK	1	37	15.61	15.60	15.64		
15	QPSK	1	74	15.64	15.56	15.58		
15	QPSK	36	0	15.77	15.75	15.67	16.5	0
15	QPSK	36	20	15.68	15.69	15.74		
15	QPSK	36	39	15.67	15.64	15.62		
15	QPSK	75	0	15.78	15.69	15.63		
15	16QAM	1	0	16.24	16.23	16.20	16.5	0
15	16QAM	1	37	16.06	16.17	16.01		
15	16QAM	1	74	16.09	15.95	16.00		
15	16QAM	36	0	15.88	15.92	15.82	16.5	0
15	16QAM	36	20	15.78	15.84	15.84		
15	16QAM	36	39	15.83	15.79	15.76		
15	16QAM	75	0	15.89	15.88	15.76		
15	64QAM	1	0	16.07	16.07	16.10	16.5	0
15	64QAM	1	37	15.85	15.96	15.92		
15	64QAM	1	74	15.94	15.89	15.89		
15	64QAM	36	0	15.86	15.89	15.81	16.5	0
15	64QAM	36	20	15.76	15.83	15.84		
15	64QAM	36	39	15.80	15.75	15.76		
15	64QAM	75	0	15.87	15.85	15.75		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	15.73	15.65	15.69	16.5	0
10	QPSK	1	25	15.56	15.69	15.59		
10	QPSK	1	49	15.53	15.55	15.52		
10	QPSK	25	0	15.73	15.66	15.63	16.5	0
10	QPSK	25	12	15.66	15.64	15.66		
10	QPSK	25	25	15.63	15.58	15.63		
10	QPSK	50	0	15.67	15.65	15.63		
10	16QAM	1	0	16.16	16.17	16.09	16.5	0
10	16QAM	1	25	16.04	16.08	16.00		
10	16QAM	1	49	15.98	16.12	15.96		
10	16QAM	25	0	15.86	15.85	15.83	16.5	0
10	16QAM	25	12	15.76	15.81	15.81		
10	16QAM	25	25	15.74	15.73	15.73		
10	16QAM	50	0	15.80	15.80	15.77		
10	64QAM	1	0	16.00	15.98	16.02	16.5	0
10	64QAM	1	25	15.90	15.95	15.89		
10	64QAM	1	49	15.83	15.89	15.84		
10	64QAM	25	0	15.83	15.83	15.84	16.5	0
10	64QAM	25	12	15.75	15.80	15.79		
10	64QAM	25	25	15.71	15.74	15.72		
10	64QAM	50	0	15.78	15.78	15.75		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	15.62	15.61	15.63	16.5	0
5	QPSK	1	12	15.62	15.54	15.54		
5	QPSK	1	24	15.58	15.60	15.55		
5	QPSK	12	0	15.71	15.66	15.62	16.5	0
5	QPSK	12	7	15.66	15.64	15.66		
5	QPSK	12	13	15.63	15.62	15.63		
5	QPSK	25	0	15.65	15.60	15.60		
5	16QAM	1	0	16.06	16.14	15.97	16.5	0
5	16QAM	1	12	16.02	16.04	15.89		
5	16QAM	1	24	15.98	16.03	15.86		
5	16QAM	12	0	15.78	15.82	15.72	16.5	0
5	16QAM	12	7	15.77	15.83	15.77		
5	16QAM	12	13	15.74	15.83	15.72		
5	16QAM	25	0	15.77	15.74	15.70		
5	64QAM	1	0	16.01	16.02	15.86	16.5	0
5	64QAM	1	12	15.89	15.90	15.81		
5	64QAM	1	24	15.88	15.93	15.84		
5	64QAM	12	0	15.80	15.79	15.72	16.5	0
5	64QAM	12	7	15.80	15.81	15.74		
5	64QAM	12	13	15.74	15.78	15.71		
5	64QAM	25	0	15.78	15.75	15.71		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	15.62	15.57	15.60	16.5	0
3	QPSK	1	8	15.64	15.55	15.54		
3	QPSK	1	14	15.57	15.51	15.52		
3	QPSK	8	0	15.64	15.59	15.58	16.5	0
3	QPSK	8	4	15.62	15.61	15.63		
3	QPSK	8	7	15.60	15.57	15.60		
3	QPSK	15	0	15.62	15.61	15.60		
3	16QAM	1	0	16.04	16.03	16.00	16.5	0
3	16QAM	1	8	15.93	16.02	15.94		
3	16QAM	1	14	15.98	15.96	15.90		
3	16QAM	8	0	15.80	15.84	15.75	16.5	0
3	16QAM	8	4	15.83	15.86	15.74		
3	16QAM	8	7	15.76	15.80	15.74		
3	16QAM	15	0	15.75	15.77	15.71		
3	64QAM	1	0	15.93	15.95	15.85	16.5	0
3	64QAM	1	8	15.91	15.99	15.84		
3	64QAM	1	14	15.75	15.94	15.79		
3	64QAM	8	0	15.78	15.77	15.71	16.5	0
3	64QAM	8	4	15.77	15.82	15.72		
3	64QAM	8	7	15.72	15.76	15.73		
3	64QAM	15	0	15.71	15.75	15.66		

Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	15.55	15.49	15.46	16.5	0
1.4	QPSK	1	3	15.55	15.51	15.54		
1.4	QPSK	1	5	15.49	15.48	15.45		
1.4	QPSK	3	0	15.58	15.51	15.52		
1.4	QPSK	3	1	15.58	15.59	15.54		
1.4	QPSK	3	3	15.56	15.53	15.52		
1.4	QPSK	6	0	15.54	15.52	15.55	16.5	0
1.4	16QAM	1	0	15.90	15.89	15.82	16.5	0
1.4	16QAM	1	3	16.00	16.11	16.04		
1.4	16QAM	1	5	15.90	15.95	15.88		
1.4	16QAM	3	0	15.72	15.67	15.65		
1.4	16QAM	3	1	15.70	15.72	15.64		
1.4	16QAM	3	3	15.68	15.65	15.65		
1.4	16QAM	6	0	15.76	15.72	15.67	16.5	0
1.4	64QAM	1	0	15.82	15.86	15.74	16.5	0
1.4	64QAM	1	3	15.82	15.97	15.84		
1.4	64QAM	1	5	15.73	15.86	15.66		
1.4	64QAM	3	0	15.73	15.75	15.67		
1.4	64QAM	3	1	15.68	15.79	15.68		
1.4	64QAM	3	3	15.69	15.73	15.71		
1.4	64QAM	6	0	15.68	15.66	15.62	16.5	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	20.44	20.40	20.46	21.5	0
10	QPSK	1	25	20.45	20.36	20.45		
10	QPSK	1	49	20.47	20.31	20.28		
10	QPSK	25	0	20.53	20.45	20.47	21.5	0
10	QPSK	25	12	20.52	20.44	20.54		
10	QPSK	25	25	20.56	20.36	20.47		
10	QPSK	50	0	20.60	20.39	20.46		
10	16QAM	1	0	20.82	20.74	20.71	21.5	0
10	16QAM	1	25	20.78	20.69	20.81		
10	16QAM	1	49	20.80	20.63	20.78		
10	16QAM	25	0	20.60	20.54	20.52	21.5	0
10	16QAM	25	12	20.66	20.51	20.60		
10	16QAM	25	25	20.61	20.43	20.60		
10	16QAM	50	0	20.66	20.47	20.49		
10	64QAM	1	0	20.76	20.69	20.61	21.5	0
10	64QAM	1	25	20.68	20.56	20.68		
10	64QAM	1	49	20.70	20.51	20.65		
10	64QAM	25	0	20.59	20.51	20.52	21.5	0
10	64QAM	25	12	20.64	20.50	20.59		
10	64QAM	25	25	20.59	20.42	20.58		
10	64QAM	50	0	20.64	20.45	20.46		

Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	20.49	20.38	20.45	21.5	0
5	QPSK	1	12	20.43	20.36	20.41		
5	QPSK	1	24	20.44	20.32	20.37		
5	QPSK	12	0	20.49	20.39	20.49	21.5	0
5	QPSK	12	7	20.50	20.45	20.48		
5	QPSK	12	13	20.53	20.36	20.47		
5	QPSK	25	0	20.51	20.37	20.48		
5	16QAM	1	0	20.84	20.71	20.78	21.5	0
5	16QAM	1	12	20.73	20.69	20.74		
5	16QAM	1	24	20.75	20.64	20.74		
5	16QAM	12	0	20.57	20.48	20.55	21.5	0
5	16QAM	12	7	20.58	20.46	20.60		
5	16QAM	12	13	20.56	20.44	20.52		
5	16QAM	25	0	20.57	20.45	20.52		
5	64QAM	1	0	20.75	20.61	20.70	21.5	0
5	64QAM	1	12	20.66	20.55	20.66		
5	64QAM	1	24	20.66	20.49	20.66		
5	64QAM	12	0	20.55	20.46	20.51	21.5	0
5	64QAM	12	7	20.57	20.42	20.58		
5	64QAM	12	13	20.55	20.42	20.50		
5	64QAM	25	0	20.57	20.45	20.51		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	20.44	20.32	20.37	21.5	0
3	QPSK	1	8	20.41	20.29	20.37		
3	QPSK	1	14	20.38	20.25	20.30		
3	QPSK	8	0	20.45	20.35	20.39	21.5	0
3	QPSK	8	4	20.49	20.36	20.45		
3	QPSK	8	7	20.48	20.35	20.41		
3	QPSK	15	0	20.46	20.35	20.37		
3	16QAM	1	0	20.81	20.61	20.67	21.5	0
3	16QAM	1	8	20.72	20.65	20.80		
3	16QAM	1	14	20.74	20.55	20.73		
3	16QAM	8	0	20.61	20.39	20.53	21.5	0
3	16QAM	8	4	20.63	20.48	20.55		
3	16QAM	8	7	20.51	20.38	20.50		
3	16QAM	15	0	20.55	20.41	20.49		
3	64QAM	1	0	20.63	20.57	20.64	21.5	0
3	64QAM	1	8	20.63	20.52	20.70		
3	64QAM	1	14	20.61	20.41	20.65		
3	64QAM	8	0	20.55	20.34	20.46	21.5	0
3	64QAM	8	4	20.55	20.40	20.55		
3	64QAM	8	7	20.44	20.35	20.48		
3	64QAM	15	0	20.52	20.35	20.46		

Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	20.34	20.19	20.27	21.5	0
1.4	QPSK	1	3	20.41	20.24	20.35		
1.4	QPSK	1	5	20.33	20.20	20.23		
1.4	QPSK	3	0	20.39	20.28	20.31		
1.4	QPSK	3	1	20.45	20.30	20.34		
1.4	QPSK	3	3	20.40	20.25	20.34		
1.4	QPSK	6	0	20.38	20.26	20.32	21.5	0
1.4	16QAM	1	0	20.71	20.48	20.66	21.5	0
1.4	16QAM	1	3	20.81	20.64	20.75		
1.4	16QAM	1	5	20.63	20.50	20.64		
1.4	16QAM	3	0	20.52	20.33	20.46		
1.4	16QAM	3	1	20.51	20.38	20.43		
1.4	16QAM	3	3	20.40	20.32	20.39		
1.4	16QAM	6	0	20.52	20.36	20.47	21.5	0
1.4	64QAM	1	0	20.65	20.34	20.60	21.5	0
1.4	64QAM	1	3	20.66	20.41	20.63		
1.4	64QAM	1	5	20.63	20.46	20.61		
1.4	64QAM	3	0	20.55	20.37	20.46		
1.4	64QAM	3	1	20.56	20.42	20.51		
1.4	64QAM	3	3	20.47	20.34	20.43		
1.4	64QAM	6	0	20.47	20.30	20.39	21.5	0

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	16.51	16.45	16.50	17.5	0
20	QPSK	1	49	16.46	16.36	16.45		
20	QPSK	1	99	16.50	16.33	16.49		
20	QPSK	50	0	16.60	16.44	16.57	17.5	0
20	QPSK	50	24	16.55	16.47	16.59		
20	QPSK	50	50	16.55	16.42	16.53		
20	QPSK	100	0	16.54	16.44	16.49		
20	16QAM	1	0	16.77	16.74	16.87	17.5	0
20	16QAM	1	49	16.78	16.63	16.77		
20	16QAM	1	99	16.79	16.69	16.81		
20	16QAM	50	0	16.58	16.54	16.67	17.5	0
20	16QAM	50	24	16.60	16.53	16.67		
20	16QAM	50	50	16.60	16.50	16.66		
20	16QAM	100	0	16.57	16.52	16.63		
20	64QAM	1	0	16.71	16.62	16.77	17.5	0
20	64QAM	1	49	16.68	16.52	16.69		
20	64QAM	1	99	16.67	16.54	16.71		
20	64QAM	50	0	16.59	16.53	16.64	17.5	0
20	64QAM	50	24	16.61	16.56	16.64		
20	64QAM	50	50	16.60	16.49	16.61		
20	64QAM	100	0	16.58	16.47	16.65		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	16.49	16.44	16.53	17.5	0
15	QPSK	1	37	16.48	16.37	16.48		
15	QPSK	1	74	16.50	16.36	16.50		
15	QPSK	36	0	16.47	16.43	16.55	17.5	0
15	QPSK	36	20	16.56	16.47	16.54		
15	QPSK	36	39	16.53	16.40	16.54		
15	QPSK	75	0	16.55	16.42	16.55		
15	16QAM	1	0	16.77	16.73	16.81	17.5	0
15	16QAM	1	37	16.75	16.71	16.78		
15	16QAM	1	74	16.80	16.71	16.87		
15	16QAM	36	0	16.57	16.50	16.62	17.5	0
15	16QAM	36	20	16.60	16.50	16.62		
15	16QAM	36	39	16.60	16.47	16.60		
15	16QAM	75	0	16.57	16.46	16.61		
15	64QAM	1	0	16.70	16.60	16.78	17.5	0
15	64QAM	1	37	16.64	16.56	16.65		
15	64QAM	1	74	16.70	16.62	16.73		
15	64QAM	36	0	16.57	16.48	16.60	17.5	0
15	64QAM	36	20	16.59	16.49	16.63		
15	64QAM	36	39	16.58	16.48	16.59		
15	64QAM	75	0	16.59	16.49	16.61		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	16.45	16.40	16.48	17.5	0
10	QPSK	1	25	16.47	16.35	16.50		
10	QPSK	1	49	16.46	16.34	16.50		
10	QPSK	25	0	16.49	16.40	16.54	17.5	0
10	QPSK	25	12	16.51	16.44	16.56		
10	QPSK	25	25	16.51	16.41	16.56		
10	QPSK	50	0	16.52	16.41	16.54		
10	16QAM	1	0	16.78	16.74	16.82	17.5	0
10	16QAM	1	25	16.77	16.64	16.82		
10	16QAM	1	49	16.79	16.65	16.81		
10	16QAM	25	0	16.57	16.46	16.63	17.5	0
10	16QAM	25	12	16.60	16.49	16.61		
10	16QAM	25	25	16.54	16.47	16.59		
10	16QAM	50	0	16.56	16.48	16.63		
10	64QAM	1	0	16.60	16.59	16.72	17.5	0
10	64QAM	1	25	16.63	16.56	16.71		
10	64QAM	1	49	16.66	16.55	16.71		
10	64QAM	25	0	16.56	16.48	16.62	17.5	0
10	64QAM	25	12	16.61	16.48	16.62		
10	64QAM	25	25	16.54	16.45	16.59		
10	64QAM	50	0	16.55	16.49	16.63		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	16.42	16.37	16.49	17.5	0
5	QPSK	1	12	16.43	16.37	16.50		
5	QPSK	1	24	16.44	16.35	16.49		
5	QPSK	12	0	16.48	16.42	16.53	17.5	0
5	QPSK	12	7	16.53	16.46	16.56		
5	QPSK	12	13	16.47	16.37	16.55		
5	QPSK	25	0	16.48	16.41	16.53		
5	16QAM	1	0	16.70	16.65	16.72	17.5	0
5	16QAM	1	12	16.73	16.68	16.87		
5	16QAM	1	24	16.69	16.63	16.77		
5	16QAM	12	0	16.52	16.46	16.58	17.5	0
5	16QAM	12	7	16.55	16.50	16.64		
5	16QAM	12	13	16.50	16.48	16.59		
5	16QAM	25	0	16.55	16.50	16.57		
5	64QAM	1	0	16.69	16.53	16.66	17.5	0
5	64QAM	1	12	16.64	16.54	16.72		
5	64QAM	1	24	16.64	16.54	16.71		
5	64QAM	12	0	16.51	16.45	16.59	17.5	0
5	64QAM	12	7	16.55	16.50	16.60		
5	64QAM	12	13	16.51	16.46	16.58		
5	64QAM	25	0	16.51	16.49	16.57		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	22.11	22.18	22.28	23	0
10	QPSK	1	25	22.22	22.26	22.22		
10	QPSK	1	49	22.26	22.21	22.27		
10	QPSK	25	0	22.32	22.36	22.31	23	0
10	QPSK	25	12	22.36	22.32	22.30		
10	QPSK	25	25	22.30	22.31	22.28		
10	QPSK	50	0	22.34	22.31	22.28		
10	16QAM	1	0	22.50	22.55	22.55	23	0
10	16QAM	1	25	22.54	22.70	22.50		
10	16QAM	1	49	22.65	22.50	22.50		
10	16QAM	25	0	21.39	21.44	21.39	22	1
10	16QAM	25	12	21.46	21.46	21.38		
10	16QAM	25	25	21.46	21.34	21.30		
10	16QAM	50	0	21.46	21.42	21.36		
10	64QAM	1	0	21.38	21.40	21.49	22	1
10	64QAM	1	25	21.49	21.53	21.35		
10	64QAM	1	49	21.51	21.40	21.40		
10	64QAM	25	0	20.40	20.45	20.41	21	2
10	64QAM	25	12	20.45	20.44	20.38		
10	64QAM	25	25	20.45	20.36	20.31		
10	64QAM	50	0	20.43	20.39	20.35		

Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	22.13	22.13	22.18	23	0
5	QPSK	1	12	22.23	22.24	22.23		
5	QPSK	1	24	22.21	22.22	22.27		
5	QPSK	12	0	22.29	22.34	22.24	23	0
5	QPSK	12	7	22.31	22.34	22.36		
5	QPSK	12	13	22.27	22.33	22.31		
5	QPSK	25	0	22.26	22.32	22.27		
5	16QAM	1	0	22.46	22.56	22.41	23	0
5	16QAM	1	12	22.62	22.56	22.50		
5	16QAM	1	24	22.61	22.53	22.51		
5	16QAM	12	0	21.37	21.44	21.31	22	1
5	16QAM	12	7	21.43	21.42	21.40		
5	16QAM	12	13	21.39	21.44	21.36		
5	16QAM	25	0	21.39	21.41	21.31		
5	64QAM	1	0	21.41	21.44	21.40	22	1
5	64QAM	1	12	21.47	21.52	21.46		
5	64QAM	1	24	21.47	21.44	21.40		
5	64QAM	12	0	20.34	20.42	20.32	21	2
5	64QAM	12	7	20.39	20.43	20.39		
5	64QAM	12	13	20.37	20.40	20.36		
5	64QAM	25	0	20.37	20.41	20.30		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	22.16	22.24	22.27	23	0
3	QPSK	1	8	22.11	22.23	22.24		
3	QPSK	1	14	22.27	22.22	22.25		
3	QPSK	8	0	22.17	22.27	22.28	23	0
3	QPSK	8	4	22.19	22.30	22.31		
3	QPSK	8	7	22.27	22.28	22.30		
3	QPSK	15	0	22.30	22.29	22.29		
3	16QAM	1	0	22.45	22.61	22.51	23	0
3	16QAM	1	8	22.54	22.57	22.52		
3	16QAM	1	14	22.54	22.60	22.47		
3	16QAM	8	0	21.30	21.42	21.38	22	1
3	16QAM	8	4	21.35	21.48	21.44		
3	16QAM	8	7	21.42	21.43	21.39		
3	16QAM	15	0	21.39	21.39	21.35		
3	64QAM	1	0	21.43	21.43	21.37	22	1
3	64QAM	1	8	21.43	21.47	21.40		
3	64QAM	1	14	21.51	21.46	21.37		
3	64QAM	8	0	20.22	20.37	20.35	21	2
3	64QAM	8	4	20.30	20.42	20.40		
3	64QAM	8	7	20.40	20.33	20.30		
3	64QAM	15	0	20.34	20.38	20.37		

Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	22.24	22.14	22.17	23	0
1.4	QPSK	1	3	22.21	22.18	22.25		
1.4	QPSK	1	5	22.23	22.14	22.13		
1.4	QPSK	3	0	22.27	22.20	22.21		
1.4	QPSK	3	1	22.29	22.25	22.27		
1.4	QPSK	3	3	22.22	22.18	22.18		
1.4	QPSK	6	0	22.29	22.21	22.24	23	0
1.4	16QAM	1	0	22.52	22.56	22.36	23	0
1.4	16QAM	1	3	22.67	22.56	22.43		
1.4	16QAM	1	5	22.60	22.52	22.32		
1.4	16QAM	3	0	22.43	22.32	22.22		
1.4	16QAM	3	1	22.42	22.31	22.24		
1.4	16QAM	3	3	22.35	22.31	22.18		
1.4	16QAM	6	0	21.52	21.36	21.37	22	1
1.4	64QAM	1	0	21.42	21.39	21.26	22	1
1.4	64QAM	1	3	21.44	21.47	21.34		
1.4	64QAM	1	5	21.59	21.40	21.27		
1.4	64QAM	3	0	21.38	21.39	21.29		
1.4	64QAM	3	1	21.47	21.43	21.31		
1.4	64QAM	3	3	21.42	21.36	21.24		
1.4	64QAM	6	0	20.41	20.27	20.27	21	2

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		21.80		23	0
10	QPSK	1	25		21.75			
10	QPSK	1	49		21.79			
10	QPSK	25	0		21.87		23	0
10	QPSK	25	12		21.84			
10	QPSK	25	25		21.80			
10	QPSK	50	0		21.81			
10	16QAM	1	0		22.15		23	0
10	16QAM	1	25		22.08			
10	16QAM	1	49		22.00			
10	16QAM	25	0		21.43		22	1
10	16QAM	25	12		21.44			
10	16QAM	25	25		21.38			
10	16QAM	50	0		21.40			
10	64QAM	1	0		21.00		22	1
10	64QAM	1	25		20.98			
10	64QAM	1	49		21.04			
10	64QAM	25	0		20.43		21	2
10	64QAM	25	12		20.43			
10	64QAM	25	25		20.39			
10	64QAM	50	0		20.38			

Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	21.74	21.78	21.75	23	0
5	QPSK	1	12	21.69	21.71	21.79		
5	QPSK	1	24	21.76	21.72	21.78		
5	QPSK	12	0	21.77	21.85	21.77	23	0
5	QPSK	12	7	21.90	21.85	21.81		
5	QPSK	12	13	21.84	21.79	21.85		
5	QPSK	25	0	21.81	21.81	21.78		
5	16QAM	1	0	22.04	22.23	22.08	23	0
5	16QAM	1	12	22.10	22.03	22.14		
5	16QAM	1	24	22.04	22.08	22.14		
5	16QAM	12	0	21.41	21.39	21.32	22	1
5	16QAM	12	7	21.50	21.37	21.35		
5	16QAM	12	13	21.44	21.37	21.49		
5	16QAM	25	0	21.45	21.35	21.35		
5	64QAM	1	0	21.03	21.09	20.94	22	1
5	64QAM	1	12	21.00	20.95	21.04		
5	64QAM	1	24	21.03	20.96	21.06		
5	64QAM	12	0	20.38	20.40	20.30	21	2
5	64QAM	12	7	20.53	20.33	20.34		
5	64QAM	12	13	20.43	20.34	20.45		
5	64QAM	25	0	20.44	20.33	20.36		

<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	15.85	15.82	15.78	16.5	0
20	QPSK	1	49	15.59	15.56	15.57		
20	QPSK	1	99	15.60	15.52	15.51		
20	QPSK	50	0	15.78	15.74	15.70	16.5	0
20	QPSK	50	24	15.77	15.67	15.65		
20	QPSK	50	50	15.61	15.60	15.59		
20	QPSK	100	0	15.71	15.67	15.65		
20	16QAM	1	0	16.22	16.18	16.10	16.5	0
20	16QAM	1	49	16.02	16.04	15.88		
20	16QAM	1	99	15.90	15.90	15.83		
20	16QAM	50	0	15.86	15.87	15.83	16.5	0
20	16QAM	50	24	15.87	15.85	15.76		
20	16QAM	50	50	15.74	15.75	15.69		
20	16QAM	100	0	15.82	15.83	15.77		
20	64QAM	1	0	16.07	16.06	16.01	16.5	0
20	64QAM	1	49	15.84	15.94	15.80		
20	64QAM	1	99	15.80	15.78	15.79		
20	64QAM	50	0	15.83	15.90	15.79	16.5	0
20	64QAM	50	24	15.82	15.84	15.75		
20	64QAM	50	50	15.72	15.72	15.69		
20	64QAM	100	0	15.87	15.82	15.79		

Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	15.77	15.73	15.72	16.5	0
15	QPSK	1	37	15.56	15.56	15.55		
15	QPSK	1	74	15.60	15.57	15.58		
15	QPSK	36	0	15.70	15.77	15.66	16.5	0
15	QPSK	36	20	15.69	15.70	15.68		
15	QPSK	36	39	15.68	15.65	15.61		
15	QPSK	75	0	15.75	15.68	15.69		
15	16QAM	1	0	16.20	16.18	16.05	16.5	0
15	16QAM	1	37	15.95	16.04	15.87		
15	16QAM	1	74	16.10	16.03	15.89		
15	16QAM	36	0	15.80	15.94	15.77	16.5	0
15	16QAM	36	20	15.79	15.83	15.73		
15	16QAM	36	39	15.79	15.77	15.71		
15	16QAM	75	0	15.83	15.83	15.72		
15	64QAM	1	0	16.08	16.13	16.01	16.5	0
15	64QAM	1	37	15.87	15.98	15.82		
15	64QAM	1	74	15.91	15.90	15.80		
15	64QAM	36	0	15.80	15.93	15.75	16.5	0
15	64QAM	36	20	15.77	15.83	15.71		
15	64QAM	36	39	15.79	15.77	15.69		
15	64QAM	75	0	15.82	15.87	15.73		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	15.70	15.74	15.69	16.5	0
10	QPSK	1	25	15.62	15.64	15.59		
10	QPSK	1	49	15.70	15.54	15.50		
10	QPSK	25	0	15.67	15.71	15.62	16.5	0
10	QPSK	25	12	15.69	15.63	15.62		
10	QPSK	25	25	15.59	15.61	15.59		
10	QPSK	50	0	15.63	15.66	15.63		
10	16QAM	1	0	16.10	16.21	16.05	16.5	0
10	16QAM	1	25	15.94	16.11	15.92		
10	16QAM	1	49	15.94	15.98	15.86		
10	16QAM	25	0	15.82	15.86	15.74	16.5	0
10	16QAM	25	12	15.75	15.81	15.71		
10	16QAM	25	25	15.72	15.78	15.67		
10	16QAM	50	0	15.79	15.85	15.70		
10	64QAM	1	0	15.97	16.09	15.88	16.5	0
10	64QAM	1	25	15.84	15.96	15.79		
10	64QAM	1	49	15.87	15.90	15.85		
10	64QAM	25	0	15.73	15.83	15.64	16.5	0
10	64QAM	25	12	15.74	15.82	15.73		
10	64QAM	25	25	15.72	15.72	15.70		
10	64QAM	50	0	15.75	15.82	15.74		

Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	15.39	15.48	15.54	16.5	0
5	QPSK	1	12	15.33	15.47	15.50		
5	QPSK	1	24	15.31	15.48	15.50		
5	QPSK	12	0	15.40	15.50	15.57	16.5	0
5	QPSK	12	7	15.39	15.53	15.54		
5	QPSK	12	13	15.37	15.54	15.55		
5	QPSK	25	0	15.33	15.47	15.57		
5	16QAM	1	0	15.72	15.94	15.93	16.5	0
5	16QAM	1	12	15.70	15.89	15.86		
5	16QAM	1	24	15.68	15.84	15.78		
5	16QAM	12	0	15.50	15.66	15.67	16.5	0
5	16QAM	12	7	15.47	15.74	15.64		
5	16QAM	12	13	15.46	15.63	15.60		
5	16QAM	25	0	15.45	15.63	15.65		
5	64QAM	1	0	15.68	15.88	15.85	16.5	0
5	64QAM	1	12	15.58	15.80	15.77		
5	64QAM	1	24	15.54	15.73	15.73		
5	64QAM	12	0	15.47	15.68	15.64	16.5	0
5	64QAM	12	7	15.47	15.69	15.63		
5	64QAM	12	13	15.44	15.59	15.61		
5	64QAM	25	0	15.45	15.63	15.66		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	15.37	15.51	15.51	16.5	0
3	QPSK	1	8	15.35	15.43	15.48		
3	QPSK	1	14	15.30	15.44	15.47		
3	QPSK	8	0	15.38	15.53	15.52	16.5	0
3	QPSK	8	4	15.37	15.52	15.56		
3	QPSK	8	7	15.34	15.51	15.53		
3	QPSK	15	0	15.34	15.49	15.53		
3	16QAM	1	0	15.70	15.86	15.89	16.5	0
3	16QAM	1	8	15.65	15.80	15.92		
3	16QAM	1	14	15.65	15.86	15.82		
3	16QAM	8	0	15.51	15.70	15.66	16.5	0
3	16QAM	8	4	15.55	15.70	15.70		
3	16QAM	8	7	15.52	15.69	15.64		
3	16QAM	15	0	15.46	15.66	15.62		
3	64QAM	1	0	15.60	15.77	15.72	16.5	0
3	64QAM	1	8	15.61	15.77	15.75		
3	64QAM	1	14	15.52	15.80	15.68		
3	64QAM	8	0	15.48	15.65	15.58	16.5	0
3	64QAM	8	4	15.51	15.67	15.67		
3	64QAM	8	7	15.43	15.63	15.65		
3	64QAM	15	0	15.44	15.60	15.64		

Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	15.20	15.43	15.45	16.5	0
1.4	QPSK	1	3	15.28	15.44	15.51		
1.4	QPSK	1	5	15.24	15.40	15.42		
1.4	QPSK	3	0	15.28	15.47	15.52		
1.4	QPSK	3	1	15.30	15.46	15.52		
1.4	QPSK	3	3	15.28	15.47	15.50		
1.4	QPSK	6	0	15.27	15.45	15.49	16.5	0
1.4	16QAM	1	0	15.63	15.84	15.83	16.5	0
1.4	16QAM	1	3	15.69	15.96	15.90		
1.4	16QAM	1	5	15.60	15.78	15.77		
1.4	16QAM	3	0	15.42	15.59	15.62		
1.4	16QAM	3	1	15.38	15.66	15.63		
1.4	16QAM	3	3	15.40	15.63	15.53		
1.4	16QAM	6	0	15.45	15.66	15.67	16.5	0
1.4	64QAM	1	0	15.49	15.66	15.74	16.5	0
1.4	64QAM	1	3	15.63	15.79	15.82		
1.4	64QAM	1	5	15.50	15.67	15.66		
1.4	64QAM	3	0	15.39	15.60	15.65		
1.4	64QAM	3	1	15.45	15.72	15.68		
1.4	64QAM	3	3	15.43	15.65	15.65		
1.4	64QAM	6	0	15.36	15.53	15.62	16.5	0

