FCC SAR Test Report

APPLICANT	:	Xiaomi Communications Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	Xiaomi
MODEL NAME	:	M1810E5GG
FCC ID	:	2AFZZ-XMSE5GG
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

The product was received on Jan. 16, 2019 and testing was started from Feb. 04, 2019 and completed on Mar. 13, 2019. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in compliance with the applicable technical standards.

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

TESTING
NVLAP LAB CODE 600155-0

Approved by: Mark Qu / Manager

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

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA911620	Rev. 01	Initial issue of report	Mar. 25, 2019

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Xiaomi Communications Co., Ltd., Mobile Phone, M1810E5GG,** are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 10mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	**1.19**	0.58	0.58	1.59
		GSM1900	1.18	0.94	0.51	
	WCDMA	Band V	1.14	0.78	0.78	
		Band II	1.16	**1.19**	0.68	
		Band IV	1.02	1.13	**1.13**	
	CDMA2000	BC0	1.08	0.85	0.82	
	LTE	Band 5	1.18	0.63	0.63	
		Band 2	1.14	1.14	0.69	
		Band 4	1.16	1.00	0.93	
		Band 7	**1.19**	1.18	0.64	
		Band 41/Band 38	**1.19**	**1.19**	0.80	
DTS	WLAN	2.4GHz WLAN	0.79	0.71	0.71	1.56
NII		5GHz WLAN	0.64	0.68	0.65	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.33	<0.10	<0.10	1.59

Highest 10g SAR Summary			
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)
NII	WLAN	5GHz WLAN	**2.98**
Date of Testing:			2019/2/4 ~ 2019/3/13

Remark: This device supports LTE B38 and B41. Since the supported frequency span for LTE B38 falls completely within the supports frequency span for LTE B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B41.

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

2. Administration Data

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

Applicant	
Company Name	Xiaomi Communications Co., Ltd.
Address	The Rainbow City of China Resources, NO.68, Qinghe Middle Street, Haidian District, Beijing, China

Manufacturer	
Company Name	Xiaomi Communications Co., Ltd.
Address	The Rainbow City of China Resources, NO.68, Qinghe Middle Street, Haidian District, Beijing, China

3. Guidance Applied

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

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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Phone
Brand Name	Xiaomi
Model Name	M1810E5GG
FCC ID	2AFZZ-XMSE5GG
IMEI Code	865578040023813
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz 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 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 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 ~ 5805 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+: 16QAM (uplink is not supported) CDMA2000 : 1xRTT/1xEv-Do(Rev.0)/1xEv-Do(Rev.A) LTE: QPSK, 16QAM, 64QAM, 256QAM (Downlink Only) WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC
HW Version	P2.0
SW Version	MIUI 10
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 supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
4. This device does not support DTM operation and supports GRPS/EGRPS mode up to multi-slot class 33.
5. This device has WWAN Top and Bottom transmitter antennas which can refer to antenna location chapter. WWAN top antenna and Bottom antenna can't transmit simultaneously.
6. The device has two working status, one is slide open, another is slide close. For head SAR and body SAR, two working status have been performed.
7. For WLAN2.4GHz, supports MIMO. For antenna 1 can't transmit alone, it must be transmitted with WWAN bands and WLAN5GHz.
8. For WLAN5GHz, supports MIMO. For antenna 2 can't transmit alone, it must be transmitted with WWAN bands and WLAN2.4GHz (antenna 1) or Bluetooth.
9. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at WLAN2.4/5.2/5.3/5.5/5.8GHz whatever the phone slide open or slide close.
10. When the phone receiver is not worked and the device near to body, WLAN2.4GHz and WLAN 5GHz reduced power will be implanted for transmit with WWAN simultaneously. For WLAN2.4GHz and WLAN 5GHz, full power SAR used to do collocated with WWAN analysis more conservatively than reduced power, so no need to consider reduced power level for WLAN2.4GHz and WLAN 5GHz.
11. The device has implanted capacity proximity sensor and sliding hall sensor. The device has two working state, slide open and slide close. sliding hall sensor only triggered for slide open status.
    a. When slide open status, the phone is in talking mode and receiver worked, sliding hall sensor will worked then power reduction 1 will be implemented immediately for GSM850/1900, WCDMA B2 / B4 / B5, CDMA2000 BC0, LTE B2 / B4 / B5 / B7 / B38 / B41 located at WWAN top antenna. Other Top WWAN bands are full power state. When slide open, all WWAN bands located at bottom antenna are all full power state.
    b. When slide open status, the phone near to body and receiver is not worked, power reduction will be implemented immediately for LTE B7 located at WWAN top antenna and WCDMA Band 4 located at bottom antenna.
    c. When slide close status, the phone is in talking mode and receiver worked, then power reduction 2 will be implemented immediately for GSM850, WCDMA B2 / B5, CDMA2000 BC0, LTE B2 / B7 / B38 / B41 located at WWAN top antenna. Other Top WWAN bands and all WWAN bands located at bottom antenna are all full power state.
    d. When slide close status, proximity sensors detects a user is touching the device on or near to the antenna, The device reduce the maximum allowed output power, When detected the presence of the user's body at the front or back or bottom side faces of the device, power reduction will be implemented immediately for WCDMA B2/B4,LTE Band B2/B4/B7 located at WWAN bottom antenna.
12. There are two types of EUT sample 1 and sample 2, the differences between two samples is for memory, sample 1 is 6+128GB capacity and sample 2 is 6+64GB capacity. According to the difference, memory capacity has no effect on SAR distribution, so sample 1 is chose to perform full SAR testing.

4.2 General LTE SAR Test and Reporting Considerations

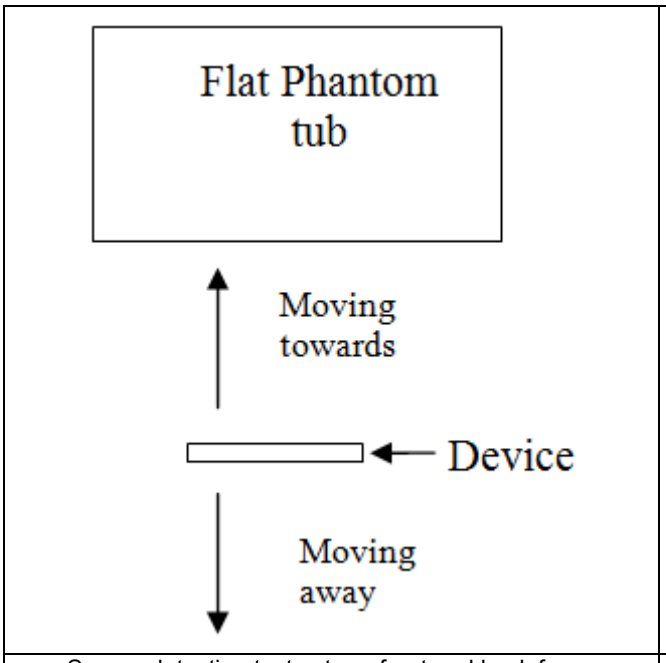
Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	2AFZZ-XMSE5GG
Equipment Name	Mobile Phone
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM
LTE Voice / Data requirements	Voice and Data
LTE Release Version	R15, Cat13
CA Support	Yes, Uplink and Downlink
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 1. The device employs proximity sensors that detect the presence of the user's body at the front or back or bottom faces of the device. When front or back or bottom condition is detected, LTE B2 / B4 / B7 reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the three edges of the device.)
LTE Carrier Aggregation Combinations	Intra-Band and Inter-Band possible combinations and the detail power verification please referred to section 13.
LTE Carrier Aggregation Additional Information	(1) This device supports LTE Carrier Aggregation (CA) in the uplink for LTE 7C /38C with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. (2) This device supports maximum of 3 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

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 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				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				

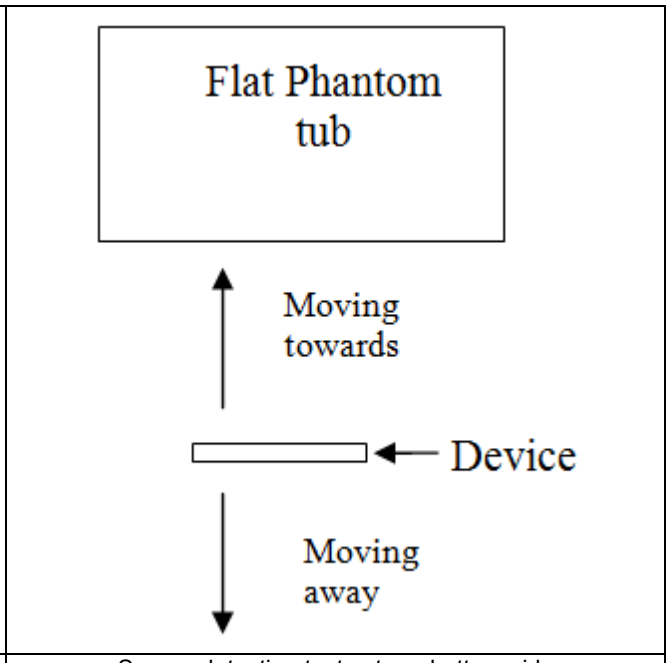
5. Proximity Sensor Triggering Test

5.1 Proximity sensor triggering distances(Per KDB616217§6.2)

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (2600MHz) and lowest (1750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensor placed coincident with antenna elements at the bottom end of the phone are utilized to determine when the device comes in proximity of the user's body at the front, back or bottom side surface of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
3. When the sensor is active, WCDMA B2 / B4, and LTE B2 / B4 / B7 reduced power will be active.
4. The sensors used to detect the proximity of the user's body at the front, back or bottom side surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).



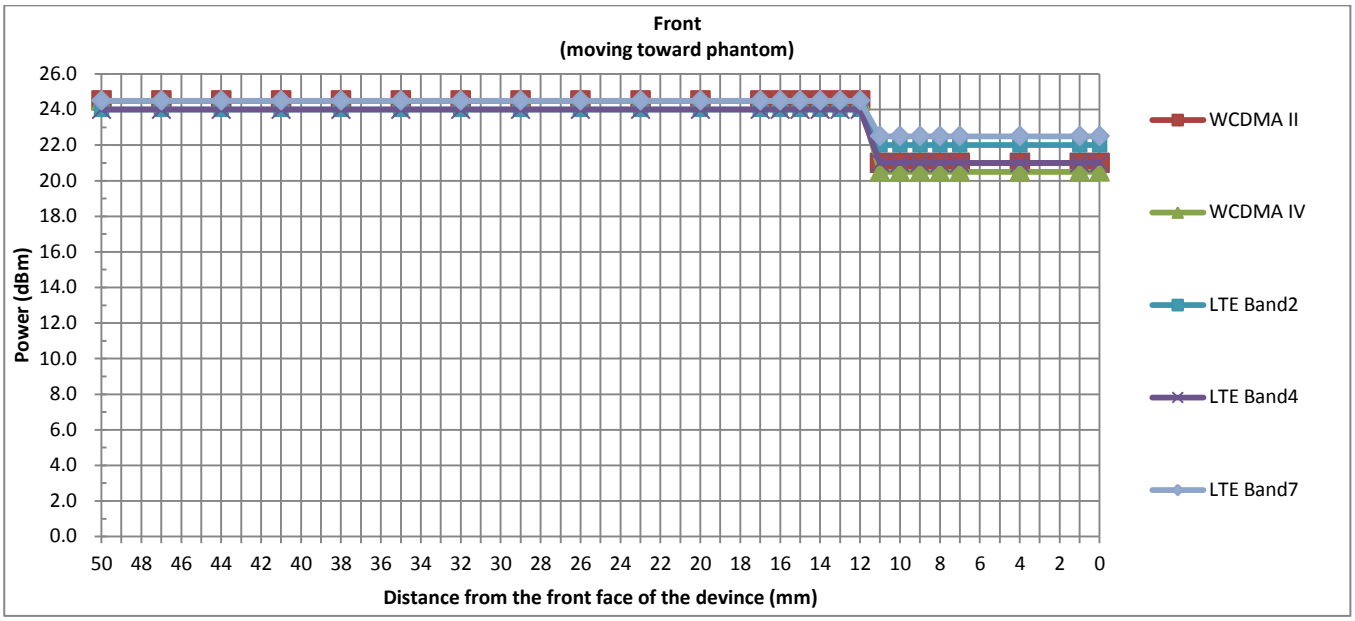
Sensor detection test set-up, front and back faces

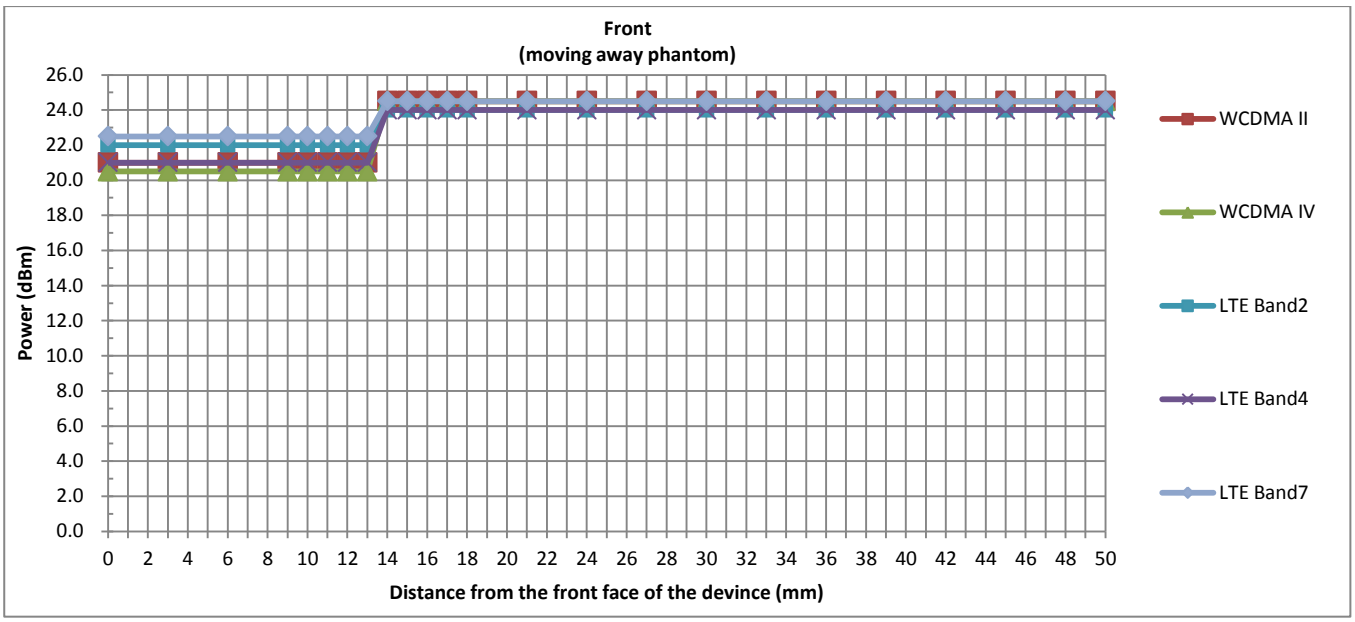


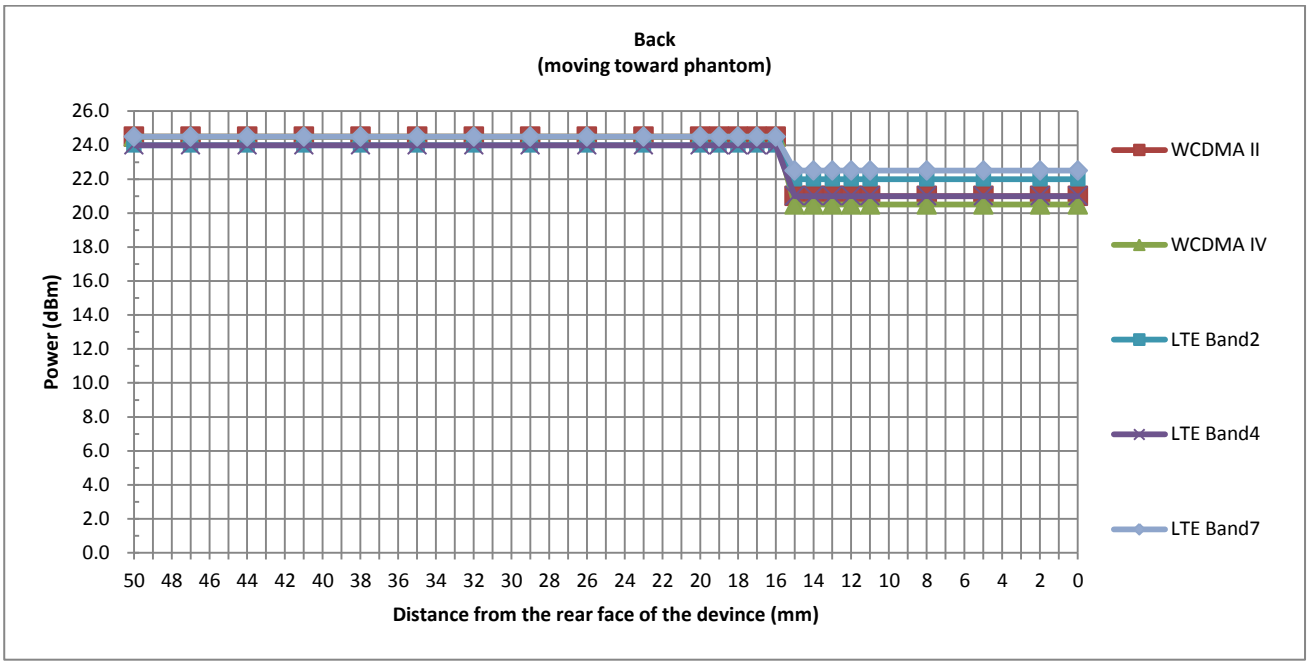
Sensor detection test set-up, bottom side

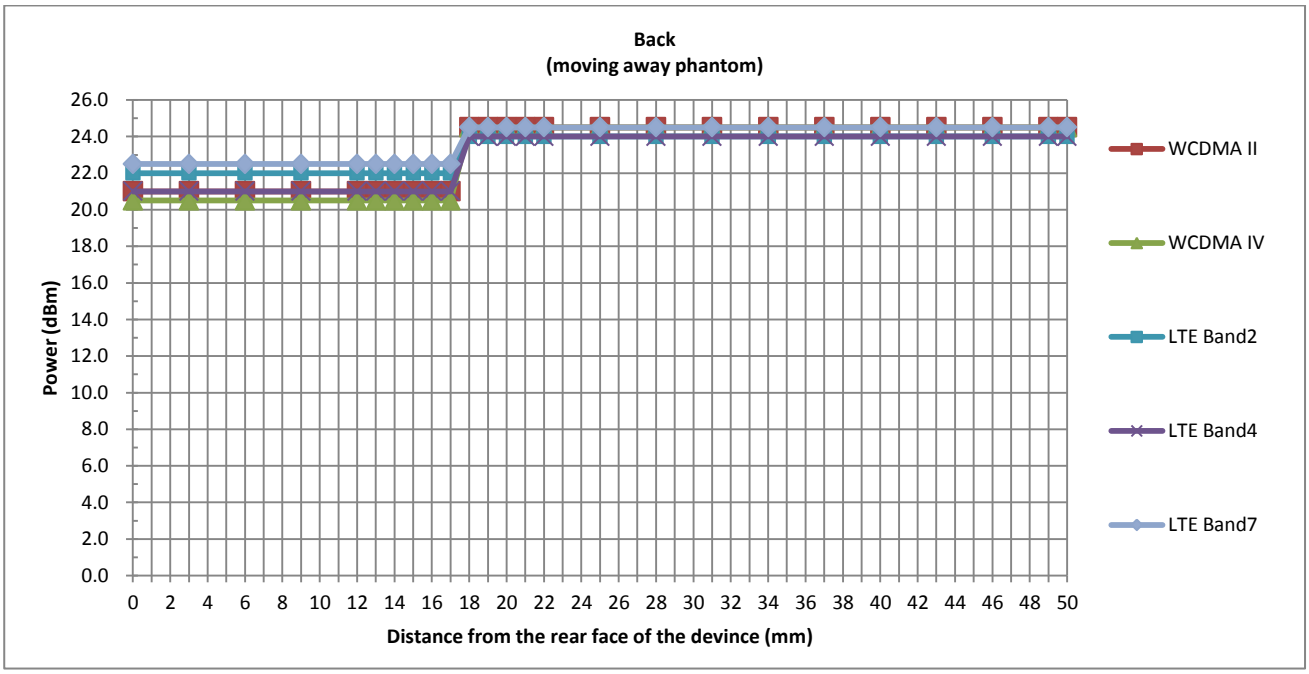
Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	11	13	15	17	20	21

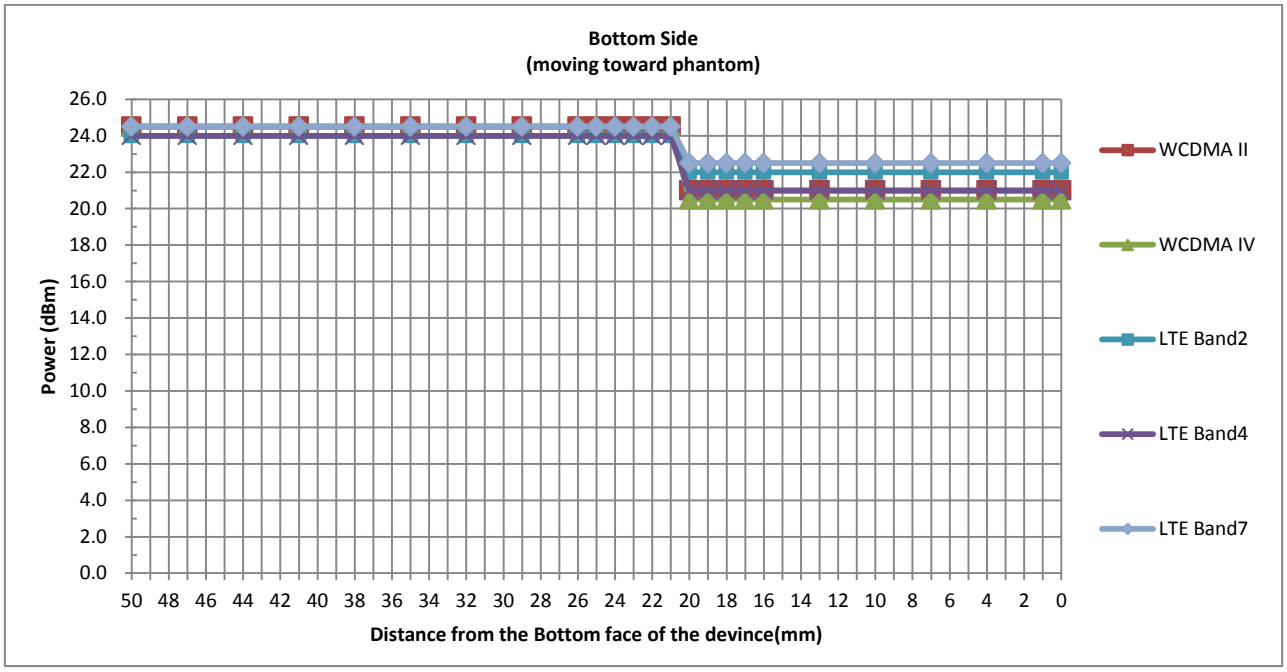
<Sensor Trigger Distance and Measured Power>

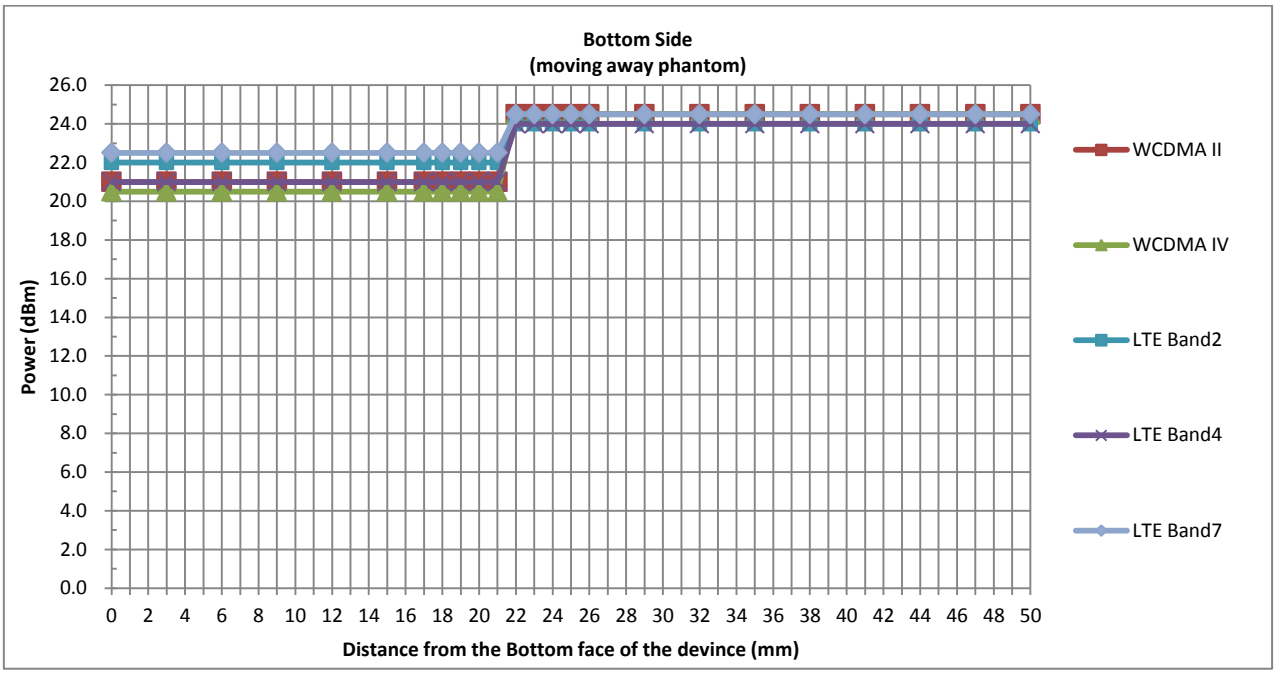





Back
(moving toward phantom)
Power (dBm)
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
50 48 46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0
Distance from the rear face of the devince (mm)
WCDMA II
WCDMA IV
LTE Band2
LTE Band4
LTE Band7

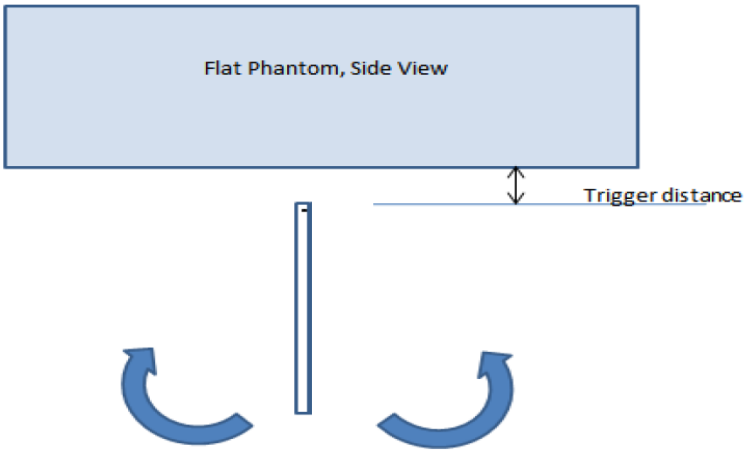

Back
(moving away phantom)
Power (dBm)
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
Distance from the rear face of the devince (mm)
WCDMA II
WCDMA IV
LTE Band2
LTE Band4
LTE Band7


Bottom Side
(moving toward phantom)
Power (dBm)
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
50 48 46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0
Distance from the Bottom face of the devince(mm)
WCDMA II
WCDMA IV
LTE Band2
LTE Band4
LTE Band7


Bottom Side
(moving away phantom)
Power (dBm)
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
Distance from the Bottom face of the devince (mm)
WCDMA II
WCDMA IV
LTE Band2
LTE Band4
LTE Band7

5.2 Tilt angle influences to proximity sensor triggering(Per KDB616217 §6.4)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with bottom side parallel to the base of the flat phantom for each band.
The EUT was rotated about bottom side for angles up to +/- 45°. If the output power increased during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedure was repeated until the power remained reduced for all angles up to +/- 45°.



Proximity Sensor Coverage Assesment(Bottom Side)

Table: Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering (Bottom Side)

Main ant Band(MHz)	Minimum trigger distance at which power reduction was maintained over ±45°	Power Reduction Status										
		-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°
WCDMA Band II	20mm	on	on	on	on	on	on	on	on	on	on	on
WCDMA Band IV	20mm	on	on	on	on	on	on	on	on	on	on	on
LTE Band 2	20mm	on	on	on	on	on	on	on	on	on	on	on
LTE Band 4	20mm	on	on	on	on	on	on	on	on	on	on	on
LTE Band 7	20mm	on	on	on	on	on	on	on	on	on	on	on

Conclusion: As is shown from the validation data, it can be ensured that the proximity sensor can be valid triggered for the DUT tilt coverage exposure condition.

6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

7. Specific Absorption Rate (SAR)

7.1 Introduction

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

7.2 SAR Definition

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

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

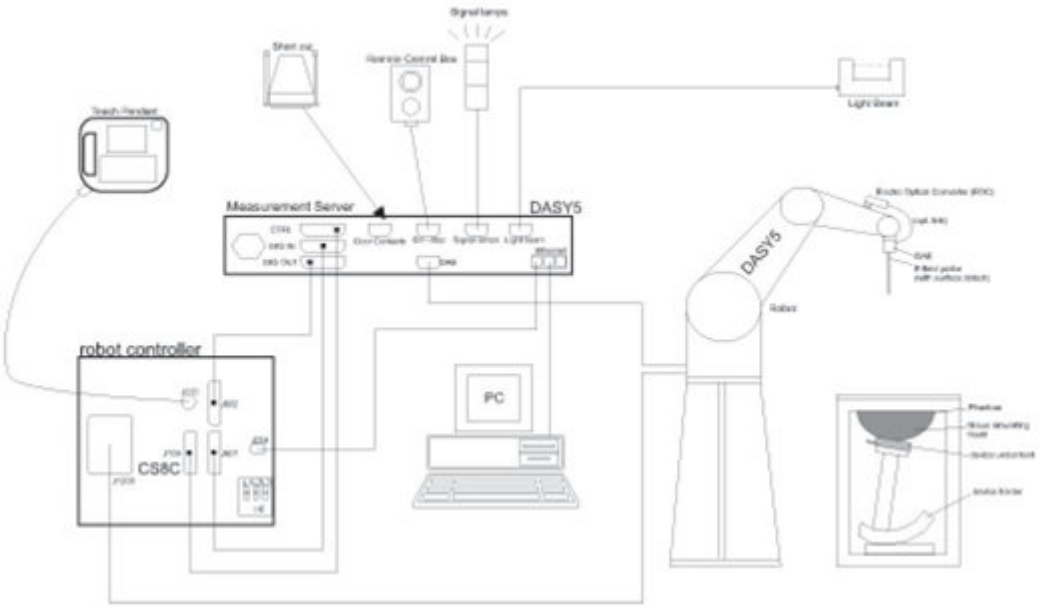
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



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

8.1 E-Field Probe

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

<EX3DV4 Probe>

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

8.2 Data Acquisition Electronics (DAE)

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

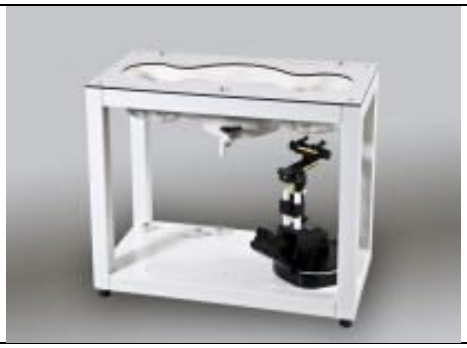
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

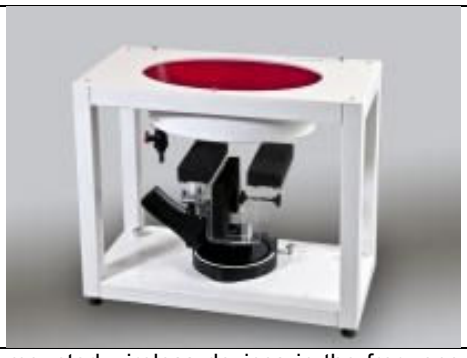
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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

<ELI Phantom>

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



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

8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

9.1 Spatial Peak SAR Evaluation

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

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

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

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

9.2 Power Reference Measurement

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

9.3 Area Scan

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

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

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

9.4 Zoom Scan

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

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

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

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

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

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

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

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	835MHz System Validation Kit	D835V2	4d151	2018/3/26	2019/3/25
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2018/3/23	2019/3/22
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2018/3/25	2019/3/24
SPEAG	2450MHz System Validation Kit	D2450V2	908	2018/3/22	2019/3/21
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2018/12/7	2019/12/6
SPEAG	5000MHz System Validation Kit	D5GHzV2	1006	2018/9/27	2019/9/26
SPEAG	Data Acquisition Electronics	DAE4	1358	2018/4/19	2019/4/18
SPEAG	Dosimetric E-Field Probe	EX3DV4	3753	2018/5/29	2019/5/28
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1842	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1542	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201274349	2018/8/16	2019/8/15
Agilent	Wireless Communication Test Set	E5515C	MY52102706	2018/4/17	2019/4/16
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2018/4/17	2019/4/16
SPEAG	Dielectric Probe Kit	DAK-3.5	1138	2018/11/20	2019/11/19
Anritsu	Vector Signal Generator	MG3710A	6201682672	2019/1/14	2020/1/13
Rohde & Schwarz	Power Meter	NRVD	102081	2018/8/20	2019/8/19
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2018/8/20	2019/8/19
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2018/8/20	2019/8/19
R&S	CBT BLUETOOTH TESTER	CBT	101641	2019/1/14	2020/1/13
EXA	Spectrum Analyzer	FSV7	101631	2019/1/14	2020/1/13
Testo	Hygrometer	608-H1	1241332126	2018/8/21	2019/8/20
FLUKE	DIGITAC THERMOMETER	51II	97240029	2018/8/8	2019/8/7
ARRA	Power Divider	A3200-2	N/A	Note	
MCL	Attenuation1	BW-S10W5+	N/A	Note	
MCL	Attenuation2	BW-S10W5+	N/A	Note	
MCL	Attenuation3	BW-S10W5+	N/A	Note	
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note	
Agilent	Dual Directional Coupler	778D	20500	Note	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note	

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

11. System Verification

11.1 Tissue Simulating Liquids

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

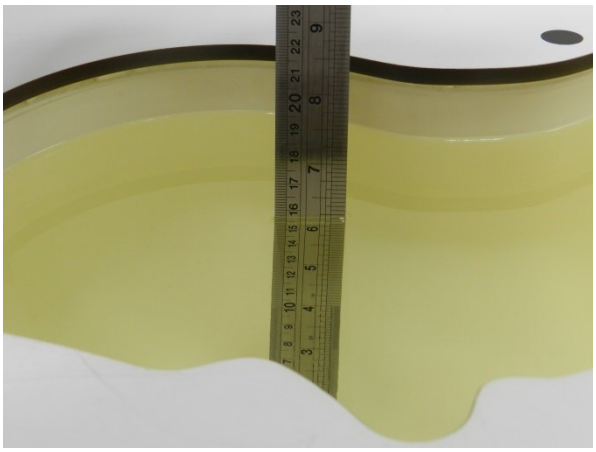


Fig 10.1Photo of Liquid Height for Head SAR

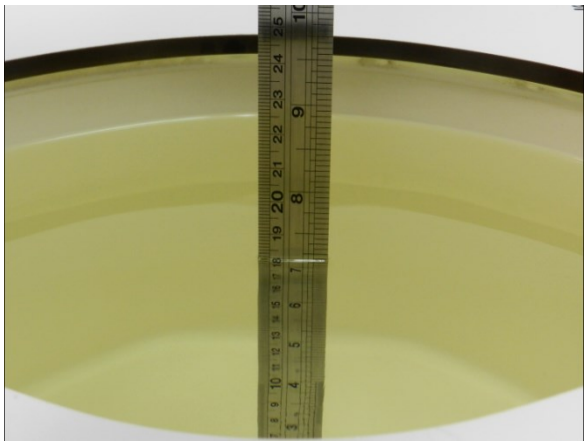


Fig 10.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0
For Body								
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
835	Head	22.7	0.936	41.828	0.90	41.50	4.00	0.79	±5	2019/2/4
1750	Head	22.8	1.405	41.016	1.37	40.10	2.55	2.28	±5	2019/2/5
1900	Head	22.7	1.430	39.934	1.40	40.00	2.14	-0.17	±5	2019/2/5
2450	Head	22.6	1.859	38.884	1.80	39.20	3.28	-0.81	±5	2019/3/12
2600	Head	22.7	2.040	37.884	1.96	39.00	4.08	-2.86	±5	2019/2/6
5250	Head	22.7	4.731	37.471	4.71	35.90	0.45	4.38	±5	2019/3/13
5600	Head	22.7	5.088	36.990	5.07	35.50	0.36	4.20	±5	2019/3/13
5750	Head	22.7	5.248	36.784	5.22	35.40	0.54	3.91	±5	2019/3/13
835	Body	22.8	0.998	54.644	0.97	55.20	2.89	-1.01	±5	2019/3/6
1750	Body	22.7	1.463	54.244	1.49	53.40	-1.81	1.58	±5	2019/3/3
1900	Body	22.8	1.517	52.597	1.52	53.30	-0.20	-1.32	±5	2019/3/4
2450	Body	22.9	2.036	52.662	1.95	52.70	4.41	-0.07	±5	2019/3/2
2600	Body	22.7	2.198	52.452	2.16	52.50	1.76	-0.09	±5	2019/3/5
5250	Body	22.6	5.546	49.103	5.36	48.90	3.47	0.42	±5	2019/3/8
5600	Body	22.6	6.012	48.488	5.77	48.50	4.19	-0.02	±5	2019/3/8
5750	Body	22.6	6.229	48.172	5.94	48.30	4.87	-0.27	±5	2019/3/8

11.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2019/2/4	835	Head	250	4d151	3753	1358	2.41	9.66	9.64	-0.21
2019/2/5	1750	Head	250	1090	3753	1358	8.78	37.40	35.12	-6.10
2019/2/5	1900	Head	250	5d170	3753	1358	9.57	39.90	38.28	-4.06
2019/3/12	2450	Head	250	908	3753	1358	12.30	51.80	49.2	-5.02
2019/2/6	2600	Head	250	1061	3753	1358	13.80	57.70	55.2	-4.33
2019/3/13	5250	Head	100	1006	3753	1358	7.70	80.70	77	-4.58
2019/3/13	5600	Head	100	1006	3753	1358	8.57	83.30	85.7	2.88
2019/3/13	5750	Head	100	1006	3753	1358	7.92	80.40	79.2	-1.49
2019/3/6	835	Body	250	4d151	3753	1358	2.24	9.58	8.96	-6.47
2019/3/3	1750	Body	250	1090	3753	1358	8.90	37.50	35.6	-5.07
2019/3/4	1900	Body	250	5d170	3753	1358	9.70	40.70	38.8	-4.67
2019/3/2	2450	Body	250	908	3753	1358	12.30	50.70	49.2	-2.96
2019/3/5	2600	Body	250	1061	3753	1358	14.40	54.20	57.6	6.27
2019/3/8	5250	Body	100	1006	3753	1358	8.09	78.30	80.9	3.32
2019/3/8	5600	Body	100	1006	3753	1358	8.01	81.00	80.1	-1.11
2019/3/8	5750	Body	100	1006	3753	1358	8.05	77.40	80.5	4.01

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2019/3/8	5250	Body	100	1006	3753	1358	2.14	21.70	21.4	-1.38
2019/3/8	5600	Body	100	1006	3753	1358	2.31	22.50	23.1	2.67

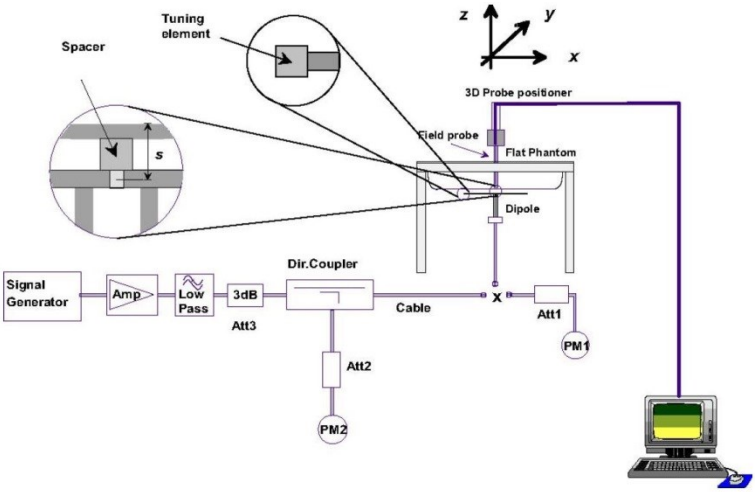


Fig 11.3.1 System Performance Check Setup

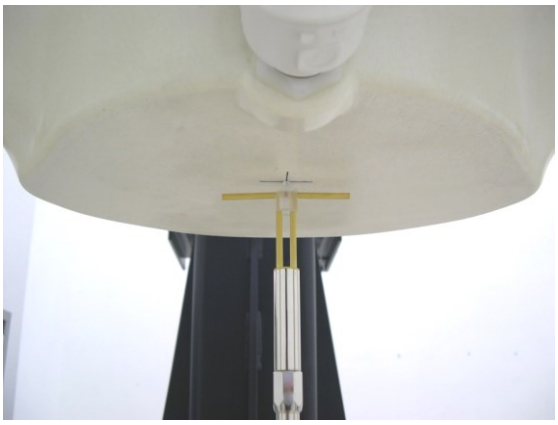


Fig 11.3.2 Setup Photo

12. RF Exposure Positions

12.1 Ear and handset reference point

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

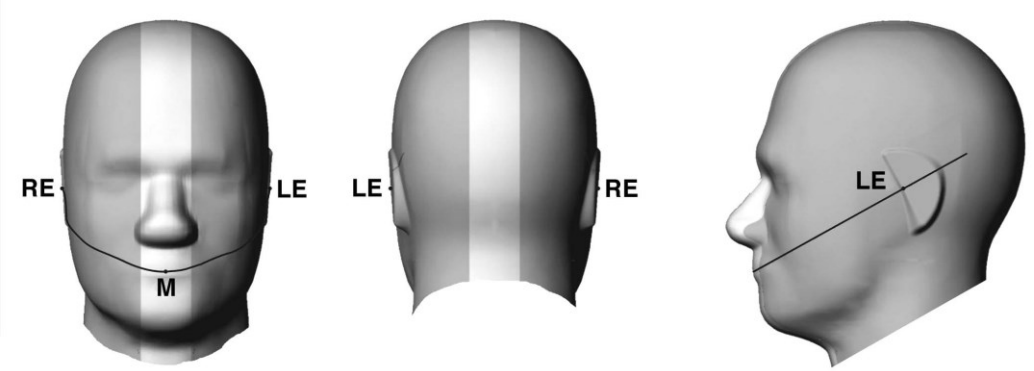


Fig 12.1.1 Front, back, and side views of SAM twin phantom

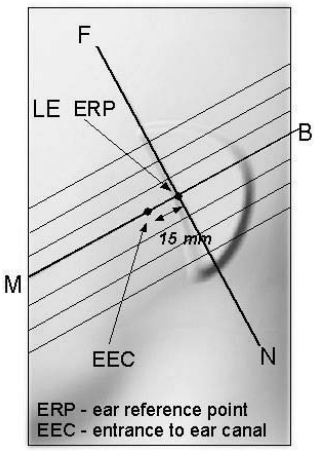


Fig 12.1.2 Close-up side view of phantom showing the ear region.

