FCC SAR TEST REPORT

APPLICANT	:	ZTE CORPORATION
EQUIPMENT	:	LTE/Multi-Mode Digital Mobile Phone
BRAND NAME	:	ZTE
MODEL NAME	:	ZTE A2020U Pro
FCC ID	:	SRQ-A2020UPRO
STANDARD	:	FCC 47 CFR PART 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

The product was received on Jun. 10, 2019 and testing was started from Jul. 05, 2019 and completed on Jul. 29, 2019. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The 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.

Rose Wang

Reviewed by: Rose Wang / Supervisor

Kat Yin

Approved by: Kat Yin / Manager

ACCREDITED
Cert #5145.02

Sporton International (Kunshan) Inc.
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History of this test report

Report No.	Version	Description	Issued Date
FA961010	01	Initial issue of report	Aug. 13, 2019

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **ZTE CORPORATION, LTE/Multi-Mode Digital Mobile Phone, ZTE A2020U Pro**, are as follows.

Highest Standalone 1g SAR Summary						Highest Simultaneous Transmission 1g SAR (W/kg)
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 10mm)	
			1g SAR (W/kg)			
Licensed	GSM	GSM850	1.06	0.69	0.69	1.58
		GSM1900	1.05	0.47	0.46	
	WCDMA	Band V	0.68	0.64	0.64	
		Band II	1.00	1.11	1.07	
		Band IV	1.01	0.88	0.83	
	LTE	LTE Band 71	**1.08**	0.39	0.39	
		Band 12/Band 17	0.97	0.41	0.41	
		LTE Band13	0.63	0.63	0.59	
		Band 26/Band 5	0.69	0.62	0.62	
		Band 66/Band 4	1.06	1.05	0.90	
		Band 25/Band 2	1.01	**1.16**	**1.10**	
		LTE Band 7	1.00	1.06	1.06	
		LTE Band 30	0.94	1.06	1.06	
		Band 41/ Band 38	1.01	0.87	0.86	
DTS	WLAN	2.4GHz WLAN	0.60	0.23	0.21	1.58
NII		5GHz WLAN	0.76	0.30	0.33	1.58
DSS	Bluetooth	2.4GHz Bluetooth	0.20	<0.10	<0.10	1.58

Highest 10g SAR Summary			
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)
NII	WLAN	5GHz WLAN	**1.64**
Date of Testing:			2019/7/5~2019/7/29

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

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory		
Test Firm	Sporton International (Kunshan) Inc.	
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958	
Test Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CN1257	314309

Applicant	
Company Name	ZTE CORPORATION
Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P. R. China

Manufacturer	
Company Name	ZTE CORPORATION
Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P. R. 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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	LTE/Multi-Mode Digital Mobile Phone
Brand Name	ZTE
Model Name	ZTE A2020U Pro
FCC ID	SRQ-A2020UPRO
IMEI Code	SIM1: 866550040004084 SIM2: 866550040004480
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2537.5 MHz ~ 2652.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 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 Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	GSM/GPRS/EGPRS/DTM RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM WLAN 2.4GHz : 802.11b/g/n/HT20/HT40 WLAN 5GHz : 802.11a/n HT20/HT40 WLAN 5GHz : 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK
HW Version	twfB
SW Version	GEN_NA_A2020U_PROV1.0
GSM / (E)GPRS Dual Transfer mode	Class A – EUT can support Packet Switched and Circuit Switched Network simultaneously.
EUT Stage	Identical Prototype

Remark:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device supports DTM operation with multi-slot class11 and also supports GRPS/EGRPS mode up to multi-slot class 12.
3. This device WLAN 2.4GHz/ WLAN 5.2GHz supports hotspot operation and Bluetooth support tethering applications.
4. This device WLAN 5.2GHz supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
5. This device has four WWAN transmit antennas, two WWAN bottom antennas and two WWAN top antennas which

can refer to antenna location chapter.

6. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately for WLAN 2.4GHz/5GHz when it transmits simultaneously WWAN or Bluetooth.
7. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
8. There are two types of EUT sample 1 and sample 2, the differences between two samples are only for SIM slot and memory, sample 1 is single SIM slot, sample 2 is dual SIM slot. After pre-scan two types of EUT, we found test result of the sample 2 was the worst, so we chose sample 2 perform full SAR testing.

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	SRQ-A2020UPRO
Equipment Name	LTE/Multi-Mode Digital 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 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2537.5 MHz ~ 2652.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 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 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM
LTE Voice / Data requirements	Voice and Data
LTE Release Version	R12, Cat 13
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}) | MPR (dB) 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 1 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 2 64 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 2 64 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 3 256 QAM | ≥ 1 | ≤ 5
Power reduction applied to satisfy SAR compliance	NO
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.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 12.
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for 7C/41C with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 4 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 12

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711

LTE Band 13

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5	23230	782
M	23230	782		
H	23255	784.5		

LTE Band 17

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711

LTE Band 25

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

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

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

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

LTE Band 41								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	40065	2537.5	40090	2540	40115	2542.5	40140	2545
LM	40385	2569.5	40390	2570	40395	2570.5	40400	2571
HM	40705	2601.5	40690	2600	40685	2599.5	40670	2598
H	41215	2652.5	41190	2650	41165	2647.5	41140	2645

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

LTE Band 71								
	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	133147	665.5	133172	668	133197	670.5	133222	673
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5
H	133447	695.5	133422	693	133397	690.5	133372	688

5. RF Exposure Limits

5.1 Uncontrolled Environment

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

5.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

6. Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

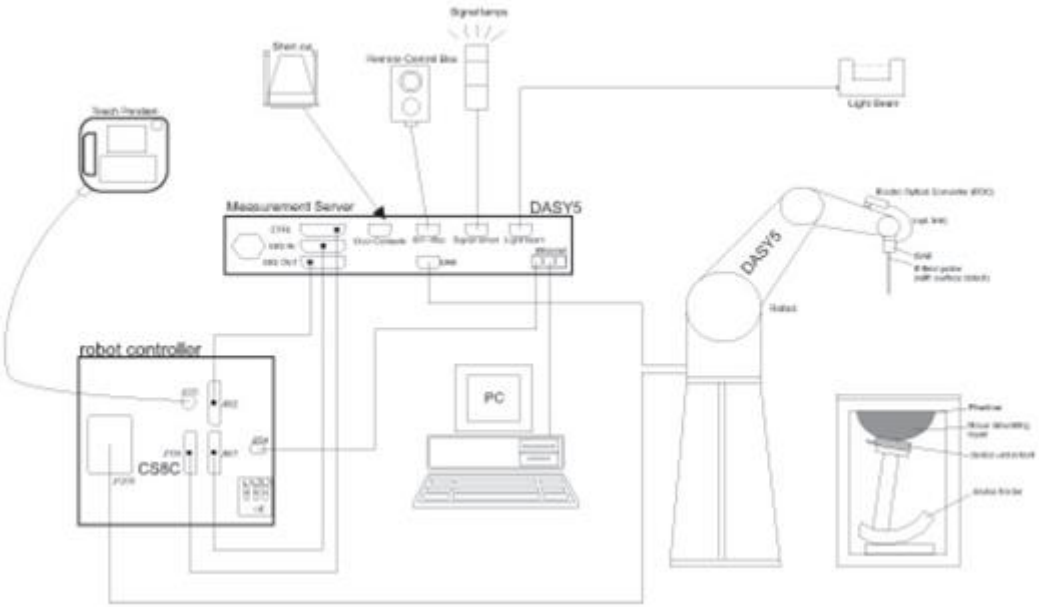
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. System Description and Setup

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



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

7.1 E-Field Probe

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

<ES3DV3 Probe>

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

<EX3DV4 Probe>

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

7.2 Data Acquisition Electronics (DAE)

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

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

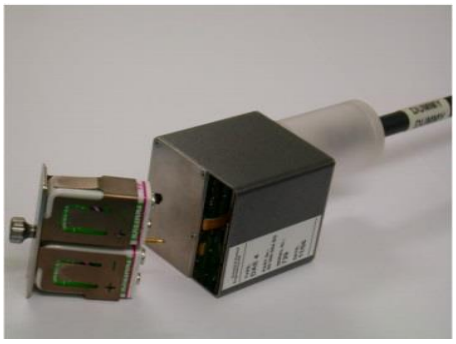
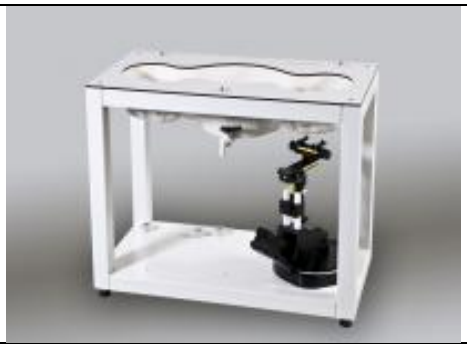


Photo of DAE

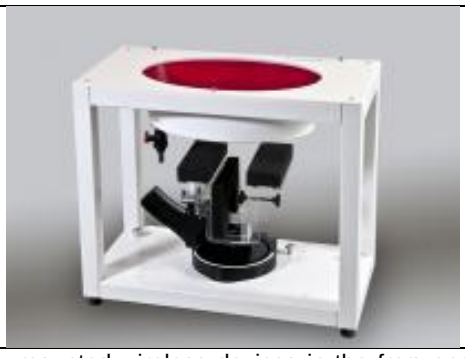
7.3 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

7.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

8. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

8.1 Spatial Peak SAR Evaluation

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

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

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

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

8.2 Power Reference Measurement

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

8.3 Area Scan

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

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

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

8.4 Zoom Scan

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

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

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

8.5 Volume Scan Procedures

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

8.6 Power Drift Monitoring

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

9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2019/3/27	2020/3/26
SPEAG	835MHz System Validation Kit	D835V2	4d151	2019/3/27	2020/3/26
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2019/3/27	2020/3/26
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2019/3/26	2020/3/25
SPEAG	2300MHz System Validation Kit	D2300V2	1055	2018/9/20	2019/9/19
SPEAG	2450MHz System Validation Kit	D2450V2	908	2019/3/25	2020/3/24
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	1210	2019/1/25	2020/1/24
SPEAG	Dosimetric E-Field Probe	EX3DV4	3954	2019/4/25	2020/4/24
SPEAG	Dosimetric E-Field Probe	ES3DV3	3279	2019/3/4	2020/3/3
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1842	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1697	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6201432831	2019/4/17	2020/4/16
Agilent	Wireless Communication Test Set	E5515C	MY52102706	2019/4/17	2020/4/16
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2019/4/17	2020/4/16
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.

10. System Verification

10.1 Tissue Simulating Liquids

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

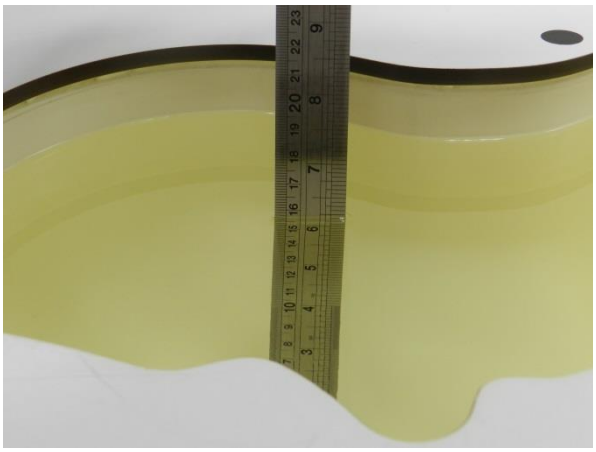


Fig 10.1Photo of Liquid Height for Head SAR

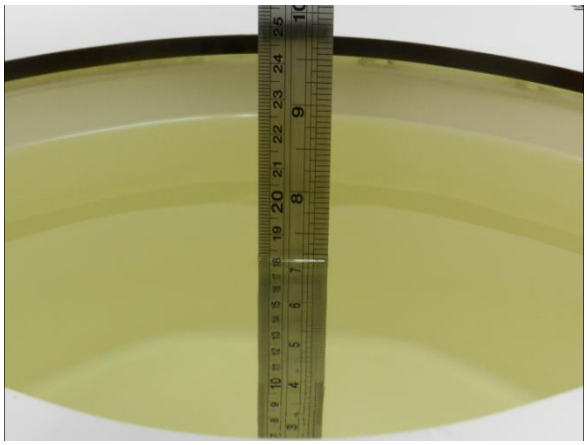


Fig 10.2 Photo of Liquid Height for Body SAR

10.2 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
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

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.7	0.903	42.105	0.89	41.90	1.46	0.49	±5	2019/7/14
835	Head	22.8	0.908	42.255	0.90	41.50	0.89	1.82	±5	2019/7/5
1750	Head	22.7	1.345	41.143	1.37	40.10	-1.82	2.60	±5	2019/7/20
1900	Head	22.6	1.424	39.918	1.40	40.00	1.71	-0.21	±5	2019/7/10
2300	Head	22.8	1.672	39.405	1.67	39.50	0.12	-0.24	±5	2019/7/12
2450	Head	22.5	1.859	38.884	1.80	39.20	3.28	-0.81	±5	2019/7/13
2600	Head	22.8	2.040	37.884	1.96	39.00	4.08	-2.86	±5	2019/7/16
5250	Head	22.7	4.631	36.749	4.71	35.90	-1.68	2.36	±5	2019/7/29
5600	Head	22.8	5.039	35.963	5.07	35.50	-0.61	1.30	±5	2019/7/29

10.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2019/7/14	750	Head	250	1087	3279	1210	2.17	8.36	8.68	3.83
2019/7/5	835	Head	250	4d151	3279	1210	2.42	9.30	9.68	4.09
2019/7/20	1750	Head	250	1090	3279	1210	8.82	36.40	35.28	-3.08
2019/7/10	1900	Head	250	5d170	3279	1210	10.20	39.00	40.80	4.62
2019/7/12	2300	Head	250	1055	3279	1210	12.10	48.70	48.40	-0.62
2019/7/13	2450	Head	250	908	3279	1210	13.30	52.80	53.20	0.76
2019/7/16	2600	Head	250	1061	3279	1210	14.10	57.70	56.40	-2.25
2019/7/29	5250	Head	100	1006	3954	1210	7.64	80.70	76.40	-5.33
2019/7/29	5600	Head	100	1006	3954	1210	8.16	83.30	81.60	-2.04

<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 (%)
2019/7/29	5250	Head	100	1006	3954	1210	2.18	23.20	21.80	-6.03
2019/7/29	5600	Head	100	1006	3954	1210	2.29	23.80	22.90	-3.78

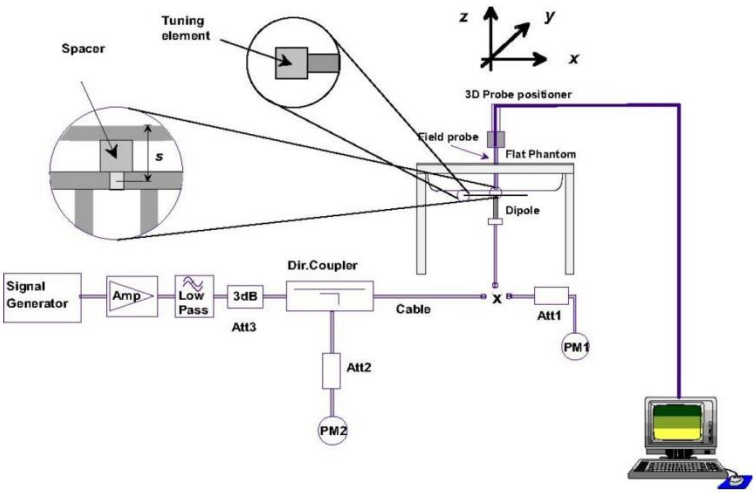


Fig 10.3.1 System Performance Check Setup

Fig 10.3.2 Setup Photo

11. RF Exposure Positions

11.1 Ear and handset reference point

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

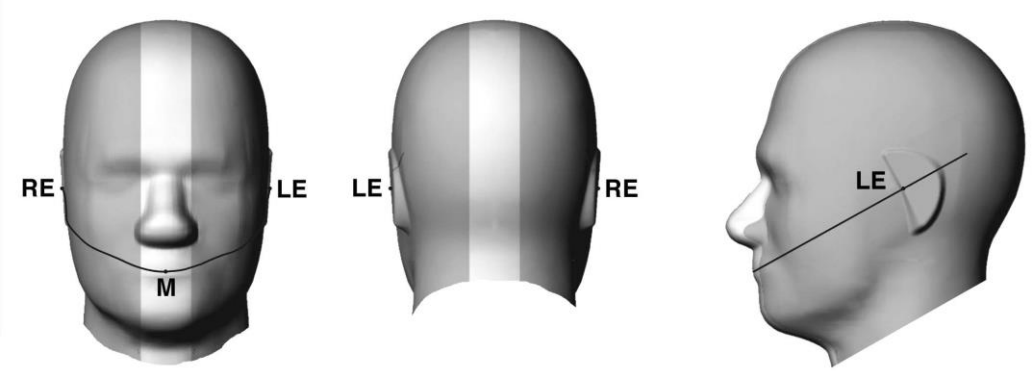


Fig 11.1.1 Front, back, and side views of SAM twin phantom

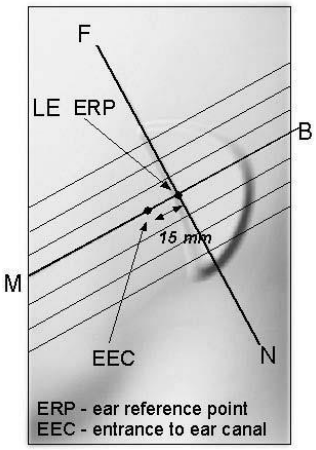


Fig 11.1.2 Close-up side view of phantom showing the ear region.

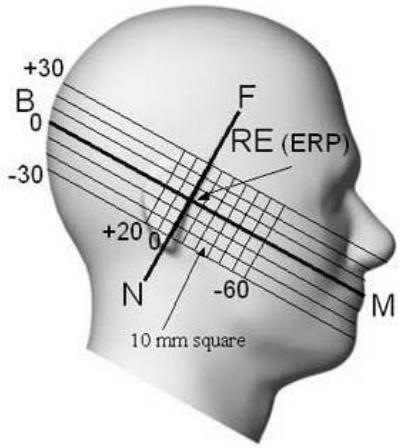


Fig 11.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

11.2 Definition of the cheek position

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

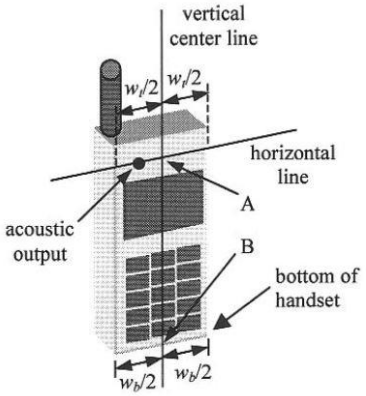


Fig 11.2.1 Handset vertical and horizontal reference lines—"fixed case

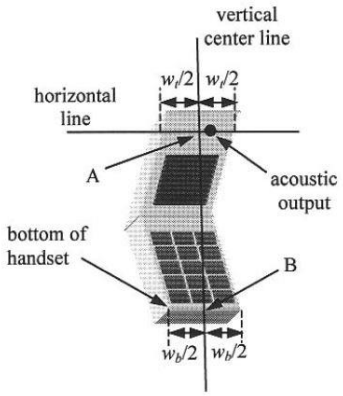


Fig 11.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

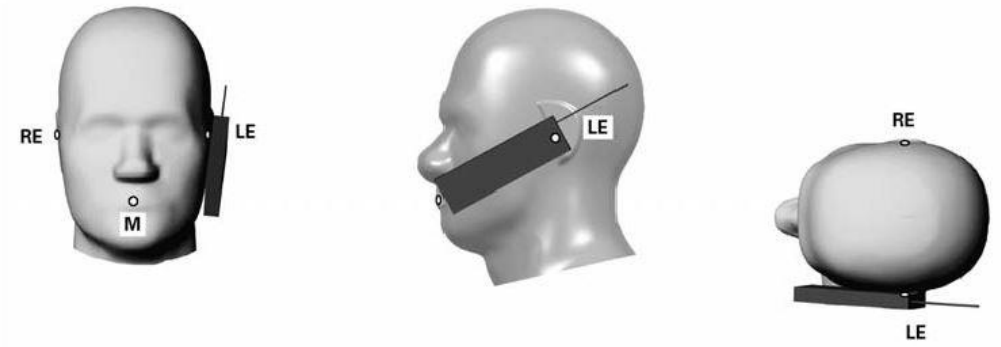


Fig 11.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

11.3 Definition of the tilt position

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

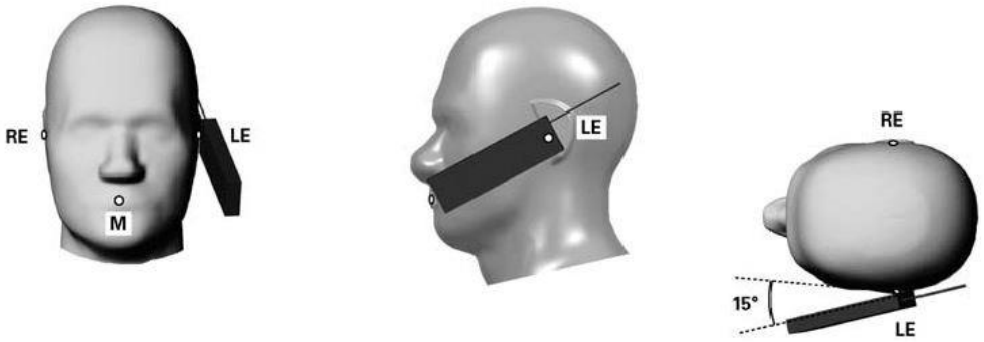


Fig 11.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

11.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

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

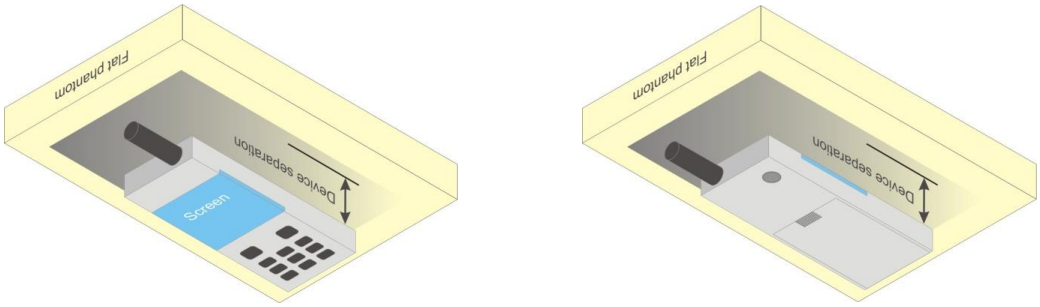


Fig 9.4 Body Worn Position

11.5 Product Specific 10g SAR Exposure

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

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

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

11.6 Wireless Router

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

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

12. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

General Note:

1. For DTM multi-slot class mode, the device was linked with base station simulator (Agilent E5515C) and transmit maximum power on maximum number of TX slots, i.e. one CS timeslot, and additional PS timeslots (1 for DTM class 5 and 9, 2 for DTM class 11) in one TDMA frame.
2. Agilent E5515C was used to setup the device operated under DTM mode for power measurement and SAR testing. For conducted power, the power of the burst for voice and the power of the bursts for data was reported separately in the table below, and the frame-average power is derived below to determine SAR testing.

   *DTM frame average power (dBm) = 10*log [∑(power of each slot, in mW)/8]*
3. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
4. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE / DTM modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850 and the GPRS (3Tx slots) for GSM1900 is considered as the primary mode.
5. Other configurations of GSM / GPRS / EDGE / DTM 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.

<WWAN Top Antenna>

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		29.81	29.80	30.16	31.50	20.81	20.80	21.16	22.50
GPRS 1 Tx slot		29.80	29.81	30.14	31.50	20.80	20.81	21.14	22.50
GPRS 2 Tx slots		29.67	29.67	29.95	30.00	23.67	23.67	23.95	24.00
GPRS 3 Tx slots		28.32	28.33	28.41	28.50	24.06	24.07	24.15	24.24
GPRS 4 Tx slots		27.00	27.13	27.12	27.50	24.00	24.13	24.12	**24.50**
EDGE 1 Tx slot		26.39	26.63	26.76	27.00	17.39	17.63	17.76	18.00
EDGE 2 Tx slots		26.15	26.45	26.58	27.00	20.15	20.45	20.58	21.00
EDGE 3 Tx slots		25.95	26.23	26.35	27.00	21.69	21.97	22.09	22.74
EDGE 4 Tx slots		25.80	26.05	26.15	27.00	22.80	23.05	23.15	24.00
DTM Multi-slot class 5	GSM 1 Tx slot	29.02	29.51	29.57	30.00	22.84	23.32	23.38	23.98
	GPRS 1 Tx slot	28.70	29.16	29.23	30.00				
DTM Multi-slot class 9	GSM 1 Tx slot	29.10	29.50	29.56	30.00	22.92	23.35	23.38	23.98
	GPRS 1 Tx slot	28.78	29.23	29.24	30.00				
DTM Multi-slot class 11	GSM 1 Tx slot	28.43	28.37	28.42	28.50	23.85	23.85	23.83	23.91
	GPRS 2 Tx slots	27.94	27.98	27.91	28.00				
DTM Multi-slot class 5	GSM 1 Tx slot	29.10	29.42	29.50	30.00	21.67	21.85	21.95	22.73
	EDGE 1 Tx slot	25.59	25.45	25.60	27.00				
DTM Multi-slot class 9	GSM 1 Tx slot	29.21	29.51	29.60	30.00	21.66	21.81	21.89	22.73
	EDGE 1 Tx slot	25.31	25.04	25.12	27.00				
DTM Multi-slot class 11	GSM 1 Tx slot	28.43	28.44	28.48	28.50	22.40	22.33	22.45	23.30
	EDGE 2 Tx slots	25.40	25.25	25.46	27.00				

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

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		26.01	26.48	26.49	26.50	17.01	17.48	17.49	17.50
GPRS 1 Tx slot		25.99	26.47	26.49	26.50	16.99	17.47	17.49	17.50
GPRS 2 Tx slots		25.88	26.40	26.47	26.50	19.88	20.40	20.47	20.50
GPRS 3 Tx slots		25.40	25.45	25.43	25.50	21.14	21.19	21.17	**21.24**
GPRS 4 Tx slots		23.17	23.19	23.10	24.00	20.17	20.19	20.10	21.00
EDGE 1 Tx slot		24.47	24.78	24.33	25.00	15.47	15.78	15.33	16.00
EDGE 2 Tx slots		24.33	24.77	24.25	25.00	18.33	18.77	18.25	19.00
EDGE 3 Tx slots		24.16	24.62	23.93	25.00	19.90	20.36	19.67	20.74
EDGE 4 Tx slots		23.69	23.93	23.79	24.00	20.69	20.93	20.79	21.00
DTM Multi-slot class 5	GSM 1 Tx slot	25.05	24.89	25.44	26.50	18.84	18.69	19.22	20.48
	GPRS 1 Tx slot	24.67	24.53	25.04	26.50				
DTM Multi-slot class 9	GSM 1 Tx slot	25.07	24.95	25.48	26.50	18.88	18.73	19.26	20.48
	GPRS 1 Tx slot	24.72	24.55	25.07	26.50				
DTM Multi-slot class 11	GSM 1 Tx slot	25.04	25.13	25.05	25.50	20.49	20.54	20.53	20.91
	GPRS 2 Tx slots	24.60	24.62	24.66	25.00				
DTM Multi-slot class 5	GSM 1 Tx slot	25.08	25.20	25.32	26.50	18.63	18.80	18.66	19.79
	EDGE 1 Tx slot	24.17	24.40	23.93	25.00				
DTM Multi-slot class 9	GSM 1 Tx slot	25.12	25.07	25.54	26.50	18.50	18.56	18.66	19.79
	EDGE 1 Tx slot	23.83	24.04	23.60	25.00				
DTM Multi-slot class 11	GSM 1 Tx slot	24.64	24.77	24.75	25.50	19.96	20.01	19.82	20.91
	EDGE 2 Tx slots	23.99	24.00	23.70	25.00				

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 Bottom Antenna>

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		32.59	32.83	32.97	33.50	23.59	23.83	23.97	24.50
GPRS 1 Tx slot		32.58	32.82	32.96	33.50	23.58	23.82	23.96	24.50
GPRS 2 Tx slots		30.62	30.98	30.71	31.50	24.62	24.98	24.71	25.50
GPRS 3 Tx slots		29.54	29.73	29.70	30.00	25.28	25.47	25.44	25.74
GPRS 4 Tx slots		27.68	27.79	27.78	29.00	24.68	24.79	24.78	**26.00**
EDGE 1 Tx slot		26.82	26.32	26.00	27.00	17.82	17.32	17.00	18.00
EDGE 2 Tx slots		26.68	26.20	25.89	27.00	20.68	20.20	19.89	21.00
EDGE 3 Tx slots		26.51	26.07	25.68	27.00	22.25	21.81	21.42	22.74
EDGE 4 Tx slots		26.19	25.71	25.40	27.00	23.19	22.71	22.40	24.00
DTM Multi-slot class 5	GSM 1 Tx slot	30.01	30.30	30.50	31.50	23.82	24.11	24.33	25.48
	GPRS 1 Tx slot	29.67	29.96	30.20	31.50				
DTM Multi-slot class 9	GSM 1 Tx slot	29.96	30.35	30.48	31.50	23.77	24.16	24.30	25.48
	GPRS 1 Tx slot	29.62	30.00	30.15	31.50				
DTM Multi-slot class 11	GSM 1 Tx slot	29.52	29.70	29.40	30.00	25.05	24.95	24.94	25.41
	GPRS 2 Tx slots	29.20	28.95	29.09	29.50				
DTM Multi-slot class 5	GSM 1 Tx slot	30.05	30.26	30.02	31.50	22.52	22.73	22.51	23.79
	EDGE 1 Tx slot	26.20	26.43	26.23	27.00				
DTM Multi-slot class 9	GSM 1 Tx slot	30.21	30.54	30.50	31.50	22.50	22.72	22.79	23.79
	EDGE 1 Tx slot	25.73	25.62	25.99	27.00				
DTM Multi-slot class 11	GSM 1 Tx slot	29.58	29.16	29.00	30.00	23.26	23.23	23.06	23.98
	EDGE 2 Tx slots	25.95	26.32	26.14	27.00				

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

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		29.46	29.62	29.69	30.50	20.46	20.62	20.69	21.50
GPRS 1 Tx slot		29.45	29.61	29.68	30.50	20.45	20.61	20.68	21.50
GPRS 2 Tx slots		27.38	27.48	27.50	28.00	21.38	21.48	21.50	22.00
GPRS 3 Tx slots		26.40	26.48	26.47	26.50	22.14	22.22	22.21	**22.24**
GPRS 4 Tx slots		24.40	24.38	24.50	25.00	21.40	21.38	21.50	22.00
EDGE 1 Tx slot		25.07	25.35	24.90	26.00	16.07	16.35	15.90	17.00
EDGE 2 Tx slots		24.94	25.12	24.75	26.00	18.94	19.12	18.75	20.00
EDGE 3 Tx slots		24.74	24.93	24.56	25.00	20.48	20.67	20.30	20.74
EDGE 4 Tx slots		24.38	24.45	24.32	24.50	21.38	21.45	21.32	21.50
DTM Multi-slot class 5	GSM 1 Tx slot	27.39	27.85	27.79	28.00	21.15	21.58	21.54	21.98
	GPRS 1 Tx slot	26.93	27.33	27.31	28.00				
DTM Multi-slot class 9	GSM 1 Tx slot	27.40	27.81	27.79	28.00	21.15	21.56	21.54	21.98
	GPRS 1 Tx slot	26.92	27.34	27.32	28.00				
DTM Multi-slot class 11	GSM 1 Tx slot	26.28	26.44	26.46	26.50	21.72	21.87	21.87	21.91
	GPRS 2 Tx slots	25.82	25.96	25.96	26.00				
DTM Multi-slot class 5	GSM 1 Tx slot	27.70	27.75	27.77	28.00	21.39	21.42	21.52	21.98
	EDGE 1 Tx slot	27.09	27.11	27.29	28.00				
DTM Multi-slot class 9	GSM 1 Tx slot	27.45	27.39	27.55	28.00	21.30	21.28	21.41	21.98
	EDGE 1 Tx slot	27.18	27.20	27.31	28.00				
DTM Multi-slot class 11	GSM 1 Tx slot	26.40	26.48	26.49	26.50	21.79	21.85	21.88	21.91
	EDGE 2 Tx slots	25.86	25.91	25.95	26.00				

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

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station 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.		

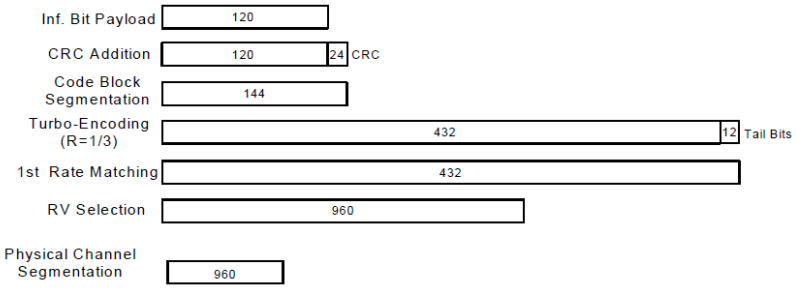


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

<WWAN Top Antenna>

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	18.67	18.68	18.68	19.50	17.06	17.12	17.11	17.50	21.26	21.23	21.20	22.00
3GPP Rel 99	RMC 12.2Kbps	18.67	**18.71**	18.70	19.50	17.08	**17.13**	17.12	17.50	**21.27**	21.26	21.22	22.00
3GPP Rel 6	HSDPA Subtest-1	17.66	17.71	17.66	18.50	15.93	16.05	16.07	16.50	20.29	20.34	20.25	21.00
3GPP Rel 6	HSDPA Subtest-2	17.63	17.70	17.66	18.50	15.91	16.09	16.05	16.50	20.27	20.09	20.25	21.00
3GPP Rel 6	HSDPA Subtest-3	17.14	17.21	17.15	18.00	15.38	15.53	15.53	16.00	19.81	19.83	19.74	20.50
3GPP Rel 6	HSDPA Subtest-4	17.12	17.22	17.15	18.00	15.38	15.54	15.52	16.00	19.77	19.78	19.74	20.50
3GPP Rel 8	DC-HSDPA Subtest-1	17.65	17.71	17.65	18.50	15.92	16.04	16.06	16.50	20.28	20.33	20.24	21.00
3GPP Rel 8	DC-HSDPA Subtest-2	17.62	17.69	17.65	18.50	15.90	16.08	16.04	16.50	20.26	20.56	20.23	21.00
3GPP Rel 8	DC-HSDPA Subtest-3	17.13	17.21	17.14	18.00	15.37	15.51	15.52	16.00	19.80	19.82	19.73	20.50
3GPP Rel 8	DC-HSDPA Subtest-4	17.11	17.20	17.13	18.00	15.37	15.52	15.51	16.00	19.76	19.77	19.72	20.50
3GPP Rel 6	HSUPA Subtest-1	17.60	17.73	17.69	18.50	15.98	16.08	16.07	16.50	20.21	20.35	20.26	21.00
3GPP Rel 6	HSUPA Subtest-2	15.66	15.69	15.65	16.50	13.93	14.01	13.97	14.50	18.16	18.20	18.17	19.00
3GPP Rel 6	HSUPA Subtest-3	16.65	16.70	16.64	17.50	14.96	15.03	14.96	15.50	19.20	19.21	19.20	20.00
3GPP Rel 6	HSUPA Subtest-4	15.63	15.74	15.69	16.50	13.92	14.08	14.08	14.50	18.18	18.33	18.20	19.00
3GPP Rel 6	HSUPA Subtest-5	17.70	17.80	17.70	18.50	16.00	16.10	16.10	16.50	20.20	20.30	20.20	21.00

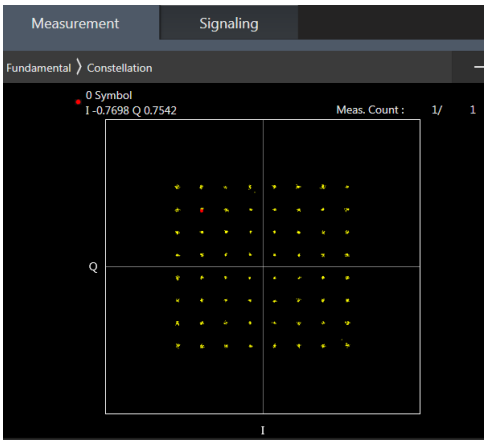
<WWAN Bottom Antenna>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	23.64	23.70	23.65	24.00	23.64	23.72	23.63	24.50	24.19	24.20	24.20	25.00
3GPP Rel 99	RMC 12.2Kbps	23.65	**23.72**	23.68	24.00	23.64	**23.73**	23.65	24.50	**24.24**	24.22	24.21	25.00
3GPP Rel 6	HSDPA Subtest-1	22.84	22.92	22.90	23.00	22.86	22.92	22.88	23.50	23.26	23.22	23.27	24.00
3GPP Rel 6	HSDPA Subtest-2	22.57	22.96	22.93	23.00	22.85	22.91	22.87	23.50	23.22	23.24	23.27	24.00
3GPP Rel 6	HSDPA Subtest-3	22.36	22.42	22.41	22.50	22.35	22.41	22.37	23.00	22.76	22.75	22.74	23.50
3GPP Rel 6	HSDPA Subtest-4	22.37	22.44	22.43	22.50	22.37	22.40	22.37	23.00	22.79	22.71	22.77	23.50
3GPP Rel 8	DC-HSDPA Subtest-1	22.82	22.89	22.88	23.00	22.84	22.89	22.86	23.50	23.23	23.20	23.24	23.50
3GPP Rel 8	DC-HSDPA Subtest-2	22.55	22.93	22.91	23.00	22.83	22.88	22.85	23.50	23.19	23.22	23.24	23.50
3GPP Rel 8	DC-HSDPA Subtest-3	22.34	22.39	22.39	22.50	22.33	22.38	22.35	23.00	22.73	22.73	22.71	23.00
3GPP Rel 8	DC-HSDPA Subtest-4	22.35	22.41	22.41	22.50	22.35	22.37	22.35	23.00	22.76	22.69	22.74	23.00
3GPP Rel 6	HSUPA Subtest-1	22.86	22.97	22.97	23.00	22.81	22.94	22.97	23.50	23.26	23.25	23.26	24.00
3GPP Rel 6	HSUPA Subtest-2	20.84	20.95	20.96	21.00	20.83	20.91	20.90	21.50	21.22	21.27	21.22	22.00
3GPP Rel 6	HSUPA Subtest-3	21.87	21.99	21.94	22.00	21.88	21.87	21.92	22.50	22.25	22.25	22.24	23.00
3GPP Rel 6	HSUPA Subtest-4	20.87	20.96	20.95	21.00	20.82	20.94	20.90	21.50	21.24	21.28	21.23	22.00
3GPP Rel 6	HSUPA Subtest-5	22.90	23.00	23.00	23.00	22.80	22.90	22.90	23.50	23.20	23.30	23.20	24.00

<LTE Conducted Power>

General Note:

1. Anritsu MT8821C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / B38 /B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2 / 4 / 5 / 17 / 38 SAR test was covered by Band 25 / 66 / 26 / 12 / 41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM

16QAM

<WWAN Top Antenna>

<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	18.19	18.20	18.20	18.5	0
20	QPSK	1	49	18.07	18.22	18.19		
20	QPSK	1	99	18.08	18.20	18.14		
20	QPSK	50	0	17.27	17.35	17.34	17.5	1
20	QPSK	50	24	17.28	17.36	17.34		
20	QPSK	50	50	17.26	17.39	17.39		
20	QPSK	100	0	17.25	17.35	17.36		
20	16QAM	1	0	17.49	17.41	17.45	17.5	1
20	16QAM	1	49	17.26	17.47	17.47		
20	16QAM	1	99	17.28	17.42	17.39		
20	16QAM	50	0	16.27	16.36	16.31	16.5	2
20	16QAM	50	24	16.27	16.36	16.34		
20	16QAM	50	50	16.27	16.37	16.35		
20	16QAM	100	0	16.26	16.34	16.32		
20	64QAM	1	0	16.30	16.34	16.23	16.5	2
20	64QAM	1	49	16.12	16.28	16.28		
20	64QAM	1	99	16.14	16.25	16.24		
20	64QAM	50	0	15.44	15.34	15.30	15.5	3
20	64QAM	50	24	15.43	15.35	15.31		
20	64QAM	50	50	15.44	15.33	15.32		
20	64QAM	100	0	15.43	15.36	15.34		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	18.23	18.28	18.24	18.5	0
15	QPSK	1	37	18.12	18.22	18.20		
15	QPSK	1	74	18.11	18.27	18.17		
15	QPSK	36	0	17.26	17.37	17.33	17.5	1
15	QPSK	36	20	17.27	17.37	17.35		
15	QPSK	36	39	17.26	17.40	17.37		
15	QPSK	75	0	17.27	17.38	17.35		
15	16QAM	1	0	17.41	17.42	17.45	17.5	1
15	16QAM	1	37	17.37	17.45	17.44		
15	16QAM	1	74	17.36	17.49	17.39		
15	16QAM	36	0	16.22	16.34	16.29	16.5	2
15	16QAM	36	20	16.26	16.36	16.33		
15	16QAM	36	39	16.21	16.38	16.32		
15	16QAM	75	0	16.26	16.35	16.32		
15	64QAM	1	0	16.36	16.30	16.33	16.5	2
15	64QAM	1	37	16.16	16.28	16.26		
15	64QAM	1	74	16.21	16.28	16.22		
15	64QAM	36	0	15.11	15.24	15.20	15.5	3
15	64QAM	36	20	15.15	15.26	15.22		
15	64QAM	36	39	15.12	15.27	15.21		
15	64QAM	75	0	15.15	15.25	15.23		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	18.22	18.26	18.35	18.5	0
10	QPSK	1	25	18.14	18.23	18.31		
10	QPSK	1	49	18.20	18.28	18.24		
10	QPSK	25	0	17.33	17.40	17.38	17.5	1
10	QPSK	25	12	17.33	17.42	17.38		
10	QPSK	25	25	17.28	17.35	17.33		
10	QPSK	50	0	17.31	17.38	17.36		
10	16QAM	1	0	17.45	17.41	17.48	17.5	1
10	16QAM	1	25	17.35	17.47	17.44		
10	16QAM	1	49	17.37	17.42	17.41		
10	16QAM	25	0	16.32	16.41	16.35	16.5	2
10	16QAM	25	12	16.33	16.42	16.35		
10	16QAM	25	25	16.25	16.33	16.31		
10	16QAM	50	0	16.30	16.37	16.34		
10	64QAM	1	0	16.28	16.35	16.36	16.5	2
10	64QAM	1	25	16.21	16.29	16.24		
10	64QAM	1	49	16.18	16.29	16.26		
10	64QAM	25	0	15.22	15.30	15.25	15.5	3
10	64QAM	25	12	15.22	15.31	15.25		
10	64QAM	25	25	15.13	15.24	15.23		
10	64QAM	50	0	15.16	15.26	15.22		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	18.24	18.22	18.23	18.5	0
5	QPSK	1	12	18.22	18.31	18.28		
5	QPSK	1	24	18.21	18.32	18.30		
5	QPSK	12	0	17.31	17.32	17.30	17.5	1
5	QPSK	12	7	17.35	17.39	17.39		
5	QPSK	12	13	17.35	17.43	17.39		
5	QPSK	25	0	17.35	17.35	17.31		
5	16QAM	1	0	17.49	17.47	17.47	17.5	1
5	16QAM	1	12	17.49	17.45	17.41		
5	16QAM	1	24	17.45	17.50	17.42		
5	16QAM	12	0	16.33	16.33	16.28	16.5	2
5	16QAM	12	7	16.36	16.37	16.39		
5	16QAM	12	13	16.33	16.43	16.40		
5	16QAM	25	0	16.30	16.33	16.31		
5	64QAM	1	0	16.26	16.33	16.26	16.5	2
5	64QAM	1	12	16.27	16.39	16.32		
5	64QAM	1	24	16.23	16.35	16.29		
5	64QAM	12	0	15.18	15.20	15.18	15.5	3
5	64QAM	12	7	15.24	15.26	15.29		
5	64QAM	12	13	15.24	15.33	15.27		
5	64QAM	25	0	15.21	15.22	15.20		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	18.20	18.22	18.22	18.5	0
3	QPSK	1	8	18.29	18.35	18.37		
3	QPSK	1	14	18.21	18.30	18.25		
3	QPSK	8	0	17.26	17.28	17.32	17.5	1
3	QPSK	8	4	17.32	17.41	17.36		
3	QPSK	8	7	17.31	17.36	17.35		
3	QPSK	15	0	17.32	17.32	17.37		
3	16QAM	1	0	17.45	17.48	17.43	17.5	1
3	16QAM	1	8	17.46	17.48	17.44		
3	16QAM	1	14	17.42	17.44	17.47		
3	16QAM	8	0	16.33	16.33	16.37	16.5	2
3	16QAM	8	4	16.34	16.42	16.42		
3	16QAM	8	7	16.33	16.42	16.41		
3	16QAM	15	0	16.32	16.31	16.38		
3	64QAM	1	0	16.21	16.27	16.32	16.5	2
3	64QAM	1	8	16.40	16.43	16.37		
3	64QAM	1	14	16.24	16.38	16.31		
3	64QAM	8	0	15.17	15.20	15.22	15.5	3
3	64QAM	8	4	15.23	15.29	15.29		
3	64QAM	8	7	15.21	15.28	15.24		
3	64QAM	15	0	15.20	15.22	15.23		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	18.13	18.16	18.11	18.5	0
1.4	QPSK	1	3	18.21	18.29	18.24		
1.4	QPSK	1	5	18.17	18.24	18.15		
1.4	QPSK	3	0	18.16	18.21	18.15		
1.4	QPSK	3	1	18.22	18.27	18.21		
1.4	QPSK	3	3	18.21	18.23	18.16		
1.4	QPSK	6	0	17.25	17.29	17.22	17.5	1
1.4	16QAM	1	0	17.37	17.44	17.35	17.5	1
1.4	16QAM	1	3	17.49	17.41	17.42		
1.4	16QAM	1	5	17.37	17.42	17.35		
1.4	16QAM	3	0	17.18	17.24	17.17		
1.4	16QAM	3	1	17.23	17.29	17.22		
1.4	16QAM	3	3	17.17	17.24	17.20		
1.4	16QAM	6	0	16.26	16.37	16.30	16.5	2
1.4	64QAM	1	0	16.17	16.25	16.23	16.5	2
1.4	64QAM	1	3	16.24	16.32	16.24		
1.4	64QAM	1	5	16.19	16.27	16.23		
1.4	64QAM	3	0	15.09	15.16	15.11		
1.4	64QAM	3	1	15.18	15.22	15.17		
1.4	64QAM	3	3	15.15	15.19	15.16		
1.4	64QAM	6	0	15.10	15.19	15.13	15.5	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	17.41	17.51	17.63	18	0
20	QPSK	1	49	17.44	17.50	17.57		
20	QPSK	1	99	17.49	17.51	17.55		
20	QPSK	50	0	16.49	16.63	16.60	17	1
20	QPSK	50	24	16.50	16.61	16.58		
20	QPSK	50	50	16.48	16.58	16.53		
20	QPSK	100	0	16.49	16.60	16.57		
20	16QAM	1	0	16.64	16.80	16.83	17	1
20	16QAM	1	49	16.71	16.66	16.87		
20	16QAM	1	99	16.67	16.75	16.79		
20	16QAM	50	0	15.49	15.58	15.60	16	2
20	16QAM	50	24	15.48	15.61	15.58		
20	16QAM	50	50	15.46	15.56	15.53		
20	16QAM	100	0	15.46	15.56	15.54		
20	64QAM	1	0	15.62	15.83	15.84	16	2
20	64QAM	1	49	15.72	15.70	15.84		
20	64QAM	1	99	15.74	15.81	15.85		
20	64QAM	50	0	14.55	14.68	14.67	15	3
20	64QAM	50	24	14.60	14.66	14.65		
20	64QAM	50	50	14.56	14.65	14.60		
20	64QAM	100	0	14.57	14.70	14.63		

Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	17.40	17.57	17.55	18	0
15	QPSK	1	37	17.43	17.52	17.51		
15	QPSK	1	74	17.41	17.57	17.52		
15	QPSK	36	0	16.42	16.55	16.54	17	1
15	QPSK	36	20	16.43	16.56	16.56		
15	QPSK	36	39	16.39	16.55	16.49		
15	QPSK	75	0	16.43	16.55	16.54		
15	16QAM	1	0	16.60	16.88	16.78	17	1
15	16QAM	1	37	16.67	16.70	16.79		
15	16QAM	1	74	16.67	16.80	16.77		
15	16QAM	36	0	15.39	15.52	15.52	16	2
15	16QAM	36	20	15.42	15.53	15.55		
15	16QAM	36	39	15.41	15.50	15.47		
15	16QAM	75	0	15.39	15.53	15.52		
15	64QAM	1	0	15.67	15.80	15.80	16	2
15	64QAM	1	37	15.64	15.76	15.76		
15	64QAM	1	74	15.71	15.78	15.79		
15	64QAM	36	0	14.51	14.59	14.61	15	3
15	64QAM	36	20	14.52	14.63	14.63		
15	64QAM	36	39	14.51	14.59	14.57		
15	64QAM	75	0	14.52	14.62	14.59		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	17.24	17.49	17.45	18	0
10	QPSK	1	25	17.33	17.34	17.37		
10	QPSK	1	49	17.22	17.37	17.36		
10	QPSK	25	0	16.29	16.48	16.47	17	1
10	QPSK	25	12	16.32	16.49	16.48		
10	QPSK	25	25	16.25	16.41	16.40		
10	QPSK	50	0	16.30	16.45	16.43		
10	16QAM	1	0	16.49	16.68	16.74	17	1
10	16QAM	1	25	16.60	16.62	16.68		
10	16QAM	1	49	16.55	16.61	16.53		
10	16QAM	25	0	15.30	15.43	15.45	16	2
10	16QAM	25	12	15.30	15.44	15.42		
10	16QAM	25	25	15.24	15.36	15.36		
10	16QAM	50	0	15.27	15.40	15.40		
10	64QAM	1	0	15.53	15.71	15.66	16	2
10	64QAM	1	25	15.50	15.60	15.75		
10	64QAM	1	49	15.53	15.62	15.55		
10	64QAM	25	0	14.38	14.55	14.52	15	3
10	64QAM	25	12	14.38	14.53	14.53		
10	64QAM	25	25	14.33	14.47	14.46		
10	64QAM	50	0	14.35	14.49	14.49		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	17.21	17.42	17.44	18	0
5	QPSK	1	12	17.33	17.49	17.45		
5	QPSK	1	24	17.21	17.41	17.35		
5	QPSK	12	0	16.22	16.43	16.39	17	1
5	QPSK	12	7	16.32	16.45	16.43		
5	QPSK	12	13	16.30	16.47	16.43		
5	QPSK	25	0	16.29	16.41	16.39		
5	16QAM	1	0	16.44	16.62	16.65	17	1
5	16QAM	1	12	16.57	16.73	16.64		
5	16QAM	1	24	16.49	16.63	16.59		
5	16QAM	12	0	15.18	15.39	15.38	16	2
5	16QAM	12	7	15.31	15.40	15.40		
5	16QAM	12	13	15.29	15.44	15.42		
5	16QAM	25	0	15.26	15.38	15.38		
5	64QAM	1	0	15.45	15.67	15.68	16	2
5	64QAM	1	12	15.57	15.74	15.72		
5	64QAM	1	24	15.51	15.65	15.55		
5	64QAM	12	0	14.30	14.48	14.44	15	3
5	64QAM	12	7	14.39	14.50	14.49		
5	64QAM	12	13	14.37	14.54	14.49		
5	64QAM	25	0	14.38	14.48	14.47		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	17.17	17.36	17.47	18	0
3	QPSK	1	8	17.34	17.53	17.52		
3	QPSK	1	14	17.19	17.43	17.37		
3	QPSK	8	0	16.21	16.38	16.39	17	1
3	QPSK	8	4	16.28	16.41	16.42		
3	QPSK	8	7	16.24	16.45	16.41		
3	QPSK	15	0	16.24	16.41	16.48		
3	16QAM	1	0	16.36	16.56	16.52	17	1
3	16QAM	1	8	16.60	16.73	16.55		
3	16QAM	1	14	16.46	16.58	16.47		
3	16QAM	8	0	15.24	15.38	15.33	16	2
3	16QAM	8	4	15.32	15.42	15.35		
3	16QAM	8	7	15.27	15.43	15.31		
3	16QAM	15	0	15.23	15.39	15.38		
3	64QAM	1	0	15.39	15.60	15.55	16	2
3	64QAM	1	8	15.58	15.77	15.64		
3	64QAM	1	14	15.47	15.63	15.50		
3	64QAM	8	0	14.31	14.45	14.42	15	3
3	64QAM	8	4	14.36	14.49	14.45		
3	64QAM	8	7	14.32	14.52	14.37		
3	64QAM	15	0	14.31	14.47	14.49		

Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	17.05	17.35	17.28	18	0
1.4	QPSK	1	3	17.23	17.50	17.42		
1.4	QPSK	1	5	17.18	17.39	17.36		
1.4	QPSK	3	0	17.09	17.30	17.20		
1.4	QPSK	3	1	17.15	17.35	17.34		
1.4	QPSK	3	3	17.10	17.31	17.30		
1.4	QPSK	6	0	16.17	16.40	16.32	17	1
1.4	16QAM	1	0	16.29	16.54	16.47	17	1
1.4	16QAM	1	3	16.46	16.67	16.65		
1.4	16QAM	1	5	16.35	16.61	16.52		
1.4	16QAM	3	0	16.08	16.30	16.19		
1.4	16QAM	3	1	16.13	16.33	16.33		
1.4	16QAM	3	3	16.10	16.31	16.28		
1.4	16QAM	6	0	15.21	15.43	15.37	16	2
1.4	64QAM	1	0	15.31	15.60	15.50	16	2
1.4	64QAM	1	3	15.50	15.69	15.66		
1.4	64QAM	1	5	15.38	15.61	15.55		
1.4	64QAM	3	0	15.20	15.42	15.37		
1.4	64QAM	3	1	15.26	15.50	15.49		
1.4	64QAM	3	3	15.22	15.47	15.42		
1.4	64QAM	6	0	14.23	14.47	14.39	15	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	21.77	21.81	21.73	22.5	0
10	QPSK	1	25	21.72	21.73	21.68		
10	QPSK	1	49	21.64	21.66	21.57		
10	QPSK	25	0	20.95	20.96	20.93	22.5	0
10	QPSK	25	12	20.98	20.94	20.90		
10	QPSK	25	25	20.90	20.91	20.86		
10	QPSK	50	0	20.95	20.93	20.90		
10	16QAM	1	0	21.99	21.98	21.92	22.5	0
10	16QAM	1	25	21.99	22.00	22.00		
10	16QAM	1	49	21.95	21.95	21.84		
10	16QAM	25	0	19.96	19.94	19.89	22.5	0
10	16QAM	25	12	19.93	19.94	19.89		
10	16QAM	25	25	19.88	19.87	19.82		
10	16QAM	50	0	19.92	19.92	19.88		
10	64QAM	1	0	20.91	20.99	20.98	22.5	0
10	64QAM	1	25	20.90	20.90	20.96		
10	64QAM	1	49	20.94	20.97	20.87		
10	64QAM	25	0	19.03	19.04	19.01	21.5	1
10	64QAM	25	12	19.05	19.05	18.99		
10	64QAM	25	25	19.01	18.97	18.94		
10	64QAM	50	0	19.02	19.01	18.98		

Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	21.61	21.65	21.61	22.5	0
5	QPSK	1	12	21.71	21.71	21.64		
5	QPSK	1	24	21.71	21.70	21.64		
5	QPSK	12	0	21.75	21.74	21.69	22.5	0
5	QPSK	12	7	21.87	21.86	21.77		
5	QPSK	12	13	21.89	21.85	21.78		
5	QPSK	25	0	20.96	20.92	20.87		
5	16QAM	1	0	21.94	21.91	21.87	22.5	0
5	16QAM	1	12	21.97	22.02	21.92		
5	16QAM	1	24	21.96	21.93	21.90		
5	16QAM	12	0	21.74	21.75	21.68	22.5	0
5	16QAM	12	7	21.88	21.88	21.79		
5	16QAM	12	13	21.88	21.86	21.80		
5	16QAM	25	0	19.94	19.94	20.00		
5	64QAM	1	0	20.91	20.90	20.84	22.5	0
5	64QAM	1	12	21.00	21.02	20.93		
5	64QAM	1	24	21.02	20.94	20.91		
5	64QAM	12	0	20.83	20.83	20.76	21.5	1
5	64QAM	12	7	20.97	20.94	20.89		
5	64QAM	12	13	20.95	20.92	20.89		
5	64QAM	25	0	19.02	19.03	18.96		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	21.68	21.66	21.65	22.5	0
3	QPSK	1	8	21.91	21.88	21.79		
3	QPSK	1	14	21.84	21.84	21.72		
3	QPSK	8	0	21.79	21.81	21.73	22.5	0
3	QPSK	8	4	21.93	21.93	21.86		
3	QPSK	8	7	21.92	21.92	21.85		
3	QPSK	15	0	21.90	21.89	21.77		
3	16QAM	1	0	22.00	21.89	21.91	22.5	0
3	16QAM	1	8	22.16	22.12	22.09		
3	16QAM	1	14	22.07	22.06	21.98		
3	16QAM	8	0	21.87	21.89	21.80	22.5	0
3	16QAM	8	4	22.00	21.97	21.94		
3	16QAM	8	7	21.98	21.99	21.90		
3	16QAM	15	0	21.92	21.90	21.81		
3	64QAM	1	0	21.42	21.42	21.38	22.5	0
3	64QAM	1	8	21.63	21.70	21.57		
3	64QAM	1	14	21.60	21.62	21.58		
3	64QAM	8	0	20.74	20.75	20.69	21.5	1
3	64QAM	8	4	20.85	20.83	20.77		
3	64QAM	8	7	20.84	20.81	20.77		
3	64QAM	15	0	20.79	20.79	20.66		

Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	21.54	21.49	21.53	22.5	0
1.4	QPSK	1	3	21.70	21.66	21.61		
1.4	QPSK	1	5	21.65	21.64	21.52		
1.4	QPSK	3	0	21.63	21.55	21.56		
1.4	QPSK	3	1	21.68	21.65	21.58		
1.4	QPSK	3	3	21.69	21.64	21.56		
1.4	QPSK	6	0	21.71	21.72	21.62	22.5	0
1.4	16QAM	1	0	21.77	21.75	21.76	22.5	0
1.4	16QAM	1	3	21.99	21.94	21.88		
1.4	16QAM	1	5	21.93	21.93	21.79		
1.4	16QAM	3	0	21.68	21.59	21.60		
1.4	16QAM	3	1	21.72	21.68	21.64		
1.4	16QAM	3	3	21.70	21.67	21.59		
1.4	16QAM	6	0	21.80	21.79	21.72	22.5	0
1.4	64QAM	1	0	20.79	20.79	20.77	22.5	0
1.4	64QAM	1	3	20.94	20.95	20.88		
1.4	64QAM	1	5	20.92	20.94	20.88		
1.4	64QAM	3	0	21.42	21.33	21.32		
1.4	64QAM	3	1	21.46	21.44	21.40		
1.4	64QAM	3	3	21.44	21.44	21.32		
1.4	64QAM	6	0	20.64	20.62	20.52	21.5	1

<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	17.86	18.09	18.21	18.5	0
20	QPSK	1	49	17.87	17.88	17.81		
20	QPSK	1	99	17.85	17.82	18.00		
20	QPSK	50	0	17.06	17.12	17.41	17.5	1
20	QPSK	50	24	16.95	17.02	17.14		
20	QPSK	50	50	17.20	17.27	17.31		
20	QPSK	100	0	17.15	17.21	17.32		
20	16QAM	1	0	17.33	17.34	17.30	17.5	1
20	16QAM	1	49	17.17	17.31	17.47		
20	16QAM	1	99	17.28	17.43	17.43		
20	16QAM	50	0	16.08	16.23	16.32	16.5	2
20	16QAM	50	24	16.28	16.17	16.28		
20	16QAM	50	50	16.17	16.30	16.28		
20	16QAM	100	0	16.14	16.17	16.36		
20	64QAM	1	0	16.30	16.34	16.50	16.5	2
20	64QAM	1	49	16.13	16.36	16.38		
20	64QAM	1	99	16.27	16.32	16.30		
20	64QAM	50	0	15.12	15.18	15.36	15.5	3
20	64QAM	50	24	15.20	15.25	15.43		
20	64QAM	50	50	15.23	15.13	15.22		
20	64QAM	100	0	15.14	15.30	15.36		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	18.01	17.88	18.15	18.5	0
15	QPSK	1	37	17.82	18.03	18.16		
15	QPSK	1	74	18.05	18.19	18.14		
15	QPSK	36	0	17.21	17.14	17.37	17.5	1
15	QPSK	36	20	17.21	17.23	17.38		
15	QPSK	36	39	17.44	17.45	17.49		
15	QPSK	75	0	17.20	17.23	17.37		
15	16QAM	1	0	17.42	17.20	17.40	17.5	1
15	16QAM	1	37	17.02	17.03	17.49		
15	16QAM	1	74	17.22	17.32	17.48		
15	16QAM	36	0	16.23	16.22	16.39	16.5	2
15	16QAM	36	20	16.19	16.15	16.38		
15	16QAM	36	39	16.12	16.31	16.31		
15	16QAM	75	0	16.13	16.20	16.44		
15	64QAM	1	0	16.27	16.32	16.46	16.5	2
15	64QAM	1	37	16.38	16.09	16.39		
15	64QAM	1	74	16.14	16.21	16.47		
15	64QAM	36	0	15.08	15.12	15.38	15.5	3
15	64QAM	36	20	15.21	15.20	15.38		
15	64QAM	36	39	15.25	15.24	15.44		
15	64QAM	75	0	15.22	15.11	15.27		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	17.95	17.86	18.00	18.5	0
10	QPSK	1	25	17.60	17.86	18.01		
10	QPSK	1	49	17.75	17.77	18.04		
10	QPSK	25	0	16.95	17.00	17.18	17.5	1
10	QPSK	25	12	16.99	17.14	17.20		
10	QPSK	25	25	17.17	17.21	17.38		
10	QPSK	50	0	17.02	17.03	17.17		
10	16QAM	1	0	17.19	17.42	17.04	17.5	1
10	16QAM	1	25	16.99	17.37	17.26		
10	16QAM	1	49	17.10	17.20	17.32		
10	16QAM	25	0	16.01	16.08	16.15	16.5	2
10	16QAM	25	12	16.06	15.97	16.21		
10	16QAM	25	25	15.94	16.04	16.26		
10	16QAM	50	0	16.03	15.96	16.18		
10	64QAM	1	0	16.24	16.41	16.32	16.5	2
10	64QAM	1	25	16.18	16.08	16.41		
10	64QAM	1	49	16.15	16.21	15.98		
10	64QAM	25	0	14.95	15.01	15.22	15.5	3
10	64QAM	25	12	15.02	15.14	15.18		
10	64QAM	25	25	15.03	15.06	15.18		
10	64QAM	50	0	15.03	15.11	15.23		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	17.88	17.99	18.17	18.5	0
5	QPSK	1	12	17.94	17.94	18.11		
5	QPSK	1	24	17.96	18.00	18.10		
5	QPSK	12	0	17.19	17.09	17.33	17.5	1
5	QPSK	12	7	17.25	17.31	17.46		
5	QPSK	12	13	17.27	17.29	17.40		
5	QPSK	25	0	16.85	16.91	17.03		
5	16QAM	1	0	17.37	17.05	17.43	17.5	1
5	16QAM	1	12	17.26	17.42	17.42		
5	16QAM	1	24	17.04	17.44	17.49		
5	16QAM	12	0	16.02	15.99	16.15	16.5	2
5	16QAM	12	7	16.13	16.20	16.30		
5	16QAM	12	13	16.05	16.16	16.28		
5	16QAM	25	0	16.06	16.17	16.23		
5	64QAM	1	0	16.16	16.16	16.44	16.5	2
5	64QAM	1	12	16.27	16.28	16.46		
5	64QAM	1	24	16.14	16.21	16.42		
5	64QAM	12	0	15.03	14.89	15.19	15.5	3
5	64QAM	12	7	14.97	15.13	15.22		
5	64QAM	12	13	15.02	15.12	15.24		
5	64QAM	25	0	15.06	15.17	15.24		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	22.90	22.78	22.74	23.5	0
10	QPSK	1	25	23.07	22.85	22.89		
10	QPSK	1	49	22.86	22.79	22.86		
10	QPSK	25	0	21.75	21.60	21.64	22.5	1
10	QPSK	25	12	21.92	21.80	21.83		
10	QPSK	25	25	21.68	21.59	21.66		
10	QPSK	50	0	21.72	21.62	21.64		
10	16QAM	1	0	21.89	21.82	21.77	22.5	1
10	16QAM	1	25	21.80	21.74	21.80		
10	16QAM	1	49	21.79	21.84	21.80		
10	16QAM	25	0	20.43	20.29	20.32	21.5	2
10	16QAM	25	12	20.59	20.49	20.53		
10	16QAM	25	25	20.35	20.25	20.30		
10	16QAM	50	0	20.40	20.30	20.33		
10	64QAM	1	0	20.94	20.84	20.71	21.5	2
10	64QAM	1	25	20.73	20.71	20.67		
10	64QAM	1	49	20.77	20.80	20.84		
10	64QAM	25	0	19.51	19.41	19.44	20.5	3
10	64QAM	25	12	19.70	19.58	19.62		
10	64QAM	25	25	19.48	19.36	19.44		
10	64QAM	50	0	19.50	19.36	19.40		

Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	22.98	22.81	22.94	23.5	0
5	QPSK	1	12	23.16	22.99	23.06		
5	QPSK	1	24	22.85	22.83	23.10		
5	QPSK	12	0	22.22	22.06	22.02	22.5	1
5	QPSK	12	7	22.26	22.13	22.18		
5	QPSK	12	13	22.16	22.07	22.15		
5	QPSK	25	0	22.18	22.05	22.11		
5	16QAM	1	0	22.28	22.08	22.22	22.5	1
5	16QAM	1	12	22.45	22.25	22.31		
5	16QAM	1	24	22.12	22.04	22.37		
5	16QAM	12	0	21.25	21.06	21.02	21.5	2
5	16QAM	12	7	21.27	21.12	21.19		
5	16QAM	12	13	21.19	21.09	21.14		
5	16QAM	25	0	21.18	21.04	21.09		
5	64QAM	1	0	21.27	21.09	21.25	21.5	2
5	64QAM	1	12	21.46	21.29	21.34		
5	64QAM	1	24	21.14	21.08	21.41		
5	64QAM	12	0	20.33	20.13	20.11	20.5	3
5	64QAM	12	7	20.36	20.20	20.28		
5	64QAM	12	13	20.28	20.15	20.24		
5	64QAM	25	0	20.27	20.14	20.20		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.17	22.99	22.94	23.5	0
3	QPSK	1	8	23.00	23.05	23.12		
3	QPSK	1	14	23.09	22.93	23.02		
3	QPSK	8	0	22.29	22.07	22.09	22.5	1
3	QPSK	8	4	22.25	22.12	22.18		
3	QPSK	8	7	22.19	22.04	22.17		
3	QPSK	15	0	22.24	22.08	22.13		
3	16QAM	1	0	22.45	22.22	22.21	22.5	1
3	16QAM	1	8	22.35	22.35	22.39		
3	16QAM	1	14	22.30	22.19	22.32		
3	16QAM	8	0	21.29	21.11	21.13	21.5	2
3	16QAM	8	4	21.30	21.14	21.23		
3	16QAM	8	7	21.23	21.09	21.19		
3	16QAM	15	0	21.25	21.08	21.15		
3	64QAM	1	0	21.48	21.21	21.23	21.5	2
3	64QAM	1	8	21.33	21.34	21.40		
3	64QAM	1	14	21.30	21.22	21.30		
3	64QAM	8	0	20.41	20.18	20.18	20.5	3
3	64QAM	8	4	20.39	20.21	20.31		
3	64QAM	8	7	20.31	20.15	20.26		
3	64QAM	15	0	20.31	20.15	20.24		

Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	23.04	22.90	22.91	23.5	0
1.4	QPSK	1	3	23.00	23.00	23.06		
1.4	QPSK	1	5	23.10	22.89	22.98		
1.4	QPSK	3	0	23.00	22.94	22.96		
1.4	QPSK	3	1	23.00	22.99	23.01		
1.4	QPSK	3	3	23.13	22.94	23.00		
1.4	QPSK	6	0	22.21	22.03	22.01	22.5	1
1.4	16QAM	1	0	22.39	22.21	22.18	22.5	1
1.4	16QAM	1	3	22.46	22.24	22.33		
1.4	16QAM	1	5	22.40	22.17	22.27		
1.4	16QAM	3	0	22.18	21.97	21.99		
1.4	16QAM	3	1	22.21	22.01	22.02		
1.4	16QAM	3	3	22.16	21.95	22.04		
1.4	16QAM	6	0	21.28	21.08	21.10	21.5	2
1.4	64QAM	1	0	21.43	21.17	21.21	21.5	2
1.4	64QAM	1	3	21.42	21.24	21.35		
1.4	64QAM	1	5	21.41	21.20	21.22		
1.4	64QAM	3	0	21.34	21.13	21.13		
1.4	64QAM	3	1	21.36	21.14	21.19		
1.4	64QAM	3	3	21.29	21.11	21.17		
1.4	64QAM	6	0	20.32	20.10	20.11	20.5	3

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0	-	23.02	-	24.5	0
10	QPSK	1	25		24.31			
10	QPSK	1	49		23.76			
10	QPSK	25	0		23.14		23.5	1
10	QPSK	25	12		23.17			
10	QPSK	25	25		22.66			
10	QPSK	50	0		22.96			
10	16QAM	1	0		22.38		23.5	1
10	16QAM	1	25		23.41			
10	16QAM	1	49		23.33			
10	16QAM	25	0		22.26		22.5	2
10	16QAM	25	12		22.38			
10	16QAM	25	25		21.95			
10	16QAM	50	0		22.07			
10	64QAM	1	0		20.74		22.5	2
10	64QAM	1	25		21.99			
10	64QAM	1	49		21.51			
10	64QAM	25	0		20.81		21.5	3
10	64QAM	25	12		20.90			
10	64QAM	25	25		20.41			
10	64QAM	50	0		20.53			

Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	23.04	23.62	23.38	24.5	0
5	QPSK	1	12	23.91	24.10	23.11		
5	QPSK	1	24	24.00	23.60	23.31		
5	QPSK	12	0	22.61	23.23	22.45	23.5	1
5	QPSK	12	7	23.34	22.93	22.39		
5	QPSK	12	13	23.13	22.57	22.43		
5	QPSK	25	0	23.47	23.00	22.52		
5	16QAM	1	0	22.38	23.02	22.86	23.5	1
5	16QAM	1	12	23.34	23.29	22.67		
5	16QAM	1	24	23.47	23.10	22.75		
5	16QAM	12	0	21.89	22.29	21.73	22.5	2
5	16QAM	12	7	22.40	22.21	21.61		
5	16QAM	12	13	22.50	21.87	21.72		
5	16QAM	25	0	22.40	22.09	21.63		
5	64QAM	1	0	20.60	21.22	21.10	22.5	2
5	64QAM	1	12	21.33	21.41	20.73		
5	64QAM	1	24	21.90	21.17	20.87		
5	64QAM	12	0	20.12	20.46	19.98	21.5	3
5	64QAM	12	7	20.72	20.48	19.84		
5	64QAM	12	13	20.99	20.01	19.89		
5	64QAM	25	0	20.68	20.24	19.83		

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	22.38	22.36	22.40	23.5	0
10	QPSK	1	25	22.33	22.37	22.43		
10	QPSK	1	49	22.35	22.41	22.42		
10	QPSK	25	0	21.26	21.27	21.28	22.5	1
10	QPSK	25	12	21.36	21.36	21.38		
10	QPSK	25	25	21.16	21.16	21.19		
10	QPSK	50	0	21.25	21.26	21.29		
10	16QAM	1	0	21.60	21.60	21.62	22.5	1
10	16QAM	1	25	21.45	21.61	21.48		
10	16QAM	1	49	21.63	21.68	21.68		
10	16QAM	25	0	20.24	20.27	20.28	21.5	2
10	16QAM	25	12	20.35	20.37	20.38		
10	16QAM	25	25	20.13	20.17	20.17		
10	16QAM	50	0	20.24	20.25	20.27		
10	64QAM	1	0	20.56	20.55	20.54	21.5	2
10	64QAM	1	25	20.43	20.40	20.46		
10	64QAM	1	49	20.49	20.51	20.47		
10	64QAM	25	0	19.24	19.27	19.27	20.5	3
10	64QAM	25	12	19.22	19.25	19.28		
10	64QAM	25	25	19.04	19.05	19.05		
10	64QAM	50	0	19.02	19.04	19.06		

Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	22.05	22.15	22.23	23.5	0
5	QPSK	1	12	22.29	22.37	22.40		
5	QPSK	1	24	22.19	22.18	22.18		
5	QPSK	12	0	21.34	21.42	21.51	22.5	1
5	QPSK	12	7	21.42	21.45	21.51		
5	QPSK	12	13	21.40	21.45	21.52		
5	QPSK	25	0	21.44	21.46	21.53		
5	16QAM	1	0	21.37	21.39	21.46	22.5	1
5	16QAM	1	12	21.53	21.60	21.65		
5	16QAM	1	24	21.41	21.43	21.46		
5	16QAM	12	0	20.31	20.41	20.51	21.5	2
5	16QAM	12	7	20.41	20.42	20.51		
5	16QAM	12	13	20.40	20.45	20.51		
5	16QAM	25	0	20.42	20.45	20.51		
5	64QAM	1	0	20.21	20.33	20.36	21.5	2
5	64QAM	1	12	20.35	20.44	20.48		
5	64QAM	1	24	20.18	20.21	20.27		
5	64QAM	12	0	19.31	19.41	19.49	20.5	3
5	64QAM	12	7	19.28	19.30	19.38		
5	64QAM	12	13	19.27	19.32	19.40		
5	64QAM	25	0	19.22	19.25	19.32		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	18.15	18.23	18.09	18.5	0
20	QPSK	1	49	18.26	18.40	18.26		
20	QPSK	1	99	18.03	18.12	18.10		
20	QPSK	50	0	17.22	17.32	17.26	17.5	1
20	QPSK	50	24	17.27	17.35	17.29		
20	QPSK	50	50	17.23	17.32	17.28		
20	QPSK	100	0	17.25	17.32	17.32		
20	16QAM	1	0	17.49	17.48	17.49	17.5	1
20	16QAM	1	49	17.29	17.36	17.36		
20	16QAM	1	99	17.25	17.38	17.37		
20	16QAM	50	0	16.24	16.32	16.25	16.5	2
20	16QAM	50	24	16.24	16.36	16.30		
20	16QAM	50	50	16.23	16.32	16.30		
20	16QAM	100	0	16.23	16.31	16.25		
20	64QAM	1	0	16.40	16.48	16.48	16.5	2
20	64QAM	1	49	16.23	16.46	16.40		
20	64QAM	1	99	16.32	16.41	16.39		
20	64QAM	50	0	15.33	15.41	15.35	15.5	3
20	64QAM	50	24	15.34	15.43	15.36		
20	64QAM	50	50	15.31	15.43	15.38		
20	64QAM	100	0	15.33	15.42	15.36		

Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	18.09	18.21	18.16	18.5	0
15	QPSK	1	37	18.13	18.24	18.18		
15	QPSK	1	74	18.09	18.16	18.10		
15	QPSK	36	0	17.23	17.30	17.22	17.5	1
15	QPSK	36	20	17.27	17.36	17.28		
15	QPSK	36	39	17.22	17.32	17.24		
15	QPSK	75	0	17.25	17.33	17.24		
15	16QAM	1	0	17.43	17.49	17.49	17.5	1
15	16QAM	1	37	17.30	17.48	17.31		
15	16QAM	1	74	17.29	17.38	17.35		
15	16QAM	36	0	16.20	16.30	16.20	16.5	2
15	16QAM	36	20	16.23	16.33	16.28		
15	16QAM	36	39	16.20	16.30	16.25		
15	16QAM	75	0	16.20	16.30	16.23		
15	64QAM	1	0	16.36	16.44	16.38	16.5	2
15	64QAM	1	37	16.23	16.41	16.22		
15	64QAM	1	74	16.19	16.29	16.28		
15	64QAM	36	0	15.19	15.29	15.20	15.5	3
15	64QAM	36	20	15.24	15.32	15.23		
15	64QAM	36	39	15.18	15.31	15.27		
15	64QAM	75	0	15.21	15.30	15.24		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	18.01	18.09	17.99	18.5	0
10	QPSK	1	25	17.97	18.10	18.00		
10	QPSK	1	49	17.97	18.00	17.95		
10	QPSK	25	0	17.10	17.20	17.11	17.5	1
10	QPSK	25	12	17.11	17.18	17.11		
10	QPSK	25	25	17.10	17.17	17.09		
10	QPSK	50	0	17.09	17.17	17.10		
10	16QAM	1	0	17.32	17.38	17.27	17.5	1
10	16QAM	1	25	17.18	17.28	17.13		
10	16QAM	1	49	17.07	17.19	17.31		
10	16QAM	25	0	16.07	16.17	16.11	16.5	2
10	16QAM	25	12	16.08	16.18	16.13		
10	16QAM	25	25	16.06	16.17	16.11		
10	16QAM	50	0	16.09	16.16	16.14		
10	64QAM	1	0	16.19	16.22	16.19	16.5	2
10	64QAM	1	25	15.97	16.07	16.00		
10	64QAM	1	49	16.01	16.11	16.24		
10	64QAM	25	0	15.07	15.17	15.09	15.5	3
10	64QAM	25	12	15.10	15.16	15.12		
10	64QAM	25	25	15.06	15.14	15.10		
10	64QAM	50	0	15.09	15.16	15.13		

Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	17.98	17.97	17.93	18.5	0
5	QPSK	1	12	18.00	18.07	18.00		
5	QPSK	1	24	18.00	18.11	17.94		
5	QPSK	12	0	17.07	17.08	17.07	17.5	1
5	QPSK	12	7	17.10	17.13	17.13		
5	QPSK	12	13	17.13	17.21	17.10		
5	QPSK	25	0	17.12	17.12	17.09		
5	16QAM	1	0	17.22	17.18	17.19	17.5	1
5	16QAM	1	12	17.26	17.32	17.30		
5	16QAM	1	24	17.23	17.32	17.25		
5	16QAM	12	0	16.04	16.06	16.11	16.5	2
5	16QAM	12	7	16.11	16.14	16.14		
5	16QAM	12	13	16.10	16.21	16.11		
5	16QAM	25	0	16.10	16.12	16.10		
5	64QAM	1	0	16.09	16.09	16.11	16.5	2
5	64QAM	1	12	16.10	16.25	16.23		
5	64QAM	1	24	16.12	16.23	16.19		
5	64QAM	12	0	15.03	15.05	15.05	15.5	3
5	64QAM	12	7	15.09	15.13	15.14		
5	64QAM	12	13	15.07	15.18	15.08		
5	64QAM	25	0	15.11	15.10	15.09		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	17.91	17.95	17.90	18.5	0
3	QPSK	1	8	18.06	18.16	18.07		
3	QPSK	1	14	18.01	18.07	17.96		
3	QPSK	8	0	17.09	17.09	17.02	17.5	1
3	QPSK	8	4	17.15	17.23	17.04		
3	QPSK	8	7	17.11	17.15	17.13		
3	QPSK	15	0	17.10	17.10	17.01		
3	16QAM	1	0	17.19	17.11	17.08	17.5	1
3	16QAM	1	8	17.29	17.36	17.35		
3	16QAM	1	14	17.18	17.25	17.24		
3	16QAM	8	0	16.07	16.12	16.07	16.5	2
3	16QAM	8	4	16.17	16.26	16.12		
3	16QAM	8	7	16.11	16.20	16.15		
3	16QAM	15	0	16.12	16.11	16.04		
3	64QAM	1	0	16.04	16.08	16.01	16.5	2
3	64QAM	1	8	16.25	16.30	16.24		
3	64QAM	1	14	16.12	16.17	16.14		
3	64QAM	8	0	15.09	15.09	14.99	15.5	3
3	64QAM	8	4	15.10	15.21	15.07		
3	64QAM	8	7	15.08	15.15	15.12		
3	64QAM	15	0	15.09	15.10	15.01		

Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	17.91	17.93	17.88	18.5	0
1.4	QPSK	1	3	18.00	18.04	17.96		
1.4	QPSK	1	5	17.92	18.01	17.88		
1.4	QPSK	3	0	17.93	18.01	17.90		
1.4	QPSK	3	1	17.98	18.05	17.95		
1.4	QPSK	3	3	17.98	18.01	17.91		
1.4	QPSK	6	0	17.05	17.11	16.98	17.5	1
1.4	16QAM	1	0	17.09	17.16	17.10	17.5	1
1.4	16QAM	1	3	17.19	17.28	17.20		
1.4	16QAM	1	5	17.12	17.15	17.12		
1.4	16QAM	3	0	16.97	16.98	16.92		
1.4	16QAM	3	1	17.02	17.03	16.98		
1.4	16QAM	3	3	16.96	17.01	16.94		
1.4	16QAM	6	0	16.09	16.17	16.06	16.5	2
1.4	64QAM	1	0	16.09	16.16	16.09	16.5	2
1.4	64QAM	1	3	16.16	16.20	16.07		
1.4	64QAM	1	5	16.03	16.08	16.00		
1.4	64QAM	3	0	15.99	16.06	15.93		
1.4	64QAM	3	1	16.07	16.11	16.01		
1.4	64QAM	3	3	15.99	16.06	15.91		
1.4	64QAM	6	0	15.02	15.09	14.94	15.5	3

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	21.56	21.55	21.52	22.5	0
15	QPSK	1	37	21.48	21.45	21.38		
15	QPSK	1	74	21.49	21.49	21.28		
15	QPSK	36	0	20.60	20.57	20.57	22.5	0
15	QPSK	36	20	20.59	20.60	20.57		
15	QPSK	36	39	20.51	20.53	20.52		
15	QPSK	75	0	20.55	20.57	20.53		
15	16QAM	1	0	20.73	20.71	20.66	22.5	0
15	16QAM	1	37	20.69	20.63	20.65		
15	16QAM	1	74	20.64	20.71	20.45		
15	16QAM	36	0	19.53	19.54	19.51	22.5	0
15	16QAM	36	20	19.57	19.55	19.55		
15	16QAM	36	39	19.51	19.51	19.46		
15	16QAM	75	0	19.51	19.52	19.50		
15	64QAM	1	0	19.78	19.81	19.75	22.5	0
15	64QAM	1	37	19.77	19.72	19.74		
15	64QAM	1	74	19.72	19.76	19.52		
15	64QAM	36	0	18.70	18.67	18.66	21.5	1
15	64QAM	36	20	18.71	18.71	18.68		
15	64QAM	36	39	18.63	18.66	18.56		
15	64QAM	75	0	18.68	18.69	18.65		

Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	21.50	21.48	21.44	22.5	0
10	QPSK	1	25	21.32	21.36	21.37		
10	QPSK	1	49	21.40	21.36	21.32		
10	QPSK	25	0	20.51	20.52	20.47	22.5	0
10	QPSK	25	12	20.52	20.53	20.47		
10	QPSK	25	25	20.48	20.49	20.44		
10	QPSK	50	0	20.54	20.52	20.45		
10	16QAM	1	0	20.74	20.68	20.76	22.5	0
10	16QAM	1	25	20.65	20.58	20.57		
10	16QAM	1	49	20.58	20.63	20.51		
10	16QAM	25	0	19.49	19.49	19.43	22.5	0
10	16QAM	25	12	19.52	19.49	19.45		
10	16QAM	25	25	19.49	19.47	19.41		
10	16QAM	50	0	19.51	19.49	19.43		
10	64QAM	1	0	19.79	19.82	19.80	22.5	0
10	64QAM	1	25	19.69	19.75	19.54		
10	64QAM	1	49	19.67	19.70	19.54		
10	64QAM	25	0	18.65	18.65	18.58	21.5	1
10	64QAM	25	12	18.68	18.64	18.59		
10	64QAM	25	25	18.62	18.62	18.55		
10	64QAM	50	0	18.64	18.63	18.57		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	21.38	21.41	21.40	22.5	0
5	QPSK	1	12	21.48	21.49	21.41		
5	QPSK	1	24	21.49	21.46	21.31		
5	QPSK	12	0	20.50	20.51	20.42	22.5	0
5	QPSK	12	7	20.60	20.54	20.51		
5	QPSK	12	13	20.56	20.57	20.45		
5	QPSK	25	0	20.59	20.52	20.42		
5	16QAM	1	0	20.58	20.61	20.60	22.5	0
5	16QAM	1	12	20.74	20.74	20.59		
5	16QAM	1	24	20.76	20.70	20.53		
5	16QAM	12	0	19.50	19.47	19.38	22.5	0
5	16QAM	12	7	19.57	19.50	19.49		
5	16QAM	12	13	19.54	19.53	19.43		
5	16QAM	25	0	19.56	19.50	19.37		
5	64QAM	1	0	19.64	19.68	19.64	22.5	0
5	64QAM	1	12	19.77	19.72	19.63		
5	64QAM	1	24	19.75	19.73	19.57		
5	64QAM	12	0	18.58	18.55	18.48	21.5	1
5	64QAM	12	7	18.66	18.60	18.56		
5	64QAM	12	13	18.62	18.61	18.51		
5	64QAM	25	0	18.65	18.58	18.49		

Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	21.43	21.47	21.41	22.5	0
3	QPSK	1	8	21.54	21.55	21.43		
3	QPSK	1	14	21.42	21.44	21.33		
3	QPSK	8	0	20.52	20.52	20.48	22.5	0
3	QPSK	8	4	20.62	20.60	20.50		
3	QPSK	8	7	20.55	20.54	20.43		
3	QPSK	15	0	20.56	20.49	20.43		
3	16QAM	1	0	20.62	20.62	20.62	22.5	0
3	16QAM	1	8	20.79	20.77	20.59		
3	16QAM	1	14	20.70	20.66	20.55		
3	16QAM	8	0	19.53	19.50	19.48	22.5	0
3	16QAM	8	4	19.62	19.60	19.49		
3	16QAM	8	7	19.55	19.56	19.43		
3	16QAM	15	0	19.54	19.49	19.45		
3	64QAM	1	0	19.52	19.58	19.52	22.5	0
3	64QAM	1	8	19.70	19.70	19.58		
3	64QAM	1	14	19.55	19.62	19.46		
3	64QAM	8	0	18.50	18.50	18.45	21.5	1
3	64QAM	8	4	18.58	18.57	18.46		
3	64QAM	8	7	18.54	18.50	18.40		
3	64QAM	15	0	18.55	18.46	18.43		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	21.42	21.36	21.30	22.5	0
1.4	QPSK	1	3	21.49	21.51	21.37		
1.4	QPSK	1	5	21.42	21.38	21.25		
1.4	QPSK	3	0	21.45	21.38	21.33		
1.4	QPSK	3	1	21.52	21.42	21.37		
1.4	QPSK	3	3	21.46	21.42	21.31		
1.4	QPSK	6	0	20.53	20.44	20.39	22.5	0
1.4	16QAM	1	0	20.65	20.56	20.53	22.5	0
1.4	16QAM	1	3	20.75	20.68	20.57		
1.4	16QAM	1	5	20.62	20.62	20.47		
1.4	16QAM	3	0	20.46	20.38	20.31		
1.4	16QAM	3	1	20.52	20.42	20.36		
1.4	16QAM	3	3	20.44	20.40	20.27		
1.4	16QAM	6	0	19.59	19.48	19.42	22.5	0
1.4	64QAM	1	0	19.61	19.48	19.39	22.5	0
1.4	64QAM	1	3	19.64	19.56	19.49		
1.4	64QAM	1	5	19.57	19.53	19.36		
1.4	64QAM	3	0	19.52	19.41	19.34		
1.4	64QAM	3	1	19.56	19.49	19.41		
1.4	64QAM	3	3	19.48	19.48	19.34		
1.4	64QAM	6	0	18.48	18.41	18.35	21.5	1

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0	-	19.27	-	19.5	0
10	QPSK	1	25		19.25			
10	QPSK	1	49		19.08			
10	QPSK	25	0		18.11		18.5	1
10	QPSK	25	12		18.26			
10	QPSK	25	25		18.01			
10	QPSK	50	0		18.04			
10	16QAM	1	0		18.43		18.5	1
10	16QAM	1	25		18.41			
10	16QAM	1	49		18.27			
10	16QAM	25	0		17.09		17.5	2
10	16QAM	25	12		17.24			
10	16QAM	25	25		16.97			
10	16QAM	50	0		17.02			
10	64QAM	1	0		17.38		17.5	2
10	64QAM	1	25		17.33			
10	64QAM	1	49		17.22			
10	64QAM	25	0		16.09		16.5	3
10	64QAM	25	12		16.22			
10	64QAM	25	25		15.98			
10	64QAM	50	0		16.00			

Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	19.16	19.14	19.16	19.5	0
5	QPSK	1	12	19.11	19.13	19.14		
5	QPSK	1	24	19.12	19.04	19.00		
5	QPSK	12	0	18.22	18.14	18.19	18.5	1
5	QPSK	12	7	18.30	18.20	18.25		
5	QPSK	12	13	18.17	18.12	18.12		
5	QPSK	25	0	18.22	18.13	18.19		
5	16QAM	1	0	18.34	18.36	18.39	18.5	1
5	16QAM	1	12	18.42	18.36	18.34		
5	16QAM	1	24	18.28	18.19	18.23		
5	16QAM	12	0	17.23	17.13	17.18	17.5	2
5	16QAM	12	7	17.29	17.19	17.24		
5	16QAM	12	13	17.17	17.10	17.11		
5	16QAM	25	0	17.21	17.14	17.17		
5	64QAM	1	0	17.36	17.35	17.40	17.5	2
5	64QAM	1	12	17.42	17.38	17.40		
5	64QAM	1	24	17.34	17.22	17.23		
5	64QAM	12	0	16.28	16.21	16.25	16.5	3
5	64QAM	12	7	16.34	16.30	16.34		
5	64QAM	12	13	16.22	16.20	16.22		
5	64QAM	25	0	16.28	16.22	16.25		

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	17.69	17.72	17.73	18	0
20	QPSK	1	49	17.82	17.84	17.89		
20	QPSK	1	99	17.42	17.55	17.41		
20	QPSK	50	0	16.68	16.76	16.79	17	1
20	QPSK	50	24	16.70	16.79	16.80		
20	QPSK	50	50	16.57	16.67	16.66		
20	QPSK	100	0	16.63	16.71	16.72		
20	16QAM	1	0	16.79	16.83	16.87	17	1
20	16QAM	1	49	16.78	16.98	16.95		
20	16QAM	1	99	16.54	16.92	16.77		
20	16QAM	50	0	15.66	15.78	15.79	16	2
20	16QAM	50	24	15.63	15.72	15.73		
20	16QAM	50	50	15.56	15.66	15.63		
20	16QAM	100	0	15.61	15.68	15.69		
20	64QAM	1	0	15.67	15.70	15.83	16	2
20	64QAM	1	49	15.71	15.83	15.84		
20	64QAM	1	99	15.54	15.83	15.71		
20	64QAM	50	0	14.67	14.77	14.76	15	3
20	64QAM	50	24	14.64	14.72	14.72		
20	64QAM	50	50	14.61	14.66	14.63		
20	64QAM	100	0	14.61	14.70	14.71		

Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	17.46	17.66	17.67	18	0
15	QPSK	1	37	17.47	17.62	17.53		
15	QPSK	1	74	17.44	17.56	17.43		
15	QPSK	36	0	16.60	16.74	16.77	17	1
15	QPSK	36	20	16.56	16.70	16.68		
15	QPSK	36	39	16.49	16.62	16.61		
15	QPSK	75	0	16.58	16.71	16.69		
15	16QAM	1	0	16.74	16.85	16.86	17	1
15	16QAM	1	37	16.74	16.86	16.85		
15	16QAM	1	74	16.66	16.94	16.71		
15	16QAM	36	0	15.60	15.75	15.75	16	2
15	16QAM	36	20	15.56	15.69	15.68		
15	16QAM	36	39	15.49	15.61	15.60		
15	16QAM	75	0	15.57	15.69	15.70		
15	64QAM	1	0	15.64	15.78	15.79	16	2
15	64QAM	1	37	15.68	15.81	15.83		
15	64QAM	1	74	15.56	15.77	15.69		
15	64QAM	36	0	14.60	14.72	14.72	15	3
15	64QAM	36	20	14.61	14.70	14.68		
15	64QAM	36	39	14.65	14.62	14.61		
15	64QAM	75	0	14.66	14.69	14.68		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	17.28	17.36	17.41	18	0
10	QPSK	1	25	17.30	17.48	17.44		
10	QPSK	1	49	17.30	17.36	17.40		
10	QPSK	25	0	16.42	16.60	16.58	17	1
10	QPSK	25	12	16.42	16.57	16.53		
10	QPSK	25	25	16.37	16.49	16.48		
10	QPSK	50	0	16.42	16.55	16.54		
10	16QAM	1	0	16.56	16.69	16.62	17	1
10	16QAM	1	25	16.60	16.68	16.69		
10	16QAM	1	49	16.60	16.77	16.60		
10	16QAM	25	0	15.42	15.58	15.54	16	2
10	16QAM	25	12	15.41	15.54	15.54		
10	16QAM	25	25	15.37	15.51	15.46		
10	16QAM	50	0	15.41	15.55	15.51		
10	64QAM	1	0	15.42	15.56	15.58	16	2
10	64QAM	1	25	15.35	15.55	15.63		
10	64QAM	1	49	15.52	15.66	15.49		
10	64QAM	25	0	14.44	14.58	14.54	15	3
10	64QAM	25	12	14.42	14.55	14.54		
10	64QAM	25	25	14.34	14.48	14.45		
10	64QAM	50	0	14.39	14.53	14.49		

Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	17.26	17.42	17.39	18	0
5	QPSK	1	12	17.30	17.47	17.42		
5	QPSK	1	24	17.39	17.53	17.46		
5	QPSK	12	0	16.41	16.52	16.47	17	1
5	QPSK	12	7	16.45	16.55	16.55		
5	QPSK	12	13	16.44	16.55	16.54		
5	QPSK	25	0	16.44	16.53	16.54		
5	16QAM	1	0	16.53	16.63	16.62	17	1
5	16QAM	1	12	16.57	16.71	16.66		
5	16QAM	1	24	16.65	16.84	16.62		
5	16QAM	12	0	15.37	15.50	15.47	16	2
5	16QAM	12	7	15.45	15.54	15.55		
5	16QAM	12	13	15.44	15.57	15.54		
5	16QAM	25	0	15.43	15.53	15.54		
5	64QAM	1	0	15.39	15.55	15.57	16	2
5	64QAM	1	12	15.52	15.63	15.61		
5	64QAM	1	24	15.59	15.70	15.58		
5	64QAM	12	0	14.39	14.48	14.45	15	3
5	64QAM	12	7	14.41	14.53	14.55		
5	64QAM	12	13	14.42	14.56	14.53		
5	64QAM	25	0	14.43	14.49	14.54		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	17.26	17.45	17.35	18	0
3	QPSK	1	8	17.32	17.48	17.37		
3	QPSK	1	14	17.37	17.50	17.48		
3	QPSK	8	0	16.42	16.51	16.40	17	1
3	QPSK	8	4	16.48	16.49	16.51		
3	QPSK	8	7	16.43	16.54	16.51		
3	QPSK	15	0	16.42	16.50	16.52		
3	16QAM	1	0	16.51	16.60	16.63	17	1
3	16QAM	1	8	16.55	16.67	16.65		
3	16QAM	1	14	16.60	16.79	16.62		
3	16QAM	8	0	15.39	15.50	15.48	16	2
3	16QAM	8	4	15.48	15.56	15.54		
3	16QAM	8	7	15.42	15.55	15.54		
3	16QAM	15	0	15.42	15.49	15.52		
3	64QAM	1	0	15.38	15.55	15.56	16	2
3	64QAM	1	8	15.51	15.65	15.60		
3	64QAM	1	14	15.55	15.58	15.49		
3	64QAM	8	0	14.42	14.49	14.48	15	3
3	64QAM	8	4	14.40	14.53	14.55		
3	64QAM	8	7	14.39	14.52	14.48		
3	64QAM	15	0	14.44	14.49	14.52		

Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	17.25	17.35	17.33	18	0
1.4	QPSK	1	3	17.28	17.37	17.35		
1.4	QPSK	1	5	17.35	17.48	17.45		
1.4	QPSK	3	0	16.42	16.50	16.45		
1.4	QPSK	3	1	16.43	16.54	16.51		
1.4	QPSK	3	3	16.40	16.52	16.50		
1.4	QPSK	6	0	16.42	16.54	16.51	17	1
1.4	16QAM	1	0	16.51	16.58	16.60	17	1
1.4	16QAM	1	3	16.57	16.65	16.66		
1.4	16QAM	1	5	16.62	16.75	16.61		
1.4	16QAM	3	0	15.34	15.49	15.44		
1.4	16QAM	3	1	15.48	15.52	15.51		
1.4	16QAM	3	3	15.41	15.52	15.53		
1.4	16QAM	6	0	15.40	15.48	15.49	16	2
1.4	64QAM	1	0	15.31	15.54	15.55	16	2
1.4	64QAM	1	3	15.50	15.62	15.59		
1.4	64QAM	1	5	15.61	15.65	15.54		
1.4	64QAM	3	0	14.41	14.46	14.45		
1.4	64QAM	3	1	14.43	14.50	14.52		
1.4	64QAM	3	3	14.44	14.56	14.50		
1.4	64QAM	6	0	14.44	14.48	14.49	15	3

<LTE Band 71>

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				133222	133322	133372		
Frequency (MHz)				673	683	688		
20	QPSK	1	0	22.31	22.32	22.16	23	0
20	QPSK	1	49	22.09	22.03	22.06		
20	QPSK	1	99	21.94	22.01	21.93		
20	QPSK	50	0	21.27	21.06	21.11	22	1
20	QPSK	50	24	21.30	21.31	21.21		
20	QPSK	50	50	21.02	21.07	20.97		
20	QPSK	100	0	21.05	21.09	21.06		
20	16QAM	1	0	21.53	21.44	21.34	22	1
20	16QAM	1	49	21.19	21.56	21.27		
20	16QAM	1	99	21.20	21.54	21.22		
20	16QAM	50	0	20.29	20.10	20.04	21	2
20	16QAM	50	24	20.23	20.18	20.28		
20	16QAM	50	50	19.99	19.88	19.91		
20	16QAM	100	0	20.05	20.03	19.97		
20	64QAM	1	0	20.48	20.11	20.61	21	2
20	64QAM	1	49	20.20	20.46	20.32		
20	64QAM	1	99	20.33	20.37	20.11		
20	64QAM	50	0	19.19	19.14	19.06	20	3
20	64QAM	50	24	19.28	19.27	19.14		
20	64QAM	50	50	19.03	18.96	18.87		
20	64QAM	100	0	19.03	19.02	19.09		

