FCC SAR TEST REPORT

FCC ID	:	**IHDT56YC1**
Equipment	:	**Mobile Cellular Phone**
Brand Name	:	**Motorola**
Applicant	:	**Motorola Mobility LLC** **222 W,Merchandise Mart Plaza, Chicago IL 60654 USA**
Manufacturer	:	**Motorola Mobility LLC** **222 W,Merchandise Mart Plaza, Chicago IL 60654 USA**
Standard	:	**FCC 47 CFR Part 2 (2.1093)** **ANSI/IEEE C95.1-1992** **IEEE 1528-2013**

The product was received on May 03, 2019 and testing was started from May 18, 2019 and completed on May 30, 2019. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

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

Approved by: Cona Huang / Deputy Manager

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FA942629	01	Initial issue of report	Jun. 10, 2019

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Motorola Mobility LLC, Mobile Cellular Phone, 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)	Product Specific (Separation 0mm)	
		1g SAR (W/kg)			10g SAR (W/kg)	
Licensed	GSM850	0.31	1.32	1.32	2.05	1.59
	GSM1900	0.13	1.28	1.28	3.45	
	WCDMA II	0.21	1.30	1.30	3.26	
	WCDMA IV	0.17	1.32	1.32	3.54	
	WCDMA V	0.30	1.21	1.21	3.59	
	LTE Band 2	0.16	1.32	1.35	3.57	
	LTE Band 4		1.38	1.38		
	LTE Band 5	0.27	1.29	1.29	3.08	
	LTE Band 7	0.41	1.39	1.39	3.60	
	LTE Band 12 / 17	0.19	0.95	0.95		
	LTE Band 38 / 41	0.26	1.26	1.26	3.39	
	LTE Band 66	0.11	1.37	1.37	3.16	
DTS	2.4GHz WLAN	1.26	0.44	0.44		1.59
NII	5GHz WLAN	1.24	1.39	1.39	1.34	1.50
DSS	Bluetooth	0.16	0.08	0.08		1.43
Date of Testing:		2019/05/18 ~ 2019/05/30				

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications

Reviewed by: Jason Wang
Report Producer: Wan Liu

2. Guidance Applied

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

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

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
FCC ID	IHDT56YC1
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 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 17: 706.5 MHz ~ 713.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2537.5 MHz ~ 2652.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS AMR / RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM WLAN: 802.11a/b/g/n/ac HT20 / HT40 / VHT20 / VHT40 / VHT80 Bluetooth BR/EDR/LE NFC:ASK
HW Version	DVT2A
SW Version	PPH29.20
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 WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications.
2. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, this technique is employed in the GSM, WCDMA and LTE modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner are included in the operational description and supplemental data for additional information on section16.
3. 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 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.
4. 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.

5. 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.
6. The device additionally employs proximity sensors that detect the presence of tissue near the currently active transmit antenna (if that antenna may require reduced power relative the Default power table in order to meet extremity SAR limits). The control logic is such that, if the Body-Worn or WiFi Hotspot conditions are not detected, but tissue (as a finger or hand, for example) is detected near the transmitting antenna, the Handheld power table will be applied
7. Reduced power for different RF exposure conditions:
   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 GSM850 / GSM1900, WCDMA B2 / B4 / B5 and LTE B2 / B4 / B5 / B7 / B38 / B41 / B66 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 GSM850 / GSM1900, WCDMA B2 / B4 / B5 and LTE B2 / B4 / B5 / B7 / B38 / B41 / B66 and detail descriptions of the power reduction mechanism are included in the operational description.
   Handheld: The device additionally employs proximity sensors that detect the presence of tissue near the currently active transmit antenna, the device will reduced output powers on the GSM1900, WCDMA B2 / B4, LTE B2 / B4 / B7 / B38 / B41 / B66 transmitter and detail descriptions of the power reduction mechanism are included in the operational description.

Accessories Information				
Earphone 1	Brand Name	Motorola(Lianyun)	Model Name	SH38C37773
Earphone 2	Brand Name	Motorola(Cosonic)	Model Name	SH38C44959

3.2 Maximum Tune-up Limit

<Maximum power for each bands and exposure conditions>

TX. freq.	Default	Head		Body Worn		Hotspot		Product Specific	
	max. tune up limit (dBm)	max. tune up limit(dBm)	power reduction (dB)	max. tune up limit(dBm)	power reduction (dB)	max. tune up limit(dBm)	power reduction (dB)	max. tune up limit(dBm)	power reduction (dB)
GSM850 GSM 1 Tx slot	33.50	33.50	0	31.00	2.5	31.00	2.5	33.50	0
GSM850 GPRS 1 Tx slot	33.50	33.50	0	31.00	2.5	31.00	2.5	33.50	0
GSM850 GPRS 2 Tx slots	32.50	32.50	0	29.50	3.0	29.50	3.0	32.50	0
GSM850 GPRS 3 Tx slots	30.50	30.50	0	27.50	3.0	27.50	3.0	30.50	0
GSM850 GPRS 4 Tx slots	29.00	29.00	0	26.00	3.0	26.00	3.0	29.00	0
GSM850 EDGE 1 Tx slot	27.50	27.50	0	24.00	3.5	24.00	3.5	27.50	0
GSM850 EDGE 2 Tx slots	26.00	26.00	0	23.00	3.0	23.00	3.0	26.00	0
GSM850 EDGE 3 Tx slots	24.50	24.50	0	21.00	3.5	21.00	3.5	24.50	0
GSM850 EDGE 4 Tx slots	23.00	23.00	0	19.50	3.5	19.50	3.5	23.00	0
GSM1900 GSM 1 Tx slot	30.50	30.50	0	26.50	4.0	24.00	6.5	29.00	1.5
GSM1900 GPRS 1 Tx slot	30.50	30.50	0	26.50	4.0	24.00	6.5	29.00	1.5
GSM1900 GPRS 2 Tx slots	29.50	29.50	0	24.50	5.0	22.00	7.5	27.00	2.5
GSM1900 GPRS 3 Tx slots	27.50	27.50	0	22.50	5.0	20.00	7.5	25.00	2.5
GSM1900 GPRS 4 Tx slots	26.00	26.00	0	21.00	5.0	18.50	7.5	23.50	2.5
GSM1900 EDGE 1 Tx slot	26.50	26.50	0	21.50	5.0	19.00	7.5	24.00	2.5
GSM1900 EDGE 2 Tx slots	25.00	25.00	0	20.50	4.5	18.00	7.0	23.00	2.0
GSM1900 EDGE 3 Tx slots	23.50	23.50	0	18.50	5.0	16.00	7.5	21.00	2.5
GSM1900 EDGE 4 Tx slots	22.00	22.00	0	17.00	5.0	14.50	7.5	19.50	2.5
WCDMA II	24.00	24.00	0	17.00	7	14.50	10	20.00	4
WCDMA VI	24.00	24.00	0	17.50	6.5	16.00	8	20.50	4
WCDMA V	24.00	24.00	0	21.50	2.5	21.50	3	24.00	0
LTE B2	24.00	24.00	0	18.00	6	15.50	9	21.00	3
LTE B4	24.00	24.00	0	18.50	5.5	17.50	6.5	20.50	3.5
LTE B5	24.00	24.00	0	23.00	1	23.00	1	24.00	0
LTE B7	24.00	24.00	0	19.00	5	19.00	5	19.50	5
LTE B12	24.00	24.00	0	24.00	0	24.00	0	24.00	0
LTE B17	24.00	24.00	0	24.00	0	24.00	0	24.00	0
LTE B38	24.00	24.00	0	19.00	5	19.00	5	22.00	2
LTE B41	24.00	24.00	0	19.00	5	19.00	5	22.00	2
LTE B66	24.00	24.00	0	18.00	6	17.00	7	20.50	3.5
2.4GHz WLAN 802.11b	19.00	19.00	0	19.00	0	19.00	0	19.00	0
2.4GHz WLAN 802.11g	17.00	17.00	0	17.00	0	17.00	0	17.00	0
2.4GHz WLAN 802.11n-HT20	17.00	17.00	0	17.00	0	17.00	0	17.00	0
2.4GHz WLAN 802.11n-HT40	16.00	16.00	0	16.00	0	16.00	0	16.00	0
5GHz WLAN 802.11a	17.00	17.00	0	17.00	0	17.00	0	17.00	0
5GHz WLAN 802.11n-HT20	16.00	16.00	0	16.00	0	16.00	0	16.00	0
5GHz WLAN 802.11n-HT40	16.00	16.00	0	16.00	0	16.00	0	16.00	0
5GHz WLAN 802.11ac-VHT20	15.00	15.00	0	15.00	0	15.00	0	15.00	0
5GHz WLAN 802.11ac-VHT40	15.00	15.00	0	15.00	0	15.00	0	15.00	0
5GHz WLAN 802.11ac-VHT80	15.00	15.00	0	15.00	0	15.00	0	15.00	0
BT	12.00	12.00	0	12.00	0	12.00	0	12.00	0

3.3 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	IHDT56YC1
Equipment Name	Mobile Cellular Phone
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz
Channel Bandwidth	LTE Band 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 17: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM
LTE Voice / Data requirements	Voice and Data
LTE MPR permanently built-in by design	**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3** Modulation | Channel bandwidth / Transmission bandwidth (N_{RB}) 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | MPR (dB) QPSK: > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 1 16 QAM: ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 16 QAM: > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 2 64 QAM: ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 2 64 QAM: > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 3 256 QAM: ≥ 1 | ≤ 5
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.
Power reduction applied to satisfy SAR compliance	Yes, when operating in hotspot / Body-wron and extremity mode that LTE B2 / B4 / B5 / B7 / B38 / B41 / B66 power reduction applied to satisfy SAR compliance.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 12.
LTE Carrier Aggregation Additional Information	2This device supports maximum of 3 carriers in the downlink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

Transmission (H, M, L) channel numbers and frequencies in each LTE band

LTE Band 2

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900

LTE Band 4

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745

LTE Band 5								
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	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 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 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

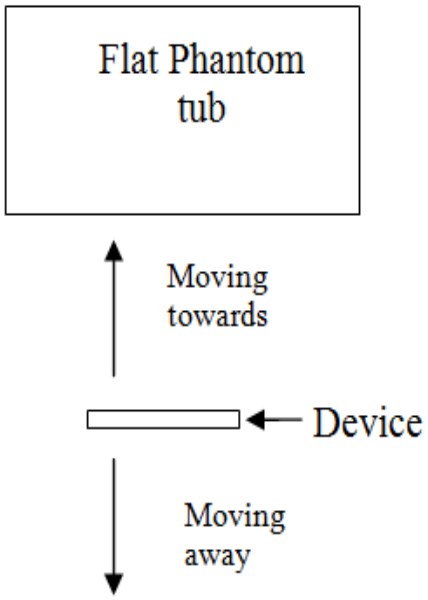
LTE Band 41								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
L M	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	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

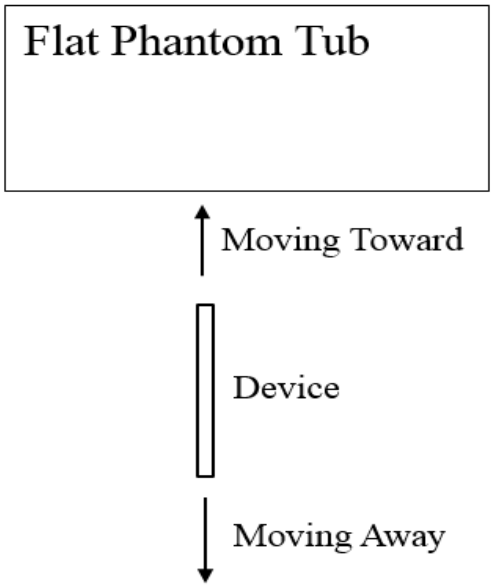
4. Proximity Sensor Triggering Test

<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. The device additionally employs proximity sensors that detect the presence of tissue near the currently active transmit antenna (if that antenna may require reduced power relative the Default power table in order to meet extremity SAR limits). The control logic is such that, if the Body-Worn, At-Head or WiFi Hotspot conditions are not detected, but tissue (as a finger or hand, for example) is detected near the transmitting antenna, the Handheld Reduced power table will be applied
6. When the sensor is active, the device will reduced maximum output powers on the GSM850 / GSM1900, WCDMA B2 / B4 / B5 and LTE B2 / B4 / B5 / B7 / B38 / B41 / B66 transmitter.

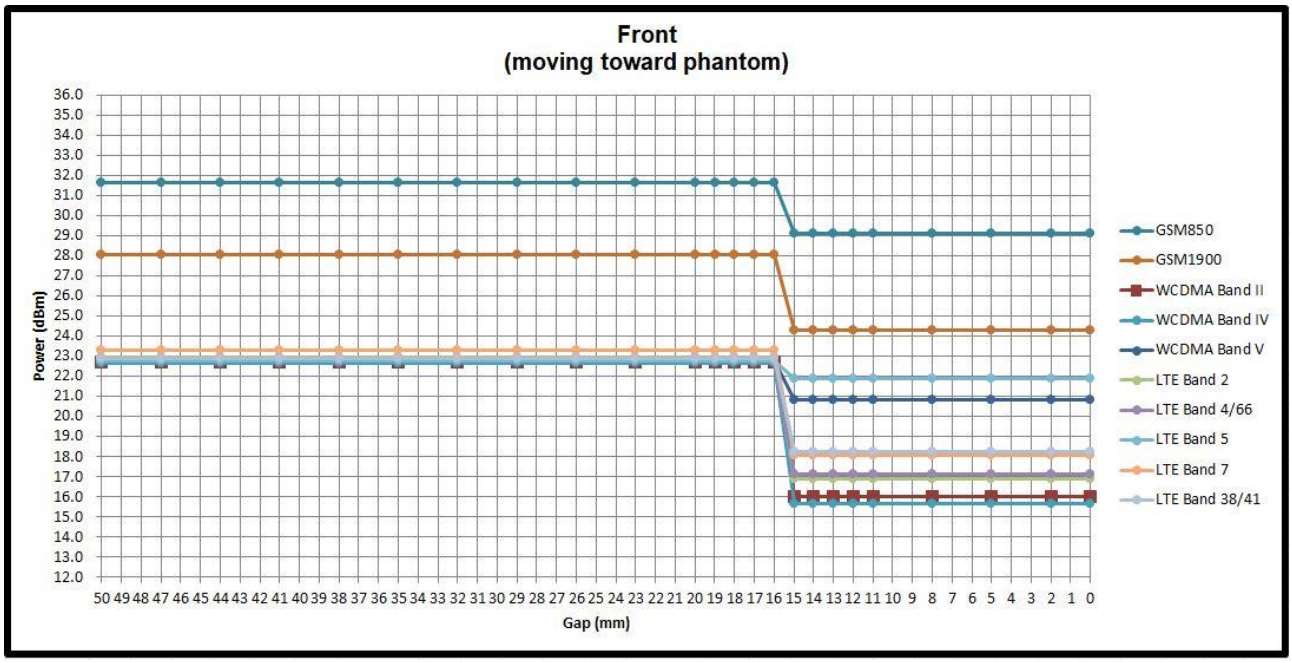


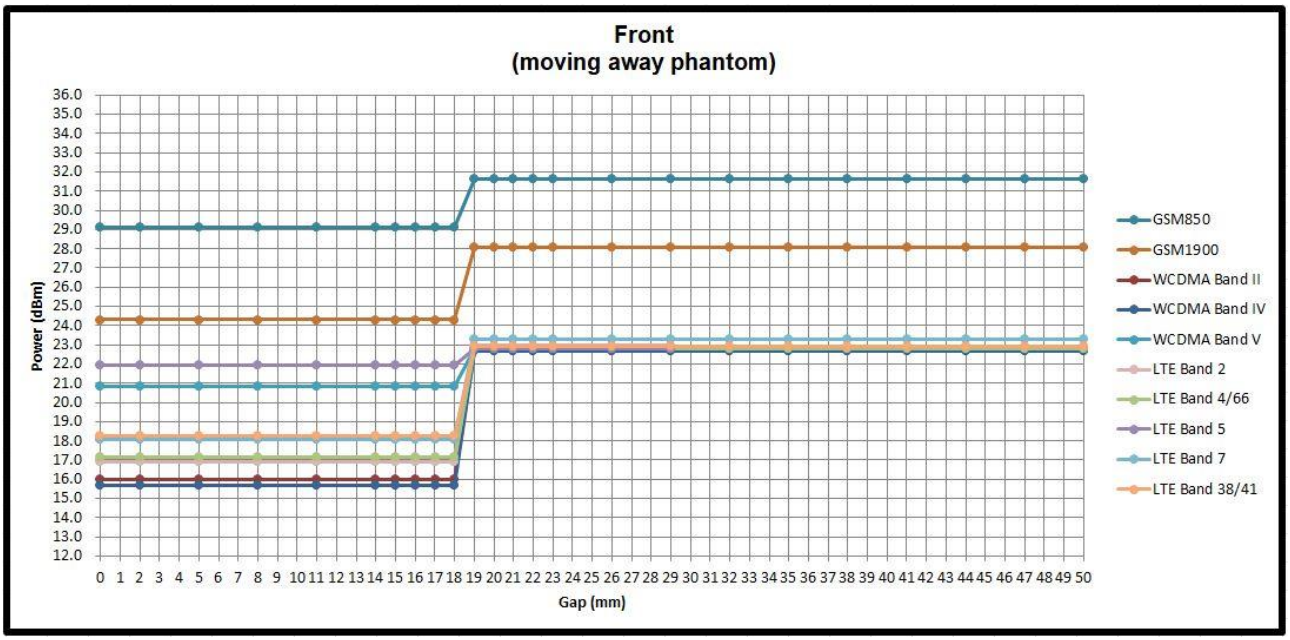
Sensor detection test set-up, front and back faces

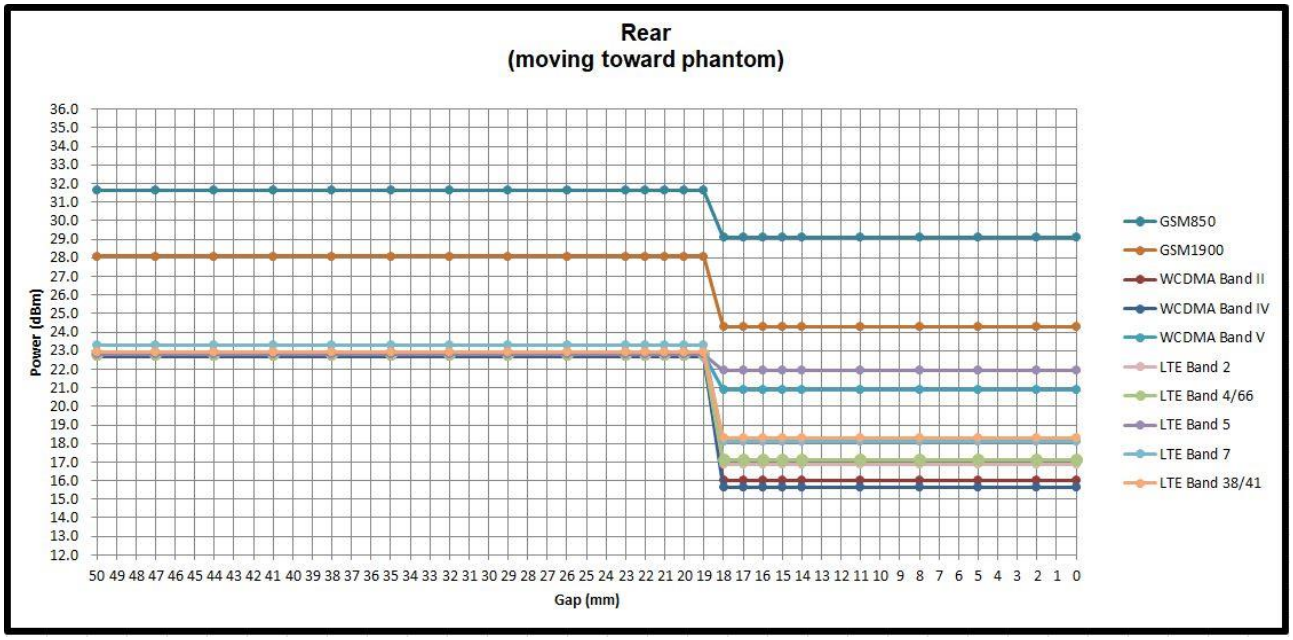


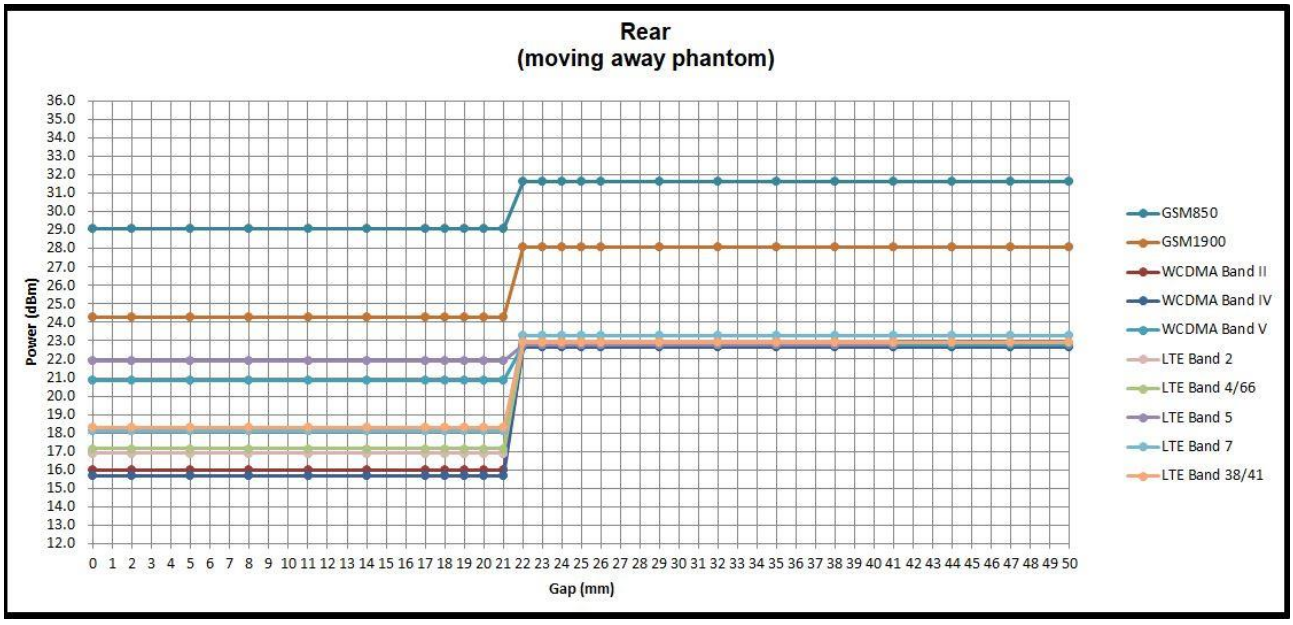
Sensor detection test set-up, bottom face

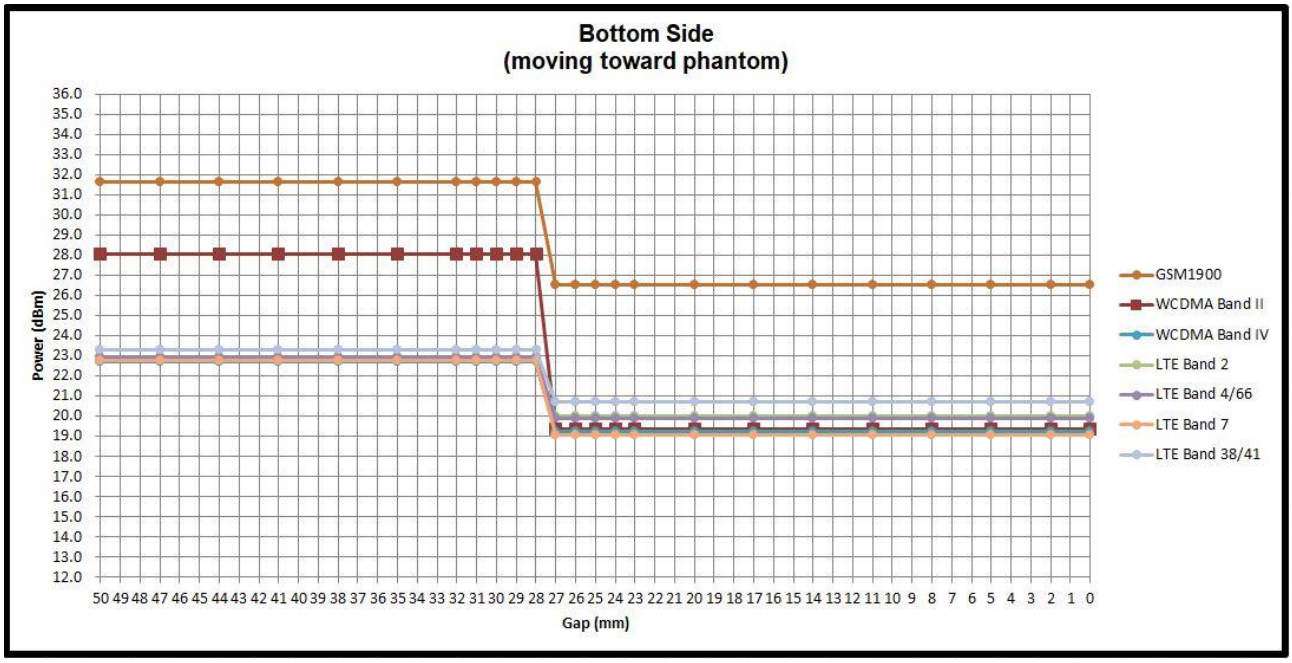
Proximity Sensor Trigger Distance for FILP open (mm)								
Position	Front		Back		Bottom Side		Left Side	
Position	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	15	18	18	21	27	30	22	25

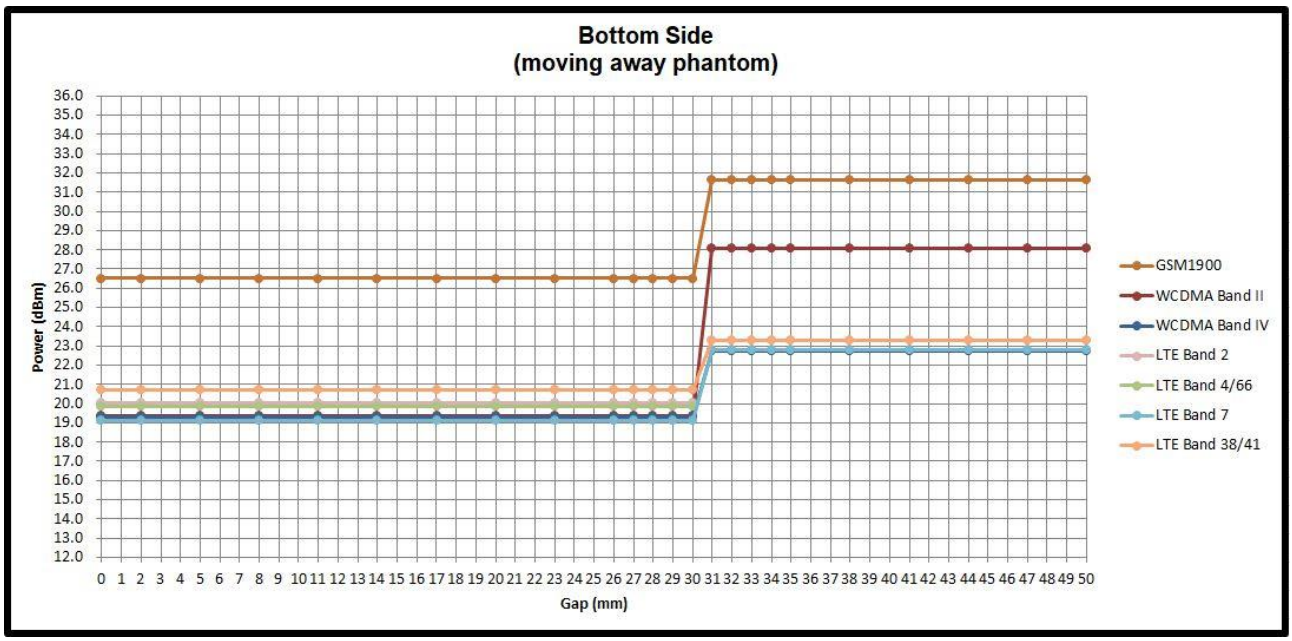

Front
(moving toward phantom)
Power (dBm)
Gap (mm)
GSM850
GSM1900
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4/66
LTE Band 5
LTE Band 7
LTE Band 38/41

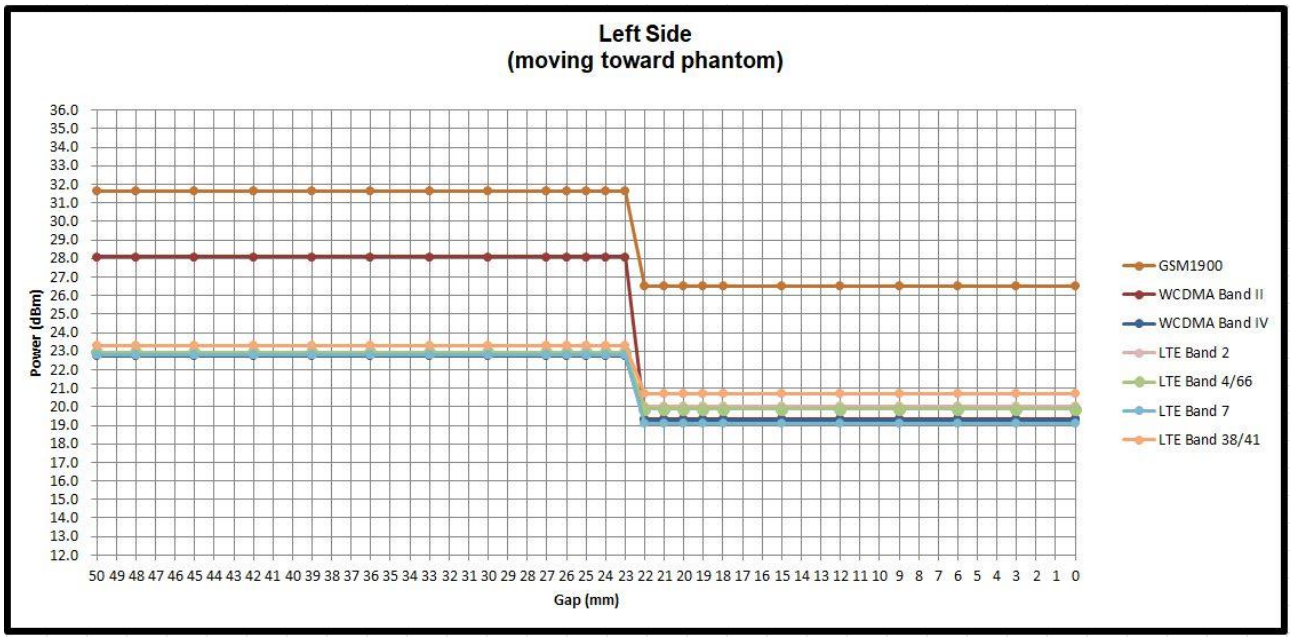

Front
(moving away phantom)
Power (dBm)
Gap (mm)
GSM850
GSM1900
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4/66
LTE Band 5
LTE Band 7
LTE Band 38/41

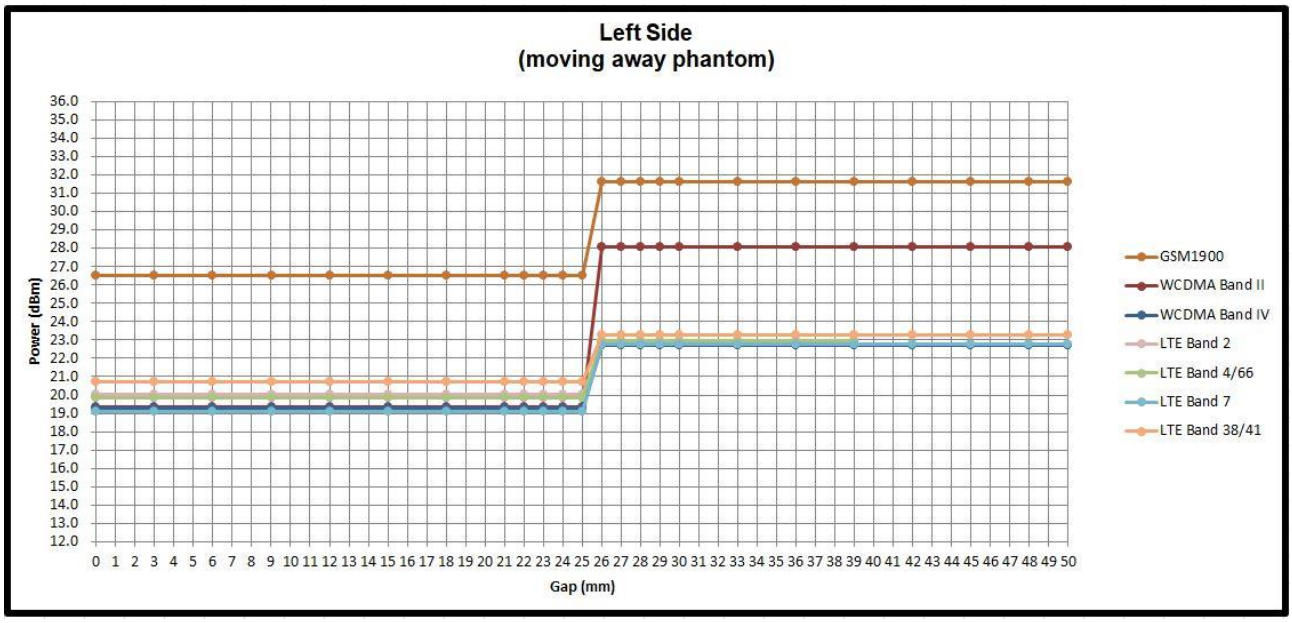

Rear
(moving toward phantom)
Power (dBm)
Gap (mm)
GSM850
GSM1900
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4/66
LTE Band 5
LTE Band 7
LTE Band 38/41


Rear
(moving away phantom)
Power (dBm)
Gap (mm)
GSM850
GSM1900
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4/66
LTE Band 5
LTE Band 7
LTE Band 38/41


Bottom Side
(moving toward phantom)
Power (dBm)
Gap (mm)
GSM1900
WCDMA Band II
WCDMA Band IV
LTE Band 2
LTE Band 4/66
LTE Band 7
LTE Band 38/41


Bottom Side
(moving away phantom)
Power (dBm)
Gap (mm)
GSM1900
WCDMA Band II
WCDMA Band IV
LTE Band 2
LTE Band 4/66
LTE Band 7
LTE Band 38/41


Left Side
(moving toward phantom)
Power (dBm)
Gap (mm)
GSM1900
WCDMA Band II
WCDMA Band IV
LTE Band 2
LTE Band 4/66
LTE Band 7
LTE Band 38/41


Left Side
(moving away phantom)
Power (dBm)
Gap (mm)
GSM1900
WCDMA Band II
WCDMA Band IV
LTE Band 2
LTE Band 4/66
LTE Band 7
LTE Band 38/41

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:

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

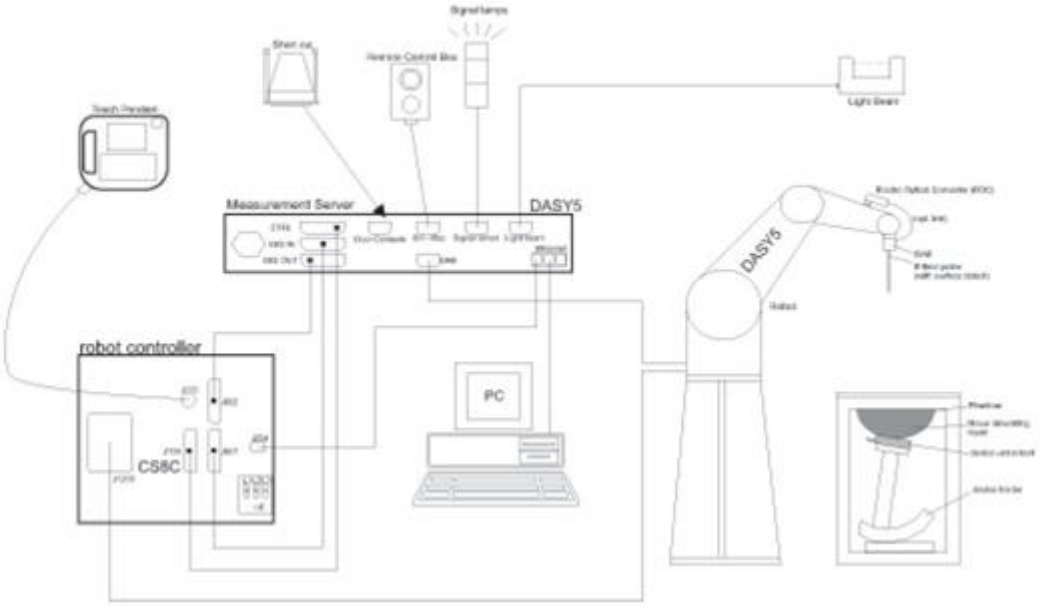
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

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.

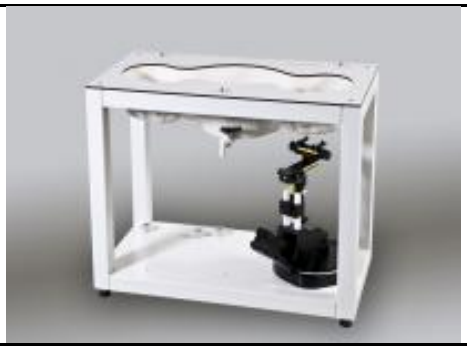
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Fig 5.1 Photo of DAE

7.3 Phantom

<SAM Twin Phantom>

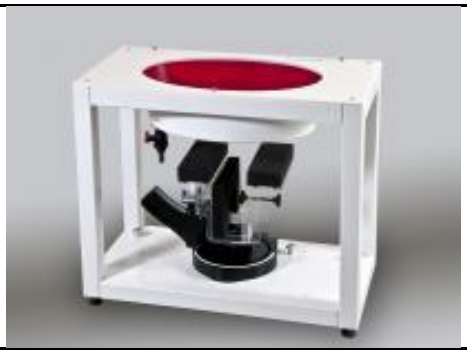
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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	Sep. 05, 2018	Sep. 04, 2019
SPEAG	835MHz System Validation Kit	D835V2	499	Sep. 06, 2018	Sep. 05, 2019
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 19, 2018	Nov. 18, 2019
SPEAG	1750MHz System Validation Kit	D1750V2	1112	Mar. 07, 2019	Mar. 06, 2020
SPEAG	1900MHz System Validation Kit	D1900V2	5d185	Mar. 07, 2019	Mar. 06, 2020
SPEAG	2450MHz System Validation Kit	D2450V2	736	Aug. 31, 2018	Aug. 30, 2019
SPEAG	2600MHz System Validation Kit	D2600V2	1078	Mar. 06, 2019	Mar. 05, 2020
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Sep. 27, 2018	Sep. 26, 2019
SPEAG	Data Acquisition Electronics	DAE4	699	Jan. 03, 2019	Jan. 02, 2020
SPEAG	Data Acquisition Electronics	DAE4	360	Oct. 29, 2018	Oct. 28, 2019
SPEAG	Data Acquisition Electronics	DAE4	853	Jul. 24, 2018	Jul. 23, 2019
SPEAG	Data Acquisition Electronics	DAE4	914	Dec. 11, 2018	Dec. 10, 2019
SPEAG	Data Acquisition Electronics	DAE4	918	Jun. 20, 2018	Jun. 19, 2019
SPEAG	Dosimetric E-Field Probe	ES3DV3	3270	Sep. 24, 2018	Sep. 23, 2019
SPEAG	Dosimetric E-Field Probe	EX3DV4	3642	Apr. 29, 2019	Apr. 28, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	3728	Jan. 15, 2019	Jan. 14, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	7306	Jul. 26, 2018	Jul. 25, 2019
SPEAG	Dosimetric E-Field Probe	EX3DV4	7515	Oct. 03, 2018	Oct. 02, 2019
SPEAG	Dosimetric E-Field Probe	EX3DV4	7350	Dec. 14, 2018	Dec. 13, 2019
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 12, 2018	Nov. 11, 2019
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 12, 2018	Nov. 11, 2019
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Apr. 21, 2019	Apr. 20, 2020
Agilent	Wireless Communication Test Set	E5515C	MY50267236	Apr. 01, 2019	Mar. 31, 2020
R&S	BT Base Station	CBT32	100522	Mar. 18, 2019	Mar. 17, 2020
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Dec. 11, 2018	Dec. 10, 2019
Agilent	ENA Network Analyzer	E5071C	MY46104758	Sep. 19, 2018	Sep. 18, 2019
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 19, 2018	Sep. 18, 2019
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3169	Sep. 11, 2018	Sep. 10, 2019
Anritsu	Power Meter	ML2495A	1218006	Oct. 08, 2018	Oct. 07, 2019
Anritsu	Power Sensor	MA2411B	1207363	Oct. 08, 2018	Oct. 07, 2019
Anritsu	Power Meter	ML2495A	1419002	May. 29, 2019	May. 28, 2020
Anritsu	Power Sensor	MA2411B	1339124	May. 29, 2019	May. 28, 2020
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 28, 2018	Aug. 27, 2019
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 23, 2018	Jun. 22, 2019
Mini-Circuits	Power Amplifier	ZVE-8G+	070501814	Oct. 08, 2018	Oct. 07, 2019
Mini-Circuits	Power Amplifier	ZVE-8G+	6382	Aug. 09, 2018	Aug. 08, 2019
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:
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.

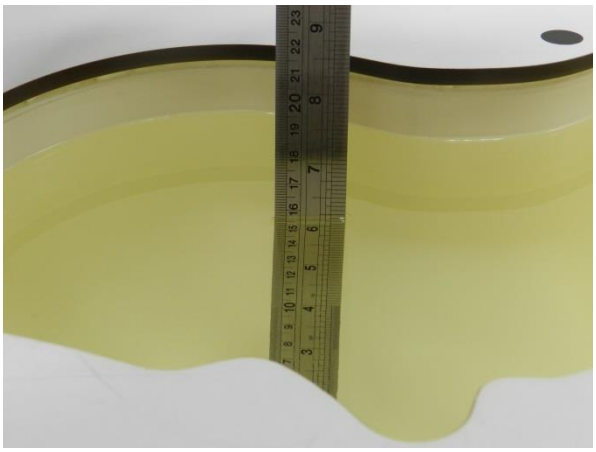


Fig 10.1Photo of Liquid Height for Head SAR

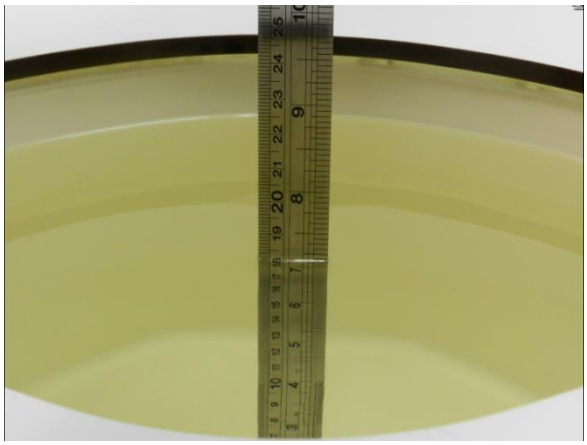


Fig 10.2 Photo of Liquid Height for Body SAR

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)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	22.7	0.893	40.476	0.89	41.90	0.34	-3.40	±5	2019/5/19
835	22.5	0.899	42.229	0.90	41.50	-0.11	1.76	±5	2019/5/22
835	22.8	0.891	41.066	0.90	41.50	-1.00	-1.05	±5	2019/5/23
835	22.5	0.889	42.429	0.90	41.50	-1.22	2.24	±5	2019/5/30
1750	22.5	1.366	41.236	1.37	40.10	-0.29	2.83	±5	2019/5/23
1750	22.7	1.376	41.436	1.37	40.10	0.44	3.33	±5	2019/5/27
1750	22.6	1.388	41.656	1.37	40.10	1.31	3.88	±5	2019/5/28
1900	22.5	1.410	40.505	1.40	40.00	0.71	1.26	±5	2019/5/23
1900	22.7	1.421	40.705	1.40	40.00	1.50	1.76	±5	2019/5/27
1900	22.6	1.402	40.521	1.40	40.00	0.14	1.30	±5	2019/5/28
2450	22.4	1.797	39.887	1.80	39.20	-0.17	1.75	±5	2019/5/18
2600	22.7	2.030	39.619	1.96	39.00	3.57	1.59	±5	2019/5/24
2600	22.4	2.011	39.609	1.96	39.00	2.60	1.56	±5	2019/5/30
5250	22.4	4.633	36.138	4.71	35.95	-1.63	0.52	±5	2019/5/18
5250	22.6	4.517	37.160	4.71	35.95	-4.10	3.37	±5	2019/5/22
5600	22.5	4.894	36.213	5.07	35.50	-3.47	2.01	±5	2019/5/21
5750	22.5	5.044	36.005	5.22	35.35	-3.37	1.85	±5	2019/5/21
5750	22.6	5.016	36.517	5.22	35.35	-3.91	3.30	±5	2019/5/22

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)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2019/5/19	750	250	D750V3-1012	EX3DV4 - SN3642	DAE4 Sn699	2.29	8.47	9.16	8.15
2019/5/22	835	250	D835V2-499	ES3DV3 - SN3270	DAE4 Sn699	2.29	9.59	9.16	-4.48
2019/5/23	835	250	D835V2-499	EX3DV4 - SN3728	DAE4 Sn853	2.41	9.59	9.64	0.52
2019/5/30	835	250	D835V2-499	EX3DV4 - SN7515	DAE4 Sn918	2.51	9.59	10.04	4.69
2019/5/23	1750	250	D1750V2-1068	EX3DV4 - SN3728	DAE4 Sn853	9.22	37.10	36.88	-0.59
2019/5/27	1750	250	D1750V2-1068	EX3DV4 - SN7350	DAE3 Sn360	8.95	37.10	35.8	-3.50
2019/5/28	1750	250	D1750V2-1112	EX3DV4 - SN7350	DAE3 Sn360	9.08	36.70	36.32	-1.04
2019/5/23	1900	250	D1900V2-5d185	EX3DV4 - SN3728	DAE4 Sn853	10.10	39.40	40.4	2.54
2019/5/27	1900	250	D1900V2-5d185	EX3DV4 - SN7350	DAE3 Sn360	10.30	39.40	41.2	4.57
2019/5/28	1900	250	D1900V2-5d185	EX3DV4 - SN7350	DAE3 Sn360	10.30	39.40	41.2	4.57
2019/5/18	2450	250	D2450V2-736	EX3DV4 - SN7306	DAE3 Sn360	12.70	52.70	50.8	-3.61
2019/5/24	2600	250	D2600V2-1078	EX3DV4 - SN3728	DAE4 Sn853	15.20	57.60	60.8	5.56
2019/5/30	2600	250	D2600V2-1078	EX3DV4 - SN7350	DAE3 Sn360	14.20	57.60	56.8	-1.39
2019/5/18	5250	100	D5GHzV2-1006	EX3DV4 - SN7306	DAE3 Sn360	8.02	80.70	80.2	-0.62
2019/5/22	5250	100	D5GHzV2-1006	EX3DV4 - SN3728	DAE4 Sn853	8.19	80.70	81.9	1.49
2019/5/21	5600	100	D5GHzV2-1006	EX3DV4 - SN3642	DAE4 Sn914	8.06	83.30	80.6	-3.24
2019/5/21	5750	100	D5GHzV2-1006	EX3DV4 - SN3642	DAE4 Sn914	7.64	80.40	76.4	-4.98
2019/5/22	5750	100	D5GHzV2-1006	EX3DV4 - SN3728	DAE4 Sn853	7.95	80.40	79.5	-1.12

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2019/5/30	835	250	D835V2-499	EX3DV4 - SN7515	DAE4 Sn918	1.63	6.29	6.52	3.66
2019/5/27	1750	250	D1750V2-1068	EX3DV4 - SN7350	DAE3 Sn360	4.71	19.50	18.84	-3.38
2019/5/27	1900	250	D1900V2-5d185	EX3DV4 - SN7350	DAE3 Sn360	5.24	20.50	20.96	2.24
2019/5/28	1900	250	D1900V2-5d185	EX3DV4 - SN7350	DAE3 Sn360	5.19	20.50	20.76	1.27
2019/5/30	2600	250	D2600V2-1078	EX3DV4 - SN7350	DAE3 Sn360	6.37	25.50	25.48	-0.08
2019/5/18	5250	100	D5GHzV2-1006	EX3DV4 - SN7306	DAE3 Sn360	2.28	23.20	22.8	-1.72
2019/5/21	5600	100	D5GHzV2-1006	EX3DV4 - SN3642	DAE4 Sn914	2.20	23.80	22	-7.56

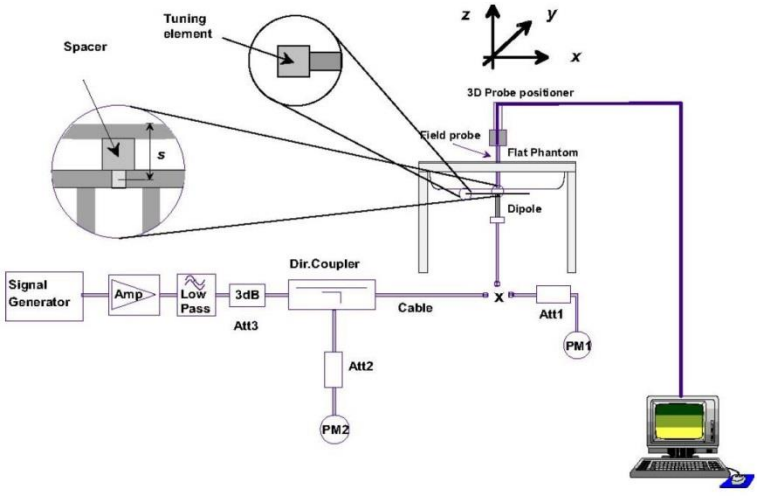


Fig 8.3.1 System Performance Check Setup

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.

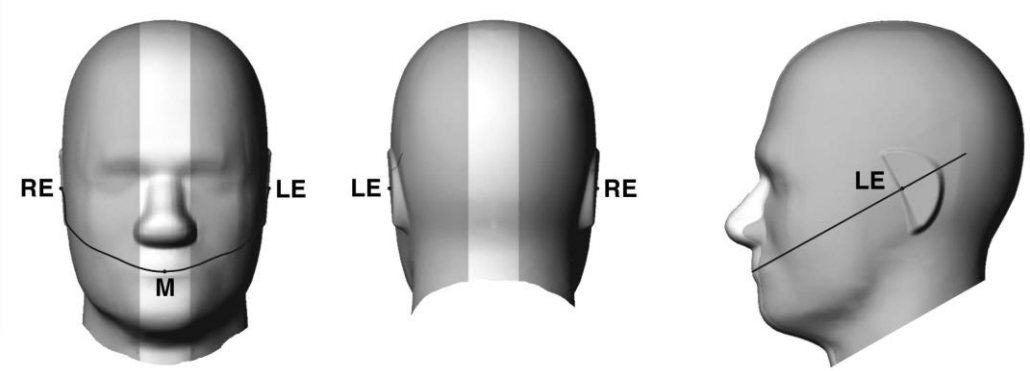


Fig 9.1.1 Front, back, and side views of SAM twin phantom

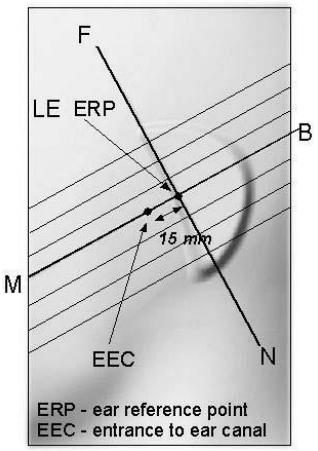


Fig 9.1.2 Close-up side view of phantom showing the ear region.

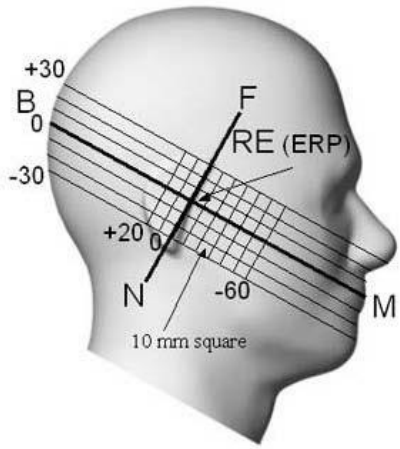


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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.