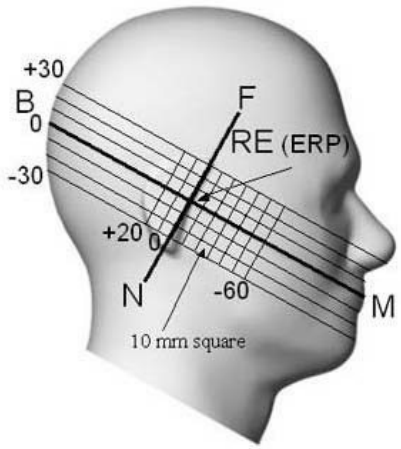


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 Definition of the cheek position

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

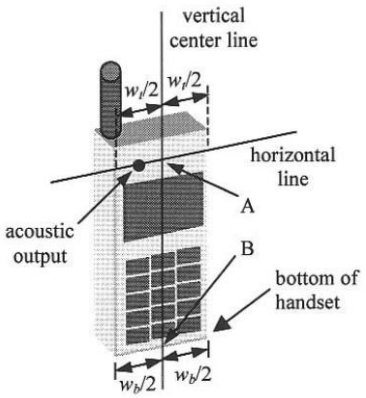


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

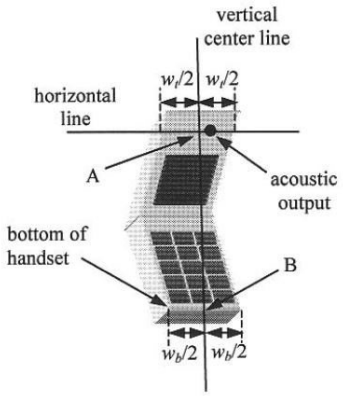


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

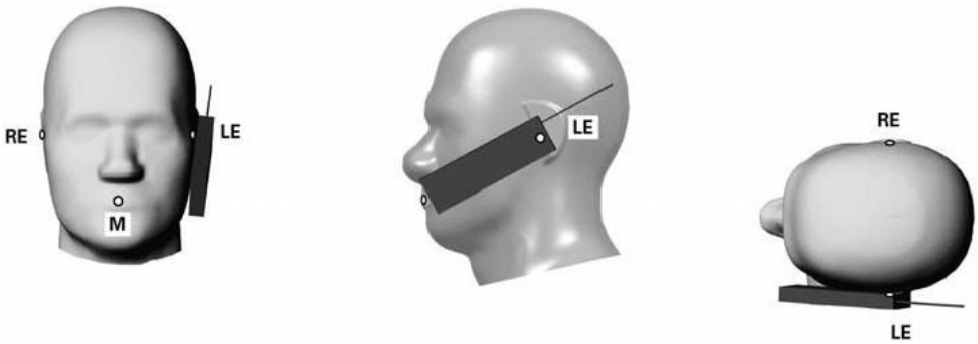


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 Definition of the tilt position

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

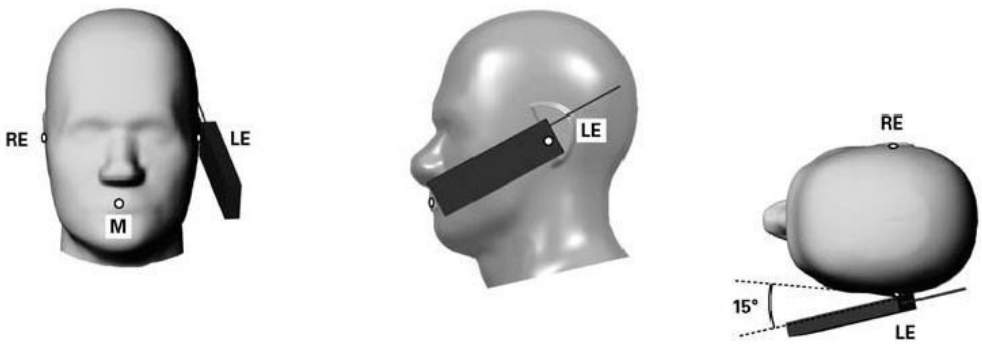


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 Body Worn Accessory

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

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

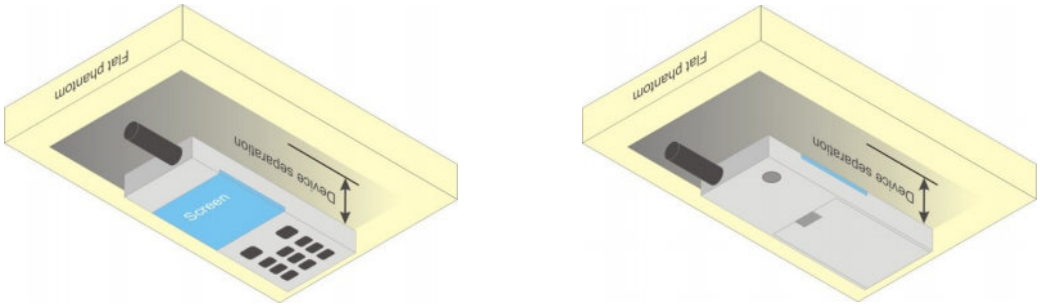


Fig 12.4 Body Worn Position

12.5 Product Specific 10g SAR Exposure

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

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

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

12.6 Wireless Router

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

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

13. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

General Note:

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, GPRS 4Tx slots for GSM1900 are considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<Top/Bottom Antenna--Full Power Mode>

GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GSM 1 Tx slot	32.53	32.44	32.57	33.50	23.53	23.44	23.57	24.50
GPRS 1 Tx slot	32.51	32.43	32.56	33.50	23.51	23.43	23.56	24.50
GPRS 2 Tx slots	29.54	29.26	29.40	30.50	23.54	23.26	23.40	**24.50**
GPRS 3 Tx slots	27.74	27.45	27.41	28.00	23.48	23.19	23.15	23.74
GPRS 4 Tx slots	26.89	26.61	26.63	27.00	23.89	23.61	23.63	24.00
EDGE 1 Tx slot	25.30	25.01	25.06	27.00	16.30	16.01	16.06	18.00
EDGE 2 Tx slots	24.73	24.59	24.70	25.50	18.73	18.59	18.70	19.50
EDGE 3 Tx slots	23.23	23.03	22.85	24.00	18.97	18.77	18.59	19.74
EDGE 4 Tx slots	22.56	22.33	22.19	23.00	19.56	19.33	19.19	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	29.83	30.25	30.22	30.50	20.83	21.25	21.22	21.50
GPRS 1 Tx slot	29.80	30.23	30.20	30.50	20.80	21.23	21.20	21.50
GPRS 2 Tx slots	27.89	27.90	27.98	28.00	21.89	21.90	21.98	22.00
GPRS 3 Tx slots	25.34	25.35	25.29	26.00	21.08	21.09	21.03	21.74
GPRS 4 Tx slots	23.96	24.13	24.22	25.00	20.96	21.13	21.22	**22.00**
EDGE 1 Tx slot	26.63	26.77	26.67	27.00	17.63	17.77	17.67	18.00
EDGE 2 Tx slots	24.77	24.71	24.62	25.00	18.77	18.71	18.62	19.00
EDGE 3 Tx slots	23.15	23.18	22.75	24.00	18.89	18.92	18.49	19.74
EDGE 4 Tx slots	22.79	22.86	22.46	23.00	19.79	19.86	19.46	20.00

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.
The calculated method are shown as below:
Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB
Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB
Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<WWAN Top --Reduced Power Level 1 for Head>

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	28.33	28.32	28.67	30.00	19.33	19.32	19.67	21.00
GPRS 1 Tx slot	28.34	28.35	28.71	30.00	19.34	19.35	19.71	21.00
GPRS 2 Tx slots	25.51	25.52	25.48	27.00	19.51	19.52	19.48	**21.00**
GPRS 3 Tx slots	23.52	23.50	23.73	24.50	19.26	19.24	19.47	20.24
GPRS 4 Tx slots	22.97	22.52	22.87	23.50	19.97	19.52	19.87	20.50
EDGE 1 Tx slot	25.30	25.01	25.06	27.00	16.30	16.01	16.06	18.00
EDGE 2 Tx slots	24.73	24.59	24.70	25.50	18.73	18.59	18.70	19.50
EDGE 3 Tx slots	23.23	23.03	22.85	24.00	18.97	18.77	18.59	19.74
EDGE 4 Tx slots	22.56	22.33	22.19	23.00	19.56	19.33	19.19	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	26.67	26.82	26.65	27.50	17.67	17.82	17.65	18.50
GPRS 1 Tx slot	26.69	26.84	26.64	27.50	17.69	17.84	17.64	18.50
GPRS 2 Tx slots	24.46	24.43	24.48	24.50	18.46	18.43	18.48	18.50
GPRS 3 Tx slots	21.21	21.37	21.26	22.50	16.95	17.11	17.00	18.24
GPRS 4 Tx slots	20.53	20.65	20.68	21.50	17.53	17.65	17.68	**18.50**
EDGE 1 Tx slot	26.35	26.03	25.99	27.00	17.35	17.03	16.99	18.00
EDGE 2 Tx slots	23.81	23.84	23.88	24.00	17.81	17.84	17.88	18.00
EDGE 3 Tx slots	22.37	22.29	22.35	22.50	18.11	18.03	18.09	18.24
EDGE 4 Tx slots	20.65	20.80	20.81	21.00	17.65	17.80	17.81	18.00

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.
The calculated method are shown as below:
Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB
Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB
Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<WWAN Top --Reduced Power Level 2 for Head>

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	31.57	31.90	31.92	32.50	22.57	22.90	22.92	23.50
GPRS 1 Tx slot	31.58	31.93	31.95	32.50	22.58	22.93	22.95	23.50
GPRS 2 Tx slots	28.53	28.90	29.01	29.50	22.53	22.90	23.01	**23.50**
GPRS 3 Tx slots	26.79	26.95	26.94	27.00	22.53	22.69	22.68	22.74
GPRS 4 Tx slots	25.80	25.90	25.99	26.00	22.80	22.90	22.99	23.00
EDGE 1 Tx slot	25.30	25.01	25.06	27.00	16.30	16.01	16.06	18.00
EDGE 2 Tx slots	24.73	24.59	24.70	25.50	18.73	18.59	18.70	19.50
EDGE 3 Tx slots	23.23	23.03	22.85	24.00	18.97	18.77	18.59	19.74
EDGE 4 Tx slots	22.56	22.33	22.19	23.00	19.56	19.33	19.19	20.00

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.
The calculated method are shown as below:
Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB
Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB
Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

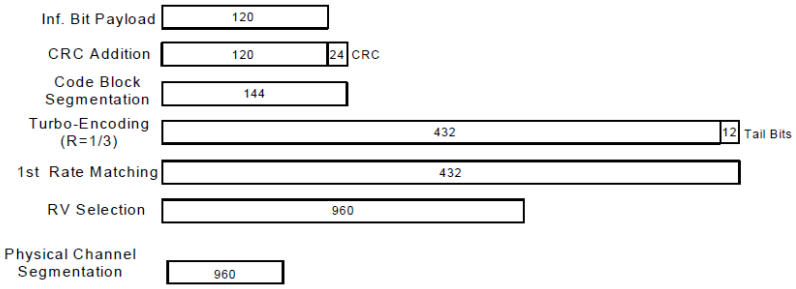


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

General Note:

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

<Top/Bottom Antenna--Full Power Mode>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	24.03	24.25	24.13	24.50	23.74	23.85	23.76	24.50	23.70	23.80	23.70	24.50
3GPP Rel 99	RMC 12.2Kbps	24.04	**24.27**	24.14	24.50	23.76	**23.86**	23.78	24.50	23.73	**23.82**	23.72	24.50
3GPP Rel 6	HSDPA Subtest-1	22.69	22.86	22.78	24.50	22.69	22.75	22.68	24.50	22.53	22.57	22.50	24.50
3GPP Rel 6	HSDPA Subtest-2	22.69	22.83	22.74	24.50	22.64	22.74	22.65	24.50	22.58	22.54	22.46	24.50
3GPP Rel 6	HSDPA Subtest-3	22.13	22.31	22.24	24.00	22.17	22.20	22.17	24.00	22.10	22.05	22.05	24.00
3GPP Rel 6	HSDPA Subtest-4	22.16	22.29	22.21	24.00	22.11	22.28	22.17	24.00	22.06	22.10	22.02	24.00
3GPP Rel 8	DC-HSDPA Subtest-1	22.54	22.78	22.63	24.50	22.63	22.78	22.51	24.50	22.61	22.63	22.58	24.50
3GPP Rel 8	DC-HSDPA Subtest-2	22.61	22.51	22.61	24.50	22.61	22.61	22.61	24.50	22.60	22.51	22.51	24.50
3GPP Rel 8	DC-HSDPA Subtest-3	22.15	22.25	22.18	24.00	22.15	22.12	22.08	24.00	22.08	22.13	22.13	24.00
3GPP Rel 8	DC-HSDPA Subtest-4	22.19	22.21	22.05	24.00	22.16	22.32	22.12	24.00	22.15	22.05	22.21	24.00
3GPP Rel 6	HSUPA Subtest-1	22.72	22.84	22.76	24.50	22.55	22.63	22.59	24.50	22.73	22.76	22.69	24.50
3GPP Rel 6	HSUPA Subtest-2	20.72	20.92	20.79	22.50	20.52	20.61	20.58	22.50	20.68	20.72	20.73	22.50
3GPP Rel 6	HSUPA Subtest-3	21.74	21.88	21.77	23.50	21.54	21.58	21.56	23.50	21.77	21.75	21.70	23.50
3GPP Rel 6	HSUPA Subtest-4	20.69	20.89	20.78	22.50	20.58	20.62	20.59	22.50	20.70	20.71	20.67	22.50
3GPP Rel 6	HSUPA Subtest-5	22.80	23.00	22.70	24.50	22.60	22.60	22.51	24.50	22.70	22.70	22.70	24.50

<WWAN Top --Reduced Power Level 1 for Head>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	15.57	15.90	15.78	17.50	17.20	17.26	17.21	18.50	19.17	19.20	19.18	20.00
3GPP Rel 99	RMC 12.2Kbps	15.58	**15.91**	15.80	17.50	17.23	**17.27**	17.22	18.50	19.18	**19.21**	19.18	20.00
3GPP Rel 6	HSDPA Subtest-1	14.66	14.62	14.61	17.50	16.86	16.74	16.96	18.50	18.02	18.07	18.03	20.00
3GPP Rel 6	HSDPA Subtest-2	14.68	14.58	14.48	17.50	16.91	16.72	16.95	18.50	18.10	18.04	17.89	20.00
3GPP Rel 6	HSDPA Subtest-3	14.21	14.18	13.96	17.00	16.41	16.26	16.53	18.00	17.61	17.56	17.56	19.50
3GPP Rel 6	HSDPA Subtest-4	14.20	13.95	14.08	17.00	16.38	16.24	16.57	18.00	17.60	17.56	17.56	19.50
3GPP Rel 8	DC-HSDPA Subtest-1	14.61	14.58	14.61	17.50	16.82	16.71	16.92	18.50	17.98	18.06	18.02	20.00
3GPP Rel 8	DC-HSDPA Subtest-2	14.65	14.61	14.45	17.50	16.92	16.58	16.85	18.50	18.09	18.01	18.01	20.00
3GPP Rel 8	DC-HSDPA Subtest-3	14.18	14.23	13.91	17.00	16.35	16.21	16.12	18.00	17.55	17.55	17.55	19.50
3GPP Rel 8	DC-HSDPA Subtest-4	14.23	14.01	14.01	17.00	16.31	16.01	16.44	18.00	17.41	17.51	17.72	19.50
3GPP Rel 6	HSUPA Subtest-1	14.65	14.19	14.62	17.50	16.69	16.73	17.06	18.50	17.66	17.28	17.25	20.00
3GPP Rel 6	HSUPA Subtest-2	12.71	12.76	12.65	15.50	15.47	15.41	15.46	16.50	16.86	16.68	16.74	18.00
3GPP Rel 6	HSUPA Subtest-3	13.68	13.67	13.66	16.50	15.59	15.57	15.58	17.50	16.60	16.59	16.45	19.00
3GPP Rel 6	HSUPA Subtest-4	12.69	12.60	12.61	15.50	15.49	15.44	15.47	16.50	16.80	16.88	17.04	18.00
3GPP Rel 6	HSUPA Subtest-5	14.70	14.59	14.71	17.50	17.10	16.70	17.00	18.50	17.90	17.90	17.90	20.00

<WWAN Top --Reduced Power Level 2 for Head>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		4132	4182	4233	
Rx Channel		9662	9800	9938		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	20.96	21.26	21.18	22.50	22.68	22.77	22.70	23.50
3GPP Rel 99	RMC 12.2Kbps	20.97	**21.29**	21.20	22.50	22.70	**22.78**	22.73	23.50
3GPP Rel 6	HSDPA Subtest-1	20.54	20.91	20.81	22.50	21.54	21.51	21.48	23.50
3GPP Rel 6	HSDPA Subtest-2	20.50	20.80	20.82	22.50	21.53	21.49	21.51	23.50
3GPP Rel 6	HSDPA Subtest-3	20.02	20.29	20.32	22.00	21.08	20.93	20.95	23.00
3GPP Rel 6	HSDPA Subtest-4	20.04	20.26	20.29	22.00	20.99	20.97	20.96	23.00
3GPP Rel 8	DC-HSDPA Subtest-1	20.58	20.81	20.78	22.50	21.58	21.47	21.35	23.50
3GPP Rel 8	DC-HSDPA Subtest-2	20.61	20.85	20.81	22.50	21.51	21.42	21.48	23.50
3GPP Rel 8	DC-HSDPA Subtest-3	20.15	20.31	20.35	22.00	20.88	21.01	21.05	23.00
3GPP Rel 8	DC-HSDPA Subtest-4	20.01	20.15	20.35	22.00	20.92	20.95	20.89	23.00
3GPP Rel 6	HSUPA Subtest-1	20.53	20.86	20.84	22.50	21.54	21.53	21.50	23.50
3GPP Rel 6	HSUPA Subtest-2	18.60	18.89	18.84	20.50	19.50	19.48	19.54	21.50
3GPP Rel 6	HSUPA Subtest-3	19.60	19.81	19.89	21.50	20.52	20.55	20.43	22.50
3GPP Rel 6	HSUPA Subtest-4	18.57	18.83	18.82	20.50	19.48	19.55	19.48	21.50
3GPP Rel 6	HSUPA Subtest-5	20.60	20.90	20.80	22.50	21.60	21.50	21.50	23.50

<Bottom Antenna--Reduced Power Mode for Body for slide open>

Band		WCDMA Band IV			Tune-up Limit (dBm)
Tx Channel		1312	1413	1513	
Rx Channel		1537	1638	1738	
Frequency (MHz)		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	22.85	22.95	22.91	24.00
3GPP Rel 99	RMC 12.2Kbps	22.88	**22.98**	22.96	24.00
3GPP Rel 6	HSDPA Subtest-1	22.33	22.40	22.42	24.00
3GPP Rel 6	HSDPA Subtest-2	22.31	22.40	22.40	24.00
3GPP Rel 6	HSDPA Subtest-3	21.85	21.92	21.93	23.50
3GPP Rel 6	HSDPA Subtest-4	21.82	21.88	21.90	23.50
3GPP Rel 8	DC-HSDPA Subtest-1	22.15	22.32	22.35	24.00
3GPP Rel 8	DC-HSDPA Subtest-2	22.30	22.41	22.35	24.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.78	21.85	21.87	23.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.81	21.72	21.89	23.50
3GPP Rel 6	HSUPA Subtest-1	22.34	22.44	22.47	24.00
3GPP Rel 6	HSUPA Subtest-2	20.32	20.44	20.42	22.00
3GPP Rel 6	HSUPA Subtest-3	21.39	21.38	21.44	23.00
3GPP Rel 6	HSUPA Subtest-4	20.30	20.36	20.43	22.00
3GPP Rel 6	HSUPA Subtest-5	22.30	22.50	22.50	24.00

<Bottom Antenna--Reduced Power Mode for P-Sensor On for slide close>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	20.64	20.78	20.75	21.00	19.34	19.48	19.45	20.50
3GPP Rel 99	RMC 12.2Kbps	20.65	**20.80**	20.76	21.00	19.35	**19.50**	19.46	20.50
3GPP Rel 6	HSDPA Subtest-1	19.25	19.35	19.38	21.00	18.67	18.74	18.72	20.50
3GPP Rel 6	HSDPA Subtest-2	19.18	19.38	19.33	21.00	18.64	18.72	18.72	20.50
3GPP Rel 6	HSDPA Subtest-3	18.75	18.87	18.80	20.50	18.10	18.21	18.22	20.00
3GPP Rel 6	HSDPA Subtest-4	18.67	18.86	18.81	20.50	18.09	18.20	18.19	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	19.21	19.31	19.31	21.00	18.75	18.68	18.85	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	19.15	19.25	19.28	21.00	18.71	18.71	18.78	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	18.96	18.85	18.88	20.50	18.15	18.25	18.21	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	18.75	18.63	19.01	20.50	18.25	18.32	18.15	20.00
3GPP Rel 6	HSUPA Subtest-1	19.83	19.94	19.74	21.00	19.16	19.24	19.14	20.50
3GPP Rel 6	HSUPA Subtest-2	18.10	17.92	17.79	19.00	17.18	17.22	17.14	18.50
3GPP Rel 6	HSUPA Subtest-3	19.10	18.92	18.77	20.00	18.18	18.20	18.13	19.50
3GPP Rel 6	HSUPA Subtest-4	18.01	17.88	17.81	19.00	17.15	17.22	17.15	18.50
3GPP Rel 6	HSUPA Subtest-5	20.01	20.08	19.80	21.00	19.10	19.20	19.10	20.50

<CDMA2000 Conducted Power>

General Note:

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

<Top/Bottom Antenna--Full Power Mode>

Band	CDMA2000 BC0			Tune-up Limit (dBm)
Tx Channel	1013	384	777	
Frequency (MHz)	824.7	836.52	848.31	
RC1 SO55	24.35	24.40	**24.57**	25.00
RC3 SO55	24.36	24.42	24.48	25.00
RC3 SO32 (F+SCH)	24.39	24.49	24.55	25.00
RC3 SO32 (+SCH)	24.38	24.42	24.56	25.00
RTAP 153.6Kbps	24.20	24.22	24.29	25.00
RETAP 4096Bits	24.19	24.19	24.15	25.00

<WWAN Top --Reduced Power Level 1 for Head>

Band	CDMA2000 BC0			Tune-up Limit (dBm)
Tx Channel	1013	384	777	
Frequency (MHz)	824.7	836.52	848.31	
RC1 SO55	20.75	20.77	20.83	21.50
RC3 SO55	20.91	20.86	**20.95**	21.50
RC3 SO32 (F+SCH)	20.68	20.78	20.87	21.50
RC3 SO32 (+SCH)	20.72	20.77	20.85	21.50
RTAP 153.6Kbps	20.82	20.80	20.92	21.50
RETAP 4096Bits	20.80	20.81	20.91	21.50

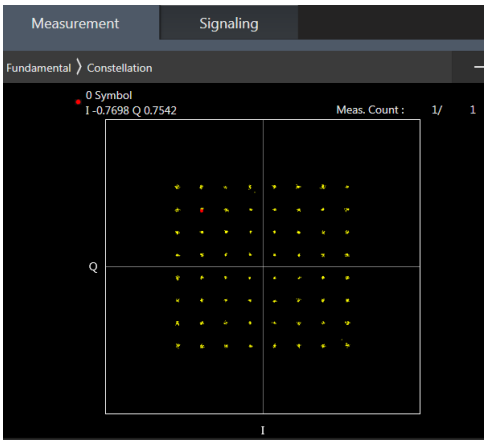
<WWAN Top --Reduced Power Level 2 for Head>

Band	CDMA2000 BC0			Tune-up Limit (dBm)
Tx Channel	1013	384	777	
Frequency (MHz)	824.7	836.52	848.31	
RC1 SO55	22.58	22.64	22.71	23.50
RC3 SO55	22.56	22.63	22.72	23.50
RC3 SO32 (F+SCH)	22.57	22.63	22.70	23.50
RC3 SO32 (+SCH)	22.58	22.62	**22.73**	23.50
RTAP 153.6Kbps	22.59	22.65	22.71	23.50
RETAP 4096Bits	22.61	22.63	22.70	23.50

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE B38 SAR test was covered by B41; 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 64QAM and 16QAM 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

<Top/Bottom Antenna-- Full Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	23.14	23.23	23.14	24	0
20	QPSK	1	49	22.94	23.09	23.04		
20	QPSK	1	99	22.95	23.10	23.13		
20	QPSK	50	0	22.19	22.32	22.27	23	1
20	QPSK	50	24	22.19	22.31	22.28		
20	QPSK	50	50	22.19	22.31	22.31		
20	QPSK	100	0	22.15	22.31	22.24		
20	16QAM	1	0	22.27	22.51	22.35	23	1
20	16QAM	1	49	22.19	22.42	22.28		
20	16QAM	1	99	22.23	22.34	22.32		
20	16QAM	50	0	21.17	21.27	21.24	22	2
20	16QAM	50	24	21.17	21.30	21.25		
20	16QAM	50	50	21.17	21.29	21.30		
20	16QAM	100	0	21.15	21.28	21.22		
20	64QAM	1	0	21.15	21.31	21.19	22	2
20	64QAM	1	49	21.07	21.20	21.17		
20	64QAM	1	99	21.12	21.13	21.19		
20	64QAM	50	0	20.08	20.29	20.22	21	3
20	64QAM	50	24	20.15	20.28	20.26		
20	64QAM	50	50	20.16	20.27	20.27		
20	64QAM	100	0	20.14	20.29	20.25		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	22.98	23.03	22.98	24	0
15	QPSK	1	37	22.94	22.96	22.96		
15	QPSK	1	74	22.98	22.93	22.96		
15	QPSK	36	0	22.02	22.11	22.06	23	1
15	QPSK	36	20	22.06	22.13	22.07		
15	QPSK	36	39	22.06	22.12	22.07		
15	QPSK	75	0	22.06	22.10	22.07		
15	16QAM	1	0	22.17	22.34	22.19	23	1
15	16QAM	1	37	22.17	22.30	22.26		
15	16QAM	1	74	22.18	22.19	22.24		
15	16QAM	36	0	20.87	21.08	21.03	22	2
15	16QAM	36	20	20.96	21.12	21.05		
15	16QAM	36	39	20.91	21.09	21.06		
15	16QAM	75	0	21.03	21.07	21.05		
15	64QAM	1	0	20.96	21.11	21.02	22	2
15	64QAM	1	37	20.86	21.12	21.06		
15	64QAM	1	74	20.94	21.02	21.01		
15	64QAM	36	0	19.80	20.05	20.00	21	3
15	64QAM	36	20	19.90	20.08	20.06		
15	64QAM	36	39	19.90	20.07	20.03		
15	64QAM	75	0	19.92	20.10	20.04		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.69	22.87	22.97	24	0
10	QPSK	1	25	22.73	22.97	22.93		
10	QPSK	1	49	22.69	22.92	22.89		
10	QPSK	25	0	21.85	22.08	22.01	23	1
10	QPSK	25	12	21.85	22.11	22.05		
10	QPSK	25	25	21.79	22.03	21.98		
10	QPSK	50	0	21.83	22.04	22.03		
10	16QAM	1	0	21.91	22.29	22.26	23	1
10	16QAM	1	25	22.00	22.21	22.25		
10	16QAM	1	49	21.92	22.20	22.17		
10	16QAM	25	0	20.82	21.08	21.00	22	2
10	16QAM	25	12	20.84	21.10	21.02		
10	16QAM	25	25	20.75	21.02	20.97		
10	16QAM	50	0	20.75	21.04	20.98		
10	64QAM	1	0	20.71	21.04	21.07	22	2
10	64QAM	1	25	20.59	21.09	21.03		
10	64QAM	1	49	20.71	20.97	20.92		
10	64QAM	25	0	19.80	20.06	20.00	21	3
10	64QAM	25	12	19.94	20.09	20.04		
10	64QAM	25	25	19.74	20.00	19.96		
10	64QAM	50	0	19.70	20.04	19.98		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.79	22.86	22.89	24	0
5	QPSK	1	12	22.81	22.96	22.90		
5	QPSK	1	24	22.78	22.99	22.93		
5	QPSK	12	0	21.88	22.04	22.00	23	1
5	QPSK	12	7	21.94	22.10	22.03		
5	QPSK	12	13	21.94	22.13	22.03		
5	QPSK	25	0	21.89	22.10	22.02		
5	16QAM	1	0	22.07	22.18	22.19	23	1
5	16QAM	1	12	22.06	22.32	22.19		
5	16QAM	1	24	22.00	22.29	22.16		
5	16QAM	12	0	20.92	21.07	20.97	22	2
5	16QAM	12	7	20.95	21.12	21.07		
5	16QAM	12	13	20.95	21.13	21.04		
5	16QAM	25	0	20.91	21.09	21.00		
5	64QAM	1	0	20.88	21.02	20.96	22	2
5	64QAM	1	12	20.91	21.12	20.98		
5	64QAM	1	24	20.91	21.05	20.99		
5	64QAM	12	0	19.89	20.03	19.97	21	3
5	64QAM	12	7	19.90	20.09	20.03		
5	64QAM	12	13	19.91	20.09	20.01		
5	64QAM	25	0	19.90	20.08	20.00		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.58	22.60	22.60	24	0
3	QPSK	1	8	22.68	22.81	22.75		
3	QPSK	1	14	22.63	22.74	22.72		
3	QPSK	8	0	21.65	21.78	21.70	23	1
3	QPSK	8	4	21.69	21.85	21.75		
3	QPSK	8	7	21.65	21.83	21.79		
3	QPSK	15	0	21.72	21.85	21.80		
3	16QAM	1	0	21.80	21.94	21.87	23	1
3	16QAM	1	8	21.92	22.10	22.00		
3	16QAM	1	14	21.80	22.06	21.92		
3	16QAM	8	0	20.66	20.81	20.77	22	2
3	16QAM	8	4	20.73	20.88	20.83		
3	16QAM	8	7	20.73	20.88	20.80		
3	16QAM	15	0	20.69	20.84	20.77		
3	64QAM	1	0	20.62	20.72	20.70	22	2
3	64QAM	1	8	20.67	20.87	20.78		
3	64QAM	1	14	20.72	20.86	20.76		
3	64QAM	8	0	19.59	19.77	19.68	21	3
3	64QAM	8	4	19.71	19.82	19.76		
3	64QAM	8	7	19.66	19.81	19.73		
3	64QAM	15	0	19.64	19.81	19.73		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.56	22.84	22.76	24	0
1.4	QPSK	1	3	22.72	22.94	22.92		
1.4	QPSK	1	5	22.79	22.85	22.81		
1.4	QPSK	3	0	22.76	22.83	22.77		
1.4	QPSK	3	1	22.79	22.90	22.84		
1.4	QPSK	3	3	22.76	22.87	22.81		
1.4	QPSK	6	0	21.76	21.94	21.88	23	1
1.4	16QAM	1	0	21.84	22.16	21.97	23	1
1.4	16QAM	1	3	21.93	22.26	22.06		
1.4	16QAM	1	5	21.88	22.15	22.02		
1.4	16QAM	3	0	21.74	21.99	21.79		
1.4	16QAM	3	1	21.78	22.04	21.89		
1.4	16QAM	3	3	21.73	21.99	21.86		
1.4	16QAM	6	0	20.83	20.98	20.92	22	2
1.4	64QAM	1	0	20.78	20.92	20.86	22	2
1.4	64QAM	1	3	20.90	21.01	20.92		
1.4	64QAM	1	5	20.80	20.98	20.87		
1.4	64QAM	3	0	20.78	20.91	20.79		
1.4	64QAM	3	1	20.82	20.98	20.86		
1.4	64QAM	3	3	20.78	20.94	20.81		
1.4	64QAM	6	0	19.77	19.94	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	22.80	22.87	22.96	24	0
20	QPSK	1	49	22.78	22.87	22.81		
20	QPSK	1	99	22.82	22.77	22.79		
20	QPSK	50	0	21.98	22.05	22.02	23	1
20	QPSK	50	24	21.97	22.05	22.01		
20	QPSK	50	50	21.92	22.02	21.96		
20	QPSK	100	0	21.91	22.03	21.98		
20	16QAM	1	0	22.02	22.24	22.26	23	1
20	16QAM	1	49	22.10	22.13	22.08		
20	16QAM	1	99	22.10	22.07	22.07		
20	16QAM	50	0	20.99	21.04	21.01	22	2
20	16QAM	50	24	20.97	21.03	21.02		
20	16QAM	50	50	20.92	21.01	20.97		
20	16QAM	100	0	20.89	21.00	20.97		
20	64QAM	1	0	20.93	20.99	21.00	22	2
20	64QAM	1	49	21.04	20.98	20.88		
20	64QAM	1	99	21.03	20.89	20.88		
20	64QAM	50	0	19.99	20.04	20.01	21	3
20	64QAM	50	24	19.96	20.05	19.98		
20	64QAM	50	50	19.91	20.01	19.96		
20	64QAM	100	0	19.93	20.01	19.96		

Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	22.59	22.85	22.85	24	0
15	QPSK	1	37	22.85	22.89	22.85		
15	QPSK	1	74	22.78	22.85	22.82		
15	QPSK	36	0	21.97	22.04	21.97	23	1
15	QPSK	36	20	21.97	22.06	21.99		
15	QPSK	36	39	21.94	21.98	21.95		
15	QPSK	75	0	21.93	22.02	21.96		
15	16QAM	1	0	21.91	22.24	22.15	23	1
15	16QAM	1	37	22.17	22.17	22.18		
15	16QAM	1	74	22.15	22.20	22.11		
15	16QAM	36	0	20.97	21.04	20.96	22	2
15	16QAM	36	20	20.97	21.05	20.97		
15	16QAM	36	39	20.88	20.99	20.91		
15	16QAM	75	0	20.92	21.03	20.97		
15	64QAM	1	0	20.70	21.01	20.97	22	2
15	64QAM	1	37	21.01	20.97	20.89		
15	64QAM	1	74	20.90	20.97	20.91		
15	64QAM	36	0	19.91	19.99	19.94	21	3
15	64QAM	36	20	19.92	20.01	19.95		
15	64QAM	36	39	19.85	19.95	19.86		
15	64QAM	75	0	19.93	20.03	19.96		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.53	22.81	22.72	24	0
10	QPSK	1	25	22.73	22.84	22.78		
10	QPSK	1	49	22.64	22.70	22.65		
10	QPSK	25	0	21.85	21.93	21.88	23	1
10	QPSK	25	12	21.87	21.93	21.87		
10	QPSK	25	25	21.77	21.84	21.79		
10	QPSK	50	0	21.84	21.88	21.84		
10	16QAM	1	0	21.85	22.15	22.02	23	1
10	16QAM	1	25	22.11	22.05	22.09		
10	16QAM	1	49	22.03	22.02	21.96		
10	16QAM	25	0	20.86	20.91	20.87	22	2
10	16QAM	25	12	20.87	20.91	20.85		
10	16QAM	25	25	20.76	20.85	20.79		
10	16QAM	50	0	20.82	20.88	20.82		
10	64QAM	1	0	20.65	20.93	20.82	22	2
10	64QAM	1	25	20.89	20.80	20.75		
10	64QAM	1	49	20.78	20.78	20.73		
10	64QAM	25	0	19.87	19.92	19.87	21	3
10	64QAM	25	12	19.89	19.92	19.86		
10	64QAM	25	25	19.78	19.84	19.78		
10	64QAM	50	0	19.83	19.86	19.83		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.49	22.76	22.79	24	0
5	QPSK	1	12	22.61	22.87	22.78		
5	QPSK	1	24	22.70	22.77	22.73		
5	QPSK	12	0	21.83	21.85	21.83	23	1
5	QPSK	12	7	21.88	21.97	21.86		
5	QPSK	12	13	21.84	21.92	21.83		
5	QPSK	25	0	21.84	21.93	21.83		
5	16QAM	1	0	21.85	22.11	22.13	23	1
5	16QAM	1	12	21.96	22.21	22.12		
5	16QAM	1	24	22.01	22.11	21.95		
5	16QAM	12	0	20.85	20.88	20.85	22	2
5	16QAM	12	7	20.90	20.97	20.89		
5	16QAM	12	13	20.88	20.95	20.82		
5	16QAM	25	0	20.83	20.92	20.80		
5	64QAM	1	0	20.66	20.93	20.89	22	2
5	64QAM	1	12	20.78	20.94	20.83		
5	64QAM	1	24	20.84	20.85	20.75		
5	64QAM	12	0	19.84	19.84	19.79	21	3
5	64QAM	12	7	19.86	19.94	19.82		
5	64QAM	12	13	19.84	19.88	19.80		
5	64QAM	25	0	19.83	19.90	19.81		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.73	22.79	22.74	24	0
3	QPSK	1	8	22.84	22.96	22.90		
3	QPSK	1	14	22.75	22.87	22.78		
3	QPSK	8	0	21.87	21.96	21.83	23	1
3	QPSK	8	4	21.94	22.02	21.90		
3	QPSK	8	7	21.86	21.99	21.87		
3	QPSK	15	0	21.89	22.01	21.91		
3	16QAM	1	0	21.88	22.11	21.97	23	1
3	16QAM	1	8	22.09	22.28	22.22		
3	16QAM	1	14	22.01	22.17	22.07		
3	16QAM	8	0	20.94	21.02	20.83	22	2
3	16QAM	8	4	20.98	21.08	20.97		
3	16QAM	8	7	20.90	21.01	20.94		
3	16QAM	15	0	20.90	20.98	20.90		
3	64QAM	1	0	20.85	20.92	20.80	22	2
3	64QAM	1	8	21.01	21.13	21.04		
3	64QAM	1	14	20.93	20.94	20.86		
3	64QAM	8	0	19.89	19.92	19.77	21	3
3	64QAM	8	4	19.94	20.02	19.92		
3	64QAM	8	7	19.87	19.95	19.88		
3	64QAM	15	0	19.87	19.97	19.86		

Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.64	22.77	22.62	24	0
1.4	QPSK	1	3	22.71	22.89	22.81		
1.4	QPSK	1	5	22.63	22.80	22.76		
1.4	QPSK	3	0	22.60	22.81	22.65		
1.4	QPSK	3	1	22.65	22.89	22.74		
1.4	QPSK	3	3	22.61	22.86	22.74		
1.4	QPSK	6	0	21.80	21.90	21.75	23	1
1.4	16QAM	1	0	21.84	22.05	21.89	23	1
1.4	16QAM	1	3	21.93	22.22	22.06		
1.4	16QAM	1	5	21.85	22.08	22.02		
1.4	16QAM	3	0	21.67	21.91	21.74		
1.4	16QAM	3	1	21.71	21.97	21.82		
1.4	16QAM	3	3	21.69	21.93	21.81		
1.4	16QAM	6	0	20.85	20.92	20.76	22	2
1.4	64QAM	1	0	20.74	20.87	20.78	22	2
1.4	64QAM	1	3	20.83	20.98	20.84		
1.4	64QAM	1	5	20.81	20.93	20.78		
1.4	64QAM	3	0	20.70	20.84	20.71		
1.4	64QAM	3	1	20.77	20.93	20.78		
1.4	64QAM	3	3	20.69	20.88	20.74		
1.4	64QAM	6	0	19.78	19.87	19.71	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	22.40	22.85	22.51	24	0
10	QPSK	1	25	22.45	22.49	22.42		
10	QPSK	1	49	22.47	22.47	22.46		
10	QPSK	25	0	21.59	21.68	21.63	23	1
10	QPSK	25	12	21.58	21.65	21.62		
10	QPSK	25	25	21.55	21.61	21.53		
10	QPSK	50	0	21.59	21.65	21.60		
10	16QAM	1	0	21.71	21.89	21.85	23	1
10	16QAM	1	25	21.69	21.80	21.78		
10	16QAM	1	49	21.74	21.73	21.84		
10	16QAM	25	0	20.61	20.67	20.61	22	2
10	16QAM	25	12	20.60	20.66	20.62		
10	16QAM	25	25	20.56	20.61	20.56		
10	16QAM	50	0	20.60	20.63	20.61		
10	64QAM	1	0	20.62	20.68	20.67	22	2
10	64QAM	1	25	20.59	20.63	20.56		
10	64QAM	1	49	20.69	20.55	20.61		
10	64QAM	25	0	19.60	19.66	19.59	21	3
10	64QAM	25	12	19.60	19.66	19.60		
10	64QAM	25	25	19.56	19.61	19.56		
10	64QAM	50	0	19.61	19.64	19.59		

Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.35	22.44	22.37	24	0
5	QPSK	1	12	22.43	22.52	22.48		
5	QPSK	1	24	22.52	22.49	22.45		
5	QPSK	12	0	21.45	21.55	21.49	23	1
5	QPSK	12	7	21.58	21.61	21.57		
5	QPSK	12	13	21.61	21.67	21.64		
5	QPSK	25	0	21.56	21.60	21.55		
5	16QAM	1	0	21.68	21.76	21.74	23	1
5	16QAM	1	12	21.78	21.89	21.83		
5	16QAM	1	24	21.79	21.84	21.77		
5	16QAM	12	0	20.49	20.58	20.51	22	2
5	16QAM	12	7	20.60	20.66	20.60		
5	16QAM	12	13	20.65	20.73	20.64		
5	16QAM	25	0	20.57	20.61	20.55		
5	64QAM	1	0	20.51	20.60	20.53	22	2
5	64QAM	1	12	20.61	20.67	20.65		
5	64QAM	1	24	20.61	20.64	20.55		
5	64QAM	12	0	19.44	19.53	19.47	21	3
5	64QAM	12	7	19.59	19.60	19.55		
5	64QAM	12	13	19.61	19.69	19.62		
5	64QAM	25	0	19.58	19.60	19.53		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.43	22.34	22.36	24	0
3	QPSK	1	8	22.52	22.62	22.55		
3	QPSK	1	14	22.46	22.52	22.47		
3	QPSK	8	0	21.50	21.54	21.50	23	1
3	QPSK	8	4	21.60	21.70	21.62		
3	QPSK	8	7	21.56	21.66	21.61		
3	QPSK	15	0	21.57	21.61	21.58		
3	16QAM	1	0	21.72	21.73	21.71	23	1
3	16QAM	1	8	21.85	21.97	21.91		
3	16QAM	1	14	21.78	21.85	21.84		
3	16QAM	8	0	20.55	20.59	20.55	22	2
3	16QAM	8	4	20.62	20.74	20.69		
3	16QAM	8	7	20.64	20.72	20.66		
3	16QAM	15	0	20.59	20.61	20.56		
3	64QAM	1	0	20.51	20.53	20.45	22	2
3	64QAM	1	8	20.61	20.78	20.70		
3	64QAM	1	14	20.58	20.66	20.66		
3	64QAM	8	0	19.49	19.53	19.49	21	3
3	64QAM	8	4	19.59	19.68	19.65		
3	64QAM	8	7	19.59	19.68	19.63		
3	64QAM	15	0	19.54	19.57	19.51		

Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.29	22.31	22.36	24	0
1.4	QPSK	1	3	22.42	22.51	22.48		
1.4	QPSK	1	5	22.33	22.45	22.41		
1.4	QPSK	3	0	22.36	22.39	22.39		
1.4	QPSK	3	1	22.40	22.49	22.40		
1.4	QPSK	3	3	22.42	22.49	22.43		
1.4	QPSK	6	0	21.46	21.58	21.53	23	1
1.4	16QAM	1	0	21.57	21.69	21.72	23	1
1.4	16QAM	1	3	21.68	21.86	21.83		
1.4	16QAM	1	5	21.66	21.82	21.71		
1.4	16QAM	3	0	21.42	21.51	21.50		
1.4	16QAM	3	1	21.47	21.62	21.53		
1.4	16QAM	3	3	21.45	21.55	21.51		
1.4	16QAM	6	0	20.51	20.61	20.53	22	2
1.4	64QAM	1	0	20.53	20.45	20.45	22	2
1.4	64QAM	1	3	20.63	20.68	20.63		
1.4	64QAM	1	5	20.56	20.57	20.55		
1.4	64QAM	3	0	20.45	20.47	20.46		
1.4	64QAM	3	1	20.50	20.56	20.50		
1.4	64QAM	3	3	20.49	20.49	20.46		
1.4	64QAM	6	0	19.47	19.55	19.47	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	23.51	23.49	23.68	24.5	0
20	QPSK	1	49	23.47	23.46	23.55		
20	QPSK	1	99	23.46	23.48	23.56		
20	QPSK	50	0	22.58	22.72	22.86	23.5	1
20	QPSK	50	24	22.64	22.68	22.81		
20	QPSK	50	50	22.66	22.65	22.80		
20	QPSK	100	0	22.62	22.69	22.69		
20	16QAM	1	0	22.73	22.73	22.92	23.5	1
20	16QAM	1	49	22.65	22.79	22.66		
20	16QAM	1	99	22.70	22.81	22.81		
20	16QAM	50	0	21.59	21.67	21.59	22.5	2
20	16QAM	50	24	21.61	21.66	21.77		
20	16QAM	50	50	21.64	21.65	22.08		
20	16QAM	100	0	21.60	21.65	21.79		
20	64QAM	1	0	21.66	21.46	21.94	22.5	2
20	64QAM	1	49	21.53	21.57	21.83		
20	64QAM	1	99	21.62	21.61	21.77		
20	64QAM	50	0	20.59	20.67	20.60	21.5	3
20	64QAM	50	24	20.63	20.63	20.82		
20	64QAM	50	50	20.63	20.64	21.00		
20	64QAM	100	0	20.57	20.66	20.74		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	23.34	23.35	23.06	24.5	0
15	QPSK	1	37	23.35	23.38	23.24		
15	QPSK	1	74	23.37	23.38	23.03		
15	QPSK	36	0	22.46	22.53	22.17	23.5	1
15	QPSK	36	20	22.54	22.55	22.27		
15	QPSK	36	39	22.52	22.49	22.56		
15	QPSK	75	0	22.51	22.53	22.13		
15	16QAM	1	0	22.71	22.69	22.51	23.5	1
15	16QAM	1	37	22.62	22.71	22.81		
15	16QAM	1	74	22.61	22.76	22.63		
15	16QAM	36	0	21.49	21.56	21.30	22.5	2
15	16QAM	36	20	21.53	21.56	21.33		
15	16QAM	36	39	21.50	21.51	21.62		
15	16QAM	75	0	21.50	21.53	21.17		
15	64QAM	1	0	21.50	21.44	21.30	22.5	2
15	64QAM	1	37	21.46	21.50	21.54		
15	64QAM	1	74	21.46	21.56	21.39		
15	64QAM	36	0	20.46	20.54	20.30	21.5	3
15	64QAM	36	20	20.50	20.54	20.27		
15	64QAM	36	39	20.46	20.49	20.61		
15	64QAM	75	0	20.49	20.53	20.53		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.15	23.26	22.82	24.5	0
10	QPSK	1	25	23.25	23.24	22.89		
10	QPSK	1	49	23.26	23.22	22.88		
10	QPSK	25	0	22.31	22.40	22.10	23.5	1
10	QPSK	25	12	22.42	22.40	22.21		
10	QPSK	25	25	22.41	22.40	22.51		
10	QPSK	50	0	22.43	22.40	22.12		
10	16QAM	1	0	22.52	22.61	22.34	23.5	1
10	16QAM	1	25	22.47	22.58	22.30		
10	16QAM	1	49	22.49	22.58	22.21		
10	16QAM	25	0	21.37	21.43	21.30	22.5	2
10	16QAM	25	12	21.39	21.45	21.36		
10	16QAM	25	25	21.36	21.38	21.64		
10	16QAM	50	0	21.38	21.42	21.64		
10	64QAM	1	0	21.29	21.37	21.09	22.5	2
10	64QAM	1	25	21.28	21.41	21.19		
10	64QAM	1	49	21.31	21.40	21.28		
10	64QAM	25	0	20.37	20.44	20.86	21.5	3
10	64QAM	25	12	20.38	20.42	20.51		
10	64QAM	25	25	20.36	20.39	20.54		
10	64QAM	50	0	20.37	20.41	20.15		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.12	23.20	23.10	24.5	0
5	QPSK	1	12	23.34	23.38	23.18		
5	QPSK	1	24	23.40	23.35	23.06		
5	QPSK	12	0	22.33	22.34	22.33	23.5	1
5	QPSK	12	7	22.47	22.40	22.02		
5	QPSK	12	13	22.48	22.45	22.12		
5	QPSK	25	0	22.43	22.41	21.93		
5	16QAM	1	0	22.48	22.52	22.30	23.5	1
5	16QAM	1	12	22.67	22.69	22.74		
5	16QAM	1	24	22.61	22.70	22.30		
5	16QAM	12	0	21.41	21.41	21.30	22.5	2
5	16QAM	12	7	21.52	21.49	21.13		
5	16QAM	12	13	21.53	21.47	21.27		
5	16QAM	25	0	21.47	21.40	20.98		
5	64QAM	1	0	21.27	21.37	21.19	22.5	2
5	64QAM	1	12	21.42	21.48	21.58		
5	64QAM	1	24	21.43	21.47	21.19		
5	64QAM	12	0	20.38	20.35	20.19	21.5	3
5	64QAM	12	7	20.49	20.45	20.07		
5	64QAM	12	13	20.45	20.43	20.22		
5	64QAM	25	0	20.47	20.40	20.03		

<WWAN Top --Reduced Power Level 1 for Head>

<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	16.44	16.59	16.52	17.5	0
20	QPSK	1	49	16.38	16.49	16.44		
20	QPSK	1	99	16.34	16.43	16.46		
20	QPSK	50	0	16.61	16.72	16.63	17.5	0
20	QPSK	50	24	16.61	16.71	16.63		
20	QPSK	50	50	16.60	16.72	16.65		
20	QPSK	100	0	16.63	16.70	16.64		
20	16QAM	1	0	16.57	16.78	16.77	17.5	0
20	16QAM	1	49	16.58	16.68	16.56		
20	16QAM	1	99	16.60	16.61	16.56		
20	16QAM	50	0	16.59	16.69	16.62	17.5	0
20	16QAM	50	24	16.64	16.68	16.65		
20	16QAM	50	50	16.59	16.68	16.63		
20	16QAM	100	0	16.55	16.66	16.61		
20	64QAM	1	0	16.51	16.70	16.51	17.5	0
20	64QAM	1	49	16.47	16.62	16.46		
20	64QAM	1	99	16.48	16.51	16.58		
20	64QAM	50	0	16.60	16.68	16.59	17.5	0
20	64QAM	50	24	16.59	16.65	16.64		
20	64QAM	50	50	16.59	16.65	16.63		
20	64QAM	100	0	16.58	16.64	16.54		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	16.45	16.60	16.49	17.5	0
15	QPSK	1	37	16.44	16.54	16.51		
15	QPSK	1	74	16.45	16.47	16.47		
15	QPSK	36	0	16.54	16.68	16.62	17.5	0
15	QPSK	36	20	16.57	16.69	16.63		
15	QPSK	36	39	16.57	16.68	16.64		
15	QPSK	75	0	16.58	16.67	16.63		
15	16QAM	1	0	16.57	16.78	16.68	17.5	0
15	16QAM	1	37	16.51	16.75	16.67		
15	16QAM	1	74	16.62	16.63	16.65		
15	16QAM	36	0	16.54	16.65	16.55	17.5	0
15	16QAM	36	20	16.52	16.65	16.60		
15	16QAM	36	39	16.53	16.62	16.61		
15	16QAM	75	0	16.55	16.64	16.59		
15	64QAM	1	0	16.55	16.68	16.56	17.5	0
15	64QAM	1	37	16.51	16.67	16.61		
15	64QAM	1	74	16.57	16.54	16.56		
15	64QAM	36	0	16.52	16.63	16.55	17.5	0
15	64QAM	36	20	16.51	16.65	16.59		
15	64QAM	36	39	16.52	16.61	16.58		
15	64QAM	75	0	16.54	16.66	16.60		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	16.28	16.42	16.51	17.5	0
10	QPSK	1	25	16.39	16.48	16.36		
10	QPSK	1	49	16.28	16.44	16.42		
10	QPSK	25	0	16.48	16.57	16.54	17.5	0
10	QPSK	25	12	16.50	16.59	16.57		
10	QPSK	25	25	16.43	16.50	16.49		
10	QPSK	50	0	16.47	16.57	16.55		
10	16QAM	1	0	16.39	16.66	16.71	17.5	0
10	16QAM	1	25	16.45	16.65	16.56		
10	16QAM	1	49	16.47	16.58	16.52		
10	16QAM	25	0	16.43	16.54	16.56	17.5	0
10	16QAM	25	12	16.45	16.56	16.58		
10	16QAM	25	25	16.39	16.48	16.51		
10	16QAM	50	0	16.45	16.53	16.54		
10	64QAM	1	0	16.39	16.50	16.63	17.5	0
10	64QAM	1	25	16.41	16.58	16.51		
10	64QAM	1	49	16.37	16.48	16.55		
10	64QAM	25	0	16.44	16.56	16.53	17.5	0
10	64QAM	25	12	16.45	16.56	16.57		
10	64QAM	25	25	16.37	16.48	16.52		
10	64QAM	50	0	16.44	16.52	16.52		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	16.35	16.39	16.41	17.5	0
5	QPSK	1	12	16.40	16.46	16.41		
5	QPSK	1	24	16.34	16.47	16.40		
5	QPSK	12	0	16.43	16.55	16.50	17.5	0
5	QPSK	12	7	16.52	16.63	16.56		
5	QPSK	12	13	16.48	16.57	16.56		
5	QPSK	25	0	16.50	16.58	16.54		
5	16QAM	1	0	16.42	16.57	16.58	17.5	0
5	16QAM	1	12	16.50	16.65	16.63		
5	16QAM	1	24	16.41	16.66	16.57		
5	16QAM	12	0	16.42	16.52	16.51	17.5	0
5	16QAM	12	7	16.45	16.59	16.56		
5	16QAM	12	13	16.43	16.61	16.53		
5	16QAM	25	0	16.47	16.57	16.53		
5	64QAM	1	0	16.40	16.53	16.49	17.5	0
5	64QAM	1	12	16.35	16.53	16.57		
5	64QAM	1	24	16.43	16.57	16.45		
5	64QAM	12	0	16.42	16.50	16.46	17.5	0
5	64QAM	12	7	16.46	16.58	16.54		
5	64QAM	12	13	16.47	16.55	16.54		
5	64QAM	25	0	16.44	16.54	16.52		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	16.20	16.07	16.13	17.5	0
3	QPSK	1	8	16.25	16.03	15.94		
3	QPSK	1	14	16.10	16.06	16.35		
3	QPSK	8	0	16.32	16.05	15.96	17.5	0
3	QPSK	8	4	16.21	16.05	16.08		
3	QPSK	8	7	16.05	15.94	16.13		
3	QPSK	15	0	16.16	15.97	15.92		
3	16QAM	1	0	16.26	16.44	16.20	17.5	0
3	16QAM	1	8	16.04	16.40	16.26		
3	16QAM	1	14	16.31	16.42	16.20		
3	16QAM	8	0	16.05	16.01	16.02	17.5	0
3	16QAM	8	4	16.12	15.96	15.98		
3	16QAM	8	7	15.96	15.91	16.07		
3	16QAM	15	0	16.06	16.07	16.06		
3	64QAM	1	0	16.14	16.15	16.12	17.5	0
3	64QAM	1	8	16.09	16.30	16.28		
3	64QAM	1	14	16.23	16.40	16.18		
3	64QAM	8	0	15.92	15.93	16.01	17.5	0
3	64QAM	8	4	15.91	16.02	16.02		
3	64QAM	8	7	15.93	15.91	16.15		
3	64QAM	15	0	15.99	15.94	16.01		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	16.11	15.95	16.33	17.5	0
1.4	QPSK	1	3	16.21	16.04	16.00		
1.4	QPSK	1	5	16.05	16.05	16.00		
1.4	QPSK	3	0	16.08	16.01	16.10		
1.4	QPSK	3	1	16.31	16.15	16.45		
1.4	QPSK	3	3	16.38	16.33	16.27		
1.4	QPSK	6	0	16.49	16.43	16.30	17.5	0
1.4	16QAM	1	0	16.16	15.92	16.16	17.5	0
1.4	16QAM	1	3	16.02	16.06	16.25		
1.4	16QAM	1	5	16.00	16.06	16.05		
1.4	16QAM	3	0	16.09	16.16	16.11		
1.4	16QAM	3	1	16.23	16.14	16.34		
1.4	16QAM	3	3	16.21	16.35	16.39		
1.4	16QAM	6	0	16.02	16.08	16.07	17.5	0
1.4	64QAM	1	0	16.09	15.99	16.26	17.5	0
1.4	64QAM	1	3	16.10	15.96	16.09		
1.4	64QAM	1	5	16.36	15.91	16.24		
1.4	64QAM	3	0	16.18	16.05	16.05		
1.4	64QAM	3	1	16.19	16.21	16.10		
1.4	64QAM	3	3	16.10	16.22	16.17		
1.4	64QAM	6	0	16.07	16.11	16.15	17.5	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	18.77	18.86	18.81	20	0
20	QPSK	1	49	18.70	18.71	18.61		
20	QPSK	1	99	18.66	18.63	18.52		
20	QPSK	50	0	18.86	18.93	18.83	20	0
20	QPSK	50	24	18.83	18.89	18.81		
20	QPSK	50	50	18.80	18.81	18.70		
20	QPSK	100	0	18.83	18.86	18.76		
20	16QAM	1	0	19.14	19.05	19.10	20	0
20	16QAM	1	49	18.97	18.91	18.94		
20	16QAM	1	99	18.80	18.98	18.58		
20	16QAM	50	0	18.92	18.91	18.82	20	0
20	16QAM	50	24	18.86	18.91	18.81		
20	16QAM	50	50	18.81	18.83	18.72		
20	16QAM	100	0	18.81	18.86	18.76		
20	64QAM	1	0	19.06	18.96	18.98	20	0
20	64QAM	1	49	18.91	18.86	18.85		
20	64QAM	1	99	18.83	18.83	18.54		
20	64QAM	50	0	18.89	18.90	18.80	20	0
20	64QAM	50	24	18.87	18.88	18.76		
20	64QAM	50	50	18.79	18.81	18.71		
20	64QAM	100	0	18.84	18.84	18.77		

Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	18.77	18.69	18.73	20	0
15	QPSK	1	37	18.74	18.74	18.66		
15	QPSK	1	74	18.64	18.62	18.49		
15	QPSK	36	0	18.84	18.88	18.71	20	0
15	QPSK	36	20	18.85	18.87	18.72		
15	QPSK	36	39	18.78	18.81	18.68		
15	QPSK	75	0	18.82	18.87	18.70		
15	16QAM	1	0	19.08	18.92	19.02	20	0
15	16QAM	1	37	19.01	18.90	18.79		
15	16QAM	1	74	18.88	18.97	18.67		
15	16QAM	36	0	18.85	18.89	18.76	20	0
15	16QAM	36	20	18.86	18.85	18.77		
15	16QAM	36	39	18.77	18.80	18.71		
15	16QAM	75	0	18.84	18.85	18.72		
15	64QAM	1	0	19.03	18.90	18.99	20	0
15	64QAM	1	37	18.94	18.95	18.86		
15	64QAM	1	74	18.76	18.87	18.62		
15	64QAM	36	0	18.86	18.86	18.74	20	0
15	64QAM	36	20	18.86	18.89	18.76		
15	64QAM	36	39	18.76	18.81	18.69		
15	64QAM	75	0	18.82	18.84	18.72		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	18.61	18.67	18.57	20	0
10	QPSK	1	25	18.62	18.65	18.50		
10	QPSK	1	49	18.50	18.55	18.42		
10	QPSK	25	0	18.79	18.79	18.63	20	0
10	QPSK	25	12	18.76	18.77	18.64		
10	QPSK	25	25	18.67	18.66	18.53		
10	QPSK	50	0	18.73	18.74	18.58		
10	16QAM	1	0	18.94	18.86	18.87	20	0
10	16QAM	1	25	18.96	18.85	18.71		
10	16QAM	1	49	18.82	18.85	18.52		
10	16QAM	25	0	18.77	18.75	18.67	20	0
10	16QAM	25	12	18.77	18.78	18.64		
10	16QAM	25	25	18.68	18.68	18.54		
10	16QAM	50	0	18.71	18.74	18.61		
10	64QAM	1	0	18.89	18.84	18.72	20	0
10	64QAM	1	25	18.87	18.80	18.61		
10	64QAM	1	49	18.73	18.73	18.50		
10	64QAM	25	0	18.74	18.76	18.65	20	0
10	64QAM	25	12	18.77	18.74	18.61		
10	64QAM	25	25	18.65	18.69	18.54		
10	64QAM	50	0	18.73	18.74	18.57		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	18.71	18.65	18.47	20	0
5	QPSK	1	12	18.66	18.70	18.53		
5	QPSK	1	24	18.57	18.62	18.43		
5	QPSK	12	0	18.77	18.74	18.58	20	0
5	QPSK	12	7	18.76	18.84	18.60		
5	QPSK	12	13	18.70	18.75	18.55		
5	QPSK	25	0	18.75	18.76	18.57		
5	16QAM	1	0	18.99	18.87	18.77	20	0
5	16QAM	1	12	18.96	18.95	18.66		
5	16QAM	1	24	18.83	18.88	18.53		
5	16QAM	12	0	18.72	18.72	18.61	20	0
5	16QAM	12	7	18.78	18.83	18.62		
5	16QAM	12	13	18.71	18.74	18.57		
5	16QAM	25	0	18.73	18.76	18.60		
5	64QAM	1	0	18.92	18.85	18.68	20	0
5	64QAM	1	12	18.91	18.86	18.63		
5	64QAM	1	24	18.84	18.79	18.46		
5	64QAM	12	0	18.74	18.72	18.58	20	0
5	64QAM	12	7	18.75	18.80	18.60		
5	64QAM	12	13	18.70	18.73	18.54		
5	64QAM	25	0	18.76	18.78	18.59		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	18.62	18.58	18.40	20	0
3	QPSK	1	8	18.72	18.77	18.55		
3	QPSK	1	14	18.55	18.64	18.43		
3	QPSK	8	0	18.75	18.75	18.47	20	0
3	QPSK	8	4	18.78	18.82	18.62		
3	QPSK	8	7	18.70	18.77	18.54		
3	QPSK	15	0	18.74	18.76	18.59		
3	16QAM	1	0	18.90	18.83	18.58	20	0
3	16QAM	1	8	19.03	18.97	18.68		
3	16QAM	1	14	18.81	18.82	18.57		
3	16QAM	8	0	18.76	18.79	18.55	20	0
3	16QAM	8	4	18.84	18.84	18.71		
3	16QAM	8	7	18.76	18.82	18.64		
3	16QAM	15	0	18.74	18.80	18.63		
3	64QAM	1	0	18.86	18.70	18.52	20	0
3	64QAM	1	8	18.94	18.97	18.65		
3	64QAM	1	14	18.81	18.76	18.57		
3	64QAM	8	0	18.76	18.71	18.55	20	0
3	64QAM	8	4	18.83	18.84	18.62		
3	64QAM	8	7	18.71	18.77	18.56		
3	64QAM	15	0	18.75	18.74	18.58		

Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	18.09	18.28	18.25	20	0
1.4	QPSK	1	3	18.20	18.71	18.78		
1.4	QPSK	1	5	18.17	18.70	18.80		
1.4	QPSK	3	0	18.38	18.30	18.46		
1.4	QPSK	3	1	18.44	18.48	18.52		
1.4	QPSK	3	3	18.42	18.41	18.50		
1.4	QPSK	6	0	18.26	18.36	18.45	20	0
1.4	16QAM	1	0	18.97	18.48	18.53	20	0
1.4	16QAM	1	3	18.94	18.92	18.39		
1.4	16QAM	1	5	18.89	18.91	18.81		
1.4	16QAM	3	0	18.44	18.37	18.42		
1.4	16QAM	3	1	18.41	18.43	18.54		
1.4	16QAM	3	3	18.38	18.36	18.53		
1.4	16QAM	6	0	18.37	18.39	18.49	20	0
1.4	64QAM	1	0	18.72	18.08	18.18	20	0
1.4	64QAM	1	3	18.37	18.29	18.42		
1.4	64QAM	1	5	18.67	18.69	18.35		
1.4	64QAM	3	0	18.22	18.36	18.44		
1.4	64QAM	3	1	18.41	18.40	18.49		
1.4	64QAM	3	3	18.44	18.30	18.55		
1.4	64QAM	6	0	18.41	18.40	18.54	20	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	19.15	19.23	19.22	20.5	0
10	QPSK	1	25	19.18	19.19	19.18		
10	QPSK	1	49	19.21	19.12	19.19		
10	QPSK	25	0	19.32	19.35	19.28	20.5	0
10	QPSK	25	12	19.30	19.31	19.28		
10	QPSK	25	25	19.23	19.27	19.26		
10	QPSK	50	0	19.29	19.31	19.27		
10	16QAM	1	0	19.35	19.58	19.57	20.5	0
10	16QAM	1	25	19.38	19.47	19.39		
10	16QAM	1	49	19.51	19.42	19.43		
10	16QAM	25	0	19.26	19.32	19.28	20.5	0
10	16QAM	25	12	19.30	19.35	19.29		
10	16QAM	25	25	19.25	19.28	19.20		
10	16QAM	50	0	19.28	19.32	19.27		
10	64QAM	1	0	19.36	19.53	19.48	20.5	0
10	64QAM	1	25	19.37	19.41	19.36		
10	64QAM	1	49	19.49	19.35	19.45		
10	64QAM	25	0	19.31	19.33	19.27	20.5	0
10	64QAM	25	12	19.29	19.30	19.25		
10	64QAM	25	25	19.23	19.26	19.19		
10	64QAM	50	0	19.27	19.29	19.26		

Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	19.01	19.07	19.04	20.5	0
5	QPSK	1	12	19.14	19.22	19.16		
5	QPSK	1	24	19.19	19.18	19.18		
5	QPSK	12	0	19.14	19.20	19.14	20.5	0
5	QPSK	12	7	19.26	19.35	19.29		
5	QPSK	12	13	19.29	19.32	19.32		
5	QPSK	25	0	19.27	19.25	19.18		
5	16QAM	1	0	19.30	19.37	19.28	20.5	0
5	16QAM	1	12	19.40	19.47	19.47		
5	16QAM	1	24	19.36	19.46	19.42		
5	16QAM	12	0	19.16	19.21	19.13	20.5	0
5	16QAM	12	7	19.27	19.31	19.28		
5	16QAM	12	13	19.28	19.33	19.30		
5	16QAM	25	0	19.24	19.22	19.22		
5	64QAM	1	0	19.23	19.20	19.16	20.5	0
5	64QAM	1	12	19.28	19.38	19.37		
5	64QAM	1	24	19.33	19.31	19.33		
5	64QAM	12	0	19.11	19.16	19.12	20.5	0
5	64QAM	12	7	19.25	19.30	19.25		
5	64QAM	12	13	19.31	19.30	19.27		
5	64QAM	25	0	19.25	19.23	19.21		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	19.04	19.07	19.07	20.5	0
3	QPSK	1	8	19.19	19.25	19.25		
3	QPSK	1	14	19.17	19.24	19.20		
3	QPSK	8	0	19.19	19.20	19.18	20.5	0
3	QPSK	8	4	19.24	19.32	19.28		
3	QPSK	8	7	19.23	19.34	19.27		
3	QPSK	15	0	19.22	19.24	19.21		
3	16QAM	1	0	19.27	19.34	19.33	20.5	0
3	16QAM	1	8	19.43	19.46	19.48		
3	16QAM	1	14	19.36	19.48	19.44		
3	16QAM	8	0	19.25	19.24	19.21	20.5	0
3	16QAM	8	4	19.29	19.38	19.30		
3	16QAM	8	7	19.29	19.34	19.31		
3	16QAM	15	0	19.26	19.27	19.21		
3	64QAM	1	0	19.25	19.19	19.18	20.5	0
3	64QAM	1	8	19.35	19.38	19.40		
3	64QAM	1	14	19.31	19.46	19.39		
3	64QAM	8	0	19.18	19.16	19.20	20.5	0
3	64QAM	8	4	19.24	19.35	19.28		
3	64QAM	8	7	19.30	19.31	19.25		
3	64QAM	15	0	19.22	19.21	19.18		

Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	19.10	19.23	19.36	20.5	0
1.4	QPSK	1	3	19.03	19.12	19.36		
1.4	QPSK	1	5	19.30	19.12	19.41		
1.4	QPSK	3	0	19.30	19.16	19.23		
1.4	QPSK	3	1	19.18	19.20	19.22		
1.4	QPSK	3	3	19.06	18.95	19.22		
1.4	QPSK	6	0	19.06	19.11	19.15	20.5	0
1.4	16QAM	1	0	19.36	19.46	19.42	20.5	0
1.4	16QAM	1	3	19.50	19.08	19.53		
1.4	16QAM	1	5	19.51	19.40	19.41		
1.4	16QAM	3	0	19.25	19.18	19.22		
1.4	16QAM	3	1	19.16	19.24	19.20		
1.4	16QAM	3	3	19.18	19.11	19.08		
1.4	16QAM	6	0	19.11	19.12	19.15	20.5	0
1.4	64QAM	1	0	19.31	19.31	19.38	20.5	0
1.4	64QAM	1	3	19.07	19.38	19.55		
1.4	64QAM	1	5	19.23	19.38	19.32		
1.4	64QAM	3	0	19.19	19.13	19.28		
1.4	64QAM	3	1	19.11	19.15	19.17		
1.4	64QAM	3	3	19.02	18.92	19.16		
1.4	64QAM	6	0	19.02	19.12	19.24	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	13.47	13.45	13.70	14.5	0
20	QPSK	1	49	13.35	13.45	13.56		
20	QPSK	1	99	13.37	13.54	13.61		
20	QPSK	50	0	13.47	13.60	13.79	14.5	0
20	QPSK	50	24	13.53	13.65	13.71		
20	QPSK	50	50	13.54	13.67	13.60		
20	QPSK	100	0	13.50	13.64	13.70		
20	16QAM	1	0	13.80	13.77	13.87	14.5	0
20	16QAM	1	49	13.74	13.79	13.95		
20	16QAM	1	99	13.77	13.88	14.04		
20	16QAM	50	0	13.49	13.63	13.62	14.5	0
20	16QAM	50	24	13.55	13.66	13.76		
20	16QAM	50	50	13.54	13.70	13.85		
20	16QAM	100	0	13.52	13.66	13.70		
20	64QAM	1	0	13.67	13.71	13.77	14.5	0
20	64QAM	1	49	13.61	13.72	13.81		
20	64QAM	1	99	13.64	13.82	13.97		
20	64QAM	50	0	13.47	13.60	13.62	14.5	0
20	64QAM	50	24	13.54	13.65	13.76		
20	64QAM	50	50	13.49	13.67	13.82		
20	64QAM	100	0	13.54	13.67	13.75		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	13.38	13.42	13.51	14.5	0
15	QPSK	1	37	13.37	13.51	13.59		
15	QPSK	1	74	13.43	13.49	13.65		
15	QPSK	36	0	13.47	13.59	13.61	14.5	0
15	QPSK	36	20	13.52	13.67	13.75		
15	QPSK	36	39	13.54	13.66	13.79		
15	QPSK	75	0	13.50	13.62	13.73		
15	16QAM	1	0	13.78	13.79	13.88	14.5	0
15	16QAM	1	37	13.72	13.90	13.99		
15	16QAM	1	74	13.75	13.85	14.05		
15	16QAM	36	0	13.50	13.63	13.66	14.5	0
15	16QAM	36	20	13.56	13.69	13.76		
15	16QAM	36	39	13.51	13.66	13.80		
15	16QAM	75	0	13.53	13.66	13.71		
15	64QAM	1	0	13.59	13.70	13.80	14.5	0
15	64QAM	1	37	13.61	13.73	13.86		
15	64QAM	1	74	13.64	13.80	13.96		
15	64QAM	36	0	13.48	13.62	13.66	14.5	0
15	64QAM	36	20	13.52	13.66	13.76		
15	64QAM	36	39	13.50	13.65	13.81		
15	64QAM	75	0	13.53	13.68	13.76		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	13.29	13.45	13.42	14.5	0
10	QPSK	1	25	13.28	13.43	13.41		
10	QPSK	1	49	13.30	13.49	13.58		
10	QPSK	25	0	13.33	13.48	13.53	14.5	0
10	QPSK	25	12	13.38	13.54	13.59		
10	QPSK	25	25	13.39	13.51	13.58		
10	QPSK	50	0	13.33	13.53	13.55		
10	16QAM	1	0	13.61	13.80	13.76	14.5	0
10	16QAM	1	25	13.63	13.75	13.83		
10	16QAM	1	49	13.58	13.72	13.85		
10	16QAM	25	0	13.34	13.49	13.54	14.5	0
10	16QAM	25	12	13.42	13.49	13.58		
10	16QAM	25	25	13.37	13.51	13.58		
10	16QAM	50	0	13.40	13.47	13.56		
10	64QAM	1	0	13.52	13.62	13.68	14.5	0
10	64QAM	1	25	13.52	13.66	13.70		
10	64QAM	1	49	13.55	13.61	13.79		
10	64QAM	25	0	13.38	13.47	13.51	14.5	0
10	64QAM	25	12	13.40	13.52	13.57		
10	64QAM	25	25	13.38	13.48	13.59		
10	64QAM	50	0	13.38	13.45	13.56		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	13.39	13.38	13.52	14.5	0
5	QPSK	1	12	13.24	13.43	13.44		
5	QPSK	1	24	13.21	13.40	13.45		
5	QPSK	12	0	13.45	13.52	13.62	14.5	0
5	QPSK	12	7	13.44	13.48	13.64		
5	QPSK	12	13	13.31	13.48	13.56		
5	QPSK	25	0	13.41	13.48	13.62		
5	16QAM	1	0	13.64	13.66	13.90	14.5	0
5	16QAM	1	12	13.62	13.79	13.76		
5	16QAM	1	24	13.47	13.74	13.80		
5	16QAM	12	0	13.48	13.53	13.64	14.5	0
5	16QAM	12	7	13.45	13.47	13.65		
5	16QAM	12	13	13.33	13.45	13.57		
5	16QAM	25	0	13.45	13.49	13.56		
5	64QAM	1	0	13.56	13.58	13.75	14.5	0
5	64QAM	1	12	13.45	13.69	13.68		
5	64QAM	1	24	13.37	13.70	13.72		
5	64QAM	12	0	13.46	13.51	13.62	14.5	0
5	64QAM	12	7	13.43	13.46	13.64		
5	64QAM	12	13	13.30	13.45	13.53		
5	64QAM	25	0	13.45	13.49	13.59		

<WWAN Top --Reduced Power Level 2 for Head>

<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	22.41	22.54	22.47	23	0
20	QPSK	1	49	22.30	22.40	22.36		
20	QPSK	1	99	22.32	22.40	22.42		
20	QPSK	50	0	21.52	21.63	21.56	23	0
20	QPSK	50	24	21.51	21.63	21.57		
20	QPSK	50	50	21.51	21.61	21.59		
20	QPSK	100	0	21.52	21.65	21.58		
20	16QAM	1	0	21.61	21.76	21.68	23	0
20	16QAM	1	49	21.55	21.63	21.52		
20	16QAM	1	99	21.54	21.61	21.61		
20	16QAM	50	0	20.54	20.63	20.54	22	1
20	16QAM	50	24	20.52	20.62	20.55		
20	16QAM	50	50	20.51	20.60	20.59		
20	16QAM	100	0	20.51	20.58	20.54		
20	64QAM	1	0	20.48	20.69	20.57	22	1
20	64QAM	1	49	20.38	20.58	20.42		
20	64QAM	1	99	20.43	20.53	20.50		
20	64QAM	50	0	20.49	20.59	20.52	21	2
20	64QAM	50	24	20.50	20.61	20.53		
20	64QAM	50	50	20.51	20.58	20.57		
20	64QAM	100	0	20.53	20.60	20.52		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	22.38	22.52	22.45	23	0
15	QPSK	1	37	22.36	22.46	22.47		
15	QPSK	1	74	22.38	22.45	22.39		
15	QPSK	36	0	21.45	21.58	21.53	23	0
15	QPSK	36	20	21.49	21.63	21.57		
15	QPSK	36	39	21.46	21.58	21.56		
15	QPSK	75	0	21.43	21.61	21.55		
15	16QAM	1	0	21.60	21.70	21.61	23	0
15	16QAM	1	37	21.50	21.70	21.69		
15	16QAM	1	74	21.62	21.63	21.62		
15	16QAM	36	0	20.36	20.58	20.52	22	1
15	16QAM	36	20	20.48	20.61	20.52		
15	16QAM	36	39	20.44	20.56	20.55		
15	16QAM	75	0	20.45	20.58	20.51		
15	64QAM	1	0	20.51	20.61	20.47	22	1
15	64QAM	1	37	20.39	20.64	20.54		
15	64QAM	1	74	20.48	20.63	20.52		
15	64QAM	36	0	20.44	20.55	20.47	21	2
15	64QAM	36	20	20.44	20.59	20.52		
15	64QAM	36	39	20.46	20.60	20.53		
15	64QAM	75	0	20.42	20.58	20.51		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.23	22.36	22.44	23	0
10	QPSK	1	25	22.26	22.44	22.29		
10	QPSK	1	49	22.18	22.33	22.28		
10	QPSK	25	0	21.35	21.54	21.44	23	0
10	QPSK	25	12	21.39	21.54	21.48		
10	QPSK	25	25	21.32	21.49	21.44		
10	QPSK	50	0	21.37	21.50	21.46		
10	16QAM	1	0	21.39	21.58	21.65	23	0
10	16QAM	1	25	21.44	21.63	21.50		
10	16QAM	1	49	21.42	21.63	21.48		
10	16QAM	25	0	20.34	20.52	20.45	22	1
10	16QAM	25	12	20.36	20.51	20.45		
10	16QAM	25	25	20.30	20.45	20.42		
10	16QAM	50	0	20.35	20.48	20.44		
10	64QAM	1	0	20.33	20.59	20.49	22	1
10	64QAM	1	25	20.41	20.62	20.43		
10	64QAM	1	49	20.36	20.45	20.41		
10	64QAM	25	0	20.36	20.50	20.45	21	2
10	64QAM	25	12	20.40	20.54	20.48		
10	64QAM	25	25	20.33	20.42	20.43		
10	64QAM	50	0	20.35	20.47	20.44		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.31	22.35	22.37	23	0
5	QPSK	1	12	22.36	22.44	22.39		
5	QPSK	1	24	22.35	22.45	22.43		
5	QPSK	12	0	21.44	21.55	21.46	23	0
5	QPSK	12	7	21.45	21.59	21.54		
5	QPSK	12	13	21.45	21.58	21.50		
5	QPSK	25	0	21.46	21.57	21.49		
5	16QAM	1	0	21.49	21.61	21.52	23	0
5	16QAM	1	12	21.50	21.67	21.58		
5	16QAM	1	24	21.51	21.65	21.62		
5	16QAM	12	0	20.39	20.53	20.45	22	1
5	16QAM	12	7	20.46	20.58	20.51		
5	16QAM	12	13	20.44	20.56	20.51		
5	16QAM	25	0	20.45	20.55	20.49		
5	64QAM	1	0	20.44	20.51	20.48	22	1
5	64QAM	1	12	20.45	20.60	20.54		
5	64QAM	1	24	20.43	20.58	20.51		
5	64QAM	12	0	20.40	20.50	20.44	21	2
5	64QAM	12	7	20.43	20.58	20.49		
5	64QAM	12	13	20.44	20.54	20.48		
5	64QAM	25	0	20.41	20.58	20.48		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.34	22.38	22.41	23	0
3	QPSK	1	8	22.46	22.55	22.50		
3	QPSK	1	14	22.39	22.53	22.46		
3	QPSK	8	0	21.46	21.55	21.50	23	0
3	QPSK	8	4	21.51	21.62	21.57		
3	QPSK	8	7	21.51	21.59	21.53		
3	QPSK	15	0	21.49	21.57	21.57		
3	16QAM	1	0	21.51	21.65	21.60	23	0
3	16QAM	1	8	21.63	21.75	21.70		
3	16QAM	1	14	21.55	21.71	21.65		
3	16QAM	8	0	20.50	20.58	20.52	22	1
3	16QAM	8	4	20.54	20.64	20.59		
3	16QAM	8	7	20.54	20.61	20.58		
3	16QAM	15	0	20.51	20.59	20.53		
3	64QAM	1	0	20.46	20.56	20.53	22	1
3	64QAM	1	8	20.57	20.69	20.63		
3	64QAM	1	14	20.48	20.65	20.60		
3	64QAM	8	0	20.46	20.56	20.50	21	2
3	64QAM	8	4	20.53	20.63	20.55		
3	64QAM	8	7	20.49	20.57	20.53		
3	64QAM	15	0	20.45	20.57	20.50		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.28	22.37	22.32	23	0
1.4	QPSK	1	3	22.36	22.47	22.44		
1.4	QPSK	1	5	22.33	22.42	22.38		
1.4	QPSK	3	0	22.34	22.40	22.32		
1.4	QPSK	3	1	22.37	22.43	22.41		
1.4	QPSK	3	3	22.35	22.43	22.36		
1.4	QPSK	6	0	21.38	21.50	21.43	23	0
1.4	16QAM	1	0	21.45	21.58	21.48	23	0
1.4	16QAM	1	3	21.57	21.68	21.56		
1.4	16QAM	1	5	21.50	21.64	21.53		
1.4	16QAM	3	0	21.35	21.41	21.34		
1.4	16QAM	3	1	21.39	21.45	21.42		
1.4	16QAM	3	3	21.37	21.44	21.39		
1.4	16QAM	6	0	20.48	20.58	20.50	22	1
1.4	64QAM	1	0	20.37	20.53	20.42	22	1
1.4	64QAM	1	3	20.49	20.63	20.46		
1.4	64QAM	1	5	20.43	20.58	20.49		
1.4	64QAM	3	0	20.37	20.44	20.37		
1.4	64QAM	3	1	20.44	20.48	20.46		
1.4	64QAM	3	3	20.40	20.46	20.42		
1.4	64QAM	6	0	20.38	20.49	20.43	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	18.76	18.76	18.97	19.5	0
20	QPSK	1	49	18.71	18.79	18.91		
20	QPSK	1	99	18.77	18.85	18.91		
20	QPSK	50	0	18.85	19.00	19.05	19.5	0
20	QPSK	50	24	18.88	18.98	19.02		
20	QPSK	50	50	18.93	18.95	19.00		
20	QPSK	100	0	18.89	18.98	19.03		
20	16QAM	1	0	19.00	19.02	19.16	19.5	0
20	16QAM	1	49	19.00	19.07	19.20		
20	16QAM	1	99	19.03	19.15	19.27		
20	16QAM	50	0	18.77	18.91	18.95	19.5	0
20	16QAM	50	24	18.82	18.92	18.97		
20	16QAM	50	50	18.83	18.91	18.95		
20	16QAM	100	0	18.79	18.87	18.95		
20	64QAM	1	0	18.91	18.90	19.04	19.5	0
20	64QAM	1	49	18.89	18.96	19.12		
20	64QAM	1	99	18.91	19.05	19.11		
20	64QAM	50	0	18.77	18.89	18.96	19.5	0
20	64QAM	50	24	18.81	18.90	18.95		
20	64QAM	50	50	18.84	18.87	18.93		
20	64QAM	100	0	18.77	18.88	18.95		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	18.63	18.65	18.82	19.5	0
15	QPSK	1	37	18.62	18.71	18.79		
15	QPSK	1	74	18.67	18.71	18.89		
15	QPSK	36	0	18.74	18.87	18.95	19.5	0
15	QPSK	36	20	18.81	18.88	18.98		
15	QPSK	36	39	18.80	18.85	19.00		
15	QPSK	75	0	18.79	18.87	18.98		
15	16QAM	1	0	19.01	19.01	19.19	19.5	0
15	16QAM	1	37	18.99	19.10	19.19		
15	16QAM	1	74	19.04	19.15	19.24		
15	16QAM	36	0	18.76	18.88	18.96	19.5	0
15	16QAM	36	20	18.84	18.89	19.01		
15	16QAM	36	39	18.82	18.87	19.00		
15	16QAM	75	0	18.83	18.88	18.99		
15	64QAM	1	0	18.92	18.91	19.05	19.5	0
15	64QAM	1	37	18.90	18.97	19.08		
15	64QAM	1	74	18.91	19.00	19.11		
15	64QAM	36	0	18.76	18.89	18.95	19.5	0
15	64QAM	36	20	18.82	18.88	19.01		
15	64QAM	36	39	18.82	18.87	19.00		
15	64QAM	75	0	18.80	18.87	18.99		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	18.52	18.63	18.63	19.5	0
10	QPSK	1	25	18.44	18.57	18.64		
10	QPSK	1	49	18.52	18.65	18.75		
10	QPSK	25	0	18.62	18.71	18.77	19.5	0
10	QPSK	25	12	18.63	18.73	18.81		
10	QPSK	25	25	18.59	18.70	18.78		
10	QPSK	50	0	18.61	18.72	18.79		
10	16QAM	1	0	18.94	19.05	19.06	19.5	0
10	16QAM	1	25	18.82	18.93	19.04		
10	16QAM	1	49	18.89	18.96	19.05		
10	16QAM	25	0	18.64	18.74	18.79	19.5	0
10	16QAM	25	12	18.62	18.75	18.80		
10	16QAM	25	25	18.60	18.72	18.83		
10	16QAM	50	0	18.62	18.70	18.81		
10	64QAM	1	0	18.71	18.82	18.89	19.5	0
10	64QAM	1	25	18.72	18.86	18.91		
10	64QAM	1	49	18.75	18.85	18.98		
10	64QAM	25	0	18.66	18.72	18.78	19.5	0
10	64QAM	25	12	18.62	18.73	18.82		
10	64QAM	25	25	18.63	18.72	18.80		
10	64QAM	50	0	18.63	18.70	18.80		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	18.53	18.52	18.66	19.5	0
5	QPSK	1	12	18.60	18.70	18.79		
5	QPSK	1	24	18.58	18.66	18.81		
5	QPSK	12	0	18.61	18.69	18.81	19.5	0
5	QPSK	12	7	18.71	18.77	18.88		
5	QPSK	12	13	18.73	18.79	18.91		
5	QPSK	25	0	18.65	18.70	18.83		
5	16QAM	1	0	18.87	18.92	19.04	19.5	0
5	16QAM	1	12	18.99	19.07	19.15		
5	16QAM	1	24	18.99	19.02	19.11		
5	16QAM	12	0	18.67	18.69	18.85	19.5	0
5	16QAM	12	7	18.75	18.78	18.91		
5	16QAM	12	13	18.72	18.85	18.92		
5	16QAM	25	0	18.69	18.72	18.87		
5	64QAM	1	0	18.76	18.79	18.93	19.5	0
5	64QAM	1	12	18.89	18.94	19.03		
5	64QAM	1	24	18.88	18.94	19.05		
5	64QAM	12	0	18.65	18.67	18.83	19.5	0
5	64QAM	12	7	18.74	18.75	18.90		
5	64QAM	12	13	18.70	18.83	18.89		
5	64QAM	25	0	18.67	18.70	18.86		

<Top Antenna--Reduced Power Mode for Body for slide open>

<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	21.38	21.13	21.45	22.5	0
20	QPSK	1	49	21.32	21.38	21.41		
20	QPSK	1	99	21.36	21.38	21.42		
20	QPSK	50	0	21.46	21.55	21.58	22.5	0
20	QPSK	50	24	21.51	21.53	21.56		
20	QPSK	50	50	21.53	21.52	21.56		
20	QPSK	100	0	21.48	21.52	21.55		
20	16QAM	1	0	21.77	21.73	21.79	22.5	0
20	16QAM	1	49	21.72	21.80	21.86		
20	16QAM	1	99	21.78	21.85	21.78		
20	16QAM	50	0	21.55	21.67	21.03	22.5	0
20	16QAM	50	24	21.62	21.66	21.37		
20	16QAM	50	50	21.59	21.64	21.60		
20	16QAM	100	0	21.52	21.61	21.30		
20	64QAM	1	0	21.66	21.65	21.70	22.5	0
20	64QAM	1	49	21.61	21.73	21.74		
20	64QAM	1	99	21.67	21.79	21.73		
20	64QAM	50	0	20.53	20.61	20.01	21.5	1
20	64QAM	50	24	20.60	20.62	20.35		
20	64QAM	50	50	20.58	20.61	20.58		
20	64QAM	100	0	20.57	20.63	20.29		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	21.45	21.38	21.51	22.5	0
15	QPSK	1	37	21.44	21.50	21.50		
15	QPSK	1	74	21.49	21.48	21.57		
15	QPSK	36	0	21.54	21.64	21.37	22.5	0
15	QPSK	36	20	21.60	21.62	21.69		
15	QPSK	36	39	21.62	21.62	21.70		
15	QPSK	75	0	21.58	21.62	21.68		
15	16QAM	1	0	21.72	21.75	21.83	22.5	0
15	16QAM	1	37	21.70	21.85	21.82		
15	16QAM	1	74	21.73	21.83	21.80		
15	16QAM	36	0	21.53	21.62	21.39	22.5	0
15	16QAM	36	20	21.58	21.63	20.96		
15	16QAM	36	39	21.56	21.62	21.26		
15	16QAM	75	0	21.56	21.62	20.84		
15	64QAM	1	0	21.65	21.65	21.71	22.5	0
15	64QAM	1	37	21.61	21.77	21.82		
15	64QAM	1	74	21.64	21.74	21.71		
15	64QAM	36	0	20.53	20.63	20.38	21.5	1
15	64QAM	36	20	20.56	20.64	19.96		
15	64QAM	36	39	20.57	20.61	20.24		
15	64QAM	75	0	20.54	20.62	19.83		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	21.39	21.45	21.47	22.5	0
10	QPSK	1	25	21.41	21.44	21.47		
10	QPSK	1	49	21.39	21.42	21.55		
10	QPSK	25	0	21.53	21.57	21.52	22.5	0
10	QPSK	25	12	21.55	21.60	21.60		
10	QPSK	25	25	21.52	21.56	21.60		
10	QPSK	50	0	21.54	21.58	21.59		
10	16QAM	1	0	21.69	21.82	21.81	22.5	0
10	16QAM	1	25	21.65	21.82	21.83		
10	16QAM	1	49	21.72	21.76	21.72		
10	16QAM	25	0	21.51	21.58	20.55	22.5	0
10	16QAM	25	12	21.54	21.61	21.10		
10	16QAM	25	25	21.50	21.58	21.39		
10	16QAM	50	0	21.53	21.59	20.99		
10	64QAM	1	0	21.57	21.69	21.66	22.5	0
10	64QAM	1	25	21.57	21.72	21.72		
10	64QAM	1	49	21.59	21.66	21.63		
10	64QAM	25	0	20.52	20.61	19.54	21.5	1
10	64QAM	25	12	20.51	20.63	20.09		
10	64QAM	25	25	20.51	20.59	20.39		
10	64QAM	50	0	20.51	20.57	19.98		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	21.32	21.29	21.38	22.5	0
5	QPSK	1	12	21.44	21.46	21.48		
5	QPSK	1	24	21.42	21.43	21.52		
5	QPSK	12	0	21.43	21.45	21.47	22.5	0
5	QPSK	12	7	21.55	21.53	21.62		
5	QPSK	12	13	21.49	21.59	21.56		
5	QPSK	25	0	21.47	21.48	21.57		
5	16QAM	1	0	21.59	21.62	21.70	22.5	0
5	16QAM	1	12	21.67	21.81	21.77		
5	16QAM	1	24	21.69	21.75	21.68		
5	16QAM	12	0	21.44	21.42	20.50	22.5	0
5	16QAM	12	7	21.50	21.54	20.86		
5	16QAM	12	13	21.50	21.59	20.99		
5	16QAM	25	0	21.48	21.50	20.76		
5	64QAM	1	0	21.48	21.55	21.60	22.5	0
5	64QAM	1	12	21.60	21.72	21.70		
5	64QAM	1	24	21.57	21.65	21.58		
5	64QAM	12	0	20.41	20.43	20.49	21.5	1
5	64QAM	12	7	20.50	20.51	19.86		
5	64QAM	12	13	20.48	20.56	19.98		
5	64QAM	25	0	20.48	20.51	19.76		

<Bottom Antenna--Reduced Power Mode for P-Sensor On for slide close>

<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	21.46	21.61	21.55	22	0
20	QPSK	1	49	21.32	21.55	21.45		
20	QPSK	1	99	21.40	21.50	21.47		
20	QPSK	50	0	21.60	21.74	21.66	22	0
20	QPSK	50	24	21.60	21.73	21.66		
20	QPSK	50	50	21.59	21.71	21.70		
20	QPSK	100	0	21.60	21.73	21.69		
20	16QAM	1	0	21.68	21.81	21.70	22	0
20	16QAM	1	49	21.56	21.78	21.72		
20	16QAM	1	99	21.66	21.70	21.72		
20	16QAM	50	0	21.11	21.23	21.17	22	0
20	16QAM	50	24	21.08	21.23	21.18		
20	16QAM	50	50	21.06	21.23	21.18		
20	16QAM	100	0	21.07	21.22	21.13		
20	64QAM	1	0	21.08	21.29	21.10	22	0
20	64QAM	1	49	20.97	21.22	21.17		
20	64QAM	1	99	21.08	21.10	21.13		
20	64QAM	50	0	20.08	20.21	20.12	21	1
20	64QAM	50	24	20.08	20.21	20.16		
20	64QAM	50	50	20.00	20.20	20.18		
20	64QAM	100	0	20.07	20.22	20.14		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	21.46	21.60	21.53	22	0
15	QPSK	1	37	21.39	21.55	21.49		
15	QPSK	1	74	21.43	21.53	21.48		
15	QPSK	36	0	21.52	21.69	21.63	22	0
15	QPSK	36	20	21.54	21.71	21.68		
15	QPSK	36	39	21.54	21.68	21.66		
15	QPSK	75	0	21.55	21.70	21.64		
15	16QAM	1	0	21.64	21.86	21.71	22	0
15	16QAM	1	37	21.61	21.84	21.81		
15	16QAM	1	74	21.67	21.68	21.71		
15	16QAM	36	0	21.00	21.15	21.11	22	0
15	16QAM	36	20	21.02	21.19	21.11		
15	16QAM	36	39	21.04	21.18	21.15		
15	16QAM	75	0	21.04	21.19	21.12		
15	64QAM	1	0	21.07	21.32	21.15	22	0
15	64QAM	1	37	21.04	21.26	21.20		
15	64QAM	1	74	21.09	21.14	21.14		
15	64QAM	36	0	20.02	20.18	20.10	21	1
15	64QAM	36	20	20.04	20.20	20.11		
15	64QAM	36	39	20.03	20.17	20.14		
15	64QAM	75	0	20.03	20.20	20.12		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	21.27	21.42	21.50	22	0
10	QPSK	1	25	21.33	21.50	21.38		
10	QPSK	1	49	21.27	21.43	21.43		
10	QPSK	25	0	21.46	21.60	21.58	22	0
10	QPSK	25	12	21.45	21.63	21.58		
10	QPSK	25	25	21.40	21.55	21.49		
10	QPSK	50	0	21.43	21.57	21.54		
10	16QAM	1	0	21.46	21.78	21.79	22	0
10	16QAM	1	25	21.53	21.79	21.66		
10	16QAM	1	49	21.46	21.65	21.56		
10	16QAM	25	0	20.92	21.11	21.05	22	0
10	16QAM	25	12	20.96	21.15	21.07		
10	16QAM	25	25	20.88	21.07	21.01		
10	16QAM	50	0	20.93	21.08	21.04		
10	64QAM	1	0	20.94	21.13	21.15	22	0
10	64QAM	1	25	21.00	21.21	21.04		
10	64QAM	1	49	20.91	21.12	21.00		
10	64QAM	25	0	19.93	20.11	20.05	21	1
10	64QAM	25	12	19.95	20.11	20.07		
10	64QAM	25	25	19.89	20.04	19.99		
10	64QAM	50	0	19.90	20.07	20.03		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	21.35	21.40	21.41	22	0
5	QPSK	1	12	21.33	21.52	21.46		
5	QPSK	1	24	21.38	21.55	21.45		
5	QPSK	12	0	21.43	21.61	21.51	22	0
5	QPSK	12	7	21.48	21.68	21.59		
5	QPSK	12	13	21.46	21.66	21.57		
5	QPSK	25	0	21.47	21.64	21.56		
5	16QAM	1	0	21.51	21.73	21.66	22	0
5	16QAM	1	12	21.52	21.75	21.65		
5	16QAM	1	24	21.51	21.70	21.65		
5	16QAM	12	0	20.93	21.09	20.99	22	0
5	16QAM	12	7	20.99	21.17	21.08		
5	16QAM	12	13	20.98	21.16	21.05		
5	16QAM	25	0	20.97	21.16	21.05		
5	64QAM	1	0	20.95	21.14	21.09	22	0
5	64QAM	1	12	20.99	21.18	21.06		
5	64QAM	1	24	20.97	21.14	21.05		
5	64QAM	12	0	19.90	20.08	19.96	21	1
5	64QAM	12	7	19.96	20.19	20.07		
5	64QAM	12	13	19.95	20.15	20.07		
5	64QAM	25	0	19.95	20.14	20.03		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	21.33	21.44	21.39	22	0
3	QPSK	1	8	21.43	21.57	21.54		
3	QPSK	1	14	21.39	21.54	21.47		
3	QPSK	8	0	21.43	21.56	21.51	22	0
3	QPSK	8	4	21.49	21.63	21.59		
3	QPSK	8	7	21.46	21.63	21.56		
3	QPSK	15	0	21.44	21.65	21.52		
3	16QAM	1	0	21.48	21.61	21.60	22	0
3	16QAM	1	8	21.61	21.81	21.67		
3	16QAM	1	14	21.52	21.75	21.65		
3	16QAM	8	0	20.98	21.12	21.04	22	0
3	16QAM	8	4	21.04	21.22	21.12		
3	16QAM	8	7	21.03	21.19	21.08		
3	16QAM	15	0	20.99	21.13	20.96		
3	64QAM	1	0	20.94	21.10	21.00	22	0
3	64QAM	1	8	21.05	21.27	21.13		
3	64QAM	1	14	20.97	21.25	21.09		
3	64QAM	8	0	19.93	20.09	20.01	21	1
3	64QAM	8	4	20.01	20.17	20.06		
3	64QAM	8	7	20.00	20.14	20.05		
3	64QAM	15	0	19.96	20.12	20.06		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	21.35	21.23	21.40	22	0
1.4	QPSK	1	3	21.47	21.42	21.46		
1.4	QPSK	1	5	21.47	21.48	21.49		
1.4	QPSK	3	0	21.64	21.65	21.71		
1.4	QPSK	3	1	21.64	21.62	21.64		
1.4	QPSK	3	3	21.55	21.65	21.64		
1.4	QPSK	6	0	21.57	21.63	21.73	22	0
1.4	16QAM	1	0	21.39	21.43	21.43	22	0
1.4	16QAM	1	3	21.49	21.58	21.54		
1.4	16QAM	1	5	21.44	21.49	21.45		
1.4	16QAM	3	0	21.48	21.45	21.02		
1.4	16QAM	3	1	21.32	21.38	21.28		
1.4	16QAM	3	3	21.35	21.33	21.38		
1.4	16QAM	6	0	20.62	20.66	20.78	22	0
1.4	64QAM	1	0	21.20	21.17	21.14	22	0
1.4	64QAM	1	3	21.14	21.07	21.05		
1.4	64QAM	1	5	21.06	21.05	21.09		
1.4	64QAM	3	0	20.73	20.76	20.79		
1.4	64QAM	3	1	20.78	20.76	20.77		
1.4	64QAM	3	3	20.67	20.80	20.79		
1.4	64QAM	6	0	20.64	20.69	20.82	21	1

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	19.66	19.71	19.69	21	0
20	QPSK	1	49	19.60	19.60	19.57		
20	QPSK	1	99	19.59	19.59	19.49		
20	QPSK	50	0	19.76	19.82	19.75	21	0
20	QPSK	50	24	19.75	19.80	19.74		
20	QPSK	50	50	19.67	19.75	19.69		
20	QPSK	100	0	19.71	19.76	19.72		
20	16QAM	1	0	19.97	19.98	19.95	21	0
20	16QAM	1	49	19.88	19.86	19.80		
20	16QAM	1	99	19.87	19.81	19.75		
20	16QAM	50	0	19.75	19.83	19.76	21	0
20	16QAM	50	24	19.75	19.83	19.74		
20	16QAM	50	50	19.69	19.75	19.71		
20	16QAM	100	0	19.71	19.77	19.72		
20	64QAM	1	0	19.88	19.85	19.88	21	0
20	64QAM	1	49	19.77	19.83	19.74		
20	64QAM	1	99	19.84	19.72	19.63		
20	64QAM	50	0	19.76	19.81	19.75	21	0
20	64QAM	50	24	19.76	19.78	19.44		
20	64QAM	50	50	19.70	19.74	19.79		
20	64QAM	100	0	19.75	19.79	19.70		

Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	19.66	19.62	19.61	21	0
15	QPSK	1	37	19.61	19.66	19.60		
15	QPSK	1	74	19.54	19.64	19.56		
15	QPSK	36	0	19.73	19.79	19.73	21	0
15	QPSK	36	20	19.74	19.80	19.73		
15	QPSK	36	39	19.66	19.77	19.67		
15	QPSK	75	0	19.71	19.77	19.71		
15	16QAM	1	0	19.94	19.95	19.89	21	0
15	16QAM	1	37	19.88	19.95	19.86		
15	16QAM	1	74	19.85	19.90	19.79		
15	16QAM	36	0	19.73	19.81	19.71	21	0
15	16QAM	36	20	19.72	19.83	19.71		
15	16QAM	36	39	19.68	19.77	19.66		
15	16QAM	75	0	19.71	19.79	19.70		
15	64QAM	1	0	19.82	19.88	19.85	21	0
15	64QAM	1	37	19.80	19.85	19.68		
15	64QAM	1	74	19.74	19.80	19.71		
15	64QAM	36	0	19.72	19.83	19.73	21	0
15	64QAM	36	20	19.73	19.81	19.71		
15	64QAM	36	39	19.68	19.75	19.67		
15	64QAM	75	0	19.70	19.78	19.71		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	19.54	19.61	19.45	21	0
10	QPSK	1	25	19.54	19.59	19.50		
10	QPSK	1	49	19.38	19.45	19.41		
10	QPSK	25	0	19.64	19.71	19.60	21	0
10	QPSK	25	12	19.64	19.71	19.64		
10	QPSK	25	25	19.55	19.61	19.55		
10	QPSK	50	0	19.62	19.65	19.59		
10	16QAM	1	0	19.78	19.91	19.78	21	0
10	16QAM	1	25	19.82	19.84	19.73		
10	16QAM	1	49	19.68	19.70	19.63		
10	16QAM	25	0	19.67	19.73	19.64	21	0
10	16QAM	25	12	19.65	19.73	19.64		
10	16QAM	25	25	19.54	19.64	19.54		
10	16QAM	50	0	19.63	19.69	19.59		
10	64QAM	1	0	19.75	19.78	19.75	21	0
10	64QAM	1	25	19.72	19.78	19.69		
10	64QAM	1	49	19.61	19.70	19.56		
10	64QAM	25	0	19.67	19.71	19.62	21	0
10	64QAM	25	12	19.65	19.73	19.62		
10	64QAM	25	25	19.55	19.62	19.54		
10	64QAM	50	0	19.56	19.67	19.58		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	19.56	19.55	19.53	21	0
5	QPSK	1	12	19.52	19.66	19.50		
5	QPSK	1	24	19.45	19.55	19.40		
5	QPSK	12	0	19.58	19.63	19.57	21	0
5	QPSK	12	7	19.62	19.76	19.62		
5	QPSK	12	13	19.57	19.70	19.54		
5	QPSK	25	0	19.61	19.70	19.57		
5	16QAM	1	0	19.84	19.86	19.81	21	0
5	16QAM	1	12	19.81	19.92	19.74		
5	16QAM	1	24	19.70	19.76	19.64		
5	16QAM	12	0	19.61	19.64	19.59	21	0
5	16QAM	12	7	19.66	19.76	19.62		
5	16QAM	12	13	19.57	19.73	19.54		
5	16QAM	25	0	19.62	19.69	19.58		
5	64QAM	1	0	19.72	19.78	19.71	21	0
5	64QAM	1	12	19.77	19.84	19.66		
5	64QAM	1	24	19.65	19.68	19.55		
5	64QAM	12	0	19.61	19.63	19.57	21	0
5	64QAM	12	7	19.64	19.73	19.60		
5	64QAM	12	13	19.56	19.68	19.56		
5	64QAM	25	0	19.62	19.69	19.56		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	19.49	19.49	19.38	21	0
3	QPSK	1	8	19.62	19.73	19.56		
3	QPSK	1	14	19.43	19.55	19.47		
3	QPSK	8	0	19.59	19.69	19.49	21	0
3	QPSK	8	4	19.66	19.74	19.60		
3	QPSK	8	7	19.62	19.74	19.55		
3	QPSK	15	0	19.62	19.69	19.57		
3	16QAM	1	0	19.76	19.75	19.66	21	0
3	16QAM	1	8	19.88	19.97	19.84		
3	16QAM	1	14	19.71	19.82	19.64		
3	16QAM	8	0	19.64	19.73	19.54	21	0
3	16QAM	8	4	19.71	19.80	19.66		
3	16QAM	8	7	19.66	19.77	19.62		
3	16QAM	15	0	19.64	19.73	19.60		
3	64QAM	1	0	19.70	19.72	19.59	21	0
3	64QAM	1	8	19.79	19.94	19.75		
3	64QAM	1	14	19.63	19.77	19.59		
3	64QAM	8	0	19.61	19.69	19.47	21	0
3	64QAM	8	4	19.67	19.75	19.62		
3	64QAM	8	7	19.63	19.74	19.58		
3	64QAM	15	0	19.59	19.71	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	19.85	19.53	19.30	21	0
1.4	QPSK	1	3	19.94	19.63	19.53		
1.4	QPSK	1	5	19.88	19.54	19.42		
1.4	QPSK	3	0	19.87	19.52	19.36		
1.4	QPSK	3	1	19.92	19.57	19.40		
1.4	QPSK	3	3	19.90	19.55	19.45		
1.4	QPSK	6	0	19.96	19.63	19.45	21	0
1.4	16QAM	1	0	20.08	19.73	19.57	21	0
1.4	16QAM	1	3	20.19	19.86	19.71		
1.4	16QAM	1	5	20.10	19.81	19.63		
1.4	16QAM	3	0	19.92	19.54	19.40		
1.4	16QAM	3	1	19.96	19.64	19.46		
1.4	16QAM	3	3	19.90	19.59	19.46		
1.4	16QAM	6	0	20.01	19.73	19.54	21	0
1.4	64QAM	1	0	20.01	19.66	19.49	21	0
1.4	64QAM	1	3	20.15	19.75	19.66		
1.4	64QAM	1	5	20.01	19.74	19.56		
1.4	64QAM	3	0	19.99	19.57	19.46		
1.4	64QAM	3	1	20.05	19.70	19.52		
1.4	64QAM	3	3	19.98	19.64	19.48		
1.4	64QAM	6	0	19.95	19.65	19.44	21	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	21.38	21.13	21.45	22.5	0
20	QPSK	1	49	21.32	21.38	21.41		
20	QPSK	1	99	21.36	21.38	21.42		
20	QPSK	50	0	21.46	21.55	21.58	22.5	0
20	QPSK	50	24	21.51	21.53	21.56		
20	QPSK	50	50	21.53	21.52	21.56		
20	QPSK	100	0	21.48	21.52	21.55		
20	16QAM	1	0	21.77	21.73	21.79	22.5	0
20	16QAM	1	49	21.72	21.80	21.86		
20	16QAM	1	99	21.78	21.85	21.78		
20	16QAM	50	0	21.55	21.67	21.03	22.5	0
20	16QAM	50	24	21.62	21.66	21.37		
20	16QAM	50	50	21.59	21.64	21.60		
20	16QAM	100	0	21.52	21.61	21.30		
20	64QAM	1	0	21.66	21.65	21.70	22.5	0
20	64QAM	1	49	21.61	21.73	21.74		
20	64QAM	1	99	21.67	21.79	21.73		
20	64QAM	50	0	20.53	20.61	20.01	21.5	1
20	64QAM	50	24	20.60	20.62	20.35		
20	64QAM	50	50	20.58	20.61	20.58		
20	64QAM	100	0	20.57	20.63	20.29		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	21.45	21.38	21.51	22.5	0
15	QPSK	1	37	21.44	21.50	21.50		
15	QPSK	1	74	21.49	21.48	21.57		
15	QPSK	36	0	21.54	21.64	21.37	22.5	0
15	QPSK	36	20	21.60	21.62	21.69		
15	QPSK	36	39	21.62	21.62	21.70		
15	QPSK	75	0	21.58	21.62	21.68		
15	16QAM	1	0	21.72	21.75	21.83	22.5	0
15	16QAM	1	37	21.70	21.85	21.82		
15	16QAM	1	74	21.73	21.83	21.80		
15	16QAM	36	0	21.53	21.62	21.39	22.5	0
15	16QAM	36	20	21.58	21.63	20.96		
15	16QAM	36	39	21.56	21.62	21.26		
15	16QAM	75	0	21.56	21.62	20.84		
15	64QAM	1	0	21.65	21.65	21.71	22.5	0
15	64QAM	1	37	21.61	21.77	21.82		
15	64QAM	1	74	21.64	21.74	21.71		
15	64QAM	36	0	20.53	20.63	20.38	21.5	1
15	64QAM	36	20	20.56	20.64	19.96		
15	64QAM	36	39	20.57	20.61	20.24		
15	64QAM	75	0	20.54	20.62	19.83		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	21.39	21.45	21.47	22.5	0
10	QPSK	1	25	21.41	21.44	21.47		
10	QPSK	1	49	21.39	21.42	21.55		
10	QPSK	25	0	21.53	21.57	21.52	22.5	0
10	QPSK	25	12	21.55	21.60	21.60		
10	QPSK	25	25	21.52	21.56	21.60		
10	QPSK	50	0	21.54	21.58	21.59		
10	16QAM	1	0	21.69	21.82	21.81	22.5	0
10	16QAM	1	25	21.65	21.82	21.83		
10	16QAM	1	49	21.72	21.76	21.72		
10	16QAM	25	0	21.51	21.58	20.55	22.5	0
10	16QAM	25	12	21.54	21.61	21.10		
10	16QAM	25	25	21.50	21.58	21.39		
10	16QAM	50	0	21.53	21.59	20.99		
10	64QAM	1	0	21.57	21.69	21.66	22.5	0
10	64QAM	1	25	21.57	21.72	21.72		
10	64QAM	1	49	21.59	21.66	21.63		
10	64QAM	25	0	20.52	20.61	19.54	21.5	1
10	64QAM	25	12	20.51	20.63	20.09		
10	64QAM	25	25	20.51	20.59	20.39		
10	64QAM	50	0	20.51	20.57	19.98		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	21.32	21.29	21.38	22.5	0
5	QPSK	1	12	21.44	21.46	21.48		
5	QPSK	1	24	21.42	21.43	21.52		
5	QPSK	12	0	21.43	21.45	21.47	22.5	0
5	QPSK	12	7	21.55	21.53	21.62		
5	QPSK	12	13	21.49	21.59	21.56		
5	QPSK	25	0	21.47	21.48	21.57		
5	16QAM	1	0	21.59	21.62	21.70	22.5	0
5	16QAM	1	12	21.67	21.81	21.77		
5	16QAM	1	24	21.69	21.75	21.68		
5	16QAM	12	0	21.44	21.42	20.50	22.5	0
5	16QAM	12	7	21.50	21.54	20.86		
5	16QAM	12	13	21.50	21.59	20.99		
5	16QAM	25	0	21.48	21.50	20.76		
5	64QAM	1	0	21.48	21.55	21.60	22.5	0
5	64QAM	1	12	21.60	21.72	21.70		
5	64QAM	1	24	21.57	21.65	21.58		
5	64QAM	12	0	20.41	20.43	20.49	21.5	1
5	64QAM	12	7	20.50	20.51	19.86		
5	64QAM	12	13	20.48	20.56	19.98		
5	64QAM	25	0	20.48	20.51	19.76		

<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.