<Reduced Power Mode for Hotspot 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	14.82	14.74	14.86	15.5	0
20	QPSK	1	49	14.42	14.40	14.42		
20	QPSK	1	99	14.46	14.55	14.38		
20	QPSK	50	0	14.62	14.58	14.70	15.5	0
20	QPSK	50	24	14.52	14.50	14.54		
20	QPSK	50	50	14.48	14.46	14.50		
20	QPSK	100	0	14.55	14.49	14.65		
20	16QAM	1	0	14.91	15.02	15.08	15.5	0
20	16QAM	1	49	14.77	14.65	14.62		
20	16QAM	1	99	14.81	14.81	14.75		
20	16QAM	50	0	14.74	14.66	14.71	15.5	0
20	16QAM	50	24	14.64	14.59	14.60		
20	16QAM	50	50	14.58	14.53	14.55		
20	16QAM	100	0	14.61	14.56	14.61		
20	64QAM	1	0	15.02	14.91	14.81	15.5	0
20	64QAM	1	49	14.64	14.59	14.62		
20	64QAM	1	99	14.66	14.73	14.56		
20	64QAM	50	0	14.72	14.66	14.66	15.5	0
20	64QAM	50	24	14.63	14.58	14.60		
20	64QAM	50	50	14.55	14.54	14.54		
20	64QAM	100	0	14.63	14.57	14.62		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	14.60	14.51	14.67	15.5	0
15	QPSK	1	37	14.38	14.38	14.47		
15	QPSK	1	74	14.33	14.34	14.50		
15	QPSK	36	0	14.55	14.50	14.64	15.5	0
15	QPSK	36	20	14.47	14.48	14.58		
15	QPSK	36	39	14.41	14.43	14.55		
15	QPSK	75	0	14.46	14.43	14.63		
15	16QAM	1	0	14.90	14.82	14.90	15.5	0
15	16QAM	1	37	14.71	14.69	14.79		
15	16QAM	1	74	14.64	14.65	14.87		
15	16QAM	36	0	14.63	14.60	14.71	15.5	0
15	16QAM	36	20	14.56	14.53	14.65		
15	16QAM	36	39	14.52	14.47	14.58		
15	16QAM	75	0	14.56	14.53	14.64		
15	64QAM	1	0	14.80	14.68	14.86	15.5	0
15	64QAM	1	37	14.65	14.58	14.65		
15	64QAM	1	74	14.61	14.55	14.73		
15	64QAM	36	0	14.62	14.57	14.66	15.5	0
15	64QAM	36	20	14.56	14.49	14.63		
15	64QAM	36	39	14.52	14.47	14.57		
15	64QAM	75	0	14.56	14.53	14.65		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	14.74	14.65	14.74	15.5	0
10	QPSK	1	25	14.41	14.39	14.41		
10	QPSK	1	49	14.55	14.56	14.55		
10	QPSK	25	0	14.52	14.50	14.52	15.5	0
10	QPSK	25	12	14.50	14.47	14.50		
10	QPSK	25	25	14.43	14.43	14.43		
10	QPSK	50	0	14.50	14.47	14.50		
10	16QAM	1	0	15.07	14.96	15.07	15.5	0
10	16QAM	1	25	14.78	14.69	14.78		
10	16QAM	1	49	14.91	14.78	14.91		
10	16QAM	25	0	14.60	14.59	14.60	15.5	0
10	16QAM	25	12	14.56	14.54	14.56		
10	16QAM	25	25	14.54	14.51	14.54		
10	16QAM	50	0	14.60	14.53	14.60		
10	64QAM	1	0	14.90	14.84	14.90	15.5	0
10	64QAM	1	25	14.62	14.58	14.62		
10	64QAM	1	49	14.76	14.74	14.76		
10	64QAM	25	0	14.61	14.56	14.61	15.5	0
10	64QAM	25	12	14.59	14.54	14.59		
10	64QAM	25	25	14.51	14.49	14.51		
10	64QAM	50	0	14.56	14.54	14.56		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	14.49	14.44	14.54	15.5	0
5	QPSK	1	12	14.41	14.38	14.49		
5	QPSK	1	24	14.38	14.39	14.49		
5	QPSK	12	0	14.48	14.45	14.54	15.5	0
5	QPSK	12	7	14.49	14.46	14.55		
5	QPSK	12	13	14.45	14.42	14.51		
5	QPSK	25	0	14.51	14.46	14.55		
5	16QAM	1	0	14.80	14.69	14.79	15.5	0
5	16QAM	1	12	14.78	14.71	14.79		
5	16QAM	1	24	14.70	14.66	14.75		
5	16QAM	12	0	14.59	14.54	14.56	15.5	0
5	16QAM	12	7	14.57	14.51	14.59		
5	16QAM	12	13	14.50	14.45	14.55		
5	16QAM	25	0	14.56	14.50	14.59		
5	64QAM	1	0	14.69	14.59	14.72	15.5	0
5	64QAM	1	12	14.67	14.56	14.69		
5	64QAM	1	24	14.60	14.55	14.63		
5	64QAM	12	0	14.58	14.51	14.57	15.5	0
5	64QAM	12	7	14.56	14.48	14.58		
5	64QAM	12	13	14.53	14.45	14.54		
5	64QAM	25	0	14.53	14.49	14.59		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	14.57	14.54	14.83	15.5	0
3	QPSK	1	8	14.82	14.67	14.99		
3	QPSK	1	14	14.82	14.67	14.57		
3	QPSK	8	0	14.75	14.81	14.85	15.5	0
3	QPSK	8	4	14.73	14.74	14.81		
3	QPSK	8	7	14.59	14.74	14.88		
3	QPSK	15	0	14.68	14.66	14.73		
3	16QAM	1	0	14.36	14.80	14.38	15.5	0
3	16QAM	1	8	14.83	14.36	14.39		
3	16QAM	1	14	14.73	14.40	14.46		
3	16QAM	8	0	14.78	14.72	14.66	15.5	0
3	16QAM	8	4	14.57	14.79	14.61		
3	16QAM	8	7	14.61	14.65	14.98		
3	16QAM	15	0	14.81	14.65	14.82		
3	64QAM	1	0	14.36	14.41	14.77	15.5	0
3	64QAM	1	8	14.57	14.81	14.83		
3	64QAM	1	14	14.42	14.60	14.39		
3	64QAM	8	0	14.62	14.62	14.71	15.5	0
3	64QAM	8	4	14.65	14.65	14.71		
3	64QAM	8	7	14.72	14.60	14.71		
3	64QAM	15	0	14.57	14.72	14.55		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	14.56	14.90	14.48	15.5	0
1.4	QPSK	1	3	14.67	14.76	14.76		
1.4	QPSK	1	5	14.68	14.75	14.74		
1.4	QPSK	3	0	14.82	14.67	14.99		
1.4	QPSK	3	1	14.82	14.67	14.57		
1.4	QPSK	3	3	14.75	14.81	14.85		
1.4	QPSK	6	0	14.73	14.74	14.81	15.5	0
1.4	16QAM	1	0	14.45	14.80	14.52	15.5	0
1.4	16QAM	1	3	14.83	14.56	14.62		
1.4	16QAM	1	5	14.61	14.65	14.88		
1.4	16QAM	3	0	14.81	14.65	14.82		
1.4	16QAM	3	1	14.47	14.65	14.77		
1.4	16QAM	3	3	14.67	14.81	14.76		
1.4	16QAM	6	0	14.75	14.36	14.73	15.5	0
1.4	64QAM	1	0	14.71	14.72	14.93	15.5	0
1.4	64QAM	1	3	14.88	14.85	14.95		
1.4	64QAM	1	5	14.70	14.66	14.79		
1.4	64QAM	3	0	14.63	14.60	14.76		
1.4	64QAM	3	1	14.84	14.57	14.50		
1.4	64QAM	3	3	14.44	14.52	14.44		
1.4	64QAM	6	0	14.18	14.27	14.30	15.5	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	14.44	14.56	14.57	16	0
20	QPSK	1	49	14.28	14.35	14.47		
20	QPSK	1	99	14.29	14.30	14.36		
20	QPSK	50	0	14.43	14.47	14.46	16	0
20	QPSK	50	24	14.42	14.39	14.39		
20	QPSK	50	50	14.37	14.33	14.46		
20	QPSK	100	0	14.44	14.40	14.42		
20	16QAM	1	0	15.00	14.95	14.87	16	0
20	16QAM	1	49	14.68	14.74	14.90		
20	16QAM	1	99	14.73	14.75	14.76		
20	16QAM	50	0	14.52	14.63	14.61	16	0
20	16QAM	50	24	14.55	14.58	14.54		
20	16QAM	50	50	14.48	14.52	14.55		
20	16QAM	100	0	14.55	14.53	14.52		
20	64QAM	1	0	14.77	14.79	14.85	16	0
20	64QAM	1	49	14.57	14.68	14.76		
20	64QAM	1	99	14.61	14.61	14.61		
20	64QAM	50	0	14.53	14.60	14.60	16	0
20	64QAM	50	24	14.53	14.53	14.53		
20	64QAM	50	50	14.49	14.48	14.54		
20	64QAM	100	0	14.57	14.57	14.55		

Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	14.45	14.49	14.48	16	0
15	QPSK	1	37	14.24	14.35	14.44		
15	QPSK	1	74	14.33	14.36	14.43		
15	QPSK	36	0	14.37	14.44	14.46	16	0
15	QPSK	36	20	14.31	14.42	14.52		
15	QPSK	36	39	14.39	14.36	14.47		
15	QPSK	75	0	14.44	14.40	14.40		
15	16QAM	1	0	14.85	14.91	14.94	16	0
15	16QAM	1	37	14.63	14.72	14.82		
15	16QAM	1	74	14.76	14.76	14.82		
15	16QAM	36	0	14.51	14.60	14.60	16	0
15	16QAM	36	20	14.48	14.55	14.64		
15	16QAM	36	39	14.49	14.53	14.57		
15	16QAM	75	0	14.55	14.53	14.49		
15	64QAM	1	0	14.75	14.79	14.87	16	0
15	64QAM	1	37	14.51	14.65	14.77		
15	64QAM	1	74	14.66	14.65	14.70		
15	64QAM	36	0	14.51	14.59	14.57	16	0
15	64QAM	36	20	14.47	14.54	14.62		
15	64QAM	36	39	14.49	14.49	14.57		
15	64QAM	75	0	14.56	14.50	14.48		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	14.33	14.37	14.47	16	0
10	QPSK	1	25	14.25	14.28	14.40		
10	QPSK	1	49	14.19	14.24	14.36		
10	QPSK	25	0	14.34	14.38	14.46	16	0
10	QPSK	25	12	14.34	14.34	14.45		
10	QPSK	25	25	14.25	14.33	14.45		
10	QPSK	50	0	14.28	14.34	14.44		
10	16QAM	1	0	14.70	14.84	14.92	16	0
10	16QAM	1	25	14.64	14.73	14.78		
10	16QAM	1	49	14.67	14.71	14.77		
10	16QAM	25	0	14.43	14.51	14.57	16	0
10	16QAM	25	12	14.44	14.48	14.58		
10	16QAM	25	25	14.40	14.47	14.55		
10	16QAM	50	0	14.41	14.49	14.56		
10	64QAM	1	0	14.62	14.68	14.76	16	0
10	64QAM	1	25	14.52	14.62	14.68		
10	64QAM	1	49	14.52	14.59	14.64		
10	64QAM	25	0	14.42	14.50	14.58	16	0
10	64QAM	25	12	14.44	14.48	14.54		
10	64QAM	25	25	14.37	14.45	14.52		
10	64QAM	50	0	14.39	14.45	14.55		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	14.30	14.35	14.44	16	0
5	QPSK	1	12	14.27	14.28	14.39		
5	QPSK	1	24	14.25	14.33	14.40		
5	QPSK	12	0	14.33	14.38	14.44	16	0
5	QPSK	12	7	14.30	14.39	14.48		
5	QPSK	12	13	14.27	14.32	14.44		
5	QPSK	25	0	14.30	14.34	14.44		
5	16QAM	1	0	14.68	14.80	14.84	16	0
5	16QAM	1	12	14.59	14.76	14.77		
5	16QAM	1	24	14.55	14.69	14.74		
5	16QAM	12	0	14.40	14.49	14.56	16	0
5	16QAM	12	7	14.46	14.51	14.58		
5	16QAM	12	13	14.38	14.50	14.52		
5	16QAM	25	0	14.41	14.47	14.51		
5	64QAM	1	0	14.58	14.65	14.75	16	0
5	64QAM	1	12	14.54	14.61	14.63		
5	64QAM	1	24	14.50	14.59	14.64		
5	64QAM	12	0	14.41	14.49	14.57	16	0
5	64QAM	12	7	14.42	14.51	14.56		
5	64QAM	12	13	14.39	14.49	14.50		
5	64QAM	25	0	14.40	14.45	14.51		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	14.45	14.39	14.30	16	0
3	QPSK	1	8	14.72	14.66	14.64		
3	QPSK	1	14	14.63	14.24	14.65		
3	QPSK	8	0	14.53	14.56	14.41	16	0
3	QPSK	8	4	14.60	14.65	14.21		
3	QPSK	8	7	14.57	14.49	14.37		
3	QPSK	15	0	14.53	14.61	14.36		
3	16QAM	1	0	14.63	14.18	14.50	16	0
3	16QAM	1	8	14.53	14.15	14.26		
3	16QAM	1	14	14.55	14.56	14.23		
3	16QAM	8	0	14.41	14.39	14.17	16	0
3	16QAM	8	4	14.40	14.45	14.17		
3	16QAM	8	7	14.39	14.32	14.59		
3	16QAM	15	0	14.39	14.54	14.29		
3	64QAM	1	0	14.52	14.70	14.35	16	0
3	64QAM	1	8	14.51	14.62	14.35		
3	64QAM	1	14	14.49	14.66	14.50		
3	64QAM	8	0	14.50	14.52	14.36	16	0
3	64QAM	8	4	14.53	14.54	14.25		
3	64QAM	8	7	14.48	14.50	14.29		
3	64QAM	15	0	14.59	14.61	14.31		

Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	14.64	14.94	14.72	16	0
1.4	QPSK	1	3	14.48	14.68	14.54		
1.4	QPSK	1	5	14.65	14.53	14.67		
1.4	QPSK	3	0	14.59	14.61	14.35		
1.4	QPSK	3	1	14.54	14.65	14.35		
1.4	QPSK	3	3	14.60	14.67	14.49		
1.4	QPSK	6	0	14.57	14.73	14.45	16	0
1.4	16QAM	1	0	14.47	14.48	14.29	16	0
1.4	16QAM	1	3	14.65	14.53	14.42		
1.4	16QAM	1	5	14.46	14.46	14.33		
1.4	16QAM	3	0	14.49	14.69	14.49		
1.4	16QAM	3	1	14.64	14.73	14.42		
1.4	16QAM	3	3	14.54	14.65	14.42		
1.4	16QAM	6	0	14.59	14.59	14.36	16	0
1.4	64QAM	1	0	14.16	14.38	14.62	16	0
1.4	64QAM	1	3	14.32	14.39	14.54		
1.4	64QAM	1	5	14.25	14.25	14.36		
1.4	64QAM	3	0	14.22	14.43	14.21		
1.4	64QAM	3	1	14.45	14.37	14.17		
1.4	64QAM	3	3	14.63	14.49	14.17		
1.4	64QAM	6	0	14.51	14.38	14.19	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		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	20.44	20.40	20.46	21.5	0
10	QPSK	1	25	20.45	20.36	20.45		
10	QPSK	1	49	20.47	20.31	20.28		
10	QPSK	25	0	20.53	20.45	20.47	21.5	0
10	QPSK	25	12	20.52	20.44	20.54		
10	QPSK	25	25	20.56	20.36	20.47		
10	QPSK	50	0	20.60	20.39	20.46		
10	16QAM	1	0	20.82	20.74	20.71	21.5	0
10	16QAM	1	25	20.78	20.69	20.81		
10	16QAM	1	49	20.80	20.63	20.78		
10	16QAM	25	0	20.60	20.54	20.52	21.5	0
10	16QAM	25	12	20.66	20.51	20.60		
10	16QAM	25	25	20.61	20.43	20.60		
10	16QAM	50	0	20.66	20.47	20.49		
10	64QAM	1	0	20.76	20.69	20.61	21.5	0
10	64QAM	1	25	20.68	20.56	20.68		
10	64QAM	1	49	20.70	20.51	20.65		
10	64QAM	25	0	20.59	20.51	20.52	21.5	0
10	64QAM	25	12	20.64	20.50	20.59		
10	64QAM	25	25	20.59	20.42	20.58		
10	64QAM	50	0	20.64	20.45	20.46		

Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	20.49	20.38	20.45	21.5	0
5	QPSK	1	12	20.43	20.36	20.41		
5	QPSK	1	24	20.44	20.32	20.37		
5	QPSK	12	0	20.49	20.39	20.49	21.5	0
5	QPSK	12	7	20.50	20.45	20.48		
5	QPSK	12	13	20.53	20.36	20.47		
5	QPSK	25	0	20.51	20.37	20.48		
5	16QAM	1	0	20.84	20.71	20.78	21.5	0
5	16QAM	1	12	20.73	20.69	20.74		
5	16QAM	1	24	20.75	20.64	20.74		
5	16QAM	12	0	20.57	20.48	20.55	21.5	0
5	16QAM	12	7	20.58	20.46	20.60		
5	16QAM	12	13	20.56	20.44	20.52		
5	16QAM	25	0	20.57	20.45	20.52		
5	64QAM	1	0	20.75	20.61	20.70	21.5	0
5	64QAM	1	12	20.66	20.55	20.66		
5	64QAM	1	24	20.66	20.49	20.66		
5	64QAM	12	0	20.55	20.46	20.51	21.5	0
5	64QAM	12	7	20.57	20.42	20.58		
5	64QAM	12	13	20.55	20.42	20.50		
5	64QAM	25	0	20.57	20.45	20.51		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	20.44	20.32	20.37	21.5	0
3	QPSK	1	8	20.41	20.29	20.37		
3	QPSK	1	14	20.38	20.25	20.30		
3	QPSK	8	0	20.45	20.35	20.39	21.5	0
3	QPSK	8	4	20.49	20.36	20.45		
3	QPSK	8	7	20.48	20.35	20.41		
3	QPSK	15	0	20.46	20.35	20.37		
3	16QAM	1	0	20.81	20.61	20.67	21.5	0
3	16QAM	1	8	20.72	20.65	20.80		
3	16QAM	1	14	20.74	20.55	20.73		
3	16QAM	8	0	20.61	20.39	20.53	21.5	0
3	16QAM	8	4	20.63	20.48	20.55		
3	16QAM	8	7	20.51	20.38	20.50		
3	16QAM	15	0	20.55	20.41	20.49		
3	64QAM	1	0	20.63	20.57	20.64	21.5	0
3	64QAM	1	8	20.63	20.52	20.70		
3	64QAM	1	14	20.61	20.41	20.65		
3	64QAM	8	0	20.55	20.34	20.46	21.5	0
3	64QAM	8	4	20.55	20.40	20.55		
3	64QAM	8	7	20.44	20.35	20.48		
3	64QAM	15	0	20.52	20.35	20.46		

Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	20.34	20.19	20.27	21.5	0
1.4	QPSK	1	3	20.41	20.24	20.35		
1.4	QPSK	1	5	20.33	20.20	20.23		
1.4	QPSK	3	0	20.39	20.28	20.31		
1.4	QPSK	3	1	20.45	20.30	20.34		
1.4	QPSK	3	3	20.40	20.25	20.34		
1.4	QPSK	6	0	20.38	20.26	20.32	21.5	0
1.4	16QAM	1	0	20.71	20.48	20.66	21.5	0
1.4	16QAM	1	3	20.81	20.64	20.75		
1.4	16QAM	1	5	20.63	20.50	20.64		
1.4	16QAM	3	0	20.52	20.33	20.46		
1.4	16QAM	3	1	20.51	20.38	20.43		
1.4	16QAM	3	3	20.40	20.32	20.39		
1.4	16QAM	6	0	20.52	20.36	20.47	21.5	0
1.4	64QAM	1	0	20.65	20.34	20.60	21.5	0
1.4	64QAM	1	3	20.66	20.41	20.63		
1.4	64QAM	1	5	20.63	20.46	20.61		
1.4	64QAM	3	0	20.55	20.37	20.46		
1.4	64QAM	3	1	20.56	20.42	20.51		
1.4	64QAM	3	3	20.47	20.34	20.43		
1.4	64QAM	6	0	20.47	20.30	20.39	21.5	0

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	16.51	16.45	16.50	17.5	0
20	QPSK	1	49	16.46	16.36	16.45		
20	QPSK	1	99	16.50	16.33	16.49		
20	QPSK	50	0	16.60	16.44	16.57	17.5	0
20	QPSK	50	24	16.55	16.47	16.59		
20	QPSK	50	50	16.55	16.42	16.53		
20	QPSK	100	0	16.54	16.44	16.49		
20	16QAM	1	0	16.77	16.74	16.87	17.5	0
20	16QAM	1	49	16.78	16.63	16.77		
20	16QAM	1	99	16.79	16.69	16.81		
20	16QAM	50	0	16.58	16.54	16.67	17.5	0
20	16QAM	50	24	16.60	16.53	16.67		
20	16QAM	50	50	16.60	16.50	16.66		
20	16QAM	100	0	16.57	16.52	16.63		
20	64QAM	1	0	16.71	16.62	16.77	17.5	0
20	64QAM	1	49	16.68	16.52	16.69		
20	64QAM	1	99	16.67	16.54	16.71		
20	64QAM	50	0	16.59	16.53	16.64	17.5	0
20	64QAM	50	24	16.61	16.56	16.64		
20	64QAM	50	50	16.60	16.49	16.61		
20	64QAM	100	0	16.58	16.47	16.65		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	16.49	16.44	16.53	17.5	0
15	QPSK	1	37	16.48	16.37	16.48		
15	QPSK	1	74	16.50	16.36	16.50		
15	QPSK	36	0	16.47	16.43	16.55	17.5	0
15	QPSK	36	20	16.56	16.47	16.54		
15	QPSK	36	39	16.53	16.40	16.54		
15	QPSK	75	0	16.55	16.42	16.55		
15	16QAM	1	0	16.77	16.73	16.81	17.5	0
15	16QAM	1	37	16.75	16.71	16.78		
15	16QAM	1	74	16.80	16.71	16.87		
15	16QAM	36	0	16.57	16.50	16.62	17.5	0
15	16QAM	36	20	16.60	16.50	16.62		
15	16QAM	36	39	16.60	16.47	16.60		
15	16QAM	75	0	16.57	16.46	16.61		
15	64QAM	1	0	16.70	16.60	16.78	17.5	0
15	64QAM	1	37	16.64	16.56	16.65		
15	64QAM	1	74	16.70	16.62	16.73		
15	64QAM	36	0	16.57	16.48	16.60	17.5	0
15	64QAM	36	20	16.59	16.49	16.63		
15	64QAM	36	39	16.58	16.48	16.59		
15	64QAM	75	0	16.59	16.49	16.61		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	16.45	16.40	16.48	17.5	0
10	QPSK	1	25	16.47	16.35	16.50		
10	QPSK	1	49	16.46	16.34	16.50		
10	QPSK	25	0	16.49	16.40	16.54	17.5	0
10	QPSK	25	12	16.51	16.44	16.56		
10	QPSK	25	25	16.51	16.41	16.56		
10	QPSK	50	0	16.52	16.41	16.54		
10	16QAM	1	0	16.78	16.74	16.82	17.5	0
10	16QAM	1	25	16.77	16.64	16.82		
10	16QAM	1	49	16.79	16.65	16.81		
10	16QAM	25	0	16.57	16.46	16.63	17.5	0
10	16QAM	25	12	16.60	16.49	16.61		
10	16QAM	25	25	16.54	16.47	16.59		
10	16QAM	50	0	16.56	16.48	16.63		
10	64QAM	1	0	16.60	16.59	16.72	17.5	0
10	64QAM	1	25	16.63	16.56	16.71		
10	64QAM	1	49	16.66	16.55	16.71		
10	64QAM	25	0	16.56	16.48	16.62	17.5	0
10	64QAM	25	12	16.61	16.48	16.62		
10	64QAM	25	25	16.54	16.45	16.59		
10	64QAM	50	0	16.55	16.49	16.63		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	16.42	16.37	16.49	17.5	0
5	QPSK	1	12	16.43	16.37	16.50		
5	QPSK	1	24	16.44	16.35	16.49		
5	QPSK	12	0	16.48	16.42	16.53	17.5	0
5	QPSK	12	7	16.53	16.46	16.56		
5	QPSK	12	13	16.47	16.37	16.55		
5	QPSK	25	0	16.48	16.41	16.53		
5	16QAM	1	0	16.70	16.65	16.72	17.5	0
5	16QAM	1	12	16.73	16.68	16.87		
5	16QAM	1	24	16.69	16.63	16.77		
5	16QAM	12	0	16.52	16.46	16.58	17.5	0
5	16QAM	12	7	16.55	16.50	16.64		
5	16QAM	12	13	16.50	16.48	16.59		
5	16QAM	25	0	16.55	16.50	16.57		
5	64QAM	1	0	16.69	16.53	16.66	17.5	0
5	64QAM	1	12	16.64	16.54	16.72		
5	64QAM	1	24	16.64	16.54	16.71		
5	64QAM	12	0	16.51	16.45	16.59	17.5	0
5	64QAM	12	7	16.55	16.50	16.60		
5	64QAM	12	13	16.51	16.46	16.58		
5	64QAM	25	0	16.51	16.49	16.57		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	22.11	22.18	22.28	23	0
10	QPSK	1	25	22.22	22.26	22.22		
10	QPSK	1	49	22.26	22.21	22.27		
10	QPSK	25	0	22.32	22.36	22.31	23	0
10	QPSK	25	12	22.36	22.32	22.30		
10	QPSK	25	25	22.30	22.31	22.28		
10	QPSK	50	0	22.34	22.31	22.28		
10	16QAM	1	0	22.50	22.55	22.55	23	0
10	16QAM	1	25	22.54	22.70	22.50		
10	16QAM	1	49	22.65	22.50	22.50		
10	16QAM	25	0	21.39	21.44	21.39	22	1
10	16QAM	25	12	21.46	21.46	21.38		
10	16QAM	25	25	21.46	21.34	21.30		
10	16QAM	50	0	21.46	21.42	21.36		
10	64QAM	1	0	21.38	21.40	21.49	22	1
10	64QAM	1	25	21.49	21.53	21.35		
10	64QAM	1	49	21.51	21.40	21.40		
10	64QAM	25	0	20.40	20.45	20.41	21	2
10	64QAM	25	12	20.45	20.44	20.38		
10	64QAM	25	25	20.45	20.36	20.31		
10	64QAM	50	0	20.43	20.39	20.35		

Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	22.13	22.13	22.18	23	0
5	QPSK	1	12	22.23	22.24	22.23		
5	QPSK	1	24	22.21	22.22	22.27		
5	QPSK	12	0	22.29	22.34	22.24	23	0
5	QPSK	12	7	22.31	22.34	22.36		
5	QPSK	12	13	22.27	22.33	22.31		
5	QPSK	25	0	22.26	22.32	22.27		
5	16QAM	1	0	22.46	22.56	22.41	23	0
5	16QAM	1	12	22.62	22.56	22.50		
5	16QAM	1	24	22.61	22.53	22.51		
5	16QAM	12	0	21.37	21.44	21.31	22	1
5	16QAM	12	7	21.43	21.42	21.40		
5	16QAM	12	13	21.39	21.44	21.36		
5	16QAM	25	0	21.39	21.41	21.31		
5	64QAM	1	0	21.41	21.44	21.40	22	1
5	64QAM	1	12	21.47	21.52	21.46		
5	64QAM	1	24	21.47	21.44	21.40		
5	64QAM	12	0	20.34	20.42	20.32	21	2
5	64QAM	12	7	20.39	20.43	20.39		
5	64QAM	12	13	20.37	20.40	20.36		
5	64QAM	25	0	20.37	20.41	20.30		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	22.16	22.24	22.27	23	0
3	QPSK	1	8	22.11	22.23	22.24		
3	QPSK	1	14	22.27	22.22	22.25		
3	QPSK	8	0	22.17	22.27	22.28	23	0
3	QPSK	8	4	22.19	22.30	22.31		
3	QPSK	8	7	22.27	22.28	22.30		
3	QPSK	15	0	22.30	22.29	22.29		
3	16QAM	1	0	22.45	22.61	22.51	23	0
3	16QAM	1	8	22.54	22.57	22.52		
3	16QAM	1	14	22.54	22.60	22.47		
3	16QAM	8	0	21.30	21.42	21.38	22	1
3	16QAM	8	4	21.35	21.48	21.44		
3	16QAM	8	7	21.42	21.43	21.39		
3	16QAM	15	0	21.39	21.39	21.35		
3	64QAM	1	0	21.43	21.43	21.37	22	1
3	64QAM	1	8	21.43	21.47	21.40		
3	64QAM	1	14	21.51	21.46	21.37		
3	64QAM	8	0	20.22	20.37	20.35	21	2
3	64QAM	8	4	20.30	20.42	20.40		
3	64QAM	8	7	20.40	20.33	20.30		
3	64QAM	15	0	20.34	20.38	20.37		

Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	22.24	22.14	22.17	23	0
1.4	QPSK	1	3	22.21	22.18	22.25		
1.4	QPSK	1	5	22.23	22.14	22.13		
1.4	QPSK	3	0	22.27	22.20	22.21		
1.4	QPSK	3	1	22.29	22.25	22.27		
1.4	QPSK	3	3	22.22	22.18	22.18		
1.4	QPSK	6	0	22.29	22.21	22.24	23	0
1.4	16QAM	1	0	22.52	22.56	22.36	23	0
1.4	16QAM	1	3	22.67	22.56	22.43		
1.4	16QAM	1	5	22.60	22.52	22.32		
1.4	16QAM	3	0	22.43	22.32	22.22		
1.4	16QAM	3	1	22.42	22.31	22.24		
1.4	16QAM	3	3	22.35	22.31	22.18		
1.4	16QAM	6	0	21.52	21.36	21.37	22	1
1.4	64QAM	1	0	21.42	21.39	21.26	22	1
1.4	64QAM	1	3	21.44	21.47	21.34		
1.4	64QAM	1	5	21.59	21.40	21.27		
1.4	64QAM	3	0	21.38	21.39	21.29		
1.4	64QAM	3	1	21.47	21.43	21.31		
1.4	64QAM	3	3	21.42	21.36	21.24		
1.4	64QAM	6	0	20.41	20.27	20.27	21	2

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		21.80		23	0
10	QPSK	1	25		21.75			
10	QPSK	1	49		21.79			
10	QPSK	25	0		21.87		23	0
10	QPSK	25	12		21.84			
10	QPSK	25	25		21.80			
10	QPSK	50	0		21.81			
10	16QAM	1	0		22.15		23	0
10	16QAM	1	25		22.08			
10	16QAM	1	49		22.00			
10	16QAM	25	0		21.43		22	1
10	16QAM	25	12		21.44			
10	16QAM	25	25		21.38			
10	16QAM	50	0		21.40			
10	64QAM	1	0		21.00		22	1
10	64QAM	1	25		20.98			
10	64QAM	1	49		21.04			
10	64QAM	25	0		20.43		21	2
10	64QAM	25	12		20.43			
10	64QAM	25	25		20.39			
10	64QAM	50	0		20.38			

Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	21.74	21.78	21.75	23	0
5	QPSK	1	12	21.69	21.71	21.79		
5	QPSK	1	24	21.76	21.72	21.78		
5	QPSK	12	0	21.77	21.85	21.77	23	0
5	QPSK	12	7	21.90	21.85	21.81		
5	QPSK	12	13	21.84	21.79	21.85		
5	QPSK	25	0	21.81	21.81	21.78		
5	16QAM	1	0	22.04	22.23	22.08	23	0
5	16QAM	1	12	22.10	22.03	22.14		
5	16QAM	1	24	22.04	22.08	22.14		
5	16QAM	12	0	21.41	21.39	21.32	22	1
5	16QAM	12	7	21.50	21.37	21.35		
5	16QAM	12	13	21.44	21.37	21.49		
5	16QAM	25	0	21.45	21.35	21.35		
5	64QAM	1	0	21.03	21.09	20.94	22	1
5	64QAM	1	12	21.00	20.95	21.04		
5	64QAM	1	24	21.03	20.96	21.06		
5	64QAM	12	0	20.38	20.40	20.30	21	2
5	64QAM	12	7	20.53	20.33	20.34		
5	64QAM	12	13	20.43	20.34	20.45		
5	64QAM	25	0	20.44	20.33	20.36		

<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	14.75	14.70	14.69	16	0
20	QPSK	1	49	14.36	14.59	14.62		
20	QPSK	1	99	14.45	14.48	14.62		
20	QPSK	50	0	14.69	14.56	14.59	16	0
20	QPSK	50	24	14.59	14.66	14.51		
20	QPSK	50	50	14.51	14.59	14.51		
20	QPSK	100	0	14.61	14.57	14.57		
20	16QAM	1	0	15.08	15.06	14.98	16	0
20	16QAM	1	49	14.77	15.01	15.01		
20	16QAM	1	99	14.86	14.84	14.95		
20	16QAM	50	0	14.64	14.78	14.85	16	0
20	16QAM	50	24	14.65	14.71	14.81		
20	16QAM	50	50	14.60	14.67	14.75		
20	16QAM	100	0	14.65	14.75	14.80		
20	64QAM	1	0	14.86	14.98	15.05	16	0
20	64QAM	1	49	14.67	14.85	14.88		
20	64QAM	1	99	14.75	14.79	14.85		
20	64QAM	50	0	14.61	14.79	14.81	16	0
20	64QAM	50	24	14.62	14.72	14.79		
20	64QAM	50	50	14.58	14.67	14.73		
20	64QAM	100	0	14.68	14.75	14.79		

Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	14.52	14.68	14.78	16	0
15	QPSK	1	37	14.39	14.59	14.60		
15	QPSK	1	74	14.51	14.59	14.63		
15	QPSK	36	0	14.46	14.69	14.73	16	0
15	QPSK	36	20	14.42	14.67	14.72		
15	QPSK	36	39	14.50	14.69	14.65		
15	QPSK	75	0	14.57	14.61	14.73		
15	16QAM	1	0	15.13	15.12	15.10	16	0
15	16QAM	1	37	14.52	15.01	14.98		
15	16QAM	1	74	14.82	14.95	14.99		
15	16QAM	36	0	14.60	14.78	14.84	16	0
15	16QAM	36	20	14.60	14.73	14.78		
15	16QAM	36	39	14.61	14.73	14.78		
15	16QAM	75	0	14.69	14.76	14.77		
15	64QAM	1	0	14.85	14.97	15.09	16	0
15	64QAM	1	37	14.64	14.84	14.92		
15	64QAM	1	74	14.77	14.85	14.89		
15	64QAM	36	0	14.61	14.80	14.82	16	0
15	64QAM	36	20	14.12	14.74	14.76		
15	64QAM	36	39	14.15	14.72	14.76		
15	64QAM	75	0	14.20	14.79	14.77		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	14.45	14.58	14.63	16	0
10	QPSK	1	25	14.32	14.02	14.63		
10	QPSK	1	49	14.27	14.23	14.05		
10	QPSK	25	0	14.39	14.50	14.67	16	0
10	QPSK	25	12	14.39	14.60	14.70		
10	QPSK	25	25	14.37	14.56	14.60		
10	QPSK	50	0	14.43	14.60	14.66		
10	16QAM	1	0	14.78	15.03	15.03	16	0
10	16QAM	1	25	14.69	14.90	14.87		
10	16QAM	1	49	14.78	14.81	14.93		
10	16QAM	25	0	14.54	14.71	14.74	16	0
10	16QAM	25	12	14.53	14.70	14.72		
10	16QAM	25	25	14.48	14.65	14.70		
10	16QAM	50	0	14.50	14.69	14.75		
10	64QAM	1	0	14.70	14.97	14.90	16	0
10	64QAM	1	25	14.23	14.57	14.90		
10	64QAM	1	49	14.26	14.15	14.21		
10	64QAM	25	0	14.29	14.08	14.75	16	0
10	64QAM	25	12	14.09	14.23	14.69		
10	64QAM	25	25	14.28	14.56	14.68		
10	64QAM	50	0	14.35	14.20	14.75		

Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	14.39	14.56	14.66	16	0
5	QPSK	1	12	14.35	14.55	14.55		
5	QPSK	1	24	14.29	14.55	14.59		
5	QPSK	12	0	14.37	14.56	14.66	16	0
5	QPSK	12	7	14.41	14.59	14.63		
5	QPSK	12	13	14.39	14.55	14.62		
5	QPSK	25	0	14.36	14.53	14.64		
5	16QAM	1	0	14.71	14.93	14.95	16	0
5	16QAM	1	12	14.70	14.91	14.92		
5	16QAM	1	24	14.69	14.90	14.89		
5	16QAM	12	0	14.51	14.67	14.72	16	0
5	16QAM	12	7	14.50	14.69	14.71		
5	16QAM	12	13	14.48	14.66	14.69		
5	16QAM	25	0	14.45	14.64	14.67		
5	64QAM	1	0	14.70	14.84	14.82	16	0
5	64QAM	1	12	14.64	14.78	14.84		
5	64QAM	1	24	14.59	14.73	14.82		
5	64QAM	12	0	14.48	14.65	14.73	16	0
5	64QAM	12	7	14.48	14.65	14.72		
5	64QAM	12	13	14.46	14.62	14.69		
5	64QAM	25	0	14.47	14.62	14.68		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	14.29	14.52	14.57	16	0
3	QPSK	1	8	14.25	14.50	14.57		
3	QPSK	1	14	14.25	14.47	14.55		
3	QPSK	8	0	14.31	14.55	14.63	16	0
3	QPSK	8	4	14.35	14.55	14.59		
3	QPSK	8	7	14.32	14.53	14.59		
3	QPSK	15	0	14.34	14.50	14.59		
3	16QAM	1	0	14.65	14.89	14.94	16	0
3	16QAM	1	8	14.68	14.95	14.96		
3	16QAM	1	14	14.66	14.83	14.87		
3	16QAM	8	0	14.52	14.66	14.70	16	0
3	16QAM	8	4	14.53	14.70	14.74		
3	16QAM	8	7	14.49	14.63	14.73		
3	16QAM	15	0	14.44	14.61	14.69		
3	64QAM	1	0	14.63	14.82	14.87	16	0
3	64QAM	1	8	14.59	14.74	14.87		
3	64QAM	1	14	14.61	14.74	14.85		
3	64QAM	8	0	14.46	14.61	14.66	16	0
3	64QAM	8	4	14.52	14.67	14.69		
3	64QAM	8	7	14.46	14.62	14.68		
3	64QAM	15	0	14.41	14.60	14.68		

Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	14.19	14.41	14.44	16	0
1.4	QPSK	1	3	14.25	14.45	14.50		
1.4	QPSK	1	5	14.17	14.33	14.41		
1.4	QPSK	3	0	14.19	14.40	14.48		
1.4	QPSK	3	1	14.24	14.45	14.50		
1.4	QPSK	3	3	14.23	14.41	14.49		
1.4	QPSK	6	0	14.22	14.40	14.48	16	0
1.4	16QAM	1	0	14.57	14.78	14.83	16	0
1.4	16QAM	1	3	14.66	14.75	14.87		
1.4	16QAM	1	5	14.51	14.75	14.77		
1.4	16QAM	3	0	14.40	14.50	14.56		
1.4	16QAM	3	1	14.39	14.54	14.66		
1.4	16QAM	3	3	14.33	14.46	14.55		
1.4	16QAM	6	0	14.43	14.57	14.63	16	0
1.4	64QAM	1	0	14.40	14.54	14.64	16	0
1.4	64QAM	1	3	14.62	14.59	14.66		
1.4	64QAM	1	5	14.41	14.55	14.59		
1.4	64QAM	3	0	14.46	14.53	14.59		
1.4	64QAM	3	1	14.43	14.56	14.69		
1.4	64QAM	3	3	14.36	14.52	14.58		
1.4	64QAM	6	0	14.35	14.47	14.55	16	0

<Reduced Power Mode for Handheld 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	19.28	19.20	19.29	20	0
20	QPSK	1	49	19.07	19.08	19.10		
20	QPSK	1	99	19.12	19.18	19.07		
20	QPSK	50	0	19.27	19.26	19.29	20	0
20	QPSK	50	24	19.21	19.23	19.24		
20	QPSK	50	50	19.14	19.13	19.18		
20	QPSK	100	0	19.20	19.22	19.24		
20	16QAM	1	0	19.62	19.75	19.82	20	0
20	16QAM	1	49	19.36	19.37	19.42		
20	16QAM	1	99	19.54	19.52	19.48		
20	16QAM	50	0	19.39	19.32	19.36	20	0
20	16QAM	50	24	19.27	19.23	19.26		
20	16QAM	50	50	19.17	19.23	19.20		
20	16QAM	100	0	19.27	19.27	19.28		
20	64QAM	1	0	19.72	19.62	19.49	20	0
20	64QAM	1	49	19.29	19.27	19.31		
20	64QAM	1	99	19.39	19.42	19.39		
20	64QAM	50	0	19.36	19.30	19.33	20	0
20	64QAM	50	24	19.23	19.24	19.26		
20	64QAM	50	50	19.16	19.22	19.19		
20	64QAM	100	0	19.30	19.27	19.27		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	19.29	19.26	19.34	20	0
15	QPSK	1	37	19.08	19.10	19.17		
15	QPSK	1	74	19.08	19.07	19.21		
15	QPSK	36	0	19.29	19.21	19.30	20	0
15	QPSK	36	20	19.21	19.17	19.31		
15	QPSK	36	39	19.14	19.15	19.26		
15	QPSK	75	0	19.18	19.21	19.27		
15	16QAM	1	0	19.64	19.51	19.70	20	0
15	16QAM	1	37	19.45	19.43	19.52		
15	16QAM	1	74	19.34	19.42	19.63		
15	16QAM	36	0	19.36	19.30	19.38	20	0
15	16QAM	36	20	19.31	19.25	19.36		
15	16QAM	36	39	19.15	19.22	19.35		
15	16QAM	75	0	19.29	19.22	19.35		
15	64QAM	1	0	19.55	19.48	19.61	20	0
15	64QAM	1	37	19.34	19.33	19.43		
15	64QAM	1	74	19.22	19.32	19.49		
15	64QAM	36	0	19.37	19.28	19.37	20	0
15	64QAM	36	20	19.30	19.24	19.34		
15	64QAM	36	39	19.15	19.21	19.33		
15	64QAM	75	0	19.29	19.24	19.37		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	19.45	19.35	19.26	20	0
10	QPSK	1	25	19.13	19.11	19.16		
10	QPSK	1	49	19.29	19.28	19.16		
10	QPSK	25	0	19.25	19.22	19.28	20	0
10	QPSK	25	12	19.21	19.18	19.26		
10	QPSK	25	25	19.13	19.15	19.23		
10	QPSK	50	0	19.19	19.19	19.24		
10	16QAM	1	0	19.81	19.65	19.57	20	0
10	16QAM	1	25	19.52	19.46	19.51		
10	16QAM	1	49	19.67	19.59	19.56		
10	16QAM	25	0	19.32	19.27	19.32	20	0
10	16QAM	25	12	19.29	19.26	19.35		
10	16QAM	25	25	19.22	19.21	19.33		
10	16QAM	50	0	19.27	19.24	19.32		
10	64QAM	1	0	19.68	19.58	19.49	20	0
10	64QAM	1	25	19.38	19.33	19.40		
10	64QAM	1	49	19.53	19.49	19.44		
10	64QAM	25	0	19.32	19.27	19.32	20	0
10	64QAM	25	12	19.28	19.25	19.36		
10	64QAM	25	25	19.23	19.19	19.32		
10	64QAM	50	0	19.25	19.23	19.29		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	19.20	19.15	19.24	20	0
5	QPSK	1	12	19.15	19.11	19.18		
5	QPSK	1	24	19.15	19.12	19.18		
5	QPSK	12	0	19.24	19.17	19.22	20	0
5	QPSK	12	7	19.17	19.17	19.23		
5	QPSK	12	13	19.15	19.13	19.23		
5	QPSK	25	0	19.19	19.16	19.21		
5	16QAM	1	0	19.56	19.36	19.56	20	0
5	16QAM	1	12	19.48	19.40	19.54		
5	16QAM	1	24	19.54	19.31	19.54		
5	16QAM	12	0	19.34	19.23	19.29	20	0
5	16QAM	12	7	19.26	19.21	19.31		
5	16QAM	12	13	19.22	19.19	19.33		
5	16QAM	25	0	19.25	19.19	19.29		
5	64QAM	1	0	19.46	19.30	19.47	20	0
5	64QAM	1	12	19.40	19.30	19.46		
5	64QAM	1	24	19.36	19.22	19.41		
5	64QAM	12	0	19.29	19.21	19.28	20	0
5	64QAM	12	7	19.26	19.20	19.32		
5	64QAM	12	13	19.22	19.17	19.31		
5	64QAM	25	0	19.27	19.21	19.29		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	19.09	19.09	19.13	20	0
3	QPSK	1	8	19.06	19.05	19.12		
3	QPSK	1	14	19.04	19.03	19.07		
3	QPSK	8	0	19.16	19.09	19.17	20	0
3	QPSK	8	4	19.13	19.14	19.18		
3	QPSK	8	7	19.10	19.08	19.12		
3	QPSK	15	0	19.12	19.10	19.13		
3	16QAM	1	0	19.48	19.40	19.46	20	0
3	16QAM	1	8	19.46	19.33	19.52		
3	16QAM	1	14	19.38	19.36	19.47		
3	16QAM	8	0	19.27	19.20	19.31	20	0
3	16QAM	8	4	19.26	19.19	19.33		
3	16QAM	8	7	19.26	19.17	19.27		
3	16QAM	15	0	19.22	19.14	19.24		
3	64QAM	1	0	19.35	19.25	19.38	20	0
3	64QAM	1	8	19.30	19.27	19.39		
3	64QAM	1	14	19.27	19.28	19.40		
3	64QAM	8	0	19.23	19.14	19.27	20	0
3	64QAM	8	4	19.23	19.15	19.32		
3	64QAM	8	7	19.21	19.12	19.24		
3	64QAM	15	0	19.18	19.11	19.22		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	19.06	19.01	19.05	20	0
1.4	QPSK	1	3	19.10	19.07	19.15		
1.4	QPSK	1	5	19.05	19.00	19.04		
1.4	QPSK	3	0	19.09	19.03	19.10		
1.4	QPSK	3	1	19.14	19.08	19.12		
1.4	QPSK	3	3	19.09	19.03	19.07		
1.4	QPSK	6	0	19.08	19.04	19.07	20	0
1.4	16QAM	1	0	19.38	19.30	19.44	20	0
1.4	16QAM	1	3	19.49	19.39	19.53		
1.4	16QAM	1	5	19.35	19.29	19.43		
1.4	16QAM	3	0	19.18	19.08	19.21		
1.4	16QAM	3	1	19.23	19.17	19.23		
1.4	16QAM	3	3	19.16	19.09	19.17		
1.4	16QAM	6	0	19.20	19.18	19.26	20	0
1.4	64QAM	1	0	19.15	19.16	19.29	20	0
1.4	64QAM	1	3	19.05	19.29	19.35		
1.4	64QAM	1	5	19.07	19.24	19.32		
1.4	64QAM	3	0	19.21	19.12	19.24		
1.4	64QAM	3	1	19.23	19.20	19.27		
1.4	64QAM	3	3	19.17	19.13	19.19		
1.4	64QAM	6	0	19.12	19.10	19.17	20	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	19.51	19.58	19.57	20	0
20	QPSK	1	49	19.28	19.38	19.51		
20	QPSK	1	99	19.35	19.35	19.44		
20	QPSK	50	0	19.43	19.54	19.49	20	0
20	QPSK	50	24	19.50	19.45	19.44		
20	QPSK	50	50	19.39	19.41	19.50		
20	QPSK	100	0	19.49	19.45	19.45		
20	16QAM	1	0	19.94	19.80	19.93	20	0
20	16QAM	1	49	19.63	19.80	19.86		
20	16QAM	1	99	19.73	19.72	19.73		
20	16QAM	50	0	19.50	19.56	19.61	20	0
20	16QAM	50	24	19.54	19.54	19.55		
20	16QAM	50	50	19.48	19.46	19.59		
20	16QAM	100	0	19.52	19.52	19.54		
20	64QAM	1	0	19.69	19.81	19.82	20	0
20	64QAM	1	49	19.51	19.65	19.77		
20	64QAM	1	99	19.60	19.60	19.64		
20	64QAM	50	0	19.49	19.59	19.59	20	0
20	64QAM	50	24	19.53	19.56	19.51		
20	64QAM	50	50	19.49	19.48	19.58		
20	64QAM	100	0	19.53	19.52	19.54		

Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	19.49	19.53	19.54	20	0
15	QPSK	1	37	19.28	19.37	19.44		
15	QPSK	1	74	19.39	19.36	19.49		
15	QPSK	36	0	19.44	19.50	19.51	20	0
15	QPSK	36	20	19.38	19.47	19.55		
15	QPSK	36	39	19.40	19.40	19.48		
15	QPSK	75	0	19.46	19.44	19.47		
15	16QAM	1	0	19.78	19.89	19.92	20	0
15	16QAM	1	37	19.59	19.77	19.80		
15	16QAM	1	74	19.72	19.80	19.78		
15	16QAM	36	0	19.45	19.57	19.57	20	0
15	16QAM	36	20	19.40	19.51	19.60		
15	16QAM	36	39	19.46	19.50	19.53		
15	16QAM	75	0	19.53	19.52	19.52		
15	64QAM	1	0	19.67	19.81	19.81	20	0
15	64QAM	1	37	19.52	19.62	19.71		
15	64QAM	1	74	19.59	19.65	19.71		
15	64QAM	36	0	19.46	19.57	19.57	20	0
15	64QAM	36	20	19.42	19.51	19.59		
15	64QAM	36	39	19.46	19.47	19.52		
15	64QAM	75	0	19.52	19.52	19.51		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	19.39	19.47	19.57	20	0
10	QPSK	1	25	19.28	19.38	19.50		
10	QPSK	1	49	19.24	19.33	19.48		
10	QPSK	25	0	19.40	19.46	19.56	20	0
10	QPSK	25	12	19.39	19.42	19.56		
10	QPSK	25	25	19.35	19.41	19.52		
10	QPSK	50	0	19.33	19.40	19.53		
10	16QAM	1	0	19.72	19.81	19.89	20	0
10	16QAM	1	25	19.60	19.76	19.79		
10	16QAM	1	49	19.60	19.70	19.71		
10	16QAM	25	0	19.42	19.51	19.62	20	0
10	16QAM	25	12	19.40	19.49	19.58		
10	16QAM	25	25	19.38	19.50	19.57		
10	16QAM	50	0	19.44	19.49	19.59		
10	64QAM	1	0	19.63	19.68	19.78	20	0
10	64QAM	1	25	19.51	19.62	19.70		
10	64QAM	1	49	19.51	19.56	19.60		
10	64QAM	25	0	19.42	19.50	19.61	20	0
10	64QAM	25	12	19.40	19.48	19.58		
10	64QAM	25	25	19.38	19.49	19.57		
10	64QAM	50	0	19.42	19.52	19.58		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	19.36	19.40	19.52	20	0
5	QPSK	1	12	19.27	19.37	19.48		
5	QPSK	1	24	19.27	19.36	19.48		
5	QPSK	12	0	19.36	19.41	19.53	20	0
5	QPSK	12	7	19.36	19.42	19.55		
5	QPSK	12	13	19.34	19.39	19.51		
5	QPSK	25	0	19.31	19.37	19.54		
5	16QAM	1	0	19.63	19.78	19.84	20	0
5	16QAM	1	12	19.59	19.75	19.75		
5	16QAM	1	24	19.56	19.77	19.74		
5	16QAM	12	0	19.39	19.52	19.60	20	0
5	16QAM	12	7	19.40	19.54	19.57		
5	16QAM	12	13	19.35	19.49	19.55		
5	16QAM	25	0	19.41	19.49	19.55		
5	64QAM	1	0	19.53	19.67	19.75	20	0
5	64QAM	1	12	19.50	19.60	19.60		
5	64QAM	1	24	19.47	19.60	19.64		
5	64QAM	12	0	19.37	19.50	19.57	20	0
5	64QAM	12	7	19.40	19.51	19.56		
5	64QAM	12	13	19.34	19.49	19.51		
5	64QAM	25	0	19.40	19.49	19.55		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	19.31	19.36	19.50	20	0
3	QPSK	1	8	19.25	19.33	19.44		
3	QPSK	1	14	19.22	19.33	19.43		
3	QPSK	8	0	19.34	19.36	19.52	20	0
3	QPSK	8	4	19.31	19.41	19.52		
3	QPSK	8	7	19.29	19.39	19.49		
3	QPSK	15	0	19.32	19.37	19.51		
3	16QAM	1	0	19.62	19.72	19.79	20	0
3	16QAM	1	8	19.58	19.73	19.80		
3	16QAM	1	14	19.54	19.69	19.72		
3	16QAM	8	0	19.41	19.51	19.57	20	0
3	16QAM	8	4	19.44	19.55	19.60		
3	16QAM	8	7	19.41	19.51	19.55		
3	16QAM	15	0	19.40	19.45	19.55		
3	64QAM	1	0	19.52	19.58	19.65	20	0
3	64QAM	1	8	19.48	19.59	19.67		
3	64QAM	1	14	19.48	19.65	19.58		
3	64QAM	8	0	19.36	19.47	19.53	20	0
3	64QAM	8	4	19.43	19.51	19.55		
3	64QAM	8	7	19.37	19.46	19.50		
3	64QAM	15	0	19.34	19.46	19.53		

Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	19.21	19.27	19.40	20	0
1.4	QPSK	1	3	19.28	19.34	19.45		
1.4	QPSK	1	5	19.18	19.25	19.36		
1.4	QPSK	3	0	19.22	19.29	19.45		
1.4	QPSK	3	1	19.26	19.35	19.45		
1.4	QPSK	3	3	19.27	19.32	19.42		
1.4	QPSK	6	0	19.26	19.30	19.44	20	0
1.4	16QAM	1	0	19.52	19.64	19.65	20	0
1.4	16QAM	1	3	19.61	19.70	19.78		
1.4	16QAM	1	5	19.49	19.64	19.67		
1.4	16QAM	3	0	19.29	19.45	19.46		
1.4	16QAM	3	1	19.36	19.47	19.51		
1.4	16QAM	3	3	19.29	19.38	19.47		
1.4	16QAM	6	0	19.39	19.49	19.52	20	0
1.4	64QAM	1	0	19.42	19.55	19.63	20	0
1.4	64QAM	1	3	19.46	19.56	19.62		
1.4	64QAM	1	5	19.38	19.51	19.54		
1.4	64QAM	3	0	19.34	19.46	19.49		
1.4	64QAM	3	1	19.39	19.48	19.54		
1.4	64QAM	3	3	19.33	19.41	19.48		
1.4	64QAM	6	0	19.29	19.38	19.48	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		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	19.39	19.24	19.37	20	0
20	QPSK	1	49	19.26	19.19	19.29		
20	QPSK	1	99	19.33	19.16	19.36		
20	QPSK	50	0	19.48	19.31	19.40	20	0
20	QPSK	50	24	19.41	19.27	19.41		
20	QPSK	50	50	19.38	19.23	19.38		
20	QPSK	100	0	19.45	19.27	19.41		
20	16QAM	1	0	19.60	19.59	19.72	20	0
20	16QAM	1	49	19.60	19.54	19.67		
20	16QAM	1	99	19.64	19.52	19.67		
20	16QAM	50	0	19.45	19.36	19.49	20	0
20	16QAM	50	24	19.48	19.37	19.47		
20	16QAM	50	50	19.45	19.31	19.48		
20	16QAM	100	0	19.44	19.35	19.46		
20	64QAM	1	0	19.55	19.48	19.60	20	0
20	64QAM	1	49	19.51	19.39	19.56		
20	64QAM	1	99	19.57	19.37	19.59		
20	64QAM	50	0	19.42	19.36	19.49	20	0
20	64QAM	50	24	19.45	19.35	19.45		
20	64QAM	50	50	19.45	19.31	19.47		
20	64QAM	100	0	19.45	19.36	19.47		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	19.32	19.26	19.38	20	0
15	QPSK	1	37	19.31	19.21	19.35		
15	QPSK	1	74	19.34	19.19	19.37		
15	QPSK	36	0	19.35	19.30	19.38	20	0
15	QPSK	36	20	19.42	19.27	19.41		
15	QPSK	36	39	19.34	19.21	19.36		
15	QPSK	75	0	19.37	19.27	19.41		
15	16QAM	1	0	19.61	19.57	19.71	20	0
15	16QAM	1	37	19.63	19.54	19.67		
15	16QAM	1	74	19.66	19.54	19.70		
15	16QAM	36	0	19.44	19.38	19.47	20	0
15	16QAM	36	20	19.49	19.34	19.50		
15	16QAM	36	39	19.42	19.29	19.46		
15	16QAM	75	0	19.43	19.35	19.47		
15	64QAM	1	0	19.54	19.47	19.62	20	0
15	64QAM	1	37	19.51	19.48	19.58		
15	64QAM	1	74	19.56	19.42	19.58		
15	64QAM	36	0	19.43	19.36	19.46	20	0
15	64QAM	36	20	19.48	19.34	19.49		
15	64QAM	36	39	19.42	19.29	19.44		
15	64QAM	75	0	19.44	19.35	19.47		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	19.33	19.25	19.37	20	0
10	QPSK	1	25	19.33	19.19	19.36		
10	QPSK	1	49	19.33	19.20	19.37		
10	QPSK	25	0	19.34	19.24	19.39	20	0
10	QPSK	25	12	19.37	19.30	19.39		
10	QPSK	25	25	19.34	19.25	19.38		
10	QPSK	50	0	19.37	19.25	19.40		
10	16QAM	1	0	19.57	19.56	19.67	20	0
10	16QAM	1	25	19.63	19.53	19.67		
10	16QAM	1	49	19.64	19.52	19.66		
10	16QAM	25	0	19.43	19.34	19.50	20	0
10	16QAM	25	12	19.44	19.39	19.49		
10	16QAM	25	25	19.42	19.34	19.44		
10	16QAM	50	0	19.46	19.34	19.50		
10	64QAM	1	0	19.48	19.45	19.59	20	0
10	64QAM	1	25	19.52	19.45	19.57		
10	64QAM	1	49	19.55	19.45	19.57		
10	64QAM	25	0	19.42	19.34	19.49	20	0
10	64QAM	25	12	19.44	19.38	19.49		
10	64QAM	25	25	19.41	19.33	19.43		
10	64QAM	50	0	19.44	19.33	19.48		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	19.29	19.20	19.37	20	0
5	QPSK	1	12	19.32	19.23	19.38		
5	QPSK	1	24	19.29	19.22	19.34		
5	QPSK	12	0	19.35	19.24	19.41	20	0
5	QPSK	12	7	19.38	19.30	19.43		
5	QPSK	12	13	19.36	19.24	19.37		
5	QPSK	25	0	19.34	19.27	19.38		
5	16QAM	1	0	19.57	19.51	19.67	20	0
5	16QAM	1	12	19.63	19.58	19.68		
5	16QAM	1	24	19.62	19.53	19.70		
5	16QAM	12	0	19.40	19.35	19.45	20	0
5	16QAM	12	7	19.41	19.34	19.53		
5	16QAM	12	13	19.41	19.33	19.46		
5	16QAM	25	0	19.43	19.36	19.48		
5	64QAM	1	0	19.49	19.43	19.59	20	0
5	64QAM	1	12	19.51	19.45	19.63		
5	64QAM	1	24	19.50	19.41	19.62		
5	64QAM	12	0	19.38	19.32	19.44	20	0
5	64QAM	12	7	19.43	19.33	19.51		
5	64QAM	12	13	19.40	19.31	19.45		
5	64QAM	25	0	19.43	19.37	19.46		

<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	19.30	19.19	19.26	20	0
20	QPSK	1	49	18.96	19.10	19.19		
20	QPSK	1	99	19.02	19.09	19.14		
20	QPSK	50	0	19.27	19.22	19.14	20	0
20	QPSK	50	24	19.11	19.22	19.17		
20	QPSK	50	50	19.08	19.17	19.20		
20	QPSK	100	0	19.22	19.21	19.07		
20	16QAM	1	0	19.68	19.64	19.52	20	0
20	16QAM	1	49	19.27	19.54	19.46		
20	16QAM	1	99	19.43	19.44	19.48		
20	16QAM	50	0	19.16	19.37	19.41	20	0
20	16QAM	50	24	19.23	19.31	19.37		
20	16QAM	50	50	19.22	19.24	19.30		
20	16QAM	100	0	19.22	19.30	19.35		
20	64QAM	1	0	19.31	19.51	19.58	20	0
20	64QAM	1	49	19.16	19.42	19.39		
20	64QAM	1	99	19.31	19.30	19.37		
20	64QAM	50	0	19.15	19.34	19.39	20	0
20	64QAM	50	24	19.22	19.27	19.32		
20	64QAM	50	50	19.20	19.26	19.30		
20	64QAM	100	0	19.21	19.33	19.35		

Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	19.09	19.16	19.32	20	0
15	QPSK	1	37	18.93	19.09	19.17		
15	QPSK	1	74	19.01	19.10	19.13		
15	QPSK	36	0	19.06	19.21	19.28	20	0
15	QPSK	36	20	19.00	19.18	19.26		
15	QPSK	36	39	19.07	19.16	19.17		
15	QPSK	75	0	19.12	19.15	19.25		
15	16QAM	1	0	19.64	19.63	19.48	20	0
15	16QAM	1	37	19.27	19.53	19.49		
15	16QAM	1	74	19.44	19.50	19.53		
15	16QAM	36	0	19.11	19.35	19.36	20	0
15	16QAM	36	20	19.08	19.29	19.32		
15	16QAM	36	39	19.16	19.21	19.28		
15	16QAM	75	0	19.19	19.30	19.32		
15	64QAM	1	0	19.29	19.55	19.56	20	0
15	64QAM	1	37	19.09	19.40	19.41		
15	64QAM	1	74	19.29	19.35	19.40		
15	64QAM	36	0	19.09	19.36	19.36	20	0
15	64QAM	36	20	19.04	19.28	19.30		
15	64QAM	36	39	19.13	19.21	19.30		
15	64QAM	75	0	19.17	19.31	19.30		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	19.02	19.19	19.24	20	0
10	QPSK	1	25	18.92	19.11	19.13		
10	QPSK	1	49	18.87	19.07	19.08		
10	QPSK	25	0	19.05	19.18	19.23	20	0
10	QPSK	25	12	19.01	19.20	19.25		
10	QPSK	25	25	18.93	19.13	19.16		
10	QPSK	50	0	18.98	19.16	19.22		
10	16QAM	1	0	19.32	19.61	19.54	20	0
10	16QAM	1	25	19.22	19.50	19.48		
10	16QAM	1	49	19.20	19.45	19.46		
10	16QAM	25	0	19.08	19.31	19.35	20	0
10	16QAM	25	12	19.07	19.31	19.31		
10	16QAM	25	25	18.98	19.26	19.31		
10	16QAM	50	0	19.05	19.25	19.32		
10	64QAM	1	0	19.22	19.43	19.44	20	0
10	64QAM	1	25	19.15	19.38	19.36		
10	64QAM	1	49	19.10	19.36	19.38		
10	64QAM	25	0	19.06	19.27	19.33	20	0
10	64QAM	25	12	19.07	19.27	19.28		
10	64QAM	25	25	18.99	19.26	19.29		
10	64QAM	50	0	19.02	19.25	19.32		

Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	18.97	19.15	19.19	20	0
5	QPSK	1	12	18.92	19.09	19.15		
5	QPSK	1	24	18.88	19.08	19.14		
5	QPSK	12	0	18.95	19.16	19.22	20	0
5	QPSK	12	7	19.00	19.18	19.19		
5	QPSK	12	13	18.96	19.11	19.16		
5	QPSK	25	0	18.95	19.13	19.21		
5	16QAM	1	0	19.32	19.55	19.48	20	0
5	16QAM	1	12	19.22	19.47	19.48		
5	16QAM	1	24	19.21	19.43	19.50		
5	16QAM	12	0	19.07	19.28	19.28	20	0
5	16QAM	12	7	19.04	19.31	19.28		
5	16QAM	12	13	19.02	19.23	19.24		
5	16QAM	25	0	19.02	19.26	19.29		
5	64QAM	1	0	19.16	19.43	19.46	20	0
5	64QAM	1	12	19.09	19.35	19.43		
5	64QAM	1	24	19.13	19.37	19.40		
5	64QAM	12	0	19.03	19.25	19.26	20	0
5	64QAM	12	7	19.01	19.28	19.31		
5	64QAM	12	13	18.98	19.22	19.24		
5	64QAM	25	0	19.05	19.26	19.27		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	18.94	19.09	19.14	20	0
3	QPSK	1	8	18.90	19.06	19.11		
3	QPSK	1	14	18.89	19.07	19.10		
3	QPSK	8	0	18.96	19.13	19.18	20	0
3	QPSK	8	4	18.96	19.13	19.20		
3	QPSK	8	7	18.93	19.09	19.16		
3	QPSK	15	0	18.93	19.12	19.16		
3	16QAM	1	0	19.23	19.46	19.48	20	0
3	16QAM	1	8	19.20	19.47	19.43		
3	16QAM	1	14	19.20	19.44	19.44		
3	16QAM	8	0	19.06	19.30	19.28	20	0
3	16QAM	8	4	19.08	19.30	19.30		
3	16QAM	8	7	19.00	19.30	19.29		
3	16QAM	15	0	18.99	19.26	19.28		
3	64QAM	1	0	19.12	19.37	19.36	20	0
3	64QAM	1	8	19.12	19.36	19.37		
3	64QAM	1	14	19.11	19.37	19.33		
3	64QAM	8	0	19.00	19.26	19.27	20	0
3	64QAM	8	4	19.06	19.27	19.28		
3	64QAM	8	7	18.98	19.22	19.23		
3	64QAM	15	0	18.99	19.23	19.24		

Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	18.80	18.99	19.03	20	0
1.4	QPSK	1	3	18.90	19.07	19.14		
1.4	QPSK	1	5	18.81	18.98	19.03		
1.4	QPSK	3	0	18.86	19.02	19.10		
1.4	QPSK	3	1	18.87	19.06	19.15		
1.4	QPSK	3	3	18.85	19.02	19.07		
1.4	QPSK	6	0	18.86	19.05	19.08	20	0
1.4	16QAM	1	0	19.17	19.38	19.36	20	0
1.4	16QAM	1	3	19.22	19.44	19.48		
1.4	16QAM	1	5	19.08	19.37	19.32		
1.4	16QAM	3	0	18.90	19.16	19.23		
1.4	16QAM	3	1	18.96	19.23	19.25		
1.4	16QAM	3	3	18.94	19.13	19.18		
1.4	16QAM	6	0	18.98	19.21	19.27	20	0
1.4	64QAM	1	0	19.02	19.30	19.25	20	0
1.4	64QAM	1	3	19.11	19.32	19.35		
1.4	64QAM	1	5	19.01	19.25	19.27		
1.4	64QAM	3	0	18.94	19.19	19.24		
1.4	64QAM	3	1	19.02	19.22	19.30		
1.4	64QAM	3	3	18.97	19.15	19.22		
1.4	64QAM	6	0	18.93	19.14	19.20	20	0

<LTE Carrier Aggregation>

General Note:

1. This device supports Carrier Aggregation on downlink for inter and intra band, uplink CA is for intra band. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.
2. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and that configurations require power measurement should be highlighted in the below table.
3. All permutations exist. No restrictions on Pcell & Scell combinations.

Index	2CC	Restriction	Completely Covered by Measurement Superset
2CC #1	CA_2A-2A		3CC #1
2CC #2	CA_2A-4A		3CC #1
2CC #3	CA_2A-5A		3CC #2
2CC #4	CA_2A-13A		3CC #3
2CC #5	CA_2A-66A		3CC #4
2CC #6	CA_4A-4A		3CC #14
2CC #7	CA_4A-5A		3CC #14
2CC #8	CA_4A-13A		3CC #15
2CC #9	CA_5B		3CC #16
2CC #10	CA_5A-5A		3CC #18
2CC #11	CA_5A-66A		3CC #21
2CC #12	CA_13A-66A		3CC #24
2CC #13	CA_66B		3CC #26
2CC #14	CA_66C		3CC #27
2CC #15	CA_66A-66A		3CC #24

Index	3CC	Restriction	Completely Covered by Measurement Superset
3CC #1	CA_2A-2A-4A		No
3CC #2	CA_2A-2A-5A		No
3CC #3	CA_2A-2A-13A		No
3CC #4	CA_2A-2A-66A		No
3CC #5	CA_2A-4A-4A		No
3CC #6	CA_2A-4A-5A		No
3CC #7	CA_2A-4A-13A		No
3CC #8	CA_2A-5B		No
3CC #9	CA_2A-5A-66A		No
3CC #10	CA_2A-13A-66A		No
3CC #11	CA_2A-66B		No
3CC #12	CA_2A-66C		No
3CC #13	CA_2A-66A-66A		No
3CC #14	CA_4A-4A-5A		No
3CC #15	CA_4A-4A-13A		No
3CC #16	CA_4A-5B		No
3CC #17	CA_5B-66A		No
3CC #18	CA_5A-5A-66A		No
3CC #19	CA_5A-66B		No
3CC #20	CA_5A-66C		No
3CC #21	CA_5A-66A-66A		No
3CC #22	CA_13A-66B		No
3CC #23	CA_13A-66C		No
3CC #24	CA_13A-66A-66A		No
3CC #25	CA_66D		No
3CC #26	CA_66A-66B		No
3CC #27	CA_66A-66C		No

LTE Carrier Aggregation Conducted Power (Downlink)

i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

iii. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.

iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

v. The device supports uplink carrier aggregation for CA_5B 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. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the above 3GPP requirement.

vi. 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.

vii. 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.

viii. 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.