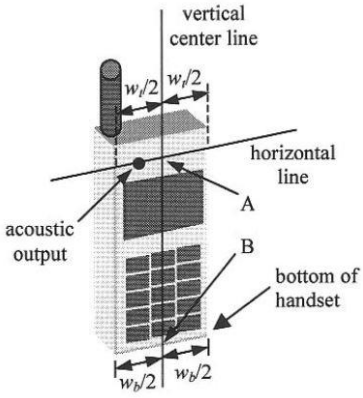


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case

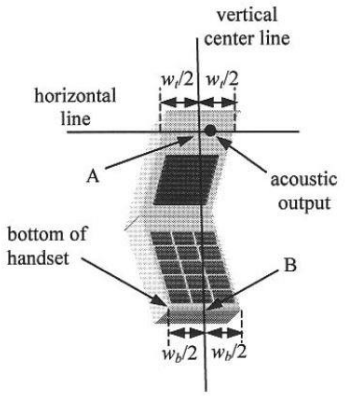


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

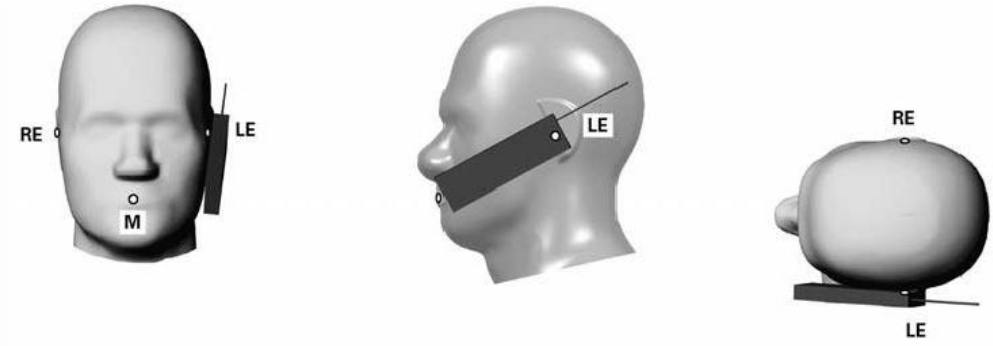


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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

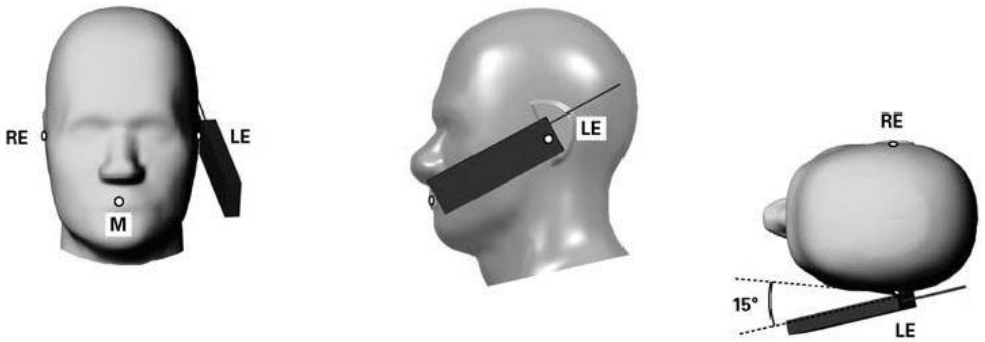


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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.

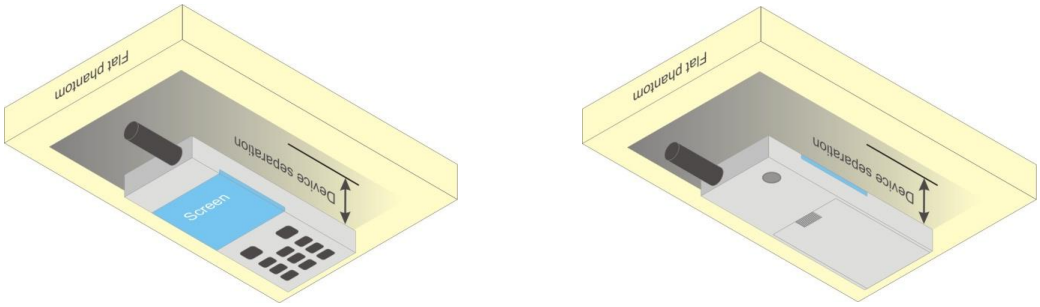


Fig 9.4 Body Worn Position

11.5 Product Specific Exposure

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

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

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

11.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L 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 (2Tx 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

<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	32.71	32.54	32.48	33.50	23.71	23.54	23.48	24.50
GPRS 1 Tx slot	32.79	32.55	32.50	33.50	23.79	23.55	23.50	24.50
GPRS 2 Tx slots	31.63	31.28	31.40	32.50	25.63	25.28	25.40	26.50
GPRS 3 Tx slots	29.79	29.46	29.39	30.50	25.53	25.20	25.13	26.24
GPRS 4 Tx slots	27.79	27.86	27.43	29.00	24.79	24.86	24.43	26.00
EDGE 1 Tx slot	26.33	26.20	26.02	27.50	17.33	17.20	17.02	18.50
EDGE 2 Tx slots	25.16	25.26	24.78	26.00	19.16	19.26	18.78	20.00
EDGE 3 Tx slots	23.48	23.39	23.27	24.50	19.22	19.13	19.01	20.24
EDGE 4 Tx slots	21.96	21.81	21.57	23.00	18.96	18.81	18.57	20.00

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	29.02	29.31	29.22	30.50	20.02	20.31	20.22	21.50
GPRS 1 Tx slot	29.05	29.35	29.24	30.50	20.05	20.35	20.24	21.50
GPRS 2 Tx slots	27.88	28.08	28.01	29.50	21.88	22.08	22.01	23.50
GPRS 3 Tx slots	26.13	26.29	26.31	27.50	21.87	22.03	22.05	23.24
GPRS 4 Tx slots	24.46	24.53	24.63	26.00	21.46	21.53	21.63	23.00
EDGE 1 Tx slot	25.18	25.28	25.31	26.50	16.18	16.28	16.31	17.50
EDGE 2 Tx slots	24.08	24.19	24.26	25.00	18.08	18.19	18.26	19.00
EDGE 3 Tx slots	22.14	22.21	22.37	23.50	17.88	17.95	18.11	19.24
EDGE 4 Tx slots	20.47	20.50	20.51	22.00	17.47	17.50	17.51	19.00

<Near-Body 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	30.98	30.75	30.70	31.00	21.98	21.75	21.70	22.00
GPRS 1 Tx slot	31.00	30.78	30.73	31.00	22.00	21.78	21.73	22.00
GPRS 2 Tx slots	29.09	28.85	28.78	29.50	23.09	22.85	22.78	23.50
GPRS 3 Tx slots	27.30	27.22	27.18	27.50	23.04	22.96	22.92	23.24
GPRS 4 Tx slots	25.66	25.64	25.33	26.00	22.66	22.64	22.33	23.00
EDGE 1 Tx slot	23.50	23.32	23.45	24.00	14.50	14.32	14.45	15.00
EDGE 2 Tx slots	22.42	22.62	22.58	23.00	16.42	16.62	16.58	17.00
EDGE 3 Tx slots	20.58	20.48	20.62	21.00	16.32	16.22	16.36	16.74
EDGE 4 Tx slots	19.05	18.98	19.02	19.50	16.05	15.98	16.02	16.50

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	26.18	26.20	26.28	26.50	17.18	17.20	17.28	17.50
GPRS 1 Tx slot	26.21	26.25	26.31	26.50	17.21	17.25	17.31	17.50
GPRS 2 Tx slots	24.22	24.30	24.34	24.50	18.22	18.30	18.34	18.50
GPRS 3 Tx slots	22.32	22.42	22.50	22.50	18.06	18.16	18.24	18.24
GPRS 4 Tx slots	20.90	20.97	20.98	21.00	17.90	17.97	17.98	18.00
EDGE 1 Tx slot	21.05	20.98	21.02	21.50	12.05	11.98	12.02	12.50
EDGE 2 Tx slots	20.05	20.01	20.10	20.50	14.05	14.01	14.10	14.50
EDGE 3 Tx slots	18.10	18.01	18.05	18.50	13.84	13.75	13.79	14.24
EDGE 4 Tx slots	16.58	16.62	16.48	17.00	13.58	13.62	13.48	14.00

<Hotspot 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	30.98	30.75	30.70	31.00	21.98	21.75	21.70	22.00
GPRS 1 Tx slot	31.00	30.78	30.73	31.00	22.00	21.78	21.73	22.00
GPRS 2 Tx slots	29.09	28.85	28.78	29.50	23.09	22.85	22.78	23.50
GPRS 3 Tx slots	27.30	27.22	27.18	27.50	23.04	22.96	22.92	23.24
GPRS 4 Tx slots	25.66	25.64	25.33	26.00	22.66	22.64	22.33	23.00
EDGE 1 Tx slot	23.50	23.32	23.45	24.00	14.50	14.32	14.45	15.00
EDGE 2 Tx slots	22.42	22.62	22.58	23.00	16.42	16.62	16.58	17.00
EDGE 3 Tx slots	20.58	20.48	20.62	21.00	16.32	16.22	16.36	16.74
EDGE 4 Tx slots	19.05	18.98	19.02	19.50	16.05	15.98	16.02	16.50

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	23.78	23.85	23.80	24.00	14.78	14.85	14.80	15.00
GPRS 1 Tx slot	23.81	23.95	23.93	24.00	14.81	14.95	14.93	15.00
GPRS 2 Tx slots	21.63	21.79	21.78	22.00	15.63	15.79	15.78	16.00
GPRS 3 Tx slots	19.89	19.95	20.00	20.00	15.63	15.69	15.74	15.74
GPRS 4 Tx slots	18.42	18.50	18.50	18.50	15.42	15.50	15.50	15.50
EDGE 1 Tx slot	18.56	18.45	18.56	19.00	9.56	9.45	9.56	10.00
EDGE 2 Tx slots	17.62	17.58	17.56	18.00	11.62	11.58	11.56	12.00
EDGE 3 Tx slots	15.56	15.58	15.44	16.00	11.30	11.32	11.18	11.74
EDGE 4 Tx slots	14.02	14.10	14.02	14.50	11.02	11.10	11.02	11.50

<Product Specific 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	28.75	28.69	28.80	29.00	19.75	19.69	19.80	20.00
GPRS 1 Tx slot	28.80	28.72	28.89	29.00	19.80	19.72	19.89	20.00
GPRS 2 Tx slots	26.44	26.51	26.48	27.00	20.44	20.51	20.48	21.00
GPRS 3 Tx slots	24.88	25.00	24.95	25.00	20.62	20.74	20.69	20.74
GPRS 4 Tx slots	23.38	23.50	23.42	23.50	20.38	20.50	20.42	20.50
EDGE 1 Tx slot	23.32	23.50	23.48	24.00	14.32	14.50	14.48	15.00
EDGE 2 Tx slots	22.52	22.48	22.62	23.00	16.52	16.48	16.62	17.00
EDGE 3 Tx slots	20.47	20.54	20.52	21.00	16.21	16.28	16.26	16.74
EDGE 4 Tx slots	19.05	19.10	19.03	19.50	16.05	16.10	16.03	16.50

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d *(SF)*	β_c/β_d	β_{HS} *(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	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

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

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

a. The EUT was connected to Base Station 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.		

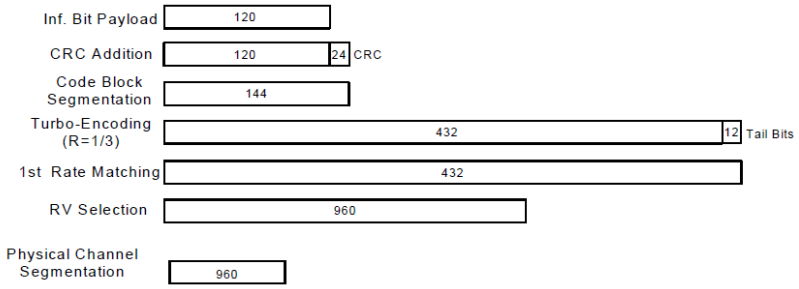


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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	22.62	22.65	22.72	24.00	22.65	22.54	22.55	24.00	22.72	22.68	22.60	24.00
3GPP Rel 99	RMC 12.2Kbps	22.64	22.66	22.74	24.00	22.68	22.56	22.58	24.00	22.80	22.71	22.62	24.00
3GPP Rel 6	HSDPA Subtest-1	21.62	21.66	21.71	23.00	21.68	21.53	21.54	23.00	21.77	21.73	21.60	23.00
3GPP Rel 6	HSDPA Subtest-2	21.62	21.64	21.68	23.00	21.65	21.50	21.52	23.00	21.73	21.62	21.58	23.00
3GPP Rel 6	HSDPA Subtest-3	21.12	21.16	21.21	22.50	21.10	21.05	21.04	22.50	21.26	21.26	21.10	22.50
3GPP Rel 6	HSDPA Subtest-4	21.10	21.12	21.18	22.50	21.09	21.04	21.03	22.50	21.25	21.24	21.08	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.56	21.47	21.62	23.00	21.66	21.43	21.54	23.00	21.64	21.54	21.47	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.58	21.49	21.49	23.00	21.54	21.37	21.49	23.00	21.69	21.48	21.53	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.10	21.00	21.19	22.50	21.01	20.85	21.00	22.50	21.11	21.24	20.91	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	20.94	20.95	21.02	22.50	20.95	20.96	20.83	22.50	21.22	21.16	20.98	22.50
3GPP Rel 6	HSUPA Subtest-1	21.60	21.64	21.72	23.00	21.68	21.54	21.58	23.00	21.79	21.71	21.60	23.00
3GPP Rel 6	HSUPA Subtest-2	19.59	19.66	19.71	21.00	19.61	19.53	19.55	21.00	19.71	19.68	19.61	21.00
3GPP Rel 6	HSUPA Subtest-3	20.55	20.60	20.68	22.00	20.58	20.50	20.52	22.00	20.70	20.65	20.60	22.00
3GPP Rel 6	HSUPA Subtest-4	19.57	19.63	19.69	21.00	19.58	19.52	19.51	21.00	19.68	19.65	19.58	21.00
3GPP Rel 6	HSUPA Subtest-5	21.67	21.67	21.74	23.00	21.70	21.56	21.59	23.00	21.79	21.72	21.60	23.00

<Near-Body 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	15.92	15.90	15.94	17.00	15.62	15.52	15.51	17.50	20.83	20.76	20.70	21.50
3GPP Rel 99	RMC 12.2Kbps	15.98	15.96	15.99	17.00	15.65	15.55	15.60	17.50	20.86	20.80	20.72	21.50
3GPP Rel 6	HSDPA Subtest-1	14.63	14.58	14.80	16.00	15.23	15.11	15.06	16.50	18.81	18.83	18.50	20.50
3GPP Rel 6	HSDPA Subtest-2	14.63	14.59	14.78	16.00	15.25	15.09	15.03	16.50	18.78	18.68	18.51	20.50
3GPP Rel 6	HSDPA Subtest-3	14.14	14.14	14.26	15.50	14.60	14.54	14.59	16.00	18.35	18.22	18.09	20.00
3GPP Rel 6	HSDPA Subtest-4	14.16	14.09	14.10	15.50	14.64	14.55	14.62	16.00	18.20	18.31	17.98	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	14.64	14.53	14.58	16.00	15.17	14.93	15.02	16.50	18.64	18.52	18.44	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	14.64	14.42	14.46	16.00	14.94	14.84	14.92	16.50	18.67	18.38	18.43	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	14.17	13.91	14.29	15.50	14.44	14.28	14.40	16.00	18.16	18.18	17.95	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	13.94	13.98	14.10	15.50	14.49	14.38	14.36	16.00	18.28	18.14	17.98	20.00
3GPP Rel 6	HSUPA Subtest-1	14.58	14.59	14.77	16.00	15.28	15.12	14.98	16.50	18.75	18.74	18.55	20.50
3GPP Rel 6	HSUPA Subtest-2	12.60	12.66	12.69	14.00	13.13	12.97	13.14	14.50	16.81	16.67	16.62	18.50
3GPP Rel 6	HSUPA Subtest-3	13.52	13.65	13.71	15.00	14.14	13.96	13.94	15.50	17.69	17.58	17.67	19.50
3GPP Rel 6	HSUPA Subtest-4	12.60	12.54	12.67	14.00	13.12	12.95	12.95	14.50	16.64	16.62	16.65	18.50
3GPP Rel 6	HSUPA Subtest-5	14.70	14.66	14.68	16.00	15.18	15.08	15.14	16.50	18.79	18.78	18.69	20.50

<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	13.56	13.54	13.56	14.50	14.20	14.10	14.15	16.00	20.83	20.76	20.70	21.50
3GPP Rel 99	RMC 12.2Kbps	13.58	13.58	13.59	14.50	14.23	14.13	14.20	16.00	20.86	20.80	20.72	21.50
3GPP Rel 6	HSDPA Subtest-1	12.09	12.09	12.23	13.50	13.78	13.57	13.53	15.00	18.81	18.83	18.50	20.50
3GPP Rel 6	HSDPA Subtest-2	12.07	12.11	12.25	13.50	13.62	13.49	13.56	15.00	18.78	18.68	18.51	20.50
3GPP Rel 6	HSDPA Subtest-3	11.67	11.76	11.78	13.00	13.00	13.06	13.12	14.50	18.35	18.22	18.09	20.00
3GPP Rel 6	HSDPA Subtest-4	11.67	11.71	11.65	13.00	13.10	12.96	13.01	14.50	18.20	18.31	17.98	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	12.04	12.03	12.12	13.50	13.72	13.43	13.55	15.00	18.64	18.52	18.44	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	12.10	12.07	11.93	13.50	13.48	13.45	13.58	15.00	18.67	18.38	18.43	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	11.62	11.41	11.66	13.00	13.05	12.76	12.91	14.50	18.16	18.18	17.95	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	11.34	11.44	11.48	13.00	12.96	13.03	12.87	14.50	18.28	18.14	17.98	20.00
3GPP Rel 6	HSUPA Subtest-1	12.10	12.13	12.18	13.50	13.67	13.56	13.65	15.00	18.75	18.74	18.55	20.50
3GPP Rel 6	HSUPA Subtest-2	10.06	10.07	10.21	11.50	11.57	11.44	11.49	13.00	16.81	16.67	16.62	18.50
3GPP Rel 6	HSUPA Subtest-3	11.12	11.16	11.22	12.50	12.53	12.43	12.55	14.00	17.69	17.58	17.67	19.50
3GPP Rel 6	HSUPA Subtest-4	10.04	10.13	10.29	11.50	11.52	11.61	11.51	13.00	16.64	16.62	16.65	18.50
3GPP Rel 6	HSUPA Subtest-5	12.27	12.08	12.18	13.50	13.69	13.62	13.59	15.00	18.79	18.78	18.69	20.50

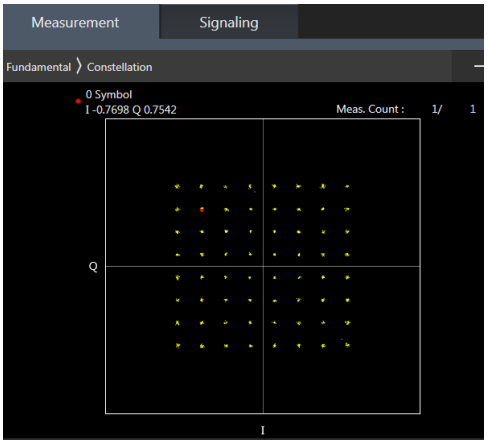
<Product Specific Power Mode

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	19.30	19.34	19.34	20.00	19.25	19.13	19.15	20.50
3GPP Rel 99	RMC 12.2Kbps	19.34	19.35	19.36	20.00	19.27	19.16	19.18	20.50
3GPP Rel 6	HSDPA Subtest-1	17.66	17.58	17.62	19.00	18.12	18.08	18.04	19.50
3GPP Rel 6	HSDPA Subtest-2	17.67	17.64	17.62	19.00	18.07	17.97	18.07	19.50
3GPP Rel 6	HSDPA Subtest-3	17.15	17.10	17.29	18.50	17.55	17.59	17.50	19.00
3GPP Rel 6	HSDPA Subtest-4	17.20	17.10	17.24	18.50	17.69	17.63	17.57	19.00
3GPP Rel 8	DC-HSDPA Subtest-1	17.52	17.41	17.64	19.00	18.24	17.88	17.99	19.50
3GPP Rel 8	DC-HSDPA Subtest-2	17.62	17.59	17.50	19.00	17.97	17.85	17.94	19.50
3GPP Rel 8	DC-HSDPA Subtest-3	17.05	17.10	17.24	18.50	17.51	17.27	17.49	19.00
3GPP Rel 8	DC-HSDPA Subtest-4	16.98	17.01	16.96	18.50	17.46	17.53	17.26	19.00
3GPP Rel 6	HSUPA Subtest-1	17.53	17.59	17.68	19.00	18.15	18.12	18.01	19.50
3GPP Rel 6	HSUPA Subtest-2	15.65	15.74	15.63	17.00	16.09	16.06	16.14	17.50
3GPP Rel 6	HSUPA Subtest-3	16.57	16.68	16.69	18.00	17.03	16.90	17.05	18.50
3GPP Rel 6	HSUPA Subtest-4	15.51	15.55	15.78	17.00	16.01	16.04	16.11	17.50
3GPP Rel 6	HSUPA Subtest-5	17.69	17.69	17.71	19.00	18.27	18.12	17.99	19.50

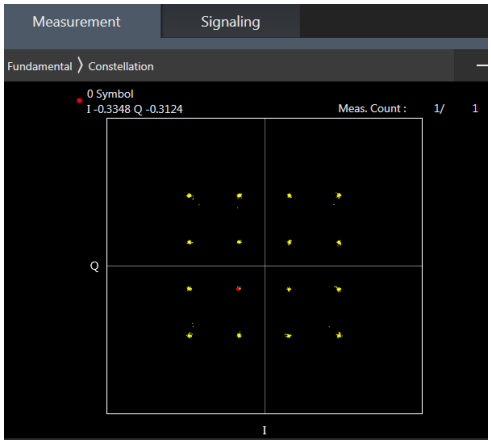
<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM 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 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 4 / 17 / 38 SAR test was covered by Band 66 / 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
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM



16QAM

<Default Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	22.94	22.95	22.73	24	0
20	QPSK	1	49	22.60	22.62	22.62		
20	QPSK	1	99	22.67	22.61	22.58		
20	QPSK	50	0	21.71	21.75	21.73	23	1
20	QPSK	50	24	21.64	21.71	21.71		
20	QPSK	50	50	21.65	21.56	21.71		
20	QPSK	100	0	21.68	21.72	21.66		
20	16QAM	1	0	22.13	22.24	22.06	23	1
20	16QAM	1	49	21.82	21.81	21.96		
20	16QAM	1	99	21.93	21.97	21.86		
20	16QAM	50	0	20.82	20.88	20.85	22	2
20	16QAM	50	24	20.64	20.76	20.81		
20	16QAM	50	50	20.71	20.73	20.80		
20	16QAM	100	0	20.79	20.79	20.80		
20	64QAM	1	0	21.19	21.16	20.95	22	2
20	64QAM	1	49	20.83	20.87	20.96		
20	64QAM	1	99	21.03	20.90	20.81		
20	64QAM	50	0	19.85	19.84	19.86	21	3
20	64QAM	50	24	19.73	19.78	19.94		
20	64QAM	50	50	19.73	19.78	19.86		
20	64QAM	100	0	19.78	19.76	19.74		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	22.85	22.84	22.90	24	0
15	QPSK	1	37	22.66	22.67	22.80		
15	QPSK	1	74	22.60	22.67	22.79		
15	QPSK	36	0	21.84	21.83	21.96	23	1
15	QPSK	36	20	21.76	21.78	21.89		
15	QPSK	36	39	21.76	21.73	21.83		
15	QPSK	75	0	21.76	21.78	21.90		
15	16QAM	1	0	22.19	22.19	22.29	23	1
15	16QAM	1	37	21.98	22.01	22.13		
15	16QAM	1	74	21.98	21.99	22.11		
15	16QAM	36	0	20.92	20.98	21.03	22	2
15	16QAM	36	20	20.88	20.92	21.02		
15	16QAM	36	39	20.85	20.89	20.91		
15	16QAM	75	0	20.93	20.92	20.98		
15	64QAM	1	0	21.14	21.13	21.26	22	2
15	64QAM	1	37	20.94	20.95	21.09		
15	64QAM	1	74	20.89	20.93	21.03		
15	64QAM	36	0	19.98	19.98	20.06	21	3
15	64QAM	36	20	19.93	19.94	20.03		
15	64QAM	36	39	19.85	19.89	19.95		
15	64QAM	75	0	19.86	19.90	19.98		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.89	22.91	22.88	24	0
10	QPSK	1	25	22.67	22.66	22.80		
10	QPSK	1	49	22.84	22.85	22.75		

10	QPSK	25	0	21.82	21.81	21.90	23	1
10	QPSK	25	12	21.79	21.79	21.89		
10	QPSK	25	25	21.74	21.77	21.83		
10	QPSK	50	0	21.79	21.80	21.85		
10	16QAM	1	0	22.32	22.32	22.22	23	1
10	16QAM	1	25	22.03	22.04	22.15		
10	16QAM	1	49	22.16	22.20	22.08		
10	16QAM	25	0	20.94	20.93	20.97	22	2
10	16QAM	25	12	20.89	20.91	20.98		
10	16QAM	25	25	20.83	20.85	20.93		
10	16QAM	50	0	20.90	20.88	20.95		
10	64QAM	1	0	21.31	21.22	21.11	22	2
10	64QAM	1	25	21.01	21.00	21.04		
10	64QAM	1	49	21.09	21.15	21.05		
10	64QAM	25	0	19.93	19.93	20.02	21	3
10	64QAM	25	12	19.90	19.90	19.99		
10	64QAM	25	25	19.86	19.89	19.94		
10	64QAM	50	0	19.90	19.91	19.97		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.77	22.74	22.93	24	0
5	QPSK	1	12	22.72	22.72	22.87		
5	QPSK	1	24	22.69	22.71	22.77		
5	QPSK	12	0	21.83	21.76	21.84	23	1
5	QPSK	12	7	21.79	21.78	21.88		
5	QPSK	12	13	21.73	21.76	21.79		
5	QPSK	25	0	21.76	21.75	21.84		
5	16QAM	1	0	22.13	22.11	22.17	23	1
5	16QAM	1	12	22.08	22.06	22.13		
5	16QAM	1	24	22.07	22.06	22.05		
5	16QAM	12	0	20.90	20.91	20.94	22	2
5	16QAM	12	7	20.87	20.87	20.97		
5	16QAM	12	13	20.89	20.88	20.90		
5	16QAM	25	0	20.87	20.86	20.93		
5	64QAM	1	0	21.09	21.05	21.14	22	2
5	64QAM	1	12	21.01	21.02	21.05		
5	64QAM	1	24	21.01	20.96	21.02		
5	64QAM	12	0	19.97	19.93	20.01	21	3
5	64QAM	12	7	19.96	19.96	20.00		
5	64QAM	12	13	19.95	19.94	19.98		
5	64QAM	25	0	19.87	19.88	19.93		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.75	22.70	22.81	24	0
3	QPSK	1	8	22.71	22.69	22.77		
3	QPSK	1	14	22.69	22.67	22.74		
3	QPSK	8	0	21.77	21.75	21.78	23	1
3	QPSK	8	4	21.76	21.76	21.82		
3	QPSK	8	7	21.76	21.76	21.82		
3	QPSK	15	0	21.74	21.75	21.79		
3	16QAM	1	0	22.07	22.01	22.11	23	1
3	16QAM	1	8	22.06	21.97	22.09		
3	16QAM	1	14	22.03	21.97	22.03		
3	16QAM	8	0	20.91	20.91	20.94	22	2
3	16QAM	8	4	20.96	20.94	20.99		
3	16QAM	8	7	20.91	20.88	20.94		

3	16QAM	15	0	20.86	20.84	20.90		
3	64QAM	1	0	21.04	21.00	21.03	22	2
3	64QAM	1	8	21.01	20.96	21.05		
3	64QAM	1	14	20.99	20.95	21.00		
3	64QAM	8	0	19.95	19.92	19.94	21	3
3	64QAM	8	4	19.98	19.94	19.98		
3	64QAM	8	7	19.91	19.92	19.92		
3	64QAM	15	0	19.86	19.89	19.92		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.63	22.62	22.70	24	0
1.4	QPSK	1	3	22.67	22.71	22.77		
1.4	QPSK	1	5	22.65	22.60	22.68		
1.4	QPSK	3	0	22.71	22.66	22.72		
1.4	QPSK	3	1	22.73	22.70	22.78		
1.4	QPSK	3	3	22.71	22.66	22.74		
1.4	QPSK	6	0	21.68	21.67	21.75	23	1
1.4	16QAM	1	0	21.99	21.96	21.99	23	1
1.4	16QAM	1	3	22.06	22.01	22.03		
1.4	16QAM	1	5	21.97	21.94	21.96		
1.4	16QAM	3	0	21.80	21.74	21.79		
1.4	16QAM	3	1	21.82	21.80	21.81		
1.4	16QAM	3	3	21.76	21.74	21.80		
1.4	16QAM	6	0	20.83	20.82	20.89	22	2
1.4	64QAM	1	0	20.93	20.91	20.98	22	2
1.4	64QAM	1	3	20.98	20.95	21.02		
1.4	64QAM	1	5	20.94	20.91	20.93		
1.4	64QAM	3	0	20.95	20.91	20.93		
1.4	64QAM	3	1	21.01	20.94	20.96		
1.4	64QAM	3	3	20.92	20.89	20.95		
1.4	64QAM	6	0	19.77	19.78	19.84	21	3

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	22.79	22.94	22.62	24	0
20	QPSK	1	49	22.62	22.42	22.53		
20	QPSK	1	99	22.47	22.32	22.33		
20	QPSK	50	0	21.56	21.75	21.55	23	1
20	QPSK	50	24	21.65	21.57	21.43		
20	QPSK	50	50	21.56	21.50	21.51		
20	QPSK	100	0	21.51	21.72	21.47		
20	16QAM	1	0	22.15	22.19	22.05	23	1
20	16QAM	1	49	21.99	21.88	21.87		
20	16QAM	1	99	21.88	21.77	21.69		
20	16QAM	50	0	20.84	20.74	20.64	22	2
20	16QAM	50	24	20.83	20.61	20.55		
20	16QAM	50	50	20.68	20.56	20.63		
20	16QAM	100	0	20.76	20.70	20.56		
20	64QAM	1	0	21.14	21.11	20.90	22	2
20	64QAM	1	49	20.90	20.74	20.81		
20	64QAM	1	99	20.82	20.64	20.61		
20	64QAM	50	0	19.93	19.69	19.72	21	3
20	64QAM	50	24	19.79	19.70	19.63		
20	64QAM	50	50	19.62	19.58	19.65		
20	64QAM	100	0	19.80	19.65	19.54		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	22.76	22.93	22.68	24	0
15	QPSK	1	37	22.71	22.54	22.57		
15	QPSK	1	74	22.71	22.54	22.57		
15	QPSK	36	0	21.71	21.82	21.65	23	1
15	QPSK	36	20	21.76	21.64	21.67		
15	QPSK	36	39	21.76	21.61	21.62		
15	QPSK	75	0	21.64	21.81	21.54		
15	16QAM	1	0	22.27	22.10	22.01	23	1
15	16QAM	1	37	22.02	21.94	21.89		
15	16QAM	1	74	22.08	21.85	21.82		
15	16QAM	36	0	20.98	20.79	20.72	22	2
15	16QAM	36	20	20.93	20.74	20.73		
15	16QAM	36	39	20.85	20.67	20.68		
15	16QAM	75	0	20.89	20.75	20.66		
15	64QAM	1	0	21.25	21.05	20.97	22	2
15	64QAM	1	37	21.00	20.86	20.88		
15	64QAM	1	74	21.03	20.85	20.83		
15	64QAM	36	0	19.99	19.83	19.80	21	3
15	64QAM	36	20	19.96	19.80	19.82		
15	64QAM	36	39	19.92	19.75	19.77		
15	64QAM	75	0	19.93	19.78	19.69		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.92	22.66	22.69	24	0
10	QPSK	1	25	22.83	22.56	22.60		
10	QPSK	1	49	22.71	22.52	22.54		
10	QPSK	25	0	21.94	21.65	21.66	23	1
10	QPSK	25	12	21.82	21.65	21.66		

10	QPSK	25	25	21.76	21.62	21.63		
10	QPSK	50	0	21.82	21.64	21.66		
10	16QAM	1	0	22.20	22.06	22.07	23	1
10	16QAM	1	25	22.16	21.96	21.94		
10	16QAM	1	49	22.08	21.90	21.86		
10	16QAM	25	0	21.06	20.80	20.82	22	2
10	16QAM	25	12	20.91	20.73	20.78		
10	16QAM	25	25	20.86	20.70	20.74		
10	16QAM	50	0	20.93	20.74	20.74		
10	64QAM	1	0	21.19	20.94	20.94	22	2
10	64QAM	1	25	21.15	20.84	20.84		
10	64QAM	1	49	21.02	20.77	20.76		
10	64QAM	25	0	20.08	19.80	19.81	21	3
10	64QAM	25	12	19.92	19.78	19.78		
10	64QAM	25	25	19.89	19.71	19.73		
10	64QAM	50	0	19.94	19.79	19.81		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.91	22.64	22.64	24	0
5	QPSK	1	12	22.85	22.58	22.58		
5	QPSK	1	24	22.86	22.54	22.56		
5	QPSK	12	0	21.90	21.65	21.60	23	1
5	QPSK	12	7	21.92	21.64	21.63		
5	QPSK	12	13	21.88	21.59	21.60		
5	QPSK	25	0	21.92	21.60	21.62		
5	16QAM	1	0	22.17	22.00	21.98	23	1
5	16QAM	1	12	22.18	21.95	21.91		
5	16QAM	1	24	22.19	21.95	21.85		
5	16QAM	12	0	21.01	20.74	20.75	22	2
5	16QAM	12	7	21.03	20.76	20.74		
5	16QAM	12	13	21.01	20.73	20.67		
5	16QAM	25	0	21.00	20.73	20.70		
5	64QAM	1	0	21.17	20.93	20.91	22	2
5	64QAM	1	12	21.10	20.86	20.82		
5	64QAM	1	24	21.13	20.86	20.80		
5	64QAM	12	0	20.10	19.83	19.79	21	3
5	64QAM	12	7	20.08	19.82	19.77		
5	64QAM	12	13	20.05	19.80	19.79		
5	64QAM	25	0	20.03	19.74	19.71		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.91	22.59	22.59	24	0
3	QPSK	1	8	22.84	22.57	22.57		
3	QPSK	1	14	22.81	22.53	22.53		
3	QPSK	8	0	21.86	21.59	21.60	23	1
3	QPSK	8	4	21.91	21.62	21.63		
3	QPSK	8	7	21.86	21.59	21.58		
3	QPSK	15	0	21.90	21.60	21.60		
3	16QAM	1	0	22.12	21.93	21.85	23	1
3	16QAM	1	8	22.11	21.93	21.82		
3	16QAM	1	14	22.12	21.88	21.79		
3	16QAM	8	0	21.01	20.77	20.73	22	2
3	16QAM	8	4	21.07	20.81	20.76		
3	16QAM	8	7	21.01	20.78	20.71		
3	16QAM	15	0	21.02	20.70	20.72		
3	64QAM	1	0	21.09	20.90	20.84	22	2

3	64QAM	1	8	21.10	20.86	20.82		
3	64QAM	1	14	21.11	20.84	20.81		
3	64QAM	8	0	20.10	19.80	19.76	21	3
3	64QAM	8	4	20.08	19.80	19.76		
3	64QAM	8	7	20.05	19.77	19.75		
3	64QAM	15	0	20.02	19.73	19.71		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.78	22.49	22.48	24	0
1.4	QPSK	1	3	22.86	22.58	22.55		
1.4	QPSK	1	5	22.75	22.51	22.49		
1.4	QPSK	3	0	22.81	22.55	22.55		
1.4	QPSK	3	1	22.88	22.57	22.58		
1.4	QPSK	3	3	22.82	22.53	22.56		
1.4	QPSK	6	0	21.84	21.54	21.53	23	1
1.4	16QAM	1	0	22.04	21.85	21.74	23	1
1.4	16QAM	1	3	22.09	21.90	21.80		
1.4	16QAM	1	5	22.02	21.78	21.77		
1.4	16QAM	3	0	21.86	21.64	21.59		
1.4	16QAM	3	1	21.91	21.69	21.64		
1.4	16QAM	3	3	21.88	21.61	21.57		
1.4	16QAM	6	0	21.00	20.71	20.67	22	2
1.4	64QAM	1	0	21.04	20.81	20.78	22	2
1.4	64QAM	1	3	21.08	20.89	20.79		
1.4	64QAM	1	5	21.01	20.80	20.72		
1.4	64QAM	3	0	21.02	20.80	20.78		
1.4	64QAM	3	1	21.07	20.84	20.81		
1.4	64QAM	3	3	21.03	20.83	20.74		
1.4	64QAM	6	0	19.95	19.66	19.65	21	3

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	22.78	22.79	22.39	24	0
10	QPSK	1	25	22.74	22.76	22.34		
10	QPSK	1	49	22.62	22.61	22.27		
10	QPSK	25	0	21.94	21.95	21.61	23	1
10	QPSK	25	12	21.94	21.89	21.56		
10	QPSK	25	25	21.91	21.88	21.54		
10	QPSK	50	0	21.92	21.93	21.54		
10	16QAM	1	0	22.28	22.32	21.92	23	1
10	16QAM	1	25	22.27	22.25	21.86		
10	16QAM	1	49	22.24	22.22	21.86		
10	16QAM	25	0	21.02	21.06	20.70	22	2
10	16QAM	25	12	21.06	21.05	20.69		
10	16QAM	25	25	21.01	21.00	20.65		
10	16QAM	50	0	21.00	21.03	20.64		
10	64QAM	1	0	21.17	21.23	20.85	22	2
10	64QAM	1	25	21.16	21.18	20.82		
10	64QAM	1	49	21.14	21.10	20.77		
10	64QAM	25	0	20.10	20.11	19.76	21	3
10	64QAM	25	12	20.10	20.12	19.79		
10	64QAM	25	25	20.15	20.07	19.80		
10	64QAM	50	0	20.15	20.01	19.72		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.70	22.74	22.51	24	0
5	QPSK	1	12	22.61	22.66	22.44		
5	QPSK	1	24	22.67	22.67	22.38		
5	QPSK	12	0	21.90	21.96	21.72	23	1
5	QPSK	12	7	22.00	21.92	21.73		
5	QPSK	12	13	21.92	21.84	21.68		
5	QPSK	25	0	21.99	21.89	21.69		
5	16QAM	1	0	22.30	22.32	22.10	23	1
5	16QAM	1	12	22.24	22.25	22.05		
5	16QAM	1	24	22.28	22.19	21.94		
5	16QAM	12	0	21.03	21.03	20.86	22	2
5	16QAM	12	7	21.15	21.01	20.82		
5	16QAM	12	13	21.09	20.96	20.78		
5	16QAM	25	0	21.13	20.99	20.84		
5	64QAM	1	0	21.14	21.24	21.05	22	2
5	64QAM	1	12	21.10	21.11	20.97		
5	64QAM	1	24	21.16	21.09	20.90		
5	64QAM	12	0	20.05	20.04	19.87	21	3
5	64QAM	12	7	20.15	20.06	19.84		
5	64QAM	12	13	20.22	20.13	19.77		
5	64QAM	25	0	20.23	20.11	19.92		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.71	22.68	22.33	24	0
3	QPSK	1	8	22.66	22.62	22.30		
3	QPSK	1	14	22.65	22.62	22.30		
3	QPSK	8	0	21.91	21.88	21.56	23	1
3	QPSK	8	4	21.94	21.93	21.56		

3	QPSK	8	7	21.92	21.86	21.52		
3	QPSK	15	0	21.91	21.86	21.54		
3	16QAM	1	0	22.22	22.16	21.89	23	1
3	16QAM	1	8	22.21	22.21	21.85		
3	16QAM	1	14	22.18	22.16	21.81		
3	16QAM	8	0	21.06	21.08	20.70	22	2
3	16QAM	8	4	21.07	21.07	20.74		
3	16QAM	8	7	21.07	21.06	20.73		
3	16QAM	15	0	21.03	21.03	20.64		
3	64QAM	1	0	21.24	21.19	20.81	22	2
3	64QAM	1	8	21.26	21.11	20.82		
3	64QAM	1	14	21.15	21.14	20.81		
3	64QAM	8	0	20.11	20.05	19.73	21	3
3	64QAM	8	4	20.09	20.07	19.74		
3	64QAM	8	7	20.06	20.03	19.71		
3	64QAM	15	0	20.10	20.02	19.67		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.62	22.58	22.25	24	0
1.4	QPSK	1	3	22.68	22.62	22.29		
1.4	QPSK	1	5	22.60	22.55	22.22		
1.4	QPSK	3	0	22.63	22.63	22.26		
1.4	QPSK	3	1	22.68	22.64	22.33		
1.4	QPSK	3	3	22.67	22.60	22.30		
1.4	QPSK	6	0	21.85	21.83	21.48	23	1
1.4	16QAM	1	0	22.15	22.12	21.81	23	1
1.4	16QAM	1	3	22.21	22.22	21.85		
1.4	16QAM	1	5	22.16	22.10	21.77		
1.4	16QAM	3	0	21.98	21.95	21.57		
1.4	16QAM	3	1	21.97	21.97	21.63		
1.4	16QAM	3	3	21.93	21.93	21.59		
1.4	16QAM	6	0	21.03	21.00	20.67	22	2
1.4	64QAM	1	0	21.13	21.10	20.74	22	2
1.4	64QAM	1	3	21.18	21.17	20.81		
1.4	64QAM	1	5	21.06	21.11	20.72		
1.4	64QAM	3	0	21.11	21.06	20.68		
1.4	64QAM	3	1	21.11	21.14	20.73		
1.4	64QAM	3	3	21.07	21.05	20.68		
1.4	64QAM	6	0	19.97	19.93	19.60	21	3

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.20	23.28	22.98	24	0
20	QPSK	1	49	23.08	22.99	22.81		
20	QPSK	1	99	23.20	23.03	22.84		
20	QPSK	50	0	22.19	22.25	21.85	23	1
20	QPSK	50	24	22.05	22.06	21.93		
20	QPSK	50	50	22.15	21.98	21.84		
20	QPSK	100	0	22.03	22.21	21.86		
20	16QAM	1	0	22.55	22.41	22.38	23	1
20	16QAM	1	49	22.63	22.41	22.18		
20	16QAM	1	99	22.52	22.32	22.14		
20	16QAM	50	0	21.40	21.16	21.07	22	2
20	16QAM	50	24	21.37	21.21	20.98		
20	16QAM	50	50	21.28	21.15	20.95		
20	16QAM	100	0	21.25	21.15	21.00		
20	64QAM	1	0	21.49	21.41	21.26	22	2
20	64QAM	1	49	21.48	21.28	21.21		
20	64QAM	1	99	21.49	21.33	21.20		
20	64QAM	50	0	20.44	20.23	20.00	21	3
20	64QAM	50	24	20.43	20.22	20.00		
20	64QAM	50	50	20.32	20.11	20.07		
20	64QAM	100	0	20.34	20.21	19.98		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	23.12	23.00	22.83	24	0
15	QPSK	1	37	23.11	22.90	22.79		
15	QPSK	1	74	23.23	22.99	22.78		
15	QPSK	36	0	22.15	21.99	21.85	23	1
15	QPSK	36	20	22.18	22.04	21.83		
15	QPSK	36	39	22.12	21.91	21.72		
15	QPSK	75	0	22.16	22.03	21.79		
15	16QAM	1	0	22.47	22.43	22.21	23	1
15	16QAM	1	37	22.52	22.29	22.18		
15	16QAM	1	74	22.59	22.35	22.14		
15	16QAM	36	0	21.36	21.11	20.94	22	2
15	16QAM	36	20	21.32	21.08	20.98		
15	16QAM	36	39	21.28	21.11	20.88		
15	16QAM	75	0	21.26	21.09	20.91		
15	64QAM	1	0	21.45	21.36	21.27	22	2
15	64QAM	1	37	21.44	21.23	21.10		
15	64QAM	1	74	21.41	21.27	21.13		
15	64QAM	36	0	20.30	20.17	19.96	21	3
15	64QAM	36	20	20.29	20.09	19.96		
15	64QAM	36	39	20.27	20.05	19.92		
15	64QAM	75	0	20.17	20.18	20.01		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	22.99	22.92	22.63	24	0
10	QPSK	1	25	23.03	22.84	22.59		
10	QPSK	1	49	23.04	22.84	22.66		
10	QPSK	25	0	21.97	21.94	21.64	23	1
10	QPSK	25	12	22.00	21.96	21.63		

10	QPSK	25	25	21.95	21.87	21.62		
10	QPSK	50	0	22.00	21.85	21.63		
10	16QAM	1	0	22.28	22.16	22.06	23	1
10	16QAM	1	25	22.25	22.25	21.99		
10	16QAM	1	49	22.25	22.19	21.93		
10	16QAM	25	0	21.08	21.05	20.74	22	2
10	16QAM	25	12	21.09	21.05	20.76		
10	16QAM	25	25	21.11	21.01	20.75		
10	16QAM	50	0	21.07	20.98	20.74		
10	64QAM	1	0	21.28	21.20	21.07	22	2
10	64QAM	1	25	21.32	21.19	21.03		
10	64QAM	1	49	21.32	21.21	20.93		
10	64QAM	25	0	20.08	19.97	19.74	21	3
10	64QAM	25	12	20.17	20.03	19.87		
10	64QAM	25	25	20.13	20.04	19.77		
10	64QAM	50	0	20.04	19.96	19.76		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.05	22.86	22.54	24	0
5	QPSK	1	12	23.01	22.79	22.58		
5	QPSK	1	24	22.95	22.84	22.58		
5	QPSK	12	0	21.97	21.90	21.69	23	1
5	QPSK	12	7	22.00	21.93	21.70		
5	QPSK	12	13	21.93	21.84	21.64		
5	QPSK	25	0	21.91	21.80	21.56		
5	16QAM	1	0	22.28	22.17	21.96	23	1
5	16QAM	1	12	22.31	22.17	22.04		
5	16QAM	1	24	22.27	22.13	22.02		
5	16QAM	12	0	21.04	21.01	20.73	22	2
5	16QAM	12	7	21.06	21.10	20.81		
5	16QAM	12	13	21.10	21.02	20.75		
5	16QAM	25	0	21.07	20.98	20.66		
5	64QAM	1	0	21.21	21.13	20.98	22	2
5	64QAM	1	12	21.19	21.09	20.92		
5	64QAM	1	24	21.24	21.05	20.86		
5	64QAM	12	0	20.11	20.00	19.76	21	3
5	64QAM	12	7	20.11	20.05	19.86		
5	64QAM	12	13	20.15	20.06	19.90		
5	64QAM	25	0	20.05	19.99	19.81		

<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	22.50	22.94	22.69	24	0
10	QPSK	1	25	22.59	22.73	22.68		
10	QPSK	1	49	22.68	22.73	22.74		
10	QPSK	25	0	21.65	21.83	21.76	23	1
10	QPSK	25	12	21.73	21.82	21.76		
10	QPSK	25	25	21.72	21.78	21.70		
10	QPSK	50	0	21.71	21.80	21.72		
10	16QAM	1	0	21.87	22.04	22.05	23	1
10	16QAM	1	25	21.95	22.09	22.03		
10	16QAM	1	49	22.00	22.06	22.11		
10	16QAM	25	0	20.72	20.89	20.83	22	2
10	16QAM	25	12	20.87	20.90	20.84		
10	16QAM	25	25	20.80	20.87	20.84		
10	16QAM	50	0	20.85	20.86	20.80		
10	64QAM	1	0	20.84	20.98	21.01	22	2
10	64QAM	1	25	20.94	21.04	21.00		
10	64QAM	1	49	20.96	21.00	21.03		
10	64QAM	25	0	19.76	19.93	19.85	21	3
10	64QAM	25	12	19.88	19.94	19.88		
10	64QAM	25	25	19.86	19.89	19.84		
10	64QAM	50	0	19.87	19.91	19.85		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	22.55	22.67	22.76	24	0
5	QPSK	1	12	22.63	22.74	22.83		
5	QPSK	1	24	22.64	22.71	22.82		
5	QPSK	12	0	21.69	21.76	21.79	23	1
5	QPSK	12	7	21.69	21.84	21.92		
5	QPSK	12	13	21.67	21.76	21.90		
5	QPSK	25	0	21.63	21.78	21.80		
5	16QAM	1	0	21.92	22.04	22.10	23	1
5	16QAM	1	12	22.03	22.08	22.19		
5	16QAM	1	24	22.01	22.08	22.16		
5	16QAM	12	0	20.79	20.92	20.93	22	2
5	16QAM	12	7	20.79	20.92	21.04		
5	16QAM	12	13	20.78	20.91	21.02		
5	16QAM	25	0	20.82	20.87	20.92		
5	64QAM	1	0	20.85	20.97	21.05	22	2
5	64QAM	1	12	20.97	21.02	21.12		
5	64QAM	1	24	20.93	21.02	21.11		
5	64QAM	12	0	19.86	19.96	19.97	21	3
5	64QAM	12	7	19.90	20.00	20.09		
5	64QAM	12	13	19.87	19.95	20.09		
5	64QAM	25	0	19.80	19.89	19.92		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	22.52	22.75	22.82	24	0
3	QPSK	1	8	22.51	22.73	22.80		
3	QPSK	1	14	22.63	22.73	22.81		
3	QPSK	8	0	21.54	21.78	21.86	23	1
3	QPSK	8	4	21.60	21.79	21.89		

3	QPSK	8	7	21.67	21.76	21.87		
3	QPSK	15	0	21.65	21.76	21.88		
3	16QAM	1	0	21.87	22.10	22.14	23	1
3	16QAM	1	8	21.88	22.08	22.19		
3	16QAM	1	14	22.00	22.02	22.12		
3	16QAM	8	0	20.73	20.91	21.05	22	2
3	16QAM	8	4	20.79	20.95	21.08		
3	16QAM	8	7	20.84	20.91	21.02		
3	16QAM	15	0	20.82	20.88	21.00		
3	64QAM	1	0	20.85	21.06	21.12	22	2
3	64QAM	1	8	20.87	21.03	21.11		
3	64QAM	1	14	20.98	21.00	21.09		
3	64QAM	8	0	19.75	19.96	20.02	21	3
3	64QAM	8	4	19.77	19.95	20.08		
3	64QAM	8	7	19.82	19.95	20.08		
3	64QAM	15	0	19.80	19.90	19.98		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	22.47	22.64	22.84	24	0
1.4	QPSK	1	3	22.52	22.72	22.93		
1.4	QPSK	1	5	22.46	22.64	22.83		
1.4	QPSK	3	0	22.52	22.72	22.87		
1.4	QPSK	3	1	22.55	22.73	22.90		
1.4	QPSK	3	3	22.51	22.69	22.89		
1.4	QPSK	6	0	21.52	21.70	21.90	23	1
1.4	16QAM	1	0	21.81	22.01	22.20	23	1
1.4	16QAM	1	3	21.92	22.06	22.21		
1.4	16QAM	1	5	21.79	21.97	22.12		
1.4	16QAM	3	0	21.64	21.81	21.96		
1.4	16QAM	3	1	21.68	21.83	22.01		
1.4	16QAM	3	3	21.61	21.80	21.95		
1.4	16QAM	6	0	20.69	20.87	21.05	22	2
1.4	64QAM	1	0	20.79	20.99	21.11	22	2
1.4	64QAM	1	3	20.86	21.04	21.19		
1.4	64QAM	1	5	20.80	20.95	21.10		
1.4	64QAM	3	0	20.75	20.92	21.15		
1.4	64QAM	3	1	20.80	20.98	21.14		
1.4	64QAM	3	3	20.76	20.93	21.10		
1.4	64QAM	6	0	19.63	19.83	20.03	21	3

<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	22.55	22.86	22.62	24	0
10	QPSK	1	25	22.71	22.69	22.67		
10	QPSK	1	49	22.78	22.74	22.73		
10	QPSK	25	0	21.77	21.82	21.77	23	1
10	QPSK	25	12	21.81	21.74	21.76		
10	QPSK	25	25	21.74	21.72	21.75		
10	QPSK	50	0	21.77	21.78	21.71		
10	16QAM	1	0	21.91	22.01	21.95	23	1
10	16QAM	1	25	22.04	22.05	22.01		
10	16QAM	1	49	22.13	22.14	22.10		
10	16QAM	25	0	20.89	20.87	20.85	22	2
10	16QAM	25	12	20.89	20.90	20.85		
10	16QAM	25	25	20.86	20.87	20.84		
10	16QAM	50	0	20.88	20.85	20.86		
10	64QAM	1	0	20.86	20.91	20.89	22	2
10	64QAM	1	25	20.99	20.98	20.97		
10	64QAM	1	49	21.07	21.04	21.05		
10	64QAM	25	0	19.90	19.90	19.86	21	3
10	64QAM	25	12	19.92	19.89	19.89		
10	64QAM	25	25	19.88	19.86	19.85		
10	64QAM	50	0	19.87	19.90	19.88		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	22.48	22.70	22.77	24	0
5	QPSK	1	12	22.55	22.68	22.85		
5	QPSK	1	24	22.64	22.78	22.83		
5	QPSK	12	0	21.58	21.73	21.78	23	1
5	QPSK	12	7	21.62	21.75	21.93		
5	QPSK	12	13	21.67	21.71	21.86		
5	QPSK	25	0	21.70	21.71	21.79		
5	16QAM	1	0	21.83	21.98	22.08	23	1
5	16QAM	1	12	21.89	22.00	22.17		
5	16QAM	1	24	21.98	22.13	22.18		
5	16QAM	12	0	20.73	20.88	20.93	22	2
5	16QAM	12	7	20.76	20.90	21.05		
5	16QAM	12	13	20.82	20.88	21.03		
5	16QAM	25	0	20.79	20.86	20.92		
5	64QAM	1	0	20.79	21.00	21.07	22	2
5	64QAM	1	12	20.87	20.98	21.14		
5	64QAM	1	24	20.93	21.07	21.11		
5	64QAM	12	0	19.83	19.94	19.98	21	3
5	64QAM	12	7	19.83	19.95	20.09		
5	64QAM	12	13	19.89	19.92	20.09		
5	64QAM	25	0	19.84	19.86	19.89		