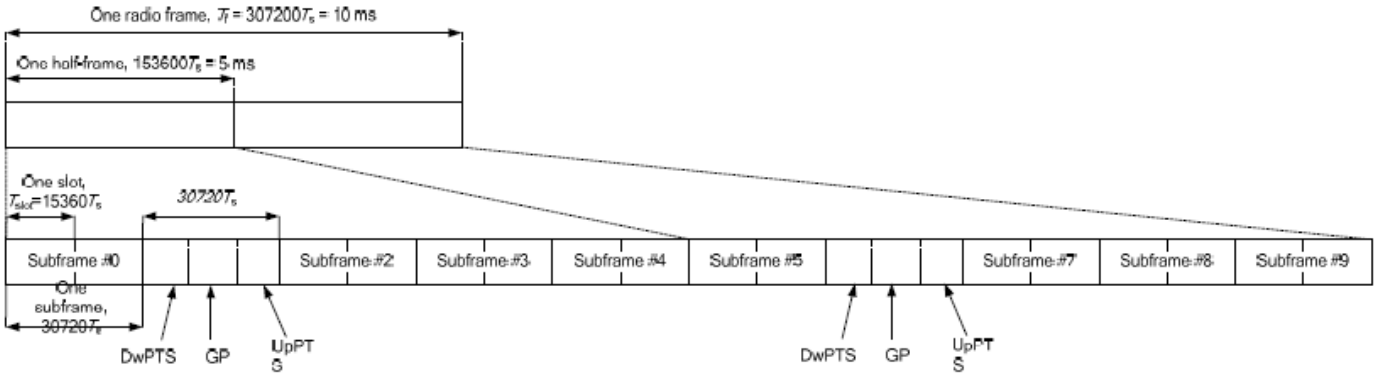


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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.

<Top/Bottom Antenna-- Full Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	23.00	23.30	23.14	24.5	0
20	QPSK	1	49	23.02	23.16	23.10		
20	QPSK	1	99	22.84	23.21	23.13		
20	QPSK	50	0	22.07	22.31	22.23	23.5	1
20	QPSK	50	24	22.14	22.40	22.32		
20	QPSK	50	50	21.98	22.38	22.32		
20	QPSK	100	0	22.03	22.33	22.27		
20	16QAM	1	0	22.44	22.56	22.47	23.5	1
20	16QAM	1	49	22.45	22.51	22.43		
20	16QAM	1	99	22.16	22.55	22.49		
20	16QAM	50	0	21.17	21.37	21.28	22.5	2
20	16QAM	50	24	21.26	21.38	21.31		
20	16QAM	50	50	21.10	21.37	21.31		
20	16QAM	100	0	21.17	21.37	21.29		
20	64QAM	1	0	21.10	21.17	21.14	22.5	2
20	64QAM	1	49	21.15	21.15	21.08		
20	64QAM	1	99	20.87	21.15	21.10		
20	64QAM	50	0	20.20	20.36	20.30	21.5	3
20	64QAM	50	24	20.29	20.37	20.32		
20	64QAM	50	50	20.13	20.37	20.30		
20	64QAM	100	0	20.23	20.41	20.32		

Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	22.94	23.29	23.20	24.5	0
15	QPSK	1	37	23.00	23.25	23.06		
15	QPSK	1	74	22.85	23.23	23.18		
15	QPSK	36	0	21.91	22.26	21.99	23.5	1
15	QPSK	36	20	22.02	22.38	22.24		
15	QPSK	36	39	21.90	22.35	22.26		
15	QPSK	75	0	21.91	22.30	22.26		
15	16QAM	1	0	22.26	22.54	22.42	23.5	1
15	16QAM	1	37	22.33	22.45	22.34		
15	16QAM	1	74	22.20	22.52	22.40		
15	16QAM	36	0	20.98	21.31	21.05	22.5	2
15	16QAM	36	20	21.09	21.41	21.26		
15	16QAM	36	39	20.97	21.34	21.24		
15	16QAM	75	0	20.99	21.36	21.26		
15	64QAM	1	0	20.96	21.21	21.09	22.5	2
15	64QAM	1	37	21.01	21.13	20.98		
15	64QAM	1	74	20.86	21.17	21.06		
15	64QAM	36	0	20.01	20.35	20.09	21.5	3
15	64QAM	36	20	20.13	20.42	20.29		
15	64QAM	36	39	20.02	20.38	20.29		
15	64QAM	75	0	20.00	20.33	20.24		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	22.80	22.97	22.86	24.5	0
10	QPSK	1	25	23.00	22.97	22.90		
10	QPSK	1	49	22.91	23.02	22.94		
10	QPSK	25	0	21.97	22.22	22.01	23.5	1
10	QPSK	25	12	22.09	22.24	22.12		
10	QPSK	25	25	22.07	22.22	22.12		
10	QPSK	50	0	22.03	22.25	22.17		
10	16QAM	1	0	22.21	22.28	22.23	23.5	1
10	16QAM	1	25	22.34	22.30	22.25		
10	16QAM	1	49	22.27	22.31	22.25		
10	16QAM	25	0	21.08	21.19	21.12	22.5	2
10	16QAM	25	12	21.21	21.22	21.14		
10	16QAM	25	25	21.19	21.21	21.14		
10	16QAM	50	0	21.12	21.19	21.15		
10	64QAM	1	0	20.87	20.93	20.84	22.5	2
10	64QAM	1	25	21.01	20.97	20.87		
10	64QAM	1	49	20.92	20.94	20.91		
10	64QAM	25	0	20.03	20.12	20.05	21.5	3
10	64QAM	25	12	20.15	20.16	20.07		
10	64QAM	25	25	20.13	20.15	20.06		
10	64QAM	50	0	20.13	20.19	20.15		

Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	22.67	22.96	22.86	24.5	0
5	QPSK	1	12	22.70	23.09	23.04		
5	QPSK	1	24	22.64	23.10	22.99		
5	QPSK	12	0	21.76	22.15	22.00	23.5	1
5	QPSK	12	7	21.82	22.23	22.06		
5	QPSK	12	13	21.79	22.24	22.16		
5	QPSK	25	0	21.78	22.23	22.10		
5	16QAM	1	0	22.04	22.26	22.21	23.5	1
5	16QAM	1	12	22.10	22.40	22.39		
5	16QAM	1	24	22.08	22.46	22.42		
5	16QAM	12	0	20.79	21.10	21.00	22.5	2
5	16QAM	12	7	20.85	21.19	21.08		
5	16QAM	12	13	20.83	21.19	21.12		
5	16QAM	25	0	20.89	21.21	21.12		
5	64QAM	1	0	20.73	20.93	20.86	22.5	2
5	64QAM	1	12	20.77	21.05	21.01		
5	64QAM	1	24	20.75	21.12	21.05		
5	64QAM	12	0	19.86	20.10	20.03	21.5	3
5	64QAM	12	7	19.91	20.20	20.12		
5	64QAM	12	13	19.89	20.17	20.15		
5	64QAM	25	0	19.83	20.15	20.06		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	23.04	22.73	22.97	22.97	22.70	24.5	0
20	QPSK	1	49	22.95	22.84	23.38	23.27	23.11		
20	QPSK	1	99	22.95	22.67	22.99	22.80	22.88		
20	QPSK	50	0	22.15	21.82	22.19	22.15	21.91	23.5	1
20	QPSK	50	24	22.18	21.85	22.23	22.14	21.98		
20	QPSK	50	50	22.18	21.79	22.23	22.09	22.02		
20	QPSK	100	0	22.14	21.81	22.15	22.12	21.97		
20	16QAM	1	0	22.35	21.92	22.26	22.33	21.95	23.5	1
20	16QAM	1	49	22.25	21.84	22.34	22.23	21.98		
20	16QAM	1	99	22.27	21.88	22.23	22.04	22.11		
20	16QAM	50	0	21.15	20.85	21.18	21.15	20.90	22.5	2
20	16QAM	50	24	21.18	20.84	21.22	21.13	20.94		
20	16QAM	50	50	21.18	20.81	21.20	21.09	20.96		
20	16QAM	100	0	21.18	20.85	21.21	21.10	20.94		
20	64QAM	1	0	21.03	20.84	20.94	20.95	20.60	22.5	2
20	64QAM	1	49	20.94	21.16	21.01	20.92	20.67		
20	64QAM	1	99	20.95	20.95	20.93	20.70	20.81		
20	64QAM	50	0	20.16	20.11	20.14	20.14	19.90	21.5	3
20	64QAM	50	24	20.18	20.13	20.20	20.14	19.96		
20	64QAM	50	50	20.18	20.07	20.20	20.07	19.98		
20	64QAM	100	0	20.23	20.17	20.23	20.18	19.97		

Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	23.25	23.07	23.10	23.08	22.77	24.5	0
15	QPSK	1	37	23.37	23.02	23.06	22.97	22.88		
15	QPSK	1	74	23.20	23.05	23.12	22.94	22.93		
15	QPSK	36	0	22.43	22.14	22.12	22.11	21.86	23.5	1
15	QPSK	36	20	22.48	22.16	22.23	22.12	21.92		
15	QPSK	36	39	22.47	22.09	22.18	22.04	21.94		
15	QPSK	75	0	22.46	22.13	22.19	22.09	21.92		
15	16QAM	1	0	22.64	22.25	22.35	22.33	21.97	23.5	1
15	16QAM	1	37	22.59	22.17	22.38	22.19	21.93		
15	16QAM	1	74	22.62	22.19	22.35	22.13	22.10		
15	16QAM	36	0	21.44	21.09	21.11	21.09	20.84	22.5	2
15	16QAM	36	20	21.48	21.15	21.17	21.10	20.87		
15	16QAM	36	39	21.47	21.10	21.17	21.00	20.89		
15	16QAM	75	0	21.49	21.13	21.19	21.09	20.89		
15	64QAM	1	0	21.35	20.97	21.01	21.01	20.66	22.5	2
15	64QAM	1	37	21.27	20.88	20.96	20.84	20.61		
15	64QAM	1	74	21.25	20.87	21.03	20.79	20.77		
15	64QAM	36	0	20.45	20.16	20.14	20.12	19.82	21.5	3
15	64QAM	36	20	20.49	20.18	20.19	20.10	19.90		
15	64QAM	36	39	20.49	20.12	20.20	20.02	19.90		
15	64QAM	75	0	20.47	20.17	20.18	20.10	19.87		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	23.30	22.96	22.86	22.85	22.70	24.5	0
10	QPSK	1	25	23.21	22.82	22.84	22.78	22.58		
10	QPSK	1	49	23.27	22.95	22.95	22.94	22.66		
10	QPSK	25	0	22.35	22.08	22.07	21.98	21.82	23.5	1
10	QPSK	25	12	22.36	22.07	22.09	22.00	21.82		
10	QPSK	25	25	22.30	22.04	22.04	21.95	21.77		
10	QPSK	50	0	22.35	22.10	22.11	22.04	21.83		
10	16QAM	1	0	22.51	22.17	22.29	22.20	21.97	23.5	1
10	16QAM	1	25	22.51	22.16	22.08	22.16	21.93		
10	16QAM	1	49	22.43	22.08	22.20	22.09	21.84		
10	16QAM	25	0	21.40	21.08	21.11	21.03	20.84	22.5	2
10	16QAM	25	12	21.41	21.12	21.13	21.04	20.84		
10	16QAM	25	25	21.34	21.07	21.08	20.96	20.74		
10	16QAM	50	0	21.35	21.10	21.08	21.03	20.79		
10	64QAM	1	0	21.25	20.91	20.92	20.88	20.66	22.5	2
10	64QAM	1	25	21.16	20.74	20.76	20.74	20.57		
10	64QAM	1	49	21.16	20.84	20.86	20.84	20.58		
10	64QAM	25	0	20.33	20.03	20.03	19.96	19.76	21.5	3
10	64QAM	25	12	20.34	20.06	20.04	19.96	19.76		
10	64QAM	25	25	20.25	19.98	19.97	19.90	19.70		
10	64QAM	50	0	20.36	20.09	20.09	20.03	19.80		

Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	23.36	23.02	22.98	22.96	22.75	24.5	0
5	QPSK	1	12	23.35	23.04	23.02	22.96	22.76		
5	QPSK	1	24	23.27	22.99	23.01	22.93	22.72		
5	QPSK	12	0	22.39	22.06	22.08	21.98	21.73	23.5	1
5	QPSK	12	7	22.41	22.09	22.14	21.99	21.76		
5	QPSK	12	13	22.37	22.08	22.07	22.01	21.80		
5	QPSK	25	0	22.40	22.11	22.08	22.01	21.78		
5	16QAM	1	0	22.86	22.46	22.49	22.49	22.26	23.5	1
5	16QAM	1	12	22.87	22.43	22.47	22.44	22.20		
5	16QAM	1	24	22.87	22.48	22.53	22.44	22.21		
5	16QAM	12	0	21.39	21.05	21.04	20.94	20.72	22.5	2
5	16QAM	12	7	21.41	21.11	21.08	20.94	20.74		
5	16QAM	12	13	21.41	21.10	21.07	20.96	20.73		
5	16QAM	25	0	21.45	21.14	21.14	21.01	20.78		
5	64QAM	1	0	21.37	21.02	20.99	20.99	20.79	22.5	2
5	64QAM	1	12	21.33	21.01	20.95	20.95	20.71		
5	64QAM	1	24	21.31	21.01	21.00	20.94	20.70		
5	64QAM	12	0	20.32	19.94	19.96	19.88	19.62	21.5	3
5	64QAM	12	7	20.30	20.03	19.99	19.89	19.66		
5	64QAM	12	13	20.30	20.02	19.99	19.88	19.63		
5	64QAM	25	0	20.41	20.09	20.07	19.98	19.77		

<WWAN Top --Reduced Power Level 1 for Head>

<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	15.60	15.71	15.68	16.5	0
20	QPSK	1	49	15.69	15.73	15.61		
20	QPSK	1	99	15.72	15.73	15.68		
20	QPSK	50	0	15.79	15.82	15.75	16.5	0
20	QPSK	50	24	15.86	15.90	15.81		
20	QPSK	50	50	15.83	15.83	15.79		
20	QPSK	100	0	15.83	15.85	15.78		
20	16QAM	1	0	15.74	15.85	15.81	16.5	0
20	16QAM	1	49	15.82	15.81	15.86		
20	16QAM	1	99	15.86	15.83	15.82		
20	16QAM	50	0	15.83	15.89	15.79	16.5	0
20	16QAM	50	24	15.87	15.83	15.84		
20	16QAM	50	50	15.85	15.82	15.85		
20	16QAM	100	0	15.84	15.88	15.84		
20	64QAM	1	0	15.47	15.65	15.61	16.5	0
20	64QAM	1	49	15.56	15.60	15.57		
20	64QAM	1	99	15.60	15.66	15.56		
20	64QAM	50	0	15.76	15.82	15.76	16.5	0
20	64QAM	50	24	15.83	15.86	15.81		
20	64QAM	50	50	15.80	15.86	15.78		
20	64QAM	100	0	15.86	15.82	15.88		

Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	15.73	15.80	15.74	16.5	0
15	QPSK	1	37	15.71	15.74	15.66		
15	QPSK	1	74	15.76	15.79	15.75		
15	QPSK	36	0	15.85	15.89	15.80	16.5	0
15	QPSK	36	20	15.82	15.83	15.88		
15	QPSK	36	39	15.88	15.81	15.86		
15	QPSK	75	0	15.89	15.70	15.84		
15	16QAM	1	0	15.89	15.79	15.85	16.5	0
15	16QAM	1	37	15.87	15.86	15.84		
15	16QAM	1	74	15.89	15.79	15.81		
15	16QAM	36	0	15.82	15.86	15.83	16.5	0
15	16QAM	36	20	15.87	15.82	15.86		
15	16QAM	36	39	15.86	15.89	15.82		
15	16QAM	75	0	15.80	15.83	15.52		
15	64QAM	1	0	15.62	15.74	15.67	16.5	0
15	64QAM	1	37	15.62	15.70	15.59		
15	64QAM	1	74	15.66	15.70	15.64		
15	64QAM	36	0	15.86	15.81	15.84	16.5	0
15	64QAM	36	20	15.83	15.83	15.87		
15	64QAM	36	39	15.87	15.85	15.83		
15	64QAM	75	0	15.81	15.86	15.88		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	15.44	15.59	15.53	16.5	0
10	QPSK	1	25	15.59	15.62	15.54		
10	QPSK	1	49	15.53	15.65	15.57		
10	QPSK	25	0	15.66	15.74	15.65	16.5	0
10	QPSK	25	12	15.69	15.76	15.68		
10	QPSK	25	25	15.71	15.75	15.70		
10	QPSK	50	0	15.70	15.73	15.68		
10	16QAM	1	0	15.66	15.73	15.70	16.5	0
10	16QAM	1	25	15.79	15.79	15.73		
10	16QAM	1	49	15.70	15.76	15.73		
10	16QAM	25	0	15.69	15.73	15.71	16.5	0
10	16QAM	25	12	15.76	15.79	15.73		
10	16QAM	25	25	15.76	15.77	15.73		
10	16QAM	50	0	15.73	15.78	15.74		
10	64QAM	1	0	15.43	15.55	15.49	16.5	0
10	64QAM	1	25	15.48	15.49	15.43		
10	64QAM	1	49	15.46	15.57	15.48		
10	64QAM	25	0	15.66	15.70	15.63	16.5	0
10	64QAM	25	12	15.71	15.74	15.69		
10	64QAM	25	25	15.68	15.74	15.66		
10	64QAM	50	0	15.67	15.72	15.65		

Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	15.50	15.54	15.51	16.5	0
5	QPSK	1	12	15.62	15.70	15.69		
5	QPSK	1	24	15.63	15.68	15.69		
5	QPSK	12	0	15.60	15.73	15.63	16.5	0
5	QPSK	12	7	15.75	15.83	15.74		
5	QPSK	12	13	15.77	15.82	15.81		
5	QPSK	25	0	15.70	15.77	15.70		
5	16QAM	1	0	15.70	15.74	15.69	16.5	0
5	16QAM	1	12	15.84	15.89	15.86		
5	16QAM	1	24	15.80	15.83	15.88		
5	16QAM	12	0	15.60	15.72	15.64	16.5	0
5	16QAM	12	7	15.77	15.81	15.70		
5	16QAM	12	13	15.77	15.79	15.78		
5	16QAM	25	0	15.75	15.82	15.71		
5	64QAM	1	0	15.42	15.50	15.44	16.5	0
5	64QAM	1	12	15.53	15.59	15.58		
5	64QAM	1	24	15.62	15.69	15.64		
5	64QAM	12	0	15.60	15.71	15.63	16.5	0
5	64QAM	12	7	15.72	15.78	15.71		
5	64QAM	12	13	15.75	15.78	15.76		
5	64QAM	25	0	15.69	15.78	15.66		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	15.39	15.23	15.41	15.27	15.08	16.5	0
20	QPSK	1	49	15.42	15.21	15.47	15.41	15.25		
20	QPSK	1	99	15.39	15.31	15.31	15.27	14.84		
20	QPSK	50	0	15.41	15.22	15.38	15.28	15.11	16.5	0
20	QPSK	50	24	15.57	15.46	15.61	15.54	15.48		
20	QPSK	50	50	15.30	15.28	15.29	15.35	15.01		
20	QPSK	100	0	15.32	15.20	15.39	15.35	15.06		
20	16QAM	1	0	15.42	15.16	15.23	15.32	14.96	16.5	0
20	16QAM	1	49	15.34	15.14	15.31	15.26	15.02		
20	16QAM	1	99	15.34	15.14	15.28	15.05	15.09		
20	16QAM	50	0	15.57	15.35	15.41	15.50	15.15	16.5	0
20	16QAM	50	24	15.58	15.35	15.55	15.50	15.20		
20	16QAM	50	50	15.56	15.30	15.48	15.40	15.15		
20	16QAM	100	0	15.56	15.33	15.39	15.44	15.17		
20	64QAM	1	0	15.22	14.97	15.03	15.12	14.73	16.5	0
20	64QAM	1	49	15.13	14.94	15.08	15.06	14.80		
20	64QAM	1	99	15.16	14.96	15.06	14.84	14.92		
20	64QAM	50	0	15.48	15.29	15.32	15.44	15.14	16.5	0
20	64QAM	50	24	15.51	15.33	15.37	15.40	15.21		
20	64QAM	50	50	15.57	15.23	15.39	15.30	15.08		
20	64QAM	100	0	15.59	15.35	15.47	15.48	15.23		

Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	15.30	15.10	15.32	15.14	14.92	16.5	0
15	QPSK	1	37	15.23	15.13	15.19	15.03	14.79		
15	QPSK	1	74	15.25	15.11	15.17	15.18	14.77		
15	QPSK	36	0	15.42	15.21	15.40	15.26	15.03	16.5	0
15	QPSK	36	20	15.43	15.26	15.31	15.32	15.00		
15	QPSK	36	39	15.40	15.30	15.29	15.32	14.94		
15	QPSK	75	0	15.32	15.29	15.35	15.25	14.98		
15	16QAM	1	0	15.45	15.13	15.26	15.32	14.99	16.5	0
15	16QAM	1	37	15.45	15.20	15.34	15.20	15.03		
15	16QAM	1	74	15.43	15.12	15.35	15.13	15.07		
15	16QAM	36	0	15.50	15.28	15.42	15.41	14.97	16.5	0
15	16QAM	36	20	15.56	15.26	15.43	15.43	14.99		
15	16QAM	36	39	15.55	15.30	15.42	15.25	15.02		
15	16QAM	75	0	15.60	15.36	15.45	15.42	15.04		
15	64QAM	1	0	15.26	14.95	15.06	15.16	14.78	16.5	0
15	64QAM	1	37	15.20	14.91	15.07	15.10	14.80		
15	64QAM	1	74	15.19	14.94	15.13	14.95	14.86		
15	64QAM	36	0	15.59	15.38	15.34	15.43	15.09	16.5	0
15	64QAM	36	20	15.56	15.31	15.37	15.43	15.12		
15	64QAM	36	39	15.59	15.33	15.39	15.38	15.10		
15	64QAM	75	0	15.51	15.34	15.39	15.45	15.06		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	15.06	14.84	14.96	14.93	14.61	16.5	0
10	QPSK	1	25	15.05	14.89	15.01	14.97	14.68		
10	QPSK	1	49	15.03	14.87	14.98	14.92	14.60		
10	QPSK	25	0	15.20	15.06	15.15	15.07	14.81	16.5	0
10	QPSK	25	12	15.22	15.05	15.16	15.13	14.85		
10	QPSK	25	25	15.17	15.01	15.14	15.07	14.80		
10	QPSK	50	0	15.25	15.01	15.10	15.13	14.82		
10	16QAM	1	0	15.31	14.97	15.09	15.06	14.81	16.5	0
10	16QAM	1	25	15.24	15.04	15.13	15.03	14.81		
10	16QAM	1	49	15.20	15.02	15.09	15.00	14.70		
10	16QAM	25	0	15.39	15.28	15.26	15.24	14.94	16.5	0
10	16QAM	25	12	15.44	15.23	15.26	15.26	14.95		
10	16QAM	25	25	15.33	15.17	15.32	15.18	14.85		
10	16QAM	50	0	15.37	15.22	15.26	15.29	14.93		
10	64QAM	1	0	15.11	14.78	14.89	14.86	14.68	16.5	0
10	64QAM	1	25	15.02	14.86	14.92	14.89	14.60		
10	64QAM	1	49	15.00	14.82	14.88	14.86	14.58		
10	64QAM	25	0	15.35	15.20	15.18	15.21	14.71	16.5	0
10	64QAM	25	12	15.35	15.17	15.18	15.18	14.86		
10	64QAM	25	25	15.28	15.10	15.13	15.20	14.82		
10	64QAM	50	0	15.33	15.14	15.22	15.20	14.91		

Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	15.13	14.83	15.01	14.87	14.63	16.5	0
5	QPSK	1	12	15.12	14.92	15.05	15.03	14.71		
5	QPSK	1	24	15.09	14.87	14.94	14.92	14.53		
5	QPSK	12	0	15.22	15.01	15.15	15.04	14.79	16.5	0
5	QPSK	12	7	15.30	15.08	15.19	15.16	14.80		
5	QPSK	12	13	15.20	15.02	15.12	15.07	14.75		
5	QPSK	25	0	15.24	15.04	15.13	15.08	14.81		
5	16QAM	1	0	15.35	15.03	15.15	15.16	14.89	16.5	0
5	16QAM	1	12	15.33	15.12	15.20	15.14	14.86		
5	16QAM	1	24	15.38	15.11	15.21	15.11	14.85		
5	16QAM	12	0	15.41	15.24	15.22	15.15	14.82	16.5	0
5	16QAM	12	7	15.40	15.24	15.28	15.17	14.81		
5	16QAM	12	13	15.41	15.21	15.19	15.16	14.75		
5	16QAM	25	0	15.44	15.26	15.28	15.28	14.87		
5	64QAM	1	0	15.12	14.87	14.97	14.99	14.70	16.5	0
5	64QAM	1	12	15.14	14.85	15.00	14.91	14.63		
5	64QAM	1	24	15.15	14.94	15.03	14.98	14.64		
5	64QAM	12	0	15.40	15.19	15.19	15.21	14.71	16.5	0
5	64QAM	12	7	15.43	15.22	15.26	15.15	14.96		
5	64QAM	12	13	15.38	15.20	15.20	15.22	14.77		
5	64QAM	25	0	15.36	15.17	15.17	15.21	14.83		

<WWAN Top --Reduced Power Level 2 for Head>

<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	20.61	20.71	20.66	21	0
20	QPSK	1	49	20.76	20.73	20.62		
20	QPSK	1	99	20.79	20.73	20.66		
20	QPSK	50	0	20.87	20.84	20.77	21	0
20	QPSK	50	24	20.82	20.87	20.81		
20	QPSK	50	50	20.91	20.89	20.79		
20	QPSK	100	0	20.88	20.85	20.78		
20	16QAM	1	0	20.71	20.80	20.78	21	0
20	16QAM	1	49	20.84	20.81	20.74		
20	16QAM	1	99	20.82	20.78	20.71		
20	16QAM	50	0	20.88	20.87	20.79	21	0
20	16QAM	50	24	20.83	20.89	20.82		
20	16QAM	50	50	20.89	20.89	20.79		
20	16QAM	100	0	20.89	20.85	20.79		
20	64QAM	1	0	20.47	20.57	20.51	21	0
20	64QAM	1	49	20.63	20.57	20.52		
20	64QAM	1	99	20.65	20.54	20.47		
20	64QAM	50	0	20.80	20.81	20.72	21	0
20	64QAM	50	24	20.87	20.84	20.77		
20	64QAM	50	50	20.85	20.83	20.75		
20	64QAM	100	0	20.83	20.80	20.82		

Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	20.73	20.75	20.68	21	0
15	QPSK	1	37	20.72	20.67	20.58		
15	QPSK	1	74	20.79	20.73	20.69		
15	QPSK	36	0	20.84	20.85	20.76	21	0
15	QPSK	36	20	20.82	20.87	20.82		
15	QPSK	36	39	20.87	20.83	20.77		
15	QPSK	75	0	20.90	20.86	20.78		
15	16QAM	1	0	20.80	20.86	20.76	21	0
15	16QAM	1	37	20.83	20.81	20.66		
15	16QAM	1	74	20.90	20.86	20.78		
15	16QAM	36	0	20.76	20.78	20.71	21	0
15	16QAM	36	20	20.85	20.83	20.76		
15	16QAM	36	39	20.80	20.81	20.73		
15	16QAM	75	0	20.90	20.87	20.78		
15	64QAM	1	0	20.58	20.64	20.53	21	0
15	64QAM	1	37	20.60	20.56	20.45		
15	64QAM	1	74	20.65	20.58	20.52		
15	64QAM	36	0	20.82	20.81	20.75	21	0
15	64QAM	36	20	20.90	20.87	20.79		
15	64QAM	36	39	20.85	20.82	20.76		
15	64QAM	75	0	20.88	20.87	20.79		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	20.45	20.53	20.53	21	0
10	QPSK	1	25	20.59	20.56	20.49		
10	QPSK	1	49	20.55	20.62	20.56		
10	QPSK	25	0	20.67	20.67	20.62	21	0
10	QPSK	25	12	20.73	20.73	20.66		
10	QPSK	25	25	20.70	20.72	20.66		
10	QPSK	50	0	20.75	20.74	20.66		
10	16QAM	1	0	20.55	20.68	20.64	21	0
10	16QAM	1	25	20.66	20.62	20.56		
10	16QAM	1	49	20.61	20.71	20.60		
10	16QAM	25	0	20.69	20.70	20.61	21	0
10	16QAM	25	12	20.73	20.74	20.66		
10	16QAM	25	25	20.72	20.72	20.66		
10	16QAM	50	0	20.74	20.75	20.70		
10	64QAM	1	0	20.40	20.46	20.40	21	0
10	64QAM	1	25	20.42	20.40	20.33		
10	64QAM	1	49	20.47	20.49	20.38		
10	64QAM	25	0	20.62	20.63	20.58	21	0
10	64QAM	25	12	20.69	20.69	20.62		
10	64QAM	25	25	20.67	20.66	20.60		
10	64QAM	50	0	20.67	20.68	20.61		

Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	20.52	20.53	20.43	21	0
5	QPSK	1	12	20.67	20.69	20.64		
5	QPSK	1	24	20.65	20.65	20.60		
5	QPSK	12	0	20.63	20.67	20.58	21	0
5	QPSK	12	7	20.78	20.80	20.66		
5	QPSK	12	13	20.78	20.78	20.74		
5	QPSK	25	0	20.69	20.72	20.61		
5	16QAM	1	0	20.60	20.60	20.51	21	0
5	16QAM	1	12	20.76	20.72	20.67		
5	16QAM	1	24	20.78	20.77	20.71		
5	16QAM	12	0	20.59	20.64	20.51	21	0
5	16QAM	12	7	20.73	20.71	20.62		
5	16QAM	12	13	20.72	20.72	20.67		
5	16QAM	25	0	20.75	20.75	20.63		
5	64QAM	1	0	20.40	20.40	20.30	21	0
5	64QAM	1	12	20.54	20.55	20.44		
5	64QAM	1	24	20.56	20.57	20.49		
5	64QAM	12	0	20.56	20.64	20.52	21	0
5	64QAM	12	7	20.70	20.74	20.61		
5	64QAM	12	13	20.73	20.68	20.66		
5	64QAM	25	0	20.69	20.69	20.57		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	20.33	20.12	20.18	20.24	19.73	21	0
20	QPSK	1	49	20.28	20.10	20.34	20.17	20.31		
20	QPSK	1	99	20.28	20.10	20.23	19.96	19.92		
20	QPSK	50	0	20.47	20.33	20.39	20.42	19.98	21	0
20	QPSK	50	24	20.50	20.31	20.52	20.35	20.48		
20	QPSK	50	50	20.50	20.29	20.51	20.27	20.03		
20	QPSK	100	0	20.50	20.27	20.51	20.31	20.01		
20	16QAM	1	0	20.45	20.11	20.27	20.28	19.84	21	0
20	16QAM	1	49	20.32	20.12	20.38	20.19	19.85		
20	16QAM	1	99	20.34	20.15	20.31	19.97	19.97		
20	16QAM	50	0	20.53	20.33	20.41	20.41	19.98	21	0
20	16QAM	50	24	20.51	20.32	20.44	20.38	20.04		
20	16QAM	50	50	20.55	20.32	20.47	20.28	20.06		
20	16QAM	100	0	20.53	20.30	20.43	20.33	20.01		
20	64QAM	1	0	20.21	19.97	20.03	20.06	19.60	21	0
20	64QAM	1	49	20.12	19.90	20.14	19.99	19.65		
20	64QAM	1	99	20.11	19.98	20.08	19.75	19.78		
20	64QAM	50	0	20.47	20.25	20.36	20.33	19.92	21	0
20	64QAM	50	24	20.47	20.29	20.41	20.30	19.95		
20	64QAM	50	50	20.45	20.24	20.42	20.25	19.99		
20	64QAM	100	0	20.48	20.35	20.57	20.39	20.04		

Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	20.33	20.15	20.24	20.25	19.79	21	0
15	QPSK	1	37	20.30	20.17	20.21	20.13	19.86		
15	QPSK	1	74	20.34	20.13	20.33	20.10	19.93		
15	QPSK	36	0	20.46	20.27	20.39	20.33	19.91	21	0
15	QPSK	36	20	20.47	20.30	20.44	20.34	19.99		
15	QPSK	36	39	20.47	20.24	20.44	20.26	19.99		
15	QPSK	75	0	20.48	20.31	20.46	20.33	20.00		
15	16QAM	1	0	20.40	20.14	20.37	20.35	19.85	21	0
15	16QAM	1	37	20.35	20.10	20.32	20.31	19.83		
15	16QAM	1	74	20.39	20.13	20.40	20.13	20.00		
15	16QAM	36	0	20.38	20.25	20.33	20.31	19.88	21	0
15	16QAM	36	20	20.43	20.28	20.40	20.29	19.93		
15	16QAM	36	39	20.44	20.25	20.38	20.21	19.93		
15	16QAM	75	0	20.50	20.33	20.43	20.33	19.99		
15	64QAM	1	0	20.19	19.97	20.12	20.11	19.66	21	0
15	64QAM	1	37	20.15	19.90	20.16	20.05	19.69		
15	64QAM	1	74	20.15	19.92	20.15	19.92	19.76		
15	64QAM	36	0	20.43	20.29	20.36	20.35	19.91	21	0
15	64QAM	36	20	20.47	20.31	20.46	20.34	19.97		
15	64QAM	36	39	20.47	20.28	20.43	20.27	19.97		
15	64QAM	75	0	20.50	20.33	20.43	20.33	19.98		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	20.35	20.04	20.16	20.14	19.70	21	0
10	QPSK	1	25	20.22	20.13	20.19	20.12	19.73		
10	QPSK	1	49	20.32	20.15	20.15	20.14	19.70		
10	QPSK	25	0	20.44	20.24	20.32	20.27	19.93	21	0
10	QPSK	25	12	20.43	20.26	20.37	20.28	19.89		
10	QPSK	25	25	20.40	20.24	20.34	20.23	19.86		
10	QPSK	50	0	20.42	20.28	20.36	20.30	19.90		
10	16QAM	1	0	20.36	20.18	20.35	20.22	19.85	21	0
10	16QAM	1	25	20.32	20.15	20.29	20.17	19.78		
10	16QAM	1	49	20.28	20.14	20.26	20.12	19.75		
10	16QAM	25	0	20.46	20.26	20.36	20.28	19.89	21	0
10	16QAM	25	12	20.47	20.30	20.38	20.27	19.89		
10	16QAM	25	25	20.38	20.26	20.34	20.24	19.85		
10	16QAM	50	0	20.44	20.30	20.38	20.32	19.91		
10	64QAM	1	0	20.21	19.94	20.03	19.94	19.62	21	0
10	64QAM	1	25	20.09	19.92	20.07	19.95	19.55		
10	64QAM	1	49	20.13	19.88	19.98	19.87	19.54		
10	64QAM	25	0	20.41	20.19	20.33	20.23	19.85	21	0
10	64QAM	25	12	20.39	20.24	20.30	20.24	19.84		
10	64QAM	25	25	20.34	20.21	20.28	20.19	19.78		
10	64QAM	50	0	20.40	20.23	20.33	20.23	19.85		

Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	20.33	20.12	20.19	20.16	19.77	21	0
5	QPSK	1	12	20.36	20.15	20.23	20.17	19.74		
5	QPSK	1	24	20.33	20.14	20.23	20.13	19.69		
5	QPSK	12	0	20.45	20.27	20.36	20.28	19.86	21	0
5	QPSK	12	7	20.49	20.32	20.39	20.30	19.88		
5	QPSK	12	13	20.49	20.29	20.38	20.29	19.89		
5	QPSK	25	0	20.48	20.27	20.38	20.26	19.86		
5	16QAM	1	0	20.37	20.13	20.29	20.22	19.85	21	0
5	16QAM	1	12	20.39	20.20	20.29	20.20	19.84		
5	16QAM	1	24	20.42	20.21	20.35	20.18	19.82		
5	16QAM	12	0	20.41	20.21	20.32	20.21	19.81	21	0
5	16QAM	12	7	20.42	20.25	20.32	20.22	19.82		
5	16QAM	12	13	20.40	20.21	20.33	20.20	19.80		
5	16QAM	25	0	20.49	20.31	20.39	20.29	19.87		
5	64QAM	1	0	20.22	19.97	20.10	20.04	19.66	21	0
5	64QAM	1	12	20.20	19.99	20.08	20.00	19.61		
5	64QAM	1	24	20.22	20.01	20.13	19.99	19.60		
5	64QAM	12	0	20.40	20.22	20.29	20.20	19.80	21	0
5	64QAM	12	7	20.45	20.25	20.36	20.24	19.82		
5	64QAM	12	13	20.37	20.21	20.31	20.21	19.79		
5	64QAM	25	0	20.41	20.25	20.34	20.22	19.80		

<LTE Carrier Aggregation>

General Note:

1. This device supports Carrier Aggregation on downlink for CA_7B/CA_7C /CA_38C/CA_7A-7A/CA_41C/CA_41D/CA_41A-41C/CA_41A-41A/CA_41A-41A_41A and uplink for CA_7C/ CA_38C. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.
2. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and for this device that all the configurations were choose to power measurement.
3. All permutations exist. No restrictions on Pcell & Scell combinations.

Index	2CC	Restriction	Completely Covered by Measurement Superset		Index	3CC	Restriction	Completely Covered by Measurement Superset
2CC #1	CA_7B		No		3CC #1	CA_41D		No
2CC #2	CA_7C		No		3CC #2	CA_41A-41C		No
2CC #3	CA_38C		No		3CC #3	CA_41A-41A_41A		No
2CC #4	CA_41C		3CC #2					
2CC #5	CA_7A-7A		No					
2CC #6	CA_41A-41A		3CC #3					

LTE Carrier Aggregation Conducted Power (Downlink)

General Note:

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

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

iii. 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.

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

<Top/Bottom Antenna--Full Power Mode>

<Two Carrier power verification>

Configure		CA Configuration (BCS)	PCC							SCC				Power	
			LTE Band	BW (MHz)	UL Freq (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Intra-Band	Contiguous	CA_7B	7	15M	2535	21100	QPSK	1	37	7	5M	2664.3	3193	23.12	23.38
		CA_7C	7	20M	2560	21350	QPSK	1	0	7	20M	2660.2	3152	23.55	23.68
		CA_38C	38	20M	2595	38000	QPSK	1	0	38	20M	2614.8	38198	23.21	23.30
	Non-Contiguous	CA_7A-7A	7	20M	2560	21350	QPSK	1	0	7	5M	2622.5	2775	23.59	23.68

<Three Carrier power verification>

Configure		CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Intra-	Contiguous	CA_41D	41	20M	2593	40620	QPSK	1	49	41	20M	2612.8	40818	41	20M	2632.6	41016	23.25	23.38
	Non-Contiguous	CA_41A-41C	41	20M	2593	40620	QPSK	1	49	41	5M	2687.5	41565	41	20M	2675.8	41448	23.18	23.38
			41	20M	2593	40620	QPSK	1	49	41	20M	2612.8	40818	41	5M	2498.5	39675	23.18	23.38
		CA_41A-41A_41A	41	20M	2593	40620	QPSK	1	49	41	5M	2687.5	41565	41	20M	2506	39750	23.26	23.38

<WWAN Top --Reduced Power Level 1 for Head>

<Two Carrier power verification>

Configure		CA Configuration (BCS)	PCC							SCC				Power	
			LTE Band	BW (MHz)	UL Freq (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Intra-Band	Contiguous	CA_7B	7	15M	2562.5	21375	16QAM	1	74	7	5M	2678.2	3332	14.01	14.05
		CA_7C	7	20M	2560	21350	161AM	1	99	7	20M	2660.2	3152	13.95	14.04
		CA_38C	38	20M	2510	39790	QPSK	1	0	38	20M	2529.8	39988	15.85	15.90
	Non-Contiguous	CA_7A-7A	7	20M	2560	21350	161AM	1	99	7	5M	2622.5	2775	14.01	14.04

<Three Carrier power verification>

Configure		CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Intra-	Contiguous	CA_41D	41	20M	2593	40620	QPSK	50	24	41	20M	2612.8	40818	41	20M	2632.6	41016	15.48	15.61
	Non-Contiguous	CA_41A-41C	41	20M	2593	40620	QPSK	50	24	41	5M	2687.5	41565	41	20M	2675.8	41448	15.6	15.61
			41	20M	2593	40620	QPSK	50	24	41	20M	2612.8	40818	41	5M	2498.5	39675	15.52	15.61
		CA_41A-41A_41A	41	20M	2593	40620	QPSK	50	24	41	5M	2687.5	41565	41	20M	2506	39750	15.31	15.61

<WWAN Top --Reduced Power Level 2 for Head>

<Two Carrier power verification>

Configure		CA Configuration (BCS)	PCC							SCC				Power	
			LTE Band	BW (MHz)	UL Freq (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Intra-Band	Contiguous	CA_7B	15M	2562.5	21375	16QAM	1	99	15M	7	5M	2678.2	3332	19.21	19.27
		CA_7C	20M	2560	21350	16QAM	1	99	20M	7	20M	2660.2	3152	19.23	19.27
		CA_38C	20M	2580	37850	QPSK	50	50	20M	38	20M	2599.8	38048	20.83	20.91
	Non-Contiguous	CA_7A-7A	20M	2560	21350	QPSK	1	0	20M	7	5M	2622.5	2775	19.28	19.27

<Three Carrier power verification>

Configure		CA Configuration (BCS)	PCC							SCC1				SCC2				Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Intra-	Contiguous	CA_41D	41	20M	2593	40620	64QAM	100	0	41	20M	2612.8	40818	41	20M	2632.6	41016	20.48	20.57
	Non-Contiguous	CA_41A-41C	41	20M	2593	40620	64QAM	100	0	41	5M	2687.5	41565	41	20M	2675.8	41448	20.31	20.57
			41	20M	2593	40620	64QAM	100	0	41	20M	2612.8	40818	41	5M	2498.5	39675	20.48	20.57
		CA_41A-41A_41A	41	20M	2593	40620	64QAM	100	0	41	5M	2687.5	41565	41	20M	2506	39750	20.51	20.57

<Top/Bottom Antenna--Reduced Power Mode for Body/P-Sensor On for slide open/close>

<Two Carrier power verification>

Configure		CA Configuration (BCS)	PCC							SCC				Power	
			LTE Band	BW (MHz)	UL Freq (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Intra-Band	Contiguous	CA_7B	15M	2535	21100	16QAM	1	37	15M	7	5M	2664.3	3193	21.82	21.85
		CA_7C	20M	2560	21350	16QAM	1	49	20M	7	20M	2660.2	3152	21.80	21.86
	Non-Contiguous	CA_7A-7A	20M	2560	21350	16QAM	1	49	20M	7	5M	2622.5	2775	21.81	21.86

LTE Carrier Aggregation Conducted Power (Uplink)

1. This device supports uplink carrier aggregation for LTE CA_7C, CA_38C with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. For the non-contiguously allocated resource blocks which the MPR level is determined by various RB separation and RB sizes requirement, and the allowed MPR levels, settings and the conducted powers are permanently implemented in this device per the 3GPP 36.36.101 section 6.2.3A.1.3 requirements.
2. According to November 2017 TCB workshop, the output power with uplink CA active was measured for the high / middle / low channel configuration with the highest reported SAR for each exposure condition, the power was measured with wideband signal integration over both component carriers.
3. In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs
4. Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05. The required test channel should be associated with the UL PCC. For channels at the ends of a frequency band, the SCC and subsequent CCs are added to the side within the transmission band. Otherwise, the CCs should be added alternatively to either side of the PCC.

