TEST REPORT

APPLICANT	:	Nubia Technology Co.,Ltd
PRODUCT NAME	:	NX619J
MODEL NAME	:	NX619J
BRAND NAME	:	NUBIA
FCC ID	:	2AHJO-NX619J
STANDARD(S)	:	47CFR 2.1093 IEEE 1528-2013
RECEIPT DATE	:	2018-11-27
TEST DATE	:	2018-12-03 to 2019-01-30
ISSUE DATE	:	2019-01-30

Edited by : Liang Yumei

Liang yumei (Rapporteur)

Approved by: Peng Hu

Peng Huarui (Supervisor)

NOTE: This document is issued by MORLAB, the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.

MORLAB

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.
FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road,
Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

Tel: 86-755-36698555 Fax: 86-755-36698525

Http://www.morlab.cn E-mail: service@morlab.cn

DIRECTORY

1. SAR Results Summary 4
2. Technical Information 6
2.1. Applicant and ManufacturerInformation 6
2.2. Equipment Under Test (EUT) Description 6
2.3. Photographs of the EUT 8
3. Specific Absorption Rate (SAR) 9
3.1. Introduction 9
3.2. SAR Definition 9
4. RF Exposure Limits 10
5. Applied Reference Documents 10
6. SAR Measurement System 11
6.1. E-Field Probe 13
6.2. Data Acquisition Electronics (DAE) 14
6.3. Robot 15
6.4. Measurement Server 15
6.5. Light Beam Unit 16
6.6. Phantom 16
6.7. Device Holder 17
6.8. Data Storage and Evaluation 18
7. Tissue Simulating Liquids 21
8. SAR System Verification 24
8.1. Purpose of System Performance check 24
8.2. System Setup 24
8.3. Validation Results 25

9. EUT Testing Position 27
9.1. Handset Reference Points 27
9.2. Positioning for Cheek / Touch 29
9.3. Positioning for Ear / 15º Tilt 30
9.4. SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom 30
9.5. Body-worn Configurations 31
9.6. Hotspot Mode Exposure Position Conditions 31
10. Measurement Procedures 32
10.1. Spatial Peak SAR Evaluation 33
10.2. Power Reference Measurement 33
10.3. Area Scan Procedures 34
10.4. Zoom Scan Procedures 34
10.5. SAR Averaged Methods 34
10.6. Power Drift Monitoring 35
11. SAR Test Procedure 36
11.1. General scan Requirements 36
11.2. Test procedure 37
11.3. Description of interpolation/extrapolation scheme 37
11.4. Wireless Router 38
12. SAR Test Configuration 39
13. Conducted RF Output Power 48
13.1. Full Power 48
13.2. Down Power 94
14. LTE Carrier Aggregation 148
14.1. LTE Downlink Carrier Aggregation Conducted Power 149
15. Hot-Spot Mode Evaluation Procedure 151
15.1. EUT Antenna Location 151
16. Block diagram of the tests to be performed 153

16.1. Head 153
16.2. Body 154
17. Test Results List 155
17.1. Test Guidance 155
17.2. Head SAR Data 157
17.3. Body-worn SAR Data 176
17.4. Hotspot SAR Data 185
17.5. Repeated SAR Measurement 205
18. Stand-alone SAR test Exclusion 208
19. Simultaneous Transmission Evaluation 209
20. Uncertainty Assessment 224
Annex A General Information
Annex B Test Setup Photos
Annex C Plots of System Performance Check
Annex D Plots of Maximum SAR Test Results
Annex E DASY Calibration Certificate

Change history			
Version	**Date**	**Reason for change**	**Test engineer**
1.0	2019-01-30	Original	Liang Yumei Chen Hao

1. SAR Results Summary

The maximum results of Specific Absorption Rate (SAR) found during test as bellows:

<Highest Reported standalone SAR Summary>

Frequency Band		Highest SAR Summary		
		Head (Separation 0mm)	Body-worn (Separation 10mm)	Hotspot (Separation 10mm)
		1g SAR (W/kg)		
GSM	GSM850	1.152	0.405	0.443
	GSM1900	0.841	0.147	0.167
WCDMA	WCDMA Band II	1.027	0.212	0.400
	WCDMA Band IV	1.195	0.272	0.422
	WCDMA Band V	0.985	0.295	0.339
CDMA	CDMA2000 BC0	0.744	0.243	0.262
LTE	LTE Band 2	1.040	0.272	0.487
	LTE Band 4	1.020	0.191	0.366
	LTE Band 5	0.783	0.237	0.299
	LTE Band 7	0.916	0.850	0.850
	LTE Band 17	1.022	0.402	0.478
	LTE Band 18	0.803	0.219	0.274
	LTE Band 19	0.803	0.228	0.269
	LTE Band 25	1.066	0.245	0.391
	LTE Band 26	0.861	0.202	0.238
	LTE Band 30	0.828	0.456	0.456
	LTE Band 38	0.919	0.312	0.424
	LTE Band 40	0.532	0.232	0.265
	LTE Band 41	1.183	0.345	0.405
	LTE Band 66	0.941	0.179	0.321
WLAN	2.4GHz WLAN	0.334	0.207	0.309
	5GHz WLAN	0.757	0.122	0.122
2.4GHz Band	Bluetooth	N/A	0.110	0.110
Highest Simultaneous Transmission		Head	Body-worn	Hotspot
WWAN + 2.4GHz WLAN		1.375	1.054	1.054
WWAN + 5GHz WLAN		1.586	0.972	0.972
WWAN + Bluetooth		N/A	0.960	0.960

Max Scaled SAR_{1g} (W/Kg):	Head:	1.195 W/kg	Limit(W/kg): 1.6 W/kg
	Body:	0.850 W/kg	
	Hotspot:	0.850 W/kg	

Note:

This device is in compliance with Specific Absorption Rate (SAR) for generalpopulation/uncontrolled exposure limits (1.6W/kg as averaged over any 1 gram of tissue; 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. Technical Information

Note: Provide by applicant.

2.1. Applicant and ManufacturerInformation

Applicant:	Nubia Technology Co.,Ltd
Applicant Address:	10/F, Tower A, Hans Innovation Mansion, North Ring Rd., No.9018, High-Tech Park, Nanshan District, Shenzhen, China
Manufacturer:	Nubia Technology Co.,Ltd
Manufacturer Address:	10/F, Tower A, Hans Innovation Mansion, North Ring Rd., No.9018, High-Tech Park, Nanshan District, Shenzhen, China

2.2. Equipment Under Test (EUT) Description

EUT Type:	NX619J
Hardware Version:	NX619J_V1AMB
Software Version:	NX619J_ENCommon_V1.03
Frequency Bands:	GSM 850: 824.2 MHz ~ 848.8 MHz GSM 1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz CDMA BC 0: 824.7 ~ 848.31 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12:699 MHz ~ 716 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 18: 815 MHz ~ 830 MHz LTE Band 19: 830 MHz ~ 845 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620MHz LTE Band 40: Band 1 2305 MHz ~ 2315 MHz Band 2 2350 MHz ~ 2360 MHz LTE Band 41: 2496 MHz ~ 2690 MHz

	LTE Band 66: 1710 MHz ~ 1780 MHz WLAN 2.4GHz: 2412 MHz ~ 2462 MHz WLAN 5.2GHz: 5180 MHz ~ 5240 MHz WLAN 5.3GHz: 5260 MHz ~ 5320 MHz WLAN 5.5GHz: 5500 MHz ~ 5720 MHz WLAN 5.8GHz: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Modulation Mode:	GSM/GPRS: GMSK EDGE: 8PSK WCDMA: QPSK/16QAM CDMA2000 1XRTT: QPSK CDMA2000 1XEV-DO: QPSK LTE: QPSK/16QAM/64QAM 802.11b: DSSS 802.11a/g/n-HT20/HT40/ac-VHT40/VHT80: OFDM Bluetooth BR+EDR: GFSK, π/4-DQPSK, 8-DPSK Bluetooth LE: GFSK
Multi-slot Class:	GPRS: Multi-slot Class 12; EDGE: Multi-slot Class 12;
Operation Class:	Class B
Hotspot Mode:	Support
Antenna Type:	PIFA Antenna
Battery:	3800mAh 3.85V
SIM Cards Description:	For dual SIM card version, SIM 1 and SIM 2 are the same chipset unit and tested as a single chipset, the SIM 1 is chosen for test
LTE Carrier Aggregation Combinations	This device supports LTE Carrier Aggregation (CA) in the downlink for LTE B38/40/41 with two component carriers in Intra-Band, and it does not support CA non-contiguous mode.
MIMO	WLAN MIMO + Diversity

Note: For a more detailed description, please refer to specification or user's manual supplied by the applicant and/or manufacturer.

2.3. Photographs of the EUT

Normal Temperature (NT):	20 ... 25 °C
Relative Humidity:	30 ... 75 %
Air Pressure:	980 ... 1020 hPa

Test frequency:	GSM 850MHz/1900MHz; WCDMA Band II/IV/V; CDMA BC 0; FDD-LTE Band 2/4/5/7/12/17/18/19/25/26/30/66; TDD-LTE Band 38/40/41; WLAN 2.4GHz; WLAN 5GHz;
Operation mode:	Call established
Power Level:	GSM 850 MHz Maximum output power(level 5) GSM 1900MHz Maximum output power(level 0) WCDMA Band II/IV/V (All Up Bits) CDMA BC 0(Maximum output power) FDD-LTE Band 2/4/5/7/12/17/18/19/25/26/30/66 (Maximum output power) TDD-LTE Band 38/40/41 (Maximum output power) WLAN 2.4GHz (Maximum output power) WLAN 5GHz (Maximum output power)

During SAR test, EUT is in Traffic Mode (Channel Allocated) at Normal Voltage Condition. A communication link is set up with a System Simulator (SS) by air link, and a call is established.

The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the Factory. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the handset.
The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the handset by at least 35 dB.

For SAR testing, EUT is in GPRS mode. In GPRS link mode, its crest factor is 2, because EUT is set in GPRS multi-slot class 12 with 4 uplink slots. In WCDMA and WI-FI mode, its crest factor is 1.

3. Specific Absorption Rate (SAR)

3.1. Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radiofield. The SAR distribution in a biological body is complicated and is usually carried out byexperimental techniques or numerical modeling. The standard recommends limits for two tiers ofgroups, occupational/controlled and general population/uncontrolled, based on a person's awarenessand ability to exercise control over his or her exposure.
Ingeneral,occupational/controlled exposurelimits are Middle than the limits for general population/uncontrolled.

3.2. 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)
SAR measurement can be either related to the temperature elevation in tissue by,

$$\mathbf{SAR} = \mathbf{C}\left(\frac{\boldsymbol{\delta}\mathbf{T}}{\boldsymbol{\delta}\mathbf{t}}\right)$$

Where C is the specific head capacity, δT is the temperature rise and δt the exposure duration, or related to the electrical field in the tissue by

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

Where σ is the conductivity of the tissue, ρ is the mass density of the tissue and $|E|$ is the rmselectrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

4. RF Exposure Limits

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

Type Exposure	Uncontrolled Environment Limit
Spatial Peak SAR (1g cube tissue for head and trunk)	1.60W/kg
Spatial Peak SAR (10g cube tissue for limbs)	4.00W/kg
Spatial Peak SAR (1g cube tissue for whole body)	0.08W/kg

Note:

1. This limit is according to recommendation1999/519/EC, Annex II (Basic Restrictions)
2. Occupational/Uncontrolled Environments are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure,(i.e. as a result of employment or occupation)

5. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	47 CFR§2.1093	Radio Frequency Radiation Exposure Evaluation: Portable Devices
2	IEEE 1528-2013	IEEE Recommended Practice forDetermining the Peak Spatial-AverageSpecific Absorption Rate (SAR) in theHuman Head from WirelessCommunications Devices:Measurement Techniques
3	KDB 447498 D01v06	General RF Exposure Guidance
4	KDB 248227 D01v02r02	SAR Measurement Procedures for 802.11 Transmitters
5	KDB 865664 D01v01r04	SAR Measurement 100 MHz to 6 GHz
6	KDB 865664 D02v01r02	RF Exposure Reporting
7	KDB 648474 D04v01r03	Handset SAR
8	KDB 941225 D01v03r01	3G SAR MEAUREMENT PROCEDURES
9	KDB 941225 D05v02r05	SAR Evaluation Consideration for LTE Devices

No.	Identity	Document Title
10	KDB 941225 D06v02r01	SAR EvaluationProcedures For Portable Devices With Wireless Router Capabilities

6. SAR Measurement System

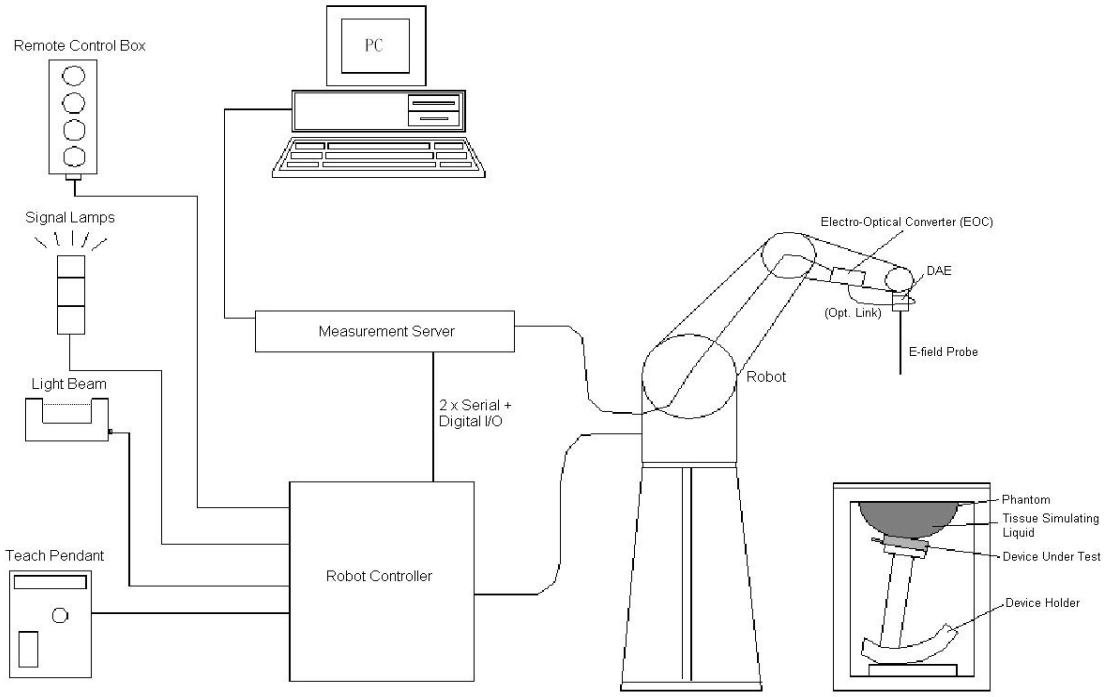


Fig 6.1 SPEAG DASY System Configurations

The DASY system for performance compliance tests is illustrated above graphically. This system consists of the following items:

A standard high precision 6-axis robot with controller, a teach pendant and software

A data acquisition electronic (DAE) attached to the robot arm extension

A dosimetric probe equipped with an optical surface detector system

The electro-optical converter (ECO) performs the conversion between optical and electrical signals

A measurement server performs the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.

A probe alignment unit which improves the accuracy of the probe positioning

A computer operating Windows XP

DASY software

Remove control with teach pendant and additional circuitry for robot safety such as warming lamps,

etc.
The SAM twin phantom
A device holder
Tissue simulating liquid
Dipole for evaluating the proper functioning of the system
Some of the components are described in details in the following sub-sections.

6.1. 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.

E-Field ProbeSpecification

<EX3DV4 Probe>

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotationnormal to probe axis)	
Dynamic Range	10 µW/g to 100 mW/g; Linearity: ± 0.2 dB	
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipolecenters: 1 mm	**Fig 6.3 Photo of EX3DV4**

E-Field Probe Calibration

Each probe needs to be calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy shall be evaluated and within ± 0.25 dB. The sensitivity parameters (NormX, NormY, and NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested. The calibration data can be referred to appendix C of this report.

6.2. Data Acquisition Electronics (DAE)

The data acquisition electronics(DAE) consists of a highlysensitive electrometer-grade preamplifier with auto-zeroing, achanneland gain-switching multiplexer, a fast16 bitAD-converter and a command decoder and control logic unit. AD-converter and a command decoder and control logic unit.Transmission to the measurement server is accomplishedthrough an optical downlink for data and status information as well as an optical uplink for commands and the clock. Theinput impedance of the DAE is 200MOhm; the inputs aresymmetrical and floating. Common mode rejection is above 80 dB.

Fig 6.4Photo of DAE

6.3. Robot

The SPEAG DASY system uses the high precision robots (DASY4: RX90BL; DASY5: TX90XL) type fromStäubli SA (France). For the 6-axis controller system, the robot controller version (DASY4: CS7MB; DASY5: CS8c) from Stäubli is used. The Stäubli robot series have many features that are important for our application:
High precision (repeatability ±0.035 mm)
High reliability (industrial design)
Jerk-free straight movements
Low ELF interference (the closed metallic construction shields against motor control fields)

Fig 6.5 Photo of DASY5

6.4. Measurement Server

The measurement server is based on a PC/104 CPU board with CPU (DASY4: 166 MHz, Intel Pentium;

DASY5: 400 MHz, Intel Celeron), chipdisk (DASY4: 32 MB; DASY5: 128 MB), RAM (DASY4: 64 MB, DASY5: 128 MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY I/O board, which is directly connected to the PC/104 bus of the CPU board.

The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.

Fig 6.6Photo of Server for DASY5

6.5. Light Beam Unit

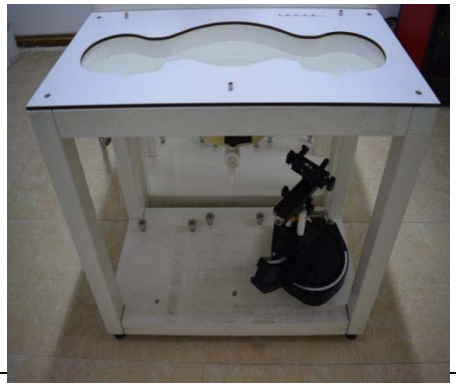
The light beam switch allows automatic "tooling" of the probe. During the process, the actualposition of the probe tip with respect to the robot arm is measured, as well as the probe lengthand the horizontal probe offset. The software then corrects all movements, such that the robotcoordinates are valid for the probe tip.

The repeatability of this process is better than0.1 mm. If a position has been taught with analigned probe, the same position will be reachedwith another aligned probe within 0.1 mm, even ifthe other probe has different dimensions. Duringprobe rotations, the probe tip will keep its actualposition.

Fig. 6.7 Photo of Light Beam

6.6. Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%) 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	**Fig 6.8Photo of SAM 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.

6.7. Device Holder

<Device Holder for SAM Twin Phantom>

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (EPR). Thus the device needs no repositioning when changing the angles.

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

Fig 6.9 Device Holder

<Laptop Extension Kit>

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.

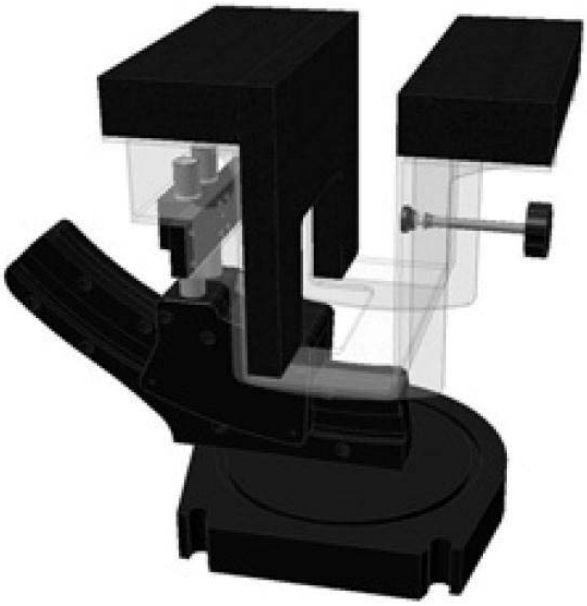


Fig 6.10Laptop Extension Kit

6.8. Data Storage and Evaluation

Data Storage

The DASY software stores the assessed data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all the necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files. The post-processing software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of erroneous parameter settings. For example, if a measurement has been performed with an incorrect crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be reevaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type (e.g., [V/m], [A/m], [mW/g]). Some of these units are not available in certain situations or give meaningless results, e.g., a SAR-output in a non-lose media, will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

Data Evaluation

The DASY post-processing software (SEMCAD) automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software.

Probe parameters:	- Sensitivity	$Norm_i$, a_{i0}, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	σ
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multi-meter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power.

The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \times \frac{cf}{dcp_i}$$

With Vi = compensated signal of channel i, (i = x, y, z)
Ui = input signal of channel i, (i = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcpi = diode compression point (DASY parameter)

From the compensated input signals, the primary field data for each channel can be evaluated:

E-field Probes: $E_i = \sqrt{\frac{V_i}{Norm_i \times ConvF}}$

H-field Probes: $H_i = \sqrt{V_i} \times \frac{a_{i0}+a_{i1}+a_{i2}f^2}{f}$

With V_i = compensated signal of channel i, (i = x, y, z)
$Norm_i$ = sensor sensitivity of channel i, (i = x, y, z), μV/(V/m)^2 forE-field
Probes ConvF = sensitivity enhancement in solution
a_{ij} = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
E_i = electric field strength of channel i in V/m
H_i = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The primary field data are used to calculate the derived field units.

$$SAR = E_{tot}^2 \times \frac{\sigma}{\rho \times 1000}$$

with SAR = local specific absorption rate in mW/g
E_{tot} = total field strength in V/m
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm^3

Note that the density is set to 1, to account for actual head tissue density rather than the density of the tissue simulating liquid.

7. Tissue Simulating Liquids

ForSARmeasurement ofthefielddistributioninsidethephantom,thephantommustbefilledwithhomogeneous tissue simulatingliquidtoadepthofatleast15cm.ForheadSARtesting, theliquidheightfromtheearreference point(ERP)ofthephantomtotheliquidtopsurfaceislargerthan15cm.Forbody SARtesting, theliquidheight fromthecenteroftheflatphantomtotheliquidtopsurfaceislargerthan15cm,which is shown in Fig. 5.1. 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. 5.2.Thenominaldielectricvaluesofthe tissuesimulatingliquidsin thephantomandthetoleranceof 5%are listedinbelow table.

Fig 7.1 Photo of Liquid Height for Head SAR

Fig 7.2 Photo of Liquid Height for Body SAR

Thefollowingtablegivestherecipesfortissuesimulatingliquids

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
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
Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

Note: Please refer to the validation results for dielectric parameters of each frequency band.
The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation

using an Agilent 85033E Dielectric Probe Kit and an Agilent Network Analyzer.

Table 1: Dielectric Performance of Tissue Simulating Liquid

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Conductivity Target (σ)	Delta (σ) (%)	Limit (%)	Date
750	HSL	22.4	0.885	0.89	-0.56	±5	2018.12.04
835	HSL	22.4	0.900	0.90	0.00	±5	2018.12.03
1750	HSL	22.1	1.388	1.37	1.31	±5	2018.12.05
1900	HSL	22.5	1.460	1.40	4.29	±5	2018.12.05
2300	HSL	22.2	1.649	1.67	-1.26	±5	2019.01.30
2450	HSL	22.4	1.865	1.80	3.61	±5	2018.12.17
2600	HSL	22.3	2.054	1.96	4.80	±5	2018.12.06
5250	HSL	22.7	4.484	4.71	-4.80	±5	2018.12.17
5600	HSL	22.7	5.115	5.07	0.89	±5	2018.12.17
5750	HSL	22.7	5.473	5.22	4.85	±5	2018.12.17
750	MSL	22.4	0.963	0.96	0.31	±5	2018.12.26
835	MSL	22.5	0.985	0.97	1.55	±5	2018.12.16
1750	MSL	22.2	1.448	1.49	-2.82	±5	2018.12.13
1900	MSL	22.4	1.519	1.52	-0.07	±5	2018.12.14
2300	MSL	22.2	1.857	1.81	2.60	±5	2019.01.30
2450	MSL	22.4	1.921	1.95	-1.49	±5	2018.12.25
2600	MSL	22.3	2.217	2.16	2.64	±5	2018.12.13
5250	MSL	22.4	5.431	5.36	1.32	±5	2018.12.22
5600	MSL	22.4	5.820	5.77	0.87	±5	2018.12.22
5750	MSL	22.4	6.038	5.94	1.65	±5	2018.12.22

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Permittivity (ε_r)	Permittivity Target (ε_r)	Delta (ε_r) (%)	Limit (%)	Date
750	HSL	22.4	40.799	41.90	-2.63	±5	2018.12.04
835	HSL	22.4	40.940	41.50	-1.35	±5	2018.12.03
1750	HSL	22.1	41.364	40.10	3.15	±5	2018.12.05
1900	HSL	22.5	40.899	40.00	2.25	±5	2018.12.05
2300	HSL	22.2	40.167	39.50	1.69	±5	2019.01.30
2450	HSL	22.4	37.909	39.20	-3.29	±5	2018.12.17
2600	HSL	22.3	37.977	39.00	-2.62	±5	2018.12.06
5250	HSL	22.7	35.031	35.95	-2.56	±5	2018.12.17
5600	HSL	22.7	36.513	35.50	2.85	±5	2018.12.17
5750	HSL	22.7	35.822	35.35	1.34	±5	2018.12.17
750	MSL	22.4	54.224	55.50	-2.30	±5	2018.12.26
835	MSL	22.5	57.348	55.20	3.89	±5	2018.12.16
1750	MSL	22.2	54.716	53.40	2.46	±5	2018.12.13
1900	MSL	22.4	53.569	53.30	0.50	±5	2018.12.14
2300	MSL	22.2	51.483	52.90	-2.68	±5	2019.01.30
2450	MSL	22.4	50.990	52.70	-3.24	±5	2018.12.25
2600	MSL	22.3	50.697	52.50	-3.43	±5	2018.12.13
5250	MSL	22.4	47.900	48.95	-2.15	±5	2018.12.22
5600	MSL	22.4	47.377	48.50	-2.32	±5	2018.12.22
5750	MSL	22.4	47.059	48.28	-2.53	±5	2018.12.22

8. SAR System Verification

Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix it underneath the flat phantom and a corresponding distance holder.

8.1. Purpose of System Performance check

The system performance check verifies that the system operates within its specifications. System andoperator errors can be detected and corrected. It is recommended that the systemperformance check be performed prior to any usage of the system in order to guaranteereproducible results. The system performance check uses normal SAR measurements in asimplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

8.2. System Setup

The output power on dipole port must be calibrated to 24 dBm (250 mW) before dipole is connected.
In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and thepower source is replaced by a continuous wave which comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom.The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below.