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

<Full Power Mode>

<Three Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-2A-4A	Band 2	20M	1900	19100	QPSK	1	0	Band 2	5M	1932.5	625	Band 4	20M	2132.5	2175	23.41	23.45
		Band 4	20M	1720	20050	QPSK	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	23.08	23.05
	CA_2A-2A-5A	Band 2	20M	1900	19100	QPSK	1	0	Band 2	5M	1932.5	625	Band 5	10M	881.5	2525	23.41	23.45
		Band 5	10M	836.5	20450	QPSK	1	49	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	23.28	23.3
	CA_2A-2A-13A	Band 2	20M	1900	19100	QPSK	1	0	Band 2	5M	1932.5	625	Band 13	10M	751	5230	23.41	23.45
		Band 13	10M	782	23230	QPSK	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	23.08	23.05
	CA_2A-2A-66A	Band 2	20M	1900	19100	QPSK	1	0	Band 2	5M	1932.5	625	Band 66	20M	2155	66886	23.35	23.45
		Band 66	20M	1720	132072	QPSK	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	23.01	23.06
	CA_2A-4A-4A	Band 2	20M	1900	19100	QPSK	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	23.48	23.45
		Band 4	20M	1720	20050	QPSK	1	0	Band 4	5M	2152.5	2375	Band 2	20M	1960	900	23.08	23.05
	CA_2A-4A-5A	Band 2	20M	1900	19100	QPSK	1	0	Band 4	20M	2132.5	2175	Band 5	10M	881.5	2525	23.38	23.45
		Band 4	20M	1720	20050	QPSK	1	0	Band 5	10M	881.5	2525	Band 2	20M	1960	900	22.98	23.05
		Band 5	10M	836.5	20450	QPSK	1	49	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	23.15	23.3
	CA_2A-4A-13A	Band 2	20M	1900	19100	QPSK	1	0	Band 4	20M	2132.5	2175	Band 13	10M	751	5230	23.24	23.45
		Band 4	20M	1720	20050	QPSK	1	0	Band 13	10M	751	5230	Band 2	20M	1960	900	23.01	23.05
		Band 13	10M	782	23230	QPSK	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	23.12	23.05
	CA_2A-5B	Band 2	20M	1900	19100	QPSK	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	23.35	23.45
		Band 5	10M	836.5	20450	QPSK	1	49	Band 5	10M	883.9	2549	Band 2	20M	1960	900	23.32	23.3
	CA_2A-5A-66A	Band 2	20M	1900	19100	QPSK	1	0	Band 5	10M	881.5	2525	Band 66	20M	2155	66886	23.41	23.45
		Band 5	10M	836.5	20450	QPSK	1	49	Band 66	20M	2155	66886	Band 2	20M	1960	900	23.32	23.3
		Band 66	20M	1720	132072	QPSK	1	0	Band 2	20M	1960	900	Band 5	10M	881.5	2525	23.05	23.06
	CA_2A-13A-66A	Band 2	20M	1900	19100	QPSK	1	0	Band 13	10M	751	5230	Band 66	20M	2155	66886	23.41	23.45
		Band 13	10M	782	23230	QPSK	1	0	Band 66	20M	2155	66886	Band 2	20M	1960	900	23.08	23.05
		Band 66	20M	1720	132072	QPSK	1	0	Band 2	20M	1960	900	Band 13	10M	751	5230	23.01	23.06
	CA_2A-66B	Band 2	20M	1900	19100	QPSK	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	23.35	23.45
		Band 66	15M	1717.5	132047	QPSK	1	0	Band 66	5M	2121.8	66554	Band 2	20M	1960	900	23.01	23.05
	CA_2A-66C	Band 2	20M	1900	19100	QPSK	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	23.38	23.45
		Band 66	20M	1720	132072	QPSK	1	0	Band 66	20M	2139.8	66734	Band 2	20M	1960	900	23.01	23.06
	CA_2A-66A-66A	Band 2	20M	1900	19100	QPSK	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	23.41	23.45
		Band 66	20M	1720	132072	QPSK	1	0	Band 66	5M	2197.5	67311	Band 2	20M	1960	900	23.01	23.06

Configure		CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band		CA_4A-4A-5A	Band 4	20M	1720	20050	QPSK	1	0	Band 4	5M	2152.5	2375	Band 5	10M	881.5	2525	23.17	23.05
			Band 5	10M	836.5	20450	QPSK	1	49	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	23.25	23.3
		CA_4A-4A-13A	Band 4	20M	1720	20050	QPSK	1	0	Band 4	5M	2152.5	2375	Band 13	10M	751	5230	23.01	23.05
			Band 13	10M	782	23230	QPSK	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	23.12	23.05
		CA_4A-5B	Band 4	20M	1720	20050	QPSK	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	23.05	23.05
			Band 5	10M	836.5	20450	QPSK	1	49	Band 5	10M	883.9	2549	Band 4	20M	2132.5	2175	23.25	23.3
		CA_5B-66A	Band 5	10M	836.5	20450	QPSK	1	49	Band 5	10M	883.9	2549	Band 66	20M	2155	66886	23.22	23.3
			Band 66	20M	1720	132072	QPSK	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	23.05	23.06
		CA_5A-5A-66A	Band 5	10M	836.5	20450	QPSK	1	49	Band 5	5M	891.5	2625	Band 66	20M	2155	66886	23.25	23.3
			Band 66	20M	1720	132072	QPSK	1	0	Band 5	10M	881.5	2525	Band 5	5M	891.5	2625	23.05	23.06
		CA_5A-66B	Band 5	10M	836.5	20450	QPSK	1	49	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	23.23	23.3
			Band 66	15M	1717.5	132047	QPSK	1	0	Band 66	5M	2121.8	66554	Band 5	10M	881.5	2525	23.01	23.05
		CA_5A-66C	Band 5	10M	836.5	20450	QPSK	1	49	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	23.32	23.3
			Band 66	20M	1720	132072	QPSK	1	0	Band 66	20M	2139.8	66734	Band 5	10M	881.5	2525	23.01	23.06
		CA_5A-66A-66A	Band 5	10M	836.5	20450	QPSK	1	49	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	23.28	23.3
			Band 66	20M	1720	132072	QPSK	1	0	Band 66	5M	2197.5	67311	Band 5	10M	881.5	2525	23.01	23.06
		CA_13A-66B	Band 13	10M	782	23230	QPSK	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	23.15	23.05
			Band 66	15M	1717.5	132047	QPSK	1	0	Band 66	5M	2121.8	66554	Band 13	10M	751	5230	23.08	23.05
		CA_13A-66C	Band 13	10M	782	23230	QPSK	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	23.01	23.05
			Band 66	20M	1720	132072	QPSK	1	0	Band 66	20M	2139.8	66734	Band 12	10M	737.5	5095	23.08	23.06
		CA_13A-66A-66A	Band 13	10M	782	23230	QPSK	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	23.01	23.05
			Band 66	20M	1720	132072	QPSK	1	0	Band 66	5M	2197.5	67311	Band 13	10M	751	5230	23.12	23.06
Intra-Band	Contiguous	CA_66D	Band 66	20M	1720	132072	QPSK	1	0	Band 66	20M	2135.8	66694	Band 66	20M	2155.6	66496	23.01	23.06
	Non-Contiguous	CA_66A-66B	Band 66	20M	1720	132072	QPSK	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	23.22	23.06
			Band 66	15M	1717.5	132047	QPSK	1	0	Band 66	5M	2121.8	66554	Band 66	20M	2155	66886	23.05	23.05
		CA_66A-66C	Band 66	20M	1720	132072	QPSK	1	0	Band 66	5M	2197.5	67311	Band 66	20M	2185.8	67194	23.21	23.06
			Band 66	20M	1720	132072	QPSK	1	0	Band 66	20M	2139.8	66734	Band 66	20M	2155	66886	23.12	23.06

<Reduced Power Mode for P-Sensor On>

<Three Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-2A-4A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 4	20M	2132.5	2175	16.89	16.91
		Band 4	20M	1720	20050	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	16.21	16.26
	CA_2A-2A-5A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 5	10M	881.5	2525	16.88	16.91
		Band 5	10M	836.5	20450	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	20.78	20.82
	CA_2A-2A-13A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 13	10M	751	5230	16.85	16.91
		Band 13	10M	782	23230	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	22.08	22.15
	CA_2A-2A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 66	20M	2155	66886	16.12	16.19
		Band 66	20M	1720	132072	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	16.25	16.22
	CA_2A-4A-4A	Band 2	20M	1900	19100	16QAM	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	16.88	16.91
		Band 4	20M	1720	20050	16QAM	1	0	Band 4	5M	2152.5	2375	Band 2	20M	1960	900	16.23	16.26
	CA_2A-4A-5A	Band 2	20M	1900	19100	16QAM	1	0	Band 4	20M	2132.5	2175	Band 5	10M	881.5	2525	16.88	16.91
		Band 4	20M	1720	20050	16QAM	1	0	Band 5	10M	881.5	2525	Band 2	20M	1960	900	16.21	16.26
		Band 5	10M	836.5	20450	16QAM	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	20.78	20.82
	CA_2A-4A-13A	Band 2	20M	1900	19100	16QAM	1	0	Band 4	20M	2132.5	2175	Band 13	10M	751	5230	16.88	16.91
		Band 4	20M	1720	20050	16QAM	1	0	Band 13	10M	751	5230	Band 2	20M	1960	900	16.21	16.26
		Band 13	10M	782	23230	16QAM	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	22.05	22.15
	CA_2A-5B	Band 2	20M	1900	19100	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	16.88	16.91
		Band 5	10M	836.5	20450	16QAM	1	0	Band 5	10M	883.9	2549	Band 2	20M	1960	900	20.74	20.82
	CA_2A-5A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 5	10M	881.5	2525	Band 66	20M	2155	66886	16.85	16.91
		Band 5	10M	836.5	20450	16QAM	1	0	Band 66	20M	2155	66886	Band 2	20M	1960	900	20.78	20.82
		Band 66	20M	1720	132072	16QAM	1	0	Band 2	20M	1960	900	Band 5	10M	881.5	2525	16.3	16.22
	CA_2A-13A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 13	10M	751	5230	Band 66	20M	2155	66886	16.21	16.19
		Band 13	10M	782	23230	16QAM	1	0	Band 66	20M	2155	66886	Band 2	20M	1960	900	22.16	22.15
		Band 66	20M	1720	132072	16QAM	1	0	Band 2	20M	1960	900	Band 13	10M	751	5230	16.25	16.22
	CA_2A-66B	Band 2	20M	1900	19100	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	16.12	16.19
		Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 2	20M	1960	900	16.15	16.2
	CA_2A-66C	Band 2	20M	1900	19100	16QAM	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	16.23	16.19
		Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 2	20M	1960	900	16.25	16.22
	CA_2A-66A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	16.3	16.19
		Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 2	20M	1960	900	16.25	16.22

Configure		CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band		CA_4A-4A-5A	Band 4	20M	1720	20050	16QAM	1	0	Band 4	5M	2152.5	2375	Band 5	10M	881.5	2525	16.28	16.26
			Band 5	10M	836.5	20450	16QAM	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	20.78	20.82
		CA_4A-4A-13A	Band 4	20M	1720	20050	16QAM	1	0	Band 4	5M	2152.5	2375	Band 13	10M	751	5230	16.22	16.26
			Band 13	10M	782	23230	16QAM	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	22.15	22.15
		CA_4A-5B	Band 4	20M	1720	20050	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	16.23	16.26
			Band 5	10M	836.5	20450	16QAM	1	0	Band 5	10M	883.9	2549	Band 4	20M	2132.5	2175	20.8	20.82
		CA_5B-66A	Band 5	10M	836.5	20450	16QAM	1	0	Band 5	10M	883.9	2549	Band 66	20M	2155	66886	20.85	20.82
			Band 66	20M	1720	132072	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	16.25	16.22
		CA_5A-5A-66A	Band 5	10M	836.5	20450	16QAM	1	0	Band 5	5M	891.5	2625	Band 66	20M	2155	66886	20.78	20.82
			Band 66	20M	1720	132072	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	5M	891.5	2625	16.05	16.22
		CA_5A-66B	Band 5	10M	836.5	20450	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	20.81	20.82
			Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 5	10M	881.5	2525	16.2	16.2
		CA_5A-66C	Band 5	10M	836.5	20450	16QAM	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	20.81	20.82
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 5	10M	881.5	2525	16.23	16.22
		CA_5A-66A-66A	Band 5	10M	836.5	20450	16QAM	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	20.88	20.82
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 5	10M	881.5	2525	16.25	16.22
		CA_13A-66B	Band 13	10M	782	23230	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	22.12	22.15
			Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 13	10M	751	5230	16.08	16.2
		CA_13A-66C	Band 13	10M	782	23230	16QAM	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	22.13	22.15
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 12	10M	737.5	5095	16.24	16.22
		CA_13A-66A-66A	Band 13	10M	782	23230	16QAM	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	22.18	22.15
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 13	10M	751	5230	16.28	16.22
Intra-Band	Contiguous	CA_66D	Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2135.8	66694	Band 66	20M	2155.6	66496	16.21	16.22
	Non-Contiguous	CA_66A-66B	Band 66	20M	1720	132072	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	16.25	16.22
			Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 66	20M	2155	66886	16.08	16.2
		CA_66A-66C	Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 66	20M	2185.8	67194	16.28	16.22
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 66	20M	2155	66886	16.12	16.22

<Reduced Power Mode for Hotspot On>

<Three Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-2A-4A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 4	20M	2132.5	2175	16.89	16.91
		Band 4	20M	1720	20050	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	16.21	16.26
	CA_2A-2A-5A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 5	10M	881.5	2525	16.88	16.91
		Band 5	10M	836.5	20450	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	20.78	20.82
	CA_2A-2A-13A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 13	10M	751	5230	16.85	16.91
		Band 13	10M	782	23230	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	22.08	22.15
	CA_2A-2A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 66	20M	2155	66886	16.12	16.19
		Band 66	20M	1720	132072	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	16.25	16.22
	CA_2A-4A-4A	Band 2	20M	1900	19100	16QAM	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	16.88	16.91
		Band 4	20M	1720	20050	16QAM	1	0	Band 4	5M	2152.5	2375	Band 2	20M	1960	900	16.23	16.26
	CA_2A-4A-5A	Band 2	20M	1900	19100	16QAM	1	0	Band 4	20M	2132.5	2175	Band 5	10M	881.5	2525	16.88	16.91
		Band 4	20M	1720	20050	16QAM	1	0	Band 5	10M	881.5	2525	Band 2	20M	1960	900	16.21	16.26
		Band 5	10M	836.5	20450	16QAM	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	20.78	20.82
	CA_2A-4A-13A	Band 2	20M	1900	19100	16QAM	1	0	Band 4	20M	2132.5	2175	Band 13	10M	751	5230	16.88	16.91
		Band 4	20M	1720	20050	16QAM	1	0	Band 13	10M	751	5230	Band 2	20M	1960	900	16.21	16.26
		Band 13	10M	782	23230	16QAM	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	22.05	22.15
	CA_2A-5B	Band 2	20M	1900	19100	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	16.88	16.91
		Band 5	10M	836.5	20450	16QAM	1	0	Band 5	10M	883.9	2549	Band 2	20M	1960	900	20.74	20.82
	CA_2A-5A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 5	10M	881.5	2525	Band 66	20M	2155	66886	16.85	16.91
		Band 5	10M	836.5	20450	16QAM	1	0	Band 66	20M	2155	66886	Band 2	20M	1960	900	20.78	20.82
		Band 66	20M	1720	132072	16QAM	1	0	Band 2	20M	1960	900	Band 5	10M	881.5	2525	16.3	16.22
	CA_2A-13A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 13	10M	751	5230	Band 66	20M	2155	66886	16.21	16.19
		Band 13	10M	782	23230	16QAM	1	0	Band 66	20M	2155	66886	Band 2	20M	1960	900	22.16	22.15
		Band 66	20M	1720	132072	16QAM	1	0	Band 2	20M	1960	900	Band 13	10M	751	5230	16.25	16.22
	CA_2A-66B	Band 2	20M	1900	19100	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	16.12	16.19
		Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 2	20M	1960	900	16.15	16.2
	CA_2A-66C	Band 2	20M	1900	19100	16QAM	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	16.23	16.19
		Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 2	20M	1960	900	16.25	16.22
	CA_2A-66A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	16.3	16.19
		Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 2	20M	1960	900	16.25	16.22

Configure		CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band		CA_4A-4A-5A	Band 4	20M	1720	20050	16QAM	1	0	Band 4	5M	2152.5	2375	Band 5	10M	881.5	2525	16.28	16.26
			Band 5	10M	836.5	20450	16QAM	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	20.78	20.82
		CA_4A-4A-13A	Band 4	20M	1720	20050	16QAM	1	0	Band 4	5M	2152.5	2375	Band 13	10M	751	5230	16.22	16.26
			Band 13	10M	782	23230	16QAM	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	22.15	22.15
		CA_4A-5B	Band 4	20M	1720	20050	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	16.23	16.26
			Band 5	10M	836.5	20450	16QAM	1	0	Band 5	10M	883.9	2549	Band 4	20M	2132.5	2175	20.8	20.82
		CA_5B-66A	Band 5	10M	836.5	20450	16QAM	1	0	Band 5	10M	883.9	2549	Band 66	20M	2155	66886	20.85	20.82
			Band 66	20M	1720	132072	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	16.25	16.22
		CA_5A-5A-66A	Band 5	10M	836.5	20450	16QAM	1	0	Band 5	5M	891.5	2625	Band 66	20M	2155	66886	20.78	20.82
			Band 66	20M	1720	132072	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	5M	891.5	2625	16.05	16.22
		CA_5A-66B	Band 5	10M	836.5	20450	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	20.81	20.82
			Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 5	10M	881.5	2525	16.2	16.2
		CA_5A-66C	Band 5	10M	836.5	20450	16QAM	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	20.81	20.82
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 5	10M	881.5	2525	16.23	16.22
		CA_5A-66A-66A	Band 5	10M	836.5	20450	16QAM	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	20.88	20.82
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 5	10M	881.5	2525	16.25	16.22
		CA_13A-66B	Band 13	10M	782	23230	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	22.12	22.15
			Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 13	10M	751	5230	16.08	16.2
		CA_13A-66C	Band 13	10M	782	23230	16QAM	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	22.13	22.15
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 12	10M	737.5	5095	16.24	16.22
		CA_13A-66A-66A	Band 13	10M	782	23230	16QAM	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	22.18	22.15
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 13	10M	751	5230	16.28	16.22
Intra-Band	Contiguous	CA_66D	Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2135.8	66694	Band 66	20M	2155.6	66496	16.21	16.22
	Non-Contiguous	CA_66A-66B	Band 66	20M	1720	132072	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	16.25	16.22
			Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 66	20M	2155	66886	16.08	16.2
		CA_66A-66C	Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 66	20M	2185.8	67194	16.28	16.22
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 66	20M	2155	66886	16.12	16.22

<Reduced Power Mode for Handheld On>

<Three Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-2A-4A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 4	20M	2132.5	2175	19.72	19.82
		Band 4	20M	1720	20050	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	19.85	19.94
	CA_2A-2A-5A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 5	10M	881.5	2525	19.85	19.82
		Band 5	10M	836.5	20450	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	23.15	23.3
	CA_2A-2A-13A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 13	10M	751	5230	19.73	19.82
		Band 13	10M	782	23230	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	22.98	23.05
	CA_2A-2A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 2	5M	1932.5	625	Band 66	20M	2155	66886	19.78	19.82
		Band 66	20M	1720	132072	16QAM	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	23.01	23.06
	CA_2A-4A-4A	Band 2	20M	1900	19100	16QAM	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	19.66	19.82
		Band 4	20M	1720	20050	16QAM	1	0	Band 4	5M	2152.5	2375	Band 2	20M	1960	900	19.94	19.94
	CA_2A-4A-5A	Band 2	20M	1900	19100	16QAM	1	0	Band 4	20M	2132.5	2175	Band 5	10M	881.5	2525	18.78	19.82
		Band 4	20M	1720	20050	16QAM	1	0	Band 5	10M	881.5	2525	Band 2	20M	1960	900	19.79	19.94
		Band 5	10M	836.5	20450	16QAM	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	23.25	23.3
	CA_2A-4A-13A	Band 2	20M	1900	19100	16QAM	1	0	Band 4	20M	2132.5	2175	Band 13	10M	751	5230	19.85	19.82
		Band 4	20M	1720	20050	16QAM	1	0	Band 13	10M	751	5230	Band 2	20M	1960	900	19.81	19.94
		Band 13	10M	782	23230	16QAM	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	23	23.05
	CA_2A-5B	Band 2	20M	1900	19100	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	19.7	19.82
		Band 5	10M	836.5	20450	16QAM	1	0	Band 5	10M	883.9	2549	Band 2	20M	1960	900	23.12	23.3
	CA_2A-5A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 5	10M	881.5	2525	Band 66	20M	2155	66886	19.8	19.82
		Band 5	10M	836.5	20450	16QAM	1	0	Band 66	20M	2155	66886	Band 2	20M	1960	900	23.15	23.3
		Band 66	20M	1720	132072	16QAM	1	0	Band 2	20M	1960	900	Band 5	10M	881.5	2525	23.01	23.06
	CA_2A-13A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 13	10M	751	5230	Band 66	20M	2155	66886	19.8	19.82
		Band 13	10M	782	23230	16QAM	1	0	Band 66	20M	2155	66886	Band 2	20M	1960	900	23.01	23.05
		Band 66	20M	1720	132072	16QAM	1	0	Band 2	20M	1960	900	Band 13	10M	751	5230	19.58	19.68
	CA_2A-66B	Band 2	20M	1900	19100	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	19.78	19.82
		Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 2	20M	1960	900	19.61	19.64
	CA_2A-66C	Band 2	20M	1900	19100	16QAM	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	19.78	19.82
		Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 2	20M	1960	900	23.05	23.06
	CA_2A-66A-66A	Band 2	20M	1900	19100	16QAM	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	19.78	19.82
		Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 2	20M	1960	900	23.05	23.06

Configure		CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band		CA_4A-4A-5A	Band 4	20M	1720	20050	16QAM	1	0	Band 4	5M	2152.5	2375	Band 5	10M	881.5	2525	19.84	19.94
			Band 5	10M	836.5	20450	16QAM	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	23.15	23.3
		CA_4A-4A-13A	Band 4	20M	1720	20050	16QAM	1	0	Band 4	5M	2152.5	2375	Band 13	10M	751	5230	19.93	19.94
			Band 13	10M	782	23230	16QAM	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	23.04	23.05
		CA_4A-5B	Band 4	20M	1720	20050	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	19.91	19.94
			Band 5	10M	836.5	20450	16QAM	1	0	Band 5	10M	883.9	2549	Band 4	20M	2132.5	2175	23.23	23.3
		CA_5B-66A	Band 5	10M	836.5	20450	16QAM	1	0	Band 5	10M	883.9	2549	Band 66	20M	2155	66886	23.19	23.3
			Band 66	20M	1720	132072	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	10M	891.4	2624	19.64	19.68
		CA_5A-5A-66A	Band 5	10M	836.5	20450	16QAM	1	0	Band 5	5M	891.5	2625	Band 66	20M	2155	66886	23.18	23.3
			Band 66	20M	1720	132072	16QAM	1	0	Band 5	10M	881.5	2525	Band 5	5M	891.5	2625	23.01	23.06
		CA_5A-66B	Band 5	10M	836.5	20450	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	23.22	23.3
			Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 5	10M	881.5	2525	19.62	19.64
		CA_5A-66C	Band 5	10M	836.5	20450	16QAM	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	23.28	23.3
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 5	10M	881.5	2525	19.61	19.68
		CA_5A-66A-66A	Band 5	10M	836.5	20450	16QAM	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	23.19	23.3
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 5	10M	881.5	2525	19.61	19.68
		CA_13A-66B	Band 13	10M	782	23230	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	23.01	23.05
			Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 13	10M	751	5230	19.65	19.64
		CA_13A-66C	Band 13	10M	782	23230	16QAM	1	0	Band 66	20M	2155	66886	Band 66	20M	2174.8	67084	23.08	23.05
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 12	10M	737.5	5095	19.61	19.68
		CA_13A-66A-66A	Band 13	10M	782	23230	16QAM	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	23.01	23.05
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 13	10M	751	5230	19.61	19.68
Intra-Band	Contiguous	CA_66D	Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2135.8	66694	Band 66	20M	2155.6	66496	19.71	19.68
	Non-Contiguous	CA_66A-66B	Band 66	20M	1720	132072	16QAM	1	0	Band 66	15M	2155	66886	Band 66	5M	2164.3	66979	19.55	19.68
			Band 66	15M	1717.5	132047	16QAM	1	0	Band 66	5M	2121.8	66554	Band 66	20M	2155	66886	19.42	19.64
		CA_66A-66C	Band 66	20M	1720	132072	16QAM	1	0	Band 66	5M	2197.5	67311	Band 66	20M	2185.8	67194	19.68	19.68
			Band 66	20M	1720	132072	16QAM	1	0	Band 66	20M	2139.8	66734	Band 66	20M	2155	66886	19.58	19.68

LTE Carrier Aggregation Conducted Power (Uplink)

1. This device supports uplink carrier aggregation for CA_5B 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.

<Power Measurement Setup>

<Full Power>

<LTE Band 5>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
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				
20450	20549	QPSK	1	49	0	0	1	0	23.52	24.00
20476	20575	QPSK	1	49	0	0	1	0	23.64	24.00
20600	20501	QPSK	1	49	0	0	1	0	23.53	24.00

<Reduced Power Mode for P-Sensor On>

<LTE Band 5>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
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				
20450	20549	QPSK	1	49	0	0	1	0	20.45	21.50
20476	20575	QPSK	1	49	0	0	1	0	20.48	21.50
20600	20501	QPSK	1	49	0	0	1	0	20.36	21.50

<Reduced Power Mode for Hotspot On>

<LTE Band 5>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
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				
20450	20549	QPSK	1	49	0	0	1	0	20.45	21.50
20476	20575	QPSK	1	49	0	0	1	0	20.48	21.50
20600	20501	QPSK	1	49	0	0	1	0	20.36	21.50

<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 (dBm)	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	17.08	19.00	100.00
		6	2437	18.98	19.50	
		11	2462	18.58	19.50	
	802.11g 6Mbps	1	2412	16.63	17.50	98.28
		6	2437	17.13	17.50	
		11	2462	16.75	17.50	
	802.11n-HT20 MCS0	1	2412	16.50	17.50	98.16
		6	2437	16.90	17.50	
		11	2462	16.70	17.50	
	802.11n-HT40 MCS0	3	2422	15.92	16.50	94.93
		6	2437	16.05	16.50	
		9	2452	15.74	16.50	

<5GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	17.24	18.00	98.28
		40	5200	16.73	18.00	
		44	5220	17.29	18.00	
		48	5240	17.24	18.00	
	802.11n-HT20 MCS0	36	5180	15.44	16.50	98.16
		40	5200	15.63	16.50	
		44	5220	16.15	16.50	
		48	5240	15.97	16.50	
	802.11n-HT40 MCS0	38	5190	15.60	16.50	96.32
		46	5230	16.01	16.50	
	802.11ac-VHT20 MCS0	36	5180	14.11	15.50	98.16
		40	5200	14.29	15.50	
		44	5220	14.93	15.50	
		48	5240	14.59	15.50	
	802.11ac-VHT40 MCS0	38	5190	14.63	16.00	96.35
		46	5230	15.19	16.00	
	802.11ac-VHT80 MCS0	42	5210	15.20	16.00	92.75

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	16.79	18.00	98.28
		56	5280	17.23	18.00	
		60	5300	17.02	18.00	
		64	5320	16.50	18.00	
	802.11n-HT20 MCS0	52	5260	15.66	16.50	98.16
		56	5280	16.01	16.50	
		60	5300	15.89	16.50	
		64	5320	15.38	16.50	
	802.11n-HT40 MCS0	54	5270	16.28	16.50	96.32
		62	5310	16.09	16.50	
	802.11ac-VHT20 MCS0	52	5260	14.61	15.50	98.16
		56	5280	14.99	15.50	
		60	5300	14.97	15.50	
		64	5320	14.50	15.50	
	802.11ac-VHT40 MCS0	54	5270	15.20	16.00	96.35
		62	5310	15.22	16.00	
	802.11ac-VHT80 MCS0	58	5290	15.02	16.00	92.75

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	15.74	16.50	98.28
		116	5580	16.11	16.50	
		132	5660	16.30	16.50	
		140	5700	17.06	17.50	
	802.11n-HT20 MCS0	100	5500	14.85	15.50	98.16
		116	5580	15.24	16.50	
		132	5660	15.45	16.50	
		140	5700	16.04	16.50	
	802.11n-HT40 MCS0	102	5510	15.57	16.50	96.32
		110	5550	16.02	16.50	
		134	5670	15.85	16.50	
	802.11ac-VHT20 MCS0	100	5500	13.81	14.50	98.16
		116	5580	14.14	15.50	
		132	5660	14.48	15.50	
		140	5700	15.21	15.50	
	802.11ac-VHT40 MCS0	102	5510	13.81	14.50	96.35
		110	5550	14.38	15.50	
		134	5670	14.32	15.50	
	802.11ac-VHT80 MCS0	106	5530	14.38	15.50	92.75

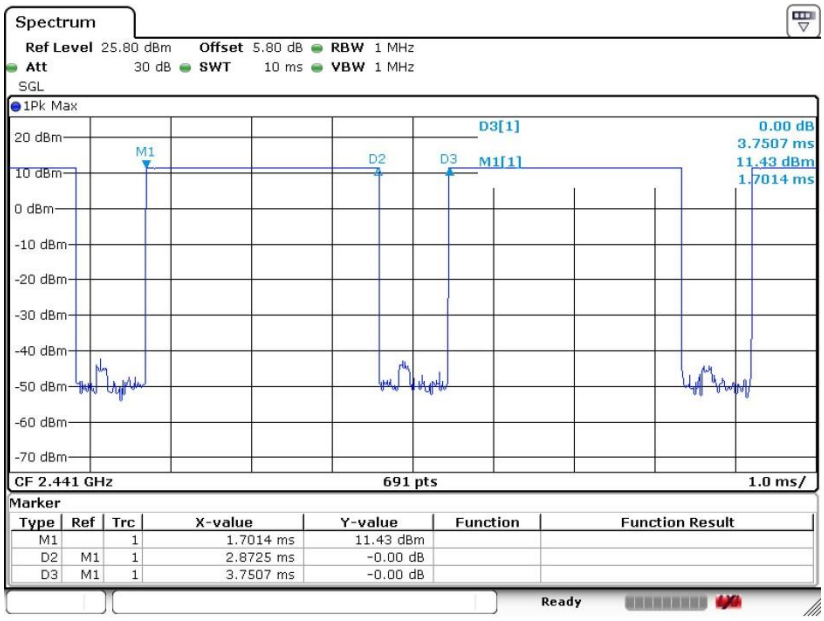
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit (dBm)	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	16.51	18.00	98.28
		157	5785	17.00	18.00	
		165	5825	17.21	18.00	
	802.11n-HT20 MCS0	149	5745	14.93	16.50	98.16
		157	5785	15.81	16.50	
		165	5825	15.95	16.50	
	802.11n-HT40 MCS0	151	5755	15.51	16.50	96.32
		159	5795	16.22	16.50	
	802.11ac-VHT20 MCS0	149	5745	14.11	15.50	98.16
		157	5785	14.86	15.50	
		165	5825	15.01	15.50	
	802.11ac-VHT40 MCS0	151	5755	14.57	15.50	96.35
		159	5795	15.28	16.00	
	802.11ac-VHT80 MCS0	155	5775	15.14	16.00	92.75

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.59 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation

Bluetooth time-domain plot

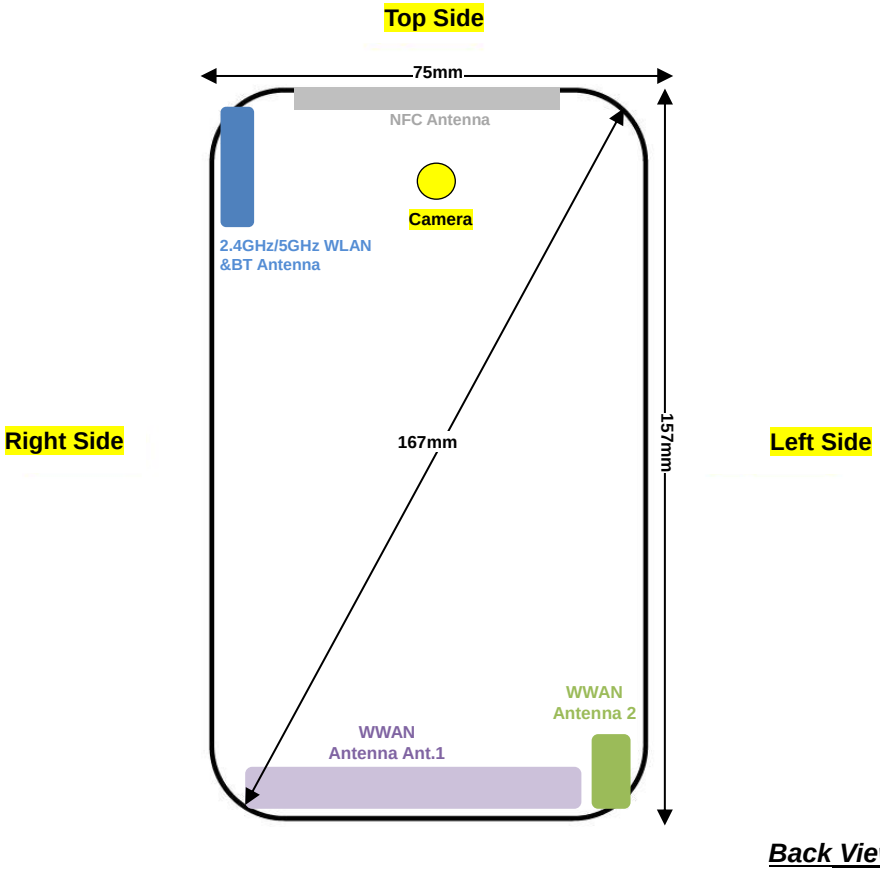


Mode	Channel	Frequency (MHz)	Average power (dBm)
			1Mbps
BR/EDR	CH 00	2402	12.48
	CH 39	2441	11.61
	CH 78	2480	10.14
Tune-up limit (dBm)			12.50

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
v4.2 LE	CH 00	2402	6.99
	CH 19	2440	7.11
	CH 39	2480	7.22
Tune-up limit (dBm)			8.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
v5.0 LE	CH 00	2402	6.80
	CH 19	2440	7.14
	CH 39	2480	7.23
Tune-up limit (dBm)			8.00

14. 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/5GHz WLAN & BT	≤ 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/5GHz WLAN & BT	Yes	Yes	Yes	No	Yes	No

General Note:

1. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the right side of bottom edge of the device and WWAN antenna 2 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1, LTE B2 / B4 / B5 / B12 / B13 / B66, WWAN antenna 2 frequency bands include LTE B7.
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.

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
4. Pre KDB648474 D04v01r03, when the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.
5. 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, GSM850/1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1, and LTE B2 / B4 / B5 / B7 / B12 / B13 / B66 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.)
6. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM850/1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1 and LTE B2 / B4 / B5 / B7 / B12 / B13 / B66.
7. This device hotspot reduced power and P-sensor reduced power level are the same for GSM850, WCDMA B5, CDMA2000 BC0 and LTE B5 / B7 / B12 / B13. And for other bands are different.
8. For P-sensor reduced power level is higher than hotspot reduced power for GSM1900, WCDMA B2 and LTE B2 / B4 / B66, so for those bands, front/back P-sensor SAR can represent conservatively for front/back hotspot SAR.
9. P-sensor can detect handheld state, GSM1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1 and LTE B2 / B4 / B7 / B66 for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active.
10. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the right side of bottom edge of the device and WWAN antenna 2 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1, LTE B2 / B4 / B5 / B12 / B13 / B66, WWAN antenna 2 frequency bands include LTE B7.
11. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power (for handheld on state, the maximum full power means reduced power), including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
    a. For this device SAR for WWAN transmitter scaled to the maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM850/1900, WCDMA B2 / B5, CDMA2000 BC0 / BC1, LTE B2 / B4 / B5 / B7 / B12 / B13 / B66, therefore product specific 10g SAR is necessary.
    b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
    c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS 2 Tx slots for GSM850/GSM1900 are considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.
3. Power reduction which is triggered by hotspot mode/p-sensor on are implemented in GSM850/1900 band, for SAR testing EUT was set in reduced power mode and GPRS 2 Tx slots due to its highest frame-average power.