<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	22.73	22.80	22.65	24	0
20	QPSK	1	49	22.57	22.43	22.49		
20	QPSK	1	99	22.46	22.33	22.39		
20	QPSK	50	0	21.55	21.74	21.73	23	1
20	QPSK	50	24	21.61	21.49	21.56		
20	QPSK	50	50	21.57	21.52	21.52		
20	QPSK	100	0	21.47	21.69	21.68		
20	16QAM	1	0	22.09	21.99	22.00	23	1
20	16QAM	1	49	22.01	21.78	21.80		
20	16QAM	1	99	21.89	21.62	21.78		
20	16QAM	50	0	20.82	20.73	20.80	22	2
20	16QAM	50	24	20.80	20.68	20.66		
20	16QAM	50	50	20.70	20.55	20.64		
20	16QAM	100	0	20.75	20.64	20.69		
20	64QAM	1	0	21.00	20.94	20.94	22	2
20	64QAM	1	49	20.91	20.70	20.79		
20	64QAM	1	99	20.79	20.58	20.70		
20	64QAM	50	0	19.87	19.73	19.88	21	3
20	64QAM	50	24	19.84	19.67	19.72		
20	64QAM	50	50	19.66	19.54	19.67		
20	64QAM	100	0	19.78	19.69	19.76		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	22.76	22.78	22.65	24	0
15	QPSK	1	37	22.53	22.48	22.61		
15	QPSK	1	74	22.56	22.43	22.60		
15	QPSK	36	0	21.67	21.75	21.74	23	1
15	QPSK	36	20	21.63	21.52	21.71		
15	QPSK	36	39	21.57	21.44	21.61		
15	QPSK	75	0	21.65	21.68	21.67		
15	16QAM	1	0	21.94	21.99	21.97	23	1
15	16QAM	1	37	21.90	21.77	21.90		
15	16QAM	1	74	21.91	21.72	21.93		
15	16QAM	36	0	20.82	20.66	20.82	22	2
15	16QAM	36	20	20.76	20.65	20.80		
15	16QAM	36	39	20.73	20.54	20.71		
15	16QAM	75	0	20.76	20.62	20.80		
15	64QAM	1	0	20.91	20.95	20.94	22	2
15	64QAM	1	37	20.87	20.74	20.86		
15	64QAM	1	74	20.87	20.69	20.84		
15	64QAM	36	0	19.86	19.76	19.87	21	3
15	64QAM	36	20	19.82	19.66	19.84		
15	64QAM	36	39	19.73	19.61	19.78		
15	64QAM	75	0	19.80	19.63	19.83		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	22.66	22.57	22.72	24	0
10	QPSK	1	25	22.62	22.47	22.63		
10	QPSK	1	49	22.56	22.40	22.59		
10	QPSK	25	0	21.67	21.57	21.73	23	1
10	QPSK	25	12	21.64	21.52	21.66		

10	QPSK	25	25	21.58	21.50	21.62		
10	QPSK	50	0	21.65	21.49	21.68		
10	16QAM	1	0	21.95	21.92	21.99	23	1
10	16QAM	1	25	21.91	21.78	21.93		
10	16QAM	1	49	21.89	21.73	21.85		
10	16QAM	25	0	20.75	20.62	20.82	22	2
10	16QAM	25	12	20.73	20.60	20.76		
10	16QAM	25	25	20.70	20.57	20.72		
10	16QAM	50	0	20.74	20.63	20.78		
10	64QAM	1	0	20.91	20.84	20.98	22	2
10	64QAM	1	25	20.84	20.74	20.90		
10	64QAM	1	49	20.85	20.69	20.82		
10	64QAM	25	0	19.78	19.68	19.82	21	3
10	64QAM	25	12	19.76	19.64	19.80		
10	64QAM	25	25	19.72	19.59	19.75		
10	64QAM	50	0	19.75	19.62	19.79		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	22.64	22.49	22.64	24	0
5	QPSK	1	12	22.58	22.42	22.59		
5	QPSK	1	24	22.55	22.43	22.59		
5	QPSK	12	0	21.61	21.49	21.67	23	1
5	QPSK	12	7	21.63	21.51	21.65		
5	QPSK	12	13	21.62	21.45	21.64		
5	QPSK	25	0	21.63	21.45	21.64		
5	16QAM	1	0	21.90	21.84	21.99	23	1
5	16QAM	1	12	21.84	21.79	21.92		
5	16QAM	1	24	21.90	21.77	21.91		
5	16QAM	12	0	20.76	20.64	20.74	22	2
5	16QAM	12	7	20.79	20.62	20.75		
5	16QAM	12	13	20.72	20.59	20.74		
5	16QAM	25	0	20.75	20.60	20.73		
5	64QAM	1	0	20.89	20.82	20.94	22	2
5	64QAM	1	12	20.83	20.70	20.90		
5	64QAM	1	24	20.86	20.70	20.88		
5	64QAM	12	0	19.80	19.68	19.81	21	3
5	64QAM	12	7	19.83	19.69	19.85		
5	64QAM	12	13	19.78	19.64	19.78		
5	64QAM	25	0	19.73	19.58	19.76		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	22.62	22.47	22.63	24	0
3	QPSK	1	8	22.60	22.43	22.57		
3	QPSK	1	14	22.60	22.41	22.59		
3	QPSK	8	0	21.60	21.49	21.61	23	1
3	QPSK	8	4	21.66	21.50	21.65		
3	QPSK	8	7	21.59	21.45	21.61		
3	QPSK	15	0	21.63	21.47	21.64		
3	16QAM	1	0	21.87	21.79	21.88	23	1
3	16QAM	1	8	21.89	21.77	21.89		
3	16QAM	1	14	21.87	21.72	21.86		
3	16QAM	8	0	20.74	20.63	20.81	22	2
3	16QAM	8	4	20.81	20.68	20.82		
3	16QAM	8	7	20.76	20.65	20.75		
3	16QAM	15	0	20.75	20.61	20.75		
3	64QAM	1	0	20.88	20.76	20.87	22	2

3	64QAM	1	8	20.87	20.75	20.87		
3	64QAM	1	14	20.83	20.73	20.87		
3	64QAM	8	0	19.80	19.65	19.81	21	3
3	64QAM	8	4	19.81	19.65	19.80		
3	64QAM	8	7	19.78	19.62	19.80		
3	64QAM	15	0	19.75	19.61	19.75		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	22.50	22.37	22.52	24	0
1.4	QPSK	1	3	22.56	22.45	22.61		
1.4	QPSK	1	5	22.50	22.37	22.53		
1.4	QPSK	3	0	22.53	22.43	22.59		
1.4	QPSK	3	1	22.61	22.47	22.64		
1.4	QPSK	3	3	22.56	22.45	22.57		
1.4	QPSK	6	0	21.56	21.43	21.57	23	1
1.4	16QAM	1	0	21.82	21.72	21.88	23	1
1.4	16QAM	1	3	21.87	21.80	21.90		
1.4	16QAM	1	5	21.78	21.71	21.80		
1.4	16QAM	3	0	21.59	21.49	21.65		
1.4	16QAM	3	1	21.66	21.54	21.67		
1.4	16QAM	3	3	21.60	21.52	21.64		
1.4	16QAM	6	0	20.72	20.58	20.73	22	2
1.4	64QAM	1	0	20.80	20.66	20.87	22	2
1.4	64QAM	1	3	20.86	20.73	20.91		
1.4	64QAM	1	5	20.75	20.63	20.78		
1.4	64QAM	3	0	20.75	20.68	20.82		
1.4	64QAM	3	1	20.82	20.66	20.86		
1.4	64QAM	3	3	20.77	20.62	20.82		
1.4	64QAM	6	0	19.64	19.50	19.66	21	3

<Near-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	16.79	16.89	16.74	18	0
20	QPSK	1	49	16.40	16.37	16.47		
20	QPSK	1	99	16.63	16.57	16.46		
20	QPSK	50	0	16.70	16.78	16.76	18	0
20	QPSK	50	24	16.52	16.49	16.53		
20	QPSK	50	50	16.56	16.48	16.52		
20	QPSK	100	0	16.53	16.75	16.47		
20	16QAM	1	0	16.81	16.80	16.88	18	0
20	16QAM	1	49	16.73	16.77	16.86		
20	16QAM	1	99	16.82	16.88	16.86		
20	16QAM	50	0	16.66	16.63	16.58	18	0
20	16QAM	50	24	16.62	16.63	16.65		
20	16QAM	50	50	16.67	16.54	16.61		
20	16QAM	100	0	16.71	16.61	16.54		
20	64QAM	1	0	16.86	16.85	16.86	18	0
20	64QAM	1	49	16.69	16.70	16.80		
20	64QAM	1	99	16.80	16.87	16.81		
20	64QAM	50	0	16.69	16.69	16.67	18	0
20	64QAM	50	24	16.62	16.63	16.70		
20	64QAM	50	50	16.70	16.58	16.67		
20	64QAM	100	0	16.76	16.64	16.61		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	16.74	16.88	16.68	18	0
15	QPSK	1	37	16.30	16.33	16.47		
15	QPSK	1	74	16.53	16.53	16.39		
15	QPSK	36	0	16.51	16.50	16.51	18	0
15	QPSK	36	20	16.51	16.49	16.46		
15	QPSK	36	39	16.47	16.38	16.50		
15	QPSK	75	0	16.52	16.46	16.39		
15	16QAM	1	0	16.78	16.72	16.79	18	0
15	16QAM	1	37	16.68	16.69	16.77		
15	16QAM	1	74	16.77	16.86	16.76		
15	16QAM	36	0	16.64	16.54	16.49	18	0
15	16QAM	36	20	16.52	16.57	16.62		
15	16QAM	36	39	16.62	16.46	16.55		
15	16QAM	75	0	16.69	16.53	16.53		
15	64QAM	1	0	16.79	16.82	16.76	18	0
15	64QAM	1	37	16.69	16.63	16.71		
15	64QAM	1	74	16.73	16.87	16.71		
15	64QAM	36	0	16.68	16.69	16.59	18	0
15	64QAM	36	20	16.59	16.62	16.60		
15	64QAM	36	39	16.62	16.57	16.58		
15	64QAM	75	0	16.72	16.60	16.52		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	16.76	16.87	16.69	18	0
10	QPSK	1	25	16.30	16.33	16.41		
10	QPSK	1	49	16.55	16.57	16.40		

10	QPSK	25	0	16.53	16.52	16.49	18	0
10	QPSK	25	12	16.52	16.48	16.49		
10	QPSK	25	25	16.49	16.42	16.42		
10	QPSK	50	0	16.49	16.46	16.42		
10	16QAM	1	0	16.75	16.72	16.81	18	0
10	16QAM	1	25	16.72	16.72	16.83		
10	16QAM	1	49	16.73	16.88	16.83		
10	16QAM	25	0	16.62	16.60	16.52	18	0
10	16QAM	25	12	16.53	16.58	16.58		
10	16QAM	25	25	16.57	16.49	16.54		
10	16QAM	50	0	16.61	16.54	16.52		
10	64QAM	1	0	16.85	16.81	16.81	18	0
10	64QAM	1	25	16.59	16.60	16.76		
10	64QAM	1	49	16.77	16.85	16.81		
10	64QAM	25	0	16.66	16.61	16.57	18	0
10	64QAM	25	12	16.56	16.59	16.60		
10	64QAM	25	25	16.65	16.52	16.58		
10	64QAM	50	0	16.68	16.61	16.58		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	16.76	16.84	16.74	18	0
5	QPSK	1	12	16.37	16.33	16.44		
5	QPSK	1	24	16.54	16.55	16.38		
5	QPSK	12	0	16.51	16.53	16.55	18	0
5	QPSK	12	7	16.48	16.47	16.50		
5	QPSK	12	13	16.47	16.44	16.52		
5	QPSK	25	0	16.50	16.48	16.37		
5	16QAM	1	0	16.75	16.76	16.84	18	0
5	16QAM	1	12	16.72	16.69	16.76		
5	16QAM	1	24	16.77	16.88	16.86		
5	16QAM	12	0	16.64	16.59	16.52	18	0
5	16QAM	12	7	16.59	16.58	16.61		
5	16QAM	12	13	16.62	16.46	16.55		
5	16QAM	25	0	16.63	16.55	16.45		
5	64QAM	1	0	16.76	16.81	16.82	18	0
5	64QAM	1	12	16.61	16.70	16.72		
5	64QAM	1	24	16.72	16.83	16.80		
5	64QAM	12	0	16.68	16.62	16.58	18	0
5	64QAM	12	7	16.62	16.61	16.68		
5	64QAM	12	13	16.69	16.58	16.60		
5	64QAM	25	0	16.72	16.63	16.55		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	16.79	16.89	16.66	18	0
3	QPSK	1	8	16.31	16.34	16.37		
3	QPSK	1	14	16.63	16.55	16.41		
3	QPSK	8	0	16.48	16.49	16.46	18	0
3	QPSK	8	4	16.43	16.43	16.53		
3	QPSK	8	7	16.47	16.46	16.44		
3	QPSK	15	0	16.47	16.50	16.44		
3	16QAM	1	0	16.71	16.80	16.87	18	0
3	16QAM	1	8	16.71	16.70	16.82		
3	16QAM	1	14	16.81	16.81	16.81		
3	16QAM	8	0	16.59	16.55	16.53	18	0
3	16QAM	8	4	16.55	16.55	16.56		
3	16QAM	8	7	16.58	16.50	16.59		

3	16QAM	15	0	16.64	16.57	16.45		
3	64QAM	1	0	16.82	16.79	16.83	18	0
3	64QAM	1	8	16.69	16.70	16.72		
3	64QAM	1	14	16.72	16.87	16.76		
3	64QAM	8	0	16.67	16.66	16.63	18	0
3	64QAM	8	4	16.53	16.57	16.64		
3	64QAM	8	7	16.68	16.56	16.61		
3	64QAM	15	0	16.75	16.58	16.53		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	16.78	16.87	16.65	18	0
1.4	QPSK	1	3	16.39	16.35	16.39		
1.4	QPSK	1	5	16.57	16.52	16.43		
1.4	QPSK	3	0	16.56	16.58	16.50		
1.4	QPSK	3	1	16.42	16.41	16.44		
1.4	QPSK	3	3	16.55	16.38	16.52		
1.4	QPSK	6	0	16.50	16.45	16.47	18	0
1.4	16QAM	1	0	16.73	16.73	16.81	18	0
1.4	16QAM	1	3	16.69	16.68	16.77		
1.4	16QAM	1	5	16.75	16.83	16.85		
1.4	16QAM	3	0	16.66	16.55	16.52		
1.4	16QAM	3	1	16.55	16.59	16.61		
1.4	16QAM	3	3	16.62	16.47	16.55		
1.4	16QAM	6	0	16.70	16.61	16.44	18	0
1.4	64QAM	1	0	16.77	16.75	16.78	18	0
1.4	64QAM	1	3	16.66	16.67	16.73		
1.4	64QAM	1	5	16.80	16.85	16.71		
1.4	64QAM	3	0	16.63	16.67	16.64		
1.4	64QAM	3	1	16.53	16.54	16.61		
1.4	64QAM	3	3	16.69	16.58	16.61		
1.4	64QAM	6	0	16.75	16.58	16.60	18	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	17.98	17.83	17.74	18.5	0
20	QPSK	1	49	17.55	17.43	17.47		
20	QPSK	1	99	17.43	17.41	17.44		
20	QPSK	50	0	17.67	17.56	17.53	18.5	0
20	QPSK	50	24	17.63	17.48	17.48		
20	QPSK	50	50	17.50	17.46	17.50		
20	QPSK	100	0	17.86	17.77	17.45		
20	16QAM	1	0	17.93	17.88	17.91	18.5	0
20	16QAM	1	49	17.97	17.84	17.90		
20	16QAM	1	99	17.80	17.82	17.86		
20	16QAM	50	0	17.79	17.68	17.64	18.5	0
20	16QAM	50	24	17.75	17.61	17.57		
20	16QAM	50	50	17.60	17.57	17.65		
20	16QAM	100	0	17.77	17.63	17.55		
20	64QAM	1	0	17.92	17.93	17.92	18.5	0
20	64QAM	1	49	17.93	17.73	17.80		
20	64QAM	1	99	17.78	17.71	17.77		
20	64QAM	50	0	17.85	17.72	17.69	18.5	0
20	64QAM	50	24	17.76	17.65	17.60		
20	64QAM	50	50	17.62	17.60	17.64		
20	64QAM	100	0	17.82	17.65	17.62		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	17.90	17.73	17.61	18.5	0
15	QPSK	1	37	17.49	17.39	17.41		
15	QPSK	1	74	17.35	17.38	17.35		
15	QPSK	36	0	17.60	17.51	17.51	18.5	0
15	QPSK	36	20	17.57	17.41	17.44		
15	QPSK	36	39	17.47	17.36	17.43		
15	QPSK	75	0	17.60	17.45	17.35		
15	16QAM	1	0	17.86	17.84	17.86	18.5	0
15	16QAM	1	37	17.94	17.74	17.87		
15	16QAM	1	74	17.70	17.81	17.82		
15	16QAM	36	0	17.79	17.60	17.54	18.5	0
15	16QAM	36	20	17.72	17.58	17.48		
15	16QAM	36	39	17.52	17.49	17.64		
15	16QAM	75	0	17.69	17.58	17.54		
15	64QAM	1	0	17.87	17.84	17.92	18.5	0
15	64QAM	1	37	17.86	17.68	17.76		
15	64QAM	1	74	17.75	17.63	17.73		
15	64QAM	36	0	17.78	17.71	17.65	18.5	0
15	64QAM	36	20	17.75	17.58	17.53		
15	64QAM	36	39	17.52	17.54	17.60		
15	64QAM	75	0	17.80	17.61	17.62		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	17.90	17.72	17.57	18.5	0
10	QPSK	1	25	17.48	17.38	17.42		
10	QPSK	1	49	17.43	17.31	17.36		
10	QPSK	25	0	17.66	17.54	17.45	18.5	0
10	QPSK	25	12	17.59	17.39	17.47		

10	QPSK	25	25	17.44	17.45	17.43		
10	QPSK	50	0	17.57	17.46	17.35		
10	16QAM	1	0	17.91	17.78	17.81	18.5	0
10	16QAM	1	25	17.94	17.79	17.87		
10	16QAM	1	49	17.74	17.74	17.84		
10	16QAM	25	0	17.79	17.58	17.59	18.5	0
10	16QAM	25	12	17.75	17.56	17.52		
10	16QAM	25	25	17.60	17.53	17.63		
10	16QAM	50	0	17.68	17.53	17.51		
10	64QAM	1	0	17.83	17.85	17.92	18.5	0
10	64QAM	1	25	17.92	17.69	17.78		
10	64QAM	1	49	17.73	17.68	17.69		
10	64QAM	25	0	17.76	17.68	17.63	18.5	0
10	64QAM	25	12	17.69	17.64	17.59		
10	64QAM	25	25	17.57	17.51	17.59		
10	64QAM	50	0	17.77	17.59	17.55		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	17.94	17.73	17.59	18.5	0
5	QPSK	1	12	17.51	17.35	17.40		
5	QPSK	1	24	17.37	17.39	17.37		
5	QPSK	12	0	17.61	17.50	17.43	18.5	0
5	QPSK	12	7	17.61	17.43	17.42		
5	QPSK	12	13	17.41	17.44	17.49		
5	QPSK	25	0	17.65	17.49	17.44		
5	16QAM	1	0	17.87	17.88	17.87	18.5	0
5	16QAM	1	12	17.92	17.80	17.85		
5	16QAM	1	24	17.75	17.78	17.77		
5	16QAM	12	0	17.79	17.65	17.57	18.5	0
5	16QAM	12	7	17.69	17.56	17.54		
5	16QAM	12	13	17.50	17.47	17.60		
5	16QAM	25	0	17.67	17.56	17.46		
5	64QAM	1	0	17.86	17.85	17.85	18.5	0
5	64QAM	1	12	17.83	17.73	17.76		
5	64QAM	1	24	17.70	17.71	17.76		
5	64QAM	12	0	17.83	17.64	17.67	18.5	0
5	64QAM	12	7	17.76	17.56	17.59		
5	64QAM	12	13	17.59	17.51	17.54		
5	64QAM	25	0	17.76	17.65	17.56		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	17.89	17.73	17.60	18.5	0
3	QPSK	1	8	17.50	17.39	17.41		
3	QPSK	1	14	17.43	17.35	17.39		
3	QPSK	8	0	17.59	17.51	17.52	18.5	0
3	QPSK	8	4	17.54	17.48	17.46		
3	QPSK	8	7	17.48	17.45	17.44		
3	QPSK	15	0	17.62	17.49	17.44		
3	16QAM	1	0	17.90	17.83	17.87	18.5	0
3	16QAM	1	8	17.92	17.76	17.83		
3	16QAM	1	14	17.70	17.75	17.84		
3	16QAM	8	0	17.72	17.63	17.56	18.5	0
3	16QAM	8	4	17.73	17.53	17.57		
3	16QAM	8	7	17.58	17.51	17.61		
3	16QAM	15	0	17.74	17.58	17.54		
3	64QAM	1	0	17.92	17.86	17.92	18.5	0

3	64QAM	1	8	17.88	17.66	17.72		
3	64QAM	1	14	17.77	17.62	17.76		
3	64QAM	8	0	17.76	17.63	17.65	18.5	0
3	64QAM	8	4	17.70	17.59	17.50		
3	64QAM	8	7	17.59	17.53	17.62		
3	64QAM	15	0	17.81	17.62	17.55		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	17.92	17.72	17.59	18.5	0
1.4	QPSK	1	3	17.45	17.40	17.38		
1.4	QPSK	1	5	17.43	17.35	17.42		
1.4	QPSK	3	0	17.57	17.53	17.51		
1.4	QPSK	3	1	17.55	17.43	17.42		
1.4	QPSK	3	3	17.47	17.37	17.49		
1.4	QPSK	6	0	17.59	17.44	17.35	18.5	0
1.4	16QAM	1	0	17.93	17.82	17.81	18.5	0
1.4	16QAM	1	3	17.95	17.80	17.84		
1.4	16QAM	1	5	17.80	17.75	17.84		
1.4	16QAM	3	0	17.71	17.68	17.56		
1.4	16QAM	3	1	17.75	17.52	17.55		
1.4	16QAM	3	3	17.54	17.55	17.65		
1.4	16QAM	6	0	17.73	17.56	17.53	18.5	0
1.4	64QAM	1	0	17.87	17.88	17.90	18.5	0
1.4	64QAM	1	3	17.85	17.67	17.78		
1.4	64QAM	1	5	17.76	17.63	17.69		
1.4	64QAM	3	0	17.83	17.69	17.64		
1.4	64QAM	3	1	17.76	17.65	17.58		
1.4	64QAM	3	3	17.60	17.55	17.62		
1.4	64QAM	6	0	17.75	17.65	17.58	18.5	0

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	21.88	21.91	21.73	23	0
10	QPSK	1	25	21.71	21.84	21.66		
10	QPSK	1	49	21.64	21.78	21.59		
10	QPSK	25	0	21.84	21.88	21.65	23	0
10	QPSK	25	12	21.71	21.71	21.55		
10	QPSK	25	25	21.73	21.74	21.63		
10	QPSK	50	0	21.82	21.70	21.64		
10	16QAM	1	0	21.84	21.77	21.67	23	0
10	16QAM	1	25	21.86	21.89	21.84		
10	16QAM	1	49	21.85	21.85	21.87		
10	16QAM	25	0	20.83	20.90	20.82	22	1
10	16QAM	25	12	20.83	20.88	20.80		
10	16QAM	25	25	21.00	20.88	20.79		
10	16QAM	50	0	21.01	20.83	20.72		
10	64QAM	1	0	20.95	20.86	20.76	22	1
10	64QAM	1	25	21.11	21.02	20.92		
10	64QAM	1	49	21.00	21.06	20.91		
10	64QAM	25	0	19.93	19.91	19.79	21	2
10	64QAM	25	12	19.97	19.98	19.79		
10	64QAM	25	25	20.06	19.98	19.79		
10	64QAM	50	0	19.99	19.83	19.71		
Channel				20.04	19.93	19.75	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	21.83	21.82	21.67	23	0
5	QPSK	1	12	21.70	21.78	21.58		
5	QPSK	1	24	21.64	21.75	21.49		
5	QPSK	12	0	21.77	21.85	21.64	23	0
5	QPSK	12	7	21.61	21.61	21.49		
5	QPSK	12	13	21.70	21.66	21.61		
5	QPSK	25	0	21.82	21.60	21.61		
5	16QAM	1	0	21.82	21.71	21.66	23	0
5	16QAM	1	12	21.80	21.84	21.74		
5	16QAM	1	24	21.81	21.84	21.77		
5	16QAM	12	0	20.79	20.90	20.74	22	1
5	16QAM	12	7	20.78	20.79	20.75		
5	16QAM	12	13	21.00	20.87	20.75		
5	16QAM	25	0	20.99	20.76	20.66		
5	64QAM	1	0	20.89	20.81	20.76	22	1
5	64QAM	1	12	21.04	21.01	20.86		
5	64QAM	1	24	20.90	20.97	20.86		
5	64QAM	12	0	19.83	19.86	19.72	21	2
5	64QAM	12	7	19.89	19.97	19.74		
5	64QAM	12	13	20.05	19.88	19.77		
5	64QAM	25	0	19.93	19.81	19.70		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	21.78	21.90	21.72	23	0
3	QPSK	1	8	21.69	21.83	21.64		
3	QPSK	1	14	21.55	21.75	21.55		
3	QPSK	8	0	21.78	21.85	21.60	23	0
3	QPSK	8	4	21.69	21.61	21.50		

3	QPSK	8	7	21.63	21.64	21.63		
3	QPSK	15	0	21.72	21.63	21.57		
3	16QAM	1	0	21.82	21.68	21.64	23	0
3	16QAM	1	8	21.80	21.81	21.82		
3	16QAM	1	14	21.78	21.75	21.78		
3	16QAM	8	0	20.75	20.86	20.79	22	1
3	16QAM	8	4	20.74	20.78	20.72		
3	16QAM	8	7	20.93	20.83	20.77		
3	16QAM	15	0	20.91	20.76	20.63		
3	64QAM	1	0	20.86	20.76	20.72	22	1
3	64QAM	1	8	21.04	20.95	20.90		
3	64QAM	1	14	20.95	21.06	20.82		
3	64QAM	8	0	19.84	19.84	19.72	21	2
3	64QAM	8	4	19.91	19.94	19.72		
3	64QAM	8	7	20.06	19.92	19.69		
3	64QAM	15	0	19.97	19.78	19.61		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	21.87	21.88	21.68	23	0
1.4	QPSK	1	3	21.70	21.74	21.59		
1.4	QPSK	1	5	21.63	21.78	21.53		
1.4	QPSK	3	0	21.77	21.85	21.63		
1.4	QPSK	3	1	21.61	21.71	21.51		
1.4	QPSK	3	3	21.63	21.74	21.54		
1.4	QPSK	6	0	21.81	21.60	21.55	23	0
1.4	16QAM	1	0	21.74	21.70	21.66	23	0
1.4	16QAM	1	3	21.80	21.87	21.76		
1.4	16QAM	1	5	21.81	21.76	21.82		
1.4	16QAM	3	0	21.88	21.85	21.49		
1.4	16QAM	3	1	21.89	21.88	21.55		
1.4	16QAM	3	3	21.82	21.83	21.49		
1.4	16QAM	6	0	20.99	20.77	20.63	22	1
1.4	64QAM	1	0	20.88	20.82	20.67	22	1
1.4	64QAM	1	3	21.01	20.98	20.90		
1.4	64QAM	1	5	20.93	21.01	20.85		
1.4	64QAM	3	0	21.03	20.98	20.64		
1.4	64QAM	3	1	21.10	21.00	20.67		
1.4	64QAM	3	3	21.03	20.96	20.63		
1.4	64QAM	6	0	19.89	19.73	19.69	21	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	18.03	18.10	17.99	19	0
20	QPSK	1	49	18.02	17.89	17.79		
20	QPSK	1	99	18.01	17.77	17.71		
20	QPSK	50	0	17.93	17.93	17.79	19	0
20	QPSK	50	24	17.92	17.90	17.76		
20	QPSK	50	50	17.92	17.86	17.70		
20	QPSK	100	0	17.88	17.90	17.75		
20	16QAM	1	0	18.06	18.01	18.04	19	0
20	16QAM	1	49	18.05	17.99	18.06		
20	16QAM	1	99	18.06	17.85	18.07		
20	16QAM	50	0	18.09	18.02	17.86	19	0
20	16QAM	50	24	18.02	18.03	17.84		
20	16QAM	50	50	18.03	17.97	17.81		
20	16QAM	100	0	18.04	18.01	17.85		
20	64QAM	1	0	18.09	18.06	18.01	19	0
20	64QAM	1	49	18.05	18.09	17.91		
20	64QAM	1	99	18.02	18.01	18.03		
20	64QAM	50	0	17.85	18.05	17.88	19	0
20	64QAM	50	24	17.99	18.04	17.86		
20	64QAM	50	50	17.87	17.93	17.86		
20	64QAM	100	0	17.99	17.92	17.87		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	17.93	18.00	17.89	19	0
15	QPSK	1	37	17.92	17.79	17.69		
15	QPSK	1	74	17.91	17.67	17.61		
15	QPSK	36	0	17.83	17.83	17.69	19	0
15	QPSK	36	20	17.82	17.80	17.66		
15	QPSK	36	39	17.82	17.76	17.60		
15	QPSK	75	0	17.81	17.82	17.65		
15	16QAM	1	0	17.96	17.91	17.94	19	0
15	16QAM	1	37	17.95	17.89	17.96		
15	16QAM	1	74	17.96	17.75	17.97		
15	16QAM	36	0	17.99	17.92	17.76	19	0
15	16QAM	36	20	17.92	17.93	17.74		
15	16QAM	36	39	17.93	17.87	17.71		
15	16QAM	75	0	17.94	17.91	17.75		
15	64QAM	1	0	17.99	17.96	17.91	19	0
15	64QAM	1	37	17.95	17.99	17.81		
15	64QAM	1	74	17.92	17.91	17.93		
15	64QAM	36	0	17.75	17.95	17.78	19	0
15	64QAM	36	20	17.89	17.94	17.76		
15	64QAM	36	39	17.77	17.83	17.76		
15	64QAM	75	0	17.89	17.82	17.77		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	17.83	17.95	17.77	19	0
10	QPSK	1	25	17.82	17.74	17.57		
10	QPSK	1	49	17.81	17.62	17.49		
10	QPSK	25	0	17.73	17.78	17.57	19	0
10	QPSK	25	12	17.72	17.75	17.54		

10	QPSK	25	25	17.72	17.71	17.48		
10	QPSK	50	0	17.71	17.77	17.53		
10	16QAM	1	0	17.86	17.86	17.82	19	0
10	16QAM	1	25	17.85	17.84	17.84		
10	16QAM	1	49	17.86	17.70	17.85		
10	16QAM	25	0	17.89	17.87	17.64	19	0
10	16QAM	25	12	17.82	17.88	17.62		
10	16QAM	25	25	17.83	17.82	17.59		
10	16QAM	50	0	17.84	17.86	17.63		
10	64QAM	1	0	17.89	17.91	17.79	19	0
10	64QAM	1	25	17.85	17.94	17.69		
10	64QAM	1	49	17.82	17.86	17.81		
10	64QAM	25	0	17.65	17.90	17.66	19	0
10	64QAM	25	12	17.79	17.89	17.64		
10	64QAM	25	25	17.67	17.78	17.64		
10	64QAM	50	0	17.79	17.77	17.65		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	17.94	17.91	17.75	19	0
5	QPSK	1	12	17.99	17.96	17.91		
5	QPSK	1	24	17.95	17.99	17.81		
5	QPSK	12	0	17.92	17.91	17.93	19	0
5	QPSK	12	7	17.75	17.95	17.78		
5	QPSK	12	13	17.89	17.94	17.76		
5	QPSK	25	0	17.77	17.83	17.76		
5	16QAM	1	0	17.89	17.82	17.77	19	0
5	16QAM	1	12	17.71	17.77	17.53		
5	16QAM	1	24	17.86	17.86	17.82		
5	16QAM	12	0	17.85	17.84	17.84	19	0
5	16QAM	12	7	17.86	17.70	17.85		
5	16QAM	12	13	17.89	17.87	17.64		
5	16QAM	25	0	17.82	17.88	17.62		
5	64QAM	1	0	17.99	17.92	17.76	19	0
5	64QAM	1	12	17.92	17.93	17.74		
5	64QAM	1	24	17.82	17.86	17.81		
5	64QAM	12	0	17.65	17.90	17.66	19	0
5	64QAM	12	7	17.79	17.89	17.64		
5	64QAM	12	13	17.67	17.78	17.64		
5	64QAM	25	0	17.79	17.77	17.65		

<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	16.98	16.99	17.14	18	0
20	QPSK	1	49	16.68	16.62	16.81		
20	QPSK	1	99	16.65	16.57	16.80		
20	QPSK	50	0	16.80	16.77	16.93	18	0
20	QPSK	50	24	16.75	16.71	16.92		
20	QPSK	50	50	16.74	16.66	16.89		
20	QPSK	100	0	16.77	16.69	17.02		
20	16QAM	1	0	17.12	17.09	17.13	18	0
20	16QAM	1	49	17.03	17.01	17.07		
20	16QAM	1	99	17.06	16.93	17.08		
20	16QAM	50	0	16.92	16.83	17.07	18	0
20	16QAM	50	24	16.85	16.76	16.98		
20	16QAM	50	50	16.81	16.74	16.98		
20	16QAM	100	0	16.86	16.75	17.03		
20	64QAM	1	0	17.06	17.06	17.05	18	0
20	64QAM	1	49	16.94	16.91	17.11		
20	64QAM	1	99	17.05	16.87	17.12		
20	64QAM	50	0	16.93	16.88	17.08	18	0
20	64QAM	50	24	16.88	16.82	17.06		
20	64QAM	50	50	16.86	16.79	16.97		
20	64QAM	100	0	16.90	16.81	17.05		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	16.96	16.98	17.07	18	0
15	QPSK	1	37	16.58	16.56	16.72		
15	QPSK	1	74	16.64	16.53	16.72		
15	QPSK	36	0	16.70	16.70	16.83	18	0
15	QPSK	36	20	16.74	16.63	16.85		
15	QPSK	36	39	16.71	16.59	16.89		
15	QPSK	75	0	16.70	16.61	16.99		
15	16QAM	1	0	17.07	17.06	17.12	18	0
15	16QAM	1	37	16.93	17.01	17.06		
15	16QAM	1	74	17.04	16.89	17.06		
15	16QAM	36	0	16.91	16.79	17.07	18	0
15	16QAM	36	20	16.79	16.68	16.94		
15	16QAM	36	39	16.75	16.66	16.95		
15	16QAM	75	0	16.85	16.67	17.03		
15	64QAM	1	0	17.01	17.02	16.95	18	0
15	64QAM	1	37	16.90	16.90	17.07		
15	64QAM	1	74	16.96	16.86	17.06		
15	64QAM	36	0	16.83	16.85	17.08	18	0
15	64QAM	36	20	16.80	16.76	16.96		
15	64QAM	36	39	16.81	16.71	16.87		
15	64QAM	75	0	16.85	16.76	17.03		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	16.98	16.89	17.13	18	0
10	QPSK	1	25	16.58	16.56	16.73		
10	QPSK	1	49	16.65	16.49	16.76		
10	QPSK	25	0	16.80	16.76	16.91	18	0
10	QPSK	25	12	16.66	16.65	16.86		

10	QPSK	25	25	16.74	16.65	16.89		
10	QPSK	50	0	16.74	16.65	16.83		
10	16QAM	1	0	17.12	17.09	17.10	18	0
10	16QAM	1	25	17.03	16.95	17.01		
10	16QAM	1	49	16.96	16.88	17.08		
10	16QAM	25	0	16.88	16.78	17.01	18	0
10	16QAM	25	12	16.83	16.72	16.90		
10	16QAM	25	25	16.80	16.65	16.96		
10	16QAM	50	0	16.83	16.73	16.93		
10	64QAM	1	0	17.01	17.01	17.03	18	0
10	64QAM	1	25	16.87	16.82	17.02		
10	64QAM	1	49	16.98	16.83	17.10		
10	64QAM	25	0	16.85	16.87	16.99	18	0
10	64QAM	25	12	16.88	16.74	17.02		
10	64QAM	25	25	16.79	16.75	16.97		
10	64QAM	50	0	16.82	16.76	16.95		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	16.98	16.96	17.05	18	0
5	QPSK	1	12	16.64	16.62	16.76		
5	QPSK	1	24	16.58	16.57	16.73		
5	QPSK	12	0	16.75	16.68	16.88	18	0
5	QPSK	12	7	16.67	16.65	16.84		
5	QPSK	12	13	16.64	16.65	16.79		
5	QPSK	25	0	16.70	16.63	16.84		
5	16QAM	1	0	17.04	17.04	17.05	18	0
5	16QAM	1	12	16.99	17.01	17.01		
5	16QAM	1	24	17.00	16.92	17.02		
5	16QAM	12	0	16.86	16.79	16.99	18	0
5	16QAM	12	7	16.84	16.66	16.90		
5	16QAM	12	13	16.78	16.70	16.98		
5	16QAM	25	0	16.79	16.66	16.96		
5	64QAM	1	0	16.98	16.97	16.97	18	0
5	64QAM	1	12	16.94	16.85	17.02		
5	64QAM	1	24	16.95	16.84	17.12		
5	64QAM	12	0	16.85	16.87	17.07	18	0
5	64QAM	12	7	16.88	16.78	17.04		
5	64QAM	12	13	16.81	16.71	16.96		
5	64QAM	25	0	16.84	16.73	17.05		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	16.88	16.96	17.08	18	0
3	QPSK	1	8	16.64	16.60	16.71		
3	QPSK	1	14	16.65	16.54	16.77		
3	QPSK	8	0	16.72	16.73	16.85	18	0
3	QPSK	8	4	16.70	16.68	16.85		
3	QPSK	8	7	16.72	16.60	16.83		
3	QPSK	15	0	16.73	16.59	16.83		
3	16QAM	1	0	17.02	17.00	17.11	18	0
3	16QAM	1	8	16.94	16.94	16.98		
3	16QAM	1	14	17.04	16.88	17.07		
3	16QAM	8	0	16.88	16.74	17.01	18	0
3	16QAM	8	4	16.77	16.74	16.96		
3	16QAM	8	7	16.80	16.73	16.97		
3	16QAM	15	0	16.77	16.66	16.94		
3	64QAM	1	0	16.97	16.97	16.98	18	0

3	64QAM	1	8	16.89	16.85	17.04		
3	64QAM	1	14	16.97	16.80	17.02		
3	64QAM	8	0	16.85	16.80	17.05	18	0
3	64QAM	8	4	16.86	16.73	17.03		
3	64QAM	8	7	16.81	16.76	16.87		
3	64QAM	15	0	16.88	16.78	17.00		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	16.96	16.97	17.11	18	0
1.4	QPSK	1	3	16.59	16.60	16.77		
1.4	QPSK	1	5	16.61	16.51	16.74		
1.4	QPSK	3	0	16.72	16.73	16.88		
1.4	QPSK	3	1	16.71	16.71	16.89		
1.4	QPSK	3	3	16.66	16.63	16.84		
1.4	QPSK	6	0	16.67	16.65	16.83	18	0
1.4	16QAM	1	0	17.02	17.09	17.04	18	0
1.4	16QAM	1	3	16.98	17.01	17.02		
1.4	16QAM	1	5	16.99	16.90	17.06		
1.4	16QAM	3	0	16.87	16.80	16.99		
1.4	16QAM	3	1	16.78	16.66	16.88		
1.4	16QAM	3	3	16.71	16.71	16.96		
1.4	16QAM	6	0	16.86	16.72	16.97	18	0
1.4	64QAM	1	0	16.99	16.99	16.95	18	0
1.4	64QAM	1	3	16.88	16.81	17.07		
1.4	64QAM	1	5	16.98	16.82	17.07		
1.4	64QAM	3	0	16.85	16.78	17.00		
1.4	64QAM	3	1	16.88	16.76	17.06		
1.4	64QAM	3	3	16.86	16.74	16.90		
1.4	64QAM	6	0	16.87	16.72	16.95	18	0

<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	14.24	14.36	14.19	15.5	0
20	QPSK	1	49	13.87	13.90	13.93		
20	QPSK	1	99	14.11	14.05	13.92		
20	QPSK	50	0	14.07	14.08	14.05	15.5	0
20	QPSK	50	24	13.99	14.00	13.99		
20	QPSK	50	50	14.06	13.95	14.01		
20	QPSK	100	0	14.12	14.13	13.95		
20	16QAM	1	0	14.31	14.31	14.29	15.5	0
20	16QAM	1	49	14.15	14.22	14.31		
20	16QAM	1	99	14.27	14.32	14.31		
20	16QAM	50	0	14.16	14.19	14.08	15.5	0
20	16QAM	50	24	14.10	14.09	14.14		
20	16QAM	50	50	14.19	14.10	14.13		
20	16QAM	100	0	14.21	14.09	14.02		
20	64QAM	1	0	14.30	14.34	14.32	15.5	0
20	64QAM	1	49	14.16	14.12	14.23		
20	64QAM	1	99	14.33	14.27	14.25		
20	64QAM	50	0	14.17	14.18	14.10	15.5	0
20	64QAM	50	24	14.09	14.09	14.17		
20	64QAM	50	50	14.17	14.09	14.15		
20	64QAM	100	0	14.21	14.08	14.06		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	14.20	14.34	14.13	15.5	0
15	QPSK	1	37	13.86	13.83	13.87		
15	QPSK	1	74	14.07	13.98	13.87		
15	QPSK	36	0	14.02	14.04	13.95	15.5	0
15	QPSK	36	20	13.96	13.96	13.99		
15	QPSK	36	39	13.99	13.91	14.00		
15	QPSK	75	0	14.10	14.00	13.95		
15	16QAM	1	0	14.22	14.27	14.28	15.5	0
15	16QAM	1	37	14.06	14.15	14.24		
15	16QAM	1	74	14.21	14.25	14.22		
15	16QAM	36	0	14.12	14.09	14.01	15.5	0
15	16QAM	36	20	14.03	14.01	14.05		
15	16QAM	36	39	14.15	14.06	14.13		
15	16QAM	75	0	14.19	14.01	13.97		
15	64QAM	1	0	14.22	14.33	14.31	15.5	0
15	64QAM	1	37	14.12	14.03	14.18		
15	64QAM	1	74	14.26	14.23	14.23		
15	64QAM	36	0	14.15	14.11	14.06	15.5	0
15	64QAM	36	20	14.09	14.09	14.14		
15	64QAM	36	39	14.07	13.99	14.07		
15	64QAM	75	0	14.17	14.06	13.98		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	14.22	14.31	14.15	15.5	0
10	QPSK	1	25	13.79	13.84	13.86		
10	QPSK	1	49	14.10	13.95	13.87		

10	QPSK	25	0	13.99	14.05	13.97	15.5	0
10	QPSK	25	12	13.95	13.91	13.96		
10	QPSK	25	25	14.00	13.94	13.99		
10	QPSK	50	0	14.02	14.00	13.89		
10	16QAM	1	0	14.25	14.27	14.29	15.5	0
10	16QAM	1	25	14.08	14.17	14.27		
10	16QAM	1	49	14.17	14.31	14.22		
10	16QAM	25	0	14.13	14.16	14.06	15.5	0
10	16QAM	25	12	14.10	14.03	14.10		
10	16QAM	25	25	14.13	14.00	14.10		
10	16QAM	50	0	14.20	14.08	13.94		
10	64QAM	1	0	14.23	14.26	14.26	15.5	0
10	64QAM	1	25	14.11	14.11	14.20		
10	64QAM	1	49	14.32	14.23	14.16		
10	64QAM	25	0	14.10	14.11	14.00	15.5	0
10	64QAM	25	12	14.03	14.06	14.07		
10	64QAM	25	25	14.14	14.04	14.15		
10	64QAM	50	0	14.16	14.07	14.05		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	14.19	14.28	14.17	15.5	0
5	QPSK	1	12	13.87	13.89	13.89		
5	QPSK	1	24	14.06	13.97	13.82		
5	QPSK	12	0	14.05	14.01	13.89	15.5	0
5	QPSK	12	7	13.95	13.94	14.04		
5	QPSK	12	13	13.98	13.88	13.92		
5	QPSK	25	0	14.03	13.92	13.91		
5	16QAM	1	0	14.27	14.22	14.20	15.5	0
5	16QAM	1	12	14.08	14.14	14.29		
5	16QAM	1	24	14.23	14.27	14.31		
5	16QAM	12	0	14.07	14.16	14.06	15.5	0
5	16QAM	12	7	14.09	14.08	14.09		
5	16QAM	12	13	14.15	14.10	14.10		
5	16QAM	25	0	14.12	14.05	13.98		
5	64QAM	1	0	14.24	14.26	14.23	15.5	0
5	64QAM	1	12	14.14	14.09	14.19		
5	64QAM	1	24	14.23	14.23	14.21		
5	64QAM	12	0	14.11	14.08	14.09	15.5	0
5	64QAM	12	7	14.09	14.08	14.16		
5	64QAM	12	13	14.16	14.09	14.09		
5	64QAM	25	0	14.18	13.98	14.06		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	14.17	14.30	14.18	15.5	0
3	QPSK	1	8	13.85	13.82	13.90		
3	QPSK	1	14	14.07	13.96	13.86		
3	QPSK	8	0	14.01	14.03	13.90	15.5	0
3	QPSK	8	4	13.89	13.99	14.01		
3	QPSK	8	7	14.08	13.93	13.96		
3	QPSK	15	0	14.06	13.97	13.92		
3	16QAM	1	0	14.22	14.29	14.20	15.5	0
3	16QAM	1	8	14.12	14.15	14.21		
3	16QAM	1	14	14.17	14.30	14.30		
3	16QAM	8	0	14.08	14.10	14.06	15.5	0
3	16QAM	8	4	14.02	14.06	14.05		
3	16QAM	8	7	14.19	14.04	14.10		

3	16QAM	15	0	14.16	14.05	13.95		
3	64QAM	1	0	14.21	14.25	14.28	15.5	0
3	64QAM	1	8	14.13	14.09	14.19		
3	64QAM	1	14	14.32	14.23	14.15		
3	64QAM	8	0	14.16	14.09	14.10	15.5	0
3	64QAM	8	4	14.06	13.99	14.12		
3	64QAM	8	7	14.09	14.02	14.13		
3	64QAM	15	0	14.18	14.07	13.97		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	14.14	14.34	14.10	15.5	0
1.4	QPSK	1	3	13.85	13.85	13.90		
1.4	QPSK	1	5	14.06	14.02	13.86		
1.4	QPSK	3	0	14.03	13.98	13.93		
1.4	QPSK	3	1	13.91	13.91	14.00		
1.4	QPSK	3	3	14.02	13.90	14.01		
1.4	QPSK	6	0	14.03	13.98	13.86	15.5	0
1.4	16QAM	1	0	14.25	14.31	14.29	15.5	0
1.4	16QAM	1	3	14.15	14.15	14.27		
1.4	16QAM	1	5	14.27	14.29	14.29		
1.4	16QAM	3	0	14.07	14.09	14.06		
1.4	16QAM	3	1	14.08	14.07	14.09		
1.4	16QAM	3	3	14.19	14.01	14.09		
1.4	16QAM	6	0	14.12	14.03	13.99	15.5	0
1.4	64QAM	1	0	14.26	14.30	14.29	15.5	0
1.4	64QAM	1	3	14.15	14.08	14.13		
1.4	64QAM	1	5	14.32	14.17	14.21		
1.4	64QAM	3	0	14.13	14.09	14.02		
1.4	64QAM	3	1	14.01	14.04	14.11		
1.4	64QAM	3	3	14.16	14.08	14.05		
1.4	64QAM	6	0	14.19	14.04	13.99	15.5	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	16.43	16.30	16.16	17.5	0
20	QPSK	1	49	16.04	15.95	15.97		
20	QPSK	1	99	15.95	15.92	15.99		
20	QPSK	50	0	16.20	16.29	16.04	17.5	0
20	QPSK	50	24	16.16	16.04	15.96		
20	QPSK	50	50	16.01	15.99	16.03		
20	QPSK	100	0	16.17	16.28	16.00		
20	16QAM	1	0	16.40	16.39	16.40	17.5	0
20	16QAM	1	49	16.41	16.33	16.37		
20	16QAM	1	99	16.32	16.30	16.36		
20	16QAM	50	0	16.31	16.16	16.13	17.5	0
20	16QAM	50	24	16.21	16.12	16.08		
20	16QAM	50	50	16.08	16.08	16.10		
20	16QAM	100	0	16.22	16.10	16.06		
20	64QAM	1	0	16.33	16.34	16.42	17.5	0
20	64QAM	1	49	16.36	16.23	16.30		
20	64QAM	1	99	16.22	16.21	16.29		
20	64QAM	50	0	16.35	16.17	16.14	17.5	0
20	64QAM	50	24	16.26	16.15	16.07		
20	64QAM	50	50	16.09	16.10	16.19		
20	64QAM	100	0	16.27	16.12	16.11		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	16.34	16.25	16.12	17.5	0
15	QPSK	1	37	15.98	15.89	15.89		
15	QPSK	1	74	15.85	15.91	15.91		
15	QPSK	36	0	16.17	16.08	15.96	17.5	0
15	QPSK	36	20	16.09	16.01	15.86		
15	QPSK	36	39	15.92	15.89	15.96		
15	QPSK	75	0	16.12	15.98	15.96		
15	16QAM	1	0	16.30	16.30	16.37	17.5	0
15	16QAM	1	37	16.34	16.30	16.33		
15	16QAM	1	74	16.26	16.27	16.26		
15	16QAM	36	0	16.24	16.08	16.13	17.5	0
15	16QAM	36	20	16.20	16.03	16.02		
15	16QAM	36	39	16.01	15.98	16.00		
15	16QAM	75	0	16.14	16.00	16.01		
15	64QAM	1	0	16.33	16.28	16.40	17.5	0
15	64QAM	1	37	16.35	16.17	16.25		
15	64QAM	1	74	16.21	16.18	16.23		
15	64QAM	36	0	16.35	16.09	16.09	17.5	0
15	64QAM	36	20	16.22	16.08	16.07		
15	64QAM	36	39	16.03	16.10	16.16		
15	64QAM	75	0	16.19	16.04	16.05		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	16.35	16.24	16.07	17.5	0
10	QPSK	1	25	16.00	15.93	15.88		
10	QPSK	1	49	15.91	15.90	15.96		
10	QPSK	25	0	16.16	16.12	15.99	17.5	0
10	QPSK	25	12	16.14	16.02	15.96		

10	QPSK	25	25	15.93	15.89	15.94		
10	QPSK	50	0	16.07	15.92	16.00		
10	16QAM	1	0	16.35	16.38	16.32	17.5	0
10	16QAM	1	25	16.35	16.26	16.34		
10	16QAM	1	49	16.28	16.28	16.26		
10	16QAM	25	0	16.27	16.16	16.07	17.5	0
10	16QAM	25	12	16.20	16.08	16.02		
10	16QAM	25	25	16.03	16.01	16.00		
10	16QAM	50	0	16.19	16.06	16.05		
10	64QAM	1	0	16.24	16.24	16.42	17.5	0
10	64QAM	1	25	16.28	16.21	16.26		
10	64QAM	1	49	16.13	16.20	16.26		
10	64QAM	25	0	16.26	16.16	16.10	17.5	0
10	64QAM	25	12	16.19	16.09	16.00		
10	64QAM	25	25	16.09	16.07	16.14		
10	64QAM	50	0	16.19	16.06	16.10		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	16.39	16.29	16.13	17.5	0
5	QPSK	1	12	16.00	15.86	15.93		
5	QPSK	1	24	15.95	15.85	15.99		
5	QPSK	12	0	16.17	16.05	15.98	17.5	0
5	QPSK	12	7	16.13	15.95	15.94		
5	QPSK	12	13	15.97	15.96	15.95		
5	QPSK	25	0	16.11	15.93	15.92		
5	16QAM	1	0	16.36	16.33	16.40	17.5	0
5	16QAM	1	12	16.32	16.33	16.27		
5	16QAM	1	24	16.23	16.26	16.29		
5	16QAM	12	0	16.25	16.13	16.06	17.5	0
5	16QAM	12	7	16.12	16.03	16.02		
5	16QAM	12	13	16.04	16.02	16.01		
5	16QAM	25	0	16.22	16.00	15.99		
5	64QAM	1	0	16.24	16.26	16.40	17.5	0
5	64QAM	1	12	16.26	16.23	16.21		
5	64QAM	1	24	16.15	16.11	16.19		
5	64QAM	12	0	16.28	16.14	16.09	17.5	0
5	64QAM	12	7	16.16	16.08	16.06		
5	64QAM	12	13	16.09	16.02	16.19		
5	64QAM	25	0	16.25	16.10	16.05		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	16.37	16.21	16.15	17.5	0
3	QPSK	1	8	16.03	15.92	15.92		
3	QPSK	1	14	15.93	15.86	15.96		
3	QPSK	8	0	16.18	16.04	15.98	17.5	0
3	QPSK	8	4	16.07	15.99	15.86		
3	QPSK	8	7	16.01	15.90	15.95		
3	QPSK	15	0	16.15	15.98	15.96		
3	16QAM	1	0	16.34	16.34	16.34	17.5	0
3	16QAM	1	8	16.39	16.28	16.27		
3	16QAM	1	14	16.30	16.25	16.29		
3	16QAM	8	0	16.23	16.10	16.13	17.5	0
3	16QAM	8	4	16.13	16.05	16.00		
3	16QAM	8	7	16.07	16.03	16.05		
3	16QAM	15	0	16.13	16.04	16.04		
3	64QAM	1	0	16.25	16.31	16.36	17.5	0