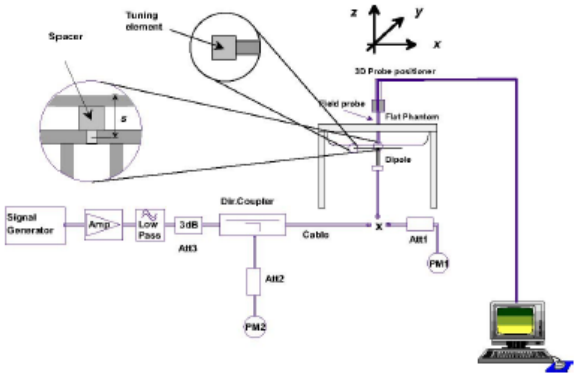


Fig 8.1 Photo of Dipole SetupFig 8.2 System Setup for System Evaluation

8.3. Validation Results

After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

<Validation Setup>

Frequency (MHz)2	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N
750	HSL	250	D750V3-1173	7445	480
835	HSL	250	D835V2-4d227	3823	480
1750	HSL	250	D1750V2-1160	3823	480
1900	HSL	250	D1900V2_5d221	3823	480
2300	HSL	250	D2300V2_1056	3823	480
2450	HSL	250	D2450V2-997	3823	480
2600	HSL	250	D2600V2-1139	3823	480
5250	HSL	100	D5GHzV2-1176-5250	3823	480
5600	HSL	100	D5GHzV2-1176-5600	3823	480
5750	HSL	100	D5GHzV2-1176-5750	3823	480
750	MSL	250	D750V3-1173	7445	480
835	MSL	250	D835V2-4d227	3823	480
1750	MSL	250	D1750V2-1160	3823	480
1900	MSL	250	D1900V2_5d221	3823	480
2300	MSL	250	D2300V2_1056	3823	480
2450	MSL	250	D2450V2-997	3823	480
2600	MSL	250	D2600V2-1139	3823	480
5250	MSL	100	D5GHzV2-1176-5250	3823	480
5600	MSL	100	D5GHzV2-1176-5600	3823	480
5750	MSL	100	D5GHzV2-1176-5750	3823	480

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2018.12.04	750	HSL	250	2.09	8.26	8.36	1.21
2018.12.03	835	HSL	250	2.37	9.34	9.48	1.50
2018.12.05	1750	HSL	250	9.50	37.10	38	2.43
2018.12.05	1900	HSL	250	10.24	39.50	40.96	3.70

2019.01.30	2300	HSL	250	11.62	47.70	46.48	2.62
2018.12.17	2450	HSL	250	13.20	52.90	52.8	-0.19
2018.12.06	2600	HSL	250	13.34	54.00	53.36	-1.19
2018.12.17	5250	HSL	100	7.82	78.90	78.2	-0.89
2018.12.17	5600	HSL	100	8.03	80.90	80.3	-0.74
2018.12.17	5750	HSL	100	7.99	80.00	79.9	-0.12
2018.12.26	750	MSL	250	2.24	8.65	8.96	3.58
2018.12.16	835	MSL	250	2.52	9.61	10.08	4.89
2018.12.13	1750	MSL	250	9.38	37.40	37.52	0.32
2018.12.14	1900	MSL	250	9.87	39.90	39.48	-1.05
2019.01.30	2300	MSL	250	12.12	47.90	48.48	-1.20
2018.12.25	2450	MSL	250	12.70	51.50	50.8	-1.36
2018.12.13	2600	MSL	250	13.70	54.00	54.8	1.48
2018.12.22	5250	MSL	100	7.50	72.70	75	3.16
2018.12.22	5600	MSL	100	8.11	77.30	81.1	4.92
2018.12.22	5750	MSL	100	8.03	75.30	80.3	6.64

<10g SAR>

Date	Frequency (MHz)2	Tissue Type	Input Power (mW)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)3	Normalized 10g SAR (W/kg)	Deviation (%)
2018.12.04	750	HSL	250	1.37	5.45	5.48	0.55
2018.12.03	835	HSL	250	1.53	6.07	6.12	0.82
2018.12.05	1750	HSL	250	5.14	20.00	20.56	2.80
2018.12.05	1900	HSL	250	5.34	20.60	21.36	3.69
2019.01.30	2300	HSL	250	5.71	23.10	22.96	0.61
2018.12.17	2450	HSL	250	6.11	24.90	24.44	-1.85
2018.12.06	2600	HSL	250	6.32	24.50	25.28	3.18
2018.12.17	5250	HSL	100	2.21	22.50	22.1	-1.78
2018.12.17	5600	HSL	100	2.22	23.10	22.2	-3.90
2018.12.17	5750	HSL	100	2.21	22.60	22.1	-2.21
2018.12.26	750	MSL	250	1.45	5.71	5.8	1.58
2018.12.16	835	MSL	250	1.61	6.31	6.44	2.06
2018.12.13	1750	MSL	250	4.97	19.90	19.88	-0.10
2018.12.14	1900	MSL	250	5.17	20.70	20.68	-0.10
2019.01.30	2300	MSL	250	6.01	23.00	24.04	-4.33
2018.12.25	2450	MSL	250	5.82	23.80	23.28	-2.18

2018.12.13	2600	MSL	250	6.08	24.20	24.32	0.50
2018.12.22	5250	MSL	100	2.15	20.60	21.5	4.37
2018.12.22	5600	MSL	100	2.14	21.80	21.4	-1.83
2018.12.22	5750	MSL	100	2.18	21.10	21.8	3.32

Note: System checks the specific test data please see Annex C

9. EUT Testing Position

This EUT was tested in six different positions. They are right cheek/right tilted/left cheek/left tilted for head, Front/Back of the EUT with phantom 10 mm gap, as illustrated below, please refer to Appendix B for the test setup photos.

9.1. Handset Reference Points

The vertical centreline passes through two points on the front side of the handset – the midpoint of the width w_t of the handset at the level of the acoustic output, and the midpoint of the width w_b of the bottom of the handset.

The horizontal line is perpendicular to the vertical centreline and passes the center of the acoustic output. The horizontal line is also tangential to the handset at point A.

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 centreline is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.

Fig. 9.1 Illustration for Cheek Position

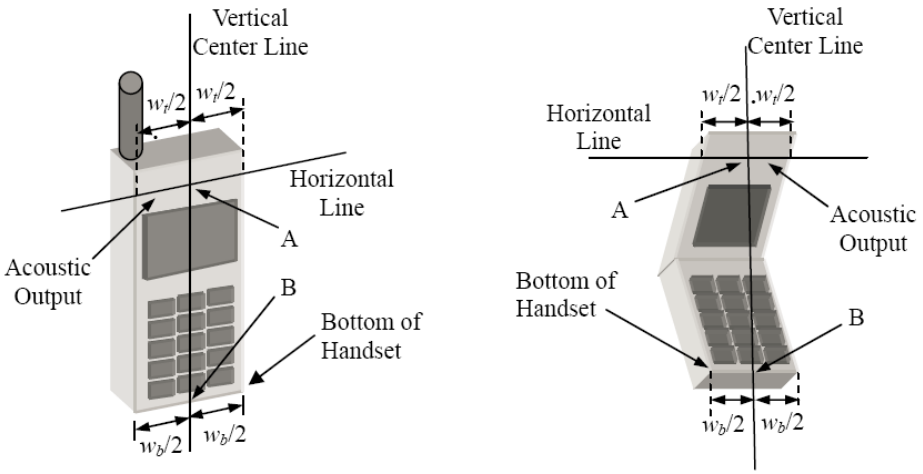


Fig. 9.2 Illustration for Handset Vertical and Horizontal Reference Lines

9.2. Positioning for Cheek / Touch

To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost (see below figure)

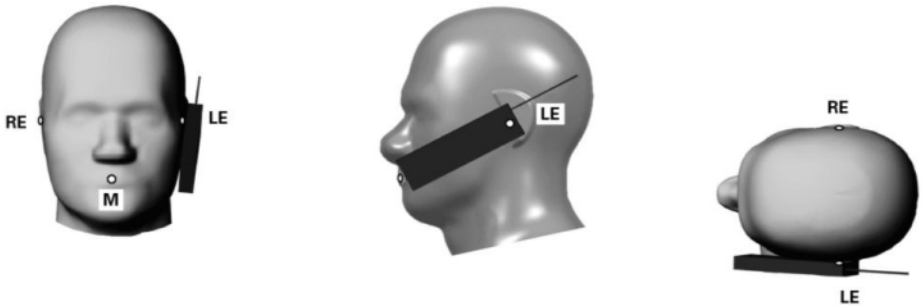


Fig 9.3 IllustrationforCheekPosition

9.3. Positioning for Ear / 15º Tilt

To position the device in the “cheek” position described above.

While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost (see figure below).

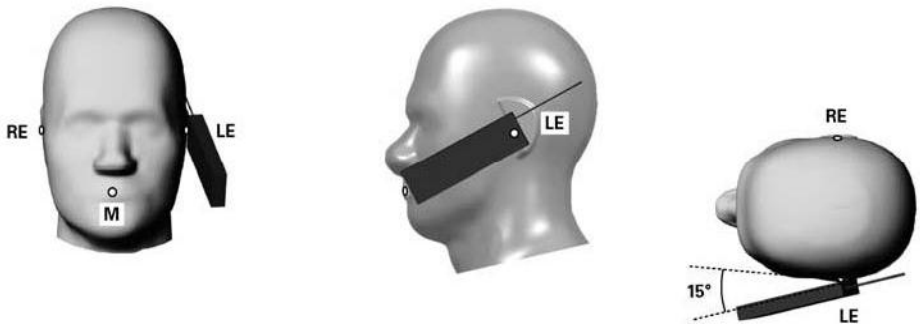


Fig 9.4 IllustrationforTiltedPosition

9.4. SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document FCC KDB Publication 648474 D04v01r03. The SAR required in these regions of SAM should be measured using a flat phantom. The phone should be positioned with a separation distance of 4 mm between the ear reference point (ERP) and the outer surface of the flat phantom shell. While maintaining this distance at the ERP location, the low (bottom) edge of the phone should be lowered from the phantom to establish the same separation distance between the peak SAR locations identified by the truncated partial SAR distribution measured with the SAM phantom. The distance from the peak SAR location to the phone is determined by the straight line passing perpendicularly through the phantom surface. When it is not feasible to maintain 4 mm separation at the ERP while also establishing the required separation at the peak SAR location, the top edge of the phone will be allowed to touch the phantom with a separation < 4 mm at the ERP.

The phone should not be tilted to the left or right while placed in this inclined position to the flat phantom.

9.5. Body-worn Configurations

The body-worn configurations shall be tested with the supplied accessories (belt-clips, holsters, etc.) attached to the device in normal use configuration.
For body-worn and other configurations a flat phantom shall be used which is comprised of material with electrical properties similar to the corresponding tissues.

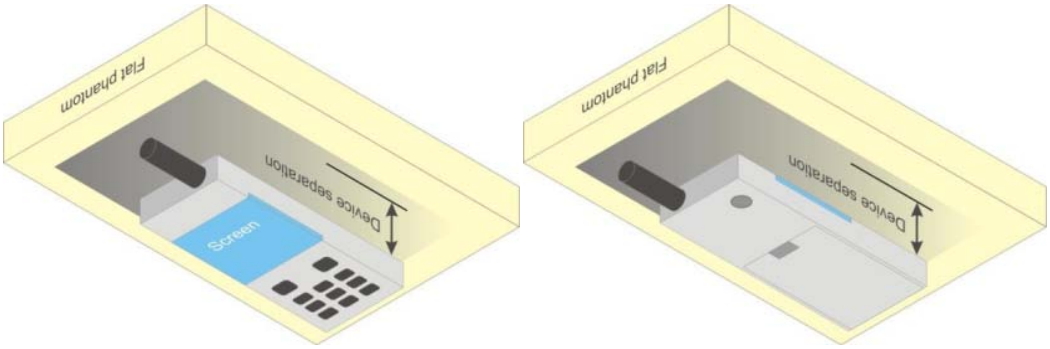


Fig 9.5 IllustrationforBodyWornPosition

9.6. Hotspot Mode Exposure Position Conditions

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing functions, the relevant hand and body exposure conditions are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surfaces and edges with a transmitting antenna located within 25 mm from that surface or edge. When the form factor of a handset is smaller than 9 cm x 5 cm, a test separation distance of 5 mm (instead of 10 mm) is required for testing hotspot mode. When the separation distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).

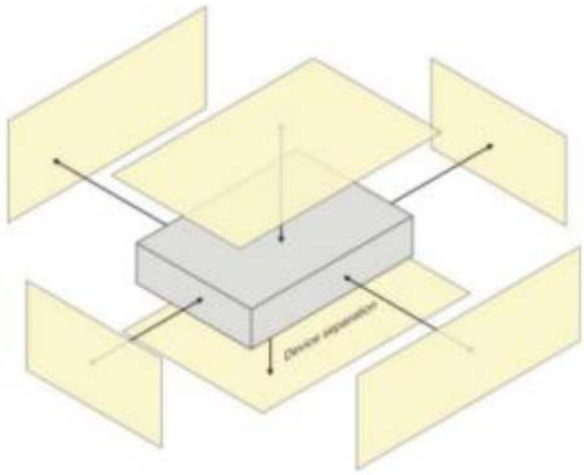


Fig 9.6 Illustrationfor Hotspot Position

10. 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

10.1. 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 scAnt.

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

10.2. 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.

10.3. Area Scan Procedures

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a10mm² step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.

When an Area Scan has measured all reachable points, it computes the field maxima founding the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE1528-2003, EN 50361 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan).

10.4. Zoom Scan Procedures

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. A density of 1000 kg/m³ is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1g cube is 10mm, with the side length of the 10 g cube 21,5mm.The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications utilize a physical step of 5x5x7 (8mmx8mmx5mm) providing a volume of 32mm in the X & Y axis, and 30mm in the Z axis.

10.5. SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Sheppard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

10.6. Power Drift Monitoring

All SAR testing is under the DUT 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 DUT 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 drift more than 5%, the SAR will be retested.

11. SAR Test Procedure

11.1. General scan Requirements

Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Boththe probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances ofthe post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2013.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	½·δ·ln(2) mm ± 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.	
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	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$ mm	
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 IEEE Std 1528-2013 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB Publication 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.

11.2. Test procedure

The Following steps are used for each test position

1. Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface.
2. Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
3. Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
4. Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

11.3. Description of interpolation/extrapolation scheme

The local SAR inside the phantom is measured using small dipole sensing elements inside a probe body. The probe tip must not be in contact with the phantom surface in order to minimize measurements errors, but the highest local SAR will occur at the surface of the phantom.

An extrapolation is using to determinate this highest local SAR values. The extrapolation is based on a fourth-order least-square polynomial fit of measured data. The local SAR value is then extrapolated from the liquid surface with a 1mm step.

The measurements have to be performed over a limited time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10 grams and 1 gram requires a very fine resolution in the three dimensional scanned data array.

11.4. 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 10 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. SAR Test Configuration

<GSM Mode>

A summary of these settings are illustrated below:

For GSM850frequency band, the power control is set to 5 for GSM/GPRS mode (GSMK-CS1) and set to 8 for EDGE mode (MCS5); For GSM1900frequency band, the power control is set to 0 for GSM/GPRS mode (GSMK-CS1) and set to 2 for EDGE mode (MCS5)

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR testreduction.
2. Per KDB 941225 D01v03r01, SAR test reduction for GSM / GPRS / EDGE modes is determined by thesource-based time-averaged output power including tune-up tolerance. The mode with highest specifiedtime-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modeswith the same specified maximum output power and tolerance, the higher number time-slot configuration should betested. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes.

Timeslot consignations:

Remark:

1. The frame-averaged power is linearly reported the maximum burst averaged power over 8 time slots. The calculated method are shown as below:
   The duty cycle "x" of different time slots as below:
   1 TX slot is 1/8, 2 TX slots is 2/8, 3 TX slots is 3/8 and 4 TX slots is 4/8
   Based on the calculation formula:
   Frame-averaged power = Burst averaged power + 10 1og (x)
   So,
   Frame-averaged power (1 TX slot) = Burst averaged power (1 TX slot)– 9.03
   Frame-averaged power (2 TX slots) = Burst averaged power (2 TX slots)– 6.02
   Frame-averaged power (3 TX slots) = Burst averaged power (3 TX slots)– 4.26
   Frame-averaged power (4 TX slots) = Burst averaged power (4 TX slots) – 3.01
2. CS1 coding scheme was used in GPRS conducted power measurements and SAR testing, MCS5 coding scheme was used in EGPRS conducted power measurements and SAR testing (if necessary).

No. of Slots:	Slot 1	Slot 2	Slot 3	Slot 4
Slot Consignation:	1Up4Down	2Up3Down	3Up2Down	4Up1Down
Duty Cycle:	1:8.3	1:4.15	1:2.77	1:2.08
Correct Factor:	-9.03dB	-6.02dB	-4.26dB	-3.01dB

<WCDMA Mode>

Summary of UMTS conducted power measurement:

1. The 3G SAR test reductionprocedure is applied, when the maximum output power and tune-up tolerance specified for production units in asecondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondarymode.
2. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
3. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the requiredsub-test mode(s) to determine SAR test exclusion.
4. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to theconfigurations in Table C.11.1.4 of 3GPP TS 34.121-1.
5. 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 / HSPA+ 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 / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.
6. A fixed level power reduction is applied for WCDMABand II when handset open Hotspot mode, the power reduction triggered.

HSDPA Setup Configuration:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (1)	CM (dB)(2)
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15.
Note 3: 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 signaled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

HSUPA Setup Configuration:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}: 47/15 β_{ed2}: 47/15	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(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 8 ⇔ $A_{hs} = \beta_{hs}/\beta_c$ = 30/15 ⇔ β_{hs}= 30/15 *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 signaled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.
Note 6: β_{ed} cannot be set directly; it is set by Absolute Grant Value.

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, Setup Configuration:

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ec}4: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

<LTE Mode>

LTE Target MPR level

The device implements maximum power reduction per 3GPP 36.101 requirements where the MPR target is as below table. The MPR settings are implemented configured into firmware and cannot be disabled by the end user or LTE carrier network.

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR Target (dB)	3GPP MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz		
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	2	≤ 2

Note: The measurement result showed some difference from the target MPR level, due to expected 0.5dBmeasurement tolerance

LTE Bands

LTE Bands	Channel bandwidth / Transmission bandwidth configuration [RB]					
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz
2	v	v	v	v	v	v
4	v	v	v	v	v	v
5	v	v	v	v	N/A	N/A
7	N/A	N/A	v	v	v	v
12	v	v	v	v	N/A	N/A
17	N/A	N/A	v	v	N/A	N/A
18	N/A	v	v	v	v	N/A
19	N/A	v	v	v	v	N/A
25	v	v	v	v	v	v
26	v	v	v	v	v	N/A
30	N/A	N/A	v	v	N/A	N/A
38	N/A	N/A	v	v	v	v
40	N/A	N/A	v	v	v	v
41	N/A	N/A	v	v	v	v
66	v	v	v	v	v	v

Note:

1. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and powermeasurements, spectrum plots for each RB allocation and offset configuration is not required.
2. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RBallocation, using the RB offset and required test channel combination with the highest maximum output power for RBoffsets at the upper edge, middle and lower edge of each required test channel.
3. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
4. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.
5. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higherthan the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB941225 D05v02r05, 16QAM/64QAM SAR testing is not required.

6. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ Dbhigher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supportedbandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
7. For LTE B4 / B5 / B7 / B17 the maximum bandwidth does not support three non-overlapping channels, per KDB941225 D05v02r05, when a device supports overlapping channelassignment in a channel bandwidth configuration,the middle channel of the group of overlapping channels should be selected for testing.
8. LTE band 2 / 12 SAR test was covered by Band 25 / 17; according to April 2015 TCB workshop, SAR test foroverlapping 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 SARtest exclusion.
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the largerband.
9. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation witha call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signalmodulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >>constellation" mode of the device connect to the CMW500 base station, therefore, the device 64QAM and 16QAMsignal modulation are correct.Identify if Maximum Power Reduction (MPR) is optional or mandatory, i.e. built-in by design:only mandatory MPR may be considered during SAR testing, when the maximum output poweris permanently limited by the MPR implemented within the UE; and only for the applicable RB (resource block) configurations specified in LTE standards: b) A-MPR (additional MPR) must be disabled.
10. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximumtune-up tolerance.
    a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum ratedpower 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 scalingfactor which is equal to "1/(duty cycle)"
    c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
    d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
    e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoreticalduty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefixin uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result.The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

11. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of afrequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is≤ 0.8 W/kg or 2.0 W/kg, for 1 -g or 10-g respectively, when the transmission band is ≤ 100 MHz≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
12. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measuredSAR is ≥0.8W/kg.
13. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected tothe handset≤is1.2 W/kg, SAR testing with a headset connected to the handset is not required.

<WLAN 2.4GHz>

1. SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable,the initial test position procedure. SAR test reduction is determined according to the following:
   1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS inthat exposure configuration.
   2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the nexthighest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR isrequired for the third channel; i.e., all channels require testing.
2. 2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg.When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedureshould be followed.
3. For held-to-ear and hotspot operations, the initial test position procedures were applied. The testposition with the highest extrapolated peak SAR will be used as the initial test position. Whenreported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining testpositions was required. Otherwise, SAR is evaluated at the subsequent highest peak SARpositions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
4. Justification for test configurations for WLAN per KDB Publication 248227 D02DR02-41929 for 2.4 GHz WI-FI single transmission chain operations, the highest measured maximum outputpower channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSSSAR.
5. A fixed level power reduction is applied for WiFi when handset operates "held to the body" condition or "held to the ear" condition, the power reduction triggered by audio receiver detection and call establish status.

6. Per KDB 248227 D01v02r02, In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements.SAR is not required for the following 2.4 GHz OFDM conditions:
   1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
   2) 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.

<WLAN 5GHz>

A)U-NII-1 and U-NII-2A Bands

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following：

1) When the same maximum output power is specified for both bands, begin SAR measurement in U- NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.

2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.

3)The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

B)U-NII-2C and U-NII-3 Bands

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. when Terminal Doppler Weather Radar (TDWR) restriction applies, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures. When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output

power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels. When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

C)OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements

The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

1)The largest channel bandwidth configuration is selected among the multiple configurations with thesame specified maximum output power.

2)If multiple configurations have the same specified maximum output power and largest channelbandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.

3)If multiple configurations have the same specified maximum output power, largest channel bandwidthand lowest order modulation, the lowest data rate configuration among these configurations is selected.

4)When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power,largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n. After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.

1)The channel closest to mid-band frequency is selected for SAR measurement.

2)For channels with equal separation from mid-band frequency; for example, high and low channels ortwo mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

D)SAR Test Requirements for OFDM configurations

When SAR measurement is required for 802.11 a/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the sametransmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction Vapplies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 bandare supported, the highest maximum output power transmission mode configuration and maximumoutput power channel across the bands must be used to determine SAR test reduction, accordingto the initial test configuration and subsequent test configuration requirements. In applying theinitial test configuration and subsequent test configuration procedures, the 802.11 transmissionconfiguration with the highest specified maximum output power and the channel within a testconfiguration with the highest measured maximum output power should be clearly distinguished toapply the procedures.

13. Conducted RF Output Power

13.1. Full Power

GSM Conducted Power:

GSM850	Burst Average Power (dBm)			Tune-up	Frame-Average Power (dBm)			Tune-up
TX Channel	128	190	251	Limit	128	190	251	Limit
Frequency (MHz)	824.2	836.6	848.8	(dBm)	824.2	836.6	848.8	(dBm)
GSM 1 Tx slot	32.99	32.88	33.09	33.50	23.99	23.88	24.09	24.50
GPRS 1 Tx slot	33.02	32.89	33.16	33.50	24.02	23.89	24.16	24.50
GPRS 2 Tx slots	30.29	30.20	30.19	30.50	24.29	24.20	24.19	24.50
GPRS 3 Tx slots	28.40	28.38	28.29	28.50	24.14	24.12	24.03	24.24
GPRS 4 Tx slots	27.39	27.29	27.27	27.50	24.39	24.29	24.27	24.50
EDGE 1 Tx slot	27.06	26.87	26.93	27.50	18.06	17.87	17.93	18.50
EDGE 2 Tx slots	23.98	23.78	23.84	24.00	17.98	17.78	17.84	18.00
EDGE 3 Tx slots	21.87	21.66	21.70	22.00	17.61	17.40	17.44	17.74
EDGE 4 Tx slots	21.20	21.02	21.09	21.50	18.20	18.02	18.09	18.50

GSM1900	Burst Average Power (dBm)			Tune-up	Frame-Average Power (dBm)			Tune-up
TX Channel	512	661	810	Limit	512	661	810	Limit
Frequency (MHz)	1850.2	1880	1909.8	(dBm)	1850.2	1880	1909.8	(dBm)
GSM 1 Tx slot	29.22	29.12	28.94	29.50	20.22	20.12	19.94	20.50
GPRS 1 Tx slot	29.21	29.11	28.97	29.50	20.21	20.11	19.97	20.50
GPRS 2 Tx slots	26.46	26.59	26.38	27.00	20.46	20.59	20.38	21.00
GPRS 3 Tx slots	24.39	24.49	24.33	24.50	20.13	20.23	20.07	20.24
GPRS 4 Tx slots	23.60	23.72	23.36	24.00	20.60	20.72	20.36	21.00
EDGE 1 Tx slot	25.20	25.25	24.95	25.50	16.20	16.25	15.95	16.50
EDGE 2 Tx slots	21.88	21.95	21.71	22.00	15.88	15.95	15.71	16.00
EDGE 3 Tx slots	20.02	20.11	19.85	20.50	15.76	15.85	15.59	16.24
EDGE 4 Tx slots	18.90	18.97	18.74	19.00	15.90	15.97	15.74	16.00

Timeslot consignations:

No. of Slots	**Slot 1**	**Slot 2**	**Slot 3**	**Slot 4**
Slot Consignation	1Up4Down	2Up3Down	3Up2Down	4Up1Down
Duty Cycle	1:8.3	1:4.15	1:2.77	1:2.08
Correct Factor	-9.03dB	-6.02dB	-4.26dB	-3.01dB

WCDMA Conducted Power:

Band	WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
TX Channel	9262	9400	9538		1312	1413	1513	
Rx Channel	9662	9800	9938		1537	1638	1738	
Frequency (MHz)	1852.4	1880	1907.6		1712.4	1732.6	1752.6	
AMR 12.2Kbps	22.18	22.43	22.20	22.50	22.90	22.93	22.65	23.00
RMC 12.2Kbps	22.22	22.44	22.26	22.50	22.91	22.95	22.67	23.00
HSDPA Subtest-1	21.87	22.21	22.04	22.50	22.56	22.60	22.38	23.00
HSDPA Subtest-2	21.85	22.14	22.04	22.50	22.36	22.39	22.18	23.00
HSDPA Subtest-3	21.34	21.63	21.53	22.00	21.86	21.89	21.84	22.50
HSDPA Subtest-4	21.31	21.66	21.54	22.00	21.68	21.67	21.63	22.50
HSUPA Subtest-1	21.48	21.84	21.72	22.00	21.19	21.10	21.03	21.50
HSUPA Subtest-2	19.46	19.81	19.75	20.00	19.20	19.06	18.97	19.50
HSUPA Subtest-3	20.51	20.85	20.72	21.00	20.22	20.09	20.02	20.50
HSUPA Subtest-4	19.49	19.83	19.71	20.00	18.66	18.61	18.48	19.50
HSUPA Subtest-5	21.48	21.82	21.71	22.00	21.20	21.05	20.97	21.50
HSPA+ (16QAM) Subtest-1	21.63	21.53	21.63	22.00	21.06	21.12	21.10	21.50

Band	WCDMA V			Tune-up Limit (dBm)
TX Channel	4132	4182	4233	
Rx Channel	4357	4407	4458	
Frequency (MHz)	826.4	836.4	846.6	
AMR 12.2Kbps	24.20	24.23	24.04	24.50
RMC 12.2Kbps	24.02	24.28	24.09	24.50
HSDPA Subtest-1	23.05	23.06	22.95	23.50
HSDPA Subtest-2	23.06	23.11	22.98	23.50
HSDPA Subtest-3	22.57	22.63	22.51	23.00
HSDPA Subtest-4	22.58	22.63	22.48	23.00
HSUPA Subtest-1	23.08	23.09	22.97	23.50
HSUPA Subtest-2	21.03	21.12	20.96	21.50
HSUPA Subtest-3	22.06	22.10	21.99	22.50
HSUPA Subtest-4	21.05	21.09	21.01	21.50
HSUPA Subtest-5	23.05	23.10	22.94	23.50
HSPA+ (16QAM) Subtest-1	22.69	22.75	22.69	23.00

CDMA2000 Conducted Power：

1XRTT Conducted Power:

Band	CDMA2000 BC0			Tune-up Limit (dBm)
TX Channel	1013	384	777	
Frequency (MHz)	824.7	836.52	848.31	
RC1 SO55	24.00	23.82	23.85	24.50
RC3 SO55	24.03	23.93	23.86	24.50
RC3 SO32 (F+SCH)	23.82	23.74	23.75	24.00
RC3 SO32 (+SCH)	23.94	23.89	23.90	24.00

1XEVDO Conducted Power:

Band	CDMA2000 BC0			Tune-up Limit (dBm)
TX Channel	1013	384	777	
Frequency (MHz)	824.7	836.52	848.31	
RTAP 153.6Kbps	22.41	22.34	22.40	22.50
RETAP 4096Bits	22.40	22.26	22.16	22.50
RMCTAP 307.2 Kbps	22.37	22.19	22.15	22.50

LTE Conducted Power：

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)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	22.96	23.08	23.23	23.5
20	QPSK	1	49	22.58	22.78	22.75	
20	QPSK	1	99	22.85	22.86	22.91	
20	QPSK	50	0	21.80	21.91	22.15	22.5
20	QPSK	50	24	21.72	21.84	22.00	
20	QPSK	50	50	21.75	21.81	21.96	
20	QPSK	100	0	21.74	21.89	22.09	
20	16QAM	1	0	21.99	22.12	22.31	22.5
20	16QAM	1	49	21.64	21.93	22.27	
20	16QAM	1	99	22.25	22.09	22.27	
20	16QAM	50	0	20.85	20.98	21.21	21.5

20	16QAM	50	24	20.83	20.97	21.10	
20	16QAM	50	50	20.77	20.84	21.03	
20	16QAM	100	0	20.77	20.83	21.09	
20	64QAM	1	0	21.56	21.97	22.27	22.5
20	64QAM	1	49	21.63	21.67	22.08	
20	64QAM	1	99	22.07	22.08	22.05	
20	64QAM	50	0	20.81	21.00	21.19	21.5
20	64QAM	50	24	20.86	20.98	21.04	
20	64QAM	50	50	20.79	20.90	21.04	
20	64QAM	100	0	20.79	20.98	21.15	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	22.71	22.86	22.96	23.5
15	QPSK	1	37	22.57	22.77	22.86	
15	QPSK	1	74	22.51	22.70	22.91	
15	QPSK	36	0	21.79	21.94	21.97	22.5
15	QPSK	36	20	21.68	21.86	21.99	
15	QPSK	36	39	21.65	21.85	21.93	
15	QPSK	75	0	21.75	21.82	21.97	
15	16QAM	1	0	21.83	22.33	22.46	22.5
15	16QAM	1	37	21.82	21.74	22.01	
15	16QAM	1	74	22.14	22.17	21.85	
15	16QAM	36	0	20.84	21.02	21.04	21.5
15	16QAM	36	20	20.65	20.94	21.04	
15	16QAM	36	39	20.69	20.90	20.95	
15	16QAM	75	0	20.81	20.88	21.00	
15	64QAM	1	0	21.85	22.07	22.19	22.5
15	64QAM	1	37	21.87	21.95	22.01	
15	64QAM	1	74	20.95	20.96	21.05	
15	64QAM	36	0	20.86	20.83	21.01	21.5
15	64QAM	36	20	20.77	20.90	21.03	
15	64QAM	36	39	20.89	21.00	21.07	
15	64QAM	75	0	20.56	20.81	20.69	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	22.84	23.06	23.07	23.5

10	QPSK	1	25	22.60	22.68	22.94	
10	QPSK	1	49	22.81	22.92	22.96	
10	QPSK	25	0	21.67	21.86	21.99	22.5
10	QPSK	25	12	21.71	21.86	21.94	
10	QPSK	25	25	21.66	21.81	21.94	
10	QPSK	50	0	21.63	21.81	22.00	
10	16QAM	1	0	22.29	22.45	21.99	22.5
10	16QAM	1	25	21.61	22.22	22.32	
10	16QAM	1	49	21.66	21.99	22.03	
10	16QAM	25	0	20.65	20.92	20.93	21.5
10	16QAM	25	12	20.72	20.81	21.05	
10	16QAM	25	25	20.81	20.86	21.00	
10	16QAM	50	0	20.74	20.96	21.06	
10	64QAM	1	0	21.96	22.30	22.07	22.5
10	64QAM	1	25	21.41	21.80	22.32	
10	64QAM	1	49	22.05	21.83	22.02	
10	64QAM	25	0	20.85	20.92	20.94	21.5
10	64QAM	25	12	20.79	20.89	21.02	
10	64QAM	25	25	20.83	20.85	21.04	
10	64QAM	50	0	20.86	20.87	20.98	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	22.70	22.85	22.82	23.5
5	QPSK	1	12	22.61	22.80	22.79	
5	QPSK	1	24	22.50	22.67	22.88	
5	QPSK	12	0	21.63	21.84	21.88	22.5
5	QPSK	12	7	21.66	21.79	21.86	
5	QPSK	12	13	21.67	21.79	21.88	
5	QPSK	25	0	21.65	21.82	21.91	
5	16QAM	1	0	22.08	22.20	22.06	22.5
5	16QAM	1	12	22.03	22.50	22.11	
5	16QAM	1	24	21.48	21.94	21.89	
5	16QAM	12	0	20.63	20.88	20.93	21.5
5	16QAM	12	7	20.59	20.76	20.99	
5	16QAM	12	13	20.53	20.84	20.88	
5	16QAM	25	0	20.58	20.82	20.96	
5	64QAM	1	0	21.75	21.82	22.11	22.5

5	64QAM	1	12	21.77	22.03	22.10	
5	64QAM	1	24	21.77	21.93	22.01	
5	64QAM	12	0	20.65	20.84	20.86	21.5
5	64QAM	12	7	20.62	20.86	20.96	
5	64QAM	12	13	20.73	20.85	20.84	
5	64QAM	25	0	20.70	20.82	21.01	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	22.47	22.76	22.75	23.5
3	QPSK	1	8	22.53	22.83	22.71	
3	QPSK	1	14	22.54	22.76	22.79	
3	QPSK	8	0	21.61	21.81	21.88	22.5
3	QPSK	8	4	21.69	21.86	21.89	
3	QPSK	8	7	21.61	21.83	21.89	
3	QPSK	15	0	21.69	21.79	21.87	
3	16QAM	1	0	21.82	21.84	21.96	22.5
3	16QAM	1	8	21.85	21.77	22.00	
3	16QAM	1	14	21.68	21.80	22.04	
3	16QAM	8	0	20.64	20.81	21.09	21.5
3	16QAM	8	4	20.89	21.02	20.85	
3	16QAM	8	7	20.72	20.81	20.95	
3	16QAM	15	0	20.53	20.74	20.94	
3	64QAM	1	0	21.59	21.92	21.95	22.5
3	64QAM	1	8	22.03	21.86	21.82	
3	64QAM	1	14	21.53	21.94	21.89	
3	64QAM	8	0	20.67	20.83	20.94	21.5
3	64QAM	8	4	20.66	20.94	21.06	
3	64QAM	8	7	20.8	20.82	20.91	
3	64QAM	15	0	20.68	20.84	20.91	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	22.57	22.70	22.75	23.5
1.4	QPSK	1	3	22.53	22.74	22.79	
1.4	QPSK	1	5	22.52	22.73	22.78	
1.4	QPSK	3	0	22.54	22.70	22.67	
1.4	QPSK	3	1	22.61	22.70	22.80	

1.4	QPSK	3	3	22.49	22.74	22.83	
1.4	QPSK	6	0	21.56	21.74	21.77	22.5
1.4	16QAM	1	0	22.00	21.80	22.34	22.5
1.4	16QAM	1	3	21.73	21.85	22.36	
1.4	16QAM	1	5	21.81	21.76	22.28	
1.4	16QAM	3	0	21.50	21.67	21.79	
1.4	16QAM	3	1	21.74	21.70	21.74	
1.4	16QAM	3	3	21.47	21.63	21.73	
1.4	16QAM	6	0	20.81	20.85	20.81	21.5
1.4	64QAM	1	0	21.65	21.69	21.66	22
1.4	64QAM	1	3	21.62	21.58	21.64	
1.4	64QAM	1	5	21.63	21.62	21.69	
1.4	64QAM	3	0	21.60	21.45	21.70	
1.4	64QAM	3	1	21.65	21.55	21.60	
1.4	64QAM	3	3	21.40	21.68	21.42	
1.4	64QAM	6	0	20.67	20.75	20.95	21

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)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	23.41	23.48	23.44	23.5
20	QPSK	1	49	23.09	23.15	23.18	
20	QPSK	1	99	23.21	23.21	23.13	
20	QPSK	50	0	22.34	22.46	22.44	23
20	QPSK	50	24	22.30	22.43	22.37	
20	QPSK	50	50	22.25	22.34	22.17	
20	QPSK	100	0	22.40	22.34	22.41	
20	16QAM	1	0	22.92	22.99	22.97	23.5
20	16QAM	1	49	22.40	22.43	22.66	
20	16QAM	1	99	22.75	22.58	22.27	
20	16QAM	50	0	21.42	21.57	21.63	22
20	16QAM	50	24	21.34	21.45	21.44	
20	16QAM	50	50	21.35	21.45	21.22	
20	16QAM	100	0	21.42	21.49	21.50	
20	64QAM	1	0	22.60	22.67	22.75	23

20	64QAM	1	49	22.27	22.27	22.36	
20	64QAM	1	99	22.29	22.46	22.61	
20	64QAM	50	0	21.42	21.51	21.51	22.5
20	64QAM	50	24	21.32	21.52	21.47	
20	64QAM	50	50	21.26	21.44	21.30	
20	64QAM	100	0	21.36	21.46	21.44	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	23.37	23.46	23.46	23.5
15	QPSK	1	37	23.12	23.42	23.09	
15	QPSK	1	74	23.15	23.27	23.15	
15	QPSK	36	0	22.33	22.48	22.41	22.5
15	QPSK	36	20	22.34	22.36	22.26	
15	QPSK	36	39	22.24	22.32	22.14	
15	QPSK	75	0	22.28	22.40	22.33	
15	16QAM	1	0	22.53	22.62	22.80	22.5
15	16QAM	1	37	22.32	22.49	22.45	
15	16QAM	1	74	22.73	22.77	22.82	
15	16QAM	36	0	21.43	21.51	21.48	22
15	16QAM	36	20	21.33	21.48	21.35	
15	16QAM	36	39	21.24	21.39	21.21	
15	16QAM	75	0	21.31	21.51	21.41	
15	64QAM	1	0	22.49	22.44	22.38	23
15	64QAM	1	37	22.36	22.32	22.23	
15	64QAM	1	74	21.34	21.44	21.47	
15	64QAM	36	0	21.32	21.44	21.33	21.5
15	64QAM	36	20	21.37	21.40	21.17	
15	64QAM	36	39	21.32	21.48	21.39	
15	64QAM	75	0	21.39	21.33	21.28	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	23.38	23.48	23.32	23.5
10	QPSK	1	25	23.23	23.31	23.04	
10	QPSK	1	49	23.15	23.25	23.11	
10	QPSK	25	0	22.23	22.39	22.22	22.5
10	QPSK	25	12	22.25	22.32	22.23	

10	QPSK	25	25	22.22	22.37	22.16	
10	QPSK	50	0	22.23	22.31	22.20	
10	16QAM	1	0	22.48	22.58	22.86	22.5
10	16QAM	1	25	22.61	22.46	22.24	
10	16QAM	1	49	22.69	22.61	22.68	
10	16QAM	25	0	21.37	21.54	21.42	21.5
10	16QAM	25	12	21.40	21.42	21.32	
10	16QAM	25	25	21.34	21.35	21.26	
10	16QAM	50	0	21.36	21.43	21.25	
10	64QAM	1	0	22.23	22.50	22.24	23
10	64QAM	1	25	22.34	22.51	22.42	
10	64QAM	1	49	22.39	22.44	22.37	
10	64QAM	25	0	21.26	21.39	21.37	21.5
10	64QAM	25	12	21.31	21.45	21.30	
10	64QAM	25	25	21.30	21.42	21.24	
10	64QAM	50	0	21.36	21.46	21.28	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	23.24	23.36	23.15	23.5
5	QPSK	1	12	23.24	23.31	23.03	
5	QPSK	1	24	23.08	23.28	23.13	
5	QPSK	12	0	22.21	22.40	22.25	22.5
5	QPSK	12	7	22.27	22.37	22.18	
5	QPSK	12	13	22.24	22.32	22.16	
5	QPSK	25	0	22.23	22.32	22.18	
5	16QAM	1	0	22.42	22.27	22.44	23
5	16QAM	1	12	22.36	22.51	22.76	
5	16QAM	1	24	22.38	22.38	22.79	
5	16QAM	12	0	21.36	21.41	21.38	21.5
5	16QAM	12	7	21.30	21.47	21.25	
5	16QAM	12	13	21.36	21.37	21.19	
5	16QAM	25	0	21.32	21.44	21.22	
5	64QAM	1	0	22.29	22.30	22.40	22.5
5	64QAM	1	12	22.16	22.48	22.30	
5	64QAM	1	24	22.19	22.22	22.30	
5	64QAM	12	0	21.23	21.36	21.15	21.5
5	64QAM	12	7	21.34	21.45	21.20	

5	64QAM	12	13	21.28	21.51	21.13	
5	64QAM	25	0	21.25	21.35	21.21	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	23.14	23.30	23.04	23.5
3	QPSK	1	8	23.17	23.30	23.00	
3	QPSK	1	14	23.14	23.27	22.98	
3	QPSK	8	0	22.23	22.22	22.15	22.5
3	QPSK	8	4	22.19	22.35	22.13	
3	QPSK	8	7	22.18	22.29	22.18	
3	QPSK	15	0	22.21	22.29	22.20	
3	16QAM	1	0	22.76	22.65	22.40	22.5
3	16QAM	1	8	22.37	22.66	22.40	
3	16QAM	1	14	22.52	22.63	22.24	
3	16QAM	8	0	21.32	21.44	21.17	21.5
3	16QAM	8	4	21.36	21.42	21.40	
3	16QAM	8	7	21.33	21.45	21.29	
3	16QAM	15	0	21.34	21.38	21.26	
3	64QAM	1	0	22.37	22.44	22.67	23
3	64QAM	1	8	22.39	22.44	22.30	
3	64QAM	1	14	22.34	22.79	22.13	
3	64QAM	8	0	21.27	21.36	21.24	21.5
3	64QAM	8	4	21.27	21.64	21.23	
3	64QAM	8	7	21.28	21.38	21.13	
3	64QAM	15	0	21.38	21.40	21.22	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	23.14	23.20	23.02	23.5
1.4	QPSK	1	3	23.17	23.31	23.26	
1.4	QPSK	1	5	23.10	23.24	23.07	
1.4	QPSK	3	0	23.16	23.21	23.06	
1.4	QPSK	3	1	23.21	23.27	23.10	
1.4	QPSK	3	3	23.18	23.21	23.07	
1.4	QPSK	6	0	22.15	22.35	22.05	22.5
1.4	16QAM	1	0	22.23	22.30	22.38	22.5
1.4	16QAM	1	3	22.70	22.20	22.39	

1.4	16QAM	1	5	22.49	22.72	22.30	
1.4	16QAM	3	0	22.23	22.24	22.22	
1.4	16QAM	3	1	22.11	22.40	22.25	
1.4	16QAM	3	3	22.22	22.29	22.20	
1.4	16QAM	6	0	21.31	21.40	21.35	21.5
1.4	64QAM	1	0	22.08	22.15	22.30	23
1.4	64QAM	1	3	22.34	22.27	22.35	
1.4	64QAM	1	5	22.15	22.56	22.17	
1.4	64QAM	3	0	22.21	22.52	22.27	
1.4	64QAM	3	1	22.24	22.36	22.32	
1.4	64QAM	3	3	22.27	22.29	22.25	
1.4	64QAM	6	0	21.26	21.30	21.30	21.5

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)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	24.00	24.30	24.16	24.5
10	QPSK	1	25	24.39	24.32	23.85	
10	QPSK	1	49	24.09	24.11	23.74	
10	QPSK	25	0	23.26	23.25	23.02	23.5
10	QPSK	25	12	23.23	23.23	23.01	
10	QPSK	25	25	23.09	23.09	22.85	
10	QPSK	50	0	23.20	23.23	22.90	
10	16QAM	1	0	23.46	23.10	23.22	23.5
10	16QAM	1	25	23.00	23.17	23.01	
10	16QAM	1	49	23.29	23.08	22.81	
10	16QAM	25	0	22.07	22.35	22.09	22.5
10	16QAM	25	12	22.19	22.34	22.14	
10	16QAM	25	25	22.21	22.18	22.13	
10	16QAM	50	0	22.26	22.24	22.09	
10	64QAM	1	0	23.41	23.09	23.49	23.5
10	64QAM	1	25	23.50	23.30	23.28	
10	64QAM	1	49	23.27	22.96	22.50	
10	64QAM	25	0	22.17	22.32	21.99	22.5
10	64QAM	25	12	22.26	22.21	21.89	

10	64QAM	25	25	22.21	22.10	21.89	
10	64QAM	50	0	22.18	22.21	21.99	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	24.02	24.29	23.88	24.5
5	QPSK	1	12	23.98	24.00	23.64	
5	QPSK	1	24	23.93	24.09	23.80	
5	QPSK	12	0	23.03	23.32	22.79	23.5
5	QPSK	12	7	23.10	23.20	22.74	
5	QPSK	12	13	23.02	23.20	22.65	
5	QPSK	25	0	23.15	23.27	22.69	
5	16QAM	1	0	23.01	23.45	22.93	23.5
5	16QAM	1	12	23.02	23.41	22.71	
5	16QAM	1	24	22.97	23.19	23.00	
5	16QAM	12	0	22.21	22.22	21.81	22.5
5	16QAM	12	7	22.13	22.18	21.86	
5	16QAM	12	13	22.12	22.26	21.61	
5	16QAM	25	0	22.12	22.11	21.73	
5	64QAM	1	0	23.24	23.28	22.90	23.5
5	64QAM	1	12	23.11	23.12	23.09	
5	64QAM	1	24	23.46	23.11	23.06	
5	64QAM	12	0	22.08	22.17	21.64	22.5
5	64QAM	12	7	22.13	22.16	21.79	
5	64QAM	12	13	22.13	22.16	21.71	
5	64QAM	25	0	22.15	22.26	21.84	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	24.09	24.28	23.74	24.5
3	QPSK	1	8	23.97	24.18	23.62	
3	QPSK	1	14	23.97	24.01	23.52	
3	QPSK	8	0	22.99	23.15	22.82	23.5
3	QPSK	8	4	23.10	23.18	22.70	
3	QPSK	8	7	23.00	23.18	22.63	
3	QPSK	15	0	23.05	23.20	22.73	
3	16QAM	1	0	23.21	23.27	22.80	23.5
3	16QAM	1	8	23.42	23.39	22.84	

3	16QAM	1	14	23.22	23.05	22.54	
3	16QAM	8	0	22.14	22.22	21.75	22.5
3	16QAM	8	4	22.16	22.18	21.66	
3	16QAM	8	7	21.99	22.24	21.59	
3	16QAM	15	0	22.07	22.26	21.78	
3	64QAM	1	0	23.45	23.15	22.68	23.5
3	64QAM	1	8	23.07	23.06	23.04	
3	64QAM	1	14	23.21	23.18	22.62	
3	64QAM	8	0	22.05	22.14	21.67	22.5
3	64QAM	8	4	22.08	22.28	21.79	
3	64QAM	8	7	21.97	22.11	21.58	
3	64QAM	15	0	22.12	22.23	21.79	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	23.93	24.12	23.54	24.5
1.4	QPSK	1	3	24.11	24.10	23.59	
1.4	QPSK	1	5	23.93	24.04	23.47	
1.4	QPSK	3	0	23.96	24.17	23.57	
1.4	QPSK	3	1	23.94	24.16	23.61	
1.4	QPSK	3	3	23.96	24.11	23.58	
1.4	QPSK	6	0	22.98	23.28	22.48	23.5
1.4	16QAM	1	0	23.43	23.16	22.67	23.5
1.4	16QAM	1	3	23.46	23.21	22.73	
1.4	16QAM	1	5	23.40	22.99	23.01	
1.4	16QAM	3	0	22.99	23.07	22.59	
1.4	16QAM	3	1	23.09	23.12	22.63	
1.4	16QAM	3	3	23.09	23.13	22.46	
1.4	16QAM	6	0	22.01	22.19	21.50	22.5
1.4	64QAM	1	0	23.07	23.19	22.93	23.5
1.4	64QAM	1	3	23.25	22.98	22.73	
1.4	64QAM	1	5	22.83	23.10	22.95	
1.4	64QAM	3	0	23.00	23.30	22.61	
1.4	64QAM	3	1	23.15	23.19	22.64	
1.4	64QAM	3	3	23.08	23.17	22.76	
1.4	64QAM	6	0	22.03	22.11	22.19	22.5

LTE Band 7

BW [MHz]	Modulation	RB Size	RB Offset	Measured Power			Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	22.56	22.46	22.37	23
20	QPSK	1	49	22.40	22.15	22.12	
20	QPSK	1	99	22.44	22.02	22.22	
20	QPSK	50	0	21.43	21.30	21.32	22
20	QPSK	50	24	21.49	21.27	21.25	
20	QPSK	50	50	21.41	21.16	21.37	
20	QPSK	100	0	21.43	21.20	21.31	
20	16QAM	1	0	22.17	21.74	21.60	22
20	16QAM	1	49	21.96	21.39	21.69	
20	16QAM	1	99	21.44	21.73	21.46	
20	16QAM	50	0	20.51	20.32	20.52	21
20	16QAM	50	24	20.55	20.30	20.41	
20	16QAM	50	50	20.55	20.20	20.46	
20	16QAM	100	0	20.53	20.23	20.35	
20	64QAM	1	0	21.90	21.47	21.59	22
20	64QAM	1	49	21.74	21.71	21.13	
20	64QAM	1	99	21.51	21.19	21.82	
20	64QAM	50	0	20.52	20.35	20.46	21
20	64QAM	50	24	20.60	20.34	20.42	
20	64QAM	50	50	20.55	20.29	20.39	
20	64QAM	100	0	20.54	20.33	20.35	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	22.50	22.24	22.36	23
15	QPSK	1	37	22.49	22.08	22.22	
15	QPSK	1	74	22.36	22.15	22.22	
15	QPSK	36	0	21.51	21.19	21.33	22
15	QPSK	36	20	21.42	21.20	21.32	
15	QPSK	36	39	21.44	21.18	21.31	
15	QPSK	75	0	21.40	21.21	21.32	
15	16QAM	1	0	21.86	21.22	21.90	22
15	16QAM	1	37	21.64	21.71	21.37	

15	16QAM	1	74	21.81	21.42	21.19	
15	16QAM	36	0	20.58	20.38	20.45	21
15	16QAM	36	20	20.50	20.35	20.35	
15	16QAM	36	39	20.52	20.30	20.40	
15	16QAM	75	0	20.51	20.32	20.39	
15	64QAM	1	0	21.53	21.12	21.88	22
15	64QAM	1	37	21.38	21.59	21.38	
15	64QAM	1	74	20.66	20.33	20.39	
15	64QAM	36	0	20.51	20.33	20.39	21
15	64QAM	36	20	20.52	20.17	20.42	
15	64QAM	36	39	20.52	20.21	20.43	
15	64QAM	75	0	20.15	20.36	20.25	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	22.52	22.20	22.23	23
10	QPSK	1	25	22.40	22.04	22.27	
10	QPSK	1	49	22.36	22.18	22.13	
10	QPSK	25	0	21.47	21.21	21.31	22
10	QPSK	25	12	21.54	21.22	21.28	
10	QPSK	25	25	21.35	21.17	21.26	
10	QPSK	50	0	21.35	21.23	21.25	
10	16QAM	1	0	21.77	21.39	21.16	22
10	16QAM	1	25	21.69	21.31	21.74	
10	16QAM	1	49	21.51	21.38	21.16	
10	16QAM	25	0	20.56	20.24	20.35	21
10	16QAM	25	12	20.68	20.26	20.33	
10	16QAM	25	25	20.41	20.37	20.31	
10	16QAM	50	0	20.42	20.27	20.46	
10	64QAM	1	0	21.53	21.38	21.48	22
10	64QAM	1	25	21.57	21.26	21.40	
10	64QAM	1	49	21.89	21.31	21.35	
10	64QAM	25	0	20.58	20.26	20.43	21
10	64QAM	25	12	20.57	20.32	20.37	
10	64QAM	25	25	20.40	20.20	20.33	
10	64QAM	50	0	20.47	20.27	20.43	
Channel				20775	21100	21425	Tune-up limit
Frequency (MHz)				2502.5	2535	2567.5	

							(dBm)
5	QPSK	1	0	22.38	22.04	22.16	23
5	QPSK	1	12	22.41	22.09	22.19	
5	QPSK	1	24	22.26	21.99	22.24	
5	QPSK	12	0	21.46	21.15	21.29	22
5	QPSK	12	7	21.49	21.17	21.33	
5	QPSK	12	13	21.49	21.18	21.36	
5	QPSK	25	0	21.45	21.22	21.27	
5	16QAM	1	0	21.76	21.51	21.72	22
5	16QAM	1	12	21.38	21.12	21.74	
5	16QAM	1	24	21.57	21.62	21.18	
5	16QAM	12	0	20.47	20.23	20.44	21
5	16QAM	12	7	20.61	20.25	20.35	
5	16QAM	12	13	20.55	20.26	20.39	
5	16QAM	25	0	20.52	20.30	20.34	
5	64QAM	1	0	21.65	21.02	21.19	22
5	64QAM	1	12	21.65	21.17	21.48	
5	64QAM	1	24	21.94	21.19	21.43	
5	64QAM	12	0	20.44	20.26	20.33	21
5	64QAM	12	7	20.53	20.23	20.40	
5	64QAM	12	13	20.62	20.27	20.36	
5	64QAM	25	0	20.53	20.20	20.44	

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)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	22.99	22.94	23.14	23.5
10	QPSK	1	25	23.23	23.08	22.91	
10	QPSK	1	49	23.16	23.14	22.99	
10	QPSK	25	0	22.24	22.24	22.07	22.5
10	QPSK	25	12	22.26	22.23	22.18	
10	QPSK	25	25	22.28	22.19	22.20	
10	QPSK	50	0	22.27	22.20	21.95	
10	16QAM	1	0	22.41	22.61	22.53	22.5
10	16QAM	1	25	22.69	22.61	22.46	

10	16QAM	1	49	22.03	22.57	22.57	
10	16QAM	25	0	21.42	21.34	21.27	21.5
10	16QAM	25	12	21.36	21.30	21.07	
10	16QAM	25	25	21.32	21.28	21.20	
10	16QAM	50	0	21.27	21.39	21.16	
10	64QAM	1	0	22.08	22.57	22.45	23
10	64QAM	1	25	22.62	21.97	22.15	
10	64QAM	1	49	22.29	22.31	22.26	
10	64QAM	25	0	21.32	21.41	21.11	21.5
10	64QAM	25	12	21.27	21.17	21.16	
10	64QAM	25	25	21.26	21.22	21.14	
10	64QAM	50	0	21.26	21.23	21.16	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	23.07	23.14	22.94	23.5
5	QPSK	1	12	23.06	23.12	22.95	
5	QPSK	1	24	23.20	23.11	22.94	
5	QPSK	12	0	22.07	22.14	22.00	22.5
5	QPSK	12	7	22.11	22.22	22.04	
5	QPSK	12	13	22.15	22.14	22.03	
5	QPSK	25	0	22.18	22.15	22.03	
5	16QAM	1	0	22.11	22.66	22.25	22.5
5	16QAM	1	12	22.23	22.62	22.45	
5	16QAM	1	24	22.40	21.92	22.49	
5	16QAM	12	0	21.22	21.34	21.05	21.5
5	16QAM	12	7	21.17	21.39	21.09	
5	16QAM	12	13	21.24	21.33	21.20	
5	16QAM	25	0	21.31	21.31	21.07	
5	64QAM	1	0	21.85	22.60	22.51	23
5	64QAM	1	12	22.12	22.02	22.42	
5	64QAM	1	24	22.32	21.96	22.53	
5	64QAM	12	0	21.11	21.34	21.17	21.5
5	64QAM	12	7	21.12	21.23	21.22	
5	64QAM	12	13	21.19	21.22	21.16	
5	64QAM	25	0	21.26	21.20	21.19	
Channel				23025	23095	23165	Tune-up limit
Frequency (MHz)				700.5	707.5	714.5	