WCDMA Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”.
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

CDMA Note:

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. According to November 2017 TCB workshop, the following applied to intra-band contiguous UL CA only;
   a. 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.
   b. UL CA SAR is measured for each exposure condition in each frequency band using the highest SAR configuration tested in standalone LTE mode to establish the UL CA PCC. The SCC and subsequent CC must use configurations similar to the PCC to establish conservative or worst case equivalent SAR test conditions.
   c. When the SAR configuration tested in step b) has a maximum output power specification more than ¼ dB lower than the highest maximum output power conditions measured in the power measurements in step a) above and the reported SAR in step b) is larger than 1.2 W/kg, SAR measurement is also required for the configuration in step a)
   d. All standalone SAR configurations with SAR > 1.2 W/kg must also be tested by applying the procedures in step b)
7. For LTE B4 / B5 / B12 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
8. LTE B4 SAR test was covered by B66; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

WLAN Note:

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

15.1 Head SAR

<GSM SAR>

Plot No.	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)
01	GSM850	GPRS (2 Tx slots)	Right Cheek	Full	251	848.8	31.89	33.00	1.291	0.04	0.240	**0.310**
	GSM850	GPRS (2 Tx slots)	Right Tilted	Full	251	848.8	31.89	33.00	1.291	-0.03	0.113	0.146
	GSM850	GPRS (2 Tx slots)	Left Cheek	Full	251	848.8	31.89	33.00	1.291	-0.04	0.195	0.252
	GSM850	GPRS (2 Tx slots)	Left Tilted	Full	251	848.8	31.89	33.00	1.291	0.06	0.137	0.177
	GSM1900	GPRS (2 Tx slots)	Right Cheek	Full	810	1909.8	28.95	30.00	1.274	0.01	0.055	0.070
	GSM1900	GPRS (2 Tx slots)	Right Tilted	Full	810	1909.8	28.95	30.00	1.274	-0.05	0.048	0.061
02	GSM1900	GPRS (2 Tx slots)	Left Cheek	Full	810	1909.8	28.95	30.00	1.274	0.09	0.066	**0.084**
	GSM1900	GPRS (2 Tx slots)	Left Tilted	Full	810	1909.8	28.95	30.00	1.274	0.15	0.051	0.064

<WCDMA SAR>

Plot No.	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)
03	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Full	4132	826.4	23.53	24.00	1.114	0.03	0.230	**0.256**
	WCDMA Band V	RMC 12.2Kbps	Right Tilted	Full	4132	826.4	23.53	24.00	1.114	0.06	0.108	0.120
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Full	4132	826.4	23.53	24.00	1.114	0.07	0.175	0.195
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Full	4132	826.4	23.53	24.00	1.114	0.17	0.132	0.147
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Full	9538	1907.6	23.41	24.00	1.146	-0.09	0.090	0.104
	WCDMA Band II	RMC 12.2Kbps	Right Tilted	Full	9538	1907.6	23.41	24.00	1.146	-0.04	0.071	0.081
04	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Full	9538	1907.6	23.41	24.00	1.146	0.07	0.106	**0.121**
	WCDMA Band II	RMC 12.2Kbps	Left Tilted	Full	9538	1907.6	23.41	24.00	1.146	0.04	0.075	0.086

<CDMA2000 SAR>

Plot No.	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)
05	CDMA2000 BC0	RC3 SO55	Right Cheek	Full	1013	824.7	24.67	25.50	1.211	-0.06	0.232	**0.281**
	CDMA2000 BC0	RC3 SO55	Right Tilted	Full	1013	824.7	24.67	25.50	1.211	0.06	0.095	0.115
	CDMA2000 BC0	RC3 SO55	Left Cheek	Full	1013	824.7	24.67	25.50	1.211	-0.01	0.164	0.199
	CDMA2000 BC0	RC3 SO55	Left Tilted	Full	1013	824.7	24.67	25.50	1.211	0.01	0.111	0.134
	CDMA2000 BC1	RC3 SO55	Right Cheek	Full	1175	1908.75	24.31	25.50	1.315	0.13	0.079	0.103
	CDMA2000 BC1	RC3 SO55	Right Tilted	Full	1175	1908.75	24.31	25.50	1.315	-0.13	0.047	0.062
06	CDMA2000 BC1	RC3 SO55	Left Cheek	Full	1175	1908.75	24.31	25.50	1.315	0.02	0.105	**0.138**
	CDMA2000 BC1	RC3 SO55	Left Tilted	Full	1175	1908.75	24.31	25.50	1.315	0.01	0.072	0.095

<FDD LTE SAR>

Plot No.	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)
07	LTE Band 12	10M	QPSK	1	0	Right Cheek	Full	23095	707.5	22.98	24.00	1.265	-0.08	0.171	**0.216**
	LTE Band 12	10M	QPSK	25	0	Right Cheek	Full	23095	707.5	22.13	23.00	1.222	0.1	0.096	0.117
	LTE Band 12	10M	QPSK	1	0	Right Tilted	Full	23095	707.5	22.98	24.00	1.265	0.04	0.084	0.106
	LTE Band 12	10M	QPSK	25	0	Right Tilted	Full	23095	707.5	22.13	23.00	1.222	-0.09	0.056	0.068
	LTE Band 12	10M	QPSK	1	0	Left Cheek	Full	23095	707.5	22.98	24.00	1.265	-0.07	0.148	0.187
	LTE Band 12	10M	QPSK	25	0	Left Cheek	Full	23095	707.5	22.13	23.00	1.222	-0.03	0.086	0.106
	LTE Band 12	10M	QPSK	1	0	Left Tilted	Full	23095	707.5	22.98	24.00	1.265	0.06	0.099	0.126
	LTE Band 12	10M	QPSK	25	0	Left Tilted	Full	23095	707.5	22.13	23.00	1.222	-0.05	0.057	0.069
08	LTE Band 5	10M	QPSK	1	49	Right Cheek	Full	20525	836.5	23.02	24.00	1.253	-0.11	0.190	**0.238**
	LTE Band 5	10M	QPSK	25	25	Right Cheek	Full	20525	836.5	22.13	23.00	1.222	0.05	0.100	0.122
	LTE Band 5	10M	QPSK	1	49	Right Tilted	Full	20525	836.5	23.02	24.00	1.253	0.07	0.084	0.105
	LTE Band 5	10M	QPSK	25	25	Right Tilted	Full	20525	836.5	22.13	23.00	1.222	-0.06	0.051	0.062
	LTE Band 5	10M	QPSK	1	49	Left Cheek	Full	20525	836.5	23.02	24.00	1.253	-0.08	0.119	0.149
	LTE Band 5	10M	QPSK	25	25	Left Cheek	Full	20525	836.5	22.13	23.00	1.222	0.03	0.067	0.081
	LTE Band 5	10M	QPSK	1	49	Left Tilted	Full	20525	836.5	23.02	24.00	1.253	-0.02	0.116	0.145
	LTE Band 5	10M	QPSK	25	25	Left Tilted	Full	20525	836.5	22.13	23.00	1.222	0.02	0.065	0.080
	LTE Band 5	10M	QPSK	1	49	Right Cheek	Full	20476(PCC) + 20575(SCC)	831.6(PCC) + 841.5(SCC)	23.64	24.00	1.086	-0.11	0.142	0.154
09	LTE Band 13	10M	QPSK	1	0	Right Cheek	Full	23230	782	23.05	24.00	1.245	-0.03	0.159	**0.198**
	LTE Band 13	10M	QPSK	25	0	Right Cheek	Full	23230	782	22.10	23.00	1.230	-0.1	0.096	0.118
	LTE Band 13	10M	QPSK	1	0	Right Tilted	Full	23230	782	23.05	24.00	1.245	-0.02	0.083	0.103
	LTE Band 13	10M	QPSK	25	0	Right Tilted	Full	23230	782	22.10	23.00	1.230	0.07	0.049	0.061
	LTE Band 13	10M	QPSK	1	0	Left Cheek	Full	23230	782	23.05	24.00	1.245	0.08	0.115	0.143
	LTE Band 13	10M	QPSK	25	0	Left Cheek	Full	23230	782	22.10	23.00	1.230	-0.15	0.069	0.085
	LTE Band 13	10M	QPSK	1	0	Left Tilted	Full	23230	782	23.05	24.00	1.245	-0.06	0.059	0.074
	LTE Band 13	10M	QPSK	25	0	Left Tilted	Full	23230	782	22.10	23.00	1.230	-0.01	0.032	0.039
	LTE Band 66	20M	QPSK	1	0	Right Cheek	Full	132072	1720	23.06	24.00	1.242	-0.19	0.154	0.191
	LTE Band 66	20M	QPSK	50	0	Right Cheek	Full	132072	1720	22.04	23.00	1.247	0.03	0.090	0.112
	LTE Band 66	20M	QPSK	1	0	Right Tilted	Full	132072	1720	23.06	24.00	1.242	0.1	0.109	0.135
	LTE Band 66	20M	QPSK	50	0	Right Tilted	Full	132072	1720	22.04	23.00	1.247	-0.07	0.066	0.082
10	LTE Band 66	20M	QPSK	1	0	Left Cheek	Full	132072	1720	23.06	24.00	1.242	-0.09	0.203	**0.252**
	LTE Band 66	20M	QPSK	50	0	Left Cheek	Full	132072	1720	22.04	23.00	1.247	0.05	0.117	0.146
	LTE Band 66	20M	QPSK	1	0	Left Tilted	Full	132072	1720	23.06	24.00	1.242	-0.06	0.127	0.158
	LTE Band 66	20M	QPSK	50	0	Left Tilted	Full	132072	1720	22.04	23.00	1.247	0.12	0.083	0.103
	LTE Band 2	20M	QPSK	1	0	Right Cheek	Full	19100	1900	23.45	24.00	1.135	-0.05	0.084	0.095
	LTE Band 2	20M	QPSK	50	0	Right Cheek	Full	19100	1900	22.40	23.00	1.148	0.06	0.054	0.062
	LTE Band 2	20M	QPSK	1	0	Right Tilted	Full	19100	1900	23.45	24.00	1.135	0.08	0.067	0.076
	LTE Band 2	20M	QPSK	50	0	Right Tilted	Full	19100	1900	22.40	23.00	1.148	0.02	0.044	0.050
11	LTE Band 2	20M	QPSK	1	0	Left Cheek	Full	19100	1900	23.45	24.00	1.135	0.09	0.115	**0.131**
	LTE Band 2	20M	QPSK	50	0	Left Cheek	Full	19100	1900	22.40	23.00	1.148	0.05	0.074	0.085
	LTE Band 2	20M	QPSK	1	0	Left Tilted	Full	19100	1900	23.45	24.00	1.135	-0.11	0.086	0.097
	LTE Band 2	20M	QPSK	50	0	Left Tilted	Full	19100	1900	22.40	23.00	1.148	-0.07	0.056	0.065
	LTE Band 7	20M	QPSK	1	0	Right Cheek	Full	20850	2510	23.04	24.00	1.247	-0.17	0.165	0.206
	LTE Band 7	20M	QPSK	50	0	Right Cheek	Full	20850	2510	22.05	23.00	1.245	0.12	0.141	0.175
12	LTE Band 7	20M	QPSK	1	0	Right Tilted	Full	20850	2510	23.04	24.00	1.247	0.09	0.226	**0.282**
	LTE Band 7	20M	QPSK	50	0	Right Tilted	Full	20850	2510	22.05	23.00	1.245	0.06	0.209	0.260
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Full	20850	2510	23.04	24.00	1.247	-0.04	0.180	0.225
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Full	20850	2510	22.05	23.00	1.245	0.01	0.092	0.114
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Full	20850	2510	23.04	24.00	1.247	0.07	0.076	0.095
	LTE Band 7	20M	QPSK	50	0	Left Tilted	Full	20850	2510	22.05	23.00	1.245	0.06	0.037	0.046

<WLAN 2.4GHz SAR>

Plot No.	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)	Max Area Scan SAR	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	6	2437	18.98	19.50	1.127	100	1.000		0.260		
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	6	2437	18.98	19.50	1.127	100	1.000		0.152		
13	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	6	2437	18.98	19.50	1.127	100	1.000	0.09	1.032	0.653	**0.736**
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	6	2437	18.98	19.50	1.127	100	1.000	0.02	0.527	0.299	0.337

<WLAN 5GHz SAR>

Plot No.	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)	Max Area Scan SAR	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	56	5280	17.23	18.00	1.194	98.28	1.018		0.233		
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	56	5280	17.23	18.00	1.194	98.28	1.018		0.199		
14	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	56	5280	17.23	18.00	1.194	98.28	1.018	0.01	0.732	0.234	**0.284**
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	56	5280	17.23	18.00	1.194	98.28	1.018		0.394		
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	140	5700	17.06	17.50	1.107	98.28	1.018		0.743		
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	140	5700	17.06	17.50	1.107	98.28	1.018		0.510		
15	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	140	5700	17.06	17.50	1.107	98.28	1.018	0.09	2.860	0.996	**1.122**
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	140	5700	17.06	17.50	1.107	98.28	1.018	0.02	1.381	0.519	0.585
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	132	5660	16.30	16.50	1.047	98.28	1.018	0.01	2.800	1.050	1.119
	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	165	5825	17.21	18.00	1.199	98.28	1.018		0.355		
	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	165	5825	17.21	18.00	1.199	98.28	1.018		0.410		
	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	165	5825	17.21	18.00	1.199	98.28	1.018	0.02	2.830	0.922	1.126
	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	165	5825	17.21	18.00	1.199	98.28	1.018	-0.03	1.464	0.533	0.651
16	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	157	5785	17.00	18.00	1.259	98.28	1.018	0.09		0.905	**1.160**

<Bluetooth SAR>

Plot No.	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)
	Bluetooth	1Mbps	Right Cheek	0	2402	12.48	12.50	1.005	76.59	1.088	0.04	0.048	0.053
	Bluetooth	1Mbps	Right Tilted	0	2402	12.48	12.50	1.005	76.59	1.088	0.1	0.026	0.029
17	Bluetooth	1Mbps	Left Cheek	0	2402	12.48	12.50	1.005	76.59	1.088	0.09	0.205	**0.224**
	Bluetooth	1Mbps	Left Tilted	0	2402	12.48	12.50	1.005	76.59	1.088	-0.05	0.093	0.102

15.2 Hotspot SAR

<GSM SAR>

Plot No.	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)
	GSM850	GPRS (2 Tx slots)	Front	5	Hotspot On	251	848.8	28.72	29.50	1.197	0.02	0.794	0.950
	GSM850	GPRS (2 Tx slots)	Front	5	Hotspot On	128	824.2	28.68	29.50	1.208	0.19	0.755	0.912
	GSM850	GPRS (2 Tx slots)	Front	5	Hotspot On	189	836.4	28.57	29.50	1.239	-0.15	0.725	0.898
	GSM850	GPRS (2 Tx slots)	Back	5	Hotspot On	251	848.8	28.72	29.50	1.197	0.09	1.120	1.340
	GSM850	GPRS (2 Tx slots)	Back	5	Hotspot On	128	824.2	28.68	29.50	1.208	0.08	0.998	1.205
18	GSM850	GPRS (2 Tx slots)	Back	5	Hotspot On	189	836.4	28.57	29.50	1.239	0.02	1.130	**1.400**
	GSM850	GPRS (2 Tx slots)	Left Side	5	Hotspot On	251	848.8	28.72	29.50	1.197	0.07	0.107	0.128
	GSM850	GPRS (2 Tx slots)	Right Side	5	Hotspot On	251	848.8	28.72	29.50	1.197	0.11	0.319	0.382
	GSM850	GPRS (2 Tx slots)	Bottom Side	5	Hotspot On	251	848.8	28.72	29.50	1.197	0.07	0.659	0.789
	GSM1900	GPRS (2 Tx slots)	Front	5	Hotspot On	810	1909.8	23.05	24.00	1.245	0.05	0.660	0.821
	GSM1900	GPRS (2 Tx slots)	Front	5	Hotspot On	512	1850.2	23.01	24.00	1.256	0.08	0.787	0.988
	GSM1900	GPRS (2 Tx slots)	Front	5	Hotspot On	661	1880	22.89	24.00	1.291	0.1	0.681	0.879
	GSM1900	GPRS (2 Tx slots)	Back	5	Hotspot On	810	1909.8	23.05	24.00	1.245	0.02	0.935	1.164
19	GSM1900	GPRS (2 Tx slots)	Back	5	Hotspot On	512	1850.2	23.01	24.00	1.256	0.03	1.090	**1.369**
	GSM1900	GPRS (2 Tx slots)	Back	5	Hotspot On	661	1880	22.89	24.00	1.291	-0.19	0.985	1.272
	GSM1900	GPRS (2 Tx slots)	Left Side	5	Hotspot On	810	1909.8	21.55	22.50	1.245	0.01	0.032	0.040
	GSM1900	GPRS (2 Tx slots)	Right Side	5	Hotspot On	810	1909.8	21.55	22.50	1.245	-0.05	0.026	0.032
	GSM1900	GPRS (2 Tx slots)	Bottom Side	5	Hotspot On	810	1909.8	21.55	22.50	1.245	-0.02	0.646	0.804
	GSM1900	GPRS (2 Tx slots)	Bottom Side	5	Hotspot On	512	1850.2	21.52	22.50	1.253	0.1	0.900	1.128
	GSM1900	GPRS (2 Tx slots)	Bottom Side	5	Hotspot On	661	1880	21.48	22.50	1.265	-0.04	0.708	0.895

<WCDMA SAR>

Plot No.	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)
	WCDMA Band V	RMC 12.2Kbps	Front	5	Hotspot On	4132	826.4	20.29	21.50	1.321	-0.08	0.680	0.898
	WCDMA Band V	RMC 12.2Kbps	Front	5	Hotspot On	4182	836.4	20.22	21.50	1.343	-0.06	0.720	0.967
	WCDMA Band V	RMC 12.2Kbps	Front	5	Hotspot On	4233	846.6	20.19	21.50	1.352	-0.17	0.714	0.965
	WCDMA Band V	RMC 12.2Kbps	Back	5	Hotspot On	4132	826.4	20.29	21.50	1.321	0.05	1.020	1.348
20	WCDMA Band V	RMC 12.2Kbps	Back	5	Hotspot On	4182	836.4	20.22	21.50	1.343	0.02	1.060	**1.423**
	WCDMA Band V	RMC 12.2Kbps	Back	5	Hotspot On	4233	846.6	20.19	21.50	1.352	-0.15	0.961	1.299
	WCDMA Band V	RMC 12.2Kbps	Left Side	5	Hotspot On	4132	826.4	20.29	21.50	1.321	0.03	0.079	0.105
	WCDMA Band V	RMC 12.2Kbps	Right Side	5	Hotspot On	4132	826.4	20.29	21.50	1.321	-0.05	0.300	0.396
	WCDMA Band V	RMC 12.2Kbps	Bottom Side	5	Hotspot On	4132	826.4	20.29	21.50	1.321	-0.05	0.519	0.686
	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9538	1907.6	16.73	17.50	1.194	0.04	0.787	0.940
	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9262	1852.4	16.68	17.50	1.208	0.03	0.837	1.011
	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9400	1880	16.72	17.50	1.197	0.04	0.764	0.914
	WCDMA Band II	RMC 12.2Kbps	Back	5	Hotspot On	9538	1907.6	16.73	17.50	1.194	0.13	1.040	1.242
21	WCDMA Band II	RMC 12.2Kbps	Back	5	Hotspot On	9262	1852.4	16.68	17.50	1.208	0.19	1.130	**1.365**
	WCDMA Band II	RMC 12.2Kbps	Back	5	Hotspot On	9400	1880	16.72	17.50	1.197	-0.07	1.040	1.245
	WCDMA Band II	RMC 12.2Kbps	Left Side	5	Hotspot On	9538	1907.6	15.20	16.00	1.202	0.02	0.043	0.052
	WCDMA Band II	RMC 12.2Kbps	Right Side	5	Hotspot On	9538	1907.6	15.20	16.00	1.202	0.07	0.332	0.399
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9538	1907.6	15.20	16.00	1.202	-0.07	0.995	1.196
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9262	1852.4	15.11	16.00	1.227	0.09	1.090	1.338
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9400	1880	15.18	16.00	1.208	0.02	1.050	1.268

<CDMA2000 SAR>

Plot No.	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)
	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	1013	824.7	22.08	22.50	1.102	-0.06	0.731	0.805
	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	384	836.52	22.04	22.50	1.112	-0.15	0.789	0.877
	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	777	848.31	21.92	22.50	1.143	-0.03	0.762	0.871
	CDMA2000 BC0	RTAP 153.6Kbps	Back	5	Hotspot On	1013	824.7	22.08	22.50	1.102	-0.04	1.100	1.212
	CDMA2000 BC0	RTAP 153.6Kbps	Back	5	Hotspot On	384	836.52	22.04	22.50	1.112	0.15	1.180	1.312
22	CDMA2000 BC0	RTAP 153.6Kbps	Back	5	Hotspot On	777	848.31	21.92	22.50	1.143	-0.11	1.150	**1.314**
	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	5	Hotspot On	1013	824.7	22.08	22.50	1.102	-0.06	0.081	0.089
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	5	Hotspot On	1013	824.7	22.08	22.50	1.102	-0.09	0.280	0.308
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	1013	824.7	22.08	22.50	1.102	0.03	0.621	0.684
	CDMA2000 BC1	RTAP 153.6Kbps	Front	5	Hotspot On	1175	1908.75	16.34	17.00	1.164	-0.07	0.580	0.675
	CDMA2000 BC1	RTAP 153.6Kbps	Back	5	Hotspot On	1175	1908.75	16.34	17.00	1.164	0.05	0.786	0.915
	CDMA2000 BC1	RTAP 153.6Kbps	Back	5	Hotspot On	25	1851.25	16.31	17.00	1.172	0.06	0.800	0.938
	CDMA2000 BC1	RTAP 153.6Kbps	Back	5	Hotspot On	600	1880	16.29	17.00	1.178	0.12	0.772	0.909
	CDMA2000 BC1	RTAP 153.6Kbps	Left Side	5	Hotspot On	1175	1908.75	16.34	17.00	1.164	-0.06	0.053	0.062
	CDMA2000 BC1	RTAP 153.6Kbps	Right Side	5	Hotspot On	1175	1908.75	16.34	17.00	1.164	-0.03	0.040	0.046
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	1175	1908.75	16.34	17.00	1.164	-0.05	1.090	1.269
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	25	1851.25	16.31	17.00	1.172	-0.04	1.110	1.301
23	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	600	1880	16.29	17.00	1.178	0.01	1.110	**1.307**

<FDD LTE SAR>

Plot No.	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)
	LTE Band 12	10M	QPSK	1	0	Front	5	Hotspot On	23095	707.5	22.18	23.00	1.208	-0.03	0.658	0.795
	LTE Band 12	10M	QPSK	25	0	Front	5	Hotspot On	23095	707.5	22.36	23.00	1.159	-0.07	0.508	0.589
24	LTE Band 12	10M	QPSK	1	0	Back	5	Hotspot On	23095	707.5	22.18	23.00	1.208	-0.07	1.090	**1.317**
	LTE Band 12	10M	QPSK	25	0	Back	5	Hotspot On	23095	707.5	22.36	23.00	1.159	0.09	0.745	0.863
	LTE Band 12	10M	QPSK	50	0	Back	5	Hotspot On	23095	707.5	22.31	23.00	1.172	0.06	0.745	0.873
	LTE Band 12	10M	QPSK	1	0	Left Side	5	Hotspot On	23095	707.5	22.18	23.00	1.208	-0.11	0.157	0.190
	LTE Band 12	10M	QPSK	25	0	Left Side	5	Hotspot On	23095	707.5	22.36	23.00	1.159	-0.09	0.102	0.118
	LTE Band 12	10M	QPSK	1	0	Right Side	5	Hotspot On	23095	707.5	22.18	23.00	1.208	0.01	0.350	0.423
	LTE Band 12	10M	QPSK	25	0	Right Side	5	Hotspot On	23095	707.5	22.36	23.00	1.159	0.03	0.241	0.279
	LTE Band 12	10M	QPSK	1	0	Bottom Side	5	Hotspot On	23095	707.5	22.18	23.00	1.208	0.08	0.612	0.739
	LTE Band 12	10M	QPSK	25	0	Bottom Side	5	Hotspot On	23095	707.5	22.36	23.00	1.159	0.1	0.475	0.550
	LTE Band 5	10M	QPSK	1	49	Front	5	Hotspot On	20525	836.5	20.31	21.50	1.315	-0.01	0.704	0.926
	LTE Band 5	10M	QPSK	25	25	Front	5	Hotspot On	20525	836.5	20.36	21.50	1.300	-0.04	0.717	0.932
	LTE Band 5	10M	QPSK	50	0	Front	5	Hotspot On	20525	836.5	20.39	21.50	1.291	-0.07	0.760	0.981
25	LTE Band 5	10M	QPSK	1	49	Back	5	Hotspot On	20525	836.5	20.31	21.50	1.315	0.06	1.000	**1.315**
	LTE Band 5	10M	QPSK	25	25	Back	5	Hotspot On	20525	836.5	20.36	21.50	1.300	0.05	0.984	1.279
	LTE Band 5	10M	QPSK	50	0	Back	5	Hotspot On	20525	836.5	20.39	21.50	1.291	-0.05	0.963	1.243
	LTE Band 5	10M	QPSK	1	49	Left Side	5	Hotspot On	20525	836.5	20.31	21.50	1.315	0.03	0.094	0.124
	LTE Band 5	10M	QPSK	25	25	Left Side	5	Hotspot On	20525	836.5	20.36	21.50	1.300	-0.05	0.095	0.124
	LTE Band 5	10M	QPSK	1	49	Right Side	5	Hotspot On	20525	836.5	20.31	21.50	1.315	-0.19	0.226	0.297
	LTE Band 5	10M	QPSK	25	25	Right Side	5	Hotspot On	20525	836.5	20.36	21.50	1.300	0.01	0.231	0.300
	LTE Band 5	10M	QPSK	1	49	Bottom Side	5	Hotspot On	20525	836.5	20.31	21.50	1.315	-0.03	0.539	0.709
	LTE Band 5	10M	QPSK	25	25	Bottom Side	5	Hotspot On	20525	836.5	20.36	21.50	1.300	0.09	0.555	0.722
	LTE Band 5	10M	QPSK	1	49	Back	5	Hotspot On	20476(PCC) + 20575(SCC)	831.6(PCC) + 841.5(SCC)	20.48	21.50	1.265	-0.11	0.561	0.710
	LTE Band 13	10M	QPSK	1	0	Front	5	Hotspot On	23230	782	21.80	23.00	1.318	-0.05	0.703	0.927
	LTE Band 13	10M	QPSK	25	0	Front	5	Hotspot On	23230	782	21.87	23.00	1.297	-0.04	0.600	0.778
	LTE Band 13	10M	QPSK	50	0	Front	5	Hotspot On	23230	782	21.81	23.00	1.315	-0.08	0.625	0.822
26	LTE Band 13	10M	QPSK	1	0	Back	5	Hotspot On	23230	782	21.80	23.00	1.318	-0.02	0.985	**1.298**
	LTE Band 13	10M	QPSK	25	0	Back	5	Hotspot On	23230	782	21.87	23.00	1.297	-0.06	0.853	1.106
	LTE Band 13	10M	QPSK	50	0	Back	5	Hotspot On	23230	782	21.81	23.00	1.315	0.01	0.845	1.111
	LTE Band 13	10M	QPSK	1	0	Left Side	5	Hotspot On	23230	782	21.80	23.00	1.318	0.02	0.141	0.186
	LTE Band 13	10M	QPSK	25	0	Left Side	5	Hotspot On	23230	782	21.87	23.00	1.297	0.1	0.126	0.163
	LTE Band 13	10M	QPSK	1	0	Right Side	5	Hotspot On	23230	782	21.80	23.00	1.318	-0.15	0.296	0.390
	LTE Band 13	10M	QPSK	25	0	Right Side	5	Hotspot On	23230	782	21.87	23.00	1.297	0.05	0.247	0.320
	LTE Band 13	10M	QPSK	1	0	Bottom Side	5	Hotspot On	23230	782	21.80	23.00	1.318	0.06	0.546	0.720
	LTE Band 13	10M	QPSK	25	0	Bottom Side	5	Hotspot On	23230	782	21.87	23.00	1.297	-0.07	0.461	0.598

Plot No.	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)
	LTE Band 66	20M	QPSK	1	0	Front	5	Hotspot On	132072	1720	15.85	16.50	1.161	0.06	0.805	0.935
	LTE Band 66	20M	QPSK	1	0	Front	5	Hotspot On	132322	1745	15.82	16.50	1.169	0.03	0.791	0.925
	LTE Band 66	20M	QPSK	1	0	Front	5	Hotspot On	132572	1770	15.78	16.50	1.180	-0.1	0.797	0.941
	LTE Band 66	20M	QPSK	50	0	Front	5	Hotspot On	132072	1720	15.78	16.50	1.180	-0.08	0.810	0.956
	LTE Band 66	20M	QPSK	50	0	Front	5	Hotspot On	132322	1745	15.74	16.50	1.191	0.03	0.884	1.053
	LTE Band 66	20M	QPSK	50	0	Front	5	Hotspot On	132572	1770	15.70	16.50	1.202	0.02	0.888	1.068
	LTE Band 66	20M	QPSK	100	0	Front	5	Hotspot On	132072	1720	15.71	16.50	1.199	-0.04	0.888	1.065
	LTE Band 66	20M	QPSK	1	0	Back	5	Hotspot On	132072	1720	15.85	16.50	1.161	0.07	1.140	1.324
	LTE Band 66	20M	QPSK	1	0	Back	5	Hotspot On	132322	1745	15.82	16.50	1.169	0.12	1.170	1.368
	LTE Band 66	20M	QPSK	1	0	Back	5	Hotspot On	132572	1770	15.78	16.50	1.180	-0.03	1.190	1.405
	LTE Band 66	20M	QPSK	50	0	Back	5	Hotspot On	132072	1720	15.78	16.50	1.180	0.06	1.190	1.405
	LTE Band 66	20M	QPSK	50	0	Back	5	Hotspot On	132322	1745	15.74	16.50	1.191	-0.07	1.200	1.429
27	LTE Band 66	20M	QPSK	50	0	Back	5	Hotspot On	132572	1770	15.70	16.50	1.202	-0.01	1.200	**1.443**
	LTE Band 66	20M	QPSK	100	0	Back	5	Hotspot On	132072	1720	15.71	16.50	1.199	0.06	1.190	1.427
	LTE Band 66	20M	QPSK	1	0	Left Side	5	Hotspot On	132072	1720	14.75	16.00	1.334	0.01	0.071	0.095
	LTE Band 66	20M	QPSK	50	0	Left Side	5	Hotspot On	132072	1720	14.69	16.00	1.352	0.08	0.071	0.095
	LTE Band 66	20M	QPSK	1	0	Right Side	5	Hotspot On	132072	1720	14.75	16.00	1.334	0.06	0.036	0.048
	LTE Band 66	20M	QPSK	50	0	Right Side	5	Hotspot On	132072	1720	14.69	16.00	1.352	-0.01	0.037	0.049
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5	Hotspot On	132072	1720	14.75	16.00	1.334	-0.06	0.837	1.116
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5	Hotspot On	132322	1745	14.70	16.00	1.349	0.04	0.945	1.275
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5	Hotspot On	132572	1770	14.69	16.00	1.352	0.02	0.984	1.330
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5	Hotspot On	132072	1720	14.69	16.00	1.352	-0.01	0.875	1.183
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5	Hotspot On	132322	1745	14.56	16.00	1.393	-0.06	0.907	1.264
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5	Hotspot On	132572	1770	14.59	16.00	1.384	-0.05	0.971	1.343
	LTE Band 66	20M	QPSK	100	0	Bottom Side	5	Hotspot On	132072	1720	14.61	16.00	1.377	0.01	0.888	1.223
	LTE Band 2	20M	QPSK	1	0	Front	5	Hotspot On	19100	1900	16.60	17.00	1.096	0.02	0.710	0.778
	LTE Band 2	20M	QPSK	50	0	Front	5	Hotspot On	19100	1900	16.43	17.00	1.140	0.02	0.703	0.802
	LTE Band 2	20M	QPSK	50	0	Front	5	Hotspot On	18700	1860	16.42	17.00	1.143	0.02	0.780	0.891
	LTE Band 2	20M	QPSK	50	0	Front	5	Hotspot On	18900	1880	16.33	17.00	1.167	0.06	0.732	0.854
	LTE Band 2	20M	QPSK	100	0	Front	5	Hotspot On	19100	1900	16.40	17.00	1.148	0.01	0.686	0.788
	LTE Band 2	20M	QPSK	1	0	Back	5	Hotspot On	19100	1900	16.60	17.00	1.096	-0.07	0.920	1.009
28	LTE Band 2	20M	QPSK	1	0	Back	5	Hotspot On	18700	1860	16.53	17.00	1.114	0.08	1.170	**1.304**
	LTE Band 2	20M	QPSK	1	0	Back	5	Hotspot On	18900	1880	16.48	17.00	1.127	0.02	0.978	1.102
	LTE Band 2	20M	QPSK	50	0	Back	5	Hotspot On	19100	1900	16.43	17.00	1.140	-0.06	0.909	1.036
	LTE Band 2	20M	QPSK	50	0	Back	5	Hotspot On	18700	1860	16.42	17.00	1.143	0.13	1.000	1.143
	LTE Band 2	20M	QPSK	50	0	Back	5	Hotspot On	18900	1880	16.33	17.00	1.167	0.04	0.934	1.090
	LTE Band 2	20M	QPSK	100	0	Back	5	Hotspot On	19100	1900	16.40	17.00	1.148	-0.08	0.882	1.013
	LTE Band 2	20M	QPSK	1	0	Left Side	5	Hotspot On	19100	1900	14.86	15.50	1.159	0.02	0.044	0.051
	LTE Band 2	20M	QPSK	50	0	Left Side	5	Hotspot On	19100	1900	14.70	15.50	1.202	0.08	0.044	0.053
	LTE Band 2	20M	QPSK	1	0	Right Side	5	Hotspot On	19100	1900	14.86	15.50	1.159	-0.05	0.030	0.035
	LTE Band 2	20M	QPSK	50	0	Right Side	5	Hotspot On	19100	1900	14.70	15.50	1.202	-0.11	0.030	0.036
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5	Hotspot On	19100	1900	14.86	15.50	1.159	0.09	0.965	1.118
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5	Hotspot On	18700	1860	14.82	15.50	1.169	0.08	1.110	1.298
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5	Hotspot On	18900	1880	14.74	15.50	1.191	-0.08	0.944	1.125
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5	Hotspot On	19100	1900	14.70	15.50	1.202	0.05	0.906	1.089
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5	Hotspot On	18700	1860	14.62	15.50	1.225	-0.14	0.957	1.172
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5	Hotspot On	18900	1880	14.58	15.50	1.236	-0.02	0.912	1.127
	LTE Band 2	20M	QPSK	100	0	Bottom Side	5	Hotspot On	19100	1900	14.65	15.50	1.216	-0.02	0.884	1.075