<Power Measurement Setup>

<Top/Bottom Antenna--Full Power Mode>

<LTE Band 7>

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	23.64	24.5
21100	20902	QPSK	1	0	0	0	1	0	23.86	24.5
21350	21152	QPSK	1	0	0	0	1	0	23.53	24.5

<LTE Band 38>

CA_38C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	23.82	24.5
37901	38099	QPSK	1	0	0	0	1	0	23.98	24.5
38150	37952	QPSK	1	0	0	0	1	0	23.82	24.5

<WWAN Top --Reduced Power Level 1 for Head>

<LTE Band 7>

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	13.45	14.5
21100	20902	QPSK	1	0	0	0	1	0	13.58	14.5
21350	21152	QPSK	1	0	0	0	1	0	13.21	14.5

<LTE Band 38>

CA_38C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	49	0	0	1	0	16.29	16.5
37901	38099	QPSK	1	49	0	0	1	0	16.31	16.5
38150	37952	QPSK	1	49	0	0	1	0	16.3	16.5

<WWAN Top --Reduced Power Level 2 for Head>

<LTE Band 7>

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	18.67	19.5
21100	20902	QPSK	1	0	0	0	1	0	18.61	19.5
21350	21152	QPSK	1	0	0	0	1	0	18.54	19.5

<LTE Band 38>

CA_38C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	20.86	21
37901	38099	QPSK	1	0	0	0	1	0	20.9	21
38150	37952	QPSK	1	0	0	0	1	0	20.88	21

<Top Antenna--Reduced Power Mode for Body for slide open>

<LTE Band 7>

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	100	0	0	0	1	0	21.98	22.5
21100	20902	QPSK	100	0	0	0	1	0	22.07	22.5
21350	21152	QPSK	100	0	0	0	1	0	22.18	22.5

<Bottom Antenna--Reduced Power Mode for P-Sensor On for slide close>

<LTE Band 7>

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	22.15	22.5
21100	20902	QPSK	1	0	0	0	1	0	22.16	22.5
21350	21152	QPSK	1	0	0	0	1	0	22.19	22.5

<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.

<Full Power>

<2.4GHz WLAN Ant.1>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	19.01	19.50	100.00
		6	2437	19.08	19.50	
		11	2462	18.99	19.50	
	802.11g 6Mbps	1	2412	18.01	18.50	98.28
		6	2437	17.82	18.50	
		11	2462	17.40	18.50	
	802.11n-HT20 MCS0	1	2412	18.16	18.50	98.16
		6	2437	18.11	18.50	
		11	2462	17.10	18.50	

<2.4GHz WLAN Ant.1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	21.64	22.50	100.00
		6	2437	21.65	22.50	
		11	2462	21.61	22.50	
	802.11g 6Mbps	1	2412	20.54	21.50	98.28
		6	2437	20.42	21.50	
		11	2462	20.03	21.50	
	802.11n-HT20 MCS0	1	2412	20.78	21.50	98.16
		6	2437	20.72	21.50	
		11	2462	19.71	21.50	

<5GHz WLAN Ant.2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	17.65	18.50	98.48
		40	5200	17.80	18.50	
		44	5220	17.71	18.50	
		48	5240	17.71	18.50	
	802.11n-HT20 MCS0	36	5180	17.79	18.00	98.37
		40	5200	17.76	18.00	
		44	5220	17.74	18.00	
		48	5240	17.72	18.00	
	802.11n-HT40 MCS0	38	5190	16.69	17.50	96.75
		46	5230	16.67	17.50	
	802.11ac-VHT20 MCS0	36	5180	17.85	18.50	96.89
		40	5200	17.82	18.50	
		44	5220	17.81	18.50	
		48	5240	17.77	18.50	
	802.11ac-VHT40 MCS0	38	5190	16.86	17.50	93.50
		46	5230	16.82	17.50	
	802.11ac-VHT80 MCS0	42	5210	15.32	16.50	87.06

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	17.78	18.50	98.48
		56	5280	17.68	18.50	
		60	5300	17.73	18.50	
		64	5320	17.64	18.50	
	802.11n-HT20 MCS0	52	5260	17.91	18.00	98.37
		56	5280	17.89	18.00	
		60	5300	17.72	18.00	
		64	5320	17.61	18.00	
	802.11n-HT40 MCS0	54	5270	17.16	17.50	96.75
		62	5310	16.92	17.50	
	802.11ac-VHT20 MCS0	52	5260	18.41	18.50	96.89
		56	5280	18.34	18.50	
		60	5300	18.32	18.50	
		64	5320	18.17	18.50	
	802.11ac-VHT40 MCS0	54	5270	17.20	17.50	93.50
		62	5310	16.38	17.50	
	802.11ac-VHT80 MCS0	58	5290	13.73	15.00	87.06

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	=Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	15.40	16.00	98.48
		116	5580	15.63	16.00	
		124	5620	15.51	16.00	
		132	5660	15.19	16.00	
		140	5700	15.08	16.00	
	802.11n-HT20 MCS0	100	5500	15.39	16.00	98.37
		116	5580	15.40	16.00	
		124	5620	15.29	16.00	
		132	5660	15.32	16.00	
		140	5700	15.13	16.00	
	802.11n-HT40 MCS0	102	5510	14.41	15.00	96.75
		110	5550	14.55	15.00	
		126	5630	14.07	15.00	
		134	5670	14.10	15.00	
	802.11ac-VHT20 MCS0	100	5500	15.43	16.00	96.89
		116	5580	15.35	16.00	
		124	5620	15.40	16.00	
		132	5660	15.32	16.00	
		140	5700	15.15	15.00	
	802.11ac-VHT40 MCS0	102	5510	14.46	15.00	93.50
		110	5550	14.60	15.00	
		126	5630	14.17	15.00	
		134	5670	14.26	15.00	
	802.11ac-VHT80 MCS0	106	5530	14.75	15.00	87.06
		122	5610	14.48	15.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	14.21	15.50	98.48
		157	5785	14.29	15.50	
		161	5805	14.38	15.50	
	802.11n-HT20 MCS0	149	5745	14.31	15.50	98.38
		157	5785	14.35	15.50	
		161	5805	14.25	15.50	
	802.11n-HT40 MCS0	151	5755	13.75	15.00	96.75
		159	5795	13.77	15.00	
	802.11ac-VHT20 MCS0	149	5745	14.31	15.50	96.89
		157	5785	14.22	15.50	
		161	5805	14.27	15.50	
	802.11ac-VHT40 MCS0	151	5755	13.90	15.00	93.50
		159	5795	14.02	15.00	
	802.11ac-VHT80 MCS0	155	5775	14.12	15.00	87.06

<5GHz WLAN Ant.1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	20.91	21.50	98.48
		40	5200	20.94	21.50	
		44	5220	20.77	21.50	
		48	5240	20.62	21.50	
	802.11n-HT20 MCS0	36	5180	21.00	21.50	98.37
		40	5200	20.98	21.50	
		44	5220	20.78	21.50	
		48	5240	20.68	21.50	
	802.11n-HT40 MCS0	38	5190	19.97	20.50	96.75
		46	5230	19.69	20.50	
	802.11ac-VHT20 MCS0	36	5180	21.06	21.50	96.89
		40	5200	21.01	21.50	
		44	5220	20.88	21.50	
		48	5240	20.71	21.50	
	802.11ac-VHT40 MCS0	38	5190	20.08	20.50	93.50
		46	5230	19.81	20.50	
	802.11ac-VHT80 MCS0	42	5210	18.51	19.50	87.06

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	20.68	21.50	98.48
		56	5280	20.61	21.50	
		60	5300	20.62	21.50	
		64	5320	20.55	21.50	
	802.11n-HT20 MCS0	52	5260	20.85	21.50	98.37
		56	5280	20.75	21.50	
		60	5300	20.63	21.50	
		64	5320	20.52	21.50	
	802.11n-HT40 MCS0	54	5270	20.11	20.50	96.75
		62	5310	19.95	20.50	
	802.11ac-VHT20 MCS0	52	5260	21.27	21.50	96.89
		56	5280	21.18	21.50	
		60	5300	21.15	21.50	
		64	5320	21.06	21.50	
	802.11ac-VHT40 MCS0	54	5270	20.13	20.50	93.50
		62	5310	19.41	20.50	
	802.11ac-VHT80 MCS0	58	5290	16.97	18.00	87.06

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	18.62	19.00	98.48
		116	5580	18.56	19.00	
		124	5620	18.36	19.00	
		132	5660	18.41	19.00	
		140	5700	18.45	19.00	
	802.11n-HT20 MCS0	100	5500	18.69	19.00	98.37
		116	5580	18.63	19.00	
		124	5620	18.45	19.00	
		132	5660	18.57	19.00	
		140	5700	18.52	19.00	
	802.11n-HT40 MCS0	102	5510	17.56	18.00	96.75
		110	5550	17.46	18.00	
		126	5630	17.29	18.00	
		134	5670	17.53	18.00	
	802.11ac-VHT20 MCS0	100	5500	18.76	19.00	96.89
		116	5580	18.65	19.00	
		124	5620	18.59	19.00	
		132	5660	18.62	19.00	
		140	5700	18.25	17.00	
	802.11ac-VHT40 MCS0	102	5510	17.69	18.00	93.50
		110	5550	17.71	18.00	
		126	5630	17.43	18.00	
		134	5670	17.68	18.00	
	802.11ac-VHT80 MCS0	106	5530	17.88	18.00	87.06
		122	5610	17.68	18.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	17.62	18.50	98.48
		157	5785	17.62	18.50	
		161	5805	17.50	18.50	
	802.11n-HT20 MCS0	149	5745	17.85	18.50	98.38
		157	5785	17.85	18.50	
		161	5805	17.88	18.50	
	802.11n-HT40 MCS0	151	5755	17.44	18.00	96.75
		159	5795	17.50	18.00	
	802.11ac-VHT20 MCS0	149	5745	17.96	18.50	96.89
		157	5785	17.82	18.50	
		161	5805	17.88	18.50	
	802.11ac-VHT40 MCS0	151	5755	17.58	18.00	93.50
		159	5795	17.67	18.00	
	802.11ac-VHT80 MCS0	155	5775	17.63	18.00	87.06

<Reduced Power>

<2.4GHz WLAN Ant.1>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	14.74	15.00	100.00
		6	2437	14.72	15.00	
		11	2462	14.58	15.00	
	802.11g 6Mbps	1	2412	14.55	15.00	98.28
		6	2437	14.40	15.00	
		11	2462	14.43	15.00	
	802.11n-HT20 MCS0	1	2412	14.23	15.00	98.16
		6	2437	14.20	15.00	
		11	2462	14.36	15.00	

<2.4GHz WLAN Ant.1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	17.36	18.00	100.00
		6	2437	17.28	18.00	
		11	2462	17.25	18.00	
	802.11g 6Mbps	1	2412	17.17	18.00	98.28
		6	2437	17.07	18.00	
		11	2462	17.05	18.00	
	802.11n-HT20 MCS0	1	2412	16.89	18.00	98.16
		6	2437	16.86	18.00	
		11	2462	16.90	18.00	

<5GHz WLAN Ant.2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	12.29	13.00	98.48
		40	5200	12.23	13.00	
		44	5220	12.15	13.00	
		48	5240	12.06	13.00	
	802.11n-HT20 MCS0	36	5180	12.12	13.00	98.37
		40	5200	12.29	13.00	
		44	5220	12.19	13.00	
		48	5240	12.10	13.00	
	802.11n-HT40 MCS0	38	5190	12.36	12.50	96.75
		46	5230	12.22	12.50	
	802.11ac-VHT20 MCS0	36	5180	12.09	13.00	96.89
		40	5200	12.33	13.00	
		44	5220	12.19	13.00	
		48	5240	12.11	13.00	
	802.11ac-VHT40 MCS0	38	5190	12.30	12.50	93.50
		46	5230	12.36	12.50	
	802.11ac-VHT80 MCS0	42	5210	12.45	12.50	87.06

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	12.12	13.00	98.48
		56	5280	11.68	13.00	
		60	5300	11.63	13.00	
		64	5320	11.49	13.00	
	802.11n-HT20 MCS0	52	5260	12.06	13.00	98.37
		56	5280	11.63	13.00	
		60	5300	11.23	13.00	
		64	5320	11.01	13.00	
	802.11n-HT40 MCS0	54	5270	12.12	12.50	96.75
		62	5310	11.92	12.50	
	802.11ac-VHT20 MCS0	52	5260	12.10	13.00	96.89
		56	5280	11.62	13.00	
		60	5300	11.40	13.00	
		64	5320	11.00	13.00	
	802.11ac-VHT40 MCS0	54	5270	12.23	12.50	93.50
		62	5310	12.07	12.50	
	802.11ac-VHT80 MCS0	58	5290	11.95	12.50	87.06

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	=Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	10.68	11.50	98.48
		116	5580	10.45	11.50	
		124	5620	10.36	11.50	
		132	5660	10.09	11.50	
		140	5700	9.82	11.50	
	802.11n-HT20 MCS0	100	5500	10.43	11.50	98.37
		116	5580	10.30	11.50	
		124	5620	10.28	11.50	
		132	5660	10.05	11.50	
		140	5700	9.88	11.50	
	802.11n-HT40 MCS0	102	5510	10.73	11.00	96.75
		110	5550	10.95	11.00	
		126	5630	10.60	11.00	
		134	5670	10.52	11.00	
	802.11ac-VHT20 MCS0	100	5500	10.55	11.50	96.89
		116	5580	10.17	11.50	
		124	5620	10.28	11.50	
		132	5660	9.95	11.50	
		140	5700	10.06	11.50	
	802.11ac-VHT40 MCS0	102	5510	10.76	11.00	93.50
		110	5550	10.95	11.00	
		126	5630	10.67	11.00	
		134	5670	10.58	11.00	
	802.11ac-VHT80 MCS0	106	5530	10.45	11.00	87.06
		122	5610	10.36	11.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	9.69	11.50	98.48
		157	5785	10.22	11.50	
		161	5805	9.42	11.50	
	802.11n-HT20 MCS0	149	5745	9.79	11.50	98.38
		157	5785	10.28	11.50	
		161	5805	9.45	11.50	
	802.11n-HT40 MCS0	151	5755	10.00	11.00	96.75
		159	5795	10.05	11.00	
	802.11ac-VHT20 MCS0	149	5745	9.90	11.50	96.89
		157	5785	10.29	11.50	
		161	5805	9.56	11.50	
	802.11ac-VHT40 MCS0	151	5755	10.04	11.00	93.50
		159	5795	10.30	11.00	
	802.11ac-VHT80 MCS0	155	5775	10.61	11.00	87.06

<5GHz WLAN Ant.1+2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	15.33	16.00	98.48
		40	5200	15.26	16.00	
		44	5220	15.14	16.00	
		48	5240	15.07	16.00	
	802.11n-HT20 MCS0	36	5180	15.24	16.00	98.37
		40	5200	15.30	16.00	
		44	5220	15.17	16.00	
		48	5240	15.10	16.00	
	802.11n-HT40 MCS0	38	5190	15.43	15.50	96.75
		46	5230	15.30	15.50	
	802.11ac-VHT20 MCS0	36	5180	15.28	16.00	96.89
		40	5200	15.37	16.00	
		44	5220	15.22	16.00	
		48	5240	15.16	16.00	
	802.11ac-VHT40 MCS0	38	5190	15.44	15.50	93.50
		46	5230	15.42	15.50	
	802.11ac-VHT80 MCS0	42	5210	15.44	15.50	87.06

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	15.09	16.00	98.48
		56	5280	14.73	16.00	
		60	5300	14.66	16.00	
		64	5320	14.54	16.00	
	802.11n-HT20 MCS0	52	5260	15.06	16.00	98.37
		56	5280	14.66	16.00	
		60	5300	14.45	16.00	
		64	5320	14.28	16.00	
	802.11n-HT40 MCS0	54	5270	15.17	15.50	96.75
		62	5310	14.97	15.50	
	802.11ac-VHT20 MCS0	52	5260	15.14	16.00	96.89
		56	5280	14.93	16.00	
		60	5300	14.63	16.00	
		64	5320	14.40	16.00	
	802.11ac-VHT40 MCS0	54	5270	15.27	15.50	93.50
		62	5310	15.09	15.50	
	802.11ac-VHT80 MCS0	58	5290	15.13	15.50	87.06

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	13.69	14.50	98.48
		116	5580	13.51	14.50	
		124	5620	13.42	14.50	
		132	5660	13.31	14.50	
		140	5700	13.15	14.50	
	802.11n-HT20 MCS0	100	5500	13.66	14.50	98.37
		116	5580	13.40	14.50	
		124	5620	13.34	14.50	
		132	5660	13.28	14.50	
		140	5700	13.20	14.50	
	802.11n-HT40 MCS0	102	5510	13.36	14.00	96.75
		110	5550	13.54	14.00	
		126	5630	13.31	14.00	
		134	5670	13.18	14.00	
	802.11ac-VHT20 MCS0	100	5500	13.72	14.50	96.89
		116	5580	13.42	14.50	
		124	5620	13.42	14.50	
		132	5660	13.29	14.50	
		140	5700	13.26	14.50	
	802.11ac-VHT40 MCS0	102	5510	13.45	14.00	93.50
		110	5550	13.63	14.00	
		126	5630	13.39	14.00	
		134	5670	13.25	14.00	
	802.11ac-VHT80 MCS0	106	5530	13.33	14.00	87.06
		122	5610	13.35	14.00	

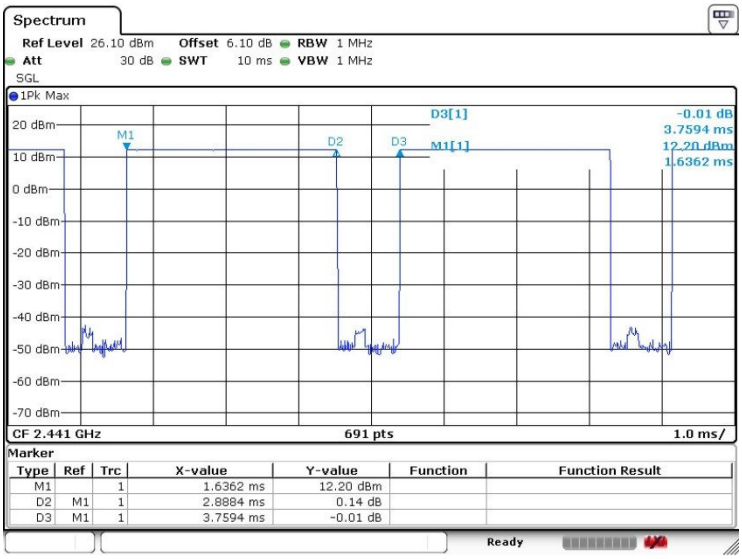
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a MCS0	149	5745	12.69	14.50	98.48
		157	5785	13.45	14.50	
		161	5805	12.60	14.50	
	802.11n-HT20 MCS0	149	5745	12.76	14.50	98.38
		157	5785	13.26	14.50	
		161	5805	12.59	14.50	
	802.11n-HT40 MCS0	151	5755	13.29	14.00	96.75
		159	5795	13.26	14.00	
	802.11ac-VHT20 MCS0	149	5745	12.83	14.50	96.89
		157	5785	13.29	14.50	
		161	5805	12.67	14.50	
	802.11ac-VHT40 MCS0	151	5755	13.31	14.00	93.50
		159	5795	13.46	14.00	
	802.11ac-VHT80 MCS0	155	5775	13.52	14.00	87.06

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 76.83 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation.

Bluetooth time-domain plot

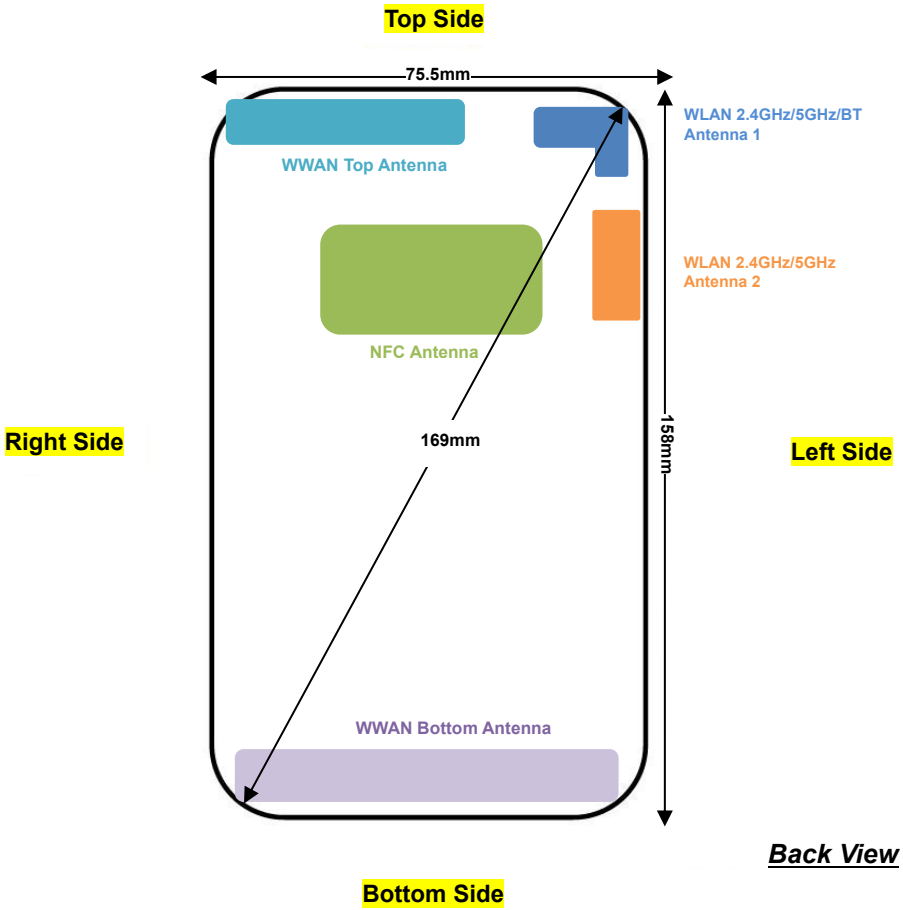


Mode	Channel	Frequency (MHz)	Data Rate
			1Mbps
BR/EDR	CH 00	2402	12.61
	CH 39	2441	12.36
	CH 78	2480	13.28
Tune-up Limit			13.50

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
v4.0/v4.1/v4.2 LE	CH 00	2402	4.30
	CH 19	2440	5.37
	CH 39	2480	5.59
Tune-up Limit			6.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
v5.0 LE	CH 00	2402	4.29
	CH 19	2440	4.00
	CH 39	2480	5.66
Tune-up Limit			6.00

14. Antenna Location



Antenna	Support Band
WWAN Top Antenna	GSM: 850 / 1900 CDMA: BC0 WCDMA: B2 / B4 / B5 LTE: B2 / B4 / B5 / B7 / B38 / B41
WWAN Bottom Antenna	GSM: 850 / 1900 CDMA: BC0 WCDMA: B2 / B4 / B5 LTE: B2 / B4 / B5 / B7 / B38 / B41
WLAN 2.4GHz/5GHz/BT Antenna 1	WLAN 2.4GHz WLAN 5GHz Bluetooth
WLAN 2.4GHz/5GHz Antenna 2	WLAN 2.4GHz WLAN 5GHz
NFC Antenna	NFC

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

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

General Note:

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

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For 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 when the measured SAR is ≥ 0.8W/kg. 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. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
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 extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power (for sensor on state, the maximum full power means reduced power), including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
   a. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
   b. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
6. This device has WWAN Top and Bottom transmitter antennas which can refer to antenna location chapter. WWAN top antenna and Bottom antenna can’t transmit simultaneously.
7. The device has two working status, one is slide open, another is slide close. For head SAR and body SAR, two working status have been performed.
8. For WLAN2.4GHz, supports MIMO. For antenna 1 can’t transmit alone, it must be transmitted with WWAN bands and WLAN5GHz.
9. For WLAN5GHz, supports MIMO. For antenna 2 can’t transmit alone, it must be transmitted with WWAN bands and WLAN2.4GHz (antenna 1) or Bluetooth.
10. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at WLAN2.4/5.2/5.3/5.5/5.8GHz whatever the phone slide open or slide close.
11. When the phone receiver is not worked and the device near to body, WLAN2.4GHz and WLAN 5GHz reduced power will be implanted for transmit with WWAN simultaneously. For WLAN2.4GHz and WLAN 5GHz, full power SAR used to do collocated with WWAN analysis more conservatively than reduced power, so no need to consider reduced power level for WLAN2.4GHz and WLAN 5GHz.
12. The device has implanted capacity proximity sensor and sliding hall sensor. The device has two working state, slide open and slide close. sliding hall sensor only triggered for slide open status.
    a. When slide open status, the phone is in talking mode and receiver worked, sliding hall sensor will worked then power reduction 1 will be implemented immediately for GSM850/1900, WCDMA B2 / B4 / B5, CDMA2000 BC0, LTE B2 / B4 / B5 / B7 / B38 / B41 located at WWAN top antenna. Other Top WWAN bands are full power state. When slide open, all WWAN bands located at bottom antenna are all full power state.
    b. When slide open status, the phone near to body and receiver is not worked, power reduction will be implemented immediately for LTE B7 located at WWAN top antenna and WCDMA Band 4 located at bottom antenna.

c. When slide close status, the phone is in talking mode and receiver worked, then power reduction 2 will be implemented immediately for GSM850, WCDMA B2 / B5, CDMA2000 BC0, LTE B2 / B7 / B38 / B41 located at WWAN top antenna. Other Top WWAN bands and all WWAN bands located at bottom antenna are all full power state.

d. When slide close status, proximity sensors detects a user is touching the device on or near to the antenna, The device reduce the maximum allowed output power, When detected the presence of the user's body at the front or back or bottom side faces of the device, power reduction will be implemented immediately for WCDMA B2/B4,LTE Band B2/B4/B7 located at WWAN bottom antenna.

13. There are two types of EUT sample 1 and sample 2, the differences between two samples is for memory, sample 1 is 6+128GB capacity and sample 2 is 6+64GB capacity. According to the difference, memory capacity has no effect on SAR distribution, so sample 1 is chose to perform full SAR testing.

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, GPRS 4Tx slots for GSM1900 are considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

WCDMA Note:

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

CDMA2000 Note:

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. Per FCC KDB inquiry guidance, the following applied to intra-band contiguous UL CA only;
   a. Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05. The required test channel should be associated with the UL PCC. For channels at the ends of a frequency band, the SCC and subsequent CCs are added to the side within the transmission band. Otherwise, the CCs should be added alternatively to either side of the PCC.
   b. UL CA SAR is measured for each exposure condition in each frequency band using the highest SAR configuration tested in standalone LTE mode to establish the UL CA PCC. The SCC and subsequent CC must use configurations similar to the PCC to establish conservative or worst case equivalent SAR test conditions.
   c. When the SAR configuration tested in step b) has a maximum output power specification more than ¼ dB lower than the highest maximum output power conditions measured in the power measurements in step a) above and the reported SAR in step b) is larger than 1.2 W/kg, SAR measurement is also required for the configuration in step a)
   d. All standalone SAR configurations with SAR > 1.2 W/kg must also be tested by applying the procedures in step b)
7. For LTE B4 / B5 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
8. LTE B38 SAR test was covered by B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. The maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion.
   b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. 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.
6. For Bluetooth body SAR, only the worst case of WLAN 2.4GHz Ant.1 body SAR was evaluated due to Bluetooth and WLAN 2.4GHz Ant.1 share the same antenna with consistent pattern.

15.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Antenna	Slide Configuration	Power Reduced Level	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)
	GSM 850	GPRS 2 Tx slots	Right Cheek	Top	Open	1	189	836.4	25.52	27.00	1.406	-0.05	0.443	0.623
	GSM 850	GPRS 2 Tx slots	Right Tilted	Top	Open	1	189	836.4	25.52	27.00	1.406	-0.07	0.410	0.576
	GSM 850	GPRS 2 Tx slots	Left Cheek	Top	Open	1	189	836.4	25.52	27.00	1.406	-0.13	0.584	0.821
	GSM 850	GPRS 2 Tx slots	Left Cheek	Top	Open	1	128	824.2	25.51	27.00	1.409	-0.07	0.810	1.142
	GSM 850	GPRS 2 Tx slots	Left Cheek	Top	Open	1	251	848.8	25.48	27.00	1.419	0.08	0.412	0.585
	GSM 850	GPRS 2 Tx slots	Left Tilted	Top	Open	1	189	836.4	25.52	27.00	1.406	-0.13	0.570	0.801
01	GSM 850	GPRS 2 Tx slots	Left Tilted	Top	Open	1	128	824.2	25.51	27.00	1.409	0.04	0.847	**1.194**
	GSM 850	GPRS 2 Tx slots	Left Tilted	Top	Open	1	251	848.8	25.48	27.00	1.419	0.04	0.406	0.576
	GSM 850	GPRS 2 Tx slots	Right Cheek	Top	Close	2	251	848.8	29.01	29.50	1.119	-0.12	0.510	0.571
	GSM 850	GPRS 2 Tx slots	Right Tilted	Top	Close	2	251	848.8	29.01	29.50	1.119	-0.06	0.480	0.537
	GSM 850	GPRS 2 Tx slots	Left Cheek	Top	Close	2	251	848.8	29.01	29.50	1.119	-0.13	0.500	0.560
	GSM 850	GPRS 2 Tx slots	Left Cheek	Top	Close	2	128	824.2	28.53	29.50	1.250	-0.05	0.818	1.023
	GSM 850	GPRS 2 Tx slots	Left Cheek	Top	Close	2	189	836.4	28.90	29.50	1.148	0.13	0.685	0.786
	GSM 850	GPRS 2 Tx slots	Left Tilted	Top	Close	2	251	848.8	29.01	29.50	1.119	0.06	0.429	0.480
	GSM 850	GPRS 2 Tx slots	Left Tilted	Top	Close	2	128	824.2	28.53	29.50	1.250	0.02	0.712	0.890
	GSM 850	GPRS 2 Tx slots	Left Tilted	Top	Close	2	189	836.4	28.90	29.50	1.148	0.05	0.546	0.627
	GSM 850	GPRS 2 Tx slots	Right Cheek	Bottom	Open	Full	128	824.2	29.54	30.50	1.247	-0.06	0.023	0.028
	GSM 850	GPRS 2 Tx slots	Right Tilted	Bottom	Open	Full	128	824.2	29.54	30.50	1.247	0.01	0.011	0.013
	GSM 850	GPRS 2 Tx slots	Left Cheek	Bottom	Open	Full	128	824.2	29.54	30.50	1.247	-0.01	0.020	0.025
	GSM 850	GPRS 2 Tx slots	Left Tilted	Bottom	Open	Full	128	824.2	29.54	30.50	1.247	-0.05	0.006	0.008
	GSM 850	GPRS 2 Tx slots	Right Cheek	Bottom	Close	Full	128	824.2	29.54	30.50	1.247	-0.11	0.095	0.119
	GSM 850	GPRS 2 Tx slots	Right Tilted	Bottom	Close	Full	128	824.2	29.54	30.50	1.247	-0.03	0.044	0.055
	GSM 850	GPRS 2 Tx slots	Left Cheek	Bottom	Close	Full	128	824.2	29.54	30.50	1.247	-0.02	0.139	0.173
	GSM 850	GPRS 2 Tx slots	Left Tilted	Bottom	Close	Full	128	824.2	29.54	30.50	1.247	-0.03	0.123	0.153
	GSM 1900	GPRS 4 Tx slots	Right Cheek	Top	Open	1	810	1909.8	20.68	21.50	1.208	0.09	0.299	0.361
	GSM 1900	GPRS 4 Tx slots	Right Tilted	Top	Open	1	810	1909.8	20.68	21.50	1.208	-0.03	0.273	0.330
	GSM 1900	GPRS 4 Tx slots	Left Cheek	Top	Open	1	810	1909.8	20.68	21.50	1.208	0.02	0.870	1.051
02	GSM 1900	GPRS 4 Tx slots	Left Cheek	Top	Open	1	512	1850.2	20.53	21.50	1.250	0.07	0.945	**1.181**
	GSM 1900	GPRS 4 Tx slots	Left Cheek	Top	Open	1	661	1880	20.65	21.50	1.216	0.01	0.949	1.154
	GSM 1900	GPRS 4 Tx slots	Left Tilted	Top	Open	1	810	1909.8	20.68	21.50	1.208	0.02	0.534	0.645
	GSM 1900	GPRS 4 Tx slots	Right Cheek	Top	Close	Full	810	1909.8	24.22	25.00	1.197	0	0.305	0.365
	GSM 1900	GPRS 4 Tx slots	Right Tilted	Top	Close	Full	810	1909.8	24.22	25.00	1.197	0.01	0.194	0.232
	GSM 1900	GPRS 4 Tx slots	Left Cheek	Top	Close	Full	810	1909.8	24.22	25.00	1.197	0.01	0.615	0.736
	GSM 1900	GPRS 4 Tx slots	Left Tilted	Top	Close	Full	810	1909.8	24.22	25.00	1.197	0.1	0.406	0.486
	GSM 1900	GPRS 4 Tx slots	Right Cheek	Bottom	Open	Full	810	1909.8	24.22	25.00	1.197	0.01	0.010	0.012
	GSM 1900	GPRS 4 Tx slots	Right Tilted	Bottom	Open	Full	810	1909.8	24.22	25.00	1.197	0.03	0.011	0.013
	GSM 1900	GPRS 4 Tx slots	Left Cheek	Bottom	Open	Full	810	1909.8	24.22	25.00	1.197	0.09	0.012	0.014
	GSM 1900	GPRS 4 Tx slots	Left Tilted	Bottom	Open	Full	810	1909.8	24.22	25.00	1.197	0.06	0.014	0.017
	GSM 1900	GPRS 4 Tx slots	Right Cheek	Bottom	Close	Full	810	1909.8	24.22	25.00	1.197	0.01	0.022	0.027
	GSM 1900	GPRS 4 Tx slots	Right Tilted	Bottom	Close	Full	810	1909.8	24.22	25.00	1.197	0.01	0.022	0.026
	GSM 1900	GPRS 4 Tx slots	Left Cheek	Bottom	Close	Full	810	1909.8	24.22	25.00	1.197	0.1	0.026	0.031
	GSM 1900	GPRS 4 Tx slots	Left Tilted	Bottom	Close	Full	810	1909.8	24.22	25.00	1.197	0.01	0.019	0.023

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Antenna	Slide Configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Top	Open	1	4182	836.4	19.21	20.00	1.199	-0.02	0.514	0.617
	WCDMA Band V	RMC 12.2Kbps	Right Tilted	Top	Open	1	4182	836.4	19.21	20.00	1.199	-0.08	0.410	0.492
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Top	Open	1	4182	836.4	19.21	20.00	1.199	-0.03	0.791	0.949
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Top	Open	1	4132	826.4	19.18	20.00	1.208	-0.04	0.899	1.086
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Top	Open	1	4233	846.6	19.18	20.00	1.208	-0.04	0.727	0.878
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Top	Open	1	4182	836.4	19.21	20.00	1.199	-0.05	0.700	0.840
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Top	Open	1	4132	826.4	19.18	20.00	1.208	-0.08	0.786	0.949
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Top	Open	1	4233	846.6	19.18	20.00	1.208	-0.08	0.618	0.746
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Top	Close	2	4182	836.4	22.78	23.50	1.180	-0.03	0.538	0.635
	WCDMA Band V	RMC 12.2Kbps	Right Tilted	Top	Close	2	4182	836.4	22.78	23.50	1.180	-0.06	0.541	0.639
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Top	Close	2	4182	836.4	22.78	23.50	1.180	0.05	0.900	1.062
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Top	Close	2	4132	826.4	22.70	23.50	1.202	0.01	0.885	1.064
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Top	Close	2	4233	846.6	22.73	23.50	1.194	0.15	0.892	1.065
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Top	Close	2	4182	836.4	22.78	23.50	1.180	0.15	0.929	1.097
03	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Top	Close	2	4132	826.4	22.70	23.50	1.202	0.09	0.946	**1.137**
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Top	Close	2	4233	846.6	22.73	23.50	1.194	0.08	0.913	1.090
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Bottom	Open	Full	4182	836.4	23.82	24.50	1.169	-0.17	0.018	0.021
	WCDMA Band V	RMC 12.2Kbps	Right Tilted	Bottom	Open	Full	4182	836.4	23.82	24.50	1.169	-0.02	0.007	0.008
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Bottom	Open	Full	4182	836.4	23.82	24.50	1.169	0.14	0.022	0.026
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Bottom	Open	Full	4182	836.4	23.82	24.50	1.169	0.01	0.010	0.011
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Bottom	Close	Full	4182	836.4	23.82	24.50	1.169	-0.01	0.199	0.233
	WCDMA Band V	RMC 12.2Kbps	Right Tilted	Bottom	Close	Full	4182	836.4	23.82	24.50	1.169	0.02	0.077	0.090
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Bottom	Close	Full	4182	836.4	23.82	24.50	1.169	-0.02	0.163	0.191
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Bottom	Close	Full	4182	836.4	23.82	24.50	1.169	-0.05	0.078	0.092
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Top	Open	1	9400	1880	15.91	17.50	1.442	0.03	0.263	0.379
	WCDMA Band II	RMC 12.2Kbps	Right Tilted	Top	Open	1	9400	1880	15.91	17.50	1.442	-0.05	0.226	0.326
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Top	Open	1	9400	1880	15.91	17.50	1.442	-0.05	0.762	1.099
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Top	Open	1	9262	1852.4	15.58	17.50	1.556	-0.05	0.709	1.103
04	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Top	Open	1	9538	1907.6	15.80	17.50	1.479	-0.07	0.787	**1.164**
	WCDMA Band II	RMC 12.2Kbps	Left Tilted	Top	Open	1	9400	1880	15.91	17.50	1.442	0.03	0.512	0.738
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Top	Close	2	9400	1880	21.29	22.50	1.321	-0.04	0.342	0.452
	WCDMA Band II	RMC 12.2Kbps	Right Tilted	Top	Close	2	9400	1880	21.29	22.50	1.321	-0.01	0.294	0.388
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Top	Close	2	9400	1880	21.29	22.50	1.321	0.09	0.721	0.953
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Top	Close	2	9262	1852.4	20.97	22.50	1.422	0.06	0.624	0.888
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Top	Close	2	9538	1907.6	21.20	22.50	1.349	0.09	0.751	1.013
	WCDMA Band II	RMC 12.2Kbps	Left Tilted	Top	Close	2	9400	1880	21.29	22.50	1.321	0.07	0.478	0.632
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Bottom	Open	Full	9400	1880	24.27	24.50	1.054	-0.12	0.026	0.027
	WCDMA Band II	RMC 12.2Kbps	Right Tilted	Bottom	Open	Full	9400	1880	24.27	24.50	1.054	-0.1	0.021	0.022
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Bottom	Open	Full	9400	1880	24.27	24.50	1.054	0.12	0.013	0.013
	WCDMA Band II	RMC 12.2Kbps	Left Tilted	Bottom	Open	Full	9400	1880	24.27	24.50	1.054	-0.02	0.023	0.024
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Bottom	Close	Full	9400	1880	24.27	24.50	1.054	-0.08	0.044	0.046
	WCDMA Band II	RMC 12.2Kbps	Right Tilted	Bottom	Close	Full	9400	1880	24.27	24.50	1.054	0.02	0.020	0.021
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Bottom	Close	Full	9400	1880	24.27	24.50	1.054	0.01	0.081	0.085
	WCDMA Band II	RMC 12.2Kbps	Left Tilted	Bottom	Close	Full	9400	1880	24.27	24.50	1.054	-0.02	0.061	0.064

Plot No.	Band	Mode	Test Position	Antenna	Slide Configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Top	Open	1	1413	1732.6	17.27	18.50	1.327	0.1	0.168	0.223
	WCDMA Band IV	RMC 12.2Kbps	Right Tilted	Top	Open	1	1413	1732.6	17.27	18.50	1.327	0.02	0.145	0.192
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Top	Open	1	1413	1732.6	17.27	18.50	1.327	-0.09	0.605	0.803
	WCDMA Band IV	RMC 12.2Kbps	Left Tilted	Top	Open	1	1413	1732.6	17.27	18.50	1.327	-0.08	0.454	0.603
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Top	Open	1	1312	1712.4	17.23	18.50	1.340	-0.05	0.593	0.794
05	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Top	Open	1	1513	1752.6	17.22	18.50	1.343	-0.05	0.757	**1.016**
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Top	Close	Full	1413	1732.6	23.86	24.50	1.159	0.02	0.196	0.227
	WCDMA Band IV	RMC 12.2Kbps	Right Tilted	Top	Close	Full	1413	1732.6	23.86	24.50	1.159	-0.02	0.244	0.283
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Top	Close	Full	1413	1732.6	23.86	24.50	1.159	0.09	0.614	0.711
	WCDMA Band IV	RMC 12.2Kbps	Left Tilted	Top	Close	Full	1413	1732.6	23.86	24.50	1.159	0.15	0.645	0.747
	WCDMA Band IV	RMC 12.2Kbps	Left Tilted	Top	Close	Full	1312	1712.4	23.76	24.50	1.186	0.01	0.515	0.611
	WCDMA Band IV	RMC 12.2Kbps	Left Tilted	Top	Close	Full	1513	1752.6	23.78	24.50	1.180	-0.07	0.763	0.901
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Bottom	Open	Full	1413	1732.6	23.86	24.50	1.159	0.02	0.049	0.057
	WCDMA Band IV	RMC 12.2Kbps	Right Tilted	Bottom	Open	Full	1413	1732.6	23.86	24.50	1.159	-0.02	0.042	0.049
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Bottom	Open	Full	1413	1732.6	23.86	24.50	1.159	-0.06	0.038	0.044
	WCDMA Band IV	RMC 12.2Kbps	Left Tilted	Bottom	Open	Full	1413	1732.6	23.86	24.50	1.159	0.02	0.036	0.041
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Bottom	Close	Full	1413	1732.6	23.86	24.50	1.159	0.03	0.025	0.029
	WCDMA Band IV	RMC 12.2Kbps	Right Tilted	Bottom	Close	Full	1413	1732.6	23.86	24.50	1.159	-0.02	0.015	0.017
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Bottom	Close	Full	1413	1732.6	23.86	24.50	1.159	-0.02	0.115	0.133
	WCDMA Band IV	RMC 12.2Kbps	Left Tilted	Bottom	Close	Full	1413	1732.6	23.86	24.50	1.159	0.03	0.069	0.080

<CDMA2000 SAR>

Plot No.	Band	Mode	Test Position	Antenna	Slide Configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC0	RC3 SO55	Right Cheek	Top	Open	1	777	848.31	20.95	21.00	1.012	0.01	0.615	0.622
	CDMA2000 BC0	RC3 SO55	Right Tilted	Top	Open	1	777	848.31	20.95	21.00	1.012	0.01	0.601	0.608
	CDMA2000 BC0	RC3 SO55	Left Cheek	Top	Open	1	777	848.31	20.95	21.00	1.012	-0.05	0.820	0.829
	CDMA2000 BC0	RC3 SO55	Left Cheek	Top	Open	1	1013	824.7	20.91	21.00	1.021	-0.04	1.010	1.031
	CDMA2000 BC0	RC3 SO55	Left Cheek	Top	Open	1	384	836.52	20.86	21.00	1.033	0.01	0.788	0.814
	CDMA2000 BC0	RC3 SO55	Left Tilted	Top	Open	1	777	848.31	20.95	21.00	1.012	0.03	0.562	0.569
	CDMA2000 BC0	RC3 SO55	Right Cheek	Top	Close	2	777	848.31	22.72	23.50	1.197	0.02	0.567	0.679
	CDMA2000 BC0	RC3 SO55	Right Tilted	Top	Close	2	777	848.31	22.72	23.50	1.197	-0.05	0.479	0.573
	CDMA2000 BC0	RC3 SO55	Left Cheek	Top	Close	2	777	848.31	22.72	23.50	1.197	0.01	0.882	1.056
	CDMA2000 BC0	RC3 SO55	Left Cheek	Top	Close	2	1013	824.7	22.56	23.50	1.242	0.02	0.783	0.972
	CDMA2000 BC0	RC3 SO55	Left Cheek	Top	Close	2	384	836.52	22.63	23.50	1.222	0.06	0.882	1.078
	CDMA2000 BC0	RC3 SO55	Left Tilted	Top	Close	2	777	848.31	22.72	23.50	1.197	0.09	0.849	1.016
	CDMA2000 BC0	RC3 SO55	Left Tilted	Top	Close	2	1013	824.7	22.56	23.50	1.242	-0.07	0.814	1.011
06	CDMA2000 BC0	RC3 SO55	Left Tilted	Top	Close	2	384	836.52	22.63	23.50	1.222	0.01	0.883	**1.079**
	CDMA2000 BC0	RC3 SO55	Right Cheek	Bottom	Open	Full	777	848.31	24.48	25.00	1.127	0.024	0.027	0.024
	CDMA2000 BC0	RC3 SO55	Right Tilted	Bottom	Open	Full	777	848.31	24.48	25.00	1.127	0.010	0.011	0.010
	CDMA2000 BC0	RC3 SO55	Left Cheek	Bottom	Open	Full	777	848.31	24.48	25.00	1.127	0.016	0.018	0.016
	CDMA2000 BC0	RC3 SO55	Left Tilted	Bottom	Open	Full	777	848.31	24.48	25.00	1.127	0.009	0.010	0.009
	CDMA2000 BC0	RC3 SO55	Right Cheek	Bottom	Close	Full	777	848.31	24.48	25.00	1.127	0.280	0.316	0.280
	CDMA2000 BC0	RC3 SO55	Right Tilted	Bottom	Close	Full	777	848.31	24.48	25.00	1.127	0.122	0.138	0.122
	CDMA2000 BC0	RC3 SO55	Left Cheek	Bottom	Close	Full	777	848.31	24.48	25.00	1.127	0.201	0.227	0.201
	CDMA2000 BC0	RC3 SO55	Left Tilted	Bottom	Close	Full	777	848.31	24.48	25.00	1.127	0.101	0.114	0.101