							(dBm)
3	QPSK	1	0	23.11	23.22	23.02	23.5
3	QPSK	1	8	22.93	23.10	22.94	
3	QPSK	1	14	23.02	23.03	23.00	
3	QPSK	8	0	22.08	22.16	21.96	22.5
3	QPSK	8	4	22.12	22.22	22.08	
3	QPSK	8	7	22.14	22.20	22.04	
3	QPSK	15	0	22.15	22.19	22.08	
3	16QAM	1	0	22.20	22.04	22.15	22.5
3	16QAM	1	8	22.07	22.28	22.47	
3	16QAM	1	14	22.35	22.50	22.37	
3	16QAM	8	0	21.19	21.35	21.09	21.5
3	16QAM	8	4	21.20	21.26	21.19	
3	16QAM	8	7	21.22	21.14	21.09	
3	16QAM	15	0	21.17	21.15	21.02	
3	64QAM	1	0	21.93	22.20	22.11	23
3	64QAM	1	8	22.17	22.59	22.12	
3	64QAM	1	14	22.19	22.02	22.16	
3	64QAM	8	0	21.03	21.29	21.23	21.5
3	64QAM	8	4	21.13	21.27	21.19	
3	64QAM	8	7	21.33	21.23	21.05	
3	64QAM	15	0	21.15	21.23	21.00	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	23.27	23.05	22.88	23.5
1.4	QPSK	1	3	23.00	22.99	23.00	
1.4	QPSK	1	5	22.94	23.09	22.88	
1.4	QPSK	3	0	22.93	23.06	22.97	
1.4	QPSK	3	1	22.98	23.10	22.92	
1.4	QPSK	3	3	23.05	23.11	22.93	
1.4	QPSK	6	0	22.12	22.09	21.97	22.5
1.4	16QAM	1	0	21.87	22.29	22.10	22.5
1.4	16QAM	1	3	22.04	22.02	22.11	
1.4	16QAM	1	5	22.35	22.14	22.08	
1.4	16QAM	3	0	21.94	22.12	22.05	
1.4	16QAM	3	1	21.98	22.14	22.07	
1.4	16QAM	3	3	21.85	22.15	22.14	

1.4	16QAM	6	0	21.25	21.36	21.13	21.5
1.4	64QAM	1	0	22.15	21.95	22.03	22.5
1.4	64QAM	1	3	22.04	22.26	22.17	
1.4	64QAM	1	5	21.96	22.18	22.11	
1.4	64QAM	3	0	21.90	22.32	22.04	
1.4	64QAM	3	1	22.05	22.37	22.15	
1.4	64QAM	3	3	22.02	22.18	21.91	
1.4	64QAM	6	0	21.12	21.15	21.01	21.5

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)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	23.08	23.13	23.12	23.5
10	QPSK	1	25	23.12	23.00	23.01	
10	QPSK	1	49	23.00	23.12	22.98	
10	QPSK	25	0	22.20	22.21	22.02	22.5
10	QPSK	25	12	22.20	22.23	22.12	
10	QPSK	25	25	22.16	22.19	22.02	
10	QPSK	50	0	22.16	22.12	22.33	
10	16QAM	1	0	22.46	22.32	22.22	22.5
10	16QAM	1	25	22.26	22.31	22.46	
10	16QAM	1	49	22.34	22.34	22.21	
10	16QAM	25	0	21.23	21.26	21.03	21.5
10	16QAM	25	12	21.30	21.30	21.04	
10	16QAM	25	25	21.32	21.23	21.16	
10	16QAM	50	0	21.19	21.20	21.18	
10	64QAM	1	0	22.13	22.27	22.00	22.5
10	64QAM	1	25	22.22	21.91	22.15	
10	64QAM	1	49	22.22	22.49	22.12	
10	64QAM	25	0	21.29	21.34	21.08	21.5
10	64QAM	25	12	21.35	21.20	21.08	
10	64QAM	25	25	21.23	21.19	21.12	
10	64QAM	50	0	21.15	21.18	20.89	
Channel				23755	23790	23825	Tune-up limit
Frequency (MHz)				706.5	710	713.5	

							(dBm)
5	QPSK	1	0	23.02	23.09	22.98	23.5
5	QPSK	1	12	22.97	23.07	22.92	
5	QPSK	1	24	23.16	23.08	22.99	
5	QPSK	12	0	22.19	22.22	21.95	22.5
5	QPSK	12	7	22.07	22.08	22.09	
5	QPSK	12	13	22.08	22.14	21.99	
5	QPSK	25	0	22.16	22.18	21.98	
5	16QAM	1	0	22.17	22.43	22.13	22.5
5	16QAM	1	12	22.18	22.42	22.02	
5	16QAM	1	24	21.89	22.21	22.17	
5	16QAM	12	0	21.12	21.17	21.09	21.5
5	16QAM	12	7	21.17	21.22	20.97	
5	16QAM	12	13	21.28	21.18	21.12	
5	16QAM	25	0	21.16	21.21	21.03	
5	64QAM	1	0	22.24	22.27	21.91	22.5
5	64QAM	1	12	22.31	22.00	21.98	
5	64QAM	1	24	22.16	22.19	21.83	
5	64QAM	12	0	21.17	21.17	21.04	21.5
5	64QAM	12	7	21.10	21.31	20.90	
5	64QAM	12	13	21.23	21.12	21.02	
5	64QAM	25	0	21.13	21.15	21.01	

LTE Band 18

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23925			
Frequency (MHz)				822.5			
15	QPSK	1	0	/	23.10	/	23.5
15	QPSK	1	37	/	23.01	/	
15	QPSK	1	74	/	23.00	/	
15	QPSK	36	0	/	22.08	/	22.5
15	QPSK	36	20	/	22.08	/	
15	QPSK	36	39	/	22.10	/	
15	QPSK	75	0	/	22.11	/	
15	16QAM	1	0	/	22.21	/	22.5
15	16QAM	1	37	/	22.64	/	

15	16QAM	1	74	/	21.98	/	
15	16QAM	36	0	/	21.21	/	21.5
15	16QAM	36	20	/	21.22	/	
15	16QAM	36	39	/	21.14	/	
15	16QAM	75	0	/	21.17	/	
10	64QAM	1	0	/	21.83	/	22
10	64QAM	1	25	/	22.56	/	
10	64QAM	1	49	/	21.10	/	
10	64QAM	25	0	/	21.14	/	21.5
10	64QAM	25	12	/	21.10	/	
10	64QAM	25	25	/	21.07	/	
10	64QAM	50	0	/	21.15	/	
Channel				23900	23925	23950	Tune-up limit (dBm)
Frequency (MHz)				820	822.5	825	
10	QPSK	1	0	22.86	22.95	23.07	23.5
10	QPSK	1	25	23.12	23.16	22.91	
10	QPSK	1	49	23.00	22.95	22.98	
10	QPSK	25	0	22.09	22.10	22.03	22.5
10	QPSK	25	12	22.08	22.08	22.07	
10	QPSK	25	25	22.04	22.09	22.04	
10	QPSK	50	0	22.10	22.07	22.08	
10	16QAM	1	0	22.39	22.20	22.31	22.5
10	16QAM	1	25	22.42	22.08	22.31	
10	16QAM	1	49	21.90	22.15	22.52	
10	16QAM	25	0	21.13	21.22	21.16	21.5
10	16QAM	25	12	21.18	21.19	21.11	
10	16QAM	25	25	21.12	21.11	21.17	
10	16QAM	50	0	21.11	21.13	21.06	
10	64QAM	1	0	22.03	22.41	22.11	23
10	64QAM	1	25	21.98	22.08	22.51	
10	64QAM	1	49	22.06	21.93	22.14	
10	64QAM	25	0	21.19	21.15	21.17	21.5
10	64QAM	25	12	21.18	21.03	21.03	
10	64QAM	25	25	21.05	21.11	21.05	
10	64QAM	50	0	21.09	21.07	21.08	
Channel				23875	23925	23975	Tune-up limit
Frequency (MHz)				817.5	822.5	827.5	

							(dBm)
5	QPSK	1	0	23.13	23.08	23.08	23.5
5	QPSK	1	12	23.11	23.03	22.86	
5	QPSK	1	24	23.26	22.96	23.03	
5	QPSK	12	0	22.14	22.01	22.04	22.5
5	QPSK	12	7	22.03	22.02	22.06	
5	QPSK	12	13	22.07	21.97	22.02	
5	QPSK	25	0	22.21	22.03	22.02	
5	16QAM	1	0	22.45	22.14	22.21	22.5
5	16QAM	1	12	22.47	22.15	22.38	
5	16QAM	1	24	22.60	21.94	22.44	
5	16QAM	12	0	21.18	21.10	21.18	21.5
5	16QAM	12	7	21.19	21.11	21.13	
5	16QAM	12	13	21.15	21.03	21.08	
5	16QAM	25	0	21.23	21.11	21.09	
5	64QAM	1	0	22.22	22.21	22.50	23
5	64QAM	1	12	22.41	22.25	22.00	
5	64QAM	1	24	22.54	22.21	21.97	
5	64QAM	12	0	21.13	21.21	21.00	21.5
5	64QAM	12	7	21.08	21.24	20.97	
5	64QAM	12	13	21.08	21.20	21.08	
5	64QAM	25	0	21.23	21.23	21.05	

LTE Band 19

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				24075			
Frequency (MHz)				837.5			
15	QPSK	1	0	/	23.29	/	23.5
15	QPSK	1	37	/	23.01	/	
15	QPSK	1	74	/	22.84	/	
15	QPSK	36	0	/	22.09	/	22.5
15	QPSK	36	20	/	22.11	/	
15	QPSK	36	39	/	22.01	/	
15	QPSK	75	0	/	22.05	/	
15	16QAM	1	0	/	22.56	/	23
15	16QAM	1	37	/	22.33	/	

15	16QAM	1	74	/	22.10	/	
15	16QAM	36	0	/	21.11	/	21.5
15	16QAM	36	20	/	21.15	/	
15	16QAM	36	39	/	21.13	/	
15	16QAM	75	0	/	21.25	/	
10	64QAM	1	0	/	22.07	/	22.5
10	64QAM	1	25	/	22.24	/	
10	64QAM	1	49	/	21.11	/	
10	64QAM	25	0	/	21.16	/	21.5
10	64QAM	25	12	/	21.15	/	
10	64QAM	25	25	/	21.23	/	
10	64QAM	50	0	/	21.25	/	
Channel				24050	24075	24100	Tune-up limit (dBm)
Frequency (MHz)				835	837.5	840	
10	QPSK	1	0	22.99	23.23	23.03	23.5
10	QPSK	1	25	23.05	23.08	22.96	
10	QPSK	1	49	23.05	22.92	23.00	
10	QPSK	25	0	22.09	22.11	22.11	22.5
10	QPSK	25	12	22.07	22.11	22.12	
10	QPSK	25	25	22.09	22.03	21.95	
10	QPSK	50	0	22.11	22.11	22.08	
10	16QAM	1	0	22.23	22.14	22.53	22.5
10	16QAM	1	25	22.23	22.45	21.99	
10	16QAM	1	49	22.26	22.18	22.04	
10	16QAM	25	0	21.08	21.24	21.02	21.5
10	16QAM	25	12	21.13	21.19	21.09	
10	16QAM	25	25	21.19	21.12	20.89	
10	16QAM	50	0	21.17	21.14	21.05	
10	64QAM	1	0	22.17	22.25	22.19	22.5
10	64QAM	1	25	21.87	22.18	22.07	
10	64QAM	1	49	22.01	21.97	22.03	
10	64QAM	25	0	21.10	21.16	21.18	21.5
10	64QAM	25	12	21.29	21.24	21.13	
10	64QAM	25	25	21.05	21.17	21.02	
10	64QAM	50	0	21.14	21.24	21.03	
Channel				24025	24075	24125	Tune-up limit
Frequency (MHz)				832.5	837.5	842.5	

							(dBm)
5	QPSK	1	0	23.10	23.12	22.99	23.5
5	QPSK	1	12	23.03	22.79	22.95	
5	QPSK	1	24	22.91	22.98	22.86	
5	QPSK	12	0	22.16	22.12	21.94	22.5
5	QPSK	12	7	22.09	22.05	21.86	
5	QPSK	12	13	22.08	22.06	21.95	
5	QPSK	25	0	22.08	22.03	21.93	
5	16QAM	1	0	22.24	22.20	22.03	22.5
5	16QAM	1	12	22.22	22.41	22.08	
5	16QAM	1	24	22.19	22.38	22.20	
5	16QAM	12	0	21.21	21.06	20.95	21.5
5	16QAM	12	7	21.13	21.11	20.94	
5	16QAM	12	13	21.15	21.02	20.96	
5	16QAM	25	0	21.15	21.16	21.01	
5	64QAM	1	0	22.38	22.23	22.03	22.5
5	64QAM	1	12	22.51	22.48	21.75	
5	64QAM	1	24	22.54	22.47	21.79	
5	64QAM	12	0	21.24	21.04	20.94	21.5
5	64QAM	12	7	21.22	21.21	20.97	
5	64QAM	12	13	21.18	21.15	20.89	
5	64QAM	25	0	21.28	21.16	20.99	

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)
Channel				26140	26365	26590	
Frequency (MHz)				1860	1882.5	1905	
20	QPSK	1	0	22.81	22.86	22.95	23
20	QPSK	1	49	22.68	22.64	22.81	
20	QPSK	1	99	22.99	22.81	22.77	
20	QPSK	50	0	21.95	21.80	21.91	22
20	QPSK	50	24	21.88	21.77	21.94	
20	QPSK	50	50	21.79	21.76	21.91	
20	QPSK	100	0	21.77	21.79	21.90	
20	16QAM	1	0	22.05	22.06	22.44	22.5
20	16QAM	1	49	21.49	21.61	22.00	

20	16QAM	1	99	21.91	22.23	21.84	
20	16QAM	50	0	20.82	20.97	21.06	21.5
20	16QAM	50	24	20.89	20.91	20.92	
20	16QAM	50	50	20.78	20.75	20.98	
20	16QAM	100	0	20.75	20.87	21.02	
20	64QAM	1	0	21.73	21.94	22.02	22.5
20	64QAM	1	49	22.18	22.23	22.05	
20	64QAM	1	99	22.06	21.71	22.40	
20	64QAM	50	0	20.94	21.00	21.08	21.5
20	64QAM	50	24	20.90	20.88	21.03	
20	64QAM	50	50	20.88	20.82	21.01	
20	64QAM	100	0	20.94	20.87	21.02	
Channel				26115	26365	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	QPSK	1	0	22.65	22.92	22.96	23
15	QPSK	1	37	22.50	22.81	22.78	
15	QPSK	1	74	22.66	22.68	22.89	
15	QPSK	36	0	21.78	21.80	21.96	22
15	QPSK	36	20	21.72	21.82	21.84	
15	QPSK	36	39	21.80	21.73	21.84	
15	QPSK	75	0	21.63	21.76	21.88	
15	16QAM	1	0	21.91	22.01	22.43	22.5
15	16QAM	1	37	21.93	21.96	21.93	
15	16QAM	1	74	21.63	21.73	22.34	
15	16QAM	36	0	20.72	20.86	20.97	21
15	16QAM	36	20	20.65	20.87	20.97	
15	16QAM	36	39	20.68	20.87	20.93	
15	16QAM	75	0	20.72	20.89	20.90	
15	64QAM	1	0	21.79	22.13	22.19	22.5
15	64QAM	1	37	21.52	22.17	22.17	
15	64QAM	1	74	20.91	20.89	21.04	
15	64QAM	36	0	20.83	20.93	20.95	21.5
15	64QAM	36	20	20.90	20.85	21.00	
15	64QAM	36	39	20.83	20.90	21.02	
15	64QAM	75	0	20.69	20.86	20.73	
Channel				26090	26365	26640	Tune-up limit
Frequency (MHz)				1855	1882.5	1910	

							(dBm)
10	QPSK	1	0	22.77	23.04	22.88	23
10	QPSK	1	25	22.70	22.71	22.80	
10	QPSK	1	49	22.82	22.92	22.87	
10	QPSK	25	0	21.84	21.81	21.90	22
10	QPSK	25	12	21.69	21.79	21.85	
10	QPSK	25	25	21.76	21.76	21.80	
10	QPSK	50	0	21.76	21.76	21.90	
10	16QAM	1	0	22.23	22.17	22.22	22.5
10	16QAM	1	25	21.54	21.92	21.91	
10	16QAM	1	49	21.92	22.06	22.15	
10	16QAM	25	0	20.79	20.88	21.02	21.5
10	16QAM	25	12	20.72	20.92	20.95	
10	16QAM	25	25	20.61	20.80	20.91	
10	16QAM	50	0	20.79	20.93	20.95	
10	64QAM	1	0	22.08	22.12	22.17	22.5
10	64QAM	1	25	21.62	21.93	22.23	
10	64QAM	1	49	22.01	22.22	22.44	
10	64QAM	25	0	20.75	20.92	21.13	21.5
10	64QAM	25	12	20.87	20.95	20.96	
10	64QAM	25	25	20.86	20.81	21.05	
10	64QAM	50	0	20.77	20.92	21.04	
Channel				26065	26365	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	QPSK	1	0	22.60	22.67	22.89	23
5	QPSK	1	12	22.58	22.63	22.86	
5	QPSK	1	24	22.65	22.69	22.89	
5	QPSK	12	0	21.55	21.83	21.83	22
5	QPSK	12	7	21.57	21.70	21.89	
5	QPSK	12	13	21.71	21.80	21.90	
5	QPSK	25	0	21.71	21.72	21.80	
5	16QAM	1	0	21.67	21.96	21.97	22.5
5	16QAM	1	12	21.57	21.74	22.15	
5	16QAM	1	24	21.67	21.80	22.01	
5	16QAM	12	0	20.58	20.80	20.93	21
5	16QAM	12	7	20.64	20.84	20.94	
5	16QAM	12	13	20.68	20.72	20.95	

5	16QAM	25	0	20.69	20.77	20.96	
5	64QAM	1	0	21.68	21.95	22.52	23
5	64QAM	1	12	22.04	21.89	22.28	
5	64QAM	1	24	21.81	21.94	22.15	
5	64QAM	12	0	20.55	20.85	21.05	21.5
5	64QAM	12	7	20.63	20.87	21.06	
5	64QAM	12	13	20.75	20.70	20.90	
5	64QAM	25	0	20.79	20.82	21.04	
Channel				26055	26365	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1882.5	1913.5	
3	QPSK	1	0	22.54	22.78	22.90	23
3	QPSK	1	8	22.42	22.86	22.90	
3	QPSK	1	14	22.55	22.76	22.97	
3	QPSK	8	0	21.63	21.78	21.99	22
3	QPSK	8	4	21.67	21.80	21.97	
3	QPSK	8	7	21.57	21.73	21.96	
3	QPSK	15	0	21.65	21.74	21.92	
3	16QAM	1	0	21.81	22.08	22.14	22.5
3	16QAM	1	8	21.42	22.09	22.18	
3	16QAM	1	14	22.01	22.09	22.01	
3	16QAM	8	0	20.78	20.90	20.98	21.5
3	16QAM	8	4	20.71	20.84	21.05	
3	16QAM	8	7	20.63	20.83	20.99	
3	16QAM	15	0	20.64	20.84	20.94	
3	64QAM	1	0	21.70	21.67	21.84	22.5
3	64QAM	1	8	21.78	22.16	22.11	
3	64QAM	1	14	21.68	21.76	22.36	
3	64QAM	8	0	20.63	20.82	21.01	21.5
3	64QAM	8	4	20.69	20.88	20.99	
3	64QAM	8	7	20.64	20.72	21.09	
3	64QAM	15	0	20.65	20.79	21.08	
Channel				26047	26365	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1882.5	1914.3	
1.4	QPSK	1	0	22.48	22.62	22.84	23
1.4	QPSK	1	3	22.53	22.75	22.85	
1.4	QPSK	1	5	22.58	22.69	22.78	

1.4	QPSK	3	0	22.52	22.72	22.95	
1.4	QPSK	3	1	22.68	22.75	22.94	
1.4	QPSK	3	3	22.59	22.70	22.92	
1.4	QPSK	6	0	21.45	21.79	21.94	22
1.4	16QAM	1	0	21.54	22.12	22.04	22.5
1.4	16QAM	1	3	21.81	22.29	22.16	
1.4	16QAM	1	5	21.36	22.09	22.01	
1.4	16QAM	3	0	21.47	21.77	21.87	
1.4	16QAM	3	1	21.64	21.82	21.97	
1.4	16QAM	3	3	21.58	21.85	21.96	
1.4	16QAM	6	0	20.78	20.95	20.91	21
1.4	64QAM	1	0	21.63	21.66	22.30	22.5
1.4	64QAM	1	3	21.79	21.80	21.87	
1.4	64QAM	1	5	21.84	22.16	22.07	
1.4	64QAM	3	0	21.75	21.65	22.03	
1.4	64QAM	3	1	21.70	21.77	22.03	
1.4	64QAM	3	3	21.60	21.76	21.99	
1.4	64QAM	6	0	20.64	20.70	21.00	21.5

LTE Band 26

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26915	26965	
Frequency (MHz)				821.5	831.5	836.5	841.5	
15	QPSK	1	0	22.40	22.85	23.01	23.03	23.5
15	QPSK	1	37	22.61	23.19	22.57	22.96	
15	QPSK	1	74	22.90	23.02	22.67	22.75	
15	QPSK	36	0	21.64	22.05	21.70	22.04	22.5
15	QPSK	36	20	21.73	22.20	21.69	22.07	
15	QPSK	36	39	21.83	21.96	21.65	21.96	
15	QPSK	75	0	21.76	22.03	21.65	21.96	
15	16QAM	1	0	21.55	22.47	22.09	22.29	22.5
15	16QAM	1	37	22.22	22.35	22.10	22.05	
15	16QAM	1	74	22.17	22.47	21.74	21.81	
15	16QAM	36	0	20.73	21.13	20.74	21.21	21.5
15	16QAM	36	20	20.98	21.14	20.72	21.16	
15	16QAM	36	39	20.99	21.13	20.70	20.97	

15	16QAM	75	0	20.90	21.11	20.73	21.17	
15	64QAM	1	0	21.62	22.10	21.74	22.52	23
15	64QAM	1	37	21.75	22.15	21.75	21.98	
15	64QAM	1	74	20.74	21.04	21.87	21.09	
15	64QAM	36	0	20.90	21.18	20.64	21.21	21.5
15	64QAM	36	20	20.88	21.13	20.76	20.91	
15	64QAM	36	39	20.85	21.16	20.69	21.09	
15	64QAM	75	0	20.93	20.99	20.64	21.10	
Channel				26740	26865	26915	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	836.5	844	
10	QPSK	1	0	22.46	22.82	22.80	22.84	23.5
10	QPSK	1	25	22.71	23.10	22.78	22.70	
10	QPSK	1	49	22.69	22.99	22.53	22.87	
10	QPSK	25	0	21.71	22.12	21.83	21.90	22.5
10	QPSK	25	12	21.71	22.13	21.85	21.89	
10	QPSK	25	25	21.78	22.08	21.86	21.89	
10	QPSK	50	0	21.76	22.05	21.80	21.93	
10	16QAM	1	0	22.08	22.00	22.26	21.82	22.5
10	16QAM	1	25	21.83	22.55	22.14	22.03	
10	16QAM	1	49	21.89	22.48	21.75	22.24	
10	16QAM	25	0	20.67	21.24	20.86	21.03	21.5
10	16QAM	25	12	20.82	21.21	20.78	20.88	
10	16QAM	25	25	20.98	21.17	20.86	20.83	
10	16QAM	50	0	20.76	21.12	20.80	20.98	
10	64QAM	1	0	21.66	22.43	22.31	21.99	22.5
10	64QAM	1	25	22.16	22.28	22.01	22.08	
10	64QAM	1	49	21.95	22.45	21.77	22.24	
10	64QAM	25	0	20.74	21.27	20.90	21.03	21.5
10	64QAM	25	12	20.86	21.13	20.92	21.01	
10	64QAM	25	25	20.91	21.12	20.86	20.96	
10	64QAM	50	0	20.72	21.13	20.88	20.93	
Channel				26715	26865	26915	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	836.5	846.5	
5	QPSK	1	0	22.33	22.96	22.80	22.74	23.5
5	QPSK	1	12	22.59	23.11	22.69	22.88	
5	QPSK	1	24	22.58	23.19	22.51	22.82	

5	QPSK	12	0	21.55	22.06	21.80	21.91	22.5
5	QPSK	12	7	21.60	22.04	21.81	21.85	
5	QPSK	12	13	21.59	22.03	21.79	21.82	
5	QPSK	25	0	21.54	22.10	21.80	21.89	
5	16QAM	1	0	21.63	22.43	22.20	22.14	22.5
5	16QAM	1	12	21.97	22.44	21.90	22.03	
5	16QAM	1	24	21.94	22.18	22.17	22.10	
5	16QAM	12	0	20.68	21.11	20.86	20.85	21.5
5	16QAM	12	7	20.65	21.14	20.77	20.99	
5	16QAM	12	13	20.70	21.14	20.80	20.88	
5	16QAM	25	0	20.60	21.17	20.81	20.89	
5	64QAM	1	0	21.63	22.17	22.02	21.84	22.5
5	64QAM	1	12	21.73	22.21	21.85	22.00	
5	64QAM	1	24	21.79	22.16	21.83	21.97	
5	64QAM	12	0	20.61	21.08	21.01	21.07	21.5
5	64QAM	12	7	20.76	21.17	20.90	20.89	
5	64QAM	12	13	20.70	21.18	20.78	21.09	
5	64QAM	25	0	20.72	21.10	20.81	21.00	
Channel				26705	26865	26915	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	836.5	847.5	
3	QPSK	1	0	22.38	23.04	22.89	22.86	23.5
3	QPSK	1	8	22.46	23.03	22.94	22.75	
3	QPSK	1	14	22.44	23.03	22.84	22.80	
3	QPSK	8	0	21.51	22.03	21.72	21.81	22.5
3	QPSK	8	4	21.60	22.05	21.83	21.92	
3	QPSK	8	7	21.50	21.98	21.74	21.84	
3	QPSK	15	0	21.51	22.08	21.82	21.86	
3	16QAM	1	0	21.42	22.17	22.10	21.87	22.5
3	16QAM	1	8	22.05	22.25	22.09	22.00	
3	16QAM	1	14	22.11	22.22	22.06	21.88	
3	16QAM	8	0	20.76	21.24	20.86	20.90	21.5
3	16QAM	8	4	20.73	21.11	20.79	20.89	
3	16QAM	8	7	20.53	21.22	20.75	20.94	
3	16QAM	15	0	20.58	21.21	20.74	20.95	
3	64QAM	1	0	21.83	22.47	21.91	21.94	22.5
3	64QAM	1	8	21.62	22.08	21.91	22.10	
3	64QAM	1	14	21.40	22.25	21.81	22.04	

3	64QAM	8	0	20.57	21.17	20.87	20.85	21.5
3	64QAM	8	4	20.60	21.08	20.80	20.98	
3	64QAM	8	7	20.58	21.13	20.72	20.81	
3	64QAM	15	0	20.64	21.01	20.81	20.99	
Channel				26697	26865	26915	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	836.5	848.3	
1.4	QPSK	1	0	22.32	22.86	22.69	22.68	23
1.4	QPSK	1	3	22.39	23.00	22.72	22.88	
1.4	QPSK	1	5	22.32	22.96	22.64	22.83	
1.4	QPSK	3	0	22.42	23.01	22.76	22.84	
1.4	QPSK	3	1	22.43	23.05	22.84	22.84	
1.4	QPSK	3	3	22.43	22.99	22.77	22.83	
1.4	QPSK	6	0	21.45	21.97	21.72	21.79	22
1.4	16QAM	1	0	21.72	22.35	22.09	21.69	22.5
1.4	16QAM	1	3	21.53	22.40	22.20	21.72	
1.4	16QAM	1	5	21.62	22.38	21.77	21.68	
1.4	16QAM	3	0	21.51	21.96	21.81	21.85	
1.4	16QAM	3	1	21.36	22.03	21.79	21.88	
1.4	16QAM	3	3	21.50	22.00	21.81	21.66	
1.4	16QAM	6	0	20.65	21.14	20.96	20.86	21.5
1.4	64QAM	1	0	21.50	21.87	21.77	21.95	22.5
1.4	64QAM	1	3	21.88	22.04	22.17	22.23	
1.4	64QAM	1	5	21.51	22.11	22.08	22.03	
1.4	64QAM	3	0	21.64	22.05	21.82	21.95	
1.4	64QAM	3	1	21.50	22.19	21.90	21.87	
1.4	64QAM	3	3	21.42	22.15	21.83	21.82	
1.4	64QAM	6	0	20.45	21.10	20.83	20.95	21.5