Channel				133197	133297	133397	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				670.5	680.5	690.5		
15	QPSK	1	0	22.50	22.49	22.51	23	0
15	QPSK	1	37	22.26	22.12	22.48		
15	QPSK	1	74	22.13	22.25	22.35		
15	QPSK	36	0	21.45	21.41	21.49	22	1
15	QPSK	36	20	21.53	21.50	21.38		
15	QPSK	36	39	21.27	21.21	21.28		
15	QPSK	75	0	21.36	21.38	21.33		
15	16QAM	1	0	21.40	21.41	21.60	22	1
15	16QAM	1	37	21.48	21.47	21.50		
15	16QAM	1	74	21.28	21.39	21.63		
15	16QAM	36	0	20.46	20.43	20.44	21	2
15	16QAM	36	20	20.44	20.47	20.32		
15	16QAM	36	39	20.29	20.25	20.27		
15	16QAM	75	0	20.40	20.35	20.27		
15	64QAM	1	0	20.74	20.84	20.87	21	2
15	64QAM	1	37	20.87	20.82	20.84		
15	64QAM	1	74	20.67	20.60	20.64		
15	64QAM	36	0	19.54	19.57	19.32	20	3
15	64QAM	36	20	19.50	19.53	19.33		
15	64QAM	36	39	19.44	19.25	19.16		
15	64QAM	75	0	19.30	19.42	19.30		
Channel				133172	133272	133422	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				668	678	693		
10	QPSK	1	0	22.36	22.36	22.32	23	0
10	QPSK	1	25	21.91	22.09	22.21		
10	QPSK	1	49	22.06	22.10	21.89		
10	QPSK	25	0	21.24	21.09	21.11	22	1
10	QPSK	25	12	21.29	21.30	21.23		
10	QPSK	25	25	20.99	21.07	21.07		
10	QPSK	50	0	21.17	21.01	20.99		
10	16QAM	1	0	21.68	21.58	21.66	22	1
10	16QAM	1	25	21.34	21.31	21.40		
10	16QAM	1	49	21.29	21.26	21.20		
10	16QAM	25	0	20.08	20.09	20.11	21	2
10	16QAM	25	12	20.36	20.13	20.17		
10	16QAM	25	25	20.05	20.01	20.01		
10	16QAM	50	0	19.97	20.07	20.00		
10	64QAM	1	0	20.44	20.57	20.70	21	2
10	64QAM	1	25	20.38	20.28	20.27		
10	64QAM	1	49	20.30	20.62	20.26		
10	64QAM	25	0	19.16	19.20	18.97	20	3
10	64QAM	25	12	19.38	19.26	19.14		
10	64QAM	25	25	19.06	19.11	18.98		
10	64QAM	50	0	19.13	19.10	18.98		

Channel				133147	133247	133447	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				665.5	675.5	695.5		
5	QPSK	1	0	21.97	22.00	21.87	23	0
5	QPSK	1	12	22.30	22.21	22.02		
5	QPSK	1	24	22.06	21.97	21.84		
5	QPSK	12	0	21.15	21.24	21.05	22	1
5	QPSK	12	7	21.34	21.39	21.15		
5	QPSK	12	13	21.24	21.29	21.20		
5	QPSK	25	0	21.27	21.34	21.07		
5	16QAM	1	0	21.59	21.37	21.12	22	1
5	16QAM	1	12	21.37	21.57	21.11		
5	16QAM	1	24	21.21	21.14	21.12		
5	16QAM	12	0	20.17	20.18	20.03	21	2
5	16QAM	12	7	20.30	20.38	20.13		
5	16QAM	12	13	20.21	20.30	20.16		
5	16QAM	25	0	20.23	20.11	19.99		
5	64QAM	1	0	20.20	20.05	19.95	21	2
5	64QAM	1	12	20.26	20.36	20.28		
5	64QAM	1	24	20.28	19.94	20.02		
5	64QAM	12	0	19.25	19.30	19.05	20	3
5	64QAM	12	7	19.49	19.44	19.22		
5	64QAM	12	13	19.29	19.24	19.15		
5	64QAM	25	0	19.23	19.31	18.98		

<WWAN Bottom Antenna>

<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	23.53	23.57	23.53	24	0
20	QPSK	1	49	23.45	23.58	23.51		
20	QPSK	1	99	23.51	23.57	23.38		
20	QPSK	50	0	22.65	22.67	22.68	23	1
20	QPSK	50	24	22.69	22.73	22.68		
20	QPSK	50	50	22.69	22.77	22.68		
20	QPSK	100	0	22.66	22.74	22.65		
20	16QAM	1	0	22.77	22.74	22.67	23	1
20	16QAM	1	49	22.68	22.77	22.64		
20	16QAM	1	99	22.76	22.73	22.62		
20	16QAM	50	0	21.63	21.71	21.65	22	2
20	16QAM	50	24	21.64	21.70	21.71		
20	16QAM	50	50	21.70	21.74	21.71		
20	16QAM	100	0	21.66	21.67	21.64		
20	64QAM	1	0	21.67	21.71	21.69	22	2
20	64QAM	1	49	21.65	21.78	21.73		
20	64QAM	1	99	21.72	21.68	21.30		
20	64QAM	50	0	20.62	20.70	20.68	21	3
20	64QAM	50	24	20.66	20.70	20.74		
20	64QAM	50	50	20.66	20.75	20.72		
20	64QAM	100	0	20.55	20.75	20.67		

Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.32	23.40	23.31	24	0
15	QPSK	1	37	23.21	23.42	23.36		
15	QPSK	1	74	23.35	23.35	23.10		
15	QPSK	36	0	22.41	22.47	22.38	23	1
15	QPSK	36	20	22.40	22.48	22.42		
15	QPSK	36	39	22.44	22.54	22.46		
15	QPSK	75	0	22.39	22.52	22.46		
15	16QAM	1	0	22.60	22.57	22.54	23	1
15	16QAM	1	37	22.42	22.63	22.49		
15	16QAM	1	74	22.57	22.56	22.39		
15	16QAM	36	0	21.33	21.40	21.39	22	2
15	16QAM	36	20	21.40	21.43	21.38		
15	16QAM	36	39	21.41	21.49	21.50		
15	16QAM	75	0	21.37	21.47	21.38		
15	64QAM	1	0	21.62	21.69	21.65	22	2
15	64QAM	1	37	21.46	21.62	21.75		
15	64QAM	1	74	21.71	21.57	21.27		
15	64QAM	36	0	20.57	20.64	20.67	21	3
15	64QAM	36	20	20.50	20.68	20.56		
15	64QAM	36	39	20.64	20.68	20.53		
15	64QAM	75	0	20.56	20.63	20.61		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.14	23.17	23.25	24	0
10	QPSK	1	25	23.32	23.35	23.24		
10	QPSK	1	49	23.20	23.24	22.98		
10	QPSK	25	0	22.38	22.37	22.36	23	1
10	QPSK	25	12	22.41	22.39	22.32		
10	QPSK	25	25	22.32	22.37	22.30		
10	QPSK	50	0	22.37	22.36	22.31		
10	16QAM	1	0	22.57	22.35	22.69	23	1
10	16QAM	1	25	22.51	22.55	22.50		
10	16QAM	1	49	22.33	22.58	22.33		
10	16QAM	25	0	21.35	21.38	21.35	22	2
10	16QAM	25	12	21.39	21.38	21.33		
10	16QAM	25	25	21.36	21.38	21.29		
10	16QAM	50	0	21.35	21.33	21.35		
10	64QAM	1	0	21.52	21.55	21.64	22	2
10	64QAM	1	25	21.46	21.46	21.48		
10	64QAM	1	49	21.55	21.65	21.28		
10	64QAM	25	0	20.53	20.42	20.56	21	3
10	64QAM	25	12	20.54	20.59	20.58		
10	64QAM	25	25	20.37	20.57	20.52		
10	64QAM	50	0	20.52	20.56	20.37		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.16	23.20	23.16	24	0
5	QPSK	1	12	23.24	23.27	23.13		
5	QPSK	1	24	23.29	23.36	22.97		
5	QPSK	12	0	22.25	22.34	22.20	23	1
5	QPSK	12	7	22.38	22.31	22.30		
5	QPSK	12	13	22.31	22.41	22.04		
5	QPSK	25	0	22.34	22.34	22.15		
5	16QAM	1	0	22.43	22.34	22.42	23	1
5	16QAM	1	12	22.49	22.46	22.52		
5	16QAM	1	24	22.44	22.44	22.16		
5	16QAM	12	0	21.26	21.33	21.28	22	2
5	16QAM	12	7	21.38	21.40	21.34		
5	16QAM	12	13	21.32	21.42	21.19		
5	16QAM	25	0	21.32	21.35	21.25		
5	64QAM	1	0	21.59	21.55	21.52	22	2
5	64QAM	1	12	21.43	21.49	21.43		
5	64QAM	1	24	21.23	21.58	21.62		
5	64QAM	12	0	20.51	20.56	20.39	21	3
5	64QAM	12	7	20.53	20.57	20.56		
5	64QAM	12	13	20.47	20.40	20.54		
5	64QAM	25	0	20.32	20.55	20.53		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	23.25	23.20	23.18	24	0
3	QPSK	1	8	23.42	23.41	23.28		
3	QPSK	1	14	23.33	23.38	22.98		
3	QPSK	8	0	22.35	22.34	22.32	23	1
3	QPSK	8	4	22.36	22.44	22.17		
3	QPSK	8	7	22.37	22.42	22.07		
3	QPSK	15	0	22.38	22.30	22.09		
3	16QAM	1	0	22.49	22.39	22.49	23	1
3	16QAM	1	8	22.57	22.50	22.35		
3	16QAM	1	14	22.54	22.54	22.08		
3	16QAM	8	0	21.36	21.32	21.36	22	2
3	16QAM	8	4	21.46	21.42	21.28		
3	16QAM	8	7	21.42	21.48	21.22		
3	16QAM	15	0	21.40	21.37	21.26		
3	64QAM	1	0	21.37	21.40	21.51	22	2
3	64QAM	1	8	21.36	21.49	21.44		
3	64QAM	1	14	21.40	21.39	21.12		
3	64QAM	8	0	20.38	20.42	20.36	21	3
3	64QAM	8	4	20.35	20.46	20.34		
3	64QAM	8	7	20.35	20.45	20.21		
3	64QAM	15	0	20.29	20.35	20.30		

Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	23.46	23.46	23.21	24	0
1.4	QPSK	1	3	23.55	23.56	23.23		
1.4	QPSK	1	5	23.50	23.51	23.13		
1.4	QPSK	3	0	23.45	23.47	23.08		
1.4	QPSK	3	1	23.50	23.53	23.05		
1.4	QPSK	3	3	23.50	23.50	23.09		
1.4	QPSK	6	0	22.57	22.49	22.29	23	1
1.4	16QAM	1	0	22.68	22.61	22.45	23	1
1.4	16QAM	1	3	22.67	22.71	22.40		
1.4	16QAM	1	5	22.72	22.65	22.26		
1.4	16QAM	3	0	22.46	22.41	22.28		
1.4	16QAM	3	1	22.49	22.51	22.29		
1.4	16QAM	3	3	22.41	22.44	22.20		
1.4	16QAM	6	0	21.63	21.60	21.38	22	2
1.4	64QAM	1	0	21.57	21.62	21.28	22	2
1.4	64QAM	1	3	21.66	21.65	21.21		
1.4	64QAM	1	5	21.61	21.64	21.16		
1.4	64QAM	3	0	21.51	21.55	21.15		
1.4	64QAM	3	1	21.59	21.64	21.19		
1.4	64QAM	3	3	21.64	21.62	21.18		
1.4	64QAM	6	0	20.46	20.53	20.08	21	3

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.85	23.78	23.99	25	0
20	QPSK	1	49	23.88	23.86	23.86		
20	QPSK	1	99	23.96	23.90	23.80		
20	QPSK	50	0	23.04	23.06	23.05	24	1
20	QPSK	50	24	23.08	23.09	23.07		
20	QPSK	50	50	23.04	23.02	23.02		
20	QPSK	100	0	23.02	23.06	23.06		
20	16QAM	1	0	23.05	23.17	23.17	24	1
20	16QAM	1	49	23.04	23.18	23.15		
20	16QAM	1	99	23.05	23.09	23.06		
20	16QAM	50	0	22.04	22.04	22.01	23	2
20	16QAM	50	24	22.04	22.08	22.06		
20	16QAM	50	50	22.01	22.04	22.01		
20	16QAM	100	0	22.04	22.00	21.99		
20	64QAM	1	0	22.23	22.25	22.29	23	2
20	64QAM	1	49	22.26	22.22	22.36		
20	64QAM	1	99	22.40	22.42	22.32		
20	64QAM	50	0	21.21	21.25	21.21	22	3
20	64QAM	50	24	21.25	21.29	21.23		
20	64QAM	50	50	21.27	21.20	21.23		
20	64QAM	100	0	21.09	21.14	21.20		

Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.90	23.86	23.92	25	0
15	QPSK	1	37	23.87	23.83	23.76		
15	QPSK	1	74	23.94	23.96	23.90		
15	QPSK	36	0	23.05	23.02	23.03	24	1
15	QPSK	36	20	23.07	23.11	23.06		
15	QPSK	36	39	22.98	23.09	23.02		
15	QPSK	75	0	23.00	23.07	23.04		
15	16QAM	1	0	23.14	23.22	23.21	24	1
15	16QAM	1	37	23.13	23.01	23.10		
15	16QAM	1	74	23.19	23.17	23.17		
15	16QAM	36	0	21.93	22.01	22.04	23	2
15	16QAM	36	20	21.95	22.01	22.05		
15	16QAM	36	39	21.97	22.09	21.96		
15	16QAM	75	0	21.99	22.06	21.99		
15	64QAM	1	0	22.10	22.15	22.33	23	2
15	64QAM	1	37	22.06	22.22	22.33		
15	64QAM	1	74	22.06	22.47	22.30		
15	64QAM	36	0	21.20	21.25	21.24	22	3
15	64QAM	36	20	21.25	21.23	21.27		
15	64QAM	36	39	21.04	21.19	21.23		
15	64QAM	75	0	21.08	21.16	21.19		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.66	23.73	23.81	25	0
10	QPSK	1	25	23.74	23.85	23.83		
10	QPSK	1	49	23.71	23.75	23.71		
10	QPSK	25	0	22.82	22.94	22.89	24	1
10	QPSK	25	12	22.80	22.99	22.94		
10	QPSK	25	25	22.79	22.89	22.86		
10	QPSK	50	0	22.82	22.93	22.91		
10	16QAM	1	0	22.90	23.08	23.05	24	1
10	16QAM	1	25	23.00	23.16	22.95		
10	16QAM	1	49	22.74	23.08	22.92		
10	16QAM	25	0	21.81	21.93	21.95	23	2
10	16QAM	25	12	21.86	21.96	21.90		
10	16QAM	25	25	21.79	21.89	21.86		
10	16QAM	50	0	21.87	21.89	21.88		
10	64QAM	1	0	22.12	22.19	22.15	23	2
10	64QAM	1	25	22.28	22.12	22.17		
10	64QAM	1	49	22.15	22.17	22.23		
10	64QAM	25	0	21.06	21.04	21.02	22	3
10	64QAM	25	12	21.09	21.14	21.09		
10	64QAM	25	25	21.00	21.07	21.02		
10	64QAM	50	0	21.03	21.01	21.05		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.73	23.85	23.83	25	0
5	QPSK	1	12	23.80	23.88	23.85		
5	QPSK	1	24	23.78	23.78	23.77		
5	QPSK	12	0	22.78	22.89	22.86	24	1
5	QPSK	12	7	22.93	22.96	22.91		
5	QPSK	12	13	22.88	22.94	22.89		
5	QPSK	25	0	22.92	22.94	22.82		
5	16QAM	1	0	22.93	23.08	22.98	24	1
5	16QAM	1	12	23.00	23.14	23.09		
5	16QAM	1	24	23.02	23.07	22.97		
5	16QAM	12	0	21.81	21.91	21.88	23	2
5	16QAM	12	7	21.94	21.92	21.92		
5	16QAM	12	13	21.87	21.92	21.90		
5	16QAM	25	0	21.91	21.90	21.84		
5	64QAM	1	0	22.05	22.11	22.14	23	2
5	64QAM	1	12	22.13	22.16	22.20		
5	64QAM	1	24	22.15	22.22	22.16		
5	64QAM	12	0	20.96	21.08	21.17	22	3
5	64QAM	12	7	21.09	21.09	21.14		
5	64QAM	12	13	21.05	21.18	21.12		
5	64QAM	25	0	21.07	21.09	21.05		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	23.59	23.81	23.82	25	0
3	QPSK	1	8	23.80	23.97	23.94		
3	QPSK	1	14	23.72	23.82	23.78		
3	QPSK	8	0	22.76	22.92	22.86	24	1
3	QPSK	8	4	22.82	22.97	22.95		
3	QPSK	8	7	22.83	22.96	22.88		
3	QPSK	15	0	22.82	22.90	22.90		
3	16QAM	1	0	22.79	23.03	23.05	24	1
3	16QAM	1	8	23.05	23.18	23.10		
3	16QAM	1	14	22.93	23.09	23.05		
3	16QAM	8	0	21.82	21.91	21.87	23	2
3	16QAM	8	4	21.91	22.01	21.96		
3	16QAM	8	7	21.84	22.00	21.90		
3	16QAM	15	0	21.84	21.94	21.87		
3	64QAM	1	0	22.13	22.12	22.16	23	2
3	64QAM	1	8	22.30	22.26	22.37		
3	64QAM	1	14	22.09	22.01	22.04		
3	64QAM	8	0	21.08	21.10	21.09	22	3
3	64QAM	8	4	21.15	21.15	21.00		
3	64QAM	8	7	21.06	21.22	21.13		
3	64QAM	15	0	21.06	21.03	21.08		

Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	23.63	23.79	23.62	25	0
1.4	QPSK	1	3	23.85	23.87	23.84		
1.4	QPSK	1	5	23.72	23.77	23.73		
1.4	QPSK	3	0	23.73	23.78	23.72		
1.4	QPSK	3	1	23.84	23.91	23.86		
1.4	QPSK	3	3	23.77	23.85	23.79		
1.4	QPSK	6	0	22.84	22.94	22.79	24	1
1.4	16QAM	1	0	22.84	22.93	22.92	24	1
1.4	16QAM	1	3	23.01	23.19	23.11		
1.4	16QAM	1	5	22.89	23.03	23.00		
1.4	16QAM	3	0	22.79	22.86	22.62		
1.4	16QAM	3	1	22.86	22.87	22.85		
1.4	16QAM	3	3	22.74	22.83	22.79		
1.4	16QAM	6	0	21.86	21.95	21.85	23	2
1.4	64QAM	1	0	22.02	22.16	22.00	23	2
1.4	64QAM	1	3	22.17	22.03	22.10		
1.4	64QAM	1	5	22.14	22.14	22.09		
1.4	64QAM	3	0	22.10	22.12	22.06		
1.4	64QAM	3	1	22.14	22.20	22.19		
1.4	64QAM	3	3	22.09	22.22	22.16		
1.4	64QAM	6	0	21.00	21.10	20.97	22	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	24.98	24.34	24.84	25	0
10	QPSK	1	25	24.49	24.30	24.60		
10	QPSK	1	49	24.02	24.84	24.20		
10	QPSK	25	0	24.11	23.45	24.09	25	0
10	QPSK	25	12	23.76	23.64	23.84		
10	QPSK	25	25	23.37	23.84	23.45		
10	QPSK	50	0	23.59	23.62	23.59		
10	16QAM	1	0	24.42	23.63	24.10	25	0
10	16QAM	1	25	24.02	23.65	23.86		
10	16QAM	1	49	23.60	24.18	23.55		
10	16QAM	25	0	22.99	22.61	22.96	24	1
10	16QAM	25	12	23.00	22.76	22.94		
10	16QAM	25	25	22.67	22.93	22.60		
10	16QAM	50	0	22.95	22.75	22.81		
10	64QAM	1	0	23.61	22.77	23.13	24	1
10	64QAM	1	25	23.07	22.69	22.93		
10	64QAM	1	49	22.66	23.19	22.58		
10	64QAM	25	0	21.99	21.60	21.94	23	2
10	64QAM	25	12	21.97	21.74	21.93		
10	64QAM	25	25	21.62	21.94	21.56		
10	64QAM	50	0	21.96	21.77	21.83		

Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	24.82	24.37	24.63	25	0
5	QPSK	1	12	24.93	24.43	24.43		
5	QPSK	1	24	24.65	24.73	24.17		
5	QPSK	12	0	24.44	23.59	23.69	25	0
5	QPSK	12	7	24.38	23.68	23.58		
5	QPSK	12	13	24.08	23.75	23.44		
5	QPSK	25	0	24.06	23.59	23.43		
5	16QAM	1	0	24.54	23.59	23.71	25	0
5	16QAM	1	12	24.47	23.74	23.68		
5	16QAM	1	24	24.05	24.05	23.41		
5	16QAM	12	0	23.70	22.70	22.79	24	1
5	16QAM	12	7	23.56	22.83	22.69		
5	16QAM	12	13	23.24	22.96	22.46		
5	16QAM	25	0	22.97	22.75	22.51		
5	64QAM	1	0	23.67	22.73	22.80	24	1
5	64QAM	1	12	23.57	22.69	22.66		
5	64QAM	1	24	23.09	22.96	22.44		
5	64QAM	12	0	22.71	21.71	21.82	23	2
5	64QAM	12	7	22.55	21.84	21.68		
5	64QAM	12	13	22.23	21.96	21.45		
5	64QAM	25	0	21.99	21.73	21.50		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	23.68	24.48	24.47	25	0
3	QPSK	1	8	23.72	24.92	24.22		
3	QPSK	1	14	23.67	24.58	24.44		
3	QPSK	8	0	24.50	23.68	23.41	25	0
3	QPSK	8	4	23.74	23.72	23.37		
3	QPSK	8	7	24.10	23.67	23.39		
3	QPSK	15	0	23.78	24.50	24.38		
3	16QAM	1	0	24.60	23.70	23.62	25	0
3	16QAM	1	8	24.81	23.90	23.48		
3	16QAM	1	14	24.57	23.92	23.40		
3	16QAM	8	0	23.75	22.73	22.59	24	1
3	16QAM	8	4	23.76	22.85	22.52		
3	16QAM	8	7	23.64	22.90	22.41		
3	16QAM	15	0	23.63	22.79	22.45		
3	64QAM	1	0	23.78	22.76	22.68	24	1
3	64QAM	1	8	23.84	22.84	22.51		
3	64QAM	1	14	23.55	22.92	22.34		
3	64QAM	8	0	22.71	21.75	21.56	23	2
3	64QAM	8	4	22.70	21.81	21.48		
3	64QAM	8	7	22.58	21.87	21.38		
3	64QAM	15	0	22.59	21.77	21.46		

Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	24.71	24.56	24.19	25	0
1.4	QPSK	1	3	24.73	24.53	24.13		
1.4	QPSK	1	5	24.73	24.51	24.09		
1.4	QPSK	3	0	24.81	24.47	24.10		
1.4	QPSK	3	1	24.85	24.41	24.11		
1.4	QPSK	3	3	24.81	24.43	24.09		
1.4	QPSK	6	0	24.86	24.47	24.07	25	0
1.4	16QAM	1	0	24.77	23.75	23.39	25	0
1.4	16QAM	1	3	24.79	23.88	23.49		
1.4	16QAM	1	5	24.81	23.83	23.37		
1.4	16QAM	3	0	24.61	23.62	23.18		
1.4	16QAM	3	1	24.62	23.66	23.26		
1.4	16QAM	3	3	24.52	23.63	23.21		
1.4	16QAM	6	0	23.72	22.76	22.34	24	1
1.4	64QAM	1	0	23.74	22.72	22.31	24	1
1.4	64QAM	1	3	23.77	22.75	22.32		
1.4	64QAM	1	5	23.74	22.74	22.29		
1.4	64QAM	3	0	23.68	22.68	22.24		
1.4	64QAM	3	1	23.68	22.72	22.28		
1.4	64QAM	3	3	23.54	22.63	22.24		
1.4	64QAM	6	0	22.66	21.71	21.26	23	2

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	22.71	22.67	22.91	23.5	0
20	QPSK	1	49	22.71	22.67	22.84		
20	QPSK	1	99	22.74	22.72	22.88		
20	QPSK	50	0	21.70	21.73	21.93	23.5	0
20	QPSK	50	24	21.75	21.74	21.92		
20	QPSK	50	50	21.77	21.74	21.86		
20	QPSK	100	0	21.71	21.73	21.87		
20	16QAM	1	0	22.68	22.66	22.75	23.5	0
20	16QAM	1	49	22.61	22.66	22.68		
20	16QAM	1	99	22.59	22.64	22.66		
20	16QAM	50	0	20.71	20.75	20.92	23.5	0
20	16QAM	50	24	20.78	20.77	20.89		
20	16QAM	50	50	20.77	20.75	20.86		
20	16QAM	100	0	20.71	20.71	20.87		
20	64QAM	1	0	21.68	21.62	21.77	22.5	1
20	64QAM	1	49	21.62	21.59	21.75		
20	64QAM	1	99	21.63	21.67	21.81		
20	64QAM	50	0	19.69	19.73	19.90	22.5	1
20	64QAM	50	24	19.75	19.75	19.89		
20	64QAM	50	50	19.77	19.74	19.84		
20	64QAM	100	0	19.73	19.71	19.89		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	22.88	22.77	22.88	23.5	0
15	QPSK	1	37	22.81	22.77	22.84		
15	QPSK	1	74	22.87	22.86	22.88		
15	QPSK	36	0	21.80	21.80	21.97	23.5	0
15	QPSK	36	20	21.86	21.82	21.99		
15	QPSK	36	39	21.85	21.79	21.99		
15	QPSK	75	0	21.84	21.80	21.99		
15	16QAM	1	0	22.63	22.54	22.71	23.5	0
15	16QAM	1	37	22.62	22.54	22.68		
15	16QAM	1	74	22.68	22.61	22.78		
15	16QAM	36	0	20.81	20.79	20.99	23.5	0
15	16QAM	36	20	20.88	20.84	21.00		
15	16QAM	36	39	20.88	20.81	20.97		
15	16QAM	75	0	20.83	20.81	20.80		
15	64QAM	1	0	21.80	21.71	21.86	22.5	1
15	64QAM	1	37	21.66	21.68	21.84		
15	64QAM	1	74	21.75	21.77	21.93		
15	64QAM	36	0	19.77	19.81	19.98	22.5	1
15	64QAM	36	20	19.85	19.82	20.00		
15	64QAM	36	39	19.86	19.80	19.99		
15	64QAM	75	0	19.83	19.81	19.99		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	22.71	22.70	22.79	23.5	0
10	QPSK	1	25	22.69	22.75	22.83		
10	QPSK	1	49	22.72	22.71	22.82		
10	QPSK	25	0	21.71	21.68	21.81	23.5	0
10	QPSK	25	12	21.71	21.69	21.84		
10	QPSK	25	25	21.70	21.67	21.81		
10	QPSK	50	0	21.71	21.70	21.81		
10	16QAM	1	0	22.43	22.43	22.57	23.5	0
10	16QAM	1	25	22.50	22.49	22.60		
10	16QAM	1	49	22.48	22.47	22.60		
10	16QAM	25	0	20.70	20.70	20.82	23.5	0
10	16QAM	25	12	20.72	20.72	20.82		
10	16QAM	25	25	20.70	20.68	20.81		
10	16QAM	50	0	20.71	20.72	20.81		
10	64QAM	1	0	21.61	21.60	21.67	22.5	1
10	64QAM	1	25	21.63	21.61	21.74		
10	64QAM	1	49	21.61	21.63	21.75		
10	64QAM	25	0	19.72	19.68	19.81	22.5	1
10	64QAM	25	12	19.72	19.70	19.83		
10	64QAM	25	25	19.70	19.70	19.79		
10	64QAM	50	0	19.71	19.69	19.81		

Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.68	22.66	22.83	23.5	0
5	QPSK	1	12	22.78	22.81	22.90		
5	QPSK	1	24	22.74	22.80	22.90		
5	QPSK	12	0	22.59	22.51	22.70	23.5	0
5	QPSK	12	7	22.67	22.67	22.79		
5	QPSK	12	13	22.68	22.65	22.79		
5	QPSK	25	0	21.74	21.74	21.88		
5	16QAM	1	0	22.42	22.39	22.56	23.5	0
5	16QAM	1	12	22.55	22.53	22.66		
5	16QAM	1	24	22.56	22.57	22.74		
5	16QAM	12	0	22.60	22.52	22.72	23.5	0
5	16QAM	12	7	22.66	22.67	22.81		
5	16QAM	12	13	22.66	22.67	22.81		
5	16QAM	25	0	20.77	20.77	20.90		
5	64QAM	1	0	21.58	21.55	21.80	22.5	1
5	64QAM	1	12	21.70	21.69	21.84		
5	64QAM	1	24	21.76	21.71	21.85		
5	64QAM	12	0	21.57	21.51	21.71	22.5	1
5	64QAM	12	7	21.65	21.66	21.80		
5	64QAM	12	13	21.66	21.63	21.79		
5	64QAM	25	0	19.79	19.74	19.89		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	24.76	24.44	24.45	25	0
10	QPSK	1	25	24.78	24.38	24.45		
10	QPSK	1	49	24.39	24.28	24.43		
10	QPSK	25	0	23.58	23.25	23.31	24	1
10	QPSK	25	12	23.39	23.37	23.42		
10	QPSK	25	25	23.23	23.16	23.17		
10	QPSK	50	0	23.31	23.19	23.26		
10	16QAM	1	0	23.70	23.97	23.71	24	1
10	16QAM	1	25	23.67	23.54	23.68		
10	16QAM	1	49	23.63	23.60	23.56		
10	16QAM	25	0	22.42	22.24	22.28	23	2
10	16QAM	25	12	22.51	22.40	22.46		
10	16QAM	25	25	22.19	22.16	22.14		
10	16QAM	50	0	22.30	22.23	22.21		
10	64QAM	1	0	22.68	22.60	22.54	23	2
10	64QAM	1	25	22.59	22.53	22.50		
10	64QAM	1	49	22.42	22.42	22.38		
10	64QAM	25	0	21.28	21.20	21.21	22	3
10	64QAM	25	12	21.47	21.38	21.34		
10	64QAM	25	25	21.17	21.09	21.10		
10	64QAM	50	0	21.26	21.10	21.16		

Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	24.41	24.27	24.36	25	0
5	QPSK	1	12	24.52	24.39	24.44		
5	QPSK	1	24	24.18	24.18	24.46		
5	QPSK	12	0	23.64	23.47	23.42	24	1
5	QPSK	12	7	23.61	23.55	23.61		
5	QPSK	12	13	23.52	23.43	23.47		
5	QPSK	25	0	23.62	23.46	23.53		
5	16QAM	1	0	23.71	23.61	23.63	24	1
5	16QAM	1	12	23.81	23.67	23.70		
5	16QAM	1	24	23.41	23.38	23.68		
5	16QAM	12	0	22.60	22.45	22.47	23	2
5	16QAM	12	7	22.62	22.51	22.58		
5	16QAM	12	13	22.47	22.44	22.46		
5	16QAM	25	0	22.53	22.47	22.49		
5	64QAM	1	0	22.47	22.41	22.30	23	2
5	64QAM	1	12	22.63	22.57	22.18		
5	64QAM	1	24	22.44	22.35	22.15		
5	64QAM	12	0	21.50	21.46	21.32	22	3
5	64QAM	12	7	21.60	21.53	21.25		
5	64QAM	12	13	21.45	21.39	21.31		
5	64QAM	25	0	21.51	21.43	21.13		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	24.57	24.45	24.35	25	0
3	QPSK	1	8	24.68	24.47	24.52		
3	QPSK	1	14	24.43	24.31	24.42		
3	QPSK	8	0	23.68	23.50	23.50	24	1
3	QPSK	8	4	23.71	23.52	23.57		
3	QPSK	8	7	23.63	23.45	23.54		
3	QPSK	15	0	23.62	23.48	23.55		
3	16QAM	1	0	23.88	23.61	23.60	24	1
3	16QAM	1	8	23.99	23.80	23.89		
3	16QAM	1	14	23.74	23.58	23.63		
3	16QAM	8	0	22.74	22.53	22.57	23	2
3	16QAM	8	4	22.72	22.55	22.64		
3	16QAM	8	7	22.69	22.52	22.62		
3	16QAM	15	0	22.62	22.51	22.59		
3	64QAM	1	0	22.63	22.50	22.65	23	2
3	64QAM	1	8	22.74	22.56	22.72		
3	64QAM	1	14	22.56	22.40	22.60		
3	64QAM	8	0	21.44	21.42	21.63	22	3
3	64QAM	8	4	21.53	21.48	21.62		
3	64QAM	8	7	21.55	21.43	21.61		
3	64QAM	15	0	21.57	21.47	21.66		

Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	24.70	24.55	24.55	25	0
1.4	QPSK	1	3	24.78	24.58	24.65		
1.4	QPSK	1	5	24.69	24.54	24.60		
1.4	QPSK	3	0	24.75	24.56	24.57		
1.4	QPSK	3	1	24.78	24.58	24.60		
1.4	QPSK	3	3	24.74	24.55	24.61		
1.4	QPSK	6	0	23.81	23.62	23.61	24	1
1.4	16QAM	1	0	23.94	23.82	23.76	24	1
1.4	16QAM	1	3	23.93	23.87	23.90		
1.4	16QAM	1	5	23.98	23.74	23.86		
1.4	16QAM	3	0	23.79	23.62	23.62		
1.4	16QAM	3	1	23.81	23.64	23.66		
1.4	16QAM	3	3	23.77	23.59	23.67		
1.4	16QAM	6	0	22.87	22.67	22.68	23	2
1.4	64QAM	1	0	22.55	22.57	22.44	23	2
1.4	64QAM	1	3	22.54	22.58	22.49		
1.4	64QAM	1	5	22.51	22.54	22.44		
1.4	64QAM	3	0	22.51	22.56	22.40		
1.4	64QAM	3	1	22.55	22.59	22.50		
1.4	64QAM	3	3	22.49	22.55	22.56		
1.4	64QAM	6	0	21.40	21.39	21.30	22	3

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0	-	23.44	-	25	0
10	QPSK	1	25		24.93			
10	QPSK	1	49		24.33			
10	QPSK	25	0		23.54		24.5	0.5
10	QPSK	25	12		23.89			
10	QPSK	25	25		23.44			
10	QPSK	50	0		23.58			
10	16QAM	1	0		22.95		24.5	0.5
10	16QAM	1	25		23.80			
10	16QAM	1	49		23.24			
10	16QAM	25	0		22.88		23.5	1.5
10	16QAM	25	12		23.16			
10	16QAM	25	25		22.66			
10	16QAM	50	0		22.70			
10	64QAM	1	0		21.26		23	2
10	64QAM	1	25		22.43			
10	64QAM	1	49		21.95			
10	64QAM	25	0		21.10		22	3
10	64QAM	25	12		21.45			
10	64QAM	25	25		20.92			
10	64QAM	50	0		21.13			

Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	23.41	24.50	24.57	25	0
5	QPSK	1	12	24.11	24.88	24.21		
5	QPSK	1	24	24.83	24.57	24.15		
5	QPSK	12	0	22.88	24.13	23.52	24.5	0.5
5	QPSK	12	7	23.50	24.06	23.25		
5	QPSK	12	13	24.02	23.66	23.24		
5	QPSK	25	0	23.37	23.70	23.25		
5	16QAM	1	0	22.77	23.71	23.81	24.5	0.5
5	16QAM	1	12	23.47	24.29	23.70		
5	16QAM	1	24	24.12	24.06	23.66		
5	16QAM	12	0	22.07	23.22	22.85	23.5	1.5
5	16QAM	12	7	22.87	23.19	22.57		
5	16QAM	12	13	23.16	22.94	22.54		
5	16QAM	25	0	22.78	23.07	22.56		
5	64QAM	1	0	21.02	21.96	22.48	23	2
5	64QAM	1	12	21.73	22.59	22.05		
5	64QAM	1	24	22.34	22.20	21.94		
5	64QAM	12	0	20.39	21.72	21.17	22	3
5	64QAM	12	7	21.18	21.62	20.96		
5	64QAM	12	13	21.55	21.20	20.82		
5	64QAM	25	0	21.02	21.36	20.91		

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	23.83	23.91	23.93	25	0
10	QPSK	1	25	23.82	23.89	23.95		
10	QPSK	1	49	23.84	23.94	23.71		
10	QPSK	25	0	22.75	22.80	22.69	24	1
10	QPSK	25	12	22.89	22.92	22.94		
10	QPSK	25	25	22.65	22.65	22.61		
10	QPSK	50	0	22.67	22.71	22.72		
10	16QAM	1	0	23.12	23.12	23.19	24	1
10	16QAM	1	25	23.14	23.03	23.20		
10	16QAM	1	49	23.28	23.04	23.13		
10	16QAM	25	0	21.74	21.70	21.71	23	2
10	16QAM	25	12	21.90	21.88	21.88		
10	16QAM	25	25	21.63	21.62	21.64		
10	16QAM	50	0	21.67	21.68	21.74		
10	64QAM	1	0	22.09	22.03	22.03	23	2
10	64QAM	1	25	22.02	22.06	21.87		
10	64QAM	1	49	21.76	22.10	21.76		
10	64QAM	25	0	20.73	20.72	20.73	22	3
10	64QAM	25	12	20.88	20.90	20.94		
10	64QAM	25	25	20.55	20.60	20.62		
10	64QAM	50	0	20.67	20.72	20.69		

Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	23.52	23.59	23.66	25	0
5	QPSK	1	12	23.76	23.89	23.95		
5	QPSK	1	24	23.62	23.71	23.67		
5	QPSK	12	0	22.80	22.93	22.88	24	1
5	QPSK	12	7	22.94	22.99	23.06		
5	QPSK	12	13	22.90	22.96	22.91		
5	QPSK	25	0	22.82	22.89	22.91		
5	16QAM	1	0	22.72	22.76	22.89	24	1
5	16QAM	1	12	23.03	23.24	23.24		
5	16QAM	1	24	22.85	22.93	22.90		
5	16QAM	12	0	21.80	21.85	21.90	23	2
5	16QAM	12	7	21.89	21.97	22.00		
5	16QAM	12	13	21.84	21.91	21.92		
5	16QAM	25	0	21.86	21.89	21.87		
5	64QAM	1	0	21.65	21.86	21.82	23	2
5	64QAM	1	12	21.98	22.11	22.11		
5	64QAM	1	24	21.72	21.84	21.89		
5	64QAM	12	0	20.76	20.89	20.91	22	3
5	64QAM	12	7	20.92	20.99	21.05		
5	64QAM	12	13	20.85	20.95	20.98		
5	64QAM	25	0	20.83	20.87	20.89		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	23.46	23.53	23.47	24	0
20	QPSK	1	49	23.44	23.66	22.79		
20	QPSK	1	99	23.41	23.52	21.43		
20	QPSK	50	0	22.53	22.60	22.51	24	0
20	QPSK	50	24	22.56	22.66	22.30		
20	QPSK	50	50	22.56	22.65	21.23		
20	QPSK	100	0	22.59	22.63	22.03		
20	16QAM	1	0	22.79	22.70	22.87	23	1
20	16QAM	1	49	22.63	22.93	22.60		
20	16QAM	1	99	22.71	22.85	21.19		
20	16QAM	50	0	21.57	21.62	21.56	23	1
20	16QAM	50	24	21.60	21.63	21.45		
20	16QAM	50	50	21.61	21.70	20.41		
20	16QAM	100	0	21.57	21.66	21.22		
20	64QAM	1	0	21.47	21.66	21.15	22	2
20	64QAM	1	49	21.38	21.66	20.10		
20	64QAM	1	99	21.40	21.48	18.29		
20	64QAM	50	0	20.49	20.61	20.30	21	3
20	64QAM	50	24	20.54	20.66	19.53		
20	64QAM	50	50	20.43	20.69	18.35		
20	64QAM	100	0	20.39	20.48	19.41		

Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.37	23.61	23.44	24	0
15	QPSK	1	37	23.39	23.56	22.21		
15	QPSK	1	74	23.44	23.56	21.07		
15	QPSK	36	0	22.51	22.66	22.25	24	0
15	QPSK	36	20	22.60	22.71	21.55		
15	QPSK	36	39	22.55	23.51	20.89		
15	QPSK	75	0	22.53	22.56	21.60		
15	16QAM	1	0	22.73	22.67	22.71	23	1
15	16QAM	1	37	22.56	22.68	21.79		
15	16QAM	1	74	22.66	22.69	20.92		
15	16QAM	36	0	21.49	21.53	21.40	23	1
15	16QAM	36	20	21.51	21.66	20.57		
15	16QAM	36	39	21.52	21.64	20.05		
15	16QAM	75	0	21.52	21.57	20.78		
15	64QAM	1	0	21.30	21.60	21.14	22	2
15	64QAM	1	37	21.58	21.72	19.96		
15	64QAM	1	74	21.60	21.69	18.18		
15	64QAM	36	0	20.45	20.61	19.71	21	3
15	64QAM	36	20	20.48	20.40	18.78		
15	64QAM	36	39	20.39	20.64	18.30		
15	64QAM	75	0	20.28	20.59	18.98		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23.05	23.49	22.31	24	0
10	QPSK	1	25	23.19	23.41	21.36		
10	QPSK	1	49	23.31	23.45	21.06		
10	QPSK	25	0	22.19	22.52	20.81	24	0
10	QPSK	25	12	22.24	22.53	20.58		
10	QPSK	25	25	22.32	22.51	20.56		
10	QPSK	50	0	22.17	22.49	20.80		
10	16QAM	1	0	22.24	22.70	21.70	23	1
10	16QAM	1	25	22.43	22.70	20.75		
10	16QAM	1	49	22.63	22.65	20.39		
10	16QAM	25	0	21.19	21.53	19.97	23	1
10	16QAM	25	12	21.32	21.55	19.80		
10	16QAM	25	25	21.41	21.56	19.84		
10	16QAM	50	0	21.26	21.51	19.86		
10	64QAM	1	0	21.22	21.56	20.45	22	2
10	64QAM	1	25	21.35	21.63	19.21		
10	64QAM	1	49	21.57	21.60	18.62		
10	64QAM	25	0	20.20	20.52	18.64	21	3
10	64QAM	25	12	20.36	20.51	18.31		
10	64QAM	25	25	20.45	20.52	18.21		
10	64QAM	50	0	20.30	20.52	18.41		

Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	22.89	23.35	21.58	24	0
5	QPSK	1	12	23.04	23.49	21.69		
5	QPSK	1	24	23.07	23.53	21.38		
5	QPSK	12	0	22.04	22.49	20.71	24	0
5	QPSK	12	7	22.15	22.54	20.84		
5	QPSK	12	13	22.15	22.59	20.78		
5	QPSK	25	0	22.07	22.48	20.74		
5	16QAM	1	0	22.16	22.61	21.00	23	1
5	16QAM	1	12	22.36	22.77	21.05		
5	16QAM	1	24	22.46	22.80	20.77		
5	16QAM	12	0	21.24	21.47	19.91	23	1
5	16QAM	12	7	21.38	21.54	20.08		
5	16QAM	12	13	21.38	21.57	20.02		
5	16QAM	25	0	21.29	21.51	19.93		
5	64QAM	1	0	21.25	21.53	19.59	22	2
5	64QAM	1	12	21.35	21.70	19.68		
5	64QAM	1	24	21.37	21.72	19.41		
5	64QAM	12	0	20.25	20.44	18.56	21	3
5	64QAM	12	7	20.36	20.52	18.74		
5	64QAM	12	13	20.36	20.56	18.65		
5	64QAM	25	0	20.29	20.52	18.54		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	23.29	23.33	21.99	24	0
3	QPSK	1	8	23.37	23.45	21.96		
3	QPSK	1	14	23.31	23.35	21.86		
3	QPSK	8	0	23.32	23.38	21.96	24	0
3	QPSK	8	4	23.37	23.46	22.11		
3	QPSK	8	7	23.33	23.39	22.02		
3	QPSK	15	0	22.38	22.43	21.14		
3	16QAM	1	0	22.59	22.52	21.37	23	1
3	16QAM	1	8	22.62	22.63	21.34		
3	16QAM	1	14	22.60	22.62	21.26		
3	16QAM	8	0	22.34	22.39	21.15	23	1
3	16QAM	8	4	22.40	22.47	21.18		
3	16QAM	8	7	22.37	22.39	21.12		
3	16QAM	15	0	21.49	21.51	20.28		
3	64QAM	1	0	21.47	21.51	19.89	22	2
3	64QAM	1	8	21.57	21.55	19.91		
3	64QAM	1	14	21.55	21.49	19.86		
3	64QAM	8	0	20.38	20.44	18.82	21	3
3	64QAM	8	4	20.45	20.50	18.92		
3	64QAM	8	7	20.39	20.47	18.74		
3	64QAM	15	0	20.39	20.45	17.81		

Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	23.45	23.54	22.16	24	0
1.4	QPSK	1	3	23.56	23.65	22.12		
1.4	QPSK	1	5	23.50	23.56	22.03		
1.4	QPSK	3	0	23.51	23.57	22.14		
1.4	QPSK	3	1	23.60	23.63	22.32		
1.4	QPSK	3	3	23.53	23.62	22.23		
1.4	QPSK	6	0	22.58	22.64	21.38	24	0
1.4	16QAM	1	0	22.72	22.77	21.61	23	1
1.4	16QAM	1	3	22.83	22.90	21.60		
1.4	16QAM	1	5	22.77	22.76	21.50		
1.4	16QAM	3	0	22.53	22.60	21.39		
1.4	16QAM	3	1	22.59	22.65	21.41		
1.4	16QAM	3	3	22.58	22.61	21.31		
1.4	16QAM	6	0	21.68	21.72	20.46	23	1
1.4	64QAM	1	0	21.66	21.72	20.16	22	2
1.4	64QAM	1	3	21.73	21.80	20.07		
1.4	64QAM	1	5	21.67	21.69	20.00		
1.4	64QAM	3	0	21.61	21.62	20.04		
1.4	64QAM	3	1	21.64	21.69	20.13		
1.4	64QAM	3	3	21.59	21.64	19.99		
1.4	64QAM	6	0	20.59	20.61	19.06	21	3

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	24.46	24.95	24.27	25	0
15	QPSK	1	37	24.58	24.36	24.70		
15	QPSK	1	74	24.66	24.52	24.05		
15	QPSK	36	0	23.83	23.79	23.48	25	0
15	QPSK	36	20	23.62	23.31	23.72		
15	QPSK	36	39	23.77	23.21	23.32		
15	QPSK	75	0	23.66	23.56	23.42		
15	16QAM	1	0	23.82	23.95	23.57	25	0
15	16QAM	1	37	23.93	23.69	23.98		
15	16QAM	1	74	23.92	23.90	23.52		
15	16QAM	36	0	22.62	22.83	22.69	24	1
15	16QAM	36	20	22.81	22.48	22.81		
15	16QAM	36	39	22.74	22.35	22.54		
15	16QAM	75	0	22.79	22.63	22.56		
15	64QAM	1	0	22.22	22.45	22.46	24	1
15	64QAM	1	37	22.02	21.59	21.69		
15	64QAM	1	74	22.26	21.64	21.69		
15	64QAM	36	0	20.63	21.13	21.11	23	2
15	64QAM	36	20	21.20	20.59	20.62		
15	64QAM	36	39	21.27	20.33	20.35		
15	64QAM	75	0	20.85	20.65	20.66		

Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	24.27	24.75	24.43	25	0
10	QPSK	1	25	23.98	24.07	24.47		
10	QPSK	1	49	24.56	24.03	23.97		
10	QPSK	25	0	23.20	23.50	23.69	25	0
10	QPSK	25	12	23.51	23.23	23.56		
10	QPSK	25	25	23.71	23.09	23.08		
10	QPSK	50	0	23.53	23.23	23.32		
10	16QAM	1	0	23.63	23.98	23.59	25	0
10	16QAM	1	25	23.35	23.41	23.86		
10	16QAM	1	49	23.84	23.36	23.44		
10	16QAM	25	0	22.42	22.67	22.69	24	1
10	16QAM	25	12	22.70	22.42	22.72		
10	16QAM	25	25	22.71	22.28	22.29		
10	16QAM	50	0	22.69	22.41	22.56		
10	64QAM	1	0	22.11	22.28	21.69	24	1
10	64QAM	1	25	21.62	21.56	21.80		
10	64QAM	1	49	22.34	21.45	21.27		
10	64QAM	25	0	20.60	20.88	21.05	23	2
10	64QAM	25	12	20.77	20.66	20.98		
10	64QAM	25	25	21.12	20.38	20.46		
10	64QAM	50	0	20.73	20.59	20.67		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	24.20	24.31	24.21	25	0
5	QPSK	1	12	23.86	24.04	24.02		
5	QPSK	1	24	23.80	23.92	23.68		
5	QPSK	12	0	23.17	23.34	23.34	25	0
5	QPSK	12	7	23.15	23.27	23.17		
5	QPSK	12	13	23.24	23.15	22.88		
5	QPSK	25	0	23.18	23.16	23.03		
5	16QAM	1	0	23.47	23.66	23.45	25	0
5	16QAM	1	12	23.20	23.43	23.41		
5	16QAM	1	24	23.15	23.30	23.11		
5	16QAM	12	0	22.39	22.59	22.60	24	1
5	16QAM	12	7	22.38	22.46	22.38		
5	16QAM	12	13	22.43	22.36	22.10		
5	16QAM	25	0	22.33	22.40	22.24		
5	64QAM	1	0	21.80	21.97	21.14	24	1
5	64QAM	1	12	21.45	21.60	21.06		
5	64QAM	1	24	21.23	21.33	21.08		
5	64QAM	12	0	20.65	20.74	20.70	23	2
5	64QAM	12	7	20.51	20.60	20.48		
5	64QAM	12	13	20.32	20.43	20.24		
5	64QAM	25	0	20.39	20.48	20.33		

Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	24.23	24.19	24.03	25	0
3	QPSK	1	8	24.01	24.12	23.78		
3	QPSK	1	14	23.86	23.97	23.66		
3	QPSK	8	0	23.30	23.27	23.08	25	0
3	QPSK	8	4	23.17	23.28	22.93		
3	QPSK	8	7	23.09	23.20	22.74		
3	QPSK	15	0	23.19	23.22	22.88		
3	16QAM	1	0	23.44	23.53	23.25	25	0
3	16QAM	1	8	23.40	23.54	23.10		
3	16QAM	1	14	23.18	23.39	23.01		
3	16QAM	8	0	22.49	22.49	22.32	24	1
3	16QAM	8	4	22.38	22.46	22.12		
3	16QAM	8	7	22.31	22.38	21.99		
3	16QAM	15	0	22.42	22.45	22.15		
3	64QAM	1	0	21.83	21.74	21.54	24	1
3	64QAM	1	8	21.62	21.69	21.26		
3	64QAM	1	14	21.38	21.51	21.03		
3	64QAM	8	0	20.73	20.63	20.41	23	2
3	64QAM	8	4	20.57	20.59	20.18		
3	64QAM	8	7	20.41	20.47	20.09		
3	64QAM	15	0	20.60	20.55	20.15		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	24.17	24.08	23.57	25	0
1.4	QPSK	1	3	24.13	24.08	23.56		
1.4	QPSK	1	5	23.96	23.98	23.47		
1.4	QPSK	3	0	24.26	24.11	23.60		
1.4	QPSK	3	1	24.23	24.12	23.61		
1.4	QPSK	3	3	24.09	24.07	23.60		
1.4	QPSK	6	0	23.29	23.18	23.01	25	0
1.4	16QAM	1	0	23.44	23.43	23.31	25	0
1.4	16QAM	1	3	23.53	23.46	23.44		
1.4	16QAM	1	5	23.43	23.43	23.33		
1.4	16QAM	3	0	23.44	23.30	23.18		
1.4	16QAM	3	1	23.42	23.32	23.21		
1.4	16QAM	3	3	23.30	23.22	23.20		
1.4	16QAM	6	0	22.48	22.42	22.06	24	1
1.4	64QAM	1	0	21.62	21.39	21.52	24	1
1.4	64QAM	1	3	21.79	21.33	21.42		
1.4	64QAM	1	5	21.66	21.35	21.32		
1.4	64QAM	3	0	21.74	21.47	21.32		
1.4	64QAM	3	1	21.70	21.44	21.25		
1.4	64QAM	3	3	21.44	21.51	21.28		
1.4	64QAM	6	0	20.64	20.52	20.34	23	2

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0	-	24.35	-	25	0
10	QPSK	1	25		24.19			
10	QPSK	1	49		24.21			
10	QPSK	25	0		23.11		24	1
10	QPSK	25	12		23.29			
10	QPSK	25	25		23.04			
10	QPSK	50	0		23.08			
10	16QAM	1	0		23.37		24	1
10	16QAM	1	25		23.38			
10	16QAM	1	49		23.39			
10	16QAM	25	0		22.11		23	2
10	16QAM	25	12		22.30			
10	16QAM	25	25		21.99			
10	16QAM	50	0		22.06			
10	64QAM	1	0		22.42		23	2
10	64QAM	1	25		22.38			
10	64QAM	1	49		22.25			
10	64QAM	25	0		21.08		22	3
10	64QAM	25	12		21.24			
10	64QAM	25	25		21.03			
10	64QAM	50	0		21.04			

Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	24.26	24.24	24.31	25	0
5	QPSK	1	12	24.35	24.32	24.27		
5	QPSK	1	24	24.27	24.20	24.18		
5	QPSK	12	0	23.31	23.30	23.35	24	1
5	QPSK	12	7	23.44	23.35	23.41		
5	QPSK	12	13	23.34	23.30	23.36		
5	QPSK	25	0	23.33	23.29	23.32		
5	16QAM	1	0	23.36	23.42	23.48	24	1
5	16QAM	1	12	23.58	23.56	23.55		
5	16QAM	1	24	23.45	23.43	23.40		
5	16QAM	12	0	22.32	22.28	22.28	23	2
5	16QAM	12	7	22.40	22.38	22.40		
5	16QAM	12	13	22.36	22.28	22.32		
5	16QAM	25	0	22.30	22.29	22.34		
5	64QAM	1	0	22.38	22.49	22.52	23	2
5	64QAM	1	12	22.50	22.49	22.45		
5	64QAM	1	24	22.40	22.36	22.31		
5	64QAM	12	0	21.32	21.32	21.34	22	3
5	64QAM	12	7	21.43	21.37	21.47		
5	64QAM	12	13	21.38	21.29	21.34		
5	64QAM	25	0	21.33	21.26	21.33		

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	23.81	23.72	24.20	25	0
20	QPSK	1	49	23.92	24.11	24.21		
20	QPSK	1	99	23.76	23.85	23.81		
20	QPSK	50	0	22.96	22.81	23.10	24	1
20	QPSK	50	24	22.92	23.02	23.30		
20	QPSK	50	50	22.94	23.27	23.29		
20	QPSK	100	0	23.07	23.01	23.29		
20	16QAM	1	0	22.96	23.07	23.28	24	1
20	16QAM	1	49	23.13	22.90	22.85		
20	16QAM	1	99	22.84	23.18	22.80		
20	16QAM	50	0	22.14	21.89	22.31	23	2
20	16QAM	50	24	22.11	22.13	22.32		
20	16QAM	50	50	22.14	22.28	22.26		
20	16QAM	100	0	21.86	22.14	22.26		
20	64QAM	1	0	21.31	21.42	21.74	23	2
20	64QAM	1	49	21.43	21.42	21.77		
20	64QAM	1	99	21.37	21.33	21.42		
20	64QAM	50	0	20.36	20.28	20.53	22	3
20	64QAM	50	24	20.35	20.25	20.72		
20	64QAM	50	50	20.33	20.73	20.74		
20	64QAM	100	0	20.32	20.51	20.75		

Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.85	23.66	24.10	25	0
15	QPSK	1	37	24.08	23.97	24.07		
15	QPSK	1	74	24.09	24.12	23.65		
15	QPSK	36	0	23.13	22.83	23.29	24	1
15	QPSK	36	20	23.33	23.29	23.28		
15	QPSK	36	39	23.24	23.31	23.24		
15	QPSK	75	0	23.13	23.26	23.27		
15	16QAM	1	0	23.05	22.97	23.32	24	1
15	16QAM	1	37	23.34	23.27	23.40		
15	16QAM	1	74	23.33	23.46	22.98		
15	16QAM	36	0	22.28	21.94	22.35	23	2
15	16QAM	36	20	22.32	22.37	22.29		
15	16QAM	36	39	22.28	22.33	22.25		
15	16QAM	75	0	22.25	22.35	22.27		
15	64QAM	1	0	21.51	21.50	21.91	23	2
15	64QAM	1	37	21.58	21.59	21.51		
15	64QAM	1	74	21.79	21.79	21.73		
15	64QAM	36	0	20.57	20.58	20.80	22	3
15	64QAM	36	20	20.67	20.76	21.01		
15	64QAM	36	39	20.72	21.05	21.02		
15	64QAM	75	0	20.51	20.48	20.65		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	23.77	23.84	24.02	25	0
10	QPSK	1	25	23.97	23.97	24.02		
10	QPSK	1	49	24.07	24.10	23.61		
10	QPSK	25	0	23.03	22.99	23.17	24	1
10	QPSK	25	12	23.18	23.18	23.15		
10	QPSK	25	25	23.15	23.15	23.08		
10	QPSK	50	0	23.07	23.17	23.12		
10	16QAM	1	0	23.02	23.13	23.29	24	1
10	16QAM	1	25	23.29	23.33	23.16		
10	16QAM	1	49	23.33	23.35	22.99		
10	16QAM	25	0	22.14	22.08	22.14	23	2
10	16QAM	25	12	22.15	22.19	22.12		
10	16QAM	25	25	22.12	22.13	22.05		
10	16QAM	50	0	22.17	22.17	22.11		
10	64QAM	1	0	21.54	21.54	21.93	23	2
10	64QAM	1	25	21.58	21.69	21.99		
10	64QAM	1	49	21.74	21.86	22.01		
10	64QAM	25	0	20.53	20.52	20.99	22	3
10	64QAM	25	12	20.73	20.61	20.93		
10	64QAM	25	25	20.80	20.64	20.60		
10	64QAM	50	0	20.63	20.39	20.72		

Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	23.76	24.11	23.97	25	0
5	QPSK	1	12	23.94	24.13	24.00		
5	QPSK	1	24	23.99	24.05	23.81		
5	QPSK	12	0	22.96	23.12	23.11	24	1
5	QPSK	12	7	23.11	23.22	23.10		
5	QPSK	12	13	23.15	23.26	22.84		
5	QPSK	25	0	23.04	23.18	22.94		
5	16QAM	1	0	23.02	23.25	23.18	24	1
5	16QAM	1	12	23.22	23.43	23.24		
5	16QAM	1	24	23.23	23.45	22.98		
5	16QAM	12	0	22.12	22.16	22.10	23	2
5	16QAM	12	7	22.19	22.19	22.16		
5	16QAM	12	13	22.21	22.24	22.03		
5	16QAM	25	0	22.18	22.19	22.15		
5	64QAM	1	0	21.53	21.67	21.92	23	2
5	64QAM	1	12	21.79	21.76	21.94		
5	64QAM	1	24	21.86	21.67	21.80		
5	64QAM	12	0	20.45	20.63	20.71	22	3
5	64QAM	12	7	20.48	20.74	20.54		
5	64QAM	12	13	20.64	20.81	20.33		
5	64QAM	25	0	20.50	20.63	20.53		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	23.82	24.05	24.06	25	0
3	QPSK	1	8	24.04	24.02	23.79		
3	QPSK	1	14	24.03	24.00	23.73		
3	QPSK	8	0	23.00	23.12	22.98	24	1
3	QPSK	8	4	23.08	23.22	22.87		
3	QPSK	8	7	23.06	23.24	22.78		
3	QPSK	15	0	22.98	23.22	22.73		
3	16QAM	1	0	22.99	23.27	23.15	24	1
3	16QAM	1	8	23.42	23.45	23.06		
3	16QAM	1	14	23.29	23.34	22.96		
3	16QAM	8	0	22.13	22.18	22.16	23	2
3	16QAM	8	4	22.23	22.34	21.99		
3	16QAM	8	7	22.25	22.26	21.85		
3	16QAM	15	0	22.15	22.24	21.90		
3	64QAM	1	0	21.05	21.29	21.37	23	2
3	64QAM	1	8	21.30	21.52	21.42		
3	64QAM	1	14	21.45	21.49	21.09		
3	64QAM	8	0	20.30	20.59	20.38	22	3
3	64QAM	8	4	20.45	20.73	20.41		
3	64QAM	8	7	20.51	20.75	20.38		
3	64QAM	15	0	20.41	20.65	20.16		

Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	23.75	24.09	23.69	25	0
1.4	QPSK	1	3	23.87	24.08	23.66		
1.4	QPSK	1	5	23.84	24.05	23.61		
1.4	QPSK	3	0	23.74	24.06	23.68		
1.4	QPSK	3	1	23.83	24.09	23.64		
1.4	QPSK	3	3	23.83	24.07	23.60		
1.4	QPSK	6	0	22.91	23.13	22.66	24	1
1.4	16QAM	1	0	23.05	23.29	22.82	24	1
1.4	16QAM	1	3	23.20	23.25	22.84		
1.4	16QAM	1	5	23.16	23.27	22.85		
1.4	16QAM	3	0	22.93	23.15	22.75		
1.4	16QAM	3	1	22.96	23.20	22.75		
1.4	16QAM	3	3	22.98	23.08	22.73		
1.4	16QAM	6	0	22.15	22.23	21.75	23	2
1.4	64QAM	1	0	21.35	21.35	21.06	23	2
1.4	64QAM	1	3	21.03	21.50	21.09		
1.4	64QAM	1	5	21.05	21.50	21.06		
1.4	64QAM	3	0	21.43	21.74	21.49		
1.4	64QAM	3	1	21.30	21.68	21.35		
1.4	64QAM	3	3	21.48	21.79	21.36		
1.4	64QAM	6	0	20.19	20.47	20.08	22	3

<LTE Band 71>

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				133222	133322	133372		
Frequency (MHz)				673	683	688		
20	QPSK	1	0	25.26	25.45	25.20	25.5	0
20	QPSK	1	49	25.11	25.09	25.10		
20	QPSK	1	99	24.98	24.97	24.93		
20	QPSK	50	0	24.25	24.07	24.05	24.5	1
20	QPSK	50	24	24.19	24.19	24.20		
20	QPSK	50	50	23.95	23.91	23.89		
20	QPSK	100	0	23.98	24.01	23.99		
20	16QAM	1	0	24.42	24.45	24.43	24.5	1
20	16QAM	1	49	24.38	24.31	24.27		
20	16QAM	1	99	24.22	24.25	24.13		
20	16QAM	50	0	23.22	23.09	23.09	23.5	2
20	16QAM	50	24	23.18	23.27	23.22		
20	16QAM	50	50	22.95	22.91	22.88		
20	16QAM	100	0	23.00	22.96	23.00		
20	64QAM	1	0	23.01	23.43	23.41	23.5	2
20	64QAM	1	49	23.33	23.30	23.37		
20	64QAM	1	99	23.17	23.17	23.07		
20	64QAM	50	0	22.18	22.10	22.06	22.5	3
20	64QAM	50	24	22.22	22.26	22.24		
20	64QAM	50	50	21.96	21.91	21.88		
20	64QAM	100	0	21.98	22.03	22.00		

Channel				133197	133297	133397	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				670.5	680.5	690.5		
15	QPSK	1	0	25.25	25.27	25.21	25.5	0
15	QPSK	1	37	25.14	25.17	25.09		
15	QPSK	1	74	24.86	25.00	25.00		
15	QPSK	36	0	24.27	24.21	24.16	24.5	1
15	QPSK	36	20	24.21	24.26	24.18		
15	QPSK	36	39	23.99	24.04	23.93		
15	QPSK	75	0	24.10	24.15	24.09		
15	16QAM	1	0	24.48	24.41	24.43	24.5	1
15	16QAM	1	37	24.46	24.40	24.29		
15	16QAM	1	74	24.18	24.26	24.24		
15	16QAM	36	0	23.22	23.20	23.14	23.5	2
15	16QAM	36	20	23.22	23.26	23.23		
15	16QAM	36	39	22.95	23.02	22.96		
15	16QAM	75	0	23.11	23.13	23.05		
15	64QAM	1	0	23.40	23.45	23.42	23.5	2
15	64QAM	1	37	23.20	23.28	23.17		
15	64QAM	1	74	23.07	23.22	23.17		
15	64QAM	36	0	22.23	22.23	22.22	22.5	3
15	64QAM	36	20	22.23	22.25	22.22		
15	64QAM	36	39	21.99	22.07	21.99		
15	64QAM	75	0	22.09	22.12	22.07		
Channel				133172	133272	133422	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				668	678	693		
10	QPSK	1	0	25.18	25.19	25.10	25.5	0
10	QPSK	1	25	25.10	24.90	25.08		
10	QPSK	1	49	24.82	25.06	24.85		
10	QPSK	25	0	23.93	23.94	23.88	24.5	1
10	QPSK	25	12	24.13	24.10	24.01		
10	QPSK	25	25	23.82	23.85	23.76		
10	QPSK	50	0	23.90	23.92	23.84		
10	16QAM	1	0	24.30	24.31	24.29	24.5	1
10	16QAM	1	25	24.29	24.27	24.39		
10	16QAM	1	49	24.24	24.24	24.15		
10	16QAM	25	0	22.96	22.98	22.92	23.5	2
10	16QAM	25	12	23.03	23.10	23.02		
10	16QAM	25	25	22.87	22.84	22.76		
10	16QAM	50	0	22.87	22.90	22.84		
10	64QAM	1	0	23.10	23.23	23.31	23.5	2
10	64QAM	1	25	23.27	23.30	23.27		
10	64QAM	1	49	23.14	23.17	23.12		
10	64QAM	25	0	21.99	21.96	21.87	22.5	3
10	64QAM	25	12	22.13	22.14	22.04		
10	64QAM	25	25	21.85	21.87	21.79		
10	64QAM	50	0	21.93	21.91	21.83		

Channel				133147	133247	133447	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				665.5	675.5	695.5		
5	QPSK	1	0	24.83	24.87	24.75	25.5	0
5	QPSK	1	12	25.11	25.10	25.05		
5	QPSK	1	24	24.86	24.89	24.78		
5	QPSK	12	0	24.04	24.10	23.99	24.5	1
5	QPSK	12	7	24.21	24.25	24.11		
5	QPSK	12	13	24.16	24.22	24.08		
5	QPSK	25	0	24.11	24.12	24.02		
5	16QAM	1	0	24.07	24.14	24.03	24.5	1
5	16QAM	1	12	24.33	24.42	24.24		
5	16QAM	1	24	24.01	24.20	23.99		
5	16QAM	12	0	23.09	23.18	23.01	23.5	2
5	16QAM	12	7	23.23	23.27	23.08		
5	16QAM	12	13	23.17	23.20	23.08		
5	16QAM	25	0	23.13	23.17	23.00		
5	64QAM	1	0	22.96	23.08	22.98	23.5	2
5	64QAM	1	12	23.02	23.42	23.22		
5	64QAM	1	24	23.12	23.02	22.95		
5	64QAM	12	0	22.08	22.15	22.05	22.5	3
5	64QAM	12	7	22.29	22.32	22.14		
5	64QAM	12	13	22.20	22.19	22.11		
5	64QAM	25	0	22.11	22.19	22.03		

<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.

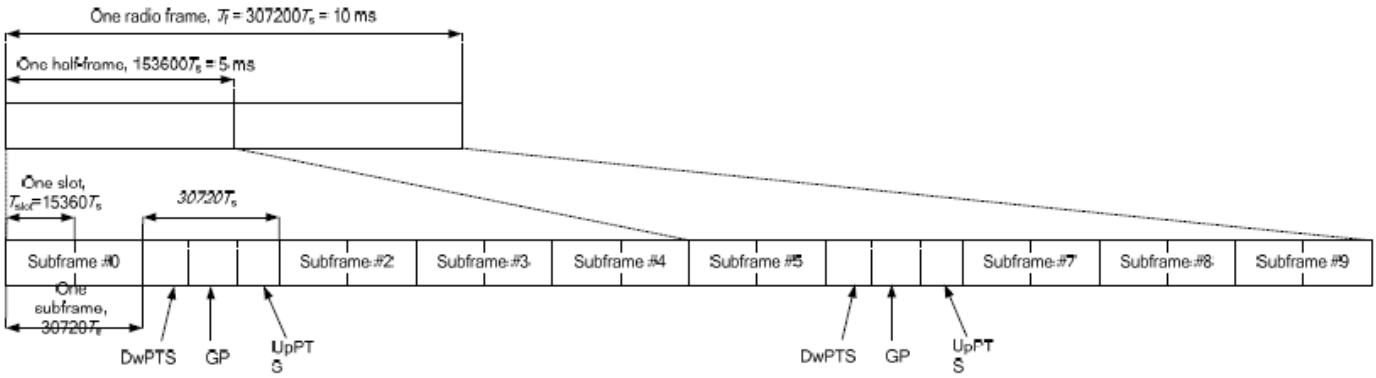


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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.

<WWAN Top Antenna>

<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	20.06	20.70	20.21	21	0
20	QPSK	1	49	20.36	20.78	20.14		
20	QPSK	1	99	20.63	20.91	20.29		
20	QPSK	50	0	19.29	19.75	19.84	21	0
20	QPSK	50	24	19.47	19.86	19.90		
20	QPSK	50	50	19.64	19.88	19.86		
20	QPSK	100	0	19.45	19.80	19.81		
20	16QAM	1	0	19.19	19.77	19.82	21	0
20	16QAM	1	49	19.49	19.88	19.83		
20	16QAM	1	99	19.78	19.94	19.97		
20	16QAM	50	0	18.32	18.73	18.84	21	0
20	16QAM	50	24	18.48	18.85	18.91		
20	16QAM	50	50	18.65	18.87	18.87		
20	16QAM	100	0	18.44	18.77	18.80		
20	64QAM	1	0	18.96	19.51	19.59	21	0
20	64QAM	1	49	19.25	19.60	19.61		
20	64QAM	1	99	19.54	19.67	19.74		
20	64QAM	50	0	18.26	18.67	18.78	21	0
20	64QAM	50	24	18.41	18.78	18.85		
20	64QAM	50	50	18.59	18.81	18.81		
20	64QAM	100	0	18.49	18.81	18.85		

Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	20.09	20.65	20.35	21	0
15	QPSK	1	37	20.16	20.71	20.35		
15	QPSK	1	74	20.57	20.78	20.31		
15	QPSK	36	0	19.16	19.84	19.97	21	0
15	QPSK	36	20	19.31	19.95	20.01		
15	QPSK	36	39	19.42	19.95	20.01		
15	QPSK	75	0	19.27	19.87	19.98		
15	16QAM	1	0	19.11	19.78	20.08	21	0
15	16QAM	1	37	19.25	19.94	20.06		
15	16QAM	1	74	19.63	20.05	20.16		
15	16QAM	36	0	18.13	18.80	18.94	21	0
15	16QAM	36	20	18.27	18.93	18.98		
15	16QAM	36	39	18.37	18.93	18.90		
15	16QAM	75	0	18.28	18.89	18.99		
15	64QAM	1	0	18.90	20.00	19.85	21	0
15	64QAM	1	37	19.02	19.84	19.77		
15	64QAM	1	74	19.39	19.62	19.90		
15	64QAM	36	0	18.18	19.44	19.47	21	0
15	64QAM	36	20	18.31	19.42	19.00		
15	64QAM	36	39	18.42	19.36	19.00		
15	64QAM	75	0	18.28	19.19	18.98		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	20.10	20.71	20.35	21	0
10	QPSK	1	25	20.23	20.68	20.36		
10	QPSK	1	49	20.45	20.43	20.42		
10	QPSK	25	0	19.28	19.80	19.85	21	0
10	QPSK	25	12	19.35	19.88	19.88		
10	QPSK	25	25	19.39	19.87	19.81		
10	QPSK	50	0	19.31	19.79	19.90		
10	16QAM	1	0	19.24	19.77	19.87	21	0
10	16QAM	1	25	19.36	19.87	19.99		
10	16QAM	1	49	19.56	19.95	18.86		
10	16QAM	25	0	18.31	18.81	18.90	21	0
10	16QAM	25	12	18.38	18.90	18.90		
10	16QAM	25	25	18.41	18.89	18.84		
10	16QAM	50	0	18.34	18.82	18.83		
10	64QAM	1	0	19.03	19.54	19.69	21	0
10	64QAM	1	25	19.13	19.64	19.65		
10	64QAM	1	49	19.35	19.73	19.78		
10	64QAM	25	0	18.27	18.77	18.79	21	0
10	64QAM	25	12	18.35	18.86	18.85		
10	64QAM	25	25	18.37	18.85	18.85		
10	64QAM	50	0	18.27	18.76	18.78		

Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	20.05	20.80	20.84	21	0
5	QPSK	1	12	20.13	20.03	20.87		
5	QPSK	1	24	20.15	20.27	20.90		
5	QPSK	12	0	19.15	20.42	19.90	21	0
5	QPSK	12	7	19.24	20.43	19.97		
5	QPSK	12	13	19.25	20.42	19.98		
5	QPSK	25	0	19.16	20.19	19.89		
5	16QAM	1	0	19.15	20.15	19.88	21	0
5	16QAM	1	12	19.22	20.20	19.93		
5	16QAM	1	24	19.29	20.15	20.02		
5	16QAM	12	0	18.14	19.49	18.83	21	0
5	16QAM	12	7	18.22	19.44	18.92		
5	16QAM	12	13	18.22	19.41	18.93		
5	16QAM	25	0	18.20	19.50	18.90		
5	64QAM	1	0	18.96	19.99	19.68	21	0
5	64QAM	1	12	18.99	20.15	19.69		
5	64QAM	1	24	19.07	20.11	19.78		
5	64QAM	12	0	18.14	19.41	18.82	21	0
5	64QAM	12	7	18.23	19.49	18.92		
5	64QAM	12	13	18.23	19.43	18.92		
5	64QAM	25	0	18.15	19.45	18.84		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Low Ch. / Freq.	Power Middle High Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				40140	40400	40670	41140		
Frequency (MHz)				2545	2571	2598	2645		
20	QPSK	1	0	20.80	20.99	20.75	20.76	21	0
20	QPSK	1	49	20.82	20.93	20.85	20.67		
20	QPSK	1	99	20.79	20.92	20.78	20.62		
20	QPSK	50	0	20.13	20.14	20.11	20.07	21	0
20	QPSK	50	24	20.16	20.21	20.16	19.96		
20	QPSK	50	50	20.10	20.20	20.18	19.87		
20	QPSK	100	0	20.10	20.21	20.13	19.96		
20	16QAM	1	0	20.89	20.97	20.85	20.90	21	0
20	16QAM	1	49	20.84	20.91	20.91	20.77		
20	16QAM	1	99	20.78	20.93	20.93	20.58		
20	16QAM	50	0	19.15	19.24	19.15	19.11	21	0
20	16QAM	50	24	19.15	19.22	19.16	19.00		
20	16QAM	50	50	19.09	19.22	19.17	18.89		
20	16QAM	100	0	19.10	19.22	19.13	18.98		
20	64QAM	1	0	20.70	20.81	20.58	20.63	21	0
20	64QAM	1	49	20.63	20.75	20.68	20.54		
20	64QAM	1	99	20.58	20.84	20.63	20.41		
20	64QAM	50	0	19.09	19.17	19.09	19.02	21	0
20	64QAM	50	24	19.10	19.16	19.11	18.95		
20	64QAM	50	50	19.05	19.15	19.12	18.84		
20	64QAM	100	0	19.14	19.25	19.19	19.00		
Channel				40115	40395	40685	41165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2542.5	2570.5	2599.5	2647.5		
15	QPSK	1	0	20.86	20.95	20.79	20.85	21	0
15	QPSK	1	37	20.91	20.93	20.82	20.69		
15	QPSK	1	74	20.84	20.98	20.88	20.55		
15	QPSK	36	0	20.12	20.17	20.07	20.01	21	0
15	QPSK	36	20	20.16	20.18	20.14	19.92		
15	QPSK	36	39	20.08	20.16	20.11	19.86		
15	QPSK	75	0	20.12	20.19	20.12	19.97		
15	16QAM	1	0	20.89	20.92	20.87	20.91	21	0
15	16QAM	1	37	20.89	20.95	20.86	20.70		
15	16QAM	1	74	20.83	20.97	20.94	20.69		
15	16QAM	36	0	19.07	19.10	19.04	18.97	21	0
15	16QAM	36	20	19.09	19.15	19.10	18.91		
15	16QAM	36	39	19.03	19.13	19.09	18.84		
15	16QAM	75	0	19.13	19.21	19.13	18.98		
15	64QAM	1	0	20.69	20.82	20.64	20.67	21	0
15	64QAM	1	37	20.62	20.74	20.68	20.53		
15	64QAM	1	74	20.66	20.84	20.67	20.40		
15	64QAM	36	0	19.10	19.18	19.09	19.03	21	0
15	64QAM	36	20	19.13	19.16	19.12	18.93		
15	64QAM	36	39	19.07	19.15	19.12	18.84		
15	64QAM	75	0	19.14	19.19	19.12	18.97		

Channel				40090	40390	40690	41190	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2540	2570	2600	2650		
10	QPSK	1	0	20.68	20.70	20.67	20.55	21	0
10	QPSK	1	25	20.74	20.78	20.70	20.51		
10	QPSK	1	49	20.74	20.74	20.68	20.55		
10	QPSK	25	0	20.04	20.03	20.00	19.78	21	0
10	QPSK	25	12	20.07	20.06	19.98	19.83		
10	QPSK	25	25	20.04	20.01	19.99	19.80		
10	QPSK	50	0	20.07	20.04	20.02	19.79		
10	16QAM	1	0	20.78	20.82	20.83	20.55	21	0
10	16QAM	1	25	20.80	20.92	20.77	20.63		
10	16QAM	1	49	20.71	20.82	20.76	20.56		
10	16QAM	25	0	19.06	19.05	19.02	18.80	21	0
10	16QAM	25	12	19.08	19.07	19.02	18.82		
10	16QAM	25	25	19.00	19.02	18.97	18.78		
10	16QAM	50	0	19.08	19.05	19.04	18.83		
10	64QAM	1	0	20.55	20.64	20.58	20.43	21	0
10	64QAM	1	25	20.59	20.65	20.56	20.37		
10	64QAM	1	49	20.53	20.69	20.58	20.41		
10	64QAM	25	0	19.01	18.99	18.95	18.76	21	0
10	64QAM	25	12	19.02	19.01	18.96	18.77		
10	64QAM	25	25	18.97	18.96	18.92	18.74		
10	64QAM	50	0	19.02	19.00	18.97	18.77		
Channel				40065	40385	40705	41215	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2537.5	2569.5	2601.5	2652.5		
5	QPSK	1	0	20.78	20.79	20.82	20.61	21	0
5	QPSK	1	12	20.81	20.86	20.80	20.61		
5	QPSK	1	24	20.86	20.82	20.75	20.58		
5	QPSK	12	0	20.92	20.90	20.88	20.72	21	0
5	QPSK	12	7	20.98	20.91	20.93	20.75		
5	QPSK	12	13	20.94	20.90	20.90	20.72		
5	QPSK	25	0	20.08	20.06	20.01	19.84		
5	16QAM	1	0	20.81	20.87	20.86	20.69	21	0
5	16QAM	1	12	20.85	20.96	20.86	20.67		
5	16QAM	1	24	20.87	20.95	20.89	20.69		
5	16QAM	12	0	20.89	20.78	20.85	20.68	21	0
5	16QAM	12	7	20.89	20.77	20.89	20.72		
5	16QAM	12	13	20.89	20.72	20.86	20.68		
5	16QAM	25	0	19.09	19.12	19.05	18.87		
5	64QAM	1	0	20.64	20.66	20.68	20.53	21	0
5	64QAM	1	12	20.66	20.70	20.66	20.48		
5	64QAM	1	24	20.71	20.73	20.68	20.49		
5	64QAM	12	0	20.87	20.84	20.86	20.67	21	0
5	64QAM	12	7	20.93	20.85	20.88	20.72		
5	64QAM	12	13	20.91	20.81	20.88	20.68		
5	64QAM	25	0	19.05	19.04	18.98	18.79		

<WWAN Bottom Antenna>

<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	23.50	23.99	23.83	24.5	0
20	QPSK	1	49	23.55	23.66	23.74		
20	QPSK	1	99	23.53	23.56	23.75		
20	QPSK	50	0	22.47	22.86	22.90	24	0.5
20	QPSK	50	24	22.51	22.80	22.88		
20	QPSK	50	50	22.61	22.76	22.75		
20	QPSK	100	0	22.44	22.74	22.75		
20	16QAM	1	0	22.66	23.00	22.97	24	0.5
20	16QAM	1	49	22.62	22.87	22.93		
20	16QAM	1	99	22.52	22.64	22.98		
20	16QAM	50	0	21.63	21.97	22.01	23	1.5
20	16QAM	50	24	21.69	21.95	21.95		
20	16QAM	50	50	21.74	21.86	21.77		
20	16QAM	100	0	21.67	21.89	21.86		
20	64QAM	1	0	20.54	20.87	20.88	23	1.5
20	64QAM	1	49	20.50	20.73	20.81		
20	64QAM	1	99	20.56	20.76	20.83		
20	64QAM	50	0	19.84	20.17	20.15	22	2.5
20	64QAM	50	24	19.95	20.16	20.18		
20	64QAM	50	50	19.97	20.08	20.05		
20	64QAM	100	0	19.87	20.10	20.05		

Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	23.58	23.98	23.89	24.5	0
15	QPSK	1	37	23.56	23.86	23.91		
15	QPSK	1	74	23.63	23.65	23.87		
15	QPSK	36	0	22.64	22.99	23.02	24	0.5
15	QPSK	36	20	22.66	22.97	22.94		
15	QPSK	36	39	22.76	22.90	22.82		
15	QPSK	75	0	22.71	22.93	22.80		
15	16QAM	1	0	22.70	23.10	23.05	24	0.5
15	16QAM	1	37	22.67	22.99	23.03		
15	16QAM	1	74	22.73	22.77	23.04		
15	16QAM	36	0	21.69	22.03	22.05	23	1.5
15	16QAM	36	20	21.84	22.09	22.00		
15	16QAM	36	39	21.86	22.00	21.85		
15	16QAM	75	0	21.72	21.99	21.85		
15	64QAM	1	0	20.51	20.92	20.83	23	1.5
15	64QAM	1	37	20.53	20.75	20.86		
15	64QAM	1	74	20.51	20.55	20.90		
15	64QAM	36	0	19.87	20.19	20.21	22	2.5
15	64QAM	36	20	20.00	20.25	20.21		
15	64QAM	36	39	20.02	20.19	20.11		
15	64QAM	75	0	19.87	20.11	20.09		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	23.51	23.81	23.77	24.5	0
10	QPSK	1	25	23.57	23.84	23.64		
10	QPSK	1	49	23.57	23.77	23.75		
10	QPSK	25	0	22.62	23.02	22.96	24	0.5
10	QPSK	25	12	22.61	23.03	22.90		
10	QPSK	25	25	22.66	22.99	22.85		
10	QPSK	50	0	22.66	23.02	22.83		
10	16QAM	1	0	22.64	23.12	22.91	24	0.5
10	16QAM	1	25	22.70	23.10	23.03		
10	16QAM	1	49	22.67	22.88	23.11		
10	16QAM	25	0	21.68	22.04	21.98	23	1.5
10	16QAM	25	12	21.77	22.05	21.96		
10	16QAM	25	25	21.79	22.02	21.92		
10	16QAM	50	0	21.69	22.04	21.88		
10	64QAM	1	0	20.57	21.03	20.79	23	1.5
10	64QAM	1	25	20.64	20.92	20.89		
10	64QAM	1	49	20.60	20.67	20.92		
10	64QAM	25	0	19.96	20.32	20.23	22	2.5
10	64QAM	25	12	20.07	20.38	20.25		
10	64QAM	25	25	20.05	20.36	20.19		
10	64QAM	50	0	19.92	20.22	20.03		

Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	23.50	23.82	23.68	24.5	0
5	QPSK	1	12	23.51	23.94	23.72		
5	QPSK	1	24	23.46	23.92	23.80		
5	QPSK	12	0	22.78	23.20	22.89	24	0.5
5	QPSK	12	7	22.83	23.21	22.95		
5	QPSK	12	13	22.73	23.19	22.94		
5	QPSK	25	0	22.47	22.93	22.66		
5	16QAM	1	0	22.77	23.07	22.71	24	0.5
5	16QAM	1	12	22.68	23.10	22.82		
5	16QAM	1	24	22.67	23.10	23.00		
5	16QAM	12	0	21.71	22.18	21.98	23	1.5
5	16QAM	12	7	21.75	22.15	21.99		
5	16QAM	12	13	21.79	22.16	21.97		
5	16QAM	25	0	21.61	21.99	21.85		
5	64QAM	1	0	20.59	20.91	20.64	23	1.5
5	64QAM	1	12	20.60	21.03	20.83		
5	64QAM	1	24	20.57	20.90	20.91		
5	64QAM	12	0	20.07	20.45	20.23	22	2.5
5	64QAM	12	7	20.04	20.51	20.27		
5	64QAM	12	13	20.05	20.49	20.19		
5	64QAM	25	0	19.96	20.36	20.09		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Low Ch. / Freq.	Power Middle High Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				40140	40400	40670	41140		
Frequency (MHz)				2545	2571	2598	2645		
20	QPSK	1	0	23.74	24.03	24.01	23.93	24.5	0
20	QPSK	1	49	23.71	23.90	23.83	23.79		
20	QPSK	1	99	23.62	23.90	23.75	23.55		
20	QPSK	50	0	23.00	23.16	23.10	23.15	24	0.5
20	QPSK	50	24	22.96	23.05	23.12	23.05		
20	QPSK	50	50	22.88	23.05	23.09	22.94		
20	QPSK	100	0	22.91	23.10	23.07	23.03		
20	16QAM	1	0	23.69	23.46	23.93	23.94	24	0.5
20	16QAM	1	49	23.74	23.49	23.93	23.63		
20	16QAM	1	99	23.66	23.47	23.82	23.68		
20	16QAM	50	0	21.98	22.21	22.12	22.21	23	1.5
20	16QAM	50	24	21.98	22.15	22.12	22.05		
20	16QAM	50	50	21.92	22.12	22.08	21.94		
20	16QAM	100	0	21.94	22.15	22.10	22.03		
20	64QAM	1	0	21.26	21.55	21.73	21.72	23	1.5
20	64QAM	1	49	21.32	21.53	21.67	21.47		
20	64QAM	1	99	21.67	21.54	21.48	21.48		
20	64QAM	50	0	20.99	20.72	21.11	20.97	22	2.5
20	64QAM	50	24	20.96	20.85	21.12	21.07		
20	64QAM	50	50	20.89	20.97	21.06	20.93		
20	64QAM	100	0	20.93	20.97	21.08	21.05		
Channel				40115	40395	40685	41165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2542.5	2570.5	2599.5	2647.5		
15	QPSK	1	0	23.72	23.91	23.87	23.99	24.5	0
15	QPSK	1	37	23.73	23.86	23.81	23.85		
15	QPSK	1	74	23.70	23.82	23.78	23.67		
15	QPSK	36	0	22.90	23.11	23.07	23.10	24	0.5
15	QPSK	36	20	22.89	23.07	23.07	22.99		
15	QPSK	36	39	22.83	23.02	23.03	22.90		
15	QPSK	75	0	22.91	23.08	23.07	23.03		
15	16QAM	1	0	23.72	23.46	23.92	23.94	24	0.5
15	16QAM	1	37	23.77	23.49	23.84	23.79		
15	16QAM	1	74	23.69	23.47	23.83	23.76		
15	16QAM	36	0	21.83	22.09	22.00	22.08	23	1.5
15	16QAM	36	20	21.86	22.07	22.03	21.99		
15	16QAM	36	39	21.83	22.02	21.99	21.89		
15	16QAM	75	0	21.91	22.12	22.09	22.05		
15	64QAM	1	0	22.60	22.25	22.43	22.48	23	1.5
15	64QAM	1	37	22.67	22.38	22.32	22.34		
15	64QAM	1	74	22.42	22.34	22.28	22.40		
15	64QAM	36	0	20.88	20.71	21.07	21.11	22	2.5
15	64QAM	36	20	20.89	20.79	21.08	20.99		
15	64QAM	36	39	20.82	20.88	21.01	20.90		
15	64QAM	75	0	20.92	20.66	20.86	21.04		

Channel				40090	40390	40690	41190	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2540	2570	2600	2650		
10	QPSK	1	0	23.57	23.83	23.74	23.68	24.5	0
10	QPSK	1	25	23.63	23.65	23.65	23.68		
10	QPSK	1	49	23.60	23.79	23.70	23.60		
10	QPSK	25	0	22.88	22.97	22.99	22.93	24	0.5
10	QPSK	25	12	22.91	22.99	23.00	22.93		
10	QPSK	25	25	22.85	22.93	22.94	22.88		
10	QPSK	50	0	22.90	22.99	23.03	22.96		
10	16QAM	1	0	23.70	23.56	23.89	23.78	24	0.5
10	16QAM	1	25	23.56	23.51	23.68	23.59		
10	16QAM	1	49	23.66	23.44	23.79	23.69		
10	16QAM	25	0	21.85	22.01	22.00	21.91	23	1.5
10	16QAM	25	12	21.89	22.04	22.00	21.94		
10	16QAM	25	25	21.82	21.95	21.93	21.87		
10	16QAM	50	0	21.91	22.04	22.04	21.96		
10	64QAM	1	0	21.65	21.22	21.67	21.39	23	1.5
10	64QAM	1	25	21.19	21.59	21.64	21.63		
10	64QAM	1	49	21.28	21.48	21.44	21.61		
10	64QAM	25	0	20.92	20.81	21.05	20.98	22	2.5
10	64QAM	25	12	20.91	20.89	21.03	20.98		
10	64QAM	25	25	20.89	20.99	20.98	20.90		
10	64QAM	50	0	20.92	20.83	21.01	20.93		
Channel				40065	40385	40705	41215	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2537.5	2569.5	2601.5	2652.5		
5	QPSK	1	0	23.60	23.77	23.81	23.72	24.5	0
5	QPSK	1	12	23.67	23.85	23.80	23.67		
5	QPSK	1	24	23.66	23.76	23.75	23.71		
5	QPSK	12	0	23.35	22.94	23.87	23.70	24	0.5
5	QPSK	12	7	23.38	22.98	23.86	23.65		
5	QPSK	12	13	23.38	23.08	23.84	23.63		
5	QPSK	25	0	22.87	22.87	22.95	22.89		
5	16QAM	1	0	23.21	22.75	23.89	23.53	24	0.5
5	16QAM	1	12	23.38	22.92	23.81	23.64		
5	16QAM	1	24	23.41	22.95	23.86	23.60		
5	16QAM	12	0	22.37	22.18	22.96	22.69	23	1.5
5	16QAM	12	7	22.39	22.22	22.98	22.63		
5	16QAM	12	13	22.39	22.24	22.93	22.59		
5	16QAM	25	0	21.86	21.96	21.96	21.90		
5	64QAM	1	0	21.20	21.10	21.83	21.45	23	1.5
5	64QAM	1	12	21.37	21.12	21.83	21.58		
5	64QAM	1	24	21.41	21.07	21.73	21.49		
5	64QAM	12	0	20.73	20.59	21.42	21.02	22	2.5
5	64QAM	12	7	20.81	20.63	21.46	21.07		
5	64QAM	12	13	20.78	20.56	21.42	21.04		
5	64QAM	25	0	20.58	20.50	20.99	20.86		

<LTE Carrier Aggregation combinations>

General Note:

1. This device supports Carrier Aggregation on downlink for inter and intra band, Uplink for intra band. For the device supports combination bands and configurations are according to 3GPP and the combinations list as below table.
2. All permutations exist. No restrictions on Pcell & Scell combinations.
3. This device supports downlink 4x4 MIMO operations for LTE B2/4/7/38/41. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.
4. Per FCC Guidance, SAR for downlink 4x4 MIMO was not needed since the maximum average output power in 4x4 downlink MIMO mode was not > 0.25 dB higher than the maximum output power with downlink 4x4 MIMO inactive. When carrier aggregation is applicable, power measurements were performed with the downlink carrier aggregation and 4x4 DL MIMO active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.
5. The gray color table is covered by other combinations and no need to verify power.

2CC Downlink Carrier Aggregation					3CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_2A_2A	B2			15	CA_13A_4A_2A			
2	CA_2A_4A			48	16	CA_13A_4A_4A			
3	CA_2A_5A			46	17	CA_13A_2A_2A			
4	CA_2A_12A			45	18	CA_13A_66A_2A			
5	CA_2A_66A			47	19	CA_13A_66A_66A			
6	CA_4A_4A	B4			20	CA_5A_4A_2A			
7	CA_4A_5A			40	21	CA_5A_4A_4A			
8	CA_4A_12A			42	22	CA_5A_2A_2A			
9	CA_7A_7A	B7			23	CA_5A_66A_2A			46
10	CA_7A_12A			39	24	CA_5A_66A_66A			46
11	CA_12A_12A				25	CA_66A_66A_2A			46
12	CA_12B				26	CA_66A_2A_2A			47
13	CA_66A_5A			46	27	CA_66A_66A_66A			
14	CA_66A_12A			47	28	CA_66A_66A_7A			
					29	CA_12A_66A_66A			47
					30	CA_2A_4A_7A			48
					31	CA_2A_4A_12A			
					32	CA_2A_4A_71A			
					33	CA_2A_66A_71A			
					34	CA_2A_2A_4A			
					35	CA_2A_2A_12A			45
					36	CA_2A_2A_71A			
					37	CA_2A_4A_4A			
					38	CA_2A_7A_7A			48
					39	CA_4A_7A_12A			
					40	CA_4A_4A_5A			
					41	CA_4A_4A_7A			
					42	CA_4A_4A_12A			
					43	CA_4A_4A_71A			
					44	CA_4A_7A_7A			48

4CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
45	CA_2A_2A_12A_66A			
46	CA_2A_5A_66A_66A			
47	CA_2A_12A_66A_66A			
48	CA_2A_4A_7A_7A			
49		B38		
50		B41		

<Power verification when LTE Carrier Aggregation Active>

General Note:

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

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

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

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

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

vi. The device supports uplink carrier aggregation for LTE B41C with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.

vii. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

viii. Uplink CA is only operating with power class 3 for LTE B41, and additional SAR measurement for TLE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA _41C active.

ix. 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.