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Antenna	Slide Configuration	Power Reduced Level	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 5	10M	QPSK	1	0	Right Cheek	Top	Open	1	20525	836.5	19.23	20.50	1.340	-0.14	0.461	0.618
	LTE Band 5	10M	QPSK	25	0	Right Cheek	Top	Open	1	20525	836.5	19.35	20.50	1.303	-0.03	0.471	0.614
	LTE Band 5	10M	QPSK	1	0	Right Tilted	Top	Open	1	20525	836.5	19.23	20.50	1.340	-0.03	0.433	0.580
	LTE Band 5	10M	QPSK	25	0	Right Tilted	Top	Open	1	20525	836.5	19.35	20.50	1.303	0.06	0.442	0.576
	LTE Band 5	10M	QPSK	1	0	Left Cheek	Top	Open	1	20525	836.5	19.23	20.50	1.340	-0.05	0.705	0.944
	LTE Band 5	10M	QPSK	25	0	Left Cheek	Top	Open	1	20525	836.5	19.35	20.50	1.303	0.06	0.721	0.940
	LTE Band 5	10M	QPSK	50	0	Left Cheek	Top	Open	1	20525	836.5	19.31	20.50	1.315	-0.18	0.697	0.917
	LTE Band 5	10M	QPSK	1	0	Left Tilted	Top	Open	1	20525	836.5	19.23	20.50	1.340	-0.19	0.591	0.792
	LTE Band 5	10M	QPSK	25	0	Left Tilted	Top	Open	1	20525	836.5	19.35	20.50	1.303	0.03	0.603	0.786
	LTE Band 5	10M	QPSK	1	0	Right Cheek	Top	Close	Full	20525	836.5	22.85	24.00	1.303	0.13	0.506	0.659
	LTE Band 5	10M	QPSK	25	0	Right Cheek	Top	Close	Full	20525	836.5	21.68	23.00	1.355	-0.06	0.509	0.690
	LTE Band 5	10M	QPSK	1	0	Right Tilted	Top	Close	Full	20525	836.5	22.85	24.00	1.303	0.05	0.535	0.697
	LTE Band 5	10M	QPSK	25	0	Right Tilted	Top	Close	Full	20525	836.5	21.68	23.00	1.355	-0.05	0.531	0.720
	LTE Band 5	10M	QPSK	1	0	Left Cheek	Top	Close	Full	20525	836.5	22.85	24.00	1.303	0.01	0.856	1.116
	LTE Band 5	10M	QPSK	25	0	Left Cheek	Top	Close	Full	20525	836.5	21.68	23.00	1.355	-0.09	0.732	0.992
	LTE Band 5	10M	QPSK	50	0	Left Cheek	Top	Close	Full	20525	836.5	21.65	23.00	1.365	-0.07	0.720	0.982
07	LTE Band 5	10M	QPSK	1	0	Left Tilted	Top	Close	Full	20525	836.5	22.85	24.00	1.303	0.03	0.904	**1.178**
	LTE Band 5	10M	QPSK	25	0	Left Tilted	Top	Close	Full	20525	836.5	21.68	23.00	1.355	0.02	0.767	1.039
	LTE Band 5	10M	QPSK	50	0	Left Tilted	Top	Close	Full	20525	836.5	21.65	23.00	1.365	-0.02	0.773	1.055
	LTE Band 5	10M	QPSK	1	0	Right Cheek	Bottom	Open	Full	20525	836.5	22.85	24.00	1.303	0.03	0.017	0.022
	LTE Band 5	10M	QPSK	25	0	Right Cheek	Bottom	Open	Full	20525	836.5	21.68	23.00	1.355	0.02	0.013	0.018
	LTE Band 5	10M	QPSK	1	0	Right Tilted	Bottom	Open	Full	20525	836.5	22.85	24.00	1.303	0.02	0.010	0.013
	LTE Band 5	10M	QPSK	25	0	Right Tilted	Bottom	Open	Full	20525	836.5	21.68	23.00	1.355	0.06	0.008	0.011
	LTE Band 5	10M	QPSK	1	0	Left Cheek	Bottom	Open	Full	20525	836.5	22.85	24.00	1.303	0.04	0.018	0.023
	LTE Band 5	10M	QPSK	25	0	Left Cheek	Bottom	Open	Full	20525	836.5	21.68	23.00	1.355	0.07	0.015	0.020
	LTE Band 5	10M	QPSK	1	0	Left Tilted	Bottom	Open	Full	20525	836.5	22.85	24.00	1.303	0.01	0.010	0.013
	LTE Band 5	10M	QPSK	25	0	Left Tilted	Bottom	Open	Full	20525	836.5	21.68	23.00	1.355	0.07	0.008	0.011
	LTE Band 5	10M	QPSK	1	0	Right Cheek	Bottom	Close	Full	20525	836.5	22.85	24.00	1.303	0.01	0.157	0.205
	LTE Band 5	10M	QPSK	25	0	Right Cheek	Bottom	Close	Full	20525	836.5	21.68	23.00	1.355	-0.02	0.147	0.199
	LTE Band 5	10M	QPSK	1	0	Right Tilted	Bottom	Close	Full	20525	836.5	22.85	24.00	1.303	0.03	0.067	0.088
	LTE Band 5	10M	QPSK	25	0	Right Tilted	Bottom	Close	Full	20525	836.5	21.68	23.00	1.355	0.07	0.059	0.080
	LTE Band 5	10M	QPSK	1	0	Left Cheek	Bottom	Close	Full	20525	836.5	22.85	24.00	1.303	0.02	0.146	0.190
	LTE Band 5	10M	QPSK	25	0	Left Cheek	Bottom	Close	Full	20525	836.5	21.68	23.00	1.355	0.02	0.107	0.145
	LTE Band 5	10M	QPSK	1	0	Left Tilted	Bottom	Close	Full	20525	836.5	22.85	24.00	1.303	-0.04	0.059	0.077
	LTE Band 5	10M	QPSK	25	0	Left Tilted	Bottom	Close	Full	20525	836.5	21.68	23.00	1.355	-0.07	0.050	0.067

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Antenna	Slide Configuration	Power Reduced Level	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	Top	Open	1	18900	1880	16.59	17.50	1.233	-0.05	0.301	0.371
	LTE Band 2	20M	QPSK	50	0	Right Cheek	Top	Open	1	18900	1880	16.72	17.50	1.197	-0.12	0.322	0.385
	LTE Band 2	20M	QPSK	1	0	Right Tilted	Top	Open	1	18900	1880	16.59	17.50	1.233	-0.06	0.237	0.292
	LTE Band 2	20M	QPSK	50	0	Right Tilted	Top	Open	1	18900	1880	16.72	17.50	1.197	0.09	0.251	0.300
	LTE Band 2	20M	QPSK	1	0	Left Cheek	Top	Open	1	18900	1880	16.59	17.50	1.233	-0.05	0.885	1.091
	LTE Band 2	20M	QPSK	1	0	Left Cheek	Top	Open	1	18700	1860	16.44	17.50	1.276	0.08	0.844	1.077
08	LTE Band 2	20M	QPSK	1	0	Left Cheek	Top	Open	1	19100	1900	16.52	17.50	1.253	0.08	0.912	**1.143**
	LTE Band 2	20M	QPSK	50	0	Left Cheek	Top	Open	1	18900	1880	16.72	17.50	1.197	0.13	0.939	1.124
	LTE Band 2	20M	QPSK	50	0	Left Cheek	Top	Open	1	18700	1860	16.61	17.50	1.227	0.03	0.919	1.128
	LTE Band 2	20M	QPSK	50	0	Left Cheek	Top	Open	1	19100	1900	16.63	17.50	1.222	0.06	0.928	1.134
	LTE Band 2	20M	QPSK	100	0	Left Cheek	Top	Open	1	18900	1880	16.70	17.50	1.202	0.11	0.949	1.141
	LTE Band 2	20M	QPSK	1	0	Left Tilted	Top	Open	1	18900	1880	16.59	17.50	1.233	0.15	0.551	0.679
	LTE Band 2	20M	QPSK	50	0	Left Tilted	Top	Open	1	18900	1880	16.72	17.50	1.197	0.06	0.590	0.706
	LTE Band 2	20M	QPSK	1	0	Right Cheek	Top	Close	2	18900	1880	22.54	23.00	1.112	-0.07	0.390	0.434
	LTE Band 2	20M	QPSK	50	0	Right Cheek	Top	Close	2	18900	1880	21.63	23.00	1.371	-0.05	0.321	0.440
	LTE Band 2	20M	QPSK	1	0	Right Tilted	Top	Close	2	18900	1880	22.54	23.00	1.112	-0.04	0.386	0.429
	LTE Band 2	20M	QPSK	50	0	Right Tilted	Top	Close	2	18900	1880	21.63	23.00	1.371	-0.06	0.326	0.447
	LTE Band 2	20M	QPSK	1	0	Left Cheek	Top	Close	2	18900	1880	22.54	23.00	1.112	0.05	0.937	1.042
	LTE Band 2	20M	QPSK	1	0	Left Cheek	Top	Close	2	18700	1860	22.41	23.00	1.146	-0.02	0.807	0.924
	LTE Band 2	20M	QPSK	1	0	Left Cheek	Top	Close	2	19100	1900	22.47	23.00	1.130	0.01	0.965	1.090
	LTE Band 2	20M	QPSK	50	0	Left Cheek	Top	Close	2	18900	1880	21.63	23.00	1.371	0.06	0.762	1.045
	LTE Band 2	20M	QPSK	50	0	Left Cheek	Top	Close	2	18700	1860	21.52	23.00	1.406	-0.11	0.679	0.955
	LTE Band 2	20M	QPSK	50	0	Left Cheek	Top	Close	2	19100	1900	21.56	23.00	1.393	0.01	0.801	1.116
	LTE Band 2	20M	QPSK	100	0	Left Cheek	Top	Close	2	18900	1880	21.65	23.00	1.365	0.01	0.777	1.060
	LTE Band 2	20M	QPSK	1	0	Left Tilted	Top	Close	2	18900	1880	22.54	23.00	1.112	0.05	0.768	0.854
	LTE Band 2	20M	QPSK	1	0	Left Tilted	Top	Close	2	18700	1860	22.41	23.00	1.146	0.02	0.727	0.833
	LTE Band 2	20M	QPSK	1	0	Left Tilted	Top	Close	2	19100	1900	22.47	23.00	1.130	0.01	0.799	0.903
	LTE Band 2	20M	QPSK	50	0	Left Tilted	Top	Close	2	18900	1880	21.63	23.00	1.371	-0.03	0.625	0.857
	LTE Band 2	20M	QPSK	100	0	Left Tilted	Top	Close	2	18900	1880	21.65	23.00	1.365	-0.03	0.660	0.901
	LTE Band 2	20M	QPSK	1	0	Right Cheek	Bottom	Open	Full	18900	1880	23.23	24.00	1.194	-0.08	0.015	0.018
	LTE Band 2	20M	QPSK	50	0	Right Cheek	Bottom	Open	Full	18900	1880	22.32	23.00	1.169	-0.02	0.013	0.015
	LTE Band 2	20M	QPSK	1	0	Right Tilted	Bottom	Open	Full	18900	1880	23.23	24.00	1.194	-0.06	0.012	0.014
	LTE Band 2	20M	QPSK	50	0	Right Tilted	Bottom	Open	Full	18900	1880	22.32	23.00	1.169	-0.02	0.011	0.013
	LTE Band 2	20M	QPSK	1	0	Left Cheek	Bottom	Open	Full	18900	1880	23.23	24.00	1.194	0.07	0.011	0.013
	LTE Band 2	20M	QPSK	50	0	Left Cheek	Bottom	Open	Full	18900	1880	22.32	23.00	1.169	0.09	0.013	0.015
	LTE Band 2	20M	QPSK	1	0	Left Tilted	Bottom	Open	Full	18900	1880	23.23	24.00	1.194	0.07	0.015	0.017
	LTE Band 2	20M	QPSK	50	0	Left Tilted	Bottom	Open	Full	18900	1880	22.32	23.00	1.169	0.06	0.015	0.017
	LTE Band 2	20M	QPSK	1	0	Right Cheek	Bottom	Close	Full	18900	1880	23.23	24.00	1.194	-0.14	0.035	0.042
	LTE Band 2	20M	QPSK	50	0	Right Cheek	Bottom	Close	Full	18900	1880	22.32	23.00	1.169	0.1	0.036	0.042
	LTE Band 2	20M	QPSK	1	0	Right Tilted	Bottom	Close	Full	18900	1880	23.23	24.00	1.194	0.02	0.042	0.051
	LTE Band 2	20M	QPSK	50	0	Right Tilted	Bottom	Close	Full	18900	1880	22.32	23.00	1.169	0.07	0.038	0.044
	LTE Band 2	20M	QPSK	1	0	Left Cheek	Bottom	Close	Full	18900	1880	23.23	24.00	1.194	0.05	0.035	0.042
	LTE Band 2	20M	QPSK	50	0	Left Cheek	Bottom	Close	Full	18900	1880	22.32	23.00	1.169	0.09	0.035	0.041
	LTE Band 2	20M	QPSK	1	0	Left Tilted	Bottom	Close	Full	18900	1880	23.23	24.00	1.194	0.07	0.023	0.027
	LTE Band 2	20M	QPSK	50	0	Left Tilted	Bottom	Close	Full	18900	1880	22.32	23.00	1.169	0.06	0.029	0.034

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Antenna	Slide Configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 4	20M	QPSK	1	0	Right Cheek	Top	Open	1	20175	1732.5	18.86	20.00	1.300	0.04	0.214	0.278
	LTE Band 4	20M	QPSK	50	0	Right Cheek	Top	Open	1	20175	1732.5	18.93	20.00	1.279	0.01	0.226	0.289
	LTE Band 4	20M	QPSK	1	0	Right Tilted	Top	Open	1	20175	1732.5	18.86	20.00	1.300	0.01	0.185	0.241
	LTE Band 4	20M	QPSK	50	0	Right Tilted	Top	Open	1	20175	1732.5	18.93	20.00	1.279	-0.05	0.197	0.252
	LTE Band 4	20M	QPSK	1	0	Left Cheek	Top	Open	1	20175	1732.5	18.86	20.00	1.300	-0.01	0.853	1.109
09	LTE Band 4	20M	QPSK	50	0	Left Cheek	Top	Open	1	20175	1732.5	18.93	20.00	1.279	-0.18	0.906	**1.159**
	LTE Band 4	20M	QPSK	100	0	Left Cheek	Top	Open	1	20175	1732.5	18.86	20.00	1.300	-0.1	0.853	1.109
	LTE Band 4	20M	QPSK	1	0	Left Tilted	Top	Open	1	20175	1732.5	18.86	20.00	1.300	-0.06	0.573	0.745
	LTE Band 4	20M	QPSK	50	0	Left Tilted	Top	Open	1	20175	1732.5	18.93	20.00	1.279	0.03	0.682	0.873
	LTE Band 4	20M	QPSK	100	0	Left Tilted	Top	Open	1	20175	1732.5	18.86	20.00	1.300	-0.03	0.719	0.935
	LTE Band 4	20M	QPSK	1	0	Right Cheek	Top	Close	Full	20175	1732.5	22.87	24.00	1.297	-0.02	0.170	0.221
	LTE Band 4	20M	QPSK	50	0	Right Cheek	Top	Close	Full	20175	1732.5	22.05	23.00	1.245	0.02	0.138	0.172
	LTE Band 4	20M	QPSK	1	0	Right Tilted	Top	Close	Full	20175	1732.5	22.87	24.00	1.297	-0.03	0.188	0.244
	LTE Band 4	20M	QPSK	50	0	Right Tilted	Top	Close	Full	20175	1732.5	22.05	23.00	1.245	-0.02	0.155	0.193
	LTE Band 4	20M	QPSK	1	0	Left Cheek	Top	Close	Full	20175	1732.5	22.87	24.00	1.297	-0.04	0.563	0.730
	LTE Band 4	20M	QPSK	50	0	Left Cheek	Top	Close	Full	20175	1732.5	22.05	23.00	1.245	-0.04	0.465	0.579
	LTE Band 4	20M	QPSK	1	0	Left Tilted	Top	Close	Full	20175	1732.5	22.87	24.00	1.297	-0.11	0.836	1.084
	LTE Band 4	20M	QPSK	50	0	Left Tilted	Top	Close	Full	20175	1732.5	22.05	23.00	1.245	-0.01	0.736	0.916
	LTE Band 4	20M	QPSK	100	0	Left Tilted	Top	Close	Full	20175	1732.5	22.03	23.00	1.250	0.02	0.733	0.916
	LTE Band 4	20M	QPSK	1	0	Right Cheek	Bottom	Open	Full	20175	1732.5	22.87	24.00	1.297	-0.03	0.033	0.043
	LTE Band 4	20M	QPSK	50	0	Right Cheek	Bottom	Open	Full	20175	1732.5	22.05	23.00	1.245	0.02	0.031	0.039
	LTE Band 4	20M	QPSK	1	0	Right Tilted	Bottom	Open	Full	20175	1732.5	22.87	24.00	1.297	-0.02	0.034	0.044
	LTE Band 4	20M	QPSK	50	0	Right Tilted	Bottom	Open	Full	20175	1732.5	22.05	23.00	1.245	0.02	0.028	0.034
	LTE Band 4	20M	QPSK	1	0	Left Cheek	Bottom	Open	Full	20175	1732.5	22.87	24.00	1.297	-0.13	0.038	0.049
	LTE Band 4	20M	QPSK	50	0	Left Cheek	Bottom	Open	Full	20175	1732.5	22.05	23.00	1.245	-0.01	0.029	0.036
	LTE Band 4	20M	QPSK	1	0	Left Tilted	Bottom	Open	Full	20175	1732.5	22.87	24.00	1.297	0.01	0.033	0.043
	LTE Band 4	20M	QPSK	50	0	Left Tilted	Bottom	Open	Full	20175	1732.5	22.05	23.00	1.245	0.02	0.023	0.029
	LTE Band 4	20M	QPSK	1	0	Right Cheek	Bottom	Close	Full	20175	1732.5	22.87	24.00	1.297	0.04	0.072	0.093
	LTE Band 4	20M	QPSK	50	0	Right Cheek	Bottom	Close	Full	20175	1732.5	22.05	23.00	1.245	0.03	0.061	0.076
	LTE Band 4	20M	QPSK	1	0	Right Tilted	Bottom	Close	Full	20175	1732.5	22.87	24.00	1.297	0.01	0.069	0.089
	LTE Band 4	20M	QPSK	50	0	Right Tilted	Bottom	Close	Full	20175	1732.5	22.05	23.00	1.245	0.06	0.055	0.069
	LTE Band 4	20M	QPSK	1	0	Left Cheek	Bottom	Close	Full	20175	1732.5	22.87	24.00	1.297	0.01	0.080	0.104
	LTE Band 4	20M	QPSK	50	0	Left Cheek	Bottom	Close	Full	20175	1732.5	22.05	23.00	1.245	0.04	0.079	0.098
	LTE Band 4	20M	QPSK	1	0	Left Tilted	Bottom	Close	Full	20175	1732.5	22.87	24.00	1.297	0.01	0.080	0.104
	LTE Band 4	20M	QPSK	50	0	Left Tilted	Bottom	Close	Full	20175	1732.5	22.05	23.00	1.245	0.06	0.057	0.071

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Antenna	Slide Configuration	Power Reduced Level	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	Top	Open	1	21350	2560	13.70	14.50	1.202	0.02	0.247	0.297
	LTE Band 7	20M	QPSK	50	0	Right Cheek	Top	Open	1	21350	2560	13.79	14.50	1.178	0.02	0.248	0.292
	LTE Band 7	20M	QPSK	1	0	Right Tilted	Top	Open	1	21350	2560	13.70	14.50	1.202	-0.02	0.191	0.230
	LTE Band 7	20M	QPSK	50	0	Right Tilted	Top	Open	1	21350	2560	13.79	14.50	1.178	-0.01	0.193	0.227
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Top	Open	1	21350	2560	13.70	14.50	1.202	0.08	0.975	1.172
10	LTE Band 7	20M	QPSK	1	0	Left Cheek	Top	Open	1	20850	2510	13.47	14.50	1.268	0.08	0.940	**1.192**
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Top	Open	1	20850(PCC) + 21048(SCC)	2510(PCC) + 2529.8(SCC)	13.45	14.50	1.274	0.03	0.863	1.099
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Top	Open	1	21100	2535	13.45	14.50	1.274	0.04	0.913	1.163
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Top	Open	1	21350	2560	13.79	14.50	1.178	0.06	0.959	1.129
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Top	Open	1	20850	2510	13.47	14.50	1.268	0.06	0.911	1.155
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Top	Open	1	21100	2535	13.60	14.50	1.230	0.05	0.948	1.166
	LTE Band 7	20M	QPSK	100	0	Left Cheek	Top	Open	1	21350	2560	13.70	14.50	1.202	0.02	0.927	1.114
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Top	Open	1	21350	2560	13.70	14.50	1.202	0.04	0.618	0.743
	LTE Band 7	20M	QPSK	50	0	Left Tilted	Top	Open	1	21350	2560	13.79	14.50	1.178	0.02	0.572	0.674
	LTE Band 7	20M	QPSK	1	0	Right Cheek	Top	Close	2	21350	2560	18.97	19.50	1.130	-0.05	0.280	0.316
	LTE Band 7	20M	QPSK	50	0	Right Cheek	Top	Close	2	21350	2560	19.05	19.50	1.109	0.06	0.280	0.311
	LTE Band 7	20M	QPSK	1	0	Right Tilted	Top	Close	2	21350	2560	18.97	19.50	1.130	-0.11	0.274	0.310
	LTE Band 7	20M	QPSK	50	0	Right Tilted	Top	Close	2	21350	2560	19.05	19.50	1.109	0.02	0.265	0.294
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Top	Close	2	21350	2560	18.97	19.50	1.130	-0.08	1.010	1.141
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Top	Close	2	20850	2510	18.76	19.50	1.186	0.02	0.950	1.126
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Top	Close	2	21100	2535	18.76	19.50	1.186	-0.01	0.997	1.182
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Top	Close	2	21100(PCC) + 20902(SCC)	2535(PCC) + 2515.2(SCC)	18.61	19.50	1.227	0.01	0.897	1.101
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Top	Close	2	21350	2560	19.05	19.50	1.109	-0.01	1.060	1.176
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Top	Close	2	20850	2510	18.85	19.50	1.161	0.16	0.937	1.088
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Top	Close	2	21100	2535	19.00	19.50	1.122	-0.06	0.928	1.041
	LTE Band 7	20M	QPSK	100	0	Left Cheek	Top	Close	2	21350	2560	19.03	19.50	1.114	-0.01	1.050	1.170
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Top	Close	2	21350	2560	18.97	19.50	1.130	-0.08	0.824	0.931
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Top	Close	2	20850	2510	18.76	19.50	1.186	-0.11	0.786	0.932
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Top	Close	2	21100	2535	18.76	19.50	1.186	-0.07	0.823	0.976
	LTE Band 7	20M	QPSK	50	0	Left Tilted	Top	Close	2	21350	2560	19.05	19.50	1.109	0.06	0.755	0.837
	LTE Band 7	20M	QPSK	50	0	Left Tilted	Top	Close	2	20850	2510	18.85	19.50	1.161	0.02	0.743	0.863
	LTE Band 7	20M	QPSK	50	0	Left Tilted	Top	Close	2	21100	2535	19.00	19.50	1.122	-0.14	0.629	0.706
	LTE Band 7	20M	QPSK	100	0	Left Tilted	Top	Close	2	21350	2560	19.03	19.50	1.114	0.02	0.791	0.881
	LTE Band 7	20M	QPSK	1	0	Right Cheek	Bottom	Open	Full	21350	2560	23.68	24.50	1.208	0.08	0.178	0.215
	LTE Band 7	20M	QPSK	50	0	Right Cheek	Bottom	Open	Full	21350	2560	22.86	23.50	1.159	0.01	0.122	0.141
	LTE Band 7	20M	QPSK	1	0	Right Tilted	Bottom	Open	Full	21350	2560	23.68	24.50	1.208	0.01	0.061	0.073
	LTE Band 7	20M	QPSK	50	0	Right Tilted	Bottom	Open	Full	21350	2560	22.86	23.50	1.159	0.04	0.047	0.055
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Bottom	Open	Full	21350	2560	23.68	24.50	1.208	0.06	0.408	0.493
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Bottom	Open	Full	21350(PCC) + 21152(SCC)	2560(PCC) + 2540.2(SCC)	23.53	24.50	1.250	0.07	0.385	0.481
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Bottom	Open	Full	21350	2560	22.86	23.50	1.159	0.03	0.326	0.378
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Bottom	Open	Full	21350	2560	23.68	24.50	1.208	0.01	0.111	0.134
	LTE Band 7	20M	QPSK	50	0	Left Tilted	Bottom	Open	Full	21350	2560	22.86	23.50	1.159	-0.02	0.086	0.100
	LTE Band 7	20M	QPSK	1	0	Right Cheek	Bottom	Close	Full	21350	2560	23.68	24.50	1.208	0.01	0.131	0.158
	LTE Band 7	20M	QPSK	50	0	Right Cheek	Bottom	Close	Full	21350	2560	22.86	23.50	1.159	0.02	0.088	0.102
	LTE Band 7	20M	QPSK	1	0	Right Tilted	Bottom	Close	Full	21350	2560	23.68	24.50	1.208	0.01	0.182	0.220
	LTE Band 7	20M	QPSK	50	0	Right Tilted	Bottom	Close	Full	21350	2560	22.86	23.50	1.159	0.02	0.132	0.153

	LTE Band 7	20M	QPSK	1	0	Left Cheek	Bottom	Close	Full	21350	2560	23.68	24.50	1.208	-0.1	0.235	0.284
	LTE Band 7	20M	QPSK	50	0	Left Cheek	Bottom	Close	Full	21350	2560	22.86	23.50	1.159	0.02	0.185	0.214
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Bottom	Close	Full	21350	2560	23.68	24.50	1.208	-0.03	0.255	0.308
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Bottom	Close	Full	21350(PCC) + 21152(SCC)	2560(PCC) + 2540.2(SCC)	23.53	24.50	1.250	-0.03	0.187	0.234
	LTE Band 7	20M	QPSK	50	0	Left Tilted	Bottom	Close	Full	21350	2560	22.86	23.50	1.159	0.01	0.200	0.232

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Antenna	Slide Configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Right Cheek	Top	Open	1	40620	2593	15.47	16.50	1.268	62.9	1.006	0.06	0.239	0.305
	LTE Band 41	20M	QPSK	50	24	Right Cheek	Top	Open	1	40620	2593	15.61	16.50	1.227	62.9	1.006	-0.03	0.248	0.306
	LTE Band 41	20M	QPSK	1	49	Right Tilted	Top	Open	1	40620	2593	15.47	16.50	1.268	62.9	1.006	0.05	0.194	0.247
	LTE Band 41	20M	QPSK	50	24	Right Tilted	Top	Open	1	40620	2593	15.61	16.50	1.227	62.9	1.006	0.01	0.203	0.251
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Open	1	40620	2593	15.47	16.50	1.268	62.9	1.006	-0.05	0.900	1.148
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Open	1	39750	2506	15.42	16.50	1.282	62.9	1.006	-0.02	0.862	1.112
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Open	1	40185	2549.5	15.21	16.50	1.346	62.9	1.006	-0.02	0.850	1.151
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Open	1	41055	2636.5	15.41	16.50	1.285	62.9	1.006	0.01	0.907	1.173
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Open	1	41490	2680	15.25	16.50	1.334	62.9	1.006	-0.07	0.887	1.190
	LTE Band 38	20M	QPSK	1	49	Left Cheek	Top	Open	1	37901(PCC) + 38099(SCC)	2585.1(PCC) + 2604.9(SCC)	16.31	16.50	1.045	62.9	1.006	-0.04	0.581	0.611
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Open	1	40620	2593	15.61	16.50	1.227	62.9	1.006	0.01	0.930	1.148
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Open	1	39750	2506	15.57	16.50	1.239	62.9	1.006	0.03	0.908	1.132
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Open	1	40185	2549.5	15.46	16.50	1.271	62.9	1.006	0.01	0.899	1.149
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Open	1	41055	2636.5	15.54	16.50	1.247	62.9	1.006	-0.02	0.933	1.171
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Open	1	41490	2680	15.48	16.50	1.265	62.9	1.006	0.01	0.928	1.181
	LTE Band 41	20M	QPSK	100	0	Left Cheek	Top	Open	1	40620	2593	15.59	16.50	1.233	62.9	1.006	0.01	0.913	1.133
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Open	1	40620	2593	15.47	16.50	1.268	62.9	1.006	-0.02	0.556	0.709
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Open	1	39750	2506	15.42	16.50	1.282	62.9	1.006	0.02	0.524	0.676
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Open	1	40185	2549.5	15.21	16.50	1.346	62.9	1.006	-0.09	0.515	0.697
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Open	1	41055	2636.5	15.41	16.50	1.285	62.9	1.006	0.06	0.583	0.754
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Open	1	41490	2680	15.25	16.50	1.334	62.9	1.006	0.01	0.560	0.751
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Open	1	40620	2593	15.61	16.50	1.227	62.9	1.006	0.02	0.539	0.666
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Open	1	39750	2506	15.57	16.50	1.239	62.9	1.006	0.02	0.585	0.729
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Open	1	40185	2549.5	15.46	16.50	1.271	62.9	1.006	0.08	0.632	0.808
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Open	1	41055	2636.5	15.54	16.50	1.247	62.9	1.006	0.16	0.625	0.784
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Open	1	41490	2680	15.48	16.50	1.265	62.9	1.006	0.06	0.583	0.742
	LTE Band 41	20M	QPSK	100	0	Left Tilted	Top	Open	1	40620	2593	15.59	16.50	1.233	62.9	1.006	0.03	0.591	0.733

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Antenna	Slide Configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Right Cheek	Top	Close	2	40620	2593	20.34	21.00	1.164	62.9	1.006	0.03	0.311	0.364
	LTE Band 41	20M	QPSK	50	24	Right Cheek	Top	Close	2	40620	2593	20.52	21.00	1.117	62.9	1.006	0.03	0.324	0.364
	LTE Band 41	20M	QPSK	1	49	Right Tilted	Top	Close	2	40620	2593	20.34	21.00	1.164	62.9	1.006	0.01	0.389	0.456
	LTE Band 41	20M	QPSK	50	24	Right Tilted	Top	Close	2	40620	2593	20.52	21.00	1.117	62.9	1.006	-0.02	0.416	0.467
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Close	2	40620	2593	20.34	21.00	1.164	62.9	1.006	-0.03	0.862	1.009
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Close	2	39750	2506	20.28	21.00	1.180	62.9	1.006	0.06	0.742	0.881
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Close	2	40185	2549.5	20.10	21.00	1.230	62.9	1.006	0.02	0.804	0.995
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Close	2	41055	2636.5	20.17	21.00	1.211	62.9	1.006	-0.04	0.941	1.146
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Top	Close	2	41490	2680	20.31	21.00	1.172	62.9	1.006	-0.15	0.990	1.167
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Close	2	40620	2593	20.52	21.00	1.117	62.9	1.006	0.04	0.900	1.011
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Close	2	39750	2506	20.50	21.00	1.122	62.9	1.006	-0.01	0.773	0.873
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Close	2	40185	2549.5	20.31	21.00	1.172	62.9	1.006	-0.01	0.830	0.979
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Close	2	41055	2636.5	20.35	21.00	1.161	62.9	1.006	0.03	0.979	1.144
11	LTE Band 41	20M	QPSK	50	24	Left Cheek	Top	Close	2	41490	2680	20.48	21.00	1.127	62.9	1.006	-0.03	1.050	**1.191**
	LTE Band 38	20M	QPSK	50	24	Left Cheek	Top	Close	2	37901(PCC) + 38099(SCC)	2585.1(PCC) + 2604.9(SCC)	20.90	21.00	1.023	62.9	1.006	0.03	0.530	0.546
	LTE Band 41	20M	QPSK	100	0	Left Cheek	Top	Close	2	40620	2593	20.51	21.00	1.119	62.9	1.006	0.06	0.916	1.032
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Close	2	40620	2593	20.34	21.00	1.164	62.9	1.006	0.06	0.770	0.902
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Close	2	39750	2506	20.28	21.00	1.180	62.9	1.006	-0.03	0.724	0.860
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Close	2	40185	2549.5	20.10	21.00	1.230	62.9	1.006	-0.07	0.744	0.921
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Close	2	41055	2636.5	20.17	21.00	1.211	62.9	1.006	-0.03	0.891	1.085
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Top	Close	2	41490	2680	20.31	21.00	1.172	62.9	1.006	0.02	0.949	1.119
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Close	2	40620	2593	20.52	21.00	1.117	62.9	1.006	-0.01	0.860	0.966
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Close	2	39750	2506	20.50	21.00	1.122	62.9	1.006	-0.02	0.780	0.880
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Close	2	40185	2549.5	20.31	21.00	1.172	62.9	1.006	0.02	0.807	0.952
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Close	2	41055	2636.5	20.35	21.00	1.161	62.9	1.006	-0.03	0.933	1.090
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Top	Close	2	41490	2680	20.48	21.00	1.127	62.9	1.006	-0.01	0.968	1.098
	LTE Band 41	20M	QPSK	100	0	Left Tilted	Top	Close	2	40620	2593	20.51	21.00	1.119	62.9	1.006	0.02	0.798	0.899
	LTE Band 41	20M	QPSK	1	49	Right Cheek	Bottom	Open	Full	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.07	0.063	0.082
	LTE Band 41	20M	QPSK	50	24	Right Cheek	Bottom	Open	Full	40620	2593	22.23	23.50	1.340	62.9	1.006	-0.04	0.045	0.061
	LTE Band 41	20M	QPSK	1	49	Right Tilted	Bottom	Open	Full	40620	2593	23.38	24.50	1.294	62.9	1.006	0.01	0.037	0.049
	LTE Band 41	20M	QPSK	50	24	Right Tilted	Bottom	Open	Full	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.029	0.039
	LTE Band 41	20M	QPSK	1	49	Left Cheek	Bottom	Open	Full	40620	2593	23.38	24.50	1.294	62.9	1.006	0.02	0.279	0.363
	LTE Band 38	20M	QPSK	1	49	Left Cheek	Bottom	Open	Full	37901(PCC) + 38099(SCC)	2585.1(PCC) + 2604.9(SCC)	23.98	24.50	1.127	62.9	1.006	0.06	0.244	0.277
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Bottom	Open	Full	40620	2593	22.23	23.50	1.340	62.9	1.006	0.09	0.136	0.183
	LTE Band 41	20M	QPSK	1	49	Left Tilted	Bottom	Open	Full	40620	2593	23.38	24.50	1.294	62.9	1.006	0.01	0.086	0.111
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Bottom	Open	Full	40620	2593	22.23	23.50	1.340	62.9	1.006	-0.07	0.033	0.044
	LTE Band 41	20M	QPSK	1	0	Right Cheek	Bottom	Close	Full	40620	2593	23.38	24.50	1.294	62.9	1.006	0.1	0.100	0.130
	LTE Band 41	20M	QPSK	50	24	Right Cheek	Bottom	Close	Full	40620	2593	22.23	23.50	1.340	62.9	1.006	0.02	0.089	0.120
	LTE Band 41	20M	QPSK	1	0	Right Tilted	Bottom	Close	Full	40620	2593	23.38	24.50	1.294	62.9	1.006	0.01	0.114	0.148
	LTE Band 41	20M	QPSK	50	24	Right Tilted	Bottom	Close	Full	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.098	0.132
	LTE Band 41	20M	QPSK	1	0	Left Cheek	Bottom	Close	Full	40620	2593	23.38	24.50	1.294	62.9	1.006	0.04	0.208	0.271
	LTE Band 41	20M	QPSK	50	24	Left Cheek	Bottom	Close	Full	40620	2593	22.23	23.50	1.340	62.9	1.006	0.02	0.193	0.260
	LTE Band 41	20M	QPSK	1	0	Left Tilted	Bottom	Close	Full	40620	2593	23.38	24.50	1.294	62.9	1.006	0.12	0.254	0.331
	LTE Band 38	20M	QPSK	1	0	Left Tilted	Bottom	Close	Full	37901(PCC) + 38099(SCC)	2585.1(PCC) + 2604.9(SCC)	23.98	24.50	1.127	62.9	1.006	0.03	0.165	0.187
	LTE Band 41	20M	QPSK	50	24	Left Tilted	Bottom	Close	Full	40620	2593	22.23	23.50	1.340	62.9	1.006	-0.03	0.204	0.275

<WLAN2.4GHz SAR>

Plot No.	Ant.	Band	Mode	Test Position	Slide Configuration	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Max Area Scan SAR	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
12	1	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	Open	Reduced	1	2412	14.74	15.00	1.062	100	1.000	0.895	0.06	0.620	**0.658**
	1	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	Open	Reduced	1	2412	14.74	15.00	1.062	100	1.000	0.397	0.01	0.336	0.357
	1	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Open	Reduced	1	2412	14.74	15.00	1.062	100	1.000	0.234	-0.03	0.164	0.174
	1	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Open	Reduced	1	2412	14.74	15.00	1.062	100	1.000	0.148	0.02	0.116	0.123
	1	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	Close	Reduced	1	2412	14.74	15.00	1.062	100	1.000	0.331	-0.02	0.207	0.220
	1	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	Close	Reduced	1	2412	14.74	15.00	1.062	100	1.000	0.183			
	1	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Close	Reduced	1	2412	14.74	15.00	1.062	100	1.000	0.116			
	1	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Close	Reduced	1	2412	14.74	15.00	1.062	100	1.000	0.095			
13	1+2	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	Open	Reduced	1	2412	17.36	18.00	1.159	100	1.000	0.943	0.08	0.685	**0.794**
	1+2	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	Open	Reduced	1	2412	17.36	18.00	1.159	100	1.000	0.523	0.05	0.344	0.399
	1+2	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Open	Reduced	1	2412	17.36	18.00	1.159	100	1.000	0.303	0.01	0.220	0.255
	1+2	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Open	Reduced	1	2412	17.36	18.00	1.159	100	1.000	0.207	0.09	0.161	0.187
	1+2	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	Close	Reduced	1	2412	17.36	18.00	1.159	100	1.000	0.487	0.01	0.363	0.421
	1+2	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	Close	Reduced	1	2412	17.36	18.00	1.159	100	1.000	0.190	0.09	0.132	0.153
	1+2	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Close	Reduced	1	2412	17.36	18.00	1.159	100	1.000	0.143	0.06	0.105	0.122
	1+2	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Close	Reduced	1	2412	17.36	18.00	1.159	100	1.000	0.137	-0.03	0.100	0.116

<WLAN5GHz SAR>

Plot No.	Ant.	Band	Mode	Test Position	Slide Configuration	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Max Area Scan SAR	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
14	2	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.198	0.03	0.068	**0.085**
	2	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.170			
	2	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.025			
	2	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.029			
	2	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.05	-0.02	0.016	0.020
	2	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.048			
	2	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.02			
	2	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.016			
15	1+2	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Open	Reduced	52	5260	15.09	16.00	1.234	98.48	1.015	1.187	-0.03	0.406	**0.508**
	1+2	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Open	Reduced	52	5260	15.09	16.00	1.234	98.48	1.015	0.616	0.02	0.252	0.316
	1+2	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Open	Reduced	52	5260	15.09	16.00	1.234	98.48	1.015	0.317	0.01	0.134	0.168
	1+2	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Open	Reduced	52	5260	15.09	16.00	1.234	98.48	1.015	0.218	0.08	0.095	0.119
	1+2	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Close	Reduced	52	5260	15.09	16.00	1.234	98.48	1.015	0.363	0.07	0.083	0.104
	1+2	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Close	Reduced	52	5260	15.09	16.00	1.234	98.48	1.015	0.175			
	1+2	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Close	Reduced	52	5260	15.09	16.00	1.234	98.48	1.015	0.135			
	1+2	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Close	Reduced	52	5260	15.09	16.00	1.234	98.48	1.015	0.182			
	2	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	Open	Reduced	100	5500	10.68	11.50	1.209	98.48	1.015	0.032	-0.07	0.005	0.007
	2	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	Open	Reduced	100	5500	10.68	11.50	1.209	98.48	1.015	0.015			
	2	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Open	Reduced	100	5500	10.68	11.50	1.209	98.48	1.015	0.0216			
	2	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Open	Reduced	100	5500	10.68	11.50	1.209	98.48	1.015	0.0175			
16	2	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	Close	Reduced	100	5500	10.68	11.50	1.209	98.48	1.015	0.017	0.09	0.006	**0.007**
	2	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	Close	Reduced	100	5500	10.68	11.50	1.209	98.48	1.015	0.014			
	2	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Close	Reduced	100	5500	10.68	11.50	1.209	98.48	1.015	0.007			
	2	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Close	Reduced	100	5500	10.68	11.50	1.209	98.48	1.015	0.011			
17	1+2	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	Open	Reduced	100	5500	13.69	14.50	1.206	98.48	1.015	0.944	0.19	0.337	**0.412**
	1+2	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	Open	Reduced	100	5500	13.69	14.50	1.206	98.48	1.015	0.559	0.03	0.192	0.235
	1+2	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Open	Reduced	100	5500	13.69	14.50	1.206	98.48	1.015	0.379	-0.03	0.145	0.177
	1+2	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Open	Reduced	100	5500	13.69	14.50	1.206	98.48	1.015	0.313	0.05	0.122	0.149
	1+2	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	Close	Reduced	100	5500	13.69	14.50	1.206	98.48	1.015	0.342	0.01	0.122	0.149
	1+2	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	Close	Reduced	100	5500	13.69	14.50	1.206	98.48	1.015	0.223			
	1+2	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Close	Reduced	100	5500	13.69	14.50	1.206	98.48	1.015	0.172			
	1+2	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Close	Reduced	100	5500	13.69	14.50	1.206	98.48	1.015	0.163			

Plot No.	Ant.	Band	Mode	Test Position	Slide Configuration	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Max Area Scan SAR	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
18	2	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.067	-0.02	0.011	**0.015**
	2	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.026			
	2	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.025			
	2	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.0083			
	2	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.028			
	2	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.032	0.15	0.008	0.011
	2	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.00786			
	2	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.0099			
19	1+2	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	Open	Reduced	157	5785	13.45	14.50	1.274	98.48	1.015	1.560	-0.1	0.495	**0.640**
	1+2	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	Open	Reduced	157	5785	13.45	14.50	1.274	98.48	1.015	0.971	-0.02	0.305	0.394
	1+2	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Open	Reduced	157	5785	13.45	14.50	1.274	98.48	1.015	0.479	0.08	0.198	0.256
	1+2	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Open	Reduced	157	5785	13.45	14.50	1.274	98.48	1.015	0.392	-0.03	0.173	0.224
	1+2	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	Close	Reduced	157	5785	13.45	14.50	1.274	98.48	1.015	0.571	-0.01	0.232	0.300
	1+2	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	Close	Reduced	157	5785	13.45	14.50	1.274	98.48	1.015	0.520			
	1+2	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Close	Reduced	157	5785	13.45	14.50	1.274	98.48	1.015	0.153			
	1+2	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Close	Reduced	157	5785	13.45	14.50	1.274	98.48	1.015	0.181			

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Slide Configuration	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)
20	Bluetooth	1Mbps	Right Cheek	Open	78	2480	13.28	13.50	1.051	76.83	1.084	0.15	0.290	**0.330**
	Bluetooth	1Mbps	Right Tilted	Open	78	2480	13.28	13.50	1.051	76.83	1.084	-0.17	0.287	0.327
	Bluetooth	1Mbps	Left Cheek	Open	78	2480	13.28	13.50	1.051	76.83	1.084	0.04	0.091	0.104
	Bluetooth	1Mbps	Left Tilted	Open	78	2480	13.28	13.50	1.051	76.83	1.084	0.15	0.079	0.090
	Bluetooth	1Mbps	Right Cheek	Close	78	2480	13.28	13.50	1.051	76.83	1.084	0.01	0.119	0.136
	Bluetooth	1Mbps	Right Tilted	Close	78	2480	13.28	13.50	1.051	76.83	1.084	0.03	0.114	0.130
	Bluetooth	1Mbps	Left Cheek	Close	78	2480	13.28	13.50	1.051	76.83	1.084	-0.01	0.062	0.071
	Bluetooth	1Mbps	Left Tilted	Close	78	2480	13.28	13.50	1.051	76.83	1.084	0.06	0.057	0.065

15.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	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	10	Top	Open	-	128	824.2	29.54	30.50	1.247	-0.07	0.302	0.377
	GSM850	GPRS 2 Tx slots	Back	10	Top	Open	-	128	824.2	29.54	30.50	1.247	0	0.381	0.475
	GSM850	GPRS 2 Tx slots	Right Side	10	Top	Open	-	128	824.2	29.54	30.50	1.247	-0.02	0.219	0.273
	GSM850	GPRS 2 Tx slots	Top Side	10	Top	Open	-	128	824.2	29.54	30.50	1.247	-0.08	0.288	0.359
	GSM850	GPRS 2 Tx slots	Front	10	Top	Close	-	128	824.2	29.54	30.50	1.247	-0.05	0.233	0.291
21	GSM850	GPRS 2 Tx slots	Back	10	Top	Close	-	128	824.2	29.54	30.50	1.247	-0.07	0.462	**0.576**
	GSM850	GPRS 2 Tx slots	Right Side	10	Top	Close	-	128	824.2	29.54	30.50	1.247	0.03	0.242	0.302
	GSM850	GPRS 2 Tx slots	Top Side	10	Top	Close	-	128	824.2	29.54	30.50	1.247	-0.08	0.347	0.433
	GSM850	GPRS 2 Tx slots	Front	10	Bottom	Open	-	128	824.2	29.54	30.50	1.247	-0.04	0.039	0.049
	GSM850	GPRS 2 Tx slots	Back	10	Bottom	Open	-	128	824.2	29.54	30.50	1.247	-0.05	0.158	0.197
	GSM850	GPRS 2 Tx slots	Left Side	10	Bottom	Open	-	128	824.2	29.54	30.50	1.247	0.01	0.004	0.005
	GSM850	GPRS 2 Tx slots	Right Side	10	Bottom	Open	-	128	824.2	29.54	30.50	1.247	0.01	0.013	0.017
	GSM850	GPRS 2 Tx slots	Bottom Side	10	Bottom	Open	-	128	824.2	29.54	30.50	1.247	0.01	0.006	0.007
	GSM850	GPRS 2 Tx slots	Front	10	Bottom	Close	-	128	824.2	29.54	30.50	1.247	-0.03	0.256	0.319
	GSM850	GPRS 2 Tx slots	Back	10	Bottom	Close	-	128	824.2	29.54	30.50	1.247	-0.14	0.441	0.550
	GSM850	GPRS 2 Tx slots	Left Side	10	Bottom	Close	-	128	824.2	29.54	30.50	1.247	0.06	0.064	0.079
	GSM850	GPRS 2 Tx slots	Right Side	10	Bottom	Close	-	128	824.2	29.54	30.50	1.247	-0.02	0.154	0.192
	GSM850	GPRS 2 Tx slots	Bottom Side	10	Bottom	Close	-	128	824.2	29.54	30.50	1.247	-0.1	0.298	0.372
	GSM1900	GPRS 4 Tx slots	Front	10	Top	Open	-	810	1909.8	24.22	25.00	1.197	-0.08	0.163	0.195
	GSM1900	GPRS 4 Tx slots	Back	10	Top	Open	-	810	1909.8	24.22	25.00	1.197	0.03	0.212	0.254
	GSM1900	GPRS 4 Tx slots	Right Side	10	Top	Open	-	810	1909.8	24.22	25.00	1.197	0.03	0.197	0.236
	GSM1900	GPRS 4 Tx slots	Top Side	10	Top	Open	-	810	1909.8	24.22	25.00	1.197	0.02	0.258	0.309
	GSM1900	GPRS 4 Tx slots	Front	10	Top	Close	-	810	1909.8	24.22	25.00	1.197	-0.03	0.109	0.130
	GSM1900	GPRS 4 Tx slots	Back	10	Top	Close	-	810	1909.8	24.22	25.00	1.197	0.16	0.168	0.201
	GSM1900	GPRS 4 Tx slots	Right Side	10	Top	Close	-	810	1909.8	24.22	25.00	1.197	0.06	0.163	0.195
	GSM1900	GPRS 4 Tx slots	Top Side	10	Top	Close	-	810	1909.8	24.22	25.00	1.197	0.09	0.220	0.263
	GSM1900	GPRS 4 Tx slots	Front	10	Bottom	Open	-	810	1909.8	24.22	25.00	1.197	0.06	0.023	0.028
	GSM1900	GPRS 4 Tx slots	Back	10	Bottom	Open	-	810	1909.8	24.22	25.00	1.197	0.09	0.317	0.379
	GSM1900	GPRS 4 Tx slots	Left Side	10	Bottom	Open	-	810	1909.8	24.22	25.00	1.197	0.03	0.020	0.023
	GSM1900	GPRS 4 Tx slots	Right Side	10	Bottom	Open	-	810	1909.8	24.22	25.00	1.197	-0.02	0.008	0.010
	GSM1900	GPRS 4 Tx slots	Bottom Side	10	Bottom	Open	-	810	1909.8	24.22	25.00	1.197	0.03	0.011	0.014
	GSM1900	GPRS 4 Tx slots	Front	10	Bottom	Close	-	810	1909.8	24.22	25.00	1.197	0.03	0.177	0.212
	GSM1900	GPRS 4 Tx slots	Back	10	Bottom	Close	-	810	1909.8	24.22	25.00	1.197	0.03	0.427	0.511
	GSM1900	GPRS 4 Tx slots	Left Side	10	Bottom	Close	-	810	1909.8	24.22	25.00	1.197	-0.01	0.027	0.032
	GSM1900	GPRS 4 Tx slots	Right Side	10	Bottom	Close	-	810	1909.8	24.22	25.00	1.197	0.01	0.046	0.055
22	GSM1900	GPRS 4 Tx slots	Bottom Side	10	Bottom	Close	-	810	1909.8	24.22	25.00	1.197	0.09	0.782	**0.936**
	GSM1900	GPRS 4 Tx slots	Bottom Side	10	Bottom	Close	-	512	1850.2	23.96	25.00	1.271	0.02	0.727	0.924
	GSM1900	GPRS 4 Tx slots	Bottom Side	10	Bottom	Close	-	661	1880	24.13	25.00	1.222	0.04	0.668	0.816