Plot No.	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)
	LTE Band 7	20M	QPSK	1	0	Front	5	Hotspot On	20850	2510	16.51	17.50	1.256	-0.08	0.633	0.795
	LTE Band 7	20M	QPSK	50	0	Front	5	Hotspot On	20850	2510	16.60	17.50	1.230	0.02	0.596	0.733
29	LTE Band 7	20M	QPSK	1	0	Back	5	Hotspot On	20850	2510	16.51	17.50	1.256	0.06	1.100	**1.382**
	LTE Band 7	20M	QPSK	1	0	Back	5	Hotspot On	21100	2535	16.45	17.50	1.274	0.04	1.040	1.324
	LTE Band 7	20M	QPSK	1	0	Back	5	Hotspot On	21350	2560	16.50	17.50	1.259	-0.08	1.070	1.347
	LTE Band 7	20M	QPSK	50	0	Back	5	Hotspot On	20850	2510	16.60	17.50	1.230	0.05	1.000	1.230
	LTE Band 7	20M	QPSK	50	0	Back	5	Hotspot On	21100	2535	16.44	17.50	1.276	-0.04	0.984	1.256
	LTE Band 7	20M	QPSK	50	0	Back	5	Hotspot On	21350	2560	16.57	17.50	1.239	0.02	1.000	1.239
	LTE Band 7	20M	QPSK	100	0	Back	5	Hotspot On	20850	2510	16.54	17.50	1.247	0.05	0.973	1.214
	LTE Band 7	20M	QPSK	1	0	Left Side	5	Hotspot On	20850	2510	16.51	17.50	1.256	0.03	0.368	0.462
	LTE Band 7	20M	QPSK	50	0	Left Side	5	Hotspot On	20850	2510	16.60	17.50	1.230	-0.05	0.369	0.454
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5	Hotspot On	20850	2510	16.51	17.50	1.256	-0.05	0.248	0.311
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5	Hotspot On	20850	2510	16.60	17.50	1.230	-0.02	0.298	0.367

<WLAN 2.4GHz SAR>

Plot No.	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)	Max Area Scan SAR	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	5	Full	6	2437	18.98	19.50	1.127	100	1.000		0.275		
30	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	6	2437	18.98	19.50	1.127	100	1.000	-0.05	0.301	0.218	**0.246**
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5	Full	6	2437	18.98	19.50	1.127	100	1.000		0.283		
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5	Full	6	2437	18.98	19.50	1.127	100	1.000		0.097		

<WLAN 5GHz SAR>

Plot No.	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)	Max Area Scan SAR	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5.2GHz	802.11a 6Mbps	Front	5	Full	44	5220	17.29	18.00	1.178	98.28	1.018		0.176		
31	WLAN5.2GHz	802.11a 6Mbps	Back	5	Full	44	5220	17.29	18.00	1.178	98.28	1.018	-0.09	0.521	0.194	**0.233**
	WLAN5.2GHz	802.11a 6Mbps	Right Side	5	Full	44	5220	17.29	18.00	1.178	98.28	1.018		0.153		
	WLAN5.2GHz	802.11a 6Mbps	Top Side	5	Full	44	5220	17.29	18.00	1.178	98.28	1.018		0.098		
	WLAN 5.8GHz	802.11a 6Mbps	Front	5	Full	165	5825	17.21	18.00	1.199	98.28	1.018	0.08	1.020	0.375	0.458
32	WLAN 5.8GHz	802.11a 6Mbps	Back	5	Full	165	5825	17.21	18.00	1.199	98.28	1.018	-0.09	1.380	0.446	**0.545**
	WLAN 5.8GHz	802.11a 6Mbps	Right Side	5	Full	165	5825	17.21	18.00	1.199	98.28	1.018	0.05	0.283	0.100	0.122
	WLAN 5.8GHz	802.11a 6Mbps	Top Side	5	Full	165	5825	17.21	18.00	1.199	98.28	1.018	0.16	0.194	0.065	0.079

<Bluetooth SAR>

Plot No.	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 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	5	Full	0	2402	12.48	12.50	1.005	76.59	1.088	0.07	0.051	0.055
33	Bluetooth	1Mbps	Back	5	Full	0	2402	12.48	12.50	1.005	76.59	1.088	-0.04	0.077	**0.084**
	Bluetooth	1Mbps	Right Side	5	Full	0	2402	12.48	12.50	1.005	76.59	1.088	0.01	0.015	0.017
	Bluetooth	1Mbps	Top Side	5	Full	0	2402	12.48	12.50	1.005	76.59	1.088	0.03	0.020	0.022

15.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	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)
	GSM850	GPRS (2 Tx slots)	Front	5	-	P-Sensor On	251	848.8	28.72	29.50	1.197	0.02	0.794	0.950
	GSM850	GPRS (2 Tx slots)	Front	5	-	P-Sensor On	128	824.2	28.68	29.50	1.208	0.19	0.755	0.912
	GSM850	GPRS (2 Tx slots)	Front	5	-	P-Sensor On	189	836.4	28.57	29.50	1.239	-0.15	0.725	0.898
	GSM850	GPRS (2 Tx slots)	Back	5	-	P-Sensor On	251	848.8	28.72	29.50	1.197	0.09	1.120	1.340
	GSM850	GPRS (2 Tx slots)	Back	5	-	P-Sensor On	128	824.2	28.68	29.50	1.208	0.08	0.998	1.205
34	GSM850	GPRS (2 Tx slots)	Back	5	-	P-Sensor On	189	836.4	28.57	29.50	1.239	0.02	1.130	**1.400**
	GSM850	GPRS (2 Tx slots)	Back	5	Headset	P-Sensor On	189	836.4	28.57	29.50	1.239	0.03	0.289	0.358
	GSM1900	GPRS (2 Tx slots)	Front	5	-	P-Sensor On	810	1909.8	23.05	24.00	1.245	0.05	0.660	0.821
	GSM1900	GPRS (2 Tx slots)	Front	5	-	P-Sensor On	512	1850.2	23.01	24.00	1.256	0.08	0.787	0.988
	GSM1900	GPRS (2 Tx slots)	Front	5	-	P-Sensor On	661	1880	22.89	24.00	1.291	0.1	0.681	0.879
	GSM1900	GPRS (2 Tx slots)	Back	5	-	P-Sensor On	810	1909.8	23.05	24.00	1.245	0.02	0.935	1.164
35	GSM1900	GPRS (2 Tx slots)	Back	5	-	P-Sensor On	512	1850.2	23.01	24.00	1.256	0.03	1.090	**1.369**
	GSM1900	GPRS (2 Tx slots)	Back	5	-	P-Sensor On	661	1880	22.89	24.00	1.291	-0.19	0.985	1.272
	GSM1900	GPRS (2 Tx slots)	Back	5	Headset	P-Sensor On	512	1850.2	23.01	24.00	1.256	0.06	0.489	0.614

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	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)
	WCDMA Band V	RMC 12.2Kbps	Front	5	-	P-Sensor On	4132	826.4	20.29	21.50	1.321	-0.08	0.680	0.898
	WCDMA Band V	RMC 12.2Kbps	Front	5	-	P-Sensor On	4182	836.4	20.22	21.50	1.343	-0.06	0.720	0.967
	WCDMA Band V	RMC 12.2Kbps	Front	5	-	P-Sensor On	4233	846.6	20.19	21.50	1.352	-0.17	0.714	0.965
	WCDMA Band V	RMC 12.2Kbps	Back	5	-	P-Sensor On	4132	826.4	20.29	21.50	1.321	0.05	1.020	1.348
36	WCDMA Band V	RMC 12.2Kbps	Back	5	-	P-Sensor On	4182	836.4	20.22	21.50	1.343	0.02	1.060	**1.423**
	WCDMA Band V	RMC 12.2Kbps	Back	5	-	P-Sensor On	4233	846.6	20.19	21.50	1.352	-0.15	0.961	1.299
	WCDMA Band V	RMC 12.2Kbps	Back	5	Headset	P-Sensor On	4182	836.4	20.22	21.50	1.343	-0.03	0.751	1.008
	WCDMA Band V	RMC 12.2Kbps	Back	5	Headset	P-Sensor On	4132	826.4	20.29	21.50	1.321	0.05	0.765	1.011
	WCDMA Band V	RMC 12.2Kbps	Back	5	Headset	P-Sensor On	4233	846.6	20.19	21.50	1.352	-0.04	0.754	1.019
	WCDMA Band II	RMC 12.2Kbps	Front	5	-	P-Sensor On	9538	1907.6	16.73	17.50	1.194	0.04	0.787	0.940
	WCDMA Band II	RMC 12.2Kbps	Front	5	-	P-Sensor On	9262	1852.4	16.68	17.50	1.208	0.03	0.837	1.011
	WCDMA Band II	RMC 12.2Kbps	Front	5	-	P-Sensor On	9400	1880	16.72	17.50	1.197	0.04	0.764	0.914
	WCDMA Band II	RMC 12.2Kbps	Back	5	-	P-Sensor On	9538	1907.6	16.73	17.50	1.194	0.13	1.040	1.242
37	WCDMA Band II	RMC 12.2Kbps	Back	5	-	P-Sensor On	9262	1852.4	16.68	17.50	1.208	0.19	1.130	**1.365**
	WCDMA Band II	RMC 12.2Kbps	Back	5	-	P-Sensor On	9400	1880	16.72	17.50	1.197	-0.07	1.040	1.245
	WCDMA Band II	RMC 12.2Kbps	Back	5	Headset	P-Sensor On	9262	1852.4	16.68	17.50	1.208	-0.04	0.536	0.647

<CDMA2000 SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	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)
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	-	P-Sensor On	1013	824.7	22.09	22.50	1.099	-0.02	0.760	0.835
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	-	P-Sensor On	384	836.52	22.06	22.50	1.107	-0.01	0.808	0.894
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	-	P-Sensor On	777	848.31	21.92	22.50	1.143	-0.05	0.801	0.915
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5	-	P-Sensor On	1013	824.7	22.09	22.50	1.099	-0.11	1.130	1.242
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5	-	P-Sensor On	384	836.52	22.06	22.50	1.107	0.01	1.210	1.339
38	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5	-	P-Sensor On	777	848.31	21.92	22.50	1.143	0.02	1.210	**1.383**
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5	Headset	P-Sensor On	777	848.31	21.92	22.50	1.143	-0.17	0.695	0.794
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5	-	P-Sensor On	1175	1908.75	17.89	18.50	1.151	0.06	0.741	0.853
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5	-	P-Sensor On	25	1851.25	17.67	18.50	1.211	0.06	0.773	0.936
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5	-	P-Sensor On	600	1880	17.76	18.50	1.186	-0.06	0.722	0.856
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Back	5	-	P-Sensor On	1175	1908.75	17.89	18.50	1.151	0.08	1.070	1.231
39	CDMA2000 BC1	RC3 SO32 (F+SCH)	Back	5	-	P-Sensor On	25	1851.25	17.67	18.50	1.211	-0.07	1.090	**1.320**
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Back	5	-	P-Sensor On	600	1880	17.76	18.50	1.186	0.03	1.100	1.304
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Back	5	Headset	P-Sensor On	25	1851.25	17.67	18.50	1.211	0.01	0.532	0.644

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Headset	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)
	LTE Band 12	10M	QPSK	1	0	Front	5	-	P-Sensor On	23095	707.5	22.18	23.00	1.208	-0.03	0.658	0.795
	LTE Band 12	10M	QPSK	25	0	Front	5	-	P-Sensor On	23095	707.5	22.36	23.00	1.159	-0.07	0.508	0.589
40	LTE Band 12	10M	QPSK	1	0	Back	5	-	P-Sensor On	23095	707.5	22.18	23.00	1.208	-0.07	1.090	**1.317**
	LTE Band 12	10M	QPSK	25	0	Back	5	-	P-Sensor On	23095	707.5	22.36	23.00	1.159	0.09	0.745	0.863
	LTE Band 12	10M	QPSK	50	0	Back	5	-	P-Sensor On	23095	707.5	22.31	23.00	1.172	0.06	0.745	0.873
	LTE Band 12	10M	QPSK	1	0	Back	5	Headset	P-Sensor On	23095	707.5	22.18	23.00	1.208	-0.03	1.010	1.220
	LTE Band 5	10M	QPSK	1	49	Front	5	-	P-Sensor On	20525	836.5	20.31	21.50	1.315	-0.01	0.704	0.926
	LTE Band 5	10M	QPSK	25	25	Front	5	-	P-Sensor On	20525	836.5	20.36	21.50	1.300	-0.04	0.717	0.932
	LTE Band 5	10M	QPSK	50	0	Front	5	-	P-Sensor On	20525	836.5	20.39	21.50	1.291	-0.07	0.760	0.981
41	LTE Band 5	10M	QPSK	1	49	Back	5	-	P-Sensor On	20525	836.5	20.31	21.50	1.315	0.06	1.000	**1.315**
	LTE Band 5	10M	QPSK	25	25	Back	5	-	P-Sensor On	20525	836.5	20.36	21.50	1.300	0.05	0.984	1.279
	LTE Band 5	10M	QPSK	50	0	Back	5	-	P-Sensor On	20525	836.5	20.39	21.50	1.291	-0.05	0.963	1.243
	LTE Band 5	10M	QPSK	1	49	Back	5	Headset	P-Sensor On	20525	836.5	20.31	21.50	1.315	0.03	0.930	1.223
	LTE Band 5	10M	QPSK	1	49	Back	5	-	P-Sensor On	20476(PCC) + 20575(SCC)	831.6(PCC) + 841.5(SCC)	20.48	21.50	1.265	-0.11	0.561	0.710
	LTE Band 13	10M	QPSK	1	0	Front	5	-	P-Sensor On	23230	782	21.80	23.00	1.318	-0.05	0.703	0.927
	LTE Band 13	10M	QPSK	25	0	Front	5	-	P-Sensor On	23230	782	21.87	23.00	1.297	-0.04	0.600	0.778
	LTE Band 13	10M	QPSK	50	0	Front	5	-	P-Sensor On	23230	782	21.81	23.00	1.315	-0.08	0.625	0.822
	LTE Band 13	10M	QPSK	1	0	Back	5	-	P-Sensor On	23230	782	21.80	23.00	1.318	-0.02	0.985	1.298
	LTE Band 13	10M	QPSK	25	0	Back	5	-	P-Sensor On	23230	782	21.87	23.00	1.297	-0.06	0.853	1.106
	LTE Band 13	10M	QPSK	50	0	Back	5	-	P-Sensor On	23230	782	21.81	23.00	1.315	0.01	0.845	1.111
42	LTE Band 13	10M	QPSK	1	0	Back	5	Headset	P-Sensor On	23230	782	21.80	23.00	1.318	-0.09	1.080	**1.424**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Headset	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)
	LTE Band 66	20M	QPSK	1	0	Front	5	-	P-Sensor On	132072	1720	15.85	16.50	1.161	0.06	0.805	0.935
	LTE Band 66	20M	QPSK	1	0	Front	5	-	P-Sensor On	132322	1745	15.82	16.50	1.169	0.03	0.791	0.925
	LTE Band 66	20M	QPSK	1	0	Front	5	-	P-Sensor On	132572	1770	15.78	16.50	1.180	-0.1	0.797	0.941
	LTE Band 66	20M	QPSK	50	0	Front	5	-	P-Sensor On	132072	1720	15.78	16.50	1.180	-0.08	0.810	0.956
	LTE Band 66	20M	QPSK	50	0	Front	5	-	P-Sensor On	132322	1745	15.74	16.50	1.191	0.03	0.884	1.053
	LTE Band 66	20M	QPSK	50	0	Front	5	-	P-Sensor On	132572	1770	15.70	16.50	1.202	0.02	0.888	1.068
	LTE Band 66	20M	QPSK	100	0	Front	5	-	P-Sensor On	132072	1720	15.71	16.50	1.199	-0.04	0.888	1.065
	LTE Band 66	20M	QPSK	1	0	Back	5	-	P-Sensor On	132072	1720	15.85	16.50	1.161	0.07	1.140	1.324
	LTE Band 66	20M	QPSK	1	0	Back	5	-	P-Sensor On	132322	1745	15.82	16.50	1.169	0.12	1.170	1.368
	LTE Band 66	20M	QPSK	1	0	Back	5	-	P-Sensor On	132572	1770	15.78	16.50	1.180	-0.03	1.190	1.405
	LTE Band 66	20M	QPSK	50	0	Back	5	-	P-Sensor On	132072	1720	15.78	16.50	1.180	0.06	1.190	1.405
	LTE Band 66	20M	QPSK	50	0	Back	5	-	P-Sensor On	132322	1745	15.74	16.50	1.191	-0.07	1.200	1.429
43	LTE Band 66	20M	QPSK	50	0	Back	5	-	P-Sensor On	132572	1770	15.70	16.50	1.202	-0.01	1.200	**1.443**
	LTE Band 66	20M	QPSK	100	0	Back	5	-	P-Sensor On	132072	1720	15.71	16.50	1.199	0.06	1.190	1.427
	LTE Band 66	20M	QPSK	50	0	Back	5	Headset	P-Sensor On	132572	1770	15.70	16.50	1.202	0.02	0.585	0.703
	LTE Band 2	20M	QPSK	1	0	Front	5	-	P-Sensor On	19100	1900	16.60	17.00	1.096	0.02	0.710	0.778
	LTE Band 2	20M	QPSK	50	0	Front	5	-	P-Sensor On	19100	1900	16.43	17.00	1.140	0.02	0.703	0.802
	LTE Band 2	20M	QPSK	50	0	Front	5	-	P-Sensor On	18700	1860	16.42	17.00	1.143	0.02	0.780	0.891
	LTE Band 2	20M	QPSK	50	0	Front	5	-	P-Sensor On	18900	1880	16.33	17.00	1.167	0.06	0.732	0.854
	LTE Band 2	20M	QPSK	100	0	Front	5	-	P-Sensor On	19100	1900	16.40	17.00	1.148	0.01	0.686	0.788
	LTE Band 2	20M	QPSK	1	0	Back	5	-	P-Sensor On	19100	1900	16.60	17.00	1.096	-0.07	0.920	1.009
44	LTE Band 2	20M	QPSK	1	0	Back	5	-	P-Sensor On	18700	1860	16.53	17.00	1.114	0.08	1.170	**1.304**
	LTE Band 2	20M	QPSK	1	0	Back	5	-	P-Sensor On	18900	1880	16.48	17.00	1.127	0.02	0.978	1.102
	LTE Band 2	20M	QPSK	50	0	Back	5	-	P-Sensor On	19100	1900	16.43	17.00	1.140	-0.06	0.909	1.036
	LTE Band 2	20M	QPSK	50	0	Back	5	-	P-Sensor On	18700	1860	16.42	17.00	1.143	0.13	1.000	1.143
	LTE Band 2	20M	QPSK	50	0	Back	5	-	P-Sensor On	18900	1880	16.33	17.00	1.167	0.04	0.934	1.090
	LTE Band 2	20M	QPSK	100	0	Back	5	-	P-Sensor On	19100	1900	16.40	17.00	1.148	-0.08	0.882	1.013
	LTE Band 2	20M	QPSK	1	0	Back	5	Headset	P-Sensor On	18700	1860	16.53	17.00	1.114	0.02	0.545	0.607
	LTE Band 7	20M	QPSK	1	0	Front	5	-	P-Sensor On	20850	2510	16.51	17.50	1.256	-0.08	0.633	0.795
	LTE Band 7	20M	QPSK	50	0	Front	5	-	P-Sensor On	20850	2510	16.60	17.50	1.230	0.02	0.596	0.733
45	LTE Band 7	20M	QPSK	1	0	Back	5	-	P-Sensor On	20850	2510	16.51	17.50	1.256	0.06	1.100	**1.382**
	LTE Band 7	20M	QPSK	1	0	Back	5	-	P-Sensor On	21100	2535	16.45	17.50	1.274	0.04	1.040	1.324
	LTE Band 7	20M	QPSK	1	0	Back	5	-	P-Sensor On	21350	2560	16.50	17.50	1.259	-0.08	1.070	1.347
	LTE Band 7	20M	QPSK	50	0	Back	5	-	P-Sensor On	20850	2510	16.60	17.50	1.230	0.05	1.000	1.230
	LTE Band 7	20M	QPSK	50	0	Back	5	-	P-Sensor On	21100	2535	16.44	17.50	1.276	-0.04	0.984	1.256
	LTE Band 7	20M	QPSK	50	0	Back	5	-	P-Sensor On	21350	2560	16.57	17.50	1.239	0.02	1.000	1.239
	LTE Band 7	20M	QPSK	100	0	Back	5	-	P-Sensor On	20850	2510	16.54	17.50	1.247	0.05	0.973	1.214
	LTE Band 7	20M	QPSK	1	0	Back	5	Headset	P-Sensor On	20850	2510	16.51	17.50	1.256	0.07	0.928	1.166
	LTE Band 7	20M	QPSK	1	0	Back	5	Headset	P-Sensor On	21100	2535	16.45	17.50	1.274	-0.08	0.894	1.139
	LTE Band 7	20M	QPSK	1	0	Back	5	Headset	P-Sensor On	21350	2560	16.50	17.50	1.259	0.05	0.914	1.151

<WLAN 2.4GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	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)	Max Area Scan SAR	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	5	-	Full	6	2437	18.98	19.50	1.127	100	1.000		0.275		
46	WLAN2.4GHz	802.11b 1Mbps	Back	5	-	Full	6	2437	18.98	19.50	1.127	100	1.000	-0.05	0.301	0.218	**0.246**

<WLAN 5GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	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)	Max Area Scan SAR	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Front	5	-	Full	56	5280	17.23	18.00	1.194	98.28	1.018		0.185		
47	WLAN5.3GHz	802.11a 6Mbps	Back	5	-	Full	56	5280	17.23	18.00	1.194	98.28	1.018	0.01	0.472	0.174	**0.211**
48	WLAN5.5GHz	802.11a 6Mbps	Front	5	-	Full	140	5700	17.06	17.50	1.107	98.28	1.018	0.06	0.881	0.373	**0.420**
	WLAN5.5GHz	802.11a 6Mbps	Back	5	-	Full	140	5700	17.06	17.50	1.107	98.28	1.018	0.09	0.902	0.370	0.417
	WLAN 5.8GHz	802.11a 6Mbps	Front	5	-	Full	165	5825	17.21	18.00	1.199	98.28	1.018	0.08	1.020	0.375	0.458
49	WLAN 5.8GHz	802.11a 6Mbps	Back	5	-	Full	165	5825	17.21	18.00	1.199	98.28	1.018	-0.09	1.380	0.446	**0.545**

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	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)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	5	-	Full	0	2402	12.48	12.50	1.005	76.59	1.088	0.07	0.051	0.055
50	Bluetooth	1Mbps	Back	5	-	Full	0	2402	12.48	12.50	1.005	76.59	1.088	-0.04	0.077	**0.084**

15.4 Product specific 10g SAR

<GSM SAR>

Plot No.	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)
	GSM850	GPRS (2 Tx slots)	Front	0	Full	251	848.8	31.89	33.00	1.291	0.02	1.760	2.273
	GSM850	GPRS (2 Tx slots)	Front	0	Full	128	824.2	31.87	33.00	1.297	-0.09	1.880	2.439
	GSM850	GPRS (2 Tx slots)	Front	0	Full	189	836.4	31.86	33.00	1.300	0.01	1.920	2.496
51	GSM850	GPRS (2 Tx slots)	Back	0	Full	251	848.8	31.89	33.00	1.291	0.08	2.080	**2.686**
	GSM850	GPRS (2 Tx slots)	Back	0	Full	128	824.2	31.87	33.00	1.297	-0.09	1.810	2.348
	GSM850	GPRS (2 Tx slots)	Back	0	Full	189	836.4	31.86	33.00	1.300	0.01	1.450	1.885
	GSM850	GPRS (2 Tx slots)	Bottom Side	0	Full	251	848.8	31.89	33.00	1.291	0.02	0.935	1.207
	GSM1900	GPRS (2 Tx slots)	Front	0	Handheld On	810	1909.8	26.86	27.50	1.159	-0.01	1.920	2.225
	GSM1900	GPRS (2 Tx slots)	Front	0	Handheld On	512	1850.2	26.83	27.50	1.167	-0.17	2.440	2.847
	GSM1900	GPRS (2 Tx slots)	Front	0	Handheld On	661	1880	26.69	27.50	1.205	0.04	2.160	2.603
	GSM1900	GPRS (2 Tx slots)	Back	0	Handheld On	810	1909.8	26.86	27.50	1.159	0.09	1.830	2.121
	GSM1900	GPRS (2 Tx slots)	Back	0	Handheld On	512	1850.2	26.83	27.50	1.167	0.03	2.280	2.660
	GSM1900	GPRS (2 Tx slots)	Back	0	Handheld On	661	1880	26.69	27.50	1.205	0.09	2.060	2.482
	GSM1900	GPRS (2 Tx slots)	Bottom Side	0	Handheld On	810	1909.8	26.86	27.50	1.159	0.05	2.070	2.399
52	GSM1900	GPRS (2 Tx slots)	Bottom Side	0	Handheld On	512	1850.2	26.83	27.50	1.167	0.03	2.450	**2.859**
	GSM1900	GPRS (2 Tx slots)	Bottom Side	0	Handheld On	661	1880	26.69	27.50	1.205	0.16	2.200	2.651

<WCDMA SAR>

Plot No.	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)
	WCDMA Band V	RMC 12.2Kbps	Front	0	Handheld On	4132	826.4	22.96	23.00	1.009	0.06	1.660	1.675
	WCDMA Band V	RMC 12.2Kbps	Back	0	Handheld On	4132	826.4	22.96	23.00	1.009	-0.03	2.250	2.271
	WCDMA Band V	RMC 12.2Kbps	Back	0	Handheld On	4233	846.6	22.95	23.00	1.012	-0.19	2.350	2.377
53	WCDMA Band V	RMC 12.2Kbps	Back	0	Handheld On	4182	836.4	22.90	23.00	1.023	0.18	2.510	**2.568**
	WCDMA Band V	RMC 12.2Kbps	Bottom Side	0	Handheld On	4132	826.4	22.96	23.00	1.009	-0.05	1.080	1.090
	WCDMA Band II	RMC 12.2Kbps	Front	0	Handheld On	9538	1907.6	19.80	20.00	1.047	0.12	1.940	2.031
	WCDMA Band II	RMC 12.2Kbps	Front	0	Handheld On	9262	1852.4	19.75	20.00	1.059	0.03	2.100	2.224
	WCDMA Band II	RMC 12.2Kbps	Front	0	Handheld On	9400	1880	19.75	20.00	1.059	-0.01	1.940	2.055
	WCDMA Band II	RMC 12.2Kbps	Back	0	Handheld On	9538	1907.6	19.80	20.00	1.047	0.08	2.320	2.429
	WCDMA Band II	RMC 12.2Kbps	Back	0	Handheld On	9262	1852.4	19.75	20.00	1.059	0.09	2.600	2.754
	WCDMA Band II	RMC 12.2Kbps	Back	0	Handheld On	9400	1880	19.75	20.00	1.059	0.09	2.500	2.648
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9538	1907.6	19.80	20.00	1.047	-0.04	2.500	2.618
54	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9262	1852.4	19.75	20.00	1.059	-0.08	2.850	**3.019**
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9400	1880	19.75	20.00	1.059	-0.09	2.730	2.892

<CDMA2000 SAR>

Plot No.	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)
	CDMA2000 BC0	RTAP 153.6Kbps	Front	0	Handheld On	1013	824.7	24.07	24.50	1.104	-0.04	1.640	1.811
	CDMA2000 BC0	RTAP 153.6Kbps	Back	0	Handheld On	1013	824.7	24.07	24.50	1.104	0.04	2.160	2.385
	CDMA2000 BC0	RTAP 153.6Kbps	Back	0	Handheld On	384	836.52	24.03	24.50	1.114	-0.03	2.310	2.574
55	CDMA2000 BC0	RTAP 153.6Kbps	Back	0	Handheld On	777	848.31	23.97	24.50	1.130	0.03	2.410	**2.723**
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	0	Handheld On	1013	824.7	24.07	24.50	1.104	0.06	1.000	1.104
	CDMA2000 BC1	RTAP 153.6Kbps	Front	0	Handheld On	1175	1908.75	20.83	21.50	1.167	0.09	2.020	2.357
	CDMA2000 BC1	RTAP 153.6Kbps	Front	0	Handheld On	25	1851.25	20.77	21.50	1.183	0.02	2.140	2.532
	CDMA2000 BC1	RTAP 153.6Kbps	Front	0	Handheld On	600	1880	20.73	21.50	1.194	0.03	1.990	2.376
	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	Handheld On	1175	1908.75	20.83	21.50	1.167	-0.04	2.290	2.672
	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	Handheld On	25	1851.25	20.77	21.50	1.183	0.05	2.590	3.064
	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	Handheld On	600	1880	20.73	21.50	1.194	-0.07	2.360	2.818
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	1175	1908.75	20.83	21.50	1.167	-0.03	2.590	3.022
56	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	25	1851.25	20.77	21.50	1.183	-0.05	2.830	**3.348**
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	600	1880	20.73	21.50	1.194	0.01	2.760	3.295

<FDD LTE SAR>

Plot No.	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)
57	LTE Band 12	10M	QPSK	1	0	Back	0	Full	23095	707.5	22.98	24.00	1.265	0.07	1.720	**2.175**
	LTE Band 12	10M	QPSK	25	0	Back	0	Full	23095	707.5	22.13	23.00	1.222	0.1	1.170	1.430
	LTE Band 12	10M	QPSK	50	0	Back	0	Full	23095	707.5	22.15	23.00	1.216	0.07	1.220	1.484
	LTE Band 5	10M	QPSK	1	49	Front	0	Full	20525	836.5	23.02	24.00	1.253	-0.02	2.160	2.707
	LTE Band 5	10M	QPSK	25	25	Front	0	Full	20525	836.5	22.13	23.00	1.222	0.16	1.250	1.527
	LTE Band 5	10M	QPSK	50	0	Front	0	Full	20525	836.5	22.21	23.00	1.199	-0.02	1.040	1.247
58	LTE Band 5	10M	QPSK	1	49	Back	0	Full	20525	836.5	23.02	24.00	1.253	0.06	2.600	**3.258**
	LTE Band 5	10M	QPSK	25	25	Back	0	Full	20525	836.5	22.13	23.00	1.222	-0.15	1.490	1.820
	LTE Band 5	10M	QPSK	50	0	Back	0	Full	20525	836.5	22.21	23.00	1.199	0.06	1.480	1.775
	LTE Band 5	10M	QPSK	1	49	Bottom Side	0	Full	20525	836.5	23.02	24.00	1.253	-0.04	1.090	1.366
	LTE Band 5	10M	QPSK	25	25	Bottom Side	0	Full	20525	836.5	22.13	23.00	1.222	0.09	0.553	0.676
	LTE Band 5	10M	QPSK	1	49	Back	0	Full	20476(PCC) + 20575(SCC)	20476(PCC) + 20575(SCC)	23.64	24.00	1.086	-0.02	2.710	2.944
59	LTE Band 13	10M	QPSK	1	0	Back	0	Full	23230	782	23.05	24.00	1.245	0.12	1.580	**1.966**
	LTE Band 13	10M	QPSK	25	0	Back	0	Full	23230	782	22.10	23.00	1.230	0.06	1.290	1.587
	LTE Band 66	20M	QPSK	1	0	Front	0	Handheld On	132072	1720	19.30	20.00	1.175	-0.09	2.600	3.055
	LTE Band 66	20M	QPSK	1	0	Front	0	Handheld On	132322	1745	19.19	20.00	1.205	-0.07	2.600	3.133
	LTE Band 66	20M	QPSK	1	0	Front	0	Handheld On	132572	1770	19.26	20.00	1.186	-0.02	2.530	3.000
	LTE Band 66	20M	QPSK	50	0	Front	0	Handheld On	132072	1720	19.27	20.00	1.183	-0.08	2.690	3.182
	LTE Band 66	20M	QPSK	50	0	Front	0	Handheld On	132322	1745	19.22	20.00	1.197	-0.09	2.720	3.255
	LTE Band 66	20M	QPSK	50	0	Front	0	Handheld On	132572	1770	19.14	20.00	1.219	0.06	2.560	3.121
	LTE Band 66	20M	QPSK	100	0	Front	0	Handheld On	132072	1720	19.22	20.00	1.197	-0.03	2.750	3.291
60	LTE Band 66	20M	QPSK	1	0	Back	0	Handheld On	132072	1720	19.30	20.00	1.175	0.09	3.060	**3.595**
	LTE Band 66	20M	QPSK	1	0	Back	0	Handheld On	132322	1745	19.19	20.00	1.205	-0.02	2.520	3.037
	LTE Band 66	20M	QPSK	1	0	Back	0	Handheld On	132572	1770	19.26	20.00	1.186	-0.05	2.920	3.462
	LTE Band 66	20M	QPSK	50	0	Back	0	Handheld On	132072	1720	19.27	20.00	1.183	0.04	3.020	3.573
	LTE Band 66	20M	QPSK	50	0	Back	0	Handheld On	132322	1745	19.22	20.00	1.197	0.08	2.650	3.171
	LTE Band 66	20M	QPSK	50	0	Back	0	Handheld On	132572	1770	19.14	20.00	1.219	0.01	2.920	3.559
	LTE Band 66	20M	QPSK	100	0	Back	0	Handheld On	132072	1720	19.22	20.00	1.197	0.08	2.610	3.123
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0	Handheld On	132072	1720	19.30	20.00	1.175	0.13	2.230	2.620
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0	Handheld On	132322	1745	19.19	20.00	1.205	-0.05	2.720	3.278
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0	Handheld On	132572	1770	19.26	20.00	1.186	-0.13	2.760	3.273
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0	Handheld On	132072	1720	19.27	20.00	1.183	-0.08	2.710	3.206
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0	Handheld On	132322	1745	19.22	20.00	1.197	-0.08	2.780	3.327
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0	Handheld On	132572	1770	19.14	20.00	1.219	-0.04	2.750	3.352
	LTE Band 66	20M	QPSK	100	0	Bottom Side	0	Handheld On	132072	1720	19.22	20.00	1.197	-0.07	2.350	2.812