3	64QAM	1	8	16.26	16.18	16.26		
3	64QAM	1	14	16.12	16.15	16.26		
3	64QAM	8	0	16.33	16.10	16.06	17.5	0
3	64QAM	8	4	16.26	16.07	16.00		
3	64QAM	8	7	16.06	16.03	16.12		
3	64QAM	15	0	16.20	16.10	16.07		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	16.35	16.24	16.10	17.5	0
1.4	QPSK	1	3	16.04	15.92	15.96		
1.4	QPSK	1	5	15.91	15.88	15.91		
1.4	QPSK	3	0	16.18	16.05	15.96		
1.4	QPSK	3	1	16.15	16.01	15.94		
1.4	QPSK	3	3	16.01	15.95	16.01		
1.4	QPSK	6	0	16.17	16.01	15.94	17.5	0
1.4	16QAM	1	0	16.39	16.30	16.33	17.5	0
1.4	16QAM	1	3	16.36	16.32	16.31		
1.4	16QAM	1	5	16.29	16.21	16.31		
1.4	16QAM	3	0	16.25	16.15	16.09		
1.4	16QAM	3	1	16.16	16.10	16.01		
1.4	16QAM	3	3	16.03	16.06	16.02		
1.4	16QAM	6	0	16.15	16.09	16.04	17.5	0
1.4	64QAM	1	0	16.29	16.33	16.35	17.5	0
1.4	64QAM	1	3	16.33	16.23	16.26		
1.4	64QAM	1	5	16.16	16.12	16.25		
1.4	64QAM	3	0	16.29	16.16	16.11		
1.4	64QAM	3	1	16.19	16.08	15.98		
1.4	64QAM	3	3	16.03	16.02	16.16		
1.4	64QAM	6	0	16.25	16.06	16.01	17.5	0

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	21.88	21.91	21.73	23	0
10	QPSK	1	25	21.71	21.84	21.66		
10	QPSK	1	49	21.64	21.78	21.59		
10	QPSK	25	0	21.84	21.88	21.65	23	0
10	QPSK	25	12	21.71	21.71	21.55		
10	QPSK	25	25	21.73	21.74	21.63		
10	QPSK	50	0	21.82	21.70	21.64		
10	16QAM	1	0	21.84	21.77	21.67	23	0
10	16QAM	1	25	21.86	21.89	21.84		
10	16QAM	1	49	21.85	21.85	21.87		
10	16QAM	25	0	20.83	20.90	20.82	22	1
10	16QAM	25	12	20.83	20.88	20.80		
10	16QAM	25	25	21.00	20.88	20.79		
10	16QAM	50	0	21.01	20.83	20.72		
10	64QAM	1	0	20.95	20.86	20.76	22	1
10	64QAM	1	25	21.11	21.02	20.92		
10	64QAM	1	49	21.00	21.06	20.91		
10	64QAM	25	0	19.93	19.91	19.79	21	2
10	64QAM	25	12	19.97	19.98	19.79		
10	64QAM	25	25	20.06	19.98	19.79		
10	64QAM	50	0	19.99	19.83	19.71		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	21.83	21.82	21.67	23	0
5	QPSK	1	12	21.70	21.78	21.58		
5	QPSK	1	24	21.64	21.75	21.49		
5	QPSK	12	0	21.77	21.85	21.64	23	0
5	QPSK	12	7	21.61	21.61	21.49		
5	QPSK	12	13	21.70	21.66	21.61		
5	QPSK	25	0	21.82	21.60	21.61		
5	16QAM	1	0	21.82	21.71	21.66	23	0
5	16QAM	1	12	21.80	21.84	21.74		
5	16QAM	1	24	21.81	21.84	21.77		
5	16QAM	12	0	20.79	20.90	20.74	22	1
5	16QAM	12	7	20.78	20.79	20.75		
5	16QAM	12	13	21.00	20.87	20.75		
5	16QAM	25	0	20.99	20.76	20.66		
5	64QAM	1	0	20.89	20.81	20.76	22	1
5	64QAM	1	12	21.04	21.01	20.86		
5	64QAM	1	24	20.90	20.97	20.86		
5	64QAM	12	0	19.83	19.86	19.72	21	2
5	64QAM	12	7	19.89	19.97	19.74		
5	64QAM	12	13	20.05	19.88	19.77		
5	64QAM	25	0	19.93	19.81	19.70		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	21.78	21.90	21.72	23	0
3	QPSK	1	8	21.69	21.83	21.64		
3	QPSK	1	14	21.55	21.75	21.55		
3	QPSK	8	0	21.78	21.85	21.60	23	0
3	QPSK	8	4	21.69	21.61	21.50		

3	QPSK	8	7	21.63	21.64	21.63		
3	QPSK	15	0	21.72	21.63	21.57		
3	16QAM	1	0	21.82	21.68	21.64	23	0
3	16QAM	1	8	21.80	21.81	21.82		
3	16QAM	1	14	21.78	21.75	21.78		
3	16QAM	8	0	20.75	20.86	20.79	22	1
3	16QAM	8	4	20.74	20.78	20.72		
3	16QAM	8	7	20.93	20.83	20.77		
3	16QAM	15	0	20.91	20.76	20.63		
3	64QAM	1	0	20.86	20.76	20.72	22	1
3	64QAM	1	8	21.04	20.95	20.90		
3	64QAM	1	14	20.95	21.06	20.82		
3	64QAM	8	0	19.84	19.84	19.72	21	2
3	64QAM	8	4	19.91	19.94	19.72		
3	64QAM	8	7	20.06	19.92	19.69		
3	64QAM	15	0	19.97	19.78	19.61		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	21.87	21.88	21.68	23	0
1.4	QPSK	1	3	21.70	21.74	21.59		
1.4	QPSK	1	5	21.63	21.78	21.53		
1.4	QPSK	3	0	21.77	21.85	21.63		
1.4	QPSK	3	1	21.61	21.71	21.51		
1.4	QPSK	3	3	21.63	21.74	21.54		
1.4	QPSK	6	0	21.81	21.60	21.55	23	0
1.4	16QAM	1	0	21.74	21.70	21.66	23	0
1.4	16QAM	1	3	21.80	21.87	21.76		
1.4	16QAM	1	5	21.81	21.76	21.82		
1.4	16QAM	3	0	21.88	21.85	21.49		
1.4	16QAM	3	1	21.89	21.88	21.55		
1.4	16QAM	3	3	21.82	21.83	21.49		
1.4	16QAM	6	0	20.99	20.77	20.63	22	1
1.4	64QAM	1	0	20.88	20.82	20.67	22	1
1.4	64QAM	1	3	21.01	20.98	20.90		
1.4	64QAM	1	5	20.93	21.01	20.85		
1.4	64QAM	3	0	21.03	20.98	20.64		
1.4	64QAM	3	1	21.10	21.00	20.67		
1.4	64QAM	3	3	21.03	20.96	20.63		
1.4	64QAM	6	0	19.89	19.73	19.69	21	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	18.03	18.10	17.99	19	0
20	QPSK	1	49	18.02	17.89	17.79		
20	QPSK	1	99	18.01	17.77	17.71		
20	QPSK	50	0	17.93	17.93	17.79	19	0
20	QPSK	50	24	17.92	17.90	17.76		
20	QPSK	50	50	17.92	17.86	17.70		
20	QPSK	100	0	18.04	17.90	17.75		
20	16QAM	1	0	18.06	18.01	18.04	19	0
20	16QAM	1	49	18.05	17.99	18.06		
20	16QAM	1	99	18.06	17.85	18.07		
20	16QAM	50	0	18.09	18.02	17.86	19	0
20	16QAM	50	24	18.02	18.03	17.84		
20	16QAM	50	50	18.03	17.97	17.81		
20	16QAM	100	0	18.04	18.01	17.85		
20	64QAM	1	0	18.09	18.06	18.01	19	0
20	64QAM	1	49	18.05	18.09	17.91		
20	64QAM	1	99	18.02	18.01	18.03		
20	64QAM	50	0	17.85	18.05	17.88	19	0
20	64QAM	50	24	17.99	18.04	17.86		
20	64QAM	50	50	17.87	17.93	17.86		
20	64QAM	100	0	17.99	17.92	17.87		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	17.93	18.00	17.89	19	0
15	QPSK	1	37	17.92	17.79	17.69		
15	QPSK	1	74	17.91	17.67	17.61		
15	QPSK	36	0	17.83	17.83	17.69	19	0
15	QPSK	36	20	17.82	17.80	17.66		
15	QPSK	36	39	17.82	17.76	17.60		
15	QPSK	75	0	17.81	17.82	17.65		
15	16QAM	1	0	17.96	17.91	17.94	19	0
15	16QAM	1	37	17.95	17.89	17.96		
15	16QAM	1	74	17.96	17.75	17.97		
15	16QAM	36	0	17.99	17.92	17.76	19	0
15	16QAM	36	20	17.92	17.93	17.74		
15	16QAM	36	39	17.93	17.87	17.71		
15	16QAM	75	0	17.94	17.91	17.75		
15	64QAM	1	0	17.99	17.96	17.91	19	0
15	64QAM	1	37	17.95	17.99	17.81		
15	64QAM	1	74	17.92	17.91	17.93		
15	64QAM	36	0	17.75	17.95	17.78	19	0
15	64QAM	36	20	17.89	17.94	17.76		
15	64QAM	36	39	17.77	17.83	17.76		
15	64QAM	75	0	17.89	17.82	17.77		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	17.83	17.95	17.77	19	0
10	QPSK	1	25	17.82	17.74	17.57		
10	QPSK	1	49	17.81	17.62	17.49		
10	QPSK	25	0	17.73	17.78	17.57	19	0
10	QPSK	25	12	17.72	17.75	17.54		

10	QPSK	25	25	17.72	17.71	17.48		
10	QPSK	50	0	17.71	17.77	17.53		
10	16QAM	1	0	17.86	17.86	17.82	19	0
10	16QAM	1	25	17.85	17.84	17.84		
10	16QAM	1	49	17.86	17.70	17.85		
10	16QAM	25	0	17.89	17.87	17.64	19	0
10	16QAM	25	12	17.82	17.88	17.62		
10	16QAM	25	25	17.83	17.82	17.59		
10	16QAM	50	0	17.84	17.86	17.63		
10	64QAM	1	0	17.89	17.91	17.79	19	0
10	64QAM	1	25	17.85	17.94	17.69		
10	64QAM	1	49	17.82	17.86	17.81		
10	64QAM	25	0	17.65	17.90	17.66	19	0
10	64QAM	25	12	17.79	17.89	17.64		
10	64QAM	25	25	17.67	17.78	17.64		
10	64QAM	50	0	17.79	17.77	17.65		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	17.94	17.91	17.75	19	0
5	QPSK	1	12	17.99	17.96	17.91		
5	QPSK	1	24	17.95	17.99	17.81		
5	QPSK	12	0	17.92	17.91	17.93	19	0
5	QPSK	12	7	17.75	17.95	17.78		
5	QPSK	12	13	17.89	17.94	17.76		
5	QPSK	25	0	17.77	17.83	17.76		
5	16QAM	1	0	17.89	17.82	17.77	19	0
5	16QAM	1	12	17.71	17.77	17.53		
5	16QAM	1	24	17.86	17.86	17.82		
5	16QAM	12	0	17.85	17.84	17.84	19	0
5	16QAM	12	7	17.86	17.70	17.85		
5	16QAM	12	13	17.89	17.87	17.64		
5	16QAM	25	0	17.82	17.88	17.62		
5	64QAM	1	0	17.99	17.92	17.76	19	0
5	64QAM	1	12	17.92	17.93	17.74		
5	64QAM	1	24	17.82	17.86	17.81		
5	64QAM	12	0	17.65	17.90	17.66	19	0
5	64QAM	12	7	17.79	17.89	17.64		
5	64QAM	12	13	17.67	17.78	17.64		
5	64QAM	25	0	17.79	17.77	17.65		

<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	15.09	15.06	15.13	17	0
20	QPSK	1	49	15.07	15.05	15.05		
20	QPSK	1	99	15.07	15.05	15.03		
20	QPSK	50	0	15.06	15.08	15.09	17	0
20	QPSK	50	24	15.04	15.03	15.02		
20	QPSK	50	50	15.04	15.01	15.01		
20	QPSK	100	0	15.05	15.03	15.08		
20	16QAM	1	0	15.12	15.12	15.11	17	0
20	16QAM	1	49	15.03	15.07	15.12		
20	16QAM	1	99	15.04	15.05	15.05		
20	16QAM	50	0	15.01	15.08	15.12	17	0
20	16QAM	50	24	15.00	15.09	15.10		
20	16QAM	50	50	15.04	15.05	15.02		
20	16QAM	100	0	15.07	15.02	15.07		
20	64QAM	1	0	15.06	15.12	15.10	17	0
20	64QAM	1	49	15.01	15.03	15.08		
20	64QAM	1	99	15.08	15.01	15.11		
20	64QAM	50	0	15.03	15.03	15.09	17	0
20	64QAM	50	24	15.09	15.04	15.05		
20	64QAM	50	50	15.07	15.02	15.09		
20	64QAM	100	0	15.02	15.05	15.03		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	15.07	15.03	15.11	17	0
15	QPSK	1	37	15.05	15.04	15.03		
15	QPSK	1	74	15.05	15.03	15.01		
15	QPSK	36	0	15.02	15.06	15.08	17	0
15	QPSK	36	20	15.04	15.01	15.00		
15	QPSK	36	39	15.02	15.09	15.07		
15	QPSK	75	0	15.06	15.01	15.01		
15	16QAM	1	0	15.10	15.10	15.09	17	0
15	16QAM	1	37	15.01	15.05	15.10		
15	16QAM	1	74	15.02	15.03	15.03		
15	16QAM	36	0	15.09	15.06	15.10	17	0
15	16QAM	36	20	15.08	15.07	15.08		
15	16QAM	36	39	15.02	15.03	15.00		
15	16QAM	75	0	15.05	15.00	15.05		
15	64QAM	1	0	15.04	15.10	15.08	17	0
15	64QAM	1	37	15.09	15.01	15.06		
15	64QAM	1	74	15.06	15.09	15.09		
15	64QAM	36	0	15.01	15.01	15.07	17	0
15	64QAM	36	20	15.07	15.02	15.03		
15	64QAM	36	39	15.05	15.00	15.07		
15	64QAM	75	0	15.00	15.03	15.01		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	15.04	15.01	15.08	17	0
10	QPSK	1	25	15.02	15.00	15.00		
10	QPSK	1	49	15.02	15.00	15.08		
10	QPSK	25	0	15.09	15.03	15.05	17	0
10	QPSK	25	12	15.00	15.08	15.07		

10	QPSK	25	25	15.09	15.03	15.06		
10	QPSK	50	0	15.00	15.08	15.08		
10	16QAM	1	0	15.07	15.07	15.06	17	0
10	16QAM	1	25	15.08	15.02	15.07		
10	16QAM	1	49	15.09	15.00	15.00		
10	16QAM	25	0	15.06	15.03	15.07	17	0
10	16QAM	25	12	15.05	15.04	15.05		
10	16QAM	25	25	15.09	15.00	15.07		
10	16QAM	50	0	15.02	15.07	15.02		
10	64QAM	1	0	15.01	15.07	15.05	17	0
10	64QAM	1	25	15.06	15.08	15.03		
10	64QAM	1	49	15.03	15.06	15.06		
10	64QAM	25	0	15.08	15.08	15.04	17	0
10	64QAM	25	12	15.04	15.09	15.00		
10	64QAM	25	25	15.02	15.07	15.04		
10	64QAM	50	0	15.07	15.00	15.08		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	15.05	15.02	15.09	17	0
5	QPSK	1	12	15.03	15.01	15.01		
5	QPSK	1	24	15.03	15.01	15.09		
5	QPSK	12	0	15.10	15.04	15.06	17	0
5	QPSK	12	7	15.00	15.09	15.08		
5	QPSK	12	13	15.10	15.04	15.07		
5	QPSK	25	0	15.01	15.09	15.09		
5	16QAM	1	0	15.08	15.08	15.07	17	0
5	16QAM	1	12	15.09	15.03	15.08		
5	16QAM	1	24	15.10	15.01	15.01		
5	16QAM	12	0	15.07	15.04	15.08	17	0
5	16QAM	12	7	15.06	15.05	15.06		
5	16QAM	12	13	15.10	15.01	15.08		
5	16QAM	25	0	15.03	15.08	15.03		
5	64QAM	1	0	15.02	15.08	15.06	17	0
5	64QAM	1	12	15.07	15.09	15.04		
5	64QAM	1	24	15.04	15.07	15.07		
5	64QAM	12	0	15.09	15.09	15.05	17	0
5	64QAM	12	7	15.05	15.10	15.01		
5	64QAM	12	13	15.03	15.08	15.05		
5	64QAM	25	0	15.08	15.01	15.09		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	15.06	15.03	15.10	17	0
3	QPSK	1	8	15.04	15.02	15.02		
3	QPSK	1	14	15.04	15.02	15.10		
3	QPSK	8	0	15.11	15.05	15.07	17	0
3	QPSK	8	4	15.01	15.10	15.09		
3	QPSK	8	7	15.11	15.05	15.08		
3	QPSK	15	0	15.02	15.10	15.10		
3	16QAM	1	0	15.09	15.09	15.08	17	0
3	16QAM	1	8	15.10	15.04	15.09		
3	16QAM	1	14	15.11	15.02	15.02		
3	16QAM	8	0	15.08	15.05	15.09	17	0
3	16QAM	8	4	15.07	15.06	15.07		
3	16QAM	8	7	15.11	15.02	15.09		
3	16QAM	15	0	15.04	15.09	15.04		
3	64QAM	1	0	15.03	15.09	15.07	17	0

3	64QAM	1	8	15.08	15.10	15.05		
3	64QAM	1	14	15.05	15.08	15.08		
3	64QAM	8	0	15.10	15.10	15.06	17	0
3	64QAM	8	4	15.06	15.11	15.02		
3	64QAM	8	7	15.04	15.09	15.06		
3	64QAM	15	0	15.09	15.02	15.10		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	15.04	15.01	15.08	17	0
1.4	QPSK	1	3	15.02	15.00	15.00		
1.4	QPSK	1	5	15.02	15.00	15.08		
1.4	QPSK	3	0	15.09	15.03	15.05		
1.4	QPSK	3	1	15.00	15.08	15.07		
1.4	QPSK	3	3	15.09	15.03	15.06		
1.4	QPSK	6	0	15.00	15.08	15.08	17	0
1.4	16QAM	1	0	15.07	15.07	15.06	17	0
1.4	16QAM	1	3	15.08	15.02	15.07		
1.4	16QAM	1	5	15.09	15.00	15.00		
1.4	16QAM	3	0	15.06	15.03	15.07		
1.4	16QAM	3	1	15.05	15.04	15.05		
1.4	16QAM	3	3	15.09	15.00	15.07		
1.4	16QAM	6	0	15.02	15.07	15.02	17	0
1.4	64QAM	1	0	15.01	15.07	15.05	17	0
1.4	64QAM	1	3	15.06	15.08	15.03		
1.4	64QAM	1	5	15.03	15.06	15.06		
1.4	64QAM	3	0	15.08	15.08	15.04		
1.4	64QAM	3	1	15.04	15.09	15.00		
1.4	64QAM	3	3	15.02	15.07	15.04		
1.4	64QAM	6	0	15.07	15.00	15.08	17	0

<Product Specific 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	20.00	20.04	20.02	21	0
20	QPSK	1	49	19.60	19.56	19.74		
20	QPSK	1	99	19.80	19.76	19.72		
20	QPSK	50	0	19.74	19.73	19.77	21	0
20	QPSK	50	24	19.69	19.69	19.70		
20	QPSK	50	50	19.72	19.62	19.73		
20	QPSK	100	0	19.79	19.80	19.67		
20	16QAM	1	0	19.98	19.93	19.92	21	0
20	16QAM	1	49	19.98	20.02	19.98		
20	16QAM	1	99	19.93	19.95	19.91		
20	16QAM	50	0	19.93	19.86	19.84	21	0
20	16QAM	50	24	19.82	19.80	19.92		
20	16QAM	50	50	19.88	19.79	19.88		
20	16QAM	100	0	19.90	19.82	19.79		
20	64QAM	1	0	19.96	19.94	19.98	21	0
20	64QAM	1	49	19.94	19.94	19.98		
20	64QAM	1	99	19.91	19.91	19.97		
20	64QAM	50	0	19.90	19.91	19.86	21	0
20	64QAM	50	24	19.84	19.87	19.91		
20	64QAM	50	50	19.90	19.82	19.89		
20	64QAM	100	0	19.97	19.84	19.81		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	19.99	19.97	19.98	21	0
15	QPSK	1	37	19.53	19.54	19.64		
15	QPSK	1	74	19.71	19.75	19.65		
15	QPSK	36	0	19.74	19.72	19.75	21	0
15	QPSK	36	20	19.61	19.61	19.67		
15	QPSK	36	39	19.72	19.54	19.69		
15	QPSK	75	0	19.74	19.75	19.57		
15	16QAM	1	0	19.94	19.93	19.92	21	0
15	16QAM	1	37	19.97	19.95	19.90		
15	16QAM	1	74	19.90	19.93	19.84		
15	16QAM	36	0	19.85	19.83	19.83	21	0
15	16QAM	36	20	19.75	19.74	19.91		
15	16QAM	36	39	19.82	19.70	19.80		
15	16QAM	75	0	19.84	19.82	19.76		
15	64QAM	1	0	19.96	19.85	19.91	21	0
15	64QAM	1	37	19.94	19.87	19.91		
15	64QAM	1	74	19.88	19.88	19.91		
15	64QAM	36	0	19.83	19.83	19.82	21	0
15	64QAM	36	20	19.84	19.87	19.88		
15	64QAM	36	39	19.85	19.72	19.89		
15	64QAM	75	0	19.95	19.81	19.78		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	19.98	19.95	19.96	21	0
10	QPSK	1	25	19.53	19.47	19.71		
10	QPSK	1	49	19.79	19.75	19.64		

10	QPSK	25	0	19.67	19.72	19.73	21	0
10	QPSK	25	12	19.67	19.66	19.63		
10	QPSK	25	25	19.64	19.53	19.63		
10	QPSK	50	0	19.73	19.73	19.57		
10	16QAM	1	0	19.93	19.91	19.86	21	0
10	16QAM	1	25	19.90	19.95	19.97		
10	16QAM	1	49	19.93	19.86	19.82		
10	16QAM	25	0	19.90	19.80	19.80	21	0
10	16QAM	25	12	19.77	19.72	19.83		
10	16QAM	25	25	19.80	19.74	19.81		
10	16QAM	50	0	19.88	19.81	19.74		
10	64QAM	1	0	19.92	19.94	19.88	21	0
10	64QAM	1	25	19.84	19.92	19.88		
10	64QAM	1	49	19.90	19.86	19.95		
10	64QAM	25	0	19.80	19.84	19.79	21	0
10	64QAM	25	12	19.81	19.80	19.84		
10	64QAM	25	25	19.86	19.77	19.80		
10	64QAM	50	0	19.90	19.77	19.78		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	19.93	20.00	19.96	21	0
5	QPSK	1	12	19.56	19.50	19.67		
5	QPSK	1	24	19.77	19.74	19.63		
5	QPSK	12	0	19.64	19.65	19.69	21	0
5	QPSK	12	7	19.65	19.65	19.63		
5	QPSK	12	13	19.65	19.54	19.65		
5	QPSK	25	0	19.69	19.75	19.58		
5	16QAM	1	0	19.91	19.92	19.88	21	0
5	16QAM	1	12	19.96	20.02	19.96		
5	16QAM	1	24	19.89	19.92	19.85		
5	16QAM	12	0	19.93	19.80	19.75	21	0
5	16QAM	12	7	19.75	19.72	19.89		
5	16QAM	12	13	19.80	19.72	19.87		
5	16QAM	25	0	19.81	19.79	19.75		
5	64QAM	1	0	19.96	19.88	19.89	21	0
5	64QAM	1	12	19.90	19.87	19.97		
5	64QAM	1	24	19.83	19.82	19.95		
5	64QAM	12	0	19.87	19.89	19.77	21	0
5	64QAM	12	7	19.82	19.79	19.81		
5	64QAM	12	13	19.86	19.80	19.88		
5	64QAM	25	0	19.89	19.74	19.76		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	19.95	20.03	20.01	21	0
3	QPSK	1	8	19.52	19.46	19.72		
3	QPSK	1	14	19.78	19.70	19.64		
3	QPSK	8	0	19.68	19.68	19.75	21	0
3	QPSK	8	4	19.65	19.66	19.60		
3	QPSK	8	7	19.64	19.56	19.69		
3	QPSK	15	0	19.73	19.71	19.63		
3	16QAM	1	0	19.91	19.85	19.86	21	0
3	16QAM	1	8	19.98	19.93	19.98		
3	16QAM	1	14	19.92	19.93	19.90		
3	16QAM	8	0	19.93	19.85	19.80	21	0
3	16QAM	8	4	19.81	19.71	19.85		
3	16QAM	8	7	19.79	19.69	19.84		

3	16QAM	15	0	19.86	19.77	19.78		
3	64QAM	1	0	19.94	19.91	19.98	21	0
3	64QAM	1	8	19.85	19.86	19.88		
3	64QAM	1	14	19.89	19.91	19.89		
3	64QAM	8	0	19.86	19.83	19.82	21	0
3	64QAM	8	4	19.81	19.83	19.87		
3	64QAM	8	7	19.83	19.82	19.88		
3	64QAM	15	0	19.96	19.74	19.78		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	19.94	20.02	20.02	21	0
1.4	QPSK	1	3	19.51	19.55	19.73		
1.4	QPSK	1	5	19.74	19.67	19.64		
1.4	QPSK	3	0	19.73	19.67	19.69		
1.4	QPSK	3	1	19.61	19.63	19.60		
1.4	QPSK	3	3	19.69	19.59	19.68		
1.4	QPSK	6	0	19.79	19.71	19.67	21	0
1.4	16QAM	1	0	19.89	19.84	19.82	21	0
1.4	16QAM	1	3	19.96	19.96	19.91		
1.4	16QAM	1	5	19.90	19.92	19.85		
1.4	16QAM	3	0	19.90	19.83	19.74		
1.4	16QAM	3	1	19.75	19.76	19.87		
1.4	16QAM	3	3	19.78	19.77	19.80		
1.4	16QAM	6	0	19.80	19.81	19.69	21	0
1.4	64QAM	1	0	19.93	19.87	19.92	21	0
1.4	64QAM	1	3	19.84	19.84	19.97		
1.4	64QAM	1	5	19.91	19.90	19.95		
1.4	64QAM	3	0	19.86	19.91	19.83		
1.4	64QAM	3	1	19.76	19.81	19.87		
1.4	64QAM	3	3	19.88	19.73	19.83		
1.4	64QAM	6	0	19.88	19.78	19.78	21	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	20.50	20.49	20.40	20.5	0
20	QPSK	1	49	20.29	20.18	20.23		
20	QPSK	1	99	20.20	20.14	20.19		
20	QPSK	50	0	20.43	20.30	20.27	20.5	0
20	QPSK	50	24	20.36	20.22	20.17		
20	QPSK	50	50	20.23	20.15	20.21		
20	QPSK	100	0	20.39	20.26	20.21		
20	16QAM	1	0	20.45	20.48	20.43	20.5	0
20	16QAM	1	49	20.49	20.44	20.47		
20	16QAM	1	99	20.41	20.49	20.42		
20	16QAM	50	0	20.48	20.40	20.35	20.5	0
20	16QAM	50	24	20.48	20.32	20.26		
20	16QAM	50	50	20.35	20.25	20.34		
20	16QAM	100	0	20.42	20.35	20.27		
20	64QAM	1	0	20.40	20.47	20.43	20.5	0
20	64QAM	1	49	20.48	20.44	20.45		
20	64QAM	1	99	20.49	20.41	20.45		
20	64QAM	50	0	19.86	19.70	19.66	20.5	0
20	64QAM	50	24	19.81	19.66	19.61		
20	64QAM	50	50	19.66	19.58	19.64		
20	64QAM	100	0	19.80	19.62	19.60		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	20.48	20.49	20.30	20.5	0
15	QPSK	1	37	20.25	20.14	20.19		
15	QPSK	1	74	20.15	20.11	20.19		
15	QPSK	36	0	20.35	20.27	20.27	20.5	0
15	QPSK	36	20	20.28	20.20	20.10		
15	QPSK	36	39	20.17	20.07	20.16		
15	QPSK	75	0	20.35	20.18	20.19		
15	16QAM	1	0	20.39	20.46	20.38	20.5	0
15	16QAM	1	37	20.45	20.42	20.45		
15	16QAM	1	74	20.38	20.41	20.38		
15	16QAM	36	0	20.40	20.39	20.32	20.5	0
15	16QAM	36	20	20.48	20.24	20.17		
15	16QAM	36	39	20.31	20.22	20.27		
15	16QAM	75	0	20.40	20.35	20.19		
15	64QAM	1	0	20.30	20.46	20.38	20.5	0
15	64QAM	1	37	20.46	20.37	20.45		
15	64QAM	1	74	20.42	20.38	20.43		
15	64QAM	36	0	19.81	19.64	19.57	20.5	0
15	64QAM	36	20	19.75	19.56	19.51		
15	64QAM	36	39	19.58	19.52	19.60		
15	64QAM	75	0	19.77	19.57	19.58		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	20.49	20.41	20.30	20.5	0
10	QPSK	1	25	20.29	20.17	20.23		
10	QPSK	1	49	20.11	20.10	20.17		
10	QPSK	25	0	20.34	20.29	20.20	20.5	0
10	QPSK	25	12	20.34	20.16	20.16		

10	QPSK	25	25	20.18	20.10	20.15		
10	QPSK	50	0	20.36	20.21	20.18		
10	16QAM	1	0	20.36	20.46	20.41	20.5	0
10	16QAM	1	25	20.41	20.44	20.40		
10	16QAM	1	49	20.32	20.42	20.39		
10	16QAM	25	0	20.43	20.38	20.28	20.5	0
10	16QAM	25	12	20.41	20.23	20.17		
10	16QAM	25	25	20.34	20.23	20.24		
10	16QAM	50	0	20.32	20.25	20.18		
10	64QAM	1	0	20.40	20.37	20.37	20.5	0
10	64QAM	1	25	20.44	20.35	20.37		
10	64QAM	1	49	20.41	20.31	20.43		
10	64QAM	25	0	19.78	19.61	19.65	20.5	0
10	64QAM	25	12	19.75	19.57	19.61		
10	64QAM	25	25	19.66	19.54	19.62		
10	64QAM	50	0	19.70	19.56	19.52		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	20.43	20.47	20.34	20.5	0
5	QPSK	1	12	20.25	20.16	20.23		
5	QPSK	1	24	20.11	20.05	20.14		
5	QPSK	12	0	20.35	20.27	20.22	20.5	0
5	QPSK	12	7	20.29	20.22	20.07		
5	QPSK	12	13	20.22	20.07	20.13		
5	QPSK	25	0	20.36	20.22	20.19		
5	16QAM	1	0	20.39	20.43	20.35	20.5	0
5	16QAM	1	12	20.41	20.34	20.37		
5	16QAM	1	24	20.36	20.44	20.32		
5	16QAM	12	0	20.43	20.32	20.35	20.5	0
5	16QAM	12	7	20.42	20.28	20.21		
5	16QAM	12	13	20.25	20.16	20.31		
5	16QAM	25	0	20.38	20.31	20.17		
5	64QAM	1	0	20.32	20.38	20.38	20.5	0
5	64QAM	1	12	20.39	20.37	20.37		
5	64QAM	1	24	20.39	20.38	20.37		
5	64QAM	12	0	19.76	19.63	19.64	20.5	0
5	64QAM	12	7	19.75	19.63	19.59		
5	64QAM	12	13	19.59	19.57	19.56		
5	64QAM	25	0	19.71	19.57	19.54		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	20.49	20.46	20.37	20.5	0
3	QPSK	1	8	20.19	20.13	20.18		
3	QPSK	1	14	20.12	20.12	20.17		
3	QPSK	8	0	20.36	20.28	20.21	20.5	0
3	QPSK	8	4	20.31	20.22	20.11		
3	QPSK	8	7	20.18	20.08	20.18		
3	QPSK	15	0	20.31	20.21	20.15		
3	16QAM	1	0	20.43	20.40	20.42	20.5	0
3	16QAM	1	8	20.41	20.39	20.44		
3	16QAM	1	14	20.41	20.40	20.36		
3	16QAM	8	0	20.38	20.32	20.34	20.5	0
3	16QAM	8	4	20.41	20.26	20.23		
3	16QAM	8	7	20.28	20.22	20.27		
3	16QAM	15	0	20.37	20.30	20.25		
3	64QAM	1	0	20.37	20.44	20.34	20.5	0

3	64QAM	1	8	20.38	20.41	20.40		
3	64QAM	1	14	20.44	20.33	20.41		
3	64QAM	8	0	19.82	19.68	19.59	20.5	0
3	64QAM	8	4	19.77	19.66	19.60		
3	64QAM	8	7	19.65	19.51	19.57		
3	64QAM	15	0	19.71	19.59	19.57		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	20.49	20.48	20.33	20.5	0
1.4	QPSK	1	3	20.29	20.09	20.16		
1.4	QPSK	1	5	20.18	20.08	20.17		
1.4	QPSK	3	0	20.39	20.20	20.22		
1.4	QPSK	3	1	20.36	20.17	20.15		
1.4	QPSK	3	3	20.17	20.10	20.16		
1.4	QPSK	6	0	20.29	20.19	20.13	20.5	0
1.4	16QAM	1	0	20.35	20.44	20.39	20.5	0
1.4	16QAM	1	3	20.46	20.44	20.43		
1.4	16QAM	1	5	20.38	20.42	20.35		
1.4	16QAM	3	0	20.48	20.34	20.25		
1.4	16QAM	3	1	20.40	20.26	20.19		
1.4	16QAM	3	3	20.29	20.21	20.24		
1.4	16QAM	6	0	20.40	20.31	20.18	20.5	0
1.4	64QAM	1	0	20.34	20.44	20.34	20.5	0
1.4	64QAM	1	3	20.47	20.39	20.37		
1.4	64QAM	1	5	20.41	20.31	20.38		
1.4	64QAM	3	0	19.78	19.66	19.56		
1.4	64QAM	3	1	19.75	19.56	19.57		
1.4	64QAM	3	3	19.57	19.56	19.60		
1.4	64QAM	6	0	19.76	19.61	19.54	20.5	0

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	18.89	19.10	18.88	19.5	0
20	QPSK	1	49	18.64	18.74	18.60		
20	QPSK	1	99	18.66	18.67	18.62		
20	QPSK	50	0	18.67	18.72	18.55	19.5	0
20	QPSK	50	24	18.62	18.59	18.51		
20	QPSK	50	50	18.59	18.71	18.49		
20	QPSK	100	0	18.47	18.60	18.41		
20	16QAM	1	0	19.06	19.09	18.74	19.5	0
20	16QAM	1	49	18.89	19.08	18.77		
20	16QAM	1	99	18.96	19.00	18.77		
20	16QAM	50	0	18.58	18.66	18.54	19.5	0
20	16QAM	50	24	18.75	18.82	18.48		
20	16QAM	50	50	18.65	18.68	18.57		
20	16QAM	100	0	18.46	18.68	18.31		
20	64QAM	1	0	18.98	18.90	18.72	19.5	0
20	64QAM	1	49	18.97	18.91	18.68		
20	64QAM	1	99	18.86	18.96	18.64		
20	64QAM	50	0	18.65	18.78	18.48	19.5	0
20	64QAM	50	24	18.63	18.78	18.45		
20	64QAM	50	50	18.70	18.71	18.60		
20	64QAM	100	0	18.55	18.68	18.34		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	18.65	18.83	18.65	19.5	0
15	QPSK	1	37	18.64	18.78	18.56		
15	QPSK	1	74	18.77	18.68	18.58		
15	QPSK	36	0	18.71	18.73	18.45	19.5	0
15	QPSK	36	20	18.53	18.75	18.39		
15	QPSK	36	39	18.59	18.74	18.37		
15	QPSK	75	0	18.61	18.63	18.39		
15	16QAM	1	0	18.90	18.92	18.77	19.5	0
15	16QAM	1	37	18.92	18.99	18.74		
15	16QAM	1	74	18.98	19.01	18.77		
15	16QAM	36	0	18.78	18.67	18.59	19.5	0
15	16QAM	36	20	18.65	18.75	18.43		
15	16QAM	36	39	18.66	18.74	18.60		
15	16QAM	75	0	18.55	18.67	18.44		
15	64QAM	1	0	18.88	18.91	18.67	19.5	0
15	64QAM	1	37	18.88	19.02	18.65		
15	64QAM	1	74	18.87	18.85	18.68		
15	64QAM	36	0	18.61	18.72	18.57	19.5	0
15	64QAM	36	20	18.59	18.80	18.54		
15	64QAM	36	39	18.70	18.67	18.44		
15	64QAM	75	0	18.52	18.53	18.45		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	18.66	18.77	18.71	19.5	0
10	QPSK	1	25	18.84	18.75	18.66		
10	QPSK	1	49	18.69	18.70	18.68		
10	QPSK	25	0	18.62	18.74	18.43	19.5	0
10	QPSK	25	12	18.69	18.56	18.41		

10	QPSK	25	25	18.54	18.70	18.40		
10	QPSK	50	0	18.48	18.58	18.45		
10	16QAM	1	0	18.91	18.91	18.80	19.5	0
10	16QAM	1	25	18.88	18.95	18.82		
10	16QAM	1	49	18.97	18.99	18.73		
10	16QAM	25	0	18.63	18.70	18.48	19.5	0
10	16QAM	25	12	18.73	18.72	18.56		
10	16QAM	25	25	18.65	18.79	18.45		
10	16QAM	50	0	18.46	18.59	18.31		
10	64QAM	1	0	18.98	19.00	18.68	19.5	0
10	64QAM	1	25	18.88	18.96	18.65		
10	64QAM	1	49	18.88	19.04	18.79		
10	64QAM	25	0	18.69	18.68	18.50	19.5	0
10	64QAM	25	12	18.75	18.61	18.42		
10	64QAM	25	25	18.67	18.77	18.52		
10	64QAM	50	0	18.48	18.58	18.39		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	18.78	18.83	18.57	19.5	0
5	QPSK	1	12	18.79	18.74	18.66		
5	QPSK	1	24	18.65	18.70	18.67		
5	QPSK	12	0	18.62	18.58	18.38	19.5	0
5	QPSK	12	7	18.55	18.58	18.42		
5	QPSK	12	13	18.54	18.56	18.44		
5	QPSK	25	0	18.42	18.49	18.44		
5	16QAM	1	0	18.91	18.93	18.91	19.5	0
5	16QAM	1	12	18.94	19.04	18.81		
5	16QAM	1	24	19.02	19.03	18.83		
5	16QAM	12	0	18.78	18.65	18.51	19.5	0
5	16QAM	12	7	18.78	18.80	18.58		
5	16QAM	12	13	18.69	18.71	18.51		
5	16QAM	25	0	18.60	18.54	18.48		
5	64QAM	1	0	19.02	18.99	18.72	19.5	0
5	64QAM	1	12	19.02	18.98	18.65		
5	64QAM	1	24	18.83	18.86	18.75		
5	64QAM	12	0	18.68	18.78	18.62	19.5	0
5	64QAM	12	7	18.78	18.69	18.43		
5	64QAM	12	13	18.67	18.69	18.54		
5	64QAM	25	0	18.65	18.54	18.38		

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	19.74	19.63	19.87	20.5	0
20	QPSK	1	49	19.44	19.31	19.52		
20	QPSK	1	99	19.40	19.28	19.47		
20	QPSK	50	0	19.60	19.47	19.64	20.5	0
20	QPSK	50	24	19.53	19.39	19.58		
20	QPSK	50	50	19.47	19.33	19.53		
20	QPSK	100	0	19.53	19.43	19.66		
20	16QAM	1	0	19.84	19.86	19.84	20.5	0
20	16QAM	1	49	19.78	19.80	19.86		
20	16QAM	1	99	19.86	19.68	19.78		
20	16QAM	50	0	19.71	19.61	19.79	20.5	0
20	16QAM	50	24	19.63	19.51	19.72		
20	16QAM	50	50	19.59	19.49	19.67		
20	16QAM	100	0	19.63	19.54	19.71		
20	64QAM	1	0	19.85	19.82	19.86	20.5	0
20	64QAM	1	49	19.72	19.61	19.77		
20	64QAM	1	99	19.73	19.56	19.82		
20	64QAM	50	0	19.69	19.62	19.81	20.5	0
20	64QAM	50	24	19.63	19.55	19.74		
20	64QAM	50	50	19.59	19.47	19.68		
20	64QAM	100	0	19.65	19.55	19.74		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	19.67	19.62	19.85	20.5	0
15	QPSK	1	37	19.35	19.27	19.47		
15	QPSK	1	74	19.33	19.18	19.41		
15	QPSK	36	0	19.51	19.40	19.61	20.5	0
15	QPSK	36	20	19.51	19.30	19.48		
15	QPSK	36	39	19.44	19.23	19.50		
15	QPSK	75	0	19.52	19.33	19.66		
15	16QAM	1	0	19.76	19.81	19.78	20.5	0
15	16QAM	1	37	19.69	19.75	19.80		
15	16QAM	1	74	19.81	19.68	19.74		
15	16QAM	36	0	19.64	19.51	19.73	20.5	0
15	16QAM	36	20	19.54	19.46	19.64		
15	16QAM	36	39	19.55	19.48	19.67		
15	16QAM	75	0	19.60	19.52	19.64		
15	64QAM	1	0	19.80	19.79	19.82	20.5	0
15	64QAM	1	37	19.72	19.53	19.75		
15	64QAM	1	74	19.65	19.49	19.80		
15	64QAM	36	0	19.69	19.58	19.77	20.5	0
15	64QAM	36	20	19.57	19.55	19.66		
15	64QAM	36	39	19.56	19.41	19.66		
15	64QAM	75	0	19.59	19.52	19.69		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	19.70	19.63	19.85	20.5	0
10	QPSK	1	25	19.41	19.28	19.43		
10	QPSK	1	49	19.31	19.22	19.40		
10	QPSK	25	0	19.51	19.39	19.58	20.5	0
10	QPSK	25	12	19.52	19.32	19.49		

10	QPSK	25	25	19.41	19.25	19.49		
10	QPSK	50	0	19.47	19.42	19.58		
10	16QAM	1	0	19.75	19.80	19.82	20.5	0
10	16QAM	1	25	19.71	19.78	19.86		
10	16QAM	1	49	19.78	19.63	19.70		
10	16QAM	25	0	19.71	19.53	19.72	20.5	0
10	16QAM	25	12	19.58	19.51	19.68		
10	16QAM	25	25	19.55	19.43	19.63		
10	16QAM	50	0	19.59	19.47	19.70		
10	64QAM	1	0	19.79	19.72	19.79	20.5	0
10	64QAM	1	25	19.69	19.61	19.67		
10	64QAM	1	49	19.67	19.49	19.74		
10	64QAM	25	0	19.59	19.60	19.73	20.5	0
10	64QAM	25	12	19.56	19.50	19.65		
10	64QAM	25	25	19.55	19.43	19.67		
10	64QAM	50	0	19.55	19.51	19.69		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	19.72	19.55	19.85	20.5	0
5	QPSK	1	12	19.42	19.30	19.49		
5	QPSK	1	24	19.36	19.28	19.42		
5	QPSK	12	0	19.50	19.45	19.57	20.5	0
5	QPSK	12	7	19.45	19.31	19.54		
5	QPSK	12	13	19.40	19.33	19.51		
5	QPSK	25	0	19.51	19.33	19.60		
5	16QAM	1	0	19.83	19.83	19.83	20.5	0
5	16QAM	1	12	19.75	19.77	19.82		
5	16QAM	1	24	19.85	19.65	19.78		
5	16QAM	12	0	19.67	19.55	19.75	20.5	0
5	16QAM	12	7	19.63	19.49	19.64		
5	16QAM	12	13	19.55	19.46	19.60		
5	16QAM	25	0	19.59	19.51	19.71		
5	64QAM	1	0	19.83	19.82	19.86	20.5	0
5	64QAM	1	12	19.65	19.58	19.72		
5	64QAM	1	24	19.64	19.46	19.80		
5	64QAM	12	0	19.62	19.60	19.81	20.5	0
5	64QAM	12	7	19.55	19.52	19.70		
5	64QAM	12	13	19.51	19.45	19.61		
5	64QAM	25	0	19.57	19.51	19.69		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	19.68	19.55	19.82	20.5	0
3	QPSK	1	8	19.41	19.21	19.47		
3	QPSK	1	14	19.34	19.22	19.46		
3	QPSK	8	0	19.59	19.37	19.62	20.5	0
3	QPSK	8	4	19.53	19.36	19.48		
3	QPSK	8	7	19.38	19.23	19.44		
3	QPSK	15	0	19.49	19.41	19.57		
3	16QAM	1	0	19.79	19.86	19.81	20.5	0
3	16QAM	1	8	19.70	19.70	19.84		
3	16QAM	1	14	19.84	19.66	19.69		
3	16QAM	8	0	19.67	19.53	19.77	20.5	0
3	16QAM	8	4	19.57	19.47	19.67		
3	16QAM	8	7	19.57	19.40	19.67		
3	16QAM	15	0	19.55	19.52	19.63		
3	64QAM	1	0	19.78	19.78	19.77	20.5	0

3	64QAM	1	8	19.65	19.55	19.67		
3	64QAM	1	14	19.70	19.47	19.73		
3	64QAM	8	0	19.69	19.55	19.72	20.5	0
3	64QAM	8	4	19.54	19.52	19.69		
3	64QAM	8	7	19.57	19.42	19.62		
3	64QAM	15	0	19.62	19.50	19.72		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	19.72	19.57	19.85	20.5	0
1.4	QPSK	1	3	19.41	19.27	19.43		
1.4	QPSK	1	5	19.40	19.22	19.45		
1.4	QPSK	3	0	19.53	19.42	19.64		
1.4	QPSK	3	1	19.46	19.39	19.58		
1.4	QPSK	3	3	19.40	19.30	19.48		
1.4	QPSK	6	0	19.44	19.41	19.62	20.5	0
1.4	16QAM	1	0	19.84	19.86	19.74	20.5	0
1.4	16QAM	1	3	19.76	19.70	19.86		
1.4	16QAM	1	5	19.79	19.60	19.71		
1.4	16QAM	3	0	19.69	19.56	19.71		
1.4	16QAM	3	1	19.63	19.51	19.65		
1.4	16QAM	3	3	19.54	19.44	19.63		
1.4	16QAM	6	0	19.54	19.53	19.66	20.5	0
1.4	64QAM	1	0	19.85	19.72	19.77	20.5	0
1.4	64QAM	1	3	19.71	19.59	19.69		
1.4	64QAM	1	5	19.71	19.50	19.74		
1.4	64QAM	3	0	19.66	19.55	19.81		
1.4	64QAM	3	1	19.63	19.54	19.74		
1.4	64QAM	3	3	19.53	19.45	19.58		
1.4	64QAM	6	0	19.58	19.47	19.71	20.5	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.