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Front	10	Top	Open	-	4182	836.4	23.82	24.50	1.169	-0.04	0.482	0.564
	WCDMA Band V	RMC 12.2Kbps	Back	10	Top	Open	-	4182	836.4	23.82	24.50	1.169	0	0.507	0.593
	WCDMA Band V	RMC 12.2Kbps	Right Side	10	Top	Open	-	4182	836.4	23.82	24.50	1.169	-0.1	0.318	0.372
	WCDMA Band V	RMC 12.2Kbps	Top Side	10	Top	Open	-	4182	836.4	23.82	24.50	1.169	-0.04	0.411	0.481
	WCDMA Band V	RMC 12.2Kbps	Front	10	Top	Close	-	4182	836.4	23.82	24.50	1.169	0	0.327	0.382
	WCDMA Band V	RMC 12.2Kbps	Back	10	Top	Close	-	4182	836.4	23.82	24.50	1.169	0.05	0.620	0.725
	WCDMA Band V	RMC 12.2Kbps	Back	10	Top	Close	-	4132	826.4	23.73	24.50	1.194	0.01	0.634	0.757
23	WCDMA Band V	RMC 12.2Kbps	Back	10	Top	Close	-	4233	846.6	23.72	24.50	1.197	0.01	0.654	**0.783**
	WCDMA Band V	RMC 12.2Kbps	Right Side	10	Top	Close	-	4182	836.4	23.82	24.50	1.169	0.01	0.268	0.313
	WCDMA Band V	RMC 12.2Kbps	Top Side	10	Top	Close	-	4182	836.4	23.82	24.50	1.169	-0.03	0.529	0.619
	WCDMA Band V	RMC 12.2Kbps	Front	10	Bottom	Open	-	4182	836.4	23.82	24.50	1.169	0.01	0.023	0.027
	WCDMA Band V	RMC 12.2Kbps	Back	10	Bottom	Open	-	4182	836.4	23.82	24.50	1.169	-0.01	0.425	0.497
	WCDMA Band V	RMC 12.2Kbps	Left Side	10	Bottom	Open	-	4182	836.4	23.82	24.50	1.169	0.01	0.007	0.008
	WCDMA Band V	RMC 12.2Kbps	Right Side	10	Bottom	Open	-	4182	836.4	23.82	24.50	1.169	0.01	0.042	0.049
	WCDMA Band V	RMC 12.2Kbps	Bottom Side	10	Bottom	Open	-	4182	836.4	23.82	24.50	1.169	-0.13	0.156	0.182
	WCDMA Band V	RMC 12.2Kbps	Front	10	Bottom	Close	-	4182	836.4	23.82	24.50	1.169	0.03	0.228	0.267
	WCDMA Band V	RMC 12.2Kbps	Back	10	Bottom	Close	-	4182	836.4	23.82	24.50	1.169	-0.01	0.531	0.621
	WCDMA Band V	RMC 12.2Kbps	Left Side	10	Bottom	Close	-	4182	836.4	23.82	24.50	1.169	0.01	0.065	0.076
	WCDMA Band V	RMC 12.2Kbps	Right Side	10	Bottom	Close	-	4182	836.4	23.82	24.50	1.169	0.12	0.236	0.276
	WCDMA Band V	RMC 12.2Kbps	Bottom Side	10	Bottom	Close	-	4182	836.4	23.82	24.50	1.169	0.09	0.283	0.331
	WCDMA Band II	RMC 12.2Kbps	Front	10	Top	Open	-	9400	1880	24.27	24.50	1.054	0.03	0.378	0.399
	WCDMA Band II	RMC 12.2Kbps	Back	10	Top	Open	-	9400	1880	24.27	24.50	1.054	0.02	0.419	0.442
	WCDMA Band II	RMC 12.2Kbps	Right Side	10	Top	Open	-	9400	1880	24.27	24.50	1.054	0.02	0.365	0.385
	WCDMA Band II	RMC 12.2Kbps	Top Side	10	Top	Open	-	9400	1880	24.27	24.50	1.054	0.15	0.492	0.519
	WCDMA Band II	RMC 12.2Kbps	Front	10	Top	Close	-	9400	1880	24.27	24.50	1.054	0.03	0.213	0.225
	WCDMA Band II	RMC 12.2Kbps	Back	10	Top	Close	-	9400	1880	24.27	24.50	1.054	-0.01	0.323	0.341
	WCDMA Band II	RMC 12.2Kbps	Right Side	10	Top	Close	-	9400	1880	24.27	24.50	1.054	0.02	0.317	0.334
	WCDMA Band II	RMC 12.2Kbps	Top Side	10	Top	Close	-	9400	1880	24.27	24.50	1.054	0.09	0.413	0.435
	WCDMA Band II	RMC 12.2Kbps	Front	10	Bottom	Open	-	9400	1880	24.27	24.50	1.054	0.03	0.053	0.056
	WCDMA Band II	RMC 12.2Kbps	Back	10	Bottom	Open	-	9400	1880	24.27	24.50	1.054	-0.02	0.641	0.676
	WCDMA Band II	RMC 12.2Kbps	Left Side	10	Bottom	Open	-	9400	1880	24.27	24.50	1.054	-0.01	0.063	0.066
	WCDMA Band II	RMC 12.2Kbps	Right Side	10	Bottom	Open	-	9400	1880	24.27	24.50	1.054	0.06	0.017	0.017
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	10	Bottom	Open	-	9400	1880	24.27	24.50	1.054	0.03	0.189	0.199
	WCDMA Band II	RMC 12.2Kbps	Front	10	Bottom	Close	Reduced	9400	1880	20.80	21.00	1.047	-0.16	0.283	0.296
	WCDMA Band II	RMC 12.2Kbps	Back	10	Bottom	Close	Reduced	9400	1880	20.80	21.00	1.047	0.04	0.523	0.548
	WCDMA Band II	RMC 12.2Kbps	Left Side	10	Bottom	Close	-	9400	1880	24.27	24.50	1.054	0.02	0.132	0.139
	WCDMA Band II	RMC 12.2Kbps	Right Side	10	Bottom	Close	-	9400	1880	24.27	24.50	1.054	-0.03	0.186	0.196
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	10	Bottom	Close	Reduced	9400	1880	20.80	21.00	1.047	-0.1	1.030	1.079
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	10	Bottom	Close	Reduced	9262	1852.4	20.65	21.00	1.084	0.01	0.917	0.994
24	WCDMA Band II	RMC 12.2Kbps	Bottom Side	10	Bottom	Close	Reduced	9538	1907.6	20.76	21.00	1.057	-0.02	1.130	**1.194**

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band IV	RMC 12.2Kbps	Front	10	Top	Open	-	1413	1732.6	23.86	24.50	1.159	0.03	0.183	0.212
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Top	Open	-	1413	1732.6	23.86	24.50	1.159	-0.02	0.228	0.264
	WCDMA Band IV	RMC 12.2Kbps	Right Side	10	Top	Open	-	1413	1732.6	23.86	24.50	1.159	0.03	0.130	0.151
	WCDMA Band IV	RMC 12.2Kbps	Top Side	10	Top	Open	-	1413	1732.6	23.86	24.50	1.159	0.04	0.217	0.251
	WCDMA Band IV	RMC 12.2Kbps	Front	10	Top	Close	-	1413	1732.6	23.86	24.50	1.159	0.06	0.090	0.104
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Top	Close	-	1413	1732.6	23.86	24.50	1.159	0.08	0.181	0.210
	WCDMA Band IV	RMC 12.2Kbps	Right Side	10	Top	Close	-	1413	1732.6	23.86	24.50	1.159	0.02	0.099	0.115
	WCDMA Band IV	RMC 12.2Kbps	Top Side	10	Top	Close	-	1413	1732.6	23.86	24.50	1.159	-0.15	0.180	0.209
	WCDMA Band IV	RMC 12.2Kbps	Front	10	Bottom	Open	Reduced	1413	1732.6	22.98	24.00	1.265	0.01	0.050	0.063
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Bottom	Open	Reduced	1413	1732.6	22.98	24.00	1.265	0.05	0.841	1.064
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Bottom	Open	Reduced	1312	1712.4	22.88	24.00	1.294	-0.1	0.672	0.870
25	WCDMA Band IV	RMC 12.2Kbps	Back	10	Bottom	Open	Reduced	1513	1752.6	22.96	24.00	1.271	-0.03	0.889	**1.130**
	WCDMA Band IV	RMC 12.2Kbps	Left Side	10	Bottom	Open	Reduced	1413	1732.6	22.98	24.00	1.265	-0.14	0.045	0.057
	WCDMA Band IV	RMC 12.2Kbps	Right Side	10	Bottom	Open	Reduced	1413	1732.6	22.98	24.00	1.265	0.1	0.043	0.054
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	10	Bottom	Open	Reduced	1413	1732.6	22.98	24.00	1.265	0.03	0.197	0.249
	WCDMA Band IV	RMC 12.2Kbps	Front	10	Bottom	Close	Reduced	1413	1732.6	19.50	20.50	1.259	-0.04	0.261	0.329
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Bottom	Close	Reduced	1413	1732.6	19.50	20.50	1.259	-0.01	0.595	0.749
	WCDMA Band IV	RMC 12.2Kbps	Left Side	10	Bottom	Close	-	1413	1732.6	23.86	24.50	1.159	-0.11	0.160	0.185
	WCDMA Band IV	RMC 12.2Kbps	Right Side	10	Bottom	Close	-	1413	1732.6	23.86	24.50	1.159	-0.17	0.205	0.238
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	10	Bottom	Close	Reduced	1413	1732.6	19.50	20.50	1.259	-0.01	0.886	1.115
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	10	Bottom	Close	Reduced	1312	1712.4	19.35	20.50	1.303	-0.13	0.863	1.125
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	10	Bottom	Close	Reduced	1513	1752.6	19.46	20.50	1.271	-0.16	0.854	1.085

<CDMA2000 SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC0	RTAP 153.6Kbps	Front	10	Top	Open	-	777	848.31	24.29	25.00	1.178	-0.03	0.696	0.820
	CDMA2000 BC0	RTAP 153.6Kbps	Front	10	Top	Open	-	1013	824.7	24.20	25.00	1.202	-0.09	0.664	0.798
	CDMA2000 BC0	RTAP 153.6Kbps	Front	10	Top	Open	-	384	836.52	24.22	25.00	1.197	-0.07	0.671	0.803
	CDMA2000 BC0	RTAP 153.6Kbps	Back	10	Top	Open	-	777	848.31	24.29	25.00	1.178	0.03	0.710	0.836
	CDMA2000 BC0	RTAP 153.6Kbps	Back	10	Top	Open	-	1013	824.7	24.20	25.00	1.202	-0.01	0.696	0.837
26	CDMA2000 BC0	RTAP 153.6Kbps	Back	10	Top	Open	-	384	836.52	24.22	25.00	1.197	-0.03	0.706	**0.845**
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	10	Top	Open	-	777	848.31	24.29	25.00	1.178	0.06	0.394	0.464
	CDMA2000 BC0	RTAP 153.6Kbps	Top Side	10	Top	Open	-	777	848.31	24.29	25.00	1.178	0.01	0.529	0.623
	CDMA2000 BC0	RTAP 153.6Kbps	Front	10	Top	Close	-	777	848.31	24.29	25.00	1.178	0.01	0.343	0.404
	CDMA2000 BC0	RTAP 153.6Kbps	Back	10	Top	Close	-	777	848.31	24.29	25.00	1.178	0.09	0.659	0.776
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	10	Top	Close	-	777	848.31	24.29	25.00	1.178	0.01	0.285	0.336
	CDMA2000 BC0	RTAP 153.6Kbps	Top Side	10	Top	Close	-	777	848.31	24.29	25.00	1.178	0.02	0.504	0.594
	CDMA2000 BC0	RTAP 153.6Kbps	Front	10	Bottom	Open	-	777	848.31	24.29	25.00	1.178	0.15	0.014	0.016
	CDMA2000 BC0	RTAP 153.6Kbps	Back	10	Bottom	Open	-	777	848.31	24.29	25.00	1.178	-0.09	0.136	0.160
	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	10	Bottom	Open	-	777	848.31	24.29	25.00	1.178	-0.13	0.004	0.005
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	10	Bottom	Open	-	777	848.31	24.29	25.00	1.178	0.03	0.018	0.021
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	10	Bottom	Open	-	777	848.31	24.29	25.00	1.178	0.1	0.019	0.022
	CDMA2000 BC0	RTAP 153.6Kbps	Front	10	Bottom	Close	-	777	848.31	24.29	25.00	1.178	0	0.339	0.399
	CDMA2000 BC0	RTAP 153.6Kbps	Back	10	Bottom	Close	-	777	848.31	24.29	25.00	1.178	-0.07	0.496	0.584
	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	10	Bottom	Close	-	777	848.31	24.29	25.00	1.178	0.06	0.116	0.137
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	10	Bottom	Close	-	777	848.31	24.29	25.00	1.178	0.02	0.341	0.402
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	10	Bottom	Close	-	777	848.31	24.29	25.00	1.178	-0.14	0.405	0.477

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	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 5	10M	QPSK	1	0	Front	10	Top	Open	-	20525	836.5	22.85	24.00	1.303	0.01	0.407	0.530
	LTE Band 5	10M	QPSK	25	0	Front	10	Top	Open	-	20525	836.5	21.68	23.00	1.355	0.03	0.324	0.439
	LTE Band 5	10M	QPSK	1	0	Back	10	Top	Open	-	20525	836.5	22.85	24.00	1.303	0.07	0.421	0.549
	LTE Band 5	10M	QPSK	25	0	Back	10	Top	Open	-	20525	836.5	21.68	23.00	1.355	0.01	0.413	0.560
	LTE Band 5	10M	QPSK	1	0	Right Side	10	Top	Open	-	20525	836.5	22.85	24.00	1.303	0.01	0.212	0.276
	LTE Band 5	10M	QPSK	25	0	Right Side	10	Top	Open	-	20525	836.5	21.68	23.00	1.355	0.12	0.218	0.295
	LTE Band 5	10M	QPSK	1	0	Top Side	10	Top	Open	-	20525	836.5	22.85	24.00	1.303	0	0.388	0.506
	LTE Band 5	10M	QPSK	25	0	Top Side	10	Top	Open	-	20525	836.5	21.68	23.00	1.355	0	0.310	0.420
	LTE Band 5	10M	QPSK	1	0	Front	10	Top	Close	-	20525	836.5	22.85	24.00	1.303	0.08	0.291	0.379
	LTE Band 5	10M	QPSK	25	0	Front	10	Top	Close	-	20525	836.5	21.68	23.00	1.355	0.02	0.235	0.318
27	LTE Band 5	10M	QPSK	1	0	Back	10	Top	Close	-	20525	836.5	22.85	24.00	1.303	0.12	0.485	**0.632**
	LTE Band 5	10M	QPSK	25	0	Back	10	Top	Close	-	20525	836.5	21.68	23.00	1.355	0.03	0.405	0.549
	LTE Band 5	10M	QPSK	1	0	Right Side	10	Top	Close	-	20525	836.5	22.85	24.00	1.303	0.01	0.238	0.310
	LTE Band 5	10M	QPSK	25	0	Right Side	10	Top	Close	-	20525	836.5	21.68	23.00	1.355	0.06	0.198	0.268
	LTE Band 5	10M	QPSK	1	0	Top Side	10	Top	Close	-	20525	836.5	22.85	24.00	1.303	-0.18	0.451	0.588
	LTE Band 5	10M	QPSK	25	0	Top Side	10	Top	Close	-	20525	836.5	21.68	23.00	1.355	-0.02	0.368	0.499
	LTE Band 5	10M	QPSK	1	0	Front	10	Bottom	Open	-	20525	836.5	22.85	24.00	1.303	0.08	0.018	0.024
	LTE Band 5	10M	QPSK	25	0	Front	10	Bottom	Open	-	20525	836.5	21.68	23.00	1.355	0.03	0.016	0.022
	LTE Band 5	10M	QPSK	1	0	Back	10	Bottom	Open	-	20525	836.5	22.85	24.00	1.303	-0.09	0.118	0.154
	LTE Band 5	10M	QPSK	25	0	Back	10	Bottom	Open	-	20525	836.5	21.68	23.00	1.355	0.1	0.116	0.157
	LTE Band 5	10M	QPSK	1	0	Left Side	10	Bottom	Open	-	20525	836.5	22.85	24.00	1.303	0.01	0.004	0.005
	LTE Band 5	10M	QPSK	25	0	Left Side	10	Bottom	Open	-	20525	836.5	21.68	23.00	1.355	0.02	0.003	0.004
	LTE Band 5	10M	QPSK	1	0	Right Side	10	Bottom	Open	-	20525	836.5	22.85	24.00	1.303	0.01	0.015	0.019
	LTE Band 5	10M	QPSK	25	0	Right Side	10	Bottom	Open	-	20525	836.5	21.68	23.00	1.355	0.03	0.012	0.016
	LTE Band 5	10M	QPSK	1	0	Bottom Side	10	Bottom	Open	-	20525	836.5	22.85	24.00	1.303	-0.02	0.012	0.016
	LTE Band 5	10M	QPSK	25	0	Bottom Side	10	Bottom	Open	-	20525	836.5	21.68	23.00	1.355	-0.01	0.010	0.014
	LTE Band 5	10M	QPSK	1	0	Front	10	Bottom	Close	-	20525	836.5	22.85	24.00	1.303	0.01	0.210	0.274
	LTE Band 5	10M	QPSK	25	0	Front	10	Bottom	Close	-	20525	836.5	21.68	23.00	1.355	0.03	0.180	0.244
	LTE Band 5	10M	QPSK	1	0	Back	10	Bottom	Close	-	20525	836.5	22.85	24.00	1.303	-0.05	0.277	0.361
	LTE Band 5	10M	QPSK	25	0	Back	10	Bottom	Close	-	20525	836.5	21.68	23.00	1.355	0.01	0.243	0.329
	LTE Band 5	10M	QPSK	1	0	Left Side	10	Bottom	Close	-	20525	836.5	22.85	24.00	1.303	0.01	0.093	0.121
	LTE Band 5	10M	QPSK	25	0	Left Side	10	Bottom	Close	-	20525	836.5	21.68	23.00	1.355	0.01	0.084	0.113
	LTE Band 5	10M	QPSK	1	0	Right Side	10	Bottom	Close	-	20525	836.5	22.85	24.00	1.303	0.06	0.239	0.311
	LTE Band 5	10M	QPSK	25	0	Right Side	10	Bottom	Close	-	20525	836.5	21.68	23.00	1.355	0.01	0.194	0.263
	LTE Band 5	10M	QPSK	1	0	Bottom Side	10	Bottom	Close	-	20525	836.5	22.85	24.00	1.303	-0.02	0.219	0.285
	LTE Band 5	10M	QPSK	25	0	Bottom Side	10	Bottom	Close	-	20525	836.5	21.68	23.00	1.355	-0.03	0.204	0.276

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	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	10	Top	Open	-	18900	1880	23.23	24.00	1.194	-0.02	0.352	0.420
	LTE Band 2	20M	QPSK	50	0	Front	10	Top	Open	-	18900	1880	22.32	23.00	1.169	0.06	0.294	0.344
	LTE Band 2	20M	QPSK	1	0	Back	10	Top	Open	-	18900	1880	23.23	24.00	1.194	-0.07	0.361	0.431
	LTE Band 2	20M	QPSK	50	0	Back	10	Top	Open	-	18900	1880	22.32	23.00	1.169	-0.02	0.309	0.361
	LTE Band 2	20M	QPSK	1	0	Right Side	10	Top	Open	-	18900	1880	23.23	24.00	1.194	0.03	0.295	0.352
	LTE Band 2	20M	QPSK	50	0	Right Side	10	Top	Open	-	18900	1880	22.32	23.00	1.169	0.03	0.252	0.295
	LTE Band 2	20M	QPSK	1	0	Top Side	10	Top	Open	-	18900	1880	23.23	24.00	1.194	0.06	0.393	0.469
	LTE Band 2	20M	QPSK	50	0	Top Side	10	Top	Open	-	18900	1880	22.32	23.00	1.169	-0.18	0.356	0.416
	LTE Band 2	20M	QPSK	1	0	Front	10	Top	Close	-	18900	1880	23.23	24.00	1.194	-0.02	0.167	0.199
	LTE Band 2	20M	QPSK	50	0	Front	10	Top	Close	-	18900	1880	22.32	23.00	1.169	0.05	0.138	0.161
	LTE Band 2	20M	QPSK	1	0	Back	10	Top	Close	-	18900	1880	23.23	24.00	1.194	-0.09	0.301	0.359
	LTE Band 2	20M	QPSK	50	0	Back	10	Top	Close	-	18900	1880	22.32	23.00	1.169	0.02	0.273	0.319
	LTE Band 2	20M	QPSK	1	0	Right Side	10	Top	Close	-	18900	1880	23.23	24.00	1.194	-0.09	0.257	0.307
	LTE Band 2	20M	QPSK	50	0	Right Side	10	Top	Close	-	18900	1880	22.32	23.00	1.169	0.01	0.224	0.262
	LTE Band 2	20M	QPSK	1	0	Top Side	10	Top	Close	-	18900	1880	23.23	24.00	1.194	0.07	0.373	0.445
	LTE Band 2	20M	QPSK	50	0	Top Side	10	Top	Close	-	18900	1880	22.32	23.00	1.169	0.01	0.323	0.378
	LTE Band 2	20M	QPSK	1	0	Front	10	Bottom	Open	-	18900	1880	23.23	24.00	1.194	-0.01	0.048	0.057
	LTE Band 2	20M	QPSK	50	0	Front	10	Bottom	Open	-	18900	1880	22.32	23.00	1.169	0.02	0.044	0.051
	LTE Band 2	20M	QPSK	1	0	Back	10	Bottom	Open	-	18900	1880	23.23	24.00	1.194	-0.01	0.575	0.687
	LTE Band 2	20M	QPSK	50	0	Back	10	Bottom	Open	-	18900	1880	22.32	23.00	1.169	0.03	0.480	0.561
	LTE Band 2	20M	QPSK	1	0	Left Side	10	Bottom	Open	-	18900	1880	23.23	24.00	1.194	0.01	0.051	0.061
	LTE Band 2	20M	QPSK	50	0	Left Side	10	Bottom	Open	-	18900	1880	22.32	23.00	1.169	0.01	0.029	0.034
	LTE Band 2	20M	QPSK	1	0	Right Side	10	Bottom	Open	-	18900	1880	23.23	24.00	1.194	0.01	0.272	0.325
	LTE Band 2	20M	QPSK	50	0	Right Side	10	Bottom	Open	-	18900	1880	22.32	23.00	1.169	0.06	0.244	0.285
	LTE Band 2	20M	QPSK	1	0	Bottom Side	10	Bottom	Open	-	18900	1880	23.23	24.00	1.194	0.01	0.153	0.183
	LTE Band 2	20M	QPSK	50	0	Bottom Side	10	Bottom	Open	-	18900	1880	22.32	23.00	1.169	0.06	0.120	0.140
	LTE Band 2	20M	QPSK	1	0	Front	10	Bottom	Close	Reduced	18900	1880	21.61	22.00	1.094	-0.08	0.238	0.260
	LTE Band 2	20M	QPSK	50	0	Front	10	Bottom	Close	Reduced	18900	1880	21.74	22.00	1.062	-0.05	0.246	0.261
	LTE Band 2	20M	QPSK	1	0	Back	10	Bottom	Close	Reduced	18900	1880	21.61	22.00	1.094	0.05	0.497	0.544
	LTE Band 2	20M	QPSK	50	0	Back	10	Bottom	Close	Reduced	18900	1880	21.74	22.00	1.062	-0.03	0.506	0.537
	LTE Band 2	20M	QPSK	1	0	Left Side	10	Bottom	Close	-	18900	1880	23.23	24.00	1.194	0.12	0.166	0.198
	LTE Band 2	20M	QPSK	50	0	Left Side	10	Bottom	Close	-	18900	1880	22.32	23.00	1.169	0.15	0.144	0.168
	LTE Band 2	20M	QPSK	1	0	Right Side	10	Bottom	Close	-	18900	1880	23.23	24.00	1.194	0.16	0.255	0.304
	LTE Band 2	20M	QPSK	50	0	Right Side	10	Bottom	Close	-	18900	1880	22.32	23.00	1.169	-0.11	0.219	0.256
	LTE Band 2	20M	QPSK	1	0	Bottom Side	10	Bottom	Close	Reduced	18900	1880	21.61	22.00	1.094	-0.15	0.988	1.081
28	LTE Band 2	20M	QPSK	1	0	Bottom Side	10	Bottom	Close	Reduced	18700	1860	21.46	22.00	1.132	-0.13	1.010	**1.144**
	LTE Band 2	20M	QPSK	1	0	Bottom Side	10	Bottom	Close	Reduced	19100	1900	21.55	22.00	1.109	0.06	1.000	1.109
	LTE Band 2	20M	QPSK	50	0	Bottom Side	10	Bottom	Close	Reduced	18900	1880	21.74	22.00	1.062	-0.12	1.030	1.094
	LTE Band 2	20M	QPSK	50	0	Bottom Side	10	Bottom	Close	Reduced	18700	1860	21.60	22.00	1.096	-0.1	1.040	1.140
	LTE Band 2	20M	QPSK	50	0	Bottom Side	10	Bottom	Close	Reduced	19100	1900	21.66	22.00	1.081	-0.12	1.040	1.125
	LTE Band 2	20M	QPSK	100	0	Bottom Side	10	Bottom	Close	Reduced	18900	1880	21.73	22.00	1.064	-0.09	1.030	1.096

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 4	20M	QPSK	1	0	Front	10	Top	Open	-	20175	1732.5	22.87	24.00	1.297	0.01	0.153	0.198
	LTE Band 4	20M	QPSK	50	0	Front	10	Top	Open	-	20175	1732.5	22.05	23.00	1.245	0.03	0.128	0.159
	LTE Band 4	20M	QPSK	1	0	Back	10	Top	Open	-	20175	1732.5	22.87	24.00	1.297	0.07	0.212	0.275
	LTE Band 4	20M	QPSK	50	0	Back	10	Top	Open	-	20175	1732.5	22.05	23.00	1.245	-0.02	0.177	0.220
	LTE Band 4	20M	QPSK	1	0	Right Side	10	Top	Open	-	20175	1732.5	22.87	24.00	1.297	0.03	0.122	0.158
	LTE Band 4	20M	QPSK	50	0	Right Side	10	Top	Open	-	20175	1732.5	22.05	23.00	1.245	-0.02	0.103	0.128
	LTE Band 4	20M	QPSK	1	0	Top Side	10	Top	Open	-	20175	1732.5	22.87	24.00	1.297	-0.06	0.189	0.245
	LTE Band 4	20M	QPSK	50	0	Top Side	10	Top	Open	-	20175	1732.5	22.05	23.00	1.245	0.03	0.176	0.219
	LTE Band 4	20M	QPSK	1	0	Front	10	Top	Close	-	20175	1732.5	22.87	24.00	1.297	0.05	0.060	0.078
	LTE Band 4	20M	QPSK	50	0	Front	10	Top	Close	-	20175	1732.5	22.05	23.00	1.245	-0.02	0.051	0.063
	LTE Band 4	20M	QPSK	1	0	Back	10	Top	Close	-	20175	1732.5	22.87	24.00	1.297	-0.09	0.175	0.227
	LTE Band 4	20M	QPSK	50	0	Back	10	Top	Close	-	20175	1732.5	22.05	23.00	1.245	-0.02	0.167	0.208
	LTE Band 4	20M	QPSK	1	0	Right Side	10	Top	Close	-	20175	1732.5	22.87	24.00	1.297	0.06	0.087	0.113
	LTE Band 4	20M	QPSK	50	0	Right Side	10	Top	Close	-	20175	1732.5	22.05	23.00	1.245	0.02	0.073	0.091
	LTE Band 4	20M	QPSK	1	0	Top Side	10	Top	Close	-	20175	1732.5	22.87	24.00	1.297	-0.15	0.151	0.196
	LTE Band 4	20M	QPSK	50	0	Top Side	10	Top	Close	-	20175	1732.5	22.05	23.00	1.245	0.01	0.139	0.173
	LTE Band 4	20M	QPSK	1	0	Front	10	Bottom	Open	-	20175	1732.5	22.87	24.00	1.297	-0.03	0.033	0.043
	LTE Band 4	20M	QPSK	50	0	Front	10	Bottom	Open	-	20175	1732.5	22.05	23.00	1.245	0.02	0.032	0.039
	LTE Band 4	20M	QPSK	1	0	Back	10	Bottom	Open	-	20175	1732.5	22.87	24.00	1.297	-0.04	0.717	0.930
	LTE Band 4	20M	QPSK	50	0	Back	10	Bottom	Open	-	20175	1732.5	22.05	23.00	1.245	0.01	0.608	0.757
	LTE Band 4	20M	QPSK	100	0	Back	10	Bottom	Open	-	20175	1732.5	22.03	23.00	1.250	-0.06	0.655	0.819
	LTE Band 4	20M	QPSK	1	0	Left Side	10	Bottom	Open	-	20175	1732.5	22.87	24.00	1.297	0.02	0.011	0.015
	LTE Band 4	20M	QPSK	50	0	Left Side	10	Bottom	Open	-	20175	1732.5	22.05	23.00	1.245	0.01	0.011	0.013
	LTE Band 4	20M	QPSK	1	0	Right Side	10	Bottom	Open	-	20175	1732.5	22.87	24.00	1.297	0.01	0.102	0.132
	LTE Band 4	20M	QPSK	50	0	Right Side	10	Bottom	Open	-	20175	1732.5	22.05	23.00	1.245	0.01	0.084	0.105
	LTE Band 4	20M	QPSK	1	0	Bottom Side	10	Bottom	Open	-	20175	1732.5	22.87	24.00	1.297	0.01	0.222	0.288
	LTE Band 4	20M	QPSK	50	0	Bottom Side	10	Bottom	Open	-	20175	1732.5	22.05	23.00	1.245	0.03	0.147	0.183
	LTE Band 4	20M	QPSK	1	0	Front	10	Bottom	Close	Reduced	20175	1732.5	19.71	21.00	1.346	0.1	0.216	0.291
	LTE Band 4	20M	QPSK	50	0	Front	10	Bottom	Close	Reduced	20175	1732.5	19.82	21.00	1.312	0.18	0.219	0.287
	LTE Band 4	20M	QPSK	1	0	Back	10	Bottom	Close	Reduced	20175	1732.5	19.71	21.00	1.346	0.04	0.511	0.688
	LTE Band 4	20M	QPSK	50	0	Back	10	Bottom	Close	Reduced	20175	1732.5	19.82	21.00	1.312	-0.06	0.532	0.698
	LTE Band 4	20M	QPSK	1	0	Left Side	10	Bottom	Close	-	20175	1732.5	22.87	24.00	1.297	0.05	0.174	0.226
	LTE Band 4	20M	QPSK	50	0	Left Side	10	Bottom	Close	-	20175	1732.5	22.05	23.00	1.245	0.06	0.140	0.174
	LTE Band 4	20M	QPSK	1	0	Right Side	10	Bottom	Close	-	20175	1732.5	22.87	24.00	1.297	-0.12	0.181	0.235
	LTE Band 4	20M	QPSK	50	0	Right Side	10	Bottom	Close	-	20175	1732.5	22.05	23.00	1.245	-0.04	0.147	0.183
	LTE Band 4	20M	QPSK	1	0	Bottom Side	10	Bottom	Close	Reduced	20175	1732.5	19.71	21.00	1.346	0.1	0.732	0.985
	LTE Band 4	20M	QPSK	50	0	Bottom Side	10	Bottom	Close	Reduced	20175	1732.5	19.82	21.00	1.312	0.09	0.762	1.000
29	LTE Band 4	20M	QPSK	100	0	Bottom Side	10	Bottom	Close	Reduced	20175	1732.5	19.76	21.00	1.330	0.09	0.752	**1.001**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	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	10	Top	Open	Reduced	21350	2560	21.45	22.50	1.274	0.01	0.443	0.564
	LTE Band 7	20M	QPSK	50	0	Front	10	Top	Open	Reduced	21350	2560	21.58	22.50	1.236	0.01	0.458	0.566
	LTE Band 7	20M	QPSK	1	0	Back	10	Top	Open	Reduced	21350	2560	21.45	22.50	1.274	-0.03	0.488	0.621
	LTE Band 7	20M	QPSK	1	0	Back	10	Top	Open	Reduced	21350+ 21152	2560+ 2540.2	22.18	22.50	1.076	0.06	0.451	0.485
	LTE Band 7	20M	QPSK	50	0	Back	10	Top	Open	Reduced	21350	2560	21.58	22.50	1.236	0.03	0.499	0.617
	LTE Band 7	20M	QPSK	1	0	Right Side	10	Top	Open	Reduced	21350	2560	21.45	22.50	1.274	0.09	0.889	1.132
	LTE Band 7	20M	QPSK	1	0	Right Side	10	Top	Open	Reduced	20850	2510	21.38	22.50	1.294	0.01	0.774	1.002
	LTE Band 7	20M	QPSK	1	0	Right Side	10	Top	Open	Reduced	21100	2535	21.13	22.50	1.371	-0.02	0.828	1.135
	LTE Band 7	20M	QPSK	50	0	Right Side	10	Top	Open	Reduced	21350	2560	21.58	22.50	1.236	-0.01	0.917	1.133
	LTE Band 7	20M	QPSK	50	0	Right Side	10	Top	Open	Reduced	20850	2510	21.46	22.50	1.271	-0.15	0.832	1.057
	LTE Band 7	20M	QPSK	50	0	Right Side	10	Top	Open	Reduced	21100	2535	21.55	22.50	1.245	0.1	0.885	1.101
	LTE Band 7	20M	QPSK	100	0	Right Side	10	Top	Open	Reduced	21350	2560	21.55	22.50	1.245	-0.06	0.923	1.149
	LTE Band 7	20M	QPSK	100	0	Right Side	10	Top	Open	Reduced	21350+ 21152	2560+ 2540.2	22.18	22.50	1.076	-0.03	0.841	0.905
	LTE Band 7	20M	QPSK	1	0	Top Side	10	Top	Open	Reduced	21350	2560	21.45	22.50	1.274	-0.01	0.670	0.853
	LTE Band 7	20M	QPSK	50	0	Top Side	10	Top	Open	Reduced	21350	2560	21.58	22.50	1.236	-0.03	0.485	0.599
	LTE Band 7	20M	QPSK	1	0	Front	10	Top	Close	-	21350	2560	23.68	24.50	1.208	-0.08	0.513	0.620
	LTE Band 7	20M	QPSK	50	0	Front	10	Top	Close	-	21350	2560	22.86	23.50	1.159	-0.08	0.423	0.490
	LTE Band 7	20M	QPSK	1	0	Back	10	Top	Close	-	21350	2560	23.68	24.50	1.208	0.06	0.528	0.638
	LTE Band 7	20M	QPSK	1	0	Back	10	Top	Close	-	21350+ 21152	2560+ 2540.2	23.53	24.50	1.250	0.02	0.503	0.629
	LTE Band 7	20M	QPSK	50	0	Back	10	Top	Close	-	21350	2560	22.86	23.50	1.159	-0.05	0.442	0.512
30	LTE Band 7	20M	QPSK	1	0	Right Side	10	Top	Close	-	21350	2560	23.68	24.50	1.208	0.03	0.977	**1.180**
	LTE Band 7	20M	QPSK	1	0	Right Side	10	Top	Close	-	21350+ 21152	2560+ 2540.2	23.53	24.50	1.250	-0.03	0.830	1.038
	LTE Band 7	20M	QPSK	1	0	Right Side	10	Top	Close	-	20850	2510	23.51	24.50	1.256	0.02	0.852	1.070
	LTE Band 7	20M	QPSK	1	0	Right Side	10	Top	Close	-	21100	2535	23.49	24.50	1.262	0.08	0.929	1.172
	LTE Band 7	20M	QPSK	50	0	Right Side	10	Top	Close	-	21350	2560	22.86	23.50	1.159	0.06	0.801	0.928
	LTE Band 7	20M	QPSK	50	0	Right Side	10	Top	Close	-	20850	2510	22.58	23.50	1.236	0.13	0.816	1.009
	LTE Band 7	20M	QPSK	50	0	Right Side	10	Top	Close	-	21100	2535	22.72	23.50	1.197	0.09	0.849	1.016
	LTE Band 7	20M	QPSK	100	0	Right Side	10	Top	Close	-	21100	2535	22.69	23.50	1.205	0.06	0.862	1.039
	LTE Band 7	20M	QPSK	1	0	Top Side	10	Top	Close	-	21350	2560	23.68	24.50	1.208	0.07	0.619	0.748
	LTE Band 7	20M	QPSK	50	0	Top Side	10	Top	Close	-	21350	2560	22.86	23.50	1.159	0.06	0.536	0.621
	LTE Band 7	20M	QPSK	1	0	Front	10	Bottom	Open	-	21350	2560	23.68	24.50	1.208	-0.02	0.207	0.250
	LTE Band 7	20M	QPSK	50	0	Front	10	Bottom	Open	-	21350	2560	22.86	23.50	1.159	0.01	0.061	0.071
	LTE Band 7	20M	QPSK	1	0	Back	10	Bottom	Open	-	21350	2560	23.68	24.50	1.208	-0.09	0.453	0.547
	LTE Band 7	20M	QPSK	1	0	Back	10	Bottom	Open	-	21350+ 21152	2560+ 2540.2	23.53	24.50	1.250	-0.01	0.397	0.496
	LTE Band 7	20M	QPSK	50	0	Back	10	Bottom	Open	-	21350	2560	22.86	23.50	1.159	0.01	0.331	0.384
	LTE Band 7	20M	QPSK	1	0	Left Side	10	Bottom	Open	-	21350	2560	23.68	24.50	1.208	0.01	0.096	0.116
	LTE Band 7	20M	QPSK	50	0	Left Side	10	Bottom	Open	-	21350	2560	22.86	23.50	1.159	0.01	0.063	0.073
	LTE Band 7	20M	QPSK	1	0	Right Side	10	Bottom	Open	-	21350	2560	23.68	24.50	1.208	0.04	0.034	0.041
	LTE Band 7	20M	QPSK	50	0	Right Side	10	Bottom	Open	-	21350	2560	22.86	23.50	1.159	0.05	0.034	0.040
	LTE Band 7	20M	QPSK	1	0	Bottom Side	10	Bottom	Open	-	21350	2560	23.68	24.50	1.208	0.04	0.071	0.086
	LTE Band 7	20M	QPSK	50	0	Bottom Side	10	Bottom	Open	-	21350	2560	22.86	23.50	1.159	0.06	0.061	0.070
	LTE Band 7	20M	QPSK	1	0	Front	10	Bottom	Close	Reduced	21350	2560	21.45	22.50	1.274	0.06	0.148	0.188
	LTE Band 7	20M	QPSK	50	0	Front	10	Bottom	Close	Reduced	21350	2560	21.58	22.50	1.236	0.01	0.140	0.173
	LTE Band 7	20M	QPSK	1	0	Back	10	Bottom	Close	Reduced	21350	2560	21.45	22.50	1.274	0.06	0.494	0.629
	LTE Band 7	20M	QPSK	1	0	Back	10	Bottom	Close	Reduced	21350+ 21152	2560+ 2540.2	22.19	22.50	1.074	0.06	0.451	0.484
	LTE Band 7	20M	QPSK	50	0	Back	10	Bottom	Close	Reduced	21350	2560	21.58	22.50	1.236	-0.06	0.474	0.586
	LTE Band 7	20M	QPSK	1	0	Left Side	10	Bottom	Close	-	21350	2560	23.68	24.50	1.208	-0.03	0.221	0.267
	LTE Band 7	20M	QPSK	50	0	Left Side	10	Bottom	Close	-	21350	2560	22.86	23.50	1.159	-0.02	0.206	0.239
	LTE Band 7	20M	QPSK	1	0	Right Side	10	Bottom	Close	-	21350	2560	23.68	24.50	1.208	-0.02	0.075	0.090
	LTE Band 7	20M	QPSK	50	0	Right Side	10	Bottom	Close	-	21350	2560	22.86	23.50	1.159	-0.03	0.068	0.079
	LTE Band 7	20M	QPSK	1	0	Bottom Side	10	Bottom	Close	Reduced	21350	2560	21.45	22.50	1.274	0.08	0.699	0.890

	LTE Band 7	20M	QPSK	1	0	Bottom Side	10	Bottom	Close	Reduced	21100	2535	21.38	22.50	1.294	-0.08	0.723	0.936
	LTE Band 7	20M	QPSK	1	0	Bottom Side	10	Bottom	Close	Reduced	20850	2510	21.13	22.50	1.371	0.02	0.748	1.025
	LTE Band 7	20M	QPSK	1	0	Bottom Side	10	Bottom	Close	Reduced	20850+ 21048	2510+ 2529.8	22.15	22.50	1.084	-0.03	0.716	0.776
	LTE Band 7	20M	QPSK	50	0	Bottom Side	10	Bottom	Close	Reduced	21350	2560	21.58	22.50	1.236	0.01	0.699	0.864
	LTE Band 7	20M	QPSK	50	0	Bottom Side	10	Bottom	Close	Reduced	21100	2535	21.46	22.50	1.271	0.01	0.651	0.827
	LTE Band 7	20M	QPSK	50	0	Bottom Side	10	Bottom	Close	Reduced	20850	2510	21.55	22.50	1.245	0.06	0.648	0.806
	LTE Band 7	20M	QPSK	100	0	Bottom Side	10	Bottom	Close	Reduced	21350	2560	21.55	22.50	1.245	-0.03	0.717	0.892

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Front	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.01	0.455	0.592
	LTE Band 41	20M	QPSK	50	24	Front	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.393	0.530
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.09	0.559	0.728
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	39750	2506	22.95	24.50	1.429	62.9	1.006	-0.03	0.469	0.674
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	40185	2549.5	22.84	24.50	1.466	62.9	1.006	-0.14	0.491	0.724
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	41055	2636.5	23.27	24.50	1.327	62.9	1.006	-0.08	0.575	0.768
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	41490	2680	23.11	24.50	1.377	62.9	1.006	-0.08	0.576	0.798
	LTE Band 38	20M	QPSK	1	49	Back	10	Top	Open	-	37901+38099	2585.1+2604.9	23.98	24.50	1.127	62.9	1.006	0.01	0.325	0.369
	LTE Band 41	20M	QPSK	50	24	Back	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.06	0.443	0.597
	LTE Band 41	20M	QPSK	100	0	Back	10	Top	Open	-	40620	2593	22.15	23.50	1.365	62.9	1.006	0.06	0.307	0.421
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.11	0.904	1.177
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Open	-	39750	2506	22.95	24.50	1.429	62.9	1.006	-0.04	0.795	1.143
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Open	-	40185	2549.5	22.84	24.50	1.466	62.9	1.006	-0.07	0.803	1.184
31	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Open	-	41055	2636.5	23.27	24.50	1.327	62.9	1.006	-0.02	0.894	**1.194**
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Open	-	37901+38099	2585.1+2604.9	23.98	24.50	1.127	62.9	1.006	-0.03	0.592	0.671
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Open	-	41490	2680	23.11	24.50	1.377	62.9	1.006	-0.03	0.845	1.171
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	-0.01	0.752	1.013
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Open	-	39750	2506	22.18	23.50	1.355	62.9	1.006	-0.03	0.662	0.903
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Open	-	40185	2549.5	21.85	23.50	1.462	62.9	1.006	-0.07	0.672	0.988
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Open	-	41055	2636.5	22.14	23.50	1.368	62.9	1.006	-0.07	0.754	1.037
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Open	-	41490	2680	21.98	23.50	1.419	62.9	1.006	-0.03	0.709	1.012
	LTE Band 41	20M	QPSK	100	0	Right Side	10	Top	Open	-	40620	2593	22.15	23.50	1.365	62.9	1.006	0.01	0.724	0.994
	LTE Band 41	20M	QPSK	1	49	Top Side	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.01	0.459	0.598
	LTE Band 41	20M	QPSK	50	24	Top Side	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.372	0.501
	LTE Band 41	20M	QPSK	1	49	Front	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.03	0.295	0.384
	LTE Band 41	20M	QPSK	50	24	Front	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	-0.02	0.245	0.330
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.07	0.363	0.473
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Close	-	37901+38099	2585.1+2604.9	23.98	24.50	1.127	62.9	1.006	0.01	0.188	0.213
	LTE Band 41	20M	QPSK	50	24	Back	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.309	0.416
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.19	0.608	0.792
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Close	-	39750	2506	22.95	24.50	1.429	62.9	1.006	0.06	0.492	0.707
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Close	-	40185	2549.5	22.84	24.50	1.466	62.9	1.006	-0.15	0.507	0.747
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Close	-	41055	2636.5	23.27	24.50	1.327	62.9	1.006	-0.02	0.639	0.853
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Close	-	41490	2680	23.11	24.50	1.377	62.9	1.006	-0.06	0.626	0.867
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Close	-	37901+38099	2585.1+2604.9	23.98	24.50	1.127	62.9	1.006	-0.03	0.362	0.410
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.508	0.685
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Close	-	39750	2506	22.18	23.50	1.355	62.9	1.006	-0.02	0.413	0.563
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Close	-	40185	2549.5	21.85	23.50	1.462	62.9	1.006	-0.05	0.430	0.633
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Close	-	41055	2636.5	22.14	23.50	1.368	62.9	1.006	-0.12	0.538	0.740
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Close	-	41490	2680	21.98	23.50	1.419	62.9	1.006	0.01	0.619	0.884
	LTE Band 41	20M	QPSK	100	0	Right Side	10	Top	Close	-	40620	2593	22.15	23.50	1.365	62.9	1.006	-0.02	0.530	0.728
	LTE Band 41	20M	QPSK	1	49	Top Side	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.09	0.317	0.413
	LTE Band 41	20M	QPSK	50	24	Top Side	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.09	0.280	0.377

	LTE Band 41	20M	QPSK	1	49	Front	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.01	0.061	0.079
	LTE Band 41	20M	QPSK	50	24	Front	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.048	0.064
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.06	0.310	0.404
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	37901+ 38099	2585.1+ 2604.9	23.98	24.50	1.127	62.9	1.006	-0.03	0.180	0.204
	LTE Band 41	20M	QPSK	50	24	Back	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.228	0.307
	LTE Band 41	20M	QPSK	1	49	Left Side	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.09	0.049	0.064
	LTE Band 41	20M	QPSK	50	24	Left Side	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.06	0.042	0.056
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.03	0.038	0.049
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.032	0.043
	LTE Band 41	20M	QPSK	1	49	Bottom Side	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.05	0.061	0.079
	LTE Band 41	20M	QPSK	50	24	Bottom Side	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	-0.01	0.053	0.071
	LTE Band 41	20M	QPSK	1	49	Front	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.03	0.205	0.267
	LTE Band 41	20M	QPSK	50	24	Front	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.172	0.232
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.01	0.417	0.543
	LTE Band 41	20M	QPSK	1	49	Bottom Side	10	Top	Close	-	37901+ 38099	2585.1+ 2604.9	23.98	24.50	1.127	62.9	1.006	0.06	0.251	0.285
	LTE Band 41	20M	QPSK	50	24	Back	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.356	0.480
	LTE Band 41	20M	QPSK	1	49	Left Side	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.02	0.164	0.214
	LTE Band 41	20M	QPSK	50	24	Left Side	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	-0.02	0.133	0.179
	LTE Band 41	20M	QPSK	1	49	Right Side	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.05	0.083	0.108
	LTE Band 41	20M	QPSK	50	24	Right Side	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.03	0.070	0.094
	LTE Band 41	20M	QPSK	1	49	Bottom Side	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.18	0.552	0.719
	LTE Band 41	20M	QPSK	1	49	Bottom Side	10	Top	Close	-	39750	2506	22.95	24.50	1.429	62.9	1.006	0.04	0.702	1.009
	LTE Band 41	20M	QPSK	1	49	Bottom Side	10	Top	Close	-	37901+ 38099	2585.1+ 2604.9	23.98	24.50	1.127	62.9	1.006	0	0.467	0.530
	LTE Band 41	20M	QPSK	1	49	Bottom Side	10	Top	Close	-	40185	2549.5	22.64	24.50	1.535	62.9	1.006	0.02	0.627	0.968
	LTE Band 41	20M	QPSK	1	49	Bottom Side	10	Top	Close	-	41055	2636.5	22.97	24.50	1.422	62.9	1.006	0.06	0.573	0.820
	LTE Band 41	20M	QPSK	1	49	Bottom Side	10	Top	Close	-	41490	2680	22.81	24.50	1.476	62.9	1.006	0.04	0.620	0.920
	LTE Band 41	20M	QPSK	50	24	Bottom Side	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.430	0.580
	LTE Band 41	20M	QPSK	100	0	Bottom Side	10	Top	Close	-	40620	2593	22.15	23.50	1.365	62.9	1.006	0.05	0.423	0.581

<WLAN 2.4GHz SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Slide configuration	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Max Area Scan SAR	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Open	6	2437	19.08	19.50	1.102	100	1.000	0.189			
	1	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Open	6	2437	19.08	19.50	1.102	100	1.000	0.250	0.08	0.192	0.211
32	1	WLAN 2.4GHz	802.11b 1Mbps	Left Side	10	Open	6	2437	19.08	19.50	1.102	100	1.000	0.457	0.01	0.349	**0.384**
	1	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Open	6	2437	19.08	19.50	1.102	100	1.000	0.211			
	1	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Close	6	2437	19.08	19.50	1.102	100	1.000	0.125			
	1	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Close	6	2437	19.08	19.50	1.102	100	1.000	0.170	0.02	0.127	0.140
	1	WLAN 2.4GHz	802.11b 1Mbps	Left Side	10	Close	6	2437	19.08	19.50	1.102	100	1.000	0.303	0.08	0.203	0.224
	1	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Close	6	2437	19.08	19.50	1.102	100	1.000	0.133			
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Open	6	2437	21.65	22.50	1.216	100	1.000	0.201			
33	1+2	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Open	6	2437	21.65	22.50	1.216	100	1.000	0.869	0.06	0.581	**0.707**
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Left Side	10	Open	6	2437	21.65	22.50	1.216	100	1.000	0.587	0.08	0.428	0.521
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Open	6	2437	21.65	22.50	1.216	100	1.000	0.069			
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Close	6	2437	21.65	22.50	1.216	100	1.000	0.108			
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Close	6	2437	21.65	22.50	1.216	100	1.000	0.775	0.09	0.559	0.680
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Left Side	10	Close	6	2437	21.65	22.50	1.216	100	1.000	0.395	0.08	0.293	0.356
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	Close	6	2437	21.65	22.50	1.216	100	1.000	0.063			