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

<Power verification for 4x4 MIMO Conducted Power (Downlink)>

1. This device supports downlink 4x4 MIMO operations for LTE B2/4/7/38/41. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.
2. Per FCC Guidance, SAR for downlink 4x4 MIMO was not needed since the maximum average output power in 4x4 downlink MIMO mode was not > 0.25 dB higher than the maximum output power with downlink 4x4 MIMO inactive. When carrier aggregation is applicable, power measurements were performed with the downlink carrier aggregation and 4x4 DL MIMO active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

<Downlink Two Carrier power verification>

<WWAN Top Antenna>

Configure		CA List	PCC								SCC					Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	DL Antenna Configuration	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	DL Antenna Configuration	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Intra-Band	Contiguous	CA_12B	Band 12	5M	701.5	23035	QPSK	1	12		Band 12	10M	738.7	5107		23.06	23.16
	Non-Contiguous	CA_12A-12A	Band 12	5M	701.5	23035	QPSK	1	12		Band 12	5M	743.5	5155		23.08	23.16
		CA_2A-2A	Band 2	20M	1880	18900	QPSK	1	49		Band 2	5M	1932.5	625		18.05	18.22
		CA_2A-2A	Band 2	20M	1880	18900	QPSK	1	49	4x4MIMO	Band 2	5M	1932.5	625	4x4MIMO	18.01	18.22
		CA_4A-4A	Band 4	20M	1745	20300	QPSK	1	0		Band 4	5M	2112.5	1975		17.36	17.63
		CA_4A-4A	Band 4	20M	1745	20300	QPSK	1	0	4x4MIMO	Band 4	5M	2112.5	1975	4x4MIMO	17.45	17.63
		CA_7A-7A	Band 7	20M	2560	21350	QPSK	1	0		Band 7	5M	2622.5	2775		17.91	18.21
		CA_7A-7A	Band 7	20M	2560	21350	QPSK	1	0	4x4MIMO	Band 7	5M	2622.5	2775	4x4MIMO	17.89	18.21

<WWAN Bottom Antenna>

Configure		CA List	PCC								SCC					Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	DL Antenna Configuration	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	DL Antenna Configuration	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Intra-Band	Contiguous	CA_12B	Band 12	5M	701.5	23035	QPSK	1	12		Band 12	10M	741.2	5132		24.22	24.52
	Non-Contiguous	CA_12A-12A	Band 12	5M	701.5	23035	QPSK	1	12		Band 12	5M	743.5	5155		24.17	24.52
		CA_2A-2A	Band 2	20M	1880	18900	QPSK	1	49		Band 2	5M	1932.5	625		24.05	24.28
		CA_2A4-2A4	Band 2	20M	1880	18900	QPSK	1	49	4x4MIMO	Band 2	5M	1932.5	625	4x4MIMO	24.01	24.28
		CA_4A-4A	Band 4	20M	1745	20300	QPSK	1	0		Band 4	5M	2112.5	1975		23.89	23.99
		CA_4A4-4A4	Band 4	20M	1745	20300	QPSK	1	0	4x4MIMO	Band 4	5M	2112.5	1975	4x4MIMO	23.86	23.99
		CA_7A-7A	Band 7	20M	2560	21350	QPSK	1	0		Band 7	5M	2622.5	2775		22.85	22.91
		CA_7A4-7A4	Band 7	20M	2560	21350	QPSK	1	0	4x4MIMO	Band 7	5M	2622.5	2775	4x4MIMO	22.87	22.91

<Downlink Three Carrier power verification>

<WWAN Top Antenna>

Configure		PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-4A-5A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 5	10M	881.5	2525	18.15	18.22
		Band 4	20M	1745	20300	QPSK	1	0	Band 5	10M	881.5	2525	Band 2	20M	1960	900	16.9	17.63
		Band 5	10M	829	20525	QPSK	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	21.57	21.81
	CA_2A-4A-12A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 12	10M	737.5	5095	18.19	18.22
		Band 4	20M	1745	20300	QPSK	1	0	Band 12	10M	737.5	5095	Band 2	20M	1960	900	16.74	17.63
		Band 12	10M	704	23060	QPSK	1	25	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	22.85	23.07
	CA_2A-4A-13A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 13	10M	751	5230	18.19	18.22
		Band 4	20M	1745	20300	QPSK	1	0	Band 13	10M	751	5230	Band 2	20M	1960	900	16.72	17.63
		Band 13	10M	782	23230	QPSK	1	25	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	23.56	24.31
	CA_2A-4A-71A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 71	20M	683	68786	18.17	18.22
		Band 4	20M	1745	20300	QPSK	1	0	Band 71	20M	683	68786	Band 2	20M	1960	900	16.76	17.63
		Band 71	20M	683	133322	QPSK	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	22.24	22.32
	CA_2A-13A-66A	Band 2	20M	1880	18900	QPSK	1	49	Band 13	10M	751	5230	Band 66	20M	2155	66886	18.18	18.22
		Band 13	10M	782	23230	QPSK	1	25	Band 66	20M	2155	66886	Band 2	20M	1960	900	23.94	24.31
		Band 66	20M	1770	132572	QPSK	1	49	Band 2	20M	1960	900	Band 13	10M	751	5230	17.65	17.89
	CA_2A-71A-66A	Band 2	20M	1880	18900	QPSK	1	49	Band 71	20M	683	68786	Band 66	20M	2155	66886	18.19	18.22
		Band 71	20M	683	133322	QPSK	1	0	Band 66	20M	2155	66886	Band 2	20M	1960	900	22.23	22.32
		Band 66	20M	1770	132572	QPSK	1	49	Band 2	20M	1960	900	Band 71	20M	683	68786	17.59	17.89
	CA_4A-7A-12A	Band 4	20M	1745	20300	QPSK	1	0	Band 7	20M	2655	3100	Band 12	10M	737.5	5095	17.53	17.63
		Band 7	20M	2560	21350	QPSK	1	0	Band 12	10M	737.5	5095	Band 4	20M	2132.5	2175	17.49	18.21
		Band 12	10M	704	23060	QPSK	1	25	Band 4	20M	2132.5	2175	Band 7	20M	2655	3100	22.54	23.07

Configure		PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-2A-4A	Band 2	20M	1880	18900	QPSK	1	49	Band 2	5M	1987.5	1175	Band 4	20M	2132.5	2175	18.21	18.22
		Band 4	20M	1745	20300	QPSK	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	16.95	17.63
	CA_2A-4A-4A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	18.37	18.22
		Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 2	20M	1960	900	16.92	17.63
	CA_2A-2A-5A	Band 2	20M	1880	18900	QPSK	1	49	Band 2	5M	1987.5	1175	Band 5	10M	881.5	2525	18.04	18.22
		Band 5	10M	829	20525	QPSK	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	21.76	21.81
	CA_2A-2A-13A	Band 2	20M	1880	18900	QPSK	1	49	Band 2	5M	1987.5	1175	Band 13	10M	751	5230	18.38	18.22
		Band 13	10M	782	23230	QPSK	1	25	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	23.73	24.31
	CA_2A-2A-71A	Band 2	20M	1880	18900	QPSK	1	49	Band 2	5M	1987.5	1175	Band 71	20M	683	68786	18.27	18.22
		Band 71	20M	683	133322	QPSK	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	21.71	22.32
	CA_66A-66A-66A	Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 2	20M	1960	900	17.58	17.89
	CA_4A-4A-5A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 5	10M	881.5	2525	17.51	17.63
		Band 5	10M	829	20525	QPSK	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	21.08	21.81
	CA_4A-4A-7A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 7	20M	2655	3100	16.92	17.63
		Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	18.03	18.21
	CA_4A-4A-12A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 12	10M	737.5	5095	17.6	17.63
		Band 12	10M	704	23060	QPSK	1	25	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	23.26	23.07
	CA_4A-4A-13A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 13	10M	751	5230	17.58	17.63
		Band 13	10M	782	23230	QPSK	1	25	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	24.15	24.31
	CA_4A-4A-71A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 71	20M	683	68786	17.56	17.63
		Band 71	20M	683	133322	QPSK	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	21.88	22.32
	CA_13A-66A-66A	Band 13	10M	782	23230	QPSK	1	25	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	23.81	24.31
		Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 13	10M	751	5230	17.03	17.89
	CA_66A-66A-7A	Band 7	20M	2560	21350	QPSK	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	18.15	18.21
		Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 7	20M	2655	3100	17.78	17.89

<WWAN Bottom Antenna>

Configure		PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-4A-5A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 5	10M	881.5	2525	24.05	24.28
		Band 4	20M	1745	20300	QPSK	1	0	Band 5	10M	881.5	2525	Band 2	20M	1960	900	23.25	23.99
		Band 5	10M	829	20450	QPSK	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	24.73	24.98
	CA_2A-4A-12A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 12	10M	737.5	5095	24.15	24.28
		Band 4	20M	1745	20300	QPSK	1	0	Band 12	10M	737.5	5095	Band 2	20M	1960	900	23.36	23.99
		Band 12	10M	704	23060	QPSK	1	25	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	24.58	24.78
	CA_2A-4A-13A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 13	10M	751	5230	24.16	24.28
		Band 4	20M	1745	20300	QPSK	1	0	Band 13	10M	751	5230	Band 2	20M	1960	900	23.35	23.99
		Band 13	10M	782	23230	QPSK	1	25	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	24.78	24.93
	CA_2A-4A-71A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 71	20M	683	68786	24.09	24.28
		Band 4	20M	1745	20300	QPSK	1	0	Band 71	20M	683	68786	Band 2	20M	1960	900	23.52	23.99
		Band 71	20M	683	133322	QPSK	1	0	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	25.38	25.45
	CA_2A-13A-66A	Band 2	20M	1880	18900	QPSK	1	49	Band 13	10M	751	5230	Band 66	20M	2155	66886	24.01	24.28
		Band 13	10M	782	23230	QPSK	1	25	Band 66	20M	2155	66886	Band 2	20M	1960	900	24.34	24.93
		Band 66	20M	1770	132572	QPSK	1	49	Band 2	20M	1960	900	Band 13	10M	751	5230	24.18	24.21
	CA_2A-71A-66A	Band 2	20M	1880	18900	QPSK	1	49	Band 71	20M	683	68786	Band 66	20M	2155	66886	24.01	24.28
		Band 71	20M	683	133322	QPSK	1	0	Band 66	20M	2155	66886	Band 2	20M	1960	900	25.40	25.45
		Band 66	20M	1770	132572	QPSK	1	49	Band 2	20M	1960	900	Band 71	20M	683	68786	23.95	24.21
	CA_4A-7A-12A	Band 4	20M	1745	20300	QPSK	1	0	Band 7	20M	2655	3100	Band 12	10M	737.5	5095	23.62	23.99
		Band 7	20M	2560	21350	QPSK	1	0	Band 12	10M	737.5	5095	Band 4	20M	2132.5	2175	22.87	22.91
		Band 12	10M	704	23060	QPSK	1	25	Band 4	20M	2132.5	2175	Band 7	20M	2655	3100	24.56	24.78

Configure		PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-2A-4A	Band 2	20M	1880	18900	QPSK	1	49	Band 2	5M	1987.5	1175	Band 4	20M	2132.5	2175	24.05	24.28
		Band 4	20M	1745	20300	QPSK	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	23.35	23.99
	CA_2A-4A-4A	Band 2	20M	1880	18900	QPSK	1	49	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	24.12	24.28
		Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 2	20M	1960	900	23.61	23.99
	CA_2A-2A-5A	Band 2	20M	1880	18900	QPSK	1	49	Band 2	5M	1987.5	1175	Band 5	10M	881.5	2525	24.03	24.28
		Band 5	10M	829	20450	QPSK	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	24.72	24.98
	CA_2A-2A-13A	Band 2	20M	1880	18900	QPSK	1	49	Band 2	5M	1987.5	1175	Band 13	10M	751	5230	24.08	24.28
		Band 13	10M	782	23230	QPSK	1	25	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	24.61	24.93
	CA_2A-2A-71A	Band 2	20M	1880	18900	QPSK	1	49	Band 2	5M	1987.5	1175	Band 71	20M	683	68786	23.98	24.28
		Band 71	20M	683	133322	QPSK	1	0	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	25.15	25.45
	CA_66A-66A-66A	Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 2	20M	1960	900	24.09	24.21
	CA_4A-4A-5A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 5	10M	881.5	2525	23.05	23.99
		Band 5	10M	829	20450	QPSK	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	24.78	24.98
	CA_4A-4A-7A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 7	20M	2655	3100	23.35	23.99
		Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	22.89	22.91
	CA_4A-4A-12A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 12	10M	737.5	5095	23.63	23.99
		Band 12	10M	704	23060	QPSK	1	25	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	24.59	24.78
	CA_4A-4A-13A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 13	10M	751	5230	23.68	23.99
		Band 13	10M	782	23230	QPSK	1	25	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	24.65	24.93
	CA_4A-4A-71A	Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	Band 71	20M	683	68786	23.36	23.99
		Band 71	20M	683	133322	QPSK	1	0	Band 4	20M	2132.5	2175	Band 4	5M	2152.5	2375	24.96	25.45
	CA_13A-66A-66A	Band 13	10M	782	23230	QPSK	1	25	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	24.63	24.93
		Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 13	10M	751	5230	24.01	24.21
	CA_66A-66A-7A	Band 7	20M	2560	21350	QPSK	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	22.88	22.91
		Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 7	20M	2655	3100	24.01	24.21

<Downlink Four Carrier power verification>

<WWAN Top Antenna>

Configure		PCC							SCC1				SCC2				SCC3				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	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-5A-66A-66A	Band 2	20M	1880	18900	QPSK	1	49	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	Band 5	10M	881.5	2525	18.33	18.22
		Band 5	10M	829	20525	QPSK	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	Band 2	20M	1960	900	20.93	21.81
		Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 2	20M	1960	900	Band 5	10M	881.5	2525	17.58	17.89
	CA_2A-2A-12A-66A	Band 2	20M	1900	19100	QPSK	1	49	Band 2	5M	1932.5	625	Band 66	20M	2155	66886	Band 12	10M	737.5	5095	17.83	18.22
		Band 12	10M	704	23060	QPSK	1	25	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	Band 66	20M	2155	66886	23.01	23.07
		Band 66	20M	1770	132572	QPSK	1	49	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	Band 12	10M	737.5	5095	17.47	17.89
	CA_2A-12A-66A-66A	Band 2	20M	1880	18900	QPSK	1	49	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	Band 12	10M	737.5	5095	18.36	18.22
		Band 12	10M	704	23060	QPSK	1	25	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	Band 2	20M	1960	900	23.04	23.07
		Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 2	20M	1960	900	Band 12	10M	737.5	5095	17.57	17.89
	CA_2A-4A-7A-7A	Band 4	20M	1745	20300	QPSK	1	0	Band 7	20M	2655	3100	Band 7	20M	2680	3350	Band 2	20M	1960	900	16.40	17.63
		Band 7	20M	2510	20850	QPSK	1	0	Band 7	20M	2680	3350	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	16.80	18.21
		Band 2	20M	1880	18900	QPSK	1	49	Band 7	20M	2655	3100	Band 7	20M	2680	3350	Band 4	20M	2132.5	2175	18.00	18.22

<WWAN Bottom Antenna>

Configure		PCC							SCC1				SCC2				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	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band	CA_2A-5A-66A-66A	Band 2	20M	1880	18900	QPSK	1	49	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	Band 5	10M	881.5	2525	24.18	24.28
		Band 5	10M	829	20450	QPSK	1	0	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	Band 2	20M	1960	900	24.69	24.98
		Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 2	20M	1960	900	Band 5	10M	881.5	2525	24.01	24.21
	CA_2A-2A-12A-66A	Band 2	20M	1900	19100	QPSK	1	49	Band 2	5M	1932.5	625	Band 66	20M	2155	66886	Band 12	10M	737.5	5095	24.08	24.28
		Band 12	10M	704	23060	QPSK	1	25	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	Band 66	20M	2155	66886	24.52	24.78
		Band 66	20M	1770	132572	QPSK	1	49	Band 2	20M	1960	900	Band 2	5M	1987.5	1175	Band 12	10M	737.5	5095	24.09	24.21
	CA_2A-12A-66A-66A	Band 2	20M	1880	18900	QPSK	1	49	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	Band 12	10M	737.5	5095	24.01	24.28
		Band 12	10M	704	23060	QPSK	1	25	Band 66	20M	2155	66886	Band 66	5M	2197.5	67311	Band 2	20M	1960	900	24.45	24.78
		Band 66	20M	1770	132572	QPSK	1	49	Band 66	5M	2112.5	66461	Band 2	20M	1960	900	Band 12	10M	737.5	5095	24.11	24.21
	CA_2A-4A-7A-7A	Band 4	20M	1745	20300	QPSK	1	0	Band 7	20M	2655	3100	Band 7	20M	2680	3350	Band 2	20M	1960	900	22.60	23.99
		Band 7	20M	2510	20850	QPSK	1	0	Band 7	20M	2680	3350	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	22.40	22.91
		Band 2	20M	1880	18900	QPSK	1	49	Band 7	20M	2655	3100	Band 7	20M	2680	3350	Band 4	20M	2132.5	2175	24.07	24.28

<4*4 MIMO power verification>

<WWAN Top Antenna>

-								Power	
LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	DL Antenna Configuration	4x4MIMO Tx. Power (dBm)	Without 4x4MIMO Tx. Power (dBm)
Band 38	20M	2595	38000	QPSK	1	99	4x4MIMO	20.63	20.91
Band 41	20M	2571	40400	QPSK	1	0	4x4MIMO	20.58	20.99

<WWAN Bottom Antenna>

-								Power	
LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	DL Antenna Configuration	4x4MIMO Tx. Power (dBm)	Without 4x4MIMO Tx. Power (dBm)
Band 38	20M	2595	38000	QPSK	1	99	4x4MIMO	23.75	23.99
Band 41	20M	2571	40400	QPSK	1	0	4x4MIMO	24.01	24.03

<Power measurement when Uplink LTE Carrier Aggregation Active>

<Intra-Band Uplink carrier aggregation>

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B7/B41 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

ii. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

iii. Uplink CA is only operating with power class3, and additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<WWAN Top Antenna>

CA_7C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	1	0	0	0	17.93	18.5
21100	20902	QPSK	1	0	0	0	17.92	18.5
21350	21152	QPSK	1	0	0	0	18.11	18.5

CA_41C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
40140	40338	QPSK	1	0	0	0	20.18	21
40400	40598	QPSK	1	0	0	0	20.12	21
40670	40868	QPSK	1	0	0	0	20.08	21
41140	40942	QPSK	1	0	0	0	20.42	21
40140	40338	QPSK	50	24	0	0	19.95	21
40400	40598	QPSK	50	24	0	0	20.12	21
40670	40868	QPSK	50	24	0	0	20.03	21
41140	40942	QPSK	50	24	0	0	19.83	21

<WWAN Bottom Antenna>

CA_7C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	50	0	0	0	22.04	23.5
21100	20902	QPSK	50	0	0	0	21.86	23.5
21350	21152	QPSK	50	0	0	0	22.03	23.5

CA_41C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
40140	40338	QPSK	1	0	0	0	23.58	24.5
40400	40598	QPSK	1	0	0	0	23.41	24.5
40670	40868	QPSK	1	0	0	0	23.55	24.5
41140	40942	QPSK	1	0	0	0	23.59	24.5

<WLAN Conducted Power>

General Note:

1. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6W/kg and SAR peak to location ratio ≤ 0.04, no additional SAR measurements for MIMO.
2. 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.
3. 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).
4. 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.
5. 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	13.81	15.00	100.00
		6	2437	13.84	15.00	
		11	2462	14.04	15.00	
	802.11g 6Mbps	1	2412	13.37	15.00	98.28
		6	2437	13.60	15.00	
		11	2462	13.89	15.00	
	802.11n-HT20 MCS0	1	2412	13.16	15.00	98.16
		6	2437	13.19	15.00	
		11	2462	13.73	15.00	
	802.11n-HT40 MCS0	3	2422	13.16	15.00	94.93
		6	2437	13.76	15.00	
		9	2452	13.79	15.00	

<2.4GHz WLAN Ant.2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	13.42	15.00	100.00
		6	2437	14.39	15.00	
		11	2462	14.18	15.00	
	802.11g 6Mbps	1	2412	12.69	15.00	98.28
		6	2437	14.06	15.00	
		11	2462	13.82	15.00	
	802.11n-HT20 MCS0	1	2412	12.69	15.00	98.16
		6	2437	13.83	15.00	
		11	2462	13.74	15.00	
	802.11n-HT40 MCS0	3	2422	13.22	15.00	94.93
		6	2437	13.66	15.00	
		9	2452	14.26	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	17.18	18.00	100.00
		6	2437	17.78	18.00	
		11	2462	17.72	18.00	
	802.11g 6Mbps	1	2412	16.74	18.00	98.28
		6	2437	17.23	18.00	
		11	2462	17.17	18.00	
	802.11n-HT20 MCS0	1	2412	16.67	18.00	98.16
		6	2437	17.26	18.00	
		11	2462	17.15	18.00	
	802.11n-HT40 MCS0	3	2422	16.67	18.00	94.93
		6	2437	17.23	18.00	
		9	2452	17.21	18.00	

<5GHz WLAN Ant.1>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	15.90	16.00	98.27
		40	5200	15.46	16.00	
		44	5220	15.54	16.00	
		48	5240	15.34	16.00	
	802.11n-HT20 MCS0	36	5180	14.52	15.00	98.15
		40	5200	14.15	15.00	
		44	5220	14.36	15.00	
		48	5240	14.21	15.00	
	802.11n-HT40 MCS0	38	5190	14.78	15.00	96.32
		46	5230	14.58	15.00	
	802.11ac-VHT20 MCS0	36	5180	11.88	12.50	98.31
		40	5200	11.38	12.50	
		44	5220	11.68	12.50	
		48	5240	11.45	12.50	
	802.11ac-VHT40 MCS0	38	5190	11.64	12.50	96.35
		46	5230	11.56	12.50	
	802.11ac-VHT80 MCS0	42	5210	11.73	12.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	14.63	16.00	98.27
		56	5280	14.21	16.00	
		60	5300	14.29	16.00	
		64	5320	14.19	16.00	
	802.11n-HT20 MCS0	52	5260	13.10	15.00	98.15
		56	5280	13.09	15.00	
		60	5300	13.19	15.00	
		64	5320	13.23	15.00	
	802.11n-HT40 MCS0	54	5270	13.51	15.00	96.32
		62	5310	13.53	15.00	
	802.11ac-VHT20 MCS0	52	5260	11.76	12.50	98.31
		56	5280	11.43	12.50	
		60	5300	11.68	12.50	
		64	5320	11.86	12.50	
	802.11ac-VHT40 MCS0	54	5270	11.80	12.50	96.35
		62	5310	11.88	12.50	
	802.11ac-VHT80 MCS0	58	5290	11.76	12.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	=Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	14.67	16.00	98.27
		116	5580	14.33	16.00	
		124	5620	14.53	16.00	
		132	5660	13.50	16.00	
		140	5700	13.76	16.00	
	802.11n-HT20 MCS0	100	5500	13.82	15.00	98.15
		116	5580	13.76	15.00	
		124	5620	13.96	15.00	
		132	5660	13.03	15.00	
		140	5700	13.22	15.00	
	802.11n-HT40 MCS0	102	5510	14.00	14.50	96.32
		110	5550	13.95	14.50	
		126	5630	13.74	14.50	
		134	5670	13.51	14.50	
	802.11ac-VHT20 MCS0	100	5500	11.85	12.50	98.31
		116	5580	11.42	12.50	
		124	5620	11.98	12.50	
		132	5660	11.49	12.50	
		140	5700	11.32	12.50	
	802.11ac-VHT40 MCS0	102	5510	11.62	12.50	96.35
		110	5550	11.52	12.50	
		126	5630	11.41	12.50	
		134	5670	10.62	12.50	
	802.11ac-VHT80 MCS0	106	5530	11.81	12.50	92.22
		122	5610	11.12	12.50	

<5GHz WLAN Ant.2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	15.43	16.00	98.27
		40	5200	14.86	16.00	
		44	5220	14.92	16.00	
		48	5240	14.83	16.00	
	802.11n-HT20 MCS0	36	5180	14.09	15.00	98.15
		40	5200	14.00	15.00	
		44	5220	14.13	15.00	
		48	5240	14.12	15.00	
	802.11n-HT40 MCS0	38	5190	14.51	15.00	96.32
		46	5230	14.38	15.00	
	802.11ac-VHT20 MCS0	36	5180	10.84	12.50	98.31
		40	5200	10.29	12.50	
		44	5220	10.95	12.50	
		48	5240	9.96	12.50	
	802.11ac-VHT40 MCS0	38	5190	11.40	12.50	96.32
		46	5230	11.30	12.50	
	802.11ac-VHT80 MCS0	42	5210	11.77	12.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	14.09	16.00	98.27
		56	5280	13.97	16.00	
		60	5300	14.09	16.00	
		64	5320	14.52	16.00	
	802.11n-HT20 MCS0	52	5260	13.93	15.00	98.15
		56	5280	13.52	15.00	
		60	5300	13.56	15.00	
		64	5320	13.87	15.00	
	802.11n-HT40 MCS0	54	5270	13.27	15.00	96.32
		62	5310	13.17	15.00	
	802.11ac-VHT20 MCS0	52	5260	10.42	12.50	98.31
		56	5280	9.98	12.50	
		60	5300	10.45	12.50	
		64	5320	10.28	12.50	
	802.11ac-VHT40 MCS0	54	5270	11.27	12.50	96.32
		62	5310	11.57	12.50	
	802.11ac-VHT80 MCS0	58	5290	11.90	12.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	=Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	14.73	16.00	98.27
		116	5580	13.08	16.00	
		124	5620	13.03	16.00	
		132	5660	12.04	16.00	
		140	5700	12.80	16.00	
	802.11n-HT20 MCS0	100	5500	14.20	15.00	98.15
		116	5580	12.69	15.00	
		124	5620	12.52	15.00	
		132	5660	11.56	15.00	
		140	5700	12.13	15.00	
	802.11n-HT40 MCS0	102	5510	14.04	14.50	96.32
		110	5550	13.50	14.50	
		126	5630	12.30	14.50	
		134	5670	11.07	14.50	
	802.11ac-VHT20 MCS0	100	5500	11.84	12.50	98.31
		116	5580	10.66	12.50	
		124	5620	10.51	12.50	
		132	5660	9.41	12.50	
		140	5700	10.30	12.50	
	802.11ac-VHT40 MCS0	102	5510	11.74	12.50	96.32
		110	5550	10.20	12.50	
		126	5630	9.74	12.50	
		134	5670	8.81	12.50	
	802.11ac-VHT80 MCS0	106	5530	11.14	12.50	92.22
		122	5610	9.12	12.50	

<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	18.75	19.00	98.27
		40	5200	18.23	19.00	
		44	5220	18.44	19.00	
		48	5240	18.21	19.00	
	802.11n-HT20 MCS0	36	5180	17.68	18.00	96.45
		40	5200	17.55	18.00	
		44	5220	17.44	18.00	
		48	5240	17.54	18.00	
	802.11n-HT40 MCS0	38	5190	17.69	18.00	93.19
		46	5230	17.59	18.00	
	802.11ac-VHT20 MCS0	36	5180	14.48	15.50	98.31
		40	5200	14.03	15.50	
		44	5220	14.47	15.50	
		48	5240	14.01	15.50	
	802.11ac-VHT40 MCS0	38	5190	14.61	15.50	96.35
		46	5230	14.62	15.50	
	802.11ac-VHT80 MCS0	42	5210	14.85	15.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	17.48	19.00	98.27
		56	5280	17.11	19.00	
		60	5300	17.27	19.00	
		64	5320	17.51	19.00	
	802.11n-HT20 MCS0	52	5260	16.99	18.00	96.45
		56	5280	16.75	18.00	
		60	5300	16.58	18.00	
		64	5320	16.91	18.00	
	802.11n-HT40 MCS0	54	5270	16.60	18.00	93.19
		62	5310	16.75	18.00	
	802.11ac-VHT20 MCS0	52	5260	14.36	15.50	98.31
		56	5280	14.09	15.50	
		60	5300	14.25	15.50	
		64	5320	14.28	15.50	
	802.11ac-VHT40 MCS0	54	5270	14.81	15.50	96.35
		62	5310	14.80	15.50	
	802.11ac-VHT80 MCS0	58	5290	15.06	15.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	=Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	17.89	19.00	98.27
		116	5580	17.28	19.00	
		124	5620	16.93	19.00	
		132	5660	16.15	19.00	
		140	5700	16.66	19.00	
	802.11n-HT20 MCS0	100	5500	17.27	18.00	96.45
		116	5580	16.42	18.00	
		124	5620	16.43	18.00	
		132	5660	15.66	18.00	
		140	5700	16.07	18.00	
	802.11n-HT40 MCS0	102	5510	17.41	17.50	93.19
		110	5550	16.99	17.50	
		126	5630	16.16	17.50	
		134	5670	15.68	17.50	
	802.11ac-VHT20 MCS0	100	5500	15.14	15.50	98.31
		116	5580	14.41	15.50	
		124	5620	14.36	15.50	
		132	5660	13.64	15.50	
		140	5700	14.02	15.50	
	802.11ac-VHT40 MCS0	102	5510	14.78	15.50	96.35
		110	5550	14.07	15.50	
		126	5630	13.74	15.50	
		134	5670	13.00	15.50	
	802.11ac-VHT80 MCS0	106	5530	14.65	15.50	92.22
		122	5610	13.37	15.50	

<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	10.42	11.00	100.00
		6	2437	10.51	11.00	
		11	2462	10.23	11.00	
	802.11g 6Mbps	1	2412	10.26	11.00	98.28
		6	2437	10.30	11.00	
		11	2462	10.10	11.00	
	802.11n-HT20 MCS0	1	2412	10.03	11.00	98.16
		6	2437	10.05	11.00	
		11	2462	9.90	11.00	
	802.11n-HT40 MCS0	3	2422	10.39	11.00	94.93
		6	2437	10.45	11.00	
		9	2452	10.17	11.00	

<2.4GHz WLAN Ant.2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	10.17	11.00	100.00
		6	2437	10.25	11.00	
		11	2462	10.55	11.00	
	802.11g 6Mbps	1	2412	9.99	11.00	98.28
		6	2437	9.84	11.00	
		11	2462	10.10	11.00	
	802.11n-HT20 MCS0	1	2412	10.03	11.00	98.16
		6	2437	10.10	11.00	
		11	2462	10.26	11.00	
	802.11n-HT40 MCS0	3	2422	9.99	11.00	94.93
		6	2437	9.89	11.00	
		9	2452	10.21	11.00	

<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	13.58	14.00	100.00
		6	2437	13.65	14.00	
		11	2462	13.66	14.00	
	802.11g 6Mbps	1	2412	13.36	14.00	98.28
		6	2437	13.23	14.00	
		11	2462	13.28	14.00	
	802.11n-HT20 MCS0	1	2412	13.12	14.00	98.16
		6	2437	13.17	14.00	
		11	2462	13.18	14.00	
	802.11n-HT40 MCS0	3	2422	13.52	14.00	94.93
		6	2437	13.59	14.00	
		9	2452	13.54	14.00	

<5GHz WLAN Ant.1>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	13.12	14.00	98.27
		40	5200	13.38	14.00	
		44	5220	12.76	14.00	
		48	5240	13.03	14.00	
	802.11n-HT20 MCS0	36	5180	12.56	13.50	98.15
		40	5200	12.89	13.50	
		44	5220	12.18	13.50	
		48	5240	12.40	13.50	
	802.11n-HT40 MCS0	38	5190	12.58	13.50	96.32
		46	5230	12.71	13.50	
	802.11ac-VHT20 MCS0	36	5180	11.88	12.50	98.31
		40	5200	11.38	12.50	
		44	5220	11.68	12.50	
		48	5240	11.45	12.50	
	802.11ac-VHT40 MCS0	38	5190	11.64	12.50	96.35
		46	5230	11.56	12.50	
	802.11ac-VHT80 MCS0	42	5210	11.73	12.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	13.31	14.00	98.27
		56	5280	13.16	14.00	
		60	5300	13.50	14.00	
		64	5320	13.08	14.00	
	802.11n-HT20 MCS0	52	5260	12.43	13.50	98.15
		56	5280	12.35	13.50	
		60	5300	12.98	13.50	
		64	5320	12.33	13.50	
	802.11n-HT40 MCS0	54	5270	12.28	13.50	96.32
		62	5310	12.31	13.50	
	802.11ac-VHT20 MCS0	52	5260	11.76	12.50	98.31
		56	5280	11.43	12.50	
		60	5300	11.68	12.50	
		64	5320	11.86	12.50	
	802.11ac-VHT40 MCS0	54	5270	11.80	12.50	96.35
		62	5310	11.88	12.50	
	802.11ac-VHT80 MCS0	58	5290	11.76	12.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	=Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	13.56	14.00	98.27
		116	5580	13.12	14.00	
		124	5620	13.49	14.00	
		132	5660	13.48	14.00	
		140	5700	13.10	14.00	
	802.11n-HT20 MCS0	100	5500	12.72	13.50	98.15
		116	5580	12.71	13.50	
		124	5620	12.63	13.50	
		132	5660	12.70	13.50	
		140	5700	12.07	13.50	
	802.11n-HT40 MCS0	102	5510	12.47	13.50	96.32
		110	5550	12.57	13.50	
		126	5630	12.14	13.50	
		134	5670	11.76	13.50	
	802.11ac-VHT20 MCS0	100	5500	11.85	12.50	98.31
		116	5580	11.42	12.50	
		124	5620	11.98	12.50	
		132	5660	11.49	12.50	
		140	5700	11.32	12.50	
	802.11ac-VHT40 MCS0	102	5510	11.62	12.50	96.35
		110	5550	11.52	12.50	
		126	5630	11.41	12.50	
		134	5670	10.62	12.50	
	802.11ac-VHT80 MCS0	106	5530	11.81	12.50	92.22
		122	5610	11.12	12.50	

<5GHz WLAN Ant.2>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	13.40	14.00	98.27
		40	5200	12.90	14.00	
		44	5220	12.47	14.00	
		48	5240	12.87	14.00	
	802.11n-HT20 MCS0	36	5180	12.68	13.50	98.15
		40	5200	12.33	13.50	
		44	5220	11.75	13.50	
		48	5240	12.10	13.50	
	802.11n-HT40 MCS0	38	5190	12.63	13.50	96.32
		46	5230	12.03	13.50	
	802.11ac-VHT20 MCS0	36	5180	10.84	12.50	98.31
		40	5200	10.29	12.50	
		44	5220	10.95	12.50	
		48	5240	9.96	12.50	
	802.11ac-VHT40 MCS0	38	5190	11.40	12.50	96.32
		46	5230	11.30	12.50	
	802.11ac-VHT80 MCS0	42	5210	11.77	12.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	13.40	14.00	98.27
		56	5280	13.38	14.00	
		60	5300	13.49	14.00	
		64	5320	13.77	14.00	
	802.11n-HT20 MCS0	52	5260	12.23	13.50	98.15
		56	5280	12.91	13.50	
		60	5300	12.15	13.50	
		64	5320	12.88	13.50	
	802.11n-HT40 MCS0	54	5270	12.05	13.50	96.32
		62	5310	11.99	13.50	
	802.11ac-VHT20 MCS0	52	5260	10.42	12.50	98.31
		56	5280	9.98	12.50	
		60	5300	10.45	12.50	
		64	5320	10.28	12.50	
	802.11ac-VHT40 MCS0	54	5270	11.27	12.50	96.32
		62	5310	11.57	12.50	
	802.11ac-VHT80 MCS0	58	5290	11.90	12.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	=Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	13.85	14.00	98.27
		116	5580	11.96	14.00	
		124	5620	11.98	14.00	
		132	5660	11.23	14.00	
		140	5700	11.59	14.00	
	802.11n-HT20 MCS0	100	5500	12.99	13.50	98.15
		116	5580	11.39	13.50	
		124	5620	11.51	13.50	
		132	5660	10.73	13.50	
		140	5700	11.08	13.50	
	802.11n-HT40 MCS0	102	5510	12.37	13.50	96.32
		110	5550	12.23	13.50	
		126	5630	11.84	13.50	
		134	5670	10.03	13.50	
	802.11ac-VHT20 MCS0	100	5500	11.84	12.50	98.31
		116	5580	10.66	12.50	
		124	5620	10.51	12.50	
		132	5660	9.41	12.50	
		140	5700	10.30	12.50	
	802.11ac-VHT40 MCS0	102	5510	11.74	12.50	96.32
		110	5550	10.20	12.50	
		126	5630	9.74	12.50	
		134	5670	8.81	12.50	
	802.11ac-VHT80 MCS0	106	5530	11.14	12.50	92.22
		122	5610	9.12	12.50	

<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	16.33	17.00	98.27
		40	5200	16.33	17.00	
		44	5220	15.81	17.00	
		48	5240	16.00	17.00	
	802.11n-HT20 MCS0	36	5180	15.76	16.50	96.45
		40	5200	15.76	16.50	
		44	5220	15.14	16.50	
		48	5240	15.45	16.50	
	802.11n-HT40 MCS0	38	5190	15.81	16.50	93.19
		46	5230	15.63	16.50	
	802.11ac-VHT20 MCS0	36	5180	14.48	15.50	98.31
		40	5200	14.03	15.50	
		44	5220	14.47	15.50	
		48	5240	14.01	15.50	
	802.11ac-VHT40 MCS0	38	5190	14.61	15.50	96.35
		46	5230	14.62	15.50	
	802.11ac-VHT80 MCS0	42	5210	14.85	15.50	92.22

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	16.46	17.00	98.27
		56	5280	16.32	17.00	
		60	5300	16.54	17.00	
		64	5320	16.59	17.00	
	802.11n-HT20 MCS0	52	5260	15.76	16.50	96.45
		56	5280	15.80	16.50	
		60	5300	15.70	16.50	
		64	5320	15.74	16.50	
	802.11n-HT40 MCS0	54	5270	15.39	16.50	93.19
		62	5310	15.42	16.50	
	802.11ac-VHT20 MCS0	52	5260	14.36	15.50	98.31
		56	5280	14.09	15.50	
		60	5300	14.25	15.50	
		64	5320	14.28	15.50	
	802.11ac-VHT40 MCS0	54	5270	14.81	15.50	96.35
		62	5310	14.80	15.50	
	802.11ac-VHT80 MCS0	58	5290	15.06	15.50	92.22

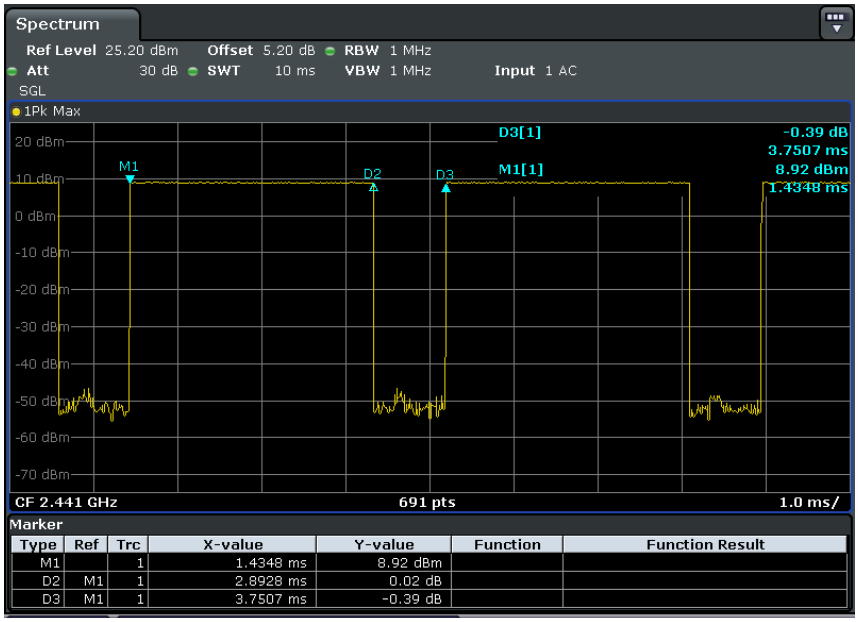
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	=Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	16.68	17.00	98.27
		116	5580	15.65	17.00	
		124	5620	16.05	17.00	
		132	5660	15.65	17.00	
		140	5700	15.48	17.00	
	802.11n-HT20 MCS0	100	5500	15.95	16.50	96.45
		116	5580	15.22	16.50	
		124	5620	15.27	16.50	
		132	5660	14.96	16.50	
		140	5700	14.84	16.50	
	802.11n-HT40 MCS0	102	5510	15.62	16.50	93.19
		110	5550	15.63	16.50	
		126	5630	15.16	16.50	
		134	5670	14.17	16.50	
	802.11ac-VHT20 MCS0	100	5500	15.14	15.50	98.31
		116	5580	14.41	15.50	
		124	5620	14.36	15.50	
		132	5660	13.64	15.50	
		140	5700	14.02	15.50	
	802.11ac-VHT40 MCS0	102	5510	14.78	15.50	96.35
		110	5550	14.07	15.50	
		126	5630	13.74	15.50	
		134	5670	13.00	15.50	
	802.11ac-VHT80 MCS0	106	5530	14.65	15.50	92.22
		122	5610	13.37	15.50	

<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 77.13 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation.

Bluetooth time-domain plot

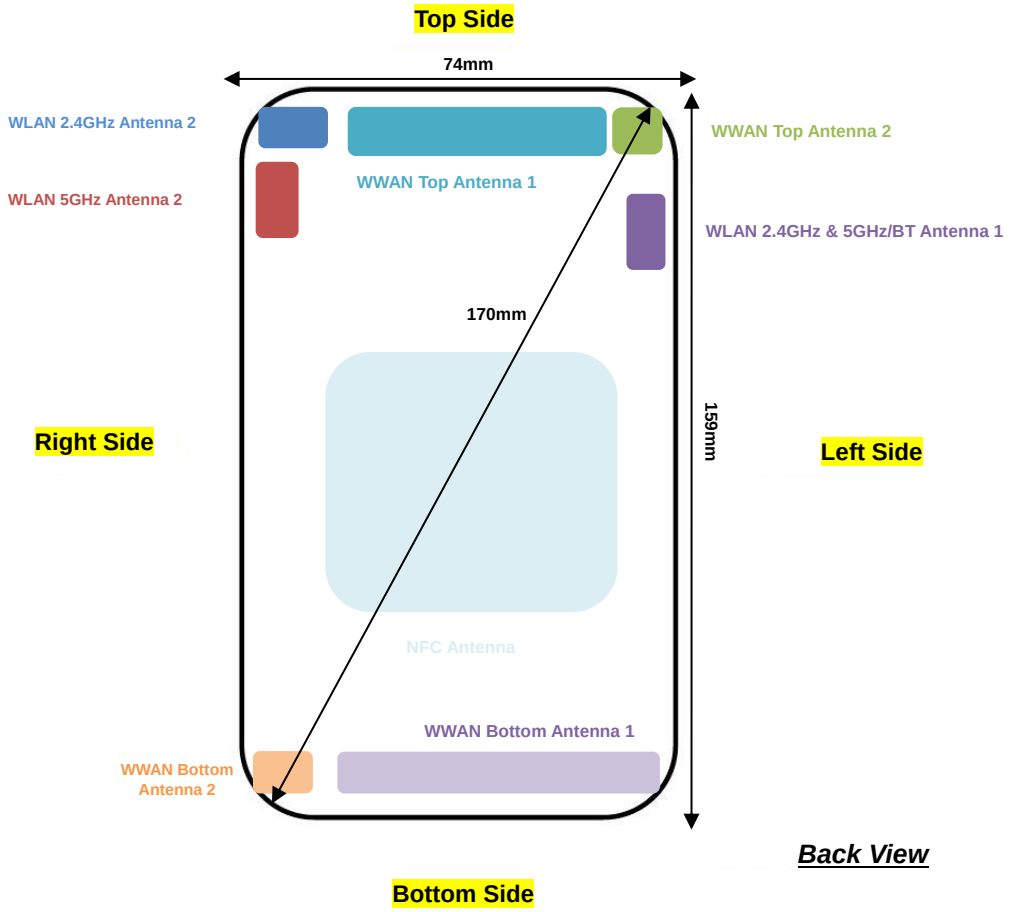


Mode	Channel	Frequency (MHz)	Data Rate
			1Mbps
BR/EDR	CH 00	2402	**9.78**
	CH 39	2441	9.44
	CH 78	2480	8.11
Tune-up Limit			10.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
v4.0 LE	CH 00	2402	**7.13**
	CH 19	2440	6.23
	CH 39	2480	5.30
Tune-up Limit			8.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
V5.0 LE	CH 00	2402	**7.12**
	CH 19	2440	6.18
	CH 39	2480	5.30
Tune-up Limit			8.00

13. Antenna Location



Antenna	Support Band
WWAN Top Antenna 1 (UAT)	GSM: 850 WCDMA: B5 LTE: B5 / B12 / B13 / B17 / B26 / B71
WWAN Top Antenna 2 (UAT)	GSM: 1900 WCDMA: B2 / B4 LTE: B2 / B4 / B7 / B25 / B30 / B38 / B41 / B66
WWAN Bottom Antenna 1 (LAT)	GSM: 850 WCDMA: B5 LTE: B5 / B12 / B13 / B17 / B26 / B71
WWAN Bottom Antenna 2 (LAT)	GSM: 1900 WCDMA: B2 / B4 LTE: B2 / B4 / B7 / B25 / B30 / B38 / B41 / B66
WLAN 2.4GHz/5GHz/BT Antenna 1	WLAN 2.4GHz WLAN 5GHz Bluetooth
WLAN 2.4GHz Antenna 2	WLAN 2.4GHz
WLAN 5GHz Antenna 2	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 1	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm
WWAN Top Antenna 2	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	>25mm	≤ 25mm
WWAN Bottom Antenna 1	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm	≤ 25mm
WWAN Bottom Antenna 2	≤ 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

Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN Top Antenna 1	Yes	Yes	Yes	No	Yes	Yes
WWAN Top Antenna 2	Yes	Yes	Yes	No	No	Yes
WWAN Bottom Antenna 1	Yes	Yes	No	Yes	Yes	Yes
WWAN Bottom Antenna 2	Yes	Yes	No	Yes	Yes	No
WLAN 2.4GHz/5GHz/BT Antenna 1	Yes	Yes	Yes	No	No	Yes
WLAN 2.4GHz/5GHz Antenna 2	Yes	Yes	Yes	No	Yes	No

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.

14. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
2. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
3. 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.
4. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g product specific SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold, for this device only bottom side SAR for WWAN transmitter scaled to maximum output power is higher than 1.2W/kg of GSM1900,WCDMA B2/ B4, and LTE B2/B4/B7/B38, therefore product specific SAR is necessary.
5. For 5.3GHz / 5.5GHz WLAN product specific SAR is necessary too, due to an overall diagonal dimension is > 16cm and they have no hotspot function.
6. This device 2.4GHz WLAN/5.2GHz WLAN support hotspot operation, and 5.2GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
7. This device has four WWAN transmit antennas, two WWAN bottom antennas and two WWAN top antennas which can refer to antenna location chapter.
8. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately for WLAN 2.4GHz/5GHz when it transmits simultaneously WWAN or Bluetooth.
9. LAT means Low antenna (Bottom antenna), UAT means Up antenna (Top antenna).

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE / DTM modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850 and the GPRS (3Tx slots) for GSM1900 is considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE / DTM 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 (HSUPA, HSDPA, DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 /B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2 / 4 / 5 / 17 / 38 SAR test was covered by Band 25 / 66 / 26 / 12 / 41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

WLAN/Bluetooth 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. For WLAN SAR testing was performed on WLAN SISO mode and WLAN MIMO mode.
6. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
7. Bluetooth and WLAN share the same antenna, with similar work frequency, so for Bluetooth SAR testing, we chose the worst positon of WLAN to perform.

14.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power State	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-UAT	GPRS 4 Tx slots	Right Cheek	0	Full	189	836.4	27.13	27.50	1.089	-0.03	0.839	0.914
	GSM 850-UAT	GPRS 4 Tx slots	Right Cheek	0	Full	128	824.2	27.00	27.50	1.122	-0.06	0.829	0.930
01	GSM 850-UAT	GPRS 4 Tx slots	Right Cheek	0	Full	251	848.8	27.12	27.50	1.091	-0.06	0.968	**1.057**
	GSM 850-UAT	GPRS 4 Tx slots	Right Tilted	0	Full	189	836.4	27.13	27.50	1.089	0.02	0.678	0.738
	GSM 850-UAT	GPRS 4 Tx slots	Left Cheek	0	Full	189	836.4	27.13	27.50	1.089	0.01	0.898	0.978
	GSM 850-UAT	GPRS 4 Tx slots	Left Cheek	0	Full	128	824.2	27.00	27.50	1.122	-0.04	0.912	1.023
	GSM 850-UAT	GPRS 4 Tx slots	Left Cheek	0	Full	251	848.8	27.12	27.50	1.091	0.06	0.898	0.980
	GSM 850-UAT	GPRS 4 Tx slots	Left Tilted	0	Full	189	836.4	27.13	27.50	1.089	0.02	0.816	0.889
	GSM 850-UAT	GPRS 4 Tx slots	Left Tilted	0	Full	128	824.2	27.00	27.50	1.122	-0.08	0.805	0.903
	GSM 850-UAT	GPRS 4 Tx slots	Left Tilted	0	Full	251	848.8	27.12	27.50	1.091	-0.03	0.890	0.971
	GSM 850-LAT	GPRS 4 Tx slots	Right Cheek	0	Full	189	836.4	27.79	29.00	1.321	0.03	0.264	0.349
	GSM 850-LAT	GPRS 4 Tx slots	Right Tilted	0	Full	189	836.4	27.79	29.00	1.321	-0.06	0.100	0.132
	GSM 850-LAT	GPRS 4 Tx slots	Left Cheek	0	Full	189	836.4	27.79	29.00	1.321	0.08	0.194	0.256
	GSM 850-LAT	GPRS 4 Tx slots	Left Tilted	0	Full	189	836.4	27.79	29.00	1.321	0.01	0.106	0.140
02	GSM 1900-UAT	GPRS 3 Tx slots	Right Cheek	0	Full	661	1880	25.45	25.50	1.012	-0.08	1.040	**1.052**
	GSM 1900-UAT	GPRS 3 Tx slots	Right Cheek	0	Full	512	1850.2	25.40	25.50	1.023	-0.08	0.990	1.013
	GSM 1900-UAT	GPRS 3 Tx slots	Right Cheek	0	Full	810	1909.8	25.43	25.50	1.016	-0.08	1.010	1.026
	GSM 1900-UAT	GPRS 3 Tx slots	Right Tilted	0	Full	661	1880	25.45	25.50	1.012	0.01	0.952	0.963
	GSM 1900-UAT	GPRS 3 Tx slots	Right Tilted	0	Full	512	1850.2	25.40	25.50	1.023	-0.03	0.947	0.969
	GSM 1900-UAT	GPRS 3 Tx slots	Right Tilted	0	Full	810	1909.8	25.43	25.50	1.016	0.07	0.953	0.968
	GSM 1900-UAT	GPRS 3 Tx slots	Left Cheek	0	Full	661	1880	25.45	25.50	1.012	0.06	0.367	0.371
	GSM 1900-UAT	GPRS 3 Tx slots	Left Tilted	0	Full	661	1880	25.45	25.50	1.012	0.05	0.575	0.582
	GSM 1900-LAT	GPRS 3 Tx slots	Right Cheek	0	Full	661	1880	26.48	26.50	1.005	0.08	0.348	0.350
	GSM 1900-LAT	GPRS 3 Tx slots	Right Tilted	0	Full	661	1880	26.48	26.50	1.005	0.02	0.097	0.098
	GSM 1900-LAT	GPRS 3 Tx slots	Left Cheek	0	Full	661	1880	26.48	26.50	1.005	-0.03	0.125	0.126
	GSM 1900-LAT	GPRS 3 Tx slots	Left Tilted	0	Full	661	1880	26.48	26.50	1.005	-0.15	0.079	0.079

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power State	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 V-UAT	RMC 12.2Kbps	Right Cheek	0	Full	4132	826.4	21.27	22.00	1.183	0.03	0.522	0.618
	WCDMA V-UAT	RMC 12.2Kbps	Right Tilted	0	Full	4132	826.4	21.27	22.00	1.183	-0.01	0.370	0.438
03	WCDMA V-UAT	RMC 12.2Kbps	Left Cheek	0	Full	4132	826.4	21.27	22.00	1.183	-0.13	0.575	**0.680**
	WCDMA V-UAT	RMC 12.2Kbps	Left Tilted	0	Full	4132	826.4	21.27	22.00	1.183	-0.03	0.516	0.610
	WCDMA V-LAT	RMC 12.2Kbps	Right Cheek	0	Full	4132	826.4	24.24	25.00	1.191	0.02	0.284	0.338
	WCDMA V-LAT	RMC 12.2Kbps	Right Tilted	0	Full	4132	826.4	24.24	25.00	1.191	-0.03	0.113	0.135
	WCDMA V-LAT	RMC 12.2Kbps	Left Cheek	0	Full	4132	826.4	24.24	25.00	1.191	0.08	0.223	0.266
	WCDMA V-LAT	RMC 12.2Kbps	Left Tilted	0	Full	4132	826.4	24.24	25.00	1.191	0.01	0.107	0.127
	WCDMA II-UAT	RMC 12.2Kbps	Right Cheek	0	Full	9400	1880	18.71	19.50	1.199	0.01	0.791	0.949
04	WCDMA II-UAT	RMC 12.2Kbps	Right Cheek	0	Full	9262	1852.4	18.67	19.50	1.211	0.01	0.829	**1.004**
	WCDMA II-UAT	RMC 12.2Kbps	Right Cheek	0	Full	9538	1907.6	18.70	19.50	1.202	-0.02	0.761	0.915
	WCDMA II-UAT	RMC 12.2Kbps	Right Tilted	0	Full	9400	1880	18.71	19.50	1.199	0.03	0.719	0.862
	WCDMA II-UAT	RMC 12.2Kbps	Right Tilted	0	Full	9262	1852.4	18.67	19.50	1.211	-0.09	0.715	0.866
	WCDMA II-UAT	RMC 12.2Kbps	Right Tilted	0	Full	9538	1907.6	18.70	19.50	1.202	0.05	0.723	0.869
	WCDMA II-UAT	RMC 12.2Kbps	Left Cheek	0	Full	9400	1880	18.71	19.50	1.199	0.07	0.384	0.461
	WCDMA II-UAT	RMC 12.2Kbps	Left Tilted	0	Full	9400	1880	18.71	19.50	1.199	0.05	0.570	0.684
	WCDMA II-LAT	RMC 12.2Kbps	Right Cheek	0	Full	9400	1880	23.72	24.00	1.067	-0.05	0.454	0.484
	WCDMA II-LAT	RMC 12.2Kbps	Right Tilted	0	Full	9400	1880	23.72	24.00	1.067	-0.11	0.189	0.202
	WCDMA II-LAT	RMC 12.2Kbps	Left Cheek	0	Full	9400	1880	23.72	24.00	1.067	0.02	0.335	0.357
	WCDMA II-LAT	RMC 12.2Kbps	Left Tilted	0	Full	9400	1880	23.72	24.00	1.067	-0.06	0.188	0.201
05	WCDMA IV-UAT	RMC 12.2Kbps	Right Cheek	0	Full	1413	1732.6	17.13	17.50	1.089	-0.01	0.924	**1.006**
	WCDMA IV-UAT	RMC 12.2Kbps	Right Cheek	0	Full	1312	1712.4	17.08	17.50	1.102	-0.04	0.872	0.961
	WCDMA IV-UAT	RMC 12.2Kbps	Right Cheek	0	Full	1513	1752.6	17.12	17.50	1.091	-0.02	0.890	0.971
	WCDMA IV-UAT	RMC 12.2Kbps	Right Tilted	0	Full	1413	1732.6	17.13	17.50	1.089	0.03	0.786	0.856
	WCDMA IV-UAT	RMC 12.2Kbps	Right Tilted	0	Full	1312	1712.4	17.08	17.50	1.102	0.01	0.784	0.864
	WCDMA IV-UAT	RMC 12.2Kbps	Right Tilted	0	Full	1513	1752.6	17.12	17.50	1.091	0.05	0.738	0.805
	WCDMA IV-UAT	RMC 12.2Kbps	Left Cheek	0	Full	1413	1732.6	17.13	17.50	1.089	0.06	0.432	0.470
	WCDMA IV-UAT	RMC 12.2Kbps	Left Tilted	0	Full	1413	1732.6	17.13	17.50	1.089	-0.07	0.608	0.662
	WCDMA IV-LAT	RMC 12.2Kbps	Right Cheek	0	Full	1413	1732.6	23.73	24.50	1.194	0.04	0.241	0.288
	WCDMA IV-LAT	RMC 12.2Kbps	Right Tilted	0	Full	1413	1732.6	23.73	24.50	1.194	0.01	0.122	0.146
	WCDMA IV-LAT	RMC 12.2Kbps	Left Cheek	0	Full	1413	1732.6	23.73	24.50	1.194	0.06	0.137	0.164
	WCDMA IV-LAT	RMC 12.2Kbps	Left Tilted	0	Full	1413	1732.6	23.73	24.50	1.194	-0.02	0.100	0.119