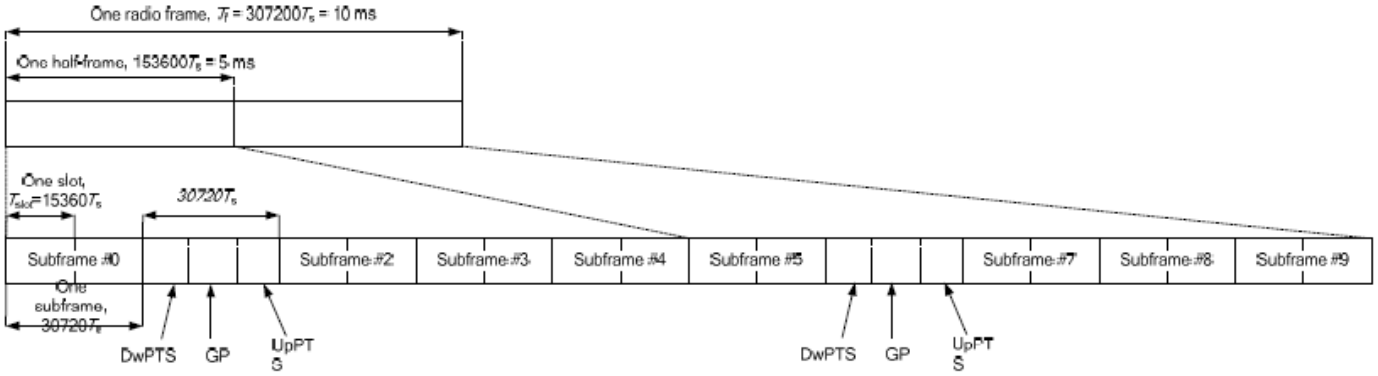


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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	23.08	23.12	22.89	24	0
20	QPSK	1	49	22.95	23.00	22.92		
20	QPSK	1	99	22.99	23.05	22.98		
20	QPSK	50	0	22.00	22.03	21.87	23	1
20	QPSK	50	24	22.03	22.00	21.90		
20	QPSK	50	50	22.06	21.95	21.93		
20	QPSK	100	0	22.01	22.03	21.83		
20	16QAM	1	0	22.22	22.20	22.10	23	1
20	16QAM	1	49	22.16	22.18	22.09		
20	16QAM	1	99	22.22	22.20	22.06		
20	16QAM	50	0	21.10	21.10	20.97	22	2
20	16QAM	50	24	21.15	21.15	21.12		
20	16QAM	50	50	21.16	21.13	21.08		
20	16QAM	100	0	21.11	21.10	20.94		
20	64QAM	1	0	21.00	21.02	20.84	22	2
20	64QAM	1	49	20.87	20.87	20.81		
20	64QAM	1	99	20.89	20.92	20.81		
20	64QAM	50	0	20.12	20.21	20.00	21	3
20	64QAM	50	24	20.09	20.10	20.10		
20	64QAM	50	50	20.22	20.07	20.05		
20	64QAM	100	0	20.21	20.15	20.05		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	23.05	23.05	23.01	24	0
15	QPSK	1	37	23.01	23.09	22.85		
15	QPSK	1	74	23.01	22.95	22.97		
15	QPSK	36	0	21.98	21.98	21.98	23	1
15	QPSK	36	20	22.08	22.06	21.91		
15	QPSK	36	39	21.96	22.00	21.94		
15	QPSK	75	0	22.01	22.01	21.89		
15	16QAM	1	0	22.14	22.28	22.17	23	1
15	16QAM	1	37	22.20	22.14	22.07		
15	16QAM	1	74	22.19	22.16	22.16		
15	16QAM	36	0	21.12	21.13	21.10	22	2
15	16QAM	36	20	21.12	21.12	21.03		
15	16QAM	36	39	21.09	21.08	21.02		
15	16QAM	75	0	21.15	21.16	21.05		
15	64QAM	1	0	21.03	21.03	20.93	22	2
15	64QAM	1	37	20.97	20.96	20.85		
15	64QAM	1	74	20.90	20.95	20.82		
15	64QAM	36	0	20.17	20.08	20.12	21	3
15	64QAM	36	20	20.12	20.13	20.19		
15	64QAM	36	39	20.18	20.17	20.04		
15	64QAM	75	0	20.11	20.15	20.13		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	23.00	23.05	22.81	24	0
10	QPSK	1	25	22.98	22.98	22.85		
10	QPSK	1	49	23.03	23.00	22.73		

10	QPSK	25	0	22.05	22.05	21.80	23	1
10	QPSK	25	12	22.01	22.08	21.82		
10	QPSK	25	25	22.04	22.02	21.78		
10	QPSK	50	0	22.07	21.97	21.84		
10	16QAM	1	0	22.19	22.12	22.02	23	1
10	16QAM	1	25	22.21	22.15	21.94		
10	16QAM	1	49	22.14	22.12	21.97		
10	16QAM	25	0	21.11	21.13	20.99	22	2
10	16QAM	25	12	21.16	21.10	20.96		
10	16QAM	25	25	21.18	21.15	20.97		
10	16QAM	50	0	21.09	21.14	21.04		
10	64QAM	1	0	20.92	20.94	20.76	22	2
10	64QAM	1	25	20.94	20.90	20.82		
10	64QAM	1	49	20.90	20.88	20.79		
10	64QAM	25	0	20.18	20.19	20.03	21	3
10	64QAM	25	12	20.23	20.18	20.06		
10	64QAM	25	25	20.22	20.16	19.98		
10	64QAM	50	0	20.08	20.12	19.92		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	22.97	22.93	22.82	24	0
5	QPSK	1	12	23.01	23.02	22.86		
5	QPSK	1	24	22.85	22.85	22.80		
5	QPSK	12	0	22.01	21.99	21.82	23	1
5	QPSK	12	7	22.02	22.04	21.90		
5	QPSK	12	13	21.94	21.93	21.84		
5	QPSK	25	0	21.96	21.98	21.80		
5	16QAM	1	0	22.06	22.09	21.97	23	1
5	16QAM	1	12	22.14	22.05	22.01		
5	16QAM	1	24	22.07	22.15	22.02		
5	16QAM	12	0	21.02	21.05	20.96	22	2
5	16QAM	12	7	21.05	21.10	21.00		
5	16QAM	12	13	21.06	21.03	20.94		
5	16QAM	25	0	21.15	21.07	20.93		
5	64QAM	1	0	20.87	20.92	20.74	22	2
5	64QAM	1	12	20.89	20.92	20.75		
5	64QAM	1	24	20.87	20.87	20.78		
5	64QAM	12	0	20.09	20.11	19.98	21	3
5	64QAM	12	7	20.20	20.15	19.98		
5	64QAM	12	13	20.06	20.06	19.98		
5	64QAM	25	0	20.09	20.13	20.05		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Low Ch. / Freq.	Power Middle High Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				40140	40400	40670	41140		
Frequency (MHz)				2545	2571	2598	2645		
20	QPSK	1	0	22.49	22.71	22.91	22.46	24	0
20	QPSK	1	49	22.45	22.54	22.66	22.82		
20	QPSK	1	99	22.46	22.54	22.67	22.53		
20	QPSK	50	0	21.52	21.64	21.87	21.76	23	1
20	QPSK	50	24	21.54	21.64	21.71	21.78		
20	QPSK	50	50	21.46	21.51	21.75	21.86		
20	QPSK	100	0	21.53	21.63	21.79	21.78		
20	16QAM	1	0	21.76	21.88	21.91	21.44	23	1
20	16QAM	1	49	21.69	21.73	21.92	21.96		
20	16QAM	1	99	21.64	21.73	21.95	21.65		
20	16QAM	50	0	20.65	20.72	20.80	20.90	22	2
20	16QAM	50	24	20.60	20.69	20.73	20.95		
20	16QAM	50	50	20.57	20.69	20.86	21.04		
20	16QAM	100	0	20.68	20.69	20.80	20.88		
20	64QAM	1	0	20.49	20.59	20.71	20.43	22	2
20	64QAM	1	49	20.46	20.47	20.64	20.74		
20	64QAM	1	99	20.40	20.47	20.65	20.42		
20	64QAM	50	0	19.63	19.72	19.78	19.95	21	3
20	64QAM	50	24	19.68	19.69	19.84	19.86		
20	64QAM	50	50	19.68	19.70	19.81	19.99		
20	64QAM	100	0	19.64	19.74	19.77	19.89		
Channel				40115	40395	40685	41165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2542.5	2570.5	2599.5	2647.5		
15	QPSK	1	0	22.57	22.67	22.71	22.46	24	0
15	QPSK	1	37	22.52	22.55	22.73	22.80		
15	QPSK	1	74	22.50	22.53	22.75	22.65		
15	QPSK	36	0	21.53	21.61	21.74	21.82	23	1
15	QPSK	36	20	21.49	21.61	21.78	21.87		
15	QPSK	36	39	21.50	21.56	21.70	21.82		
15	QPSK	75	0	21.56	21.59	21.65	21.69		
15	16QAM	1	0	21.80	21.88	21.82	21.51	23	1
15	16QAM	1	37	21.63	21.74	21.94	22.03		
15	16QAM	1	74	21.66	21.71	21.88	21.83		
15	16QAM	36	0	20.55	20.71	20.83	20.90	22	2
15	16QAM	36	20	20.60	20.69	20.87	21.06		
15	16QAM	36	39	20.56	20.59	20.86	20.99		
15	16QAM	75	0	20.73	20.66	20.81	20.87		
15	64QAM	1	0	20.44	20.65	20.59	20.50	22	2
15	64QAM	1	37	20.49	20.46	20.71	20.83		
15	64QAM	1	74	20.51	20.51	20.56	20.49		
15	64QAM	36	0	19.73	19.66	19.85	19.89	21	3
15	64QAM	36	20	19.61	19.71	19.90	20.09		
15	64QAM	36	39	19.59	19.61	19.91	19.97		
15	64QAM	75	0	19.63	19.70	19.80	19.89		
Channel				40090	40390	40690	41190	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2540	2570	2600	2650		
10	QPSK	1	0	22.51	22.62	22.72	22.88	24	0
10	QPSK	1	25	22.50	22.57	22.67	22.84		
10	QPSK	1	49	22.50	22.51	22.68	22.77		
10	QPSK	25	0	21.52	21.51	21.76	21.87	23	1

10	QPSK	25	12	21.58	21.61	21.67	21.94		
10	QPSK	25	25	21.55	21.45	21.65	21.89		
10	QPSK	50	0	21.56	21.58	21.66	21.84		
10	16QAM	1	0	21.74	21.74	21.96	21.94	23	1
10	16QAM	1	25	21.67	21.76	21.83	22.06		
10	16QAM	1	49	21.59	21.66	21.91	22.01		
10	16QAM	25	0	20.64	20.68	20.91	20.98	22	2
10	16QAM	25	12	20.71	20.76	20.96	21.04		
10	16QAM	25	25	20.66	20.62	20.89	20.95		
10	16QAM	50	0	20.63	20.73	20.92	20.99		
10	64QAM	1	0	20.51	20.49	20.68	20.58	22	2
10	64QAM	1	25	20.48	20.53	20.67	20.77		
10	64QAM	1	49	20.43	20.42	20.58	20.70		
10	64QAM	25	0	19.68	19.74	19.92	20.06	21	3
10	64QAM	25	12	19.68	19.78	19.90	20.10		
10	64QAM	25	25	19.65	19.67	19.94	20.11		
10	64QAM	50	0	19.70	19.69	19.85	19.97		
Channel				40065	40385	40705	41215	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2537.5	2569.5	2601.5	2652.5		
5	QPSK	1	0	22.46	22.54	22.67	22.79	24	0
5	QPSK	1	12	22.59	22.50	22.63	22.87		
5	QPSK	1	24	22.51	22.52	22.63	22.82		
5	QPSK	12	0	21.50	21.55	21.74	21.81	23	1
5	QPSK	12	7	21.51	21.64	21.70	21.90		
5	QPSK	12	13	21.50	21.57	21.71	21.89		
5	QPSK	25	0	21.55	21.52	21.70	21.80		
5	16QAM	1	0	21.67	21.71	21.84	22.04	23	1
5	16QAM	1	12	21.72	21.70	21.86	22.05		
5	16QAM	1	24	21.69	21.72	21.81	21.98		
5	16QAM	12	0	20.63	20.65	20.79	20.98	22	2
5	16QAM	12	7	20.69	20.63	20.79	20.95		
5	16QAM	12	13	20.59	20.62	20.76	20.93		
5	16QAM	25	0	20.69	20.67	20.78	21.06		
5	64QAM	1	0	20.56	20.48	20.62	20.71	22	2
5	64QAM	1	12	20.51	20.44	20.56	20.74		
5	64QAM	1	24	20.55	20.60	20.61	20.73		
5	64QAM	12	0	19.62	19.72	19.89	20.03	21	3
5	64QAM	12	7	19.70	19.71	19.93	20.04		
5	64QAM	12	13	19.69	19.67	19.85	20.05		
5	64QAM	25	0	19.71	19.72	19.83	20.09		

<Near-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	17.65	17.74	17.54	19	0
20	QPSK	1	49	17.52	17.50	17.44		
20	QPSK	1	99	17.55	17.41	17.41		
20	QPSK	50	0	17.43	17.40	17.32	19	0
20	QPSK	50	24	17.35	17.43	17.36		
20	QPSK	50	50	17.32	17.32	17.29		
20	QPSK	100	0	17.39	17.27	17.24		
20	16QAM	1	0	17.54	17.50	17.49	19	0
20	16QAM	1	49	17.38	17.47	17.47		
20	16QAM	1	99	17.46	17.34	17.39		
20	16QAM	50	0	16.53	16.55	16.45	18	1
20	16QAM	50	24	16.46	16.44	16.57		
20	16QAM	50	50	16.44	16.44	16.48		
20	16QAM	100	0	16.49	16.39	16.42		
20	64QAM	1	0	16.30	16.20	16.08	18	1
20	64QAM	1	49	16.23	16.15	16.27		
20	64QAM	1	99	16.03	16.02	16.01		
20	64QAM	50	0	15.53	15.55	15.51	17	2
20	64QAM	50	24	15.55	15.45	15.49		
20	64QAM	50	50	15.43	15.41	15.39		
20	64QAM	100	0	15.48	15.47	15.35		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	17.68	17.73	17.62	19	0
15	QPSK	1	37	17.45	17.40	17.51		
15	QPSK	1	74	17.54	17.39	17.44		
15	QPSK	36	0	17.41	17.45	17.27	19	0
15	QPSK	36	20	17.36	17.44	17.27		
15	QPSK	36	39	17.35	17.33	17.27		
15	QPSK	75	0	17.37	17.24	17.25		
15	16QAM	1	0	17.49	17.41	17.43	19	0
15	16QAM	1	37	17.28	17.45	17.38		
15	16QAM	1	74	17.37	17.36	17.44		
15	16QAM	36	0	16.62	16.50	16.40	18	1
15	16QAM	36	20	16.55	16.52	16.58		
15	16QAM	36	39	16.41	16.46	16.50		
15	16QAM	75	0	16.39	16.32	16.49		
15	64QAM	1	0	16.28	16.21	16.13	18	1
15	64QAM	1	37	16.32	16.15	16.26		
15	64QAM	1	74	16.15	16.04	16.07		
15	64QAM	36	0	15.55	15.53	15.58	17	2
15	64QAM	36	20	15.47	15.53	15.57		
15	64QAM	36	39	15.47	15.49	15.29		
15	64QAM	75	0	15.41	15.54	15.25		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	17.52	17.61	17.43	19	0
10	QPSK	1	25	17.48	17.58	17.39		
10	QPSK	1	49	17.63	17.39	17.50		

10	QPSK	25	0	17.38	17.38	17.26	19	0
10	QPSK	25	12	17.29	17.43	17.38		
10	QPSK	25	25	17.25	17.25	17.24		
10	QPSK	50	0	17.42	17.26	17.19		
10	16QAM	1	0	17.60	17.60	17.45	19	0
10	16QAM	1	25	17.35	17.47	17.44		
10	16QAM	1	49	17.51	17.43	17.46		
10	16QAM	25	0	16.57	16.54	16.55	18	1
10	16QAM	25	12	16.42	16.49	16.49		
10	16QAM	25	25	16.42	16.48	16.47		
10	16QAM	50	0	16.53	16.30	16.33		
10	64QAM	1	0	16.20	16.17	16.02	18	1
10	64QAM	1	25	16.32	16.23	16.17		
10	64QAM	1	49	16.03	16.02	16.04		
10	64QAM	25	0	15.63	15.64	15.41	17	2
10	64QAM	25	12	15.50	15.49	15.46		
10	64QAM	25	25	15.46	15.46	15.41		
10	64QAM	50	0	15.47	15.37	15.41		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	17.69	17.57	17.57	19	0
5	QPSK	1	12	17.62	17.56	17.34		
5	QPSK	1	24	17.46	17.34	17.31		
5	QPSK	12	0	17.42	17.37	17.28	19	0
5	QPSK	12	7	17.35	17.35	17.35		
5	QPSK	12	13	17.31	17.37	17.22		
5	QPSK	25	0	17.41	17.32	17.31		
5	16QAM	1	0	17.51	17.49	17.43	19	0
5	16QAM	1	12	17.28	17.41	17.38		
5	16QAM	1	24	17.43	17.35	17.30		
5	16QAM	12	0	16.51	16.53	16.54	18	1
5	16QAM	12	7	16.38	16.54	16.56		
5	16QAM	12	13	16.41	16.54	16.55		
5	16QAM	25	0	16.58	16.47	16.46		
5	64QAM	1	0	16.36	16.19	16.02	18	1
5	64QAM	1	12	16.27	16.20	16.17		
5	64QAM	1	24	16.20	16.12	16.01		
5	64QAM	12	0	15.46	15.52	15.52	17	2
5	64QAM	12	7	15.50	15.48	15.45		
5	64QAM	12	13	15.45	15.43	15.37		
5	64QAM	25	0	15.40	15.50	15.45		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Low Ch. / Freq.	Power Middle High Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				40140	40400	40670	41140		
Frequency (MHz)				2545	2571	2598	2645		
20	QPSK	1	0	17.90	17.94	17.92	18.27	19	0
20	QPSK	1	49	17.76	17.78	17.68	17.87		
20	QPSK	1	99	17.59	17.57	17.64	17.53		
20	QPSK	50	0	18.02	17.87	17.90	18.21	19	0
20	QPSK	50	24	17.72	17.79	17.88	17.84		
20	QPSK	50	50	17.67	17.74	17.72	17.76		
20	QPSK	100	0	17.69	17.78	17.84	17.85		
20	16QAM	1	0	18.00	17.99	18.00	17.93	19	0
20	16QAM	1	49	17.93	17.91	17.97	17.90		
20	16QAM	1	99	17.79	17.89	17.86	17.88		
20	16QAM	50	0	17.92	17.99	17.89	17.89	18	1
20	16QAM	50	24	17.95	17.89	17.91	17.92		
20	16QAM	50	50	17.79	17.80	17.83	17.84		
20	16QAM	100	0	17.82	17.74	17.83	17.78		
20	64QAM	1	0	17.68	17.64	17.70	17.63	18	1
20	64QAM	1	49	17.48	17.45	17.36	17.45		
20	64QAM	1	99	17.37	17.39	17.38	17.41		
20	64QAM	50	0	16.72	16.65	16.63	16.67	17	2
20	64QAM	50	24	16.47	16.55	16.54	16.59		
20	64QAM	50	50	16.59	16.51	16.41	16.55		
20	64QAM	100	0	16.66	16.57	16.53	16.55		
Channel				40115	40395	40685	41165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2542.5	2570.5	2599.5	2647.5		
15	QPSK	1	0	17.88	17.91	17.90	18.26	19	0
15	QPSK	1	37	17.78	17.73	17.74	17.97		
15	QPSK	1	74	17.59	17.52	17.57	17.51		
15	QPSK	36	0	18.04	17.88	18.00	18.18	19	0
15	QPSK	36	20	17.63	17.83	17.82	17.74		
15	QPSK	36	39	17.59	17.74	17.76	17.68		
15	QPSK	75	0	17.77	17.73	17.76	17.82		
15	16QAM	1	0	18.10	17.93	17.95	17.95	19	0
15	16QAM	1	37	18.03	17.98	17.87	17.90		
15	16QAM	1	74	17.78	17.90	17.78	17.96		
15	16QAM	36	0	17.96	17.92	17.85	17.81	18	1
15	16QAM	36	20	17.97	17.99	17.97	17.86		
15	16QAM	36	39	17.87	17.81	17.78	17.91		
15	16QAM	75	0	17.78	17.64	17.79	17.68		
15	64QAM	1	0	17.68	17.60	17.64	17.73	18	1
15	64QAM	1	37	17.39	17.54	17.38	17.40		
15	64QAM	1	74	17.43	17.48	17.29	17.42		
15	64QAM	36	0	16.62	16.61	16.54	16.64	17	2
15	64QAM	36	20	16.42	16.64	16.59	16.63		
15	64QAM	36	39	16.63	16.59	16.33	16.47		
15	64QAM	75	0	16.57	16.51	16.57	16.49		
Channel				40090	40390	40690	41190	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2540	2570	2600	2650		
10	QPSK	1	0	17.97	17.97	17.97	18.12	19	0
10	QPSK	1	25	17.79	17.81	17.67	17.79		
10	QPSK	1	49	17.60	17.66	17.55	17.54		
10	QPSK	25	0	18.12	17.77	17.83	18.15	19	0

10	QPSK	25	12	17.63	17.86	17.87	17.79		
10	QPSK	25	25	17.74	17.71	17.62	17.68		
10	QPSK	50	0	17.68	17.79	17.79	17.75		
10	16QAM	1	0	18.06	17.95	18.06	17.89		
10	16QAM	1	25	17.87	17.91	17.96	17.80	19	0
10	16QAM	1	49	17.78	17.92	17.83	17.88		
10	16QAM	25	0	17.88	17.95	17.97	17.79		
10	16QAM	25	12	17.89	17.85	17.89	17.95	18	1
10	16QAM	25	25	17.77	17.70	17.82	17.87		
10	16QAM	50	0	17.87	17.66	17.76	17.71		
10	64QAM	1	0	17.58	17.69	17.63	17.64		
10	64QAM	1	25	17.38	17.53	17.28	17.43	18	1
10	64QAM	1	49	17.39	17.37	17.32	17.45		
10	64QAM	25	0	16.66	16.56	16.60	16.77		
10	64QAM	25	12	16.43	16.57	16.60	16.53	17	2
10	64QAM	25	25	16.50	16.54	16.48	16.57		
10	64QAM	50	0	16.65	16.56	16.43	16.49		
Channel				40065	40385	40705	41215	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2537.5	2569.5	2601.5	2652.5		
5	QPSK	1	0	17.93	18.04	17.97	18.14		
5	QPSK	1	12	17.73	17.77	17.61	17.79	19	0
5	QPSK	1	24	17.55	17.50	17.54	17.55		
5	QPSK	12	0	18.07	17.97	17.97	18.20		
5	QPSK	12	7	17.76	17.71	17.80	17.78	19	0
5	QPSK	12	13	17.73	17.78	17.68	17.74		
5	QPSK	25	0	17.72	17.86	17.77	17.94		
5	16QAM	1	0	18.06	18.07	17.98	17.99		
5	16QAM	1	12	17.98	17.83	18.07	17.85	19	0
5	16QAM	1	24	17.79	17.98	17.78	17.83		
5	16QAM	12	0	17.97	17.94	17.96	17.85		
5	16QAM	12	7	17.85	17.97	17.81	17.86	18	1
5	16QAM	12	13	17.82	17.78	17.81	17.90		
5	16QAM	25	0	17.88	17.71	17.74	17.75		
5	64QAM	1	0	17.76	17.55	17.74	17.66		
5	64QAM	1	12	17.46	17.52	17.28	17.40	18	1
5	64QAM	1	24	17.30	17.49	17.28	17.33		
5	64QAM	12	0	16.77	16.58	16.64	16.71		
5	64QAM	12	7	16.43	16.50	16.56	16.52	17	2
5	64QAM	12	13	16.59	16.44	16.47	16.59		
5	64QAM	25	0	16.71	16.63	16.59	16.54		

<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	17.65	17.74	17.54	19	0
20	QPSK	1	49	17.52	17.50	17.44		
20	QPSK	1	99	17.55	17.41	17.41		
20	QPSK	50	0	17.43	17.40	17.32	19	0
20	QPSK	50	24	17.35	17.43	17.36		
20	QPSK	50	50	17.32	17.32	17.29		
20	QPSK	100	0	17.39	17.27	17.24		
20	16QAM	1	0	17.54	17.50	17.49	19	0
20	16QAM	1	49	17.38	17.47	17.47		
20	16QAM	1	99	17.46	17.34	17.39		
20	16QAM	50	0	16.53	16.55	16.45	18	1
20	16QAM	50	24	16.46	16.44	16.57		
20	16QAM	50	50	16.44	16.44	16.48		
20	16QAM	100	0	16.49	16.39	16.42		
20	64QAM	1	0	16.30	16.20	16.08	18	1
20	64QAM	1	49	16.23	16.15	16.27		
20	64QAM	1	99	16.03	16.02	16.01		
20	64QAM	50	0	15.53	15.55	15.51	17	2
20	64QAM	50	24	15.55	15.45	15.49		
20	64QAM	50	50	15.43	15.41	15.39		
20	64QAM	100	0	15.48	15.47	15.35		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	17.68	17.73	17.62	19	0
15	QPSK	1	37	17.45	17.40	17.51		
15	QPSK	1	74	17.54	17.39	17.44		
15	QPSK	36	0	17.41	17.45	17.27	19	0
15	QPSK	36	20	17.36	17.44	17.27		
15	QPSK	36	39	17.35	17.33	17.27		
15	QPSK	75	0	17.37	17.24	17.25		
15	16QAM	1	0	17.49	17.41	17.43	19	0
15	16QAM	1	37	17.28	17.45	17.38		
15	16QAM	1	74	17.37	17.36	17.44		
15	16QAM	36	0	16.62	16.50	16.40	18	1
15	16QAM	36	20	16.55	16.52	16.58		
15	16QAM	36	39	16.41	16.46	16.50		
15	16QAM	75	0	16.39	16.32	16.49		
15	64QAM	1	0	16.28	16.21	16.13	18	1
15	64QAM	1	37	16.32	16.15	16.26		
15	64QAM	1	74	16.15	16.04	16.07		
15	64QAM	36	0	15.55	15.53	15.58	17	2
15	64QAM	36	20	15.47	15.53	15.57		
15	64QAM	36	39	15.47	15.49	15.29		
15	64QAM	75	0	15.41	15.54	15.25		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	17.52	17.61	17.43	19	0
10	QPSK	1	25	17.48	17.58	17.39		
10	QPSK	1	49	17.63	17.39	17.50		

10	QPSK	25	0	17.38	17.38	17.26	19	0
10	QPSK	25	12	17.29	17.43	17.38		
10	QPSK	25	25	17.25	17.25	17.24		
10	QPSK	50	0	17.42	17.26	17.19		
10	16QAM	1	0	17.60	17.60	17.45	19	0
10	16QAM	1	25	17.35	17.47	17.44		
10	16QAM	1	49	17.51	17.43	17.46		
10	16QAM	25	0	16.57	16.54	16.55	18	1
10	16QAM	25	12	16.42	16.49	16.49		
10	16QAM	25	25	16.42	16.48	16.47		
10	16QAM	50	0	16.53	16.30	16.33		
10	64QAM	1	0	16.20	16.17	16.02	18	1
10	64QAM	1	25	16.32	16.23	16.17		
10	64QAM	1	49	16.03	16.02	16.04		
10	64QAM	25	0	15.63	15.64	15.41	17	2
10	64QAM	25	12	15.50	15.49	15.46		
10	64QAM	25	25	15.46	15.46	15.41		
10	64QAM	50	0	15.47	15.37	15.41		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	17.69	17.57	17.57	19	0
5	QPSK	1	12	17.62	17.56	17.34		
5	QPSK	1	24	17.46	17.34	17.31		
5	QPSK	12	0	17.42	17.37	17.28	19	0
5	QPSK	12	7	17.35	17.35	17.35		
5	QPSK	12	13	17.31	17.37	17.22		
5	QPSK	25	0	17.41	17.32	17.31		
5	16QAM	1	0	17.51	17.49	17.43	19	0
5	16QAM	1	12	17.28	17.41	17.38		
5	16QAM	1	24	17.43	17.35	17.30		
5	16QAM	12	0	16.51	16.53	16.54	18	1
5	16QAM	12	7	16.38	16.54	16.56		
5	16QAM	12	13	16.41	16.54	16.55		
5	16QAM	25	0	16.58	16.47	16.46		
5	64QAM	1	0	16.36	16.19	16.02	18	1
5	64QAM	1	12	16.27	16.20	16.17		
5	64QAM	1	24	16.20	16.12	16.01		
5	64QAM	12	0	15.46	15.52	15.52	17	2
5	64QAM	12	7	15.50	15.48	15.45		
5	64QAM	12	13	15.45	15.43	15.37		
5	64QAM	25	0	15.40	15.50	15.45		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Low Ch. / Freq.	Power Middle High Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				40140	40400	40670	41140		
Frequency (MHz)				2545	2571	2598	2645		
20	QPSK	1	0	17.90	17.94	17.92	18.27	19	0
20	QPSK	1	49	17.76	17.78	17.68	17.87		
20	QPSK	1	99	17.59	17.57	17.64	17.53		
20	QPSK	50	0	18.02	17.87	17.90	18.21	19	0
20	QPSK	50	24	17.72	17.79	17.88	17.84		
20	QPSK	50	50	17.67	17.74	17.72	17.76		
20	QPSK	100	0	17.69	17.78	17.84	17.85		
20	16QAM	1	0	18.00	17.99	18.00	17.93	19	0
20	16QAM	1	49	17.93	17.91	17.97	17.90		
20	16QAM	1	99	17.79	17.89	17.86	17.88		
20	16QAM	50	0	17.92	17.99	17.89	17.89	18	1
20	16QAM	50	24	17.95	17.89	17.91	17.92		
20	16QAM	50	50	17.79	17.80	17.83	17.84		
20	16QAM	100	0	17.82	17.74	17.83	17.78		
20	64QAM	1	0	17.68	17.64	17.70	17.63	18	1
20	64QAM	1	49	17.48	17.45	17.36	17.45		
20	64QAM	1	99	17.37	17.39	17.38	17.41		
20	64QAM	50	0	16.72	16.65	16.63	16.67	17	2
20	64QAM	50	24	16.47	16.55	16.54	16.59		
20	64QAM	50	50	16.59	16.51	16.41	16.55		
20	64QAM	100	0	16.66	16.57	16.53	16.55		
Channel				40115	40395	40685	41165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2542.5	2570.5	2599.5	2647.5		
15	QPSK	1	0	17.88	17.91	17.90	18.26	19	0
15	QPSK	1	37	17.78	17.73	17.74	17.97		
15	QPSK	1	74	17.59	17.52	17.57	17.51		
15	QPSK	36	0	18.04	17.88	18.00	18.18	19	0
15	QPSK	36	20	17.63	17.83	17.82	17.74		
15	QPSK	36	39	17.59	17.74	17.76	17.68		
15	QPSK	75	0	17.77	17.73	17.76	17.82		
15	16QAM	1	0	18.10	17.93	17.95	17.95	19	0
15	16QAM	1	37	18.03	17.98	17.87	17.90		
15	16QAM	1	74	17.78	17.90	17.78	17.96		
15	16QAM	36	0	17.96	17.92	17.85	17.81	18	1
15	16QAM	36	20	17.97	17.99	17.97	17.86		
15	16QAM	36	39	17.87	17.81	17.78	17.91		
15	16QAM	75	0	17.78	17.64	17.79	17.68		
15	64QAM	1	0	17.68	17.60	17.64	17.73	18	1
15	64QAM	1	37	17.39	17.54	17.38	17.40		
15	64QAM	1	74	17.43	17.48	17.29	17.42		
15	64QAM	36	0	16.62	16.61	16.54	16.64	17	2
15	64QAM	36	20	16.42	16.64	16.59	16.63		
15	64QAM	36	39	16.63	16.59	16.33	16.47		
15	64QAM	75	0	16.57	16.51	16.57	16.49		
Channel				40090	40390	40690	41190	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2540	2570	2600	2650		
10	QPSK	1	0	17.97	17.97	17.97	18.12	19	0
10	QPSK	1	25	17.79	17.81	17.67	17.79		
10	QPSK	1	49	17.60	17.66	17.55	17.54		
10	QPSK	25	0	18.12	17.77	17.83	18.15	19	0

10	QPSK	25	12	17.63	17.86	17.87	17.79		
10	QPSK	25	25	17.74	17.71	17.62	17.68		
10	QPSK	50	0	17.68	17.79	17.79	17.75		
10	16QAM	1	0	18.06	17.95	18.06	17.89		
10	16QAM	1	25	17.87	17.91	17.96	17.80	19	0
10	16QAM	1	49	17.78	17.92	17.83	17.88		
10	16QAM	25	0	17.88	17.95	17.97	17.79		
10	16QAM	25	12	17.89	17.85	17.89	17.95	18	1
10	16QAM	25	25	17.77	17.70	17.82	17.87		
10	16QAM	50	0	17.87	17.66	17.76	17.71		
10	64QAM	1	0	17.58	17.69	17.63	17.64		
10	64QAM	1	25	17.38	17.53	17.28	17.43	18	1
10	64QAM	1	49	17.39	17.37	17.32	17.45		
10	64QAM	25	0	16.66	16.56	16.60	16.77		
10	64QAM	25	12	16.43	16.57	16.60	16.53	17	2
10	64QAM	25	25	16.50	16.54	16.48	16.57		
10	64QAM	50	0	16.65	16.56	16.43	16.49		
Channel				40065	40385	40705	41215	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2537.5	2569.5	2601.5	2652.5		
5	QPSK	1	0	17.93	18.04	17.97	18.14		
5	QPSK	1	12	17.73	17.77	17.61	17.79	19	0
5	QPSK	1	24	17.55	17.50	17.54	17.55		
5	QPSK	12	0	18.07	17.97	17.97	18.20		
5	QPSK	12	7	17.76	17.71	17.80	17.78	19	0
5	QPSK	12	13	17.73	17.78	17.68	17.74		
5	QPSK	25	0	17.72	17.86	17.77	17.94		
5	16QAM	1	0	18.06	18.07	17.98	17.99		
5	16QAM	1	12	17.98	17.83	18.07	17.85	19	0
5	16QAM	1	24	17.79	17.98	17.78	17.83		
5	16QAM	12	0	17.97	17.94	17.96	17.85		
5	16QAM	12	7	17.85	17.97	17.81	17.86	18	1
5	16QAM	12	13	17.82	17.78	17.81	17.90		
5	16QAM	25	0	17.88	17.71	17.74	17.75		
5	64QAM	1	0	17.76	17.55	17.74	17.66		
5	64QAM	1	12	17.46	17.52	17.28	17.40	18	1
5	64QAM	1	24	17.30	17.49	17.28	17.33		
5	64QAM	12	0	16.77	16.58	16.64	16.71		
5	64QAM	12	7	16.43	16.50	16.56	16.52	17	2
5	64QAM	12	13	16.59	16.44	16.47	16.59		
5	64QAM	25	0	16.71	16.63	16.59	16.54		

<Product Specific 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	20.65	20.79	20.60	22	0
20	QPSK	1	49	20.57	20.51	20.47		
20	QPSK	1	99	20.61	20.30	20.38		
20	QPSK	50	0	20.59	20.48	20.45	22	0
20	QPSK	50	24	20.39	20.49	20.43		
20	QPSK	50	50	20.36	20.33	20.27		
20	QPSK	100	0	20.40	20.38	20.37		
20	16QAM	1	0	20.48	20.60	20.43	22	0
20	16QAM	1	49	20.39	20.34	20.50		
20	16QAM	1	99	20.47	20.48	20.51		
20	16QAM	50	0	19.70	19.69	19.46	21	1
20	16QAM	50	24	19.58	19.50	19.62		
20	16QAM	50	50	19.49	19.49	19.46		
20	16QAM	100	0	19.40	19.54	19.60		
20	64QAM	1	0	19.30	19.18	19.18	21	1
20	64QAM	1	49	19.23	19.09	19.29		
20	64QAM	1	99	19.08	19.05	19.05		
20	64QAM	50	0	18.44	18.66	18.53	20	2
20	64QAM	50	24	18.58	18.57	18.71		
20	64QAM	50	50	18.48	18.37	18.56		
20	64QAM	100	0	18.54	18.56	18.38		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	20.69	20.72	20.58	22	0
15	QPSK	1	37	20.48	20.56	20.40		
15	QPSK	1	74	20.56	20.29	20.31		
15	QPSK	36	0	20.50	20.52	20.44	22	0
15	QPSK	36	20	20.46	20.41	20.47		
15	QPSK	36	39	20.36	20.26	20.24		
15	QPSK	75	0	20.43	20.42	20.35		
15	16QAM	1	0	20.41	20.55	20.45	22	0
15	16QAM	1	37	20.46	20.29	20.45		
15	16QAM	1	74	20.45	20.41	20.56		
15	16QAM	36	0	19.70	19.75	19.54	21	1
15	16QAM	36	20	19.65	19.48	19.60		
15	16QAM	36	39	19.50	19.46	19.55		
15	16QAM	75	0	19.30	19.60	19.67		
15	64QAM	1	0	19.37	19.20	19.23	21	1
15	64QAM	1	37	19.27	19.00	19.19		
15	64QAM	1	74	19.04	19.00	19.01		
15	64QAM	36	0	18.48	18.57	18.53	20	2
15	64QAM	36	20	18.63	18.54	18.62		
15	64QAM	36	39	18.47	18.38	18.51		
15	64QAM	75	0	18.45	18.61	18.48		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	20.75	20.69	20.55	22	0
10	QPSK	1	25	20.48	20.58	20.50		
10	QPSK	1	49	20.64	20.36	20.41		

10	QPSK	25	0	20.55	20.53	20.47	22	0
10	QPSK	25	12	20.33	20.47	20.52		
10	QPSK	25	25	20.30	20.24	20.34		
10	QPSK	50	0	20.34	20.48	20.31		
10	16QAM	1	0	20.44	20.68	20.46	22	0
10	16QAM	1	25	20.35	20.43	20.47		
10	16QAM	1	49	20.47	20.49	20.54		
10	16QAM	25	0	19.72	19.67	19.37	21	1
10	16QAM	25	12	19.55	19.46	19.60		
10	16QAM	25	25	19.40	19.52	19.56		
10	16QAM	50	0	19.41	19.57	19.60		
10	64QAM	1	0	19.31	19.15	19.08	21	1
10	64QAM	1	25	19.22	19.03	19.34		
10	64QAM	1	49	19.12	19.02	19.05		
10	64QAM	25	0	18.44	18.65	18.48	20	2
10	64QAM	25	12	18.64	18.64	18.75		
10	64QAM	25	25	18.52	18.33	18.48		
10	64QAM	50	0	18.62	18.59	18.29		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	20.68	20.76	20.70	22	0
5	QPSK	1	12	20.50	20.60	20.53		
5	QPSK	1	24	20.56	20.29	20.41		
5	QPSK	12	0	20.64	20.49	20.52	22	0
5	QPSK	12	7	20.46	20.51	20.38		
5	QPSK	12	13	20.44	20.37	20.32		
5	QPSK	25	0	20.31	20.32	20.37		
5	16QAM	1	0	20.38	20.52	20.52	22	0
5	16QAM	1	12	20.30	20.24	20.59		
5	16QAM	1	24	20.53	20.58	20.51		
5	16QAM	12	0	19.72	19.59	19.51	21	1
5	16QAM	12	7	19.51	19.47	19.54		
5	16QAM	12	13	19.41	19.56	19.51		
5	16QAM	25	0	19.30	19.52	19.59		
5	64QAM	1	0	19.27	19.14	19.20	21	1
5	64QAM	1	12	19.31	19.15	19.34		
5	64QAM	1	24	19.03	19.11	19.21		
5	64QAM	12	0	18.38	18.56	18.46	20	2
5	64QAM	12	7	18.65	18.53	18.78		
5	64QAM	12	13	18.49	18.35	18.66		
5	64QAM	25	0	18.45	18.56	18.28		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Low Ch. / Freq.	Power Middle High Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				40140	40400	40670	41140		
Frequency (MHz)				2545	2571	2598	2645		
20	QPSK	1	0	20.48	20.42	20.52	20.71	22	0
20	QPSK	1	49	20.43	20.32	20.35	20.52		
20	QPSK	1	99	20.07	20.15	20.15	20.05		
20	QPSK	50	0	20.70	20.43	20.43	20.67	22	0
20	QPSK	50	24	20.26	20.21	20.35	20.31		
20	QPSK	50	50	20.33	20.11	20.32	20.23		
20	QPSK	100	0	20.30	20.19	20.40	20.26		
20	16QAM	1	0	20.54	20.40	20.54	20.42	22	0
20	16QAM	1	49	20.59	20.31	20.65	20.39		
20	16QAM	1	99	20.41	20.57	20.42	20.30		
20	16QAM	50	0	19.98	20.10	19.93	19.80	21	1
20	16QAM	50	24	19.96	20.01	19.98	19.96		
20	16QAM	50	50	19.81	19.91	19.87	19.74		
20	16QAM	100	0	19.87	19.78	19.83	19.87		
20	64QAM	1	0	19.75	19.62	19.74	19.75	21	1
20	64QAM	1	49	20.09	20.06	19.89	19.96		
20	64QAM	1	99	19.86	19.75	19.84	20.02		
20	64QAM	50	0	19.00	19.05	19.19	18.97	20	2
20	64QAM	50	24	19.15	19.14	19.08	18.98		
20	64QAM	50	50	19.09	18.91	18.98	19.09		
20	64QAM	100	0	19.27	19.24	19.07	18.98		
Channel				40115	40395	40685	41165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2542.5	2570.5	2599.5	2647.5		
15	QPSK	1	0	20.42	20.48	20.38	20.64	22	0
15	QPSK	1	37	20.30	20.27	20.23	20.49		
15	QPSK	1	74	20.05	20.21	20.25	20.05		
15	QPSK	36	0	20.53	20.49	20.40	20.68	22	0
15	QPSK	36	20	20.11	20.35	20.38	20.28		
15	QPSK	36	39	20.25	20.23	20.25	20.34		
15	QPSK	75	0	20.28	20.33	20.40	20.24		
15	16QAM	1	0	20.61	20.46	20.54	20.47	22	0
15	16QAM	1	37	20.60	20.44	20.55	20.56		
15	16QAM	1	74	20.23	20.55	20.43	20.33		
15	16QAM	36	0	19.89	20.03	20.08	19.75	21	1
15	16QAM	36	20	20.07	20.11	19.96	20.06		
15	16QAM	36	39	19.83	19.78	19.99	19.91		
15	16QAM	75	0	19.90	19.79	19.88	19.84		
15	64QAM	1	0	19.74	19.54	19.85	19.78	21	1
15	64QAM	1	37	20.05	19.93	19.89	19.97		
15	64QAM	1	74	19.99	19.74	19.87	20.05		
15	64QAM	36	0	18.98	19.16	19.17	19.00	20	2
15	64QAM	36	20	19.09	19.15	19.04	19.14		
15	64QAM	36	39	19.14	18.98	18.94	19.21		
15	64QAM	75	0	19.28	19.17	18.96	18.98		
Channel				40090	40390	40690	41190	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2540	2570	2600	2650		
10	QPSK	1	0	20.32	20.52	20.45	20.68	22	0
10	QPSK	1	25	20.43	20.30	20.22	20.58		
10	QPSK	1	49	20.14	20.09	20.22	20.08		
10	QPSK	25	0	20.58	20.41	20.39	20.60	22	0

10	QPSK	25	12	20.26	20.22	20.35	20.33		
10	QPSK	25	25	20.34	20.26	20.26	20.28		
10	QPSK	50	0	20.26	20.17	20.50	20.23		
10	16QAM	1	0	20.57	20.42	20.69	20.50	22	0
10	16QAM	1	25	20.52	20.32	20.65	20.47		
10	16QAM	1	49	20.25	20.40	20.45	20.47		
10	16QAM	25	0	19.83	20.17	20.05	19.92	21	1
10	16QAM	25	12	19.98	20.00	19.89	19.95		
10	16QAM	25	25	19.85	19.93	20.01	19.74		
10	16QAM	50	0	19.83	19.63	19.94	19.90		
10	64QAM	1	0	19.67	19.52	19.81	19.59	21	1
10	64QAM	1	25	20.03	20.05	19.79	20.15		
10	64QAM	1	49	19.87	19.87	19.87	20.04		
10	64QAM	25	0	18.96	19.06	19.19	18.98	20	2
10	64QAM	25	12	19.01	19.10	19.00	18.97		
10	64QAM	25	25	19.09	19.05	18.82	19.23		
10	64QAM	50	0	19.26	19.23	19.01	18.89		
Channel				40065	40385	40705	41215	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2537.5	2569.5	2601.5	2652.5		
5	QPSK	1	0	20.38	20.57	20.31	20.60	22	0
5	QPSK	1	12	20.31	20.28	20.31	20.48		
5	QPSK	1	24	20.07	20.16	20.27	20.23		
5	QPSK	12	0	20.60	20.45	20.48	20.62	22	0
5	QPSK	12	7	20.22	20.38	20.30	20.26		
5	QPSK	12	13	20.22	20.15	20.29	20.30		
5	QPSK	25	0	20.33	20.22	20.47	20.23		
5	16QAM	1	0	20.63	20.47	20.49	20.59	22	0
5	16QAM	1	12	20.60	20.40	20.57	20.43		
5	16QAM	1	24	20.39	20.47	20.31	20.49		
5	16QAM	12	0	19.89	20.15	20.02	19.88	21	1
5	16QAM	12	7	20.01	20.09	20.04	19.99		
5	16QAM	12	13	19.87	19.87	19.94	19.78		
5	16QAM	25	0	19.79	19.68	20.00	19.88		
5	64QAM	1	0	19.72	19.55	19.83	19.76	21	1
5	64QAM	1	12	20.04	20.03	19.94	20.11		
5	64QAM	1	24	19.83	19.78	19.87	20.00		
5	64QAM	12	0	18.97	18.98	19.15	18.93	20	2
5	64QAM	12	7	19.09	19.07	19.13	19.03		
5	64QAM	12	13	19.13	18.99	18.82	19.09		
5	64QAM	25	0	19.21	19.14	18.87	19.05		

<LTE Carrier Aggregation combinations>

General Note:

1. This device supports Carrier Aggregation on downlink only for inter and intra band, Uplink CA is not supported. For the device supports combination bands and configurations are according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	2A-4A		13	4A-7C	
2	2A-7A		14	5A-7C	
3	4A-4A		15	2A-4A-5A	
4	4A-5A		16	7A-66A-66A	
5	4A-7A				
6	5A-7A				
7	7B				
8	7C				
9	7A-7A				
10	66B				
11	66C				
12	6A-66A				

<Power verification when LTE Carrier Aggregation Active>

General Note:

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

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

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

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

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

vi. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

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

<Two Carrier power verification>

Configure		PCC							SCC				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band		2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	22.95	22.94
		2	20	1880	18900	QPSK	1	0	7	20	2655	3100	22.94	22.93
		4	20	1732.5	20175	QPSK	1	0	5	10	881.5	2525	22.93	22.92
		4	20	1732.5	20175	QPSK	1	0	7	20	2655	3100	22.91	22.90
		5	10	836.5	20525	QPSK	1	0	7	20	2655	3100	22.75	22.74
Intra-Band	Non-Contiguous	7	20	2535	21100	QPSK	1	0	7	5	2687.5	3425	23.25	23.21
		66	20	1745	132322	QPSK	1	0	66	5	2177.5	67111	22.78	22.74
		4	20	1732.5	20175	QPSK	1	0	4	5	2152.5	2375	22.93	22.95
	Contiguous	7	15	2507.5	20825	QPSK	1	74	7	5	2631.80	2868	23.24	23.25
		7	20	2535	21100	QPSK	1	0	7	20	2674.80	3298	23.25	23.23
		66	15	1745	132322	QPSK	1	0	66	5	2186.80	67204	22.75	22.76
		66	20	1745	132322	QPSK	1	0	66	5	2189.20	67228	22.74	22.78

<Three Carrier power verification>

Configure	PCC							SCC1				SCC2				Power	
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	5	10	836.5	20525	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	23.24	22.23
	4	20	1732.5	20175	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	22.92	22.91
	2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	5	10	881.5	2525	22.93	22.91
	7	20	2535	21100	QPSK	1	0	66	20	2155	66886	66	5	2166.7	67003	23.24	23.22

<WLAN Conducted Power>

General Note:

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

<2.4GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	18.70	19.00	98.77
		6	2437	18.90	19.00	
		11	2462	18.60	19.00	
	802.11g 6Mbps	1	2412	16.60	17.00	97.87
		6	2437	16.80	17.00	
		11	2462	16.80	17.00	
	802.11n-HT20 MCS0	1	2412	16.90	17.00	97.97
		6	2437	16.70	17.00	
		11	2462	16.80	17.00	
	802.11n-HT40 MCS0	3	2422	15.70	16.00	94.00
		6	2437	15.90	16.00	
		9	2452	15.60	16.00	

<5GHz WLAN >

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	16.60	17.00	98.11
		40	5200	16.60	17.00	
		44	5220	16.70	17.00	
		48	5240	16.70	17.00	
	802.11n-HT20 MCS0	36	5180	15.50	16.00	97.47
		40	5200	15.80	16.00	
		44	5220	15.70	16.00	
		48	5240	15.50	16.00	
	802.11n-HT40 MCS0	38	5190	15.10	16.00	96.06
		46	5230	15.60	16.00	
	802.11ac-VHT20 MCS0	36	5180	14.60	15.00	97.98
		40	5200	14.80	15.00	
		44	5220	14.70	15.00	
		48	5240	14.60	15.00	
	802.11ac-VHT40 MCS0	38	5190	14.50	15.00	96.56
		46	5230	14.60	15.00	
	802.11ac-VHT80 MCS0	42	5210	14.60	15.00	92.02

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	16.80	17.00	98.11
		56	5280	16.60	17.00	
		60	5300	16.70	17.00	
		64	5320	16.60	17.00	
	802.11n-HT20 MCS0	52	5260	15.70	16.00	97.47
		56	5280	15.70	16.00	
		60	5300	15.60	16.00	
		64	5320	15.70	16.00	
	802.11n-HT40 MCS0	54	5270	15.80	16.00	96.06
		62	5310	15.60	16.00	
	802.11ac-VHT20 MCS0	52	5260	14.80	15.00	97.98
		56	5280	14.50	15.00	
		60	5300	14.60	15.00	
		64	5320	14.60	15.00	
	802.11ac-VHT40 MCS0	54	5270	14.70	15.00	96.56
		62	5310	14.60	15.00	
	802.11ac-VHT80 MCS0	58	5290	14.70	15.00	92.02

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	16.50	17.00	98.11
		116	5580	16.70	17.00	
		132	5660	16.70	17.00	
		140	5700	16.50	17.00	
	802.11n-HT20 MCS0	100	5500	15.80	16.00	97.47
		116	5580	15.50	16.00	
		132	5660	15.90	16.00	
		140	5700	15.80	16.00	
	802.11n-HT40 MCS0	102	5510	15.70	16.00	96.06
		110	5550	15.60	16.00	
		134	5670	15.80	16.00	
	802.11ac-VHT20 MCS0	100	5500	14.80	15.00	97.98
		116	5580	14.60	15.00	
		132	5660	14.90	15.00	
		140	5700	14.70	15.00	
	802.11ac-VHT40 MCS0	102	5510	14.70	15.00	96.56
		110	5550	14.80	15.00	
		134	5670	14.70	15.00	
	802.11ac-VHT80 MCS0	106	5530	14.50	15.00	92.02

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	16.90	17.00	98.11
		157	5785	16.80	17.00	
		165	5825	16.90	17.00	
	802.11n-HT20 MCS0	149	5745	15.70	16.00	97.47
		157	5785	15.80	16.00	
		165	5825	15.70	16.00	
	802.11n-HT40 MCS0	151	5755	15.60	16.00	96.06
		159	5795	15.70	16.00	
	802.11ac-VHT20 MCS0	149	5745	14.70	15.00	97.98
		157	5785	14.50	15.00	
		165	5825	14.70	15.00	
	802.11ac-VHT40 MCS0	151	5755	14.60	15.00	96.56
		159	5795	14.60	15.00	
	802.11ac-VHT80 MCS0	155	5775	14.90	15.00	92.02

<2.4GHz Bluetooth>

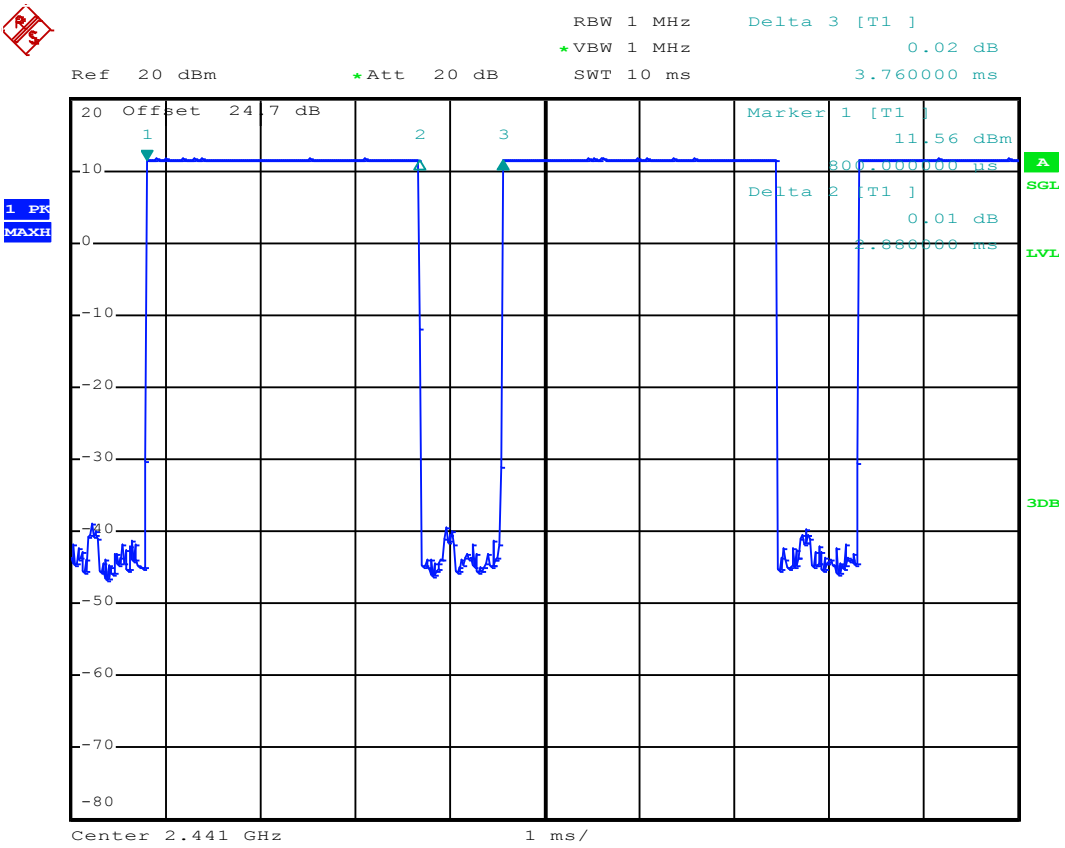
Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	11.90	9.98	9.95
	CH 39	2441	11.76	9.16	9.13
	CH 78	2480	11.70	9.51	9.50
Tune-up Limit			12.00	10.00	10.00

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			1Mbps	2Mbps
LE	CH 00	2402	7.00	6.90
	CH 19	2440	7.10	7.10
	CH 39	2480	7.80	7.80
Tune-up Limit			8.00	8.00

General Note:

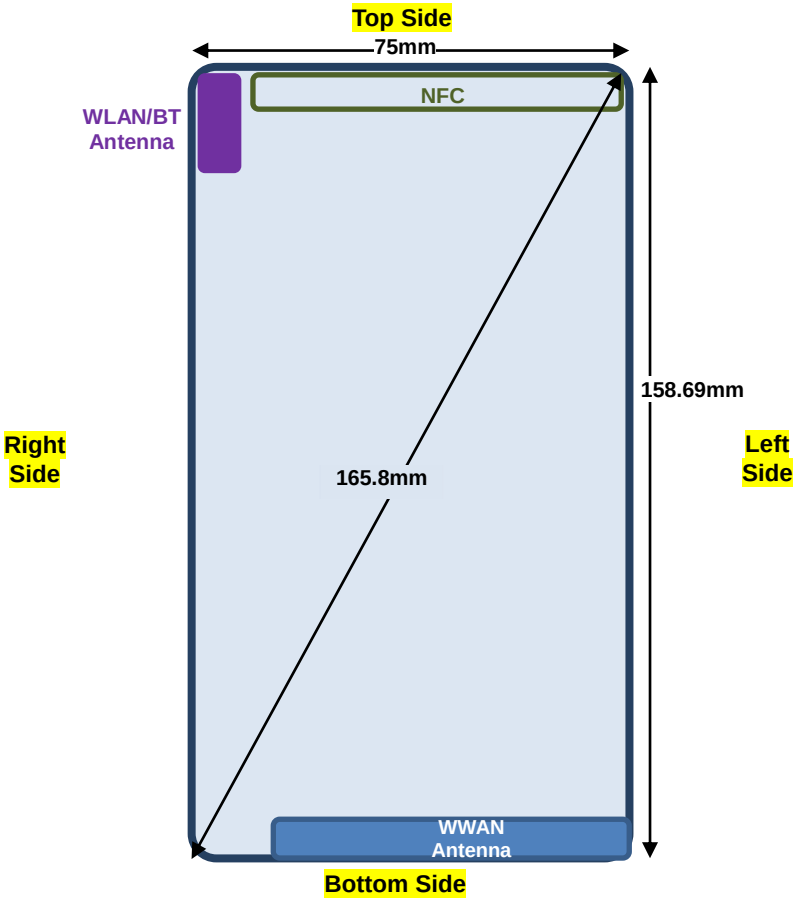
1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 76.6% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.

BT Duty cycle



13. Antenna Location

<Mobile Phone>



Back View

Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN	≤ 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	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: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/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. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g product specific SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold, for this device only bottom side SAR for WWAN transmitter scaled to maximum output power is higher than 1.2W/kg of GSM850/GSM1900, WCDMA B2/B4/B5, LTE B2/B5/B7/B41/B66, therefore product specific SAR is necessary.
6. For 5.3GHz / 5.5GHz WLAN product specific SAR is necessary too, due to an overall diagonal dimension is > 16cm.
7. For front and back position at hotspot exposure condition was choose higher power level between hotspot power table and body-worn power table for SAR compliance.
8. Reduced power for different RF exposure conditions:
   a. 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 GSM850 / GSM1900, WCDMA B2 / B4 / B5 and LTE B2 / B4 / B5 / B7 / B38 / B41 / B66 and detail descriptions of the power reduction mechanism are included in the operational description.
   b. Hotspot: When the mobile hotspot session is turn on by end user, the device will reduced output powers on the GSM850 / GSM1900, WCDMA B2 / B4 / B5 and LTE B2 / B4 / B5 / B7 / B38 / B41 / B66 and detail descriptions of the power reduction mechanism are included in the operational description.
   c. Handheld: The device additionally employs proximity sensors that detect the presence of tissue near the currently active transmit antenna, the device will reduced output powers on the GSM1900, WCDMA B2 / B4, LTE B2 / B4 / B7 / B38 / B41 / B66 transmitter 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 (2Tx 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.