<WLAN 5GHz SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Max Area Scan SAR	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	2	WLAN5.2GHz	802.11a 6Mbps	Front	10	Open	Reduced	36	5180	12.29	13.00	1.178	98.48	1.015	0.071			
	2	WLAN5.2GHz	802.11a 6Mbps	Back	10	Open	Reduced	36	5180	12.29	13.00	1.178	98.48	1.015	0.214	0.09	0.092	0.109
	2	WLAN5.2GHz	802.11a 6Mbps	Left Side	10	Open	Reduced	36	5180	12.29	13.00	1.178	98.48	1.015	0.103			
	2	WLAN5.2GHz	802.11a 6Mbps	Top Side	10	Open	Reduced	36	5180	12.29	13.00	1.178	98.48	1.015	0.014			
	2	WLAN5.2GHz	802.11a 6Mbps	Front	10	Close	Reduced	36	5180	12.29	13.00	1.178	98.48	1.015	0.079			
34	2	WLAN5.2GHz	802.11a 6Mbps	Back	10	Close	Reduced	36	5180	12.29	13.00	1.178	98.48	1.015	0.340	-0.18	0.201	**0.240**
	2	WLAN5.2GHz	802.11a 6Mbps	Left Side	10	Close	Reduced	36	5180	12.29	13.00	1.178	98.48	1.015	0.115			
	2	WLAN5.2GHz	802.11a 6Mbps	Top Side	10	Close	Reduced	36	5180	12.29	13.00	1.178	98.48	1.015	0.012			
	1+2	WLAN5.2GHz	802.11a 6Mbps	Front	10	Open	-	40	5200	20.94	21.50	1.138	98.48	1.015	0.328			
	1+2	WLAN5.2GHz	802.11a 6Mbps	Back	10	Open	-	40	5200	20.94	21.50	1.138	98.48	1.015	1.111	-0.08	0.504	0.582
	1+2	WLAN5.2GHz	802.11a 6Mbps	Left Side	10	Open	-	40	5200	20.94	21.50	1.138	98.48	1.015	0.647	0.15	0.296	0.342
	1+2	WLAN5.2GHz	802.11a 6Mbps	Top Side	10	Open	-	40	5200	20.94	21.50	1.138	98.48	1.015	0.206			
	1+2	WLAN5.2GHz	802.11a 6Mbps	Front	10	Close	-	40	5200	20.94	21.50	1.138	98.48	1.015	0.198			
35	1+2	WLAN5.2GHz	802.11a 6Mbps	Back	10	Close	-	40	5200	20.94	21.50	1.138	98.48	1.015	1.369	-0.04	0.585	**0.675**
	1+2	WLAN5.2GHz	802.11a 6Mbps	Left Side	10	Close	-	40	5200	20.94	21.50	1.138	98.48	1.015	0.621	0.03	0.289	0.334
	1+2	WLAN5.2GHz	802.11a 6Mbps	Top Side	10	Close	-	40	5200	20.94	21.50	1.138	98.48	1.015	0.177			
	2	WLAN5.8GHz	802.11a MCS0	Front	10	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.006			
	2	WLAN5.8GHz	802.11a MCS0	Back	10	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.208	-0.08	0.079	0.108
	2	WLAN5.8GHz	802.11a MCS0	Left Side	10	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.074			
	2	WLAN5.8GHz	802.11a MCS0	Top Side	10	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.010			
	2	WLAN5.8GHz	802.11a MCS0	Front	10	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.015			
36	2	WLAN5.8GHz	802.11a MCS0	Back	10	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.246	0.09	0.097	**0.132**
	2	WLAN5.8GHz	802.11a MCS0	Left Side	10	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.061			
	2	WLAN5.8GHz	802.11a MCS0	Top Side	10	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.012			
	1+2	WLAN5.8GHz	802.11a MCS0	Front	10	Open	-	157	5785	17.62	18.50	1.225	98.48	1.015	0.382	0.05	0.184	0.229
37	1+2	WLAN5.8GHz	802.11a MCS0	Back	10	Open	-	157	5785	17.62	18.50	1.225	98.48	1.015	1.31	-0.09	0.526	**0.654**
	1+2	WLAN5.8GHz	802.11a MCS0	Left Side	10	Open	-	157	5785	17.62	18.50	1.225	98.48	1.015	0.498	-0.03	0.215	0.267
	1+2	WLAN5.8GHz	802.11a MCS0	Top Side	10	Open	-	157	5785	17.62	18.50	1.225	98.48	1.015	0.382			
	1+2	WLAN5.8GHz	802.11a MCS0	Front	10	Close	-	157	5785	17.62	18.50	1.225	98.48	1.015	0.214	0.06	0.105	0.131
	1+2	WLAN5.8GHz	802.11a MCS0	Back	10	Close	-	157	5785	17.62	18.50	1.225	98.48	1.015	1.710	-0.06	0.477	0.593
	1+2	WLAN5.8GHz	802.11a MCS0	Left Side	10	Close	-	157	5785	17.62	18.50	1.225	98.48	1.015	0.379	0.03	0.187	0.232
	1+2	WLAN5.8GHz	802.11a MCS0	Top Side	10	Close	-	157	5785	17.62	18.50	1.225	98.48	1.015	0.214			

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Slide configuration	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	Back	10	Open	0	2402	12.61	13.50	1.226	76.83	1.084	-0.04	0.040	0.053
38	Bluetooth	1Mbps	Back	10	Open	39	2411	12.36	13.50	1.299	76.83	1.084	-0.08	0.047	**0.066**
	Bluetooth	1Mbps	Back	10	Open	78	2480	13.28	13.50	1.051	76.83	1.084	0.09	0.049	0.056
	Bluetooth	1Mbps	Back	10	Close	0	2402	12.61	13.50	1.226	76.83	1.084	0.02	0.034	0.045
	Bluetooth	1Mbps	Back	10	Close	39	2411	12.36	13.50	1.299	76.83	1.084	0.06	0.034	0.048
	Bluetooth	1Mbps	Back	10	Close	78	2480	13.28	13.50	1.051	76.83	1.084	0.01	0.036	0.041

15.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	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	10	Top	Open	-	128	824.2	29.54	30.50	1.247	-0.07	0.302	0.377
	GSM850	GPRS 2 Tx slots	Back	10	Top	Open	-	128	824.2	29.54	30.50	1.247	0	0.381	0.475
	GSM850	GPRS 2 Tx slots	Front	10	Top	Close	-	128	824.2	29.54	30.50	1.247	-0.05	0.233	0.291
39	GSM850	GPRS 2 Tx slots	Back	10	Top	Close	-	128	824.2	29.54	30.50	1.247	-0.07	0.462	**0.576**
	GSM850	GPRS 2 Tx slots	Front	10	Bottom	Open	-	128	824.2	29.54	30.50	1.247	-0.04	0.039	0.049
	GSM850	GPRS 2 Tx slots	Back	10	Bottom	Open	-	128	824.2	29.54	30.50	1.247	-0.05	0.158	0.197
	GSM850	GPRS 2 Tx slots	Front	10	Bottom	Close	-	128	824.2	29.54	30.50	1.247	-0.03	0.256	0.319
	GSM850	GPRS 2 Tx slots	Back	10	Bottom	Close	-	128	824.2	29.54	30.50	1.247	-0.14	0.441	0.550
	GSM1900	GPRS 4 Tx slots	Front	10	Top	Open	-	810	1909.8	24.22	25.00	1.197	-0.08	0.163	0.195
	GSM1900	GPRS 4 Tx slots	Back	10	Top	Open	-	810	1909.8	24.22	25.00	1.197	0.03	0.212	0.254
	GSM1900	GPRS 4 Tx slots	Front	10	Top	Close	-	810	1909.8	24.22	25.00	1.197	-0.03	0.109	0.130
	GSM1900	GPRS 4 Tx slots	Back	10	Top	Close	-	810	1909.8	24.22	25.00	1.197	0.16	0.168	0.201
	GSM1900	GPRS 4 Tx slots	Front	10	Bottom	Open	-	810	1909.8	24.22	25.00	1.197	0.06	0.023	0.028
	GSM1900	GPRS 4 Tx slots	Back	10	Bottom	Open	-	810	1909.8	24.22	25.00	1.197	0.09	0.317	0.379
	GSM1900	GPRS 4 Tx slots	Front	10	Bottom	Close	-	810	1909.8	24.22	25.00	1.197	0.03	0.177	0.212
40	GSM1900	GPRS 4 Tx slots	Back	10	Bottom	Close	-	810	1909.8	24.22	25.00	1.197	0.03	0.427	**0.511**

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Front	10	Top	Open	-	4182	836.4	23.82	24.50	1.169	-0.04	0.482	0.564
	WCDMA Band V	RMC 12.2Kbps	Back	10	Top	Open	-	4182	836.4	23.82	24.50	1.169	0	0.507	0.593
	WCDMA Band V	RMC 12.2Kbps	Front	10	Top	Close	-	4182	836.4	23.82	24.50	1.169	0	0.327	0.382
	WCDMA Band V	RMC 12.2Kbps	Back	10	Top	Close	-	4182	836.4	23.82	24.50	1.169	0.05	0.620	0.725
	WCDMA Band V	RMC 12.2Kbps	Back	10	Top	Close	-	4132	826.4	23.73	24.50	1.194	0.01	0.634	0.757
41	WCDMA Band V	RMC 12.2Kbps	Back	10	Top	Close	-	4233	846.6	23.72	24.50	1.197	0.01	0.654	**0.783**
	WCDMA Band V	RMC 12.2Kbps	Front	10	Bottom	Open	-	4182	836.4	23.82	24.50	1.169	0.01	0.023	0.027
	WCDMA Band V	RMC 12.2Kbps	Back	10	Bottom	Open	-	4182	836.4	23.82	24.50	1.169	-0.01	0.425	0.497
	WCDMA Band V	RMC 12.2Kbps	Front	10	Bottom	Close	-	4182	836.4	23.82	24.50	1.169	0.03	0.228	0.267
	WCDMA Band V	RMC 12.2Kbps	Back	10	Bottom	Close	-	4182	836.4	23.82	24.50	1.169	-0.01	0.531	0.621
	WCDMA Band II	RMC 12.2Kbps	Front	10	Top	Open	-	9400	1880	24.27	24.50	1.054	0.03	0.378	0.399
	WCDMA Band II	RMC 12.2Kbps	Back	10	Top	Open	-	9400	1880	24.27	24.50	1.054	0.02	0.419	0.442
	WCDMA Band II	RMC 12.2Kbps	Front	10	Top	Close	-	9400	1880	24.27	24.50	1.054	0.03	0.213	0.225
	WCDMA Band II	RMC 12.2Kbps	Back	10	Top	Close	-	9400	1880	24.27	24.50	1.054	-0.01	0.323	0.341
	WCDMA Band II	RMC 12.2Kbps	Front	10	Bottom	Open	-	9400	1880	24.27	24.50	1.054	0.03	0.053	0.056
42	WCDMA Band II	RMC 12.2Kbps	Back	10	Bottom	Open	-	9400	1880	24.27	24.50	1.054	-0.02	0.641	**0.676**
	WCDMA Band II	RMC 12.2Kbps	Front	10	Bottom	Close	Reduced	9400	1880	20.80	21.00	1.047	-0.16	0.283	0.296
	WCDMA Band II	RMC 12.2Kbps	Back	10	Bottom	Close	Reduced	9400	1880	20.80	21.00	1.047	0.04	0.523	0.548
	WCDMA Band IV	RMC 12.2Kbps	Front	10	Top	Open	-	1413	1732.6	23.86	24.50	1.159	0.03	0.183	0.212
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Top	Open	-	1413	1732.6	23.86	24.50	1.159	-0.02	0.228	0.264
	WCDMA Band IV	RMC 12.2Kbps	Front	10	Top	Close	-	1413	1732.6	23.86	24.50	1.159	0.06	0.090	0.104
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Top	Close	-	1413	1732.6	23.86	24.50	1.159	0.08	0.181	0.210
	WCDMA Band IV	RMC 12.2Kbps	Front	10	Bottom	Open	Reduced	1413	1732.6	22.98	24.00	1.265	0.01	0.050	0.063
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Bottom	Open	Reduced	1413	1732.6	22.98	24.00	1.265	0.05	0.841	1.064
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Bottom	Open	Reduced	1312	1712.4	22.88	24.00	1.294	-0.1	0.672	0.870
43	WCDMA Band IV	RMC 12.2Kbps	Back	10	Bottom	Open	Reduced	1513	1752.6	22.96	24.00	1.271	-0.03	0.889	**1.130**
	WCDMA Band IV	RMC 12.2Kbps	Front	10	Bottom	Close	Reduced	1413	1732.6	19.50	20.50	1.259	-0.04	0.261	0.329
	WCDMA Band IV	RMC 12.2Kbps	Back	10	Bottom	Close	Reduced	1413	1732.6	19.50	20.50	1.259	-0.01	0.595	0.749

<CDMA2000 SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC0	RC3 SO32	Front	10	Top	Open	-	777	848.31	24.55	25.00	1.109	-0.02	0.635	0.704
44	CDMA2000 BC0	RC3 SO32	Back	10	Top	Open	-	777	848.31	24.55	25.00	1.109	-0.04	0.742	**0.823**
	CDMA2000 BC0	RC3 SO32	Back	10	Top	Open	-	777	848.31	24.55	25.00	1.109	-0.04	0.716	0.794
	CDMA2000 BC0	RC3 SO32	Back	10	Top	Open	-	777	848.31	24.55	25.00	1.109	0.03	0.677	0.751
	CDMA2000 BC0	RC3 SO32	Front	10	Top	Close	-	777	848.31	24.55	25.00	1.109	0.03	0.353	0.392
	CDMA2000 BC0	RC3 SO32	Back	10	Top	Close	-	777	848.31	24.55	25.00	1.109	-0.02	0.702	0.779
	CDMA2000 BC0	RC3 SO32	Front	10	Bottom	Open	-	777	848.31	24.55	25.00	1.109	0.11	0.019	0.021
	CDMA2000 BC0	RC3 SO32	Back	10	Bottom	Open	-	777	848.31	24.55	25.00	1.109	0.01	0.157	0.174
	CDMA2000 BC0	RC3 SO32	Front	10	Bottom	Close	-	777	848.31	24.55	25.00	1.109	0.02	0.278	0.308
	CDMA2000 BC0	RC3 SO32	Back	10	Bottom	Close	-	777	848.31	24.55	25.00	1.109	-0.05	0.505	0.560

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	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 5	10M	QPSK	1	0	Front	10	Top	Open	-	20525	836.5	22.85	24.00	1.303	0.01	0.407	0.530
	LTE Band 5	10M	QPSK	25	0	Front	10	Top	Open	-	20525	836.5	21.68	23.00	1.355	0.03	0.324	0.439
	LTE Band 5	10M	QPSK	1	0	Back	10	Top	Open	-	20525	836.5	22.85	24.00	1.303	0.07	0.421	0.549
	LTE Band 5	10M	QPSK	25	0	Back	10	Top	Open	-	20525	836.5	21.68	23.00	1.355	0.01	0.413	0.560
	LTE Band 5	10M	QPSK	1	0	Front	10	Top	Close	-	20525	836.5	22.85	24.00	1.303	0.08	0.291	0.379
	LTE Band 5	10M	QPSK	25	0	Front	10	Top	Close	-	20525	836.5	21.68	23.00	1.355	0.02	0.235	0.318
45	LTE Band 5	10M	QPSK	1	0	Back	10	Top	Close	-	20525	836.5	22.85	24.00	1.303	0.12	0.485	**0.632**
	LTE Band 5	10M	QPSK	25	0	Back	10	Top	Close	-	20525	836.5	21.68	23.00	1.355	0.03	0.405	0.549
	LTE Band 5	10M	QPSK	1	0	Front	10	Bottom	Open	-	20525	836.5	22.85	24.00	1.303	0.08	0.018	0.024
	LTE Band 5	10M	QPSK	25	0	Front	10	Bottom	Open	-	20525	836.5	21.68	23.00	1.355	0.03	0.016	0.022
	LTE Band 5	10M	QPSK	1	0	Back	10	Bottom	Open	-	20525	836.5	22.85	24.00	1.303	-0.09	0.118	0.154
	LTE Band 5	10M	QPSK	25	0	Back	10	Bottom	Open	-	20525	836.5	21.68	23.00	1.355	0.1	0.116	0.157
	LTE Band 5	10M	QPSK	1	0	Front	10	Bottom	Close	-	20525	836.5	22.85	24.00	1.303	0.01	0.210	0.274
	LTE Band 5	10M	QPSK	25	0	Front	10	Bottom	Close	-	20525	836.5	21.68	23.00	1.355	0.03	0.180	0.244
	LTE Band 5	10M	QPSK	1	0	Back	10	Bottom	Close	-	20525	836.5	22.85	24.00	1.303	-0.05	0.277	0.361
	LTE Band 5	10M	QPSK	25	0	Back	10	Bottom	Close	-	20525	836.5	21.68	23.00	1.355	0.01	0.243	0.329

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	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	10	Top	Open	-	18900	1880	23.23	24.00	1.194	-0.02	0.352	0.420
	LTE Band 2	20M	QPSK	50	0	Front	10	Top	Open	-	18900	1880	22.32	23.00	1.169	0.06	0.294	0.344
	LTE Band 2	20M	QPSK	1	0	Back	10	Top	Open	-	18900	1880	23.23	24.00	1.194	-0.07	0.361	0.431
	LTE Band 2	20M	QPSK	50	0	Back	10	Top	Open	-	18900	1880	22.32	23.00	1.169	-0.02	0.309	0.361
	LTE Band 2	20M	QPSK	1	0	Front	10	Top	Close	-	18900	1880	23.23	24.00	1.194	-0.02	0.167	0.199
	LTE Band 2	20M	QPSK	50	0	Front	10	Top	Close	-	18900	1880	22.32	23.00	1.169	0.05	0.138	0.161
	LTE Band 2	20M	QPSK	1	0	Back	10	Top	Close	-	18900	1880	23.23	24.00	1.194	-0.09	0.301	0.359
	LTE Band 2	20M	QPSK	50	0	Back	10	Top	Close	-	18900	1880	22.32	23.00	1.169	0.02	0.273	0.319
	LTE Band 2	20M	QPSK	1	0	Front	10	Bottom	Open	-	18900	1880	23.23	24.00	1.194	-0.01	0.048	0.057
	LTE Band 2	20M	QPSK	50	0	Front	10	Bottom	Open	-	18900	1880	22.32	23.00	1.169	0.02	0.044	0.051
46	LTE Band 2	20M	QPSK	1	0	Back	10	Bottom	Open	-	18900	1880	23.23	24.00	1.194	-0.01	0.575	**0.687**
	LTE Band 2	20M	QPSK	50	0	Back	10	Bottom	Open	-	18900	1880	22.32	23.00	1.169	0.03	0.480	0.561
	LTE Band 2	20M	QPSK	1	0	Front	10	Bottom	Close	Reduced	18900	1880	21.61	22.00	1.094	-0.08	0.238	0.260
	LTE Band 2	20M	QPSK	50	0	Front	10	Bottom	Close	Reduced	18900	1880	21.74	22.00	1.062	-0.05	0.246	0.261
	LTE Band 2	20M	QPSK	1	0	Back	10	Bottom	Close	Reduced	18900	1880	21.61	22.00	1.094	0.05	0.497	0.544
	LTE Band 2	20M	QPSK	50	0	Back	10	Bottom	Close	Reduced	18900	1880	21.74	22.00	1.062	-0.03	0.506	0.537

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 4	20M	QPSK	1	0	Front	10	Top	Open	-	20175	1732.5	22.87	24.00	1.297	0.01	0.153	0.198
	LTE Band 4	20M	QPSK	50	0	Front	10	Top	Open	-	20175	1732.5	22.05	23.00	1.245	0.03	0.128	0.159
	LTE Band 4	20M	QPSK	1	0	Back	10	Top	Open	-	20175	1732.5	22.87	24.00	1.297	0.07	0.212	0.275
	LTE Band 4	20M	QPSK	50	0	Back	10	Top	Open	-	20175	1732.5	22.05	23.00	1.245	-0.02	0.177	0.220
	LTE Band 4	20M	QPSK	1	0	Front	10	Top	Close	-	20175	1732.5	22.87	24.00	1.297	0.05	0.060	0.078
	LTE Band 4	20M	QPSK	50	0	Front	10	Top	Close	-	20175	1732.5	22.05	23.00	1.245	-0.02	0.051	0.063
	LTE Band 4	20M	QPSK	1	0	Back	10	Top	Close	-	20175	1732.5	22.87	24.00	1.297	-0.09	0.175	0.227
	LTE Band 4	20M	QPSK	50	0	Back	10	Top	Close	-	20175	1732.5	22.05	23.00	1.245	-0.02	0.167	0.208
	LTE Band 4	20M	QPSK	1	0	Front	10	Bottom	Open	-	20175	1732.5	22.87	24.00	1.297	-0.03	0.033	0.043
	LTE Band 4	20M	QPSK	50	0	Front	10	Bottom	Open	-	20175	1732.5	22.05	23.00	1.245	0.02	0.032	0.039
47	LTE Band 4	20M	QPSK	1	0	Back	10	Bottom	Open	-	20175	1732.5	22.87	24.00	1.297	-0.04	0.717	**0.930**
	LTE Band 4	20M	QPSK	50	0	Back	10	Bottom	Open	-	20175	1732.5	22.05	23.00	1.245	0.01	0.608	0.757
	LTE Band 4	20M	QPSK	100	0	Back	10	Bottom	Open	-	20175	1732.5	22.03	23.00	1.250	-0.06	0.655	0.819
	LTE Band 4	20M	QPSK	1	0	Front	10	Bottom	Close	Reduced	20175	1732.5	19.71	21.00	1.346	0.1	0.216	0.291
	LTE Band 4	20M	QPSK	50	0	Front	10	Bottom	Close	Reduced	20175	1732.5	19.82	21.00	1.312	0.18	0.219	0.287
	LTE Band 4	20M	QPSK	1	0	Back	10	Bottom	Close	Reduced	20175	1732.5	19.71	21.00	1.346	0.04	0.511	0.688
	LTE Band 4	20M	QPSK	50	0	Back	10	Bottom	Close	Reduced	20175	1732.5	19.82	21.00	1.312	-0.06	0.532	0.698

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	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	10	Top	Open	Reduced	21350	2560	21.45	22.50	1.274	0.01	0.443	0.564
	LTE Band 7	20M	QPSK	50	0	Front	10	Top	Open	Reduced	21350	2560	21.58	22.50	1.236	0.01	0.458	0.566
	LTE Band 7	20M	QPSK	1	0	Back	10	Top	Open	Reduced	21350	2560	21.45	22.50	1.274	-0.03	0.488	0.621
	LTE Band 7	20M	QPSK	1	0	Back	10	Top	Open	Reduced	21350+ 21152	2560+ 2540.2	22.18	22.50	1.076	0.06	0.451	0.485
	LTE Band 7	20M	QPSK	50	0	Back	10	Top	Open	Reduced	21350	2560	21.58	22.50	1.236	0.03	0.499	0.617
	LTE Band 7	20M	QPSK	1	0	Front	10	Top	Close	-	21350	2560	23.68	24.50	1.208	-0.08	0.513	0.620
	LTE Band 7	20M	QPSK	50	0	Front	10	Top	Close	-	21350	2560	22.86	23.50	1.159	-0.08	0.423	0.490
48	LTE Band 7	20M	QPSK	1	0	Back	10	Top	Close	-	21350	2560	23.68	24.50	1.208	0.06	0.528	**0.638**
	LTE Band 7	20M	QPSK	1	0	Back	10	Top	Close	-	21350+ 21152	2560+ 2540.2	23.53	24.50	1.250	0.02	0.503	0.629
	LTE Band 7	20M	QPSK	50	0	Back	10	Top	Close	-	21350	2560	22.86	23.50	1.159	-0.05	0.442	0.512
	LTE Band 7	20M	QPSK	1	0	Front	10	Bottom	Open	-	21350	2560	23.68	24.50	1.208	-0.02	0.207	0.250
	LTE Band 7	20M	QPSK	50	0	Front	10	Bottom	Open	-	21350	2560	22.86	23.50	1.159	0.01	0.061	0.071
	LTE Band 7	20M	QPSK	1	0	Back	10	Bottom	Open	-	21350	2560	23.68	24.50	1.208	-0.09	0.453	0.547
	LTE Band 7	20M	QPSK	1	0	Back	10	Bottom	Open	-	21350+ 21152	2560+ 2540.2	23.53	24.50	1.250	-0.01	0.397	0.496
	LTE Band 7	20M	QPSK	50	0	Back	10	Bottom	Open	-	21350	2560	22.86	23.50	1.159	0.01	0.331	0.384
	LTE Band 7	20M	QPSK	1	0	Front	10	Bottom	Close	Reduced	21350	2560	21.45	22.50	1.274	0.06	0.148	0.188
	LTE Band 7	20M	QPSK	50	0	Front	10	Bottom	Close	Reduced	21350	2560	21.58	22.50	1.236	0.01	0.140	0.173
	LTE Band 7	20M	QPSK	1	0	Back	10	Bottom	Close	Reduced	21350	2560	21.45	22.50	1.274	0.06	0.494	0.629
	LTE Band 7	20M	QPSK	1	0	Back	10	Bottom	Close	Reduced	21350+ 21152	2560+ 2540.2	22.19	22.50	1.074	0.06	0.451	0.484
	LTE Band 7	20M	QPSK	50	0	Back	10	Bottom	Close	Reduced	21350	2560	21.58	22.50	1.236	-0.06	0.474	0.586

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	49	Front	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.01	0.455	0.592
	LTE Band 41	20M	QPSK	50	24	Front	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.393	0.530
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.09	0.559	0.728
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	39750	2506	22.95	24.50	1.429	62.9	1.006	-0.03	0.469	0.674
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	40185	2549.5	22.84	24.50	1.466	62.9	1.006	-0.14	0.491	0.724
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	41055	2636.5	23.27	24.50	1.327	62.9	1.006	-0.08	0.575	0.768
49	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	41490	2680	23.11	24.50	1.377	62.9	1.006	-0.08	0.576	**0.798**
	LTE Band 38	20M	QPSK	1	49	Back	10	Top	Open	-	37901+38099	2585.1+2604.9	23.98	24.50	1.127	62.9	1.006	0.01	0.325	0.369
	LTE Band 41	20M	QPSK	50	24	Back	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.06	0.443	0.597
	LTE Band 41	20M	QPSK	100	0	Back	10	Top	Open	-	40620	2593	22.15	23.50	1.365	62.9	1.006	0.06	0.307	0.421
	LTE Band 41	20M	QPSK	1	49	Front	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.03	0.295	0.384
	LTE Band 41	20M	QPSK	50	24	Front	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	-0.02	0.245	0.330
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.07	0.363	0.473
	LTE Band 38	20M	QPSK	1	49	Back	10	Top	Close	-	37901+38099	2585.1+2604.9	23.98	24.50	1.127	62.9	1.006	0.01	0.188	0.213
	LTE Band 41	20M	QPSK	50	24	Back	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.309	0.416
	LTE Band 41	20M	QPSK	1	49	Front	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.01	0.061	0.079
	LTE Band 41	20M	QPSK	50	24	Front	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.048	0.064
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Open	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.06	0.310	0.404
	LTE Band 38	20M	QPSK	1	49	Back	10	Top	Open	-	37901+38099	2585.1+2604.9	23.98	24.50	1.127	62.9	1.006	-0.03	0.180	0.204
	LTE Band 41	20M	QPSK	50	24	Back	10	Top	Open	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.228	0.307
	LTE Band 41	20M	QPSK	1	49	Front	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	0.03	0.205	0.267
	LTE Band 41	20M	QPSK	50	24	Front	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.172	0.232
	LTE Band 41	20M	QPSK	1	49	Back	10	Top	Close	-	40620	2593	23.38	24.50	1.294	62.9	1.006	-0.01	0.417	0.543
	LTE Band 38	20M	QPSK	1	49	Back	10	Top	Close	-	37901+38099	2585.1+2604.9	23.98	24.50	1.127	62.9	1.006	0.06	0.251	0.285
	LTE Band 41	20M	QPSK	50	24	Back	10	Top	Close	-	40620	2593	22.23	23.50	1.340	62.9	1.006	0.01	0.356	0.480

<WLAN 2.4GHz SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Slide configuration	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Max Area Scan SAR	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Open	6	2437	19.08	19.50	1.102	100	1.000	0.189			
50	1	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Open	6	2437	19.08	19.50	1.102	100	1.000	0.250	0.08	0.192	**0.211**
	1	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Close	6	2437	19.08	19.50	1.102	100	1.000	0.125			
	1	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Close	6	2437	19.08	19.50	1.102	100	1.000	0.170	0.02	0.127	0.140
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Open	6	2437	21.65	22.50	1.216	100	1.000	0.201			
51	1+2	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Open	6	2437	21.65	22.50	1.216	100	1.000	0.869	0.06	0.581	**0.707**
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Front	10	Close	6	2437	21.65	22.50	1.216	100	1.000	0.108			
	1+2	WLAN 2.4GHz	802.11b 1Mbps	Back	10	Close	6	2437	21.65	22.50	1.216	100	1.000	0.775	0.09	0.559	0.680

<WLAN 5GHz SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Slide configuration	Power Reduced Level	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Max Area Scan SAR	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	2	WLAN5.3GHz	802.11a 6Mbps	Front	10	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.031			
	2	WLAN5.3GHz	802.11a 6Mbps	Back	10	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.212	-0.05	0.101	0.126
	2	WLAN5.3GHz	802.11a 6Mbps	Front	10	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.021			
52	2	WLAN5.3GHz	802.11a 6Mbps	Back	10	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.261	-0.01	0.111	**0.138**
	1+2	WLAN5.3GHz	802.11a 6Mbps	Front	10	Open	-	52	5260	20.68	21.50	1.208	98.48	1.015	0.343	0.01	0.141	0.173
	1+2	WLAN5.3GHz	802.11a 6Mbps	Back	10	Open	-	52	5260	20.68	21.50	1.208	98.48	1.015	1.1	-0.01	0.434	0.532
	1+2	WLAN5.3GHz	802.11a 6Mbps	Front	10	Close	-	52	5260	20.68	21.50	1.208	98.48	1.015	0.143	0.01	0.066	0.081
53	1+2	WLAN5.3GHz	802.11a 6Mbps	Back	10	Close	-	52	5260	20.68	21.50	1.208	98.48	1.015	1.2	0.09	0.522	**0.640**
	2	WLAN5.5GHz	802.11a 6Mbps	Front	10	Open	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	:0.024			
54	2	WLAN5.5GHz	802.11a 6Mbps	Back	10	Open	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	0.196	0.04	0.085	**0.104**
	2	WLAN5.5GHz	802.11a 6Mbps	Front	10	Close	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	0.033			
	2	WLAN5.5GHz	802.11a 6Mbps	Back	10	Close	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	0.189	0.03	0.078	0.095
	1+2	WLAN5.5GHz	802.11a MCS0	Front	10	Open	-	100	5500	18.62	19.00	1.091	98.48	1.015	0.382	0.02	0.163	0.181
55	1+2	WLAN5.5GHz	802.11a MCS0	Back	10	Open	-	100	5500	18.62	19.00	1.091	98.48	1.015	1.124	0.05	0.444	**0.492**
	1+2	WLAN5.5GHz	802.11a MCS0	Front	10	Close	-	100	5500	18.62	19.00	1.091	98.48	1.015	0.186	0.09	0.076	0.084
	1+2	WLAN5.5GHz	802.11a MCS0	Back	10	Close	-	100	5500	18.62	19.00	1.091	98.48	1.015	0.719	-0.01	0.294	0.326
	2	WLAN5.8GHz	802.11a MCS0	Front	10	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.006			
	2	WLAN5.8GHz	802.11a MCS0	Back	10	Open	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.208	-0.08	0.079	0.108
	2	WLAN5.8GHz	802.11a MCS0	Front	10	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.015			
56	2	WLAN5.8GHz	802.11a MCS0	Back	10	Close	Reduced	157	5785	10.22	11.50	1.343	98.48	1.015	0.246	0.09	0.097	**0.132**
	1+2	WLAN5.8GHz	802.11a MCS0	Front	10	Open	-	157	5785	17.62	18.50	1.225	98.48	1.015	0.382	0.05	0.184	0.229
57	1+2	WLAN5.8GHz	802.11a MCS0	Back	10	Open	-	157	5785	17.62	18.50	1.225	98.48	1.015	1.31	-0.09	0.526	**0.654**
	1+2	WLAN5.8GHz	802.11a MCS0	Front	10	Close	-	157	5785	17.62	18.50	1.225	98.48	1.015	0.214	0.06	0.105	0.131
	1+2	WLAN5.8GHz	802.11a MCS0	Back	10	Close	-	157	5785	17.62	18.50	1.225	98.48	1.015	1.710	-0.06	0.477	0.593

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Slide configuration	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	Back	10	Open	0	2402	12.61	13.50	1.226	76.83	1.084	-0.04	0.040	0.053
58	Bluetooth	1Mbps	Back	10	Open	39	2411	12.36	13.50	1.299	76.83	1.084	-0.08	0.047	**0.066**
	Bluetooth	1Mbps	Back	10	Open	78	2480	13.28	13.50	1.051	76.83	1.084	0.09	0.049	0.056
	Bluetooth	1Mbps	Back	10	Close	0	2402	12.61	13.50	1.226	76.83	1.084	0.02	0.034	0.045
	Bluetooth	1Mbps	Back	10	Close	39	2411	12.36	13.50	1.299	76.83	1.084	0.06	0.034	0.048
	Bluetooth	1Mbps	Back	10	Close	78	2480	13.28	13.50	1.051	76.83	1.084	0.01	0.036	0.041

15.4 Product specific 10g SAR

<WLAN 5GHz SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Slide Configuration	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Max Area Scan SAR	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	2	WLAN5.3GHz	802.11a 6Mbps	Front	0	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.150			
	2	WLAN5.3GHz	802.11a 6Mbps	Back	0	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	4.480	0.02	0.481	0.598
	2	WLAN5.3GHz	802.11a 6Mbps	Left Side	0	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.556			
	2	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	Open	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.093			
	2	WLAN5.3GHz	802.11a 6Mbps	Front	0	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.121			
59	2	WLAN5.3GHz	802.11a 6Mbps	Back	0	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	5.300	0.02	0.498	**0.619**
	2	WLAN5.3GHz	802.11a 6Mbps	Left Side	0	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.700			
	2	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	Close	Reduced	52	5260	12.12	13.00	1.225	98.48	1.015	0.156			
	1+2	WLAN5.3GHz	802.11a 6Mbps	Front	0	Open	Full	52	5260	20.68	21.50	1.208	98.48	1.015	2.781			
	1+2	WLAN5.3GHz	802.11a 6Mbps	Back	0	Open	Full	52	5260	20.68	21.50	1.208	98.48	1.015	10.890	-0.05	1.790	2.195
	1+2	WLAN5.3GHz	802.11a 6Mbps	Left Side	0	Open	Full	52	5260	20.68	21.50	1.208	98.48	1.015	2.389			
	1+2	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	Open	Full	52	5260	20.68	21.50	1.208	98.48	1.015	3.742	-0.04	0.538	0.660
	1+2	WLAN5.3GHz	802.11a 6Mbps	Back	0	Open	Full	60	5300	20.62	21.50	1.224	98.48	1.015		0.01	1.460	1.813
	1+2	WLAN5.3GHz	802.11a 6Mbps	Front	0	Close	Full	52	5260	20.68	21.50	1.208	98.48	1.015	1.318			
	1+2	WLAN5.3GHz	802.11a 6Mbps	Back	0	Close	Full	52	5260	20.68	21.50	1.208	98.48	1.015	10.910	-0.02	1.990	2.440
	1+2	WLAN5.3GHz	802.11a 6Mbps	Left Side	0	Close	Full	52	5260	20.68	21.50	1.208	98.48	1.015	2.475			
	1+2	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	Close	Full	52	5260	20.68	21.50	1.208	98.48	1.015	3.182	-0.09	0.421	0.516
60	1+2	WLAN5.3GHz	802.11a 6Mbps	Back	0	Close	Full	60	5300	20.62	21.50	1.225	98.48	1.015		0.03	2.400	**2.983**
	2	WLAN5.5GHz	802.11a 6Mbps	Front	0	Open	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	0.191			
	2	WLAN5.5GHz	802.11a 6Mbps	Back	0	Open	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	3.690	0.03	0.305	0.374
	2	WLAN5.5GHz	802.11a 6Mbps	Left Side	0	Open	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	0.864			
	2	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	Open	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	0.102			
	2	WLAN5.5GHz	802.11a 6Mbps	Front	0	Close	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	0.250			
61	2	WLAN5.5GHz	802.11a 6Mbps	Back	0	Close	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	3.670	0.09	0.307	**0.376**
	2	WLAN5.5GHz	802.11a 6Mbps	Left Side	0	Close	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	2.172			
	2	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	Close	Reduced	100	5500	10.68	11.50	1.208	98.48	1.015	0.391			
	1+2	WLAN5.5GHz	802.11a 6Mbps	Front	0	Open	Full	100	5500	18.62	19.00	1.091	98.48	1.015	2.410			
62	1+2	WLAN5.5GHz	802.11a 6Mbps	Back	0	Open	Full	100	5500	18.62	19.00	1.091	98.48	1.015	3.068	0.01	1.300	**1.440**
	1+2	WLAN5.5GHz	802.11a 6Mbps	Left Side	0	Open	Full	100	5500	18.62	19.00	1.091	98.48	1.015	0.986			
	1+2	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	Open	Full	100	5500	18.62	19.00	1.091	98.48	1.015	5.572	-0.02	0.436	0.483
	1+2	WLAN5.5GHz	802.11a 6Mbps	Front	0	Close	Full	100	5500	18.62	19.00	1.091	98.48	1.015	3.294			
	1+2	WLAN5.5GHz	802.11a 6Mbps	Back	0	Close	Full	100	5500	18.62	19.00	1.091	98.48	1.015	13.000	0.09	1.250	1.385
	1+2	WLAN5.5GHz	802.11a 6Mbps	Left Side	0	Close	Full	100	5500	18.62	19.00	1.091	98.48	1.015	6.960	0.09	0.627	0.695
	1+2	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	Close	Full	100	5500	18.62	19.00	1.091	98.48	1.015	5.244			

15.5 Repeated SAR Measurement

<1g SAR>

No.	Band	Mode	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Slide Configuration	Power Reduced Level	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	CDMA2000 BC0	RC3 SO55	-	-	-	-	Left Cheek	0	Top	Open	1	1013	824.7	20.91	21.00	1.021	-	-	-0.04	1.010	1	1.031
2nd	CDMA2000 BC0	RC3 SO55	-	-	-	-	Left Cheek	0	Top	Open	1	1013	824.7	20.91	21.00	1.021	-	-	-0.01	1.010	1.000	1.031
1st	LTE Band 4	-	20M	QPSK	50	0	Left Cheek	0	Top	Open	1	20175	1732.5	18.93	20.00	1.279	-	-	-0.18	0.906	1	1.159
2nd	LTE Band 4	-	20M	QPSK	50	0	Left Cheek	0	Top	Open	1	20175	1732.5	18.93	20.00	1.279	-	-	0.01	0.899	1.008	1.150
1st	LTE Band 7	-	20M	QPSK	50	0	Left Cheek	0	Top	Close	2	21350	2560	19.05	19.50	1.109	-	-	-0.01	1.060	1	1.176
2nd	LTE Band 7	-	20M	QPSK	50	0	Left Cheek	0	Top	Close	2	21350	2560	19.05	19.50	1.109	-	-	0.06	1.030	1.029	1.142
1st	WCDMA Band II	RMC 12.2Kbps	-	-	-	-	Bottom Side	10	Bottom	Close	Reduced	9538	1907.6	20.76	21.00	1.057	-	-	-0.02	1.130	1	1.194
2nd	WCDMA Band II	RMC 12.2Kbps	-	-	-	-	Bottom Side	10	Bottom	Close	Reduced	9538	1907.6	20.76	21.00	1.057	-	-	0.06	1.090	1.037	1.152

<10g SAR>

No.	Ant.	Band	Mode	Test Position	Gap (mm)	Slide Configuration	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	1+2	WLAN5.3GHz	802.11a 6Mbps	Back	0	Close	Full	60	5300	20.62	21.50	1.225	98.48	1.015	0.03	2.400	1	2.983
2nd	1+2	WLAN5.3GHz	802.11a 6Mbps	Back	0	Close	Full	60	5300	20.62	21.50	1.225	98.48	1.015	0.06	2.380	1.008	2.958

General Note:

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

16. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset		
		Head	Body-worn	Hotspot
1.	GSM Voice + WLAN2.4GHz MIMO	Yes	Yes	
2.	GPRS/EDGE + WLAN2.4GHz MIMO	Yes	Yes	Yes
3.	WCDMA + WLAN2.4GHz MIMO	Yes	Yes	Yes
4.	CDMA + WLAN2.4GHz MIMO	Yes	Yes	Yes
5.	LTE + WLAN2.4GHz MIMO	Yes	Yes	Yes
6.	GSM Voice + WLAN5.3/5.5GHz MIMO	Yes	Yes	
7.	GPRS/EDGE + WLAN5.3/5.5GHz MIMO	Yes	Yes	
8.	WCDMA + WLAN5.3/5.5GHz MIMO	Yes	Yes	
9.	CDMA + WLAN5.3/5.5GHz MIMO	Yes	Yes	
10.	LTE + WLAN5.3/5.5GHz MIMO	Yes	Yes	
11.	GSM Voice + WLAN5.2/5.8GHz MIMO	Yes	Yes	
12.	GPRS/EDGE + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes
13.	WCDMA + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes
14.	CDMA + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes
15.	LTE + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes
16.	GSM Voice + Bluetooth	Yes	Yes	
17.	GPRS/EDGE + Bluetooth	Yes	Yes	Yes
18.	WCDMA + Bluetooth	Yes	Yes	Yes
19.	CDMA + Bluetooth	Yes	Yes	Yes
20.	LTE + Bluetooth	Yes	Yes	Yes
21.	Bluetooth + WLAN5GHz MIMO		Yes	Yes
22.	GSM Voice + Bluetooth + WLAN5.3/5.5GHz MIMO		Yes	
23.	GPRS/EDGE + Bluetooth + WLAN5.3/5.5GHz MIMO		Yes	
24.	WCDMA + Bluetooth + WLAN5.3/5.5GHz MIMO		Yes	
25.	CDMA + Bluetooth + WLAN5.3/5.5GHz MIMO		Yes	
26.	LTE + Bluetooth + WLAN5.3/5.5GHz MIMO		Yes	
27.	GSM Voice + Bluetooth + WLAN5.2/5.8GHz MIMO	Yes	Yes	
28.	GPRS/EDGE + Bluetooth + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes
29.	WCDMA + Bluetooth + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes
30.	CDMA + Bluetooth + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes
31.	LTE + Bluetooth + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes
32.	WLAN2.4GHz Ant.1 + WLAN5.3/5.5GHz Ant.2	Yes	Yes	
33.	WLAN2.4GHz Ant.1 + WLAN5.2/5.8GHz Ant.2	Yes	Yes	Yes
34.	GSM Voice + WLAN2.4GHz Ant.1 + WLAN5.3/5.5GHz Ant.2	Yes	Yes	
35.	GPRS/EDGE + WLAN2.4GHz Ant.1 + WLAN5.3/5.5GHz Ant.2	Yes	Yes	
36.	WCDMA + WLAN2.4GHz Ant.1 + WLAN5.3/5.5GHz Ant.2	Yes	Yes	
37.	CDMA + WLAN2.4GHz Ant.1 + WLAN5.3/5.5GHz Ant.2	Yes	Yes	
38.	LTE + WLAN2.4GHz Ant.1 + WLAN5.3/5.5GHz Ant.2	Yes	Yes	
39.	GSM Voice + WLAN2.4GHz Ant.1 + WLAN5.2/5.8GHz Ant.2	Yes	Yes	
40.	GPRS/EDGE + WLAN2.4GHz Ant.1 + WLAN5.2/5.8GHz Ant.2	Yes	Yes	Yes
41.	WCDMA + WLAN2.4GHz Ant.1 + WLAN5.2/5.8GHz Ant.2	Yes	Yes	Yes
42.	CDMA + WLAN2.4GHz Ant.1 + WLAN5.2/5.8GHz Ant.2	Yes	Yes	Yes
43.	LTE + WLAN2.4GHz Ant.1 + WLAN5.2/5.8GHz Ant.2	Yes	Yes	Yes

General Note:

1. For WLAN2.4GHz, supports MIMO. For antenna 1 can't transmit alone, it must be transmitted with WWAN bands and WLAN5GHz.
2. For WLAN5GHz, supports MIMO. For antenna 2 can't transmit alone, it must be transmitted with WWAN bands and WLAN2.4GHz (antenna 1) or Bluetooth.
3. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
4. EUT will choose each GSM, WCDMA, CDMA and LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
5. WLAN2.4GHz antenna 1 and Bluetooth share the same antenna, so can't transmit simultaneously.
6. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
7. This device 2.4GHz WLAN/ 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
8. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
9. For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
10. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
11. The reported SAR summation is calculated based on the same configuration and test position.
12. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
    i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
    ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
    iii) If SPLSR ≤ 0.04 for 1g SAR, SPLSR ≤ 0.10 for 10g SAR simultaneously transmission SAR measurement is not necessary.
    iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
    v) For WWAN/Bluetooth product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.

16.1 Head Exposure Conditions

<Top Antenna—Slide Open>

WWAN Band		Exposure Position	1	2	3	4	5	6	1+3 Summed 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	1+4+6 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 1+2	5GHz WLAN Ant 1+2	5GHz WLAN Ant 2	Bluetooth Ant 1			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
GSM	GSM850	Right Cheek	0.623	0.658	0.794	0.640	0.085	0.330	1.42	1.37	**1.59**
		Right Tilted	0.576	0.357	0.399	0.394	0.085	0.327	0.98	1.02	1.30
		Left Cheek	1.142	0.174	0.255	0.256	0.085	0.104	1.40	1.40	1.50
		Left Tilted	1.194	0.123	0.187	0.224	0.085	0.090	1.38	1.40	1.51
	GSM1900	Right Cheek	0.361	0.658	0.794	0.640	0.085	0.330	1.16	1.10	1.33
		Right Tilted	0.330	0.357	0.399	0.394	0.085	0.327	0.73	0.77	1.05
		Left Cheek	1.181	0.174	0.255	0.256	0.085	0.104	1.44	1.44	1.54
		Left Tilted	0.645	0.123	0.187	0.224	0.085	0.090	0.83	0.85	0.96
WCDMA	Band V	Right Cheek	0.617	0.658	0.794	0.640	0.085	0.330	1.41	1.36	1.59
		Right Tilted	0.492	0.357	0.399	0.394	0.085	0.327	0.89	0.93	1.21
		Left Cheek	1.086	0.174	0.255	0.256	0.085	0.104	1.34	1.35	1.45
		Left Tilted	0.949	0.123	0.187	0.224	0.085	0.090	1.14	1.16	1.26
	Band II	Right Cheek	0.379	0.658	0.794	0.640	0.085	0.330	1.17	1.12	1.35
		Right Tilted	0.326	0.357	0.399	0.394	0.085	0.327	0.73	0.77	1.05
		Left Cheek	1.164	0.174	0.255	0.256	0.085	0.104	1.42	1.42	1.52
		Left Tilted	0.738	0.123	0.187	0.224	0.085	0.090	0.93	0.95	1.05
	Band IV	Right Cheek	0.223	0.658	0.794	0.640	0.085	0.330	1.02	0.97	1.19
		Right Tilted	0.192	0.357	0.399	0.394	0.085	0.327	0.59	0.63	0.91
		Left Cheek	1.016	0.174	0.255	0.256	0.085	0.104	1.27	1.28	1.38
		Left Tilted	0.603	0.123	0.187	0.224	0.085	0.090	0.79	0.81	0.92
CDMA	BC0	Right Cheek	0.622	0.658	0.794	0.640	0.085	0.330	1.42	1.37	1.59
		Right Tilted	0.608	0.357	0.399	0.394	0.085	0.327	1.01	1.05	1.33
		Left Cheek	1.031	0.174	0.255	0.256	0.085	0.104	1.29	1.29	1.39
		Left Tilted	0.569	0.123	0.187	0.224	0.085	0.090	0.76	0.78	0.88

WWAN Band		Exposure Position	1	2	3	4	5	6	1+3 Summed 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	1+4+6 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 1+2	5GHz WLAN Ant 1+2	5GHz WLAN Ant 2	Bluetooth Ant 1			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
LTE	Band 5	Right Cheek	0.618	0.658	0.794	0.640	0.085	0.330	1.41	1.36	1.59
		Right Tilted	0.580	0.357	0.399	0.394	0.085	0.327	0.98	1.02	1.30
		Left Cheek	0.944	0.174	0.255	0.256	0.085	0.104	1.20	1.20	1.30
		Left Tilted	0.792	0.123	0.187	0.224	0.085	0.090	0.98	1.00	1.11
	Band 2	Right Cheek	0.385	0.658	0.794	0.640	0.085	0.330	1.18	1.13	1.36
		Right Tilted	0.300	0.357	0.399	0.394	0.085	0.327	0.70	0.74	1.02
		Left Cheek	1.143	0.174	0.255	0.256	0.085	0.104	1.40	1.40	1.50
		Left Tilted	0.706	0.123	0.187	0.224	0.085	0.090	0.89	0.91	1.02
	Band 4	Right Cheek	0.289	0.658	0.794	0.640	0.085	0.330	1.08	1.03	1.26
		Right Tilted	0.252	0.357	0.399	0.394	0.085	0.327	0.65	0.69	0.97
		Left Cheek	1.159	0.174	0.255	0.256	0.085	0.104	1.41	1.42	1.52
		Left Tilted	0.935	0.123	0.187	0.224	0.085	0.090	1.12	1.14	1.25
	Band 7	Right Cheek	0.297	0.658	0.794	0.640	0.085	0.330	1.09	1.04	1.27
		Right Tilted	0.230	0.357	0.399	0.394	0.085	0.327	0.63	0.67	0.95
		Left Cheek	1.192	0.174	0.255	0.256	0.085	0.104	1.45	1.45	1.55
		Left Tilted	0.743	0.123	0.187	0.224	0.085	0.090	0.93	0.95	1.06
	Band 41	Right Cheek	0.306	0.658	0.794	0.640	0.085	0.330	1.10	1.05	1.28
		Right Tilted	0.251	0.357	0.399	0.394	0.085	0.327	0.65	0.69	0.97
		Left Cheek	1.190	0.174	0.255	0.256	0.085	0.104	1.45	1.45	1.55
		Left Tilted	0.808	0.123	0.187	0.224	0.085	0.090	1.00	1.02	1.12