FCC SAR Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT1921-6, XT1921-1
FCC ID	:	IHDT56XC1
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

We, SPORTON INTERNATIONAL 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 INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.)

Table of Contents

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA7D2018-03	Rev. 01	Initial issue of report	Feb. 22, 2018
FA7D2018-03	Rev. 02	1. Revise the power reduction mechanism in section 4.1 2. Add sensor trigger test in section 4.3	Mar. 20, 2018
FA7D2018-03	Rev. 03	1. Revise section 15	Mar. 23, 2018

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Motorola Mobility LLC, Mobile Cellular Phone, XT1921-6, XT1921-1, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary			Highest Simultaneous Transmission 1g SAR (W/kg)
		Head (Separation 0mm)	Body-worn (Separation 5mm)	Hotspot (Separation 5mm)	
		1g SAR (W/kg)			
Licensed	GSM850	0.54	0.73	0.98	1.59
	GSM1900	0.36	0.63	0.76	
	WCDMA II	1.04	0.86	0.95	
	WCDMA IV	1.07	0.95	0.99	
	WCDMA V	0.94	1.22	1.16	
	CDMA BC0	0.62	0.94	0.84	
	CDMA BC1	0.80	1.23	1.19	
	CDMA BC10	0.64	0.92	0.98	
	LTE Band 2	0.80	0.97	0.98	
	LTE Band 4	0.85	0.95	0.96	
	LTE Band 5	0.61	0.83	1.14	
	LTE Band 7	0.87	1.05	1.05	
	LTE Band 12 / 17	0.30	0.71	0.71	
	LTE Band 13	0.56	1.19	1.19	
	LTE Band 25	0.71	0.95	1.05	
	LTE Band 26	0.60	0.89	0.96	
	LTE Band 30	0.44	0.99	0.99	
	LTE Band 38 / 41	0.37	1.15	1.15	
	LTE Band 66	0.72	0.92	0.92	
DTS	2.4GHz WLAN	1.35	0.96	0.96	1.59
NII	5GHz WLAN	1.24	0.94	1.29	1.59
DSS	Bluetooth	0.15	0.08	0.08	1.31
Date of Testing:		2018/1/5 ~ 2018/2/7			

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

2. Administration Data

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978

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

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

3. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 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	XT1921-6, XT1921-1
FCC ID	IHDT56XC1
IMEI Code	351838090015072
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz CDMA 2000 BC10: 817.9 MHz ~ 823.1 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA CDMA2000 : 1xRTT/1xEv-Do(Rev.0)/1xEv-Do(Rev.A) LTE: QPSK, 16QAM WLAN 2.4GHz : 802.11b/g/n HT20 WLAN 5GHz : 802.11a/n HT20/HT40 Bluetooth BR/EDR/LE
HW Version	DVT1B
SW Version	Verizon:fastboot_rjames_vzw_oem_vzw_userdebug_8.0.0_ODP27.62_1030_intcfg-test-keys_vzw.tar.gz Retail:fastboot_rjames_oem_userdebug_8.0.0_OPP27.62_1361_intcfg-test-keys_oem.tar.gz
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. This device 2.4GHz / 5.8GHz WLAN supports Hotspot operation.
2. When operating in a call in talk position at the head, the device utilizes the At-Head power table. When operating in a body-worn condition, with proximity of the user's body at the front or back of the device, the device operates in the Body-Worn power table. If neither the At-Head or Body-Worn condition is detected, but the device is operating in WiFi Hotspot mode, the device utilizes the Hotspot power table. When operating in any other radiated condition, the device uses the Default power table.
3. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. The control logic is such that, when this front or back body-worn condition is detected and the device is operating in a mode where on-body operation may be expected, the conducted power is applied in the Body-Worn power table. In this condition (user's body detected at front or back face of the device), the Body-Worn power table is applied regardless whether or not the Wi-Fi hotspot mode is active.
4. Note that the Body-Worn Reduced power tables and detection schemes described above are sufficient to assure that body-worn SAR limits are met, regardless whether the Wi-Fi hotspot feature is active or not. However, because FCC has an additional specific test definition and limit for Wi-Fi hotspot mode operation, the additional Hotspot power table is applied if hand-held operation is indicated (i.e., not At-Head or Body-Worn) when the Wi-Fi hotspot feature is active. This ensures the 4 edges of the device comply with the letter of the Wi-Fi Hotspot requirement.
5. Reduced power for different RF exposure conditions:
   Head: If audio is present at the earpiece, the device will reduce output powers on the WLAN transmitter for held-to-ear and detail descriptions of the power reduction mechanism are included in the operational description.
   Body worn: The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device, when operating in near-body condition by end user, the device will reduced maximum output powers on the GSM1900, WCDMA B2 / B4, CDMA BC1 , LTE B2 / B4 / B7 / B25 / B30 / B66 and 5GHz WLAN transmitter and detail descriptions of the power reduction mechanism are included in the operational description.
   Hotspot: When the mobile hotspot session is turn on by end user, the device will reduced output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC1, LTE B2 / B4 / B5 / B7 / B25 / B26 / B30 / B38 / B41 / B66 and 5GHz WLAN transmitter and detail descriptions of the power reduction mechanism are included in the operational description.

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>IHDT56XC1</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 17: 706.5 MHz ~ 713.5 MHz
LTE Band 25: 1850.7 MHz ~ 1914.3 MHz
LTE Band 26: 814.7 MHz ~ 848.3 MHz
LTE Band 30: 2307.5 MHz ~ 2312.5 MHz
LTE Band 38: 2572.5 MHz ~ 2617.5 MHz
LTE Band 41: 2498.5 MHz ~ 2687.5 MHz
LTE Band 66: 1710.7 MHz ~ 1779.3 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 02:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 04:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 05:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 07: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 13: 5MHz, 10MHz
LTE Band 17: 5MHz, 10MHz
LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz
LTE Band 30: 5MHz, 10MHz
LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK / 16QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</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, power reduction mechanisms applied to satisfy SAR compliance for LTE B2 / B4 / B5 / B7 / B25 / B26 / B30 / B38 / B41 / B66</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 17				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

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

LTE Band 30				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	27685	2307.5	27710	2310
M	27710	2310		
H	27735	2312.5		

LTE Band 38								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610

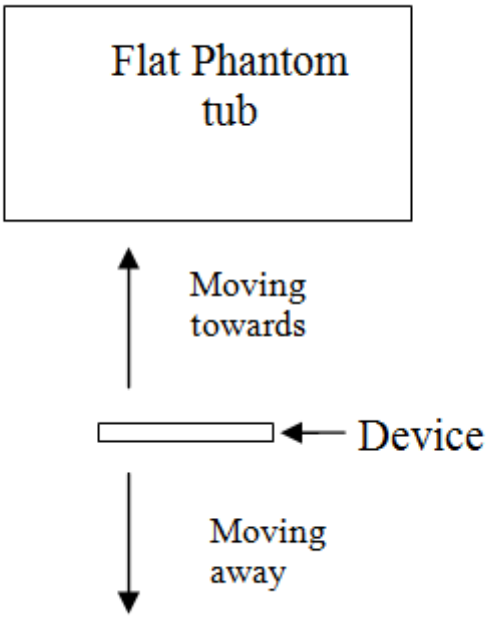
LTE Band 41								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
L M	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593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

LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

4.3 Proximity Sensor Triggering Test

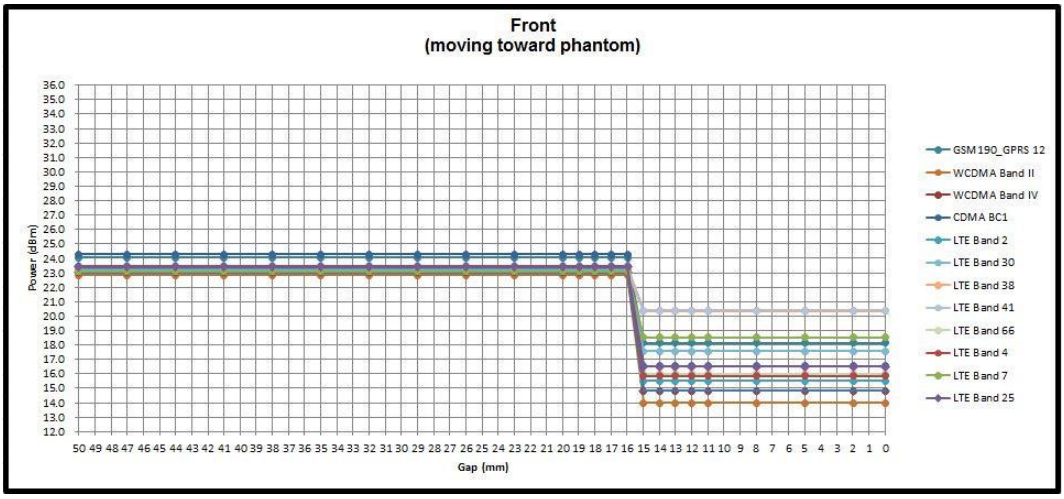
<Proximity Sensor Triggering Distance>:

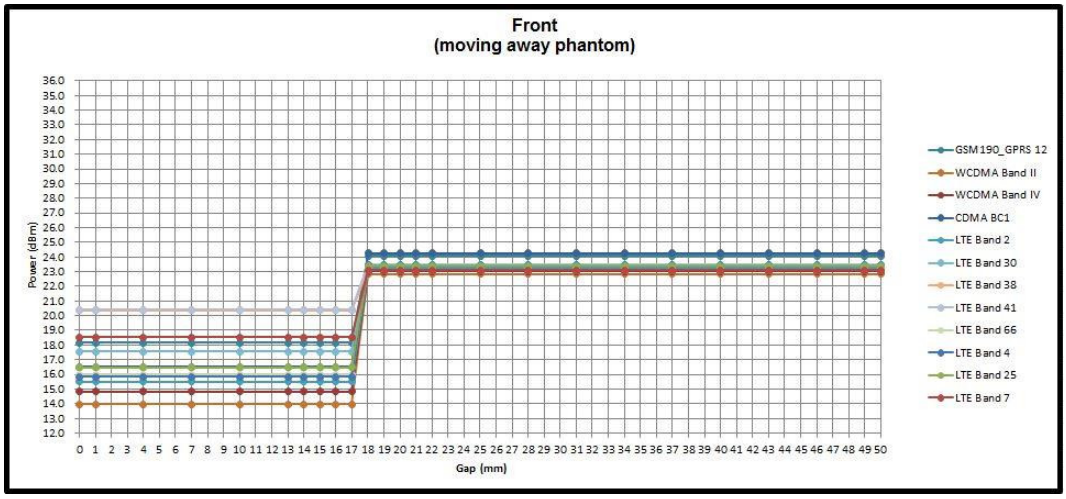
1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (2600MHz) and lowest (750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body (Body-Worn condition) at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).
5. When the sensor is active, the device will reduced maximum output powers on the GSM1900, WCDMA B2 / B4, CDMA BC1, LTE B2 / B4 / B7 / B25 / B30 / B66 transmitter.

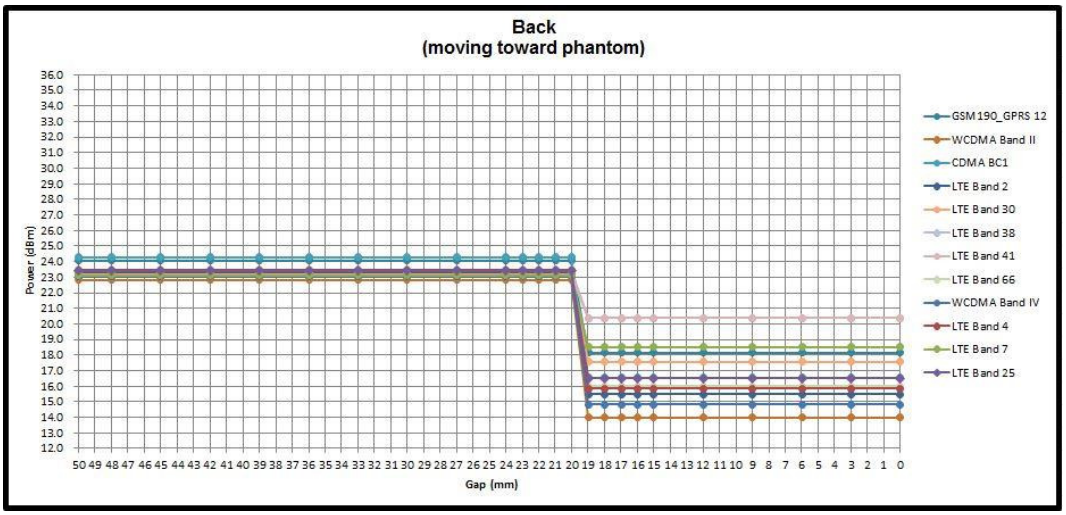


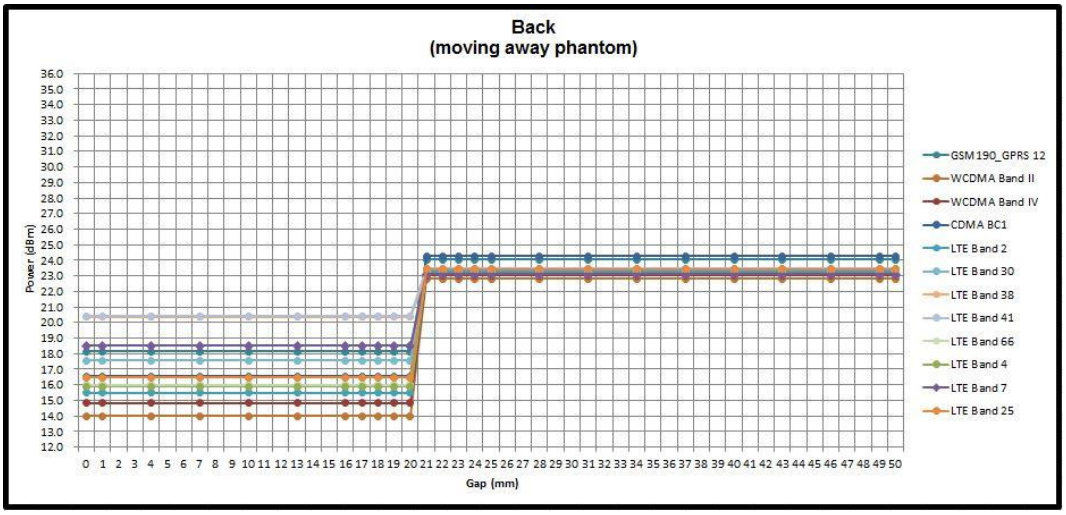
Proximity Sensor Trigger Distance (mm)				
Position	Front		Back	
Position	Moving towards	Moving away	Moving towards	Moving away
Minimum	15.0	17.0	19.0	20.0

<Sensor triggers distance V.S Measure power>






Back
(moving toward phantom)
Power (dBm)
Gap (mm)
GSM 190_GPRS 12
WCDMA Band II
CDMA BC1
LTE Band 2
LTE Band 30
LTE Band 38
LTE Band 41
LTE Band 66
WCDMA Band IV
LTE Band 4
LTE Band 7
LTE Band 25


Back
(moving away phantom)
Power (dBm)
Gap (mm)
GSM 190_GPRS 12
WCDMA Band II
WCDMA Band IV
CDMA BC1
LTE Band 2
LTE Band 30
LTE Band 38
LTE Band 41
LTE Band 66
LTE Band 4
LTE Band 7
LTE Band 25

5. RF Exposure Limits

5.1 Uncontrolled Environment

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

5.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

6. Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

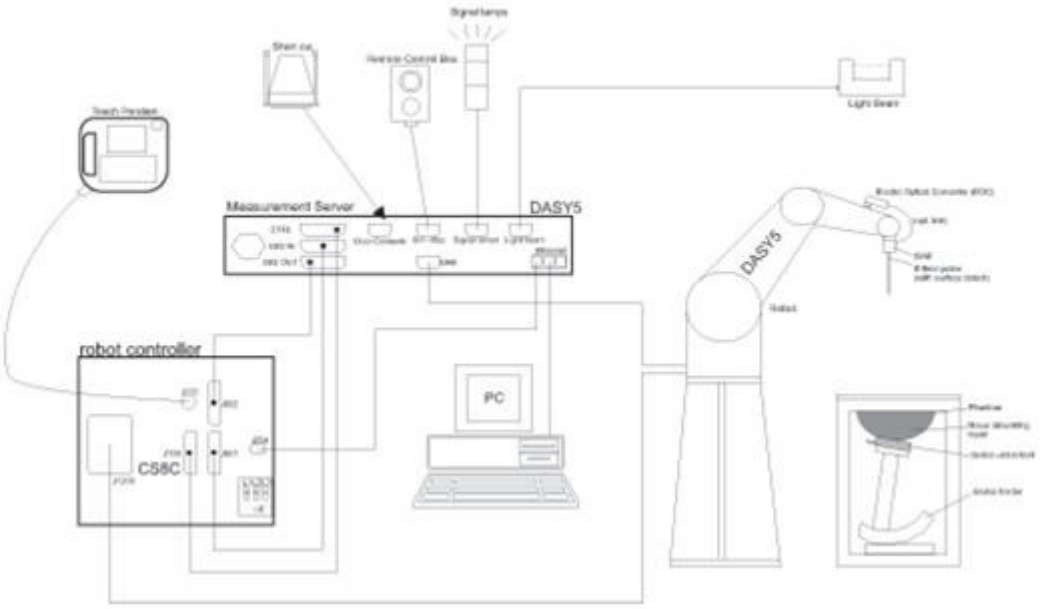
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. System Description and Setup

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



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

7.1 E-Field Probe

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

<ES3DV3 Probe>

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

<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	

7.2 Data Acquisition Electronics (DAE)

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

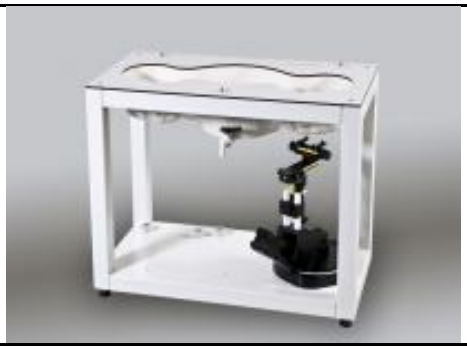
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Fig 5.1 Photo of DAE

7.3 Phantom

<SAM Twin Phantom>

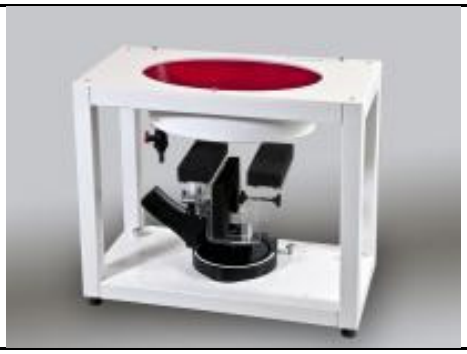
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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

<ELI Phantom>

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



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

7.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

8. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

8.1 Spatial Peak SAR Evaluation

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

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

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

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values 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

8.2 Power Reference Measurement

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

8.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in 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.	

8.4 Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: 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·$\Delta z_{Zoom}(n-1)$	
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.

8.5 Volume Scan Procedures

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

8.6 Power Drift Monitoring

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

9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1012	May. 22, 2017	May. 21, 2018
SPEAG	835MHz System Validation Kit	D835V2	499	Mar. 21, 2017	Mar. 20, 2018
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 15, 2017	Nov. 14, 2018
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Sep. 28, 2017	Sep. 27, 2018
SPEAG	2300MHz System Validation Kit	D2300V2	1023	Aug. 17, 2017	Aug. 16, 2018
SPEAG	2450MHz System Validation Kit	D2450V2	736	Sep. 18, 2017	Sep. 17, 2018
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Sep. 18, 2017	Sep. 17, 2018
SPEAG	5GHz System Validation Kit	D5GHzV2	1171	Jul. 18, 2017	Jul. 17, 2018
SPEAG	Data Acquisition Electronics	DAE3	495	May. 22, 2017	May. 21, 2018
SPEAG	Data Acquisition Electronics	DAE4	1399	Nov. 16, 2017	Nov. 15, 2018
SPEAG	Data Acquisition Electronics	DAE4	778	May. 22, 2017	May. 21, 2018
SPEAG	Data Acquisition Electronics	DAE4	854	May. 02, 2017	May. 01, 2018
SPEAG	Data Acquisition Electronics	DAE4	853	Jul. 19, 2017	Jul. 18, 2018
SPEAG	Data Acquisition Electronics	DAE3	393	Aug. 10, 2017	Aug. 09, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	3578	May. 05, 2017	May. 04, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	3925	May. 24, 2017	May. 23, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Sep. 29, 2017	Sep. 28, 2018
SPEAG	Dosimetric E-Field Probe	ES3DV3	3169	May. 11, 2017	May. 10, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	7306	Jul. 24, 2017	Jul. 23, 2018
TESTO	Hygro meter	608-H1	34913631	Aug. 22, 2017	Aug. 21, 2018
TESTO	Hygro meter	608-H1	34852481	Sep. 20, 2017	Sep. 19, 2018
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Apr. 20, 2017	Apr. 19, 2018
Agilent	Wireless Communication Test Set	E5515C	MY50266977	May. 30, 2017	May. 29, 2018
R&S	BT Base Station	CBT32	100522	Mar. 14, 2017	Mar. 13, 2018
SPEAG	Device Holder	N/A	N/A	N/A	N/A
R&S	Signal Generator	SMA100A	101091	Jul. 06, 2017	Jul. 05, 2018
Agilent	ENA Network Analyzer	E5071C	MY46104758	Aug. 24, 2017	Aug. 23, 2018
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 26, 2017	Sep. 25, 2018
LINE SEIKI	Digital Thermometer	LKMelectronic	DTM3000SPEZIAL	Sep. 06, 2017	Sep. 05, 2018
Anritsu	Power Meter	ML2495A	1419002	May. 15, 2017	May. 14, 2018
Anritsu	Power Sensor	MA2411B	1339124	May. 15, 2017	May. 14, 2018
Anritsu	Power Meter	ML2495A	1218006	Oct. 06, 2017	Oct. 05, 2018
Anritsu	Power Sensor	MA2411B	1207363	Oct. 06, 2017	Oct. 05, 2018
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 23, 2017	Aug. 22, 2018
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 26, 2017	Jun. 25, 2018
Mini-Circuits	Power Amplifier	ZVE-8G+	D120604	Mar. 09, 2017	Mar. 08, 2018
Mini-Circuits	Power Amplifier	ZHL-42W+	QA1344002	Mar. 09, 2017	Mar. 08, 2018
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

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

10. System Verification

10.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.

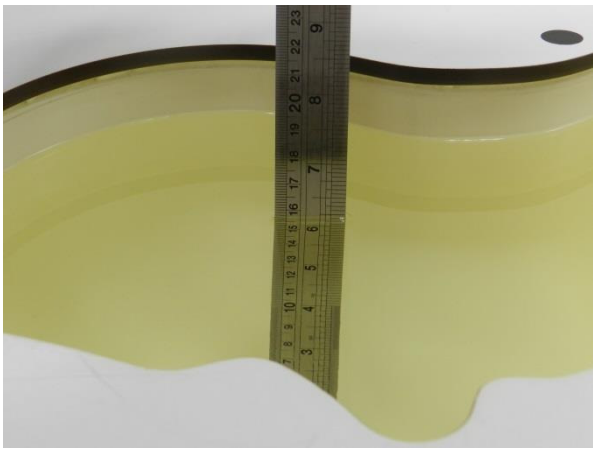


Fig 10.1Photo of Liquid Height for Head SAR

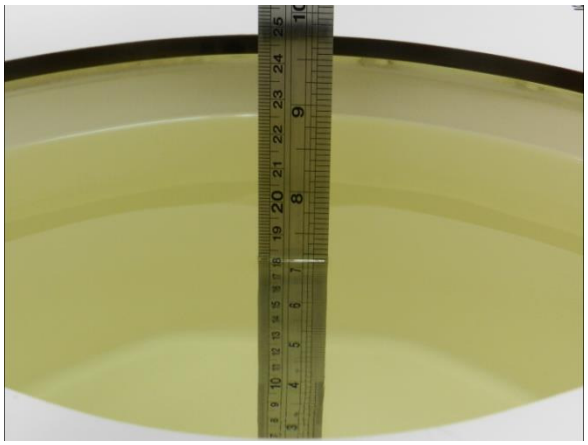


Fig 10.2 Photo of Liquid Height for Body SAR

10.2 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (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
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	HSL	22.7	0.896	40.602	0.89	41.90	0.67	-3.10	±5	2018/1/13
750	MSL	22.3	0.967	53.678	0.96	55.50	0.73	-3.28	±5	2018/1/14
835	HSL	22.4	0.894	41.646	0.90	41.50	-0.67	0.35	±5	2018/1/12
835	MSL	22.2	0.982	56.733	0.97	55.20	1.24	2.78	±5	2018/1/14
835	MSL	22.2	0.937	57.079	0.97	55.20	-3.40	3.40	±5	2018/2/5
1750	HSL	22.4	1.356	38.624	1.37	40.10	-1.02	-3.68	±5	2018/1/10
1750	MSL	22.5	1.459	52.943	1.49	53.40	-2.08	-0.86	±5	2018/2/4
1900	HSL	22.2	1.407	39.060	1.40	40.00	0.50	-2.35	±5	2018/1/8
1900	HSL	22.2	1.399	38.830	1.40	40.00	-0.07	-2.93	±5	2018/1/9
1900	MSL	22.2	1.552	51.699	1.52	53.30	2.11	-3.00	±5	2018/2/3
1900	MSL	22.5	1.530	51.300	1.52	53.30	0.66	-3.75	±5	2018/2/7
2300	HSL	22.4	1.604	39.587	1.67	39.50	-3.95	0.22	±5	2018/1/7
2300	MSL	22.2	1.811	53.724	1.81	52.90	0.06	1.56	±5	2018/2/6
2450	HSL	22.4	1.792	39.815	1.80	39.20	-0.44	1.57	±5	2018/1/5
2450	HSL	22.5	1.793	40.375	1.80	39.20	-0.39	3.00	±5	2018/1/19
2450	MSL	22.4	2.007	53.867	1.95	52.70	2.92	2.21	±5	2018/1/5
2450	MSL	22.5	1.989	54.803	1.95	52.70	2.00	3.99	±5	2018/1/20
2600	HSL	22.2	1.919	38.477	1.96	39.00	-2.09	-1.34	±5	2018/1/7
2600	MSL	22.6	2.151	54.234	2.16	52.50	-0.42	3.30	±5	2018/1/25
2600	MSL	22.2	2.208	52.639	2.16	52.50	2.22	0.26	±5	2018/2/6
5250	HSL	22.6	4.516	37.141	4.71	35.95	-4.12	3.31	±5	2018/1/20
5250	MSL	22.5	5.537	47.352	5.36	48.95	3.30	-3.26	±5	2018/1/21
5600	HSL	22.7	4.929	35.673	5.07	35.50	-2.78	0.49	±5	2018/1/21
5600	MSL	22.5	6.012	46.731	5.77	48.50	4.19	-3.65	±5	2018/1/21
5750	HSL	22.6	5.014	36.498	5.22	35.35	-3.95	3.25	±5	2018/1/20
5750	MSL	22.5	6.223	46.468	5.94	48.28	4.76	-3.75	±5	2018/1/21

<Tissue Dielectric Parameter Check for Low / Middle / High Frequencies>

General Note:

The tissue measure results for low / middle / high frequencies list below, the results were used in the Dasy SAR system to perform interpolation to determine the dielectric parameters on the SAR test device. The SAR test plots may slightly difference between the tables below due to the digit rounding in the software calculated.

CH	Frequency (MHz)	Liquid Type	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
0	2402	Head	1.73	39.99	1.76	39.29	-1.48	1.76	±5	Jan. 05, 2018
39	2441	Head	1.78	39.85	1.79	39.22	-0.47	1.65	±5	Jan. 05, 2018
78	2480	Head	1.83	39.70	1.80	39.20	1.60	1.27	±5	Jan. 05, 2018
0	2402	Body	1.94	54.06	1.90	52.76	2.22	2.39	±5	Jan. 05, 2018
39	2441	Body	2.00	53.91	1.94	52.71	2.88	2.29	±5	Jan. 05, 2018
78	2480	Body	2.05	53.77	1.95	52.70	4.87	2.04	±5	Jan. 05, 2018
1	2412	Body	1.96	54.02	1.91	52.75	2.41	2.31	±5	Jan. 05, 2018
3	2422	Body	1.97	53.98	1.92	52.74	2.61	2.43	±5	Jan. 05, 2018
6	2437	Body	1.99	53.92	1.94	52.72	2.62	2.32	±5	Jan. 05, 2018
9	2452	Body	2.01	53.86	1.95	52.70	3.07	2.20	±5	Jan. 05, 2018
11	2462	Body	2.02	53.85	1.97	52.68	2.54	2.18	±5	Jan. 05, 2018
36	5180	Head	4.43	35.73	4.64	36.02	-4.53	-0.74	±5	Jan. 05, 2018
38	5190	Head	4.44	35.72	4.65	36.01	-4.47	-0.78	±5	Jan. 05, 2018
40	5200	Head	4.45	35.71	4.66	36.00	-4.46	-0.79	±5	Jan. 05, 2018
42	5210	Head	4.46	35.71	4.67	35.99	-4.51	-0.82	±5	Jan. 05, 2018
44	5220	Head	4.47	35.69	4.68	35.98	-4.56	-0.87	±5	Jan. 05, 2018
46	5230	Head	4.48	35.67	4.69	35.97	-4.55	-0.93	±5	Jan. 05, 2018
48	5240	Head	4.49	35.65	4.70	35.96	-4.50	-0.98	±5	Jan. 05, 2018
52	5260	Head	4.51	35.63	4.72	35.94	-4.42	-0.75	±5	Jan. 05, 2018
54	5270	Head	4.52	35.62	4.73	35.93	-4.52	-0.78	±5	Jan. 05, 2018
56	5280	Head	4.52	35.60	4.74	35.92	-4.54	-0.85	±5	Jan. 05, 2018
58	5290	Head	4.54	35.58	4.75	35.91	-4.49	-0.90	±5	Jan. 05, 2018
60	5300	Head	4.56	35.57	4.76	35.90	-4.20	-0.92	±5	Jan. 05, 2018
62	5310	Head	4.56	35.56	4.77	35.89	-4.45	-0.94	±5	Jan. 05, 2018
64	5320	Head	4.56	35.56	4.78	35.87	-4.51	-0.96	±5	Jan. 05, 2018
100	5500	Head	4.73	35.30	4.97	35.63	-4.74	-0.83	±5	Jan. 05, 2018
102	5510	Head	4.75	35.29	4.98	35.62	-4.67	-0.86	±5	Jan. 05, 2018
104	5520	Head	4.76	35.28	4.99	35.61	-4.66	-0.89	±5	Jan. 05, 2018
106	5530	Head	4.77	35.28	5.00	35.59	-4.68	-0.90	±5	Jan. 05, 2018
108	5540	Head	4.77	35.26	5.01	35.58	-4.71	-0.95	±5	Jan. 05, 2018
110	5550	Head	4.78	35.24	5.02	35.57	-4.69	-1.00	±5	Jan. 05, 2018
112	5560	Head	4.80	35.23	5.03	35.55	-4.64	-1.05	±5	Jan. 05, 2018
116	5580	Head	4.82	35.21	5.05	35.53	-4.55	-0.82	±5	Jan. 05, 2018
132	5660	Head	4.90	35.10	5.13	35.44	-4.51	-0.86	±5	Jan. 05, 2018
134	5670	Head	4.91	35.08	5.14	35.43	-4.46	-0.91	±5	Jan. 05, 2018
136	5680	Head	4.92	35.07	5.15	35.42	-4.38	-0.93	±5	Jan. 05, 2018
138	5690	Head	4.93	35.07	5.16	35.41	-4.44	-0.93	±5	Jan. 05, 2018
140	5700	Head	4.94	35.06	5.17	35.40	-4.53	-0.97	±5	Jan. 05, 2018
142	5710	Head	4.95	35.03	5.18	35.39	-4.51	-1.04	±5	Jan. 05, 2018
144	5720	Head	4.96	35.02	5.19	35.38	-4.42	-1.08	±5	Jan. 05, 2018

Table of Low/Middle/High Channel for Liquid Validation

CH	Frequency (MHz)	Liquid Type	Conductivity (σ)	Permittivity (εr)	Conductivity Target (σ)	Permittivity Target (εr)	Delta (σ) (%)	Delta (εr) (%)	Limit (%)	Date
149	5745	Head	4.98	34.99	5.22	35.36	-4.54	-1.15	±5	Jan. 05, 2018
151	5755	Head	4.99	34.98	5.23	35.35	-4.55	-0.91	±5	Jan. 05, 2018
153	5765	Head	5.00	34.96	5.24	35.34	-4.51	-0.95	±5	Jan. 05, 2018
155	5775	Head	5.02	34.95	5.25	35.33	-4.45	-0.99	±5	Jan. 05, 2018
157	5785	Head	5.03	34.94	5.26	35.32	-4.40	-1.02	±5	Jan. 05, 2018
159	5795	Head	5.04	34.94	5.27	35.31	-4.44	-1.02	±5	Jan. 05, 2018
161	5805	Head	5.04	34.92	5.28	35.30	-4.54	-1.06	±5	Jan. 05, 2018
165	5825	Head	5.07	34.88	5.30	35.28	-4.43	-1.18	±5	Jan. 05, 2018
120	5600	Head	4.83	35.17	5.07	35.50	-4.64	-0.92	±5	Jan. 05, 2018
122	5610	Head	4.85	35.15	5.08	35.49	-4.56	-0.98	±5	Jan. 05, 2018
124	5620	Head	4.86	35.15	5.09	35.48	-4.50	-0.99	±5	Jan. 05, 2018
126	5630	Head	4.87	35.14	5.10	35.47	-4.50	-1.01	±5	Jan. 05, 2018
128	5640	Head	4.88	35.13	5.11	35.46	-4.56	-1.04	±5	Jan. 05, 2018
27710	2310	Head	1.61	39.54	1.67	39.42	-3.33	0.34	±5	Jan. 07, 2018
20850	2510	Head	1.82	38.80	1.86	39.12	-2.00	-0.76	±5	Jan. 07, 2018
21100	2535	Head	1.85	38.70	1.89	39.09	-2.15	-1.02	±5	Jan. 07, 2018
21350	2560	Head	1.88	38.62	1.92	39.05	-2.34	-1.22	±5	Jan. 07, 2018
39790	2510	Head	1.82	38.80	1.86	39.12	-2.00	-0.76	±5	Jan. 07, 2018
39750	2506	Head	1.82	38.81	1.86	39.12	-2.19	-0.73	±5	Jan. 07, 2018
40185	2549.5	Head	1.86	38.66	1.90	39.06	-1.85	-1.12	±5	Jan. 07, 2018
40620	2593	Head	1.91	38.50	1.95	39.01	-2.09	-1.28	±5	Jan. 07, 2018
41055	2636.5	Head	1.96	38.36	2.00	38.95	-2.11	-1.64	±5	Jan. 07, 2018
41490	2680	Head	2.01	38.21	2.05	38.90	-2.19	-1.77	±5	Jan. 07, 2018
18700	1860	Head	1.37	39.27	1.40	40.00	-1.94	-1.83	±5	Jan. 08, 2018
18900	1880	Head	1.39	39.19	1.40	40.00	-0.81	-2.03	±5	Jan. 08, 2018
19100	1900	Head	1.41	39.06	1.40	40.00	0.51	-2.35	±5	Jan. 08, 2018
26140	1860	Head	1.37	39.27	1.40	40.00	-1.94	-1.83	±5	Jan. 08, 2018
26340	1880	Head	1.39	39.19	1.40	40.00	-0.81	-2.03	±5	Jan. 08, 2018
26590	1905	Head	1.41	39.03	1.40	40.00	0.86	-2.43	±5	Jan. 08, 2018
25	1851.25	Head	1.36	39.06	1.40	40.00	-3.15	-2.35	±5	Jan. 09, 2018
600	1880	Head	1.38	38.96	1.40	40.00	-1.36	-2.61	±5	Jan. 09, 2018
1175	1908.75	Head	1.41	38.77	1.40	40.00	0.56	-3.06	±5	Jan. 09, 2018
512	1850.2	Head	1.35	39.06	1.40	40.00	-3.23	-2.34	±5	Jan. 09, 2018
661	1880	Head	1.38	38.96	1.40	40.00	-1.36	-2.61	±5	Jan. 09, 2018
810	1909.8	Head	1.41	38.77	1.40	40.00	0.64	-3.08	±5	Jan. 09, 2018
9262	1852.4	Head	1.36	39.06	1.40	40.00	-3.05	-2.36	±5	Jan. 09, 2018
9400	1880	Head	1.38	38.96	1.40	40.00	-1.36	-2.61	±5	Jan. 09, 2018
9538	1907.6	Head	1.41	38.78	1.40	40.00	0.48	-3.05	±5	Jan. 09, 2018
1312	1712.4	Head	1.32	38.66	1.35	40.16	-2.57	-3.83	±5	Jan. 10, 2018
1413	1732.6	Head	1.34	38.61	1.36	40.13	-1.61	-3.71	±5	Jan. 10, 2018
1513	1752.6	Head	1.36	38.63	1.37	40.09	-0.88	-3.67	±5	Jan. 10, 2018
132072	1720	Head	1.32	38.63	1.37	40.09	-3.39	-3.67	±5	Jan. 10, 2018
132322	1745	Head	1.35	38.62	1.38	40.05	-2.13	-3.44	±5	Jan. 10, 2018
132572	1770	Head	1.37	38.61	1.39	40.01	-1.42	-3.47	±5	Jan. 10, 2018
20050	1720	Head	1.32	38.63	1.36	40.15	-2.68	-3.67	±5	Jan. 10, 2018
20175	1732.5	Head	1.34	38.61	1.36	40.13	-1.62	-3.71	±5	Jan. 10, 2018
20300	1745	Head	1.35	38.62	1.37	40.11	-1.41	-3.68	±5	Jan. 10, 2018

Table of Low/Middle/High Channel for Liquid Validation

CH	Frequency (MHz)	Liquid Type	Conductivity (σ)	Permittivity (εr)	Conductivity Target (σ)	Permittivity Target (εr)	Delta (σ) (%)	Delta (εr) (%)	Limit (%)	Date
20450	829	Head	0.89	41.73	0.90	41.53	-1.28	0.55	±5	Jan. 12, 2018
20525	836.5	Head	0.90	41.62	0.90	41.50	-0.55	0.30	±5	Jan. 12, 2018
20600	844	Head	0.90	41.52	0.91	41.50	-0.85	0.05	±5	Jan. 12, 2018
26765	821.5	Head	0.88	41.82	0.90	41.56	-1.98	0.54	±5	Jan. 12, 2018
26865	831.5	Head	0.89	41.69	0.90	41.52	-1.05	0.47	±5	Jan. 12, 2018
26965	841.5	Head	0.90	41.56	0.91	41.50	-1.14	0.13	±5	Jan. 12, 2018
26865	831.5	Head	0.89	41.69	0.90	41.56	-1.05	0.23	±5	Jan. 12, 2018
26915	836.5	Head	0.90	41.62	0.90	41.52	-0.55	0.30	±5	Jan. 12, 2018
26965	841.5	Head	0.90	41.56	0.91	41.50	-1.14	0.13	±5	Jan. 12, 2018
4132	826.4	Head	0.89	41.76	0.90	41.54	-1.51	0.63	±5	Jan. 12, 2018
4182	836.4	Head	0.89	41.63	0.90	41.50	-0.56	0.30	±5	Jan. 12, 2018
4233	846.6	Head	0.90	41.48	0.91	41.50	-0.60	-0.04	±5	Jan. 12, 2018
128	824.2	Head	0.88	41.79	0.90	41.55	-1.73	0.45	±5	Jan. 12, 2018
189	836.4	Head	0.89	41.63	0.90	41.50	-0.56	0.30	±5	Jan. 12, 2018
251	848.8	Head	0.91	41.46	0.91	41.50	-0.35	-0.11	±5	Jan. 12, 2018
1013	824.7	Head	0.88	41.78	0.90	41.55	-1.67	0.68	±5	Jan. 12, 2018
384	836.52	Head	0.90	41.62	0.90	41.50	-0.55	0.30	±5	Jan. 12, 2018
777	848.31	Head	0.91	41.46	0.91	41.50	-0.41	-0.09	±5	Jan. 12, 2018
23060	704	Head	0.85	41.19	0.89	42.15	-4.13	-2.17	±5	Jan. 13, 2018
23095	707.5	Head	0.86	41.16	0.89	42.13	-3.79	-2.23	±5	Jan. 13, 2018
23130	711	Head	0.86	41.14	0.89	42.11	-3.43	-2.29	±5	Jan. 13, 2018
23230	782	Head	0.93	40.20	0.89	42.15	4.03	-4.50	±5	Jan. 13, 2018
23060	704	Body	0.92	54.13	0.96	55.68	-3.66	-2.82	±5	Jan. 14, 2018
23095	707.5	Body	0.93	54.10	0.96	55.67	-3.30	-2.87	±5	Jan. 14, 2018
23130	711	Body	0.93	54.06	0.96	55.66	-2.97	-2.94	±5	Jan. 14, 2018
23230	782	Body	1.00	53.39	0.96	55.68	3.91	-4.15	±5	Jan. 14, 2018
23780	709	Body	0.93	54.08	0.96	55.66	-3.16	-2.90	±5	Jan. 14, 2018
23790	710	Body	0.93	54.07	0.96	55.66	-3.05	-2.92	±5	Jan. 14, 2018
23800	711	Body	0.93	54.06	0.96	55.66	-2.97	-2.94	±5	Jan. 14, 2018
1013	824.7	Body	0.97	56.78	0.97	55.24	0.12	2.87	±5	Jan. 14, 2018
384	836.52	Body	0.98	56.72	0.97	55.20	1.37	2.76	±5	Jan. 14, 2018
777	848.31	Body	1.00	56.61	0.99	55.16	0.68	2.56	±5	Jan. 14, 2018

Table of Low/Middle/High Channel for Liquid Validation

CH	Frequency (MHz)	Liquid Type	Conductivity (σ)	Permittivity (εr)	Conductivity Target (σ)	Permittivity Target (εr)	Delta (σ) (%)	Delta (εr) (%)	Limit (%)	Date
1	2412	Head	1.76	40.55	1.77	39.27	-0.85	3.18	±5	Jan. 19, 2018
3	2422	Head	1.77	40.62	1.78	39.25	-0.79	3.36	±5	Jan. 19, 2018
6	2437	Head	1.78	40.44	1.79	39.22	-0.45	3.16	±5	Jan. 19, 2018
9	2452	Head	1.80	40.34	1.80	39.20	-0.06	2.91	±5	Jan. 19, 2018
11	2462	Head	1.81	40.33	1.81	39.18	-0.17	2.88	±5	Jan. 19, 2018
1	2412	Head	1.75	40.55	1.77	39.27	-0.87	3.17	±5	Jan. 19, 2018
3	2422	Head	1.77	40.62	1.78	39.25	-0.78	3.63	±5	Jan. 19, 2018
6	2437	Head	1.78	40.44	1.79	39.22	-0.44	3.16	±5	Jan. 19, 2018
9	2452	Head	1.80	40.34	1.80	39.20	-0.06	2.90	±5	Jan. 19, 2018
11	2462	Head	1.81	40.33	1.81	39.18	-0.15	2.89	±5	Jan. 19, 2018
1	2412	Body	1.93	54.97	1.91	52.75	1.26	4.11	±5	Jan. 20, 2018
3	2422	Body	1.95	54.92	1.92	52.74	1.44	4.22	±5	Jan. 20, 2018
6	2437	Body	1.97	54.86	1.94	52.72	1.52	4.09	±5	Jan. 20, 2018
9	2452	Body	1.99	54.79	1.95	52.70	2.15	3.97	±5	Jan. 20, 2018
11	2462	Body	2.01	54.76	1.97	52.68	1.78	3.91	±5	Jan. 20, 2018
36	5180	Head	4.44	37.25	4.64	36.02	-4.37	3.47	±5	Jan. 20, 2018
38	5190	Head	4.45	37.23	4.65	36.01	-4.32	3.42	±5	Jan. 20, 2018
40	5200	Head	4.46	37.22	4.66	36.00	-4.31	3.39	±5	Jan. 20, 2018
42	5210	Head	4.47	37.20	4.67	35.99	-4.30	3.33	±5	Jan. 20, 2018
44	5220	Head	4.48	37.18	4.68	35.98	-4.32	3.28	±5	Jan. 20, 2018
46	5230	Head	4.49	37.17	4.69	35.97	-4.26	3.25	±5	Jan. 20, 2018
48	5240	Head	4.50	37.15	4.70	35.96	-4.19	3.19	±5	Jan. 20, 2018
52	5260	Head	4.53	37.15	4.72	35.94	-4.13	3.48	±5	Jan. 20, 2018
54	5270	Head	4.53	37.14	4.73	35.93	-4.27	3.45	±5	Jan. 20, 2018
56	5280	Head	4.54	37.12	4.74	35.92	-4.30	3.40	±5	Jan. 20, 2018
58	5290	Head	4.55	37.09	4.75	35.91	-4.25	3.31	±5	Jan. 20, 2018
60	5300	Head	4.56	37.08	4.76	35.90	-4.22	3.29	±5	Jan. 20, 2018
62	5310	Head	4.57	37.07	4.77	35.89	-4.19	3.26	±5	Jan. 20, 2018
64	5320	Head	4.58	37.06	4.78	35.87	-4.23	3.23	±5	Jan. 20, 2018
149	5745	Head	5.01	36.51	5.22	35.36	-4.04	3.14	±5	Jan. 20, 2018
151	5755	Head	5.02	36.49	5.23	35.35	-4.02	3.08	±5	Jan. 20, 2018
153	5765	Head	5.03	36.48	5.24	35.34	-3.97	3.34	±5	Jan. 20, 2018
155	5775	Head	5.05	36.46	5.25	35.33	-3.89	3.29	±5	Jan. 20, 2018
157	5785	Head	5.06	36.46	5.26	35.32	-3.84	3.29	±5	Jan. 20, 2018
159	5795	Head	5.07	36.46	5.27	35.31	-3.87	3.29	±5	Jan. 20, 2018
161	5805	Head	5.07	36.45	5.28	35.30	-3.98	3.26	±5	Jan. 20, 2018
165	5825	Head	5.09	36.40	5.30	35.28	-3.94	3.12	±5	Jan. 20, 2018
100	5500	Head	4.83	35.80	4.97	35.63	-2.85	0.57	±5	Jan. 21, 2018
102	5510	Head	4.85	35.84	4.98	35.62	-2.63	0.66	±5	Jan. 21, 2018
104	5520	Head	4.86	35.87	4.99	35.61	-2.59	0.75	±5	Jan. 21, 2018
106	5530	Head	4.86	35.89	5.00	35.59	-2.79	0.81	±5	Jan. 21, 2018
108	5540	Head	4.86	35.88	5.01	35.58	-3.08	0.78	±5	Jan. 21, 2018
110	5550	Head	4.85	35.84	5.02	35.57	-3.33	0.68	±5	Jan. 21, 2018
112	5560	Head	4.85	35.79	5.03	35.55	-3.48	0.54	±5	Jan. 21, 2018
116	5580	Head	4.89	35.70	5.05	35.53	-3.26	0.58	±5	Jan. 21, 2018
132	5660	Head	4.97	35.72	5.13	35.44	-3.18	0.89	±5	Jan. 21, 2018
134	5670	Head	4.97	35.66	5.14	35.43	-3.31	0.75	±5	Jan. 21, 2018
136	5680	Head	4.98	35.61	5.15	35.42	-3.25	0.60	±5	Jan. 21, 2018
138	5690	Head	5.00	35.57	5.16	35.41	-3.09	0.49	±5	Jan. 21, 2018
140	5700	Head	5.02	35.54	5.17	35.40	-2.85	0.41	±5	Jan. 21, 2018
142	5710	Head	5.05	35.53	5.18	35.39	-2.49	0.36	±5	Jan. 21, 2018
144	5720	Head	5.08	35.54	5.19	35.38	-2.14	0.40	±5	Jan. 21, 2018