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 B12 / B5 / B4 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 4 / 17 / 38 SAR test was covered by Band 66 / 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)
01	GSM850	GPRS (2 Tx slots)	Right Cheek	0mm	128	824.2	31.63	32.50	1.222	0.11	0.257	0.314
	GSM850	GPRS (2 Tx slots)	Right Tilted	0mm	128	824.2	31.63	32.50	1.222	0.17	0.122	0.149
	GSM850	GPRS (2 Tx slots)	Left Cheek	0mm	128	824.2	31.63	32.50	1.222	0.02	0.205	0.250
	GSM850	GPRS (2 Tx slots)	Left Tilted	0mm	128	824.2	31.63	32.50	1.222	0.07	0.132	0.161
	GSM1900	GPRS (2 Tx slots)	Right Cheek	0mm	661	1880	28.08	29.50	1.387	0.18	0.075	0.104
	GSM1900	GPRS (2 Tx slots)	Right Tilted	0mm	661	1880	28.08	29.50	1.387	-0.03	0.059	0.082
02	GSM1900	GPRS (2 Tx slots)	Left Cheek	0mm	661	1880	28.08	29.50	1.387	0.17	0.096	0.133
	GSM1900	GPRS (2 Tx slots)	Left Tilted	0mm	661	1880	28.08	29.50	1.387	0.18	0.067	0.093

<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	22.74	24.00	1.337	0.12	0.135	0.180
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	9538	1907.6	22.74	24.00	1.337	-0.03	0.095	0.127
03	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	9538	1907.6	22.74	24.00	1.337	0.1	0.154	0.206
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	9538	1907.6	22.74	24.00	1.337	-0.08	0.085	0.114
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	1312	1712.4	22.68	24.00	1.355	0.05	0.108	0.146
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	1312	1712.4	22.68	24.00	1.355	-0.04	0.075	0.102
04	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	1312	1712.4	22.68	24.00	1.355	-0.06	0.122	0.165
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	1312	1712.4	22.68	24.00	1.355	0	0.065	0.088
05	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	4132	826.4	22.80	24.00	1.318	0.14	0.227	0.299
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	4132	826.4	22.80	24.00	1.318	0.12	0.106	0.140
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	4132	826.4	22.80	24.00	1.318	0	0.174	0.229
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	4132	826.4	22.80	24.00	1.318	0	0.124	0.163

<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	0	Right Cheek	0mm	18900	1880	22.95	24.00	1.274	0.14	0.101	0.129
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	18900	1880	21.75	23.00	1.334	0.19	0.076	0.101
	LTE Band 2	20M	QPSK	1	0	Right Tilted	0mm	18900	1880	22.95	24.00	1.274	0.07	0.067	0.085
	LTE Band 2	20M	QPSK	50	0	Right Tilted	0mm	18900	1880	21.75	23.00	1.334	0.04	0.051	0.068
06	LTE Band 2	20M	QPSK	1	0	Left Cheek	0mm	18900	1880	22.95	24.00	1.274	0.07	0.129	0.164
	LTE Band 2	20M	QPSK	50	0	Left Cheek	0mm	18900	1880	21.75	23.00	1.334	0.01	0.094	0.125
	LTE Band 2	20M	QPSK	1	0	Left Tilted	0mm	18900	1880	22.95	24.00	1.274	0.17	0.076	0.097
	LTE Band 2	20M	QPSK	50	0	Left Tilted	0mm	18900	1880	21.75	23.00	1.334	0.1	0.061	0.081
07	LTE Band 5	10M	QPSK	1	0	Right Cheek	0mm	20525	836.5	22.79	24.00	1.321	0.04	0.206	0.272
	LTE Band 5	10M	QPSK	25	0	Right Cheek	0mm	20525	836.5	21.95	23.00	1.274	0.02	0.120	0.153
	LTE Band 5	10M	QPSK	1	0	Right Tilted	0mm	20525	836.5	22.79	24.00	1.321	0	0.093	0.123
	LTE Band 5	10M	QPSK	25	0	Right Tilted	0mm	20525	836.5	21.95	23.00	1.274	0.03	0.055	0.070
	LTE Band 5	10M	QPSK	1	0	Left Cheek	0mm	20525	836.5	22.79	24.00	1.321	0.17	0.136	0.180
	LTE Band 5	10M	QPSK	25	0	Left Cheek	0mm	20525	836.5	21.95	23.00	1.274	-0.01	0.081	0.103
	LTE Band 5	10M	QPSK	1	0	Left Tilted	0mm	20525	836.5	22.79	24.00	1.321	0.16	0.106	0.140
	LTE Band 5	10M	QPSK	25	0	Left Tilted	0mm	20525	836.5	21.95	23.00	1.274	0.02	0.058	0.074

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	0	Right Cheek	0mm	21100	2535	23.28	24.00	1.180	0.15	0.198	0.234
	LTE Band 7	20M	QPSK	50	0	Right Cheek	0mm	21100	2535	22.25	23.00	1.189	0.03	0.183	0.217
	LTE Band 7	20M	QPSK	1	0	Right Tilted	0mm	21100	2535	23.28	24.00	1.180	0.02	0.149	0.176
	LTE Band 7	20M	QPSK	50	0	Right Tilted	0mm	21100	2535	22.25	23.00	1.189	0.01	0.139	0.165
08	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	21100	2535	23.28	24.00	1.180	-0.01	0.345	0.407
	LTE Band 7	20M	QPSK	50	0	Left Cheek	0mm	21100	2535	22.25	23.00	1.189	0.18	0.239	0.284
	LTE Band 7	20M	QPSK	1	0	Left Tilted	0mm	21100	2535	23.28	24.00	1.180	-0.08	0.146	0.172
	LTE Band 7	20M	QPSK	50	0	Left Tilted	0mm	21100	2535	22.25	23.00	1.189	0.17	0.102	0.121
09	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	23095	707.5	22.94	24.00	1.276	-0.11	0.145	0.185
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	23095	707.5	21.83	23.00	1.309	-0.02	0.125	0.164
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	23095	707.5	22.94	24.00	1.276	-0.14	0.040	0.051
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	23095	707.5	21.83	23.00	1.309	0.02	0.032	0.042
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	23095	707.5	22.94	24.00	1.276	0.06	0.116	0.148
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	23095	707.5	21.83	23.00	1.309	0.11	0.094	0.123
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	23095	707.5	22.94	24.00	1.276	0.04	0.053	0.068
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	23095	707.5	21.83	23.00	1.309	0.01	0.039	0.051
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	132322	1745	22.80	24.00	1.318	0.17	0.071	0.094
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	132322	1745	21.74	23.00	1.337	0.18	0.060	0.080
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	132322	1745	22.80	24.00	1.318	0.06	0.046	0.061
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	132322	1745	21.74	23.00	1.337	0.16	0.038	0.051
10	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	132322	1745	22.80	24.00	1.318	0.03	0.086	0.113
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	132322	1745	21.74	23.00	1.337	0.05	0.071	0.095
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	132322	1745	22.80	24.00	1.318	-0.07	0.044	0.058
	LTE Band 66	20M	QPSK	1	50	Left Tilted	0mm	132322	1745	21.74	23.00	1.337	0.06	0.039	0.052

<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)
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	40670	2598	22.91	24.00	1.285	62.9	1.006	0.05	0.169	0.219
	LTE Band 41	20M	QPSK	50	0	Right Cheek	0mm	40670	2598	21.87	23.00	1.297	62.9	1.006	-0.13	0.097	0.127
	LTE Band 41	20M	QPSK	1	0	Right Tilted	0mm	40670	2598	22.91	24.00	1.285	62.9	1.006	0.14	0.126	0.163
	LTE Band 41	20M	QPSK	50	0	Right Tilted	0mm	40670	2598	21.87	23.00	1.297	62.9	1.006	-0.16	0.084	0.110
11	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	40670	2598	22.91	24.00	1.285	62.9	1.006	-0.1	0.203	0.262
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	40670	2598	21.87	23.00	1.297	62.9	1.006	-0.16	0.164	0.214
	LTE Band 41	20M	QPSK	1	0	Left Tilted	0mm	40670	2598	22.91	24.00	1.285	62.9	1.006	-0.17	0.067	0.087
	LTE Band 41	20M	QPSK	50	0	Left Tilted	0mm	40670	2598	21.87	23.00	1.297	62.9	1.006	-0.19	0.057	0.074

<WLAN SAR>

Plot 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)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	6	2437	18.90	19.00	1.023	98.77	1.012	-0.08	0.332	0.344
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	6	2437	18.90	19.00	1.023	98.77	1.012	-0.18	0.235	0.243
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	6	2437	18.90	19.00	1.023	98.77	1.012	-0.11	1.110	1.149
12	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	1	2412	18.70	19.00	1.072	98.77	1.012	-0.15	1.160	1.258
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	11	2462	18.60	19.00	1.096	98.77	1.012	-0.05	1.070	1.187
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	6	2437	18.90	19.00	1.023	98.77	1.012	-0.09	0.653	0.676
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	52	5260	16.80	17.00	1.047	98.11	1.019	0.14	0.195	0.208
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	52	5260	16.80	17.00	1.047	98.11	1.019	0.02	0.136	0.145
13	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	52	5260	16.80	17.00	1.047	98.11	1.019	0.1	0.529	0.564
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	52	5260	16.80	17.00	1.047	98.11	1.019	0.02	0.419	0.447
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	116	5580	16.70	17.00	1.072	98.11	1.019	0.15	0.125	0.136
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	116	5580	16.70	17.00	1.072	98.11	1.019	-0.07	0.055	0.060
14	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	116	5580	16.70	17.00	1.072	98.11	1.019	0.08	0.525	0.573
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	116	5580	16.70	17.00	1.072	98.11	1.019	0.1	0.351	0.383
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	149	5745	16.90	17.00	1.023	98.11	1.019	0.1	0.174	0.181
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	149	5745	16.90	17.00	1.023	98.11	1.019	0.03	0.134	0.140
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	149	5745	16.90	17.00	1.023	98.11	1.019	-0.02	0.951	0.992
15	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	165	5825	16.90	17.00	1.023	98.11	1.019	0.03	1.190	1.241
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	157	5785	16.80	17.00	1.047	98.11	1.019	-0.07	1.110	1.184
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	149	5745	16.90	17.00	1.023	98.11	1.019	0.04	0.751	0.783

<Bluetooth SAR>

Plot 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)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Right Cheek	0mm	0	2402	11.90	12.00	1.023	76.6	1.087	-0.14	0.049	0.055
	Bluetooth	1Mbps	Right Tilted	0mm	0	2402	11.90	12.00	1.023	76.6	1.087	-0.12	0.035	0.039
16	Bluetooth	1Mbps	Left Cheek	0mm	0	2402	11.90	12.00	1.023	76.6	1.087	-0.1	0.142	0.158
	Bluetooth	1Mbps	Left Tilted	0mm	0	2402	11.90	12.00	1.023	76.6	1.087	-0.11	0.095	0.106

14.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (2 Tx slots)	Front	5mm	ON	128	824.2	29.09	29.50	1.099	-0.13	0.638	0.701
	GSM850	GPRS (2 Tx slots)	Back	5mm	ON	128	824.2	29.09	29.50	1.099	-0.15	0.948	1.042
	GSM850	GPRS (2 Tx slots)	Back	5mm	ON	189	836.4	28.85	29.50	1.161	-0.1	1.070	1.243
17	GSM850	GPRS (2 Tx slots)	Back	5mm	ON	251	848.8	28.78	29.50	1.180	-0.1	1.120	1.322
	GSM850	GPRS (2 Tx slots)	Left Side	5mm	ON	128	824.2	29.09	29.50	1.099	-0.1	0.068	0.075
	GSM850	GPRS (2 Tx slots)	Right Side	5mm	ON	128	824.2	29.09	29.50	1.099	0.16	0.294	0.323
	GSM850	GPRS (2 Tx slots)	Bottom Side	5mm	ON	128	824.2	29.09	29.50	1.099	0.04	0.576	0.633
	GSM1900	GPRS (2 Tx slots)	Front	5mm	ON	661	1880	24.30	24.50	1.047	0.02	0.750	0.785
	GSM1900	GPRS (2 Tx slots)	Back	5mm	ON	661	1880	24.30	24.50	1.047	-0.14	1.200	1.257
	GSM1900	GPRS (2 Tx slots)	Back	5mm	ON	512	1850.2	24.22	24.50	1.067	-0.19	1.130	1.205
18	GSM1900	GPRS (2 Tx slots)	Back	5mm	ON	810	1909.8	24.34	24.50	1.038	-0.17	1.230	1.276
	GSM1900	GPRS (2 Tx slots)	Left Side	5mm	ON	661	1880	21.79	22.00	1.050	0.03	0.072	0.076
	GSM1900	GPRS (2 Tx slots)	Right Side	5mm	ON	661	1880	21.79	22.00	1.050	0.02	0.080	0.084
	GSM1900	GPRS (2 Tx slots)	Bottom Side	5mm	ON	661	1880	21.79	22.00	1.050	-0.16	1.170	1.228
	GSM1900	GPRS (2 Tx slots)	Bottom Side	5mm	ON	512	1850.2	21.63	22.00	1.089	-0.15	1.080	1.176
	GSM1900	GPRS (2 Tx slots)	Bottom Side	5mm	ON	810	1909.8	21.78	22.00	1.052	-0.16	1.210	1.273

<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	9538	1907.6	15.99	17.00	1.262	0.04	0.571	0.721
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9538	1907.6	15.99	17.00	1.262	-0.01	0.919	1.160
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9262	1852.4	15.98	17.00	1.265	0.08	0.935	1.183
19	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9400	1880	15.96	17.00	1.271	0.05	1.021	1.297
	WCDMA II	RMC 12.2Kbps	Left Side	5mm	ON	9538	1907.6	13.59	14.50	1.233	0.09	0.074	0.091
	WCDMA II	RMC 12.2Kbps	Right Side	5mm	ON	9538	1907.6	13.59	14.50	1.233	-0.14	0.062	0.076
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9538	1907.6	13.59	14.50	1.233	0.14	0.923	1.138
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9262	1852.4	13.58	14.50	1.236	0.18	0.854	1.055
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9400	1880	13.58	14.50	1.236	0.17	0.875	1.081
	WCDMA IV	RMC 12.2Kbps	Front	5mm	ON	1312	1712.4	15.65	17.50	1.531	0.02	0.465	0.712
20	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1312	1712.4	15.65	17.50	1.531	0.14	0.863	1.321
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1413	1732.6	15.55	17.50	1.567	0	0.667	1.045
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1513	1752.6	15.60	17.50	1.549	0.18	0.832	1.289
	WCDMA IV	RMC 12.2Kbps	Left Side	5mm	ON	1312	1712.4	14.23	16.00	1.503	0.19	0.071	0.107
	WCDMA IV	RMC 12.2Kbps	Right Side	5mm	ON	1312	1712.4	14.23	16.00	1.503	0.09	0.070	0.105
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	ON	1312	1712.4	14.23	16.00	1.503	0.15	0.608	0.914
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	ON	1413	1732.6	14.13	16.00	1.538	0.12	0.741	1.140
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	ON	1513	1752.6	14.20	16.00	1.514	0.14	0.764	1.156
	WCDMA V	RMC 12.2Kbps	Front	5mm	ON	4132	826.4	20.86	21.50	1.159	-0.17	0.598	0.693
	WCDMA V	RMC 12.2Kbps	Back	5mm	ON	4132	826.4	20.86	21.50	1.159	-0.04	0.901	1.044
	WCDMA V	RMC 12.2Kbps	Back	5mm	ON	4182	836.4	20.80	21.50	1.175	-0.06	0.972	1.142
21	WCDMA V	RMC 12.2Kbps	Back	5mm	ON	4233	846.6	20.72	21.50	1.197	-0.06	1.010	1.209
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	ON	4132	826.4	20.86	21.50	1.159	0.1	0.074	0.086
	WCDMA V	RMC 12.2Kbps	Right Side	5mm	ON	4132	826.4	20.86	21.50	1.159	0.02	0.289	0.335
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	ON	4132	826.4	20.86	21.50	1.159	-0.05	0.539	0.625

<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	16.89	18.00	1.291	0.03	0.637	0.823
	LTE Band 2	20M	QPSK	1	0	Front	5mm	ON	18700	1860	16.79	18.00	1.321	0.03	0.621	0.821
	LTE Band 2	20M	QPSK	1	0	Front	5mm	ON	19100	1900	16.74	18.00	1.337	0.02	0.615	0.822
	LTE Band 2	20M	QPSK	50	0	Front	5mm	ON	18900	1880	16.78	18.00	1.324	0.01	0.620	0.821
	LTE Band 2	20M	QPSK	50	0	Front	5mm	ON	18700	1860	16.70	18.00	1.349	0.15	0.607	0.819
	LTE Band 2	20M	QPSK	50	0	Front	5mm	ON	19100	1900	16.76	18.00	1.330	0.03	0.610	0.812
	LTE Band 2	20M	QPSK	100	0	Front	5mm	ON	18900	1880	16.75	18.00	1.334	0.02	0.605	0.807
	LTE Band 2	20M	QPSK	1	0	Back	5mm	ON	18900	1880	16.89	18.00	1.291	-0.04	0.994	1.283
	LTE Band 2	20M	QPSK	1	0	Back	5mm	ON	18700	1860	16.79	18.00	1.321	-0.03	0.989	1.307
	LTE Band 2	20M	QPSK	1	0	Back	5mm	ON	19100	1900	16.74	18.00	1.337	-0.06	0.986	1.318
	LTE Band 2	20M	QPSK	50	0	Back	5mm	ON	18900	1880	16.78	18.00	1.324	0.03	0.984	1.303
	LTE Band 2	20M	QPSK	50	0	Back	5mm	ON	18700	1860	16.70	18.00	1.349	0.02	0.972	1.311
	LTE Band 2	20M	QPSK	50	0	Back	5mm	ON	19100	1900	16.76	18.00	1.330	-0.08	0.971	1.292
	LTE Band 2	20M	QPSK	100	0	Back	5mm	ON	18900	1880	16.75	18.00	1.334	-0.06	0.965	1.287
	LTE Band 2	20M	QPSK	1	0	Left Side	5mm	ON	18900	1880	14.36	15.50	1.300	0.03	0.052	0.068
	LTE Band 2	20M	QPSK	50	0	Left Side	5mm	ON	18900	1880	14.08	15.50	1.387	0.02	0.048	0.067
	LTE Band 2	20M	QPSK	1	0	Right Side	5mm	ON	18900	1880	14.36	15.50	1.300	0.03	0.094	0.122
	LTE Band 2	20M	QPSK	50	0	Right Side	5mm	ON	18900	1880	14.08	15.50	1.387	0.02	0.100	0.139
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	ON	18900	1880	14.36	15.50	1.300	-0.03	0.983	1.278
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	ON	18700	1860	14.24	15.50	1.337	-0.09	0.939	1.255
22	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	ON	19100	1900	14.19	15.50	1.352	-0.09	0.995	1.345
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	ON	18900	1880	14.08	15.50	1.387	0.06	0.934	1.295
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	ON	18700	1860	14.07	15.50	1.390	0.02	0.921	1.280
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	ON	19100	1900	14.05	15.50	1.396	0.01	0.945	1.320
	LTE Band 2	20M	QPSK	100	0	Bottom Side	5mm	ON	18900	1880	14.13	15.50	1.371	0.03	0.911	1.249
	LTE Band 4	20M	QPSK	1	0	Front	5mm	ON	20175	1732.5	17.83	18.50	1.167	-0.18	0.790	0.922
	LTE Band 4	20M	QPSK	50	0	Front	5mm	ON	20175	1732.5	17.56	18.50	1.242	0.03	0.750	0.931
	LTE Band 4	20M	QPSK	100	0	Front	5mm	ON	20175	1732.5	17.77	18.50	1.183	0.03	0.690	0.816
23	LTE Band 4	20M	QPSK	1	0	Back	5mm	ON	20175	1732.5	17.83	18.50	1.167	-0.18	1.180	1.377
	LTE Band 4	20M	QPSK	50	0	Back	5mm	ON	20175	1732.5	17.56	18.50	1.242	0.03	1.080	1.341
	LTE Band 4	20M	QPSK	100	0	Back	5mm	ON	20175	1732.5	17.77	18.50	1.183	0.03	1.150	1.360
	LTE Band 4	20M	QPSK	1	0	Left Side	5mm	ON	20175	1732.5	16.30	17.50	1.318	-0.04	0.066	0.087
	LTE Band 4	20M	QPSK	50	0	Left Side	5mm	ON	20175	1732.5	16.29	17.50	1.321	-0.1	0.067	0.089
	LTE Band 4	20M	QPSK	1	0	Right Side	5mm	ON	20175	1732.5	16.30	17.50	1.318	-0.11	0.091	0.120
	LTE Band 4	20M	QPSK	50	0	Right Side	5mm	ON	20175	1732.5	16.29	17.50	1.321	-0.15	0.075	0.099
	LTE Band 4	20M	QPSK	1	0	Bottom Side	5mm	ON	20175	1732.5	16.30	17.50	1.318	-0.08	0.961	1.267
	LTE Band 4	20M	QPSK	50	0	Bottom Side	5mm	ON	20175	1732.5	16.29	17.50	1.321	0.03	0.951	1.257
	LTE Band 4	20M	QPSK	100	0	Bottom Side	5mm	ON	20175	1732.5	16.28	17.50	1.324	0.03	0.955	1.265
	LTE Band 5	10M	QPSK	1	0	Front	5mm	ON	20525	836.5	21.91	23.00	1.285	-0.15	0.588	0.756
	LTE Band 5	10M	QPSK	25	0	Front	5mm	ON	20525	836.5	21.88	23.00	1.294	-0.04	0.614	0.795
	LTE Band 5	10M	QPSK	1	0	Back	5mm	ON	20525	836.5	21.91	23.00	1.285	-0.06	0.956	1.229
24	LTE Band 5	10M	QPSK	25	0	Back	5mm	ON	20525	836.5	21.88	23.00	1.294	-0.02	0.997	1.290
	LTE Band 5	10M	QPSK	50	0	Back	5mm	ON	20525	836.5	21.70	23.00	1.349	-0.14	0.940	1.268
	LTE Band 5	10M	QPSK	1	0	Left Side	5mm	ON	20525	836.5	21.91	23.00	1.285	0.03	0.078	0.100
	LTE Band 5	10M	QPSK	25	0	Left Side	5mm	ON	20525	836.5	21.88	23.00	1.294	-0.05	0.084	0.109
	LTE Band 5	10M	QPSK	1	0	Right Side	5mm	ON	20525	836.5	21.91	23.00	1.285	-0.05	0.336	0.432
	LTE Band 5	10M	QPSK	25	0	Right Side	5mm	ON	20525	836.5	21.88	23.00	1.294	-0.11	0.321	0.415
	LTE Band 5	10M	QPSK	1	0	Bottom Side	5mm	ON	20525	836.5	21.91	23.00	1.285	-0.03	0.577	0.742
	LTE Band 5	10M	QPSK	25	0	Bottom Side	5mm	ON	20525	836.5	21.88	23.00	1.294	-0.18	0.595	0.770

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	0	Front	5mm	ON	21100	2535	18.10	19.00	1.230	0	0.543	0.668
	LTE Band 7	20M	QPSK	50	0	Front	5mm	ON	21100	2535	17.93	19.00	1.279	-0.01	0.553	0.707
	LTE Band 7	20M	QPSK	1	0	Back	5mm	ON	21100	2535	18.10	19.00	1.230	-0.18	0.957	1.177
	LTE Band 7	20M	QPSK	1	0	Back	5mm	ON	20850	2510	18.03	19.00	1.250	-0.12	0.817	1.021
	LTE Band 7	20M	QPSK	1	0	Back	5mm	ON	21350	2560	17.99	19.00	1.262	-0.13	1.070	1.350
	LTE Band 7	20M	QPSK	50	0	Back	5mm	ON	21100	2535	17.93	19.00	1.279	-0.13	0.983	1.258
	LTE Band 7	20M	QPSK	50	0	Back	5mm	ON	20850	2510	17.93	19.00	1.279	-0.14	0.857	1.096
25	LTE Band 7	20M	QPSK	50	0	Back	5mm	ON	21350	2560	17.79	19.00	1.321	-0.13	1.050	1.387
	LTE Band 7	20M	QPSK	100	0	Back	5mm	ON	21100	2535	17.90	19.00	1.288	-0.13	0.933	1.202
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	ON	21100	2535	18.10	19.00	1.230	0.03	0.443	0.545
	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	ON	21100	2535	17.93	19.00	1.279	0.02	0.412	0.527
	LTE Band 7	20M	QPSK	1	0	Right Side	5mm	ON	21100	2535	18.10	19.00	1.230	0.08	0.109	0.134
	LTE Band 7	20M	QPSK	50	0	Right Side	5mm	ON	21100	2535	17.93	19.00	1.279	0.02	0.118	0.151
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	ON	21100	2535	18.10	19.00	1.230	-0.18	0.524	0.645
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	ON	21100	2535	17.93	19.00	1.279	0.03	0.544	0.696
	LTE Band 12	10M	QPSK	1	0	Front	5mm	OFF	23095	707.5	22.94	24.00	1.276	-0.06	0.485	0.619
	LTE Band 12	10M	QPSK	25	0	Front	5mm	OFF	23095	707.5	21.83	23.00	1.309	0.01	0.434	0.568
26	LTE Band 12	10M	QPSK	1	0	Back	5mm	OFF	23095	707.5	22.94	24.00	1.276	-0.13	0.747	0.953
	LTE Band 12	10M	QPSK	25	0	Back	5mm	OFF	23095	707.5	21.83	23.00	1.309	0	0.664	0.869
	LTE Band 12	10M	QPSK	50	0	Back	5mm	OFF	23095	707.5	21.80	23.00	1.318	-0.01	0.673	0.887
	LTE Band 12	10M	QPSK	1	0	Left Side	5mm	OFF	23095	707.5	22.94	24.00	1.276	-0.08	0.146	0.186
	LTE Band 12	10M	QPSK	25	0	Left Side	5mm	OFF	23095	707.5	21.83	23.00	1.309	-0.05	0.121	0.158
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	OFF	23095	707.5	22.94	24.00	1.276	-0.04	0.303	0.387
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	OFF	23095	707.5	21.83	23.00	1.309	-0.11	0.258	0.338
	LTE Band 12	10M	QPSK	1	0	Bottom Side	5mm	OFF	23095	707.5	22.94	24.00	1.276	-0.15	0.458	0.585
	LTE Band 12	10M	QPSK	25	0	Bottom Side	5mm	OFF	23095	707.5	21.83	23.00	1.309	-0.17	0.414	0.542
	LTE Band 66	20M	QPSK	1	0	Front	5mm	ON	132572	1770	17.14	18.00	1.219	0.15	0.780	0.951
	LTE Band 66	20M	QPSK	1	0	Front	5mm	ON	132072	1720	16.98	18.00	1.265	0.05	0.690	0.873
	LTE Band 66	20M	QPSK	1	0	Front	5mm	ON	132322	1745	16.99	18.00	1.262	0.14	0.750	0.946
	LTE Band 66	20M	QPSK	50	0	Front	5mm	ON	132572	1770	16.93	18.00	1.279	0.09	0.735	0.940
	LTE Band 66	20M	QPSK	50	0	Front	5mm	ON	132072	1720	16.80	18.00	1.318	0.02	0.685	0.903
	LTE Band 66	20M	QPSK	50	0	Front	5mm	ON	132322	1745	16.77	18.00	1.327	0.01	0.715	0.949
	LTE Band 66	20M	QPSK	100	0	Front	5mm	ON	132572	1770	17.02	18.00	1.253	0.03	0.757	0.949
27	LTE Band 66	20M	QPSK	1	0	Back	5mm	ON	132572	1770	17.14	18.00	1.219	-0.04	1.120	1.365
	LTE Band 66	20M	QPSK	1	0	Back	5mm	ON	132072	1720	16.98	18.00	1.265	-0.15	0.888	1.123
	LTE Band 66	20M	QPSK	1	0	Back	5mm	ON	132322	1745	16.99	18.00	1.262	0.01	0.971	1.225
	LTE Band 66	20M	QPSK	50	0	Back	5mm	ON	132572	1770	16.93	18.00	1.279	0.03	1.020	1.305
	LTE Band 66	20M	QPSK	50	0	Back	5mm	ON	132072	1720	16.80	18.00	1.318	0.02	0.872	1.150
	LTE Band 66	20M	QPSK	50	0	Back	5mm	ON	132322	1745	16.77	18.00	1.327	0.01	0.952	1.264
	LTE Band 66	20M	QPSK	100	0	Back	5mm	ON	132572	1770	17.02	18.00	1.253	0.08	1.080	1.353
	LTE Band 66	20M	QPSK	1	0	Left Side	5mm	ON	132572	1770	15.13	17.00	1.538	0.02	0.065	0.100
	LTE Band 66	20M	QPSK	50	0	Left Side	5mm	ON	132572	1770	15.09	17.00	1.552	0.03	0.055	0.085
	LTE Band 66	20M	QPSK	1	0	Right Side	5mm	ON	132322	1745	15.13	17.00	1.538	-0.04	0.119	0.183
	LTE Band 66	20M	QPSK	50	0	Right Side	5mm	ON	132322	1745	15.09	17.00	1.552	0.03	0.108	0.168
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	ON	132572	1770	15.13	17.00	1.538	-0.06	0.864	1.329
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	ON	132072	1720	15.09	17.00	1.552	-0.17	0.709	1.101
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	ON	132322	1745	15.06	17.00	1.563	-0.19	0.785	1.227
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	ON	132572	1770	15.09	17.00	1.552	0.03	0.855	1.327
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	ON	132072	1720	15.06	17.00	1.563	0.02	0.658	1.029
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	ON	132322	1745	15.08	17.00	1.556	0.01	0.690	1.074
	LTE Band 66	20M	QPSK	100	0	Bottom Side	5mm	ON	132572	1770	15.08	17.00	1.556	0.03	0.845	1.315

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	0	Front	5mm	ON	41140	2645	18.27	19.00	1.183	62.9	1.006	0.02	0.620	0.738
	LTE Band 41	20M	QPSK	50	0	Front	5mm	ON	41140	2645	18.21	19.00	1.199	62.9	1.006	0.08	0.610	0.736
28	LTE Band 41	20M	QPSK	1	0	Back	5mm	ON	41140	2645	18.27	19.00	1.183	62.9	1.006	0	1.060	1.262
	LTE Band 41	20M	QPSK	1	0	Back	5mm	ON	40140	2545	17.90	19.00	1.288	62.9	1.006	-0.07	0.721	0.934
	LTE Band 41	20M	QPSK	1	0	Back	5mm	ON	40400	2571	17.94	19.00	1.276	62.9	1.006	-0.07	0.813	1.044
	LTE Band 41	20M	QPSK	1	0	Back	5mm	ON	40670	2598	17.92	19.00	1.282	62.9	1.006	0	0.964	1.244
	LTE Band 41	20M	QPSK	50	0	Back	5mm	ON	41140	2645	18.21	19.00	1.199	62.9	1.006	-0.02	0.882	1.064
	LTE Band 41	20M	QPSK	50	0	Back	5mm	ON	40140	2545	18.02	19.00	1.253	62.9	1.006	0.03	0.622	0.784
	LTE Band 41	20M	QPSK	50	0	Back	5mm	ON	40400	2571	17.87	19.00	1.297	62.9	1.006	0.02	0.758	0.989
	LTE Band 41	20M	QPSK	50	0	Back	5mm	ON	40670	2598	17.90	19.00	1.288	62.9	1.006	0.08	0.821	1.064
	LTE Band 41	20M	QPSK	100	0	Back	5mm	ON	41140	2645	17.85	19.00	1.303	62.9	1.006	-0.02	0.822	1.078
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	ON	41140	2645	18.27	19.00	1.183	62.9	1.006	0.02	0.421	0.501
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	ON	41140	2645	18.21	19.00	1.199	62.9	1.006	0.08	0.411	0.496
	LTE Band 41	20M	QPSK	1	0	Right Side	5mm	ON	41140	2645	18.27	19.00	1.183	62.9	1.006	0.02	0.103	0.123
	LTE Band 41	20M	QPSK	50	0	Right Side	5mm	ON	41140	2645	18.21	19.00	1.199	62.9	1.006	0.08	0.110	0.133
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	ON	41140	2645	18.27	19.00	1.183	62.9	1.006	0.06	0.411	0.489
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	ON	41140	2645	18.21	19.00	1.199	62.9	1.006	-0.02	0.398	0.480

<WLAN SAR>

Plot 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)	Reported 1g SAR (W/kg)
29	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	6	2437	18.90	19.00	1.023	98.77	1.012	-0.11	0.425	0.440
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	6	2437	18.90	19.00	1.023	98.77	1.012	0.08	0.261	0.270
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	6	2437	18.90	19.00	1.023	98.77	1.012	-0.13	0.163	0.169
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	6	2437	18.90	19.00	1.023	98.77	1.012	0.1	0.075	0.078
	WLAN5GHz	802.11a 6Mbps	Front	5mm	44	5220	16.70	17.00	1.072	98.11	1.019	-0.03	0.159	0.174
30	WLAN5GHz	802.11a 6Mbps	Back	5mm	44	5220	16.70	17.00	1.072	98.11	1.019	-0.17	0.647	0.706
	WLAN5GHz	802.11a 6Mbps	Right Side	5mm	44	5220	16.70	17.00	1.072	98.11	1.019	-0.14	0.250	0.273
	WLAN5GHz	802.11a 6Mbps	Top Side	5mm	44	5220	16.70	17.00	1.072	98.11	1.019	-0.18	0.161	0.176
	WLAN5GHz	802.11a 6Mbps	Front	5mm	149	5745	16.90	17.00	1.023	98.11	1.019	-0.06	0.277	0.289
31	WLAN5GHz	802.11a 6Mbps	Back	5mm	149	5745	16.90	17.00	1.023	98.11	1.019	0.16	1.330	1.387
	WLAN5GHz	802.11a 6Mbps	Back	5mm	165	5825	16.90	17.00	1.023	98.11	1.019	0.15	1.140	1.189
	WLAN5GHz	802.11a 6Mbps	Right Side	5mm	149	5745	16.90	17.00	1.023	98.11	1.019	-0.16	0.348	0.363
	WLAN5GHz	802.11a 6Mbps	Top Side	5mm	149	5745	16.90	17.00	1.023	98.11	1.019	-0.18	0.203	0.212

<Bluetooth SAR>

Plot 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)	Reported 1g SAR (W/kg)
32	Bluetooth	1Mbps	Front	5mm	0	2402	11.90	12.00	1.023	76.6	1.087	0.1	0.067	0.075
	Bluetooth	1Mbps	Back	5mm	0	2402	11.90	12.00	1.023	76.6	1.087	0.15	0.039	0.043
	Bluetooth	1Mbps	Right Side	5mm	0	2402	11.90	12.00	1.023	76.6	1.087	0.19	0.027	0.030
	Bluetooth	1Mbps	Top Side	5mm	0	2402	11.90	12.00	1.023	76.6	1.087	0.01	0.016	0.018

Based on WLAN2.4GHz and Bluetooth share the same antenna, so Bluetooth RF exposure evaluation chose the worst positon of 2.4GHz WLAN to perform Bluetooth SAR test, and used this Bluetooth SAR value conservatively represent other position do co-located analysis with WWAN.

14.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (2 Tx slots)	Front	5mm	-	ON	128	824.2	29.09	29.50	1.099	-0.13	0.638	0.701
	GSM850	GPRS (2 Tx slots)	Back	5mm	-	ON	128	824.2	29.09	29.50	1.099	-0.15	0.948	1.042
	GSM850	GPRS (2 Tx slots)	Back	5mm	-	ON	189	836.4	28.85	29.50	1.161	-0.1	1.070	1.243
33	GSM850	GPRS (2 Tx slots)	Back	5mm	-	ON	251	848.8	28.78	29.50	1.180	-0.1	1.120	1.322
	GSM850	GPRS (2 Tx slots)	Back	5mm	Headset 1	ON	251	848.8	28.78	29.50	1.180	-0.12	0.104	0.123
	GSM850	GPRS (2 Tx slots)	Back	5mm	Headset 2	ON	251	848.8	28.78	29.50	1.180	-0.14	0.103	0.122
	GSM1900	GPRS (2 Tx slots)	Front	5mm	-	ON	661	1880	24.30	24.50	1.047	0.02	0.750	0.785
	GSM1900	GPRS (2 Tx slots)	Front	5mm	-	ON	512	1850.2	24.22	24.50	1.067	0.03	0.710	0.757
	GSM1900	GPRS (2 Tx slots)	Front	5mm	-	ON	810	1909.8	24.34	24.50	1.038	0.01	0.690	0.716
	GSM1900	GPRS (2 Tx slots)	Back	5mm	-	ON	661	1880	24.30	24.50	1.047	-0.14	1.200	1.257
	GSM1900	GPRS (2 Tx slots)	Back	5mm	-	ON	512	1850.2	24.22	24.50	1.067	-0.19	1.130	1.205
34	GSM1900	GPRS (2 Tx slots)	Back	5mm	-	ON	810	1909.8	24.34	24.50	1.038	-0.17	1.230	1.276
	GSM1900	GPRS (2 Tx slots)	Back	5mm	Headset 1	ON	810	1909.8	24.34	24.50	1.038	-0.12	0.804	0.834
	GSM1900	GPRS (2 Tx slots)	Back	5mm	Headset 2	ON	810	1909.8	24.34	24.50	1.038	0.18	0.820	0.851

<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	9538	1907.6	15.99	17.00	1.262	0.04	0.571	0.721
	WCDMA II	RMC 12.2Kbps	Back	5mm	-	ON	9538	1907.6	15.99	17.00	1.262	-0.01	0.919	1.160
	WCDMA II	RMC 12.2Kbps	Back	5mm	-	ON	9262	1852.4	15.98	17.00	1.265	0.08	0.935	1.183
35	WCDMA II	RMC 12.2Kbps	Back	5mm	-	ON	9400	1880	15.96	17.00	1.271	0.05	1.021	1.297
	WCDMA II	RMC 12.2Kbps	Back	5mm	Headset 1	ON	9400	1880	15.96	17.00	1.271	-0.05	0.450	0.572
	WCDMA II	RMC 12.2Kbps	Back	5mm	Headset 2	ON	9400	1880	15.96	17.00	1.271	-0.1	0.490	0.623
	WCDMA IV	RMC 12.2Kbps	Front	5mm	-	ON	1312	1712.4	15.65	17.50	1.531	0.02	0.465	0.712
36	WCDMA IV	RMC 12.2Kbps	Back	5mm	-	ON	1312	1712.4	15.65	17.50	1.531	0.14	0.863	1.321
	WCDMA IV	RMC 12.2Kbps	Back	5mm	-	ON	1413	1732.6	15.55	17.50	1.567	0	0.667	1.045
	WCDMA IV	RMC 12.2Kbps	Back	5mm	-	ON	1513	1752.6	15.60	17.50	1.549	0.18	0.832	1.289
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Headset 1	ON	1312	1712.4	15.65	17.50	1.531	-0.04	0.469	0.718
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Headset 2	ON	1312	1712.4	15.65	17.50	1.531	-0.1	0.485	0.743
	WCDMA V	RMC 12.2Kbps	Front	5mm	-	ON	4132	826.4	20.86	21.50	1.159	-0.17	0.598	0.693
	WCDMA V	RMC 12.2Kbps	Back	5mm	-	ON	4132	826.4	20.86	21.50	1.159	-0.04	0.901	1.044
	WCDMA V	RMC 12.2Kbps	Back	5mm	-	ON	4182	836.4	20.80	21.50	1.175	-0.06	0.972	1.142
37	WCDMA V	RMC 12.2Kbps	Back	5mm	-	ON	4233	846.6	20.72	21.50	1.197	-0.06	1.010	1.209
	WCDMA V	RMC 12.2Kbps	Back	5mm	Headset 1	ON	4233	846.6	20.72	21.50	1.197	-0.06	0.739	0.884
	WCDMA V	RMC 12.2Kbps	Back	5mm	Headset 2	ON	4233	846.6	20.72	21.50	1.197	-0.08	0.745	0.892

<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	16.89	18.00	1.291	0.03	0.637	0.823
	LTE Band 2	20M	QPSK	1	0	Front	5mm	-	ON	18700	1860	16.79	18.00	1.321	0.03	0.621	0.821
	LTE Band 2	20M	QPSK	1	0	Front	5mm	-	ON	19100	1900	16.74	18.00	1.337	0.02	0.615	0.822
	LTE Band 2	20M	QPSK	50	0	Front	5mm	-	ON	18900	1880	16.78	18.00	1.324	0.01	0.620	0.821
	LTE Band 2	20M	QPSK	50	0	Front	5mm	-	ON	18700	1860	16.70	18.00	1.349	0.15	0.607	0.819
	LTE Band 2	20M	QPSK	50	0	Front	5mm	-	ON	19100	1900	16.76	18.00	1.330	0.03	0.610	0.812
	LTE Band 2	20M	QPSK	100	0	Front	5mm	-	ON	18900	1880	16.75	18.00	1.334	0.02	0.605	0.807
	LTE Band 2	20M	QPSK	1	0	Back	5mm	-	ON	18900	1880	16.89	18.00	1.291	-0.04	0.994	1.283
	LTE Band 2	20M	QPSK	1	0	Back	5mm	-	ON	18700	1860	16.79	18.00	1.321	-0.03	0.989	1.307
38	LTE Band 2	20M	QPSK	1	0	Back	5mm	-	ON	19100	1900	16.74	18.00	1.337	-0.06	0.986	1.318
	LTE Band 2	20M	QPSK	50	0	Back	5mm	-	ON	18900	1880	16.78	18.00	1.324	0.03	0.984	1.303
	LTE Band 2	20M	QPSK	50	0	Back	5mm	-	ON	18700	1860	16.70	18.00	1.349	0.02	0.972	1.311
	LTE Band 2	20M	QPSK	50	0	Back	5mm	-	ON	19100	1900	16.76	18.00	1.330	-0.08	0.971	1.292
	LTE Band 2	20M	QPSK	100	0	Back	5mm	-	ON	18900	1880	16.75	18.00	1.334	-0.06	0.965	1.287
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Headset 1	ON	19100	1900	16.74	18.00	1.337	-0.18	0.886	1.184
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Headset 2	ON	19100	1900	16.74	18.00	1.337	-0.17	0.847	1.132
	LTE Band 4	20M	QPSK	1	0	Front	5mm	-	ON	20175	1732.5	17.83	18.50	1.167	-0.18	0.790	0.922
	LTE Band 4	20M	QPSK	50	0	Front	5mm	-	ON	20175	1732.5	17.56	18.50	1.242	0.03	0.750	0.931
	LTE Band 4	20M	QPSK	100	0	Front	5mm	-	ON	20175	1732.5	17.77	18.50	1.183	0.03	0.690	0.816
39	LTE Band 4	20M	QPSK	1	0	Back	5mm	-	ON	20175	1732.5	17.83	18.50	1.167	-0.18	1.180	1.377
	LTE Band 4	20M	QPSK	50	0	Back	5mm	-	ON	20175	1732.5	17.56	18.50	1.242	0.03	1.080	1.341
	LTE Band 4	20M	QPSK	100	0	Back	5mm	-	ON	20175	1732.5	17.77	18.50	1.183	0.03	1.150	1.360
	LTE Band 4	20M	QPSK	1	0	Back	5mm	Headset 1	ON	20175	1732.5	17.77	18.50	1.183	-0.09	0.935	1.106
	LTE Band 4	20M	QPSK	1	0	Back	5mm	Headset 2	ON	20175	1732.5	17.77	18.50	1.183	-0.16	0.917	1.085
	LTE Band 5	10M	QPSK	1	0	Front	5mm	-	ON	20525	836.5	21.91	23.00	1.285	-0.15	0.588	0.756
	LTE Band 5	10M	QPSK	25	0	Front	5mm	-	ON	20525	836.5	21.88	23.00	1.294	-0.04	0.614	0.795
	LTE Band 5	10M	QPSK	1	0	Back	5mm	-	ON	20525	836.5	21.91	23.00	1.285	-0.06	0.956	1.229
40	LTE Band 5	10M	QPSK	25	0	Back	5mm	-	ON	20525	836.5	21.88	23.00	1.294	-0.02	0.997	1.290
	LTE Band 5	10M	QPSK	50	0	Back	5mm	-	ON	20525	836.5	21.70	23.00	1.349	-0.14	0.940	1.268
	LTE Band 5	10M	QPSK	25	0	Back	5mm	Headset 1	ON	20525	836.5	21.88	23.00	1.294	-0.14	0.821	1.063
	LTE Band 5	10M	QPSK	25	0	Back	5mm	Headset 2	ON	20525	836.5	21.88	23.00	1.294	-0.15	0.839	1.086
	LTE Band 7	20M	QPSK	1	0	Front	5mm	-	ON	21100	2535	18.10	19.00	1.230	0	0.543	0.668
	LTE Band 7	20M	QPSK	50	0	Front	5mm	-	ON	21100	2535	17.93	19.00	1.279	-0.01	0.553	0.707
	LTE Band 7	20M	QPSK	1	0	Back	5mm	-	ON	21100	2535	18.10	19.00	1.230	-0.18	0.957	1.177
	LTE Band 7	20M	QPSK	1	0	Back	5mm	-	ON	20850	2510	18.03	19.00	1.250	-0.12	0.817	1.021
	LTE Band 7	20M	QPSK	1	0	Back	5mm	-	ON	21350	2560	17.99	19.00	1.262	-0.13	1.070	1.350
	LTE Band 7	20M	QPSK	50	0	Back	5mm	-	ON	21100	2535	17.93	19.00	1.279	-0.13	0.983	1.258
	LTE Band 7	20M	QPSK	50	0	Back	5mm	-	ON	20850	2510	17.93	19.00	1.279	-0.14	0.857	1.096
41	LTE Band 7	20M	QPSK	50	0	Back	5mm	-	ON	21350	2560	17.79	19.00	1.321	-0.13	1.050	1.387
	LTE Band 7	20M	QPSK	100	0	Back	5mm	-	ON	21100	2535	17.90	19.00	1.288	-0.13	0.933	1.202
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Headset 1	ON	21350	2560	17.79	19.00	1.321	-0.09	0.999	1.320
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Headset 2	ON	21350	2560	17.79	19.00	1.321	0.09	0.985	1.301
	LTE Band 12	10M	QPSK	1	0	Front	5mm	-	OFF	23095	707.5	22.94	24.00	1.276	-0.06	0.485	0.619
	LTE Band 12	10M	QPSK	25	0	Front	5mm	-	OFF	23095	707.5	21.83	23.00	1.309	0.01	0.434	0.568
42	LTE Band 12	10M	QPSK	1	0	Back	5mm	-	OFF	23095	707.5	22.94	24.00	1.276	-0.13	0.747	0.953
	LTE Band 12	10M	QPSK	25	0	Back	5mm	-	OFF	23095	707.5	21.83	23.00	1.309	0	0.664	0.869
	LTE Band 12	10M	QPSK	50	0	Back	5mm	-	OFF	23095	707.5	21.80	23.00	1.318	-0.01	0.673	0.887

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 66	20M	QPSK	1	0	Front	5mm	-	ON	132572	1770	17.14	18.00	1.219	0.15	0.780	0.951
	LTE Band 66	20M	QPSK	1	0	Front	5mm	-	ON	132072	1720	16.98	18.00	1.265	0.05	0.690	0.873
	LTE Band 66	20M	QPSK	1	0	Front	5mm	-	ON	132322	1745	16.99	18.00	1.262	0.14	0.750	0.946
	LTE Band 66	20M	QPSK	50	0	Front	5mm	-	ON	132572	1770	16.93	18.00	1.279	0.09	0.735	0.940
	LTE Band 66	20M	QPSK	50	0	Front	5mm	-	ON	132072	1720	16.80	18.00	1.318	0.02	0.685	0.903
	LTE Band 66	20M	QPSK	50	0	Front	5mm	-	ON	132322	1745	16.77	18.00	1.327	0.01	0.715	0.949
	LTE Band 66	20M	QPSK	100	0	Front	5mm	-	ON	132572	1770	17.02	18.00	1.253	0.03	0.757	0.949
43	LTE Band 66	20M	QPSK	1	0	Back	5mm	-	ON	132572	1770	17.14	18.00	1.219	-0.04	1.120	1.365
	LTE Band 66	20M	QPSK	1	0	Back	5mm	-	ON	132072	1720	16.98	18.00	1.265	-0.15	0.888	1.123
	LTE Band 66	20M	QPSK	1	0	Back	5mm	-	ON	132322	1745	16.99	18.00	1.262	0.01	0.971	1.225
	LTE Band 66	20M	QPSK	50	0	Back	5mm	-	ON	132572	1770	16.93	18.00	1.279	0.03	1.020	1.305
	LTE Band 66	20M	QPSK	50	0	Back	5mm	-	ON	132072	1720	16.80	18.00	1.318	0.02	0.872	1.150
	LTE Band 66	20M	QPSK	50	0	Back	5mm	-	ON	132322	1745	16.77	18.00	1.327	0.01	0.952	1.264
	LTE Band 66	20M	QPSK	100	0	Back	5mm	-	ON	132572	1770	17.02	18.00	1.253	0.08	1.080	1.353
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Headset 1	ON	132572	1770	17.14	18.00	1.219	-0.15	0.658	0.802
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Headset 2	ON	132572	1770	17.14	18.00	1.219	-0.08	0.651	0.794

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Headset	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	0	Front	5mm	-	ON	41140	2645	18.27	19.00	1.183	62.9	1.006	0.02	0.620	0.738
	LTE Band 41	20M	QPSK	50	0	Front	5mm	-	ON	41140	2645	18.21	19.00	1.199	62.9	1.006	0.08	0.610	0.736
44	LTE Band 41	20M	QPSK	1	0	Back	5mm	-	ON	41140	2645	18.27	19.00	1.183	62.9	1.006	0	1.060	1.262
	LTE Band 41	20M	QPSK	1	0	Back	5mm	-	ON	40140	2545	17.90	19.00	1.288	62.9	1.006	-0.07	0.721	0.934
	LTE Band 41	20M	QPSK	1	0	Back	5mm	-	ON	40400	2571	17.94	19.00	1.276	62.9	1.006	-0.07	0.813	1.044
	LTE Band 41	20M	QPSK	1	0	Back	5mm	-	ON	40670	2598	17.92	19.00	1.282	62.9	1.006	0	0.964	1.244
	LTE Band 41	20M	QPSK	50	0	Back	5mm	-	ON	41140	2645	18.21	19.00	1.199	62.9	1.006	-0.02	0.882	1.064
	LTE Band 41	20M	QPSK	50	0	Back	5mm	-	ON	40140	2545	18.02	19.00	1.253	62.9	1.006	0.03	0.622	0.784
	LTE Band 41	20M	QPSK	50	0	Back	5mm	-	ON	40400	2571	17.87	19.00	1.297	62.9	1.006	0.02	0.758	0.989
	LTE Band 41	20M	QPSK	50	0	Back	5mm	-	ON	40670	2598	17.90	19.00	1.288	62.9	1.006	0.08	0.821	1.064
	LTE Band 41	20M	QPSK	100	0	Back	5mm	-	ON	41140	2645	17.85	19.00	1.303	62.9	1.006	-0.02	0.822	1.078
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Headset 1	ON	41140	2645	18.27	19.00	1.183	62.9	1.006	0.02	0.921	1.096
	LTE Band 41	20M	QPSK	50	0	Back	5mm	Headset 2	ON	41140	2645	18.27	19.00	1.183	62.9	1.006	0.08	0.911	1.084

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Headset	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)
45	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	-	6	2437	18.90	19.00	1.023	98.77	1.012	-0.11	0.425	0.440
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	-	6	2437	18.90	19.00	1.023	98.77	1.012	0.08	0.261	0.270
	WLAN5GHz	802.11a 6Mbps	Front	5mm	-	52	5260	16.80	17.00	1.047	98.11	1.019	0.01	0.149	0.159
46	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	52	5260	16.80	17.00	1.047	98.11	1.019	-0.17	0.647	0.690
	WLAN5GHz	802.11a 6Mbps	Front	5mm	-	116	5580	16.70	17.00	1.072	98.11	1.019	-0.05	0.164	0.179
47	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	116	5580	16.70	17.00	1.072	98.11	1.019	-0.05	0.727	0.794
	WLAN5GHz	802.11a 6Mbps	Front	5mm	-	149	5745	16.90	17.00	1.023	98.11	1.019	-0.06	0.277	0.289
48	WLAN5GHz	802.11a 6Mbps	Back	5mm	-	149	5745	16.90	17.00	1.023	98.11	1.019	0.16	1.330	1.387
	WLAN5GHz	802.11a 6Mbps	Back	5mm	Headset 1	149	5745	16.90	17.00	1.023	98.11	1.019	0.02	1.300	1.356
	WLAN5GHz	802.11a 6Mbps	Back	5mm	Headset 2	149	5745	16.90	17.00	1.023	98.11	1.019	0.02	1.321	1.377

<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	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
49	Bluetooth	1Mbps	Front	5mm	-	0	2402	11.90	12.00	1.023	76.6	1.087	0.1	0.067	0.075
	Bluetooth	1Mbps	Back	5mm	-	0	2402	11.90	12.00	1.023	76.6	1.087	0.15	0.039	0.043

Based on WLAN2.4GHz and Bluetooth share the same antenna, so Bluetooth RF exposure evaluation chose the worst positon of 2.4GHz WLAN to perform Bluetooth SAR test, and used this Bluetooth SAR value conservatively represent other position do co-located analysis with WWAN.