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)
Channel				27710			
Frequency (MHz)				2310			
10	QPSK	1	0	/	22.56	/	23
10	QPSK	1	25	/	22.36	/	
10	QPSK	1	49	/	22.51	/	

10	QPSK	25	0	/	21.61	/	22
10	QPSK	25	12	/	21.56	/	
10	QPSK	25	25	/	21.54	/	
10	QPSK	50	0	/	21.54	/	
10	16QAM	1	0	/	22.19	/	22
10	16QAM	1	25	/	21.98	/	
10	16QAM	1	49	/	21.56	/	
10	16QAM	25	0	/	20.72	/	21
10	16QAM	25	12	/	20.59	/	
10	16QAM	25	25	/	20.52	/	
10	16QAM	50	0	/	20.6	/	
10	64QAM	1	0	/	21.88	/	22
10	64QAM	1	25	/	21.59	/	
10	64QAM	1	49	/	21.56	/	
10	64QAM	25	0	/	20.49	/	21
10	64QAM	25	12	/	20.55	/	
10	64QAM	25	25	/	20.49	/	
10	64QAM	50	0	/	20.59	/	
Channel				27685	27710	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	22.51	22.56	22.43	23
5	QPSK	1	12	22.48	22.46	22.47	
5	QPSK	1	24	22.49	22.46	22.31	
5	QPSK	12	0	21.61	21.43	21.54	22
5	QPSK	12	7	21.44	21.48	21.50	
5	QPSK	12	13	21.49	21.43	21.44	
5	QPSK	25	0	21.50	21.53	21.48	
5	16QAM	1	0	22.15	21.88	21.77	22
5	16QAM	1	12	21.59	21.57	21.58	
5	16QAM	1	24	21.88	21.62	21.64	
5	16QAM	12	0	20.67	20.60	20.53	21
5	16QAM	12	7	20.51	20.60	20.48	
5	16QAM	12	13	20.53	20.44	20.43	
5	16QAM	25	0	20.55	20.43	20.58	
5	64QAM	1	0	21.80	22.06	21.44	22.5
5	64QAM	1	12	21.40	21.59	21.95	
5	64QAM	1	24	21.43	21.49	21.91	

5	64QAM	12	0	20.61	20.54	20.39	21
5	64QAM	12	7	20.61	20.63	20.51	
5	64QAM	12	13	20.68	20.51	20.59	
5	64QAM	25	0	20.57	20.61	20.59	

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)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	22.06	21.94	21.83	22.5
20	QPSK	1	49	21.84	21.70	21.46	
20	QPSK	1	99	21.69	21.56	21.30	
20	QPSK	50	0	21.05	21.03	20.95	21.5
20	QPSK	50	24	20.93	20.84	20.74	
20	QPSK	50	50	20.90	20.87	20.64	
20	QPSK	100	0	20.88	20.91	20.81	
20	16QAM	1	0	21.41	21.32	21.22	21.5
20	16QAM	1	49	21.10	21.10	20.88	
20	16QAM	1	99	20.95	20.95	20.80	
20	16QAM	50	0	20.84	20.96	20.89	21.5
20	16QAM	50	24	21.13	20.98	20.90	
20	16QAM	50	50	21.01	21.03	20.86	
20	16QAM	100	0	21.03	21.00	20.81	
20	64QAM	1	0	21.34	21.27	21.18	21.5
20	64QAM	1	49	20.96	20.92	20.79	
20	64QAM	1	99	20.88	20.87	20.62	
20	64QAM	50	0	20.73	20.95	20.95	21
20	64QAM	50	24	20.84	20.86	20.87	
20	64QAM	50	50	20.90	20.85	20.66	
20	64QAM	100	0	20.99	20.87	20.78	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	22.05	21.95	21.83	22.5
15	QPSK	1	37	21.81	21.73	21.50	
15	QPSK	1	74	21.76	21.77	21.53	

15	QPSK	36	0	21.04	20.81	20.69	21.5
15	QPSK	36	20	21.00	20.83	20.61	
15	QPSK	36	39	20.90	20.67	20.46	
15	QPSK	75	0	20.97	20.81	20.68	
15	16QAM	1	0	21.34	21.18	21.16	21.5
15	16QAM	1	37	21.13	21.06	20.85	
15	16QAM	1	74	21.08	21.01	20.67	
15	16QAM	36	0	21.28	21.04	20.81	21.5
15	16QAM	36	20	21.95	21.03	20.61	
15	16QAM	36	39	21.77	21.88	20.57	
15	16QAM	75	0	21.92	21.06	20.73	
15	64QAM	1	0	21.21	21.12	21.07	21.5
15	64QAM	1	37	21.03	20.96	20.74	
15	64QAM	1	74	21.05	21.04	20.06	
15	64QAM	36	0	21.10	21.05	20.64	21.5
15	64QAM	36	20	21.01	20.92	20.70	
15	64QAM	36	39	21.08	21.05	20.94	
15	64QAM	75	0	21.11	21.03	21.05	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	21.88	21.77	21.51	22.5
10	QPSK	1	25	21.74	21.61	21.44	
10	QPSK	1	49	21.67	21.64	21.28	
10	QPSK	25	0	20.91	20.73	20.63	21.5
10	QPSK	25	12	20.84	20.85	20.55	
10	QPSK	25	25	20.87	20.85	20.52	
10	QPSK	50	0	20.74	20.87	20.55	
10	16QAM	1	0	21.12	21.25	20.91	21.5
10	16QAM	1	25	21.10	21.01	20.75	
10	16QAM	1	49	21.02	20.93	20.79	
10	16QAM	25	0	20.98	21.00	20.60	21.5
10	16QAM	25	12	21.10	20.90	20.73	
10	16QAM	25	25	20.81	21.02	20.70	
10	16QAM	50	0	21.02	21.00	20.70	
10	64QAM	1	0	21.01	21.12	20.74	21.5
10	64QAM	1	25	20.92	20.92	20.65	
10	64QAM	1	49	20.81	20.83	20.58	

10	64QAM	25	0	20.96	20.86	20.56	21
10	64QAM	25	12	20.84	20.98	20.69	
10	64QAM	25	25	20.88	20.77	20.44	
10	64QAM	50	0	20.97	20.95	20.67	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	21.95	21.65	21.37	22.5
5	QPSK	1	12	21.72	21.65	21.41	
5	QPSK	1	24	21.61	21.54	21.25	
5	QPSK	12	0	21.86	20.74	20.54	22
5	QPSK	12	7	21.94	20.81	20.47	
5	QPSK	12	13	20.89	20.76	20.60	
5	QPSK	25	0	21.74	20.84	20.50	
5	16QAM	1	0	21.15	21.10	20.72	21.5
5	16QAM	1	12	20.97	21.06	20.81	
5	16QAM	1	24	21.08	20.95	20.77	
5	16QAM	12	0	21.70	20.99	20.59	22
5	16QAM	12	7	21.80	20.86	20.61	
5	16QAM	12	13	21.03	20.90	20.54	
5	16QAM	25	0	21.02	20.90	20.58	
5	64QAM	1	0	20.96	21.03	20.75	21.5
5	64QAM	1	12	20.88	20.95	20.59	
5	64QAM	1	24	20.89	20.95	20.67	
5	64QAM	12	0	20.83	20.84	20.64	21
5	64QAM	12	7	20.84	20.81	20.68	
5	64QAM	12	13	20.77	20.85	20.59	
5	64QAM	25	0	20.73	20.94	20.61	

LTE Band 40 Band 1

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				38750			
Frequency (MHz)				2310			
10	QPSK	1	0	**22.57**			23
10	QPSK	1	25	22.44			

10	QPSK	1	49	22.28			
10	QPSK	25	0	21.63			22
10	QPSK	25	12	21.44			
10	QPSK	25	25	21.56			
10	QPSK	50	0	21.56			
10	16QAM	1	0	21.84			22
10	16QAM	1	25	21.82			
10	16QAM	1	49	21.64			
10	16QAM	25	0	20.63			21
10	16QAM	25	12	20.69			
10	16QAM	25	25	20.52			
10	16QAM	50	0	20.69			
10	64QAM	1	0	21.75			21
10	64QAM	1	25	21.7			
10	64QAM	1	49	21.51			
10	64QAM	25	0	20.56			20
10	64QAM	25	12	20.62			
10	64QAM	25	25	20.45			
10	64QAM	50	0	20.62			
Channel				38725	38750	38775	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	22.44	22.43	22.42	23
5	QPSK	1	12	22.49	22.44	22.41	
5	QPSK	1	24	22.43	22.28	22.36	
5	QPSK	12	0	21.46	21.57	21.66	22
5	QPSK	12	7	21.63	21.69	21.46	
5	QPSK	12	13	21.46	21.43	21.65	
5	QPSK	25	0	21.61	21.58	21.64	
5	16QAM	1	0	21.78	21.69	21.88	22
5	16QAM	1	12	21.77	21.74	21.81	
5	16QAM	1	24	21.71	21.78	21.76	
5	16QAM	12	0	20.8	20.82	20.59	21
5	16QAM	12	7	20.75	20.73	20.69	
5	16QAM	12	13	20.59	20.56	20.59	
5	16QAM	25	0	20.8	20.76	20.72	

5	64QAM	1	0	21.8	21.6	21.68	21
5	64QAM	1	12	21.76	21.62	21.59	
5	64QAM	1	24	21.6	21.68	21.66	
5	64QAM	12	0	20.75	20.56	20.75	20
5	64QAM	12	7	20.61	20.59	20.55	
5	64QAM	12	13	20.63	20.61	20.64	
5	64QAM	25	0	20.5	20.69	20.74	

LTE Band 40 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)
Channel				39200			
Frequency (MHz)				2355			
10	QPSK	1	0	**22.62**			23
10	QPSK	1	25	22.43			
10	QPSK	1	49	22.46			
10	QPSK	25	0	21.55			22
10	QPSK	25	12	**21.74**			
10	QPSK	25	25	21.67			
10	QPSK	50	0	21.74			
10	16QAM	1	0	22.07			22
10	16QAM	1	25	21.9			
10	16QAM	1	49	21.74			
10	16QAM	25	0	20.92			21
10	16QAM	25	12	20.69			
10	16QAM	25	25	20.72			
10	16QAM	50	0	20.88			
10	64QAM	1	0	21.91			21
10	64QAM	1	25	21.69			
10	64QAM	1	49	21.7			
10	64QAM	25	0	20.84			20
10	64QAM	25	12	20.62			
10	64QAM	25	25	20.77			
10	64QAM	50	0	20.59			

Channel				39175	39200	39225	Tune-up limit (dBm)
Frequency (MHz)				2352.5	2355	2357.5	
5	QPSK	1	0	22.54	22.56	22.52	23
5	QPSK	1	12	22.54	22.59	22.56	
5	QPSK	1	24	22.51	22.41	22.44	
5	QPSK	12	0	21.54	21.63	21.72	22
5	QPSK	12	7	21.63	21.7	21.77	
5	QPSK	12	13	21.63	21.5	21.5	
5	QPSK	25	0	21.72	21.7	21.69	
5	16QAM	1	0	21.94	21.98	21.83	22
5	16QAM	1	12	21.8	21.78	21.91	
5	16QAM	1	24	21.88	21.71	21.85	
5	16QAM	12	0	20.88	20.88	20.86	21
5	16QAM	12	7	20.86	20.84	20.72	
5	16QAM	12	13	20.79	20.64	20.83	
5	16QAM	25	0	20.79	20.88	20.89	
5	64QAM	1	0	21.9	21.78	21.84	21
5	64QAM	1	12	21.79	21.76	21.79	
5	64QAM	1	24	21.68	21.6	21.75	
5	64QAM	12	0	20.61	20.61	20.81	20
5	64QAM	12	7	20.81	20.79	20.77	
5	64QAM	12	13	20.7	20.79	20.57	
5	64QAM	25	0	20.81	20.8	20.81	

LTE Band 41

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	22.22	22.24	22.35	22.25	22.13	22.5
20	QPSK	1	49	22.06	22.09	22.04	21.98	21.95	
20	QPSK	1	99	22.06	22.02	21.98	21.90	21.86	
20	QPSK	50	0	21.31	21.32	21.35	21.27	21.23	21.5
20	QPSK	50	24	21.23	21.33	21.11	21.21	21.22	
20	QPSK	50	50	21.17	21.25	21.04	21.09	21.20	

20	QPSK	100	0	21.42	21.29	21.14	21.29	21.36	
20	16QAM	1	0	20.81	21.54	21.63	21.63	21.53	22
20	16QAM	1	49	21.05	21.40	21.47	21.40	21.42	
20	16QAM	1	99	21.09	21.42	21.18	21.22	21.13	
20	16QAM	50	0	20.45	20.51	20.37	20.41	20.42	21
20	16QAM	50	24	20.3	20.47	20.36	20.26	20.35	
20	16QAM	50	50	20.13	20.40	20.31	20.26	20.19	
20	16QAM	100	0	20.37	20.45	20.39	20.23	20.16	
20	64QAM	1	0	21.53	21.52	21.55	21.56	21.52	22
20	64QAM	1	49	21.24	21.22	21.25	21.29	21.36	
20	64QAM	1	99	21.17	21.24	21.16	21.10	21.05	
20	64QAM	50	0	20.17	20.37	20.31	20.37	20.31	20.5
20	64QAM	50	24	20.30	20.24	20.20	20.31	20.29	
20	64QAM	50	50	20.19	20.26	20.24	20.21	20.20	
20	64QAM	100	0	20.50	20.40	20.44	20.41	20.26	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	22.26	22.31	22.33	22.31	22.23	22.5
15	QPSK	1	37	21.92	22.15	22.03	22.10	22.05	
15	QPSK	1	74	21.96	22.08	22.10	22.01	22.05	
15	QPSK	36	0	21.33	21.38	21.19	21.28	21.62	21.5
15	QPSK	36	20	21.11	21.34	21.25	21.19	21.13	
15	QPSK	36	39	21.08	21.18	21.05	21.18	21.20	
15	QPSK	75	0	21.38	21.32	21.13	21.25	21.26	
15	16QAM	1	0	20.87	21.53	21.59	21.55	21.37	22
15	16QAM	1	37	20.99	21.38	21.40	21.35	21.30	
15	16QAM	1	74	21.12	21.43	21.36	21.27	21.26	
15	16QAM	36	0	20.07	20.41	20.38	20.27	20.36	20.5
15	16QAM	36	20	20.29	20.34	20.35	20.30	20.36	
15	16QAM	36	39	20.28	20.29	20.15	20.10	20.26	
15	16QAM	75	0	20.10	20.37	20.28	20.40	20.46	
15	64QAM	1	0	20.92	21.42	21.49	21.46	21.42	21.5
15	64QAM	1	37	21.18	21.32	21.17	21.23	21.27	
15	64QAM	1	74	20.14	20.36	20.32	20.41	20.36	
15	64QAM	36	0	20.17	20.30	20.38	20.32	20.38	20.5
15	64QAM	36	20	20.11	20.34	20.17	20.11	20.16	
15	64QAM	36	39	20.27	20.40	20.37	20.28	20.27	

15	64QAM	75	0	20.12	20.32	20.35	20.25	20.26	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	22.19	22.12	22.13	22.20	22.13	22.5
10	QPSK	1	25	22.27	22.03	21.98	22.02	22.05	
10	QPSK	1	49	22.01	22.08	21.98	21.94	21.36	
10	QPSK	25	0	21.41	21.19	21.18	21.29	21.52	21.5
10	QPSK	25	12	21.45	21.24	21.13	21.24	21.29	
10	QPSK	25	25	21.16	21.11	21.10	21.12	21.10	
10	QPSK	50	0	21.42	21.19	21.17	21.23	21.26	
10	16QAM	1	0	20.79	21.41	21.56	21.49	21.43	22
10	16QAM	1	25	21.06	21.33	21.41	21.34	21.39	
10	16QAM	1	49	20.93	21.35	21.40	21.25	21.20	
10	16QAM	25	0	20.28	20.39	20.26	20.27	20.23	20.5
10	16QAM	25	12	20.31	20.43	20.32	20.32	20.29	
10	16QAM	25	25	20.19	20.40	20.18	20.30	20.21	
10	16QAM	50	0	20.46	20.34	20.21	20.39	20.31	
10	64QAM	1	0	20.93	20.91	21.34	21.35	21.41	20.5
10	64QAM	1	25	21.19	21.03	21.37	21.27	21.22	
10	64QAM	1	49	21.08	21.05	21.28	21.26	21.22	
10	64QAM	25	0	20.30	20.07	20.26	20.20	20.32	20.5
10	64QAM	25	12	20.15	20.06	20.31	20.36	20.16	
10	64QAM	25	25	20.20	20.00	20.16	20.11	20.25	
10	64QAM	50	0	20.30	20.32	20.31	20.25	20.13	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	22.03	22.02	22.08	22.07	22.12	22.5
5	QPSK	1	12	15.63	21.99	22.03	22.01	22.06	
5	QPSK	1	24	22.15	22.04	21.96	21.91	21.97	
5	QPSK	12	0	21.45	21.15	21.25	21.11	21.12	21.5
5	QPSK	12	7	21.61	21.27	21.29	21.24	21.26	
5	QPSK	12	13	21.38	21.24	21.21	21.23	21.20	
5	QPSK	25	0	21.20	21.18	21.11	21.15	21.13	
5	16QAM	1	0	20.75	21.38	21.36	21.43	21.39	21.5
5	16QAM	1	12	21.10	21.29	21.45	21.33	21.28	
5	16QAM	1	24	20.92	21.33	21.28	21.34	21.36	

5	16QAM	12	0	20.06	20.33	20.20	20.38	20.31	20.5
5	16QAM	12	7	20.21	20.33	20.34	20.31	20.28	
5	16QAM	12	13	20.18	20.30	20.25	20.19	20.16	
5	16QAM	25	0	20.28	20.28	20.20	20.35	20.32	
5	64QAM	1	0	21.28	21.16	21.29	21.37	21.36	21.5
5	64QAM	1	12	21.22	21.35	21.24	21.23	21.30	
5	64QAM	1	24	21.10	21.14	21.28	21.28	21.26	
5	64QAM	12	0	20.25	20.20	20.29	20.15	20.26	20.5
5	64QAM	12	7	20.28	20.20	20.31	20.31	20.27	
5	64QAM	12	13	20.12	20.03	20.17	20.11	20.30	
5	64QAM	25	0	20.04	20.00	20.33	20.24	20.19	

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)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	22.98	22.80	22.71	23
20	QPSK	1	49	22.83	22.71	22.71	
20	QPSK	1	99	22.74	22.54	22.21	
20	QPSK	50	0	21.65	21.97	21.83	22
20	QPSK	50	24	21.81	21.93	21.90	
20	QPSK	50	50	21.98	21.97	21.60	
20	QPSK	100	0	21.73	21.77	21.75	
20	16QAM	1	0	21.99	21.93	21.73	22
20	16QAM	1	49	21.68	21.89	21.93	
20	16QAM	1	99	21.82	21.97	21.92	
20	16QAM	50	0	21.62	21.63	21.68	22
20	16QAM	50	24	21.60	21.69	21.67	
20	16QAM	50	50	21.63	21.63	21.69	
20	16QAM	100	0	21.61	21.62	21.62	
20	64QAM	1	0	21.64	21.61	21.65	22
20	64QAM	1	49	21.60	21.68	21.61	
20	64QAM	1	99	21.67	21.69	21.69	
20	64QAM	50	0	20.87	20.96	20.89	21
20	64QAM	50	24	20.77	20.81	20.88	
20	64QAM	50	50	20.72	20.74	20.92	

20	64QAM	100	0	20.93	20.73	20.76	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.97	22.82	22.52	23
15	QPSK	1	37	22.85	22.89	22.73	
15	QPSK	1	74	22.89	22.58	22.21	
15	QPSK	36	0	21.81	21.99	21.78	22
15	QPSK	36	20	21.78	21.98	21.87	
15	QPSK	36	39	21.73	21.89	21.73	
15	QPSK	75	0	21.61	21.80	21.95	
15	16QAM	1	0	21.68	21.64	21.64	22
15	16QAM	1	37	21.68	21.66	21.62	
15	16QAM	1	74	21.67	21.67	21.63	
15	16QAM	36	0	21.64	21.64	21.69	22
15	16QAM	36	20	21.61	21.62	21.66	
15	16QAM	36	39	21.63	21.61	21.62	
15	16QAM	75	0	21.68	21.65	21.60	
15	64QAM	1	0	21.65	21.61	21.64	22
15	64QAM	1	37	21.60	21.63	21.64	
15	64QAM	1	74	21.70	21.69	21.62	
15	64QAM	36	0	20.91	20.76	20.81	21
15	64QAM	36	20	20.94	20.75	20.81	
15	64QAM	36	39	20.75	20.78	20.74	
15	64QAM	75	0	20.88	20.99	20.79	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.87	22.72	22.36	23
10	QPSK	1	25	22.69	22.86	22.89	
10	QPSK	1	49	22.87	22.64	22.18	
10	QPSK	25	0	21.76	21.93	21.78	22
10	QPSK	25	12	21.83	21.90	21.91	
10	QPSK	25	25	21.77	21.65	21.64	
10	QPSK	50	0	21.88	21.95	21.75	
10	16QAM	1	0	21.91	21.94	21.86	22
10	16QAM	1	25	21.71	21.92	21.90	
10	16QAM	1	49	21.92	21.81	21.82	

10	16QAM	25	0	21.68	21.64	21.65	22
10	16QAM	25	12	21.66	21.66	21.62	
10	16QAM	25	25	21.65	21.69	21.67	
10	16QAM	50	0	21.68	21.68	21.61	
10	64QAM	1	0	21.69	21.63	21.62	22
10	64QAM	1	25	21.67	21.67	21.65	
10	64QAM	1	49	21.61	21.66	21.65	
10	64QAM	25	0	20.75	20.88	20.76	21
10	64QAM	25	12	20.97	20.93	20.87	
10	64QAM	25	25	20.78	20.73	20.77	
10	64QAM	50	0	20.93	20.73	20.76	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.86	22.70	22.24	23
5	QPSK	1	12	22.96	22.58	22.67	
5	QPSK	1	24	22.90	22.73	22.25	
5	QPSK	12	0	21.87	21.76	21.66	22
5	QPSK	12	7	21.72	21.61	21.64	
5	QPSK	12	13	21.99	21.93	21.73	
5	QPSK	25	0	21.70	21.87	21.62	
5	16QAM	1	0	21.70	21.82	21.73	22
5	16QAM	1	12	21.99	21.94	21.86	
5	16QAM	1	24	21.82	21.95	21.74	
5	16QAM	12	0	21.62	21.65	21.61	22
5	16QAM	12	7	21.62	21.62	21.70	
5	16QAM	12	13	21.61	21.67	21.69	
5	16QAM	25	0	21.63	21.68	21.68	
5	64QAM	1	0	21.67	21.65	21.62	22
5	64QAM	1	12	21.65	21.63	21.65	
5	64QAM	1	24	21.61	21.67	21.60	
5	64QAM	12	0	20.82	20.70	20.79	21
5	64QAM	12	7	20.85	20.93	20.77	
5	64QAM	12	13	20.70	20.72	20.75	
5	64QAM	25	0	20.92	20.87	20.94	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	

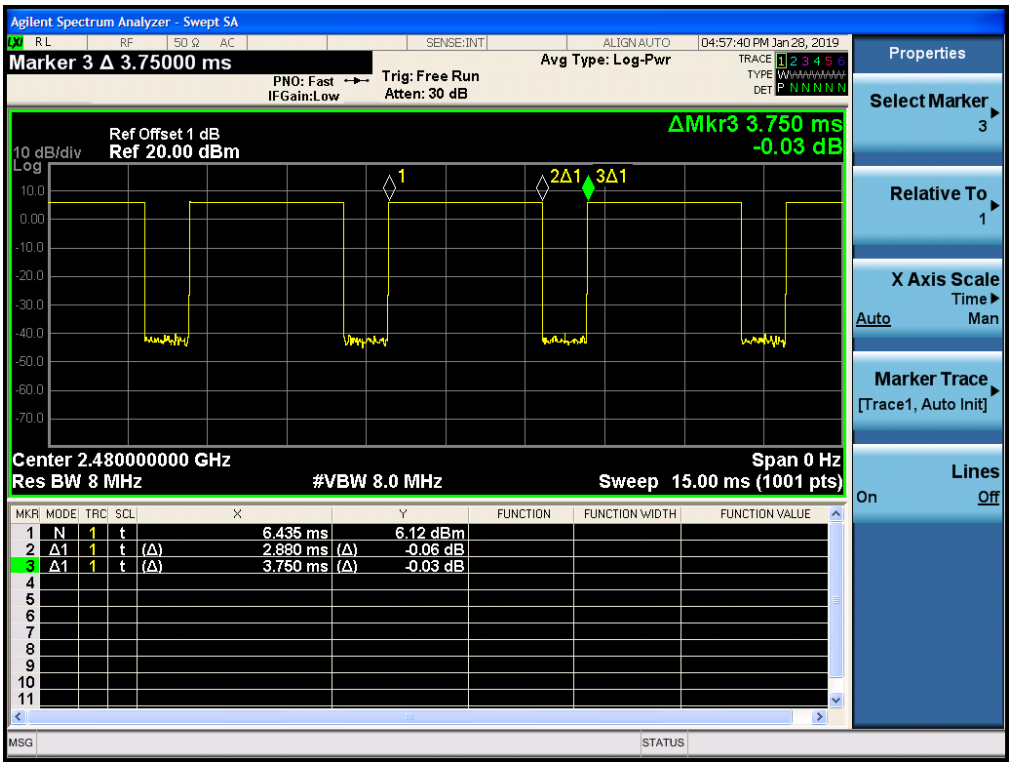
3	QPSK	1	0	22.83	22.66	22.15	23
3	QPSK	1	8	22.81	22.72	22.80	
3	QPSK	1	14	22.74	22.77	22.79	
3	QPSK	8	0	21.95	21.76	22.00	22
3	QPSK	8	4	21.75	21.83	21.69	
3	QPSK	8	7	22.00	21.69	21.72	
3	QPSK	15	0	21.73	21.90	21.87	
3	16QAM	1	0	21.90	21.71	21.81	22
3	16QAM	1	8	21.61	21.90	21.80	
3	16QAM	1	14	21.98	21.75	21.84	
3	16QAM	8	0	21.68	21.62	21.60	22
3	16QAM	8	4	21.69	21.67	21.62	
3	16QAM	8	7	21.69	21.67	21.69	
3	16QAM	15	0	21.68	21.61	21.60	
3	64QAM	1	0	21.61	21.66	21.67	22
3	64QAM	1	8	21.60	21.61	21.70	
3	64QAM	1	14	21.60	21.67	21.65	
3	64QAM	8	0	20.83	20.94	20.92	21
3	64QAM	8	4	20.78	20.96	20.85	
3	64QAM	8	7	20.75	20.94	20.83	
3	64QAM	15	0	20.78	20.94	20.71	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	22.73	22.50	21.99	23
1.4	QPSK	1	3	22.81	22.71	22.84	
1.4	QPSK	1	5	22.78	22.71	22.80	
1.4	QPSK	3	0	21.79	21.70	21.73	
1.4	QPSK	3	1	21.65	21.93	21.69	
1.4	QPSK	3	3	21.88	21.60	21.98	
1.4	QPSK	6	0	21.88	21.85	21.65	22
1.4	16QAM	1	0	21.83	21.97	21.86	22
1.4	16QAM	1	3	21.86	21.92	21.97	
1.4	16QAM	1	5	21.64	21.61	21.67	
1.4	16QAM	3	0	21.65	21.63	21.69	
1.4	16QAM	3	1	21.66	21.69	21.66	
1.4	16QAM	3	3	21.70	21.61	21.64	
1.4	16QAM	6	0	21.63	21.67	21.63	22

1.4	64QAM	1	0	20.92	20.90	20.88	21
1.4	64QAM	1	3	20.99	20.89	20.96	
1.4	64QAM	1	5	20.96	20.93	20.76	
1.4	64QAM	3	0	20.80	20.72	20.80	
1.4	64QAM	3	1	20.83	20.88	20.86	
1.4	64QAM	3	3	20.72	20.91	20.73	
1.4	64QAM	6	0	20.92	20.90	20.88	21

Bluetooth Conducted Power:

Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	12.50	10.51	10.41
	CH 39	2441	12.53	9.84	9.81
	CH 78	2480	12.81	11.15	11.13
Tune-up Limit			13.00	11.50	11.50

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
LE	CH 00	2402	11.89
	CH 19	2440	12.16
	CH 39	2480	12.18
Tune-up Limit			12.50



Note:

1. The BT antenna gain is 1.81dBi.
2. The Bluetooth duty cycle is 76.8 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SARscaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will bescaled up to the theoretical value of Bluetooth reported SAR calculation.