Table of Low/Middle/High Channel for Liquid Validation

CH	Frequency (MHz)	Liquid Type	Conductivity (σ)	Permittivity (εr)	Conductivity Target (σ)	Permittivity Target (εr)	Delta (σ) (%)	Delta (εr) (%)	Limit (%)	Date
149	5745	Body	6.21	46.48	5.94	48.28	4.61	-3.77	±5	Jan. 21, 2018
151	5755	Body	6.23	46.46	5.95	48.27	4.71	-3.81	±5	Jan. 21, 2018
153	5765	Body	6.25	46.45	5.96	48.25	4.80	-3.83	±5	Jan. 21, 2018
155	5775	Body	6.26	46.44	5.97	48.24	4.82	-3.65	±5	Jan. 21, 2018
157	5785	Body	6.27	46.42	5.98	48.22	4.82	-3.69	±5	Jan. 21, 2018
159	5795	Body	6.28	46.40	5.99	48.21	4.87	-3.74	±5	Jan. 21, 2018
161	5805	Body	6.30	46.38	6.00	48.20	4.95	-3.78	±5	Jan. 21, 2018
165	5825	Body	6.32	46.35	6.03	48.20	4.88	-3.84	±5	Jan. 21, 2018
100	5500	Body	5.87	46.91	5.65	48.60	3.90	-3.48	±5	Jan. 21, 2018
102	5510	Body	5.88	46.89	5.66	48.59	3.95	-3.51	±5	Jan. 21, 2018
104	5520	Body	5.90	46.87	5.67	48.58	3.98	-3.56	±5	Jan. 21, 2018
106	5530	Body	5.91	46.85	5.68	48.57	4.07	-3.60	±5	Jan. 21, 2018
108	5540	Body	5.93	46.83	5.70	48.56	3.98	-3.64	±5	Jan. 21, 2018
110	5550	Body	5.94	46.81	5.71	48.55	4.10	-3.67	±5	Jan. 21, 2018
112	5560	Body	5.96	46.81	5.72	48.54	4.15	-3.49	±5	Jan. 21, 2018
116	5580	Body	5.98	46.77	5.74	48.52	4.19	-3.57	±5	Jan. 21, 2018
132	5660	Body	6.10	46.63	5.84	48.41	4.44	-3.65	±5	Jan. 21, 2018
134	5670	Body	6.11	46.62	5.85	48.40	4.45	-3.67	±5	Jan. 21, 2018
136	5680	Body	6.12	46.61	5.86	48.38	4.42	-3.70	±5	Jan. 21, 2018
138	5690	Body	6.13	46.58	5.87	48.37	4.50	-3.76	±5	Jan. 21, 2018
140	5700	Body	6.15	46.56	5.88	48.35	4.59	-3.81	±5	Jan. 21, 2018
142	5710	Body	6.16	46.54	5.89	48.34	4.67	-3.64	±5	Jan. 21, 2018
144	5720	Body	6.18	46.53	5.91	48.32	4.54	-3.67	±5	Jan. 21, 2018
52	5260	Body	5.55	47.32	5.37	48.94	3.33	-3.22	±5	Jan. 21, 2018
54	5270	Body	5.56	47.30	5.38	48.93	3.43	-3.27	±5	Jan. 21, 2018
56	5280	Body	5.58	47.28	5.39	48.92	3.53	-3.30	±5	Jan. 21, 2018
58	5290	Body	5.59	47.27	5.40	48.91	3.57	-3.33	±5	Jan. 21, 2018
60	5300	Body	5.60	47.26	5.42	48.90	3.40	-3.36	±5	Jan. 21, 2018
62	5310	Body	5.62	47.23	5.43	48.79	3.45	-3.21	±5	Jan. 21, 2018
64	5320	Body	5.63	47.21	5.44	48.67	3.53	-3.05	±5	Jan. 21, 2018
120	5600	Head	4.93	35.67	5.07	35.50	-2.79	0.49	±5	Jan. 21, 2018
122	5610	Head	4.96	35.68	5.08	35.49	-2.45	0.51	±5	Jan. 21, 2018
124	5620	Head	4.98	35.71	5.09	35.48	-2.26	0.60	±5	Jan. 21, 2018
126	5630	Head	4.98	35.75	5.10	35.47	-2.30	0.69	±5	Jan. 21, 2018
128	5640	Head	4.98	35.76	5.11	35.46	-2.58	0.73	±5	Jan. 21, 2018
120	5600	Body	6.01	46.73	5.77	48.50	4.18	-3.65	±5	Jan. 21, 2018
122	5610	Body	6.02	46.72	5.78	48.49	4.23	-3.68	±5	Jan. 21, 2018
124	5620	Body	6.04	46.70	5.79	48.47	4.28	-3.71	±5	Jan. 21, 2018
126	5630	Body	6.05	46.68	5.80	48.46	4.33	-3.76	±5	Jan. 21, 2018
128	5640	Body	6.07	46.66	5.81	48.44	4.43	-3.60	±5	Jan. 21, 2018

Table of Low/Middle/High Channel for Liquid Validation

CH	Frequency (MHz)	Liquid Type	Conductivity (σ)	Permittivity (εr)	Conductivity Target (σ)	Permittivity Target (εr)	Delta (σ) (%)	Delta (εr) (%)	Limit (%)	Date
20850	2510	Body	2.03	54.54	2.03	52.62	-0.11	3.68	±5	Jan. 25, 2018
21100	2535	Body	2.06	54.45	2.07	52.59	-0.32	3.52	±5	Jan. 25, 2018
21350	2560	Body	2.10	54.36	2.10	52.55	-0.16	3.35	±5	Jan. 25, 2018
39790	2510	Body	2.03	54.54	2.03	52.62	-0.10	3.69	±5	Jan. 25, 2018
39750	2506	Body	2.03	54.55	2.03	52.63	-0.25	3.71	±5	Jan. 25, 2018
40185	2549.5	Body	2.08	54.40	2.09	52.57	-0.33	3.42	±5	Jan. 25, 2018
40620	2593	Body	2.14	54.24	2.15	52.52	-0.42	3.31	±5	Jan. 25, 2018
41055	2636.5	Body	2.21	54.08	2.21	52.46	-0.14	3.01	±5	Jan. 25, 2018
41490	2680	Body	2.26	53.92	2.28	52.41	-0.75	2.90	±5	Jan. 25, 2018
26140	1860	Body	1.51	51.84	1.52	53.30	-0.80	-2.74	±5	Feb. 03, 2018
26340	1880	Body	1.53	51.78	1.52	53.30	0.61	-2.85	±5	Feb. 03, 2018
26590	1905	Body	1.56	51.68	1.52	53.30	2.52	-3.04	±5	Feb. 03, 2018
18700	1860	Body	1.51	51.84	1.52	53.30	-0.80	-2.74	±5	Feb. 03, 2018
18900	1880	Body	1.53	51.78	1.52	53.30	0.61	-2.85	±5	Feb. 03, 2018
19100	1900	Body	1.55	51.70	1.52	53.30	2.08	-3.00	±5	Feb. 03, 2018
9262	1852.4	Body	1.50	51.86	1.52	53.30	-1.39	-2.70	±5	Feb. 03, 2018
9400	1880	Body	1.53	51.78	1.52	53.30	0.61	-2.85	±5	Feb. 03, 2018
9538	1907.6	Body	1.56	51.67	1.52	53.30	2.68	-3.06	±5	Feb. 03, 2018
25	1851.25	Body	1.50	51.87	1.52	53.30	-1.47	-2.69	±5	Feb. 03, 2018
600	1880	Body	1.53	51.78	1.52	53.30	0.61	-2.85	±5	Feb. 03, 2018
1175	1908.75	Body	1.56	51.66	1.52	53.30	2.76	-3.07	±5	Feb. 03, 2018
1312	1712.4	Body	1.42	53.03	1.47	53.47	-3.09	-0.87	±5	Feb. 04, 2018
1413	1732.6	Body	1.44	52.99	1.48	53.43	-2.42	-0.77	±5	Feb. 04, 2018
1513	1752.6	Body	1.46	52.93	1.49	53.39	-1.90	-0.88	±5	Feb. 04, 2018
20050	1720	Body	1.43	53.01	1.47	53.46	-2.56	-0.91	±5	Feb. 04, 2018
20175	1732.5	Body	1.44	52.99	1.48	53.43	-2.43	-0.77	±5	Feb. 04, 2018
20300	1745	Body	1.45	52.96	1.49	53.41	-2.35	-0.83	±5	Feb. 04, 2018
132072	1720	Body	1.43	53.01	1.47	53.50	-2.56	-0.91	±5	Feb. 04, 2018
132322	1745	Body	1.45	52.96	1.49	53.42	-2.35	-0.83	±5	Feb. 04, 2018
132572	1770	Body	1.48	52.86	1.50	53.35	-1.53	-1.01	±5	Feb. 04, 2018
26765	821.5	Body	0.93	57.20	0.97	55.25	-4.60	3.62	±5	Feb. 05, 2018
26915	836.5	Body	0.94	57.07	0.97	55.21	-3.09	3.39	±5	Feb. 05, 2018
26965	841.5	Body	0.94	57.02	0.98	55.18	-3.77	3.30	±5	Feb. 05, 2018
20450	829	Body	0.93	57.13	0.97	55.22	-3.92	3.50	±5	Feb. 05, 2018
20525	836.5	Body	0.94	57.07	0.97	55.20	-3.24	3.38	±5	Feb. 05, 2018
20600	844	Body	0.95	57.00	0.98	55.17	-3.53	3.25	±5	Feb. 05, 2018
128	824.2	Body	0.93	57.17	0.97	55.24	-4.35	3.58	±5	Feb. 05, 2018
189	836.4	Body	0.94	57.07	0.97	55.20	-3.24	3.38	±5	Feb. 05, 2018
251	848.8	Body	0.95	56.95	0.99	55.16	-4.07	3.16	±5	Feb. 05, 2018
4132	826.4	Body	0.93	57.16	0.97	55.23	-4.16	3.54	±5	Feb. 05, 2018
4182	836.4	Body	0.94	57.07	0.97	55.20	-3.24	3.38	±5	Feb. 05, 2018
4233	846.6	Body	0.95	56.97	0.98	55.16	-3.31	3.20	±5	Feb. 05, 2018
27710	2310	Body	1.82	53.68	1.78	52.88	2.47	1.47	±5	Feb. 06, 2018
39790	2510	Body	2.08	52.95	2.03	52.62	2.65	0.67	±5	Feb. 06, 2018
39750	2506	Body	2.08	52.96	2.03	52.63	2.42	0.69	±5	Feb. 06, 2018
40185	2549.5	Body	2.14	52.81	2.09	52.57	2.28	0.40	±5	Feb. 06, 2018
40620	2593	Body	2.20	52.67	2.15	52.52	2.15	0.32	±5	Feb. 06, 2018
41055	2636.5	Body	2.26	52.51	2.21	52.46	2.17	0.01	±5	Feb. 06, 2018
41490	2680	Body	2.32	52.36	2.28	52.41	1.67	-0.09	±5	Feb. 06, 2018
512	1850.2	Body	1.47	51.47	1.52	53.30	-2.96	-3.43	±5	Feb. 07, 2018
661	1880	Body	1.51	51.38	1.52	53.30	-0.82	-3.59	±5	Feb. 07, 2018
810	1909.8	Body	1.54	51.26	1.52	53.30	1.40	-3.83	±5	Feb. 07, 2018

Table of Low/Middle/High Channel for Liquid Validation

10.3 System Performance Check Results

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

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2018/1/13	750	HSL	250	D750V3-1012	ES3DV3 - SN3169	DAE3 Sn495	2.09	8.22	8.36	1.70
2018/1/14	750	MSL	250	D750V3-1012	EX3DV4 - SN7306	DAE4 Sn778	2.14	8.71	8.56	-1.72
2018/1/12	835	HSL	250	D835V2-499	ES3DV3 - SN3169	DAE3 Sn495	2.51	9.45	10.04	6.24
2018/1/14	835	MSL	250	D835V2-499	EX3DV4 - SN7306	DAE4 Sn778	2.43	9.67	9.72	0.52
2018/2/5	835	MSL	250	D835V2-499	ES3DV3 - SN3169	DAE3 Sn495	2.41	9.67	9.64	-0.31
2018/1/10	1750	HSL	250	D1750V2-1068	EX3DV4 - SN7306	DAE4 Sn778	9.04	36.70	36.16	-1.47
2018/2/4	1750	MSL	250	D1750V2-1068	ES3DV3 - SN3169	DAE3 Sn495	9.38	37.20	37.52	0.86
2018/1/8	1900	HSL	250	D1900V2-5d041	EX3DV4 - SN3931	DAE4 Sn1399	10.00	40.50	40	-1.23
2018/1/9	1900	HSL	250	D1900V2-5d041	EX3DV4 - SN7306	DAE4 Sn778	10.10	40.50	40.4	-0.25
2018/2/3	1900	MSL	250	D1900V2-5d041	ES3DV3 - SN3169	DAE3 Sn495	9.92	40.70	39.68	-2.51
2018/2/7	1900	MSL	250	D1900V2-5d041	ES3DV3 - SN3169	DAE3 Sn495	9.78	40.70	39.12	-3.88
2018/1/7	2300	HSL	250	D2300V2-1023	EX3DV4 - SN3931	DAE4 Sn1399	12.00	49.00	48	-2.04
2018/2/6	2300	MSL	250	D2300V2-1023	EX3DV4 - SN3578	DAE3 Sn393	11.10	47.90	44.4	-7.31
2018/1/5	2450	HSL	250	D2450V2-736	EX3DV4 - SN7306	DAE4 Sn854	12.70	52.40	50.8	-3.05
2018/1/19	2450	HSL	250	D2450V2-736	ES3DV3 - SN3169	DAE3 Sn495	13.00	52.40	52	-0.76
2018/1/5	2450	MSL	250	D2450V2-736	EX3DV4 - SN7306	DAE4 Sn854	12.70	50.80	50.8	0.00
2018/1/20	2450	MSL	250	D2450V2-736	ES3DV3 - SN3169	DAE3 Sn495	12.40	50.80	49.6	-2.36
2018/1/7	2600	HSL	250	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1399	13.90	56.80	55.6	-2.11
2018/1/25	2600	MSL	250	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1399	14.20	55.00	56.8	3.27
2018/2/6	2600	MSL	250	D2600V2-1008	ES3DV3 - SN3169	DAE3 Sn495	14.00	55.00	56	1.82
2018/1/20	5250	HSL	100	D5GHzV2-1171	EX3DV4 - SN3925	DAE4 Sn853	8.09	81.20	80.9	-0.37
2018/1/21	5250	MSL	100	D5GHzV2-1171	EX3DV4 - SN3931	DAE4 Sn1399	7.21	78.10	72.1	-7.68
2018/1/21	5600	HSL	100	D5GHzV2-1171	EX3DV4 - SN3925	DAE4 Sn853	9.01	84.90	90.1	6.12
2018/1/21	5600	MSL	100	D5GHzV2-1171	EX3DV4 - SN3931	DAE4 Sn1399	8.12	81.00	81.2	0.25
2018/1/20	5750	HSL	100	D5GHzV2-1171	EX3DV4 - SN3925	DAE4 Sn853	8.00	82.20	80	-2.68
2018/1/21	5750	MSL	100	D5GHzV2-1171	EX3DV4 - SN3931	DAE4 Sn1399	7.33	78.70	73.3	-6.86

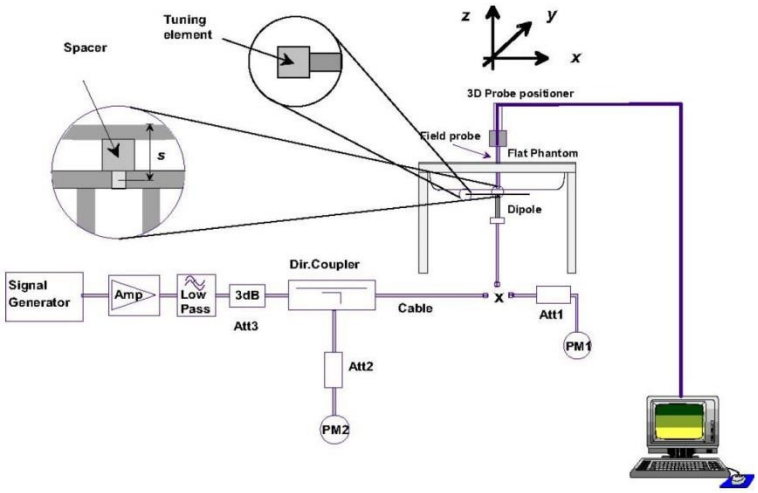


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

11. RF Exposure Positions

11.1 Ear and handset reference point

Figure 9.1.1 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 9.1.2 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 9.1.3). 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 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

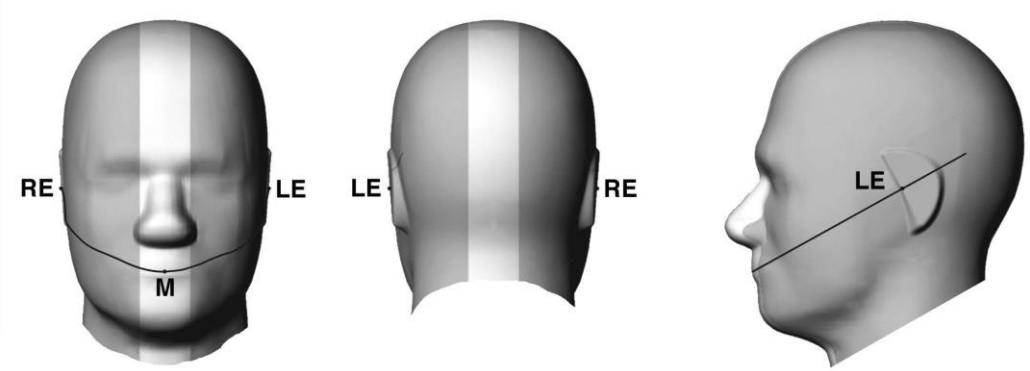


Fig 9.1.1 Front, back, and side views of SAM twin phantom

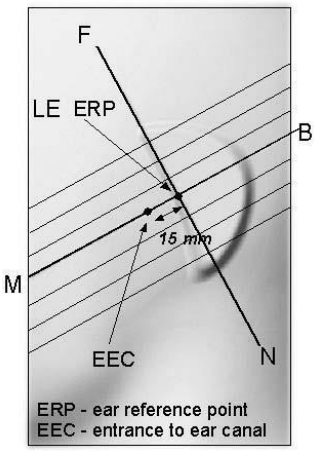


Fig 9.1.2 Close-up side view of phantom showing the ear region.

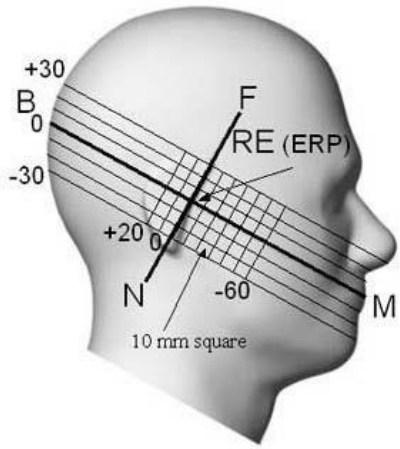


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

11.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width wt of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), 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 9.2.1). 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 9.2.2), 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 9.2.3), 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 9.2.3. The actual rotation angles should be documented in the test report.

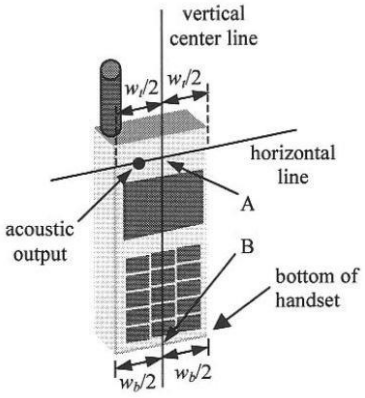


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case

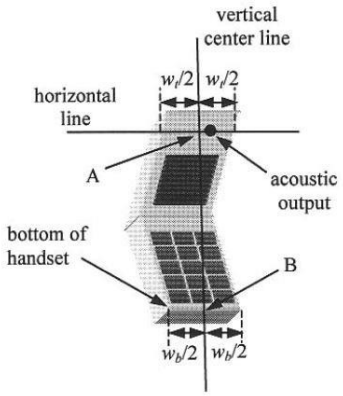


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

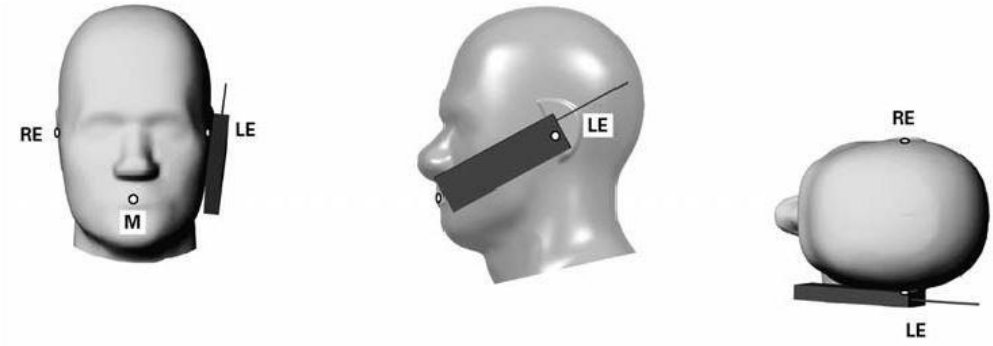


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

11.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. 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

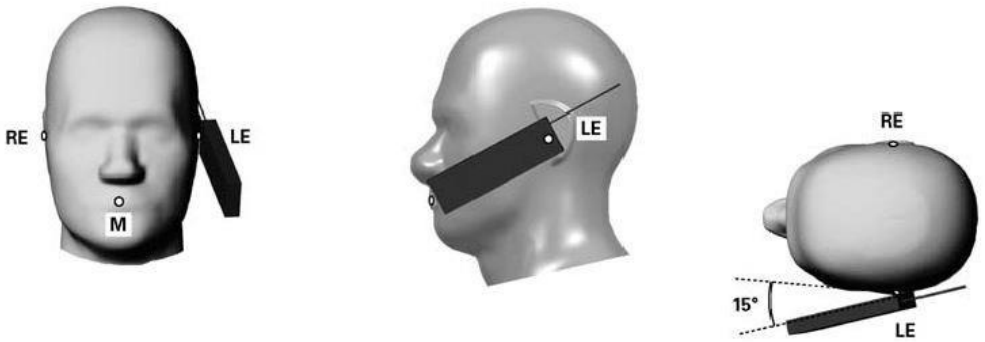


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

11.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). 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.

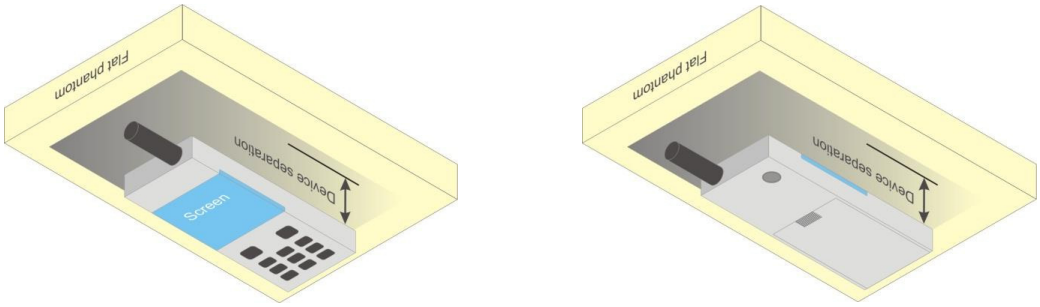


Fig 9.4 Body Worn Position

11.5 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.

12. 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 (4Tx slots) for GSM850/GSM1900 is 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 is implemented in GSM1900 band, for hotspot mode SAR testing EUT was set in reduced power mode and GPRS 4Tx slot due to its highest frame-average power.

<Default 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	33.48	33.42	33.38	33.50	24.48	24.42	24.38	24.50
GPRS 1 Tx slot	33.49	33.44	33.40	33.50	24.49	24.44	24.40	24.50
GPRS 2 Tx slots	30.23	30.28	30.14	30.50	24.23	24.28	24.14	24.50
GPRS 3 Tx slots	28.32	28.37	28.26	28.50	24.06	24.11	24.00	24.24
GPRS 4 Tx slots	27.00	26.99	26.78	27.50	24.00	23.99	23.78	24.50
EDGE 1 Tx slot	26.78	26.80	26.73	27.00	17.78	17.80	17.73	18.00
EDGE 2 Tx slots	26.67	26.70	26.66	27.00	20.67	20.70	20.66	21.00
EDGE 3 Tx slots	25.35	25.37	25.30	25.50	21.09	21.11	21.04	21.24
EDGE 4 Tx slots	23.99	24.00	23.98	24.00	20.99	21.00	20.98	21.00

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	29.64	29.65	29.50	30.00	20.64	20.65	20.50	21.00
GPRS 1 Tx slot	29.67	29.68	29.51	30.00	20.67	20.68	20.51	21.00
GPRS 2 Tx slots	27.09	27.26	26.97	28.00	21.09	21.26	20.97	22.00
GPRS 3 Tx slots	25.28	25.57	25.26	26.00	21.02	21.31	21.00	21.74
GPRS 4 Tx slots	23.69	24.06	23.81	25.00	20.69	21.06	20.81	22.00
EDGE 1 Tx slot	25.70	26.00	25.76	26.00	16.70	17.00	16.76	17.00
EDGE 2 Tx slots	25.59	25.95	25.60	26.00	19.59	19.95	19.60	20.00
EDGE 3 Tx slots	24.16	24.49	24.15	24.50	19.90	20.23	19.89	20.24
EDGE 4 Tx slots	22.77	23.00	22.72	23.00	19.77	20.00	19.72	20.00

<Hotspot Power Mode>

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	23.02	23.71	23.50	25.00	14.02	14.71	14.50	16.00
GPRS 1 Tx slot	23.05	23.75	23.60	25.00	14.05	14.75	14.60	16.00
GPRS 2 Tx slots	21.47	21.54	21.28	22.00	15.47	15.54	15.28	16.00
GPRS 3 Tx slots	18.61	18.51	18.29	20.00	14.35	14.25	14.03	15.74
GPRS 4 Tx slots	18.04	18.14	17.94	19.00	15.04	15.14	14.94	16.00
EDGE 1 Tx slot	18.28	18.57	18.35	20.00	9.28	9.57	9.35	11.00
EDGE 2 Tx slots	18.19	18.45	18.17	20.00	12.19	12.45	12.17	14.00
EDGE 3 Tx slots	16.92	17.29	17.01	18.50	12.66	13.03	12.75	14.24
EDGE 4 Tx slots	15.16	15.48	15.29	17.00	12.16	12.48	12.29	14.00

<Near to body Power Mode>

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	23.02	23.71	23.50	25.00	14.02	14.71	14.50	16.00
GPRS 1 Tx slot	23.05	23.75	23.60	25.00	14.05	14.75	14.60	16.00
GPRS 2 Tx slots	21.47	21.54	21.28	22.00	15.47	15.54	15.28	16.00
GPRS 3 Tx slots	18.61	18.51	18.29	20.00	14.35	14.25	14.03	15.74
GPRS 4 Tx slots	18.04	18.14	17.94	19.00	15.04	15.14	14.94	16.00
EDGE 1 Tx slot	18.28	18.57	18.35	20.00	9.28	9.57	9.35	11.00
EDGE 2 Tx slots	18.19	18.45	18.17	20.00	12.19	12.45	12.17	14.00
EDGE 3 Tx slots	16.92	17.29	17.01	18.50	12.66	13.03	12.75	14.24
EDGE 4 Tx slots	15.16	15.48	15.29	17.00	12.16	12.48	12.29	14.00

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	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	β_{ed}1: 47/15 β_{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 Agilent E5515C referred to the Setup Configuration below
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set RMC 12.2Kbps + HSDPA mode.
   ii. Set Cell Power = -25 dBm
   iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
   iv. Select HSDPA Uplink Parameters
   v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
      a). Subtest 1: 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.		

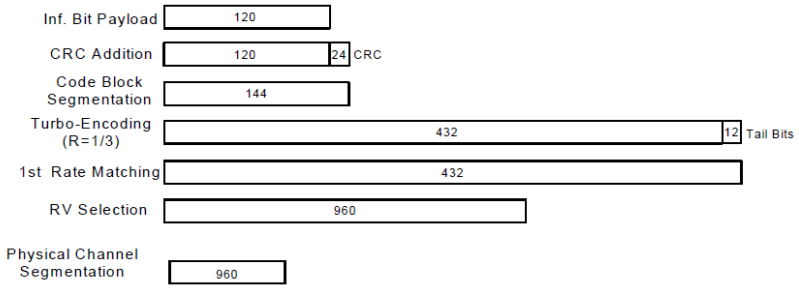


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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 (HSUPA, HSDPA, DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

<Default Power Mode >

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	22.72	22.81	22.85	24.00	22.68	22.99	23.15	24.00	22.84	22.81	22.73	24.00
3GPP Rel 99	RMC 12.2Kbps	22.74	22.83	22.87	24.00	22.71	23.03	23.17	24.00	22.87	22.83	22.76	24.00
3GPP Rel 6	HSDPA Subtest-1	21.78	21.81	21.92	23.00	21.77	22.09	22.20	23.00	21.95	21.88	21.92	23.00
3GPP Rel 6	HSDPA Subtest-2	21.90	21.88	22.00	23.00	21.86	22.13	22.30	23.00	21.99	22.03	21.91	23.00
3GPP Rel 6	HSDPA Subtest-3	21.42	21.40	21.41	22.50	21.37	21.73	21.82	22.50	21.53	21.45	21.45	22.50
3GPP Rel 6	HSDPA Subtest-4	21.42	21.41	21.42	22.50	21.38	21.73	21.82	22.50	21.54	21.46	21.44	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.75	21.78	21.89	23.00	21.77	22.09	22.20	23.00	21.93	21.85	21.89	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.85	21.84	21.92	23.00	21.86	22.13	22.30	23.00	21.95	21.98	21.87	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.39	21.38	21.38	22.50	21.37	21.73	21.82	22.50	21.50	21.44	21.42	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.41	21.37	21.38	22.50	21.38	21.73	21.82	22.50	21.51	21.44	21.41	22.50
3GPP Rel 6	HSUPA Subtest-1	21.44	21.56	21.91	23.00	21.24	21.55	21.62	23.00	21.90	21.58	21.74	23.00
3GPP Rel 6	HSUPA Subtest-2	20.50	20.92	20.75	21.00	20.81	20.89	20.99	21.00	20.66	21.00	20.50	21.00
3GPP Rel 6	HSUPA Subtest-3	20.64	20.43	20.75	22.00	20.98	21.21	21.31	22.00	20.79	21.02	20.62	22.00
3GPP Rel 6	HSUPA Subtest-4	20.87	20.98	20.99	21.00	20.77	20.88	20.97	21.00	20.91	20.81	20.59	21.00
3GPP Rel 6	HSUPA Subtest-5	22.00	21.90	21.90	23.00	21.90	22.10	21.80	23.00	22.00	21.90	21.90	23.00

<Hotspot Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	13.85	13.95	13.90	14.50	14.32	14.82	14.37	15.00	22.47	22.25	22.08	22.50
3GPP Rel 99	RMC 12.2Kbps	13.87	13.98	13.92	14.50	14.35	14.84	14.38	15.00	22.49	22.27	22.10	22.50
3GPP Rel 6	HSDPA Subtest-1	12.82	12.89	12.92	13.50	13.41	13.96	13.36	14.00	21.49	21.09	20.92	21.50
3GPP Rel 6	HSDPA Subtest-2	13.06	12.96	13.09	13.50	13.42	14.00	13.54	14.00	21.48	21.27	20.94	21.50
3GPP Rel 6	HSDPA Subtest-3	12.63	12.45	12.43	13.00	12.91	13.42	13.11	13.50	20.96	20.75	20.41	21.00
3GPP Rel 6	HSDPA Subtest-4	12.57	12.48	12.41	13.00	13.02	13.45	13.08	13.50	20.95	20.67	20.44	21.00
3GPP Rel 8	DC-HSDPA Subtest-1	12.85	12.90	13.04	13.50	13.40	13.81	13.48	14.00	21.48	21.08	20.72	21.50
3GPP Rel 8	DC-HSDPA Subtest-2	13.05	13.01	12.97	13.50	13.40	13.96	13.57	14.00	21.41	21.29	20.88	21.50
3GPP Rel 8	DC-HSDPA Subtest-3	12.55	12.44	12.41	13.00	12.94	13.45	13.10	13.50	20.83	20.58	20.25	21.00
3GPP Rel 8	DC-HSDPA Subtest-4	12.58	12.50	12.51	13.00	12.92	13.41	12.94	13.50	20.99	20.75	20.32	21.00
3GPP Rel 6	HSUPA Subtest-1	12.48	12.77	13.04	13.50	12.93	13.45	12.83	14.00	21.40	20.87	20.72	21.50
3GPP Rel 6	HSUPA Subtest-2	11.40	11.48	11.32	11.50	11.94	12.00	11.89	12.00	19.50	19.49	19.45	19.50
3GPP Rel 6	HSUPA Subtest-3	11.74	11.68	11.90	12.50	12.61	12.93	12.52	13.00	20.48	20.32	19.49	20.50
3GPP Rel 6	HSUPA Subtest-4	11.48	11.13	11.27	11.50	11.72	11.99	11.87	12.00	19.50	19.48	19.48	19.50
3GPP Rel 6	HSUPA Subtest-5	13.17	13.13	12.89	13.50	13.46	13.87	13.00	14.00	21.50	21.16	20.90	21.50

<Near to body Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	13.85	13.95	13.90	14.50	14.32	14.82	14.37	15.00
3GPP Rel 99	RMC 12.2Kbps	13.87	13.98	13.92	14.50	14.35	14.84	14.38	15.00
3GPP Rel 6	HSDPA Subtest-1	12.82	12.89	12.92	13.50	13.41	13.96	13.36	14.00
3GPP Rel 6	HSDPA Subtest-2	13.06	12.96	13.09	13.50	13.42	14.00	13.54	14.00
3GPP Rel 6	HSDPA Subtest-3	12.63	12.45	12.43	13.00	12.91	13.42	13.11	13.50
3GPP Rel 6	HSDPA Subtest-4	12.57	12.48	12.41	13.00	13.02	13.45	13.08	13.50
3GPP Rel 8	DC-HSDPA Subtest-1	12.85	12.90	13.04	13.50	13.40	13.81	13.48	14.00
3GPP Rel 8	DC-HSDPA Subtest-2	13.05	13.01	12.97	13.50	13.40	13.96	13.57	14.00
3GPP Rel 8	DC-HSDPA Subtest-3	12.55	12.44	12.41	13.00	12.94	13.45	13.10	13.50
3GPP Rel 8	DC-HSDPA Subtest-4	12.58	12.50	12.51	13.00	12.92	13.41	12.94	13.50
3GPP Rel 6	HSUPA Subtest-1	12.48	12.77	13.04	13.50	12.93	13.45	12.83	14.00
3GPP Rel 6	HSUPA Subtest-2	11.40	11.48	11.32	11.50	11.94	12.00	11.89	12.00
3GPP Rel 6	HSUPA Subtest-3	11.74	11.68	11.90	12.50	12.61	12.93	12.52	13.00
3GPP Rel 6	HSUPA Subtest-4	11.48	11.13	11.27	11.50	11.72	11.99	11.87	12.00
3GPP Rel 6	HSUPA Subtest-5	13.17	13.13	12.89	13.50	13.46	13.87	13.00	14.00

<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.

<Default Power Mode >

Band	CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)	CDMA BC10			Tune-up Limit (dBm)
TX Channel	1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55	24.28	24.25	24.33	24.50	24.23	24.05	24.03	24.50	24.34	24.36	24.33	24.50
RC3 SO55	24.31	24.29	24.38	24.50	24.27	24.07	24.04	24.50	24.39	24.47	24.36	24.50
RC3 SO32 (F+SCH)	24.27	24.22	24.31	24.50	24.24	24.03	24.02	24.50	24.32	24.41	24.28	24.50
RC3 SO32 (+SCH)	24.26	24.23	24.29	24.50	24.21	24.01	23.97	24.50	24.36	24.45	24.34	24.50
RTAP 153.6Kbps	24.25	24.20	24.37	24.50	24.26	23.95	23.82	24.50	24.38	24.46	24.35	24.50
RETAP 4096Bits	24.26	24.21	24.32	24.50	24.20	23.99	23.83	24.50	24.34	24.40	24.29	24.50

<Hotspot Power Mode>

Band	CDMA BC1			Tune-up Limit (dBm)
TX Channel	25	600	1175	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	16.61	16.56	16.57	17.00
RC3 SO55	16.61	16.56	16.59	17.00
RC3 SO32 (F+SCH)	16.54	16.50	16.53	17.00
RC3 SO32 (+SCH)	16.59	16.56	16.53	17.00
RTAP 153.6Kbps	16.69	16.69	16.72	17.00
RETAP 4096Bits	16.68	16.66	16.70	17.00

<Near to body Power Mode>

Band	CDMA BC1			Tune-up Limit (dBm)
TX Channel	25	600	1175	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	16.61	16.56	16.57	17.00
RC3 SO55	16.61	16.56	16.59	17.00
RC3 SO32 (F+SCH)	16.54	16.50	16.53	17.00
RC3 SO32 (+SCH)	16.59	16.56	16.53	17.00
RTAP 153.6Kbps	16.69	16.69	16.72	17.00
RETAP 4096Bits	16.68	16.66	16.70	17.00

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not 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 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 / B17 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 17 / 38 SAR test was covered by Band 12 / 41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
    a. the maximum output power, including tolerance, for the smaller band is ≤ 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

<Default Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	23.15	23.08	22.88	24	0
20	QPSK	1	49	23.36	23.29	23.22		
20	QPSK	1	99	22.98	22.94	22.93		
20	QPSK	50	0	22.38	22.24	22.13	23	1
20	QPSK	50	24	22.25	22.20	22.06		
20	QPSK	50	50	22.26	21.92	22.01		
20	QPSK	100	0	22.36	22.20	22.02		
20	16QAM	1	0	21.75	21.62	21.78	23	1
20	16QAM	1	49	21.88	21.65	21.52		
20	16QAM	1	99	21.45	21.55	21.38		
20	16QAM	50	0	21.32	21.21	21.03	22	2
20	16QAM	50	24	21.16	21.05	21.14		
20	16QAM	50	50	21.13	20.94	21.10		
20	16QAM	100	0	21.31	21.07	20.99		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.32	23.01	22.84	24	0
15	QPSK	1	37	23.31	23.30	23.17		
15	QPSK	1	74	23.15	23.03	22.95		
15	QPSK	36	0	22.36	22.24	22.05	23	1
15	QPSK	36	20	22.28	22.25	21.98		
15	QPSK	36	39	22.28	21.99	21.99		
15	QPSK	75	0	22.39	22.25	22.04		
15	16QAM	1	0	22.07	21.87	21.86	23	1
15	16QAM	1	37	22.35	21.85	22.29		
15	16QAM	1	74	22.33	22.04	22.09		
15	16QAM	36	0	21.26	21.15	20.98	22	2
15	16QAM	36	20	21.17	21.08	20.93		
15	16QAM	36	39	21.28	21.00	21.05		
15	16QAM	75	0	21.38	21.17	21.11		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.18	22.91	22.77	24	0
10	QPSK	1	25	23.34	23.30	23.17		
10	QPSK	1	49	22.92	22.78	22.78		
10	QPSK	25	0	22.40	22.26	22.06	23	1
10	QPSK	25	12	22.42	22.29	22.09		
10	QPSK	25	25	22.29	22.06	22.04		
10	QPSK	50	0	22.28	22.22	22.05		
10	16QAM	1	0	21.82	21.97	21.48	23	1
10	16QAM	1	25	22.18	22.16	22.19		
10	16QAM	1	49	21.67	21.16	21.49		
10	16QAM	25	0	21.39	21.32	21.03	22	2
10	16QAM	25	12	21.37	21.29	21.11		
10	16QAM	25	25	21.40	21.07	21.27		
10	16QAM	50	0	21.30	21.24	20.99		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.03	22.88	22.83	24	0
5	QPSK	1	12	23.29	23.16	23.01		
5	QPSK	1	24	23.17	22.74	22.69		
5	QPSK	12	0	22.34	22.20	22.03	23	1
5	QPSK	12	7	22.30	22.20	22.03		
5	QPSK	12	13	22.31	22.13	21.92		
5	QPSK	25	0	22.25	22.24	22.04		
5	16QAM	1	0	21.63	21.66	21.32	23	1
5	16QAM	1	12	21.82	21.80	21.63		
5	16QAM	1	24	21.57	21.59	21.34		
5	16QAM	12	0	21.31	20.98	20.97	22	2
5	16QAM	12	7	21.26	20.96	21.14		
5	16QAM	12	13	21.29	20.97	20.87		
5	16QAM	25	0	21.40	21.21	21.23		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	23.13	22.93	22.91	24	0
3	QPSK	1	8	23.07	22.97	22.85		
3	QPSK	1	14	22.95	22.78	22.63		
3	QPSK	8	0	22.35	22.24	22.16	23	1
3	QPSK	8	4	22.36	22.20	22.06		
3	QPSK	8	7	22.35	22.11	22.01		
3	QPSK	15	0	22.31	22.27	22.04		
3	16QAM	1	0	22.36	22.19	22.10	23	1
3	16QAM	1	8	22.37	21.78	21.75		
3	16QAM	1	14	22.34	21.42	21.42		
3	16QAM	8	0	21.31	21.12	21.11	22	2
3	16QAM	8	4	21.36	21.17	21.04		
3	16QAM	8	7	21.39	20.99	21.07		
3	16QAM	15	0	21.41	21.12	21.17		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	23.16	23.15	22.78	24	0
1.4	QPSK	1	3	23.33	23.14	22.73		
1.4	QPSK	1	5	23.28	22.99	22.90		
1.4	QPSK	3	0	23.28	23.25	23.06		
1.4	QPSK	3	1	23.24	23.26	22.99		
1.4	QPSK	3	3	23.23	23.27	23.02		
1.4	QPSK	6	0	22.30	22.22	21.98	23	1
1.4	16QAM	1	0	21.75	21.69	21.56	23	1
1.4	16QAM	1	3	21.87	22.07	21.82		
1.4	16QAM	1	5	21.73	21.65	21.56		
1.4	16QAM	3	0	22.12	22.06	21.91		
1.4	16QAM	3	1	22.24	22.10	22.00		
1.4	16QAM	3	3	22.19	21.96	21.87		
1.4	16QAM	6	0	21.16	21.08	20.96	22	2

<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	22.82	23.02	23.38	24	0
20	QPSK	1	49	23.31	23.43	23.38		
20	QPSK	1	99	22.94	22.99	23.11		
20	QPSK	50	0	22.17	22.58	22.40	23	1
20	QPSK	50	24	22.26	22.19	22.40		
20	QPSK	50	50	22.26	22.21	22.29		
20	QPSK	100	0	22.26	22.40	22.30		
20	16QAM	1	0	21.57	21.91	22.17	23	1
20	16QAM	1	49	21.79	22.13	22.01		
20	16QAM	1	99	22.03	21.47	21.72		
20	16QAM	50	0	21.16	21.25	21.48	22	2
20	16QAM	50	24	21.24	21.13	21.37		
20	16QAM	50	50	21.14	21.21	21.28		
20	16QAM	100	0	21.22	21.30	21.39		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.16	23.23	23.22	24	0
15	QPSK	1	37	23.20	23.22	23.21		
15	QPSK	1	74	23.20	23.28	23.21		
15	QPSK	36	0	22.23	22.27	22.48	23	1
15	QPSK	36	20	22.21	22.26	22.38		
15	QPSK	36	39	22.27	22.27	22.36		
15	QPSK	75	0	22.14	22.16	22.33		
15	16QAM	1	0	21.35	21.75	22.10	23	1
15	16QAM	1	37	21.83	21.96	22.09		
15	16QAM	1	74	21.72	21.37	21.72		
15	16QAM	36	0	21.05	21.21	21.44	22	2
15	16QAM	36	20	21.14	21.20	21.45		
15	16QAM	36	39	21.36	21.30	21.36		
15	16QAM	75	0	21.22	21.26	21.42		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.07	23.03	23.23	24	0
10	QPSK	1	25	23.28	23.41	23.31		
10	QPSK	1	49	22.99	23.05	23.26		
10	QPSK	25	0	22.19	22.29	22.42	23	1
10	QPSK	25	12	22.14	22.23	22.34		
10	QPSK	25	25	22.10	22.19	22.36		
10	QPSK	50	0	22.05	22.13	22.34		
10	16QAM	1	0	21.68	22.00	21.98	23	1
10	16QAM	1	25	22.40	22.11	22.13		
10	16QAM	1	49	22.24	21.79	22.06		
10	16QAM	25	0	21.22	21.18	21.60	22	2
10	16QAM	25	12	21.23	21.28	21.37		
10	16QAM	25	25	21.31	21.29	21.24		
10	16QAM	50	0	21.13	21.23	21.34		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.83	23.06	23.06	24	0
5	QPSK	1	12	23.21	23.41	23.17		
5	QPSK	1	24	23.09	23.00	23.06		
5	QPSK	12	0	22.05	22.27	22.24	23	1
5	QPSK	12	7	22.11	22.21	22.35		
5	QPSK	12	13	22.06	22.16	22.28		
5	QPSK	25	0	22.05	22.26	22.30		
5	16QAM	1	0	21.43	21.75	22.26	23	1
5	16QAM	1	12	21.69	21.89	22.01		
5	16QAM	1	24	22.11	21.84	21.55		
5	16QAM	12	0	20.87	21.12	21.05	22	2
5	16QAM	12	7	21.20	21.06	21.36		
5	16QAM	12	13	21.07	21.02	21.45		
5	16QAM	25	0	21.27	21.21	21.31		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.80	23.11	23.09	24	0
3	QPSK	1	8	22.96	23.06	22.96		
3	QPSK	1	14	22.98	23.15	23.15		
3	QPSK	8	0	22.12	22.30	22.09	23	1
3	QPSK	8	4	22.24	22.27	22.22		
3	QPSK	8	7	22.01	22.31	22.20		
3	QPSK	15	0	22.09	22.25	22.19		
3	16QAM	1	0	21.38	22.43	21.66	23	1
3	16QAM	1	8	21.49	22.22	21.52		
3	16QAM	1	14	21.41	21.72	21.64		
3	16QAM	8	0	21.06	21.20	20.91	22	2
3	16QAM	8	4	21.10	21.27	21.17		
3	16QAM	8	7	21.13	21.28	21.17		
3	16QAM	15	0	21.02	21.32	21.29		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.90	23.13	23.05	24	0
1.4	QPSK	1	3	23.03	23.07	23.08		
1.4	QPSK	1	5	22.93	23.06	23.05		
1.4	QPSK	3	0	23.10	23.18	23.16		
1.4	QPSK	3	1	23.09	23.35	23.18		
1.4	QPSK	3	3	23.09	23.28	23.12		
1.4	QPSK	6	0	22.03	22.19	22.06	23	1
1.4	16QAM	1	0	22.10	21.78	21.62	23	1
1.4	16QAM	1	3	21.76	21.89	21.81		
1.4	16QAM	1	5	21.60	22.07	21.71		
1.4	16QAM	3	0	21.91	22.03	21.98		
1.4	16QAM	3	1	21.99	22.11	21.99		
1.4	16QAM	3	3	21.98	22.05	21.99		
1.4	16QAM	6	0	21.03	21.02	20.95	22	2

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	22.99	23.14	22.71	24	0
10	QPSK	1	25	23.19	23.21	22.85		
10	QPSK	1	49	22.87	22.99	22.68		
10	QPSK	25	0	22.24	22.29	22.10	23	1
10	QPSK	25	12	22.24	22.22	22.03		
10	QPSK	25	25	22.21	22.10	21.88		
10	QPSK	50	0	22.20	22.21	21.96		
10	16QAM	1	0	21.88	21.65	21.49	23	1
10	16QAM	1	25	21.80	21.75	21.62		
10	16QAM	1	49	21.75	21.46	21.39		
10	16QAM	25	0	21.09	21.20	21.06	22	2
10	16QAM	25	12	21.19	21.29	21.11		
10	16QAM	25	25	21.21	21.29	21.01		
10	16QAM	50	0	21.21	21.31	21.06		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	23.02	22.91	22.77	24	0
5	QPSK	1	12	23.06	23.12	22.83		
5	QPSK	1	24	22.83	22.94	22.57		
5	QPSK	12	0	22.24	22.13	21.97	23	1
5	QPSK	12	7	22.19	22.15	22.00		
5	QPSK	12	13	22.08	22.23	21.80		
5	QPSK	25	0	22.11	22.19	21.87		
5	16QAM	1	0	21.55	21.53	21.53	23	1
5	16QAM	1	12	21.88	22.39	21.98		
5	16QAM	1	24	21.52	21.65	21.29		
5	16QAM	12	0	21.03	20.93	20.95	22	2
5	16QAM	12	7	20.96	20.97	20.94		
5	16QAM	12	13	20.97	20.96	20.67		
5	16QAM	25	0	21.12	21.09	20.90		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	23.18	22.81	22.74	24	0
3	QPSK	1	8	23.04	22.92	22.70		
3	QPSK	1	14	22.79	22.97	22.73		
3	QPSK	8	0	22.21	22.07	22.07	23	1
3	QPSK	8	4	22.21	22.15	21.84		
3	QPSK	8	7	22.16	22.14	21.77		
3	QPSK	15	0	22.25	22.11	21.89		
3	16QAM	1	0	21.53	21.54	21.16	23	1
3	16QAM	1	8	21.62	21.57	21.36		
3	16QAM	1	14	21.77	21.53	21.38		
3	16QAM	8	0	21.21	21.22	20.91	22	2
3	16QAM	8	4	21.26	21.22	20.91		
3	16QAM	8	7	21.16	21.20	20.77		
3	16QAM	15	0	21.19	21.08	20.85		

Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	23.16	23.09	22.93	24	0
1.4	QPSK	1	3	23.05	23.00	22.72		
1.4	QPSK	1	5	23.10	23.14	22.75		
1.4	QPSK	3	0	23.13	23.11	23.01		
1.4	QPSK	3	1	23.02	23.17	23.04		
1.4	QPSK	3	3	23.18	23.14	22.84		
1.4	QPSK	6	0	22.21	22.21	21.95	23	1
1.4	16QAM	1	0	21.84	21.69	21.68	23	1
1.4	16QAM	1	3	22.00	22.07	21.70		
1.4	16QAM	1	5	21.76	21.68	21.52		
1.4	16QAM	3	0	22.12	22.12	21.84		
1.4	16QAM	3	1	22.29	22.48	21.83		
1.4	16QAM	3	3	22.11	22.28	21.70		
1.4	16QAM	6	0	21.16	21.04	20.81	22	2