14.4 Product Specific SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
50	GSM850	GPRS (2 Tx slots)	Front	0mm	OFF	128	824.2	31.63	32.50	1.222	0.04	1.680	2.053
	GSM850	GPRS (2 Tx slots)	Back	0mm	OFF	251	848.8	31.28	32.50	1.324	-0.17	1.500	1.987
	GSM850	GPRS (2 Tx slots)	Bottom Side	0mm	OFF	128	824.2	31.63	32.50	1.222	-0.16	0.676	0.826
	GSM1900	GPRS (2 Tx slots)	Front	0mm	ON	661	1880	26.51	27.00	1.119	-0.15	1.780	1.993
	GSM1900	GPRS (2 Tx slots)	Back	0mm	ON	810	1909.8	26.48	27.00	1.127	-0.12	2.450	2.762
	GSM1900	GPRS (2 Tx slots)	Back	0mm	ON	661	1880	26.51	27.00	1.119	-0.13	2.400	2.687
	GSM1900	GPRS (2 Tx slots)	Back	0mm	ON	512	1850.2	26.44	27.00	1.138	-0.13	2.280	2.594
51	GSM1900	GPRS (2 Tx slots)	Bottom Side	0mm	ON	810	1909.8	26.48	27.00	1.127	-0.11	3.060	3.449
	GSM1900	GPRS (2 Tx slots)	Bottom Side	0mm	ON	661	1880	26.51	27.00	1.119	-0.15	2.930	3.280
	GSM1900	GPRS (2 Tx slots)	Bottom Side	0mm	ON	512	1850.2	26.44	27.00	1.138	-0.15	2.870	3.265

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	0mm	ON	9538	1907.6	19.36	20.00	1.159	0.01	1.570	1.819
	WCDMA II	RMC 12.2Kbps	Back	0mm	ON	9400	1880	19.35	20.00	1.161	0.05	2.000	2.323
	WCDMA II	RMC 12.2Kbps	Back	0mm	ON	9538	1907.6	19.36	20.00	1.159	0.16	2.090	2.422
	WCDMA II	RMC 12.2Kbps	Back	0mm	ON	9262	1852.4	19.34	20.00	1.164	0.03	2.090	2.433
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	ON	9400	1880	19.35	20.00	1.161	0.17	2.770	3.217
52	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	ON	9538	1907.6	19.36	20.00	1.159	0.15	2.810	3.256
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	ON	9262	1852.4	19.34	20.00	1.164	0.16	2.780	3.236
	WCDMA IV	RMC 12.2Kbps	Front	0mm	ON	1312	1712.4	19.27	20.50	1.327	0.16	1.500	1.991
	WCDMA IV	RMC 12.2Kbps	Back	0mm	ON	1312	1712.4	19.27	20.50	1.327	0	2.030	2.695
	WCDMA IV	RMC 12.2Kbps	Back	0mm	ON	1413	1732.6	19.16	20.50	1.361	0	2.050	2.791
	WCDMA IV	RMC 12.2Kbps	Back	0mm	ON	1513	1752.6	19.18	20.50	1.355	-0.17	1.670	2.263
	WCDMA IV	RMC 12.2Kbps	Bottom Side	0mm	ON	1312	1712.4	19.27	20.50	1.327	0.17	2.020	2.681
	WCDMA IV	RMC 12.2Kbps	Bottom Side	0mm	ON	1413	1732.6	19.16	20.50	1.361	0.15	2.580	3.513
53	WCDMA IV	RMC 12.2Kbps	Bottom Side	0mm	ON	1513	1752.6	19.18	20.50	1.355	0.18	2.610	3.537
	WCDMA V	RMC 12.2Kbps	Front	0mm	OFF	4132	826.4	22.80	24.00	1.318	-0.01	1.710	2.254
	WCDMA V	RMC 12.2Kbps	Front	0mm	OFF	4182	836.4	22.71	24.00	1.346	-0.19	1.920	2.584
	WCDMA V	RMC 12.2Kbps	Front	0mm	OFF	4233	846.6	22.62	24.00	1.374	-0.14	2.090	2.872
	WCDMA V	RMC 12.2Kbps	Back	0mm	OFF	4132	826.4	22.80	24.00	1.318	-0.04	2.150	2.834
	WCDMA V	RMC 12.2Kbps	Back	0mm	OFF	4182	836.4	22.71	24.00	1.346	-0.05	2.520	3.392
54	WCDMA V	RMC 12.2Kbps	Back	0mm	OFF	4233	846.6	22.62	24.00	1.374	0.06	2.610	3.586

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 2	20M	QPSK	1	0	Front	0mm	ON	18900	1880	20.04	21.00	1.247	0.03	1.590	1.983
	LTE Band 2	20M	QPSK	1	0	Back	0mm	ON	19100	1900	20.02	21.00	1.253	-0.11	2.030	2.544
	LTE Band 2	20M	QPSK	1	0	Back	0mm	ON	18900	1880	20.04	21.00	1.247	-0.1	2.030	2.532
	LTE Band 2	20M	QPSK	1	0	Back	0mm	ON	18700	1860	20.00	21.00	1.259	-0.14	2.110	2.656
55	LTE Band 2	20M	QPSK	1	0	Bottom Side	0mm	ON	19100	1900	20.02	21.00	1.253	0.05	2.850	3.571
	LTE Band 2	20M	QPSK	1	0	Bottom Side	0mm	ON	18900	1880	20.04	21.00	1.247	0.15	2.850	3.555
	LTE Band 2	20M	QPSK	1	0	Bottom Side	0mm	ON	18700	1860	20.00	21.00	1.259	0.12	2.820	3.550
56	LTE Band 5	10M	QPSK	1	0	Back	0mm	OFF	20525	836.5	22.79	24.00	1.321	-0.17	2.330	3.079
	LTE Band 7	20M	QPSK	1	0	Front	0mm	ON	21100	2535	19.10	19.50	1.096	0.15	2.150	2.357
	LTE Band 7	20M	QPSK	1	0	Front	0mm	ON	20850	2510	18.89	19.50	1.151	-0.08	2.000	2.302
	LTE Band 7	20M	QPSK	1	0	Front	0mm	ON	21350	2560	18.88	19.50	1.153	-0.09	2.170	2.503
	LTE Band 7	20M	QPSK	1	0	Back	0mm	ON	21100	2535	19.10	19.50	1.096	-0.03	3.000	3.289
	LTE Band 7	20M	QPSK	1	0	Back	0mm	ON	20850	2510	18.89	19.50	1.151	-0.08	2.830	3.257
57	LTE Band 7	20M	QPSK	1	0	Back	0mm	ON	21350	2560	18.88	19.50	1.153	-0.09	3.120	3.599
	LTE Band 7	20M	QPSK	1	0	Bottom Side	0mm	ON	21100	2535	19.10	19.50	1.096	-0.18	1.780	1.952
	LTE Band 66	20M	QPSK	1	0	Front	0mm	ON	132572	1770	19.87	20.50	1.156	0.11	1.690	1.954
	LTE Band 66	20M	QPSK	1	0	Back	0mm	ON	132572	1770	19.87	20.50	1.156	-0.17	2.250	2.601
	LTE Band 66	20M	QPSK	1	0	Back	0mm	ON	132072	1720	19.74	20.50	1.191	0	1.710	2.037
	LTE Band 66	20M	QPSK	1	0	Back	0mm	ON	132322	1745	19.63	20.50	1.222	-0.09	2.170	2.651
58	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	ON	132572	1770	19.87	20.50	1.156	0.15	2.730	3.156
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	ON	132072	1720	19.74	20.50	1.191	0.15	2.400	2.859
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	ON	132322	1745	19.63	20.50	1.222	0.19	2.570	3.140

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
59	LTE Band 41	20M	QPSK	1	0	Back	0mm	ON	41140	2645	20.71	22.00	1.346	62.9	1.006	-0.08	2.500	3.385
	LTE Band 41	20M	QPSK	1	0	Back	0mm	ON	40140	2545	20.48	22.00	1.419	62.9	1.006	0.03	2.130	3.041
	LTE Band 41	20M	QPSK	1	0	Back	0mm	ON	40400	2571	20.42	22.00	1.439	62.9	1.006	0.02	2.210	3.199
	LTE Band 41	20M	QPSK	1	0	Back	0mm	ON	40670	2598	20.52	22.00	1.406	62.9	1.006	0.08	2.250	3.183
	LTE Band 41	20M	QPSK	1	0	Bottom Side	0mm	ON	41140	2645	20.71	22.00	1.346	62.9	1.006	0.09	1.370	1.855

<WLAN SAR>

Plot 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 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5GHz	802.11a 6Mbps	Front	0mm	52	5260	16.80	17.00	1.047	98.11	1.019	0.01	0.530	0.566
60	WLAN5GHz	802.11a 6Mbps	Back	0mm	52	5260	16.80	17.00	1.047	98.11	1.019	0.03	0.873	0.932
	WLAN5GHz	802.11a 6Mbps	Right Side	0mm	52	5260	16.80	17.00	1.047	98.11	1.019	0.09	0.097	0.103
	WLAN5GHz	802.11a 6Mbps	Top Side	0mm	52	5260	16.80	17.00	1.047	98.11	1.019	-0.16	0.173	0.185
	WLAN5GHz	802.11a 6Mbps	Front	0mm	116	5580	16.70	17.00	1.072	98.11	1.019	-0.18	0.479	0.523
61	WLAN5GHz	802.11a 6Mbps	Back	0mm	116	5580	16.70	17.00	1.072	98.11	1.019	-0.14	1.230	1.343
	WLAN5GHz	802.11a 6Mbps	Right Side	0mm	116	5580	16.70	17.00	1.072	98.11	1.019	-0.16	0.225	0.246
	WLAN5GHz	802.11a 6Mbps	Top Side	0mm	116	5580	16.70	17.00	1.072	98.11	1.019	-0.04	0.201	0.219

14.5 Repeated SAR Measurement

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	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	OFF	1	2412	18.70	19.00	1.072	98.77	1.012	-0.15	1.160	-	1.258
2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	OFF	1	2412	18.70	19.00	1.072	98.77	1.012	-0.11	1.134	1.02	1.230
1st	GSM850	GPRS (2 Tx slots)	Back	5mm	ON	251	848.8	28.78	29.50	1.180	-	1.000	-0.1	1.120	-	1.322
2nd	GSM850	GPRS (2 Tx slots)	Back	5mm	ON	251	848.8	28.78	29.50	1.180	-	1.000	-0.1	1.090	1.03	1.287
1st	GSM1900	GPRS (2 Tx slots)	Back	5mm	ON	810	1909.8	24.34	24.50	1.038	-	1.000	-0.17	1.230	-	1.276
2nd	GSM1900	GPRS (2 Tx slots)	Back	5mm	ON	810	1909.8	24.34	24.50	1.038	-	1.000	-0.16	1.180	1.04	1.224
1st	LTE Band 4	20M_QPSK_1_0	Back	5mm	ON	20175	1732.5	17.83	18.50	1.167	-	1.000	-0.18	1.180	-	1.377
2nd	LTE Band 4	20M_QPSK_1_0	Back	5mm	ON	20175	1732.5	17.83	18.50	1.167	-	1.000	0.14	0.998	1.18	1.164
1st	LTE Band 7	20M_QPSK_1_0	Back	5mm	ON	21350	2560	17.99	19.00	1.262	-	1.000	-0.13	1.070	-	1.350
2nd	LTE Band 7	20M_QPSK_1_0	Back	5mm	ON	21350	2560	17.99	19.00	1.262	-	1.000	-0.03	1.010	1.06	1.274
1st	WLAN5GHz	802.11a 6Mbps	Back	5mm	OFF	149	5745	16.90	17.00	1.023	98.11	1.019	0.16	1.330	-	1.387
2nd	WLAN5GHz	802.11a 6Mbps	Back	5mm	OFF	149	5745	16.90	17.00	1.023	98.11	1.019	-0.19	1.270	1.05	1.324
1st	LTE Band 4	20M_QPSK_1_0	Back	5mm	ON	20175	1732.5	17.83	18.50	1.167	-	1.000	-0.18	1.180	-	1.377
2nd	LTE Band 4	20M_QPSK_1_0	Back	5mm	ON	20175	1732.5	17.83	18.50	1.167	-	1.000	0.14	1.130	1.04	1.318

No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	GSM1900	GPRS (2 Tx slots)	Bottom Side	0mm	ON	810	1909.8	26.48	27.00	1.127	-0.11	3.060	-	3.449
2nd	GSM1900	GPRS (2 Tx slots)	Bottom Side	0mm	ON	810	1909.8	26.48	27.00	1.127	-0.15	3.000	1.02	3.382
1st	WCDMA V	RMC 12.2Kbps	Back	0mm	OFF	4233	846.6	22.62	24.00	1.374	0.06	2.610	-	3.586
2nd	WCDMA V	RMC 12.2Kbps	Back	0mm	OFF	4233	846.6	22.62	24.00	1.374	0.01	2.470	1.06	3.394
1st	LTE Band 7	20M_QPSK_1_0	Back	0mm	ON	21350	2560	18.88	19.50	1.153	-0.09	3.120	-	3.599
2nd	LTE Band 7	20M_QPSK_1_0	Back	0mm	ON	21350	2560	18.88	19.50	1.153	-0.01	3.100	1.01	3.576
1st	LTE Band 66	20M_QPSK_1_0	Bottom Side	0mm	ON	132572	1770	19.87	20.50	1.156	0.15	2.730	-	3.156
2nd	LTE Band 66	20M_QPSK_1_0	Bottom Side	0mm	ON	132572	1770	19.87	20.50	1.156	0.01	2.660	1.03	3.075

General Note:

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

15. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product Specific
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
2.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
3.	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes
4.	WWAN + WLAN5GHz + Bluetooth	Yes	Yes	Yes	Yes

General Note:

1. This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications.
2. 2.4GHz WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
3. All licensed modes share the same antenna part and cannot transmit simultaneously.
4. 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.
5. The Scaled SAR summation is calculated based on the same configuration and test position.
6. 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 15.2.

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)	3+4 Summed 1g SAR (W/kg)	1+2 SPLSR	1+2 Case No	1+3 SPLSR	1+3 Case No
GSM	GSM850	Right Cheek	0.314	0.344	0.208	0.055	**0.658**	**0.522**	**0.369**	**0.263**				
		Right Tilted	0.149	0.243	0.145	0.039	**0.392**	**0.294**	**0.188**	**0.184**				
		Left Cheek	0.250	1.258	1.241	0.158	**1.508**	**1.491**	**0.408**	**1.399**				
		Left Tilted	0.161	0.676	0.783	0.106	**0.837**	**0.944**	**0.267**	**0.889**				
	GSM1900	Right Cheek	0.104	0.344	0.208	0.055	**0.448**	**0.312**	**0.159**	**0.263**				
		Right Tilted	0.082	0.243	0.145	0.039	**0.325**	**0.227**	**0.121**	**0.184**				
		Left Cheek	0.133	1.258	1.241	0.158	**1.391**	**1.374**	**0.291**	**1.399**				
		Left Tilted	0.093	0.676	0.783	0.106	**0.769**	**0.876**	**0.199**	**0.889**				
WCDMA	WCDMA II	Right Cheek	0.180	0.344	0.208	0.055	**0.524**	**0.388**	**0.235**	**0.263**				
		Right Tilted	0.127	0.243	0.145	0.039	**0.370**	**0.272**	**0.166**	**0.184**				
		Left Cheek	0.206	1.258	1.241	0.158	**1.464**	**1.447**	**0.364**	**1.399**				
		Left Tilted	0.114	0.676	0.783	0.106	**0.790**	**0.897**	**0.220**	**0.889**				
	WCDMA IV	Right Cheek	0.146	0.344	0.208	0.055	**0.490**	**0.354**	**0.201**	**0.263**				
		Right Tilted	0.102	0.243	0.145	0.039	**0.345**	**0.247**	**0.141**	**0.184**				
		Left Cheek	0.165	1.258	1.241	0.158	**1.423**	**1.406**	**0.323**	**1.399**				
		Left Tilted	0.088	0.676	0.783	0.106	**0.764**	**0.871**	**0.194**	**0.889**				
	WCDMA V	Right Cheek	0.299	0.344	0.208	0.055	**0.643**	**0.507**	**0.354**	**0.263**				
		Right Tilted	0.140	0.243	0.145	0.039	**0.383**	**0.285**	**0.179**	**0.184**				
		Left Cheek	0.229	1.258	1.241	0.158	**1.487**	**1.470**	**0.387**	**1.399**				
		Left Tilted	0.163	0.676	0.783	0.106	**0.839**	**0.946**	**0.269**	**0.889**				
LTE	LTE Band 2	Right Cheek	0.129	0.344	0.208	0.055	**0.473**	**0.337**	**0.184**	**0.263**				
		Right Tilted	0.085	0.243	0.145	0.039	**0.328**	**0.230**	**0.124**	**0.184**				
		Left Cheek	0.164	1.258	1.241	0.158	**1.422**	**1.405**	**0.322**	**1.399**				
		Left Tilted	0.097	0.676	0.783	0.106	**0.773**	**0.880**	**0.203**	**0.889**				
	LTE Band 5	Right Cheek	0.272	0.344	0.208	0.055	**0.616**	**0.480**	**0.327**	**0.263**				
		Right Tilted	0.123	0.243	0.145	0.039	**0.366**	**0.268**	**0.162**	**0.184**				
		Left Cheek	0.180	1.258	1.241	0.158	**1.438**	**1.421**	**0.338**	**1.399**				
		Left Tilted	0.140	0.676	0.783	0.106	**0.816**	**0.923**	**0.246**	**0.889**				
	LTE Band 7	Right Cheek	0.234	0.344	0.208	0.055	**0.578**	**0.442**	**0.289**	**0.263**				
		Right Tilted	0.176	0.243	0.145	0.039	**0.419**	**0.321**	**0.215**	**0.184**				
		Left Cheek	0.407	1.258	1.241	0.158	**1.665**	**1.648**	**0.565**	**1.399**	0.03	Case 1	0.03	Case 2
		Left Tilted	0.172	0.676	0.783	0.106	**0.848**	**0.955**	**0.278**	**0.889**				
	LTE Band 12	Right Cheek	0.185	0.344	0.208	0.055	**0.529**	**0.393**	**0.240**	**0.263**				
		Right Tilted	0.051	0.243	0.145	0.039	**0.294**	**0.196**	**0.090**	**0.184**				
		Left Cheek	0.148	1.258	1.241	0.158	**1.406**	**1.389**	**0.306**	**1.399**				
		Left Tilted	0.068	0.676	0.783	0.106	**0.744**	**0.851**	**0.174**	**0.889**				
	LTE Band 41	Right Cheek	0.219	0.344	0.208	0.055	**0.563**	**0.427**	**0.274**	**0.263**				
		Right Tilted	0.163	0.243	0.145	0.039	**0.406**	**0.308**	**0.202**	**0.184**				
		Left Cheek	0.262	1.258	1.241	0.158	**1.520**	**1.503**	**0.420**	**1.399**				
		Left Tilted	0.087	0.676	0.783	0.106	**0.763**	**0.870**	**0.193**	**0.889**				
	LTE Band 66	Right Cheek	0.094	0.344	0.208	0.055	**0.438**	**0.302**	**0.149**	**0.263**				
		Right Tilted	0.061	0.243	0.145	0.039	**0.304**	**0.206**	**0.100**	**0.184**				
		Left Cheek	0.113	1.258	1.241	0.158	**1.371**	**1.354**	**0.271**	**1.399**				
		Left Tilted	0.058	0.676	0.783	0.106	**0.734**	**0.841**	**0.164**	**0.889**				

15.2 Hotspot 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)	3+4 Summed 1g SAR (W/kg)	1+2 SPLSR	1+2 Case No	1+3 SPLSR	1+3 Case No
GSM	GSM850	Front	0.701	0.440	0.289	0.075	**1.141**	**0.990**	**0.776**	**0.364**				
		Back	1.322	0.270	1.387	0.043	**1.592**	**2.709**	**1.365**	**1.430**			0.03	Case 3
		Left side	0.075				**0.075**	**0.075**	**0.075**	**0.000**				
		Right side	0.523	0.169	0.363	0.030	**0.692**	**0.886**	**0.553**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	0.633				**0.633**	**0.633**	**0.633**	**0.000**				
	GSM1900	Front	0.785	0.440	0.289	0.075	**1.225**	**1.074**	**0.860**	**0.364**				
		Back	1.276	0.270	1.387	0.043	**1.546**	**2.663**	**1.319**	**1.430**			0.03	Case 4
		Left side	0.076				**0.076**	**0.076**	**0.076**	**0.000**				
		Right side	0.358	0.169	0.363	0.030	**0.527**	**0.721**	**0.388**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	1.273				**1.273**	**1.273**	**1.273**	**0.000**				
WCDMA	WCDMA II	Front	0.721	0.440	0.289	0.075	**1.161**	**1.010**	**0.796**	**0.364**				
		Back	1.297	0.270	1.387	0.043	**1.567**	**2.684**	**1.340**	**1.430**			0.03	Case 5
		Left side	0.091				**0.091**	**0.091**	**0.091**	**0.000**				
		Right side	0.549	0.169	0.363	0.030	**0.718**	**0.912**	**0.579**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	1.138				**1.138**	**1.138**	**1.138**	**0.000**				
	WCDMA IV	Front	0.712	0.440	0.289	0.075	**1.152**	**1.001**	**0.787**	**0.364**				
		Back	1.321	0.270	1.387	0.043	**1.591**	**2.708**	**1.364**	**1.430**			0.03	Case 6
		Left side	0.107				**0.107**	**0.107**	**0.107**	**0.000**				
		Right side	0.440	0.169	0.363	0.030	**0.609**	**0.803**	**0.470**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	1.156				**1.156**	**1.156**	**1.156**	**0.000**				
	WCDMA V	Front	0.693	0.440	0.289	0.075	**1.133**	**0.982**	**0.768**	**0.364**				
		Back	1.209	0.270	1.387	0.043	**1.479**	**2.596**	**1.252**	**1.430**			0.03	Case 7
		Left side	0.086				**0.086**	**0.086**	**0.086**	**0.000**				
		Right side	0.514	0.169	0.363	0.030	**0.683**	**0.877**	**0.544**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	0.625				**0.625**	**0.625**	**0.625**	**0.000**				

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)	3+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	0.823	0.440	0.289	0.075	**1.263**	**1.112**	**0.898**	**0.364**				
		Back	1.318	0.270	1.387	0.043	**1.588**	**2.705**	**1.361**	**1.430**			0.03	Case 8
		Left side	0.068				**0.068**	**0.068**	**0.068**	**0.000**				
		Right side	0.662	0.169	0.363	0.030	**0.831**	**1.025**	**0.692**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	1.345				**1.345**	**1.345**	**1.345**	**0.000**				
	LTE Band 4	Front	0.931	0.440	0.289	0.075	**1.371**	**1.220**	**1.006**	**0.364**				
		Back	1.377	0.270	1.387	0.043	**1.647**	**2.764**	**1.420**	**1.430**	0.01	Case 9	0.03	Case 10
		Left side	0.089				**0.089**	**0.089**	**0.089**	**0.000**				
		Right side	0.364	0.169	0.363	0.030	**0.533**	**0.727**	**0.394**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	1.267				**1.267**	**1.267**	**1.267**	**0.000**				
	LTE Band 5	Front	0.795	0.440	0.289	0.075	**1.235**	**1.084**	**0.870**	**0.364**				
		Back	1.290	0.270	1.387	0.043	**1.560**	**2.677**	**1.333**	**1.430**			0.03	Case 11
		Left side	0.109				**0.109**	**0.109**	**0.109**	**0.000**				
		Right side	0.423	0.169	0.363	0.030	**0.592**	**0.786**	**0.453**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	0.770				**0.770**	**0.770**	**0.770**	**0.000**				
	LTE Band 7	Front	0.707	0.440	0.289	0.075	**1.147**	**0.996**	**0.782**	**0.364**				
		Back	1.387	0.270	1.387	0.043	**1.657**	**2.774**	**1.430**	**1.430**	0.01	Case 12	0.03	Case 13
		Left side	0.545				**0.545**	**0.545**	**0.545**	**0.000**				
		Right side	0.343	0.169	0.363	0.030	**0.512**	**0.706**	**0.373**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	0.696				**0.696**	**0.696**	**0.696**	**0.000**				
	LTE Band 12	Front	0.619	0.440	0.289	0.075	**1.059**	**0.908**	**0.694**	**0.364**				
		Back	0.953	0.270	1.387	0.043	**1.223**	**2.340**	**0.996**	**1.430**			0.02	Case 14
		Left side	0.186				**0.186**	**0.186**	**0.186**	**0.000**				
		Right side	0.387	0.169	0.363	0.030	**0.556**	**0.750**	**0.417**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	0.585				**0.585**	**0.585**	**0.585**	**0.000**				
	LTE Band 41	Front	0.738	0.440	0.289	0.075	**1.178**	**1.027**	**0.813**	**0.364**				
		Back	1.262	0.270	1.387	0.043	**1.532**	**2.649**	**1.305**	**1.430**			0.03	Case 18
		Left side	0.501				**0.501**	**0.501**	**0.501**	**0.000**				
		Right side	0.325	0.169	0.363	0.030	**0.494**	**0.688**	**0.355**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	0.489				**0.489**	**0.489**	**0.489**	**0.000**				
	LTE Band 66	Front	0.951	0.440	0.289	0.075	**1.391**	**1.240**	**1.026**	**0.364**				
		Back	1.365	0.270	1.387	0.043	**1.635**	**2.752**	**1.408**	**1.430**	0.01	Case 16	0.03	Case 17
		Left side	0.100				**0.100**	**0.100**	**0.100**	**0.000**				
		Right side	0.183	0.169	0.363	0.030	**0.352**	**0.546**	**0.213**	**0.393**				
		Top side		0.078	0.212	0.018	**0.078**	**0.212**	**0.018**	**0.230**				
		Bottom side	1.329				**1.329**	**1.329**	**1.329**	**0.000**				

15.3 Body-Worn Accessory 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)	3+4 Summed 1g SAR (W/kg)	1+2 SPLSR	1+2 Case No	1+3 SPLSR	1+3 Case No
GSM	GSM850	Front	0.701	0.440	0.289	0.075	**1.141**	**0.990**	**0.776**	**0.364**				
		Back	1.322	0.270	1.387	0.043	**1.592**	**2.709**	**1.365**	**1.430**			0.03	Case 3
		Back with Headset	0.123	0.270	1.377	0.043	**0.393**	**1.500**	**0.166**	**1.420**				
	GSM1900	Front	0.785	0.440	0.289	0.075	**1.225**	**1.074**	**0.860**	**0.364**				
		Back	1.276	0.270	1.387	0.043	**1.546**	**2.663**	**1.319**	**1.430**			0.03	Case 5
		Back with Headset	0.851	0.270	1.377	0.043	**1.121**	**2.228**	**0.894**	**1.420**			0.02	Case 19
WCDMA	WCDMA II	Front	0.721	0.440	0.289	0.075	**1.161**	**1.010**	**0.796**	**0.364**				
		Back	1.297	0.270	1.387	0.043	**1.567**	**2.684**	**1.340**	**1.430**			0.03	Case 5
		Back with Headset	0.623	0.270	1.377	0.043	**0.893**	**2.000**	**0.666**	**1.420**			0.02	Case 20
	WCDMA IV	Front	0.712	0.440	0.289	0.075	**1.152**	**1.001**	**0.787**	**0.364**				
		Back	1.321	0.270	1.387	0.043	**1.591**	**2.708**	**1.364**	**1.430**			0.03	Case 6
		Back with Headset	0.743	0.270	1.377	0.043	**1.013**	**2.120**	**0.786**	**1.420**			0.02	Case 21
	WCDMA V	Front	0.693	0.440	0.289	0.075	**1.133**	**0.982**	**0.768**	**0.364**				
		Back	1.209	0.270	1.387	0.043	**1.479**	**2.596**	**1.252**	**1.430**			0.03	Case 7
		Back with Headset	0.892	0.270	1.377	0.043	**1.162**	**2.269**	**0.935**	**1.420**			0.02	Case 22
LTE	LTE Band 2	Front	0.823	0.440	0.289	0.075	**1.263**	**1.112**	**0.898**	**0.364**				
		Back	1.318	0.270	1.387	0.043	**1.588**	**2.705**	**1.361**	**1.430**			0.03	Case 8
		Back with Headset	1.184	0.270	1.377	0.043	**1.454**	**2.561**	**1.227**	**1.420**			0.03	Case 23
	LTE Band 4	Front	0.931	0.440	0.289	0.075	**1.371**	**1.220**	**1.006**	**0.364**				
		Back	1.377	0.270	1.387	0.043	**1.647**	**2.764**	**1.420**	**1.430**	0.01	Case 9	0.03	Case 10
		Back with Headset	1.106	0.270	1.377	0.043	**1.376**	**2.483**	**1.149**	**1.420**			0.02	Case 24
	LTE Band 5	Front	0.795	0.440	0.289	0.075	**1.235**	**1.084**	**0.870**	**0.364**				
		Back	1.290	0.270	1.387	0.043	**1.560**	**2.677**	**1.333**	**1.430**			0.03	Case 11
		Back with Headset	1.086	0.270	1.377	0.043	**1.356**	**2.463**	**1.129**	**1.420**			0.02	Case 25
	LTE Band 7	Front	0.707	0.440	0.289	0.075	**1.147**	**0.996**	**0.782**	**0.364**				
		Back	1.387	0.270	1.387	0.043	**1.657**	**2.774**	**1.430**	**1.430**	0.01	Case 12	0.03	Case 13
		Back with Headset	1.320	0.270	1.377	0.043	**1.590**	**2.697**	**1.363**	**1.420**			0.03	Case 26
	LTE Band 12	Front	0.619	0.440	0.289	0.075	**1.059**	**0.908**	**0.694**	**0.364**				
		Back	0.953	0.270	1.387	0.043	**1.223**	**2.340**	**0.996**	**1.430**			0.02	Case 14
	LTE Band 41	Front	0.738	0.440	0.289	0.075	**1.178**	**1.027**	**0.813**	**0.364**				
		Back	1.262	0.270	1.387	0.043	**1.532**	**2.649**	**1.305**	**1.430**			0.03	Case 18
		Back with Headset	1.096	0.270	1.377	0.043	**1.366**	**2.473**	**1.139**	**1.420**			0.02	Case 27
	LTE Band 66	Front	0.951	0.440	0.289	0.075	**1.391**	**1.240**	**1.026**	**0.364**				
		Back	1.365	0.270	1.387	0.043	**1.635**	**2.752**	**1.408**	**1.430**	0.01	Case 16	0.03	Case 17
		Back with Headset	0.802	0.270	1.377	0.043	**1.072**	**2.179**	**0.845**	**1.420**			0.02	Case 28

15.4 Product Specific Exposure Conditions

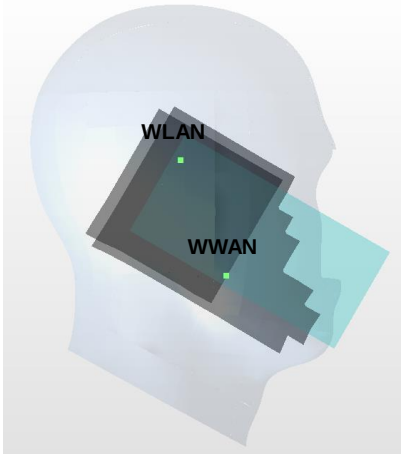
WWAN Band		Exposure Position	1 WWAN 10g SAR (W/kg)	3 5GHz WLAN 10g SAR (W/kg)	1+3 Summed 10g SAR (W/kg)	SPLSR	Case No
GSM	GSM850	Front	2.053	0.566	**2.619**		
		Back	1.987	1.343	**3.330**		
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
		Bottom side	0.826		**0.826**		
	GSM1900	Front	1.993	0.566	**2.559**		
		Back	2.762	1.343	**4.105**	0.050	Case 29
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
		Bottom side	3.449		**3.449**		
WCDMA	WCDMA II	Front	1.819	0.566	**2.385**		
		Back	2.433	1.343	**3.776**		
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
		Bottom side	3.256		**3.256**		
	WCDMA IV	Front	1.991	0.566	**2.557**		
		Back	2.791	1.343	**4.134**	0.050	Case 30
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
		Bottom side	3.537		**3.537**		
	WCDMA V	Front	2.872	0.566	**3.438**		
		Back	3.586	1.343	**4.929**	0.070	Case 31
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
LTE	LTE Band 2	Front	1.983	0.566	**2.549**		
		Back	2.656	1.343	**3.999**	0.050	Case 32
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
		Bottom side	3.571		**3.571**		
	LTE Band 5	Front		0.566	**0.566**		
		Back	3.079	1.343	**4.422**	0.060	Case 33
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
	LTE Band 7	Front	2.503	0.566	**3.069**		
		Back	3.599	1.343	**4.942**	0.070	Case 34
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
		Bottom side	1.952		**1.952**		
	LTE Band 41	Front		0.566	**0.566**		
		Back	3.385	1.343	**4.728**	0.070	Case 35
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
		Bottom side	1.855		**1.855**		
	LTE Band 66	Front	1.954	0.566	**2.520**		
		Back	2.651	1.343	**3.994**		
		Right side		0.246	**0.246**		
		Top side		0.219	**0.219**		
		Bottom side	3.156		**3.156**		

15.5 SPLSR Evaluation and Analysis

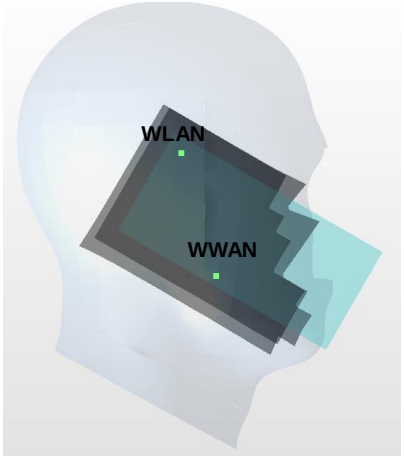
General Note:

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

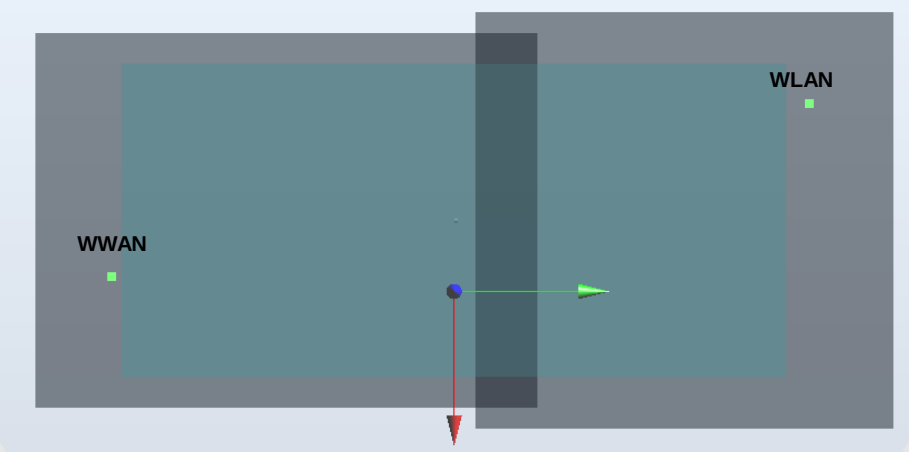
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 1	LTE Band 7	Left Cheek	0.407	0	40.51	-58.92	-1.78	81.0	1.67	0.03	Not required
	WLAN2.4GHz		1.258	0	21.88	19.95	-1.64				



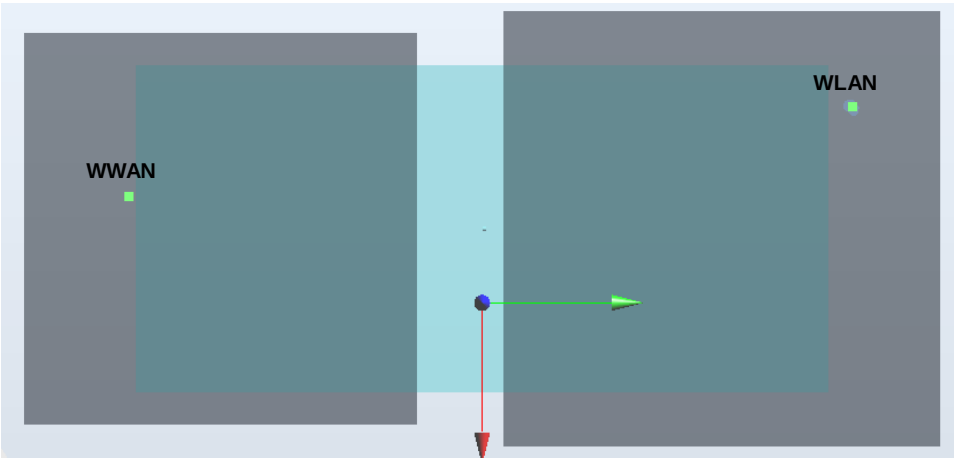
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(cm)	X	Y	Z				
Case 2	LTE Band 7	Left Cheek	0.407	0	40.51	-58.92	-1.78	82.3	1.65	0.03	Not required
	WLAN5G		1.241	0	21.1	21.07	-1.66				



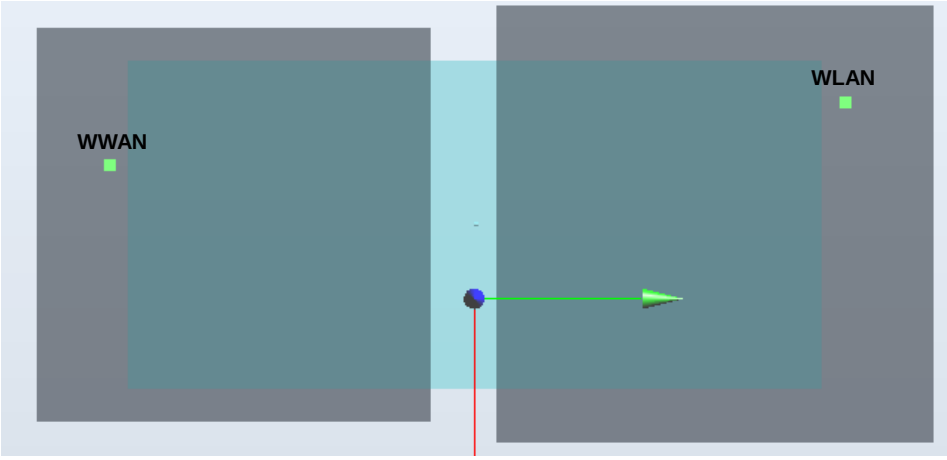
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 3	GSM850	Back	1.322	5	7.1	-82	-0.91	162.7	2.71	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



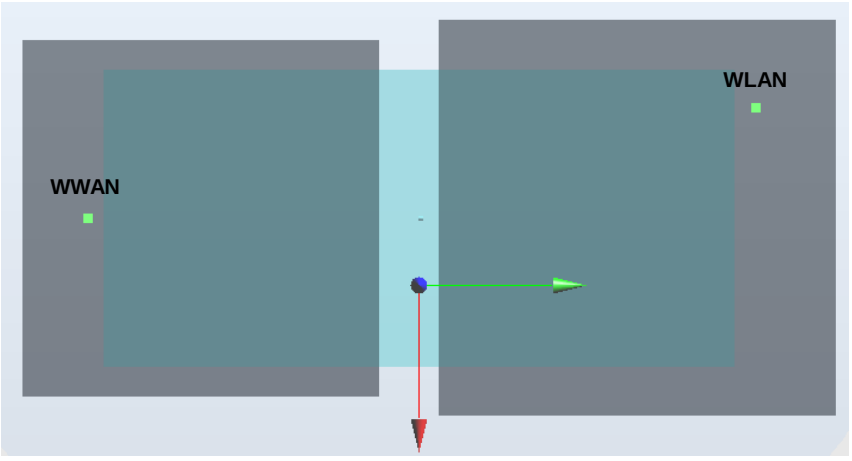
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 4	GSM1900	Back	1.276	5	-10.7	-79.4	-0.75	157.3	2.66	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



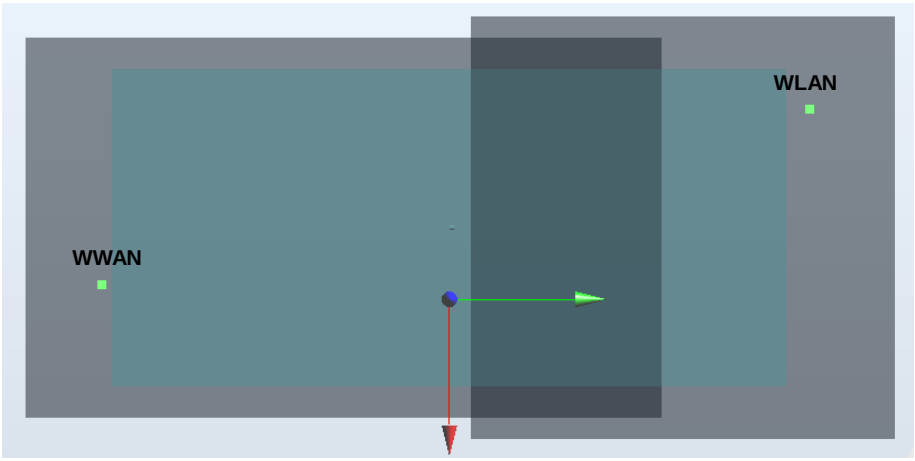
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 5	WCDMA II	Back	1.297	5	-7.1	-78.7	-0.63	157.0	2.68	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



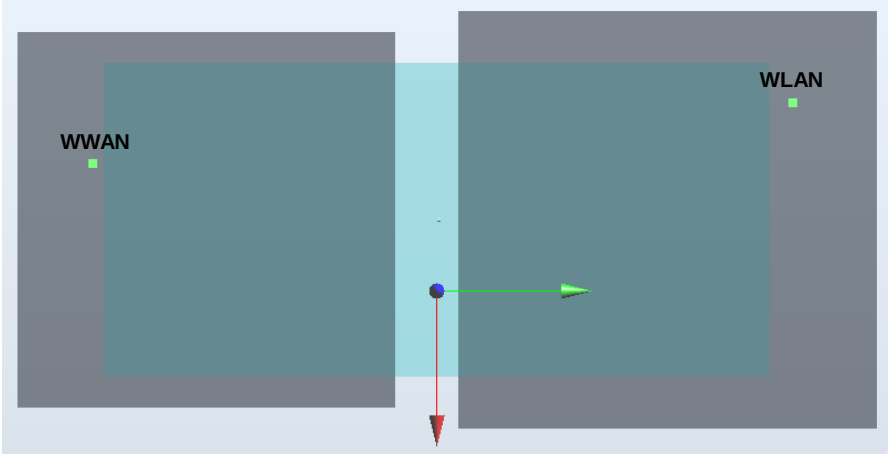
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 6	WCDMA IV	Back	1.321	5	-4.8	-80.3	-0.64	158.9	2.71	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



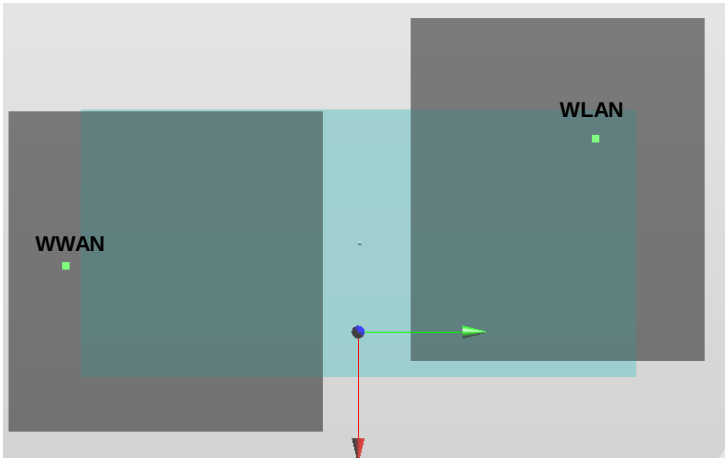
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 7	WCDMA V	Back	1.209	5	11.9	-80.4	-0.85	162.2	2.60	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



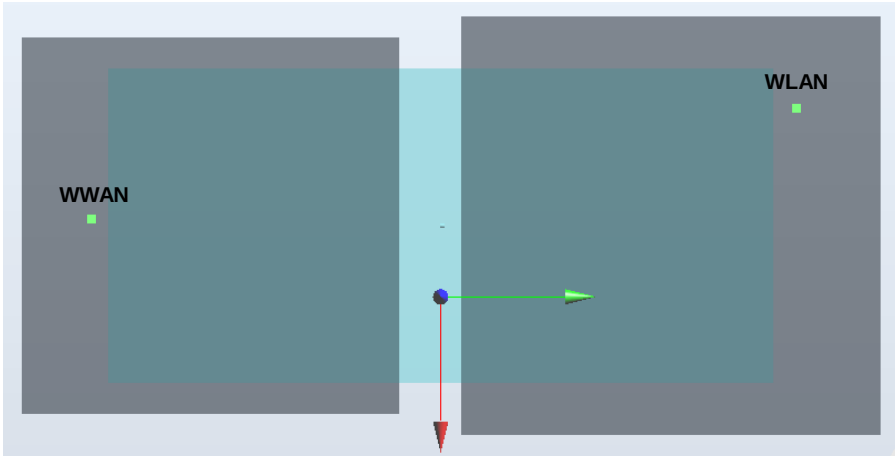
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 8	LTE Band 2	Back	1.318	5	-10.3	-78.8	-0.64	156.7	2.71	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



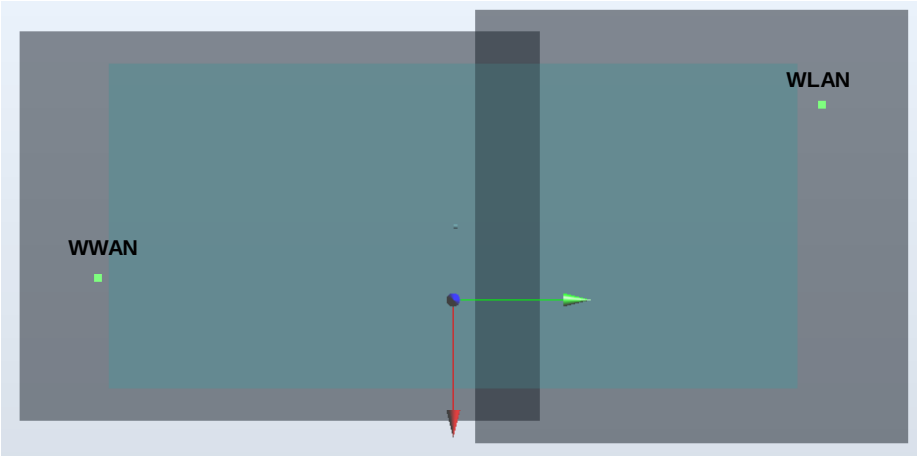
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 9	LTE Band 4	Back	1.377	5	-6.3	-81.9	-0.65	150.5	1.65	0.01	Not required
	WLAN2.4G		0.27	5	-54	60.8	-1.24				



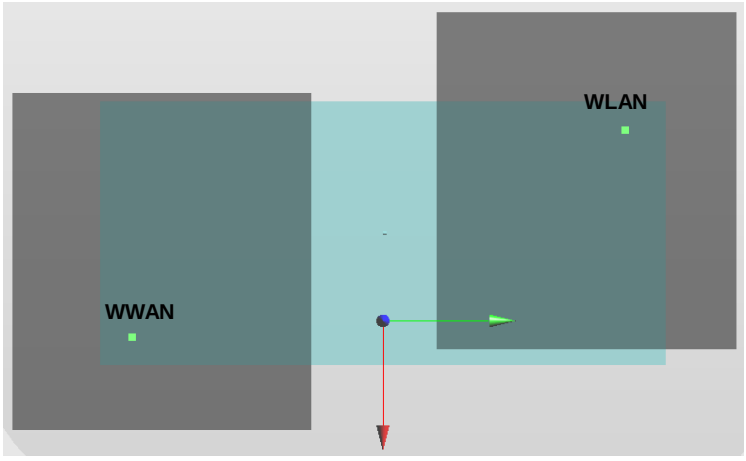
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 10	LTE Band 4	Back	1.377	5	-6.3	-81.9	-0.65	160.3	2.76	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



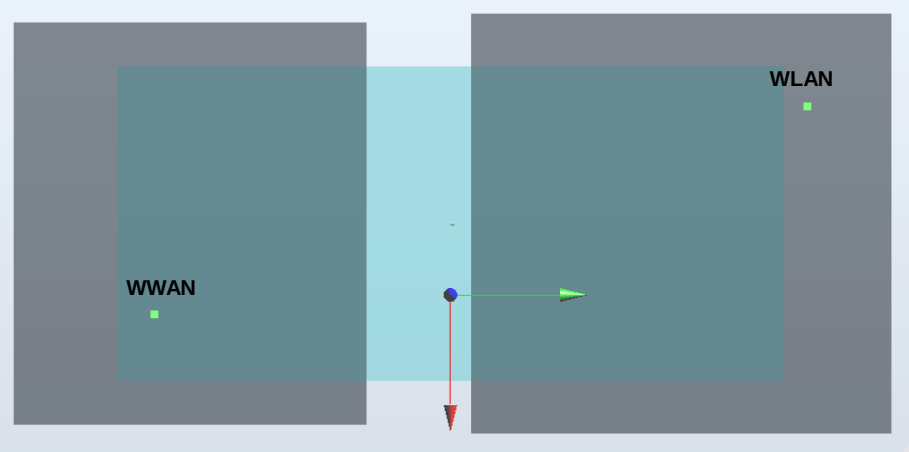
Case 11	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 5	Back	1.29	5	5.6	-82	-0.88	162.3	2.68	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



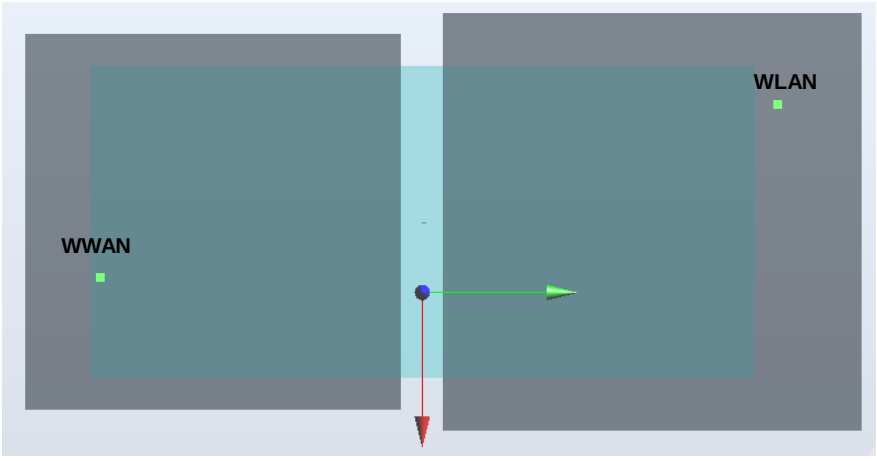
Case 12	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 7	Back	1.387	5	24.6	-71.4	-0.62	153.8	1.66	0.01	Not required
	WLAN2.4G		0.27	5	-54	60.8	-1.24				



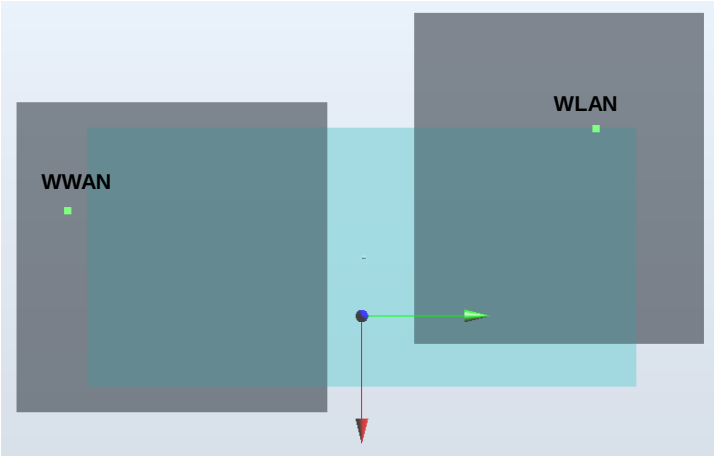
Case 13	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 7	Back	1.387	5	24.6	-71.4	-0.62	157.2	2.77	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



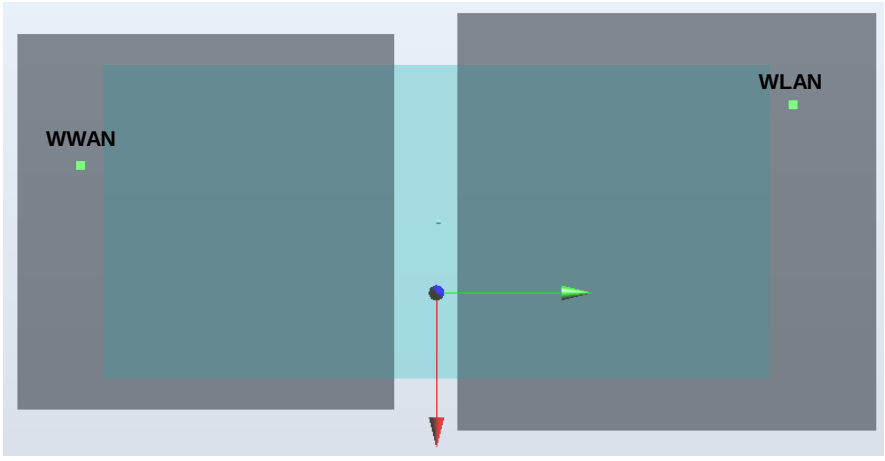
Case 14	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 12	Back	0.953	5	13.5	-78.6	-3.16	160.9	2.34	0.02	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