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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 71-UAT	20M	QPSK	1	0	Right Cheek	0	Full	133322	683	22.32	23.00	1.169	0.09	0.906	1.060
	LTE Band 71-UAT	20M	QPSK	50	24	Right Cheek	0	Full	133322	683	21.31	22.00	1.172	0.05	0.729	0.855
	LTE Band 71-UAT	20M	QPSK	100	0	Right Cheek	0	Full	133322	683	21.09	22.00	1.233	-0.1	0.686	0.846
	LTE Band 71-UAT	20M	QPSK	1	0	Right Tilted	0	Full	133322	683	22.32	23.00	1.169	0.06	0.677	0.792
	LTE Band 71-UAT	20M	QPSK	50	24	Right Tilted	0	Full	133322	683	21.31	22.00	1.172	-0.03	0.518	0.607
06	LTE Band 71-UAT	20M	QPSK	1	0	Left Cheek	0	Full	133322	683	22.32	23.00	1.169	-0.08	0.924	**1.081**
	LTE Band 71-UAT	20M	QPSK	50	24	Left Cheek	0	Full	133322	683	21.31	22.00	1.172	0.03	0.756	0.886
	LTE Band 71-UAT	20M	QPSK	100	0	Left Cheek	0	Full	133322	683	21.09	22.00	1.233	0.01	0.717	0.884
	LTE Band 71-UAT	20M	QPSK	1	0	Left Tilted	0	Full	133322	683	22.32	23.00	1.169	0.03	0.802	0.938
	LTE Band 71-UAT	20M	QPSK	50	24	Left Tilted	0	Full	133322	683	21.31	22.00	1.172	0.09	0.599	0.702
	LTE Band 71-UAT	20M	QPSK	100	0	Left Tilted	0	Full	133322	683	21.09	22.00	1.233	0.01	0.714	0.880
	LTE Band 71-LAT	20M	QPSK	1	0	Right Cheek	0	Full	133322	683	25.45	25.50	1.012	0.02	0.189	0.191
	LTE Band 71-LAT	20M	QPSK	50	0	Right Cheek	0	Full	133322	683	24.07	24.50	1.104	0.08	0.154	0.170
	LTE Band 71-LAT	20M	QPSK	1	0	Right Tilted	0	Full	133322	683	25.45	25.50	1.012	-0.07	0.085	0.086
	LTE Band 71-LAT	20M	QPSK	50	0	Right Tilted	0	Full	133322	683	24.07	24.50	1.104	0.09	0.071	0.078
	LTE Band 71-LAT	20M	QPSK	1	0	Left Cheek	0	Full	133322	683	25.45	25.50	1.012	-0.03	0.168	0.170
	LTE Band 71-LAT	20M	QPSK	50	0	Left Cheek	0	Full	133322	683	24.07	24.50	1.104	0.05	0.147	0.162
	LTE Band 71-LAT	20M	QPSK	1	0	Left Tilted	0	Full	133322	683	25.45	25.50	1.012	-0.05	0.090	0.091
	LTE Band 71-LAT	20M	QPSK	50	0	Left Tilted	0	Full	133322	683	24.07	24.50	1.104	0.05	0.088	0.097
07	LTE Band 12-UAT	10M	QPSK	1	25	Right Cheek	0	Full	23095	707.5	22.85	23.50	1.161	-0.08	0.834	**0.969**
	LTE Band 12-UAT	10M	QPSK	25	12	Right Cheek	0	Full	23095	707.5	21.80	22.50	1.175	0.01	0.720	0.846
	LTE Band 12-UAT	10M	QPSK	50	0	Right Cheek	0	Full	23095	707.5	21.62	22.50	1.225	-0.02	0.749	0.917
	LTE Band 12-UAT	10M	QPSK	1	25	Right Tilted	0	Full	23095	707.5	22.85	23.50	1.161	0.01	0.491	0.570
	LTE Band 12-UAT	10M	QPSK	25	12	Right Tilted	0	Full	23095	707.5	21.80	22.50	1.175	-0.03	0.429	0.504
	LTE Band 12-UAT	10M	QPSK	1	25	Left Cheek	0	Full	23095	707.5	22.85	23.50	1.161	0.01	0.683	0.793
	LTE Band 12-UAT	10M	QPSK	25	12	Left Cheek	0	Full	23095	707.5	21.80	22.50	1.175	0.05	0.557	0.654
	LTE Band 12-UAT	10M	QPSK	1	25	Left Tilted	0	Full	23095	707.5	22.85	23.50	1.161	0.02	0.630	0.732
	LTE Band 12-UAT	10M	QPSK	25	12	Left Tilted	0	Full	23095	707.5	21.80	22.50	1.175	0.03	0.532	0.625
	LTE Band 12-LAT	10M	QPSK	1	25	Right Cheek	0	Full	23095	707.5	24.38	25.00	1.153	0.01	0.199	0.230
	LTE Band 12-LAT	10M	QPSK	25	0	Right Cheek	0	Full	23095	707.5	23.25	24.00	1.189	0.01	0.150	0.178
	LTE Band 12-LAT	10M	QPSK	1	25	Right Tilted	0	Full	23095	707.5	24.38	25.00	1.153	0.02	0.089	0.102
	LTE Band 12-LAT	10M	QPSK	25	0	Right Tilted	0	Full	23095	707.5	23.25	24.00	1.189	0.03	0.066	0.079
	LTE Band 12-LAT	10M	QPSK	1	25	Left Cheek	0	Full	23095	707.5	24.38	25.00	1.153	0.01	0.183	0.211
	LTE Band 12-LAT	10M	QPSK	25	0	Left Cheek	0	Full	23095	707.5	23.25	24.00	1.189	0.01	0.128	0.152
	LTE Band 12-LAT	10M	QPSK	1	25	Left Tilted	0	Full	23095	707.5	24.38	25.00	1.153	0.02	0.097	0.112
	LTE Band 12-LAT	10M	QPSK	25	0	Left Tilted	0	Full	23095	707.5	23.25	24.00	1.189	0.03	0.063	0.075
08	LTE Band 13-UAT	10M	QPSK	1	25	Right Cheek	0	Full	23230	782	24.31	24.50	1.045	0.09	0.599	**0.626**
	LTE Band 13-UAT	10M	QPSK	25	12	Right Cheek	0	Full	23230	782	23.17	23.50	1.079	0.07	0.481	0.519
	LTE Band 13-UAT	10M	QPSK	1	25	Right Tilted	0	Full	23230	782	24.31	24.50	1.045	0.01	0.440	0.460
	LTE Band 13-UAT	10M	QPSK	25	12	Right Tilted	0	Full	23230	782	23.17	23.50	1.079	0.02	0.379	0.409
	LTE Band 13-UAT	10M	QPSK	1	25	Left Cheek	0	Full	23230	782	24.31	24.50	1.045	0.05	0.460	0.481
	LTE Band 13-UAT	10M	QPSK	25	12	Left Cheek	0	Full	23230	782	23.17	23.50	1.079	-0.08	0.415	0.448
	LTE Band 13-UAT	10M	QPSK	1	25	Left Tilted	0	Full	23230	782	24.31	24.50	1.045	-0.03	0.391	0.408
	LTE Band 13-UAT	10M	QPSK	25	12	Left Tilted	0	Full	23230	782	23.17	23.50	1.079	0.05	0.357	0.385
	LTE Band 13-LAT	10M	QPSK	1	25	Right Cheek	0	Full	23230	782	24.93	25.00	1.016	0.03	0.381	0.387
	LTE Band 13-LAT	10M	QPSK	25	12	Right Cheek	0	Full	23230	782	23.89	24.50	1.151	0.01	0.268	0.308
	LTE Band 13-LAT	10M	QPSK	1	25	Right Tilted	0	Full	23230	782	24.93	25.00	1.016	0.05	0.180	0.183
	LTE Band 13-LAT	10M	QPSK	25	12	Right Tilted	0	Full	23230	782	23.89	24.50	1.151	-0.04	0.137	0.158
	LTE Band 13-LAT	10M	QPSK	1	25	Left Cheek	0	Full	23230	782	24.93	25.00	1.016	0.08	0.253	0.257
	LTE Band 13-LAT	10M	QPSK	25	12	Left Cheek	0	Full	23230	782	23.89	24.50	1.151	0.02	0.211	0.243
	LTE Band 13-LAT	10M	QPSK	1	25	Left Tilted	0	Full	23230	782	24.93	25.00	1.016	0.01	0.142	0.144
	LTE Band 13-LAT	10M	QPSK	25	12	Left Tilted	0	Full	23230	782	23.89	24.50	1.151	0.08	0.114	0.131

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 26-UAT	15M	QPSK	1	0	Right Cheek	0	Full	26865	831.5	21.55	22.50	1.245	0.01	0.554	0.689
	LTE Band 26-UAT	15M	QPSK	36	20	Right Cheek	0	Full	26865	831.5	20.60	22.50	1.549	-0.07	0.408	0.632
	LTE Band 26-UAT	15M	QPSK	1	0	Right Tilted	0	Full	26865	831.5	21.55	22.50	1.245	0.02	0.450	0.560
	LTE Band 26-UAT	15M	QPSK	36	20	Right Tilted	0	Full	26865	831.5	20.60	22.50	1.549	0.03	0.328	0.508
09	LTE Band 26-UAT	15M	QPSK	1	0	Left Cheek	0	Full	26865	831.5	21.55	22.50	1.245	0.08	0.558	**0.694**
	LTE Band 26-UAT	15M	QPSK	36	20	Left Cheek	0	Full	26865	831.5	20.60	22.50	1.549	0.01	0.419	0.649
	LTE Band 26-UAT	15M	QPSK	1	0	Left Tilted	0	Full	26865	831.5	21.55	22.50	1.245	0.07	0.473	0.589
	LTE Band 26-UAT	15M	QPSK	36	20	Left Tilted	0	Full	26865	831.5	20.60	22.50	1.549	0.02	0.395	0.612
	LTE Band 26-LAT	15M	QPSK	1	0	Right Cheek	0	Full	26865	831.5	24.95	25.00	1.012	0.01	0.305	0.309
	LTE Band 26-LAT	15M	QPSK	36	0	Right Cheek	0	Full	26865	831.5	23.79	25.00	1.321	-0.05	0.277	0.366
	LTE Band 26-LAT	15M	QPSK	1	0	Right Tilted	0	Full	26865	831.5	24.95	25.00	1.012	0.06	0.120	0.121
	LTE Band 26-LAT	15M	QPSK	36	0	Right Tilted	0	Full	26865	831.5	23.79	25.00	1.321	0.02	0.115	0.152
	LTE Band 26-LAT	15M	QPSK	1	0	Left Cheek	0	Full	26865	831.5	24.95	25.00	1.012	0.03	0.245	0.248
	LTE Band 26-LAT	15M	QPSK	36	0	Left Cheek	0	Full	26865	831.5	23.79	25.00	1.321	0.06	0.207	0.274
	LTE Band 26-LAT	15M	QPSK	1	0	Left Tilted	0	Full	26865	831.5	24.95	25.00	1.012	0.06	0.143	0.145
	LTE Band 26-LAT	15M	QPSK	36	0	Left Tilted	0	Full	26865	831.5	23.79	25.00	1.321	0.02	0.108	0.143
	LTE Band 66-UAT	20M	QPSK	1	49	Right Cheek	0	Full	132572	1770	17.89	18.00	1.026	0.04	0.853	0.875
10	LTE Band 66-UAT	20M	QPSK	1	49	Right Cheek	0	Full	132072	1720	17.82	18.00	1.042	0.02	1.020	**1.063**
	LTE Band 66-UAT	20M	QPSK	1	49	Right Cheek	0	Full	132322	1745	17.84	18.00	1.038	-0.01	0.932	0.967
	LTE Band 66-UAT	20M	QPSK	50	24	Right Cheek	0	Full	132572	1770	16.80	17.00	1.047	0.02	0.716	0.750
	LTE Band 66-UAT	20M	QPSK	100	0	Right Cheek	0	Full	132572	1770	16.72	17.00	1.067	-0.03	0.711	0.758
	LTE Band 66-UAT	20M	QPSK	1	49	Right Tilted	0	Full	132572	1770	17.89	18.00	1.026	-0.03	0.799	0.819
	LTE Band 66-UAT	20M	QPSK	1	49	Right Tilted	0	Full	132072	1720	17.82	18.00	1.042	-0.07	0.922	0.961
	LTE Band 66-UAT	20M	QPSK	1	49	Right Tilted	0	Full	132322	1745	17.84	18.00	1.038	-0.01	0.870	0.903
	LTE Band 66-UAT	20M	QPSK	50	24	Right Tilted	0	Full	132572	1770	16.80	17.00	1.047	0.02	0.666	0.697
	LTE Band 66-UAT	20M	QPSK	100	0	Right Tilted	0	Full	132572	1770	16.72	17.00	1.067	-0.09	0.517	0.551
	LTE Band 66-UAT	20M	QPSK	1	49	Left Cheek	0	Full	132572	1770	17.89	18.00	1.026	0.01	0.424	0.435
	LTE Band 66-UAT	20M	QPSK	50	24	Left Cheek	0	Full	132572	1770	16.80	17.00	1.047	0.02	0.329	0.345
	LTE Band 66-UAT	20M	QPSK	1	49	Left Tilted	0	Full	132572	1770	17.89	18.00	1.026	0.03	0.631	0.647
	LTE Band 66-UAT	20M	QPSK	50	24	Left Tilted	0	Full	132572	1770	16.80	17.00	1.047	0.01	0.519	0.543
	LTE Band 66-LAT	20M	QPSK	1	49	Right Cheek	0	Full	132572	1770	24.21	25.00	1.199	-0.04	0.378	0.453
	LTE Band 66-LAT	20M	QPSK	50	24	Right Cheek	0	Full	132572	1770	23.30	24.00	1.175	0.19	0.316	0.371
	LTE Band 66-LAT	20M	QPSK	1	49	Right Tilted	0	Full	132572	1770	24.21	25.00	1.199	0.06	0.182	0.218
	LTE Band 66-LAT	20M	QPSK	50	24	Right Tilted	0	Full	132572	1770	23.30	24.00	1.175	0.02	0.156	0.183
	LTE Band 66-LAT	20M	QPSK	1	49	Left Cheek	0	Full	132572	1770	24.21	25.00	0.902	0.03	0.212	0.191
	LTE Band 66-LAT	20M	QPSK	50	24	Left Cheek	0	Full	132572	1770	23.30	24.00	0.984	0.06	0.174	0.171
	LTE Band 66-LAT	20M	QPSK	1	49	Left Tilted	0	Full	132572	1770	24.21	25.00	1.199	0.06	0.175	0.210
	LTE Band 66-LAT	20M	QPSK	50	24	Left Tilted	0	Full	132572	1770	23.30	24.00	1.175	0.02	0.139	0.163

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25-UAT	20M	QPSK	1	49	Right Cheek	0	Full	26340	1880	18.40	18.50	1.023	0.04	0.950	0.972
11	LTE Band 25-UAT	20M	QPSK	1	49	Right Cheek	0	Full	26140	1860	18.26	18.50	1.057	0.01	0.955	**1.009**
	LTE Band 25-UAT	20M	QPSK	1	49	Right Cheek	0	Full	26590	1905	18.26	18.50	1.057	0.03	0.939	0.992
	LTE Band 25-UAT	20M	QPSK	50	24	Right Cheek	0	Full	26340	1880	17.35	17.50	1.035	-0.05	0.793	0.821
	LTE Band 25-UAT	20M	QPSK	50	24	Right Cheek	0	Full	26140	1860	17.27	17.50	1.054	-0.1	0.566	0.597
	LTE Band 25-UAT	20M	QPSK	50	24	Right Cheek	0	Full	26590	1905	17.29	17.50	1.050	-0.04	0.550	0.577
	LTE Band 25-UAT	20M	QPSK	100	0	Right Cheek	0	Full	26340	1880	17.32	17.50	1.042	0.02	0.792	0.826
	LTE Band 25-UAT	20M	QPSK	1	49	Right Tilted	0	Full	26340	1880	18.40	18.50	1.023	0.02	0.882	0.903
	LTE Band 25-UAT	20M	QPSK	1	49	Right Tilted	0	Full	26140	1860	18.26	18.50	1.057	0.02	0.895	0.946
	LTE Band 25-UAT	20M	QPSK	1	49	Right Tilted	0	Full	26590	1905	18.26	18.50	1.057	0.06	0.867	0.916
	LTE Band 25-UAT	20M	QPSK	50	24	Right Tilted	0	Full	26340	1880	17.35	17.50	1.035	0.04	0.740	0.766
	LTE Band 25-UAT	20M	QPSK	100	0	Right Tilted	0	Full	26340	1880	17.32	17.50	1.042	0.12	0.722	0.753
	LTE Band 25-UAT	20M	QPSK	1	49	Left Cheek	0	Full	26340	1880	18.40	18.50	1.023	-0.01	0.444	0.454
	LTE Band 25-UAT	20M	QPSK	50	24	Left Cheek	0	Full	26340	1880	17.35	17.50	1.035	-0.07	0.369	0.382
	LTE Band 25-UAT	20M	QPSK	1	49	Left Tilted	0	Full	26340	1880	18.40	18.50	1.023	0.08	0.679	0.695
	LTE Band 25-UAT	20M	QPSK	50	24	Left Tilted	0	Full	26340	1880	17.35	17.50	1.035	0.09	0.557	0.577
	LTE Band 25-LAT	20M	QPSK	1	49	Right Cheek	0	Full	26340	1880	23.66	24.00	1.081	0.06	0.581	0.628
	LTE Band 25-LAT	20M	QPSK	50	24	Right Cheek	0	Full	26340	1880	22.66	24.00	1.361	0.02	0.472	0.643
	LTE Band 25-LAT	20M	QPSK	1	49	Right Tilted	0	Full	26340	1880	23.66	24.00	1.081	0.01	0.239	0.258
	LTE Band 25-LAT	20M	QPSK	50	24	Right Tilted	0	Full	26340	1880	22.66	24.00	1.361	0.02	0.196	0.267
	LTE Band 25-LAT	20M	QPSK	1	49	Left Cheek	0	Full	26340	1880	23.66	24.00	1.081	0.06	0.345	0.373
	LTE Band 25-LAT	20M	QPSK	50	24	Left Cheek	0	Full	26340	1880	22.66	24.00	1.361	0.03	0.285	0.388
	LTE Band 25-LAT	20M	QPSK	1	49	Left Tilted	0	Full	26340	1880	23.66	24.00	1.081	0.01	0.227	0.245
	LTE Band 25-LAT	20M	QPSK	50	24	Left Tilted	0	Full	26340	1880	22.66	24.00	1.361	0.06	0.190	0.259
	LTE Band 7-UAT	20M	QPSK	1	0	Right Cheek	0	Full	21350	2560	18.21	18.50	1.069	-0.08	0.908	0.971
12	LTE Band 7-UAT	20M	QPSK	1	0	Right Cheek	0	Full	20850	2510	17.86	18.50	1.159	-0.03	0.866	**1.004**
	LTE Band 7-UAT	20M	QPSK	1	0	Right Cheek	0	Full	20850+21048	2510+2529.8	17.93	18.50	1.140	-0.02	0.849	0.968
	LTE Band 7-UAT	20M	QPSK	1	0	Right Cheek	0	Full	21100	2535	18.09	18.50	1.099	0.06	0.865	0.951
	LTE Band 7-UAT	20M	QPSK	50	0	Right Cheek	0	Full	21350	2560	17.41	17.50	1.021	0.01	0.771	0.787
	LTE Band 7-UAT	20M	QPSK	100	0	Right Cheek	0	Full	21350	2560	17.32	17.50	1.042	0.02	0.799	0.833
	LTE Band 7-UAT	20M	QPSK	1	0	Right Tilted	0	Full	21350	2560	18.21	18.50	1.069	0.06	0.784	0.838
	LTE Band 7-UAT	20M	QPSK	1	0	Right Tilted	0	Full	20850	2510	17.86	18.50	1.159	0.05	0.825	0.956
	LTE Band 7-UAT	20M	QPSK	1	0	Right Tilted	0	Full	21100	2535	18.09	18.50	1.099	0.02	0.805	0.885
	LTE Band 7-UAT	20M	QPSK	50	0	Right Tilted	0	Full	21350	2560	17.41	17.50	1.021	0.11	0.711	0.726
	LTE Band 7-UAT	20M	QPSK	100	0	Right Tilted	0	Full	21350	2560	17.32	17.50	1.042	0.02	0.719	0.749
	LTE Band 7-UAT	20M	QPSK	1	0	Left Cheek	0	Full	21350	2560	18.21	18.50	1.069	0.03	0.358	0.383
	LTE Band 7-UAT	20M	QPSK	50	0	Left Cheek	0	Full	21350	2560	17.41	17.50	1.021	-0.09	0.326	0.333
	LTE Band 7-UAT	20M	QPSK	1	0	Left Tilted	0	Full	21350	2560	18.21	18.50	1.069	0.02	0.347	0.371
	LTE Band 7-UAT	20M	QPSK	50	0	Left Tilted	0	Full	21350	2560	17.41	17.50	1.021	0.05	0.335	0.342
	LTE Band 7-LAT	20M	QPSK	1	0	Right Cheek	0	Full	21350	2560	22.91	23.50	1.146	-0.05	0.166	0.190
	LTE Band 7-LAT	20M	QPSK	50	0	Right Cheek	0	Full	21350	2560	21.93	23.50	1.435	0.03	0.143	0.205
	LTE Band 7-LAT	20M	QPSK	50	0	Right Cheek	0	Full	21350+21152	2560+2540.2	22.03	23.50	1.403	0.09	0.138	0.194
	LTE Band 7-LAT	20M	QPSK	1	0	Right Tilted	0	Full	21350	2560	22.91	23.50	1.146	-0.02	0.085	0.098
	LTE Band 7-LAT	20M	QPSK	50	0	Right Tilted	0	Full	21350	2560	21.93	23.50	1.435	0.06	0.073	0.104
	LTE Band 7-LAT	20M	QPSK	1	0	Left Cheek	0	Full	21350	2560	22.91	23.50	1.146	0.09	0.119	0.136
	LTE Band 7-LAT	20M	QPSK	50	0	Left Cheek	0	Full	21350	2560	21.93	23.50	1.435	-0.13	0.100	0.144
	LTE Band 7-LAT	20M	QPSK	1	0	Left Tilted	0	Full	21350	2560	22.91	23.50	1.146	0.05	0.120	0.137
	LTE Band 7-LAT	20M	QPSK	50	0	Left Tilted	0	Full	21350	2560	21.93	23.50	1.435	-0.09	0.089	0.128

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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 30-UAT	10M	QPSK	1	0	Right Cheek	0	Full	27710	2310	19.27	19.50	1.054	0.09	0.797	0.840
	LTE Band 30-UAT	10M	QPSK	25	12	Right Cheek	0	Full	27710	2310	18.26	18.50	1.057	-0.01	0.639	0.675
	LTE Band 30-UAT	10M	QPSK	50	0	Right Cheek	0	Full	27710	2310	18.04	18.50	1.112	0.01	0.618	0.687
13	LTE Band 30-UAT	10M	QPSK	1	0	Right Tilted	0	Full	27710	2310	19.27	19.50	1.054	-0.03	0.887	**0.935**
	LTE Band 30-UAT	10M	QPSK	25	12	Right Tilted	0	Full	27710	2310	18.26	18.50	1.057	-0.04	0.726	0.767
	LTE Band 30-UAT	10M	QPSK	50	0	Right Tilted	0	Full	27710	2310	18.04	18.50	1.112	0.07	0.653	0.726
	LTE Band 30-UAT	10M	QPSK	1	0	Left Cheek	0	Full	27710	2310	19.27	19.50	1.054	0.09	0.459	0.484
	LTE Band 30-UAT	10M	QPSK	25	12	Left Cheek	0	Full	27710	2310	18.26	18.50	1.057	-0.08	0.373	0.394
	LTE Band 30-UAT	10M	QPSK	1	0	Left Tilted	0	Full	27710	2310	19.27	19.50	1.054	0.04	0.507	0.535
	LTE Band 30-UAT	10M	QPSK	25	12	Left Tilted	0	Full	27710	2310	18.26	18.50	1.057	0.01	0.404	0.427
	LTE Band 30-LAT	10M	QPSK	1	0	Right Cheek	0	Full	27710	2310	24.35	25.00	1.161	0.06	0.391	0.454
	LTE Band 30-LAT	10M	QPSK	25	12	Right Cheek	0	Full	27710	2310	23.29	24.00	1.178	0.02	0.294	0.346
	LTE Band 30-LAT	10M	QPSK	1	0	Right Tilted	0	Full	27710	2310	24.35	25.00	1.161	0.02	0.117	0.136
	LTE Band 30-LAT	10M	QPSK	25	12	Right Tilted	0	Full	27710	2310	23.29	24.00	1.178	0.03	0.084	0.098
	LTE Band 30-LAT	10M	QPSK	1	0	Left Cheek	0	Full	27710	2310	24.35	25.00	1.161	0.06	0.222	0.258
	LTE Band 30-LAT	10M	QPSK	25	12	Left Cheek	0	Full	27710	2310	23.29	24.00	1.178	0.02	0.191	0.225
	LTE Band 30-LAT	10M	QPSK	1	0	Left Tilted	0	Full	27710	2310	24.35	25.00	1.161	-0.02	0.252	0.293
	LTE Band 30-LAT	10M	QPSK	25	12	Left Tilted	0	Full	27710	2310	23.29	24.00	1.178	0.02	0.187	0.220

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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-UAT	20M	QPSK	1	0	Right Cheek	0	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	0.05	0.920	0.928
	LTE Band 41-UAT	20M	QPSK	1	0	Right Cheek	0	Full	40140	2545	20.80	21.00	1.047	62.9	1.006	0.01	0.752	0.792
14	LTE Band 41-UAT	20M	QPSK	1	0	Right Cheek	0	Full	40670	2598	20.75	21.00	1.059	62.9	1.006	-0.1	0.949	**1.011**
	LTE Band 41-UAT	20M	QPSK	1	0	Right Cheek	0	Full	40670+40868	2598+2617.8	20.08	21.00	1.236	62.9	1.006	-0.05	0.772	0.960
	LTE Band 41-UAT	20M	QPSK	1	0	Right Cheek	0	Full	41140	2645	20.76	21.00	1.057	62.9	1.006	0.11	0.866	0.921
	LTE Band 41-UAT	20M	QPSK	50	24	Right Cheek	0	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	-0.03	0.780	0.941
	LTE Band 41-UAT	20M	QPSK	50	24	Right Cheek	0	Full	40140	2545	20.16	21.00	1.213	62.9	1.006	-0.01	0.661	0.807
	LTE Band 41-UAT	20M	QPSK	50	24	Right Cheek	0	Full	40670	2598	20.16	21.00	1.213	62.9	1.006	0.05	0.788	0.962
	LTE Band 41-UAT	20M	QPSK	50	24	Right Cheek	0	Full	41140	2645	19.96	21.00	1.271	62.9	1.006	-0.08	0.733	0.937
	LTE Band 41-UAT	20M	QPSK	100	0	Right Cheek	0	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	-0.03	0.806	0.973
	LTE Band 41-UAT	20M	QPSK	1	0	Right Tilted	0	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	0.12	0.855	0.862
	LTE Band 41-UAT	20M	QPSK	1	0	Right Tilted	0	Full	40140	2545	20.80	21.00	1.047	62.9	1.006	-0.07	0.721	0.760
	LTE Band 41-UAT	20M	QPSK	1	0	Right Tilted	0	Full	40670	2598	20.75	21.00	1.059	62.9	1.006	0.14	0.902	0.961
	LTE Band 41-UAT	20M	QPSK	1	0	Right Tilted	0	Full	41140	2645	20.76	21.00	1.057	62.9	1.006	-0.05	0.872	0.927
	LTE Band 41-UAT	20M	QPSK	50	24	Right Tilted	0	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	0.06	0.723	0.872
	LTE Band 41-UAT	20M	QPSK	50	24	Right Tilted	0	Full	40140	2545	20.16	21.00	1.213	62.9	1.006	-0.02	0.611	0.746
	LTE Band 41-UAT	20M	QPSK	50	24	Right Tilted	0	Full	40670	2598	20.16	21.00	1.213	62.9	1.006	0.03	0.756	0.923
	LTE Band 41-UAT	20M	QPSK	50	24	Right Tilted	0	Full	41140	2645	19.96	21.00	1.271	62.9	1.006	-0.19	0.724	0.925
	LTE Band 41-UAT	20M	QPSK	100	0	Right Tilted	0	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	-0.19	0.731	0.882
	LTE Band 41-UAT	20M	QPSK	1	0	Left Cheek	0	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	0.03	0.504	0.508
	LTE Band 41-UAT	20M	QPSK	50	24	Left Cheek	0	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	0.08	0.419	0.506
	LTE Band 41-UAT	20M	QPSK	1	0	Left Tilted	0	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	0.02	0.410	0.413
	LTE Band 41-UAT	20M	QPSK	50	24	Left Tilted	0	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	-0.1	0.345	0.416
	LTE Band 41-LAT	20M	QPSK	1	0	Right Cheek	0	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	0.08	0.135	0.151
	LTE Band 41-LAT	20M	QPSK	1	0	Right Cheek	0	Full	40400+40598	2571+2590.8	23.41	24.50	1.285	62.9	1.006	0.03	0.083	0.107
	LTE Band 41-LAT	20M	QPSK	50	0	Right Cheek	0	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	-0.01	0.113	0.138
	LTE Band 41-LAT	20M	QPSK	1	0	Right Tilted	0	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	-0.01	0.077	0.086
	LTE Band 41-LAT	20M	QPSK	50	0	Right Tilted	0	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	0.03	0.066	0.080
	LTE Band 41-LAT	20M	QPSK	1	0	Left Cheek	0	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	-0.04	0.111	0.124
	LTE Band 41-LAT	20M	QPSK	50	0	Left Cheek	0	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	0.03	0.090	0.110
	LTE Band 41-LAT	20M	QPSK	1	0	Left Tilted	0	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	0.03	0.115	0.129
	LTE Band 41-LAT	20M	QPSK	50	0	Left Tilted	0	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	-0.04	0.094	0.115

<WLAN 2.4GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0	1	Full	11	2462	14.04	15.00	1.247	100	1.000	-0.07	0.466	0.581
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0	1	Full	11	2462	14.04	15.00	1.247	100	1.000	0.02	0.156	0.195
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1	Full	11	2462	14.04	15.00	1.247	100	1.000	-0.02	0.159	0.198
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0	1	Full	11	2462	14.04	15.00	1.247	100	1.000	-0.06	0.043	0.054
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0	1	Reduced	6	2437	10.51	11.00	1.119	100	1.000	0.04	0.206	0.231
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0	1	Reduced	6	2437	10.51	11.00	1.119	100	1.000	0.03	0.118	0.132
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1	Reduced	6	2437	10.51	11.00	1.119	100	1.000	-0.02	0.133	0.149
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0	1	Reduced	6	2437	10.51	11.00	1.119	100	1.000	0.07	0.051	0.057
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0	2	Full	6	2437	14.39	15.00	1.151	100	1.000	-0.07	0.075	0.087
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0	2	Full	6	2437	14.39	15.00	1.151	100	1.000	0.09	0.064	0.074
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	2	Full	6	2437	14.39	15.00	1.151	100	1.000	0.04	0.222	0.255
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0	2	Full	6	2437	14.39	15.00	1.151	100	1.000	-0.06	0.176	0.203
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0	2	Reduced	11	2462	10.55	11.00	1.109	100	1.000	0.1	0.031	0.034
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0	2	Reduced	11	2462	10.55	11.00	1.109	100	1.000	0.06	0.032	0.035
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	2	Reduced	11	2462	10.55	11.00	1.109	100	1.000	0.07	0.074	0.082
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0	2	Reduced	11	2462	10.55	11.00	1.109	100	1.000	-0.09	0.064	0.071
15	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	-0.06	0.567	**0.596**
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	0.01	0.196	0.206
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	0.03	0.210	0.221
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	0.01	0.191	0.201
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0	1+2	Reduced	11	2462	13.66	14.00	1.081	100	1.000	-0.12	0.213	0.230
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0	1+2	Reduced	11	2462	13.66	14.00	1.081	100	1.000	0.02	0.171	0.185
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1+2	Reduced	11	2462	13.66	14.00	1.081	100	1.000	0.06	0.081	0.087
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0	1+2	Reduced	11	2462	13.66	14.00	1.081	100	1.000	0.18	0.075	0.081

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
16	Bluetooth	1Mbps	Right Cheek	0	0	2402	9.78	10.00	1.052	77.13	1.080	-0.08	0.177	**0.201**

<WLAN 5GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	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)
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	-0.05	0.252	0.352
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	-0.02	0.322	0.449
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	0.02	0.142	0.198
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	0.02	0.149	0.208
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0	1	Reduced	60	5300	13.50	14.00	1.122	98.27	1.018	0.02	0.175	0.200
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0	1	Reduced	60	5300	13.50	14.00	1.122	98.27	1.018	0.09	0.184	0.210
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0	1	Reduced	60	5300	13.50	14.00	1.122	98.27	1.018	0.01	0.097	0.111
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1	Reduced	60	5300	13.50	14.00	1.122	98.27	1.018	0.02	0.137	0.156
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	-0.06	0.041	0.059
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	0.06	0.020	0.028
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	0.01	0.156	0.223
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	0.02	0.172	0.246
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0	2	Reduced	64	5320	13.77	14.00	1.054	98.27	1.018	0.06	0.016	0.017
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0	2	Reduced	64	5320	13.77	14.00	1.054	98.27	1.018	0.01	0.017	0.018
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0	2	Reduced	64	5320	13.77	14.00	1.054	98.27	1.018	-0.05	0.078	0.083
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	2	Reduced	64	5320	13.77	14.00	1.054	98.27	1.018	0.01	0.112	0.120
17	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	0.02	0.389	**0.558**
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	0.07	0.321	0.461
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	-0.01	0.106	0.152
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	0.02	0.135	0.194
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced	64	5320	16.59	17.00	1.099	98.27	1.018	-0.03	0.267	0.299
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced	64	5320	16.59	17.00	1.099	98.27	1.018	0.04	0.275	0.308
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced	64	5320	16.59	17.00	1.099	98.27	1.018	0.09	0.079	0.088
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced	64	5320	16.59	17.00	1.099	98.27	1.018	0.02	0.111	0.124
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	0.01	0.532	0.736
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	0.05	0.481	0.665
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	0.08	0.167	0.231
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	0.03	0.201	0.278
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0	1	Reduced	100	5500	13.56	14.00	1.107	98.27	1.018	0.01	0.248	0.279
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0	1	Reduced	100	5500	13.56	14.00	1.107	98.27	1.018	0.05	0.286	0.322
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0	1	Reduced	100	5500	13.56	14.00	1.107	98.27	1.018	0.07	0.119	0.134
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1	Reduced	100	5500	13.56	14.00	1.107	98.27	1.018	0.07	0.138	0.155
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	-0.02	0.081	0.111
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	0.01	0.091	0.124
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	0.03	0.047	0.064
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	0.06	0.110	0.150
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0	2	Reduced	100	5500	13.85	14.00	1.035	98.27	1.018	0.05	0.021	0.022
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0	2	Reduced	100	5500	13.85	14.00	1.035	98.27	1.018	0.07	0.029	0.031
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0	2	Reduced	100	5500	13.85	14.00	1.035	98.27	1.018	0.04	0.019	0.020
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	2	Reduced	100	5500	13.85	14.00	1.035	98.27	1.018	0.05	0.041	0.043
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	0.02	0.571	0.751
18	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	0.05	0.578	**0.760**
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	-0.06	0.236	0.310
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	-0.06	0.254	0.334
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced	100	5500	16.68	17.00	1.076	98.27	1.018	0.05	0.269	0.295
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced	100	5500	16.68	17.00	1.076	98.27	1.018	0.06	0.299	0.328
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced	100	5500	16.68	17.00	1.076	98.27	1.018	0.04	0.105	0.115
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced	100	5500	16.68	17.00	1.076	98.27	1.018	0.07	0.118	0.129

14.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	State	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-UAT	GPRS 4 Tx slots	Front	10	Full	189	836.4	27.13	27.50	1.089	0.02	0.159	0.173
	GSM 850-UAT	GPRS 4 Tx slots	Back	10	Full	189	836.4	27.13	27.50	1.089	-0.03	0.173	0.188
	GSM 850-UAT	GPRS 4 Tx slots	Left Side	10	Full	189	836.4	27.13	27.50	1.089	0.06	0.023	0.025
	GSM 850-UAT	GPRS 4 Tx slots	Right Side	10	Full	189	836.4	27.13	27.50	1.089	0.01	0.064	0.069
	GSM 850-UAT	GPRS 4 Tx slots	Top Side	10	Full	189	836.4	27.13	27.50	1.089	0.01	0.107	0.117
	GSM 850-LAT	GPRS 4 Tx slots	Front	10	Full	189	836.4	27.79	29.00	1.321	0.04	0.373	0.493
19	GSM 850-LAT	GPRS 4 Tx slots	Back	10	Full	189	836.4	27.79	29.00	1.321	-0.07	0.523	**0.691**
	GSM 850-LAT	GPRS 4 Tx slots	Left Side	10	Full	189	836.4	27.79	29.00	1.321	0.06	0.177	0.234
	GSM 850-LAT	GPRS 4 Tx slots	Right Side	10	Full	189	836.4	27.79	29.00	1.321	-0.03	0.283	0.374
	GSM 850-LAT	GPRS 4 Tx slots	Bottom Side	10	Full	189	836.4	27.79	29.00	1.321	0.08	0.354	0.468
	GSM 1900-UAT	GPRS 3 Tx slots	Front	10	Full	661	1880	25.45	25.50	1.012	0.05	0.173	0.175
	GSM 1900-UAT	GPRS 3 Tx slots	Back	10	Full	661	1880	25.45	25.50	1.012	0.03	0.284	0.287
	GSM 1900-UAT	GPRS 3 Tx slots	Left Side	10	Full	661	1880	25.45	25.50	1.012	0.01	0.077	0.078
	GSM 1900-UAT	GPRS 3 Tx slots	Top Side	10	Full	661	1880	25.45	25.50	1.012	0.07	0.441	0.446
	GSM 1900-LAT	GPRS 3 Tx slots	Front	10	Full	661	1880	26.48	26.50	1.005	0.02	0.372	0.374
	GSM 1900-LAT	GPRS 3 Tx slots	Back	10	Full	661	1880	26.48	26.50	1.005	-0.03	0.461	0.463
20	GSM 1900-LAT	GPRS 3 Tx slots	Right Side	10	Full	661	1880	26.48	26.50	1.005	0.09	0.467	**0.469**
	GSM 1900-LAT	GPRS 3 Tx slots	Bottom Side	10	Full	661	1880	26.48	26.50	1.005	0.04	0.292	0.293

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	State	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 V-UAT	RMC 12.2Kbps	Front	10	Full	4132	826.4	21.27	22.00	1.183	0.09	0.084	0.099
	WCDMA V-UAT	RMC 12.2Kbps	Back	10	Full	4132	826.4	21.27	22.00	1.183	-0.03	0.086	0.102
	WCDMA V-UAT	RMC 12.2Kbps	Left Side	10	Full	4132	826.4	21.27	22.00	1.183	0.05	<0.001	<0.001
	WCDMA V-UAT	RMC 12.2Kbps	Right Side	10	Full	4132	826.4	21.27	22.00	1.183	-0.01	0.404	0.478
	WCDMA V-UAT	RMC 12.2Kbps	Top Side	10	Full	4132	826.4	21.27	22.00	1.183	0.08	0.155	0.183
	WCDMA V-LAT	RMC 12.2Kbps	Front	10	Full	4132	826.4	24.24	25.00	1.191	0.09	0.424	0.505
21	WCDMA V-LAT	RMC 12.2Kbps	Back	10	Full	4132	826.4	24.24	25.00	1.191	0.14	0.535	**0.637**
	WCDMA V-LAT	RMC 12.2Kbps	Left Side	10	Full	4132	826.4	24.24	25.00	1.191	0.1	0.141	0.168
	WCDMA V-LAT	RMC 12.2Kbps	Right Side	10	Full	4132	826.4	24.24	25.00	1.191	-0.03	0.323	0.385
	WCDMA V-LAT	RMC 12.2Kbps	Bottom Side	10	Full	4132	826.4	24.24	25.00	1.191	0.06	0.231	0.275
	WCDMA II-UAT	RMC 12.2Kbps	Front	10	Full	9400	1880	18.71	19.50	1.199	0.1	0.163	0.196
	WCDMA II-UAT	RMC 12.2Kbps	Back	10	Full	9400	1880	18.71	19.50	1.199	0.04	0.211	0.253
	WCDMA II-UAT	RMC 12.2Kbps	Left Side	10	Full	9400	1880	18.71	19.50	1.199	0.01	0.100	0.120
	WCDMA II-UAT	RMC 12.2Kbps	Top Side	10	Full	9400	1880	18.71	19.50	1.199	0.07	0.375	0.450
	WCDMA II-LAT	RMC 12.2Kbps	Front	10	Full	9400	1880	23.72	24.00	1.067	0.09	0.709	0.756
	WCDMA II-LAT	RMC 12.2Kbps	Back	10	Full	9400	1880	23.72	24.00	1.067	-0.04	1.000	1.067
	WCDMA II-LAT	RMC 12.2Kbps	Back	10	Full	9262	1852.4	23.65	24.00	1.084	0.06	0.943	1.022
	WCDMA II-LAT	RMC 12.2Kbps	Back	10	Full	9538	1907.6	23.68	24.00	1.076	-0.15	0.854	0.919
	WCDMA II-LAT	RMC 12.2Kbps	Right Side	10	Full	9400	1880	23.72	24.00	1.067	0.02	1.020	1.088
	WCDMA II-LAT	RMC 12.2Kbps	Right Side	10	Full	9262	1852.4	23.65	24.00	1.084	0.05	0.968	1.049
22	WCDMA II-LAT	RMC 12.2Kbps	Right Side	10	Full	9538	1907.6	23.68	24.00	1.076	0.05	1.030	**1.109**
	WCDMA II-LAT	RMC 12.2Kbps	Bottom Side	10	Full	9400	1880	23.72	24.00	1.067	0.02	0.564	0.602
	WCDMA IV-UAT	RMC 12.2Kbps	Front	10	Full	1413	1732.6	17.13	17.50	1.089	-0.09	0.182	0.198
	WCDMA IV-UAT	RMC 12.2Kbps	Back	10	Full	1413	1732.6	17.13	17.50	1.089	0.01	0.192	0.209
	WCDMA IV-UAT	RMC 12.2Kbps	Left Side	10	Full	1413	1732.6	17.13	17.50	1.089	0.05	0.158	0.172
	WCDMA IV-UAT	RMC 12.2Kbps	Top Side	10	Full	1413	1732.6	17.13	17.50	1.089	0.02	0.341	0.371
	WCDMA IV-LAT	RMC 12.2Kbps	Front	10	Full	1413	1732.6	23.73	24.50	1.194	-0.01	0.387	0.462
	WCDMA IV-LAT	RMC 12.2Kbps	Back	10	Full	1413	1732.6	23.73	24.50	1.194	0.15	0.675	0.806
	WCDMA IV-LAT	RMC 12.2Kbps	Back	10	Full	1312	1712.4	23.64	24.50	1.219	-0.03	0.624	0.761
	WCDMA IV-LAT	RMC 12.2Kbps	Back	10	Full	1513	1752.6	23.65	24.50	1.216	-0.03	0.678	0.825
	WCDMA IV-LAT	RMC 12.2Kbps	Right Side	10	Full	1413	1732.6	23.73	24.50	1.194	0.12	0.704	0.841
	WCDMA IV-LAT	RMC 12.2Kbps	Right Side	10	Full	1312	1712.4	23.64	24.50	1.219	-0.07	0.647	0.789
23	WCDMA IV-LAT	RMC 12.2Kbps	Right Side	10	Full	1513	1752.6	23.65	24.50	1.216	-0.08	0.723	**0.879**
	WCDMA IV-LAT	RMC 12.2Kbps	Bottom Side	10	Full	1413	1732.6	23.73	24.50	1.194	0.14	0.710	0.848
	WCDMA IV-LAT	RMC 12.2Kbps	Bottom Side	10	Full	1312	1712.4	23.64	24.50	1.219	0.08	0.625	0.762
	WCDMA IV-LAT	RMC 12.2Kbps	Bottom Side	10	Full	1513	1752.6	23.65	24.50	1.216	0.09	0.713	0.867

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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 71-UAT	20M	QPSK	1	0	Front	10	Full	133322	683	22.32	23.00	1.169	0.11	0.231	0.270
	LTE Band 71-UAT	20M	QPSK	50	24	Front	10	Full	133322	683	21.31	22.00	1.172	0.02	0.204	0.239
	LTE Band 71-UAT	20M	QPSK	1	0	Back	10	Full	133322	683	22.32	23.00	1.169	-0.07	0.185	0.216
	LTE Band 71-UAT	20M	QPSK	50	24	Back	10	Full	133322	683	21.31	22.00	1.172	0.1	0.154	0.181
	LTE Band 71-UAT	20M	QPSK	1	0	Left Side	10	Full	133322	683	22.32	23.00	1.169	0.13	0.067	0.079
	LTE Band 71-UAT	20M	QPSK	50	24	Left Side	10	Full	133322	683	21.31	22.00	1.172	0.05	0.048	0.056
	LTE Band 71-UAT	20M	QPSK	1	0	Right Side	10	Full	133322	683	22.32	23.00	1.169	0.06	0.091	0.106
	LTE Band 71-UAT	20M	QPSK	50	24	Right Side	10	Full	133322	683	21.31	22.00	1.172	0.01	0.082	0.096
	LTE Band 71-UAT	20M	QPSK	1	0	Bottom Side	10	Full	133322	683	22.32	23.00	1.169	0.03	0.149	0.174
	LTE Band 71-UAT	20M	QPSK	50	24	Bottom Side	10	Full	133322	683	21.31	22.00	1.172	0.07	0.132	0.155
	LTE Band 71-LAT	20M	QPSK	1	0	Front	10	Full	133322	683	25.45	25.50	1.012	-0.03	0.312	0.316
	LTE Band 71-LAT	20M	QPSK	50	0	Front	10	Full	133322	683	24.07	24.50	1.104	0.02	0.263	0.290
24	LTE Band 71-LAT	20M	QPSK	1	0	Back	10	Full	133322	683	25.45	25.50	1.012	0.04	0.382	**0.386**
	LTE Band 71-LAT	20M	QPSK	50	0	Back	10	Full	133322	683	24.07	24.50	1.104	0.02	0.322	0.356
	LTE Band 71-LAT	20M	QPSK	1	0	Left Side	10	Full	133322	683	25.45	25.50	1.012	0.02	0.215	0.217
	LTE Band 71-LAT	20M	QPSK	50	0	Left Side	10	Full	133322	683	24.07	24.50	1.104	0.02	0.181	0.200
	LTE Band 71-LAT	20M	QPSK	1	0	Right Side	10	Full	133322	683	25.45	25.50	1.012	0.06	0.201	0.203
	LTE Band 71-LAT	20M	QPSK	50	0	Right Side	10	Full	133322	683	24.07	24.50	1.104	0.01	0.177	0.195
	LTE Band 71-LAT	20M	QPSK	1	0	Bottom Side	10	Full	133322	683	25.45	25.50	1.012	0.02	0.145	0.147
	LTE Band 71-LAT	20M	QPSK	50	0	Bottom Side	10	Full	133322	683	24.07	24.50	1.104	0.17	0.119	0.131
	LTE Band 12-UAT	10M	QPSK	1	25	Front	10	Full	23095	707.5	22.85	23.50	1.161	0.02	0.288	0.334
	LTE Band 12-UAT	10M	QPSK	25	12	Front	10	Full	23095	707.5	21.80	22.50	1.175	0.09	0.250	0.294
	LTE Band 12-UAT	10M	QPSK	1	25	Back	10	Full	23095	707.5	22.85	23.50	1.161	0.05	0.198	0.230
	LTE Band 12-UAT	10M	QPSK	25	12	Back	10	Full	23095	707.5	21.80	22.50	1.175	-0.01	0.165	0.194
	LTE Band 12-UAT	10M	QPSK	1	25	Left Side	10	Full	23095	707.5	22.85	23.50	1.161	0.06	0.065	0.076
	LTE Band 12-UAT	10M	QPSK	25	12	Left Side	10	Full	23095	707.5	21.80	22.50	1.175	0.01	0.053	0.062
	LTE Band 12-UAT	10M	QPSK	1	25	Right Side	10	Full	23095	707.5	22.85	23.50	1.161	-0.02	0.095	0.110
	LTE Band 12-UAT	10M	QPSK	25	12	Right Side	10	Full	23095	707.5	21.80	22.50	1.175	0.05	0.080	0.094
	LTE Band 12-UAT	10M	QPSK	1	25	Top Side	10	Full	23095	707.5	22.85	23.50	1.161	-0.09	0.160	0.186
	LTE Band 12-UAT	10M	QPSK	25	12	Top Side	10	Full	23095	707.5	21.80	22.50	1.175	0.05	0.128	0.150
	LTE Band 12-LAT	10M	QPSK	1	25	Front	10	Full	23095	707.5	24.38	25.00	1.153	0.02	0.309	0.356
	LTE Band 12-LAT	10M	QPSK	25	0	Front	10	Full	23095	707.5	23.25	24.00	1.189	0.02	0.218	0.259
25	LTE Band 12-LAT	10M	QPSK	1	25	Back	10	Full	23095	707.5	24.38	25.00	1.153	-0.06	0.359	**0.414**
	LTE Band 12-LAT	10M	QPSK	25	0	Back	10	Full	23095	707.5	23.25	24.00	1.189	-0.01	0.253	0.301
	LTE Band 12-LAT	10M	QPSK	1	25	Left Side	10	Full	23095	707.5	24.38	25.00	1.153	-0.02	0.244	0.281
	LTE Band 12-LAT	10M	QPSK	25	0	Left Side	10	Full	23095	707.5	23.25	24.00	1.189	0.04	0.175	0.208
	LTE Band 12-LAT	10M	QPSK	1	25	Right Side	10	Full	23095	707.5	24.38	25.00	1.153	0.07	0.228	0.263
	LTE Band 12-LAT	10M	QPSK	25	0	Right Side	10	Full	23095	707.5	23.25	24.00	1.189	0.01	0.156	0.185
	LTE Band 12-LAT	10M	QPSK	1	25	Bottom Side	10	Full	23095	707.5	24.38	25.00	1.153	0.03	0.202	0.233
	LTE Band 12-LAT	10M	QPSK	25	0	Bottom Side	10	Full	23095	707.5	23.25	24.00	1.189	0.01	0.145	0.172