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	22.63	22.61	22.53	24	0
20	QPSK	1	49	23.10	22.93	22.97		
20	QPSK	1	99	22.51	22.38	22.45		
20	QPSK	50	0	22.02	21.85	21.77	23	1
20	QPSK	50	24	21.90	21.71	21.68		
20	QPSK	50	50	21.88	21.67	21.58		
20	QPSK	100	0	21.92	21.73	21.63		
20	16QAM	1	0	21.56	21.27	21.48	23	1
20	16QAM	1	49	21.65	21.30	21.20		
20	16QAM	1	99	21.48	21.11	21.14		
20	16QAM	50	0	20.99	20.70	20.78	22	2
20	16QAM	50	24	20.88	20.77	20.70		
20	16QAM	50	50	20.99	20.69	20.81		
20	16QAM	100	0	20.90	20.75	20.75		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	22.86	22.57	22.52	24	0
15	QPSK	1	37	23.03	22.82	23.07		
15	QPSK	1	74	22.80	22.74	22.54		
15	QPSK	36	0	22.09	21.85	21.72	23	1
15	QPSK	36	20	22.01	21.75	21.73		
15	QPSK	36	39	22.01	21.68	21.72		
15	QPSK	75	0	22.08	21.75	21.73		
15	16QAM	1	0	21.78	21.47	21.59	23	1
15	16QAM	1	37	22.46	22.11	22.04		
15	16QAM	1	74	21.79	21.47	21.38		
15	16QAM	36	0	21.00	20.89	20.72	22	2
15	16QAM	36	20	21.12	20.88	20.84		
15	16QAM	36	39	20.96	20.81	20.82		
15	16QAM	75	0	21.10	20.88	20.85		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	22.71	22.50	22.42	24	0
10	QPSK	1	25	23.02	22.71	22.64		
10	QPSK	1	49	23.00	22.42	22.45		
10	QPSK	25	0	22.11	21.76	21.77	23	1
10	QPSK	25	12	22.01	21.75	21.69		
10	QPSK	25	25	22.01	21.69	21.66		
10	QPSK	50	0	21.97	21.73	21.67		
10	16QAM	1	0	21.52	21.29	21.38	23	1
10	16QAM	1	25	21.53	21.91	22.00		
10	16QAM	1	49	21.17	21.22	21.37		
10	16QAM	25	0	21.03	20.80	20.79	22	2
10	16QAM	25	12	21.12	20.80	20.81		
10	16QAM	25	25	21.20	20.62	20.77		
10	16QAM	50	0	21.08	20.68	20.79		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.66	22.45	22.42	24	0
5	QPSK	1	12	22.94	22.42	22.61		
5	QPSK	1	24	22.89	22.53	22.37		
5	QPSK	12	0	22.04	21.70	21.68	23	1
5	QPSK	12	7	22.04	21.72	21.66		
5	QPSK	12	13	21.90	21.63	21.64		
5	QPSK	25	0	21.96	21.67	21.66		
5	16QAM	1	0	21.32	21.06	21.66	23	1
5	16QAM	1	12	21.66	21.33	21.41		
5	16QAM	1	24	21.12	21.06	21.37		
5	16QAM	12	0	20.87	20.55	20.43	22	2
5	16QAM	12	7	21.06	20.71	20.78		
5	16QAM	12	13	21.01	20.74	20.68		
5	16QAM	25	0	20.98	20.72	20.70		

<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	22.53	22.63	22.51	24	0
10	QPSK	1	25	22.87	22.97	22.88		
10	QPSK	1	49	22.55	22.66	22.53		
10	QPSK	25	0	21.91	21.97	21.85	23	1
10	QPSK	25	12	21.85	21.81	21.83		
10	QPSK	25	25	21.75	21.85	21.75		
10	QPSK	50	0	21.82	21.88	21.86		
10	16QAM	1	0	21.35	21.46	21.44	23	1
10	16QAM	1	25	21.48	22.03	21.88		
10	16QAM	1	49	21.33	21.91	21.22		
10	16QAM	25	0	20.85	20.94	20.91	22	2
10	16QAM	25	12	20.81	20.90	20.87		
10	16QAM	25	25	20.83	20.96	20.98		
10	16QAM	50	0	20.87	20.82	20.80		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	22.63	22.46	22.64	24	0
5	QPSK	1	12	22.82	22.85	22.83		
5	QPSK	1	24	22.63	22.78	22.47		
5	QPSK	12	0	21.71	21.84	21.84	23	1
5	QPSK	12	7	21.83	21.89	21.69		
5	QPSK	12	13	21.76	21.80	21.68		
5	QPSK	25	0	21.75	21.79	21.76		
5	16QAM	1	0	21.26	21.24	21.82	23	1
5	16QAM	1	12	21.47	21.65	21.97		
5	16QAM	1	24	21.35	21.41	21.70		
5	16QAM	12	0	20.54	20.57	20.84	22	2
5	16QAM	12	7	20.65	20.82	20.92		
5	16QAM	12	13	20.81	20.90	20.82		
5	16QAM	25	0	20.90	20.90	20.82		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	22.76	22.70	22.76	24	0
3	QPSK	1	8	22.66	22.60	22.77		
3	QPSK	1	14	22.66	22.66	22.50		
3	QPSK	8	0	21.80	21.81	21.82	23	1
3	QPSK	8	4	21.81	21.81	21.82		
3	QPSK	8	7	21.77	21.78	21.83		
3	QPSK	15	0	21.84	21.78	21.77		
3	16QAM	1	0	21.25	21.50	21.09	23	1
3	16QAM	1	8	21.23	21.70	21.57		
3	16QAM	1	14	21.57	21.29	21.25		
3	16QAM	8	0	20.83	20.83	20.87	22	2
3	16QAM	8	4	20.75	20.94	20.87		
3	16QAM	8	7	20.82	21.01	20.85		
3	16QAM	15	0	20.85	20.98	20.88		

Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	22.78	22.74	22.75	24	0
1.4	QPSK	1	3	22.87	22.78	22.79		
1.4	QPSK	1	5	22.81	22.73	22.58		
1.4	QPSK	3	0	22.82	22.74	22.73		
1.4	QPSK	3	1	22.87	22.78	22.86		
1.4	QPSK	3	3	22.79	22.82	22.77		
1.4	QPSK	6	0	21.83	21.74	21.65	23	1
1.4	16QAM	1	0	22.03	21.21	21.20	23	1
1.4	16QAM	1	3	21.57	21.51	21.34		
1.4	16QAM	1	5	21.22	21.37	21.20		
1.4	16QAM	3	0	21.54	21.62	21.43		
1.4	16QAM	3	1	21.70	21.68	21.60		
1.4	16QAM	3	3	21.62	21.66	21.43		
1.4	16QAM	6	0	20.74	20.79	20.58	22	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		23.16		24	0
10	QPSK	1	25		23.62			
10	QPSK	1	49		23.14			
10	QPSK	25	0		22.46		23	1
10	QPSK	25	12		22.34			
10	QPSK	25	25		22.36			
10	QPSK	50	0		22.32			
10	16QAM	1	0		21.70		23	1
10	16QAM	1	25		21.82			
10	16QAM	1	49		21.81			
10	16QAM	25	0		21.34		22	2
10	16QAM	25	12		21.32			
10	16QAM	25	25		21.37			
10	16QAM	50	0		21.31			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.98	22.95	23.12	24	0
5	QPSK	1	12	22.99	23.30	23.12		
5	QPSK	1	24	23.21	23.02	23.24		
5	QPSK	12	0	22.27	22.33	22.22	23	1
5	QPSK	12	7	22.24	22.36	22.38		
5	QPSK	12	13	22.40	22.25	22.40		
5	QPSK	25	0	22.25	22.30	22.36		
5	16QAM	1	0	22.35	21.92	21.72	23	1
5	16QAM	1	12	21.84	21.93	21.96		
5	16QAM	1	24	21.75	21.92	21.74		
5	16QAM	12	0	20.96	21.03	21.11	22	2
5	16QAM	12	7	21.20	21.36	21.39		
5	16QAM	12	13	21.29	21.34	21.41		
5	16QAM	25	0	21.23	21.30	21.31		

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	22.80	22.83	22.93	24	0
10	QPSK	1	25	23.20	23.35	23.34		
10	QPSK	1	49	23.33	23.26	23.18		
10	QPSK	25	0	22.25	22.32	22.28	23	1
10	QPSK	25	12	22.18	22.28	22.24		
10	QPSK	25	25	22.23	22.31	22.25		
10	QPSK	50	0	22.23	22.31	22.28		
10	16QAM	1	0	21.96	21.59	21.58	23	1
10	16QAM	1	25	21.76	21.73	22.49		
10	16QAM	1	49	21.77	22.38	21.67		
10	16QAM	25	0	21.29	21.26	21.32	22	2
10	16QAM	25	12	21.40	21.33	21.34		
10	16QAM	25	25	21.50	21.40	21.45		
10	16QAM	50	0	21.21	21.34	21.31		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	22.98	22.88	22.87	24	0
5	QPSK	1	12	23.11	23.33	23.13		
5	QPSK	1	24	23.06	22.95	22.85		
5	QPSK	12	0	22.21	22.04	22.21	23	1
5	QPSK	12	7	22.24	22.32	22.23		
5	QPSK	12	13	22.26	22.16	22.08		
5	QPSK	25	0	22.25	22.15	22.11		
5	16QAM	1	0	21.56	21.53	21.52	23	1
5	16QAM	1	12	21.81	22.47	21.83		
5	16QAM	1	24	22.13	21.74	21.74		
5	16QAM	12	0	21.12	21.03	21.09	22	2
5	16QAM	12	7	21.44	21.40	21.31		
5	16QAM	12	13	21.26	21.24	21.07		
5	16QAM	25	0	21.27	21.25	21.19		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	22.97	22.88	22.79	24	0
20	QPSK	1	49	23.42	23.26	22.88		
20	QPSK	1	99	22.95	22.63	22.55		
20	QPSK	50	0	22.31	22.23	22.13	23	1
20	QPSK	50	24	22.21	22.15	21.97		
20	QPSK	50	50	22.15	22.01	21.88		
20	QPSK	100	0	22.26	22.19	21.97		
20	16QAM	1	0	21.64	21.59	21.72	23	1
20	16QAM	1	49	21.69	21.60	22.10		
20	16QAM	1	99	21.41	21.12	21.42		
20	16QAM	50	0	21.34	21.23	21.09	22	2
20	16QAM	50	24	21.32	21.26	21.01		
20	16QAM	50	50	21.26	21.12	20.98		
20	16QAM	100	0	21.26	21.10	21.05		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.09	23.13	22.73	24	0
15	QPSK	1	37	23.24	23.32	23.26		
15	QPSK	1	74	23.19	23.08	22.77		
15	QPSK	36	0	22.18	22.26	22.06	23	1
15	QPSK	36	20	22.29	22.18	22.07		
15	QPSK	36	39	22.31	22.12	21.90		
15	QPSK	75	0	22.22	22.18	22.01		
15	16QAM	1	0	21.71	21.66	21.74	23	1
15	16QAM	1	37	21.84	21.68	22.24		
15	16QAM	1	74	21.71	21.53	21.52		
15	16QAM	36	0	21.37	21.28	21.00	22	2
15	16QAM	36	20	21.21	21.14	21.07		
15	16QAM	36	39	21.32	21.04	20.93		
15	16QAM	75	0	21.22	21.11	21.10		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	22.89	22.81	22.71	24	0
10	QPSK	1	25	23.31	23.26	22.89		
10	QPSK	1	49	23.25	22.81	22.74		
10	QPSK	25	0	22.22	22.17	22.00	23	1
10	QPSK	25	12	22.28	22.20	21.88		
10	QPSK	25	25	22.21	22.07	21.88		
10	QPSK	50	0	22.24	22.13	21.96		
10	16QAM	1	0	21.60	21.62	21.63	23	1
10	16QAM	1	25	21.72	22.14	21.88		
10	16QAM	1	49	21.58	21.52	21.43		
10	16QAM	25	0	21.30	21.37	20.94	22	2
10	16QAM	25	12	21.16	21.36	20.90		
10	16QAM	25	25	21.10	20.99	20.88		
10	16QAM	50	0	21.05	21.05	20.88		

Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	22.80	22.88	22.90	24	0
5	QPSK	1	12	23.15	23.00	23.08		
5	QPSK	1	24	23.01	22.85	22.53		
5	QPSK	12	0	22.15	22.06	21.95	23	1
5	QPSK	12	7	22.17	22.02	21.91		
5	QPSK	12	13	22.14	21.99	21.85		
5	QPSK	25	0	22.12	22.10	22.00		
5	16QAM	1	0	21.48	22.08	22.02	23	1
5	16QAM	1	12	21.79	21.81	21.57		
5	16QAM	1	24	22.05	21.68	21.34		
5	16QAM	12	0	21.13	20.89	21.07	22	2
5	16QAM	12	7	21.27	20.91	20.70		
5	16QAM	12	13	21.09	20.95	20.70		
5	16QAM	25	0	21.28	21.01	20.94		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.95	22.92	22.90	24	0
3	QPSK	1	8	23.17	22.88	22.71		
3	QPSK	1	14	23.22	22.88	22.78		
3	QPSK	8	0	22.33	22.17	22.17	23	1
3	QPSK	8	4	22.19	22.14	21.95		
3	QPSK	8	7	22.27	22.05	21.98		
3	QPSK	15	0	22.20	22.12	21.97		
3	16QAM	1	0	21.51	22.13	22.04	23	1
3	16QAM	1	8	21.99	21.73	21.65		
3	16QAM	1	14	22.19	21.46	21.31		
3	16QAM	8	0	21.26	20.82	20.69	22	2
3	16QAM	8	4	21.22	21.10	20.68		
3	16QAM	8	7	21.22	21.21	20.85		
3	16QAM	15	0	21.19	21.13	20.94		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	23.04	22.96	22.73	24	0
1.4	QPSK	1	3	23.08	23.09	22.62		
1.4	QPSK	1	5	22.93	22.96	22.64		
1.4	QPSK	3	0	23.09	23.18	22.77		
1.4	QPSK	3	1	23.13	23.21	22.76		
1.4	QPSK	3	3	23.19	23.11	22.82		
1.4	QPSK	6	0	22.20	22.07	21.87	23	1
1.4	16QAM	1	0	22.08	21.59	21.25	23	1
1.4	16QAM	1	3	21.75	21.96	21.50		
1.4	16QAM	1	5	21.56	21.61	21.22		
1.4	16QAM	3	0	21.99	22.00	21.74		
1.4	16QAM	3	1	22.13	22.02	21.74		
1.4	16QAM	3	3	22.09	21.97	21.77		
1.4	16QAM	6	0	21.11	21.03	20.77	22	2

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	22.96	23.16	22.98	24	0
15	QPSK	1	37	23.20	23.38	22.95		
15	QPSK	1	74	22.87	23.06	22.97		
15	QPSK	36	0	22.22	22.26	22.09	23	1
15	QPSK	36	20	22.23	22.15	22.00		
15	QPSK	36	39	22.17	22.13	21.93		
15	QPSK	75	0	22.32	22.19	21.96		
15	16QAM	1	0	22.05	21.94	21.59	23	1
15	16QAM	1	37	21.96	22.43	21.67		
15	16QAM	1	74	21.68	22.22	21.43		
15	16QAM	36	0	21.31	21.21	21.18	22	2
15	16QAM	36	20	21.34	21.07	21.09		
15	16QAM	36	39	21.19	21.08	21.02		
15	16QAM	75	0	21.26	21.24	20.95		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	22.93	23.00	22.74	24	0
10	QPSK	1	25	23.11	23.34	22.90		
10	QPSK	1	49	22.82	23.17	22.57		
10	QPSK	25	0	22.26	22.25	21.90	23	1
10	QPSK	25	12	22.30	22.23	21.96		
10	QPSK	25	25	22.22	22.04	21.88		
10	QPSK	50	0	22.26	22.22	21.97		
10	16QAM	1	0	21.87	21.71	21.70	23	1
10	16QAM	1	25	22.59	21.84	21.58		
10	16QAM	1	49	21.90	21.57	21.59		
10	16QAM	25	0	21.30	21.18	20.98	22	2
10	16QAM	25	12	21.23	21.24	20.94		
10	16QAM	25	25	21.32	21.13	20.97		
10	16QAM	50	0	21.22	21.22	21.06		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	22.92	22.94	22.61	24	0
5	QPSK	1	12	23.31	23.29	22.84		
5	QPSK	1	24	22.83	23.05	22.68		
5	QPSK	12	0	22.26	22.14	21.88	23	1
5	QPSK	12	7	22.20	22.15	21.90		
5	QPSK	12	13	22.17	22.16	21.76		
5	QPSK	25	0	22.19	22.19	21.84		
5	16QAM	1	0	21.65	22.04	21.58	23	1
5	16QAM	1	12	22.01	22.18	21.61		
5	16QAM	1	24	21.83	21.47	21.21		
5	16QAM	12	0	21.22	20.98	20.85	22	2
5	16QAM	12	7	21.09	21.21	20.91		
5	16QAM	12	13	21.00	21.20	20.78		
5	16QAM	25	0	21.24	21.17	20.80		

Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	22.97	22.82	22.89	24	0
3	QPSK	1	8	23.00	22.98	22.72		
3	QPSK	1	14	22.85	23.10	22.51		
3	QPSK	8	0	22.34	22.20	22.12	23	1
3	QPSK	8	4	22.28	22.16	21.87		
3	QPSK	8	7	22.31	22.17	21.90		
3	QPSK	15	0	22.27	22.10	22.03		
3	16QAM	1	0	21.71	21.86	21.32	23	1
3	16QAM	1	8	21.75	21.71	21.21		
3	16QAM	1	14	21.66	22.25	21.39		
3	16QAM	8	0	21.22	21.24	20.96	22	2
3	16QAM	8	4	21.27	21.23	20.74		
3	16QAM	8	7	21.31	21.38	20.82		
3	16QAM	15	0	21.29	21.21	20.83		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	23.16	23.05	22.79	24	0
1.4	QPSK	1	3	23.19	23.20	22.72		
1.4	QPSK	1	5	23.01	22.96	22.75		
1.4	QPSK	3	0	23.22	23.18	23.04		
1.4	QPSK	3	1	23.26	23.28	22.98		
1.4	QPSK	3	3	23.22	23.27	22.88		
1.4	QPSK	6	0	22.30	22.16	21.86	23	1
1.4	16QAM	1	0	21.75	21.61	21.49	23	1
1.4	16QAM	1	3	22.18	21.69	21.57		
1.4	16QAM	1	5	22.19	21.64	21.38		
1.4	16QAM	3	0	22.12	22.08	21.82		
1.4	16QAM	3	1	22.30	22.43	21.75		
1.4	16QAM	3	3	22.17	22.06	21.60		
1.4	16QAM	6	0	21.08	20.90	20.66	22	2

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0	23.13			24	0
10	QPSK	1	25	23.15				
10	QPSK	1	49	22.94				
10	QPSK	25	0	22.23			23	1
10	QPSK	25	12	22.03				
10	QPSK	25	25	22.04				
10	QPSK	50	0	22.14				
10	16QAM	1	0	21.91			23	1
10	16QAM	1	25	21.97				
10	16QAM	1	49	21.85				
10	16QAM	25	0	21.23			22	2
10	16QAM	25	12	20.97				
10	16QAM	25	25	21.08				
10	16QAM	50	0	21.09				
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	22.70	22.93	22.83	24	0
5	QPSK	1	12	23.06	23.05	23.08		
5	QPSK	1	24	22.73	22.89	23.12		
5	QPSK	12	0	22.12	22.19	22.26	23	1
5	QPSK	12	7	22.02	22.12	22.08		
5	QPSK	12	13	21.98	22.01	22.08		
5	QPSK	25	0	22.10	22.15	22.13		
5	16QAM	1	0	21.55	21.56	21.53	23	1
5	16QAM	1	12	21.68	21.79	21.64		
5	16QAM	1	24	21.64	21.68	21.52		
5	16QAM	12	0	21.08	21.16	21.08	22	2
5	16QAM	12	7	21.03	21.00	20.97		
5	16QAM	12	13	20.93	21.07	20.84		
5	16QAM	25	0	20.95	21.11	21.11		

<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	22.91	23.27	22.95	24	0
20	QPSK	1	49	23.33	23.38	22.96		
20	QPSK	1	99	22.88	23.18	22.77		
20	QPSK	50	0	22.30	22.41	22.19	23	1
20	QPSK	50	24	22.27	22.35	22.04		
20	QPSK	50	50	22.28	22.33	21.98		
20	QPSK	100	0	22.20	22.34	22.02		
20	16QAM	1	0	21.87	22.17	21.82	23	1
20	16QAM	1	49	22.14	21.90	21.66		
20	16QAM	1	99	21.89	21.74	21.51		
20	16QAM	50	0	21.20	21.44	21.28	22	2
20	16QAM	50	24	21.21	21.44	21.07		
20	16QAM	50	50	21.29	21.32	21.01		
20	16QAM	100	0	21.21	21.34	21.02		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.20	23.10	22.99	24	0
15	QPSK	1	37	23.23	23.31	23.22		
15	QPSK	1	74	23.23	23.24	22.80		
15	QPSK	36	0	22.25	22.31	22.11	23	1
15	QPSK	36	20	22.26	22.33	21.99		
15	QPSK	36	39	22.28	22.29	22.17		
15	QPSK	75	0	22.15	22.41	22.11		
15	16QAM	1	0	21.94	22.18	21.96	23	1
15	16QAM	1	37	21.92	22.01	22.23		
15	16QAM	1	74	21.79	22.40	21.57		
15	16QAM	36	0	21.21	21.39	21.01	22	2
15	16QAM	36	20	21.16	21.33	21.09		
15	16QAM	36	39	21.27	21.37	21.01		
15	16QAM	75	0	21.22	21.40	21.14		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	22.96	23.26	22.87	24	0
10	QPSK	1	25	23.05	23.17	23.21		
10	QPSK	1	49	23.06	23.15	22.85		
10	QPSK	25	0	22.10	22.38	22.15	23	1
10	QPSK	25	12	22.26	22.37	21.99		
10	QPSK	25	25	22.21	22.32	22.01		
10	QPSK	50	0	22.20	22.27	22.01		
10	16QAM	1	0	21.91	21.97	21.83	23	1
10	16QAM	1	25	21.72	21.82	22.36		
10	16QAM	1	49	21.68	21.74	21.70		
10	16QAM	25	0	21.08	21.40	21.06	22	2
10	16QAM	25	12	21.23	21.47	21.08		
10	16QAM	25	25	21.16	21.41	21.08		
10	16QAM	50	0	21.12	21.24	20.88		

Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	23.00	23.23	23.05	24	0
5	QPSK	1	12	23.26	23.32	23.19		
5	QPSK	1	24	22.94	23.17	22.98		
5	QPSK	12	0	22.15	22.18	22.09	23	1
5	QPSK	12	7	22.12	22.24	22.06		
5	QPSK	12	13	22.15	22.33	22.03		
5	QPSK	25	0	22.19	22.21	22.00		
5	16QAM	1	0	21.53	21.79	21.49	23	1
5	16QAM	1	12	22.18	21.92	21.80		
5	16QAM	1	24	22.18	21.68	21.36		
5	16QAM	12	0	20.85	21.03	20.89	22	2
5	16QAM	12	7	21.00	21.22	20.99		
5	16QAM	12	13	20.95	21.24	20.92		
5	16QAM	25	0	20.99	21.22	21.03		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	23.12	23.22	22.91	24	0
3	QPSK	1	8	22.74	23.30	22.92		
3	QPSK	1	14	22.77	23.25	22.84		
3	QPSK	8	0	22.23	22.21	22.05	23	1
3	QPSK	8	4	22.26	22.24	22.10		
3	QPSK	8	7	22.19	22.31	22.17		
3	QPSK	15	0	22.12	22.22	22.10		
3	16QAM	1	0	21.78	22.44	22.22	23	1
3	16QAM	1	8	22.17	21.93	22.17		
3	16QAM	1	14	21.90	21.70	21.85		
3	16QAM	8	0	21.14	21.21	20.95	22	2
3	16QAM	8	4	21.27	21.28	21.07		
3	16QAM	8	7	21.29	21.36	21.13		
3	16QAM	15	0	20.91	21.23	20.90		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	23.06	23.19	23.02	24	0
1.4	QPSK	1	3	23.17	23.24	22.92		
1.4	QPSK	1	5	23.15	23.19	22.97		
1.4	QPSK	3	0	23.12	23.26	23.03		
1.4	QPSK	3	1	23.12	23.30	23.04		
1.4	QPSK	3	3	23.22	23.27	23.14		
1.4	QPSK	6	0	22.10	22.22	22.08	23	1
1.4	16QAM	1	0	22.34	21.81	21.55	23	1
1.4	16QAM	1	3	21.94	22.17	21.96		
1.4	16QAM	1	5	22.04	22.08	21.92		
1.4	16QAM	3	0	22.33	22.24	21.85		
1.4	16QAM	3	1	22.36	22.33	22.05		
1.4	16QAM	3	3	22.19	21.92	22.05		
1.4	16QAM	6	0	21.06	21.04	20.90	22	2

<Hotspot 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	15.44	15.50	15.26	15.5	0
20	QPSK	1	49	14.48	14.69	14.66		
20	QPSK	1	99	14.49	14.72	14.64		
20	QPSK	50	0	14.75	14.89	14.60	15.5	0
20	QPSK	50	24	14.87	14.80	14.84		
20	QPSK	50	50	14.73	14.72	14.81		
20	QPSK	100	0	14.75	14.83	14.82		
20	16QAM	1	0	14.67	14.72	14.72	15.5	0
20	16QAM	1	49	13.97	14.01	14.29		
20	16QAM	1	99	14.26	14.13	14.75		
20	16QAM	50	0	13.97	13.77	14.74	14.5	1
20	16QAM	50	24	13.88	13.91	13.60		
20	16QAM	50	50	13.76	13.86	13.84		
20	16QAM	100	0	13.85	13.73	13.82		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	14.79	14.66	14.48	15.5	0
15	QPSK	1	37	15.07	14.67	14.64		
15	QPSK	1	74	14.74	14.70	14.67		
15	QPSK	36	0	14.77	14.85	14.56	15.5	0
15	QPSK	36	20	14.81	14.65	14.69		
15	QPSK	36	39	14.65	14.61	14.63		
15	QPSK	75	0	14.63	14.70	14.70		
15	16QAM	1	0	14.17	14.36	14.18	15.5	0
15	16QAM	1	37	14.47	14.88	14.28		
15	16QAM	1	74	14.31	14.18	14.24		
15	16QAM	36	0	13.64	13.76	13.65	14.5	1
15	16QAM	36	20	13.80	13.66	13.87		
15	16QAM	36	39	13.65	13.71	13.71		
15	16QAM	75	0	13.83	13.70	13.79		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	14.75	14.58	14.35	15.5	0
10	QPSK	1	25	14.95	14.62	14.85		
10	QPSK	1	49	14.45	14.46	14.80		
10	QPSK	25	0	14.81	14.80	14.63	15.5	0
10	QPSK	25	12	14.81	14.72	14.72		
10	QPSK	25	25	14.59	14.66	14.64		
10	QPSK	50	0	14.70	14.79	14.70		
10	16QAM	1	0	14.47	14.87	14.17	15.5	0
10	16QAM	1	25	14.38	14.98	14.50		
10	16QAM	1	49	14.14	14.23	14.50		
10	16QAM	25	0	13.84	13.92	13.64	14.5	1
10	16QAM	25	12	13.83	13.85	13.81		
10	16QAM	25	25	13.80	13.74	13.73		
10	16QAM	50	0	13.70	13.70	13.80		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	14.51	14.61	14.32	15.5	0
5	QPSK	1	12	14.66	14.53	14.73		
5	QPSK	1	24	14.43	14.66	14.43		
5	QPSK	12	0	14.63	14.77	14.52	15.5	0
5	QPSK	12	7	14.67	14.60	14.64		
5	QPSK	12	13	14.62	14.59	14.63		
5	QPSK	25	0	14.64	14.68	14.62		
5	16QAM	1	0	14.46	14.81	14.01	15.5	0
5	16QAM	1	12	14.46	14.36	14.76		
5	16QAM	1	24	14.62	14.15	13.87		
5	16QAM	12	0	13.65	13.60	13.59	14.5	1
5	16QAM	12	7	13.57	13.61	13.73		
5	16QAM	12	13	13.53	13.61	13.69		
5	16QAM	25	0	13.69	13.77	13.62		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	14.54	14.72	14.61	15.5	0
3	QPSK	1	8	14.58	14.53	14.57		
3	QPSK	1	14	14.59	14.54	14.39		
3	QPSK	8	0	14.61	14.74	14.62	15.5	0
3	QPSK	8	4	14.68	14.70	14.68		
3	QPSK	8	7	14.68	14.62	14.62		
3	QPSK	15	0	14.77	14.69	14.62		
3	16QAM	1	0	14.25	14.16	14.08	15.5	0
3	16QAM	1	8	14.36	14.10	14.25		
3	16QAM	1	14	14.25	14.09	13.87		
3	16QAM	8	0	13.74	13.69	13.78	14.5	1
3	16QAM	8	4	13.66	13.76	13.74		
3	16QAM	8	7	13.74	13.68	13.76		
3	16QAM	15	0	13.53	13.81	13.68		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	14.67	14.71	14.54	15.5	0
1.4	QPSK	1	3	14.76	14.71	14.48		
1.4	QPSK	1	5	14.71	14.68	14.32		
1.4	QPSK	3	0	14.69	14.84	14.50		
1.4	QPSK	3	1	14.84	14.89	14.63		
1.4	QPSK	3	3	14.72	14.80	14.56		
1.4	QPSK	6	0	14.71	14.67	14.59	15.5	0
1.4	16QAM	1	0	14.81	14.14	14.21	15.5	0
1.4	16QAM	1	3	14.64	14.66	14.35		
1.4	16QAM	1	5	14.45	14.21	13.78		
1.4	16QAM	3	0	14.53	14.55	14.55		
1.4	16QAM	3	1	14.65	14.70	14.59		
1.4	16QAM	3	3	14.45	14.56	14.50		
1.4	16QAM	6	0	13.66	13.63	13.51	14.5	1

<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	15.04	15.15	15.47	16	0
20	QPSK	1	49	15.69	15.85	15.52		
20	QPSK	1	99	15.54	15.13	15.03		
20	QPSK	50	0	15.54	15.61	15.53	16	0
20	QPSK	50	24	15.44	15.51	15.52		
20	QPSK	50	50	15.46	15.44	15.42		
20	QPSK	100	0	15.52	15.57	15.51		
20	16QAM	1	0	15.04	15.10	15.34	16	0
20	16QAM	1	49	15.68	15.52	15.84		
20	16QAM	1	99	15.69	15.07	15.48		
20	16QAM	50	0	15.04	15.08	15.07	16	0
20	16QAM	50	24	15.13	15.08	15.16		
20	16QAM	50	50	15.11	15.05	15.03		
20	16QAM	100	0	15.17	15.07	15.05		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	15.43	15.28	15.30	16	0
15	QPSK	1	37	15.59	15.58	15.72		
15	QPSK	1	74	15.39	15.35	15.31		
15	QPSK	36	0	15.33	15.59	15.59	16	0
15	QPSK	36	20	15.64	15.58	15.58		
15	QPSK	36	39	15.62	15.53	15.44		
15	QPSK	75	0	15.59	15.63	15.48		
15	16QAM	1	0	15.03	15.03	15.35	16	0
15	16QAM	1	37	15.45	15.28	15.54		
15	16QAM	1	74	15.52	15.05	15.06		
15	16QAM	36	0	15.03	15.18	15.19	16	0
15	16QAM	36	20	15.17	15.06	15.09		
15	16QAM	36	39	15.02	15.07	15.07		
15	16QAM	75	0	15.10	15.02	15.00		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	15.17	15.55	15.26	16	0
10	QPSK	1	25	15.63	15.68	15.60		
10	QPSK	1	49	15.51	15.19	15.37		
10	QPSK	25	0	15.50	15.61	15.47	16	0
10	QPSK	25	12	15.50	15.58	15.56		
10	QPSK	25	25	15.45	15.44	15.53		
10	QPSK	50	0	15.48	15.59	15.45		
10	16QAM	1	0	15.09	15.11	15.32	16	0
10	16QAM	1	25	15.75	15.15	15.17		
10	16QAM	1	49	15.73	15.15	15.17		
10	16QAM	25	0	15.06	15.11	15.19	16	0
10	16QAM	25	12	15.19	15.09	15.08		
10	16QAM	25	25	15.13	15.11	15.19		
10	16QAM	50	0	15.10	15.02	15.03		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	15.06	15.50	15.35	16	0
5	QPSK	1	12	15.57	15.41	15.48		
5	QPSK	1	24	15.24	15.28	15.38		
5	QPSK	12	0	15.42	15.61	15.36	16	0
5	QPSK	12	7	15.56	15.54	15.56		
5	QPSK	12	13	15.61	15.50	15.47		
5	QPSK	25	0	15.42	15.51	15.52		
5	16QAM	1	0	15.40	15.03	15.62	16	0
5	16QAM	1	12	15.41	15.35	15.84		
5	16QAM	1	24	15.18	15.09	15.49		
5	16QAM	12	0	15.03	15.00	15.00	16	0
5	16QAM	12	7	15.13	15.13	15.13		
5	16QAM	12	13	15.13	15.12	15.17		
5	16QAM	25	0	15.10	15.09	15.11		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	15.35	15.57	15.30	16	0
3	QPSK	1	8	15.18	15.45	15.21		
3	QPSK	1	14	15.47	15.51	15.27		
3	QPSK	8	0	15.37	15.65	15.26	16	0
3	QPSK	8	4	15.40	15.62	15.32		
3	QPSK	8	7	15.38	15.54	15.40		
3	QPSK	15	0	15.42	15.51	15.38		
3	16QAM	1	0	15.12	15.51	15.06	16	0
3	16QAM	1	8	15.10	15.17	15.02		
3	16QAM	1	14	15.19	15.06	15.01		
3	16QAM	8	0	15.11	15.15	15.00	16	0
3	16QAM	8	4	15.01	15.07	15.16		
3	16QAM	8	7	15.08	15.15	15.14		
3	16QAM	15	0	15.03	15.10	15.18		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	15.34	15.52	15.16	16	0
1.4	QPSK	1	3	15.55	15.51	15.33		
1.4	QPSK	1	5	15.34	15.32	15.02		
1.4	QPSK	3	0	15.37	15.75	15.28		
1.4	QPSK	3	1	15.43	15.68	15.51		
1.4	QPSK	3	3	15.52	15.62	15.48		
1.4	QPSK	6	0	15.41	15.48	15.39	16	0
1.4	16QAM	1	0	15.07	15.04	15.05	16	0
1.4	16QAM	1	3	15.33	15.13	15.10		
1.4	16QAM	1	5	15.06	15.09	15.12		
1.4	16QAM	3	0	15.20	15.37	15.47		
1.4	16QAM	3	1	15.50	15.77	15.60		
1.4	16QAM	3	3	15.56	15.84	15.61		
1.4	16QAM	6	0	15.07	15.10	15.05	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	22.24	22.31	22.12	23.5	0
10	QPSK	1	25	22.56	22.49	22.48		
10	QPSK	1	49	22.17	22.26	22.03		
10	QPSK	25	0	21.67	21.57	21.47	22.5	1
10	QPSK	25	12	21.68	21.58	21.50		
10	QPSK	25	25	21.53	21.50	21.49		
10	QPSK	50	0	21.61	21.55	21.44		
10	16QAM	1	0	21.04	20.90	20.97	22.5	1
10	16QAM	1	25	21.13	21.05	21.71		
10	16QAM	1	49	20.93	20.86	20.93		
10	16QAM	25	0	20.57	20.55	20.52	21.5	2
10	16QAM	25	12	20.64	20.64	20.47		
10	16QAM	25	25	20.49	20.63	20.43		
10	16QAM	50	0	20.68	20.62	20.42		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.51	22.13	22.24	23.5	0
5	QPSK	1	12	22.54	22.42	22.54		
5	QPSK	1	24	22.34	22.21	22.03		
5	QPSK	12	0	21.69	21.42	21.38	22.5	1
5	QPSK	12	7	21.62	21.50	21.40		
5	QPSK	12	13	21.60	21.51	21.30		
5	QPSK	25	0	21.55	21.53	21.45		
5	16QAM	1	0	20.97	20.81	20.81	22.5	1
5	16QAM	1	12	21.24	21.19	21.05		
5	16QAM	1	24	20.99	21.49	20.81		
5	16QAM	12	0	20.58	20.56	20.32	21.5	2
5	16QAM	12	7	20.43	20.58	20.59		
5	16QAM	12	13	20.30	20.58	20.29		
5	16QAM	25	0	20.54	20.49	20.44		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.44	22.23	22.38	23.5	0
3	QPSK	1	8	22.50	22.46	22.09		
3	QPSK	1	14	22.42	22.52	22.21		
3	QPSK	8	0	21.72	21.47	21.40	22.5	1
3	QPSK	8	4	21.65	21.47	21.45		
3	QPSK	8	7	21.57	21.47	21.44		
3	QPSK	15	0	21.60	21.53	21.43		
3	16QAM	1	0	21.06	21.65	21.50	22.5	1
3	16QAM	1	8	21.38	20.84	21.12		
3	16QAM	1	14	21.27	21.37	20.87		
3	16QAM	8	0	20.65	20.61	20.43	21.5	2
3	16QAM	8	4	20.59	20.59	20.41		
3	16QAM	8	7	20.70	20.66	20.40		
3	16QAM	15	0	20.80	20.61	20.36		

Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.38	22.27	22.38	23.5	0
1.4	QPSK	1	3	22.44	22.24	22.30		
1.4	QPSK	1	5	22.36	22.29	22.20		
1.4	QPSK	3	0	22.36	22.52	22.42		
1.4	QPSK	3	1	22.42	22.39	22.51		
1.4	QPSK	3	3	22.48	22.48	22.44		
1.4	QPSK	6	0	21.61	21.40	21.45	22.5	1
1.4	16QAM	1	0	21.08	20.89	21.70	22.5	1
1.4	16QAM	1	3	21.57	21.29	21.56		
1.4	16QAM	1	5	21.43	21.03	20.87		
1.4	16QAM	3	0	21.55	21.35	21.11		
1.4	16QAM	3	1	21.83	21.68	21.31		
1.4	16QAM	3	3	21.76	21.37	21.36		
1.4	16QAM	6	0	20.48	20.44	20.42	21.5	2

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	18.32	17.87	17.73	19	0
20	QPSK	1	49	18.53	18.02	18.51		
20	QPSK	1	99	17.82	17.77	17.88		
20	QPSK	50	0	18.33	18.09	18.17	19	0
20	QPSK	50	24	18.23	18.06	18.11		
20	QPSK	50	50	18.19	18.01	18.10		
20	QPSK	100	0	18.27	18.06	18.09		
20	16QAM	1	0	17.49	17.84	17.80	19	0
20	16QAM	1	49	17.83	18.20	18.34		
20	16QAM	1	99	17.29	17.57	17.78		
20	16QAM	50	0	17.72	17.55	17.44	19	0
20	16QAM	50	24	17.88	17.53	17.49		
20	16QAM	50	50	17.65	17.57	17.59		
20	16QAM	100	0	17.71	17.52	17.57		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	18.31	17.90	17.88	19	0
15	QPSK	1	37	18.39	18.17	18.11		
15	QPSK	1	74	18.04	17.79	17.99		
15	QPSK	36	0	18.32	18.18	18.10	19	0
15	QPSK	36	20	18.35	18.08	18.15		
15	QPSK	36	39	18.27	18.02	18.11		
15	QPSK	75	0	18.35	18.08	18.16		
15	16QAM	1	0	18.04	17.76	17.52	19	0
15	16QAM	1	37	18.22	18.16	17.65		
15	16QAM	1	74	17.94	17.78	17.83		
15	16QAM	36	0	17.76	17.55	17.47	19	0
15	16QAM	36	20	17.91	17.45	17.61		
15	16QAM	36	39	17.78	17.48	17.48		
15	16QAM	75	0	17.81	17.63	17.54		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	18.10	17.81	17.75	19	0
10	QPSK	1	25	18.28	18.27	18.29		
10	QPSK	1	49	18.20	17.87	17.86		
10	QPSK	25	0	18.33	18.05	18.14	19	0
10	QPSK	25	12	18.39	18.14	18.13		
10	QPSK	25	25	18.38	17.97	18.05		
10	QPSK	50	0	18.36	18.10	18.19		
10	16QAM	1	0	17.90	17.89	17.77	19	0
10	16QAM	1	25	18.29	18.06	18.31		
10	16QAM	1	49	17.75	17.54	17.60		
10	16QAM	25	0	17.81	17.61	17.53	19	0
10	16QAM	25	12	17.77	17.59	17.60		
10	16QAM	25	25	17.74	17.61	17.51		
10	16QAM	50	0	17.72	17.47	17.59		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	18.24	17.84	17.86	19	0
5	QPSK	1	12	18.47	18.05	18.21		
5	QPSK	1	24	18.26	17.88	17.87		
5	QPSK	12	0	18.42	17.98	18.03	19	0
5	QPSK	12	7	18.43	18.00	18.07		
5	QPSK	12	13	18.20	17.88	17.99		
5	QPSK	25	0	18.37	17.93	17.99		
5	16QAM	1	0	18.33	18.02	17.57	19	0
5	16QAM	1	12	18.10	17.65	18.23		
5	16QAM	1	24	18.11	17.34	17.41		
5	16QAM	12	0	17.71	17.27	17.24	19	0
5	16QAM	12	7	17.72	17.30	17.32		
5	16QAM	12	13	17.58	17.26	17.59		
5	16QAM	25	0	17.83	17.35	17.51		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	15.83	15.69	15.78	16.5	0
20	QPSK	1	49	16.49	15.86	15.99		
20	QPSK	1	99	16.00	15.66	15.66		
20	QPSK	50	0	15.75	15.60	15.64	16.5	0
20	QPSK	50	24	15.72	15.50	15.64		
20	QPSK	50	50	15.74	15.51	15.62		
20	QPSK	100	0	15.66	15.49	15.60		
20	16QAM	1	0	15.17	15.10	15.06	16.5	0
20	16QAM	1	49	15.34	15.29	14.94		
20	16QAM	1	99	14.98	14.56	14.57		
20	16QAM	50	0	14.78	14.63	14.74	15.5	1
20	16QAM	50	24	14.76	14.64	14.75		
20	16QAM	50	50	14.78	14.64	14.64		
20	16QAM	100	0	14.68	14.43	14.61		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	16.07	16.00	16.03	16.5	0
15	QPSK	1	37	16.40	16.05	16.07		
15	QPSK	1	74	16.14	15.90	15.87		
15	QPSK	36	0	15.55	15.70	15.55	16.5	0
15	QPSK	36	20	15.72	15.64	15.56		
15	QPSK	36	39	15.66	15.50	15.54		
15	QPSK	75	0	15.65	15.51	15.55		
15	16QAM	1	0	15.31	15.15	15.05	16.5	0
15	16QAM	1	37	15.58	15.28	15.29		
15	16QAM	1	74	15.09	15.04	14.99		
15	16QAM	36	0	14.69	14.77	14.75	15.5	1
15	16QAM	36	20	14.75	14.67	14.61		
15	16QAM	36	39	14.72	14.51	14.67		
15	16QAM	75	0	14.76	14.62	14.65		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	15.84	15.89	15.82	16.5	0
10	QPSK	1	25	16.31	15.91	15.95		
10	QPSK	1	49	16.09	15.76	15.74		
10	QPSK	25	0	15.54	15.63	15.46	16.5	0
10	QPSK	25	12	15.65	15.64	15.49		
10	QPSK	25	25	15.55	15.48	15.52		
10	QPSK	50	0	15.55	15.52	15.55		
10	16QAM	1	0	15.14	15.38	15.27	16.5	0
10	16QAM	1	25	15.51	15.56	15.45		
10	16QAM	1	49	15.18	15.05	15.01		
10	16QAM	25	0	14.56	14.62	14.49	15.5	1
10	16QAM	25	12	14.68	14.70	14.55		
10	16QAM	25	25	14.58	14.50	14.53		
10	16QAM	50	0	14.65	14.61	14.57		

Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	15.96	15.94	15.88	16.5	0
5	QPSK	1	12	16.04	16.11	15.72		
5	QPSK	1	24	15.87	15.79	15.68		
5	QPSK	12	0	15.54	15.60	15.47	16.5	0
5	QPSK	12	7	15.59	15.55	15.46		
5	QPSK	12	13	15.57	15.53	15.47		
5	QPSK	25	0	15.56	15.52	15.51		
5	16QAM	1	0	15.05	15.21	15.10	16.5	0
5	16QAM	1	12	15.81	15.27	15.15		
5	16QAM	1	24	15.00	15.24	14.94		
5	16QAM	12	0	14.52	14.45	14.69	15.5	1
5	16QAM	12	7	14.53	14.40	14.31		
5	16QAM	12	13	14.61	14.28	14.35		
5	16QAM	25	0	14.49	14.53	14.50		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	15.76	16.07	15.89	16.5	0
3	QPSK	1	8	15.92	15.88	15.57		
3	QPSK	1	14	16.08	15.99	15.84		
3	QPSK	8	0	15.65	15.70	15.57	16.5	0
3	QPSK	8	4	15.62	15.56	15.51		
3	QPSK	8	7	15.55	15.59	15.43		
3	QPSK	15	0	15.50	15.55	15.46		
3	16QAM	1	0	15.65	15.21	14.99	16.5	0
3	16QAM	1	8	15.08	15.25	15.08		
3	16QAM	1	14	15.23	15.24	14.93		
3	16QAM	8	0	14.57	14.68	14.57	15.5	1
3	16QAM	8	4	14.60	14.74	14.56		
3	16QAM	8	7	14.61	14.67	14.58		
3	16QAM	15	0	14.44	14.63	14.50		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	15.94	16.01	15.83	16.5	0
1.4	QPSK	1	3	15.92	16.02	15.75		
1.4	QPSK	1	5	15.84	15.96	15.68		
1.4	QPSK	3	0	16.01	16.06	15.84		
1.4	QPSK	3	1	16.16	16.07	15.89		
1.4	QPSK	3	3	16.04	16.14	15.83		
1.4	QPSK	6	0	15.46	15.59	15.29	16.5	0
1.4	16QAM	1	0	15.50	15.04	14.92	16.5	0
1.4	16QAM	1	3	15.48	15.78	15.10		
1.4	16QAM	1	5	15.22	15.33	15.00		
1.4	16QAM	3	0	15.50	15.70	15.30		
1.4	16QAM	3	1	15.51	15.78	15.43		
1.4	16QAM	3	3	15.47	15.60	15.28		
1.4	16QAM	6	0	14.38	14.49	14.48	15.5	1

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	22.44	22.54	22.51	23	0
15	QPSK	1	37	22.72	22.97	22.52		
15	QPSK	1	74	22.59	22.61	22.34		
15	QPSK	36	0	21.70	21.78	21.62	22	1
15	QPSK	36	20	21.69	21.76	21.57		
15	QPSK	36	39	21.58	21.77	21.61		
15	QPSK	75	0	21.67	21.76	21.60		
15	16QAM	1	0	21.47	21.51	21.22	22	1
15	16QAM	1	37	21.48	21.41	21.30		
15	16QAM	1	74	21.39	21.07	21.26		
15	16QAM	36	0	20.72	20.73	20.60	21	2
15	16QAM	36	20	20.74	20.69	20.66		
15	16QAM	36	39	20.63	20.83	20.58		
15	16QAM	75	0	20.73	20.73	20.63		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	22.28	22.51	22.36	23	0
10	QPSK	1	25	22.52	22.52	22.64		
10	QPSK	1	49	22.46	22.54	22.38		
10	QPSK	25	0	21.64	21.82	21.61	22	1
10	QPSK	25	12	21.75	21.80	21.65		
10	QPSK	25	25	21.73	21.79	21.60		
10	QPSK	50	0	21.71	21.77	21.62		
10	16QAM	1	0	21.40	21.33	21.14	22	1
10	16QAM	1	25	21.66	21.63	21.20		
10	16QAM	1	49	21.20	21.50	21.09		
10	16QAM	25	0	20.73	20.80	20.68	21	2
10	16QAM	25	12	20.83	20.75	20.72		
10	16QAM	25	25	20.73	20.80	20.78		
10	16QAM	50	0	20.61	20.76	20.74		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	22.34	22.45	22.09	23	0
5	QPSK	1	12	22.60	22.91	22.64		
5	QPSK	1	24	22.34	22.51	22.29		
5	QPSK	12	0	21.63	21.67	21.50	22	1
5	QPSK	12	7	21.51	21.74	21.52		
5	QPSK	12	13	21.51	21.69	21.48		
5	QPSK	25	0	21.63	21.67	21.56		
5	16QAM	1	0	21.07	21.17	20.94	22	1
5	16QAM	1	12	21.31	21.38	21.63		
5	16QAM	1	24	21.16	21.10	21.02		
5	16QAM	12	0	20.72	20.55	20.63	21	2
5	16QAM	12	7	20.59	20.81	20.52		
5	16QAM	12	13	20.40	20.76	20.39		
5	16QAM	25	0	20.71	20.76	20.54		

Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	22.49	22.49	22.44	23	0
3	QPSK	1	8	22.58	22.77	22.30		
3	QPSK	1	14	22.24	22.79	22.28		
3	QPSK	8	0	21.59	21.72	21.51	22	1
3	QPSK	8	4	21.65	21.73	21.55		
3	QPSK	8	7	21.76	21.74	21.48		
3	QPSK	15	0	21.68	21.78	21.55		
3	16QAM	1	0	21.39	21.88	21.66	22	1
3	16QAM	1	8	21.62	21.65	21.29		
3	16QAM	1	14	21.46	21.16	21.01		
3	16QAM	8	0	20.71	20.75	20.33	21	2
3	16QAM	8	4	20.76	20.84	20.60		
3	16QAM	8	7	20.78	20.76	20.52		
3	16QAM	15	0	20.67	20.88	20.66		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	22.48	22.59	22.42	23	0
1.4	QPSK	1	3	22.57	22.65	22.44		
1.4	QPSK	1	5	22.63	22.40	22.43		
1.4	QPSK	3	0	22.55	22.70	22.59		
1.4	QPSK	3	1	22.59	22.80	22.56		
1.4	QPSK	3	3	22.63	22.77	22.49		
1.4	QPSK	6	0	21.63	21.66	21.56	22	1
1.4	16QAM	1	0	21.49	21.34	21.06	22	1
1.4	16QAM	1	3	21.35	21.60	21.34		
1.4	16QAM	1	5	21.26	21.62	21.38		
1.4	16QAM	3	0	21.48	21.62	21.44		
1.4	16QAM	3	1	21.65	21.63	21.37		
1.4	16QAM	3	3	21.47	21.71	21.33		
1.4	16QAM	6	0	20.42	20.66	20.48	21	2