Plot No.	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)
	LTE Band 2	20M	QPSK	1	0	Front	0	Handheld On	19100	1900	19.29	20.00	1.178	0.01	1.820	2.143
	LTE Band 2	20M	QPSK	1	0	Front	0	Handheld On	18700	1860	19.28	20.00	1.180	0.13	2.050	2.420
	LTE Band 2	20M	QPSK	1	0	Front	0	Handheld On	18900	1880	19.20	20.00	1.202	0.05	1.960	2.356
	LTE Band 2	20M	QPSK	50	0	Front	0	Handheld On	19100	1900	19.29	20.00	1.178	0.02	1.810	2.131
	LTE Band 2	20M	QPSK	50	0	Front	0	Handheld On	18700	1860	19.27	20.00	1.183	0.04	2.000	2.366
	LTE Band 2	20M	QPSK	50	0	Front	0	Handheld On	18900	1880	19.26	20.00	1.186	0.05	1.890	2.241
	LTE Band 2	20M	QPSK	100	0	Front	0	Handheld On	19100	1900	19.24	20.00	1.191	0.07	1.780	2.120
	LTE Band 2	20M	QPSK	1	0	Back	0	Handheld On	19100	1900	19.29	20.00	1.178	0.01	2.310	2.720
	LTE Band 2	20M	QPSK	1	0	Back	0	Handheld On	18700	1860	19.28	20.00	1.180	0.09	2.290	2.703
	LTE Band 2	20M	QPSK	1	0	Back	0	Handheld On	18900	1880	19.20	20.00	1.202	0.09	2.450	2.946
	LTE Band 2	20M	QPSK	50	0	Back	0	Handheld On	19100	1900	19.29	20.00	1.178	0.02	2.330	2.744
	LTE Band 2	20M	QPSK	50	0	Back	0	Handheld On	18700	1860	19.27	20.00	1.183	0.04	2.480	2.934
	LTE Band 2	20M	QPSK	50	0	Back	0	Handheld On	18900	1880	19.26	20.00	1.186	0.02	2.420	2.870
	LTE Band 2	20M	QPSK	100	0	Back	0	Handheld On	19100	1900	19.24	20.00	1.191	0.02	2.310	2.752
	LTE Band 2	20M	QPSK	1	0	Bottom Side	0	Handheld On	19100	1900	19.29	20.00	1.178	-0.06	2.470	2.909
61	LTE Band 2	20M	QPSK	1	0	Bottom Side	0	Handheld On	18700	1860	19.28	20.00	1.180	0.01	2.730	**3.222**
	LTE Band 2	20M	QPSK	1	0	Bottom Side	0	Handheld On	18900	1880	19.20	20.00	1.202	-0.05	2.550	3.066
	LTE Band 2	20M	QPSK	50	0	Bottom Side	0	Handheld On	19100	1900	19.29	20.00	1.178	0.07	2.630	3.097
	LTE Band 2	20M	QPSK	50	0	Bottom Side	0	Handheld On	18700	1860	19.27	20.00	1.183	0.09	2.700	3.194
	LTE Band 2	20M	QPSK	50	0	Bottom Side	0	Handheld On	18900	1880	19.26	20.00	1.186	0.01	2.710	3.213
	LTE Band 2	20M	QPSK	100	0	Bottom Side	0	Handheld On	19100	1900	19.24	20.00	1.191	0.05	2.650	3.157
	LTE Band 7	20M	QPSK	1	0	Front	0	Handheld On	20850	2510	19.39	20.00	1.151	0.02	1.350	1.554
	LTE Band 7	20M	QPSK	50	0	Front	0	Handheld On	20850	2510	19.48	20.00	1.127	0.02	1.380	1.556
	LTE Band 7	20M	QPSK	1	0	Back	0	Handheld On	20850	2510	19.39	20.00	1.151	-0.03	1.990	2.290
62	LTE Band 7	20M	QPSK	1	0	Back	0	Handheld On	21100	2535	19.24	20.00	1.191	0.16	2.800	**3.335**
	LTE Band 7	20M	QPSK	1	0	Back	0	Handheld On	21350	2560	19.37	20.00	1.156	-0.08	2.130	2.463
	LTE Band 7	20M	QPSK	50	0	Back	0	Handheld On	20850	2510	19.48	20.00	1.127	-0.03	2.020	2.277
	LTE Band 7	20M	QPSK	50	0	Back	0	Handheld On	21100	2535	19.31	20.00	1.172	-0.02	2.010	2.356
	LTE Band 7	20M	QPSK	50	0	Back	0	Handheld On	21350	2560	19.40	20.00	1.148	-0.04	2.100	2.411
	LTE Band 7	20M	QPSK	100	0	Back	0	Handheld On	20850	2510	19.45	20.00	1.135	-0.07	2.030	2.304
	LTE Band 7	20M	QPSK	1	0	Bottom Side	0	Handheld On	20850	2510	19.39	20.00	1.151	0.02	0.903	1.039
	LTE Band 7	20M	QPSK	50	0	Bottom Side	0	Handheld On	20850	2510	19.48	20.00	1.127	-0.06	0.883	0.995

<WLAN 5GHz SAR>

Plot No.	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)
63	WLAN5.3GHz	802.11a 6Mbps	Front	0	Full	56	5280	17.23	18.00	1.194	98.28	1.018	-0.06	0.177	**0.215**
	WLAN5.3GHz	802.11a 6Mbps	Back	0	Full	56	5280	17.23	18.00	1.194	98.28	1.018	-0.03	0.107	0.130
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0	Full	56	5280	17.23	18.00	1.194	98.28	1.018	0.07	0.040	0.048
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	Full	56	5280	17.23	18.00	1.194	98.28	1.018	0.09	0.047	0.057
64	WLAN 5.5GHz	802.11a 6Mbps	Front	0	Full	140	5700	17.06	17.50	1.107	98.28	1.018	0.15	0.610	**0.687**
	WLAN 5.5GHz	802.11a 6Mbps	Back	0	Full	140	5700	17.06	17.50	1.107	98.28	1.018	-0.12	0.191	0.215
	WLAN 5.5GHz	802.11a 6Mbps	Right Side	0	Full	140	5700	17.06	17.50	1.107	98.28	1.018	0.06	0.089	0.100
	WLAN 5.5GHz	802.11a 6Mbps	Top Side	0	Full	140	5700	17.06	17.50	1.107	98.28	1.018	0.08	0.109	0.123

15.5 Repeated SAR Measurement

<1g SAR>

No.	Band	Mode	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Headset	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	WLAN5.5GHz	802.11a 6Mbps	-	-	-	-	Left Cheek	0	-	Full	140	5700	17.06	17.50	1.107	98.28	1.018	0.09	0.996	1	1.122
2nd	WLAN5.5GHz	802.11a 6Mbps	-	-	-	-	Left Cheek	0	-	Full	140	5700	17.06	17.50	1.107	98.28	1.018	0.01	0.988	1.008	1.113
1st	WLAN5.8GHz	802.11a 6Mbps	-	-	-	-	Left Cheek	0	-	Full	165	5825	17.21	18.00	1.199	98.28	1.018	0.02	0.922	1	1.126
2nd	WLAN5.8GHz	802.11a 6Mbps	-	-	-	-	Left Cheek	0	-	Full	165	5825	17.21	18.00	1.199	98.28	1.018	0.06	0.915	1.008	1.117
1st	LTE Band 12	-	10M	QPSK	1	0	Back	5	-	Hotspot On/ P-Sensor On	23095	707.5	22.18	23.00	1.208	-	-	-0.07	1.090	1	1.317
2nd	LTE Band 12	-	10M	QPSK	1	0	Back	5	-	Hotspot On/ P-Sensor On	23095	707.5	22.18	23.00	1.208	-	-	0.03	1.080	1.009	1.304
1st	LTE Band 66	-	20M	QPSK	50	0	Back	5	-	Hotspot On/ P-Sensor On	132572	1770	15.70	16.50	1.202	-	-	-0.01	1.200	1	1.443
2nd	LTE Band 66	-	20M	QPSK	50	0	Back	5	-	Hotspot On/ P-Sensor On	132572	1770	15.70	16.50	1.202	-	-	0.06	1.130	1.062	1.359
1st	LTE Band 2	-	20M	QPSK	1	0	Back	5	-	Hotspot On/ P-Sensor On	18700	1860	16.53	17.00	1.114	-	-	0.08	1.170	1	1.304
2nd	LTE Band 2	-	20M	QPSK	1	0	Back	5	-	Hotspot On/ P-Sensor On	18700	1860	16.53	17.00	1.114	-	-	0.06	1.120	1.045	1.248
1st	LTE Band 7	-	20M	QPSK	1	0	Back	5	-	Hotspot On/ P-Sensor On	20850	2510	16.51	17.50	1.256	-	-	0.06	1.100	1	1.382
2nd	LTE Band 7	-	20M	QPSK	1	0	Back	5	-	Hotspot On/ P-Sensor On	20850	2510	16.51	17.50	1.256	-	-	0.09	1.050	1.048	1.319
1st	CDMA 2000 BC0	RC3 SO32 (F+SCH)	-	-	-	-	Back	5	-	P-Sensor On	777	848.31	21.92	22.50	1.143	-	-	0.02	1.210	1	1.383
2nd	CDMA 2000 BC0	RC3 SO32 (F+SCH)	-	-	-	-	Back	5	-	P-Sensor On	777	848.31	21.92	22.50	1.143	-	-	0.06	1.160	1.043	1.326

<10g SAR>

No.	Band	Mode	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Class	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)	Ratio	Reported 10g SAR (W/kg)
1st	WCDMA Band II	RMC 12.2Kbps	-	-	-	-	Bottom Side	0	-	Handheld On	9262	1852.4	19.75	20.00	1.059	-	-	-0.08	2.850	1	3.019
2nd	WCDMA Band II	RMC 12.2Kbps	-	-	-	-	Bottom Side	0	-	Handheld On	9262	1852.4	19.75	20.00	1.059	-	-	0.06	2.760	1.033	2.924
1st	LTE Band 5	-	10M	QPSK	1	49	Back	0	-	Full	20476(PCC) + 20575(SCC)	20476(PCC) + 20575(SCC)	23.64	24.00	1.086	-	-	-0.02	2.710	1	2.944
2nd	LTE Band 5	-	10M	QPSK	1	49	Back	0	-	Full	20476(PCC) + 20575(SCC)	20476(PCC) + 20575(SCC)	23.64	24.00	1.086			0.03	2.680	1.011	2.912
1st	LTE Band 66	-	20M	QPSK	1	0	Back	0	-	Handheld On	132072	1720	19.30	20.00	1.175			0.09	3.060	1	3.595
2nd	LTE Band 66	-	20M	QPSK	1	0	Back	0	-	Handheld On	132072	1720	19.30	20.00	1.175			0.06	2.980	1.027	3.501
1st	LTE Band 7	-	20M	QPSK	1	0	Back	0	-	Handheld On	21100	2535	19.24	20.00	1.191			0.16	2.800	1	3.335
2nd	LTE Band 7	-	20M	QPSK	1	0	Back	0	-	Handheld On	21100	2535	19.24	20.00	1.191			0.08	2.730	1.026	3.252

General Note:

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

16. Simultaneous Transmission Analysis

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

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. EUT will choose each GSM, WCDMA and LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
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 WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
5. 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.
6. WLAN 2.4GHz and Bluetooth share the same antenna so can't transmit simultaneously.
7. According to the character of the EUT, WLAN 5GHz and Bluetooth can't transmit simultaneously.
8. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
9. The reported SAR summation is calculated based on the same configuration and test position.
10. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
    i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
    ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
    iii) If SPLSR ≤ 0.04 for 1g SAR, SPLSR ≤ 0.10 for 10g SAR simultaneously transmission SAR measurement is not necessary.
    iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
    v) The SPLSR calculated results please refer to section 16.5.

16.1 Head Exposure Conditions

WWAN Band		Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN 1g SAR (W/kg)	3 5GHz WLAN 1g SAR (W/kg)	4 Bluetooth 1g SAR (W/kg)	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)
GSM	GSM850	Right Cheek	0.310	0.736	1.160	0.053	1.05	1.47	0.36
		Right Tilted	0.146	0.736	1.160	0.029	0.88	1.31	0.18
		Left Cheek	0.252	0.736	1.160	0.224	0.99	1.41	0.48
		Left Tilted	0.177	0.337	0.651	0.102	0.51	0.83	0.28
	GSM1900	Right Cheek	0.070	0.736	1.160	0.053	0.81	1.23	0.12
		Right Tilted	0.061	0.736	1.160	0.029	0.80	1.22	0.09
		Left Cheek	0.084	0.736	1.160	0.224	0.82	1.24	0.31
		Left Tilted	0.064	0.337	0.651	0.102	0.40	0.72	0.17
WCDMA	Band V	Right Cheek	0.256	0.736	1.160	0.053	0.99	1.42	0.31
		Right Tilted	0.120	0.736	1.160	0.029	0.86	1.28	0.15
		Left Cheek	0.195	0.736	1.160	0.224	0.93	1.36	0.42
		Left Tilted	0.147	0.337	0.651	0.102	0.48	0.80	0.25
	Band II	Right Cheek	0.104	0.736	1.160	0.053	0.84	1.26	0.16
		Right Tilted	0.081	0.736	1.160	0.029	0.82	1.24	0.11
		Left Cheek	0.121	0.736	1.160	0.224	0.86	1.28	0.35
		Left Tilted	0.086	0.337	0.651	0.102	0.42	0.74	0.19
CDMA2000	BC0	Right Cheek	0.281	0.736	1.160	0.053	1.02	1.44	0.33
		Right Tilted	0.115	0.736	1.160	0.029	0.85	1.28	0.14
		Left Cheek	0.199	0.736	1.160	0.224	0.94	1.36	0.42
		Left Tilted	0.134	0.337	0.651	0.102	0.47	0.79	0.24
	BC1	Right Cheek	0.103	0.736	1.160	0.053	0.84	1.26	0.16
		Right Tilted	0.062	0.736	1.160	0.029	0.80	1.22	0.09
		Left Cheek	0.138	0.736	1.160	0.224	0.87	1.30	0.36
		Left Tilted	0.095	0.337	0.651	0.102	0.43	0.75	0.20

WWAN Band		Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN 1g SAR (W/kg)	3 5GHz WLAN 1g SAR (W/kg)	4 Bluetooth 1g SAR (W/kg)	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)
LTE	Band 12	Right Cheek	0.216	0.736	1.160	0.053	0.95	1.38	0.27
		Right Tilted	0.106	0.736	1.160	0.029	0.84	1.27	0.14
		Left Cheek	0.187	0.736	1.160	0.224	0.92	1.35	0.41
		Left Tilted	0.126	0.337	0.651	0.102	0.46	0.78	0.23
	Band 5	Right Cheek	0.238	0.736	1.160	0.053	0.97	1.40	0.29
		Right Tilted	0.105	0.736	1.160	0.029	0.84	1.27	0.13
		Left Cheek	0.149	0.736	1.160	0.224	0.89	1.31	0.37
		Left Tilted	0.145	0.337	0.651	0.102	0.48	0.80	0.25
	Band 13	Right Cheek	0.198	0.736	1.160	0.053	0.93	1.36	0.25
		Right Tilted	0.103	0.736	1.160	0.029	0.84	1.26	0.13
		Left Cheek	0.143	0.736	1.160	0.224	0.88	1.30	0.37
		Left Tilted	0.074	0.337	0.651	0.102	0.41	0.73	0.18
	Band 66	Right Cheek	0.191	0.736	1.160	0.053	0.93	1.35	0.24
		Right Tilted	0.135	0.736	1.160	0.029	0.87	1.30	0.16
		Left Cheek	0.252	0.736	1.160	0.224	0.99	1.41	0.48
		Left Tilted	0.158	0.337	0.651	0.102	0.50	0.81	0.26
	Band 2	Right Cheek	0.095	0.736	1.160	0.053	0.83	1.26	0.15
		Right Tilted	0.076	0.736	1.160	0.029	0.81	1.24	0.11
		Left Cheek	0.131	0.736	1.160	0.224	0.87	1.29	0.36
		Left Tilted	0.097	0.337	0.651	0.102	0.43	0.75	0.20
	Band 7	Right Cheek	0.206	0.736	1.160	0.053	0.94	1.37	0.26
		Right Tilted	0.282	0.736	1.160	0.029	1.02	1.44	0.31
		Left Cheek	0.225	0.736	1.160	0.224	0.96	1.39	0.45
		Left Tilted	0.095	0.337	0.651	0.102	0.43	0.75	0.20

16.2 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	0.950	0.246	0.458	0.055	1.20			1.41			1.01		
		Back	1.400	0.246	0.545	0.084	**1.65**	**0.01**	**#01**	**1.95**	**0.02**	**#02**	1.48		
		Left Side	0.128				0.13			0.13			0.13		
		Right Side	0.382	0.246	0.122	0.017	0.63			0.50			0.40		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	0.789				0.79			0.79			0.79		
	GSM1900	Front	0.988	0.246	0.458	0.055	1.23			1.45			1.04		
		Back	1.369	0.246	0.545	0.084	**1.62**	**0.01**	**#03**	**1.91**	**0.02**	**#04**	1.45		
		Left Side	0.040				0.04			0.04			0.04		
		Right Side	0.032	0.246	0.122	0.017	0.28			0.15			0.05		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	1.128				1.13			1.13			1.13		
WCDMA	Band V	Front	0.967	0.246	0.458	0.055	1.21			1.43			1.02		
		Back	1.423	0.246	0.545	0.084	**1.67**	**0.01**	**#05**	**1.97**	**0.02**	**#06**	1.51		
		Left Side	0.105				0.11			0.11			0.11		
		Right Side	0.396	0.246	0.122	0.017	0.64			0.52			0.41		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	0.686				0.69			0.69			0.69		
	Band II	Front	1.011	0.246	0.458	0.055	1.26			1.47			1.07		
		Back	1.365	0.246	0.545	0.084	**1.61**	**0.01**	**#07**	**1.91**	**0.02**	**#08**	1.45		
		Left Side	0.052				0.05			0.05			0.05		
		Right Side	0.399	0.246	0.122	0.017	0.65			0.52			0.42		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	1.338				1.34			1.34			1.34		
CDMA2000	BC0	Front	0.877	0.246	0.458	0.055	1.12			1.34			0.93		
		Back	1.314	0.246	0.545	0.084	1.56			**1.86**	**0.02**	**#09**	1.40		
		Left Side	0.089				0.09			0.09			0.09		
		Right Side	0.308	0.246	0.122	0.017	0.55			0.43			0.33		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	0.684				0.68			0.68			0.68		
	BC1	Front	0.675	0.246	0.458	0.055	0.92			1.13			0.73		
		Back	0.938	0.246	0.545	0.084	1.18			1.48			1.02		
		Left Side	0.062				0.06			0.06			0.06		
		Right Side	0.046	0.246	0.122	0.017	0.29			0.17			0.06		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	1.307				1.31			1.31			1.31		

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	0.795	0.246	0.458	0.055	1.04			1.25			0.85		
		Back	1.317	0.246	0.545	0.084	1.56			**1.86**	**0.02**	**#10**	1.40		
		Left Side	0.190				0.19			0.19			0.19		
		Right Side	0.423	0.246	0.122	0.017	0.67			0.55			0.44		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	0.739				0.74			0.74			0.74		
	Band 5	Front	0.981	0.246	0.458	0.055	1.23			1.44			1.04		
		Back	1.315	0.246	0.545	0.084	1.56			**1.86**	**0.02**	**#11**	1.40		
		Left Side	0.124				0.12			0.12			0.12		
		Right Side	0.300	0.246	0.122	0.017	0.55			0.42			0.32		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	0.722				0.72			0.72			0.72		
	Band 13	Front	0.927	0.246	0.458	0.055	1.17			1.39			0.98		
		Back	1.298	0.246	0.545	0.084	1.54			**1.84**	**0.02**	**#12**	1.38		
		Left Side	0.186				0.19			0.19			0.19		
		Right Side	0.390	0.246	0.122	0.017	0.64			0.51			0.41		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	0.720				0.72			0.72			0.72		
	Band 66	Front	1.068	0.246	0.458	0.055	1.31			**1.53**			1.12		
		Back	1.443	0.246	0.545	0.084	**1.69**	**0.01**	**#13**	**1.99**	**0.02**	**#14**	**1.53**		
		Left Side	0.095				0.10			0.10			0.10		
		Right Side	0.049	0.246	0.122	0.017	0.30			0.17			0.07		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	1.343				1.34			1.34			1.34		
	Band 2	Front	0.891	0.246	0.458	0.055	1.14			1.35			0.95		
		Back	1.304	0.246	0.545	0.084	1.55			**1.85**	**0.02**	**#15**	1.39		
		Left Side	0.053				0.05			0.05			0.05		
		Right Side	0.036	0.246	0.122	0.017	0.28			0.16			0.05		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	1.298				1.30			1.30			1.30		
	Band 7	Front	0.795	0.246	0.458	0.055	1.04			1.25			0.85		
		Back	1.382	0.246	0.545	0.084	**1.63**	**0.01**	**#16**	**1.93**	**0.02**	**#17**	1.47		
		Left Side	0.462				0.46			0.46			0.46		
		Right Side		0.246	0.122	0.017	0.25			0.12			0.02		
		Top Side		0.246	0.079	0.022	0.25			0.08			0.02		
		Bottom Side	0.367				0.37			0.37			0.37		

16.3 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)									
GSM	GSM850	Front	0.950	0.246	0.458	0.055	1.20			1.41			1.01		
		Back	1.400	0.246	0.545	0.084	**1.65**	**0.02**	**#01**	**1.95**	**0.03**	**#02**	1.48		
		Back with Headset	0.358				0.36			0.36			0.36		
	GSM1900	Front	0.988	0.246	0.458	0.055	1.23			1.45			1.04		
		Back	1.369	0.246	0.545	0.084	**1.62**	**0.02**	**#03**	**1.91**	**0.03**	**#04**	1.45		
		Back with Headset	0.614				0.61			0.61			0.61		
WCDMA	Band V	Front	0.967	0.246	0.458	0.055	1.21			1.43			1.02		
		Back	1.423	0.246	0.545	0.084	**1.67**	**0.02**	**#05**	**1.97**	**0.03**	**#06**	1.51		
		Back with Headset	1.019				1.02			1.02			1.02		
	Band II	Front	1.011	0.246	0.458	0.055	1.26			1.47			1.07		
		Back	1.365	0.246	0.545	0.084	**1.61**	**0.02**	**#07**	**1.91**	**0.02**	**#08**	1.45		
		Back with Headset	0.647				0.65			0.65			0.65		
CDMA2000	BC0	Front	0.915	0.246	0.458	0.055	1.16			1.37			0.97		
		Back	1.383	0.246	0.545	0.084	**1.63**	**0.01**	**#18**	**1.93**	**0.02**	**#19**	1.47		
		Back with Headset	0.794				0.79			0.79			0.79		
	BC1	Front	0.936	0.246	0.458	0.055	1.18			1.39			0.99		
		Back	1.320	0.246	0.545	0.084	**1.57**			**1.87**	**0.02**	**#20**	1.40		
		Back with Headset	0.644				0.64			0.64			0.64		
LTE	Band 12	Front	0.795	0.246	0.458	0.055	1.04			1.25			0.85		
		Back	1.317	0.246	0.545	0.084	1.56			**1.86**	**0.02**	**#10**	1.40		
		Back with Headset	1.220				1.22			1.22			1.22		
	Band 5	Front	0.981	0.246	0.458	0.055	1.23			1.44			1.04		
		Back	1.315	0.246	0.545	0.084	1.56			**1.86**	**0.02**	**#11**	1.40		
		Back with Headset	1.223				1.22			1.22			1.22		
	Band 13	Front	0.927	0.246	0.458	0.055	1.17			1.39			0.98		
		Back	1.298	0.246	0.545	0.084	1.54			**1.84**	**0.02**	**#12**	1.38		
		Back with Headset	1.424				1.42			1.42			1.42		
	Band 66	Front	1.068	0.246	0.458	0.055	1.31			1.53			1.12		
		Back	1.443	0.246	0.545	0.084	**1.69**	**0.02**	**#13**	**1.99**	**0.03**	**#14**	1.53		
		Back with Headset	0.703				0.70			0.70			0.70		
	Band 2	Front	0.891	0.246	0.458	0.055	1.14			1.35			0.95		
		Back	1.304	0.246	0.545	0.084	1.55			**1.85**	**0.03**	**#15**	1.39		
		Back with Headset	0.607				0.61			0.61			0.61		
	Band 7	Front	0.795	0.246	0.458	0.055	1.04			1.25			0.85		
		Back	1.382	0.246	0.545	0.084	**1.63**	**0.02**	**#16**	**1.93**	**0.03**	**#17**	1.47		
		Back with Headset	1.166				1.17			1.17			1.17		

16.4 Product specific 10g SAR Exposure Conditions

WWAN Band		Exposure Position	1	2	1+2 Summed 10g SAR (W/kg)
			WWAN	5GHz WLAN	
			10g SAR (W/kg)	10g SAR (W/kg)	
GSM	GSM850	Front	2.496	0.687	3.18
		Back	2.686	0.215	2.90
		Bottom Side	1.207		1.21
	GSM1900	Front	2.847	0.687	3.53
		Back	2.660	0.215	2.88
		Bottom Side	2.859		2.86
WCDMA	Band V	Front	1.675	0.687	2.36
		Back	2.568	0.215	2.78
		Bottom Side	1.090		1.09
	Band II	Front	2.224	0.687	2.91
		Back	2.754	0.215	2.97
		Bottom Side	3.019		3.02
CDMA2000	BC0	Front	1.811	0.687	2.50
		Back	2.723	0.215	2.94
		Bottom Side	1.104		1.10
	BC1	Front	2.532	0.687	3.22
		Back	3.064	0.215	3.28
		Bottom Side	3.348		3.35
LTE	Band 12	Back	2.175	0.215	2.39
	Band 5	Front	2.707	0.687	3.39
		Back	3.258	0.215	3.47
		Bottom Side	1.366		1.37
	Band 13	Back	1.966	0.215	2.18
	Band 66	Front	3.291	0.687	**3.98**
		Back	3.595	0.215	3.81
		Bottom Side	3.352		3.35
	Band 2	Front	2.420	0.687	3.11
		Back	2.946	0.215	3.16
		Bottom Side	3.222		3.22
	Band 7	Front	1.556	0.687	2.24
		Back	3.335	0.215	3.55
		Bottom Side	1.039		1.04

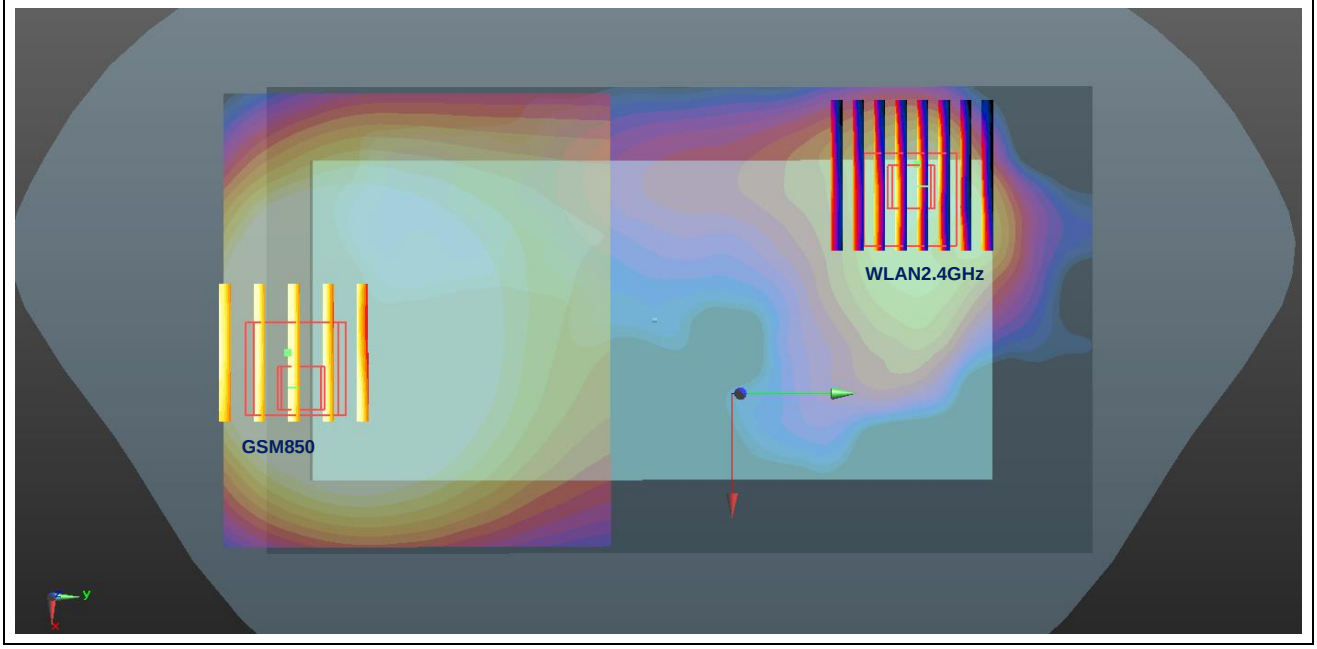
Remark: For Bluetooth Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.