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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 13-UAT	10M	QPSK	1	25	Front	10	Full	23230	782	24.31	24.50	1.045	-0.04	0.251	0.262
	LTE Band 13-UAT	10M	QPSK	25	12	Front	10	Full	23230	782	23.17	23.50	1.079	0.06	0.202	0.218
	LTE Band 13-UAT	10M	QPSK	1	25	Back	10	Full	23230	782	24.31	24.50	1.045	0.09	0.239	0.250
	LTE Band 13-UAT	10M	QPSK	25	12	Back	10	Full	23230	782	23.17	23.50	1.079	-0.01	0.157	0.169
	LTE Band 13-UAT	10M	QPSK	1	25	Left Side	10	Full	23230	782	24.31	24.50	1.045	0.08	0.030	0.032
	LTE Band 13-UAT	10M	QPSK	25	12	Left Side	10	Full	23230	782	23.17	23.50	1.079	0.09	0.027	0.029
	LTE Band 13-UAT	10M	QPSK	1	25	Right Side	10	Full	23230	782	24.31	24.50	1.045	-0.03	0.153	0.160
	LTE Band 13-UAT	10M	QPSK	25	12	Right Side	10	Full	23230	782	23.17	23.50	1.079	0.05	0.115	0.124
	LTE Band 13-UAT	10M	QPSK	1	25	Top Side	10	Full	23230	782	24.31	24.50	1.045	-0.08	0.103	0.108
	LTE Band 13-UAT	10M	QPSK	25	12	Top Side	10	Full	23230	782	23.17	23.50	1.079	0.04	0.081	0.087
	LTE Band 13-LAT	10M	QPSK	1	25	Front	10	Full	23230	782	24.93	25.00	1.016	0.02	0.554	0.563
	LTE Band 13-LAT	10M	QPSK	25	12	Front	10	Full	23230	782	23.89	24.50	1.151	0.03	0.433	0.498
	LTE Band 13-LAT	10M	QPSK	1	25	Back	10	Full	23230	782	24.93	25.00	1.016	0.04	0.576	0.585
	LTE Band 13-LAT	10M	QPSK	25	12	Back	10	Full	23230	782	23.89	24.50	1.151	-0.01	0.504	0.580
	LTE Band 13-LAT	10M	QPSK	1	25	Left Side	10	Full	23230	782	24.93	25.00	1.016	-0.04	0.354	0.360
	LTE Band 13-LAT	10M	QPSK	25	12	Left Side	10	Full	23230	782	23.89	24.50	1.151	0.05	0.291	0.335
26	LTE Band 13-LAT	10M	QPSK	1	25	Right Side	10	Full	23230	782	24.93	25.00	1.016	0.07	0.617	**0.627**
	LTE Band 13-LAT	10M	QPSK	25	12	Right Side	10	Full	23230	782	23.89	24.50	1.151	0.01	0.506	0.582
	LTE Band 13-LAT	10M	QPSK	1	25	Bottom Side	10	Full	23230	782	24.93	25.00	1.016	0.03	0.253	0.257
	LTE Band 13-LAT	10M	QPSK	25	12	Bottom Side	10	Full	23230	782	23.89	24.50	1.151	0.06	0.212	0.244
	LTE Band 26-UAT	15M	QPSK	1	0	Front	10	Full	26865	831.5	21.55	22.50	1.245	-0.09	0.129	0.161
	LTE Band 26-UAT	15M	QPSK	36	20	Front	10	Full	26865	831.5	20.60	22.50	1.549	0.04	0.116	0.180
	LTE Band 26-UAT	15M	QPSK	1	0	Back	10	Full	26865	831.5	21.55	22.50	1.245	0.03	0.125	0.156
	LTE Band 26-UAT	15M	QPSK	36	20	Back	10	Full	26865	831.5	20.60	22.50	1.549	-0.05	0.107	0.166
	LTE Band 26-UAT	15M	QPSK	1	0	Left Side	10	Full	26865	831.5	21.55	22.50	1.245	0.08	0.017	0.022
	LTE Band 26-UAT	15M	QPSK	36	20	Left Side	10	Full	26865	831.5	20.60	22.50	1.549	0.01	0.015	0.023
	LTE Band 26-UAT	15M	QPSK	1	0	Right Side	10	Full	26865	831.5	21.55	22.50	1.245	0.09	0.044	0.055
	LTE Band 26-UAT	15M	QPSK	36	20	Right Side	10	Full	26865	831.5	20.60	22.50	1.549	-0.01	0.036	0.056
	LTE Band 26-UAT	15M	QPSK	1	0	Top Side	10	Full	26865	831.5	21.55	22.50	1.245	-0.05	0.060	0.075
	LTE Band 26-UAT	15M	QPSK	36	20	Top Side	10	Full	26865	831.5	20.60	22.50	1.549	0.05	0.055	0.085
	LTE Band 26-LAT	15M	QPSK	1	0	Front	10	Full	26865	831.5	24.95	25.00	1.012	0.06	0.476	0.482
	LTE Band 26-LAT	15M	QPSK	36	0	Front	10	Full	26865	831.5	23.79	25.00	1.321	-0.08	0.441	0.583
27	LTE Band 26-LAT	15M	QPSK	1	0	Back	10	Full	26865	831.5	24.95	25.00	1.012	0.03	0.610	**0.617**
	LTE Band 26-LAT	15M	QPSK	36	0	Back	10	Full	26865	831.5	23.79	25.00	1.321	0.01	0.464	0.613
	LTE Band 26-LAT	15M	QPSK	1	0	Left Side	10	Full	26865	831.5	24.95	25.00	1.012	0.04	0.153	0.155
	LTE Band 26-LAT	15M	QPSK	36	0	Left Side	10	Full	26865	831.5	23.79	25.00	1.321	0.09	0.124	0.164
	LTE Band 26-LAT	15M	QPSK	1	0	Right Side	10	Full	26865	831.5	24.95	25.00	1.012	0.01	0.387	0.391
	LTE Band 26-LAT	15M	QPSK	36	0	Right Side	10	Full	26865	831.5	23.79	25.00	1.321	-0.013	0.314	0.415
	LTE Band 26-LAT	15M	QPSK	1	0	Bottom Side	10	Full	26865	831.5	24.95	25.00	1.012	0.03	0.282	0.285
	LTE Band 26-LAT	15M	QPSK	36	0	Bottom Side	10	Full	26865	831.5	23.79	25.00	1.321	0.04	0.205	0.271

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 66-UAT	20M	QPSK	1	49	Front	10	Full	132572	1770	17.89	18.00	1.026	0.04	0.262	0.269
	LTE Band 66-UAT	20M	QPSK	50	24	Front	10	Full	132572	1770	16.80	17.00	1.047	0.01	0.223	0.234
	LTE Band 66-UAT	20M	QPSK	1	49	Back	10	Full	132572	1770	17.89	18.00	1.026	0.06	0.319	0.327
	LTE Band 66-UAT	20M	QPSK	50	24	Back	10	Full	132572	1770	16.80	17.00	1.047	0.01	0.250	0.262
	LTE Band 66-UAT	20M	QPSK	1	49	Left Side	10	Full	132572	1770	17.89	18.00	1.026	0.01	0.224	0.230
	LTE Band 66-UAT	20M	QPSK	50	24	Left Side	10	Full	132572	1770	16.80	17.00	1.047	0.15	0.194	0.203
	LTE Band 66-UAT	20M	QPSK	1	49	Top Side	10	Full	132572	1770	17.89	18.00	1.026	0.02	0.433	0.444
	LTE Band 66-UAT	20M	QPSK	50	24	Top Side	10	Full	132572	1770	16.80	17.00	1.047	0.01	0.362	0.379
	LTE Band 66-LAT	20M	QPSK	1	49	Front	10	Full	132572	1770	24.21	25.00	1.199	0.02	0.527	0.632
	LTE Band 66-LAT	20M	QPSK	50	24	Front	10	Full	132572	1770	23.30	24.00	1.175	-0.02	0.347	0.408
	LTE Band 66-LAT	20M	QPSK	1	49	Back	10	Full	132572	1770	24.21	25.00	1.199	-0.04	0.750	0.900
	LTE Band 66-LAT	20M	QPSK	1	49	Back	10	Full	132072	1720	23.92	25.00	1.282	0.02	0.613	0.786
	LTE Band 66-LAT	20M	QPSK	1	49	Back	10	Full	132322	1745	24.11	25.00	1.227	0.02	0.706	0.867
	LTE Band 66-LAT	20M	QPSK	50	24	Back	10	Full	132572	1770	23.30	24.00	1.175	0.09	0.570	0.670
	LTE Band 66-LAT	20M	QPSK	100	0	Back	10	Full	132572	1770	23.29	24.00	1.178	0.06	0.474	0.558
	LTE Band 66-LAT	20M	QPSK	1	49	Right Side	10	Full	132572	1770	24.21	25.00	1.199	0.01	0.744	0.892
	LTE Band 66-LAT	20M	QPSK	1	49	Right Side	10	Full	132072	1720	23.92	25.00	1.282	-0.07	0.712	0.913
	LTE Band 66-LAT	20M	QPSK	1	49	Right Side	10	Full	132322	1745	24.11	25.00	1.227	0.16	0.739	0.907
	LTE Band 66-LAT	20M	QPSK	50	24	Right Side	10	Full	132572	1770	23.30	24.00	1.175	0.09	0.620	0.728
	LTE Band 66-LAT	20M	QPSK	100	0	Right Side	10	Full	132572	1770	23.29	24.00	1.178	0.05	0.506	0.596
	LTE Band 66-LAT	20M	QPSK	1	49	Bottom Side	10	Full	132572	1770	24.21	25.00	1.199	-0.01	0.832	0.998
	LTE Band 66-LAT	20M	QPSK	1	49	Bottom Side	10	Full	132072	1720	23.92	25.00	1.282	0.06	0.677	0.868
28	LTE Band 66-LAT	20M	QPSK	1	49	Bottom Side	10	Full	132322	1745	24.11	25.00	1.227	0.15	0.853	**1.047**
	LTE Band 66-LAT	20M	QPSK	50	24	Bottom Side	10	Full	132572	1770	23.30	24.00	1.175	0.11	0.690	0.811
	LTE Band 66-LAT	20M	QPSK	50	24	Bottom Side	10	Full	132072	1720	22.92	24.00	1.282	-0.09	0.605	0.776
	LTE Band 66-LAT	20M	QPSK	50	24	Bottom Side	10	Full	132322	1745	23.02	24.00	1.253	0.01	0.717	0.899
	LTE Band 66-LAT	20M	QPSK	100	0	Bottom Side	10	Full	132572	1770	23.29	24.00	1.178	0.06	0.645	0.760

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25-UAT	20M	QPSK	1	49	Front	10	Full	26340	1880	18.40	18.50	1.023	0.02	0.300	0.307
	LTE Band 25-UAT	20M	QPSK	50	24	Front	10	Full	26340	1880	17.35	17.50	1.035	0.02	0.245	0.254
	LTE Band 25-UAT	20M	QPSK	1	49	Back	10	Full	26340	1880	18.40	18.50	1.023	0.02	0.396	0.405
	LTE Band 25-UAT	20M	QPSK	50	24	Back	10	Full	26340	1880	17.35	17.50	1.035	0.01	0.312	0.323
	LTE Band 25-UAT	20M	QPSK	1	49	Left Side	10	Full	26340	1880	18.40	18.50	1.023	0.02	0.193	0.197
	LTE Band 25-UAT	20M	QPSK	50	24	Left Side	10	Full	26340	1880	17.35	17.50	1.035	0.02	0.157	0.163
	LTE Band 25-UAT	20M	QPSK	1	49	Top Side	10	Full	26340	1880	18.40	18.50	1.023	0.02	0.713	0.730
	LTE Band 25-UAT	20M	QPSK	50	24	Top Side	10	Full	26340	1880	17.35	17.50	1.035	0.08	0.592	0.613
	LTE Band 25-LAT	20M	QPSK	1	49	Front	10	Full	26340	1880	23.66	24.00	1.081	0.03	0.822	0.889
	LTE Band 25-LAT	20M	QPSK	1	49	Front	10	Full	26140	1860	23.44	24.00	1.138	-0.02	0.775	0.882
	LTE Band 25-LAT	20M	QPSK	1	49	Front	10	Full	26590	1905	22.79	24.00	1.321	0.02	0.716	0.946
	LTE Band 25-LAT	20M	QPSK	50	24	Front	10	Full	26340	1880	22.66	24.00	1.361	-0.01	0.689	0.938
	LTE Band 25-LAT	20M	QPSK	50	24	Front	10	Full	26140	1860	22.56	24.00	1.393	0.01	0.612	0.853
	LTE Band 25-LAT	20M	QPSK	50	24	Front	10	Full	26590	1905	22.30	24.00	1.479	-0.03	0.621	0.919
	LTE Band 25-LAT	20M	QPSK	100	0	Front	10	Full	26340	1880	22.63	24.00	1.371	0.05	0.689	0.945
	LTE Band 25-LAT	20M	QPSK	1	49	Back	10	Full	26340	1880	23.66	24.00	1.081	0.13	1.020	1.103
	LTE Band 25-LAT	20M	QPSK	1	49	Back	10	Full	26140	1860	23.44	24.00	1.138	0.06	0.905	1.030
	LTE Band 25-LAT	20M	QPSK	1	49	Back	10	Full	26590	1905	22.79	24.00	1.321	0.03	0.820	1.083
	LTE Band 25-LAT	20M	QPSK	50	24	Back	10	Full	26340	1880	22.66	24.00	1.361	0.04	0.809	1.101
	LTE Band 25-LAT	20M	QPSK	50	24	Back	10	Full	26140	1860	22.56	24.00	1.393	0.05	0.712	0.992
	LTE Band 25-LAT	20M	QPSK	50	24	Back	10	Full	26590	1905	22.30	24.00	1.479	0.16	0.730	1.080
	LTE Band 25-LAT	20M	QPSK	100	0	Back	10	Full	26340	1880	22.63	24.00	1.371	0.06	0.804	1.102
29	LTE Band 25-LAT	20M	QPSK	1	49	Right Side	10	Full	26340	1880	23.66	24.00	1.081	0.06	1.070	**1.157**
	LTE Band 25-LAT	20M	QPSK	1	49	Right Side	10	Full	26140	1860	23.44	24.00	1.138	-0.04	0.935	1.064
	LTE Band 25-LAT	20M	QPSK	1	49	Right Side	10	Full	26590	1905	22.79	24.00	1.321	-0.08	0.787	1.040
	LTE Band 25-LAT	20M	QPSK	50	24	Right Side	10	Full	26340	1880	22.66	24.00	1.361	0.05	0.841	1.145
	LTE Band 25-LAT	20M	QPSK	50	24	Right Side	10	Full	26140	1860	22.56	24.00	1.393	-0.04	0.683	0.952
	LTE Band 25-LAT	20M	QPSK	50	24	Right Side	10	Full	26590	1905	22.30	24.00	1.479	-0.01	0.617	0.913
	LTE Band 25-LAT	20M	QPSK	100	0	Right Side	10	Full	26340	1880	22.63	24.00	1.371	0.09	0.589	0.807
	LTE Band 25-LAT	20M	QPSK	1	49	Bottom Side	10	Full	26340	1880	23.66	24.00	1.081	0.09	0.584	0.632
	LTE Band 25-LAT	20M	QPSK	50	24	Bottom Side	10	Full	26340	1880	22.66	24.00	1.361	0.04	0.535	0.728

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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-UAT	20M	QPSK	1	0	Front	10	Full	21350	2560	18.21	18.50	1.069	0.06	0.155	0.166
	LTE Band 7-UAT	20M	QPSK	50	0	Front	10	Full	21350	2560	17.41	17.50	1.021	0.06	0.127	0.130
	LTE Band 7-UAT	20M	QPSK	1	0	Back	10	Full	21350	2560	18.21	18.50	1.069	0.03	0.210	0.225
	LTE Band 7-UAT	20M	QPSK	1	0	Back	10	Full	21350+21152	2560+2540.2	18.11	18.50	1.094	0.08	0.190	0.208
	LTE Band 7-UAT	20M	QPSK	50	0	Back	10	Full	21350	2560	17.41	17.50	1.021	-0.13	0.183	0.187
	LTE Band 7-UAT	20M	QPSK	1	0	Left Side	10	Full	21350	2560	18.21	18.50	1.069	0.02	0.121	0.129
	LTE Band 7-UAT	20M	QPSK	50	0	Left Side	10	Full	21350	2560	17.41	17.50	1.021	0.02	0.103	0.105
	LTE Band 7-UAT	20M	QPSK	1	0	Top Side	10	Full	21350	2560	18.21	18.50	1.069	0.08	0.255	0.273
	LTE Band 7-UAT	20M	QPSK	1	0	Top Side	10	Full	21350+21152	2560+2540.2	18.11	18.50	1.094	-0.05	0.231	0.253
	LTE Band 7-UAT	20M	QPSK	50	0	Top Side	10	Full	21350	2560	17.41	17.50	1.021	0.02	0.191	0.195
	LTE Band 7-LAT	20M	QPSK	1	0	Front	10	Full	21350	2560	22.91	23.50	1.146	0.09	0.861	0.986
	LTE Band 7-LAT	20M	QPSK	1	0	Front	10	Full	20850	2510	22.71	23.50	1.199	0.09	0.638	0.765
	LTE Band 7-LAT	20M	QPSK	1	0	Front	10	Full	21100	2535	22.67	23.50	1.211	0.06	0.729	0.883
	LTE Band 7-LAT	20M	QPSK	50	0	Front	10	Full	21350	2560	21.93	23.50	1.435	-0.12	0.648	0.930
	LTE Band 7-LAT	20M	QPSK	50	0	Front	10	Full	20850	2510	21.70	23.50	1.514	0.06	0.487	0.737
	LTE Band 7-LAT	20M	QPSK	50	0	Front	10	Full	21100	2535	21.73	23.50	1.503	0.03	0.539	0.810
	LTE Band 7-LAT	20M	QPSK	100	0	Front	10	Full	21350	2560	21.87	23.50	1.455	0.09	0.655	0.953
	LTE Band 7-LAT	20M	QPSK	1	0	Back	10	Full	21350	2560	22.91	23.50	1.146	0.02	0.876	1.003
	LTE Band 7-LAT	20M	QPSK	1	0	Back	10	Full	20850	2510	22.71	23.50	1.199	-0.02	0.851	1.021
	LTE Band 7-LAT	20M	QPSK	1	0	Back	10	Full	21100	2535	22.67	23.50	1.211	-0.05	0.865	1.047
30	LTE Band 7-LAT	20M	QPSK	50	0	Back	10	Full	21350	2560	21.93	23.50	1.435	-0.03	0.741	**1.064**
	LTE Band 7-LAT	20M	QPSK	50	0	Back	10	Full	21350+21152	2560+2540.2	22.03	23.50	1.403	0.05	0.721	1.011
	LTE Band 7-LAT	20M	QPSK	50	0	Back	10	Full	20850	2510	21.70	23.50	1.514	-0.08	0.659	0.997
	LTE Band 7-LAT	20M	QPSK	50	0	Back	10	Full	21100	2535	21.73	23.50	1.503	0.07	0.707	1.063
	LTE Band 7-LAT	20M	QPSK	100	0	Back	10	Full	21350	2560	21.87	23.50	1.455	0.05	0.726	1.057
	LTE Band 7-LAT	20M	QPSK	1	0	Right Side	10	Full	21350	2560	22.91	23.50	1.146	0.05	0.581	0.666
	LTE Band 7-LAT	20M	QPSK	50	0	Right Side	10	Full	21350	2560	21.93	23.50	1.435	-0.06	0.505	0.725
	LTE Band 7-LAT	20M	QPSK	1	0	Bottom Side	10	Full	21350	2560	22.91	23.50	1.146	0.01	0.843	0.966
	LTE Band 7-LAT	20M	QPSK	1	0	Bottom Side	10	Full	20850	2510	22.71	23.50	1.199	0.08	0.624	0.748
	LTE Band 7-LAT	20M	QPSK	1	0	Bottom Side	10	Full	21100	2535	22.67	23.50	1.211	-0.05	0.705	0.853
	LTE Band 7-LAT	20M	QPSK	50	0	Bottom Side	10	Full	21350	2560	21.93	23.50	1.435	0.05	0.656	0.942
	LTE Band 7-LAT	20M	QPSK	50	0	Bottom Side	10	Full	20850	2510	21.70	23.50	1.514	-0.08	0.501	0.758
	LTE Band 7-LAT	20M	QPSK	50	0	Bottom Side	10	Full	21100	2535	21.73	23.50	1.503	-0.06	0.589	0.885
	LTE Band 7-LAT	20M	QPSK	100	0	Bottom Side	10	Full	21350	2560	21.87	23.50	1.455	0.02	0.656	0.955

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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 30-UAT	10M	QPSK	1	0	Front	10	Full	27710	2310	19.27	19.50	1.054	0.08	0.174	0.183
	LTE Band 30-UAT	10M	QPSK	25	12	Front	10	Full	27710	2310	18.26	18.50	1.057	0.01	0.142	0.150
	LTE Band 30-UAT	10M	QPSK	1	0	Back	10	Full	27710	2310	19.27	19.50	1.054	-0.09	0.259	0.273
	LTE Band 30-UAT	10M	QPSK	25	12	Back	10	Full	27710	2310	18.26	18.50	1.057	0.01	0.209	0.221
	LTE Band 30-UAT	10M	QPSK	1	0	Left Side	10	Full	27710	2310	19.27	19.50	1.054	-0.06	0.067	0.071
	LTE Band 30-UAT	10M	QPSK	25	12	Left Side	10	Full	27710	2310	18.26	18.50	1.057	0.05	0.052	0.054
	LTE Band 30-UAT	10M	QPSK	1	0	Top Side	10	Full	27710	2310	19.27	19.50	1.054	-0.12	0.394	0.415
	LTE Band 30-UAT	10M	QPSK	25	12	Top Side	10	Full	27710	2310	18.26	18.50	1.057	0.08	0.312	0.330
	LTE Band 30-LAT	10M	QPSK	1	0	Front	10	Full	27710	2310	24.35	25.00	1.161	-0.09	0.711	0.826
	LTE Band 30-LAT	10M	QPSK	25	12	Front	10	Full	27710	2310	23.29	24.00	1.178	0.05	0.584	0.688
	LTE Band 30-LAT	10M	QPSK	50	0	Front	10	Full	27710	2310	23.08	24.00	1.236	0.05	0.570	0.704
31	LTE Band 30-LAT	10M	QPSK	1	0	Back	10	Full	27710	2310	24.35	25.00	1.161	0.15	0.910	**1.057**
	LTE Band 30-LAT	10M	QPSK	25	12	Back	10	Full	27710	2310	23.29	24.00	1.178	-0.02	0.768	0.904
	LTE Band 30-LAT	10M	QPSK	50	0	Back	10	Full	27710	2310	23.08	24.00	1.236	0.08	0.757	0.936
	LTE Band 30-LAT	10M	QPSK	1	0	Right Side	10	Full	27710	2310	24.35	25.00	1.161	0.07	0.534	0.620
	LTE Band 30-LAT	10M	QPSK	25	12	Right Side	10	Full	27710	2310	23.29	24.00	1.178	-0.03	0.436	0.513
	LTE Band 30-LAT	10M	QPSK	1	0	Bottom Side	10	Full	27710	2310	24.35	25.00	1.161	0.02	0.150	0.174
	LTE Band 30-LAT	10M	QPSK	25	12	Bottom Side	10	Full	27710	2310	23.29	24.00	1.178	0.08	0.120	0.141

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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-UAT	20M	QPSK	1	0	Front	10	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	0.14	0.360	0.363
	LTE Band 41-UAT	20M	QPSK	50	24	Front	10	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	0.17	0.312	0.376
	LTE Band 41-UAT	20M	QPSK	1	0	Back	10	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	-0.02	0.505	0.509
	LTE Band 41-UAT	20M	QPSK	50	24	Back	10	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	-0.06	0.443	0.535
	LTE Band 41-UAT	20M	QPSK	50	24	Back	10	Full	40400+40598	2571+2590.8	20.12	21.00	1.225	62.9	1.006	0.09	0.409	0.504
	LTE Band 41-UAT	20M	QPSK	1	0	Left Side	10	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	-0.09	0.412	0.415
	LTE Band 41-UAT	20M	QPSK	50	24	Left Side	10	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	-0.05	0.386	0.466
	LTE Band 41-UAT	20M	QPSK	1	0	Top Side	10	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	0.04	0.374	0.377
	LTE Band 41-UAT	20M	QPSK	50	24	Top Side	10	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	0.01	0.344	0.415
	LTE Band 41-LAT	20M	QPSK	1	0	Front	10	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	0.05	0.605	0.678
	LTE Band 41-LAT	20M	QPSK	1	0	Front	10	Full	40140	2545	23.74	24.50	1.191	62.9	1.006	0.01	0.612	0.733
	LTE Band 41-LAT	20M	QPSK	1	0	Front	10	Full	40670	2598	24.01	24.50	1.119	62.9	1.006	0.03	0.692	0.779
	LTE Band 41-LAT	20M	QPSK	1	0	Front	10	Full	41140	2645	23.93	24.50	1.140	62.9	1.006	-0.09	0.669	0.767
	LTE Band 41-LAT	20M	QPSK	50	0	Front	10	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	0.09	0.468	0.571
	LTE Band 41-LAT	20M	QPSK	100	0	Front	10	Full	40400	2571	23.10	24.00	1.230	62.9	1.006	-0.19	0.454	0.562
	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	0.06	0.727	0.815
	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	40140	2545	23.74	24.50	1.191	62.9	1.006	0.01	0.710	0.851
	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	40670	2598	24.01	24.50	1.119	62.9	1.006	0.17	0.759	0.855
	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	40670+40868	2598+2617.8	23.55	24.50	1.245	62.9	1.006	0.01	0.643	0.805
	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	41140	2645	23.93	24.50	1.140	62.9	1.006	0.04	0.704	0.808
	LTE Band 41-LAT	20M	QPSK	50	0	Back	10	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	-0.11	0.551	0.673
	LTE Band 41-LAT	20M	QPSK	50	0	Back	10	Full	40140	2545	23.00	24.00	1.259	62.9	1.006	-0.16	0.612	0.775
	LTE Band 41-LAT	20M	QPSK	50	0	Back	10	Full	40670	2598	23.10	24.00	1.230	62.9	1.006	0.14	0.624	0.772
	LTE Band 41-LAT	20M	QPSK	50	0	Back	10	Full	41140	2645	23.15	24.00	1.216	62.9	1.006	-0.01	0.559	0.684
	LTE Band 41-LAT	20M	QPSK	100	0	Back	10	Full	40400	2571	23.10	24.00	1.230	62.9	1.006	0.08	0.555	0.687
	LTE Band 41-LAT	20M	QPSK	1	0	Right Side	10	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	-0.18	0.508	0.569
	LTE Band 41-LAT	20M	QPSK	50	0	Right Side	10	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	0.02	0.434	0.530
	LTE Band 41-LAT	20M	QPSK	1	0	Bottom Side	10	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	-0.07	0.666	0.747
	LTE Band 41-LAT	20M	QPSK	1	0	Bottom Side	10	Full	40140	2545	23.74	24.50	1.191	62.9	1.006	-0.07	0.696	0.834
32	LTE Band 41-LAT	20M	QPSK	1	0	Bottom Side	10	Full	40670	2598	24.01	24.50	1.119	62.9	1.006	-0.03	0.771	**0.868**
	LTE Band 41-LAT	20M	QPSK	1	0	Bottom Side	10	Full	40670+40868	2598+2617.8	23.55	24.50	1.245	62.9	1.006	0.09	0.652	0.816
	LTE Band 41-LAT	20M	QPSK	1	0	Bottom Side	10	Full	41140	2645	23.93	24.50	1.140	62.9	1.006	-0.08	0.743	0.852
	LTE Band 41-LAT	20M	QPSK	50	0	Bottom Side	10	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	-0.01	0.520	0.635
	LTE Band 41-LAT	20M	QPSK	50	0	Bottom Side	10	Full	40140	2545	23.00	24.00	1.259	62.9	1.006	-0.06	0.443	0.561
	LTE Band 41-LAT	20M	QPSK	50	0	Bottom Side	10	Full	40670	2598	23.10	24.00	1.230	62.9	1.006	-0.05	0.546	0.676
	LTE Band 41-LAT	20M	QPSK	50	0	Bottom Side	10	Full	41140	2645	23.15	24.00	1.216	62.9	1.006	-0.09	0.463	0.566
	LTE Band 41-LAT	20M	QPSK	100	0	Bottom Side	10	Full	40400	2571	23.10	24.00	1.230	62.9	1.006	-0.06	0.518	0.641

<WLAN 2.4GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10	1	Full	11	2462	14.04	15.00	1.247	100	1.000	0.04	0.098	0.123
	WLAN2.4GHz	802.11b 1Mbps	Back	10	1	Full	11	2462	14.04	15.00	1.247	100	1.000	-0.15	0.168	0.210
33	WLAN2.4GHz	802.11b 1Mbps	Left Side	10	1	Full	11	2462	14.04	15.00	1.247	100	1.000	-0.02	0.181	**0.226**
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10	1	Full	11	2462	14.04	15.00	1.247	100	1.000	0.08	0.040	0.049
	WLAN2.4GHz	802.11b 1Mbps	Front	10	2	Full	6	2437	14.39	15.00	1.151	100	1.000	-0.07	0.043	0.049
	WLAN2.4GHz	802.11b 1Mbps	Back	10	2	Full	6	2437	14.39	15.00	1.151	100	1.000	0.04	0.028	0.032
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10	2	Full	6	2437	14.39	15.00	1.151	100	1.000	-0.02	0.053	0.061
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10	2	Full	6	2437	14.39	15.00	1.151	100	1.000	0.04	0.054	0.062
	WLAN2.4GHz	802.11b 1Mbps	Front	10	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	-0.09	0.119	0.125
	WLAN2.4GHz	802.11b 1Mbps	Back	10	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	0.06	0.181	0.190
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	-0.01	0.194	0.204
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	0.01	0.053	0.056
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	0.08	0.054	0.057

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Back	10	0	2402	9.78	10.00	1.052	77.13	1.080	-0.06	0.025	0.028
34	Bluetooth	1Mbps	Left Side	10	0	2402	9.78	10.00	1.052	77.13	1.080	0.02	0.026	**0.030**

<WLAN 5GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	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)
	WLAN5.2GHz	802.11a 6Mbps	Front	10	1	Full	36	5180	15.90	16.00	1.023	98.27	1.018	0.07	0.046	0.047
	WLAN5.2GHz	802.11a 6Mbps	Back	10	1	Full	36	5180	15.90	16.00	1.023	98.27	1.018	0.19	0.266	0.277
	WLAN5.2GHz	802.11a 6Mbps	Left Side	10	1	Full	36	5180	15.90	16.00	1.023	98.27	1.018	0.01	0.160	0.167
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10	1	Full	36	5180	15.90	16.00	1.023	98.27	1.018	0.01	0.215	0.224
	WLAN5.2GHz	802.11a 6Mbps	Front	10	2	Full	36	5180	15.43	16.00	1.140	98.27	1.018	0.01	0.008	0.009
	WLAN5.2GHz	802.11a 6Mbps	Back	10	2	Full	36	5180	15.43	16.00	1.140	98.27	1.018	0.01	0.140	0.163
	WLAN5.2GHz	802.11a 6Mbps	Right Side	10	2	Full	36	5180	15.43	16.00	1.140	98.27	1.018	0.07	0.113	0.131
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10	2	Full	36	5180	15.43	16.00	1.140	98.27	1.018	0.19	0.069	0.080
	WLAN5.2GHz	802.11a 6Mbps	Front	10	1+2	Full	36	5180	18.75	19.00	1.059	98.27	1.018	0.08	0.052	0.056
35	WLAN5.2GHz	802.11a 6Mbps	Back	10	1+2	Full	36	5180	18.75	19.00	1.059	98.27	1.018	0.04	0.282	**0.304**
	WLAN5.2GHz	802.11a 6Mbps	Left Side	10	1+2	Full	36	5180	18.75	19.00	1.059	98.27	1.018	0.09	0.183	0.197
	WLAN5.2GHz	802.11a 6Mbps	Right Side	10	1+2	Full	36	5180	18.75	19.00	1.059	98.27	1.018	-0.06	0.113	0.122
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10	1+2	Full	36	5180	18.75	19.00	1.059	98.27	1.018	-0.04	0.027	0.029

14.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	State	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-UAT	GPRS 4 Tx slots	Front	10	Full	189	836.4	27.13	27.50	1.089	0.02	0.159	0.173
	GSM 850-UAT	GPRS 4 Tx slots	Back	10	Full	189	836.4	27.13	27.50	1.089	-0.03	0.173	0.188
	GSM 850-LAT	GPRS 4 Tx slots	Front	10	Full	189	836.4	27.79	29.00	1.321	0.04	0.373	0.493
36	GSM 850-LAT	GPRS 4 Tx slots	Back	10	Full	189	836.4	27.79	29.00	1.321	-0.07	0.523	**0.691**
	GSM 1900-UAT	GPRS 3 Tx slots	Front	10	Full	661	1880	25.45	25.50	1.012	0.05	0.173	0.175
	GSM 1900-UAT	GPRS 3 Tx slots	Back	10	Full	661	1880	25.45	25.50	1.012	0.03	0.284	0.287
	GSM 1900-LAT	GPRS 3 Tx slots	Front	10	Full	661	1880	26.48	26.50	1.005	0.02	0.372	0.374
37	GSM 1900-LAT	GPRS 3 Tx slots	Back	10	Full	661	1880	26.48	26.50	1.005	-0.03	0.461	**0.463**

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	State	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 V-UAT	RMC 12.2Kbps	Front	10	Full	4132	826.4	21.27	22.00	1.183	0.09	0.084	0.099
	WCDMA V-UAT	RMC 12.2Kbps	Back	10	Full	4132	826.4	21.27	22.00	1.183	-0.03	0.086	0.102
	WCDMA V-LAT	RMC 12.2Kbps	Front	10	Full	4132	826.4	24.24	25.00	1.191	0.09	0.424	0.505
38	WCDMA V-LAT	RMC 12.2Kbps	Back	10	Full	4132	826.4	24.24	25.00	1.191	0.14	0.535	**0.637**
	WCDMA II-UAT	RMC 12.2Kbps	Front	10	Full	9400	1880	18.71	19.50	1.199	0.1	0.163	0.196
	WCDMA II-UAT	RMC 12.2Kbps	Back	10	Full	9400	1880	18.71	19.50	1.199	0.04	0.211	0.253
	WCDMA II-LAT	RMC 12.2Kbps	Front	10	Full	9400	1880	23.72	24.00	1.067	0.09	0.709	0.756
39	WCDMA II-LAT	RMC 12.2Kbps	Back	10	Full	9400	1880	23.72	24.00	1.067	-0.04	1.000	**1.067**
	WCDMA II-LAT	RMC 12.2Kbps	Back	10	Full	9262	1852.4	23.65	24.00	1.084	0.06	0.943	1.022
	WCDMA II-LAT	RMC 12.2Kbps	Back	10	Full	9538	1907.6	23.68	24.00	1.076	-0.15	0.854	0.919
	WCDMA IV-UAT	RMC 12.2Kbps	Front	10	Full	1413	1732.6	17.13	17.50	1.089	-0.09	0.182	0.198
	WCDMA IV-UAT	RMC 12.2Kbps	Back	10	Full	1413	1732.6	17.13	17.50	1.089	0.01	0.192	0.209
	WCDMA IV-LAT	RMC 12.2Kbps	Front	10	Full	1413	1732.6	23.73	24.50	1.194	-0.01	0.387	0.462
	WCDMA IV-LAT	RMC 12.2Kbps	Back	10	Full	1413	1732.6	23.73	24.50	1.194	0.15	0.675	0.806
	WCDMA IV-LAT	RMC 12.2Kbps	Back	10	Full	1312	1712.4	23.64	24.50	1.219	-0.03	0.624	0.761
40	WCDMA IV-LAT	RMC 12.2Kbps	Back	10	Full	1513	1752.6	23.65	24.50	1.216	-0.03	0.678	**0.825**

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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 71-UAT	20M	QPSK	1	0	Front	10	Full	133322	683	22.32	23.00	1.169	0.11	0.231	0.270
	LTE Band 71-UAT	20M	QPSK	50	24	Front	10	Full	133322	683	21.31	22.00	1.172	0.02	0.204	0.239
	LTE Band 71-UAT	20M	QPSK	1	0	Back	10	Full	133322	683	22.32	23.00	1.169	-0.07	0.185	0.216
	LTE Band 71-UAT	20M	QPSK	50	24	Back	10	Full	133322	683	21.31	22.00	1.172	0.1	0.154	0.181
	LTE Band 71-LAT	20M	QPSK	1	0	Front	10	Full	133322	683	25.45	25.50	1.012	-0.03	0.312	0.316
	LTE Band 71-LAT	20M	QPSK	50	0	Front	10	Full	133322	683	24.07	24.50	1.104	0.02	0.263	0.290
41	LTE Band 71-LAT	20M	QPSK	1	0	Back	10	Full	133322	683	25.45	25.50	1.012	0.04	0.382	**0.386**
	LTE Band 71-LAT	20M	QPSK	50	0	Back	10	Full	133322	683	24.07	24.50	1.104	0.02	0.322	0.356
	LTE Band 12-UAT	10M	QPSK	1	25	Front	10	Full	23095	707.5	22.85	23.50	1.161	0.02	0.288	0.334
	LTE Band 12-UAT	10M	QPSK	25	12	Front	10	Full	23095	707.5	21.80	22.50	1.175	0.09	0.250	0.294
	LTE Band 12-UAT	10M	QPSK	1	25	Back	10	Full	23095	707.5	22.85	23.50	1.161	0.05	0.198	0.230
	LTE Band 12-UAT	10M	QPSK	25	12	Back	10	Full	23095	707.5	21.80	22.50	1.175	-0.01	0.165	0.194
	LTE Band 12-LAT	10M	QPSK	1	25	Front	10	Full	23095	707.5	24.38	25.00	1.153	0.02	0.309	0.356
	LTE Band 12-LAT	10M	QPSK	25	0	Front	10	Full	23095	707.5	23.25	24.00	1.189	0.02	0.218	0.259
42	LTE Band 12-LAT	10M	QPSK	1	25	Back	10	Full	23095	707.5	24.38	25.00	1.153	-0.06	0.359	**0.414**
	LTE Band 12-LAT	10M	QPSK	25	0	Back	10	Full	23095	707.5	23.25	24.00	1.189	-0.01	0.253	0.301

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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 13-UAT	10M	QPSK	1	25	Front	10	Full	23230	782	24.31	24.50	1.045	-0.04	0.251	0.262
	LTE Band 13-UAT	10M	QPSK	25	12	Front	10	Full	23230	782	23.17	23.50	1.079	0.06	0.202	0.218
	LTE Band 13-UAT	10M	QPSK	1	25	Back	10	Full	23230	782	24.31	24.50	1.045	0.09	0.239	0.250
	LTE Band 13-UAT	10M	QPSK	25	12	Back	10	Full	23230	782	23.17	23.50	1.079	-0.01	0.157	0.169
	LTE Band 13-LAT	10M	QPSK	1	25	Front	10	Full	23230	782	24.93	25.00	1.016	0.02	0.554	0.563
	LTE Band 13-LAT	10M	QPSK	25	12	Front	10	Full	23230	782	23.89	24.50	1.151	0.03	0.433	0.498
43	LTE Band 13-LAT	10M	QPSK	1	25	Back	10	Full	23230	782	24.93	25.00	1.016	0.04	0.576	**0.585**
	LTE Band 13-LAT	10M	QPSK	25	12	Back	10	Full	23230	782	23.89	24.50	1.151	-0.01	0.504	0.580
	LTE Band 26-UAT	15M	QPSK	1	0	Front	10	Full	26865	831.5	21.55	22.50	1.245	-0.09	0.129	0.161
	LTE Band 26-UAT	15M	QPSK	36	20	Front	10	Full	26865	831.5	20.60	22.50	1.549	0.04	0.116	0.180
	LTE Band 26-UAT	15M	QPSK	1	0	Back	10	Full	26865	831.5	21.55	22.50	1.245	0.03	0.125	0.156
	LTE Band 26-UAT	15M	QPSK	36	20	Back	10	Full	26865	831.5	20.60	22.50	1.549	-0.05	0.107	0.166
	LTE Band 26-LAT	15M	QPSK	1	0	Front	10	Full	26865	831.5	24.95	25.00	1.012	0.06	0.476	0.482
	LTE Band 26-LAT	15M	QPSK	36	0	Front	10	Full	26865	831.5	23.79	25.00	1.321	-0.08	0.441	0.583
44	LTE Band 26-LAT	15M	QPSK	1	0	Back	10	Full	26865	831.5	24.95	25.00	1.012	0.03	0.610	**0.617**
	LTE Band 26-LAT	15M	QPSK	36	0	Back	10	Full	26865	831.5	23.79	25.00	1.321	0.01	0.464	0.613

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 66-UAT	20M	QPSK	1	49	Front	10	Full	132572	1770	17.89	18.00	1.026	0.04	0.262	0.269
	LTE Band 66-UAT	20M	QPSK	50	24	Front	10	Full	132572	1770	16.80	17.00	1.047	0.01	0.223	0.234
	LTE Band 66-UAT	20M	QPSK	1	49	Back	10	Full	132572	1770	17.89	18.00	1.026	0.06	0.319	0.327
	LTE Band 66-UAT	20M	QPSK	50	24	Back	10	Full	132572	1770	16.80	17.00	1.047	0.01	0.250	0.262
	LTE Band 66-LAT	20M	QPSK	1	49	Front	10	Full	132572	1770	24.21	25.00	1.199	0.02	0.527	0.632
	LTE Band 66-LAT	20M	QPSK	50	24	Front	10	Full	132572	1770	23.30	24.00	1.175	-0.02	0.347	0.408
45	LTE Band 66-LAT	20M	QPSK	1	49	Back	10	Full	132572	1770	24.21	25.00	1.199	-0.04	0.750	**0.900**
	LTE Band 66-LAT	20M	QPSK	1	49	Back	10	Full	132072	1720	23.92	25.00	1.282	0.02	0.613	0.786
	LTE Band 66-LAT	20M	QPSK	1	49	Back	10	Full	132322	1745	24.11	25.00	1.227	0.02	0.706	0.867
	LTE Band 66-LAT	20M	QPSK	50	24	Back	10	Full	132572	1770	23.30	24.00	1.175	0.09	0.570	0.670
	LTE Band 66-LAT	20M	QPSK	100	0	Back	10	Full	132572	1770	23.29	24.00	1.178	0.06	0.474	0.558

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25-UAT	20M	QPSK	1	49	Front	10	Full	26340	1880	18.40	18.50	1.023	0.02	0.300	0.307
	LTE Band 25-UAT	20M	QPSK	50	24	Front	10	Full	26340	1880	17.35	17.50	1.035	0.02	0.245	0.254
	LTE Band 25-UAT	20M	QPSK	1	49	Back	10	Full	26340	1880	18.40	18.50	1.023	0.02	0.396	0.405
	LTE Band 25-UAT	20M	QPSK	50	24	Back	10	Full	26340	1880	17.35	17.50	1.035	0.01	0.312	0.323
	LTE Band 25-LAT	20M	QPSK	1	49	Front	10	Full	26340	1880	23.66	24.00	1.081	0.03	0.822	0.889
	LTE Band 25-LAT	20M	QPSK	1	49	Front	10	Full	26140	1860	23.44	24.00	1.138	-0.02	0.775	0.882
	LTE Band 25-LAT	20M	QPSK	1	49	Front	10	Full	26590	1905	22.79	24.00	1.321	0.02	0.716	0.946
	LTE Band 25-LAT	20M	QPSK	50	24	Front	10	Full	26340	1880	22.66	24.00	1.361	-0.01	0.689	0.938
	LTE Band 25-LAT	20M	QPSK	50	24	Front	10	Full	26140	1860	22.56	24.00	1.393	0.01	0.612	0.853
	LTE Band 25-LAT	20M	QPSK	50	24	Front	10	Full	26590	1905	22.30	24.00	1.479	-0.03	0.621	0.919
	LTE Band 25-LAT	20M	QPSK	100	0	Front	10	Full	26340	1880	22.63	24.00	1.371	0.05	0.689	0.945
46	LTE Band 25-LAT	20M	QPSK	1	49	Back	10	Full	26340	1880	23.66	24.00	1.081	0.13	1.020	**1.103**
	LTE Band 25-LAT	20M	QPSK	1	49	Back	10	Full	26140	1860	23.44	24.00	1.138	0.06	0.905	1.030
	LTE Band 25-LAT	20M	QPSK	1	49	Back	10	Full	26590	1905	22.79	24.00	1.321	0.03	0.820	1.083
	LTE Band 25-LAT	20M	QPSK	50	24	Back	10	Full	26340	1880	22.66	24.00	1.361	0.04	0.809	1.101
	LTE Band 25-LAT	20M	QPSK	50	24	Back	10	Full	26140	1860	22.56	24.00	1.393	0.05	0.712	0.992
	LTE Band 25-LAT	20M	QPSK	50	24	Back	10	Full	26590	1905	22.30	24.00	1.479	0.16	0.730	1.080
	LTE Band 25-LAT	20M	QPSK	100	0	Back	10	Full	26340	1880	22.63	24.00	1.371	0.06	0.804	1.102

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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-UAT	20M	QPSK	1	0	Front	10	Full	21350	2560	18.21	18.50	1.069	0.06	0.155	0.166
	LTE Band 7-UAT	20M	QPSK	50	0	Front	10	Full	21350	2560	17.41	17.50	1.021	0.06	0.127	0.130
	LTE Band 7-UAT	20M	QPSK	1	0	Back	10	Full	21350	2560	18.21	18.50	1.069	0.03	0.210	0.225
	LTE Band 7-UAT	20M	QPSK	1	0	Back	10	Full	21350+21152	2560+2540.2	18.11	18.50	1.094	0.08	0.190	0.208
	LTE Band 7-UAT	20M	QPSK	50	0	Back	10	Full	21350	2560	17.41	17.50	1.021	-0.13	0.183	0.187
	LTE Band 7-LAT	20M	QPSK	1	0	Front	10	Full	21350	2560	22.91	23.50	1.146	0.09	0.861	0.986
	LTE Band 7-LAT	20M	QPSK	1	0	Front	10	Full	20850	2510	22.71	23.50	1.199	0.09	0.638	0.765
	LTE Band 7-LAT	20M	QPSK	1	0	Front	10	Full	21100	2535	22.67	23.50	1.211	0.06	0.729	0.883
	LTE Band 7-LAT	20M	QPSK	50	0	Front	10	Full	21350	2560	21.93	23.50	1.435	-0.12	0.648	0.930
	LTE Band 7-LAT	20M	QPSK	50	0	Front	10	Full	20850	2510	21.70	23.50	1.514	0.06	0.487	0.737
	LTE Band 7-LAT	20M	QPSK	50	0	Front	10	Full	21100	2535	21.73	23.50	1.503	0.03	0.539	0.810
	LTE Band 7-LAT	20M	QPSK	100	0	Front	10	Full	21350	2560	21.87	23.50	1.455	0.09	0.655	0.953
	LTE Band 7-LAT	20M	QPSK	1	0	Back	10	Full	21350	2560	22.91	23.50	1.146	0.02	0.876	1.003
	LTE Band 7-LAT	20M	QPSK	1	0	Back	10	Full	20850	2510	22.71	23.50	1.199	-0.02	0.851	1.021
	LTE Band 7-LAT	20M	QPSK	1	0	Back	10	Full	21100	2535	22.67	23.50	1.211	-0.05	0.865	1.047
47	LTE Band 7-LAT	20M	QPSK	50	0	Back	10	Full	21350	2560	21.93	23.50	1.435	-0.03	0.741	**1.064**
	LTE Band 7-LAT	20M	QPSK	50	0	Back	10	Full	21350+21152	2560+2540.2	22.03	23.50	1.403	0.05	0.721	1.011
	LTE Band 7-LAT	20M	QPSK	50	0	Back	10	Full	20850	2510	21.70	23.50	1.514	-0.08	0.659	0.997
	LTE Band 7-LAT	20M	QPSK	50	0	Back	10	Full	21100	2535	21.73	23.50	1.503	0.07	0.707	1.063
	LTE Band 7-LAT	20M	QPSK	100	0	Back	10	Full	21350	2560	21.87	23.50	1.455	0.05	0.726	1.057