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0	17.31			18	0
10	QPSK	1	25	17.56				
10	QPSK	1	49	17.18				
10	QPSK	25	0	17.55			18	0
10	QPSK	25	12	17.48				
10	QPSK	25	25	17.39				
10	QPSK	50	0	17.51				
10	16QAM	1	0	17.07			18	0
10	16QAM	1	25	17.35				
10	16QAM	1	49	16.87				
10	16QAM	25	0	16.46			18	0
10	16QAM	25	12	16.47				
10	16QAM	25	25	16.28				
10	16QAM	50	0	16.49				
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	17.48	17.51	17.27	18	0
5	QPSK	1	12	17.53	17.55	17.29		
5	QPSK	1	24	17.20	17.13	17.02		
5	QPSK	12	0	17.48	17.49	17.43	18	0
5	QPSK	12	7	17.47	17.48	17.39		
5	QPSK	12	13	17.41	17.34	17.41		
5	QPSK	25	0	17.53	17.54	17.47		
5	16QAM	1	0	17.13	17.35	16.85	18	0
5	16QAM	1	12	17.24	17.38	17.13		
5	16QAM	1	24	17.12	16.64	16.75		
5	16QAM	12	0	16.71	16.45	16.56	18	0
5	16QAM	12	7	16.74	16.42	16.40		
5	16QAM	12	13	16.50	16.36	16.16		
5	16QAM	25	0	16.62	16.51	16.30		

<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	15.01	15.49	15.02	16	0
20	QPSK	1	49	15.93	16.00	15.38		
20	QPSK	1	99	15.38	15.28	14.70		
20	QPSK	50	0	15.71	15.80	15.35	16	0
20	QPSK	50	24	15.61	15.70	15.34		
20	QPSK	50	50	15.68	15.64	15.01		
20	QPSK	100	0	15.57	15.78	15.24		
20	16QAM	1	0	14.85	15.60	15.05	16	0
20	16QAM	1	49	15.21	15.57	15.51		
20	16QAM	1	99	14.90	15.51	14.60		
20	16QAM	50	0	15.05	15.20	14.78	16	0
20	16QAM	50	24	15.16	15.29	14.75		
20	16QAM	50	50	15.19	15.15	14.60		
20	16QAM	100	0	15.05	15.22	14.74		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	15.19	15.71	15.15	16	0
15	QPSK	1	37	15.82	15.99	15.48		
15	QPSK	1	74	15.62	15.49	14.92		
15	QPSK	36	0	15.47	15.83	15.35	16	0
15	QPSK	36	20	15.69	15.75	15.35		
15	QPSK	36	39	15.67	15.68	15.11		
15	QPSK	75	0	15.55	15.73	15.32		
15	16QAM	1	0	15.09	15.49	14.82	16	0
15	16QAM	1	37	15.88	15.38	14.74		
15	16QAM	1	74	15.77	14.69	14.54		
15	16QAM	36	0	14.87	15.13	14.76	16	0
15	16QAM	36	20	15.09	15.33	14.75		
15	16QAM	36	39	15.17	15.20	14.58		
15	16QAM	75	0	15.03	15.23	14.68		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	15.18	15.57	14.96	16	0
10	QPSK	1	25	15.70	15.91	15.21		
10	QPSK	1	49	15.57	15.36	14.77		
10	QPSK	25	0	15.38	15.79	15.32	16	0
10	QPSK	25	12	15.57	15.74	15.17		
10	QPSK	25	25	15.61	15.67	15.17		
10	QPSK	50	0	15.55	15.71	15.16		
10	16QAM	1	0	15.18	15.56	14.80	16	0
10	16QAM	1	25	15.83	15.95	14.77		
10	16QAM	1	49	15.61	15.26	14.57		
10	16QAM	25	0	14.90	15.26	14.73	16	0
10	16QAM	25	12	15.06	15.22	14.76		
10	16QAM	25	25	15.01	15.29	14.66		
10	16QAM	50	0	14.98	15.11	14.64		

Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	15.24	15.56	14.95	16	0
5	QPSK	1	12	15.38	15.71	15.08		
5	QPSK	1	24	15.52	15.66	14.95		
5	QPSK	12	0	15.41	15.72	15.08	16	0
5	QPSK	12	7	15.55	15.75	15.14		
5	QPSK	12	13	15.52	15.62	15.11		
5	QPSK	25	0	15.51	15.72	15.20		
5	16QAM	1	0	15.52	15.04	14.48	16	0
5	16QAM	1	12	15.68	15.40	15.06		
5	16QAM	1	24	14.85	15.13	14.51		
5	16QAM	12	0	14.73	15.01	14.61	16	0
5	16QAM	12	7	14.77	15.19	14.63		
5	16QAM	12	13	14.84	15.08	14.60		
5	16QAM	25	0	14.91	15.07	14.58		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	15.27	15.60	15.09	16	0
3	QPSK	1	8	15.34	15.67	15.09		
3	QPSK	1	14	15.11	15.56	15.00		
3	QPSK	8	0	15.38	15.74	15.21	16	0
3	QPSK	8	4	15.47	15.77	15.16		
3	QPSK	8	7	15.49	15.73	15.14		
3	QPSK	15	0	15.43	15.74	15.13		
3	16QAM	1	0	14.83	15.20	14.62	16	0
3	16QAM	1	8	15.14	15.80	14.69		
3	16QAM	1	14	14.92	15.76	14.56		
3	16QAM	8	0	14.74	15.27	14.70	16	0
3	16QAM	8	4	14.74	15.19	14.71		
3	16QAM	8	7	14.69	15.25	14.68		
3	16QAM	15	0	14.97	15.11	14.77		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	15.25	15.60	15.09	16	0
1.4	QPSK	1	3	15.37	15.67	15.16		
1.4	QPSK	1	5	15.35	15.60	15.11		
1.4	QPSK	3	0	15.39	15.72	15.21		
1.4	QPSK	3	1	15.45	15.95	15.36		
1.4	QPSK	3	3	15.45	15.80	15.17		
1.4	QPSK	6	0	15.36	15.63	15.13	16	0
1.4	16QAM	1	0	15.44	15.61	14.72	16	0
1.4	16QAM	1	3	15.29	15.70	14.81		
1.4	16QAM	1	5	15.11	15.44	14.69		
1.4	16QAM	3	0	15.25	15.59	14.85		
1.4	16QAM	3	1	15.29	15.74	14.98		
1.4	16QAM	3	3	15.28	15.59	14.94		
1.4	16QAM	6	0	14.86	15.17	14.53	16	0

<Near to body 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	15.44	15.50	15.26	15.5	0
20	QPSK	1	49	14.48	14.69	14.66		
20	QPSK	1	99	14.49	14.72	14.64		
20	QPSK	50	0	14.75	14.89	14.60	15.5	0
20	QPSK	50	24	14.87	14.80	14.84		
20	QPSK	50	50	14.73	14.72	14.81		
20	QPSK	100	0	14.75	14.83	14.82		
20	16QAM	1	0	14.67	14.72	14.72	15.5	0
20	16QAM	1	49	13.97	14.01	14.29		
20	16QAM	1	99	14.26	14.13	14.75		
20	16QAM	50	0	13.97	13.77	14.74	14.5	1
20	16QAM	50	24	13.88	13.91	13.60		
20	16QAM	50	50	13.76	13.86	13.84		
20	16QAM	100	0	13.85	13.73	13.82		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	14.79	14.66	14.48	15.5	0
15	QPSK	1	37	15.07	14.67	14.64		
15	QPSK	1	74	14.74	14.70	14.67		
15	QPSK	36	0	14.77	14.85	14.56	15.5	0
15	QPSK	36	20	14.81	14.65	14.69		
15	QPSK	36	39	14.65	14.61	14.63		
15	QPSK	75	0	14.63	14.70	14.70		
15	16QAM	1	0	14.17	14.36	14.18	15.5	0
15	16QAM	1	37	14.47	14.88	14.28		
15	16QAM	1	74	14.31	14.18	14.24		
15	16QAM	36	0	13.64	13.76	13.65	14.5	1
15	16QAM	36	20	13.80	13.66	13.87		
15	16QAM	36	39	13.65	13.71	13.71		
15	16QAM	75	0	13.83	13.70	13.79		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	14.75	14.58	14.35	15.5	0
10	QPSK	1	25	14.95	14.62	14.85		
10	QPSK	1	49	14.45	14.46	14.80		
10	QPSK	25	0	14.81	14.80	14.63	15.5	0
10	QPSK	25	12	14.81	14.72	14.72		
10	QPSK	25	25	14.59	14.66	14.64		
10	QPSK	50	0	14.70	14.79	14.70		
10	16QAM	1	0	14.47	14.87	14.17	15.5	0
10	16QAM	1	25	14.38	14.98	14.50		
10	16QAM	1	49	14.14	14.23	14.50		
10	16QAM	25	0	13.84	13.92	13.64	14.5	1
10	16QAM	25	12	13.83	13.85	13.81		
10	16QAM	25	25	13.80	13.74	13.73		
10	16QAM	50	0	13.70	13.70	13.80		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	14.51	14.61	14.32	15.5	0
5	QPSK	1	12	14.66	14.53	14.73		
5	QPSK	1	24	14.43	14.66	14.43		
5	QPSK	12	0	14.63	14.77	14.52	15.5	0
5	QPSK	12	7	14.67	14.60	14.64		
5	QPSK	12	13	14.62	14.59	14.63		
5	QPSK	25	0	14.64	14.68	14.62		
5	16QAM	1	0	14.46	14.81	14.01	15.5	0
5	16QAM	1	12	14.46	14.36	14.76		
5	16QAM	1	24	14.62	14.15	13.87		
5	16QAM	12	0	13.65	13.60	13.59	14.5	1
5	16QAM	12	7	13.57	13.61	13.73		
5	16QAM	12	13	13.53	13.61	13.69		
5	16QAM	25	0	13.69	13.77	13.62		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	14.54	14.72	14.61	15.5	0
3	QPSK	1	8	14.58	14.53	14.57		
3	QPSK	1	14	14.59	14.54	14.39		
3	QPSK	8	0	14.61	14.74	14.62	15.5	0
3	QPSK	8	4	14.68	14.70	14.68		
3	QPSK	8	7	14.68	14.62	14.62		
3	QPSK	15	0	14.77	14.69	14.62		
3	16QAM	1	0	14.25	14.16	14.08	15.5	0
3	16QAM	1	8	14.36	14.10	14.25		
3	16QAM	1	14	14.25	14.09	13.87		
3	16QAM	8	0	13.74	13.69	13.78	14.5	1
3	16QAM	8	4	13.66	13.76	13.74		
3	16QAM	8	7	13.74	13.68	13.76		
3	16QAM	15	0	13.53	13.81	13.68		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	14.67	14.71	14.54	15.5	0
1.4	QPSK	1	3	14.76	14.71	14.48		
1.4	QPSK	1	5	14.71	14.68	14.32		
1.4	QPSK	3	0	14.69	14.84	14.50		
1.4	QPSK	3	1	14.84	14.89	14.63		
1.4	QPSK	3	3	14.72	14.80	14.56		
1.4	QPSK	6	0	14.71	14.67	14.59	15.5	0
1.4	16QAM	1	0	14.81	14.14	14.21	15.5	0
1.4	16QAM	1	3	14.64	14.66	14.35		
1.4	16QAM	1	5	14.45	14.21	13.78		
1.4	16QAM	3	0	14.53	14.55	14.55		
1.4	16QAM	3	1	14.65	14.70	14.59		
1.4	16QAM	3	3	14.45	14.56	14.50		
1.4	16QAM	6	0	13.66	13.63	13.51	14.5	1

<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	15.04	15.15	15.47	16	0
20	QPSK	1	49	15.69	15.85	15.52		
20	QPSK	1	99	15.54	15.13	15.03		
20	QPSK	50	0	15.54	15.61	15.53	16	0
20	QPSK	50	24	15.44	15.51	15.52		
20	QPSK	50	50	15.46	15.44	15.42		
20	QPSK	100	0	15.52	15.57	15.51		
20	16QAM	1	0	15.04	15.10	15.34	16	0
20	16QAM	1	49	15.68	15.52	15.84		
20	16QAM	1	99	15.69	15.07	15.48		
20	16QAM	50	0	15.04	15.08	15.07	16	0
20	16QAM	50	24	15.13	15.08	15.16		
20	16QAM	50	50	15.11	15.05	15.03		
20	16QAM	100	0	15.17	15.07	15.05		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	15.43	15.28	15.30	16	0
15	QPSK	1	37	15.59	15.58	15.72		
15	QPSK	1	74	15.39	15.35	15.31		
15	QPSK	36	0	15.33	15.59	15.59	16	0
15	QPSK	36	20	15.64	15.58	15.58		
15	QPSK	36	39	15.62	15.53	15.44		
15	QPSK	75	0	15.59	15.63	15.48		
15	16QAM	1	0	15.03	15.03	15.35	16	0
15	16QAM	1	37	15.45	15.28	15.54		
15	16QAM	1	74	15.52	15.05	15.06		
15	16QAM	36	0	15.03	15.18	15.19	16	0
15	16QAM	36	20	15.17	15.06	15.09		
15	16QAM	36	39	15.02	15.07	15.07		
15	16QAM	75	0	15.10	15.02	15.00		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	15.17	15.55	15.26	16	0
10	QPSK	1	25	15.63	15.68	15.60		
10	QPSK	1	49	15.51	15.19	15.37		
10	QPSK	25	0	15.50	15.61	15.47	16	0
10	QPSK	25	12	15.50	15.58	15.56		
10	QPSK	25	25	15.45	15.44	15.53		
10	QPSK	50	0	15.48	15.59	15.45		
10	16QAM	1	0	15.09	15.11	15.32	16	0
10	16QAM	1	25	15.75	15.15	15.17		
10	16QAM	1	49	15.73	15.15	15.17		
10	16QAM	25	0	15.06	15.11	15.19	16	0
10	16QAM	25	12	15.19	15.09	15.08		
10	16QAM	25	25	15.13	15.11	15.19		
10	16QAM	50	0	15.10	15.02	15.03		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	15.06	15.50	15.35	16	0
5	QPSK	1	12	15.57	15.41	15.48		
5	QPSK	1	24	15.24	15.28	15.38		
5	QPSK	12	0	15.42	15.61	15.36	16	0
5	QPSK	12	7	15.56	15.54	15.56		
5	QPSK	12	13	15.61	15.50	15.47		
5	QPSK	25	0	15.42	15.51	15.52		
5	16QAM	1	0	15.40	15.03	15.62	16	0
5	16QAM	1	12	15.41	15.35	15.84		
5	16QAM	1	24	15.18	15.09	15.49		
5	16QAM	12	0	15.03	15.00	15.00	16	0
5	16QAM	12	7	15.13	15.13	15.13		
5	16QAM	12	13	15.13	15.12	15.17		
5	16QAM	25	0	15.10	15.09	15.11		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	15.35	15.57	15.30	16	0
3	QPSK	1	8	15.18	15.45	15.21		
3	QPSK	1	14	15.47	15.51	15.27		
3	QPSK	8	0	15.37	15.65	15.26	16	0
3	QPSK	8	4	15.40	15.62	15.32		
3	QPSK	8	7	15.38	15.54	15.40		
3	QPSK	15	0	15.42	15.51	15.38		
3	16QAM	1	0	15.12	15.51	15.06	16	0
3	16QAM	1	8	15.10	15.17	15.02		
3	16QAM	1	14	15.19	15.06	15.01		
3	16QAM	8	0	15.11	15.15	15.00	16	0
3	16QAM	8	4	15.01	15.07	15.16		
3	16QAM	8	7	15.08	15.15	15.14		
3	16QAM	15	0	15.03	15.10	15.18		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	15.34	15.52	15.16	16	0
1.4	QPSK	1	3	15.55	15.51	15.33		
1.4	QPSK	1	5	15.34	15.32	15.02		
1.4	QPSK	3	0	15.37	15.75	15.28		
1.4	QPSK	3	1	15.43	15.68	15.51		
1.4	QPSK	3	3	15.52	15.62	15.48		
1.4	QPSK	6	0	15.41	15.48	15.39	16	0
1.4	16QAM	1	0	15.07	15.04	15.05	16	0
1.4	16QAM	1	3	15.33	15.13	15.10		
1.4	16QAM	1	5	15.06	15.09	15.12		
1.4	16QAM	3	0	15.20	15.37	15.47		
1.4	16QAM	3	1	15.50	15.77	15.60		
1.4	16QAM	3	3	15.56	15.84	15.61		
1.4	16QAM	6	0	15.07	15.10	15.05	16	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	18.32	17.87	17.73	19	0
20	QPSK	1	49	18.53	18.02	18.51		
20	QPSK	1	99	17.82	17.77	17.88		
20	QPSK	50	0	18.33	18.09	18.17	19	0
20	QPSK	50	24	18.23	18.06	18.11		
20	QPSK	50	50	18.19	18.01	18.10		
20	QPSK	100	0	18.27	18.06	18.09		
20	16QAM	1	0	17.49	17.84	17.80	19	0
20	16QAM	1	49	17.83	18.20	18.34		
20	16QAM	1	99	17.29	17.57	17.78		
20	16QAM	50	0	17.72	17.55	17.44	19	0
20	16QAM	50	24	17.88	17.53	17.49		
20	16QAM	50	50	17.65	17.57	17.59		
20	16QAM	100	0	17.71	17.52	17.57		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	18.31	17.90	17.88	19	0
15	QPSK	1	37	18.39	18.17	18.11		
15	QPSK	1	74	18.04	17.79	17.99		
15	QPSK	36	0	18.32	18.18	18.10	19	0
15	QPSK	36	20	18.35	18.08	18.15		
15	QPSK	36	39	18.27	18.02	18.11		
15	QPSK	75	0	18.35	18.08	18.16		
15	16QAM	1	0	18.04	17.76	17.52	19	0
15	16QAM	1	37	18.22	18.16	17.65		
15	16QAM	1	74	17.94	17.78	17.83		
15	16QAM	36	0	17.76	17.55	17.47	19	0
15	16QAM	36	20	17.91	17.45	17.61		
15	16QAM	36	39	17.78	17.48	17.48		
15	16QAM	75	0	17.81	17.63	17.54		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	18.10	17.81	17.75	19	0
10	QPSK	1	25	18.28	18.27	18.29		
10	QPSK	1	49	18.20	17.87	17.86		
10	QPSK	25	0	18.33	18.05	18.14	19	0
10	QPSK	25	12	18.39	18.14	18.13		
10	QPSK	25	25	18.38	17.97	18.05		
10	QPSK	50	0	18.36	18.10	18.19		
10	16QAM	1	0	17.90	17.89	17.77	19	0
10	16QAM	1	25	18.29	18.06	18.31		
10	16QAM	1	49	17.75	17.54	17.60		
10	16QAM	25	0	17.81	17.61	17.53	19	0
10	16QAM	25	12	17.77	17.59	17.60		
10	16QAM	25	25	17.74	17.61	17.51		
10	16QAM	50	0	17.72	17.47	17.59		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	18.24	17.84	17.86	19	0
5	QPSK	1	12	18.47	18.05	18.21		
5	QPSK	1	24	18.26	17.88	17.87		
5	QPSK	12	0	18.42	17.98	18.03	19	0
5	QPSK	12	7	18.43	18.00	18.07		
5	QPSK	12	13	18.20	17.88	17.99		
5	QPSK	25	0	18.37	17.93	17.99		
5	16QAM	1	0	18.33	18.02	17.57	19	0
5	16QAM	1	12	18.10	17.65	18.23		
5	16QAM	1	24	18.11	17.34	17.41		
5	16QAM	12	0	17.71	17.27	17.24	19	0
5	16QAM	12	7	17.72	17.30	17.32		
5	16QAM	12	13	17.58	17.26	17.59		
5	16QAM	25	0	17.83	17.35	17.51		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	15.83	15.69	15.78	16.5	0
20	QPSK	1	49	16.49	15.86	15.99		
20	QPSK	1	99	16.00	15.66	15.66		
20	QPSK	50	0	15.75	15.60	15.64	16.5	0
20	QPSK	50	24	15.72	15.50	15.64		
20	QPSK	50	50	15.74	15.51	15.62		
20	QPSK	100	0	15.66	15.49	15.60		
20	16QAM	1	0	15.17	15.10	15.06	16.5	0
20	16QAM	1	49	15.34	15.29	14.94		
20	16QAM	1	99	14.98	14.56	14.57		
20	16QAM	50	0	14.78	14.63	14.74	15.5	1
20	16QAM	50	24	14.76	14.64	14.75		
20	16QAM	50	50	14.78	14.64	14.64		
20	16QAM	100	0	14.68	14.43	14.61		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	16.07	16.00	16.03	16.5	0
15	QPSK	1	37	16.40	16.05	16.07		
15	QPSK	1	74	16.14	15.90	15.87		
15	QPSK	36	0	15.55	15.70	15.55	16.5	0
15	QPSK	36	20	15.72	15.64	15.56		
15	QPSK	36	39	15.66	15.50	15.54		
15	QPSK	75	0	15.65	15.51	15.55		
15	16QAM	1	0	15.31	15.15	15.05	16.5	0
15	16QAM	1	37	15.58	15.28	15.29		
15	16QAM	1	74	15.09	15.04	14.99		
15	16QAM	36	0	14.69	14.77	14.75	15.5	1
15	16QAM	36	20	14.75	14.67	14.61		
15	16QAM	36	39	14.72	14.51	14.67		
15	16QAM	75	0	14.76	14.62	14.65		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	15.84	15.89	15.82	16.5	0
10	QPSK	1	25	16.31	15.91	15.95		
10	QPSK	1	49	16.09	15.76	15.74		
10	QPSK	25	0	15.54	15.63	15.46	16.5	0
10	QPSK	25	12	15.65	15.64	15.49		
10	QPSK	25	25	15.55	15.48	15.52		
10	QPSK	50	0	15.55	15.52	15.55		
10	16QAM	1	0	15.14	15.38	15.27	16.5	0
10	16QAM	1	25	15.51	15.56	15.45		
10	16QAM	1	49	15.18	15.05	15.01		
10	16QAM	25	0	14.56	14.62	14.49	15.5	1
10	16QAM	25	12	14.68	14.70	14.55		
10	16QAM	25	25	14.58	14.50	14.53		
10	16QAM	50	0	14.65	14.61	14.57		

Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	15.96	15.94	15.88	16.5	0
5	QPSK	1	12	16.04	16.11	15.72		
5	QPSK	1	24	15.87	15.79	15.68		
5	QPSK	12	0	15.54	15.60	15.47	16.5	0
5	QPSK	12	7	15.59	15.55	15.46		
5	QPSK	12	13	15.57	15.53	15.47		
5	QPSK	25	0	15.56	15.52	15.51		
5	16QAM	1	0	15.05	15.21	15.10	16.5	0
5	16QAM	1	12	15.81	15.27	15.15		
5	16QAM	1	24	15.00	15.24	14.94		
5	16QAM	12	0	14.52	14.45	14.69	15.5	1
5	16QAM	12	7	14.53	14.40	14.31		
5	16QAM	12	13	14.61	14.28	14.35		
5	16QAM	25	0	14.49	14.53	14.50		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	15.76	16.07	15.89	16.5	0
3	QPSK	1	8	15.92	15.88	15.57		
3	QPSK	1	14	16.08	15.99	15.84		
3	QPSK	8	0	15.65	15.70	15.57	16.5	0
3	QPSK	8	4	15.62	15.56	15.51		
3	QPSK	8	7	15.55	15.59	15.43		
3	QPSK	15	0	15.50	15.55	15.46		
3	16QAM	1	0	15.65	15.21	14.99	16.5	0
3	16QAM	1	8	15.08	15.25	15.08		
3	16QAM	1	14	15.23	15.24	14.93		
3	16QAM	8	0	14.57	14.68	14.57	15.5	1
3	16QAM	8	4	14.60	14.74	14.56		
3	16QAM	8	7	14.61	14.67	14.58		
3	16QAM	15	0	14.44	14.63	14.50		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	15.94	16.01	15.83	16.5	0
1.4	QPSK	1	3	15.92	16.02	15.75		
1.4	QPSK	1	5	15.84	15.96	15.68		
1.4	QPSK	3	0	16.01	16.06	15.84		
1.4	QPSK	3	1	16.16	16.07	15.89		
1.4	QPSK	3	3	16.04	16.14	15.83		
1.4	QPSK	6	0	15.46	15.59	15.29	16.5	0
1.4	16QAM	1	0	15.50	15.04	14.92	16.5	0
1.4	16QAM	1	3	15.48	15.78	15.10		
1.4	16QAM	1	5	15.22	15.33	15.00		
1.4	16QAM	3	0	15.50	15.70	15.30		
1.4	16QAM	3	1	15.51	15.78	15.43		
1.4	16QAM	3	3	15.47	15.60	15.28		
1.4	16QAM	6	0	14.38	14.49	14.48	15.5	1

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0	17.31			18	0
10	QPSK	1	25	17.56				
10	QPSK	1	49	17.18				
10	QPSK	25	0	17.55			18	0
10	QPSK	25	12	17.48				
10	QPSK	25	25	17.39				
10	QPSK	50	0	17.51				
10	16QAM	1	0	17.07			18	0
10	16QAM	1	25	17.35				
10	16QAM	1	49	16.87				
10	16QAM	25	0	16.46			18	0
10	16QAM	25	12	16.47				
10	16QAM	25	25	16.28				
10	16QAM	50	0	16.49				
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	17.48	17.51	17.27	18	0
5	QPSK	1	12	17.53	17.55	17.29		
5	QPSK	1	24	17.20	17.13	17.02		
5	QPSK	12	0	17.48	17.49	17.43	18	0
5	QPSK	12	7	17.47	17.48	17.39		
5	QPSK	12	13	17.41	17.34	17.41		
5	QPSK	25	0	17.53	17.54	17.47		
5	16QAM	1	0	17.13	17.35	16.85	18	0
5	16QAM	1	12	17.24	17.38	17.13		
5	16QAM	1	24	17.12	16.64	16.75		
5	16QAM	12	0	16.71	16.45	16.56	18	0
5	16QAM	12	7	16.74	16.42	16.40		
5	16QAM	12	13	16.50	16.36	16.16		
5	16QAM	25	0	16.62	16.51	16.30		

<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	15.01	15.49	15.02	16	0
20	QPSK	1	49	15.93	16.00	15.38		
20	QPSK	1	99	15.38	15.28	14.70		
20	QPSK	50	0	15.71	15.80	15.35	16	0
20	QPSK	50	24	15.61	15.70	15.34		
20	QPSK	50	50	15.68	15.64	15.01		
20	QPSK	100	0	15.57	15.78	15.24		
20	16QAM	1	0	14.85	15.60	15.05	16	0
20	16QAM	1	49	15.21	15.57	15.51		
20	16QAM	1	99	14.90	15.51	14.60		
20	16QAM	50	0	15.05	15.20	14.78	16	0
20	16QAM	50	24	15.16	15.29	14.75		
20	16QAM	50	50	15.19	15.15	14.60		
20	16QAM	100	0	15.05	15.22	14.74		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	15.19	15.71	15.15	16	0
15	QPSK	1	37	15.82	15.99	15.48		
15	QPSK	1	74	15.62	15.49	14.92		
15	QPSK	36	0	15.47	15.83	15.35	16	0
15	QPSK	36	20	15.69	15.75	15.35		
15	QPSK	36	39	15.67	15.68	15.11		
15	QPSK	75	0	15.55	15.73	15.32		
15	16QAM	1	0	15.09	15.49	14.82	16	0
15	16QAM	1	37	15.88	15.38	14.74		
15	16QAM	1	74	15.77	14.69	14.54		
15	16QAM	36	0	14.87	15.13	14.76	16	0
15	16QAM	36	20	15.09	15.33	14.75		
15	16QAM	36	39	15.17	15.20	14.58		
15	16QAM	75	0	15.03	15.23	14.68		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	15.18	15.57	14.96	16	0
10	QPSK	1	25	15.70	15.91	15.21		
10	QPSK	1	49	15.57	15.36	14.77		
10	QPSK	25	0	15.38	15.79	15.32	16	0
10	QPSK	25	12	15.57	15.74	15.17		
10	QPSK	25	25	15.61	15.67	15.17		
10	QPSK	50	0	15.55	15.71	15.16		
10	16QAM	1	0	15.18	15.56	14.80	16	0
10	16QAM	1	25	15.83	15.95	14.77		
10	16QAM	1	49	15.61	15.26	14.57		
10	16QAM	25	0	14.90	15.26	14.73	16	0
10	16QAM	25	12	15.06	15.22	14.76		
10	16QAM	25	25	15.01	15.29	14.66		
10	16QAM	50	0	14.98	15.11	14.64		

Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	15.24	15.56	14.95	16	0
5	QPSK	1	12	15.38	15.71	15.08		
5	QPSK	1	24	15.52	15.66	14.95		
5	QPSK	12	0	15.41	15.72	15.08	16	0
5	QPSK	12	7	15.55	15.75	15.14		
5	QPSK	12	13	15.52	15.62	15.11		
5	QPSK	25	0	15.51	15.72	15.20		
5	16QAM	1	0	15.52	15.04	14.48	16	0
5	16QAM	1	12	15.68	15.40	15.06		
5	16QAM	1	24	14.85	15.13	14.51		
5	16QAM	12	0	14.73	15.01	14.61	16	0
5	16QAM	12	7	14.77	15.19	14.63		
5	16QAM	12	13	14.84	15.08	14.60		
5	16QAM	25	0	14.91	15.07	14.58		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	15.27	15.60	15.09	16	0
3	QPSK	1	8	15.34	15.67	15.09		
3	QPSK	1	14	15.11	15.56	15.00		
3	QPSK	8	0	15.38	15.74	15.21	16	0
3	QPSK	8	4	15.47	15.77	15.16		
3	QPSK	8	7	15.49	15.73	15.14		
3	QPSK	15	0	15.43	15.74	15.13		
3	16QAM	1	0	14.83	15.20	14.62	16	0
3	16QAM	1	8	15.14	15.80	14.69		
3	16QAM	1	14	14.92	15.76	14.56		
3	16QAM	8	0	14.74	15.27	14.70	16	0
3	16QAM	8	4	14.74	15.19	14.71		
3	16QAM	8	7	14.69	15.25	14.68		
3	16QAM	15	0	14.97	15.11	14.77		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	15.25	15.60	15.09	16	0
1.4	QPSK	1	3	15.37	15.67	15.16		
1.4	QPSK	1	5	15.35	15.60	15.11		
1.4	QPSK	3	0	15.39	15.72	15.21		
1.4	QPSK	3	1	15.45	15.95	15.36		
1.4	QPSK	3	3	15.45	15.80	15.17		
1.4	QPSK	6	0	15.36	15.63	15.13	16	0
1.4	16QAM	1	0	15.44	15.61	14.72	16	0
1.4	16QAM	1	3	15.29	15.70	14.81		
1.4	16QAM	1	5	15.11	15.44	14.69		
1.4	16QAM	3	0	15.25	15.59	14.85		
1.4	16QAM	3	1	15.29	15.74	14.98		
1.4	16QAM	3	3	15.28	15.59	14.94		
1.4	16QAM	6	0	14.86	15.17	14.53	16	0

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations

b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS

c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

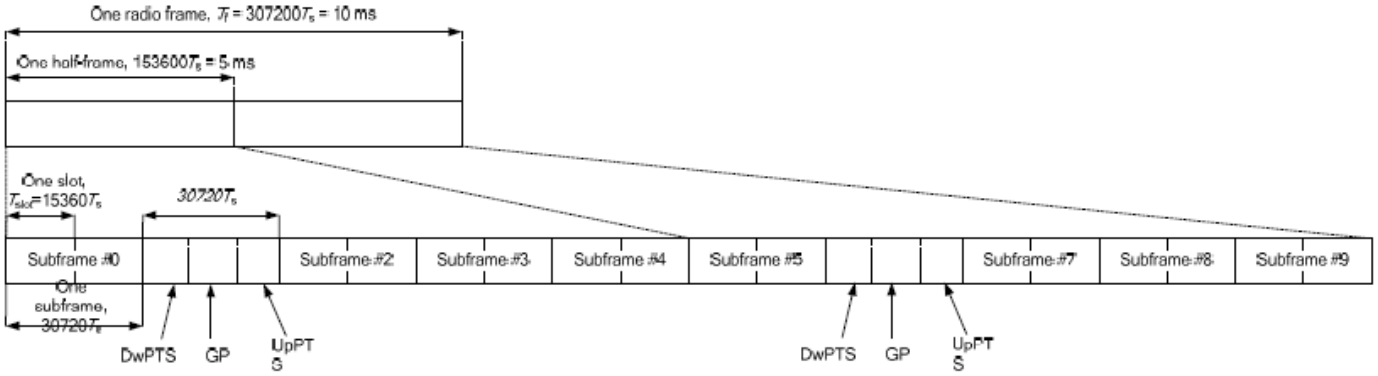


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, uplink operation is in 3 uplink subframes and 1 special subframe.

ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink

iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.167)/5 = 63.3%

iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.143)/5 = 62.9%

v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

<Default Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	22.92	22.82	22.79	24	0
20	QPSK	1	49	23.11	23.12	23.05		
20	QPSK	1	99	23.05	22.89	22.84		
20	QPSK	50	0	22.30	22.43	22.16	23	1
20	QPSK	50	24	22.13	22.36	22.14		
20	QPSK	50	50	22.03	22.23	21.76		
20	QPSK	100	0	22.30	22.24	21.99		
20	16QAM	1	0	21.66	21.75	21.83	23	1
20	16QAM	1	49	21.83	21.98	21.67		
20	16QAM	1	99	21.65	21.73	21.32		
20	16QAM	50	0	21.03	21.27	21.08	22	2
20	16QAM	50	24	21.09	21.40	21.09		
20	16QAM	50	50	21.06	21.16	20.91		
20	16QAM	100	0	21.16	21.34	21.02		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	22.86	22.72	22.73	24	0
15	QPSK	1	37	23.08	23.00	23.05		
15	QPSK	1	74	22.98	22.86	22.58		
15	QPSK	36	0	22.30	22.33	22.20	23	1
15	QPSK	36	20	22.42	22.43	22.16		
15	QPSK	36	39	22.00	22.23	21.73		
15	QPSK	75	0	22.04	22.32	21.86		
15	16QAM	1	0	21.60	21.86	21.66	23	1
15	16QAM	1	37	22.13	22.30	21.57		
15	16QAM	1	74	21.89	21.63	21.33		
15	16QAM	36	0	21.16	21.18	21.08	22	2
15	16QAM	36	20	21.10	21.20	21.03		
15	16QAM	36	39	21.08	21.01	20.92		
15	16QAM	75	0	21.03	21.23	20.87		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	22.88	22.91	22.88	24	0
10	QPSK	1	25	23.09	23.04	23.06		
10	QPSK	1	49	22.90	22.95	22.67		
10	QPSK	25	0	22.25	22.38	22.16	23	1
10	QPSK	25	12	22.16	22.31	22.11		
10	QPSK	25	25	22.33	22.21	22.00		
10	QPSK	50	0	22.14	22.30	22.04		
10	16QAM	1	0	21.46	21.75	21.51	23	1
10	16QAM	1	25	22.00	21.75	21.60		
10	16QAM	1	49	21.75	21.68	21.40		
10	16QAM	25	0	21.27	21.35	21.18	22	2
10	16QAM	25	12	21.23	21.32	21.15		
10	16QAM	25	25	21.28	21.23	21.04		
10	16QAM	50	0	21.13	21.35	20.92		

Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	22.79	22.75	22.62	24	0
5	QPSK	1	12	23.02	22.95	22.77		
5	QPSK	1	24	22.88	22.71	22.51		
5	QPSK	12	0	22.00	22.31	21.87	23	1
5	QPSK	12	7	22.00	22.14	21.99		
5	QPSK	12	13	22.01	21.99	21.88		
5	QPSK	25	0	22.03	22.10	21.93		
5	16QAM	1	0	21.75	21.47	21.32	23	1
5	16QAM	1	12	22.00	21.98	21.71		
5	16QAM	1	24	21.70	21.46	21.52		
5	16QAM	12	0	20.79	20.89	20.75	22	2
5	16QAM	12	7	21.08	20.95	20.73		
5	16QAM	12	13	21.01	20.95	20.70		
5	16QAM	25	0	21.16	20.92	20.74		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	23.10	22.93	23.02	22.73	22.78	24	0
20	QPSK	1	49	23.13	23.06	23.48	22.87	22.85		
20	QPSK	1	99	23.00	22.98	23.05	22.75	22.73		
20	QPSK	50	0	22.26	22.15	22.41	21.93	22.01	23	1
20	QPSK	50	24	22.40	22.27	22.47	22.12	22.08		
20	QPSK	50	50	22.29	21.93	22.24	21.97	21.97		
20	QPSK	100	0	22.25	22.16	22.34	22.03	22.04		
20	16QAM	1	0	21.54	21.65	21.67	21.32	21.20	23	1
20	16QAM	1	49	22.07	21.80	21.87	21.55	21.39		
20	16QAM	1	99	21.81	21.36	21.70	21.43	21.31		
20	16QAM	50	0	21.36	21.14	21.27	20.86	20.97	22	2
20	16QAM	50	24	21.26	21.13	21.27	21.04	21.04		
20	16QAM	50	50	21.30	20.92	21.34	20.72	21.05		
20	16QAM	100	0	21.30	21.16	21.41	20.82	20.96		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	23.10	23.01	22.76	22.74	22.66	24	0
15	QPSK	1	37	23.44	23.26	23.42	23.12	22.92		
15	QPSK	1	74	23.12	23.05	23.00	22.58	22.60		
15	QPSK	36	0	22.31	22.27	22.49	22.07	21.99	23	1
15	QPSK	36	20	22.40	22.23	22.40	22.10	22.03		
15	QPSK	36	39	22.23	21.95	22.14	21.73	21.86		
15	QPSK	75	0	22.31	22.00	22.20	21.73	22.00		
15	16QAM	1	0	21.84	21.54	21.69	21.42	21.30	23	1
15	16QAM	1	37	22.15	22.15	21.75	21.43	21.60		
15	16QAM	1	74	21.76	21.62	21.79	21.26	21.36		
15	16QAM	36	0	21.13	21.08	21.24	20.68	20.89	22	2
15	16QAM	36	20	21.22	21.17	21.38	20.86	20.94		
15	16QAM	36	39	21.26	20.94	21.09	20.73	20.94		
15	16QAM	75	0	21.42	21.09	21.10	20.95	21.00		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	23.26	22.96	22.83	22.63	22.47	24	0
10	QPSK	1	25	23.34	23.10	23.38	22.95	22.89		
10	QPSK	1	49	23.29	23.02	23.18	22.70	22.77		
10	QPSK	25	0	22.53	22.18	22.40	22.12	22.01	23	1
10	QPSK	25	12	22.32	22.23	22.52	22.22	22.03		
10	QPSK	25	25	22.32	21.95	22.28	21.76	22.01		
10	QPSK	50	0	22.25	22.07	22.40	21.80	21.99		
10	16QAM	1	0	21.82	21.81	21.63	21.22	21.43	23	1
10	16QAM	1	25	21.73	21.54	21.81	21.54	21.44		
10	16QAM	1	49	21.87	21.33	21.91	21.41	21.30		
10	16QAM	25	0	21.46	21.17	21.41	21.34	20.96	22	2
10	16QAM	25	12	21.68	21.42	21.34	21.32	21.02		
10	16QAM	25	25	21.52	21.34	21.29	20.98	20.94		
10	16QAM	50	0	21.34	21.17	21.25	20.68	21.01		

Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	23.08	22.96	22.97	22.54	22.41	24	0
5	QPSK	1	12	23.25	23.12	23.23	22.86	22.74		
5	QPSK	1	24	23.04	22.80	22.94	22.54	22.45		
5	QPSK	12	0	22.21	21.98	22.27	21.89	22.01	23	1
5	QPSK	12	7	22.32	22.03	22.38	21.80	22.12		
5	QPSK	12	13	22.10	22.00	22.40	21.70	22.09		
5	QPSK	25	0	22.31	21.94	22.33	21.83	22.06		
5	16QAM	1	0	21.61	21.75	21.49	21.57	21.34	23	1
5	16QAM	1	12	21.67	21.93	21.68	21.75	21.81		
5	16QAM	1	24	21.59	21.77	21.63	21.27	21.51		
5	16QAM	12	0	21.14	20.82	20.96	20.70	20.71	22	2
5	16QAM	12	7	21.24	20.86	21.05	20.69	20.83		
5	16QAM	12	13	21.24	20.92	21.05	20.60	20.79		
5	16QAM	25	0	21.39	21.05	21.02	20.75	20.90		

<Hotspot Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	20.28	20.36	20.26	21	0
20	QPSK	1	49	20.69	20.50	20.35		
20	QPSK	1	99	20.18	20.16	19.92		
20	QPSK	50	0	19.68	19.49	19.38	20	1
20	QPSK	50	24	19.67	19.48	19.21		
20	QPSK	50	50	19.56	19.36	19.09		
20	QPSK	100	0	19.63	19.47	19.25		
20	16QAM	1	0	19.10	18.99	19.07	20	1
20	16QAM	1	49	19.31	19.33	19.11		
20	16QAM	1	99	19.00	18.59	18.64		
20	16QAM	50	0	18.61	18.43	18.38	19	2
20	16QAM	50	24	18.64	18.58	18.31		
20	16QAM	50	50	18.63	18.24	18.19		
20	16QAM	100	0	18.57	18.40	18.35		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	20.30	20.34	20.38	21	0
15	QPSK	1	37	20.67	20.67	20.55		
15	QPSK	1	74	20.43	20.37	20.21		
15	QPSK	36	0	19.68	19.43	19.37	20	1
15	QPSK	36	20	19.65	19.54	19.25		
15	QPSK	36	39	19.58	19.32	19.11		
15	QPSK	75	0	19.64	19.46	19.26		
15	16QAM	1	0	19.17	19.03	18.90	20	1
15	16QAM	1	37	19.26	19.26	18.86		
15	16QAM	1	74	19.11	18.93	18.52		
15	16QAM	36	0	18.67	18.46	18.19	19	2
15	16QAM	36	20	18.59	18.46	18.30		
15	16QAM	36	39	18.62	18.27	18.08		
15	16QAM	75	0	18.63	18.43	18.25		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	20.32	20.22	20.12	21	0
10	QPSK	1	25	20.54	20.42	20.22		
10	QPSK	1	49	20.40	20.15	20.02		
10	QPSK	25	0	19.69	19.46	19.27	20	1
10	QPSK	25	12	19.72	19.50	19.24		
10	QPSK	25	25	19.58	19.33	19.11		
10	QPSK	50	0	19.72	19.49	19.28		
10	16QAM	1	0	19.17	19.06	18.83	20	1
10	16QAM	1	25	19.40	19.24	19.13		
10	16QAM	1	49	19.19	18.77	18.56		
10	16QAM	25	0	18.49	18.43	18.49	19	2
10	16QAM	25	12	18.82	18.63	18.44		
10	16QAM	25	25	18.79	18.51	18.33		
10	16QAM	50	0	18.67	18.36	18.21		

Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	20.29	20.19	20.02	21	0
5	QPSK	1	12	20.65	20.42	20.09		
5	QPSK	1	24	20.33	20.18	19.92		
5	QPSK	12	0	19.63	19.55	19.20	20	1
5	QPSK	12	7	19.62	19.60	19.09		
5	QPSK	12	13	19.65	19.49	19.07		
5	QPSK	25	0	19.63	19.52	19.13		
5	16QAM	1	0	19.02	18.97	18.70	20	1
5	16QAM	1	12	19.46	19.20	18.80		
5	16QAM	1	24	19.18	18.92	18.66		
5	16QAM	12	0	18.54	18.52	18.16	19	2
5	16QAM	12	7	18.60	18.51	18.29		
5	16QAM	12	13	18.63	18.57	18.16		
5	16QAM	25	0	18.80	18.62	18.26		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				**39750**	40185	40620	41055	41490		
Frequency (MHz)				**2506**	2549.5	2593	2636.5	2680		
20	QPSK	1	0	20.15	20.27	20.04	19.88	19.87	21	0
20	QPSK	1	49	20.20	20.34	20.39	20.21	20.18		
20	QPSK	1	99	19.93	20.30	20.10	19.89	19.91		
20	QPSK	50	0	19.57	19.60	19.61	19.19	19.35	20	1
20	QPSK	50	24	19.56	19.59	19.45	19.15	19.13		
20	QPSK	50	50	19.22	19.57	19.43	19.17	19.12		
20	QPSK	100	0	19.36	19.47	19.55	19.20	19.17		
20	16QAM	1	0	18.85	18.99	18.79	18.55	18.64	20	1
20	16QAM	1	49	19.17	19.41	19.16	19.12	18.94		
20	16QAM	1	99	18.68	18.90	18.78	18.66	18.55		
20	16QAM	50	0	18.47	18.59	18.48	18.21	18.04	19	2
20	16QAM	50	24	18.55	18.55	18.56	18.23	18.25		
20	16QAM	50	50	18.30	18.54	18.53	18.20	18.25		
20	16QAM	100	0	18.34	18.53	18.47	18.12	18.12		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	20.11	20.49	20.37	20.01	19.95	21	0
15	QPSK	1	37	20.41	20.77	20.73	20.39	20.44		
15	QPSK	1	74	20.29	20.53	20.34	20.15	19.94		
15	QPSK	36	0	19.52	19.58	19.49	19.22	19.17	20	1
15	QPSK	36	20	19.49	19.56	19.48	19.21	19.14		
15	QPSK	36	39	19.39	19.43	19.48	19.19	19.07		
15	QPSK	75	0	19.43	19.50	19.47	19.12	19.19		
15	16QAM	1	0	19.05	19.17	19.07	18.72	18.85	20	1
15	16QAM	1	37	19.01	19.61	19.33	18.85	19.15		
15	16QAM	1	74	19.01	19.12	18.96	18.84	18.72		
15	16QAM	36	0	18.53	18.49	18.29	18.01	18.14	19	2
15	16QAM	36	20	18.52	18.65	18.43	18.14	18.20		
15	16QAM	36	39	18.43	18.59	18.49	18.08	18.16		
15	16QAM	75	0	18.50	18.58	18.45	18.14	18.05		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	20.35	20.37	20.20	20.02	19.91	21	0
10	QPSK	1	25	20.33	20.44	20.44	20.17	20.19		
10	QPSK	1	49	20.16	20.33	20.33	20.14	19.92		
10	QPSK	25	0	19.51	19.67	19.38	19.23	19.27	20	1
10	QPSK	25	12	19.67	19.51	19.48	19.20	19.21		
10	QPSK	25	25	19.44	19.49	19.48	19.20	19.23		
10	QPSK	50	0	19.53	19.54	19.45	19.22	19.26		
10	16QAM	1	0	19.11	19.15	19.02	18.80	18.88	20	1
10	16QAM	1	25	19.36	19.40	19.28	19.11	18.92		
10	16QAM	1	49	19.01	19.06	19.05	18.88	18.71		
10	16QAM	25	0	18.57	18.44	18.59	18.35	18.28	19	2
10	16QAM	25	12	18.70	18.79	18.49	18.41	18.42		
10	16QAM	25	25	18.72	18.79	18.66	18.17	18.35		
10	16QAM	50	0	18.68	18.51	18.64	18.11	18.30		

Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	20.32	20.28	20.17	20.01	19.98	21	0
5	QPSK	1	12	20.33	20.44	20.41	20.18	20.26		
5	QPSK	1	24	20.23	20.23	20.24	20.11	19.95		
5	QPSK	12	0	19.54	19.59	19.40	19.18	19.19	20	1
5	QPSK	12	7	19.49	19.60	19.56	19.30	19.23		
5	QPSK	12	13	19.41	19.53	19.45	19.27	19.14		
5	QPSK	25	0	19.59	19.60	19.47	19.19	19.21		
5	16QAM	1	0	19.05	18.97	18.87	18.71	18.64	20	1
5	16QAM	1	12	19.00	19.15	19.35	18.90	18.81		
5	16QAM	1	24	19.12	19.03	19.05	18.78	18.66		
5	16QAM	12	0	18.62	18.58	18.35	18.29	18.23	19	2
5	16QAM	12	7	18.66	18.66	18.65	18.41	18.33		
5	16QAM	12	13	18.59	18.62	18.49	18.20	18.26		
5	16QAM	25	0	18.77	18.62	18.67	18.12	18.33		

<Near to body Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	20.28	20.36	20.26	21	0
20	QPSK	1	49	20.69	20.50	20.35		
20	QPSK	1	99	20.18	20.16	19.92		
20	QPSK	50	0	19.68	19.49	19.38	20	1
20	QPSK	50	24	19.67	19.48	19.21		
20	QPSK	50	50	19.56	19.36	19.09		
20	QPSK	100	0	19.63	19.47	19.25		
20	16QAM	1	0	19.10	18.99	19.07	20	1
20	16QAM	1	49	19.31	19.33	19.11		
20	16QAM	1	99	19.00	18.59	18.64		
20	16QAM	50	0	18.61	18.43	18.38	19	2
20	16QAM	50	24	18.64	18.58	18.31		
20	16QAM	50	50	18.63	18.24	18.19		
20	16QAM	100	0	18.57	18.40	18.35		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	20.30	20.34	20.38	21	0
15	QPSK	1	37	20.67	20.67	20.55		
15	QPSK	1	74	20.43	20.37	20.21		
15	QPSK	36	0	19.68	19.43	19.37	20	1
15	QPSK	36	20	19.65	19.54	19.25		
15	QPSK	36	39	19.58	19.32	19.11		
15	QPSK	75	0	19.64	19.46	19.26		
15	16QAM	1	0	19.17	19.03	18.90	20	1
15	16QAM	1	37	19.26	19.26	18.86		
15	16QAM	1	74	19.11	18.93	18.52		
15	16QAM	36	0	18.67	18.46	18.19	19	2
15	16QAM	36	20	18.59	18.46	18.30		
15	16QAM	36	39	18.62	18.27	18.08		
15	16QAM	75	0	18.63	18.43	18.25		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	20.32	20.22	20.12	21	0
10	QPSK	1	25	20.54	20.42	20.22		
10	QPSK	1	49	20.40	20.15	20.02		
10	QPSK	25	0	19.69	19.46	19.27	20	1
10	QPSK	25	12	19.72	19.50	19.24		
10	QPSK	25	25	19.58	19.33	19.11		
10	QPSK	50	0	19.72	19.49	19.28		
10	16QAM	1	0	19.17	19.06	18.83	20	1
10	16QAM	1	25	19.40	19.24	19.13		
10	16QAM	1	49	19.19	18.77	18.56		
10	16QAM	25	0	18.49	18.43	18.49	19	2
10	16QAM	25	12	18.82	18.63	18.44		
10	16QAM	25	25	18.79	18.51	18.33		
10	16QAM	50	0	18.67	18.36	18.21		

Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	20.29	20.19	20.02	21	0
5	QPSK	1	12	20.65	20.42	20.09		
5	QPSK	1	24	20.33	20.18	19.92		
5	QPSK	12	0	19.63	19.55	19.20	20	1
5	QPSK	12	7	19.62	19.60	19.09		
5	QPSK	12	13	19.65	19.49	19.07		
5	QPSK	25	0	19.63	19.52	19.13		
5	16QAM	1	0	19.02	18.97	18.70	20	1
5	16QAM	1	12	19.46	19.20	18.80		
5	16QAM	1	24	19.18	18.92	18.66		
5	16QAM	12	0	18.54	18.52	18.16	19	2
5	16QAM	12	7	18.60	18.51	18.29		
5	16QAM	12	13	18.63	18.57	18.16		
5	16QAM	25	0	18.80	18.62	18.26		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	20.15	20.27	20.04	19.88	19.87	21	0
20	QPSK	1	49	20.20	20.34	20.39	20.21	20.18		
20	QPSK	1	99	19.93	20.30	20.10	19.89	19.91		
20	QPSK	50	0	19.57	19.60	19.61	19.19	19.35	20	1
20	QPSK	50	24	19.56	19.59	19.45	19.15	19.13		
20	QPSK	50	50	19.22	19.57	19.43	19.17	19.12		
20	QPSK	100	0	19.36	19.47	19.55	19.20	19.17		
20	16QAM	1	0	18.85	18.99	18.79	18.55	18.64	20	1
20	16QAM	1	49	19.17	19.41	19.16	19.12	18.94		
20	16QAM	1	99	18.68	18.90	18.78	18.66	18.55		
20	16QAM	50	0	18.47	18.59	18.48	18.21	18.04	19	2
20	16QAM	50	24	18.55	18.55	18.56	18.23	18.25		
20	16QAM	50	50	18.30	18.54	18.53	18.20	18.25		
20	16QAM	100	0	18.34	18.53	18.47	18.12	18.12		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	20.11	20.49	20.37	20.01	19.95	21	0
15	QPSK	1	37	20.41	20.77	20.73	20.39	20.44		
15	QPSK	1	74	20.29	20.53	20.34	20.15	19.94		
15	QPSK	36	0	19.52	19.58	19.49	19.22	19.17	20	1
15	QPSK	36	20	19.49	19.56	19.48	19.21	19.14		
15	QPSK	36	39	19.39	19.43	19.48	19.19	19.07		
15	QPSK	75	0	19.43	19.50	19.47	19.12	19.19		
15	16QAM	1	0	19.05	19.17	19.07	18.72	18.85	20	1
15	16QAM	1	37	19.01	19.61	19.33	18.85	19.15		
15	16QAM	1	74	19.01	19.12	18.96	18.84	18.72		
15	16QAM	36	0	18.53	18.49	18.29	18.01	18.14	19	2
15	16QAM	36	20	18.52	18.65	18.43	18.14	18.20		
15	16QAM	36	39	18.43	18.59	18.49	18.08	18.16		
15	16QAM	75	0	18.50	18.58	18.45	18.14	18.05		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	20.35	20.37	20.20	20.02	19.91	21	0
10	QPSK	1	25	20.33	20.44	20.44	20.17	20.19		
10	QPSK	1	49	20.16	20.33	20.33	20.14	19.92		
10	QPSK	25	0	19.51	19.67	19.38	19.23	19.27	20	1
10	QPSK	25	12	19.67	19.51	19.48	19.20	19.21		
10	QPSK	25	25	19.44	19.49	19.48	19.20	19.23		
10	QPSK	50	0	19.53	19.54	19.45	19.22	19.26		
10	16QAM	1	0	19.11	19.15	19.02	18.80	18.88	20	1
10	16QAM	1	25	19.36	19.40	19.28	19.11	18.92		
10	16QAM	1	49	19.01	19.06	19.05	18.88	18.71		
10	16QAM	25	0	18.57	18.44	18.59	18.35	18.28	19	2
10	16QAM	25	12	18.70	18.79	18.49	18.41	18.42		
10	16QAM	25	25	18.72	18.79	18.66	18.17	18.35		
10	16QAM	50	0	18.68	18.51	18.64	18.11	18.30		

Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	20.32	20.28	20.17	20.01	19.98	21	0
5	QPSK	1	12	20.33	20.44	20.41	20.18	20.26		
5	QPSK	1	24	20.23	20.23	20.24	20.11	19.95		
5	QPSK	12	0	19.54	19.59	19.40	19.18	19.19	20	1
5	QPSK	12	7	19.49	19.60	19.56	19.30	19.23		
5	QPSK	12	13	19.41	19.53	19.45	19.27	19.14		
5	QPSK	25	0	19.59	19.60	19.47	19.19	19.21		
5	16QAM	1	0	19.05	18.97	18.87	18.71	18.64	20	1
5	16QAM	1	12	19.00	19.15	19.35	18.90	18.81		
5	16QAM	1	24	19.12	19.03	19.05	18.78	18.66		
5	16QAM	12	0	18.62	18.58	18.35	18.29	18.23	19	2
5	16QAM	12	7	18.66	18.66	18.65	18.41	18.33		
5	16QAM	12	13	18.59	18.62	18.49	18.20	18.26		
5	16QAM	25	0	18.77	18.62	18.67	18.12	18.33		

<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.