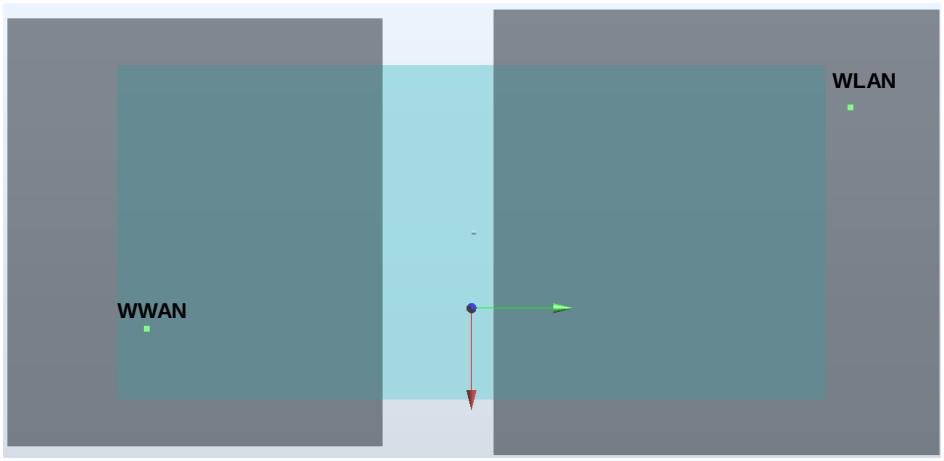
Case 16	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 66	Back	1.365	5	-10.3	-81.8	-0.63	149.1	1.64	0.01	Not required
	WLAN2.4G		0.27	5	-54	60.8	-1.24				



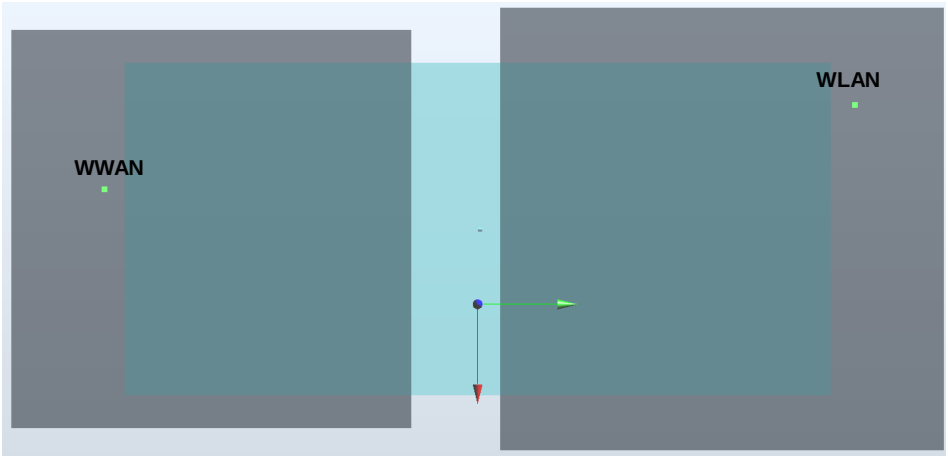
Case 17	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 66	Back	1.365	5	-10.3	-81.8	-0.63	159.7	2.75	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



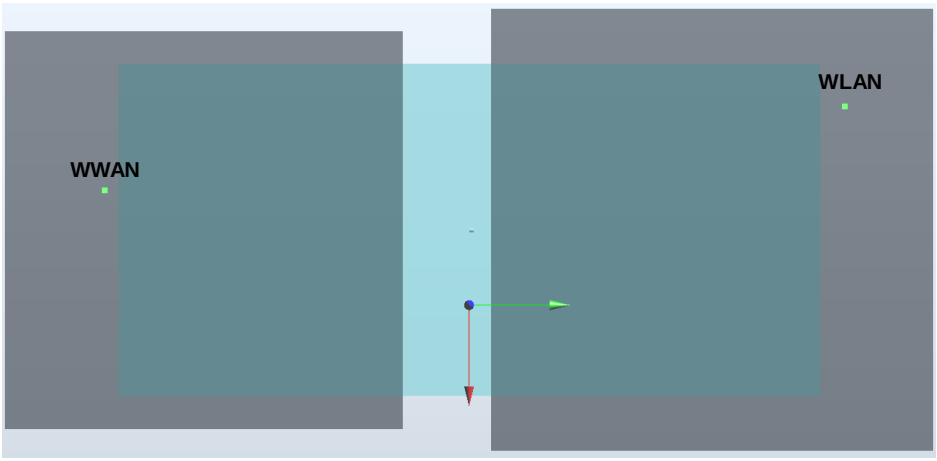
Case 18	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41	Back	1.262	5	23.6	-71.8	-0.66	157.2	2.65	0.03	Not required
	WLAN5G		1.387	5	-27.2	77	-0.44				



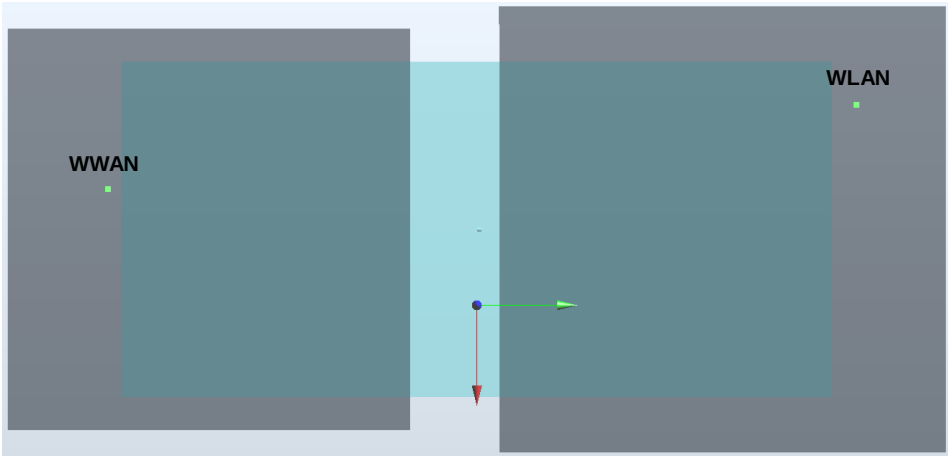
Case 19	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM1900	Back+Headset	0.851	5	-12.2	-80.8	-0.74	158.5	2.23	0.02	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



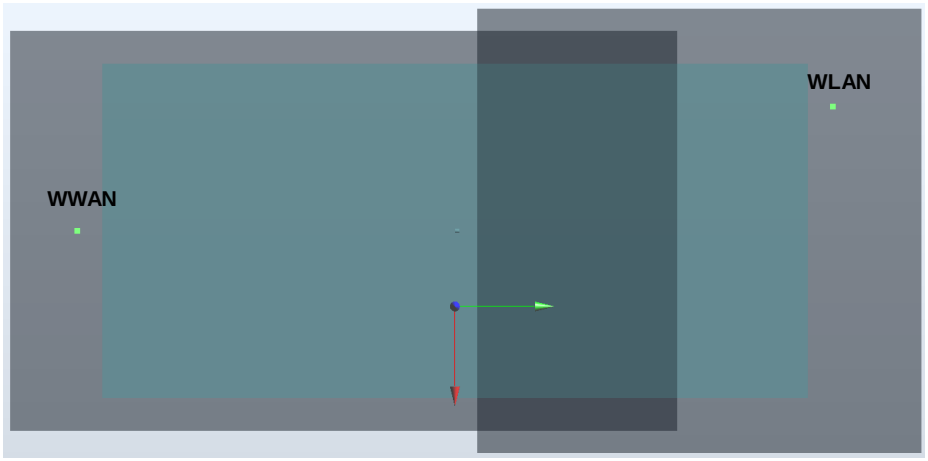
Case 20	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA II	Back+Headset	0.623	5	-12.2	-80.9	-0.74	158.6	2.00	0.02	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



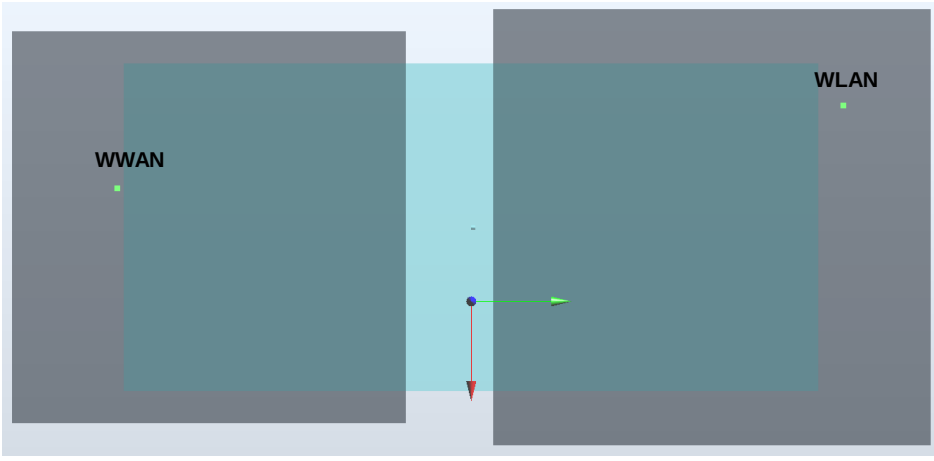
Case 21	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA IV	Back+Headset	0.743	5	-10.6	-80.9	-0.74	158.8	2.12	0.02	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



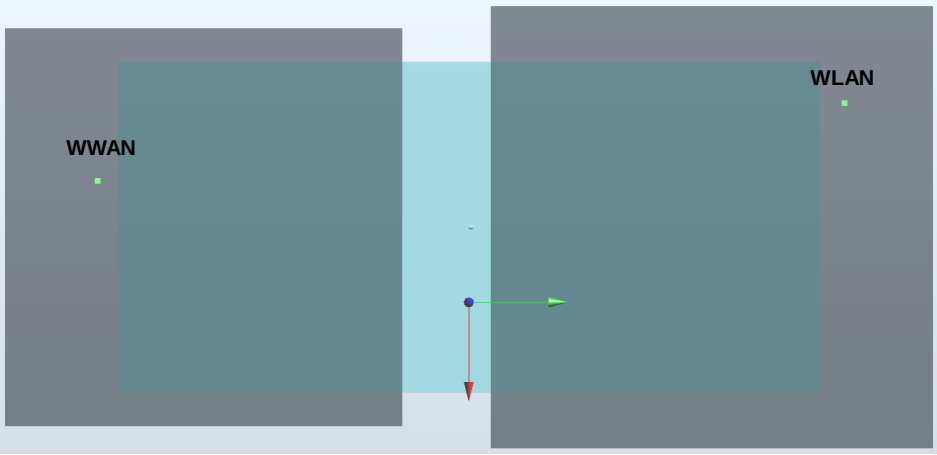
Case 22	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA V	Back+Headset	0.892	5	1.6	-80.2	-0.89	159.8	2.27	0.02	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



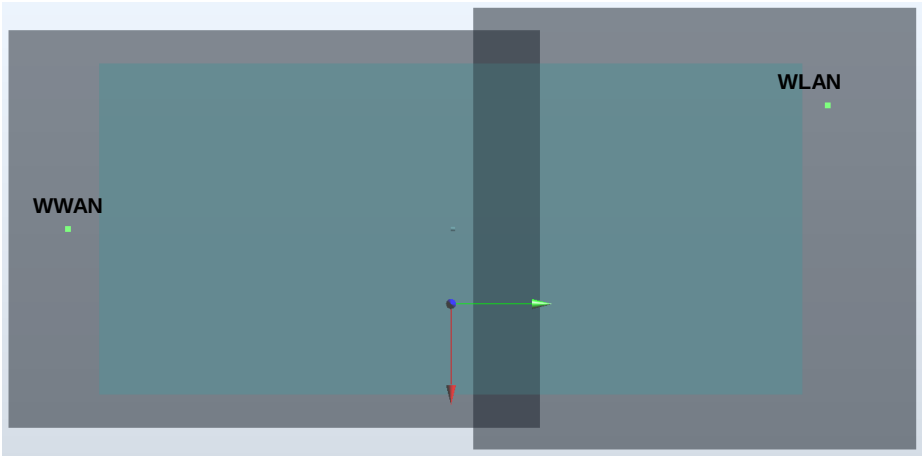
Case 23	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 2	Back+Headset	1.184	5	-10.6	-81	-0.72	158.9	2.56	0.03	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



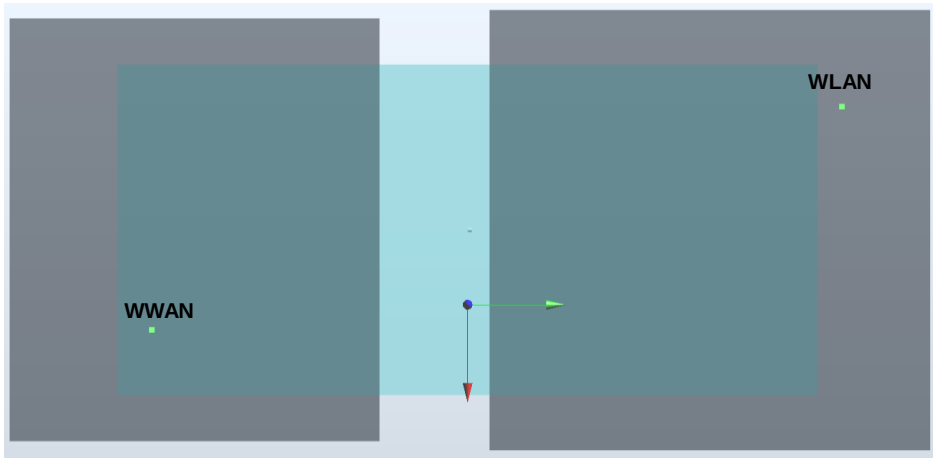
Case 24	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 4	Back+Headset	1.106	5	-8.9	-79.2	-0.75	157.3	2.48	0.02	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



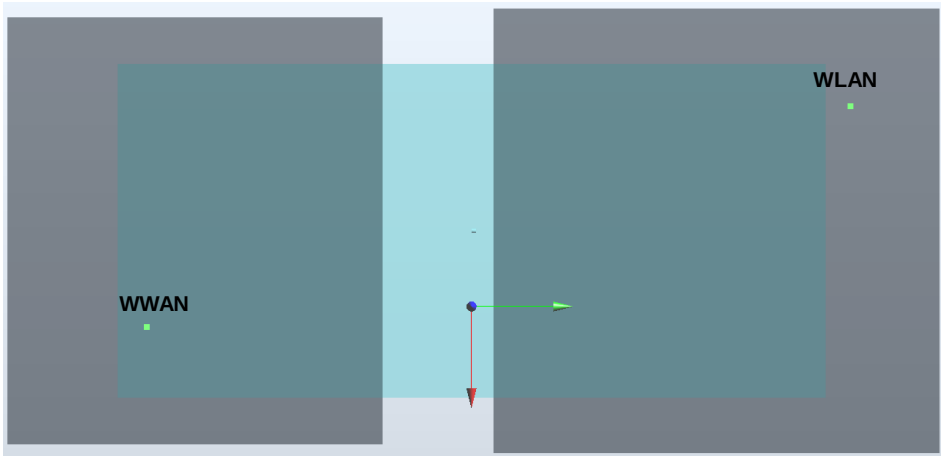
Case 25	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 5	Back+Headset	1.086	5	1.6	-81.7	-0.93	161.3	2.46	0.02	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



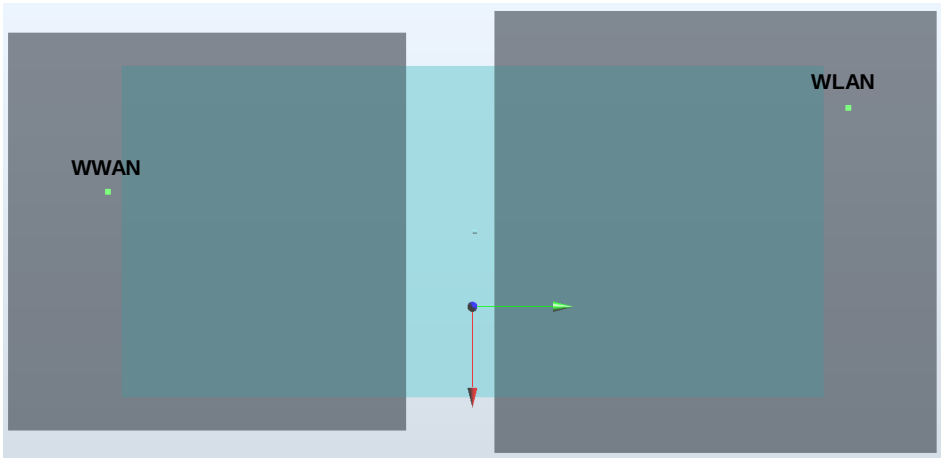
Case 26	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 7	Back+Headset	1.32	5	25.8	-71.6	-2.83	157.8	2.70	0.03	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



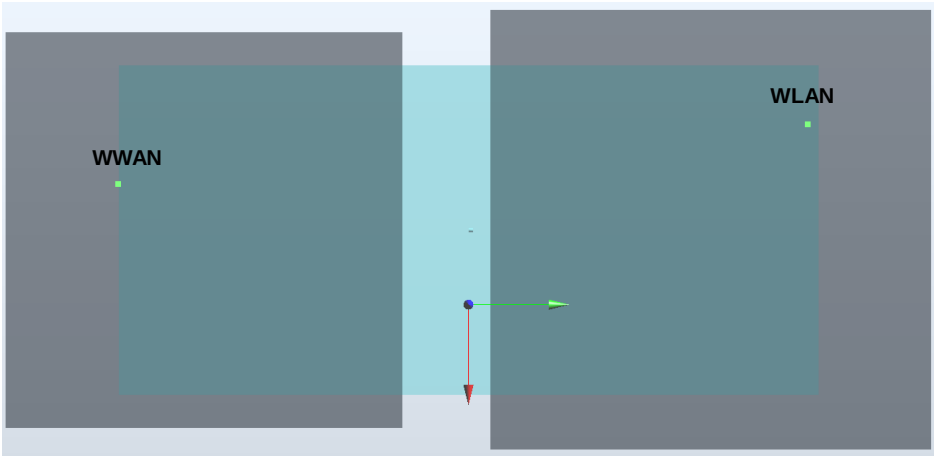
Case 27	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41	Back+Headset	1.096	5	23.6	-71.8	-0.66	157.2	2.47	0.02	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



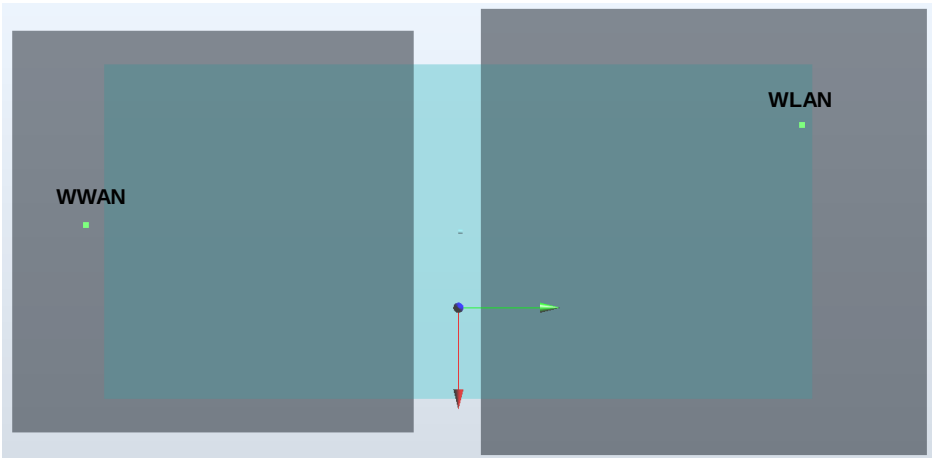
Case 28	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 66	Back+Headset	0.802	5	-9	-79.3	-0.74	157.4	2.18	0.02	Not required
	WLAN5G		1.377	5	-27.2	77	-0.44				



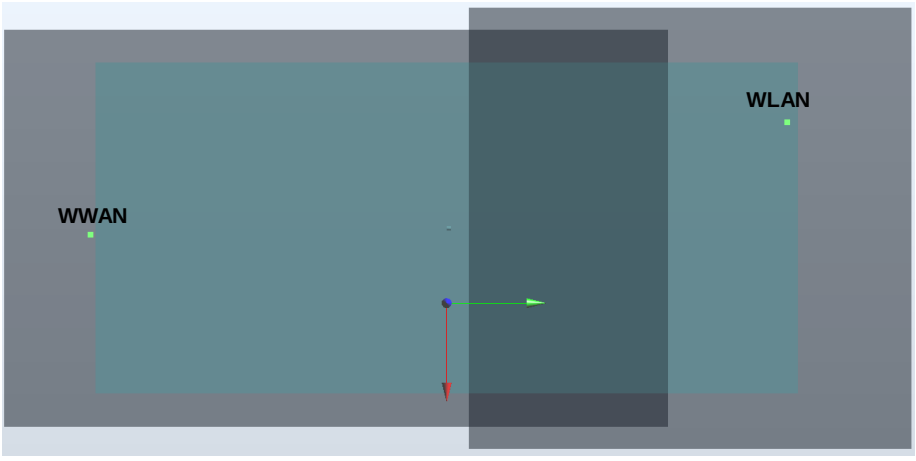
Case 29	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM1900	Back	2.762	0	-10.5	-79.5	-0.5	154.6	4.11	0.05	Not required
	WLAN5G		1.343	0	-30.4	73.8	-0.37				



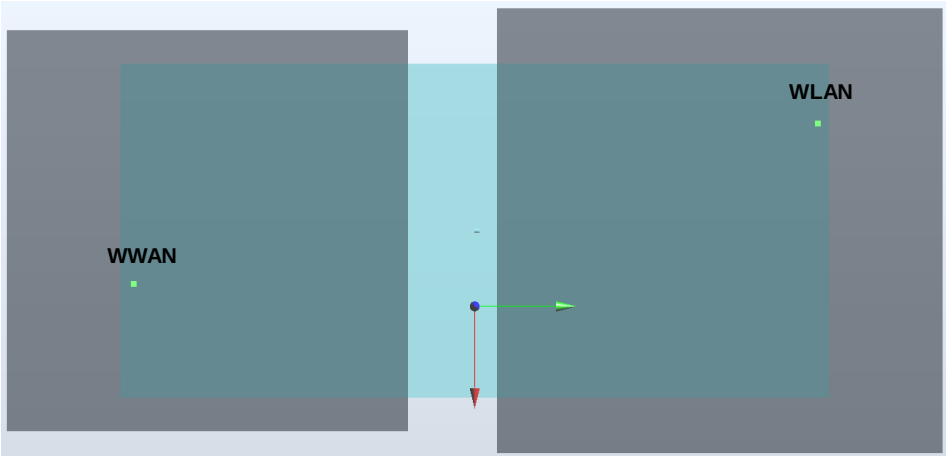
Case 30	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA IV	Back	2.791	0	-9.5	-80.3	-0.55	155.5	4.13	0.05	Not required
	WLAN5G		1.343	0	-30.4	73.8	-0.37				



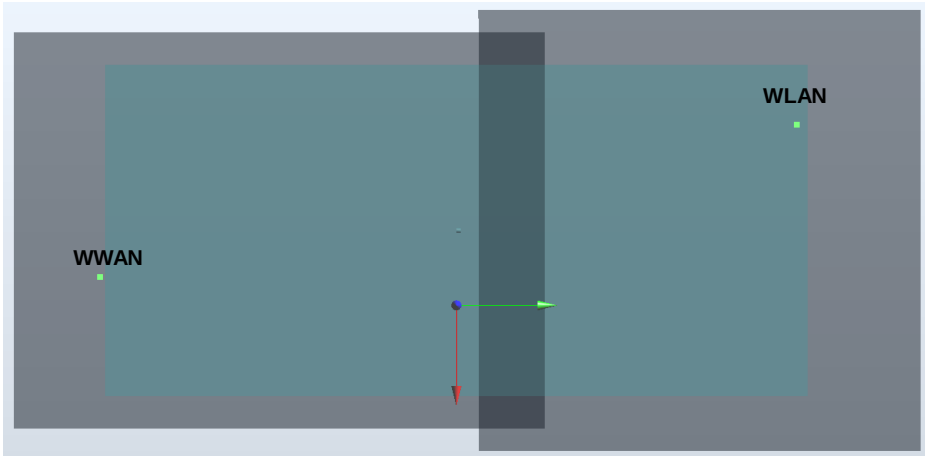
Case 31	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA V	Back	3.586	0	-14.5	-74.1	-0.72	148.8	4.93	0.07	Not required
	WLAN5G		1.343	0	-30.4	73.8	-0.37				



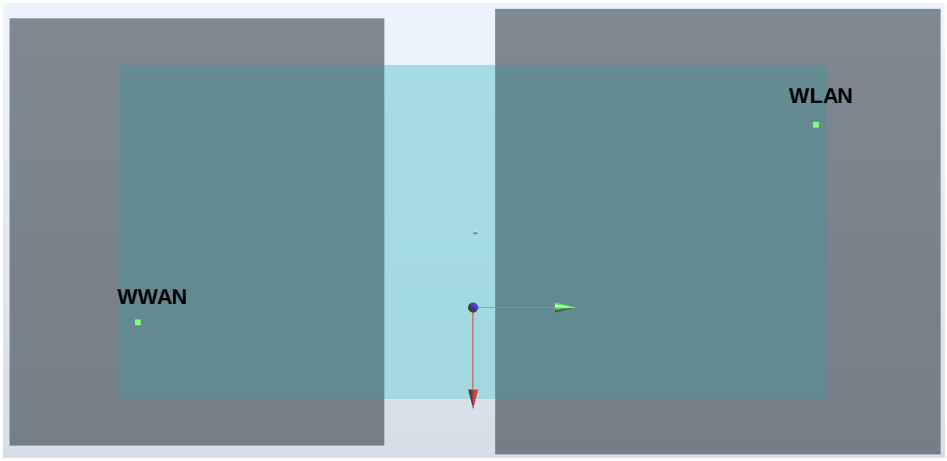
Case 32	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 2	Back	2.656	0	-8.8	-81.3	-0.46	156.6	4.00	0.05	Not required
	WLAN5G		1.343	0	-30.4	73.8	-0.37				



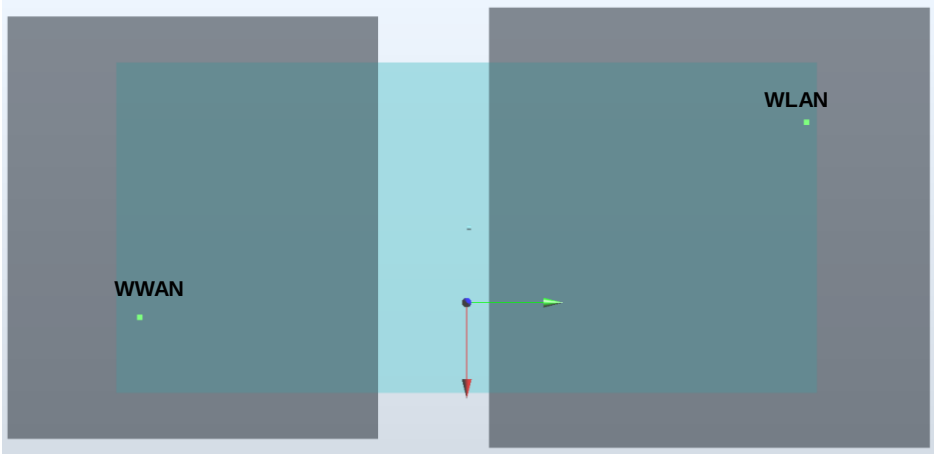
Case 33	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 5	Back	3.079	0	-13.5	-74.1	-0.63	148.9	4.42	0.06	Not required
	WLAN5G		1.343	0	-30.4	73.8	-0.37				



Case 34	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 7	Back	3.599	0	23.4	-75.2	-2.51	158.4	4.94	0.07	Not required
	WLAN5G		1.343	0	-30.4	73.8	-0.37				



Case 35	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41	Back	3.385	0	23.4	-73	-0.49	156.3	4.73	0.07	Not required
	WLAN5G		1.343	0	-30.4	73.8	-0.37				



16. Supplemental tuner tests results

General Note:

1. The following test procedure was followed to demonstrate that the SAR results in this report represent the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR will be measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements will be evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values. The additional tuner hardware has no influence to the antenna characteristics, other than impedance matching.
2. To evaluate all of the tuner states, the 144 tuner states are divided evenly among band, mode and exposure combinations so that at least one single point SAR measurement is measured in each configuration. Single point time-sweep measurements will be performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state will be established remotely so that the device is not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe will remain stationary at the same position throughout the entire series of single point measurements for each combination.
3. The device supports LTE B12/B17, B4/B66 and B38/B41. Since the supported frequency span for LTE B17/B4/B38 falls completely within the supported frequency span for LTE B12/B66/B41, and both bands have the same target power and both LTE bands share the same transmission path, therefore standalone SAR was only assessed for LTE B12/B66/B41. The single point SAR time-sweep measurements were treated independently for each supported ACL frequency band. For the LTE B17/B4/B38 single point SAR measurement selected the highest measured SAR configuration and exposure condition of LTE B12/B66/B41. And the number of required single point measurements at least 11 applies to the band.
4. The tuner state was established remotely through Wi-Fi so that the device is not moved for the entire series of single point SAR for the tuner states in each combination (band, mode, exposure conditions).
5. The operational decryption contains more information about the design and implementation of the dynamic antenna tuning.

16.1 Supplemental Head SAR results

Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	0	11	22	33	44	55	66	77	88	99	110	121	132	143	
GSM850	GPRS (2 Tx slots)	824.2	128	N/A	N/A	Right Cheek	0 mm	0.257	0.285	0.057	0.113	0.052	0.089	0.106	0.061	0.215	0.272	0.083	0.073	0.126	0.236	0.247	0.128	
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	1	12	23	34	45	56	67	78	89	100	111	122	133		
GSM1900	GPRS (2 Tx slots)	1880	661	N/A	N/A	Left Cheek	0 mm	0.096	0.123	0.068	0.113	0.121	0.121	0.115	0.116	0.115	0.115	0.052	0.056	0.029	0.031	0.033		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	2	13	24	35	46	57	68	79	90	101	112	123	134		
WCDMA B2	RMC12.2K	1907.6	9538	N/A	N/A	Left Cheek	0 mm	0.154	0.203	0.14	0.185	0.197	0.195	0.153	0.185	0.183	0.179	0.085	0.084	0.051	0.049	0.05		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	3	14	25	36	47	58	69	80	91	102	113	124	135		
WCDMA B4	RMC12.2K	1712.4	1312	N/A	N/A	Left Cheek	0 mm	0.122	0.155	0.091	0.145	0.129	0.151	0.147	0.111	0.067	0.114	0.034	0.033	0.021	0.017	0.019		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	4	15	26	37	48	59	70	81	92	103	114	125	136		
WCDMA B5	RMC12.2K	826.4	4132	N/A	N/A	Right Cheek	0 mm	0.227	0.266	0.007	0.057	0.014	0.211	0.056	0.076	0.004	0.069	0.197	0.248	0.076	0.246	0.249		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	5	16	27	38	49	60	71	82	93	104	115	126	137		
LTE B2	QPSK	1880	18900	1	0	Left Cheek	0 mm	0.129	0.17	0.151	0.163	0.167	0.167	0.164	0.147	0.133	0.132	0.06	0.062	0.041	0.039	0.041		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	6	17	28	39	50	61	72	83	94	105	116	127	138		
LTE B5	QPSK	836.5	20525	1	0	Right Cheek	0 mm	0.206	0.221	0.0108	0.04	0.022	0.211	0.039	0.128	0.014	0.047	0.125	0.187	0.128	0.111	0.17		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	7	18	29	40	51	62	73	84	95	106	117	128	139		
LTE B7	QPSK	2535	21100	1	0	Left Cheek	0 mm	0.345	0.485	0.484	0.439	0.457	0.454	0.484	0.462	0.464	0.474	0.473	0.475	0.475	0.476	0.475		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	8	19	30	41	52	63	74	85	96	107	118	129	140		
LTE B12	QPSK	707.5	23095	1	0	Right Cheek	0 mm	0.145	0.152	0.001	0.001	0.001	0.055	0.001	0.002	0.001	0.001	0.025	0.018	0.012	0.012	0.011		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	9	20	31	42	53	64	75	86	97	108	119	130	141		
LTE B41	QPSK	2598	40670	1	0	Left Cheek	0 mm	0.203	0.318	0.303	0.302	0.298	0.3	0.311	0.316	0.312	0.306	0.308	0.305	0.306	0.305	0.304		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																
									Auto-Tune	10	21	32	43	54	65	76	87	98	109	120	131	142		
LTE B66	QPSK	1745	132322	1	0	Left Cheek	0 mm	0.086	0.114	0.11	0.072	0.113	0.111	0.077	0.082	0.089	0.026	0.031	0.029	0.015	0.016	0.019		

16.2 Supplemental Body SAR results

Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	0	12	24	36	48	60	72	84	96	108	120	132
GSM850	GPRS (2 Tx slots)	848.8	251	N/A	N/A	Back	5 mm	1.12	1.702	0.015	1.597	0.058	1.676	0.247	1.133	0.118	0.116	0.696	0.717	1.632	1.483
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	1	13	25	37	49	61	73	85	97	109	121	133
GSM1900	GPRS (2 Tx slots)	1909.8	810	N/A	N/A	Back	5 mm	1.23	1.92	0.873	1.89	1.826	1.916	1.919	1.688	1.619	0.547	0.709	0.821	0.356	0.388
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	2	14	26	38	50	62	74	86	98	110	122	134
WCDMA B2	RMC12.2K	1880	9400	N/A	N/A	Back	5 mm	1.021	1.309	0.768	1.187	1.224	1.308	1.303	1.038	1.051	0.344	0.383	0.458	0.212	0.235
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	3	15	27	39	51	63	75	87	99	111	123	135
WCDMA B4	RMC12.2K	1712.4	1312	N/A	N/A	Back	5 mm	0.863	1.266	1.167	1.188	1.166	1.192	0.968	1.121	1.159	0.427	0.484	0.264	0.231	0.247
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	4	16	28	40	52	64	76	88	100	112	124	136
WCDMA B5	RMC12.2K	846.6	4233	N/A	N/A	Back	5 mm	1.01	1.394	0.087	0.371	0.348	1.022	0.129	0.822	0.645	0.921	0.851	0.649	1.112	0.965
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	5	17	29	41	53	65	77	89	101	113	125	137
LTE B2	QPSK	1900	19100	1	0	Bottom	5 mm	0.995	1.68	1.497	1.678	1.679	1.582	1.312	1.478	1.496	0.447	0.44	0.26	0.256	0.263
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	6	18	30	42	54	66	78	90	102	114	126	138
LTE B4	QPSK	1732.5	20175	1	0	Back	5 mm	1.18	1.828	1.466	0.464	1.647	1.799	1.178	1.308	1.398	0.387	0.394	0.241	0.203	0.223
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	7	19	31	43	55	67	79	91	103	115	127	139
LTE B5	QPSK	836.5	20525	25	0	Back	5 mm	0.997	1.551	0.236	0.02	0.638	0.459	0.342	0.431	0.558	1.373	1.447	1.091	0.959	1.118
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	8	20	32	44	56	68	80	92	104	116	128	140
LTE B7	QPSK	2560	21350	50	0	Back	5 mm	1.05	1.943	1.505	1.485	1.503	1.502	1.929	1.908	1.897	1.582	1.578	1.579	1.581	1.58
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	9	21	33	45	57	69	81	93	105	117	129	141
LTE B12	QPSK	707.5	23095	1	0	Back	5 mm	0.747	1.071	0.032	0.007	0.041	0.729	0.031	0.005	0.594	0.192	0.101	0.042	0.039	0.157
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	10	22	34	46	58	70	82	94	106	118	130	142
LTE B41	QPSK	2645	41140	1	0	Back	5 mm	1.06	2.011	1.8	1.792	1.793	1.781	2.008	2.005	2.009	1.762	1.769	1.76	1.773	1.771
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)												
									Auto-Tune	11	23	35	47	59	71	83	95	107	119	131	143
LTE B66	QPSK	1770	132572	1	0	Back	5 mm	1.12	1.53	1.42	1.49	1.51	1.52	1.523	1.3	1.436	0.416	0.449	0.259	0.287	0.348

<Additional Dynamic antenna tuning test>

According to 201904 TCBC workshop, if any single point SAR measurement result is > 1.2 W/kg for a band/exposure condition combination set, all supported tuner states are evaluated with single point SAR measurements for the combination

Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
GSM850	GPRS (2 Tx slots)	848.8	251	N/A	N/A	Back	5 mm	1.12	1.702	0.015	0.013	0.018	0.024	0.037	0.053	0.075	0.138	0.271	0.533	0.751	1.327	1.597	0.639	0.259	0.249	0.241	0.238	0.006	0.009	0.013	0.02	0.028	0.04	0.058	0.093	0.11	0.151	0.218	0.298	0.407	0.574	0.811	1.032	1.288
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									1.638	1.68	1.502	1.561	1.418	0.355	0.341	0.322	0.326	0.304	0.291	0.282	0.247	0.268	0.264	0.051	0.072	0.12	0.143	0.2	0.279	0.391	0.534	0.735	1.133	1.22	1.335	1.367	0.649	0.599	0.582	0.228	0.234	0.022	0.034	0.046
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									0.188	0.209	0.289	0.389	0.664	0.614	0.316	0.281	0.274	0.264	0.263	0.116	0.276	0.387	0.529	0.712	0.965	1.156	1.362	0.829	0.742	0.688	0.636	0.696	0.265	0.377	0.502	0.663	1.28	1.339	1.217	1.055	0.884	0.763	0.655	0.717
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									0.326	0.319	0.442	0.601	0.786	0.797	1.224	1.39	1.368	1.434	1.632	1.422	1.359	1.277	1.183	0.472	0.917	0.594	0.71	0.273	0.103	1.286	1.483	0.472	0.917	0.594	0.71	0.273	0.103	0.056	0.118	1.003	0.463	1.01		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
GSM1900	GPRS (2 Tx slots)	1909.8	810	N/A	N/A	Back	5 mm	1.23	1.92	0.362	0.873	1.457	0.452	1.082	0.736	1.874	0.69	0.023	0.66	0.972	0.702	1.814	1.89	0.927	1.64	0.265	1.267	0.636	1.566	1.35	0.237	1.101	1.413	0.349	1.826	0.139	0.358	0.499	1.739	0.527	1.872	1.283	0.458	0.331
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									1.741	1.916	1.168	0.094	0.965	0.073	0.216	1.39	1.32	0.384	1.303	1.564	0.453	1.919	0.302	0.12	0.246	0.287	1.219	1.09	1.863	0.491	1.363	1.811	0.76	1.688	1.568	0.479	1.593	0.286	1.053	1.732	1.618	0.224	0.669	0.573
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									0.971	1.134	0.092	0.495	0.735	1.756	0.713	1.494	0.821	0.029	0.738	0.642	0.547	0.741	0.502	1.391	1.495	1.542	0.552	0.767	1.846	1.397	1.887	0.664	0.709	0.376	1.618	0.821	0.031	0.071	0.743	1.584	0.525	0.157	1.344	1.682
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									0.821	1.446	1.629	0.743	0.364	0.393	0.593	0.535	0.785	0.639	1.073	0.356	0.94	1.108	1.553	0.927	1.053	0.323	0.48	0.519	1.47	0.452	1.087	0.388	1.253	0.606	0.681	1.306	1.812	0.563	1.819	1.609	0.084	0.033		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
WCDMA B2	RMC12.2K	1880	9400	N/A	N/A	Back	5 mm	1.021	1.309	0.362	0.884	0.768	0.585	0.25	1.129	0.465	1.008	0.852	0.693	0.466	1.262	1.133	0.64	1.187	0.579	0.031	1.24	0.586	0.459	0.078	0.815	0.44	0.834	0.596	0.67	1.224	0.426	0.355	0.821	1.099	0.451	0.897	0.464	0.589
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									0.062	0.193	1.308	1.3	0.506	1.301	0.368	0.303	0.952	0.199	0.111	0.13	0.093	0.314	1.303	1.266	0.339	0.102	1.032	1.149	0.268	1.134	0.332	0.349	1.251	0.221	1.038	1.031	0.067	1.26	1.051	1.01	0.45	0.674	0.348	0.268
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									1.192	1.051	1.233	0.887	0.484	0.314	0.464	0.449	0.388	1.3	0.998	0.962	0.299	0.344	0.705	0.421	0.772	0.403	0.637	0.583	0.905	0.158	0.754	0.346	1.075	0.383	0.474	0.138	1.132	0.845	0.625	1.238	0.645	0.4	0.059	0.437
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									0.773	0.168	0.976	0.358	0.453	1.287	0.596	0.622	0.857	0.754	0.442	1.082	0.212	0.948	1.162	0.532	0.663	0.597	0.307	0.874	0.408	0.664	0.68	0.453	0.235	0.263	1.087	0.582	0.275	1.293	0.586	0.064	1.267	0.441		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
WCDMA B4	RMC12.2K	1712.4	1312	N/A	N/A	Back	5 mm	0.863	1.266	0.72	0.695	0.03	1.167	0.811	0.29	0.067	0.856	0.314	0.839	0.288	1.064	0.794	0.176	1.189	1.188	0.433	1.047	0.488	0.992	0.794	1.231	0.628	0.289	0.568	0.638	0.836	1.166	0.914	0.094	0.261	0.578	0.845	0.108	0.511
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									0.23	0.622	0.27	1.192	1.247	1.191	0.078	0.06	1.202	0.486	0.279	0.861	1.001	0.895	0.204	0.968	0.066	1.226	0.274	0.745	0.766	1.101	1.008	0.736	0.63	1.016	1.029	1.121	0.745	0.731	0.912	0.381	0.449	0.221	0.949	0.268
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									0.334	0.248	1.159	0.106	0.311	0.998	1.092	0.11	0.643	0.401	1.005	0.815	0.457	0.55	0.427	0.842	0.866	0.574	0.409	0.583	0.712	0.332	0.581	0.963	1.022	0.637	0.484	1.22	1.224	1.229	0.32	1.085	0.144	0.484	0.25	0.351
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									1.22	0.264	1.108	0.267	0.379	0.218	0.975	0.354	0.219	0.42	0.145	1.07	0.907	0.231	1.117	0.852	0.651	0.438	0.564	0.627	0.588	0.059	1.164	0.403	1.242	0.247	0.455	0.569	0.046	0.298	0.859	0.417	0.417	0.234		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
WCDMA B5	RMC12.2K	846.6	4233	N/A	N/A	Back	5 mm	1.01	1.394	1.252	0.774	1.322	0.480	0.087	0.844	0.320	0.384	0.554	0.206	1.229	1.217	0.582	1.122	1.234	1.009	0.371	0.292	1.349	0.117	0.796	0.750	0.207	0.776	1.289	0.123	0.417	0.449	0.348	0.416	0.929	1.166	0.877	0.728	0.901
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									0.448	1.281	0.325	0.199	1.022	0.946	1.252	1.178	0.08	0.242	0.777	0.7	0.898	0.682	1.126	0.773	0.129	0.275	0.836	0.921	0.388	0.828	0.364	0.744	0.139	0.07	0.244	0.508	0.822	1.082	1.057	0.236	1.15	1.009	0.573	0.871
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									0.212	0.96	1.057	0.645	0.24	1.274	0.07	0.526	0.073	1	0.735	0.975	0.202	0.112	0.24	0.921	0.486	0.461	1.133	0.657	0.197	0.69	0.909	1.091	0.287	1.055	0.423	0.851	0.249	0.554	1.11	1.082	1.124	0.525	0.413	1.301
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									0.41	0.304	0.649	0.684	1.094	1.337	0.668	0.646	0.053	0.332	1.291	0.1	1.078	0.263	1.112	1.023	0.674	0.567	1.3	0.585	0.579	0.427	0.981	1.295	0.721	0.306	0.965	1.217	1.13	1.228	0.398	0.287	0.213	0.188		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
LTE B2	QPSK	1900	19100	1	0	Bottom	5 mm	0.995	1.68	0.519	0.503	0.934	1.438	0.825	1.497	1.154	1.141	1.135	0.661	1.467	0.446	0.218	1.01	1.311	0.436	1.603	1.678	0.74	1.039	1.27	0.365	0.142	0.84	0.399	0.299	0.395	0.164	1.149	1.679	1.162	1.304	1.633	1.337	1.142
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									0.281	0.907	0.981	0.958	0.364	1.582	0.616	0.827	1.541	1.634	0.859	1.069	0.624	0.918	1.577	1.087	0.862	1.312	1.181	0.57	0.66	0.241	1.538	1.171	0.896	1.398	0.729	1.622	1.184	1.478	0.774	1.61	0.92	0.436	0.51	0.367
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									1.524	1.488	1.663	0.575	1.496	1.058	1.59	1	1.275	0.132	0.174	1.623	1.375	0.857	1.551	1.169	0.447	0.368	1.072	0.428	0.539	0.492	0.339	1.063	0.309	1.295	1.252	0.56	0.44	1.47	0.295	0.174	0.382	0.338	0.608	1.257
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									1.308	0.865	1.052	0.26	1.551	0.251	0.184	0.142	1.355	0.591	0.73	1.304	1.52	0.415	0.793	0.256	1.159	0.939	0.354	0.198	0.221	0.466	1.05	1.644	1.274	0.265	1.136	0.263	1.071	0.196	1.1	1.595	1.388	0.84		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
LTE B4	QPSK	1732.5	20175	1	0	Back	5 mm	1.18	1.828	0.946	0.388	0.793	0.875	0.879	1.516	1.466	1.74	0.312	0.454	1.775	0.813	0.998	0.369	0.454	0.802	0.559	1.058	0.464	1.366	1.628	0.315	1.685	1.08	0.731	0.609	1.725	0.896	0.232	1.615	1.647	0.713	0.501	1.072	1.72
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									0.909	1.156	0.405	0.898	0.538	1.769	1.799	0.18	1.294	0.278	0.846	0.265	1.009	1.646	1.68	0.332	1.417	1.572	1.178	0.38	1.43	0.943	0.731	0.186	1.455	1.024	0.739	1.286	1.243	0.947	1.308	1.343	0.498	0.583	1.11	1.759
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									0.202	0.509	0.974	0.274	0.684	1.398	0.612	1.797	1.795	1.41	1.762	0.853	0.22	0.261	0.926	0.698	0.331	0.387	1.588	0.953	0.367	1.542	0.213	0.781	1.672	1.488	0.384	0.638	1.779	0.394	1.465	0.516	1.108	0.668	0.468	1.734
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									0.811	0.532	1.514	1.08	0.241	0.269	0.329	0.618	0.735	1.704	0.767	1.011	1.35	0.255	0.836	0.932	0.203	0.928	1.303	0.576	1.36	0.241	0.912	1.711	0.717	1.329	0.933	0.3	0.223	0.179	0.295	0.727	0.509	1.285		
Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
LTE B5	QPSK	836.5	20525	25	0	Back	5 mm	0.997	1.551	1.357	0.306	0.277	0.337	0.244	0.49	1.046	0.236	1.237	0.518	1.283	1.053	1.32	1.364	1.476	0.308	0.31	0.756	1.181	0.02	0.949	0.662	1.004	0.359	0.326	1.533	0.486	0.215	1.192	1.501	0.669	0.638	0.99	1.127	0.423
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									1.506	0.415	1.431	0.809	1.226	0.939	1.412	0.459	0.734	0.847	0.423	0.381	1.12	1.369	0.357	0.992	1.303	0.284	0.825	0.342	0.204	0.713	1.509	1.462	0.568	1.332	1.517	0.991	0.627	1.252	1.331	0.431	0.545	1.088	1.216	0.673
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									0.928	0.644	1.14	1.494	1.055	1.529	0.558	1.527	0.628	1.222	1.273	0.942	0.456	1.545	0.905	0.932	1.168	1.3	1.373	1.037	1.334	0.328	1.388	0.85	1.183	1.378	1.255	0.541	1.14	0.455	1.447	1.196	1.042	0.573	0.421	1.12
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									0.844	1.264	0.79	0.831	1.531	1.091	0.992	0.387	1.467	0.846	1.376	0.427	0.921	0.949	1.064	0.289	1.264	0.959	0.851	0.667	1.535	1.496	0.728	0.864	0.837	0.779	1.254	0.701	0.848	1.118	0.285	0.398	1.534	1.537		

Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
LTE B7	QPSK	2560	21350	50	0	Back	5 mm	1.05	1.943	0.32	1.009	1.02	0.741	1.634	0.217	1.049	1.355	1.505	1.256	1.019	0.487	0.739	1.606	1.142	1.335	1.479	0.513	0.673	0.45	1.485	0.238	0.196	0.471	0.651	1.146	1.084	0.834	1.362	0.326	1.661	0.351	1.503	0.698	1.55
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									0.887	0.81	0.61	1.059	1.616	0.976	1.295	1.874	1.502	0.205	1.461	0.464	1.056	1.239	0.56	0.391	0.606	0.857	1.766	1.542	1.929	0.474	1.612	1.674	1.749	1.524	1.216	1.353	0.535	1.488	0.679	1.149	1.908	0.824	1.012	0.685
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									0.509	1.485	1.709	1.273	0.761	1.034	0.34	1.897	1.859	1.554	1.246	0.348	0.701	1.619	1.343	0.629	0.92	1.668	0.35	1.582	1.71	1.679	1.714	1.452	1.311	1.674	1.311	1.011	1.812	1.163	0.249	1.578	0.341	1.592	1.32	1.643
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									1.742	0.693	1.753	0.977	0.565	0.465	1.579	0.755	0.588	0.3	1.145	0.635	1.577	0.218	1.383	1.685	1.363	1.602	1.581	1.19	1.195	0.788	1.491	1.43	0.57	0.862	0.426	1.219	0.916	1.161	1.58	1.162	0.628	1.634		

Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
LTE B41	QPSK	2645	41140	1	0	Back	5 mm	1.06	2.011	1.662	0.677	0.706	1.079	1.484	1.047	1.302	0.394	1.32	0.38	1.8	1.91	0.996	1.814	1.017	1.234	0.441	1.707	0.518	1.256	1.371	1.404	1.792	1.357	1.764	0.584	1.321	0.37	0.481	1.157	0.395	0.608	0.832	0.321	1.793
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									0.292	1.049	0.305	1.295	1.57	1.663	1.021	1.811	1.307	1.337	1.781	1.642	1.129	1.31	1.243	0.762	1.066	0.433	1.094	0.318	0.346	0.982	2.008	1.248	1.365	0.856	0.798	0.394	1.362	1.315	1.846	1.941	1.636	0.597	2.005	1.062
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									0.33	1.231	0.781	1.873	1.415	0.849	0.824	1.715	1.93	2.009	1.644	0.717	0.915	0.313	1.704	0.95	1.565	0.466	1.798	0.974	0.331	1.762	1.278	1.463	1.949	0.403	0.544	1.377	1.892	0.9	0.953	1.392	1.363	1.769	0.449	1.075
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									1.73	1.689	1.851	0.913	0.67	1.352	1.198	0.348	1.76	1.635	1.039	0.528	1.886	1.53	0.494	0.934	1.93	1.391	1.391	0.38	1.773	0.634	1.751	1.167	1.806	0.422	1.159	0.612	0.492	1.407	0.603	1.031	1.771	0.712		

Mode	Service/ Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																																		
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
LTE B66	QPSK	1770	132572	1	0	Back	5 mm	1.12	1.53	1.311	0.712	0.838	1.271	0.726	0.692	0.481	0.358	1.473	1.503	0.404	1.42	0.375	0.359	0.49	0.825	1.427	1.276	1.3	0.639	0.884	0.386	0.27	1.49	0.181	1.039	1.154	1.095	0.738	0.811	1.459	1.434	1.196	1.368	0.873
									35	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
									1.51	1.166	0.246	0.449	0.233	0.687	0.646	0.586	1.303	0.967	1.133	1.52	1.305	0.893	0.334	1.14	0.907	0.956	0.686	0.651	0.302	0.729	1.374	1.523	0.663	1.2	1.498	1.255	1.196	1.174	0.252	0.442	1.406	1.499	1.316	1.3
									72	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
									1.29	0.711	0.936	0.311	1.309	0.342	0.83	1.51	0.43	0.434	1.436	1.129	1.059	1.221	0.853	0.262	1.505	1.248	0.271	0.611	0.442	1.253	0.416	1.025	0.802	1.006	1.095	0.963	0.76	0.427	1.027	0.396	0.701	0.54	0.449	0.89
									109	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143		
									1.067	0.46	0.642	1.188	0.352	1.024	1.407	0.337	0.592	0.259	0.895	1.395	1.263	0.759	0.535	1.452	1.486	0.683	0.755	1.035	0.371	0.287	0.691	1.469	0.394	1.372	1.11	1.238	0.262	0.664	1.012	1.12	1.327	0.348		

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17. 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 and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

18. 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 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015

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

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

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