13.2. Down Power

GSM Conducted Power:

GSM850	Burst Average Power (dBm)			Tune-up	Frame-Average Power (dBm)			Tune-up
TX Channel	128	190	251	Limit	128	190	251	Limit
Frequency (MHz)	824.2	836.6	848.8	(dBm)	824.2	836.6	848.8	(dBm)
GSM 1 Tx slot	31.67	31.55	31.49	32.00	22.67	22.55	22.49	23.00
GPRS 1 Tx slot	31.75	31.62	31.57	32.00	22.75	22.62	22.57	23.00
GPRS 2 Tx slots	30.48	30.41	30.48	30.50	24.48	24.41	24.48	24.50
GPRS 3 Tx slots	28.47	28.44	28.32	28.50	24.21	24.18	24.06	24.24
GPRS 4 Tx slots	27.22	27.15	27.16	27.50	24.22	24.15	24.16	24.50
EDGE 1 Tx slot	26.77	26.11	26.65	27.00	17.77	17.11	17.65	18.00
EDGE 2 Tx slots	24.16	23.98	24.07	24.50	18.16	17.98	18.07	18.50
EDGE 3 Tx slots	22.05	21.85	21.90	22.50	17.79	17.59	17.64	18.24
EDGE 4 Tx slots	21.45	21.18	21.28	22.00	18.45	18.18	18.28	19.00

GSM1900	Burst Average Power (dBm)			Tune-up	Frame-Average Power (dBm)			Tune-up
TX Channel	512	661	810	Limit	512	661	810	Limit
Frequency (MHz)	1850.2	1880	1909.8	(dBm)	1850.2	1880	1909.8	(dBm)
GSM 1 Tx slot	27.35	27.53	27.25	28.00	18.35	18.53	18.25	19.00
GPRS 1 Tx slot	27.46	27.62	27.33	28.00	18.46	18.62	18.33	19.00
GPRS 2 Tx slots	25.72	25.89	25.66	26.00	19.72	19.89	19.66	20.00
GPRS 3 Tx slots	24.61	24.72	24.47	25.00	20.35	20.46	20.21	20.74
GPRS 4 Tx slots	23.62	23.75	23.64	24.00	20.62	20.75	20.64	21.00
EDGE 1 Tx slot	24.92	25.07	24.85	25.50	15.92	16.07	15.85	16.50
EDGE 2 Tx slots	22.07	22.17	21.96	22.50	16.07	16.17	15.96	16.50
EDGE 3 Tx slots	20.17	20.32	20.11	20.50	15.91	16.06	15.85	16.24
EDGE 4 Tx slots	19.17	19.20	18.91	19.50	16.17	16.20	15.91	16.50

Timeslot consignations:

No. of Slots	**Slot 1**	**Slot 2**	**Slot 3**	**Slot 4**
Slot Consignation	1Up4Down	2Up3Down	3Up2Down	4Up1Down
Duty Cycle	1:8.3	1:4.15	1:2.77	1:2.08
Correct Factor	-9.03dB	-6.02dB	-4.26dB	-3.01dB

WCDMA Conducted Power:

Band	WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
TX Channel	9262	9400	9538		1312	1413	1513	
Rx Channel	9662	9800	9938		1537	1638	1738	
Frequency (MHz)	1852.4	1880	1907.6		1712.4	1732.6	1752.6	
AMR 12.2Kbps	17.03	17.25	16.91	17.50	19.29	19.32	19.05	19.50
RMC 12.2Kbps	17.20	17.46	17.18	17.50	19.30	19.35	19.06	19.50
HSDPA Subtest-1	16.35	16.74	16.51	17.00	17.89	17.74	17.67	18.00
HSDPA Subtest-2	16.35	16.63	16.49	17.00	17.79	17.64	17.69	18.00
HSDPA Subtest-3	15.82	16.13	16.02	16.50	17.26	17.18	17.17	17.50
HSDPA Subtest-4	15.80	16.19	15.95	16.50	17.27	17.15	17.17	17.50
HSUPA Subtest-1	16.39	16.71	16.62	17.00	17.99	17.86	17.88	18.00
HSUPA Subtest-2	14.43	14.73	14.65	15.00	16.00	15.88	15.87	16.00
HSUPA Subtest-3	15.39	15.73	15.60	16.00	16.98	16.85	16.86	17.00
HSUPA Subtest-4	14.38	14.73	14.60	15.00	16.02	15.88	15.90	16.50
HSUPA Subtest-5	16.39	16.73	16.59	17.00	17.85	17.84	17.86	18.00
HSPA+ (16QAM) Subtest-1	17.16	17.32	17.25	17.50	17.87	17.88	17.91	18.00

Band	WCDMA V			Tune-up Limit (dBm)
TX Channel	4132	4182	4233	
Rx Channel	4357	4407	4458	
Frequency (MHz)	826.4	836.4	846.6	
AMR 12.2Kbps	22.68	22.67	22.59	23.00
RMC 12.2Kbps	22.85	22.87	22.67	23.00
HSDPA Subtest-1	21.21	21.37	21.28	21.50
HSDPA Subtest-2	21.27	21.38	21.16	21.50
HSDPA Subtest-3	20.71	20.91	20.66	21.00
HSDPA Subtest-4	20.74	20.88	20.67	21.00
HSUPA Subtest-1	21.32	21.35	21.34	21.50
HSUPA Subtest-2	19.42	19.55	19.34	20.00
HSUPA Subtest-3	20.41	20.57	20.33	21.00
HSUPA Subtest-4	19.43	19.57	19.32	20.00
HSUPA Subtest-5	21.32	21.36	21.33	21.50
HSPA+ (16QAM) Subtest-1	21.22	21.29	21.26	21.50

CDMA2000 Conducted Power：

1XRTT Conducted Power:

Band	CDMA2000 BC0			Tune-up Limit (dBm)
TX Channel	1013	384	777	
Frequency (MHz)	824.7	836.52	848.31	
RC1 SO55	20.96	20.88	20.91	21.50
RC3 SO55	21.00	20.80	20.94	21.50
RC3 SO32 (F+SCH)	20.97	20.79	20.91	21.50
RC3 SO32 (+SCH)	20.98	20.82	20.87	21.50

1XEVDO Conducted Power:

Band	CDMA2000 BC0			Tune-up Limit (dBm)
TX Channel	1013	384	777	
Frequency (MHz)	824.7	836.52	848.31	
RTAP 153.6Kbps	20.84	20.60	20.53	21.00
RETAP 4096Bits	20.70	20.57	20.58	21.00
RMCTAP 307.2 Kbps	20.26	20.12	20.13	20.50

LTE Conducted Power：

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)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	17.71	17.64	17.77	18
20	QPSK	1	49	17.41	17.27	17.20	
20	QPSK	1	99	17.40	17.29	17.37	
20	QPSK	50	0	16.65	16.49	16.66	17
20	QPSK	50	24	16.51	16.42	16.42	
20	QPSK	50	50	16.41	16.32	16.46	
20	QPSK	100	0	16.50	16.36	16.52	
20	16QAM	1	0	17.26	17.10	16.91	17.5

20	16QAM	1	49	16.71	16.56	16.83	
20	16QAM	1	99	17.16	16.63	16.42	
20	16QAM	50	0	15.67	15.43	15.63	16
20	16QAM	50	24	15.57	15.46	15.29	
20	16QAM	50	50	15.44	15.27	15.49	
20	16QAM	100	0	15.65	15.46	15.61	
20	64QAM	1	0	16.88	16.74	16.79	17
20	64QAM	1	49	16.91	16.38	16.27	
20	64QAM	1	99	16.41	16.66	16.52	
20	64QAM	50	0	15.71	15.37	15.64	16
20	64QAM	50	24	15.39	15.40	15.29	
20	64QAM	50	50	15.38	15.29	15.40	
20	64QAM	100	0	15.25	15.29	15.58	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	17.68	17.47	17.42	18
15	QPSK	1	37	17.30	17.26	17.27	
15	QPSK	1	74	17.38	17.32	17.26	
15	QPSK	36	0	16.56	16.51	16.37	17
15	QPSK	36	20	16.52	16.44	16.45	
15	QPSK	36	39	16.46	16.43	16.32	
15	QPSK	75	0	16.57	16.45	16.37	
15	16QAM	1	0	16.94	16.64	16.69	17
15	16QAM	1	37	16.62	16.83	16.87	
15	16QAM	1	74	16.59	16.58	16.55	
15	16QAM	36	0	15.65	15.58	15.27	16
15	16QAM	36	20	15.55	15.49	15.30	
15	16QAM	36	39	15.51	15.52	15.41	
15	16QAM	75	0	15.62	15.51	15.53	
15	64QAM	1	0	16.84	16.69	16.71	17
15	64QAM	1	37	16.42	16.52	16.26	
15	64QAM	1	74	15.63	15.58	15.44	
15	64QAM	36	0	15.56	15.53	15.16	16
15	64QAM	36	20	15.49	15.48	15.41	
15	64QAM	36	39	15.60	15.61	15.45	
15	64QAM	75	0	15.59	15.57	15.65	
Channel				18650	18900	19150	Tune-up

Frequency (MHz)				1855	1880	1905	limit (dBm)
10	QPSK	1	0	17.68	17.66	17.46	18
10	QPSK	1	25	17.33	17.33	17.20	
10	QPSK	1	49	17.63	17.57	17.23	
10	QPSK	25	0	16.51	16.48	16.44	17
10	QPSK	25	12	16.58	16.51	16.41	
10	QPSK	25	25	16.52	16.38	16.44	
10	QPSK	50	0	16.47	16.38	16.41	
10	16QAM	1	0	16.93	16.63	16.93	17
10	16QAM	1	25	16.51	16.63	16.42	
10	16QAM	1	49	16.80	16.74	16.87	
10	16QAM	25	0	15.68	15.53	15.53	16
10	16QAM	25	12	15.70	15.51	15.45	
10	16QAM	25	25	15.64	15.51	15.40	
10	16QAM	50	0	15.62	15.54	15.56	
10	64QAM	1	0	16.83	16.91	16.51	17
10	64QAM	1	25	16.93	16.32	16.40	
10	64QAM	1	49	17.08	16.73	16.24	
10	64QAM	25	0	15.58	15.59	15.45	16
10	64QAM	25	12	15.70	15.50	15.48	
10	64QAM	25	25	15.59	15.52	15.53	
10	64QAM	50	0	15.59	15.47	15.52	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	17.49	17.40	17.38	18
5	QPSK	1	12	17.29	17.16	17.28	
5	QPSK	1	24	17.34	17.28	17.37	
5	QPSK	12	0	16.52	16.47	16.39	17
5	QPSK	12	7	16.41	16.39	16.37	
5	QPSK	12	13	16.51	16.38	16.37	
5	QPSK	25	0	16.50	16.47	16.31	
5	16QAM	1	0	16.91	16.92	16.52	17
5	16QAM	1	12	16.84	16.82	16.29	
5	16QAM	1	24	16.52	16.37	16.52	
5	16QAM	12	0	15.59	15.28	15.51	16
5	16QAM	12	7	15.64	15.24	15.50	

5	16QAM	12	13	15.59	15.30	15.40	
5	16QAM	25	0	15.60	15.39	15.46	
5	64QAM	1	0	16.71	16.33	16.32	17
5	64QAM	1	12	16.37	16.46	16.48	
5	64QAM	1	24	16.40	16.51	16.41	
5	64QAM	12	0	15.66	15.26	15.42	16
5	64QAM	12	7	15.58	15.46	15.47	
5	64QAM	12	13	15.56	15.29	15.41	
5	64QAM	25	0	15.48	15.45	15.52	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	17.40	17.27	17.37	18
3	QPSK	1	8	17.30	17.43	17.35	
3	QPSK	1	14	17.27	17.24	17.33	
3	QPSK	8	0	16.47	16.36	16.36	17
3	QPSK	8	4	16.53	16.43	16.26	
3	QPSK	8	7	16.51	16.29	16.38	
3	QPSK	15	0	16.45	16.44	16.34	
3	16QAM	1	0	16.62	16.84	16.34	17
3	16QAM	1	8	16.48	16.71	16.21	
3	16QAM	1	14	16.63	16.63	16.50	
3	16QAM	8	0	15.66	15.38	15.50	16
3	16QAM	8	4	15.44	15.28	15.49	
3	16QAM	8	7	15.63	15.26	15.48	
3	16QAM	15	0	15.58	15.65	15.43	
3	64QAM	1	0	16.62	16.22	16.17	17
3	64QAM	1	8	16.51	16.27	16.44	
3	64QAM	1	14	16.61	16.53	16.44	
3	64QAM	8	0	15.46	15.33	15.58	16
3	64QAM	8	4	15.45	15.31	15.48	
3	64QAM	8	7	15.45	15.26	15.44	
3	64QAM	15	0	15.48	15.46	15.43	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	17.35	17.23	17.21	18
1.4	QPSK	1	3	17.37	17.34	17.25	

1.4	QPSK	1	5	17.25	17.23	17.23	
1.4	QPSK	3	0	17.34	17.22	17.20	
1.4	QPSK	3	1	17.45	17.28	17.17	
1.4	QPSK	3	3	17.36	17.29	17.28	
1.4	QPSK	6	0	16.33	16.40	16.23	17
1.4	16QAM	1	0	16.61	16.58	16.76	17
1.4	16QAM	1	3	16.56	16.46	16.68	
1.4	16QAM	1	5	16.78	16.48	16.33	
1.4	16QAM	3	0	16.45	16.46	16.36	
1.4	16QAM	3	1	16.34	16.41	16.33	
1.4	16QAM	3	3	16.51	16.36	16.16	
1.4	16QAM	6	0	15.46	15.27	15.44	16
1.4	64QAM	1	0	16.39	16.72	16.37	17
1.4	64QAM	1	3	16.79	16.25	16.77	
1.4	64QAM	1	5	16.49	16.45	16.36	
1.4	64QAM	3	0	16.24	16.34	16.48	
1.4	64QAM	3	1	16.48	16.36	16.22	
1.4	64QAM	3	3	16.51	16.29	16.36	
1.4	64QAM	6	0	15.48	15.36	15.25	16

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)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	18.66	18.69	18.63	19
20	QPSK	1	49	18.42	18.36	18.30	
20	QPSK	1	99	18.50	18.27	18.17	
20	QPSK	50	0	17.57	17.58	17.49	18
20	QPSK	50	24	17.37	17.41	17.40	
20	QPSK	50	50	17.42	17.35	17.30	
20	QPSK	100	0	17.39	17.44	17.35	
20	16QAM	1	0	18.22	18.28	18.29	18.5
20	16QAM	1	49	17.62	17.59	17.59	
20	16QAM	1	99	18.08	17.69	17.68	
20	16QAM	50	0	16.66	16.67	16.65	17
20	16QAM	50	24	16.57	16.53	16.51	

20	16QAM	50	50	16.53	16.53	16.36	
20	16QAM	100	0	16.60	16.58	16.59	
20	64QAM	1	0	17.93	17.84	17.63	18
20	64QAM	1	49	17.58	17.72	17.50	
20	64QAM	1	99	17.78	17.60	17.49	
20	64QAM	50	0	16.67	16.67	16.66	17
20	64QAM	50	24	16.52	16.56	16.54	
20	64QAM	50	50	16.51	16.46	16.30	
20	64QAM	100	0	16.49	16.58	16.50	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	18.66	18.59	18.62	19
15	QPSK	1	37	18.31	18.47	18.19	
15	QPSK	1	74	18.37	18.42	18.13	
15	QPSK	36	0	17.52	17.47	17.43	18
15	QPSK	36	20	17.41	17.44	17.32	
15	QPSK	36	39	17.42	17.36	17.20	
15	QPSK	75	0	17.48	17.42	17.44	
15	16QAM	1	0	17.95	17.76	18.19	18
15	16QAM	1	37	17.52	18.11	17.70	
15	16QAM	1	74	17.63	17.82	17.41	
15	16QAM	36	0	16.69	16.63	16.56	17
15	16QAM	36	20	16.56	16.62	16.45	
15	16QAM	36	39	16.59	16.52	16.34	
15	16QAM	75	0	16.51	16.56	16.51	
15	64QAM	1	0	17.85	18.22	17.75	18.5
15	64QAM	1	37	17.34	17.67	17.52	
15	64QAM	1	74	16.63	16.64	16.51	
15	64QAM	36	0	16.51	16.45	16.41	17
15	64QAM	36	20	16.40	16.48	16.34	
15	64QAM	36	39	16.56	16.44	16.52	
15	64QAM	75	0	16.59	16.58	16.72	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	18.62	18.63	18.44	19
10	QPSK	1	25	18.39	18.67	18.46	

10	QPSK	1	49	18.33	18.55	18.31	
10	QPSK	25	0	17.63	17.70	17.43	18
10	QPSK	25	12	17.53	17.67	17.43	
10	QPSK	25	25	17.56	17.60	17.40	
10	QPSK	50	0	17.56	17.63	17.43	
10	16QAM	1	0	17.93	17.81	18.05	18
10	16QAM	1	25	17.77	18.00	18.08	
10	16QAM	1	49	18.00	17.90	17.50	
10	16QAM	25	0	16.74	16.80	16.56	17
10	16QAM	25	12	16.78	16.71	16.54	
10	16QAM	25	25	16.58	16.70	16.56	
10	16QAM	50	0	16.72	16.66	16.62	
10	64QAM	1	0	18.16	17.99	17.53	18
10	64QAM	1	25	17.70	17.67	17.71	
10	64QAM	1	49	17.68	17.90	17.41	
10	64QAM	25	0	16.65	16.71	16.60	17
10	64QAM	25	12	16.64	16.69	16.52	
10	64QAM	25	25	16.66	16.67	16.49	
10	64QAM	50	0	16.65	16.69	16.60	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	18.58	18.67	18.59	19
5	QPSK	1	12	18.52	18.53	18.33	
5	QPSK	1	24	18.52	18.54	18.36	
5	QPSK	12	0	17.54	17.57	17.36	18
5	QPSK	12	7	17.57	17.54	17.50	
5	QPSK	12	13	17.42	17.65	17.46	
5	QPSK	25	0	17.57	17.66	17.40	
5	16QAM	1	0	18.12	17.68	18.01	18
5	16QAM	1	12	18.10	17.67	17.93	
5	16QAM	1	24	18.17	17.48	17.81	
5	16QAM	12	0	16.68	16.88	16.60	17
5	16QAM	12	7	16.65	16.77	16.63	
5	16QAM	12	13	16.63	16.67	16.67	
5	16QAM	25	0	16.61	16.71	16.42	
5	64QAM	1	0	18.12	17.82	17.81	18
5	64QAM	1	12	17.41	17.81	17.68	

5	64QAM	1	24	17.51	17.73	17.68	
5	64QAM	12	0	16.73	16.80	16.63	17
5	64QAM	12	7	16.67	16.71	16.55	
5	64QAM	12	13	16.66	16.71	16.37	
5	64QAM	25	0	16.57	16.71	16.55	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	18.47	18.61	18.35	19
3	QPSK	1	8	18.44	18.56	18.39	
3	QPSK	1	14	18.35	18.49	18.41	
3	QPSK	8	0	17.46	17.59	17.44	18
3	QPSK	8	4	17.54	17.64	17.42	
3	QPSK	8	7	17.54	17.61	17.45	
3	QPSK	15	0	17.49	17.58	17.36	
3	16QAM	1	0	17.97	17.89	17.47	18
3	16QAM	1	8	17.70	17.73	17.66	
3	16QAM	1	14	17.81	17.64	17.44	
3	16QAM	8	0	16.81	16.78	16.67	17
3	16QAM	8	4	16.74	16.79	16.48	
3	16QAM	8	7	16.61	16.72	16.65	
3	16QAM	15	0	16.67	16.77	16.58	
3	64QAM	1	0	17.80	17.52	17.61	18
3	64QAM	1	8	17.65	17.45	17.59	
3	64QAM	1	14	17.66	17.49	17.58	
3	64QAM	8	0	16.64	16.71	16.51	17
3	64QAM	8	4	16.68	16.62	16.48	
3	64QAM	8	7	16.58	16.92	16.57	
3	64QAM	15	0	16.56	16.77	16.64	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	18.39	18.54	18.28	19
1.4	QPSK	1	3	18.49	18.59	18.40	
1.4	QPSK	1	5	18.33	18.40	18.22	
1.4	QPSK	3	0	18.43	18.55	18.37	
1.4	QPSK	3	1	18.45	18.49	18.19	
1.4	QPSK	3	3	18.35	18.55	18.36	

1.4	QPSK	6	0	17.38	17.45	17.45	18
1.4	16QAM	1	0	17.66	17.50	17.70	18
1.4	16QAM	1	3	17.90	17.57	17.77	
1.4	16QAM	1	5	17.50	17.49	17.67	
1.4	16QAM	3	0	17.40	17.67	17.57	
1.4	16QAM	3	1	17.35	17.71	17.60	
1.4	16QAM	3	3	17.62	17.64	17.53	
1.4	16QAM	6	0	16.57	16.67	16.55	17
1.4	64QAM	1	0	17.73	17.63	17.29	18
1.4	64QAM	1	3	17.67	17.57	17.43	
1.4	64QAM	1	5	17.92	17.49	17.35	
1.4	64QAM	3	0	17.64	17.44	17.78	
1.4	64QAM	3	1	17.72	17.50	17.31	
1.4	64QAM	3	3	17.58	17.44	17.74	
1.4	64QAM	6	0	16.44	16.52	16.50	17

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)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	22.49	22.43	22.41	23
10	QPSK	1	25	22.53	22.51	22.16	
10	QPSK	1	49	22.43	22.10	21.97	
10	QPSK	25	0	21.59	21.51	21.58	22
10	QPSK	25	12	21.57	21.42	21.29	
10	QPSK	25	25	21.43	21.28	21.15	
10	QPSK	50	0	21.59	21.47	21.19	
10	16QAM	1	0	21.82	22.01	21.57	22
10	16QAM	1	25	21.93	21.65	21.61	
10	16QAM	1	49	21.60	21.32	20.85	
10	16QAM	25	0	20.50	20.49	20.35	21
10	16QAM	25	12	20.66	20.52	20.27	
10	16QAM	25	25	20.50	20.32	20.19	
10	16QAM	50	0	20.49	20.51	20.26	
10	64QAM	1	0	21.88	21.95	21.50	21
10	64QAM	1	25	21.61	21.47	21.46	

10	64QAM	1	49	21.58	21.10	21.01	
10	64QAM	25	0	20.33	20.58	20.35	20
10	64QAM	25	12	20.48	20.53	20.28	
10	64QAM	25	25	20.46	20.40	20.15	
10	64QAM	50	0	20.46	20.45	20.31	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	22.23	22.52	22.08	23
5	QPSK	1	12	22.21	22.38	21.96	
5	QPSK	1	24	22.19	22.43	21.85	
5	QPSK	12	0	21.30	21.43	21.01	22
5	QPSK	12	7	21.32	21.55	20.96	
5	QPSK	12	13	21.33	21.32	20.88	
5	QPSK	25	0	21.33	21.41	20.94	
5	16QAM	1	0	21.90	21.47	21.37	22
5	16QAM	1	12	21.92	21.78	21.02	
5	16QAM	1	24	21.88	21.73	21.31	
5	16QAM	12	0	20.40	20.62	20.07	21
5	16QAM	12	7	20.43	20.52	20.00	
5	16QAM	12	13	20.34	20.47	19.97	
5	16QAM	25	0	20.44	20.50	20.04	
5	64QAM	1	0	21.45	21.88	21.19	21
5	64QAM	1	12	21.52	21.48	20.96	
5	64QAM	1	24	21.54	21.39	20.98	
5	64QAM	12	0	20.41	20.49	20.11	20
5	64QAM	12	7	20.43	20.51	20.05	
5	64QAM	12	13	20.45	20.51	19.95	
5	64QAM	25	0	20.49	20.54	20.05	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	22.25	22.50	22.08	23
3	QPSK	1	8	22.23	22.50	21.91	
3	QPSK	1	14	22.26	22.36	21.91	
3	QPSK	8	0	21.32	21.39	20.96	22
3	QPSK	8	4	21.36	21.41	20.86	
3	QPSK	8	7	21.37	21.42	20.83	

3	QPSK	15	0	21.30	21.44	20.98	
3	16QAM	1	0	21.84	21.80	20.86	22
3	16QAM	1	8	21.50	21.84	20.82	
3	16QAM	1	14	21.41	21.64	20.83	
3	16QAM	8	0	20.47	20.52	20.13	21
3	16QAM	8	4	20.44	20.50	20.02	
3	16QAM	8	7	20.39	20.45	19.91	
3	16QAM	15	0	20.47	20.47	20.08	
3	64QAM	1	0	21.76	21.34	21.39	21
3	64QAM	1	8	21.43	21.34	20.89	
3	64QAM	1	14	21.43	21.22	20.88	
3	64QAM	8	0	20.51	20.42	20.00	20
3	64QAM	8	4	20.33	20.65	20.01	
3	64QAM	8	7	20.55	20.45	19.88	
3	64QAM	15	0	20.29	20.39	20.01	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	22.28	22.29	21.81	23
1.4	QPSK	1	3	22.35	22.36	21.94	
1.4	QPSK	1	5	22.19	22.25	21.70	
1.4	QPSK	3	0	22.27	22.47	21.75	
1.4	QPSK	3	1	22.25	22.43	21.92	
1.4	QPSK	3	3	22.29	22.50	21.73	
1.4	QPSK	6	0	21.30	21.41	20.77	22
1.4	16QAM	1	0	21.76	21.70	20.91	22
1.4	16QAM	1	3	21.73	21.88	20.79	
1.4	16QAM	1	5	21.38	21.70	20.75	
1.4	16QAM	3	0	21.39	21.37	20.92	
1.4	16QAM	3	1	21.38	21.33	20.95	
1.4	16QAM	3	3	21.35	21.30	20.90	
1.4	16QAM	6	0	20.28	20.69	19.90	21
1.4	64QAM	1	0	21.19	21.38	20.92	21
1.4	64QAM	1	3	21.19	21.48	21.01	
1.4	64QAM	1	5	21.15	21.31	20.87	
1.4	64QAM	3	0	21.35	21.55	20.92	
1.4	64QAM	3	1	21.36	21.43	20.94	
1.4	64QAM	3	3	21.32	21.40	20.87	