<Default Power Mode>

<2.4GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	17.99	18.00	97.62
		6	2437	17.98	18.00	
		11	2462	17.90	18.00	
	802.11g 6Mbps	1	2412	10.49	10.50	86.74
		6	2437	10.47	10.50	
		11	2462	10.40	10.50	
	802.11n-HT20 MCS0	1	2412	9.47	9.50	86.41
		6	2437	9.35	9.50	
		11	2462	9.49	9.50	

<5GHz WLAN >

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	15.49	15.50	87.26
		40	5200	15.21	15.50	
		44	5220	15.41	15.50	
		48	5240	15.44	15.50	
	802.11n-HT20 MCS0	36	5180	9.94	10.00	86.49
		40	5200	9.80	10.00	
		44	5220	9.87	10.00	
		48	5240	9.99	10.00	
	802.11n-HT40 MCS0	38	5190	9.95	10.00	89.66
		46	5230	9.97	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	15.95	16.00	87.26
		56	5280	15.90	16.00	
		60	5300	15.89	16.00	
		64	5320	15.99	16.00	
	802.11n-HT20 MCS0	52	5260	9.94	10.00	86.49
		56	5280	9.72	10.00	
		60	5300	9.98	10.00	
		64	5320	9.85	10.00	
	802.11n-HT40 MCS0	54	5270	9.89	10.00	89.66
		62	5310	9.99	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	15.94	16.00	87.26
		116	5580	15.97	16.00	
		124	5620	15.98	16.00	
		132	5660	15.88	16.00	
		140	5700	15.98	16.00	
		144	5720	15.95	16.00	
	802.11n-HT20 MCS0	100	5500	9.99	10.00	86.49
		116	5580	9.98	10.00	
		124	5620	9.93	10.00	
		132	5660	9.99	10.00	
		140	5700	9.93	10.00	
		144	5720	9.99	10.00	
	802.11n-HT40 MCS0	102	5510	9.94	10.00	89.66
		110	5550	9.87	10.00	
		126	5630	9.91	10.00	
		134	5670	9.82	10.00	
		142	5710	9.83	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	15.95	16.00	87.26
		157	5785	15.93	16.00	
		165	5825	15.99	16.00	
	802.11n-HT20 MCS0	149	5745	9.86	10.00	86.49
		157	5785	9.98	10.00	
		165	5825	9.96	10.00	
	802.11n-HT40 MCS0	151	5755	9.92	10.00	89.66
		159	5795	9.99	10.00	

<At-head Power Mode>

<2.4GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	16.42	16.50	97.62
		6	2437	16.38	16.50	
		11	2462	16.49	16.50	
	802.11g 6Mbps	1	2412	10.49	10.50	86.74
		6	2437	10.47	10.50	
		11	2462	10.40	10.50	
	802.11n-HT20 MCS0	1	2412	9.47	9.50	86.41
		6	2437	9.35	9.50	
		11	2462	9.49	9.50	

<5GHz WLAN >

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	13.49	13.50	87.26
		40	5200	13.34	13.50	
		44	5220	13.35	13.50	
		48	5240	13.41	13.50	
	802.11n-HT20 MCS0	36	5180	9.94	10.00	86.49
		40	5200	9.80	10.00	
		44	5220	9.87	10.00	
		48	5240	9.99	10.00	
	802.11n-HT40 MCS0	38	5190	9.95	10.00	89.66
		46	5230	9.97	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	13.32	13.50	87.26
		56	5280	13.11	13.50	
		60	5300	13.47	13.50	
		64	5320	13.34	13.50	
	802.11n-HT20 MCS0	52	5260	9.94	10.00	86.49
		56	5280	9.72	10.00	
		60	5300	9.98	10.00	
		64	5320	9.85	10.00	
	802.11n-HT40 MCS0	54	5270	9.89	10.00	89.66
		62	5310	9.99	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	13.45	13.50	87.26
		116	5580	13.40	13.50	
		124	5620	13.34	13.50	
		132	5660	13.30	13.50	
		140	5700	13.39	13.50	
		144	5720	13.41	13.50	
	802.11n-HT20 MCS0	100	5500	9.99	10.00	86.49
		116	5580	9.98	10.00	
		124	5620	9.93	10.00	
		132	5660	9.99	10.00	
		140	5700	9.93	10.00	
		144	5720	9.99	10.00	
	802.11n-HT40 MCS0	102	5510	9.94	10.00	89.66
		110	5550	9.87	10.00	
		126	5630	9.91	10.00	
		134	5670	9.82	10.00	
		142	5710	9.83	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	13.49	13.50	87.26
		157	5785	13.44	13.50	
		165	5825	13.37	13.50	
	802.11n-HT20 MCS0	149	5745	9.86	10.00	86.49
		157	5785	9.98	10.00	
		165	5825	9.96	10.00	
	802.11n-HT40 MCS0	151	5755	9.92	10.00	89.66
		159	5795	9.99	10.00	

<Hotspot Power Mode>

<2.4GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	17.99	18.00	97.62
		6	2437	17.98	18.00	
		11	2462	17.90	18.00	
	802.11g 6Mbps	1	2412	10.49	10.50	86.74
		6	2437	10.47	10.50	
		11	2462	10.40	10.50	
	802.11n-HT20 MCS0	1	2412	9.47	9.50	86.41
		6	2437	9.35	9.50	
		11	2462	9.49	9.50	

<5GHz WLAN >

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	13.49	13.50	87.26
		157	5785	13.44	13.50	
		165	5825	13.37	13.50	
	802.11n-HT20 MCS0	149	5745	9.86	10.00	86.49
		157	5785	9.98	10.00	
		165	5825	9.96	10.00	
	802.11n-HT40 MCS0	151	5755	9.92	10.00	89.66
		159	5795	9.99	10.00	

<Near to body Power Mode>

<2.4GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	17.99	18.00	97.62
		6	2437	17.98	18.00	
		11	2462	17.90	18.00	
	802.11g 6Mbps	1	2412	10.49	10.50	86.74
		6	2437	10.47	10.50	
		11	2462	10.40	10.50	
	802.11n-HT20 MCS0	1	2412	9.47	9.50	86.41
		6	2437	9.35	9.50	
		11	2462	9.49	9.50	

<5GHz WLAN >

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	14.91	15.00	87.26
		40	5200	14.78	15.00	
		44	5220	14.97	15.00	
		48	5240	14.96	15.00	
	802.11n-HT20 MCS0	36	5180	9.94	10.00	86.49
		40	5200	9.80	10.00	
		44	5220	9.87	10.00	
		48	5240	9.99	10.00	
	802.11n-HT40 MCS0	38	5190	9.95	10.00	89.66
		46	5230	9.97	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	14.97	15.00	87.26
		56	5280	14.79	15.00	
		60	5300	14.92	15.00	
		64	5320	14.99	15.00	
	802.11n-HT20 MCS0	52	5260	9.94	10.00	86.49
		56	5280	9.72	10.00	
		60	5300	9.98	10.00	
		64	5320	9.85	10.00	
	802.11n-HT40 MCS0	54	5270	9.89	10.00	89.66
		62	5310	9.99	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	14.96	15.00	87.26
		116	5580	14.89	15.00	
		124	5620	14.85	15.00	
		132	5660	14.90	15.00	
		140	5700	14.91	15.00	
		144	5720	14.84	15.00	
	802.11n-HT20 MCS0	100	5500	9.99	10.00	86.49
		116	5580	9.98	10.00	
		124	5620	9.93	10.00	
		132	5660	9.99	10.00	
		140	5700	9.93	10.00	
		144	5720	9.99	10.00	
	802.11n-HT40 MCS0	102	5510	9.94	10.00	89.66
		110	5550	9.87	10.00	
		126	5630	9.91	10.00	
		134	5670	9.82	10.00	
		142	5710	9.83	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	14.88	15.00	87.26
		157	5785	14.80	15.00	
		165	5825	14.91	15.00	
	802.11n-HT20 MCS0	149	5745	9.86	10.00	86.49
		157	5785	9.98	10.00	
		165	5825	9.96	10.00	
	802.11n-HT40 MCS0	151	5755	9.92	10.00	89.66
		159	5795	9.99	10.00	

<2.4GHz Bluetooth>

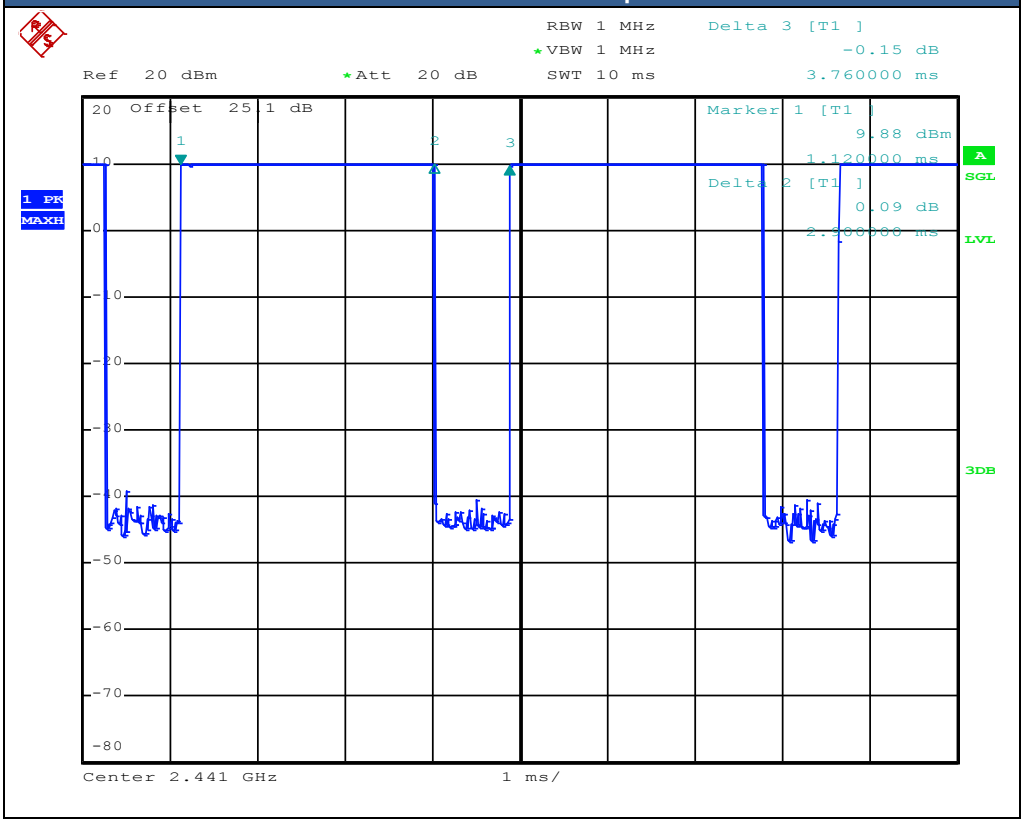
Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	11.24	9.20	9.21
	CH 39	2441	10.64	8.51	8.73
	CH 78	2480	10.60	8.37	8.58
Tune-up Limit			12	10	10

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
LE	CH 00	2402	1.90
	CH 19	2440	1.51
	CH 39	2480	1.63
Tune-up Limit			3

General Note:

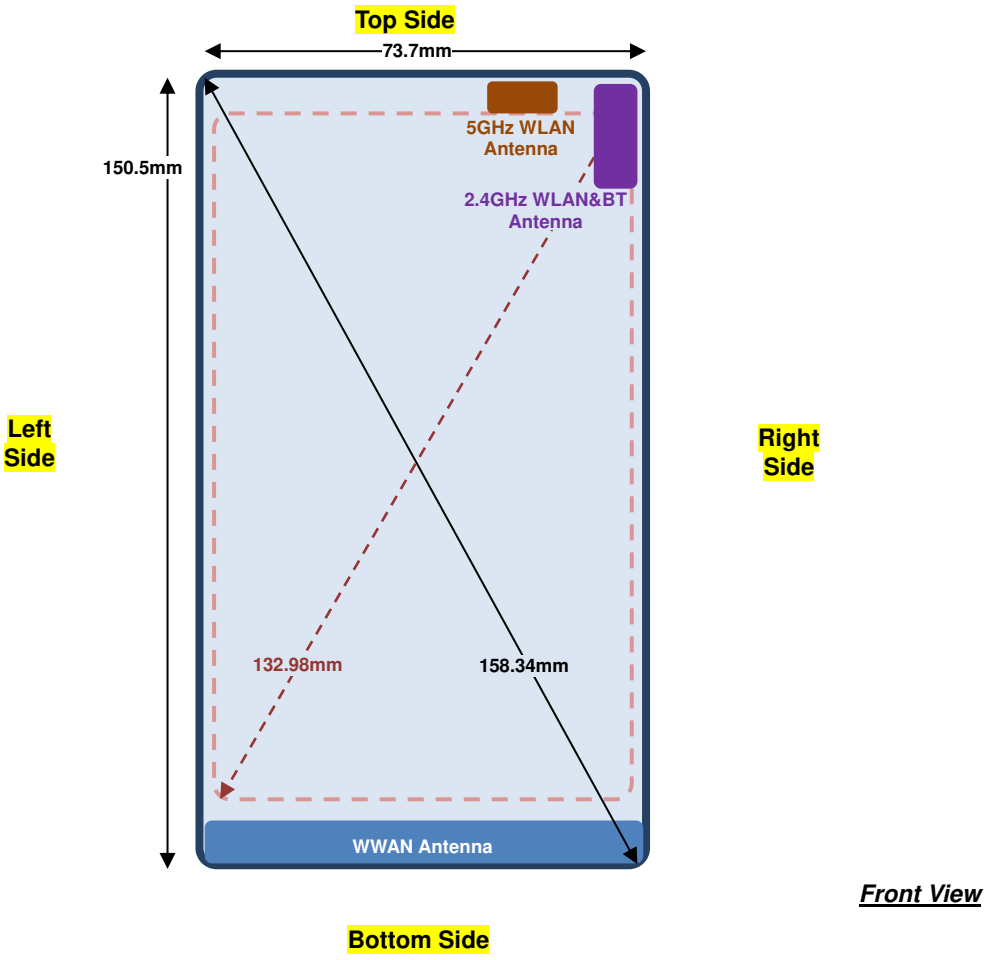
1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 77.13% as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation

Bluetooth time-domain plot



13. Antenna Location

<Mobile Phone>



Front View

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

Positions for SAR tests; Hotspot mode						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN Main	Yes	Yes	No	Yes	Yes	Yes
BT&WLAN	Yes	Yes	Yes	No	Yes	No

General Note:

1. Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

14. SAR Test Results

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/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
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. While operating in “Front” and “Back” configuration by end user, the device will limit different maximum output powers on the GSM1900, WCDMA B2 / B4, CDMA BC1 and LTE B2 / B4 / B7 / B25 / B30 / B66 transmitter and detail descriptions of the power reduction mechanism are included in the operational description.
6. While operating in body-adjacent exposure configuration during a mobile hotspot session, the device will reduced output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC1 and LTE B2 / B4 / B5 / B7 / B25 / B26 / B30 / B38 / B41 / B66 transmitter and detail descriptions of the power reduction mechanism are included in the operational description.
7. The device utilizes independent power reduction mechanisms for SAR compliance for the WLAN transmitter for held-to-ear, near to body and hotspot exposure conditions and detail descriptions of the power reduction mechanism are included in the operational description.

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 (4Tx slots) for GSM850/GSM1900 is 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.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA 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 (HSUPA, HSDPA, 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 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 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. For LTE B4 / B5 / B12 / B17 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 17 / 38 SAR test was covered by Band 12 / 41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. The maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion.
   b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

WLAN Note:

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

14.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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 (4 Tx slots)	Right Cheek	0mm	128	824.2	27.00	27.50	1.122	-0.07	0.413	0.463
	GSM850	GPRS (4 Tx slots)	Right Tilted	0mm	128	824.2	27.00	27.50	1.122	0.1	0.259	0.291
	GSM850	GPRS (4 Tx slots)	Left Cheek	0mm	128	824.2	27.00	27.50	1.122	-0.01	0.420	0.471
	GSM850	GPRS (4 Tx slots)	Left Cheek	0mm	189	836.4	26.99	27.50	1.125	0.06	0.474	0.533
01	GSM850	GPRS (4 Tx slots)	Left Cheek	0mm	251	848.8	26.78	27.50	1.180	0.08	0.454	0.536
	GSM850	GPRS (4 Tx slots)	Left Tilted	0mm	128	824.2	27.00	27.50	1.122	0.04	0.246	0.276
	GSM1900	GPRS (4 Tx slots)	Right Cheek	0mm	661	1880	24.06	25.00	1.242	-0.18	0.194	0.241
	GSM1900	GPRS (4 Tx slots)	Right Tilted	0mm	661	1880	24.06	25.00	1.242	-0.09	0.163	0.202
	GSM1900	GPRS (4 Tx slots)	Left Cheek	0mm	661	1880	24.06	25.00	1.242	-0.08	0.287	0.356
	GSM1900	GPRS (4 Tx slots)	Left Cheek	0mm	512	1850.2	23.69	25.00	1.352	-0.04	0.267	0.361
02	GSM1900	GPRS (4 Tx slots)	Left Cheek	0mm	810	1909.8	23.81	25.00	1.315	-0.04	0.277	0.364
	GSM1900	GPRS (4 Tx slots)	Left Tilted	0mm	661	1880	24.06	25.00	1.242	-0.08	0.113	0.140

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	9538	1907.6	22.87	24.00	1.297	0.02	0.543	0.704
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	9538	1907.6	22.87	24.00	1.297	0.07	0.457	0.593
03	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	9538	1907.6	22.87	24.00	1.297	-0.1	0.803	1.042
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	9262	1852.4	22.74	24.00	1.337	-0.15	0.730	0.976
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	9400	1880	22.83	24.00	1.309	-0.19	0.767	1.004
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	9538	1907.6	22.87	24.00	1.297	-0.13	0.397	0.515
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	1513	1752.6	23.17	24.00	1.211	-0.14	0.509	0.616
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	1513	1752.6	23.17	24.00	1.211	-0.19	0.462	0.559
04	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	1513	1752.6	23.17	24.00	1.211	0.17	0.883	1.069
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	1312	1712.4	22.71	24.00	1.346	0.12	0.748	1.007
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	1413	1732.6	23.03	24.00	1.250	0.06	0.821	1.026
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	1513	1752.6	23.17	24.00	1.211	-0.11	0.365	0.442
05	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	4132	826.4	22.87	24.00	1.297	-0.01	0.722	0.937
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	4182	836.4	22.83	24.00	1.309	0.01	0.681	0.892
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	4233	846.6	22.76	24.00	1.330	0.05	0.653	0.869
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	4132	826.4	22.87	24.00	1.297	0.07	0.450	0.584
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	4132	826.4	22.87	24.00	1.297	0.04	0.690	0.895
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	4182	836.4	22.83	24.00	1.309	0.08	0.632	0.827
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	4233	846.6	22.76	24.00	1.330	0.07	0.599	0.797
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	4132	826.4	22.87	24.00	1.297	0.01	0.407	0.528

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
06	CDMA BC0	1xRTT RC3 SO55	Right Cheek	0mm	777	848.31	24.38	24.50	1.028	0.02	0.600	0.617
	CDMA BC0	1xRTT RC3 SO55	Right Cheek	0mm	1013	824.7	24.31	24.50	1.045	-0.13	0.530	0.554
	CDMA BC0	1xRTT RC3 SO55	Right Cheek	0mm	384	836.52	24.29	24.50	1.050	0	0.564	0.592
	CDMA BC0	1xRTT RC3 SO55	Right Tilted	0mm	777	848.31	24.38	24.50	1.028	0	0.351	0.361
	CDMA BC0	1xRTT RC3 SO55	Left Cheek	0mm	777	848.31	24.38	24.50	1.028	0.06	0.509	0.523
	CDMA BC0	1xRTT RC3 SO55	Left Tilted	0mm	777	848.31	24.38	24.50	1.028	0.01	0.319	0.328
	CDMA BC1	1xRTT RC3 SO55	Right Cheek	0mm	25	1851.25	24.27	24.50	1.054	0.04	0.497	0.524
	CDMA BC1	1xRTT RC3 SO55	Right Tilted	0mm	25	1851.25	24.27	24.50	1.054	-0.03	0.343	0.362
	CDMA BC1	1xRTT RC3 SO55	Left Cheek	0mm	25	1851.25	24.27	24.50	1.054	0.13	0.679	0.716
	CDMA BC1	1xRTT RC3 SO55	Left Cheek	0mm	600	1880	24.07	24.50	1.104	0.11	0.677	0.747
07	CDMA BC1	1xRTT RC3 SO55	Left Cheek	0mm	1175	1908.75	24.04	24.50	1.112	0.07	0.716	0.796
	CDMA BC1	1xRTT RC3 SO55	Left Tilted	0mm	25	1851.25	24.27	24.50	1.054	-0.06	0.275	0.290
08	CDMA BC10	1xRTT RC3 SO55	Right Cheek	0mm	580	820.5	24.47	24.50	1.007	0	0.631	0.635
	CDMA BC10	1xRTT RC3 SO55	Right Tilted	0mm	580	820.5	24.47	24.50	1.007	0.04	0.399	0.402
	CDMA BC10	1xRTT RC3 SO55	Left Cheek	0mm	580	820.5	24.47	24.50	1.007	0.04	0.586	0.590
	CDMA BC10	1xRTT RC3 SO55	Left Tilted	0mm	580	820.5	24.47	24.50	1.007	0.01	0.308	0.310

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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 2	20M	QPSK	1	49	Right Cheek	0mm	18700	1860	23.36	24.00	1.159	-0.16	0.454	0.526
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	18700	1860	22.38	23.00	1.153	-0.1	0.255	0.294
	LTE Band 2	20M	QPSK	1	49	Right Tilted	0mm	18700	1860	23.36	24.00	1.159	-0.02	0.406	0.470
	LTE Band 2	20M	QPSK	50	0	Right Tilted	0mm	18700	1860	22.38	23.00	1.153	-0.04	0.235	0.271
	LTE Band 2	20M	QPSK	1	49	Left Cheek	0mm	18700	1860	23.36	24.00	1.159	0.06	0.680	0.788
	LTE Band 2	20M	QPSK	1	49	Left Cheek	0mm	18900	1880	23.29	24.00	1.178	0.13	0.656	0.773
09	LTE Band 2	20M	QPSK	1	49	Left Cheek	0mm	19100	1900	23.22	24.00	1.197	0.13	0.667	0.798
	LTE Band 2	20M	QPSK	50	0	Left Cheek	0mm	18700	1860	22.38	23.00	1.153	0.08	0.387	0.446
	LTE Band 2	20M	QPSK	1	49	Left Tilted	0mm	18700	1860	23.36	24.00	1.159	0.07	0.371	0.430
	LTE Band 2	20M	QPSK	50	0	Left Tilted	0mm	18700	1860	22.38	23.00	1.153	-0.07	0.202	0.233
	LTE Band 4	20M	QPSK	1	49	Right Cheek	0mm	20175	1732.5	23.43	24.00	1.140	-0.06	0.358	0.408
	LTE Band 4	20M	QPSK	50	0	Right Cheek	0mm	20175	1732.5	22.58	23.00	1.102	-0.1	0.196	0.216
	LTE Band 4	20M	QPSK	1	49	Right Tilted	0mm	20175	1732.5	23.43	24.00	1.140	-0.17	0.354	0.404
	LTE Band 4	20M	QPSK	50	0	Right Tilted	0mm	20175	1732.5	22.58	23.00	1.102	-0.03	0.195	0.215
10	LTE Band 4	20M	QPSK	1	49	Left Cheek	0mm	20175	1732.5	23.43	24.00	1.140	0.13	0.749	0.854
	LTE Band 4	20M	QPSK	50	0	Left Cheek	0mm	20175	1732.5	22.58	23.00	1.102	0.1	0.400	0.441
	LTE Band 4	20M	QPSK	100	0	Left Cheek	0mm	20175	1732.5	22.40	23.00	1.148	0.16	0.412	0.473
	LTE Band 4	20M	QPSK	1	49	Left Tilted	0mm	20175	1732.5	23.43	24.00	1.140	0	0.368	0.420
	LTE Band 4	20M	QPSK	50	0	Left Tilted	0mm	20175	1732.5	22.58	23.00	1.102	0.11	0.201	0.221
11	LTE Band 5	10M	QPSK	1	25	Right Cheek	0mm	20525	836.5	23.21	24.00	1.199	-0.05	0.506	0.607
	LTE Band 5	10M	QPSK	25	0	Right Cheek	0mm	20525	836.5	22.29	23.00	1.178	0	0.283	0.333
	LTE Band 5	10M	QPSK	1	25	Right Tilted	0mm	20525	836.5	23.21	24.00	1.199	-0.02	0.240	0.288
	LTE Band 5	10M	QPSK	25	0	Right Tilted	0mm	20525	836.5	22.29	23.00	1.178	-0.07	0.137	0.161
	LTE Band 5	10M	QPSK	1	25	Left Cheek	0mm	20525	836.5	23.21	24.00	1.199	0.05	0.450	0.540
	LTE Band 5	10M	QPSK	25	0	Left Cheek	0mm	20525	836.5	22.29	23.00	1.178	-0.01	0.254	0.299
	LTE Band 5	10M	QPSK	1	25	Left Tilted	0mm	20525	836.5	23.21	24.00	1.199	0.18	0.249	0.299
	LTE Band 5	10M	QPSK	25	0	Left Tilted	0mm	20525	836.5	22.29	23.00	1.178	0.07	0.150	0.177

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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	49	Right Cheek	0mm	20850	2510	23.10	24.00	1.230	0.12	0.435	0.535
	LTE Band 7	20M	QPSK	50	0	Right Cheek	0mm	20850	2510	22.02	23.00	1.253	0.13	0.279	0.350
	LTE Band 7	20M	QPSK	1	49	Right Tilted	0mm	20850	2510	23.10	24.00	1.230	-0.09	0.193	0.237
	LTE Band 7	20M	QPSK	50	0	Right Tilted	0mm	20850	2510	22.02	23.00	1.253	-0.01	0.125	0.157
12	LTE Band 7	20M	QPSK	1	49	Left Cheek	0mm	20850	2510	23.10	24.00	1.230	0.08	0.705	0.867
	LTE Band 7	20M	QPSK	1	49	Left Cheek	0mm	21100	2535	22.93	24.00	1.279	0.08	0.675	0.864
	LTE Band 7	20M	QPSK	1	49	Left Cheek	0mm	21350	2560	22.97	24.00	1.268	0.03	0.529	0.671
	LTE Band 7	20M	QPSK	50	0	Left Cheek	0mm	20850	2510	22.02	23.00	1.253	0.11	0.396	0.496
	LTE Band 7	20M	QPSK	100	0	Left Cheek	0mm	20850	2510	21.92	23.00	1.282	0.08	0.391	0.501
	LTE Band 7	20M	QPSK	1	49	Left Tilted	0mm	20850	2510	23.10	24.00	1.230	0.01	0.346	0.426
	LTE Band 7	20M	QPSK	50	0	Left Tilted	0mm	20850	2510	22.02	23.00	1.253	0.06	0.222	0.278
13	LTE Band 12	10M	QPSK	1	25	Right Cheek	0mm	23095	707.5	22.97	24.00	1.268	-0.13	0.238	0.302
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	23095	707.5	21.97	23.00	1.268	0.1	0.129	0.164
	LTE Band 12	10M	QPSK	1	25	Right Tilted	0mm	23095	707.5	22.97	24.00	1.268	0	0.142	0.180
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	23095	707.5	21.97	23.00	1.268	-0.01	0.081	0.103
	LTE Band 12	10M	QPSK	1	25	Left Cheek	0mm	23095	707.5	22.97	24.00	1.268	-0.04	0.228	0.289
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	23095	707.5	21.97	23.00	1.268	0	0.129	0.164
	LTE Band 12	10M	QPSK	1	25	Left Tilted	0mm	23095	707.5	22.97	24.00	1.268	-0.08	0.130	0.165
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	23095	707.5	21.97	23.00	1.268	0	0.069	0.087
	LTE Band 13	10M	QPSK	1	25	Right Cheek	0mm	23230	782	23.62	24.00	1.091	0.12	0.476	0.520
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	23230	782	22.46	23.00	1.132	0.08	0.263	0.298
	LTE Band 13	10M	QPSK	1	25	Right Tilted	0mm	23230	782	23.62	24.00	1.091	0.02	0.302	0.330
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	23230	782	22.46	23.00	1.132	-0.01	0.164	0.186
14	LTE Band 13	10M	QPSK	1	25	Left Cheek	0mm	23230	782	23.62	24.00	1.091	-0.06	0.511	0.558
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	23230	782	22.46	23.00	1.132	0.05	0.281	0.318
	LTE Band 13	10M	QPSK	1	25	Left Tilted	0mm	23230	782	23.62	24.00	1.091	-0.12	0.298	0.325
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	23230	782	22.46	23.00	1.132	0.04	0.157	0.178
	LTE Band 25	20M	QPSK	1	49	Right Cheek	0mm	26140	1860	23.42	24.00	1.143	-0.08	0.382	0.437
	LTE Band 25	20M	QPSK	50	0	Right Cheek	0mm	26140	1860	22.31	23.00	1.172	-0.11	0.254	0.298
	LTE Band 25	20M	QPSK	1	49	Right Tilted	0mm	26140	1860	23.42	24.00	1.143	-0.06	0.337	0.385
	LTE Band 25	20M	QPSK	50	0	Right Tilted	0mm	26140	1860	22.31	23.00	1.172	-0.05	0.227	0.266
	LTE Band 25	20M	QPSK	1	49	Left Cheek	0mm	26140	1860	23.42	24.00	1.143	0.1	0.549	0.627
	LTE Band 25	20M	QPSK	1	49	Left Cheek	0mm	26340	1880	23.26	24.00	1.186	0.16	0.555	0.658
15	LTE Band 25	20M	QPSK	1	49	Left Cheek	0mm	26590	1905	22.88	24.00	1.294	0.13	0.545	0.705
	LTE Band 25	20M	QPSK	50	0	Left Cheek	0mm	26140	1860	22.31	23.00	1.172	0.1	0.352	0.413
	LTE Band 25	20M	QPSK	1	49	Left Tilted	0mm	26140	1860	23.42	24.00	1.143	0.11	0.315	0.360
	LTE Band 25	20M	QPSK	50	0	Left Tilted	0mm	26140	1860	22.31	23.00	1.172	0.06	0.197	0.231
	LTE Band 26	15M	QPSK	1	37	Right Cheek	0mm	26865	831.5	23.38	24.00	1.153	0.02	0.469	0.541
	LTE Band 26	15M	QPSK	36	0	Right Cheek	0mm	26865	831.5	22.26	23.00	1.186	-0.12	0.258	0.306
	LTE Band 26	15M	QPSK	1	37	Right Tilted	0mm	26865	831.5	23.38	24.00	1.153	0.05	0.395	0.456
	LTE Band 26	15M	QPSK	36	0	Right Tilted	0mm	26865	831.5	22.26	23.00	1.186	-0.12	0.258	0.306
16	LTE Band 26	15M	QPSK	1	37	Left Cheek	0mm	26865	831.5	23.38	24.00	1.153	-0.17	0.518	0.597
	LTE Band 26	15M	QPSK	36	0	Left Cheek	0mm	26865	831.5	22.26	23.00	1.186	0.06	0.290	0.344
	LTE Band 26	15M	QPSK	1	37	Left Tilted	0mm	26865	831.5	23.38	24.00	1.153	0.03	0.305	0.352
	LTE Band 26	15M	QPSK	36	0	Left Tilted	0mm	26865	831.5	22.26	23.00	1.186	-0.02	0.171	0.203

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	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)
17	LTE Band 30	10M	QPSK	1	25	Right Cheek	0mm	27710	2310	23.15	24.00	1.216	0.11	0.365	0.444
	LTE Band 30	10M	QPSK	25	0	Right Cheek	0mm	27710	2310	22.23	23.00	1.194	0.03	0.230	0.275
	LTE Band 30	10M	QPSK	1	25	Right Tilted	0mm	27710	2310	23.15	24.00	1.216	0.07	0.131	0.159
	LTE Band 30	10M	QPSK	25	0	Right Tilted	0mm	27710	2310	22.23	23.00	1.194	0.06	0.076	0.091
	LTE Band 30	10M	QPSK	1	25	Left Cheek	0mm	27710	2310	23.15	24.00	1.216	-0.04	0.242	0.294
	LTE Band 30	10M	QPSK	25	0	Left Cheek	0mm	27710	2310	22.23	23.00	1.194	-0.06	0.155	0.185
	LTE Band 30	10M	QPSK	1	25	Left Tilted	0mm	27710	2310	23.15	24.00	1.216	-0.02	0.228	0.277
	LTE Band 30	10M	QPSK	25	0	Left Tilted	0mm	27710	2310	22.23	23.00	1.194	-0.07	0.125	0.149
	LTE Band 66	20M	QPSK	1	49	Right Cheek	0mm	132322	1745	23.38	24.00	1.153	-0.17	0.378	0.436
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	132322	1745	22.41	23.00	1.146	-0.18	0.230	0.263
	LTE Band 66	20M	QPSK	1	49	Right Tilted	0mm	132322	1745	23.38	24.00	1.153	0.16	0.363	0.419
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	132322	1745	22.41	23.00	1.146	-0.14	0.214	0.245
18	LTE Band 66	20M	QPSK	1	49	Left Cheek	0mm	132322	1745	23.38	24.00	1.153	0.17	0.621	0.716
	LTE Band 66	20M	QPSK	1	49	Left Cheek	0mm	132072	1720	23.33	24.00	1.167	0.16	0.572	0.667
	LTE Band 66	20M	QPSK	1	49	Left Cheek	0mm	132572	1770	22.96	24.00	1.271	0.14	0.545	0.692
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	132322	1745	22.41	23.00	1.146	0.1	0.386	0.442
	LTE Band 66	20M	QPSK	1	49	Left Tilted	0mm	132322	1745	23.38	24.00	1.153	0.03	0.321	0.370
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	132322	1745	22.41	23.00	1.146	-0.01	0.210	0.241

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
19	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	40620	2593	23.48	24.00	1.127	62.9	1.006	0.01	0.329	0.373
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	39750	2506	23.13	24.00	1.222	62.9	1.006	0.1	0.193	0.237
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	40185	2549.5	23.06	24.00	1.242	62.9	1.006	-0.1	0.251	0.314
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	41055	2636.5	22.87	24.00	1.297	62.9	1.006	-0.06	0.236	0.308
	LTE Band 41	20M	QPSK	1	49	Right Cheek	0mm	41490	2680	22.85	24.00	1.303	62.9	1.006	-0.08	0.253	0.332
	LTE Band 41	20M	QPSK	50	24	Right Cheek	0mm	40620	2593	22.47	23.00	1.130	62.9	1.006	0.05	0.205	0.233
	LTE Band 41	20M	QPSK	1	49	Right Tilted	0mm	40620	2593	23.48	24.00	1.127	62.9	1.006	0.03	0.149	0.169
	LTE Band 41	20M	QPSK	50	24	Right Tilted	0mm	40620	2593	22.47	23.00	1.130	62.9	1.006	0.01	0.093	0.106
	LTE Band 41	20M	QPSK	1	49	Left Cheek	0mm	40620	2593	23.48	24.00	1.127	62.9	1.006	0.01	0.257	0.291
	LTE Band 41	20M	QPSK	50	24	Left Cheek	0mm	40620	2593	22.47	23.00	1.130	62.9	1.006	0.05	0.159	0.181
	LTE Band 41	20M	QPSK	1	49	Left Tilted	0mm	40620	2593	23.48	24.00	1.127	62.9	1.006	0.16	0.204	0.231
	LTE Band 41	20M	QPSK	50	24	Left Tilted	0mm	40620	2593	22.47	23.00	1.130	62.9	1.006	-0.18	0.131	0.149

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	ON	11	2462	16.49	16.50	1.002	97.62	1.024	0.03	0.510	0.523
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	ON	11	2462	16.49	16.50	1.002	97.62	1.024	0	0.525	0.539
20	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	ON	11	2462	16.49	16.50	1.002	97.62	1.024	-0.03	1.310	1.345
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	ON	1	2412	16.42	16.50	1.019	97.62	1.024	0	1.280	1.335
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	ON	6	2437	16.38	16.50	1.028	97.62	1.024	0	1.080	1.137
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	ON	11	2462	16.49	16.50	1.002	97.62	1.024	0.01	0.929	0.953
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	ON	1	2412	16.42	16.50	1.019	97.62	1.024	0.01	0.949	0.990
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	ON	6	2437	16.38	16.50	1.028	97.62	1.024	-0.04	0.712	0.750
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	ON	60	5300	13.47	13.50	1.007	87.26	1.146	-0.09	0.710	0.819
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	ON	64	5320	13.34	13.50	1.037	87.26	1.146	0.11	0.625	0.743
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	ON	52	5260	13.32	13.50	1.042	87.26	1.146	0.02	0.608	0.726
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	ON	56	5280	13.11	13.50	1.094	87.26	1.146	-0.02	0.569	0.713
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	ON	60	5300	13.47	13.50	1.007	87.26	1.146	-0.04	0.706	0.814
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	ON	64	5320	13.34	13.50	1.037	87.26	1.146	0.02	0.650	0.773
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	ON	52	5260	13.32	13.50	1.042	87.26	1.146	0	0.690	0.824
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	ON	56	5280	13.11	13.50	1.094	87.26	1.146	-0.01	0.653	0.819
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	ON	60	5300	13.47	13.50	1.007	87.26	1.146	0.05	0.776	0.895
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	ON	64	5320	13.34	13.50	1.037	87.26	1.146	0.04	0.671	0.797
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	ON	52	5260	13.32	13.50	1.042	87.26	1.146	0.06	0.769	0.918
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	ON	56	5280	13.11	13.50	1.094	87.26	1.146	0.07	0.725	0.909
21	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	60	5300	13.47	13.50	1.007	87.26	1.146	0	0.885	1.021
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	64	5320	13.34	13.50	1.037	87.26	1.146	-0.18	0.751	0.893
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	52	5260	13.32	13.50	1.042	87.26	1.146	0.04	0.847	1.011
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	56	5280	13.11	13.50	1.094	87.26	1.146	0.03	0.806	1.010
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	ON	100	5500	13.45	13.50	1.011	87.26	1.146	0.02	0.538	0.623
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	ON	100	5500	13.45	13.50	1.011	87.26	1.146	-0.01	0.577	0.669
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	ON	100	5500	13.45	13.50	1.011	87.26	1.146	0.04	0.638	0.739
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	100	5500	13.45	13.50	1.011	87.26	1.146	0.03	0.732	0.848
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	116	5580	13.40	13.50	1.023	87.26	1.146	-0.01	0.803	0.941
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	124	5620	13.34	13.50	1.038	87.26	1.146	0.03	0.785	0.933
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	132	5660	13.30	13.50	1.047	87.26	1.146	-0.04	0.852	1.022
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	140	5700	13.39	13.50	1.025	87.26	1.146	-0.07	0.879	1.033
22	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	144	5720	13.41	13.50	1.021	87.26	1.146	-0.07	0.902	1.055
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	ON	149	5745	13.49	13.50	1.002	87.26	1.146	0.02	0.924	1.061
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	ON	157	5785	13.44	13.50	1.013	87.26	1.146	0.01	0.951	1.105
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	ON	165	5825	13.37	13.50	1.030	87.26	1.146	0.03	1.010	1.192
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	ON	149	5745	13.49	13.50	1.002	87.26	1.146	0.01	0.865	0.993
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	ON	157	5785	13.44	13.50	1.013	87.26	1.146	-0.02	0.859	0.998
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	ON	165	5825	13.37	13.50	1.030	87.26	1.146	0	0.835	0.986
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	ON	149	5745	13.49	13.50	1.002	87.26	1.146	0.17	0.947	1.087
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	ON	157	5785	13.44	13.50	1.013	87.26	1.146	-0.02	0.988	1.148
23	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	ON	165	5825	13.37	13.50	1.030	87.26	1.146	0.04	1.050	1.239
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	149	5745	13.49	13.50	1.002	87.26	1.146	-0.13	0.925	1.062
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	157	5785	13.44	13.50	1.013	87.26	1.146	0	0.917	1.065
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	ON	165	5825	13.37	13.50	1.030	87.26	1.146	-0.01	0.903	1.066

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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)
	Bluetooth	1Mbps	Right Cheek	0mm	00	2402	11.24	12.00	1.191	0.09	0.062	0.074
	Bluetooth	1Mbps	Right Tilted	0mm	00	2402	11.24	12.00	1.191	-0.11	0.047	0.056
24	Bluetooth	1Mbps	Left Cheek	0mm	00	2402	11.24	12.00	1.191	0.01	0.127	0.151
	Bluetooth	1Mbps	Left Cheek	0mm	39	2441	10.64	12.00	1.368	-0.07	0.098	0.134
	Bluetooth	1Mbps	Left Cheek	0mm	78	2480	10.60	12.00	1.380	-0.07	0.106	0.146
	Bluetooth	1Mbps	Left Tilted	0mm	00	2402	11.24	12.00	1.191	0.01	0.097	0.116

14.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (4 Tx slots)	Front	5mm	OFF	128	824.2	27.00	27.50	1.122	-0.01	0.491	0.551
	GSM850	GPRS (4 Tx slots)	Back	5mm	OFF	128	824.2	27.00	27.50	1.122	0.07	0.618	0.693
	GSM850	GPRS (4 Tx slots)	Back	5mm	OFF	189	836.4	26.99	27.50	1.125	0.06	0.652	0.733
	GSM850	GPRS (4 Tx slots)	Back	5mm	OFF	251	848.8	26.78	27.50	1.180	0.04	0.605	0.714
	GSM850	GPRS (4 Tx slots)	Left Side	5mm	OFF	128	824.2	27.00	27.50	1.122	-0.02	0.709	0.796
	GSM850	GPRS (4 Tx slots)	Left Side	5mm	OFF	189	836.4	26.99	27.50	1.125	0.12	0.816	0.918
	GSM850	GPRS (4 Tx slots)	Left Side	5mm	OFF	251	848.8	26.78	27.50	1.180	-0.07	0.798	0.942
	GSM850	GPRS (4 Tx slots)	Right Side	5mm	OFF	128	824.2	27.00	27.50	1.122	0	0.722	0.810
	GSM850	GPRS (4 Tx slots)	Right Side	5mm	OFF	189	836.4	26.99	27.50	1.125	0.02	0.804	0.904
25	GSM850	GPRS (4 Tx slots)	Right Side	5mm	OFF	251	848.8	26.78	27.50	1.180	0.03	0.834	0.984
	GSM850	GPRS (4 Tx slots)	Bottom Side	5mm	OFF	128	824.2	27.00	27.50	1.122	0.1	0.087	0.098
	GSM1900	GPRS (4 Tx slots)	Front	5mm	ON	661	1880	18.14	19.00	1.219	0.01	0.329	0.401
	GSM1900	GPRS (4 Tx slots)	Back	5mm	ON	661	1880	18.14	19.00	1.219	-0.18	0.493	0.601
	GSM1900	GPRS (4 Tx slots)	Back	5mm	ON	512	1850.2	18.04	19.00	1.247	0.01	0.507	0.632
	GSM1900	GPRS (4 Tx slots)	Back	5mm	ON	810	1909.8	17.94	19.00	1.276	0.08	0.376	0.480
	GSM1900	GPRS (4 Tx slots)	Left Side	5mm	ON	661	1880	18.14	19.00	1.219	0.08	0.096	0.117
	GSM1900	GPRS (4 Tx slots)	Right Side	5mm	ON	661	1880	18.14	19.00	1.219	0.11	0.024	0.029
26	GSM1900	GPRS (4 Tx slots)	Bottom Side	5mm	ON	661	1880	18.14	19.00	1.219	0.15	0.624	0.761
	GSM1900	GPRS (4 Tx slots)	Bottom Side	5mm	ON	512	1850.2	18.04	19.00	1.247	0.14	0.591	0.737
	GSM1900	GPRS (4 Tx slots)	Bottom Side	5mm	ON	810	1909.8	17.94	19.00	1.276	0.07	0.505	0.645