16.5 SPLSR Evaluation and Analysis

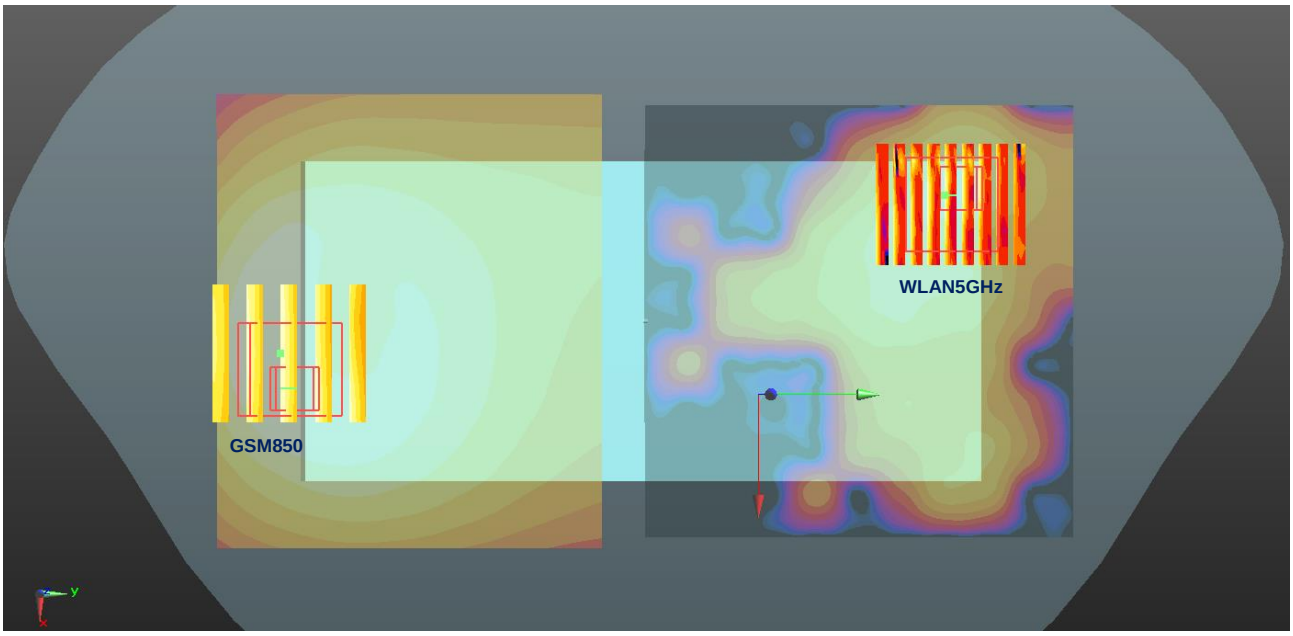
General Note:

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

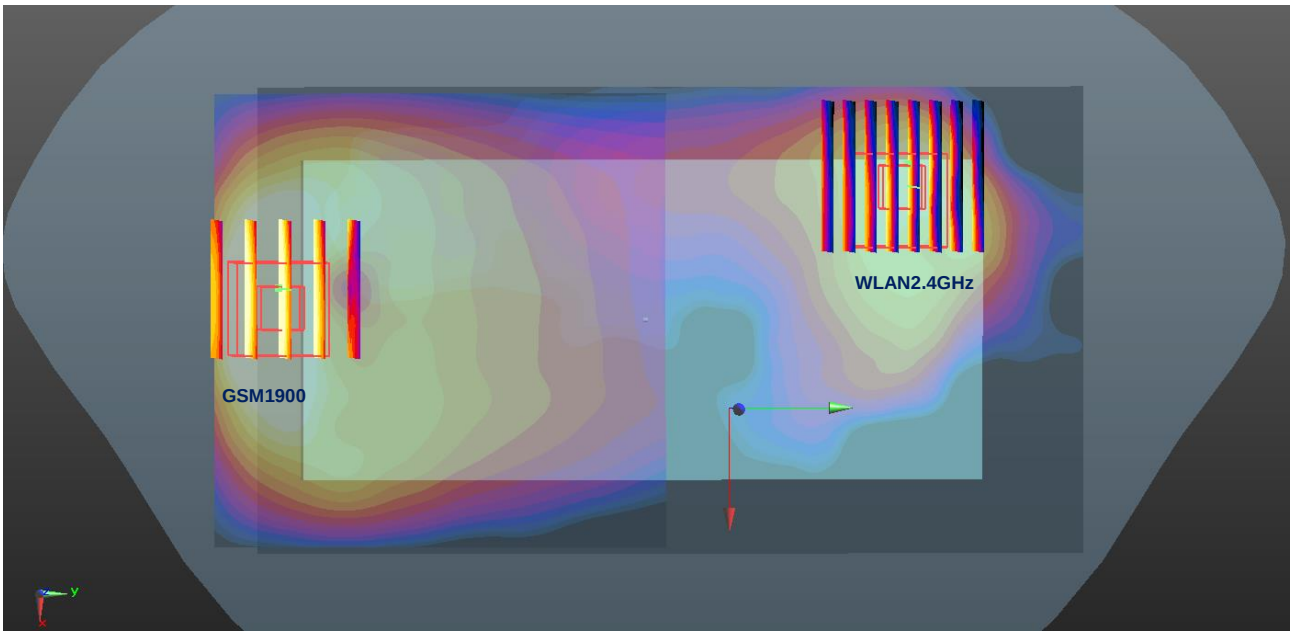
Case #1	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM850	Back	1.400	5	15.5	-81.8	-1.76	150.7	1.65	0.01	Not required
	WLAN2.4GHz		0.246	5	-32	61.2	-1.93				



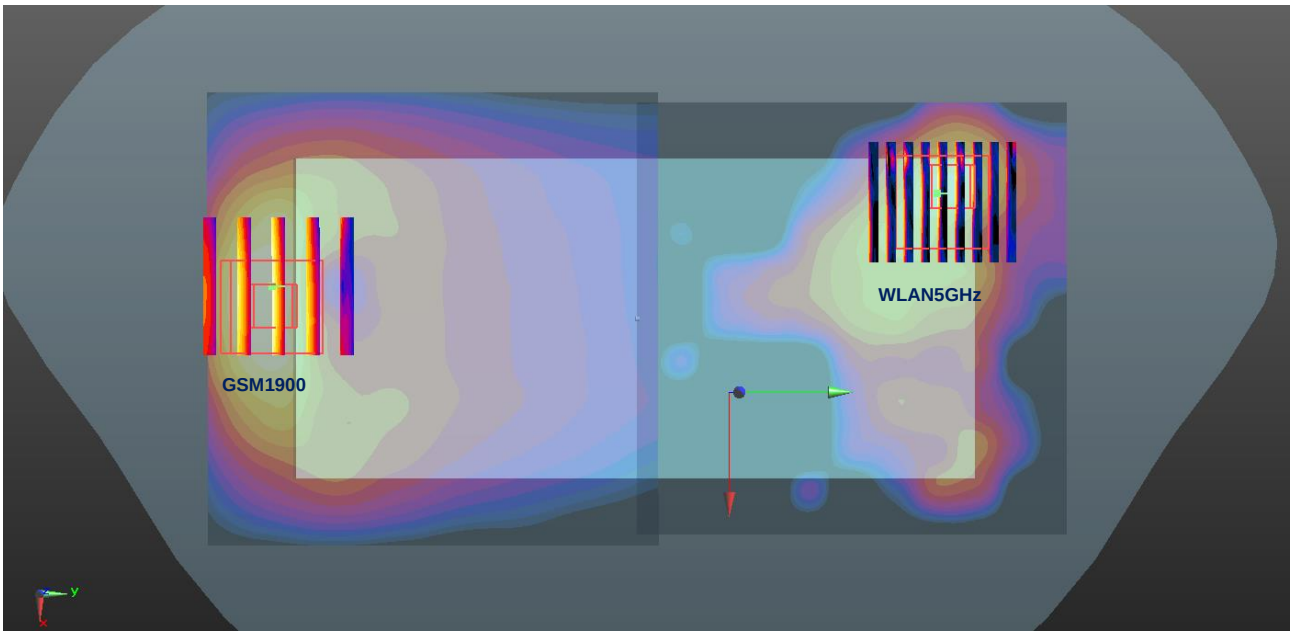
Case #2	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM850	Back	1.400	5	15.5	-81.8	-1.76	160.5	1.95	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



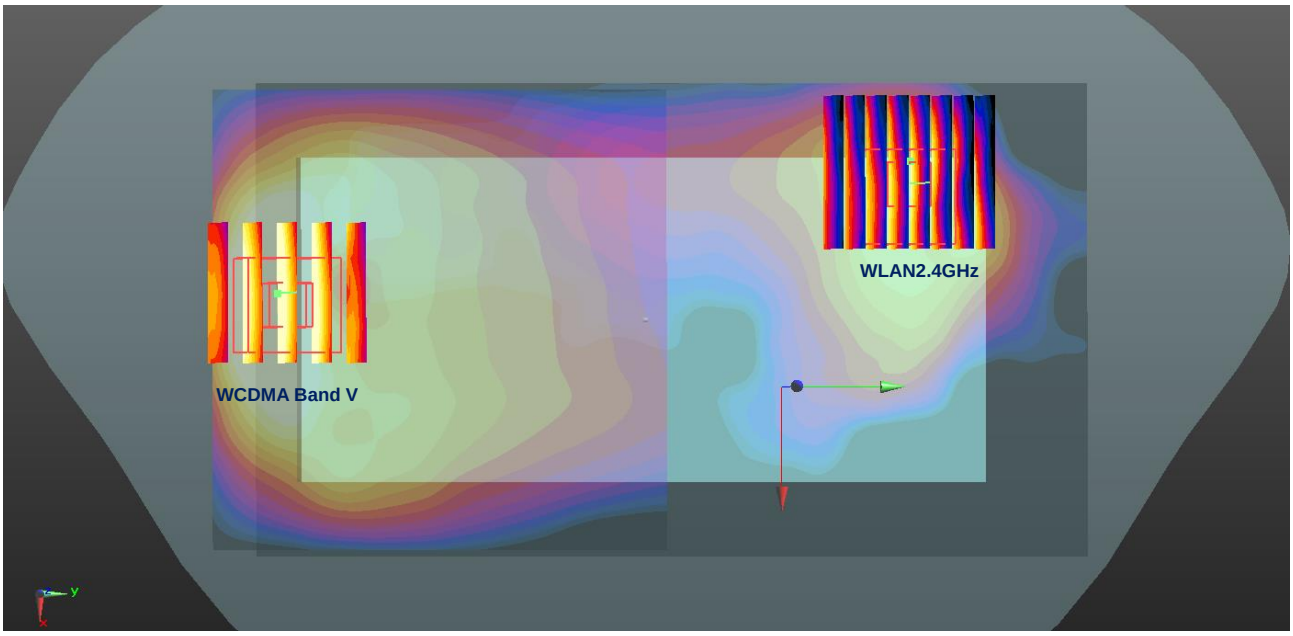
Case #3	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM1900	Back	1.369	5	-4.3	-85	-1.47	148.8	1.62	0.01	Not required
	WLAN2.4GHz		0.246	5	-32	61.2	-1.93				



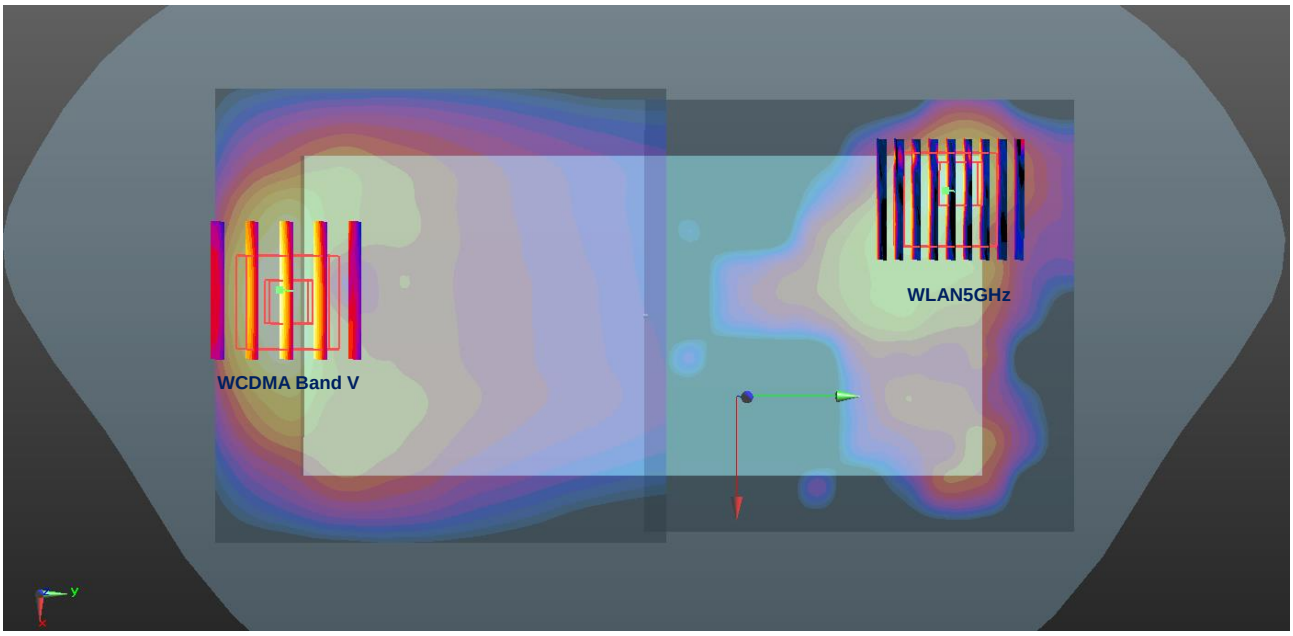
Case #4	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM1900	Back	1.369	5	-4.3	-85	-1.47	159.3	1.91	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



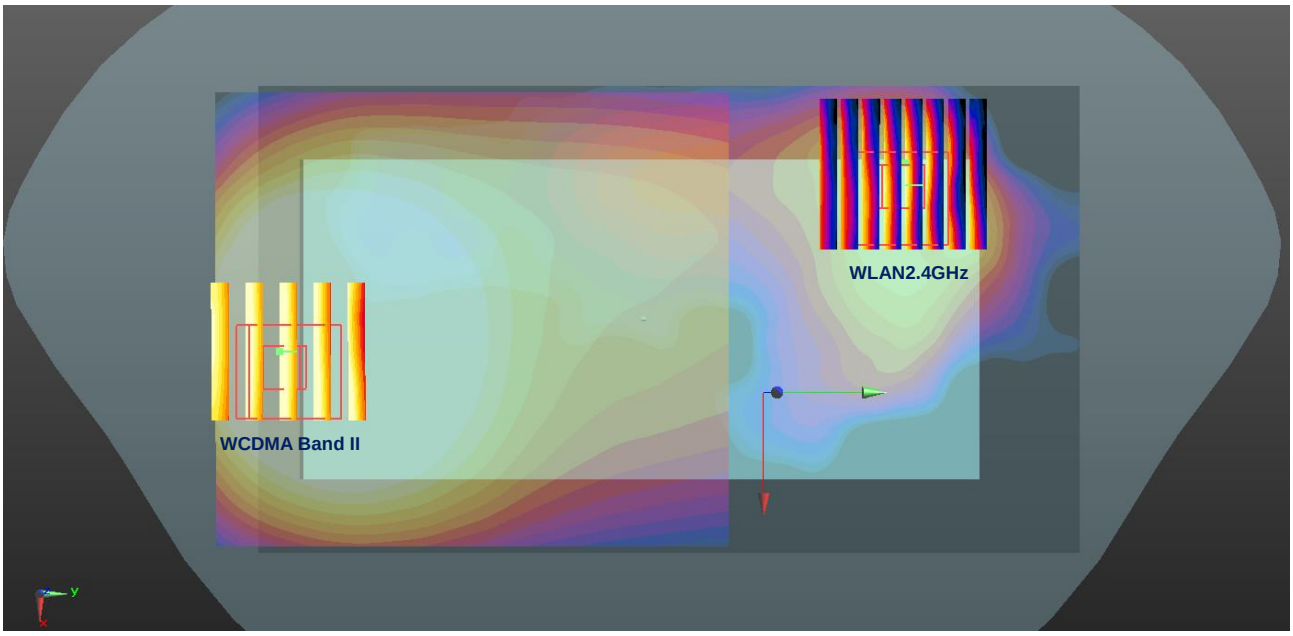
Case #5	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band V	Back	1.423	5	13.9	-83.4	-1.77	151.7	1.67	0.01	Not required
	WLAN2.4GHz		0.246	5	-32	61.2	-1.93				



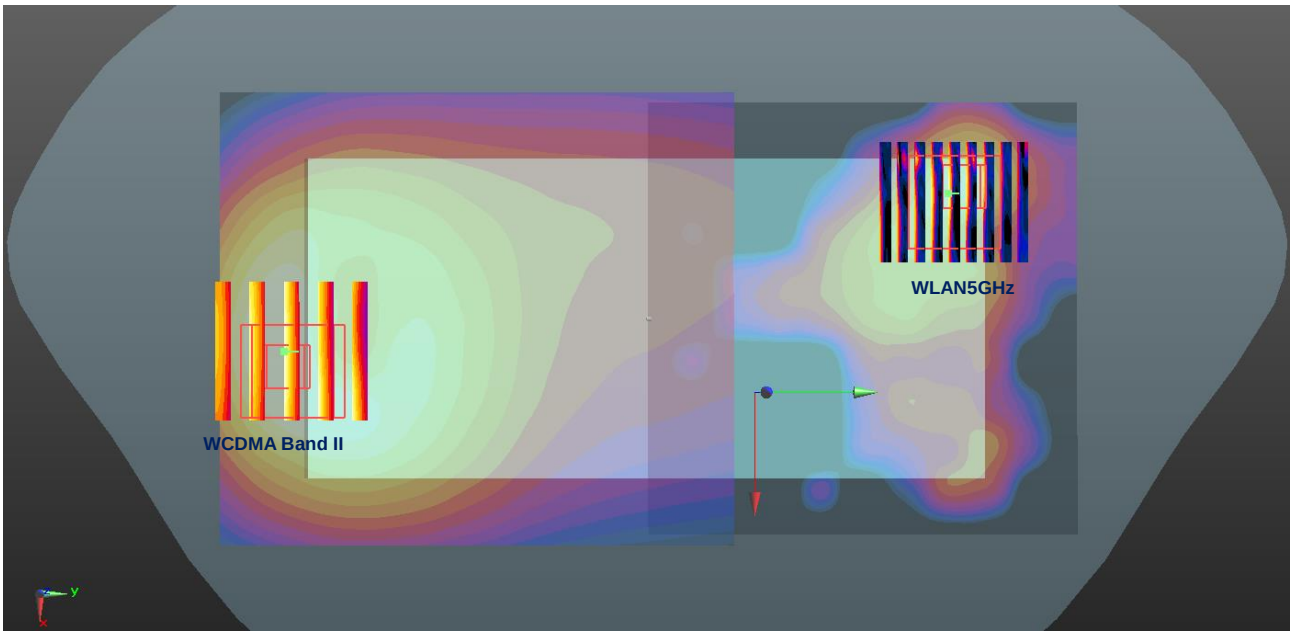
Case #6	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band V	Back	1.423	5	13.9	-83.4	-1.77	161.6	1.97	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



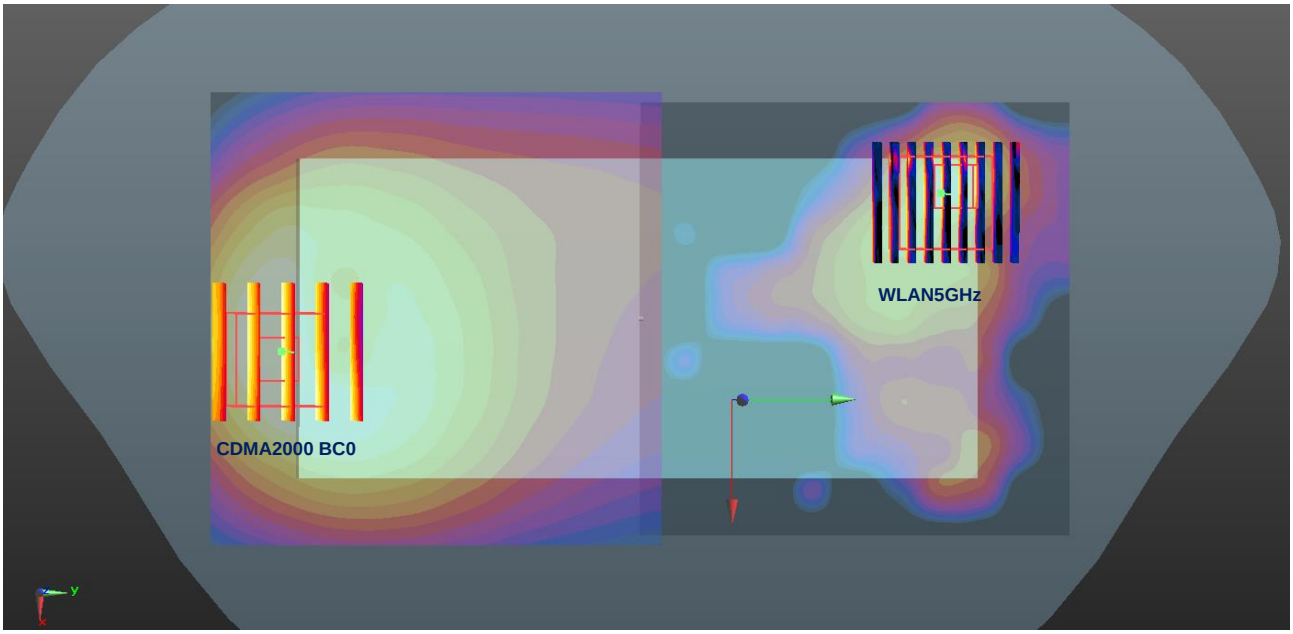
Case #7	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band II	Back	1.365	5	-2.8	-81.8	-1.45	146.0	1.61	0.01	Not required
	WLAN2.4GHz		0.246	5	-32	61.2	-1.93				



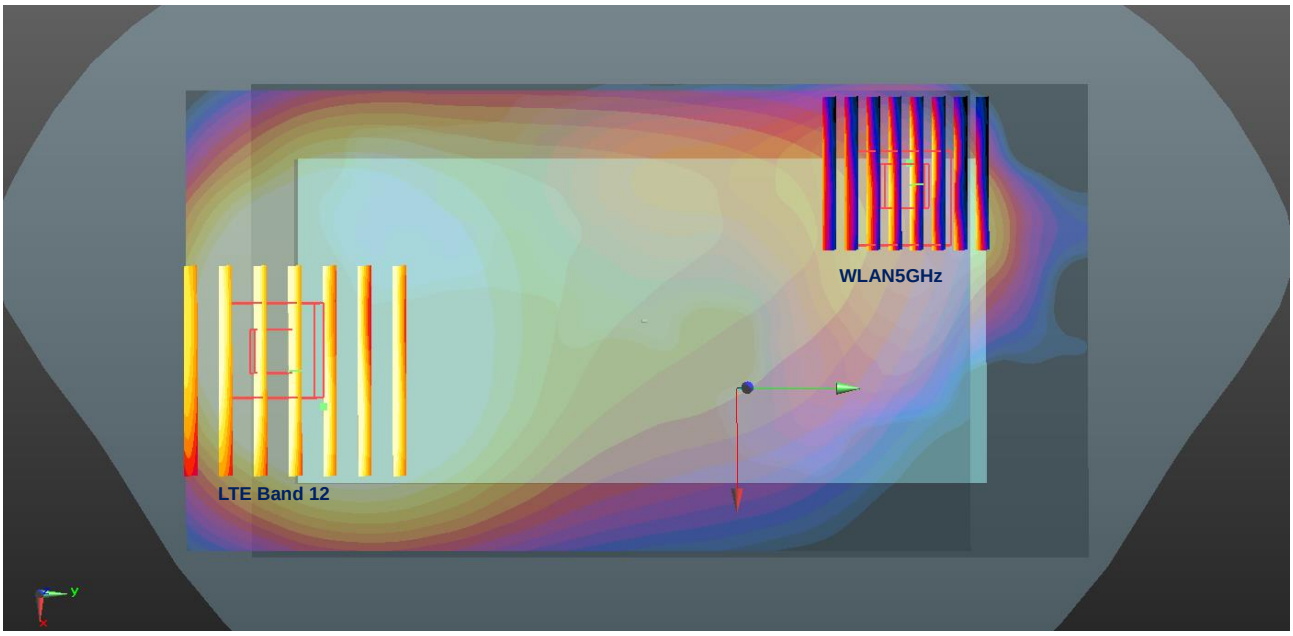
Case #8	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA Band II	Back	1.365	5	-2.8	-81.8	-1.45	156.4	1.91	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



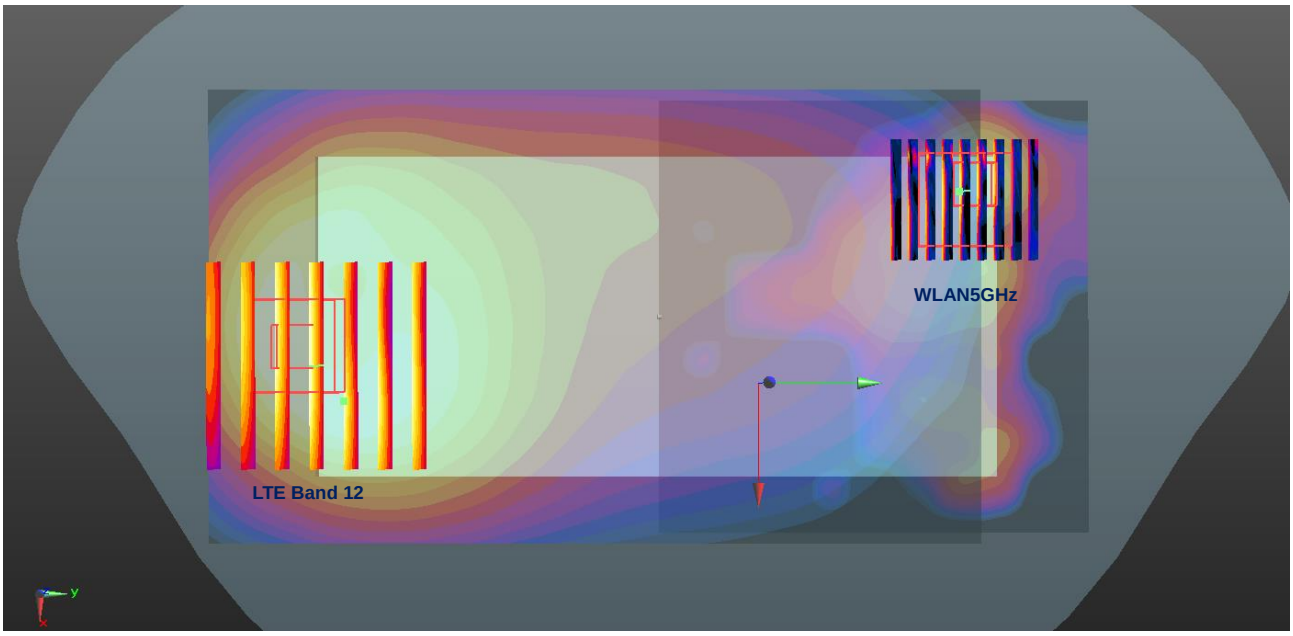
Case #9	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC0	Back	1.314	5	7.5	-85.1	-1.86	161.7	1.86	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



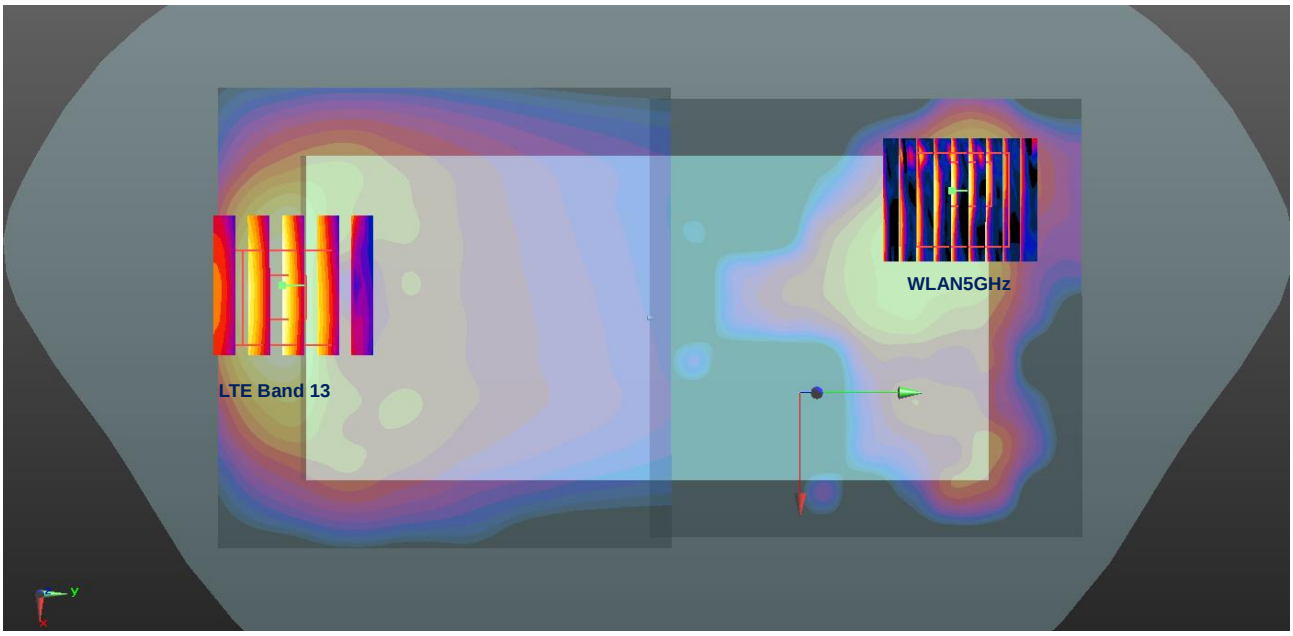
Case #10	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 12	Back	1.317	5	13.9	-83.5	-1.8	161.7	1.86	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



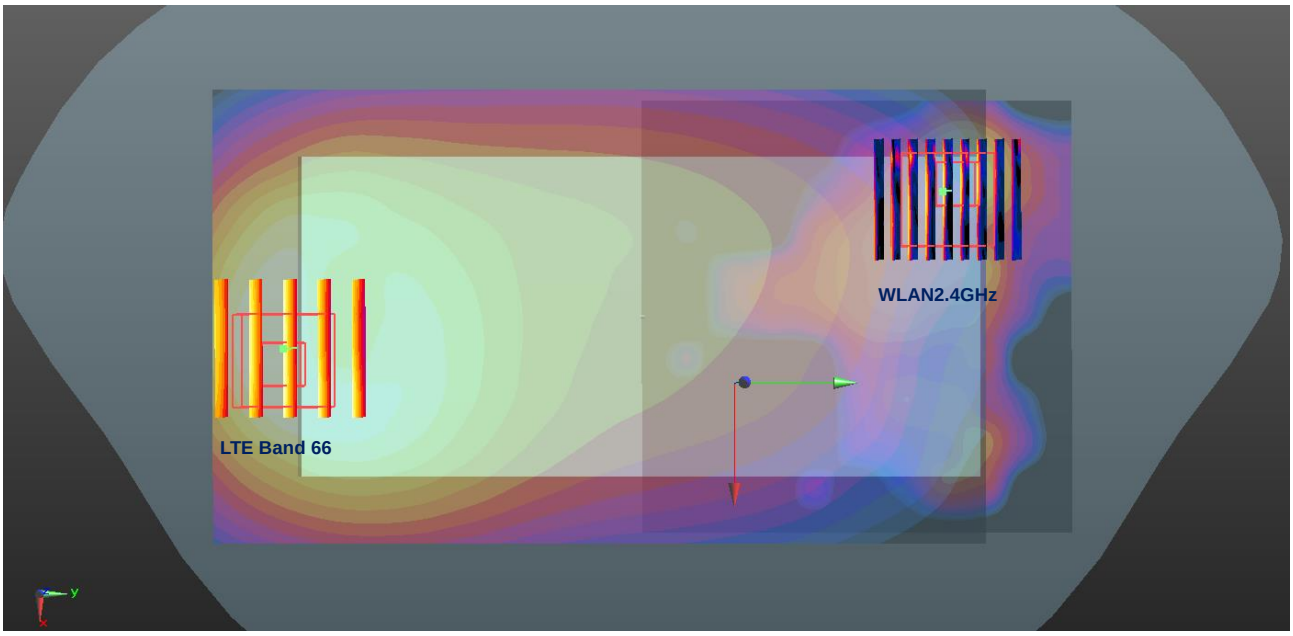
Case #11	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 5	Back	1.315	5	7.5	-85.1	-1.83	161.7	1.86	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



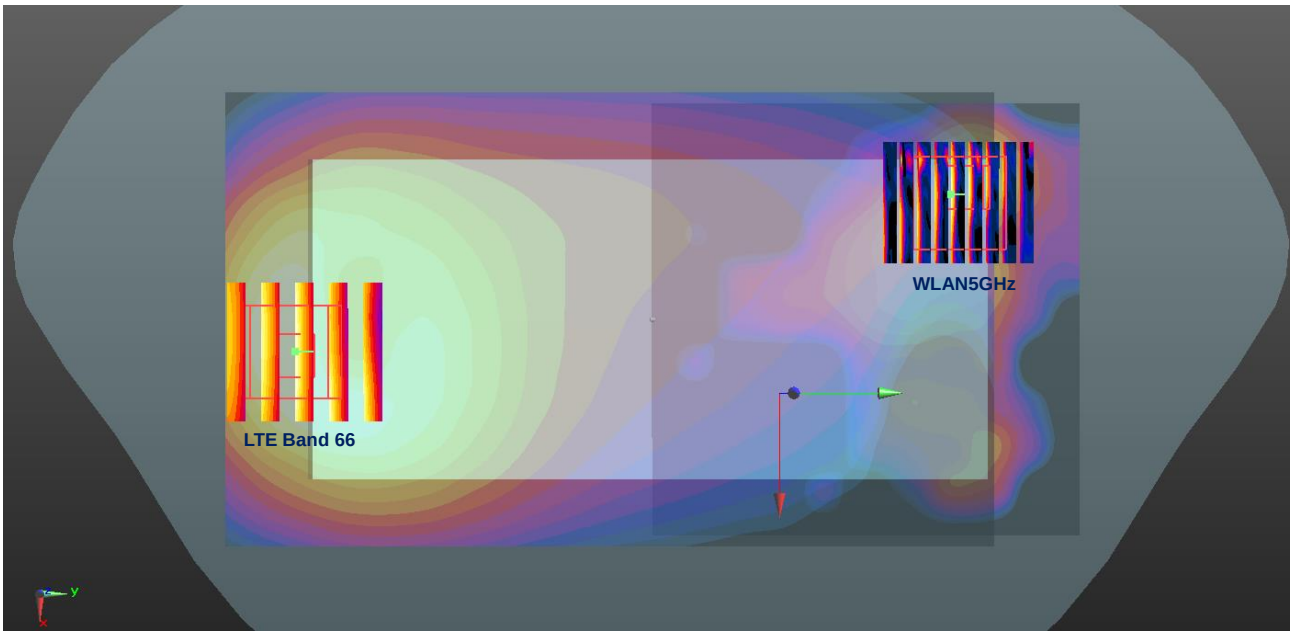
Case #12	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 13	Back	1.298	5	9.1	-83.5	-1.87	160.5	1.84	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



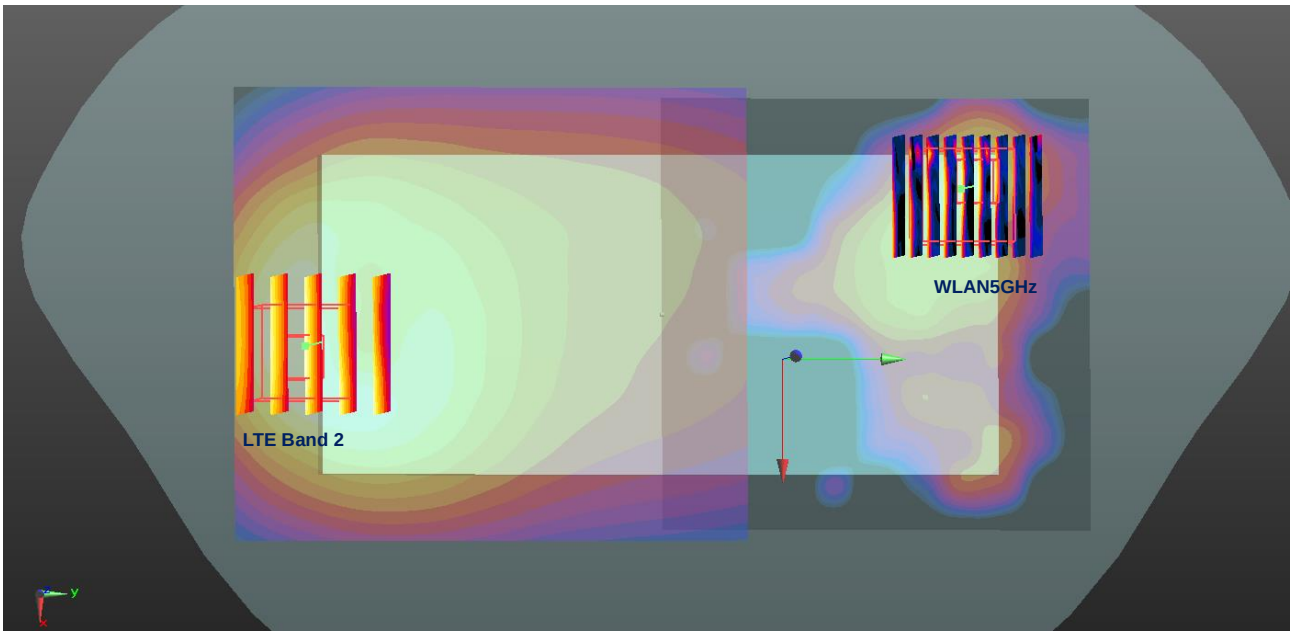
Case #13	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 66	Back	1.443	5	-5.9	-83.4	-1.41	146.9	1.69	0.01	Not required
	WLAN2.4GHz		0.246	5	-32	61.2	-1.93				



Case #14	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 66	Back	1.443	5	-5.9	-83.4	-1.41	157.5	1.99	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



Case #15	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 2	Back	1.304	5	-5.9	-86.6	-1.43	160.7	1.85	0.02	Not required
	WLAN5GHz		0.545	5	-29	72.4	-2.21				



Case #16	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7	Back	1.382	5	23	-72.2	-1.33	144.3	1.63	0.01	Not required
	WLAN2.4GHz		0.246	5	-32	61.2	-1.93