1.4	64QAM	6	0	20.44	20.36	19.87	20

LTE Band 7

BW [MHz]	Modulation	RB Size	RB Offset	Measured Power			Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	16.42	16.13	16.17	16.5
20	QPSK	1	49	16.13	15.95	15.89	
20	QPSK	1	99	16.15	15.92	16.15	
20	QPSK	50	0	15.35	15.06	15.17	15.5
20	QPSK	50	24	15.19	15.08	15.18	
20	QPSK	50	50	15.21	15.03	15.11	
20	QPSK	100	0	15.28	15.05	15.21	
20	16QAM	1	0	16.12	15.29	15.58	16.5
20	16QAM	1	49	15.51	15.55	15.30	
20	16QAM	1	99	15.83	15.45	15.30	
20	16QAM	50	0	14.42	14.19	14.29	14.5
20	16QAM	50	24	14.33	14.17	14.26	
20	16QAM	50	50	14.34	14.08	14.15	
20	16QAM	100	0	14.32	14.11	14.29	
20	64QAM	1	0	15.66	15.26	15.51	16
20	64QAM	1	49	15.85	14.96	15.26	
20	64QAM	1	99	15.34	15.26	15.20	
20	64QAM	50	0	14.33	14.12	14.27	14.5
20	64QAM	50	24	14.33	14.14	14.24	
20	64QAM	50	50	14.37	14.09	14.13	
20	64QAM	100	0	14.43	14.08	14.28	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	16.37	16.06	16.17	16.5
15	QPSK	1	37	16.31	15.97	16.09	
15	QPSK	1	74	16.14	15.93	16.07	
15	QPSK	36	0	15.36	15.00	15.19	15.5
15	QPSK	36	20	15.30	15.02	15.21	
15	QPSK	36	39	15.29	14.97	15.12	
15	QPSK	75	0	15.22	15.10	15.14	

15	16QAM	1	0	15.53	15.14	15.28	16
15	16QAM	1	37	15.86	15.55	15.32	
15	16QAM	1	74	15.20	15.37	15.55	
15	16QAM	36	0	14.50	14.16	14.22	15
15	16QAM	36	20	14.41	14.22	14.29	
15	16QAM	36	39	14.28	14.16	14.17	
15	16QAM	75	0	14.33	14.14	14.27	
15	64QAM	1	0	15.52	15.14	15.70	16
15	64QAM	1	37	15.87	15.22	15.40	
15	64QAM	1	74	14.43	14.22	14.25	
15	64QAM	36	0	14.30	14.10	14.21	14.5
15	64QAM	36	20	14.28	14.12	14.21	
15	64QAM	36	39	14.43	14.14	14.23	
15	64QAM	75	0	14.36	14.29	14.20	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	16.34	16.04	15.98	16.5
10	QPSK	1	25	16.31	15.96	16.07	
10	QPSK	1	49	16.21	16.01	16.03	
10	QPSK	25	0	15.25	15.04	15.15	15.5
10	QPSK	25	12	15.31	15.06	15.10	
10	QPSK	25	25	15.28	15.03	15.07	
10	QPSK	50	0	15.22	15.10	15.09	
10	16QAM	1	0	15.90	15.28	15.38	16
10	16QAM	1	25	15.84	15.15	15.29	
10	16QAM	1	49	15.23	15.42	15.41	
10	16QAM	25	0	14.49	14.14	14.24	14.5
10	16QAM	25	12	14.41	14.08	14.25	
10	16QAM	25	25	14.36	14.08	14.26	
10	16QAM	50	0	14.34	14.02	14.20	
10	64QAM	1	0	15.50	15.59	15.47	16
10	64QAM	1	25	15.61	15.07	15.62	
10	64QAM	1	49	15.41	15.18	15.26	
10	64QAM	25	0	14.40	14.15	14.24	14.5
10	64QAM	25	12	14.40	14.15	14.18	
10	64QAM	25	25	14.29	14.09	14.24	
10	64QAM	50	0	14.32	14.14	14.22	

Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	16.32	16.04	16.04	16.5
5	QPSK	1	12	16.23	16.05	16.07	
5	QPSK	1	24	16.23	15.97	16.04	
5	QPSK	12	0	15.29	15.02	15.12	15.5
5	QPSK	12	7	15.27	15.04	15.09	
5	QPSK	12	13	15.34	15.03	15.11	
5	QPSK	25	0	15.31	14.98	15.05	
5	16QAM	1	0	15.61	15.19	15.72	16
5	16QAM	1	12	15.61	15.63	15.12	
5	16QAM	1	24	15.57	15.03	15.29	
5	16QAM	12	0	14.46	14.02	14.24	15
5	16QAM	12	7	14.41	14.23	14.32	
5	16QAM	12	13	14.52	14.10	14.11	
5	16QAM	25	0	14.43	14.16	14.17	
5	64QAM	1	0	15.89	15.18	15.39	16
5	64QAM	1	12	15.78	15.31	15.20	
5	64QAM	1	24	15.48	15.16	15.63	
5	64QAM	12	0	14.42	14.22	14.21	15
5	64QAM	12	7	14.51	14.20	14.36	
5	64QAM	12	13	14.30	13.97	14.18	
5	64QAM	25	0	14.41	14.15	14.20	

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)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	21.73	21.93	21.93	22.5
10	QPSK	1	25	21.92	21.94	21.86	
10	QPSK	1	49	22.06	21.97	21.86	
10	QPSK	25	0	21.03	21.08	20.89	22.5
10	QPSK	25	12	21.01	21.05	20.90	
10	QPSK	25	25	21.09	21.03	20.96	
10	QPSK	50	0	21.00	22.05	20.87	

10	16QAM	1	0	21.00	21.18	21.51	22
10	16QAM	1	25	21.19	21.24	20.78	
10	16QAM	1	49	21.59	21.14	21.15	
10	16QAM	25	0	20.03	20.14	19.99	20.5
10	16QAM	25	12	20.11	20.14	20.02	
10	16QAM	25	25	20.19	20.07	19.88	
10	16QAM	50	0	20.15	20.09	19.93	
10	64QAM	1	0	20.94	21.10	21.43	21.5
10	64QAM	1	25	20.93	21.29	21.34	
10	64QAM	1	49	21.15	21.46	21.03	
10	64QAM	25	0	20.13	20.10	19.97	20.5
10	64QAM	25	12	20.24	20.06	20.04	
10	64QAM	25	25	20.20	20.08	19.95	
10	64QAM	50	0	20.11	20.14	19.98	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	21.88	22.04	21.91	22.5
5	QPSK	1	12	21.88	21.91	21.84	
5	QPSK	1	24	22.05	21.91	21.84	
5	QPSK	12	0	20.96	20.99	20.85	21.5
5	QPSK	12	7	20.96	21.08	20.79	
5	QPSK	12	13	21.10	21.06	20.82	
5	QPSK	25	0	20.93	21.00	20.88	
5	16QAM	1	0	21.07	20.95	20.97	21.5
5	16QAM	1	12	21.22	21.24	21.02	
5	16QAM	1	24	21.30	21.05	20.99	
5	16QAM	12	0	19.93	20.13	19.87	20.5
5	16QAM	12	7	19.96	20.21	19.96	
5	16QAM	12	13	19.96	20.10	19.91	
5	16QAM	25	0	20.11	20.11	19.93	
5	64QAM	1	0	20.85	20.97	20.81	21.5
5	64QAM	1	12	21.06	21.49	21.27	
5	64QAM	1	24	21.20	21.46	21.29	
5	64QAM	12	0	20.00	20.14	19.95	20.5
5	64QAM	12	7	19.96	20.06	19.93	
5	64QAM	12	13	20.23	19.97	19.76	
5	64QAM	25	0	20.21	20.04	19.97	

Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	21.89	22.04	21.93	22.5
3	QPSK	1	8	21.84	21.99	21.83	
3	QPSK	1	14	21.87	22.03	21.90	
3	QPSK	8	0	20.91	20.97	20.81	21.5
3	QPSK	8	4	20.98	20.93	20.85	
3	QPSK	8	7	20.97	20.97	20.88	
3	QPSK	15	0	20.93	20.94	20.87	
3	16QAM	1	0	21.30	21.25	21.27	21.5
3	16QAM	1	8	21.47	21.28	21.28	
3	16QAM	1	14	21.35	21.24	21.25	
3	16QAM	8	0	19.98	20.04	19.94	20.5
3	16QAM	8	4	20.04	20.16	20.02	
3	16QAM	8	7	20.18	20.23	19.88	
3	16QAM	15	0	20.02	20.12	19.93	
3	64QAM	1	0	20.88	21.18	20.99	21.5
3	64QAM	1	8	21.03	21.20	20.77	
3	64QAM	1	14	20.98	21.13	20.79	
3	64QAM	8	0	20.01	20.31	19.88	20.5
3	64QAM	8	4	20.18	20.07	19.87	
3	64QAM	8	7	19.99	20.02	19.86	
3	64QAM	15	0	19.94	20.15	19.94	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	21.85	21.89	21.74	22.5
1.4	QPSK	1	3	21.81	21.83	21.72	
1.4	QPSK	1	5	21.83	21.86	21.70	
1.4	QPSK	3	0	21.76	21.89	21.82	
1.4	QPSK	3	1	21.86	21.96	21.85	
1.4	QPSK	3	3	21.88	21.94	21.77	
1.4	QPSK	6	0	20.82	20.87	20.68	21.5
1.4	16QAM	1	0	20.85	21.45	20.93	21.5
1.4	16QAM	1	3	21.07	21.48	21.05	
1.4	16QAM	1	5	20.75	21.41	20.98	
1.4	16QAM	3	0	20.93	20.95	20.80	

1.4	16QAM	3	1	20.86	20.87	20.92	
1.4	16QAM	3	3	20.95	20.81	20.88	
1.4	16QAM	6	0	19.95	19.97	19.88	20
1.4	64QAM	1	0	20.81	20.80	20.65	21
1.4	64QAM	1	3	21.27	20.93	20.74	
1.4	64QAM	1	5	20.80	20.86	20.67	
1.4	64QAM	3	0	21.00	21.05	20.89	
1.4	64QAM	3	1	21.11	20.98	20.91	
1.4	64QAM	3	3	21.10	20.93	20.86	
1.4	64QAM	6	0	20.00	19.90	19.95	20.5

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)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	21.78	22.02	21.91	22.5
10	QPSK	1	25	21.91	22.01	21.76	
10	QPSK	1	49	21.94	21.94	21.84	
10	QPSK	25	0	20.95	20.99	20.89	21.5
10	QPSK	25	12	20.97	21.04	20.84	
10	QPSK	25	25	20.91	20.90	20.85	
10	QPSK	50	0	20.94	21.01	20.87	
10	16QAM	1	0	21.11	21.13	21.02	21.5
10	16QAM	1	25	21.42	21.12	21.05	
10	16QAM	1	49	21.50	21.09	21.05	
10	16QAM	25	0	20.11	20.07	20.00	20.5
10	16QAM	25	12	20.02	20.16	19.87	
10	16QAM	25	25	20.05	20.16	19.95	
10	16QAM	50	0	20.04	20.14	19.93	
10	64QAM	1	0	21.17	21.14	21.08	21.5
10	64QAM	1	25	21.15	21.17	21.38	
10	64QAM	1	49	21.04	21.40	21.03	
10	64QAM	25	0	20.08	20.11	19.99	20.5
10	64QAM	25	12	20.08	20.09	19.96	
10	64QAM	25	25	20.05	20.16	20.04	
10	64QAM	50	0	20.05	20.02	19.95	

Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	21.86	21.84	21.92	22.5
5	QPSK	1	12	21.84	22.01	21.86	
5	QPSK	1	24	21.98	21.82	21.88	
5	QPSK	12	0	20.95	20.94	20.84	21.5
5	QPSK	12	7	20.99	20.93	20.95	
5	QPSK	12	13	20.96	20.91	20.93	
5	QPSK	25	0	21.04	20.96	21.03	
5	16QAM	1	0	21.21	21.32	21.13	21.5
5	16QAM	1	12	21.13	21.13	21.43	
5	16QAM	1	24	21.50	21.48	20.96	
5	16QAM	12	0	20.11	20.01	20.01	20.5
5	16QAM	12	7	20.11	20.10	20.01	
5	16QAM	12	13	20.10	19.98	19.99	
5	16QAM	25	0	20.01	20.09	20.05	
5	64QAM	1	0	20.89	21.16	21.39	21.5
5	64QAM	1	12	21.18	21.10	20.84	
5	64QAM	1	24	21.08	21.17	21.08	
5	64QAM	12	0	20.05	20.15	20.03	20.5
5	64QAM	12	7	20.03	20.04	19.98	
5	64QAM	12	13	20.24	19.86	19.98	
5	64QAM	25	0	20.14	20.00	19.98	

LTE Band 18

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23925			
Frequency (MHz)				822.5			
15	QPSK	1	0	/	22.02	/	22.5
15	QPSK	1	37	/	21.93	/	
15	QPSK	1	74	/	21.82	/	
15	QPSK	36	0	/	20.97	/	21.5
15	QPSK	36	20	/	20.98	/	
15	QPSK	36	39	/	21.00	/	
15	QPSK	75	0	/	20.93	/	

15	16QAM	1	0	/	20.85	/	21.5
15	16QAM	1	37	/	21.47	/	
15	16QAM	1	74	/	21.47	/	
15	16QAM	36	0	/	20.01	/	20.5
15	16QAM	36	20	/	19.99	/	
15	16QAM	36	39	/	20.00	/	
15	16QAM	75	0	/	20.08	/	
10	64QAM	1	0	/	21.34	/	21.5
10	64QAM	1	25	/	21.13	/	
10	64QAM	1	49	/	19.93	/	
10	64QAM	25	0	/	19.99	/	20.5
10	64QAM	25	12	/	20.05	/	
10	64QAM	25	25	/	20.08	/	
10	64QAM	50	0	/	20.12	/	
Channel				23900	23925	23950	Tune-up limit (dBm)
Frequency (MHz)				820	822.5	825	
10	QPSK	1	0	21.72	21.77	22.00	22.5
10	QPSK	1	25	21.90	21.89	21.76	
10	QPSK	1	49	21.74	21.90	21.87	
10	QPSK	25	0	20.85	20.92	20.88	21.5
10	QPSK	25	12	20.89	20.98	20.90	
10	QPSK	25	25	20.83	20.94	20.90	
10	QPSK	50	0	20.82	20.85	20.91	
10	16QAM	1	0	20.65	21.07	21.46	21.5
10	16QAM	1	25	20.87	21.10	20.96	
10	16QAM	1	49	21.35	21.10	21.27	
10	16QAM	25	0	20.01	19.97	20.02	20.5
10	16QAM	25	12	19.88	20.07	20.02	
10	16QAM	25	25	19.86	19.95	19.99	
10	16QAM	50	0	20.00	20.02	19.97	
10	64QAM	1	0	20.75	21.32	21.11	21.5
10	64QAM	1	25	21.01	21.10	20.77	
10	64QAM	1	49	21.33	21.15	21.01	
10	64QAM	25	0	19.93	20.00	19.95	20.5
10	64QAM	25	12	19.98	20.05	20.03	
10	64QAM	25	25	19.96	20.01	19.99	
10	64QAM	50	0	19.95	20.05	20.02	

Channel				23875	23925	23975	Tune-up limit (dBm)
Frequency (MHz)				817.5	822.5	827.5	
5	QPSK	1	0	21.81	21.78	21.57	22.5
5	QPSK	1	12	21.68	21.69	21.51	
5	QPSK	1	24	21.70	21.70	21.56	
5	QPSK	12	0	20.67	20.70	20.56	21
5	QPSK	12	7	20.76	20.66	20.55	
5	QPSK	12	13	20.71	20.66	20.51	
5	QPSK	25	0	20.68	20.65	20.63	
5	16QAM	1	0	21.21	20.64	20.65	21.5
5	16QAM	1	12	21.16	20.59	20.61	
5	16QAM	1	24	21.29	20.64	20.57	
5	16QAM	12	0	19.77	19.80	19.62	20
5	16QAM	12	7	19.77	19.79	19.64	
5	16QAM	12	13	19.86	19.72	19.59	
5	16QAM	25	0	19.78	19.73	19.53	
5	64QAM	1	0	20.62	20.79	20.68	21
5	64QAM	1	12	20.64	20.81	20.63	
5	64QAM	1	24	20.72	20.78	20.97	
5	64QAM	12	0	19.73	19.72	19.60	20
5	64QAM	12	7	19.90	19.82	19.60	
5	64QAM	12	13	19.81	19.76	19.68	
5	64QAM	25	0	19.75	19.72	19.57	

LTE Band 19

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				24075			
Frequency (MHz)				837.5			
15	QPSK	1	0	/	21.96	/	22
15	QPSK	1	37	/	21.86	/	
15	QPSK	1	74	/	21.64	/	
15	QPSK	36	0	/	20.95	/	21
15	QPSK	36	20	/	20.97	/	
15	QPSK	36	39	/	20.88	/	
15	QPSK	75	0	/	20.92	/	

15	16QAM	1	0	/	21.46	/	21
15	16QAM	1	37	/	20.89	/	
15	16QAM	1	74	/	21.24	/	
15	16QAM	36	0	/	20.04	/	20
15	16QAM	36	20	/	20.01	/	
15	16QAM	36	39	/	20.02	/	
15	16QAM	75	0	/	19.96	/	
10	64QAM	1	0	/	21.09	/	20
10	64QAM	1	25	/	21.35	/	
10	64QAM	1	49	/	20.03	/	
10	64QAM	25	0	/	19.97	/	19
10	64QAM	25	12	/	19.99	/	
10	64QAM	25	25	/	20.04	/	
10	64QAM	50	0	/	20.10	/	
Channel				24050	24075	24100	Tune-up limit (dBm)
Frequency (MHz)				835	837.5	840	
10	QPSK	1	0	21.75	21.72	21.84	22
10	QPSK	1	25	21.87	21.69	21.54	
10	QPSK	1	49	21.78	21.76	21.56	
10	QPSK	25	0	20.89	20.82	20.83	21
10	QPSK	25	12	20.81	20.80	20.83	
10	QPSK	25	25	20.83	20.82	20.71	
10	QPSK	50	0	20.85	20.82	20.85	
10	16QAM	1	0	20.98	20.76	21.00	21
10	16QAM	1	25	21.27	20.89	20.61	
10	16QAM	1	49	21.28	21.12	20.80	
10	16QAM	25	0	19.94	20.04	19.91	20
10	16QAM	25	12	20.03	19.85	19.87	
10	16QAM	25	25	19.88	19.83	19.80	
10	16QAM	50	0	20.02	19.94	19.92	
10	64QAM	1	0	21.32	20.72	20.97	20
10	64QAM	1	25	20.89	21.02	20.56	
10	64QAM	1	49	21.25	21.06	20.84	
10	64QAM	25	0	19.87	19.98	19.97	19
10	64QAM	25	12	20.03	20.01	19.92	
10	64QAM	25	25	19.87	19.89	19.79	
10	64QAM	50	0	19.97	19.91	19.96	

Channel				24025	24075	24125	Tune-up limit (dBm)
Frequency (MHz)				832.5	837.5	842.5	
5	QPSK	1	0	21.95	21.83	21.75	19.96
5	QPSK	1	12	21.84	21.77	21.46	
5	QPSK	1	24	21.87	21.83	21.56	
5	QPSK	12	0	20.95	20.79	20.78	18.96
5	QPSK	12	7	21.02	20.87	20.72	
5	QPSK	12	13	20.94	20.84	20.63	
5	QPSK	25	0	20.94	20.89	20.70	
5	16QAM	1	0	21.13	21.34	20.61	18.96
5	16QAM	1	12	21.10	21.31	20.70	
5	16QAM	1	24	21.01	21.26	20.72	
5	16QAM	12	0	19.93	19.84	19.73	17.96
5	16QAM	12	7	19.99	19.90	19.77	
5	16QAM	12	13	19.93	19.96	19.75	
5	16QAM	25	0	19.96	19.93	19.76	
5	64QAM	1	0	21.09	21.28	21.36	17.96
5	64QAM	1	12	20.99	21.06	21.05	
5	64QAM	1	24	20.69	20.76	20.69	
5	64QAM	12	0	19.86	19.59	19.59	16.96
5	64QAM	12	7	19.69	19.67	19.56	
5	64QAM	12	13	19.59	19.63	19.53	
5	64QAM	25	0	19.53	19.57	19.59	

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)
Channel				26140	26365	26590	
Frequency (MHz)				1860	1882.5	1905	
20	QPSK	1	0	18.12	18.30	18.31	18.5
20	QPSK	1	49	17.82	18.03	18.16	
20	QPSK	1	99	18.35	18.19	18.23	
20	QPSK	50	0	17.30	17.21	17.28	17.5
20	QPSK	50	24	17.05	17.19	17.26	
20	QPSK	50	50	16.97	17.03	17.16	
20	QPSK	100	0	17.13	17.12	17.24	

20	16QAM	1	0	17.73	17.48	17.49	18
20	16QAM	1	49	17.11	17.45	17.64	
20	16QAM	1	99	17.71	17.37	17.39	
20	16QAM	50	0	16.09	16.24	16.42	16.5
20	16QAM	50	24	16.17	16.14	16.23	
20	16QAM	50	50	16.13	16.21	16.24	
20	16QAM	100	0	16.22	16.31	16.31	
20	64QAM	1	0	17.29	17.46	17.79	18
20	64QAM	1	49	17.40	17.24	17.02	
20	64QAM	1	99	17.39	17.40	17.61	
20	64QAM	50	0	16.09	16.25	16.34	16.5
20	64QAM	50	24	16.19	16.24	16.23	
20	64QAM	50	50	16.14	16.22	16.36	
20	64QAM	100	0	16.19	16.21	16.32	
Channel				26115	26365	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	QPSK	1	0	17.92	18.12	18.25	18.5
15	QPSK	1	37	17.75	18.05	18.11	
15	QPSK	1	74	17.94	17.97	18.22	
15	QPSK	36	0	17.07	17.20	17.21	17.5
15	QPSK	36	20	16.99	17.14	17.22	
15	QPSK	36	39	17.08	17.12	17.20	
15	QPSK	75	0	17.01	17.09	17.26	
15	16QAM	1	0	16.99	17.69	17.51	17.5
15	16QAM	1	37	17.09	17.27	17.70	
15	16QAM	1	74	17.18	17.50	17.43	
15	16QAM	36	0	16.13	16.24	16.29	16.5
15	16QAM	36	20	16.05	16.21	16.34	
15	16QAM	36	39	16.16	16.18	16.32	
15	16QAM	75	0	16.05	16.28	16.25	
15	64QAM	1	0	16.90	17.28	17.49	17.5
15	64QAM	1	37	17.11	17.19	17.06	
15	64QAM	1	74	16.04	16.22	16.33	
15	64QAM	36	0	15.99	16.18	16.34	16.5
15	64QAM	36	20	16.12	16.15	16.18	
15	64QAM	36	39	16.13	16.16	16.24	
15	64QAM	75	0	16.15	16.13	16.19	

Channel				26090	26365	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	QPSK	1	0	18.20	18.33	18.07	18.5
10	QPSK	1	25	17.81	18.07	18.17	
10	QPSK	1	49	18.28	18.21	18.16	
10	QPSK	25	0	16.97	17.19	17.20	17.5
10	QPSK	25	12	16.95	17.09	17.25	
10	QPSK	25	25	16.87	17.11	17.17	
10	QPSK	50	0	16.95	17.17	17.28	
10	16QAM	1	0	17.04	17.89	17.45	17.5
10	16QAM	1	25	16.89	17.57	17.72	
10	16QAM	1	49	17.35	17.53	17.67	
10	16QAM	25	0	16.18	16.30	16.37	16.5
10	16QAM	25	12	16.08	16.17	16.33	
10	16QAM	25	25	16.03	16.22	16.32	
10	16QAM	50	0	16.16	16.26	16.35	
10	64QAM	1	0	17.00	17.05	17.12	17.5
10	64QAM	1	25	16.99	16.97	16.89	
10	64QAM	1	49	16.46	16.38	16.39	
10	64QAM	25	0	16.36	16.41	16.43	16.5
10	64QAM	25	12	16.49	16.48	16.31	
10	64QAM	25	25	16.41	16.40	16.37	
10	64QAM	50	0	16.47	16.49	16.45	
Channel				26065	26365	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	QPSK	1	0	17.94	18.10	18.08	18.5
5	QPSK	1	12	17.81	18.01	18.02	
5	QPSK	1	24	17.89	18.09	18.07	
5	QPSK	12	0	16.92	17.12	17.22	17.5
5	QPSK	12	7	16.99	17.11	17.19	
5	QPSK	12	13	17.08	17.12	17.20	
5	QPSK	25	0	17.04	17.13	17.20	
5	16QAM	1	0	16.97	17.30	17.76	18
5	16QAM	1	12	16.86	17.21	17.65	
5	16QAM	1	24	17.03	17.28	17.35	
5	16QAM	12	0	16.13	16.19	16.35	16.5

5	16QAM	12	7	16.02	16.20	16.27	
5	16QAM	12	13	16.10	16.21	16.27	
5	16QAM	25	0	16.12	16.11	16.27	
5	64QAM	1	0	17.43	17.21	17.14	16.5
5	64QAM	1	12	17.01	17.12	17.19	
5	64QAM	1	24	17.17	17.22	17.15	
5	64QAM	12	0	15.87	16.15	16.21	16.5
5	64QAM	12	7	16.05	16.11	16.23	
5	64QAM	12	13	16.14	16.17	16.35	
5	64QAM	25	0	16.13	16.16	16.19	
Channel				26055	26365	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1882.5	1913.5	
3	QPSK	1	0	17.93	18.22	18.26	18.5
3	QPSK	1	8	17.78	17.98	18.06	
3	QPSK	1	14	17.76	18.02	18.22	
3	QPSK	8	0	16.97	17.06	17.10	17.5
3	QPSK	8	4	16.96	17.09	17.15	
3	QPSK	8	7	16.88	17.06	17.17	
3	QPSK	15	0	16.95	17.04	17.21	
3	16QAM	1	0	16.97	17.53	17.65	18
3	16QAM	1	8	17.07	17.40	17.59	
3	16QAM	1	14	16.87	17.25	17.17	
3	16QAM	8	0	16.04	16.07	16.19	16.5
3	16QAM	8	4	16.03	16.22	16.38	
3	16QAM	8	7	15.99	16.17	16.32	
3	16QAM	15	0	16.03	16.27	16.34	
3	64QAM	1	0	16.98	16.99	17.00	17.5
3	64QAM	1	8	16.89	16.79	16.94	
3	64QAM	1	14	16.46	16.32	16.47	
3	64QAM	8	0	16.32	16.39	16.31	16.5
3	64QAM	8	4	16.48	16.38	16.48	
3	64QAM	8	7	16.31	16.33	16.35	
3	64QAM	15	0	16.39	16.44	16.36	
Channel				26047	26365	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1882.5	1914.3	
1.4	QPSK	1	0	17.83	17.93	18.11	18.5

1.4	QPSK	1	3	17.92	17.99	18.08	
1.4	QPSK	1	5	17.88	17.93	18.04	
1.4	QPSK	3	0	17.89	17.98	18.09	
1.4	QPSK	3	1	17.83	18.03	18.16	
1.4	QPSK	3	3	17.76	17.92	18.20	
1.4	QPSK	6	0	16.79	17.00	17.04	17.5
1.4	16QAM	1	0	16.78	16.94	17.08	17.5
1.4	16QAM	1	3	17.37	17.26	17.33	
1.4	16QAM	1	5	17.36	17.11	17.03	
1.4	16QAM	3	0	16.98	17.09	17.08	
1.4	16QAM	3	1	16.99	17.09	17.29	
1.4	16QAM	3	3	16.82	17.09	17.22	
1.4	16QAM	6	0	16.06	16.15	16.39	16.5
1.4	64QAM	1	0	16.87	16.97	17.21	17.5
1.4	64QAM	1	3	17.08	17.24	17.54	
1.4	64QAM	1	5	16.95	17.22	17.26	
1.4	64QAM	3	0	16.96	17.16	17.16	
1.4	64QAM	3	1	17.03	17.01	17.18	
1.4	64QAM	3	3	17.06	17.20	17.34	
1.4	64QAM	6	0	15.86	16.14	16.28	16.5

LTE Band 26

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26915	26965	
Frequency (MHz)				821.5	831.5	836.5	841.5	
15	QPSK	1	0	21.46	21.77	21.55	21.89	22
15	QPSK	1	37	21.60	21.92	21.88	21.78	
15	QPSK	1	74	21.84	21.85	21.90	21.64	
15	QPSK	36	0	20.71	20.89	20.77	20.93	21
15	QPSK	36	20	20.78	20.96	20.83	20.90	
15	QPSK	36	39	20.82	20.92	20.92	20.78	
15	QPSK	75	0	20.73	20.92	20.89	20.95	
15	16QAM	1	0	20.98	21.01	20.89	21.41	21.5
15	16QAM	1	37	20.63	21.49	21.31	20.70	
15	16QAM	1	74	21.41	20.80	21.03	21.16	