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	5mm	ON	9400	1880	13.98	14.50	1.127	-0.15	0.599	0.675
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9400	1880	13.98	14.50	1.127	-0.02	0.711	0.801
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9262	1852.4	13.87	14.50	1.156	-0.12	0.742	0.858
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9538	1907.6	13.92	14.50	1.143	-0.18	0.545	0.623
	WCDMA II	RMC 12.2Kbps	Left Side	5mm	ON	9400	1880	13.98	14.50	1.127	-0.18	0.144	0.162
	WCDMA II	RMC 12.2Kbps	Right Side	5mm	ON	9400	1880	13.98	14.50	1.127	0.02	0.046	0.052
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9400	1880	13.98	14.50	1.127	0.08	0.797	0.898
27	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9262	1852.4	13.87	14.50	1.156	0.11	0.822	0.950
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9538	1907.6	13.92	14.50	1.143	0.05	0.683	0.781
	WCDMA IV	RMC 12.2Kbps	Front	5mm	ON	1413	1732.6	14.84	15.00	1.038	0	0.455	0.472
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1413	1732.6	14.84	15.00	1.038	-0.17	0.785	0.814
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1312	1712.4	14.35	15.00	1.161	-0.15	0.762	0.885
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1513	1752.6	14.38	15.00	1.153	-0.08	0.827	0.954
	WCDMA IV	RMC 12.2Kbps	Left Side	5mm	ON	1413	1732.6	14.84	15.00	1.038	-0.13	0.180	0.187
	WCDMA IV	RMC 12.2Kbps	Right Side	5mm	ON	1413	1732.6	14.84	15.00	1.038	0.1	0.051	0.053
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	ON	1413	1732.6	14.84	15.00	1.038	0.12	0.873	0.906
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	ON	1312	1712.4	14.35	15.00	1.161	0.15	0.795	0.923
28	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	ON	1513	1752.6	14.38	15.00	1.153	0.07	0.860	0.992
	WCDMA V	RMC 12.2Kbps	Front	5mm	ON	4132	826.4	22.49	22.50	1.002	0.08	0.554	0.555
	WCDMA V	RMC 12.2Kbps	Back	5mm	ON	4132	826.4	22.49	22.50	1.002	-0.12	0.686	0.688
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	ON	4132	826.4	22.49	22.50	1.002	-0.01	1.140	1.143
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	ON	4182	836.4	22.27	22.50	1.054	-0.01	1.100	1.160
29	WCDMA V	RMC 12.2Kbps	Left Side	5mm	ON	4233	846.6	22.10	22.50	1.096	0.04	1.060	1.162
	WCDMA V	RMC 12.2Kbps	Right Side	5mm	ON	4132	826.4	22.49	22.50	1.002	0.08	0.523	0.524
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	ON	4132	826.4	22.49	22.50	1.002	-0.12	0.135	0.135

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA BC0	RTAP 153.6Kbps	Front	5mm	OFF	777	848.31	24.37	24.50	1.030	0.08	0.620	0.639
30	CDMA BC0	RTAP 153.6Kbps	Back	5mm	OFF	777	848.31	24.37	24.50	1.030	-0.11	0.813	0.838
	CDMA BC0	RTAP 153.6Kbps	Back	5mm	OFF	1013	824.7	24.25	24.50	1.059	-0.05	0.773	0.819
	CDMA BC0	RTAP 153.6Kbps	Back	5mm	OFF	384	836.52	24.20	24.50	1.072	-0.09	0.724	0.776
	CDMA BC0	RTAP 153.6Kbps	Left Side	5mm	OFF	777	848.31	24.37	24.50	1.030	-0.05	0.664	0.684
	CDMA BC0	RTAP 153.6Kbps	Right Side	5mm	OFF	777	848.31	24.37	24.50	1.030	-0.17	0.689	0.710
	CDMA BC0	RTAP 153.6Kbps	Bottom Side	5mm	OFF	777	848.31	24.37	24.50	1.030	-0.18	0.144	0.148
	CDMA BC1	RTAP 153.6Kbps	Front	5mm	ON	1175	1908.75	16.72	17.00	1.067	-0.1	0.617	0.658
	CDMA BC1	RTAP 153.6Kbps	Back	5mm	ON	1175	1908.75	16.72	17.00	1.067	-0.03	0.793	0.846
31	CDMA BC1	RTAP 153.6Kbps	Back	5mm	ON	25	1851.25	16.69	17.00	1.074	0.06	1.110	1.192
	CDMA BC1	RTAP 153.6Kbps	Back	5mm	ON	600	1880	16.69	17.00	1.074	-0.05	0.949	1.019
	CDMA BC1	RTAP 153.6Kbps	Left Side	5mm	ON	1175	1908.75	16.72	17.00	1.067	-0.16	0.148	0.158
	CDMA BC1	RTAP 153.6Kbps	Right Side	5mm	ON	1175	1908.75	16.72	17.00	1.067	0.02	0.047	0.050
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	5mm	ON	1175	1908.75	16.72	17.00	1.067	0.18	0.996	1.062
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	5mm	ON	25	1851.25	16.69	17.00	1.074	0.13	1.100	1.181
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	5mm	ON	600	1880	16.69	17.00	1.074	0.03	1.070	1.149
	CDMA BC10	RTAP 153.6Kbps	Front	5mm	OFF	580	820.5	24.46	24.50	1.009	-0.02	0.583	0.588
	CDMA BC10	RTAP 153.6Kbps	Back	5mm	OFF	580	820.5	24.46	24.50	1.009	-0.01	0.791	0.798
32	CDMA BC10	RTAP 153.6Kbps	Left Side	5mm	OFF	580	820.5	24.46	24.50	1.009	-0.15	0.969	0.978
	CDMA BC10	RTAP 153.6Kbps	Right Side	5mm	OFF	580	820.5	24.46	24.50	1.009	-0.09	0.831	0.839
	CDMA BC10	RTAP 153.6Kbps	Bottom Side	5mm	OFF	580	820.5	24.46	24.50	1.009	0.13	0.113	0.114

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20M	QPSK	1	0	Front	5mm	ON	18900	1880	15.50	15.50	1.000	-0.1	0.599	0.599
	LTE Band 2	20M	QPSK	50	0	Front	5mm	ON	18900	1880	14.89	15.50	1.151	-0.04	0.441	0.508
	LTE Band 2	20M	QPSK	1	0	Back	5mm	ON	18900	1880	15.50	15.50	1.000	-0.17	0.934	0.934
	LTE Band 2	20M	QPSK	1	0	Back	5mm	ON	18700	1860	15.44	15.50	1.014	-0.11	0.915	0.928
	LTE Band 2	20M	QPSK	1	0	Back	5mm	ON	19100	1900	15.26	15.50	1.057	-0.05	0.918	0.970
	LTE Band 2	20M	QPSK	50	0	Back	5mm	ON	18900	1880	14.89	15.50	1.151	-0.01	0.741	0.853
	LTE Band 2	20M	QPSK	50	0	Back	5mm	ON	18700	1860	14.75	15.50	1.189	-0.15	0.670	0.796
	LTE Band 2	20M	QPSK	50	0	Back	5mm	ON	19100	1900	14.60	15.50	1.230	-0.03	0.697	0.857
	LTE Band 2	20M	QPSK	100	0	Back	5mm	ON	18900	1880	14.83	15.50	1.167	-0.12	0.741	0.865
	LTE Band 2	20M	QPSK	1	0	Left Side	5mm	ON	18900	1880	15.50	15.50	1.000	-0.02	0.144	0.144
	LTE Band 2	20M	QPSK	50	0	Left Side	5mm	ON	18900	1880	14.89	15.50	1.151	-0.02	0.113	0.130
	LTE Band 2	20M	QPSK	1	0	Right Side	5mm	ON	18900	1880	15.50	15.50	1.000	0.11	0.046	0.046
	LTE Band 2	20M	QPSK	50	0	Right Side	5mm	ON	18900	1880	14.89	15.50	1.151	0.02	0.035	0.040
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	ON	18900	1880	15.50	15.50	1.000	0.14	0.935	0.935
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	ON	18700	1860	15.44	15.50	1.014	0.03	0.886	0.898
33	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	ON	19100	1900	15.26	15.50	1.057	-0.05	0.924	0.976
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	ON	18900	1880	14.89	15.50	1.151	0.04	0.759	0.873
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	ON	18700	1860	14.75	15.50	1.189	0.18	0.708	0.841
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	ON	19100	1900	14.60	15.50	1.230	0.07	0.738	0.908
	LTE Band 2	20M	QPSK	100	0	Bottom Side	5mm	ON	18900	1880	14.83	15.50	1.167	0.02	0.757	0.883

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 4	20M	QPSK	1	49	Front	5mm	ON	20175	1732.5	15.85	16.00	1.035	0.08	0.508	0.526
	LTE Band 4	20M	QPSK	50	0	Front	5mm	ON	20175	1732.5	15.61	16.00	1.094	0.14	0.407	0.445
	LTE Band 4	20M	QPSK	1	49	Back	5mm	ON	20175	1732.5	15.85	16.00	1.035	-0.12	0.916	0.948
	LTE Band 4	20M	QPSK	50	0	Back	5mm	ON	20175	1732.5	15.61	16.00	1.094	-0.07	0.713	0.780
	LTE Band 4	20M	QPSK	100	0	Back	5mm	ON	20175	1732.5	15.57	16.00	1.104	-0.08	0.737	0.814
	LTE Band 4	20M	QPSK	1	49	Left Side	5mm	ON	20175	1732.5	15.85	16.00	1.035	0.05	0.169	0.175
	LTE Band 4	20M	QPSK	50	0	Left Side	5mm	ON	20175	1732.5	15.61	16.00	1.094	-0.12	0.155	0.170
	LTE Band 4	20M	QPSK	1	49	Right Side	5mm	ON	20175	1732.5	15.85	16.00	1.035	0.11	0.044	0.046
	LTE Band 4	20M	QPSK	50	0	Right Side	5mm	ON	20175	1732.5	15.61	16.00	1.094	0.1	0.042	0.046
34	LTE Band 4	20M	QPSK	1	49	Bottom Side	5mm	ON	20175	1732.5	15.85	16.00	1.035	0.03	0.925	0.958
	LTE Band 4	20M	QPSK	50	0	Bottom Side	5mm	ON	20175	1732.5	15.61	16.00	1.094	0.09	0.718	0.785
	LTE Band 4	20M	QPSK	100	0	Bottom Side	5mm	ON	20175	1732.5	15.57	16.00	1.104	0.15	0.758	0.837
	LTE Band 5	10M	QPSK	1	25	Front	5mm	ON	20525	836.5	22.49	23.50	1.262	0.08	0.561	0.708
	LTE Band 5	10M	QPSK	25	12	Front	5mm	ON	20525	836.5	21.58	22.50	1.236	-0.09	0.313	0.387
	LTE Band 5	10M	QPSK	1	25	Back	5mm	ON	20525	836.5	22.49	23.50	1.262	0.18	0.753	0.950
	LTE Band 5	10M	QPSK	25	12	Back	5mm	ON	20525	836.5	21.58	22.50	1.236	-0.01	0.409	0.506
	LTE Band 5	10M	QPSK	50	0	Back	5mm	ON	20525	836.5	21.55	22.50	1.245	0.04	0.409	0.509
35	LTE Band 5	10M	QPSK	1	25	Left Side	5mm	ON	20525	836.5	22.49	23.50	1.262	0.15	0.906	1.143
	LTE Band 5	10M	QPSK	25	12	Left Side	5mm	ON	20525	836.5	21.58	22.50	1.236	0.12	0.494	0.611
	LTE Band 5	10M	QPSK	50	0	Left Side	5mm	ON	20525	836.5	21.55	22.50	1.245	0.04	0.478	0.595
	LTE Band 5	10M	QPSK	1	25	Right Side	5mm	ON	20525	836.5	22.49	23.50	1.262	0.05	0.860	1.085
	LTE Band 5	10M	QPSK	25	12	Right Side	5mm	ON	20525	836.5	21.58	22.50	1.236	0.18	0.530	0.655
	LTE Band 5	10M	QPSK	50	0	Right Side	5mm	ON	20525	836.5	22.49	23.50	1.262	0.04	0.514	0.649
	LTE Band 5	10M	QPSK	1	25	Bottom Side	5mm	ON	20525	836.5	21.58	22.50	1.236	-0.05	0.137	0.169
	LTE Band 5	10M	QPSK	25	12	Bottom Side	5mm	ON	20525	836.5	21.55	22.50	1.245	-0.01	0.073	0.091
	LTE Band 7	20M	QPSK	1	49	Front	5mm	ON	20850	2510	18.53	19.00	1.114	-0.08	0.751	0.837
	LTE Band 7	20M	QPSK	1	49	Front	5mm	ON	21100	2535	18.02	19.00	1.253	-0.11	0.804	1.008
	LTE Band 7	20M	QPSK	1	49	Front	5mm	ON	21350	2560	18.51	19.00	1.119	-0.02	0.880	0.985
	LTE Band 7	20M	QPSK	50	0	Front	5mm	ON	20850	2510	18.33	19.00	1.167	0.01	0.757	0.883
	LTE Band 7	20M	QPSK	50	0	Front	5mm	ON	21100	2535	18.09	19.00	1.233	0.01	0.808	0.996
36	LTE Band 7	20M	QPSK	50	0	Front	5mm	ON	21350	2560	18.17	19.00	1.211	-0.06	0.863	1.045
	LTE Band 7	20M	QPSK	100	0	Front	5mm	ON	20850	2510	18.27	19.00	1.183	-0.15	0.742	0.878
	LTE Band 7	20M	QPSK	1	49	Back	5mm	ON	20850	2510	18.53	19.00	1.114	0.18	0.794	0.885
	LTE Band 7	20M	QPSK	1	49	Back	5mm	ON	21100	2535	18.02	19.00	1.253	-0.02	0.759	0.951
	LTE Band 7	20M	QPSK	1	49	Back	5mm	ON	21350	2560	18.51	19.00	1.119	0.05	0.816	0.913
	LTE Band 7	20M	QPSK	50	0	Back	5mm	ON	20850	2510	18.33	19.00	1.167	-0.06	0.728	0.849
	LTE Band 7	20M	QPSK	50	0	Back	5mm	ON	21100	2535	18.09	19.00	1.233	0.19	0.773	0.953
	LTE Band 7	20M	QPSK	50	0	Back	5mm	ON	21350	2560	18.17	19.00	1.211	0.04	0.839	1.016
	LTE Band 7	20M	QPSK	100	0	Back	5mm	ON	20850	2510	18.27	19.00	1.183	-0.14	0.765	0.905
	LTE Band 7	20M	QPSK	1	49	Left Side	5mm	ON	20850	2510	18.53	19.00	1.114	0	0.239	0.266
	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	ON	20850	2510	18.33	19.00	1.167	-0.06	0.190	0.222
	LTE Band 7	20M	QPSK	1	49	Right Side	5mm	ON	20850	2510	18.53	19.00	1.114	-0.07	0.165	0.184
	LTE Band 7	20M	QPSK	50	0	Right Side	5mm	ON	20850	2510	18.33	19.00	1.167	-0.14	0.119	0.139
	LTE Band 7	20M	QPSK	1	49	Bottom Side	5mm	ON	20850	2510	18.53	19.00	1.114	-0.08	0.742	0.827
	LTE Band 7	20M	QPSK	1	49	Bottom Side	5mm	ON	21100	2535	18.02	19.00	1.253	-0.02	0.722	0.905
	LTE Band 7	20M	QPSK	1	49	Bottom Side	5mm	ON	21350	2560	18.51	19.00	1.119	-0.03	0.753	0.843
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	ON	20850	2510	18.33	19.00	1.167	0.01	0.764	0.891
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	ON	21100	2535	18.09	19.00	1.233	0.04	0.757	0.933
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	ON	21350	2560	18.17	19.00	1.211	-0.1	0.746	0.903
	LTE Band 7	20M	QPSK	100	0	Bottom Side	5mm	ON	20850	2510	18.27	19.00	1.183	0.14	0.796	0.942

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12	10M	QPSK	1	25	Front	5mm	OFF	23095	707.5	22.97	24.00	1.268	-0.19	0.332	0.421
	LTE Band 12	10M	QPSK	25	0	Front	5mm	OFF	23095	707.5	21.97	23.00	1.268	0.03	0.214	0.271
37	LTE Band 12	10M	QPSK	1	25	Back	5mm	OFF	23095	707.5	22.97	24.00	1.268	-0.01	0.562	0.712
	LTE Band 12	10M	QPSK	25	0	Back	5mm	OFF	23095	707.5	21.97	23.00	1.268	-0.09	0.352	0.446
	LTE Band 12	10M	QPSK	1	25	Left Side	5mm	OFF	23095	707.5	22.97	24.00	1.268	-0.15	0.530	0.672
	LTE Band 12	10M	QPSK	25	0	Left Side	5mm	OFF	23095	707.5	21.97	23.00	1.268	-0.15	0.338	0.428
	LTE Band 12	10M	QPSK	1	25	Right Side	5mm	OFF	23095	707.5	22.97	24.00	1.268	-0.14	0.495	0.627
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	OFF	23095	707.5	21.97	23.00	1.268	-0.03	0.293	0.371
	LTE Band 12	10M	QPSK	1	25	Bottom Side	5mm	OFF	23095	707.5	22.97	24.00	1.268	0.01	0.071	0.090
	LTE Band 12	10M	QPSK	25	0	Bottom Side	5mm	OFF	23095	707.5	21.97	23.00	1.268	-0.01	0.038	0.048
	LTE Band 13	10M	QPSK	1	25	Front	5mm	OFF	23230	782	23.62	24.00	1.091	-0.12	0.731	0.798
	LTE Band 13	10M	QPSK	25	0	Front	5mm	OFF	23230	782	22.46	23.00	1.132	-0.1	0.374	0.424
38	LTE Band 13	10M	QPSK	1	25	Back	5mm	OFF	23230	782	23.62	24.00	1.091	-0.11	1.090	1.190
	LTE Band 13	10M	QPSK	25	0	Back	5mm	OFF	23230	782	22.46	23.00	1.132	-0.08	0.524	0.593
	LTE Band 13	10M	QPSK	50	0	Back	5mm	OFF	23230	782	22.32	23.00	1.169	-0.09	0.517	0.605
	LTE Band 13	10M	QPSK	1	25	Left Side	5mm	OFF	23230	782	23.62	24.00	1.091	-0.18	1.050	1.146
	LTE Band 13	10M	QPSK	25	0	Left Side	5mm	OFF	23230	782	22.46	23.00	1.132	-0.18	0.579	0.656
	LTE Band 13	10M	QPSK	50	0	Left Side	5mm	OFF	23230	782	22.32	23.00	1.169	-0.11	0.580	0.678
	LTE Band 13	10M	QPSK	1	25	Right Side	5mm	OFF	23230	782	23.62	24.00	1.091	0.08	0.958	1.046
	LTE Band 13	10M	QPSK	25	0	Right Side	5mm	OFF	23230	782	22.46	23.00	1.132	-0.14	0.545	0.617
	LTE Band 13	10M	QPSK	50	0	Right Side	5mm	OFF	23230	782	22.32	23.00	1.169	-0.04	0.556	0.650
	LTE Band 13	10M	QPSK	1	25	Bottom Side	5mm	OFF	23230	782	23.62	24.00	1.091	0.05	0.062	0.068
	LTE Band 13	10M	QPSK	25	0	Bottom Side	5mm	OFF	23230	782	22.46	23.00	1.132	0.03	0.040	0.045
	LTE Band 25	20M	QPSK	1	49	Front	5mm	ON	26140	1860	16.49	16.50	1.002	-0.1	0.586	0.587
	LTE Band 25	20M	QPSK	50	0	Front	5mm	ON	26140	1860	15.75	16.50	1.189	-0.04	0.432	0.513
	LTE Band 25	20M	QPSK	1	49	Back	5mm	ON	26140	1860	16.49	16.50	1.002	-0.17	0.915	0.917
	LTE Band 25	20M	QPSK	1	49	Back	5mm	ON	26340	1880	15.86	16.50	1.159	-0.04	0.821	0.951
	LTE Band 25	20M	QPSK	1	49	Back	5mm	ON	26590	1905	15.99	16.50	1.125	-0.07	0.701	0.788
	LTE Band 25	20M	QPSK	50	0	Back	5mm	ON	26140	1860	15.75	16.50	1.189	-0.06	0.726	0.863
	LTE Band 25	20M	QPSK	50	0	Back	5mm	ON	26340	1880	15.60	16.50	1.230	-0.05	0.684	0.842
	LTE Band 25	20M	QPSK	50	0	Back	5mm	ON	26590	1905	15.64	16.50	1.219	-0.06	0.570	0.695
	LTE Band 25	20M	QPSK	100	0	Back	5mm	ON	26140	1860	15.66	16.50	1.213	-0.03	0.726	0.881
	LTE Band 25	20M	QPSK	1	49	Left Side	5mm	ON	26140	1860	16.49	16.50	1.002	-0.18	0.141	0.141
	LTE Band 25	20M	QPSK	50	0	Left Side	5mm	ON	26140	1860	15.75	16.50	1.189	-0.09	0.110	0.131
	LTE Band 25	20M	QPSK	1	49	Right Side	5mm	ON	26140	1860	16.49	16.50	1.002	0.02	0.045	0.045
	LTE Band 25	20M	QPSK	50	0	Right Side	5mm	ON	26140	1860	15.75	16.50	1.189	0.13	0.035	0.042
	LTE Band 25	20M	QPSK	1	49	Bottom Side	5mm	ON	26140	1860	16.49	16.50	1.002	0.14	0.946	0.948
39	LTE Band 25	20M	QPSK	1	49	Bottom Side	5mm	ON	26340	1880	15.86	16.50	1.159	0.11	0.904	1.048
	LTE Band 25	20M	QPSK	1	49	Bottom Side	5mm	ON	26590	1905	15.99	16.50	1.125	0.12	0.803	0.903
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5mm	ON	26140	1860	15.75	16.50	1.189	0.14	0.744	0.884
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5mm	ON	26340	1880	15.60	16.50	1.230	0.12	0.723	0.889
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5mm	ON	26590	1905	15.64	16.50	1.219	0.11	0.664	0.809
	LTE Band 25	20M	QPSK	100	0	Bottom Side	5mm	ON	26140	1860	15.66	16.50	1.213	0.13	0.742	0.900

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 26	15M	QPSK	1	37	Front	5mm	ON	26865	831.5	22.97	23.00	1.007	0.08	0.557	0.561
	LTE Band 26	15M	QPSK	36	0	Front	5mm	ON	26865	831.5	21.78	22.00	1.052	0	0.300	0.316
	LTE Band 26	15M	QPSK	1	37	Back	5mm	ON	26865	831.5	22.97	23.00	1.007	-0.06	0.691	0.696
	LTE Band 26	15M	QPSK	36	0	Back	5mm	ON	26865	831.5	21.78	22.00	1.052	0.03	0.417	0.439
40	LTE Band 26	15M	QPSK	1	37	Left Side	5mm	ON	26865	831.5	22.97	23.00	1.007	0.15	0.950	0.957
	LTE Band 26	15M	QPSK	36	0	Left Side	5mm	ON	26865	831.5	21.78	22.00	1.052	0.09	0.541	0.569
	LTE Band 26	15M	QPSK	75	0	Left Side	5mm	ON	26865	831.5	21.76	22.00	1.057	0.13	0.526	0.556
	LTE Band 26	15M	QPSK	1	37	Right Side	5mm	ON	26865	831.5	22.97	23.00	1.007	0.05	0.929	0.935
	LTE Band 26	15M	QPSK	36	0	Right Side	5mm	ON	26865	831.5	21.78	22.00	1.052	0.08	0.526	0.553
	LTE Band 26	15M	QPSK	75	0	Right Side	5mm	ON	26865	831.5	21.76	22.00	1.057	0.14	0.510	0.539
	LTE Band 26	15M	QPSK	1	37	Bottom Side	5mm	ON	26865	831.5	22.97	23.00	1.007	-0.03	0.136	0.137
	LTE Band 26	15M	QPSK	36	0	Bottom Side	5mm	ON	26865	831.5	21.78	22.00	1.052	-0.06	0.073	0.077
	LTE Band 30	10M	QPSK	1	25	Front	5mm	ON	27710	2310	17.56	18.00	1.107	-0.05	0.588	0.651
	LTE Band 30	10M	QPSK	25	0	Front	5mm	ON	27710	2310	17.55	18.00	1.109	0.04	0.487	0.540
41	LTE Band 30	10M	QPSK	1	25	Back	5mm	ON	27710	2310	17.56	18.00	1.107	-0.14	0.897	0.993
	LTE Band 30	10M	QPSK	25	0	Back	5mm	ON	27710	2310	17.55	18.00	1.109	-0.16	0.730	0.810
	LTE Band 30	10M	QPSK	50	0	Back	5mm	ON	27710	2310	17.51	18.00	1.119	-0.14	0.716	0.802
	LTE Band 30	10M	QPSK	1	25	Left Side	5mm	ON	27710	2310	17.56	18.00	1.107	0.15	0.095	0.105
	LTE Band 30	10M	QPSK	25	0	Left Side	5mm	ON	27710	2310	17.55	18.00	1.109	-0.08	0.080	0.089
	LTE Band 30	10M	QPSK	1	25	Right Side	5mm	ON	27710	2310	17.56	18.00	1.107	-0.02	0.101	0.112
	LTE Band 30	10M	QPSK	25	0	Right Side	5mm	ON	27710	2310	17.55	18.00	1.109	0.06	0.082	0.091
	LTE Band 30	10M	QPSK	1	25	Bototm Side	5mm	ON	27710	2310	17.56	18.00	1.107	0.03	0.884	0.978
	LTE Band 30	10M	QPSK	25	0	Bototm Side	5mm	ON	27710	2310	17.55	18.00	1.109	0.09	0.736	0.816
	LTE Band 30	10M	QPSK	50	0	Bototm Side	5mm	ON	27710	2310	17.51	18.00	1.119	0.19	0.716	0.802
	LTE Band 66	20M	QPSK	1	49	Front	5mm	ON	132322	1745	16.00	16.00	1.000	0.08	0.514	0.514
	LTE Band 66	20M	QPSK	50	0	Front	5mm	ON	132322	1745	15.80	16.00	1.047	-0.1	0.412	0.431
	LTE Band 66	20M	QPSK	1	49	Back	5mm	ON	132322	1745	16.00	16.00	1.000	-0.17	0.804	0.804
	LTE Band 66	20M	QPSK	1	49	Back	5mm	ON	132072	1720	15.93	16.00	1.016	-0.19	0.760	0.772
42	LTE Band 66	20M	QPSK	1	49	Back	5mm	ON	132572	1770	15.38	16.00	1.153	-0.02	0.793	0.915
	LTE Band 66	20M	QPSK	50	0	Back	5mm	ON	132322	1745	15.80	16.00	1.047	-0.02	0.760	0.796
	LTE Band 66	20M	QPSK	100	0	Back	5mm	ON	132322	1745	15.78	16.00	1.052	-0.1	0.765	0.805
	LTE Band 66	20M	QPSK	1	49	Left Side	5mm	ON	132322	1745	16.00	16.00	1.000	-0.13	0.171	0.171
	LTE Band 66	20M	QPSK	50	0	Left Side	5mm	ON	132322	1745	15.80	16.00	1.047	-0.01	0.157	0.164
	LTE Band 66	20M	QPSK	1	49	Right Side	5mm	ON	132322	1745	16.00	16.00	1.000	-0.05	0.045	0.045
	LTE Band 66	20M	QPSK	50	0	Right Side	5mm	ON	132322	1745	15.80	16.00	1.047	-0.12	0.043	0.045
	LTE Band 66	20M	QPSK	1	49	Bottom Side	5mm	ON	132322	1745	16.00	16.00	1.000	-0.09	0.843	0.843
	LTE Band 66	20M	QPSK	1	49	Bottom Side	5mm	ON	132072	1720	15.93	16.00	1.016	0.05	0.780	0.793
	LTE Band 66	20M	QPSK	1	49	Bottom Side	5mm	ON	132572	1770	15.38	16.00	1.153	-0.02	0.782	0.902
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	ON	132322	1745	15.80	16.00	1.047	0.09	0.765	0.801
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	ON	132072	1720	15.71	16.00	1.069	0.04	0.679	0.726
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	ON	132572	1770	15.35	16.00	1.161	-0.02	0.701	0.814
	LTE Band 66	20M	QPSK	100	0	Bottom Side	5mm	ON	132322	1745	15.78	16.00	1.052	0.15	0.767	0.807

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Front	5mm	ON	40620	2593	20.39	21.00	1.151	62.9	1.006	0.04	0.901	1.043
	LTE Band 41	20M	QPSK	1	49	Front	5mm	ON	39750	2506	20.20	21.00	1.202	62.9	1.006	-0.05	0.650	0.786
	LTE Band 41	20M	QPSK	1	49	Front	5mm	ON	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0.06	0.861	1.008
	LTE Band 41	20M	QPSK	1	49	Front	5mm	ON	41055	2636.5	20.21	21.00	1.199	62.9	1.006	0.13	0.887	1.070
43	LTE Band 41	20M	QPSK	1	49	Front	5mm	ON	41490	2680	20.18	21.00	1.208	62.9	1.006	-0.19	0.942	1.145
	LTE Band 41	20M	QPSK	50	0	Front	5mm	ON	40620	2593	19.61	20.00	1.094	62.9	1.006	0	0.734	0.808
	LTE Band 41	20M	QPSK	50	0	Front	5mm	ON	39750	2506	19.57	20.00	1.104	62.9	1.006	-0.01	0.511	0.568
	LTE Band 41	20M	QPSK	50	0	Front	5mm	ON	40185	2549.5	19.60	20.00	1.096	62.9	1.006	-0.11	0.660	0.728
	LTE Band 41	20M	QPSK	50	0	Front	5mm	ON	41055	2636.5	19.19	20.00	1.205	62.9	1.006	0.11	0.723	0.876
	LTE Band 41	20M	QPSK	50	0	Front	5mm	ON	41490	2680	19.35	20.00	1.161	62.9	1.006	-0.05	0.668	0.781
	LTE Band 41	20M	QPSK	100	0	Front	5mm	ON	40620	2593	19.55	20.00	1.109	62.9	1.006	-0.04	0.652	0.728
	LTE Band 41	20M	QPSK	1	49	Back	5mm	ON	40620	2593	20.39	21.00	1.151	62.9	1.006	-0.03	0.814	0.942
	LTE Band 41	20M	QPSK	1	49	Back	5mm	ON	39750	2506	20.20	21.00	1.202	62.9	1.006	-0.04	0.643	0.778
	LTE Band 41	20M	QPSK	1	49	Back	5mm	ON	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0	0.779	0.912
	LTE Band 41	20M	QPSK	1	49	Back	5mm	ON	41055	2636.5	20.21	21.00	1.199	62.9	1.006	-0.1	0.758	0.915
	LTE Band 41	20M	QPSK	1	49	Back	5mm	ON	41490	2680	20.18	21.00	1.208	62.9	1.006	-0.1	0.779	0.947
	LTE Band 41	20M	QPSK	50	0	Back	5mm	ON	40620	2593	19.61	20.00	1.094	62.9	1.006	-0.11	0.641	0.705
	LTE Band 41	20M	QPSK	50	0	Back	5mm	ON	39750	2506	19.57	20.00	1.104	62.9	1.006	-0.02	0.505	0.561
	LTE Band 41	20M	QPSK	50	0	Back	5mm	ON	40185	2549.5	19.60	20.00	1.096	62.9	1.006	-0.11	0.617	0.681
	LTE Band 41	20M	QPSK	50	0	Back	5mm	ON	41055	2636.5	19.19	20.00	1.205	62.9	1.006	0.06	0.592	0.718
	LTE Band 41	20M	QPSK	50	0	Back	5mm	ON	41490	2680	19.35	20.00	1.161	62.9	1.006	-0.09	0.605	0.707
	LTE Band 41	20M	QPSK	100	0	Back	5mm	ON	40620	2593	19.55	20.00	1.109	62.9	1.006	0.06	0.627	0.700
	LTE Band 41	20M	QPSK	1	49	Left Side	5mm	ON	40620	2593	20.39	21.00	1.151	62.9	1.006	0.14	0.127	0.147
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	ON	40620	2593	19.61	20.00	1.094	62.9	1.006	0.05	0.104	0.114
	LTE Band 41	20M	QPSK	1	49	Right Side	5mm	ON	40620	2593	20.39	21.00	1.151	62.9	1.006	0.12	0.153	0.177
	LTE Band 41	20M	QPSK	50	0	Right Side	5mm	ON	40620	2593	19.61	20.00	1.094	62.9	1.006	0.14	0.118	0.130
	LTE Band 41	20M	QPSK	1	49	Bototm Side	5mm	ON	40620	2593	20.39	21.00	1.151	62.9	1.006	-0.07	0.681	0.788
	LTE Band 41	20M	QPSK	1	49	Bototm Side	5mm	ON	39750	2506	20.20	21.00	1.202	62.9	1.006	0.18	0.620	0.750
	LTE Band 41	20M	QPSK	1	49	Bototm Side	5mm	ON	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0.06	0.673	0.788
	LTE Band 41	20M	QPSK	1	49	Bototm Side	5mm	ON	41055	2636.5	20.21	21.00	1.199	62.9	1.006	0.13	0.676	0.816
	LTE Band 41	20M	QPSK	1	49	Bototm Side	5mm	ON	41490	2680	20.18	21.00	1.208	62.9	1.006	0.05	0.699	0.849
	LTE Band 41	20M	QPSK	50	0	Bototm Side	5mm	ON	40620	2593	19.61	20.00	1.094	62.9	1.006	-0.18	0.539	0.593
	LTE Band 41	20M	QPSK	100	0	Bototm Side	5mm	ON	40620	2593	19.55	20.00	1.109	62.9	1.006	0.07	0.544	0.607

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	OFF	1	2412	17.99	18.00	1.002	97.62	1.024	0	0.714	0.733
44	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	OFF	1	2412	17.99	18.00	1.002	97.62	1.024	0.04	0.930	0.955
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	OFF	6	2437	17.98	18.00	1.005	97.62	1.024	-0.03	0.821	0.845
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	OFF	11	2462	17.90	18.00	1.023	97.62	1.024	0.11	0.888	0.930
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	OFF	1	2412	17.99	18.00	1.002	97.62	1.024	-0.1	0.491	0.504
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	OFF	1	2412	17.99	18.00	1.002	97.62	1.024	-0.02	0.558	0.573
	WLAN5GHz	802.11a 6Mbps	Front	5mm	ON	149	5745	13.49	13.50	1.002	87.26	1.146	-0.09	0.355	0.408
	WLAN5GHz	802.11a 6Mbps	Back	5mm	ON	149	5745	13.49	13.50	1.002	87.26	1.146	-0.16	0.673	0.773
	WLAN5GHz	802.11a 6Mbps	Right Side	5mm	ON	149	5745	13.49	13.50	1.002	87.26	1.146	0.13	0.041	0.047
	WLAN5GHz	802.11a 6Mbps	Top Side	5mm	ON	149	5745	13.49	13.50	1.002	87.26	1.146	0.02	0.942	1.082
	WLAN5GHz	802.11a 6Mbps	Top Side	5mm	ON	157	5785	13.44	13.50	1.013	87.26	1.146	-0.1	1.030	1.196
45	WLAN5GHz	802.11a 6Mbps	Top Side	5mm	ON	165	5825	13.37	13.50	1.030	87.26	1.146	-0.05	1.090	1.287

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	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)
	Bluetooth	1Mbps	Front	5mm	00	2402	11.24	12.00	1.191	0.06	0.031	0.037
46	Bluetooth	1Mbps	Back	5mm	00	2402	11.24	12.00	1.191	-0.07	0.066	0.079
	Bluetooth	1Mbps	Back	5mm	39	2441	10.64	12.00	1.368	-0.12	0.056	0.077
	Bluetooth	1Mbps	Back	5mm	78	2480	10.60	12.00	1.380	-0.01	0.051	0.070
	Bluetooth	1Mbps	Right Side	5mm	00	2402	11.24	12.00	1.191	-0.11	0.039	0.046
	Bluetooth	1Mbps	Top Side	5mm	00	2402	11.24	12.00	1.191	-0.11	0.016	0.019

14.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (4 Tx slots)	Front	5mm	-	OFF	128	824.2	27.00	27.50	1.122	-0.01	0.491	0.551
	GSM850	GPRS (4 Tx slots)	Back	5mm	-	OFF	128	824.2	27.00	27.50	1.122	0.07	0.618	0.693
47	GSM850	GPRS (4 Tx slots)	Back	5mm	-	OFF	189	836.4	26.99	27.50	1.125	0.06	0.652	0.733
	GSM850	GPRS (4 Tx slots)	Back	5mm	-	OFF	251	848.8	26.78	27.50	1.180	0.04	0.605	0.714
	GSM1900	GPRS (4 Tx slots)	Front	5mm	-	ON	661	1880	18.14	19.00	1.219	0.01	0.329	0.401
	GSM1900	GPRS (4 Tx slots)	Back	5mm	-	ON	661	1880	18.14	19.00	1.219	-0.18	0.493	0.601
48	GSM1900	GPRS (4 Tx slots)	Back	5mm	-	ON	512	1850.2	18.04	19.00	1.247	0.01	0.507	0.632
	GSM1900	GPRS (4 Tx slots)	Back	5mm	-	ON	810	1909.8	17.94	19.00	1.276	0.08	0.376	0.480

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	5mm	-	ON	9400	1880	13.98	14.50	1.127	-0.15	0.599	0.675
	WCDMA II	RMC 12.2Kbps	Back	5mm	-	ON	9400	1880	13.98	14.50	1.127	-0.02	0.711	0.801
49	WCDMA II	RMC 12.2Kbps	Back	5mm	-	ON	9262	1852.4	13.87	14.50	1.156	-0.12	0.742	0.858
	WCDMA II	RMC 12.2Kbps	Back	5mm	-	ON	9538	1907.6	13.92	14.50	1.143	-0.18	0.545	0.623
	WCDMA IV	RMC 12.2Kbps	Front	5mm	-	ON	1413	1732.6	14.84	15.00	1.038	0	0.455	0.472
	WCDMA IV	RMC 12.2Kbps	Back	5mm	-	ON	1413	1732.6	14.84	15.00	1.038	-0.17	0.785	0.814
	WCDMA IV	RMC 12.2Kbps	Back	5mm	-	ON	1312	1712.4	14.35	15.00	1.161	-0.15	0.762	0.885
50	WCDMA IV	RMC 12.2Kbps	Back	5mm	-	ON	1513	1752.6	14.38	15.00	1.153	-0.08	0.827	0.954
	WCDMA V	RMC 12.2Kbps	Front	5mm	-	OFF	4132	826.4	22.87	24.00	1.297	-0.01	0.483	0.627
51	WCDMA V	RMC 12.2Kbps	Back	5mm	-	OFF	4132	826.4	22.87	24.00	1.297	0.04	0.940	1.219
	WCDMA V	RMC 12.2Kbps	Back	5mm	-	OFF	4182	836.4	22.83	24.00	1.309	0.11	0.910	1.191
	WCDMA V	RMC 12.2Kbps	Back	5mm	-	OFF	4233	846.6	22.76	24.00	1.330	0.05	0.860	1.144
	WCDMA V	RMC 12.2Kbps	Back	5mm	Headset	OFF	4132	826.4	22.87	24.00	1.297	0.11	0.898	1.165

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA BC0	1xRTT RC3 SO32	Front	5mm	-	OFF	777	848.31	24.31	24.50	1.045	0.03	0.677	0.707
52	CDMA BC0	1xRTT RC3 SO32	Back	5mm	-	OFF	777	848.31	24.31	24.50	1.045	-0.11	0.898	0.938
	CDMA BC0	1xRTT RC3 SO32	Back	5mm	-	OFF	1013	824.7	24.27	24.50	1.054	0	0.807	0.851
	CDMA BC0	1xRTT RC3 SO32	Back	5mm	-	OFF	384	836.52	24.22	24.50	1.067	-0.11	0.804	0.858
	CDMA BC1	1xRTT RC3 SO32	Front	5mm	-	ON	25	1851.25	16.54	17.00	1.112	-0.05	0.685	0.762
53	CDMA BC1	1xRTT RC3 SO32	Back	5mm	-	ON	25	1851.25	16.54	17.00	1.112	0.01	1.110	1.234
	CDMA BC1	1xRTT RC3 SO32	Back	5mm	-	ON	600	1880	16.50	17.00	1.122	-0.11	0.943	1.058
	CDMA BC1	1xRTT RC3 SO32	Back	5mm	-	ON	1175	1908.75	16.53	17.00	1.114	0.07	0.799	0.890
	CDMA BC1	1xRTT RC3 SO32	Back	5mm	Headset	ON	25	1851.25	16.54	17.00	1.112	0.17	1.060	1.178
	CDMA BC10	1xRTT RC3 SO32	Front	5mm	-	OFF	580	820.5	24.41	24.50	1.021	0	0.686	0.700
54	CDMA BC10	1xRTT RC3 SO32	Back	5mm	-	OFF	580	820.5	24.41	24.50	1.021	-0.01	0.902	0.921

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Headset	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20M	QPSK	1	0	Front	5mm	-	ON	18900	1880	15.50	15.50	1.000	-0.1	0.599	0.599
	LTE Band 2	20M	QPSK	50	0	Front	5mm	-	ON	18900	1880	14.89	15.50	1.151	-0.04	0.441	0.508
	LTE Band 2	20M	QPSK	1	0	Back	5mm	-	ON	18900	1880	15.50	15.50	1.000	-0.17	0.934	0.934
	LTE Band 2	20M	QPSK	1	0	Back	5mm	-	ON	18700	1860	15.44	15.50	1.014	-0.11	0.915	0.928
55	LTE Band 2	20M	QPSK	1	0	Back	5mm	-	ON	19100	1900	15.26	15.50	1.057	-0.05	0.918	0.970
	LTE Band 2	20M	QPSK	50	0	Back	5mm	-	ON	18900	1880	14.89	15.50	1.151	-0.01	0.741	0.853
	LTE Band 2	20M	QPSK	50	0	Back	5mm	-	ON	18700	1860	14.75	15.50	1.189	-0.15	0.670	0.796
	LTE Band 2	20M	QPSK	50	0	Back	5mm	-	ON	19100	1900	14.60	15.50	1.230	-0.03	0.697	0.857
	LTE Band 2	20M	QPSK	100	0	Back	5mm	-	ON	18900	1880	14.83	15.50	1.167	-0.12	0.741	0.865
	LTE Band 4	20M	QPSK	1	49	Front	5mm	-	ON	20175	1732.5	15.85	16.00	1.035	0.08	0.508	0.526
	LTE Band 4	20M	QPSK	50	0	Front	5mm	-	ON	20175	1732.5	15.61	16.00	1.094	0.14	0.407	0.445
56	LTE Band 4	20M	QPSK	1	49	Back	5mm	-	ON	20175	1732.5	15.85	16.00	1.035	-0.12	0.916	0.948
	LTE Band 4	20M	QPSK	50	0	Back	5mm	-	ON	20175	1732.5	15.61	16.00	1.094	-0.07	0.713	0.780
	LTE Band 4	20M	QPSK	100	0	Back	5mm	-	ON	20175	1732.5	15.57	16.00	1.104	-0.08	0.737	0.814
	LTE Band 5	10M	QPSK	1	25	Front	5mm	-	OFF	20525	836.5	23.21	24.00	1.199	-0.01	0.489	0.587
	LTE Band 5	10M	QPSK	25	0	Front	5mm	-	OFF	20525	836.5	22.29	23.00	1.178	0.02	0.299	0.352
57	LTE Band 5	10M	QPSK	1	25	Back	5mm	-	OFF	20525	836.5	23.21	24.00	1.199	0.12	0.693	0.831
	LTE Band 5	10M	QPSK	25	0	Back	5mm	-	OFF	20525	836.5	22.29	23.00	1.178	0	0.379	0.446
	LTE Band 5	10M	QPSK	50	0	Back	5mm	-	OFF	20525	836.5	22.21	23.00	1.199	0.02	0.411	0.493
	LTE Band 7	20M	QPSK	1	49	Front	5mm	-	ON	20850	2510	18.53	19.00	1.114	-0.08	0.751	0.837
	LTE Band 7	20M	QPSK	1	49	Front	5mm	-	ON	21100	2535	18.02	19.00	1.253	-0.11	0.804	1.008
	LTE Band 7	20M	QPSK	1	49	Front	5mm	-	ON	21350	2560	18.51	19.00	1.119	-0.02	0.880	0.985
	LTE Band 7	20M	QPSK	50	0	Front	5mm	-	ON	20850	2510	18.33	19.00	1.167	0.01	0.757	0.883
	LTE Band 7	20M	QPSK	50	0	Front	5mm	-	ON	21100	2535	18.09	19.00	1.233	0.01	0.808	0.996
58	LTE Band 7	20M	QPSK	50	0	Front	5mm	-	ON	21350	2560	18.17	19.00	1.211	-0.06	0.863	1.045
	LTE Band 7	20M	QPSK	100	0	Front	5mm	-	ON	20850	2510	18.27	19.00	1.183	-0.15	0.742	0.878
	LTE Band 7	20M	QPSK	1	49	Back	5mm	-	ON	20850	2510	18.53	19.00	1.114	0.18	0.794	0.885
	LTE Band 7	20M	QPSK	1	49	Back	5mm	-	ON	21100	2535	18.02	19.00	1.253	-0.02	0.759	0.951
	LTE Band 7	20M	QPSK	1	49	Back	5mm	-	ON	21350	2560	18.51	19.00	1.119	0.05	0.816	0.913
	LTE Band 7	20M	QPSK	50	0	Back	5mm	-	ON	20850	2510	18.33	19.00	1.167	-0.06	0.728	0.849
	LTE Band 7	20M	QPSK	50	0	Back	5mm	-	ON	21100	2535	18.09	19.00	1.233	0.19	0.773	0.953
	LTE Band 7	20M	QPSK	50	0	Back	5mm	-	ON	21350	2560	18.17	19.00	1.211	0.04	0.839	1.016
	LTE Band 7	20M	QPSK	100	0	Back	5mm	-	ON	20850	2510	18.27	19.00	1.183	-0.14	0.765	0.905
	LTE Band 12	10M	QPSK	1	25	Front	5mm	-	OFF	23095	707.5	22.97	24.00	1.268	-0.19	0.332	0.421
	LTE Band 12	10M	QPSK	25	0	Front	5mm	-	OFF	23095	707.5	21.97	23.00	1.268	0.03	0.214	0.271
59	LTE Band 12	10M	QPSK	1	25	Back	5mm	-	OFF	23095	707.5	22.97	24.00	1.268	-0.01	0.562	0.712
	LTE Band 12	10M	QPSK	25	0	Back	5mm	-	OFF	23095	707.5	21.97	23.00	1.268	-0.09	0.352	0.446
	LTE Band 13	10M	QPSK	1	25	Front	5mm	-	OFF	23230	782	23.62	24.00	1.091	-0.12	0.731	0.798
	LTE Band 13	10M	QPSK	25	0	Front	5mm	-	OFF	23230	782	22.46	23.00	1.132	-0.1	0.374	0.424
60	LTE Band 13	10M	QPSK	1	25	Back	5mm	-	OFF	23230	782	23.62	24.00	1.091	-0.11	1.090	1.190
	LTE Band 13	10M	QPSK	25	0	Back	5mm	-	OFF	23230	782	22.46	23.00	1.132	-0.08	0.524	0.593
	LTE Band 13	10M	QPSK	50	0	Back	5mm	-	OFF	23230	782	22.32	23.00	1.169	-0.09	0.517	0.605