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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 30-UAT	10M	QPSK	1	0	Front	10	Full	27710	2310	19.27	19.50	1.054	0.08	0.174	0.183
	LTE Band 30-UAT	10M	QPSK	25	12	Front	10	Full	27710	2310	18.26	18.50	1.057	0.01	0.142	0.150
	LTE Band 30-UAT	10M	QPSK	1	0	Back	10	Full	27710	2310	19.27	19.50	1.054	-0.09	0.259	0.273
	LTE Band 30-UAT	10M	QPSK	25	12	Back	10	Full	27710	2310	18.26	18.50	1.057	0.01	0.209	0.221
	LTE Band 30-LAT	10M	QPSK	1	0	Front	10	Full	27710	2310	24.35	25.00	1.161	-0.09	0.711	0.826
	LTE Band 30-LAT	10M	QPSK	25	12	Front	10	Full	27710	2310	23.29	24.00	1.178	0.05	0.584	0.688
	LTE Band 30-LAT	10M	QPSK	50	0	Front	10	Full	27710	2310	23.08	24.00	1.236	0.05	0.570	0.704
48	LTE Band 30-LAT	10M	QPSK	1	0	Back	10	Full	27710	2310	24.35	25.00	1.161	0.15	0.910	**1.057**
	LTE Band 30-LAT	10M	QPSK	25	12	Back	10	Full	27710	2310	23.29	24.00	1.178	-0.02	0.768	0.904
	LTE Band 30-LAT	10M	QPSK	50	0	Back	10	Full	27710	2310	23.08	24.00	1.236	0.08	0.757	0.936

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power State	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-UAT	20M	QPSK	1	0	Front	10	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	0.14	0.360	0.363
	LTE Band 41-UAT	20M	QPSK	50	24	Front	10	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	0.17	0.312	0.376
	LTE Band 41-UAT	20M	QPSK	1	0	Back	10	Full	40400	2571	20.99	21.00	1.002	62.9	1.006	-0.02	0.505	0.509
	LTE Band 41-UAT	20M	QPSK	50	24	Back	10	Full	40400	2571	20.21	21.00	1.199	62.9	1.006	-0.06	0.443	0.535
	LTE Band 41-UAT	20M	QPSK	50	24	Back	10	Full	40400+40598	2571+2590.8	20.12	21.00	1.225	62.9	1.006	0.09	0.409	0.504
	LTE Band 41-LAT	20M	QPSK	1	0	Front	10	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	0.05	0.605	0.678
	LTE Band 41-LAT	20M	QPSK	1	0	Front	10	Full	40140	2545	23.74	24.50	1.191	62.9	1.006	0.01	0.612	0.733
	LTE Band 41-LAT	20M	QPSK	1	0	Front	10	Full	40670	2598	24.01	24.50	1.119	62.9	1.006	0.03	0.692	0.779
	LTE Band 41-LAT	20M	QPSK	1	0	Front	10	Full	41140	2645	23.93	24.50	1.140	62.9	1.006	-0.09	0.669	0.767
	LTE Band 41-LAT	20M	QPSK	50	0	Front	10	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	0.09	0.468	0.571
	LTE Band 41-LAT	20M	QPSK	100	0	Front	10	Full	40400	2571	23.10	24.00	1.230	62.9	1.006	-0.19	0.454	0.562
	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	40400	2571	24.03	24.50	1.114	62.9	1.006	0.06	0.727	0.815
	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	40140	2545	23.74	24.50	1.191	62.9	1.006	0.01	0.710	0.851
49	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	40670	2598	24.01	24.50	1.119	62.9	1.006	0.17	0.759	**0.855**
	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	40670+40868	2598+2617.8	23.55	24.50	1.245	62.9	1.006	0.01	0.643	0.805
	LTE Band 41-LAT	20M	QPSK	1	0	Back	10	Full	41140	2645	23.93	24.50	1.140	62.9	1.006	0.04	0.704	0.808
	LTE Band 41-LAT	20M	QPSK	50	0	Back	10	Full	40400	2571	23.16	24.00	1.213	62.9	1.006	-0.11	0.551	0.673
	LTE Band 41-LAT	20M	QPSK	50	0	Back	10	Full	40140	2545	23.00	24.00	1.259	62.9	1.006	-0.16	0.612	0.775
	LTE Band 41-LAT	20M	QPSK	50	0	Back	10	Full	40670	2598	23.10	24.00	1.230	62.9	1.006	0.14	0.624	0.772
	LTE Band 41-LAT	20M	QPSK	50	0	Back	10	Full	41140	2645	23.15	24.00	1.216	62.9	1.006	-0.01	0.559	0.684
	LTE Band 41-LAT	20M	QPSK	100	0	Back	10	Full	40400	2571	23.10	24.00	1.230	62.9	1.006	0.08	0.555	0.687

<WLAN 2.4GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10	1	Full	11	2462	14.04	15.00	1.247	100	1.000	0.04	0.098	0.123
50	WLAN2.4GHz	802.11b 1Mbps	Back	10	1	Full	11	2462	14.04	15.00	1.247	100	1.000	-0.15	0.168	**0.210**
	WLAN2.4GHz	802.11b 1Mbps	Front	10	2	Full	6	2437	14.39	15.00	1.151	100	1.000	-0.07	0.043	0.049
	WLAN2.4GHz	802.11b 1Mbps	Back	10	2	Full	6	2437	14.39	15.00	1.151	100	1.000	0.04	0.028	0.032
	WLAN2.4GHz	802.11b 1Mbps	Front	10	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	-0.09	0.119	0.125
	WLAN2.4GHz	802.11b 1Mbps	Back	10	1+2	Full	6	2437	17.78	18.00	1.052	100	1.000	0.06	0.181	0.190

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
51	Bluetooth	1Mbps	Back	10	0	2402	9.78	10.00	1.052	77.13	1.080	-0.06	0.025	**0.028**

<WLAN 5GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	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)
	WLAN5.3GHz	802.11a 6Mbps	Front	10	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	0.09	0.033	0.047
	WLAN5.3GHz	802.11a 6Mbps	Back	10	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	-0.04	0.189	0.264
	WLAN5.3GHz	802.11a 6Mbps	Front	10	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	0.06	0.005	0.008
	WLAN5.3GHz	802.11a 6Mbps	Back	10	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	0.01	0.089	0.127
	WLAN5.3GHz	802.11a 6Mbps	Front	10	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	0.08	0.040	0.058
52	WLAN5.3GHz	802.11a 6Mbps	Back	10	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	0.07	0.203	**0.291**
	WLAN5.5GHz	802.11a 6Mbps	Front	10	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	0.03	0.068	0.094
	WLAN5.5GHz	802.11a 6Mbps	Back	10	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	-0.04	0.225	0.311
	WLAN5.5GHz	802.11a 6Mbps	Front	10	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	0.06	0.009	0.012
	WLAN5.5GHz	802.11a 6Mbps	Back	10	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	-0.01	0.064	0.087
	WLAN5.5GHz	802.11a 6Mbps	Front	10	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	-0.01	0.088	0.115
53	WLAN5.5GHz	802.11a 6Mbps	Back	10	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	-0.05	0.249	**0.327**

14.4 Product Specific SAR

<WLAN 5GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Front	0	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	0.07	0.231	0.322
	WLAN5.3GHz	802.11a 6Mbps	Back	0	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	-0.05	0.565	0.788
	WLAN5.3GHz	802.11a 6Mbps	Left Side	0	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	0.01	0.987	1.377
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1	Full	52	5260	14.63	16.00	1.371	98.27	1.018	0.01	0.292	0.408
	WLAN5.3GHz	802.11a 6Mbps	Front	0	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	-0.04	0.037	0.053
	WLAN5.3GHz	802.11a 6Mbps	Back	0	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	0.06	0.303	0.434
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	0.02	0.258	0.369
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	2	Full	64	5320	14.52	16.00	1.406	98.27	1.018	0.07	0.074	0.106
	WLAN5.3GHz	802.11a 6Mbps	Front	0	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	0.06	0.230	0.330
	WLAN5.3GHz	802.11a 6Mbps	Back	0	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	0.07	0.675	0.968
54	WLAN5.3GHz	802.11a 6Mbps	Left Side	0	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	0.07	1.140	**1.636**
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	-0.05	0.212	0.304
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1+2	Full	64	5320	17.51	19.00	1.409	98.27	1.018	0.01	0.255	0.366
	WLAN5.5GHz	802.11a 6Mbps	Front	0	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	0.08	0.249	0.344
	WLAN5.5GHz	802.11a 6Mbps	Back	0	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	-0.09	0.521	0.720
55	WLAN5.5GHz	802.11a 6Mbps	Left Side	0	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	0.15	0.994	**1.374**
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1	Full	100	5500	14.67	16.00	1.358	98.27	1.018	0.01	0.266	0.368
	WLAN5.5GHz	802.11a 6Mbps	Front	0	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	0.02	0.019	0.026
	WLAN5.5GHz	802.11a 6Mbps	Back	0	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	-0.12	0.311	0.424
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	0.06	0.119	0.162
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	2	Full	100	5500	14.73	16.00	1.340	98.27	1.018	-0.02	0.042	0.057
	WLAN5.5GHz	802.11a 6Mbps	Front	0	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	0.02	0.258	0.339
	WLAN5.5GHz	802.11a 6Mbps	Back	0	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	0.06	0.578	0.760
	WLAN5.5GHz	802.11a 6Mbps	Left Side	0	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	0.08	0.703	0.924
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	0.01	0.260	0.342
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Full	100	5500	17.89	19.00	1.291	98.27	1.018	0.02	0.245	0.322

14.5 Repeated SAR Measurement

<1g SAR>

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power State	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	GSM 850-UAT	-	-	-	-	GPRS 4 Tx slots	Right Cheek	0	Full	251	848.8	27.12	27.50	1.091		1.000	-0.06	0.968	1	1.057
2nd	GSM 850-UAT	-	-	-	-	GPRS 4 Tx slots	Right Cheek	0	Full	251	848.8	27.12	27.50	1.091		1.000	0.09	0.951	1.018	1.038
1st	LTE Band 71-UAT	20M	QPSK	1	0	-	Left Cheek	0	Full	133322	683	22.32	23.00	1.169		1.000	-0.08	0.924	1	1.081
2nd	LTE Band 71-UAT	20M	QPSK	1	0	-	Left Cheek	0	Full	133322	683	22.32	23.00	1.169		1.000	0.06	0.919	1.005	1.075
1st	LTE Band 66-UAT	20M	QPSK	1	49	-	Right Cheek	0	Full	132072	1720	17.82	18.00	1.042		1.000	0.02	1.020	1	1.063
2nd	LTE Band 66-UAT	20M	QPSK	1	49	-	Right Cheek	0	Full	132072	1720	17.82	18.00	1.042		1.000	-0.06	1.010	1.64	1.053
1st	LTE Band 41-UAT	20M	QPSK	1	0	-	Right Cheek	0	Full	40670	2598	20.75	21.00	1.059	62.9	1.006	-0.1	0.949	1	1.011
2nd	LTE Band 41-UAT	20M	QPSK	1	0	-	Right Cheek	0	Full	40670	2598	20.75	21.00	1.059	62.9	1.006	0.06	0.938	1.012	1.000
1st	LTE Band 25-LAT	20M	QPSK	1	49	-	Right Side	10	Full	26340	1880	23.66	24.00	1.081		1.000	0.06	1.070	1	1.157
2nd	LTE Band 25-LAT	20M	QPSK	1	49	-	Right Side	10	Full	26340	1880	23.66	24.00	1.081		1.000	0.09	1.060	1.009	1.146
1st	LTE Band 30-LAT	10M	QPSK	1	0	-	Back	10	Full	27710	2310	24.35	25.00	1.161		1.000	0.15	0.910	1	1.057
2nd	LTE Band 30-LAT	10M	QPSK	1	0	-	Back	10	Full	27710	2310	24.35	25.00	1.161		1.000	0.01	0.905	1.006	1.051

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

15. Simultaneous Transmission Analysis

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

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), and LTE supports VoLTE function.
2. EUT will choose each GSM, WCDMA and LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
3. This device WLAN 2.4GHz / 5.2GHz supports Hotspot operation and Bluetooth support tethering applications.
4. WLAN 2.4GHz Ant.1 and Bluetooth share the same antenna so can't transmit simultaneously.
5. EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment.
6. For Bluetooth SAR testing only perform the worst positon of WLAN, so other positon use this SAR value to do co-located with WWAN analysis.
7. For simultaneously analysis, since the SAR summation of 4 transmitters can cover others combination of 2 transmitters or 3 transmitters, therefore in this section did not additional to evaluate 2TX/3TX combination of simultaneously transmission.
8. Chose the worse zoom scan SAR of WLAN 5GHz SAR respectively for co-located with WWAN analysis.
9. The reported SAR summation is calculated based on the same configuration and test position.
10. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,

i) Scalar SAR summation < 1.6W/kg.
ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.
iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

15.1 Head Exposure Conditions

WWAN Band		Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1 1g SAR (W/kg)	3 2.4GHz WLAN Ant 2 1g SAR (W/kg)	4 2.4GHz WLAN MIMO 1g SAR (W/kg)	5 5GHz WLAN Ant 1 1g SAR (W/kg)	6 5GHz WLAN Ant 2 1g SAR (W/kg)	7 5GHz WLAN MIMO 1g SAR (W/kg)	8 Bluetooth 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+3+5+8 Summed 1g SAR (W/kg)	1+6+8 Summed 1g SAR (W/kg)	1+7+8 Summed 1g SAR (W/kg)
GSM	GSM 850-UAT	Right Cheek	1.057	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.29	1.31	1.57	1.28	1.56
		Right Tilted	0.738	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.92	0.90	1.30	0.97	1.27
		Left Cheek	1.023	0.149	0.082	0.087	0.134	0.083	0.115	0.201	1.11	1.26	1.44	1.31	1.34
		Left Tilted	0.971	0.057	0.071	0.081	0.156	0.120	0.129	0.201	1.05	1.15	1.40	1.29	1.30
	GSM 850-LAT	Right Cheek	0.349	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.58	0.60	0.86	0.57	0.85
		Right Tilted	0.132	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.32	0.30	0.69	0.36	0.66
		Left Cheek	0.256	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.34	0.49	0.67	0.54	0.57
		Left Tilted	0.140	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.22	0.32	0.57	0.46	0.47
	GSM 1900-UAT	Right Cheek	1.052	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.28	1.31	1.57	1.28	1.55
		Right Tilted	0.969	0.132	0.035	0.185	0.322	0.031	0.328	0.201	1.15	1.13	1.53	1.20	1.50
		Left Cheek	0.371	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.46	0.60	0.79	0.66	0.69
		Left Tilted	0.582	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.66	0.76	1.01	0.90	0.91
	GSM 1900-LAT	Right Cheek	0.350	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.58	0.60	0.86	0.57	0.85
		Right Tilted	0.098	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.28	0.26	0.66	0.33	0.63
		Left Cheek	0.126	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.21	0.36	0.54	0.41	0.44
		Left Tilted	0.079	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.16	0.26	0.51	0.40	0.41
WCDMA	WCDMA V-UAT	Right Cheek	0.618	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.85	0.87	1.13	0.84	1.12
		Right Tilted	0.438	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.62	0.60	1.00	0.67	0.97
		Left Cheek	0.680	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.77	0.91	1.10	0.96	1.00
		Left Tilted	0.610	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.69	0.79	1.04	0.93	0.94
	WCDMA V-LAT	Right Cheek	0.338	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.57	0.59	0.85	0.56	0.84
		Right Tilted	0.135	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.32	0.30	0.69	0.37	0.66
		Left Cheek	0.266	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.35	0.50	0.68	0.55	0.58
		Left Tilted	0.127	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.21	0.30	0.56	0.45	0.46
	WCDMA II-UAT	Right Cheek	1.004	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.23	1.26	1.52	1.23	1.50
		Right Tilted	0.869	0.132	0.035	0.185	0.322	0.031	0.328	0.201	1.05	1.03	1.43	1.10	1.40
		Left Cheek	0.461	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.55	0.69	0.88	0.75	0.78
		Left Tilted	0.684	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.77	0.86	1.11	1.01	1.01
	WCDMA II-LAT	Right Cheek	0.484	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.71	0.74	1.00	0.71	0.98
		Right Tilted	0.202	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.39	0.37	0.76	0.43	0.73
		Left Cheek	0.357	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.44	0.59	0.77	0.64	0.67
		Left Tilted	0.201	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.28	0.38	0.63	0.52	0.53
	WCDMA IV-UAT	Right Cheek	1.006	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.24	1.26	1.52	1.23	1.51
		Right Tilted	0.864	0.132	0.035	0.185	0.322	0.031	0.328	0.201	1.05	1.03	1.42	1.10	1.39
		Left Cheek	0.470	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.56	0.70	0.89	0.75	0.79
		Left Tilted	0.662	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.74	0.84	1.09	0.98	0.99
	WCDMA	Right Cheek	0.288	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.52	0.54	0.80	0.51	0.79

	IV-LAT	Right Tilted	0.146	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.33	0.31	0.70	0.38	0.68
		Left Cheek	0.164	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.25	0.40	0.58	0.45	0.48
		Left Tilted	0.119	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.20	0.30	0.55	0.44	0.45
LTE	LTE Band 71-UAT	Right Cheek	1.060	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.29	1.31	1.57	1.28	1.56
		Right Tilted	0.792	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.98	0.96	1.35	1.02	1.32
		Left Cheek	1.081	0.149	0.082	0.087	0.134	0.083	0.115	0.201	1.17	1.31	1.50	1.37	1.40
		Left Tilted	0.938	0.057	0.071	0.081	0.156	0.120	0.129	0.201	1.02	1.12	1.37	1.26	1.27
	LTE Band 71-LAT	Right Cheek	0.191	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.42	0.44	0.71	0.41	0.69
		Right Tilted	0.086	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.27	0.25	0.64	0.32	0.62
		Left Cheek	0.170	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.26	0.40	0.59	0.45	0.49
		Left Tilted	0.097	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.18	0.27	0.53	0.42	0.43
	LTE Band 12-UAT	Right Cheek	0.969	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.20	1.22	1.48	1.19	1.47
		Right Tilted	0.570	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.76	0.73	1.13	0.80	1.10
		Left Cheek	0.793	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.88	1.03	1.21	1.08	1.11
		Left Tilted	0.732	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.81	0.91	1.16	1.05	1.06
	LTE Band 12-LAT	Right Cheek	0.230	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.46	0.48	0.74	0.45	0.73
		Right Tilted	0.102	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.29	0.27	0.66	0.33	0.63
		Left Cheek	0.211	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.30	0.44	0.63	0.50	0.53
		Left Tilted	0.112	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.19	0.29	0.54	0.43	0.44
	LTE Band 13-UAT	Right Cheek	0.626	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.86	0.88	1.14	0.85	1.13
		Right Tilted	0.460	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.65	0.62	1.02	0.69	0.99
		Left Cheek	0.481	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.57	0.71	0.90	0.77	0.80
		Left Tilted	0.408	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.49	0.59	0.84	0.73	0.74
	LTE Band 13-LAT	Right Cheek	0.387	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.62	0.64	0.90	0.61	0.89
		Right Tilted	0.183	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.37	0.35	0.74	0.42	0.71
		Left Cheek	0.257	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.34	0.49	0.67	0.54	0.57
		Left Tilted	0.144	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.23	0.32	0.57	0.47	0.47
	LTE Band 26-UAT	Right Cheek	0.689	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.92	0.94	1.20	0.91	1.19
		Right Tilted	0.560	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.75	0.72	1.12	0.79	1.09
		Left Cheek	0.694	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.78	0.93	1.11	0.98	1.01
		Left Tilted	0.612	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.69	0.79	1.04	0.93	0.94
	LTE Band 26-LAT	Right Cheek	0.366	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.60	0.62	0.88	0.59	0.87
		Right Tilted	0.152	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.34	0.32	0.71	0.38	0.68
		Left Cheek	0.274	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.36	0.51	0.69	0.56	0.59
		Left Tilted	0.145	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.23	0.32	0.57	0.47	0.48
	LTE Band 66-UAT	Right Cheek	1.063	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.29	1.32	**1.58**	1.29	1.56
		Right Tilted	0.961	0.132	0.035	0.185	0.322	0.031	0.328	0.201	1.15	1.12	1.52	1.19	1.49
		Left Cheek	0.435	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.52	0.67	0.85	0.72	0.75
		Left Tilted	0.647	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.73	0.82	1.08	0.97	0.98
	LTE Band 66-LAT	Right Cheek	0.453	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.68	0.71	0.97	0.68	0.95
		Right Tilted	0.218	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.40	0.38	0.78	0.45	0.75
		Left Cheek	0.191	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.28	0.42	0.61	0.48	0.51
		Left Tilted	0.210	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.29	0.39	0.64	0.53	0.54

	LTE Band 25-UAT	Right Cheek	1.009	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.24	1.26	1.52	1.23	1.51
		Right Tilted	0.946	0.132	0.035	0.185	0.322	0.031	0.328	0.201	1.13	1.11	1.50	1.18	1.48
		Left Cheek	0.454	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.54	0.69	0.87	0.74	0.77
		Left Tilted	0.695	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.78	0.87	1.12	1.02	1.03
	LTE Band 25-LAT	Right Cheek	0.643	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.87	0.90	1.16	0.87	1.14
		Right Tilted	0.267	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.45	0.43	0.83	0.50	0.80
		Left Cheek	0.388	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.48	0.62	0.81	0.67	0.70
		Left Tilted	0.259	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.34	0.44	0.69	0.58	0.59
	LTE Band 7-UAT	Right Cheek	1.004	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.23	1.26	1.52	1.23	1.50
		Right Tilted	0.956	0.132	0.035	0.185	0.322	0.031	0.328	0.201	1.14	1.12	1.51	1.19	1.49
		Left Cheek	0.383	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.47	0.62	0.80	0.67	0.70
		Left Tilted	0.371	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.45	0.55	0.80	0.69	0.70
	LTE Band 7-LAT	Right Cheek	0.205	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.44	0.46	0.72	0.43	0.71
		Right Tilted	0.104	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.29	0.27	0.66	0.34	0.63
		Left Cheek	0.144	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.23	0.38	0.56	0.43	0.46
		Left Tilted	0.137	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.22	0.31	0.57	0.46	0.47
	LTE Band 30-UAT	Right Cheek	0.840	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.07	1.09	1.35	1.06	1.34
		Right Tilted	0.935	0.132	0.035	0.185	0.322	0.031	0.328	0.201	1.12	1.10	1.49	1.17	1.46
		Left Cheek	0.484	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.57	0.72	0.90	0.77	0.80
		Left Tilted	0.535	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.62	0.71	0.96	0.86	0.87
	LTE Band 30-LAT	Right Cheek	0.454	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.68	0.71	0.97	0.68	0.95
		Right Tilted	0.136	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.32	0.30	0.69	0.37	0.67
		Left Cheek	0.258	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.35	0.49	0.68	0.54	0.57
		Left Tilted	0.293	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.37	0.47	0.72	0.61	0.62
	LTE Band 41-UAT	Right Cheek	1.011	0.231	0.034	0.230	0.279	0.022	0.299	0.201	1.24	1.26	1.53	1.23	1.51
		Right Tilted	0.961	0.132	0.035	0.185	0.322	0.031	0.328	0.201	1.15	1.12	1.52	1.19	1.49
		Left Cheek	0.508	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.60	0.74	0.93	0.79	0.82
		Left Tilted	0.416	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.50	0.59	0.84	0.74	0.75
	LTE Band 41-LAT	Right Cheek	0.151	0.231	0.034	0.230	0.279	0.022	0.299	0.201	0.38	0.40	0.67	0.37	0.65
		Right Tilted	0.086	0.132	0.035	0.185	0.322	0.031	0.328	0.201	0.27	0.25	0.64	0.32	0.62
		Left Cheek	0.124	0.149	0.082	0.087	0.134	0.083	0.115	0.201	0.21	0.36	0.54	0.41	0.44
		Left Tilted	0.129	0.057	0.071	0.081	0.156	0.120	0.129	0.201	0.21	0.31	0.56	0.45	0.46

15.2 Hotspot Exposure Conditions

WWAN Band		Exposure Position	1	2	3	4	5	6	7	8	1+4 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+3+5+8 Summed 1g SAR (W/kg)	1+6+8 Summed 1g SAR (W/kg)	1+7+8 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	2.4GHz WLAN MIMO	5GHz WLAN Ant 1	5GHz WLAN Ant 2	5GHz WLAN MIMO	Bluetooth					
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
GSM	GSM 850-UAT	Front	0.173	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.30	0.31	0.30	0.21	0.26
		Back	0.188	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.38	0.56	0.53	0.38	0.52
		Left side	0.025	0.226		0.204	0.167		0.197	0.030	0.23	0.25	0.22	0.06	0.25
		Right side	0.069		0.061	0.056		0.131	0.122		0.13	0.20	0.13	0.20	0.19
		Top side	0.117	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.17	0.25	0.43	0.23	0.18
	GSM 850-LAT	Front	0.493	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.62	0.63	0.62	0.53	0.58
		Back	0.691	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.88	1.06	1.03	0.88	1.02
		Left side	0.234	0.226		0.204	0.167		0.197	0.030	0.44	0.46	0.43	0.26	0.46
		Right side	0.374		0.061	0.056		0.131	0.122		0.43	0.51	0.44	0.51	0.50
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.468								0.47	0.47	0.47	0.47	0.47
	GSM 1900-UAT	Front	0.175	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.30	0.31	0.30	0.21	0.26
		Back	0.287	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.48	0.66	0.62	0.48	0.62
		Left side	0.078	0.226		0.204	0.167		0.197	0.030	0.28	0.30	0.28	0.11	0.31
		Right side			0.061	0.056		0.131	0.122		0.06	0.13	0.06	0.13	0.12
		Top side	0.446	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.50	0.58	0.76	0.56	0.51
	GSM 1900-LAT	Front	0.374	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.50	0.51	0.50	0.41	0.46
		Back	0.463	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.65	0.84	0.80	0.65	0.80
		Left side		0.226		0.204	0.167		0.197	0.030	0.20	0.23	0.20	0.03	0.23
		Right side	0.469		0.061	0.056		0.131	0.122		0.53	0.60	0.53	0.60	0.59
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.293								0.29	0.29	0.29	0.29	0.29

WCDMA	WCDMA V-UAT	Front	0.099	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.22	0.23	0.23	0.14	0.19
		Back	0.102	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.29	0.48	0.44	0.29	0.43
		Left side	<0.001	0.226		0.204	0.167		0.197	0.030	0.21	0.23	0.20	0.03	0.23
		Right side	0.478		0.061	0.056		0.131	0.122		0.53	0.61	0.54	0.61	0.60
		Top side	0.183	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.24	0.31	0.50	0.29	0.24
	WCDMA V-LAT	Front	0.505	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.63	0.64	0.63	0.54	0.59
		Back	0.637	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.83	1.01	0.97	0.83	0.97
		Left side	0.168	0.226		0.204	0.167		0.197	0.030	0.37	0.39	0.37	0.20	0.40
		Right side	0.385		0.061	0.056		0.131	0.122		0.44	0.52	0.45	0.52	0.51
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.275								0.28	0.28	0.28	0.28	0.28
	WCDMA II-UAT	Front	0.196	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.32	0.33	0.32	0.24	0.28
		Back	0.253	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.44	0.63	0.59	0.44	0.59
		Left side	0.120	0.226		0.204	0.167		0.197	0.030	0.32	0.35	0.32	0.15	0.35
		Right side			0.061	0.056		0.131	0.122		0.06	0.13	0.06	0.13	0.12
		Top side	0.450	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.51	0.58	0.77	0.56	0.51
	WCDMA II-LAT	Front	0.756	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.88	0.89	0.88	0.80	0.84
		Back	1.067	0.210	0.032	0.190	0.277	0.163	0.304	0.028	1.26	1.44	1.40	1.26	1.40
		Left side		0.226		0.204	0.167		0.197	0.030	0.20	0.23	0.20	0.03	0.23
		Right side	1.109		0.061	0.056		0.131	0.122		1.17	1.24	1.17	1.24	1.23
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.602								0.60	0.60	0.60	0.60	0.60
	WCDMA IV-UAT	Front	0.198	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.32	0.33	0.32	0.24	0.28
		Back	0.209	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.40	0.58	0.55	0.40	0.54
		Left side	0.172	0.226		0.204	0.167		0.197	0.030	0.38	0.40	0.37	0.20	0.40
		Right side			0.061	0.056		0.131	0.122		0.06	0.13	0.06	0.13	0.12
		Top side	0.371	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.43	0.50	0.69	0.48	0.43
	WCDMA IV-LAT	Front	0.462	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.59	0.59	0.59	0.50	0.55
		Back	0.825	0.210	0.032	0.190	0.277	0.163	0.304	0.028	1.02	1.20	1.16	1.02	1.16
		Left side		0.226		0.204	0.167		0.197	0.030	0.20	0.23	0.20	0.03	0.23
		Right side	0.879		0.061	0.056		0.131	0.122		0.94	1.01	0.94	1.01	1.00
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.867								0.87	0.87	0.87	0.87	0.87
LTE	LTE Band 71-UAT	Front	0.270	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.40	0.40	0.40	0.31	0.36
		Back	0.216	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.41	0.59	0.55	0.41	0.55
		Left side	0.079	0.226		0.204	0.167		0.197	0.030	0.28	0.31	0.28	0.11	0.31
		Right side	0.106		0.061	0.056		0.131	0.122		0.16	0.24	0.17	0.24	0.23
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.174								0.17	0.17	0.17	0.17	0.17
	LTE Band 71-LAT	Front	0.316	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.44	0.45	0.44	0.36	0.40
		Back	0.386	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.58	0.76	0.72	0.58	0.72
		Left side	0.217	0.226		0.204	0.167		0.197	0.030	0.42	0.44	0.41	0.25	0.44
		Right side	0.203		0.061	0.056		0.131	0.122		0.26	0.33	0.26	0.33	0.33
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.147								0.15	0.15	0.15	0.15	0.15
	LTE Band 12-UAT	Front	0.334	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.46	0.47	0.46	0.37	0.42
		Back	0.230	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.42	0.60	0.57	0.42	0.56
		Left side	0.076	0.226		0.204	0.167		0.197	0.030	0.28	0.30	0.27	0.11	0.30
		Right side	0.110		0.061	0.056		0.131	0.122		0.17	0.24	0.17	0.24	0.23
		Top side	0.186	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.24	0.32	0.50	0.30	0.25

	LTE Band 12-LAT	Front	0.356	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.48	0.49	0.48	0.40	0.44
		Back	0.414	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.60	0.79	0.75	0.61	0.75
		Left side	0.281	0.226		0.204	0.167		0.197	0.030	0.49	0.51	0.48	0.31	0.51
		Right side	0.263		0.061	0.056		0.131	0.122		0.32	0.39	0.32	0.39	0.39
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.233								0.23	0.23	0.23	0.23	0.23
	LTE Band 13-UAT	Front	0.262	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.39	0.39	0.39	0.30	0.35
		Back	0.250	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.44	0.62	0.59	0.44	0.58
		Left side	0.032	0.226		0.204	0.167		0.197	0.030	0.24	0.26	0.23	0.06	0.26
		Right side	0.160		0.061	0.056		0.131	0.122		0.22	0.29	0.22	0.29	0.28
		Top side	0.108	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.17	0.24	0.42	0.22	0.17
	LTE Band 13-LAT	Front	0.563	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.69	0.70	0.69	0.60	0.65
		Back	0.585	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.78	0.96	0.92	0.78	0.92
		Left side	0.360	0.226		0.204	0.167		0.197	0.030	0.56	0.59	0.56	0.39	0.59
		Right side	0.627		0.061	0.056		0.131	0.122		0.68	0.76	0.69	0.76	0.75
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.257								0.26	0.26	0.26	0.26	0.26
	LTE Band 26-UAT	Front	0.180	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.31	0.31	0.31	0.22	0.27
		Back	0.166	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.36	0.54	0.50	0.36	0.50
		Left side	0.023	0.226		0.204	0.167		0.197	0.030	0.23	0.25	0.22	0.05	0.25
		Right side	0.056		0.061	0.056		0.131	0.122		0.11	0.19	0.12	0.19	0.18
		Top side	0.085	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.14	0.21	0.40	0.20	0.14
	LTE Band 26-LAT	Front	0.583	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.71	0.72	0.71	0.62	0.67
		Back	0.617	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.81	0.99	0.95	0.81	0.95
		Left side	0.164	0.226		0.204	0.167		0.197	0.030	0.37	0.39	0.36	0.19	0.39
		Right side	0.415		0.061	0.056		0.131	0.122		0.47	0.55	0.48	0.55	0.54
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.285								0.29	0.29	0.29	0.29	0.29
	LTE Band 66-UAT	Front	0.269	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.39	0.40	0.40	0.31	0.36
		Back	0.327	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.52	0.70	0.66	0.52	0.66
		Left side	0.230	0.226		0.204	0.167		0.197	0.030	0.43	0.46	0.43	0.26	0.46
		Right side			0.061	0.056		0.131	0.122		0.06	0.13	0.06	0.13	0.12
		Top side	0.444	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.50	0.57	0.76	0.55	0.50
	LTE Band 66-LAT	Front	0.632	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.76	0.76	0.76	0.67	0.72
		Back	0.900	0.210	0.032	0.190	0.277	0.163	0.304	0.028	1.09	1.27	1.24	1.09	1.23
		Left side		0.226		0.204	0.167		0.197	0.030	0.20	0.23	0.20	0.03	0.23
		Right side	0.913		0.061	0.056		0.131	0.122		0.97	1.04	0.97	1.04	1.04
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	1.047								1.05	1.05	1.05	1.05	1.05
	LTE Band 25-UAT	Front	0.307	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.43	0.44	0.43	0.35	0.39
		Back	0.405	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.60	0.78	0.74	0.60	0.74
		Left side	0.197	0.226		0.204	0.167		0.197	0.030	0.40	0.42	0.39	0.23	0.42
		Right side			0.061	0.056		0.131	0.122		0.06	0.13	0.06	0.13	0.12
		Top side	0.730	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.79	0.86	1.05	0.84	0.79
	LTE Band 25-LAT	Front	0.946	0.123	0.049	0.125	0.047	0.009	0.056	0.030	1.07	1.08	1.07	0.99	1.03
		Back	1.103	0.210	0.032	0.190	0.277	0.163	0.304	0.028	1.29	1.48	1.44	1.29	1.44
		Left side		0.226		0.204	0.167		0.197	0.030	0.20	0.23	0.20	0.03	0.23
		Right side	1.157		0.061	0.056		0.131	0.122		1.21	1.29	1.22	1.29	1.28
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.728								0.73	0.73	0.73	0.73	0.73

	LTE Band 7-UAT	Front	0.166	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.29	0.30	0.29	0.21	0.25
		Back	0.225	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.42	0.60	0.56	0.42	0.56
		Left side	0.129	0.226		0.204	0.167		0.197	0.030	0.33	0.36	0.33	0.16	0.36
		Right side			0.061	0.056		0.131	0.122		0.06	0.13	0.06	0.13	0.12
		Top side	0.273	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.33	0.40	0.59	0.38	0.33
	LTE Band 7-LAT	Front	0.986	0.123	0.049	0.125	0.047	0.009	0.056	0.030	1.11	1.12	1.11	1.03	1.07
		Back	1.064	0.210	0.032	0.190	0.277	0.163	0.304	0.028	1.25	1.44	1.40	1.26	1.40
		Left side		0.226		0.204	0.167		0.197	0.030	0.20	0.23	0.20	0.03	0.23
		Right side	0.725		0.061	0.056		0.131	0.122		0.78	0.86	0.79	0.86	0.85
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.966								0.97	0.97	0.97	0.97	0.97
	LTE Band 30-UAT	Front	0.183	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.31	0.32	0.31	0.22	0.27
		Back	0.273	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.46	0.65	0.61	0.46	0.61
		Left side	0.071	0.226		0.204	0.167		0.197	0.030	0.28	0.30	0.27	0.10	0.30
		Right side			0.061	0.056		0.131	0.122		0.06	0.13	0.06	0.13	0.12
		Top side	0.415	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.47	0.54	0.73	0.53	0.47
	LTE Band 30-LAT	Front	0.826	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.95	0.96	0.95	0.87	0.91
		Back	1.057	0.210	0.032	0.190	0.277	0.163	0.304	0.028	1.25	1.43	1.39	1.25	1.39
		Left side		0.226		0.204	0.167		0.197	0.030	0.20	0.23	0.20	0.03	0.23
		Right side	0.620		0.061	0.056		0.131	0.122		0.68	0.75	0.68	0.75	0.74
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.174								0.17	0.17	0.17	0.17	0.17
	LTE Band 41-UAT	Front	0.376	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.50	0.51	0.50	0.42	0.46
		Back	0.535	0.210	0.032	0.190	0.277	0.163	0.304	0.028	0.73	0.91	0.87	0.73	0.87
		Left side	0.466	0.226		0.204	0.167		0.197	0.030	0.67	0.69	0.66	0.50	0.69
		Right side			0.061	0.056		0.131	0.122		0.06	0.13	0.06	0.13	0.12
		Top side	0.415	0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.47	0.54	0.73	0.53	0.47
	LTE Band 41-LAT	Front	0.779	0.123	0.049	0.125	0.047	0.009	0.056	0.030	0.90	0.91	0.91	0.82	0.87
		Back	0.855	0.210	0.032	0.190	0.277	0.163	0.304	0.028	1.05	1.23	1.19	1.05	1.19
		Left side		0.226		0.204	0.167		0.197	0.030	0.20	0.23	0.20	0.03	0.23
		Right side	0.569		0.061	0.056		0.131	0.122		0.63	0.70	0.63	0.70	0.69
		Top side		0.049	0.062	0.057	0.224	0.080	0.029	0.030	0.06	0.13	0.32	0.11	0.06
		Bottom side	0.868								0.87	0.87	0.87	0.87	0.87

15.3 Body-Worn Accessory Exposure Conditions

WWAN Band		Exposure Position	1	2	3	4	5	6	7	8	1+4 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+3+5+8 Summed 1g SAR (W/kg)	1+6+8 Summed 1g SAR (W/kg)	1+7+8 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	2.4GHz WLAN MIMO	5GHz WLAN Ant 1	5GHz WLAN Ant 2	5GHz WLAN MIMO	Bluetooth					
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
GSM	GSM 850-UAT	Front	0.173	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.30	0.31	0.34	0.21	0.32
		Back	0.188	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.38	0.53	0.56	0.34	0.54
	GSM 850-LAT	Front	0.493	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.62	0.63	0.66	0.53	0.64
		Back	0.691	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.88	1.03	1.06	0.85	1.05
	GSM 1900-UAT	Front	0.175	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.30	0.31	0.35	0.22	0.32
		Back	0.287	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.48	0.62	0.66	0.44	0.64
	GSM 1900-LAT	Front	0.374	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.50	0.51	0.55	0.41	0.52
		Back	0.463	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.65	0.80	0.83	0.62	0.82
WCDMA	WCDMA V-UAT	Front	0.099	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.22	0.23	0.27	0.14	0.24
		Back	0.102	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.29	0.44	0.47	0.26	0.46
	WCDMA V-LAT	Front	0.505	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.63	0.64	0.68	0.55	0.65
		Back	0.637	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.83	0.97	1.01	0.79	0.99
	WCDMA II-UAT	Front	0.196	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.32	0.33	0.37	0.24	0.34
		Back	0.253	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.44	0.59	0.62	0.41	0.61
	WCDMA II-LAT	Front	0.756	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.88	0.89	0.93	0.80	0.90
		Back	1.067	0.210	0.032	0.190	0.311	0.127	0.327	0.028	1.26	1.40	1.44	1.22	1.42
	WCDMA IV-UAT	Front	0.198	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.32	0.33	0.37	0.24	0.34
		Back	0.209	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.40	0.55	0.58	0.36	0.56
	WCDMA IV-LAT	Front	0.462	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.59	0.60	0.63	0.50	0.61
		Back	0.825	0.210	0.032	0.190	0.311	0.127	0.327	0.028	1.02	1.16	1.20	0.98	1.18

WWAN Band		Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1 1g SAR (W/kg)	3 2.4GHz WLAN Ant 2 1g SAR (W/kg)	4 2.4GHz WLAN MIMO 1g SAR (W/kg)	5 5GHz WLAN Ant 1 1g SAR (W/kg)	6 5GHz WLAN Ant 2 1g SAR (W/kg)	7 5GHz WLAN MIMO 1g SAR (W/kg)	8 Bluetooth 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+3+5+8 Summed 1g SAR (W/kg)	1+6+8 Summed 1g SAR (W/kg)	1+7+8 Summed 1g SAR (W/kg)
LTE	LTE Band 71-UAT	Front	0.270	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.40	0.41	0.44	0.31	0.41
		Back	0.216	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.41	0.55	0.59	0.37	0.57
	LTE Band 71-LAT	Front	0.316	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.44	0.45	0.49	0.36	0.46
		Back	0.386	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.58	0.72	0.76	0.54	0.74
	LTE Band 12-UAT	Front	0.334	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.46	0.47	0.51	0.37	0.48
		Back	0.230	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.42	0.57	0.60	0.39	0.59
	LTE Band 12-LAT	Front	0.356	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.48	0.49	0.53	0.40	0.50
		Back	0.414	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.60	0.75	0.79	0.57	0.77
	LTE Band 13-UAT	Front	0.262	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.39	0.40	0.43	0.30	0.41
		Back	0.250	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.44	0.59	0.62	0.41	0.61
	LTE Band 13-LAT	Front	0.563	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.69	0.70	0.73	0.60	0.71
		Back	0.585	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.78	0.92	0.96	0.74	0.94
	LTE Band 26-UAT	Front	0.180	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.31	0.32	0.35	0.22	0.32
		Back	0.166	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.36	0.50	0.54	0.32	0.52
	LTE Band 26-LAT	Front	0.583	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.71	0.72	0.75	0.62	0.73
		Back	0.617	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.81	0.95	0.99	0.77	0.97
	LTE Band 66-UAT	Front	0.269	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.39	0.40	0.44	0.31	0.41
		Back	0.327	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.52	0.66	0.70	0.48	0.68
	LTE Band 66-LAT	Front	0.632	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.76	0.77	0.80	0.67	0.78
		Back	0.900	0.210	0.032	0.190	0.311	0.127	0.327	0.028	1.09	1.24	1.27	1.06	1.26
	LTE Band 25-UAT	Front	0.307	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.43	0.44	0.48	0.35	0.45
		Back	0.405	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.60	0.74	0.78	0.56	0.76
	LTE Band 25-LAT	Front	0.946	0.123	0.049	0.125	0.094	0.012	0.115	0.028	1.07	1.08	1.12	0.99	1.09
		Back	1.103	0.210	0.032	0.190	0.311	0.127	0.327	0.028	1.29	1.44	1.47	1.26	1.46
	LTE Band 7-UAT	Front	0.166	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.29	0.30	0.34	0.21	0.31
		Back	0.225	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.42	0.56	0.60	0.38	0.58
	LTE Band 7-LAT	Front	0.986	0.123	0.049	0.125	0.094	0.012	0.115	0.028	1.11	1.12	1.16	1.03	1.13
		Back	1.064	0.210	0.032	0.190	0.311	0.127	0.327	0.028	1.25	1.40	1.44	1.22	1.42
	LTE Band 30-UAT	Front	0.183	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.31	0.32	0.35	0.22	0.33
		Back	0.273	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.46	0.61	0.64	0.43	0.63
	LTE Band 30-LAT	Front	0.826	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.95	0.96	1.00	0.87	0.97
		Back	1.057	0.210	0.032	0.190	0.311	0.127	0.327	0.028	1.25	1.39	1.43	1.21	1.41
	LTE Band 41-UAT	Front	0.376	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.50	0.51	0.55	0.42	0.52
		Back	0.535	0.210	0.032	0.190	0.311	0.127	0.327	0.028	0.73	0.87	0.91	0.69	0.89
	LTE Band 41-LAT	Front	0.779	0.123	0.049	0.125	0.094	0.012	0.115	0.028	0.90	0.91	0.95	0.82	0.92
		Back	0.855	0.210	0.032	0.190	0.311	0.127	0.327	0.028	1.05	1.19	1.23	1.01	1.21

Test Engineer： Nick Hu, Yuan Zhao, Jiaxing Chang, Yuankai Kong

16. Uncertainty Assessment

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

17. References

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

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

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

[4] SPEAG DASY System Handbook

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

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

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

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

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

[10] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015

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

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

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

Appendix A. Plots of System Performance Check

The plots are shown as follows.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2019.7.14

System Check_Head_750MHz

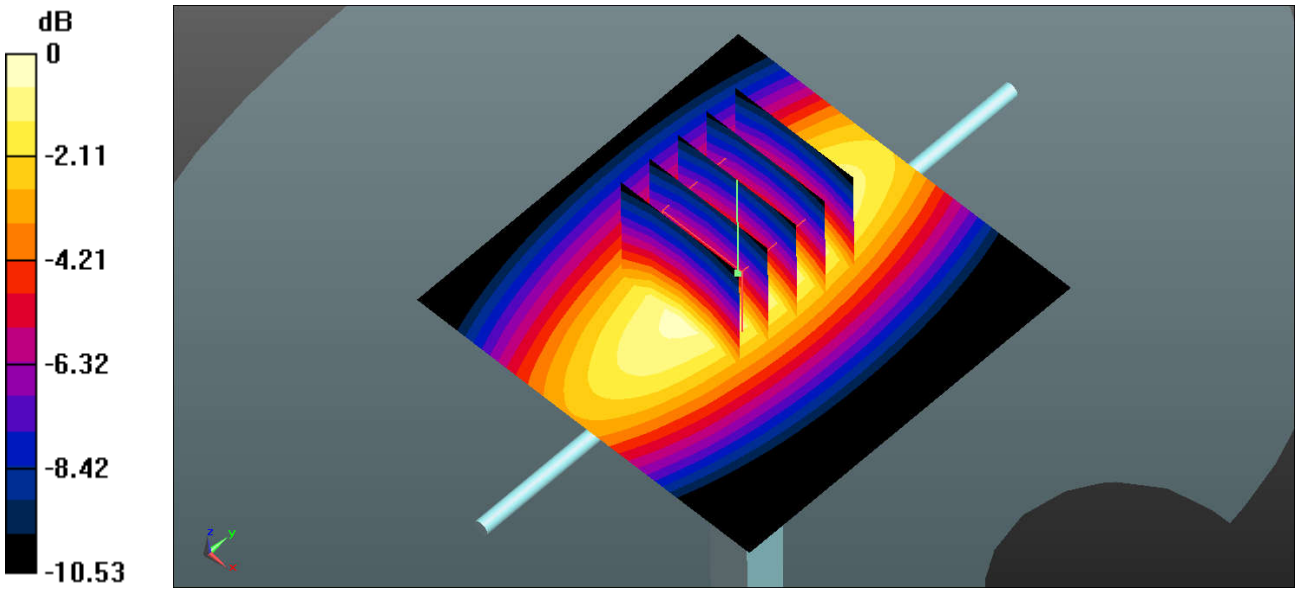
DUT: D750V3 - SN:1087

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.903 S/m; ε_r = 42.105; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃； Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: ES3DV3-SN3279; ConvF(6.58, 6.58, 6.58); Calibrated: 2019.3.4
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.1.25
- Phantom: SAM1; Type: SAM; Serial: TP-1842
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7372)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.74 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 49.31 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 3.29 W/kg
SAR(1 g) = 2.17 W/kg; SAR(10 g) = 1.43 W/kg
Maximum value of SAR (measured) = 2.77 W/kg



0 dB = 2.77 W/kg = 4.42 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2019.7.5

System Check_Head_835MHz

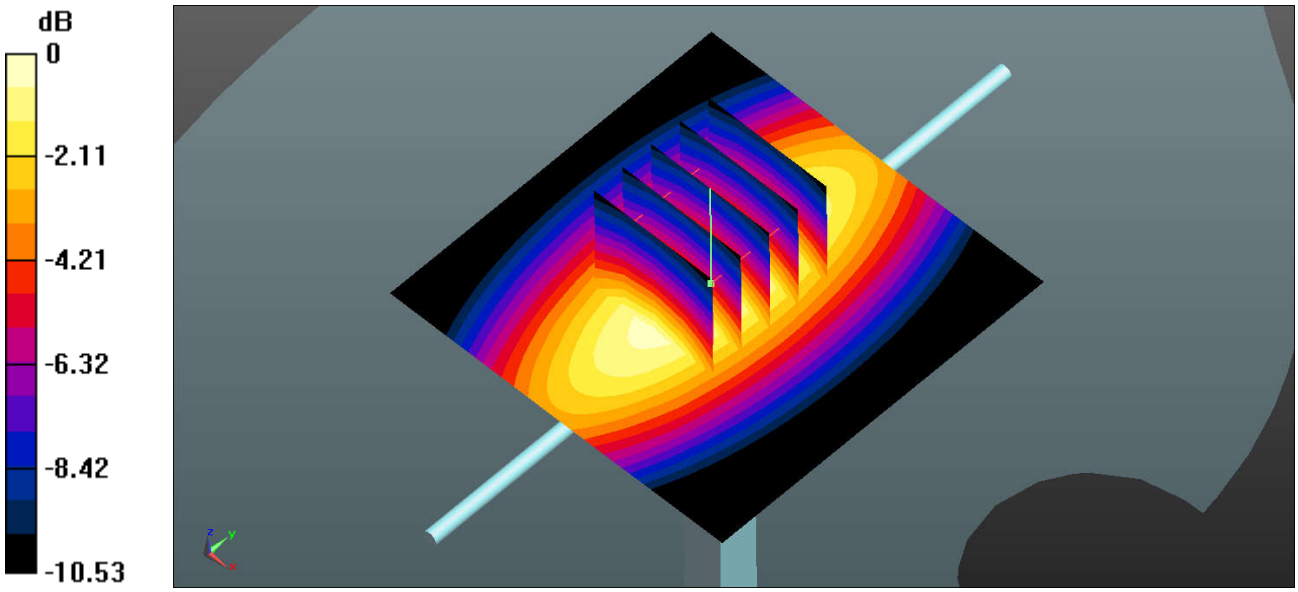
DUT: D835V2 - SN:4d151

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.908 S/m; ε_r = 42.255; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃； Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: ES3DV3-SN3279; ConvF(6.38, 6.38, 6.38); Calibrated: 2019.3.4
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.1.25
- Phantom: SAM1; Type: SAM; Serial: TP-1842
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7372)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.07 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.73 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 3.54 W/kg
SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.6 W/kg
Maximum value of SAR (measured) = 3.05 W/kg



0 dB = 3.05 W/kg = 4.84 dBW/kg