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Headset	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25	20M	QPSK	1	49	Front	5mm	-	ON	26140	1860	16.49	16.50	1.002	-0.1	0.586	0.587
	LTE Band 25	20M	QPSK	50	0	Front	5mm	-	ON	26140	1860	15.75	16.50	1.189	-0.04	0.432	0.513
	LTE Band 25	20M	QPSK	1	49	Back	5mm	-	ON	26140	1860	16.49	16.50	1.002	-0.17	0.915	0.917
61	LTE Band 25	20M	QPSK	1	49	Back	5mm	-	ON	26340	1880	15.86	16.50	1.159	-0.04	0.821	0.951
	LTE Band 25	20M	QPSK	1	49	Back	5mm	-	ON	26590	1905	15.99	16.50	1.125	-0.07	0.701	0.788
	LTE Band 25	20M	QPSK	50	0	Back	5mm	-	ON	26140	1860	15.75	16.50	1.189	-0.06	0.726	0.863
	LTE Band 25	20M	QPSK	50	0	Back	5mm	-	ON	26340	1880	15.60	16.50	1.230	-0.05	0.684	0.842
	LTE Band 25	20M	QPSK	50	0	Back	5mm	-	ON	26590	1905	15.64	16.50	1.219	-0.06	0.570	0.695
	LTE Band 25	20M	QPSK	100	0	Back	5mm	-	ON	26140	1860	15.66	16.50	1.213	-0.03	0.726	0.881
	LTE Band 26	15M	QPSK	1	37	Front	5mm	-	OFF	26865	831.5	23.38	24.00	1.153	-0.01	0.486	0.561
	LTE Band 26	15M	QPSK	36	0	Front	5mm	-	OFF	26865	831.5	22.26	23.00	1.186	0.02	0.297	0.352
62	LTE Band 26	15M	QPSK	1	37	Back	5mm	-	OFF	26865	831.5	23.38	24.00	1.153	-0.1	0.769	0.887
	LTE Band 26	15M	QPSK	36	0	Back	5mm	-	OFF	26865	831.5	22.26	23.00	1.186	0.02	0.382	0.453
	LTE Band 26	15M	QPSK	75	0	Back	5mm	-	OFF	26865	831.5	22.19	23.00	1.205	0.08	0.406	0.489
	LTE Band 30	10M	QPSK	1	25	Front	5mm	-	ON	27710	2310	17.56	18.00	1.107	-0.05	0.588	0.651
	LTE Band 30	10M	QPSK	25	0	Front	5mm	-	ON	27710	2310	17.55	18.00	1.109	0.04	0.487	0.540
63	LTE Band 30	10M	QPSK	1	25	Back	5mm	-	ON	27710	2310	17.56	18.00	1.107	-0.14	0.897	0.993
	LTE Band 30	10M	QPSK	25	0	Back	5mm	-	ON	27710	2310	17.55	18.00	1.109	-0.16	0.730	0.810
	LTE Band 30	10M	QPSK	50	0	Back	5mm	-	ON	27710	2310	17.51	18.00	1.119	-0.14	0.716	0.802
	LTE Band 66	20M	QPSK	1	49	Front	5mm	-	ON	132322	1745	16.00	16.00	1.000	0.08	0.514	0.514
	LTE Band 66	20M	QPSK	50	0	Front	5mm	-	ON	132322	1745	15.80	16.00	1.047	-0.1	0.412	0.431
	LTE Band 66	20M	QPSK	1	49	Back	5mm	-	ON	132322	1745	16.00	16.00	1.000	-0.17	0.804	0.804
	LTE Band 66	20M	QPSK	1	49	Back	5mm	-	ON	132072	1720	15.93	16.00	1.016	-0.19	0.760	0.772
64	LTE Band 66	20M	QPSK	1	49	Back	5mm	-	ON	132572	1770	15.38	16.00	1.153	-0.02	0.793	0.915
	LTE Band 66	20M	QPSK	50	0	Back	5mm	-	ON	132322	1745	15.80	16.00	1.047	-0.02	0.760	0.796
	LTE Band 66	20M	QPSK	100	0	Back	5mm	-	ON	132322	1745	15.78	16.00	1.052	-0.1	0.765	0.805

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Headset	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Front	5mm	-	ON	40620	2593	20.39	21.00	1.151	62.9	1.006	0.04	0.901	1.043
	LTE Band 41	20M	QPSK	1	49	Front	5mm	-	ON	39750	2506	20.20	21.00	1.202	62.9	1.006	-0.05	0.650	0.786
	LTE Band 41	20M	QPSK	1	49	Front	5mm	-	ON	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0.06	0.861	1.008
	LTE Band 41	20M	QPSK	1	49	Front	5mm	-	ON	41055	2636.5	20.21	21.00	1.199	62.9	1.006	0.13	0.887	1.070
65	LTE Band 41	20M	QPSK	1	49	Front	5mm	-	ON	41490	2680	20.18	21.00	1.208	62.9	1.006	-0.19	0.942	1.145
	LTE Band 41	20M	QPSK	50	0	Front	5mm	-	ON	40620	2593	19.61	20.00	1.094	62.9	1.006	0	0.734	0.808
	LTE Band 41	20M	QPSK	50	0	Front	5mm	-	ON	39750	2506	19.57	20.00	1.104	62.9	1.006	-0.01	0.511	0.568
	LTE Band 41	20M	QPSK	50	0	Front	5mm	-	ON	40185	2549.5	19.60	20.00	1.096	62.9	1.006	-0.11	0.660	0.728
	LTE Band 41	20M	QPSK	50	0	Front	5mm	-	ON	41055	2636.5	19.19	20.00	1.205	62.9	1.006	0.11	0.723	0.876
	LTE Band 41	20M	QPSK	50	0	Front	5mm	-	ON	41490	2680	19.35	20.00	1.161	62.9	1.006	-0.05	0.668	0.781
	LTE Band 41	20M	QPSK	100	0	Front	5mm	-	ON	40620	2593	19.55	20.00	1.109	62.9	1.006	-0.04	0.652	0.728
	LTE Band 41	20M	QPSK	1	49	Back	5mm	-	ON	40620	2593	20.39	21.00	1.151	62.9	1.006	-0.03	0.814	0.942
	LTE Band 41	20M	QPSK	1	49	Back	5mm	-	ON	39750	2506	20.20	21.00	1.202	62.9	1.006	-0.04	0.643	0.778
	LTE Band 41	20M	QPSK	1	49	Back	5mm	-	ON	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0	0.779	0.912
	LTE Band 41	20M	QPSK	1	49	Back	5mm	-	ON	41055	2636.5	20.21	21.00	1.199	62.9	1.006	-0.1	0.758	0.915
	LTE Band 41	20M	QPSK	1	49	Back	5mm	-	ON	41490	2680	20.18	21.00	1.208	62.9	1.006	-0.1	0.779	0.947
	LTE Band 41	20M	QPSK	50	0	Back	5mm	-	ON	40620	2593	19.61	20.00	1.094	62.9	1.006	-0.11	0.641	0.705
	LTE Band 41	20M	QPSK	50	0	Back	5mm	-	ON	39750	2506	19.57	20.00	1.104	62.9	1.006	-0.02	0.505	0.561
	LTE Band 41	20M	QPSK	50	0	Back	5mm	-	ON	40185	2549.5	19.60	20.00	1.096	62.9	1.006	-0.11	0.617	0.681
	LTE Band 41	20M	QPSK	50	0	Back	5mm	-	ON	41055	2636.5	19.19	20.00	1.205	62.9	1.006	0.06	0.592	0.718
	LTE Band 41	20M	QPSK	50	0	Back	5mm	-	ON	41490	2680	19.35	20.00	1.161	62.9	1.006	-0.09	0.605	0.707
	LTE Band 41	20M	QPSK	100	0	Back	5mm	-	ON	40620	2593	19.55	20.00	1.109	62.9	1.006	0.06	0.627	0.700

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	-	OFF	1	2412	17.99	18.00	1.002	97.62	1.024	0	0.714	0.733
66	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	-	OFF	1	2412	17.99	18.00	1.002	97.62	1.024	0.04	0.930	0.955
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	-	OFF	6	2437	17.98	18.00	1.005	97.62	1.024	-0.03	0.821	0.845
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	-	OFF	11	2462	17.90	18.00	1.023	97.62	1.024	0.11	0.888	0.930
	WLAN5GHz	802.11a 6Mbps	Front	5mm	-	ON	64	5320	14.99	15.00	1.002	87.26	1.146	-0.1	0.270	0.310
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	64	5320	14.99	15.00	1.002	87.26	1.146	-0.11	0.750	0.861
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	52	5260	14.97	15.00	1.007	87.26	1.146	-0.17	0.778	0.897
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	56	5280	14.79	15.00	1.050	87.26	1.146	-0.12	0.746	0.897
67	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	60	5300	14.92	15.00	1.018	87.26	1.146	-0.15	0.790	0.922
	WLAN5GHz	802.11a 6Mbps	Front	5mm	-	ON	100	5500	14.96	15.00	1.009	87.26	1.146	-0.11	0.284	0.328
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	100	5500	14.96	15.00	1.009	87.26	1.146	-0.08	0.692	0.800
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	116	5580	14.89	15.00	1.025	87.26	1.146	-0.1	0.695	0.817
68	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	124	5620	14.85	15.00	1.035	87.26	1.146	-0.09	0.793	0.941
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	132	5660	14.90	15.00	1.023	87.26	1.146	-0.09	0.746	0.875
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	140	5700	14.91	15.00	1.021	87.26	1.146	-0.13	0.661	0.773
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	144	5720	14.84	15.00	1.037	87.26	1.146	-0.11	0.665	0.790
	WLAN5GHz	802.11a 6Mbps	Front	5mm	-	ON	165	5825	14.91	15.00	1.021	87.26	1.146	-0.09	0.514	0.601
69	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	165	5825	14.91	15.00	1.021	87.26	1.146	-0.13	0.736	0.861
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	149	5745	14.88	15.00	1.028	87.26	1.146	-0.08	0.672	0.791
	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	ON	157	5785	14.80	15.00	1.047	87.26	1.146	-0.17	0.669	0.802

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	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)
	Bluetooth	1Mbps	Front	5mm	-	00	2402	11.24	12.00	1.191	0.06	0.031	0.037
70	Bluetooth	1Mbps	Back	5mm	-	00	2402	11.24	12.00	1.191	-0.07	0.066	0.079
	Bluetooth	1Mbps	Back	5mm	-	39	2441	10.64	12.00	1.368	-0.12	0.056	0.077
	Bluetooth	1Mbps	Back	5mm	-	78	2480	10.60	12.00	1.380	-0.01	0.051	0.070

14.4 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	1513	1752.6	23.17	24.00	1.211	-	-	0.17	0.883		1.069
2nd	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	1513	1752.6	23.17	24.00	1.211	-	-	0.04	0.839	1.05	1.016
1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	11	2462	16.49	16.50	1.002	97.62	1.024	-0.03	1.310		1.345
2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	11	2462	16.49	16.50	1.002	97.62	1.024	0.11	1.280	1.02	1.314
1st	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	60	5300	13.47	13.50	1.007	87.26	1.146	0	0.885		1.021
2nd	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	60	5300	13.47	13.50	1.007	87.26	1.146	0.03	0.816	1.09	0.941
1st	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	144	5720	13.41	13.50	1.021	87.26	1.146	-0.07	0.902		1.055
2nd	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	144	5720	13.41	13.50	1.021	87.26	1.146	0.04	0.875	1.03	1.024

No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA V	RMC 12.2Kbps	Left Side	5mm	ON	4132	826.4	22.49	22.50	1.002	-	-	-0.01	1.140		1.143
2nd	WCDMA V	RMC 12.2Kbps	Left Side	5mm	ON	4132	826.4	22.49	22.50	1.002	-	-	-0.01	1.080	1.06	1.082
1st	LTE Band 13	10M_QPSK_1_25	Back	5mm	OFF	23230	782	23.62	24.00	1.091	-	-	-0.11	1.090		1.190
2nd	LTE Band 13	10M_QPSK_1_25	Back	5mm	OFF	23230	782	23.62	24.00	1.091	-	-	0.03	1.010	1.08	1.102
1st	LTE Band 30	10M_QPSK_1_25	Back	5mm	ON	27710	2310	17.56	18.00	1.107	-	-	-0.14	0.897		0.993
2nd	LTE Band 30	10M_QPSK_1_25	Back	5mm	ON	27710	2310	17.56	18.00	1.107	-	-	-0.15	0.851	1.05	0.942
1st	LTE Band 41	20M_QPSK_1_49	Front	5mm	ON	41490	2680	20.18	21.00	1.208	62.9	1.006	-0.19	0.942		1.145
2nd	LTE Band 41	20M_QPSK_1_49	Front	5mm	ON	41490	2680	20.18	21.00	1.208	62.9	1.006	0.04	0.925	1.02	1.124
1st	WLAN5GHz	802.11a 6Mbps	Top Side	5mm		165	5825	13.37	13.50	1.030	87.26	1.146	-0.05	1.090		1.287
2nd	WLAN5GHz	802.11a 6Mbps	Top Side	5mm		165	5825	13.37	13.50	1.030	87.26	1.146	-0.11	1.050	1.04	1.239

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. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

15. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset		
		Head	Body-worn	Hotspot
1.	GSM Voice + WLAN2.4GHz	Yes	Yes	
2.	GPRS/EDGE + WLAN2.4GHz	Yes	Yes	Yes
3.	WCDMA + WLAN2.4GHz	Yes	Yes	Yes
4.	CDMA + WLAN2.4GHz	Yes	Yes	Yes
5.	LTE + WLAN2.4GHz	Yes	Yes	Yes
6.	GSM Voice + Bluetooth	Yes	Yes	
7.	GPRS/EDGE + Bluetooth	Yes	Yes	Yes
8.	WCDMA+ Bluetooth	Yes	Yes	Yes
9.	CDMA+ Bluetooth	Yes	Yes	Yes
10.	LTE + Bluetooth	Yes	Yes	Yes
11.	GSM Voice + WLAN5GHz	Yes	Yes	
12.	GPRS/EDGE + WLAN5GHz	Yes	Yes	Yes
13.	WCDMA + WLAN5GHz	Yes	Yes	Yes
14.	CDMA + WLAN5GHz	Yes	Yes	Yes
15.	LTE + WLAN5GHz	Yes	Yes	Yes

General Note:

1. All licensed modes share the same antenna part and cannot transmit simultaneously.
2. 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.
3. The Scaled SAR summation is calculated based on the same configuration, test position and test distance. The worst SAR value for each configuration was used for summation, regardless of whether the transmitter is operation in difference power level. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for the device.
4. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/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, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
   v) The SPLSR calculated results please refer to section 15.3.

15.1 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)	1+2 SPLSR	1+2 Case No	1+3 SPLSR	1+3 Case No
GSM	GSM850	Right Cheek	0.463	0.523	1.192	0.074	**0.986**	**1.655**	**0.537**			0.03	Case 20
		Right Tilted	0.291	0.539	0.998	0.056	**0.830**	**1.289**	**0.347**				
		Left Cheek	0.536	1.345	1.239	0.151	**1.881**	**1.775**	**0.687**	0.03	case1	0.03	Case 21
		Left Tilted	0.276	0.990	1.066	0.116	**1.266**	**1.342**	**0.392**				
	GSM1900	Right Cheek	0.241	0.523	1.192	0.074	**0.764**	**1.433**	**0.315**				
		Right Tilted	0.202	0.539	0.998	0.056	**0.741**	**1.200**	**0.258**				
		Left Cheek	0.364	1.345	1.239	0.151	**1.709**	**1.603**	**0.515**	0.03	case2	0.03	Case 22
		Left Tilted	0.140	0.990	1.066	0.116	**1.130**	**1.206**	**0.256**				
WCDMA	WCDMA II	Right Cheek	0.704	0.523	1.192	0.074	**1.227**	**1.896**	**0.778**			0.04	Case 23
		Right Tilted	0.593	0.539	0.998	0.056	**1.132**	**1.591**	**0.649**				
		Left Cheek	1.042	1.345	1.239	0.151	**2.387**	**2.281**	**1.193**	0.04	case3	0.04	Case 24
		Left Tilted	0.515	0.990	1.066	0.116	**1.505**	**1.581**	**0.631**				
	WCDMA IV	Right Cheek	0.616	0.523	1.192	0.074	**1.139**	**1.808**	**0.690**			0.04	Case 25
		Right Tilted	0.559	0.539	0.998	0.056	**1.098**	**1.557**	**0.615**				
		Left Cheek	1.069	1.345	1.239	0.151	**2.414**	**2.308**	**1.220**	0.04	case4	0.04	Case 26
		Left Tilted	0.442	0.990	1.066	0.116	**1.432**	**1.508**	**0.558**				
	WCDMA V	Right Cheek	0.937	0.523	1.192	0.074	**1.460**	**2.129**	**1.011**			0.04	Case 27
		Right Tilted	0.584	0.539	0.998	0.056	**1.123**	**1.582**	**0.640**				
		Left Cheek	0.895	1.345	1.239	0.151	**2.240**	**2.134**	**1.046**	0.04	case5	0.04	Case 28
		Left Tilted	0.528	0.990	1.066	0.116	**1.518**	**1.594**	**0.644**				
CDMA	CDMA BC0	Right Cheek	0.617	0.523	1.192	0.074	**1.140**	**1.809**	**0.691**			0.03	Case 29
		Right Tilted	0.361	0.539	0.998	0.056	**0.900**	**1.359**	**0.417**				
		Left Cheek	0.523	1.345	1.239	0.151	**1.868**	**1.762**	**0.674**	0.03	case6	0.03	Case 30
		Left Tilted	0.328	0.990	1.066	0.116	**1.318**	**1.394**	**0.444**				
	CDMA BC1	Right Cheek	0.524	0.523	1.192	0.074	**1.047**	**1.716**	**0.598**			0.03	Case 31
		Right Tilted	0.362	0.539	0.998	0.056	**0.901**	**1.360**	**0.418**				
		Left Cheek	0.796	1.345	1.239	0.151	**2.141**	**2.035**	**0.947**	0.03	case7	0.04	Case 32
		Left Tilted	0.290	0.990	1.066	0.116	**1.280**	**1.356**	**0.406**				
	CDMA BC10	Right Cheek	0.635	0.523	1.192	0.074	**1.158**	**1.827**	**0.709**			0.04	Case 33
		Right Tilted	0.402	0.539	0.998	0.056	**0.941**	**1.400**	**0.458**				
		Left Cheek	0.590	1.345	1.239	0.151	**1.935**	**1.829**	**0.741**	0.04	case8	0.04	Case 34
		Left Tilted	0.310	0.990	1.066	0.116	**1.300**	**1.376**	**0.426**				
LTE	LTE Band 2	Right Cheek	0.526	0.523	1.192	0.074	**1.049**	**1.718**	**0.600**			0.03	Case 35
		Right Tilted	0.470	0.539	0.998	0.056	**1.009**	**1.468**	**0.526**				
		Left Cheek	0.798	1.345	1.239	0.151	**2.143**	**2.037**	**0.949**	0.03	case9	0.04	Case 36
		Left Tilted	0.430	0.990	1.066	0.116	**1.420**	**1.496**	**0.546**				
	LTE Band 4	Right Cheek	0.408	0.523	1.192	0.074	**0.931**	**1.600**	**0.482**			0.03	Case 37
		Right Tilted	0.404	0.539	0.998	0.056	**0.943**	**1.402**	**0.460**				
		Left Cheek	0.854	1.345	1.239	0.151	**2.199**	**2.093**	**1.005**	0.04	case10	0.04	Case 38
		Left Tilted	0.420	0.990	1.066	0.116	**1.410**	**1.486**	**0.536**				
	LTE Band 5	Right Cheek	0.607	0.523	1.192	0.074	**1.130**	**1.799**	**0.681**			0.04	Case 39
		Right Tilted	0.288	0.539	0.998	0.056	**0.827**	**1.286**	**0.344**				
		Left Cheek	0.540	1.345	1.239	0.151	**1.885**	**1.779**	**0.691**	0.04	case11	0.04	Case 40
		Left Tilted	0.299	0.990	1.066	0.116	**1.289**	**1.365**	**0.415**				

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)	1+2 SPLSR	1+2 Case No	1+3 SPLSR	1+3 Case No
LTE	LTE Band 7	Right Cheek	0.535	0.523	1.192	0.074	**1.058**	**1.727**	**0.609**			0.03	Case 41
		Right Tilted	0.237	0.539	0.998	0.056	**0.776**	**1.235**	**0.293**				
		Left Cheek	0.867	1.345	1.239	0.151	**2.212**	**2.106**	**1.018**	0.04	case12	0.04	Case 42
		Left Tilted	0.426	0.990	1.066	0.116	**1.416**	**1.492**	**0.542**				
	LTE Band 12	Right Cheek	0.302	0.523	1.192	0.074	**0.825**	**1.494**	**0.376**				
		Right Tilted	0.180	0.539	0.998	0.056	**0.719**	**1.178**	**0.236**				
		Left Cheek	0.289	1.345	1.239	0.151	**1.634**	**1.528**	**0.440**	0.03	Case13		
		Left Tilted	0.165	0.990	1.066	0.116	**1.155**	**1.231**	**0.281**				
	LTE Band 13	Right Cheek	0.520	0.523	1.192	0.074	**1.043**	**1.712**	**0.594**			0.03	Case 43
		Right Tilted	0.330	0.539	0.998	0.056	**0.869**	**1.328**	**0.386**				
		Left Cheek	0.558	1.345	1.239	0.151	**1.903**	**1.797**	**0.709**	0.04	case14	0.04	Case 44
		Left Tilted	0.325	0.990	1.066	0.116	**1.315**	**1.391**	**0.441**				
	LTE Band 25	Right Cheek	0.437	0.523	1.192	0.074	**0.960**	**1.629**	**0.511**			0.03	Case 45
		Right Tilted	0.385	0.539	0.998	0.056	**0.924**	**1.383**	**0.441**				
		Left Cheek	0.705	1.345	1.239	0.151	**2.050**	**1.944**	**0.856**	0.03	case15	0.03	Case 46
		Left Tilted	0.360	0.990	1.066	0.116	**1.350**	**1.426**	**0.476**				
	LTE Band 26	Right Cheek	0.541	0.523	1.192	0.074	**1.064**	**1.733**	**0.615**			0.04	Case 47
		Right Tilted	0.456	0.539	0.998	0.056	**0.995**	**1.454**	**0.512**				
		Left Cheek	0.597	1.345	1.239	0.151	**1.942**	**1.836**	**0.748**	0.04	case16	0.04	Case 48
		Left Tilted	0.352	0.990	1.066	0.116	**1.342**	**1.418**	**0.468**				
	LTE Band 30	Right Cheek	0.444	0.523	1.192	0.074	**0.967**	**1.636**	**0.518**			0.03	Case 49
		Right Tilted	0.159	0.539	0.998	0.056	**0.698**	**1.157**	**0.215**				
		Left Cheek	0.294	1.345	1.239	0.151	**1.639**	**1.533**	**0.445**	0.03	Case 17		
		Left Tilted	0.277	0.990	1.066	0.116	**1.267**	**1.343**	**0.393**				
	LTE Band 41	Right Cheek	0.373	0.523	1.192	0.074	**0.896**	**1.565**	**0.447**				
		Right Tilted	0.169	0.539	0.998	0.056	**0.708**	**1.167**	**0.225**				
		Left Cheek	0.291	1.345	1.239	0.151	**1.636**	**1.530**	**0.442**	0.02	Case 18		
		Left Tilted	0.231	0.990	1.066	0.116	**1.221**	**1.297**	**0.347**				
	LTE Band 66	Right Cheek	0.436	0.523	1.192	0.074	**0.959**	**1.628**	**0.510**			0.03	Case 50
		Right Tilted	0.419	0.539	0.998	0.056	**0.958**	**1.417**	**0.475**				
		Left Cheek	0.716	1.345	1.239	0.151	**2.061**	**1.955**	**0.867**	0.03	Case 19	0.03	Case 51
		Left Tilted	0.370	0.990	1.066	0.116	**1.360**	**1.436**	**0.486**				

15.2 Hotspot & Body-Worn 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)	1+2 SPLSR	1+2 Case No	1+3 SPLSR	1+3 Case No
GSM	GSM850	Front	0.551	0.733	0.601	0.037	**1.284**	**1.152**	**0.588**				
		Back	0.733	0.955	0.941	0.079	**1.688**	**1.674**	**0.812**	0.03	Case55	0.03	Case75
		Left side	0.942				**0.942**	**0.942**	**0.942**				
		Right side	0.984	0.504	0.047	0.046	**1.488**	**1.031**	**1.030**				
		Bottom side	0.098				**0.098**	**0.098**	**0.098**				
	GSM1900	Front	0.401	0.733	0.601	0.037	**1.134**	**1.002**	**0.438**				
		Back	0.632	0.955	0.941	0.079	**1.587**	**1.573**	**0.711**				
		Left side	0.117				**0.117**	**0.117**	**0.117**				
		Right side	0.029	0.504	0.047	0.046	**0.533**	**0.076**	**0.075**				
		Bottom side	0.761				**0.761**	**0.761**	**0.761**				
WCDMA	WCDMA II	Front	0.675	0.733	0.601	0.037	**1.408**	**1.276**	**0.712**				
		Back	0.858	0.955	0.941	0.079	**1.813**	**1.799**	**0.937**	0.02	Case56	0.02	Case76
		Left side	0.162				**0.162**	**0.162**	**0.162**				
		Right side	0.052	0.504	0.047	0.046	**0.556**	**0.099**	**0.098**				
		Bottom side	0.950				**0.950**	**0.950**	**0.950**				
	WCDMA IV	Front	0.472	0.733	0.601	0.037	**1.205**	**1.073**	**0.509**				
		Back	0.954	0.955	0.941	0.079	**1.909**	**1.895**	**1.033**	0.02	Case57	0.02	Case77
		Left side	0.187				**0.187**	**0.187**	**0.187**				
		Right side	0.053	0.504	0.047	0.046	**0.557**	**0.100**	**0.099**				
		Bottom side	0.992				**0.992**	**0.992**	**0.992**				
	WCDMA V	Front	0.627	0.733	0.601	0.037	**1.360**	**1.228**	**0.664**				
		Back	1.219	0.955	0.941	0.079	**2.174**	**2.160**	**1.298**	0.04	Case58	0.04	Case78
		Left side	1.162				**1.162**	**1.162**	**1.162**				
		Right side	0.524	0.504	0.047	0.046	**1.028**	**0.571**	**0.570**				
		Bottom side	0.135				**0.135**	**0.135**	**0.135**				
CDMA	CDMA BC0	Front	0.707	0.733	0.601	0.037	**1.440**	**1.308**	**0.744**				
		Back	0.938	0.955	0.941	0.079	**1.893**	**1.879**	**1.017**	0.02	Case59	0.02	Case79
		Left side	0.684				**0.684**	**0.684**	**0.684**				
		Right side	0.710	0.504	0.047	0.046	**1.214**	**0.757**	**0.756**				
		Bottom side	0.148				**0.148**	**0.148**	**0.148**				
	CDMA BC1	Front	0.762	0.733	0.601	0.037	**1.495**	**1.363**	**0.799**				
		Back	1.234	0.955	0.941	0.079	**2.189**	**2.175**	**1.313**	0.02	Case60	0.02	Case80
		Left side	0.158				**0.158**	**0.158**	**0.158**				
		Right side	0.050	0.504	0.047	0.046	**0.554**	**0.097**	**0.096**				
		Bottom side	1.181				**1.181**	**1.181**	**1.181**				
	CDMA BC10	Front	0.700	0.733	0.601	0.037	**1.433**	**1.301**	**0.737**				
		Back	0.921	0.955	0.941	0.079	**1.876**	**1.862**	**1.000**	0.04	Case61	0.02	Case 81
		Left side	0.978				**0.978**	**0.978**	**0.978**				
		Right side	0.839	0.504	0.047	0.046	**1.343**	**0.886**	**0.885**				
		Bottom side	0.114				**0.114**	**0.114**	**0.114**				

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)	1+2 SPLSR	1+2 Case No	1+3 SPLSR	1+3 Case No
LTE	LTE Band 2	Front	0.599	0.733	0.601	0.037	**1.332**	**1.200**	**0.636**				
		Back	0.970	0.955	0.941	0.079	**1.925**	**1.911**	**1.049**	0.02	Case62	0.02	Case82
		Left side	0.144				**0.144**	**0.144**	**0.144**				
		Right side	0.046	0.504	0.047	0.046	**0.550**	**0.093**	**0.092**				
		Bottom side	0.976				**0.976**	**0.976**	**0.976**				
	LTE Band 4	Front	0.526	0.733	0.601	0.037	**1.259**	**1.127**	**0.563**				
		Back	0.948	0.955	0.941	0.079	**1.903**	**1.889**	**1.027**	0.02	Case63	0.02	Case83
		Left side	0.175				**0.175**	**0.175**	**0.175**				
		Right side	0.046	0.504	0.047	0.046	**0.550**	**0.093**	**0.092**				
		Bottom side	0.958				**0.958**	**0.958**	**0.958**				
	LTE Band 5	Front	0.708	0.733	0.601	0.037	**1.441**	**1.309**	**0.745**				
		Back	0.950	0.955	0.941	0.079	**1.905**	**1.891**	**1.029**	0.02	Case64	0.02	Case84
		Left side	1.143				**1.143**	**1.143**	**1.143**				
		Right side	1.085	0.504	0.047	0.046	**1.589**	**1.132**	**1.131**				
		Bottom side	0.169				**0.169**	**0.169**	**0.169**				
	LTE Band 7	Front	1.045	0.733	0.601	0.037	**1.778**	**1.646**	**1.082**	0.02	Case66	0.01	Case 85
		Back	1.016	0.955	0.941	0.079	**1.971**	**1.957**	**1.095**	0.02	Case67	0.02	Case 86
		Left side	0.266				**0.266**	**0.266**	**0.266**				
		Right side	0.184	0.504	0.047	0.046	**0.688**	**0.231**	**0.230**				
		Bottom side	0.942				**0.942**	**0.942**	**0.942**				
	LTE Band 12	Front	0.421	0.733	0.601	0.037	**1.154**	**1.022**	**0.458**				
		Back	0.712	0.955	0.941	0.079	**1.667**	**1.653**	**0.791**	0.03	Case68	0.03	Case 87
		Left side	0.672				**0.672**	**0.672**	**0.672**				
		Right side	0.627	0.504	0.047	0.046	**1.131**	**0.674**	**0.673**				
		Bottom side	0.090				**0.090**	**0.090**	**0.090**				
	LTE Band 13	Front	0.798	0.733	0.601	0.037	**1.531**	**1.399**	**0.835**				
		Back	1.190	0.955	0.941	0.079	**2.145**	**2.131**	**1.269**	0.04	Case69	0.04	Case 88
		Left side	1.146				**1.146**	**1.146**	**1.146**				
		Right side	1.046	0.504	0.047	0.046	**1.550**	**1.093**	**1.092**				
		Bottom side	0.068				**0.068**	**0.068**	**0.068**				
	LTE Band 25	Front	0.587	0.733	0.601	0.037	**1.320**	**1.188**	**0.624**				
		Back	0.951	0.955	0.941	0.079	**1.906**	**1.892**	**1.030**	0.02	Case71	0.02	Case89
		Left side	0.141				**0.141**	**0.141**	**0.141**				
		Right side	0.045	0.504	0.047	0.046	**0.549**	**0.092**	**0.091**				
		Bottom side	1.048				**1.048**	**1.048**	**1.048**				
	LTE Band 26	Front	0.561	0.733	0.601	0.037	**1.294**	**1.162**	**0.598**				
		Back	0.887	0.955	0.941	0.079	**1.842**	**1.828**	**0.966**	0.02	Case72	0.02	Case 90
		Left side	0.957				**0.957**	**0.957**	**0.957**				
		Right side	0.935	0.504	0.047	0.046	**1.439**	**0.982**	**0.981**				
		Bottom side	0.137				**0.137**	**0.137**	**0.137**				

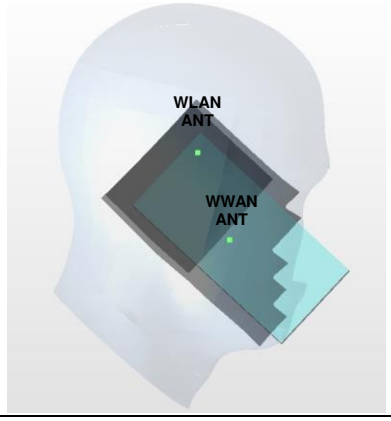
WWAN Band		Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN 1g SAR (W/kg)	3 5GHz WLAN 1g SAR (W/kg)	4 Bluetooth 1g SAR (W/kg)	**1+2 Summed 1g SAR (W/kg)**	**1+3 Summed 1g SAR (W/kg)**	**1+4 Summed 1g SAR (W/kg)**	1+2 SPLSR	1+2 Case No	1+3 SPLSR	1+3 Case No
LTE	LTE Band 30	Front	0.651	0.733	0.601	0.037	**1.384**	**1.252**	**0.688**				
		Back	0.993	0.955	0.941	0.079	**1.948**	**1.934**	**1.072**	0.02	Case93	0.02	Case94
		Left side	0.105				**0.105**	**0.105**	**0.105**				
		Right side	0.112	0.504	0.047	0.046	**0.616**	**0.159**	**0.158**				
		Bottom side	0.978				**0.978**	**0.978**	**0.978**				
	LTE Band 41	Front	1.145	0.733	0.601	0.037	**1.878**	**1.746**	**1.182**	0.02	Case95	0.02	Case 97
		Back	0.947	0.955	0.941	0.079	**1.902**	**1.888**	**1.026**	0.02	Case 96	0.02	Case 98
		Left side	0.147				**0.147**	**0.147**	**0.147**				
		Right side	0.177	0.504	0.047	0.046	**0.681**	**0.224**	**0.223**				
		Bottom side	0.849				**0.849**	**0.849**	**0.849**				
	LTE Band 66	Front	0.514	0.733	0.601	0.037	**1.247**	**1.115**	**0.551**				
		Back	0.915	0.955	0.941	0.079	**1.870**	**1.856**	**0.994**	0.02	Case74	0.02	Case92
		Left side	0.171				**0.171**	**0.171**	**0.171**				
		Right side	0.045	0.504	0.047	0.046	**0.549**	**0.092**	**0.091**				
		Bottom side	0.902				**0.902**	**0.902**	**0.902**				

15.3 SPLSR Evaluation and Analysis

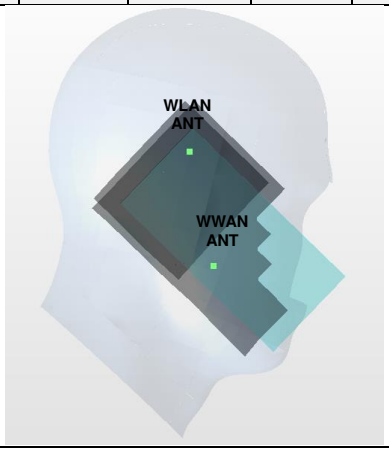
General Note:

1. SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*). If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary

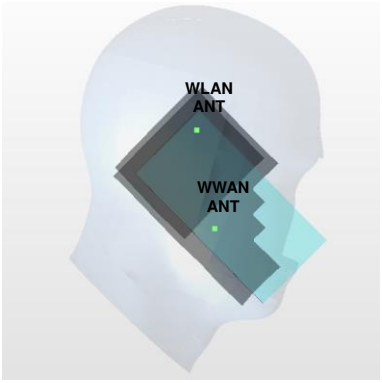
Case1	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM850	Left Cheek	0.536	0	51.7	-44.77	-1.69	78.5	1.88	0.03	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



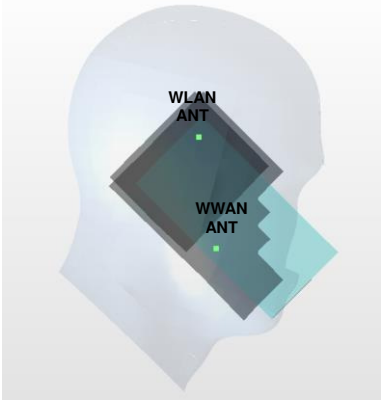
Case2	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	GSM1900	Left Cheek	0.364	0	44	-52.08	-1.74	81.7	1.71	0.03	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



Case3	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA II	Left Cheek	1.042	0	47.84	-58	-0.78	88.6	2.39	0.04	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



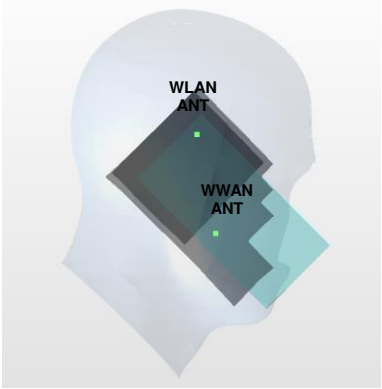
Case4	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA IV	Left Cheek	1.069	0	45.01	-59.6	-0.79	89.1	2.41	0.04	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



Case5	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA V	Left Cheek	0.895	0	50.61	-46.08	-1.96	79.1	2.24	0.04	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				

Case6	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	CDMA BC0	Left Cheek	0.523	0	51.06	-42.54	-1.84	76.2	1.87	0.03	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				

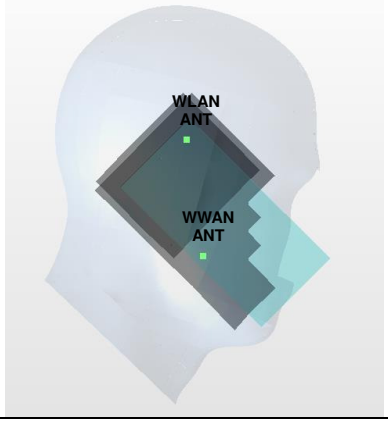
Case7	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA BC1	Left Cheek	0.796	0	48.78	-58.55	-0.57	89.5	2.14	0.03	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



Case8	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA BC10	Left Cheek	0.59	0	53.48	-38.39	-1.81	73.9	1.94	0.04	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				

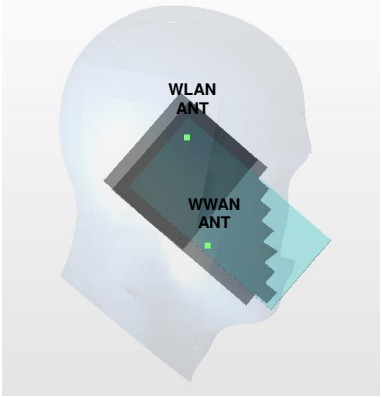
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case9	LTE Band 2	Left Cheek	0.798	0	50.53	-59.68	-0.08	91.3	2.14	0.03	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case10	LTE Band 4	Left Cheek	0.854	0	46.43	-60.31	-0.58	90.2	2.20	0.04	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



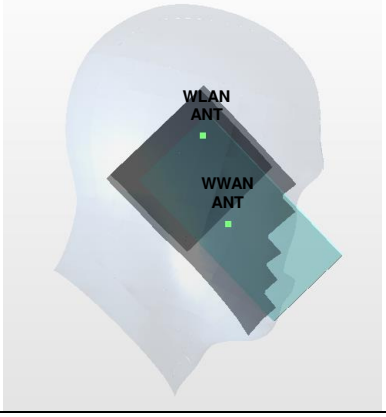
Case11	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 5	Left Cheek	0.54	0	46.72	-37.5	-2.81	69.7	1.89	0.04	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				

Case12	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7	Left Cheek	0.867	0	47.74	-62.46	-0.34	92.7	2.21	0.04	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				

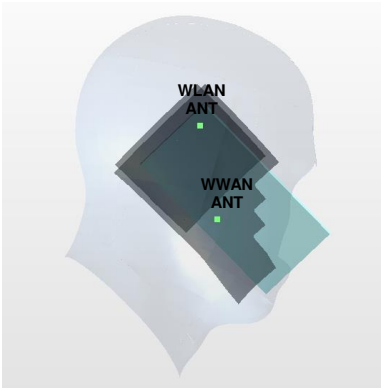


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case13	LTE Band 12	Left Cheek	0.289	0	53.31	-41.87	-1.7	76.8	1.63	0.03	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				

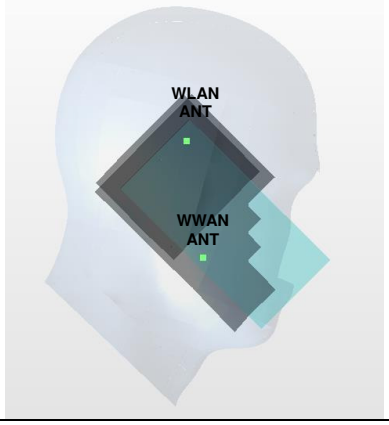
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case14	LTE Band 13	Left Cheek	0.558	0	53.15	-32.54	-2.04	68.9	1.90	0.04	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



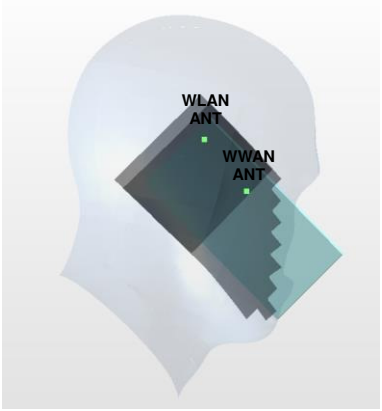
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case15	LTE Band 25	Left Cheek	0.705	0	47.83	-58.11	-0.73	88.7	2.05	0.03	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



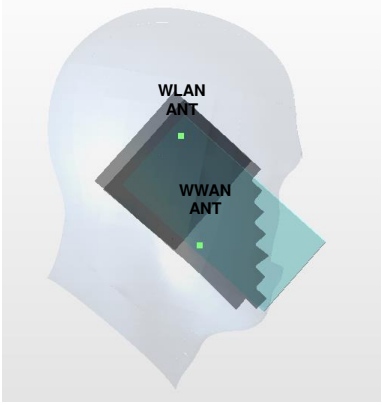
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case16	LTE Band 26	Left Cheek	0.597	0	47.02	-43.22	-2.55	74.9	1.94	0.04	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



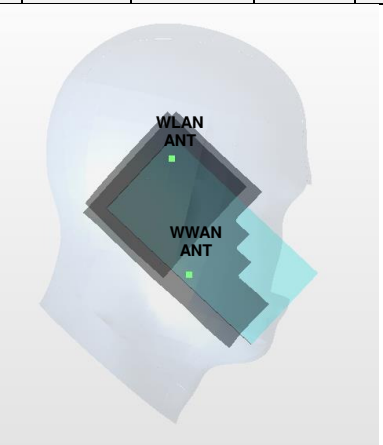
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case17	LTE Band 30	Left Cheek	0.294	0	59.26	-16.75	-0.57	61.3	1.64	0.03	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				



	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case18	LTE Band 41	Left Cheek	0.291	0	46.7	-61.84	-0.57	91.8	1.64	0.02	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				

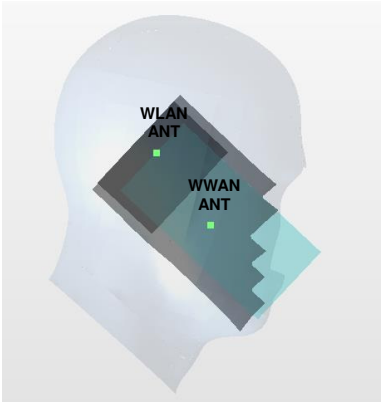


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case19	LTE Band 66	Left Cheek	0.716	0	49.25	-61.82	-0.03	92.7	2.06	0.03	Not required
	WLAN2.4G		1.345	0	13.13	23.57	-0.88				

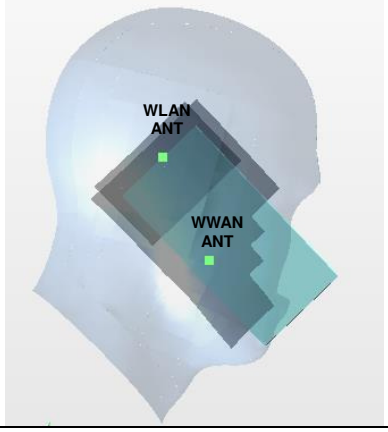


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case20	GSM850	Right Cheek	0.463	0	49.75	38.67	-2.3	68.5	1.66	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case21	GSM850	Left Cheek	0.536	0	51.7	-44.77	-1.69	71.6	1.78	0.03	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				

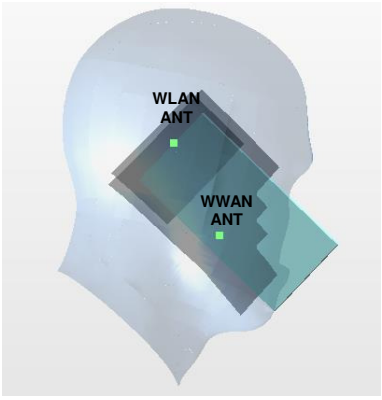


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case22	GMS1900	Left Cheek	0.364	0	44	-52.08	-1.74	71.5	1.60	0.03	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				

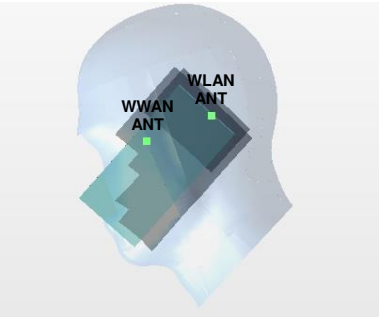


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case23	WCDMA II	Right Cheek	0.704	0	56.61	13.01	-1.58	66.6	1.90	0.04	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

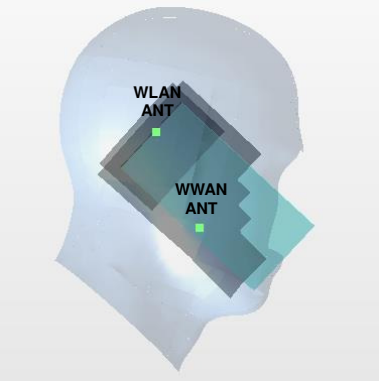
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case24	WCDMA II	Left Cheek	1.042	0	47.84	-60	-0.78	80.0	2.28	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case25	WCDMA IV	Right Cheek	0.616	0	59.04	5.69	-0.62	68.4	1.81	0.04	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

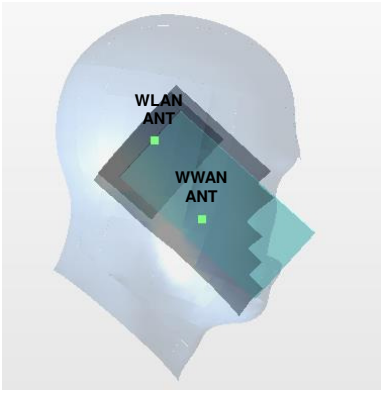


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case26	WCDMA IV	Left Cheek	1.069	0	45.01	-59.6	2.79	78.0	2.31	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				

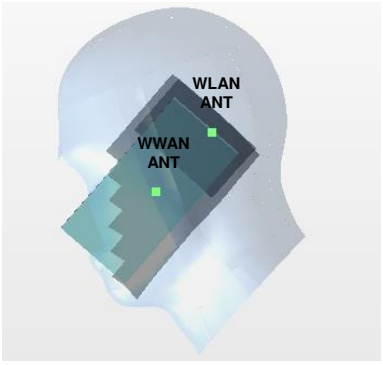


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case27	WCDMA V	Right Cheek	0.937	0	51.24	38.06	-2.54	69.5	2.13	0.04	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

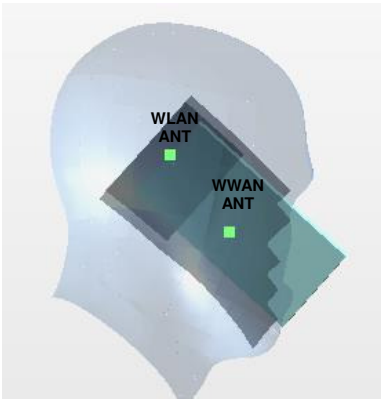
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case28	WCDMA V	Left Cheek	0.895	0	50.61	-46.08	-1.96	71.7	2.13	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



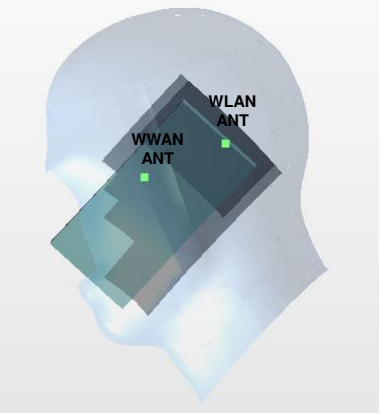
Case29	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA BC0	Right Cheek	0.617	0	53.46	35.39	-1.85	70.2	1.81	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				



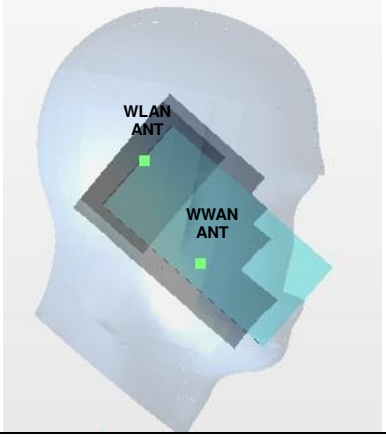
Case30	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA BC0	Left Cheek	0.523	0	51.06	-42.54	-1.84	69.6	1.76	0.03	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



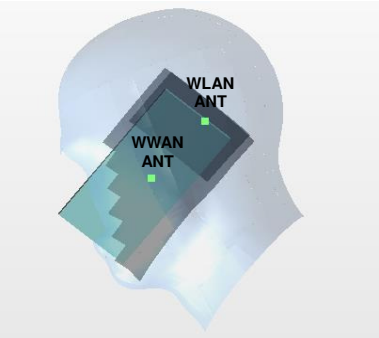
Case31	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA BC1	Right Cheek	0.524	0	56.45	9.31	-1.46	66.1	1.72	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				



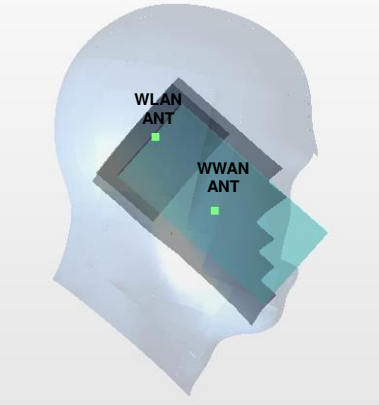
Case32	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA BC1	Left Cheek	0.796	0	48.78	-58.55	-0.57	79.5	2.04	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case33	CDMA BC10	Right Cheek	0.635	0	52.66	36.78	-1.95	70.1	1.83	0.04	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

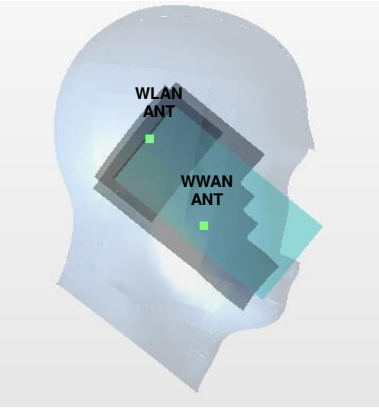


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case34	CDMA BC10	Left Cheek	0.59	0	53.48	-38.39	-1.81	68.9	1.83	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				

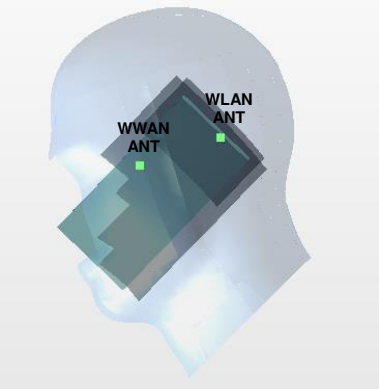


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case35	LTE Band 2	Right Cheek	0.526	0	55.29	12.27	-1.83	65.2	1.72	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

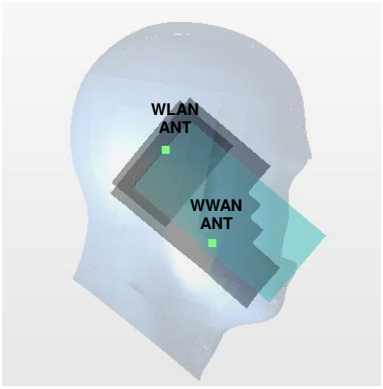
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case36	LTE Band 2	Left Cheek	0.798	0	50.53	-59.68	-0.08	81.5	2.04	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case37	LTE Band 4	Right Cheek	0.408	0	60.53	2.86	0.04	69.9	1.60	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

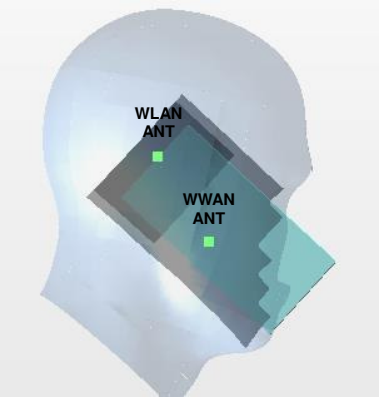


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case38	LTE Band 4	Left Cheek	0.854	0	46.43	-60.31	-0.58	79.4	2.09	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



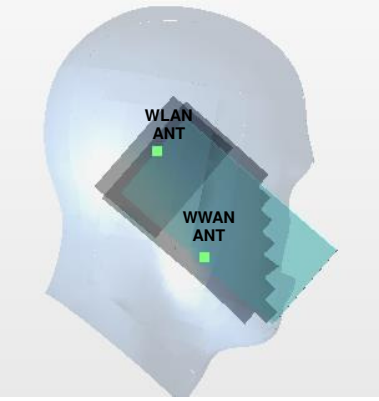
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case39	LTE Band 5	Right Cheek	0.607	0	43.59	31.43	-2.82	59.6	1.80	0.04	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case40	LTE Band 5	Left Cheek	0.54	0	46.72	-37.5	-2.81	63.1	1.78	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				

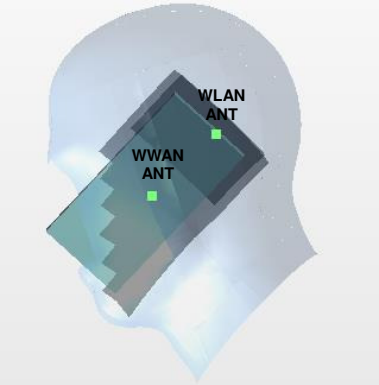


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case41	LTE Band 7	Right Cheek	0.535	0	41.31	58.4	-2.07	74.2	1.73	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

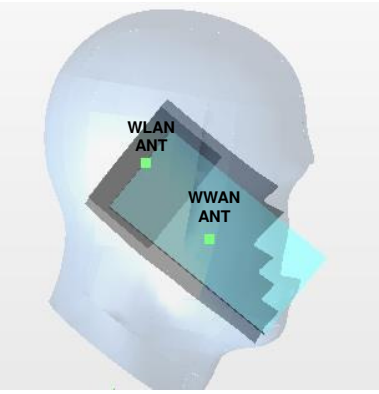
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case42	LTE Band 7	Left Cheek	0.867	0	47.74	-62.46	-0.34	81.9	2.11	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



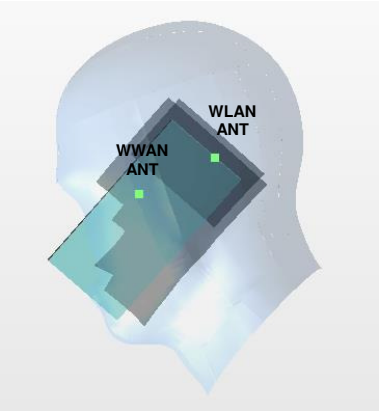
Case43	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Right Cheek	0.52	0	52.66	36.78	-1.95	70.1	1.71	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				



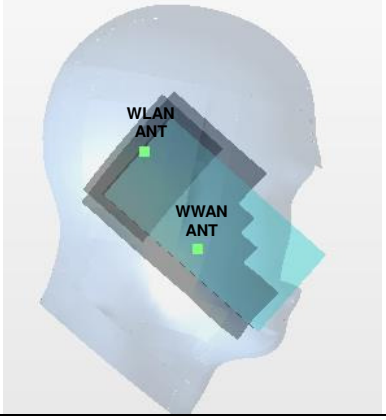
Case44	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Left Cheek	0.558	0	53.15	-32.54	-2.04	65.3	1.80	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case45	LTE Band 25	Right Cheek	0.437	0	55.27	12.27	-1.7	65.2	1.63	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

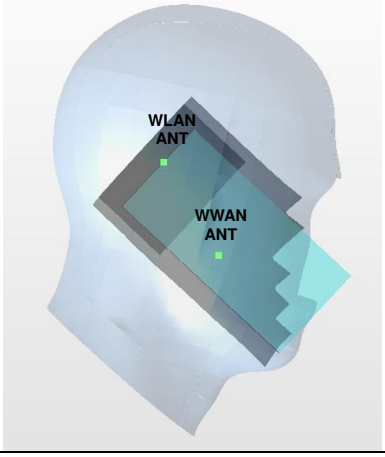


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case46	LTE Band 25	Left Cheek	0.705	0	47.83	-58.11	-0.73	78.5	1.94	0.03	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				

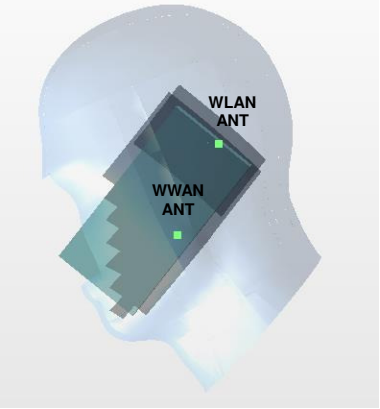


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case47	LTE Band 26	Right Cheek	0.541	0	44.88	32.27	-2.68	61.2	1.73	0.04	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				

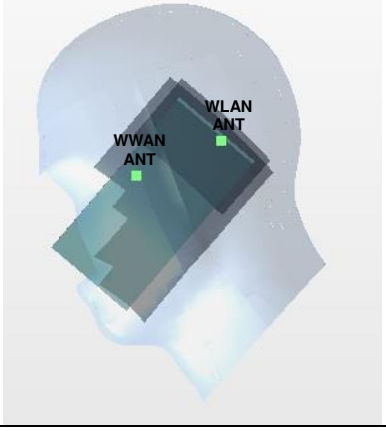
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case48	LTE Band 26	Left Cheek	0.597	0	47.02	-43.22	-2.55	67.1	1.84	0.04	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



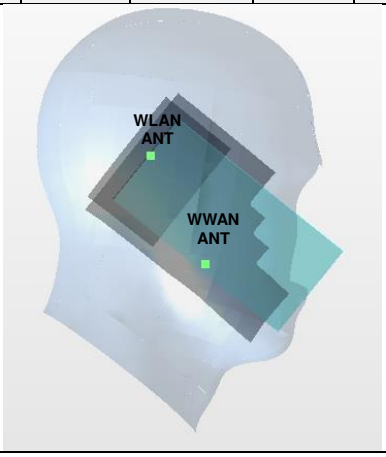
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case49	LTE Band 30	Right Cheek	0.444	0	45.22	60.11	-1.52	78.1	1.64	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				



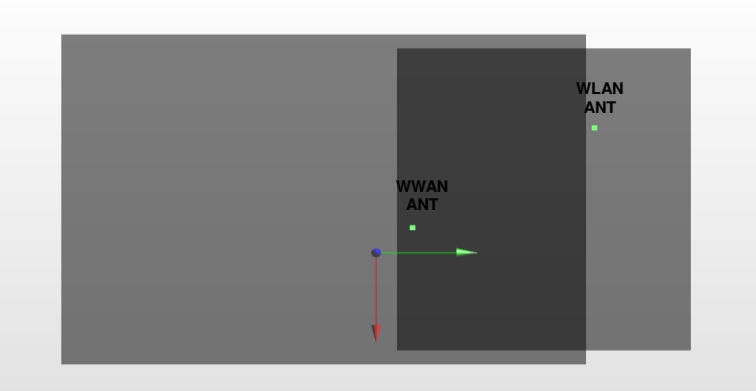
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case50	LTE Band 66	Right Cheek	0.436	0	57.05	2.62	-0.84	66.5	1.63	0.03	Not required
	WLAN5G		1.192	0	-9.36	4.29	1.15				



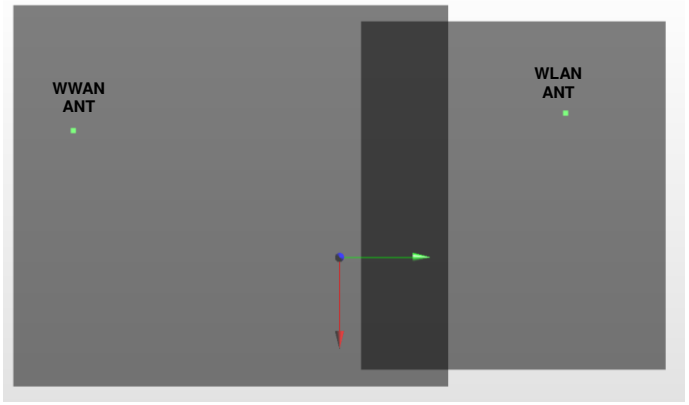
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case51	LTE Band 66	Left Cheek	0.716	0	49.25	-61.82	-0.03	82.3	1.96	0.03	Not required
	WLAN5G		1.239	0	-1.77	2.79	0.3				



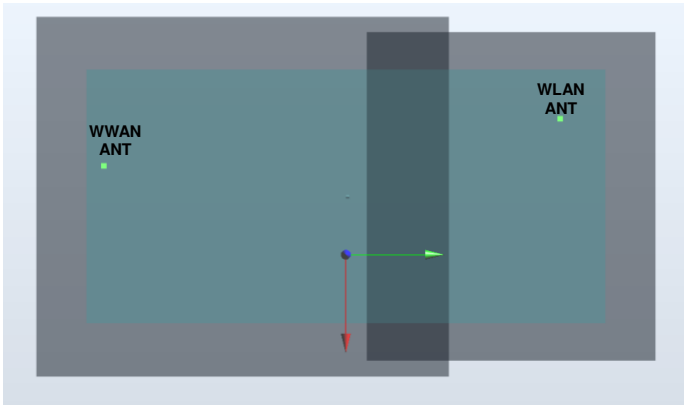
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case55	GSM850	Back	0.733	5	4.8	13.1	-1.51	65.8	1.69	0.03	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



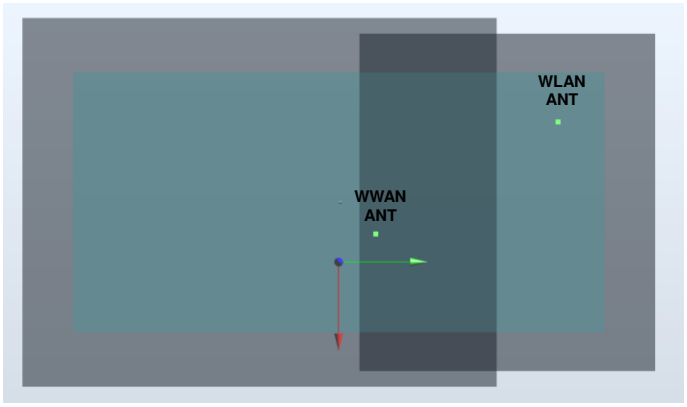
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case56	WCDMA II	Back	0.858	5	-15.8	-70.9	-1.05	140.1	1.81	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



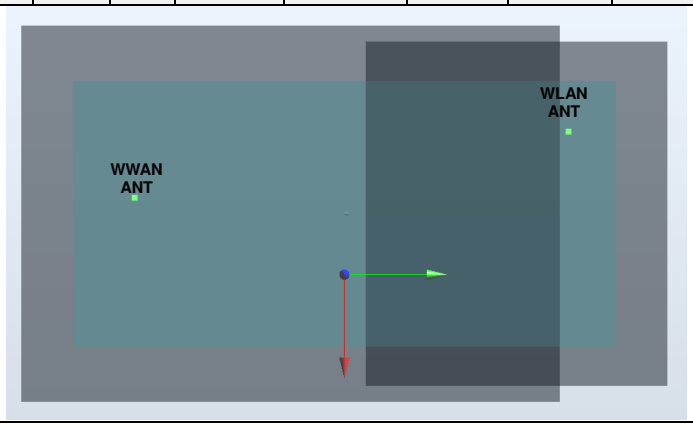
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case57	WCDMA IV	Back	0.954	5	-14.8	-69.5	-1.04	138.8	1.91	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



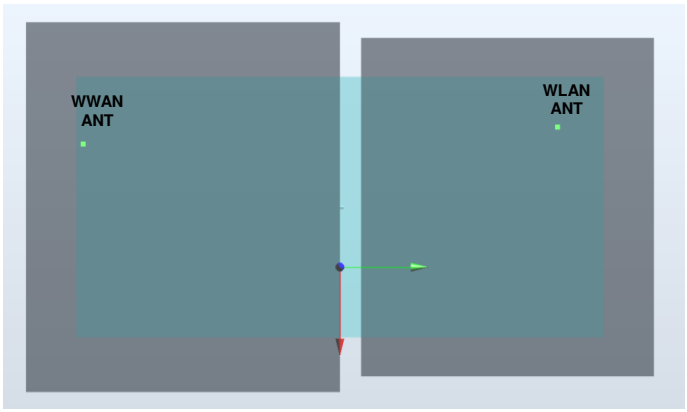
Case58	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA V	Back	1.219	5	9.48	9.56	-1.51	71.3	2.17	0.04	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



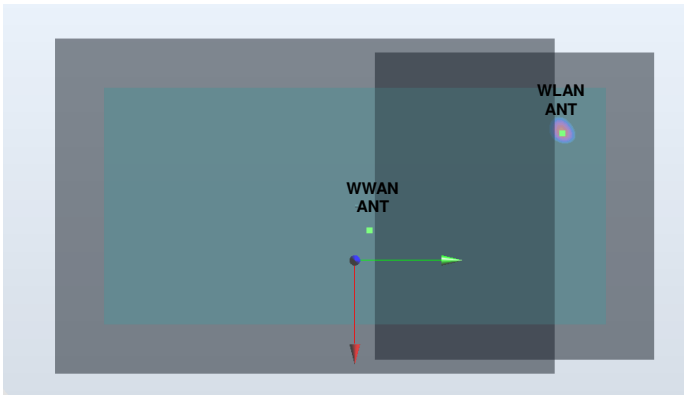
Case59	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA BC0	Back	0.938	5	-0.7	-63.9	-1.31	135.7	1.89	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



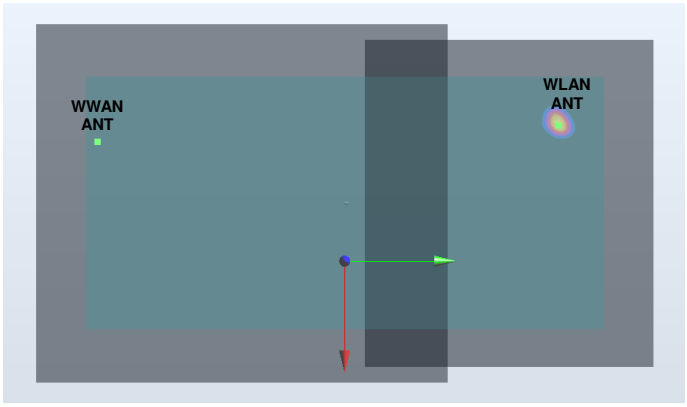
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case60	CDMA BC1	Back	1.234	5	-17.4	-70.9	-0.97	139.9	2.19	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



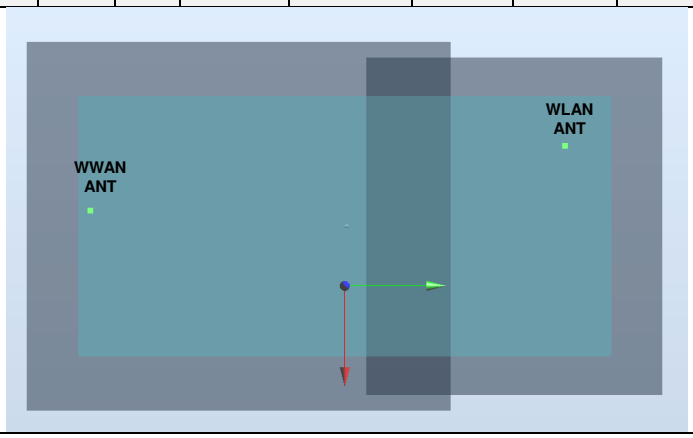
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case61	CDMA BC10	Back	0.921	5	4.9	13.5	-1.48	65.5	1.88	0.04	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



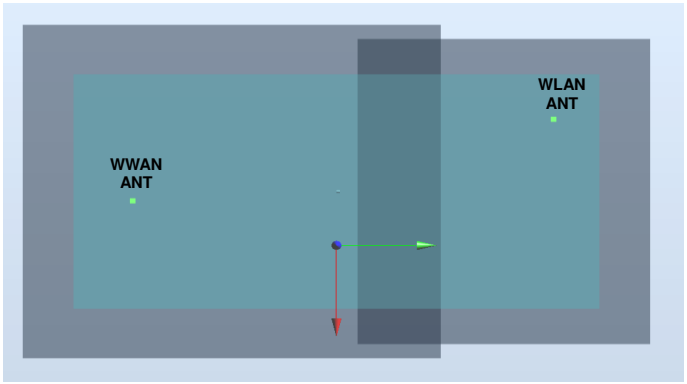
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case62	LTE Band 2	Back	0.97	5	-15.8	-69.4	-1.06	138.6	1.93	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



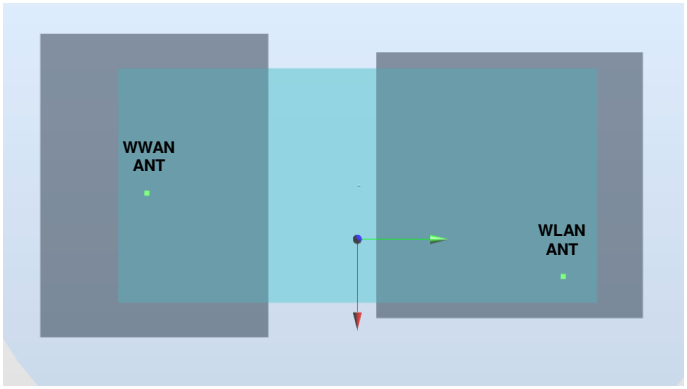
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case63	LTE Band 4	Back	0.948	5	-11.9	-71	-0.93	140.7	1.90	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



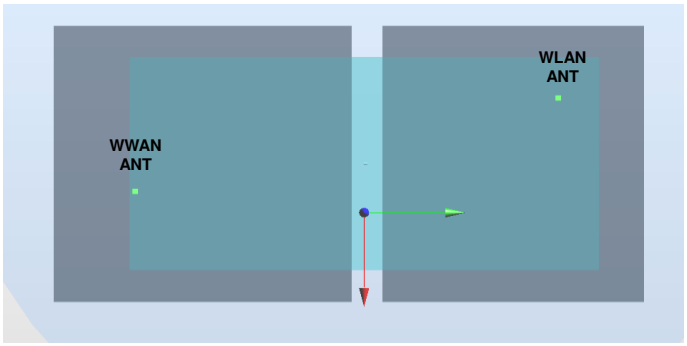
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case64	LTE Band 5	Back	0.95	5	2	-63.9	-1.33	136.3	1.91	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



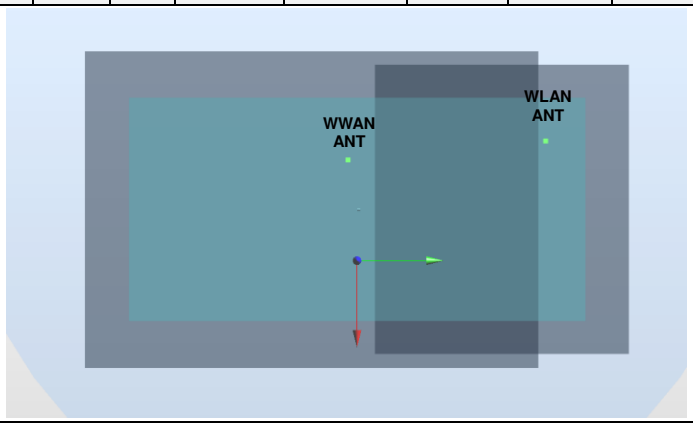
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case66	LTE Band 7	Front	1.045	5	-1.6	-67.4	-0.96	139.3	1.78	0.02	Not required
	WLAN2.4G		0.733	5	31.8	67.8	0.23				



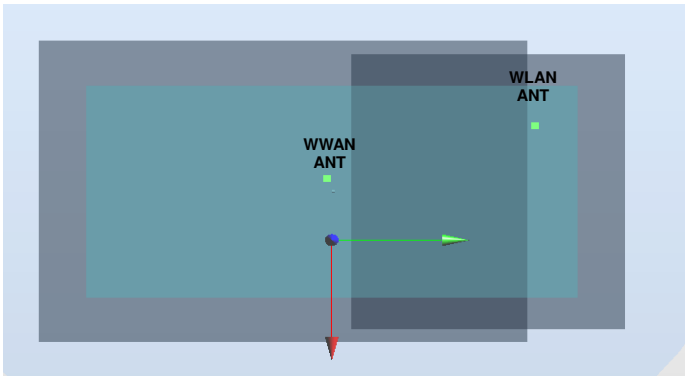
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case67	LTE Band 7	Back	1.016	5	7.6	-71.6	-0.93	145.2	1.97	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



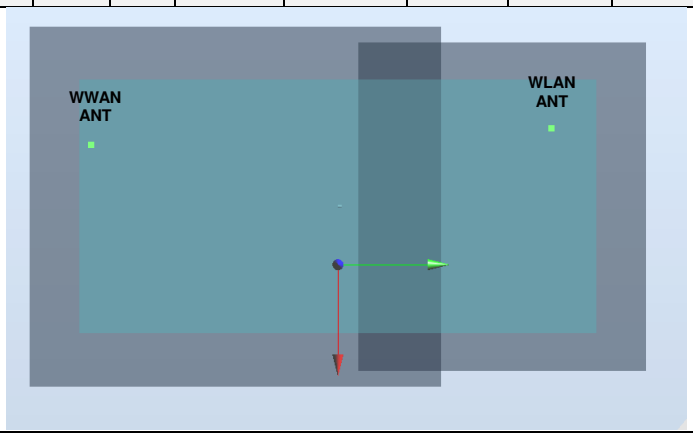
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case68	LTE Band 12	Back	0.712	5	-15.9	-3.6	-1.6	73.5	1.67	0.03	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



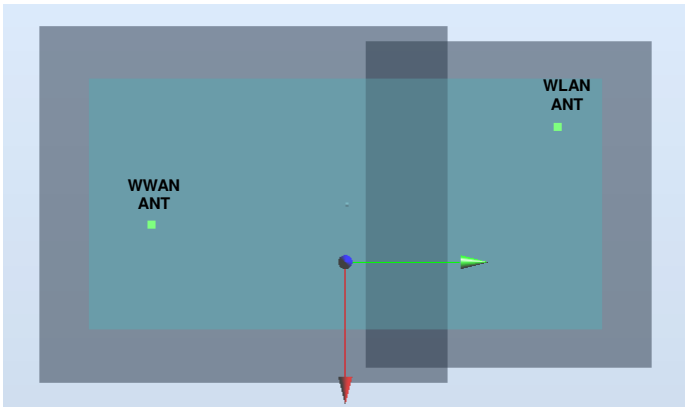
	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case69	LTE Band 13	Back	1.19	5	-5.5	-0.5	-1.56	73.4	2.15	0.04	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



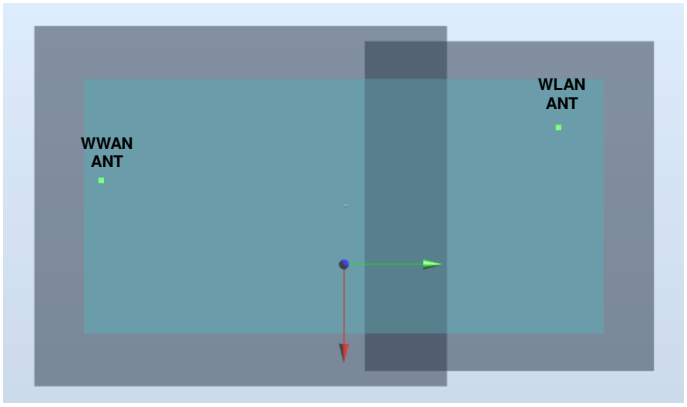
	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case71	LTE 25	Back	0.951	5	-15.8	-69.4	-1.04	138.6	1.91	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



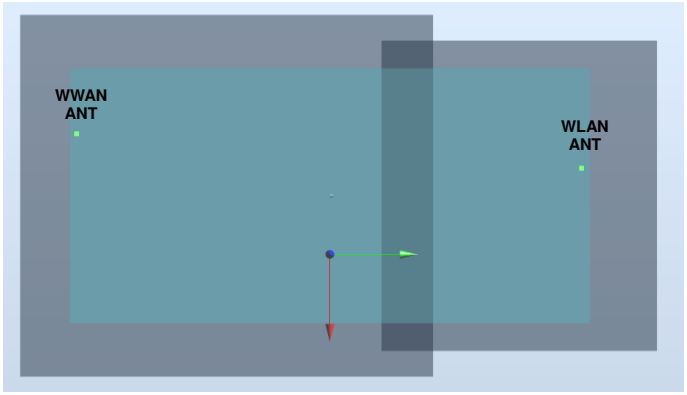
	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case72	LTE 26	Back	0.887	5	6.6	-62.4	-1.32	136.0	1.84	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



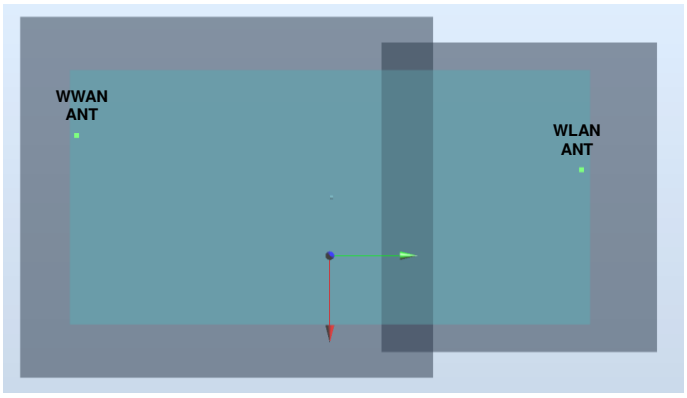
	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case74	LTE 66	Back	0.915	5	-13.3	-69.5	-1.02	139.0	1.87	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



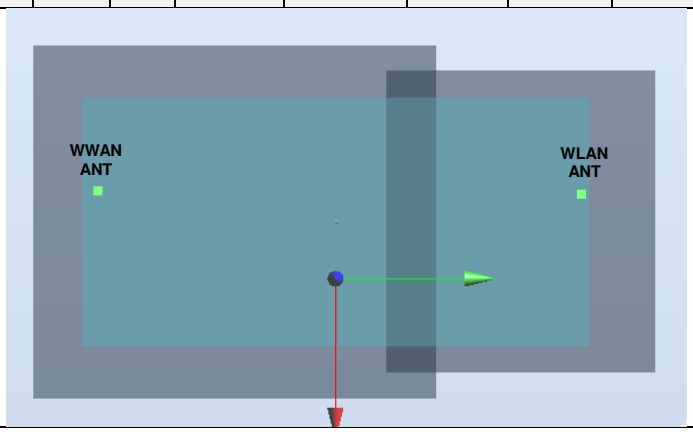
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case75	GSM850	Back	0.733	5	4.8	13.1	-1.51	65.7	1.67	0.03	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



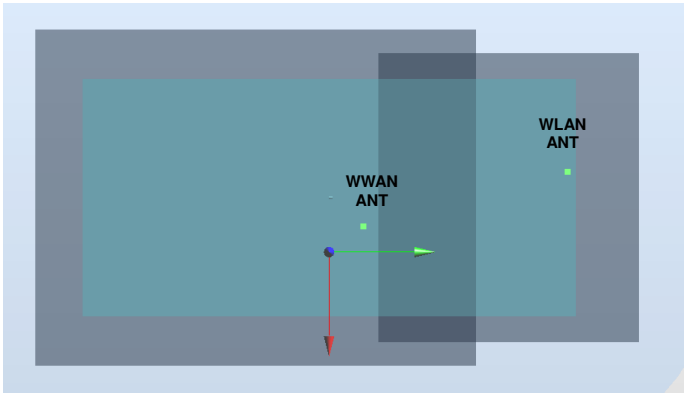
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case76	WCDMA II	Back	0.858	5	-15.8	-70.9	-1.05	146.8	1.80	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



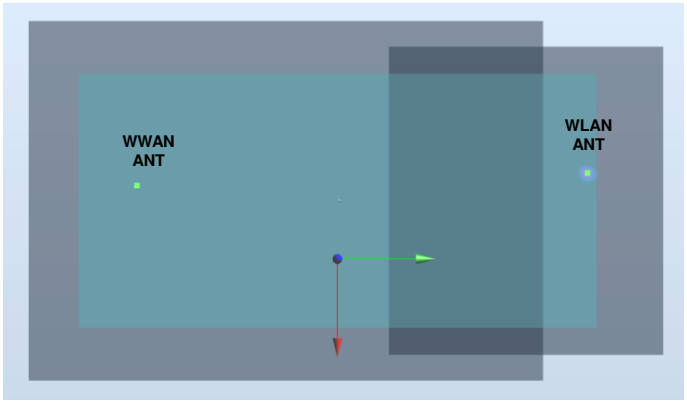
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case77	WCDMA IV	Back	0.954	5	-14.8	-69.5	-1.04	145.4	1.90	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



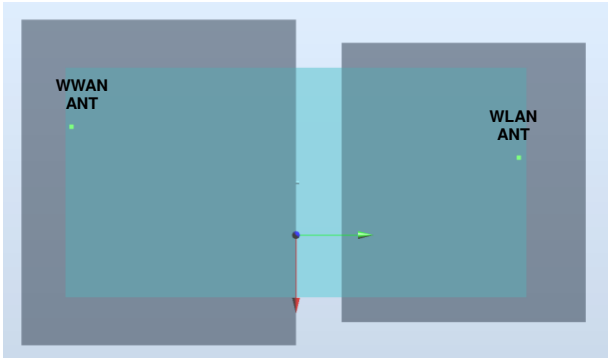
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case78	WCDMA V	Back	1.219	5	9.48	9.56	-1.51	70.5	2.16	0.04	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



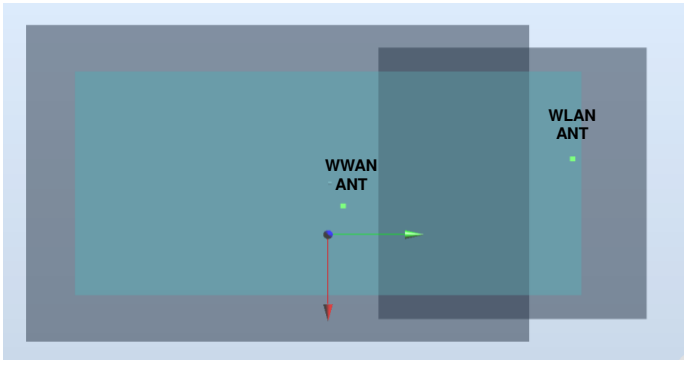
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case79	CDMA BC0	Back	0.938	5	-0.7	-63.9	-1.31	140.5	1.88	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



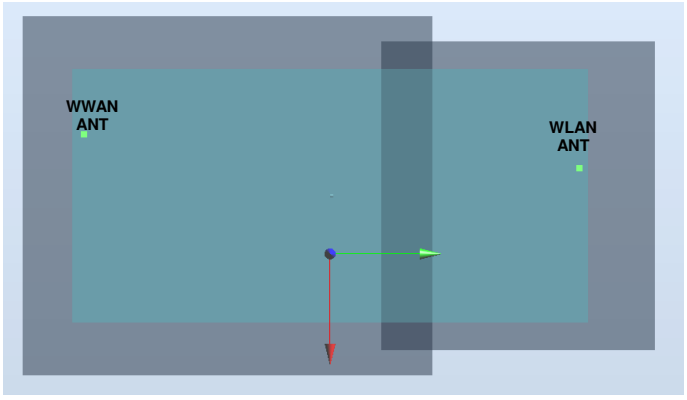
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case80	CDMA BC1	Back	1.234	5	-17.4	-70.9	-0.97	146.8	2.18	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



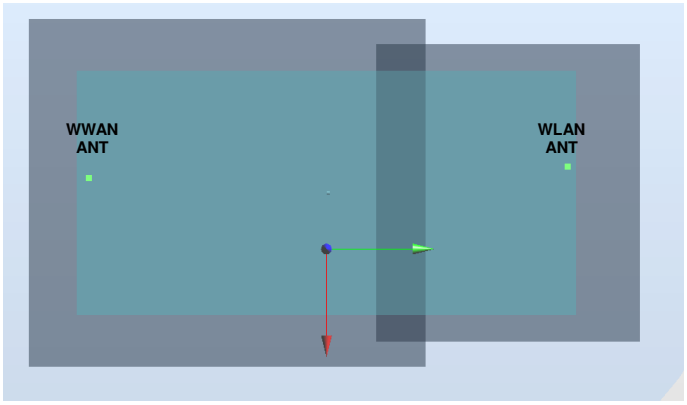
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case81	CDMA BC10	Back	0.921	5	4.9	13.5	-1.48	65.4	1.86	0.04	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



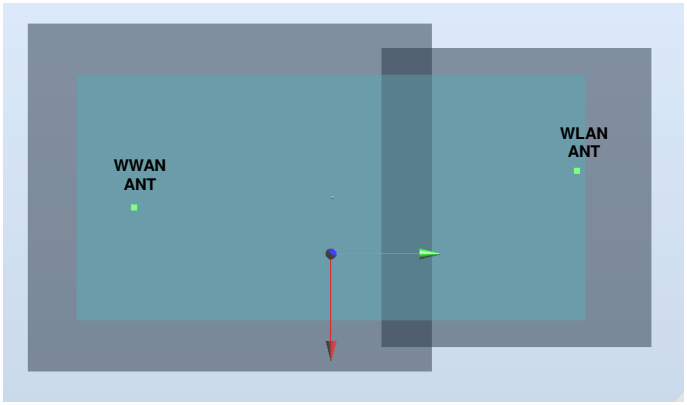
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case82	LTE 2	Back	0.97	5	-15.8	-69.4	-1.06	145.3	1.91	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



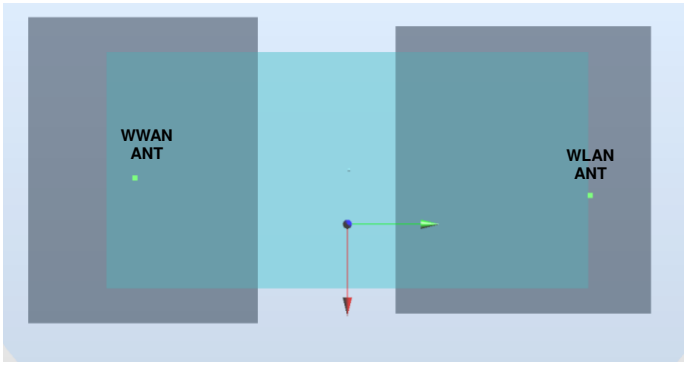
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case83	LTE 4	Back	0.948	5	-11.9	-71	-0.93	146.9	1.89	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



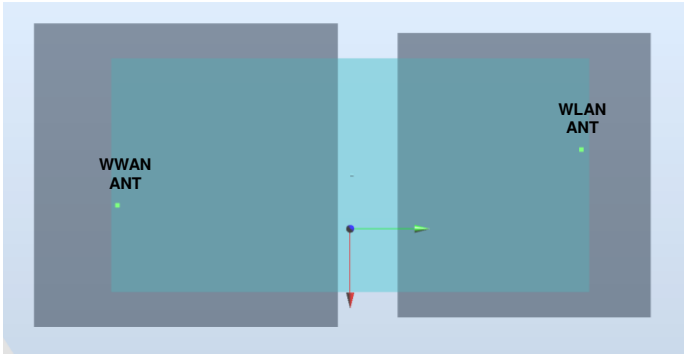
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case84	LTE 5	Back	0.95	5	2	-63.9	-1.33	140.8	1.89	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



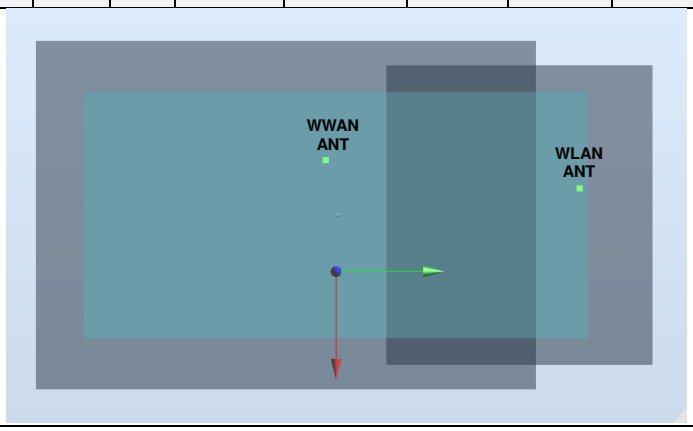
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case85	LTE 7	Front	1.045	5	-1.6	-67.4	-0.96	142.4	1.65	0.01	Not required
	WLAN5G		0.601	5	9.4	74.6	-0.47				



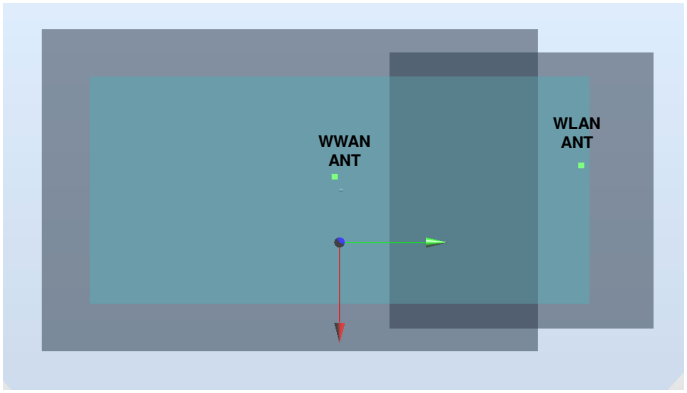
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case86	LTE 7	Back	1.016	5	7.6	-71.6	-0.93	149.1	1.96	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



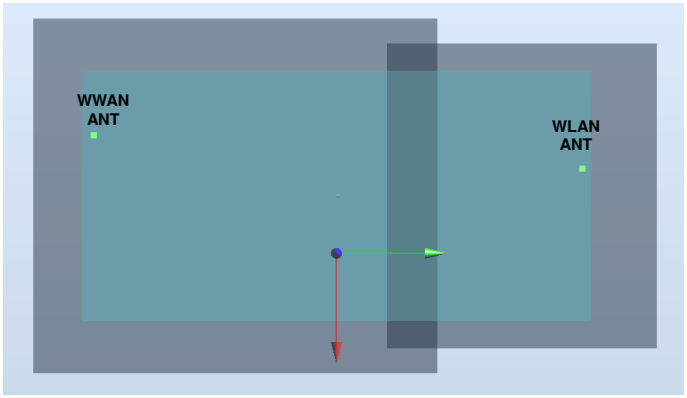
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case87	LTE 12	Back	0.712		-15.9	-3.6	-1.6	79.5	1.65	0.03	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



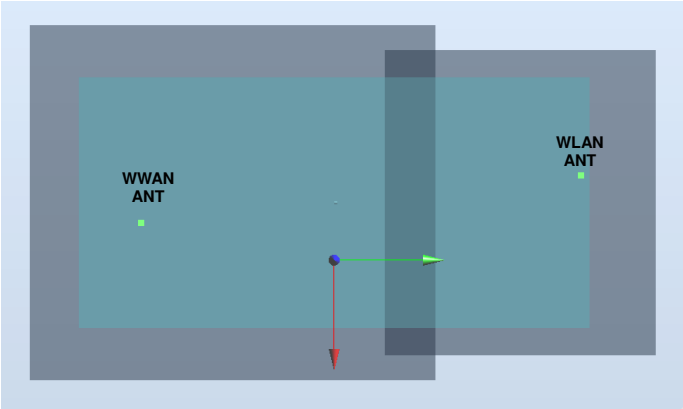
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case88	LTE 13	Back	1.19		-5.5	-0.5	-1.56	76.9	2.13	0.04	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



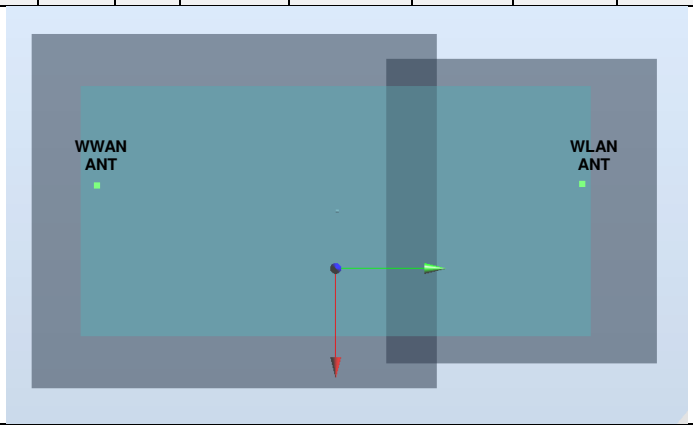
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case89	LTE 25	Back	0.951	5	-15.8	-69.4	-1.04	145.3	1.89	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



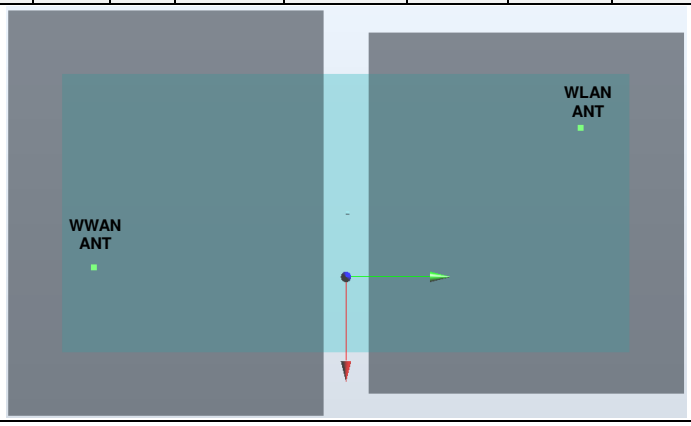
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case90	LTE 26	Back	0.887	5	6.6	-62.4	-1.32	139.9	1.83	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



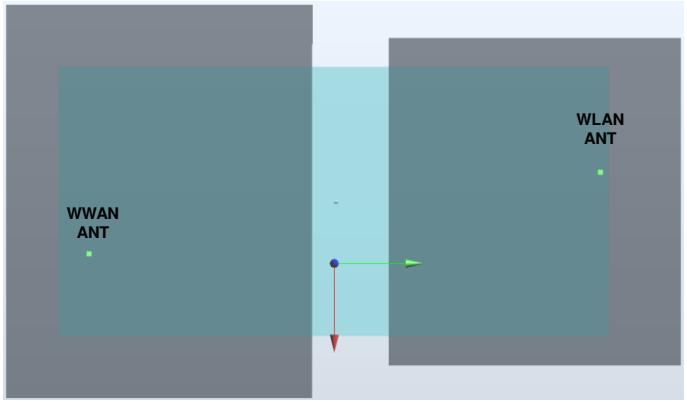
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case92	LTE 66	Back	0.915		-13.3	-69.5	-1.02	145.4	1.86	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



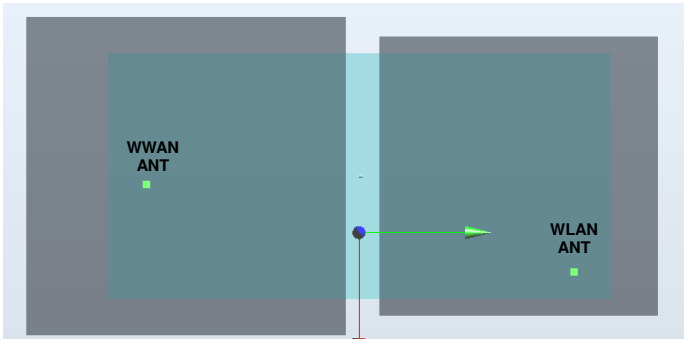
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case93	LTE 30	Back	0.993	5	16.4	-67.2	-1.12	143.6	1.95	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



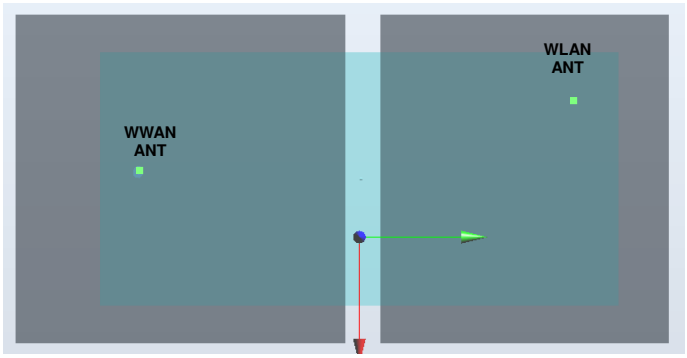
	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case94	LTE 30	Back	0.993	5	16.4	-67.2	-1.12	146.4	1.93	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



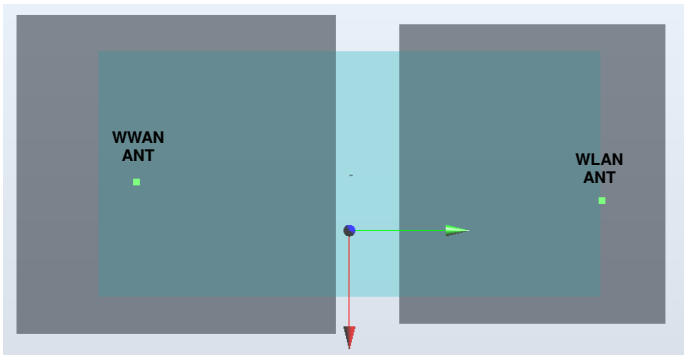
	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case95	LTE Band 41	Front	1.145	5	-1.6	-67	-1.08	138.9	1.88	0.02	Not required
	WLAN2.4G		0.733	5	31.8	67.8	0.23				



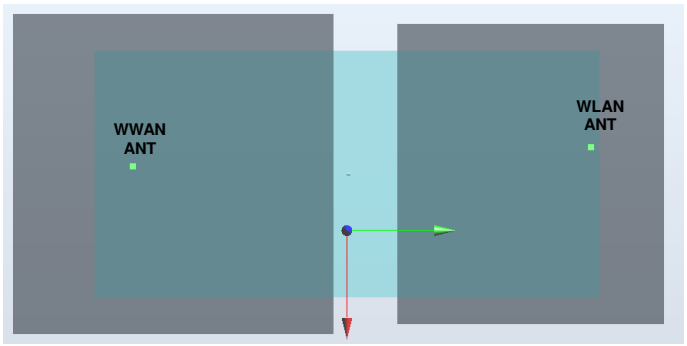
Case96	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Back	0.947	5	0.6	-67	-1.06	139.0	1.90	0.02	Not required
	WLAN2.4G		0.955	5	-30.8	68.4	-0.13				



Case97	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Front	1.145	5	-1.6	-67	-1.08	142.0	1.75	0.02	Not required
	WLAN5G		0.601	5	9.4	74.6	-0.47				



Case98	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Back	0.947	5	0.6	-67	-1.06	143.7	1.89	0.02	Not required
	WLAN5G		0.941	5	-14.5	75.9	-0.55				



Test Engineer： James Chen Jay Jian Thomas Wang White Huang Wilson Lin Steven Chang Mood Huang and Bevis Chang

16. Uncertainty Assessment

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

17. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013

[4] SPEAG DASY System Handbook

[5] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

[6] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[7] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.

[8] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[9] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015

[10] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.

[11] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[12] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.