15	16QAM	36	0	19.79	19.93	19.89	19.98	20.5
15	16QAM	36	20	19.86	20.03	19.98	19.96	
15	16QAM	36	39	19.95	20.05	20.08	19.81	
15	16QAM	75	0	19.83	20.03	19.97	19.98	
15	64QAM	1	0	20.65	21.35	21.09	21.10	21.5
15	64QAM	1	37	21.11	21.14	21.01	20.86	
15	64QAM	1	74	19.79	19.87	19.94	20.01	
15	64QAM	36	0	19.86	20.03	20.03	19.97	20.5
15	64QAM	36	20	19.91	20.01	20.07	19.81	
15	64QAM	36	39	19.84	20.03	19.93	19.94	
15	64QAM	75	0	19.88	19.96	20.35	19.97	
Channel				26740	26865	26915	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	836.5	844	
10	QPSK	1	0	21.35	21.74	21.91	21.83	22
10	QPSK	1	25	21.56	21.91	21.89	21.67	
10	QPSK	1	49	21.71	21.79	21.87	21.71	
10	QPSK	25	0	20.48	20.97	21.00	20.81	21.5
10	QPSK	25	12	20.65	20.95	21.13	20.81	
10	QPSK	25	25	20.68	20.91	21.10	20.73	
10	QPSK	50	0	20.65	20.96	21.15	20.76	
10	16QAM	1	0	20.84	20.98	21.18	21.28	21.5
10	16QAM	1	25	21.06	21.32	21.27	20.95	
10	16QAM	1	49	20.82	21.38	21.11	21.01	
10	16QAM	25	0	19.68	20.12	20.14	19.77	20.5
10	16QAM	25	12	19.81	20.03	20.15	19.74	
10	16QAM	25	25	19.77	19.91	20.13	19.80	
10	16QAM	50	0	19.67	19.98	20.25	19.83	
10	64QAM	1	0	20.55	20.89	21.10	20.92	21.5
10	64QAM	1	25	21.11	20.88	21.06	20.89	
10	64QAM	1	49	20.93	21.37	20.10	20.75	
10	64QAM	25	0	19.66	20.01	20.17	19.83	20.5
10	64QAM	25	12	19.78	20.08	20.15	19.90	
10	64QAM	25	25	19.82	19.87	20.24	19.81	
10	64QAM	50	0	19.66	19.99	20.23	19.79	
Channel				26715	26865	26915	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	836.5	846.5	

5	QPSK	1	0	21.79	21.77	21.72	21.73	22
5	QPSK	1	12	21.79	21.81	21.56	21.85	
5	QPSK	1	24	21.86	21.76	21.56	21.78	
5	QPSK	12	0	21.01	20.99	20.17	20.71	21.5
5	QPSK	12	7	21.03	20.98	20.15	20.77	
5	QPSK	12	13	20.98	20.90	20.24	20.64	
5	QPSK	25	0	21.03	20.94	21.35	20.72	
5	16QAM	1	0	21.49	21.23	21.31	21.19	21.5
5	16QAM	1	12	21.34	21.24	21.10	21.12	
5	16QAM	1	24	21.41	21.26	21.12	21.01	
5	16QAM	12	0	20.15	20.06	21.14	19.80	20.5
5	16QAM	12	7	20.03	20.11	21.04	19.81	
5	16QAM	12	13	20.11	19.88	21.15	19.86	
5	16QAM	25	0	20.05	20.01	21.23	19.84	
5	64QAM	1	0	21.28	21.06	21.15	20.82	21.5
5	64QAM	1	12	21.14	21.16	21.41	20.75	
5	64QAM	1	24	21.20	21.32	20.22	20.76	
5	64QAM	12	0	20.10	20.01	20.13	19.77	20.5
5	64QAM	12	7	20.04	20.07	20.12	19.69	
5	64QAM	12	13	20.17	19.87	20.10	19.74	
5	64QAM	25	0	20.24	20.02	20.10	19.81	
Channel				26705	26865	26915	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	836.5	847.5	
3	QPSK	1	0	21.31	21.92	21.18	21.65	22
3	QPSK	1	8	21.30	21.79	21.56	21.62	
3	QPSK	1	14	21.27	21.87	21.22	21.56	
3	QPSK	8	0	20.50	20.88	20.52	20.69	21
3	QPSK	8	4	20.49	20.91	20.65	20.67	
3	QPSK	8	7	20.49	20.84	20.59	20.67	
3	QPSK	15	0	20.51	20.84	20.91	20.62	
3	16QAM	1	0	20.54	21.47	21.39	20.82	21.5
3	16QAM	1	8	21.10	21.40	21.43	20.97	
3	16QAM	1	14	21.00	21.27	21.06	20.66	
3	16QAM	8	0	19.70	19.99	20.05	19.84	20.5
3	16QAM	8	4	19.72	20.15	20.94	19.68	
3	16QAM	8	7	19.57	20.10	20.11	19.73	
3	16QAM	15	0	19.68	19.95	20.32	19.86	

3	64QAM	1	0	20.54	21.34	20.97	20.59	21
3	64QAM	1	8	20.97	20.98	20.92	20.84	
3	64QAM	1	14	20.95	20.99	20.22	21.09	
3	64QAM	8	0	19.54	19.97	19.69	19.95	20
3	64QAM	8	4	19.55	19.89	19.94	19.67	
3	64QAM	8	7	19.62	19.96	19.78	19.82	
3	64QAM	15	0	19.58	19.85	19.56	19.70	
Channel				26697	26865	26915	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	836.5	848.3	
1.4	QPSK	1	0	21.17	21.74	21.77	21.68	22
1.4	QPSK	1	3	21.30	21.82	21.88	21.67	
1.4	QPSK	1	5	21.11	21.80	21.79	21.59	
1.4	QPSK	3	0	21.25	21.86	21.90	21.70	
1.4	QPSK	3	1	21.26	21.92	21.94	21.73	
1.4	QPSK	3	3	21.15	21.85	21.94	21.63	
1.4	QPSK	6	0	20.31	20.81	20.81	20.66	21
1.4	16QAM	1	0	20.39	20.76	20.80	20.69	21.5
1.4	16QAM	1	3	20.21	21.06	21.10	21.00	
1.4	16QAM	1	5	20.84	20.98	21.32	20.54	
1.4	16QAM	3	0	20.52	20.83	21.01	20.60	
1.4	16QAM	3	1	20.52	20.98	20.89	20.72	
1.4	16QAM	3	3	20.34	20.92	20.97	20.81	
1.4	16QAM	6	0	19.44	20.07	20.06	19.74	20.5
1.4	64QAM	1	0	20.52	20.80	21.03	20.71	21.5
1.4	64QAM	1	3	20.28	21.14	21.42	21.06	
1.4	64QAM	1	5	20.55	20.99	21.02	20.56	
1.4	64QAM	3	0	20.59	20.92	21.06	20.69	
1.4	64QAM	3	1	20.47	20.80	20.97	20.72	
1.4	64QAM	3	3	20.56	21.04	20.87	20.72	
1.4	64QAM	6	0	19.53	19.95	19.98	19.83	20

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)
Channel				27710			
Frequency (MHz)				2310			

10	QPSK	1	0	/	19.44	/	19.5
10	QPSK	1	25	/	19.26	/	
10	QPSK	1	49	/	19.22	/	
10	QPSK	25	0	/	18.38	/	18.5
10	QPSK	25	12	/	18.33	/	
10	QPSK	25	25	/	18.30	/	
10	QPSK	50	0	/	18.34	/	
10	16QAM	1	0	/	19.06	/	19.5
10	16QAM	1	25	/	18.28	/	
10	16QAM	1	49	/	18.41	/	
10	16QAM	25	0	/	17.43	/	17.5
10	16QAM	25	12	/	17.43	/	
10	16QAM	25	25	/	17.43	/	
10	16QAM	50	0	/	17.34	/	
10	64QAM	1	0	/	19.00	/	19.5
10	64QAM	1	25	/	18.51	/	
10	64QAM	1	49	/	18.48	/	
10	64QAM	25	0	/	17.41	/	17.5
10	64QAM	25	12	/	17.42	/	
10	64QAM	25	25	/	17.30	/	
10	64QAM	50	0	/	17.31	/	
Channel				27685	27710	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	19.42	19.25	19.39	19.5
5	QPSK	1	12	19.25	19.16	19.25	
5	QPSK	1	24	19.39	19.21	19.23	
5	QPSK	12	0	18.42	18.35	18.36	18.5
5	QPSK	12	7	18.34	18.32	18.35	
5	QPSK	12	13	18.23	18.29	18.30	
5	QPSK	25	0	18.30	18.35	18.33	
5	16QAM	1	0	18.67	18.53	18.54	19
5	16QAM	1	12	18.55	18.48	18.50	
5	16QAM	1	24	18.81	18.54	18.46	
5	16QAM	12	0	17.55	17.51	17.43	18
5	16QAM	12	7	17.53	17.37	17.48	
5	16QAM	12	13	17.30	17.43	17.32	
5	16QAM	25	0	17.44	17.41	17.32	

5	64QAM	1	0	18.38	18.79	18.55	19
5	64QAM	1	12	18.49	18.83	18.31	
5	64QAM	1	24	18.43	18.88	18.51	
5	64QAM	12	0	17.53	17.50	17.50	18
5	64QAM	12	7	17.32	17.44	17.36	
5	64QAM	12	13	17.34	17.29	17.39	
5	64QAM	25	0	17.40	17.49	17.40	

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)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	19.93	19.67	19.78	20
20	QPSK	1	49	19.69	19.40	19.38	
20	QPSK	1	99	19.56	19.34	19.34	
20	QPSK	50	0	18.95	18.68	18.77	19
20	QPSK	50	24	18.63	18.77	18.75	
20	QPSK	50	50	18.64	18.59	18.49	
20	QPSK	100	0	18.73	18.59	18.68	
20	16QAM	1	0	19.23	19.17	19.20	19.5
20	16QAM	1	49	18.96	18.89	18.78	
20	16QAM	1	99	18.81	18.84	18.74	
20	16QAM	50	0	17.96	17.72	17.92	18
20	16QAM	50	24	17.66	17.81	17.70	
20	16QAM	50	50	17.77	17.75	17.65	
20	16QAM	100	0	17.66	17.62	17.83	
20	64QAM	1	0	19.04	18.94	19.07	19.5
20	64QAM	1	49	18.72	18.65	18.65	
20	64QAM	1	99	18.67	18.59	18.59	
20	64QAM	50	0	17.89	17.64	17.85	18
20	64QAM	50	24	17.79	17.75	17.62	
20	64QAM	50	50	17.69	17.46	17.57	
20	64QAM	100	0	17.69	17.87	17.65	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	

15	QPSK	1	0	19.92	19.63	19.80	20
15	QPSK	1	37	19.77	19.51	19.48	
15	QPSK	1	74	19.53	19.44	19.43	
15	QPSK	36	0	18.93	18.77	18.59	19
15	QPSK	36	20	18.90	18.73	18.46	
15	QPSK	36	39	18.65	18.63	18.37	
15	QPSK	75	0	18.74	18.71	18.54	
15	16QAM	1	0	19.23	19.08	18.93	19.5
15	16QAM	1	37	18.98	18.86	18.82	
15	16QAM	1	74	18.96	18.88	18.66	
15	16QAM	36	0	17.79	17.66	17.90	18
15	16QAM	36	20	17.77	17.84	17.67	
15	16QAM	36	39	17.64	17.74	17.59	
15	16QAM	75	0	17.77	17.75	17.80	
15	64QAM	1	0	19.15	18.94	18.92	19.5
15	64QAM	1	37	18.86	18.71	18.58	
15	64QAM	1	74	18.03	17.68	17.71	
15	64QAM	36	0	18.00	17.85	17.48	18.5
15	64QAM	36	20	17.78	17.75	17.49	
15	64QAM	36	39	17.87	17.73	17.67	
15	64QAM	75	0	17.69	17.82	17.86	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	19.69	19.56	19.45	20
10	QPSK	1	25	19.64	19.44	19.31	
10	QPSK	1	49	19.53	19.50	19.13	
10	QPSK	25	0	18.56	18.62	18.54	19
10	QPSK	25	12	18.60	18.70	18.31	
10	QPSK	25	25	18.53	18.67	18.46	
10	QPSK	50	0	18.61	18.72	18.31	
10	16QAM	1	0	19.16	18.96	18.75	19.5
10	16QAM	1	25	19.02	18.84	18.71	
10	16QAM	1	49	19.01	18.79	18.62	
10	16QAM	25	0	17.82	17.69	17.51	18
10	16QAM	25	12	17.76	17.87	17.70	
10	16QAM	25	25	17.79	17.62	17.42	
10	16QAM	50	0	17.75	17.76	17.68	

10	64QAM	1	0	18.86	18.93	18.72	19
10	64QAM	1	25	18.87	18.71	18.59	
10	64QAM	1	49	18.75	18.75	18.59	
10	64QAM	25	0	17.85	17.63	17.44	18
10	64QAM	25	12	17.79	17.60	17.42	
10	64QAM	25	25	17.82	17.56	17.56	
10	64QAM	50	0	17.88	17.69	17.40	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	19.57	19.49	19.44	20
5	QPSK	1	12	19.52	19.49	19.25	
5	QPSK	1	24	19.63	19.65	19.28	
5	QPSK	12	0	18.75	18.82	18.48	19
5	QPSK	12	7	18.84	18.77	18.51	
5	QPSK	12	13	18.77	18.70	18.42	
5	QPSK	25	0	18.74	18.69	18.42	
5	16QAM	1	0	18.90	18.97	18.69	19
5	16QAM	1	12	19.01	18.89	18.55	
5	16QAM	1	24	18.90	18.94	18.71	
5	16QAM	12	0	17.77	17.86	17.64	18
5	16QAM	12	7	17.87	17.71	17.66	
5	16QAM	12	13	17.81	17.64	17.56	
5	16QAM	25	0	17.90	17.76	17.61	
5	64QAM	1	0	18.71	18.96	18.58	19
5	64QAM	1	12	18.76	18.85	18.41	
5	64QAM	1	24	18.88	18.72	18.48	
5	64QAM	12	0	17.82	17.80	17.58	18
5	64QAM	12	7	17.82	17.87	17.41	
5	64QAM	12	13	17.74	17.68	17.41	
5	64QAM	25	0	17.83	17.68	17.33	

LTE Band 40 Band 1

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				38750			
Frequency (MHz)				2310			
10	QPSK	1	0	**21.34**			21.5
10	QPSK	1	25	21.34			
10	QPSK	1	49	21.27			
10	QPSK	25	0	20.38			20.5
10	QPSK	25	12	**20.49**			
10	QPSK	25	25	20.28			
10	QPSK	50	0	20.51			
10	16QAM	1	0	20.85			21.00
10	16QAM	1	25	20.62			
10	16QAM	1	49	20.63			
10	16QAM	25	0	19.52			20.00
10	16QAM	25	12	19.53			
10	16QAM	25	25	19.54			
10	16QAM	50	0	19.43			
10	64QAM	1	0	20.74			21.00
10	64QAM	1	25	20.48			
10	64QAM	1	49	20.38			
10	64QAM	25	0	19.45			19.50
10	64QAM	25	12	19.45			
10	64QAM	25	25	19.36			
10	64QAM	50	0	19.35			
Channel				38725	38750	38775	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	21.34	21.33	21.2	21.5
5	QPSK	1	12	21.22	21.33	21.31	
5	QPSK	1	24	21.12	21.16	21.15	
5	QPSK	12	0	20.4	20.32	20.38	21.00
5	QPSK	12	7	20.51	20.44	20.48	

5	QPSK	12	13	20.53	20.48	20.48	
5	QPSK	25	0	20.29	20.33	20.36	
5	16QAM	1	0	20.57	20.6	20.56	21.00
5	16QAM	1	12	20.6	20.64	20.7	
5	16QAM	1	24	20.62	20.56	20.65	
5	16QAM	12	0	19.63	19.58	19.64	20.00
5	16QAM	12	7	19.64	19.58	19.63	
5	16QAM	12	13	19.44	19.61	19.52	
5	16QAM	25	0	19.46	19.5	19.66	
5	64QAM	1	0	20.59	20.6	20.66	21.00
5	64QAM	1	12	20.57	20.51	20.58	
5	64QAM	1	24	20.51	20.45	20.43	
5	64QAM	12	0	19.47	19.52	19.37	20.00
5	64QAM	12	7	19.58	19.43	19.58	
5	64QAM	12	13	19.5	19.34	19.47	
5	64QAM	25	0	19.48	19.53	19.37	

LTE Band 40 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)
Channel				39200			
Frequency (MHz)				2355			
10	QPSK	1	0	**21.43**			21.5
10	QPSK	1	25	21.29			
10	QPSK	1	49	21.34			
10	QPSK	25	0	**20.62**			21.00
10	QPSK	25	12	20.57			
10	QPSK	25	25	20.39			
10	QPSK	50	0	20.57			
10	16QAM	1	0	20.78			21.00
10	16QAM	1	25	20.67			
10	16QAM	1	49	20.6			
10	16QAM	25	0	19.67			20.00
10	16QAM	25	12	19.53			

10	16QAM	25	25	19.65			
10	16QAM	50	0	19.71			
10	64QAM	1	0	20.70			21.00
10	64QAM	1	25	20.54			
10	64QAM	1	49	20.58			
10	64QAM	25	0	19.60			20.00
10	64QAM	25	12	19.66			
10	64QAM	25	25	19.36			
10	64QAM	50	0	19.63			
Channel				39175	39200	39225	Tune-up limit (dBm)
Frequency (MHz)				2352.5	2355	2357.5	
5	QPSK	1	0	21.34	21.41	21.29	21.5
5	QPSK	1	12	21.33	21.37	21.42	
5	QPSK	1	24	21.37	21.19	21.34	
5	QPSK	12	0	20.64	20.49	20.46	20.5
5	QPSK	12	7	20.6	20.54	20.62	
5	QPSK	12	13	20.49	20.54	20.33	
5	QPSK	25	0	20.49	20.55	20.53	
5	16QAM	1	0	20.65	20.67	20.84	20.5
5	16QAM	1	12	20.7	20.66	20.73	
5	16QAM	1	24	20.65	20.6	20.55	
5	16QAM	12	0	19.56	19.64	19.61	19.5
5	16QAM	12	7	19.63	19.69	19.66	
5	16QAM	12	13	19.61	19.57	19.68	
5	16QAM	25	0	19.66	19.53	19.51	
5	64QAM	1	0	20.7	20.56	20.54	19.5
5	64QAM	1	12	20.58	20.53	20.49	
5	64QAM	1	24	20.64	20.58	20.53	
5	64QAM	12	0	19.61	19.59	19.66	18.5
5	64QAM	12	7	19.58	19.45	19.52	
5	64QAM	12	13	19.46	19.53	19.53	
5	64QAM	25	0	19.58	19.55	19.43	

LTE Band 41

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	20.42	20.73	20.79	20.67	20.62	21
20	QPSK	1	49	20.30	20.45	20.38	20.38	20.49	
20	QPSK	1	99	20.40	20.35	20.43	20.33	20.48	
20	QPSK	50	0	19.73	19.73	19.79	19.66	19.76	20
20	QPSK	50	24	19.64	19.70	19.59	19.59	19.75	
20	QPSK	50	50	19.61	19.70	19.52	19.49	19.62	
20	QPSK	100	0	19.74	19.71	19.50	19.47	19.78	
20	16QAM	1	0	19.57	20.13	20.04	20.01	19.62	20.5
20	16QAM	1	49	19.53	19.87	19.80	19.69	19.74	
20	16QAM	1	99	19.75	19.87	19.73	19.63	19.69	
20	16QAM	50	0	18.83	18.87	18.72	18.70	18.90	19
20	16QAM	50	24	18.83	18.63	18.83	18.74	18.73	
20	16QAM	50	50	18.70	18.63	18.57	18.43	18.67	
20	16QAM	100	0	18.67	18.88	18.75	18.73	18.76	
20	64QAM	1	0	19.65	20.03	19.92	19.89	19.60	20
20	64QAM	1	49	19.65	19.74	19.68	19.56	19.68	
20	64QAM	1	99	19.66	19.62	19.59	19.49	19.62	
20	64QAM	50	0	18.64	18.71	18.66	18.73	18.84	19
20	64QAM	50	24	18.60	18.58	18.77	18.68	18.66	
20	64QAM	50	50	18.64	18.67	18.48	18.36	18.68	
20	64QAM	100	0	18.69	18.80	18.78	18.76	18.78	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	20.37	20.76	20.70	20.56	20.31	21
15	QPSK	1	37	20.46	20.53	20.49	20.42	19.21	
15	QPSK	1	74	19.79	20.53	20.45	20.38	16.44	
15	QPSK	36	0	19.66	19.57	19.66	19.67	18.87	20
15	QPSK	36	20	19.55	19.53	19.63	19.47	18.36	
15	QPSK	36	39	19.71	19.46	19.53	19.36	18.22	
15	QPSK	75	0	19.54	19.57	19.62	19.43	18.18	
15	16QAM	1	0	19.51	19.95	20.07	19.92	19.51	20

15	16QAM	1	37	19.68	19.78	19.74	19.76	18.60	
15	16QAM	1	74	18.59	19.78	19.70	19.63	18.01	
15	16QAM	36	0	18.47	18.77	18.65	18.77	19.02	19.5
15	16QAM	36	20	18.53	18.57	18.76	18.68	18.36	
15	16QAM	36	39	18.57	18.56	18.64	18.58	18.23	
15	16QAM	75	0	18.78	18.72	18.75	18.68	18.23	
15	64QAM	1	0	19.50	19.84	19.82	19.80	19.56	20
15	64QAM	1	37	18.63	19.66	19.72	19.53	18.53	
15	64QAM	1	74	18.48	18.80	18.79	18.58	19.07	
15	64QAM	36	0	18.53	18.81	18.77	18.70	18.38	19
15	64QAM	36	20	18.63	18.69	18.56	18.39	17.24	
15	64QAM	36	39	18.59	18.71	18.74	18.57	18.26	
15	64QAM	75	0	18.69	18.72	18.69	18.73	18.29	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	20.42	20.55	20.55	20.46	20.44	21
10	QPSK	1	25	20.26	20.47	20.40	20.40	20.42	
10	QPSK	1	49	19.78	20.40	20.41	20.35	20.44	
10	QPSK	25	0	19.71	19.49	19.62	19.43	19.69	20
10	QPSK	25	12	19.46	19.54	19.57	19.38	19.70	
10	QPSK	25	25	19.70	19.44	19.54	19.36	19.62	
10	QPSK	50	0	19.57	19.69	19.51	19.47	19.77	
10	16QAM	1	0	19.43	19.86	19.86	19.89	19.59	20
10	16QAM	1	25	19.57	19.88	19.81	19.81	19.67	
10	16QAM	1	49	18.54	19.80	19.80	19.66	19.63	
10	16QAM	25	0	18.62	18.79	18.82	18.60	18.72	19
10	16QAM	25	12	18.51	18.82	18.65	18.54	18.67	
10	16QAM	25	25	18.66	18.71	18.59	18.64	18.66	
10	16QAM	50	0	18.50	18.62	18.54	18.73	18.80	
10	64QAM	1	0	18.51	17.94	18.01	18.12	18.09	19
10	64QAM	1	25	17.48	17.15	17.19	17.18	17.12	
10	64QAM	1	49	18.43	17.19	17.23	17.23	17.29	
10	64QAM	25	0	17.89	17.49	17.49	17.38	17.31	18
10	64QAM	25	12	17.39	17.05	17.05	17.12	17.10	
10	64QAM	25	25	17.86	17.55	17.54	17.53	17.63	
10	64QAM	50	0	17.30	17.98	17.94	17.97	17.97	
Channel				39675	40148	40620	41093	41565	Tune-up

Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	limit (dBm)
5	QPSK	1	0	20.33	20.51	20.37	20.34	20.38	21
5	QPSK	1	12	20.44	20.42	20.32	20.29	20.41	
5	QPSK	1	24	20.37	20.34	20.36	20.39	20.50	
5	QPSK	12	0	19.84	19.65	19.59	19.68	19.68	20
5	QPSK	12	7	19.79	19.55	19.62	19.59	19.58	
5	QPSK	12	13	19.73	19.45	19.54	19.56	19.54	
5	QPSK	25	0	19.52	19.45	19.55	19.50	19.67	
5	16QAM	1	0	19.58	19.88	19.74	19.80	19.70	20
5	16QAM	1	12	19.50	19.86	19.74	19.69	19.58	
5	16QAM	1	24	19.35	19.66	19.78	19.71	19.70	
5	16QAM	12	0	18.83	18.71	18.62	18.71	18.71	19
5	16QAM	12	7	18.67	18.80	18.67	18.74	18.73	
5	16QAM	12	13	18.58	18.61	18.68	18.61	18.67	
5	16QAM	25	0	18.65	18.65	18.73	18.68	18.79	
5	64QAM	1	0	19.64	19.78	19.64	19.58	19.56	20
5	64QAM	1	12	19.44	19.74	19.71	19.66	19.64	
5	64QAM	1	24	19.40	19.65	19.66	19.59	18.73	
5	64QAM	12	0	18.80	18.76	18.57	18.55	18.73	19
5	64QAM	12	7	18.79	18.76	18.52	18.58	18.67	
5	64QAM	12	13	18.55	18.67	18.64	18.56	18.77	
5	64QAM	25	0	18.59	18.58	18.65	18.49	18.70	

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)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	18.34	18.13	18.01	18.5
20	QPSK	1	49	18.04	17.97	17.58	
20	QPSK	1	99	17.99	17.81	17.52	
20	QPSK	50	0	17.20	17.21	17.04	17.5
20	QPSK	50	24	17.13	17.15	16.96	
20	QPSK	50	50	17.27	17.08	16.74	
20	QPSK	100	0	17.09	17.12	16.83	
20	16QAM	1	0	17.55	17.89	17.57	18

20	16QAM	1	49	17.23	17.63	17.24	
20	16QAM	1	99	17.15	17.57	17.08	
20	16QAM	50	0	16.34	16.31	16.09	16.5
20	16QAM	50	24	16.22	16.23	16.00	
20	16QAM	50	50	16.17	16.19	15.89	
20	16QAM	100	0	16.16	16.18	15.99	
20	64QAM	1	0	17.08	17.13	17.05	17.5
20	64QAM	1	49	16.96	16.97	16.89	
20	64QAM	1	99	16.76	16.76	16.71	
20	64QAM	50	0	16.35	16.39	16.32	16.5
20	64QAM	50	24	16.29	16.30	16.25	
20	64QAM	50	50	16.13	16.20	16.17	
20	64QAM	100	0	16.02	16.10	16.05	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	18.11	18.02	18.14	18.5
15	QPSK	1	37	18.08	18.12	18.19	
15	QPSK	1	74	17.97	17.91	18.02	
15	QPSK	36	0	16.83	16.95	16.87	17.5
15	QPSK	36	20	16.92	16.90	16.82	
15	QPSK	36	39	16.98	17.03	17.07	
15	QPSK	75	0	17.06	17.03	16.86	
15	16QAM	1	0	17.08	17.05	16.91	17.5
15	16QAM	1	37	16.89	16.63	16.86	
15	16QAM	1	74	16.86	16.66	16.86	
15	16QAM	36	0	16.71	16.75	16.65	17
15	16QAM	36	20	16.88	16.86	16.79	
15	16QAM	36	39	16.69	16.86	16.66	
15	16QAM	75	0	16.70	16.83	16.65	
15	64QAM	1	0	16.45	16.48	16.31	16.5
15	64QAM	1	37	16.32	16.46	16.31	
15	64QAM	1	74	16.38	16.43	16.33	
15	64QAM	36	0	16.40	16.49	16.48	16.5
15	64QAM	36	20	16.42	16.33	16.41	
15	64QAM	36	39	16.40	16.38	16.33	
15	64QAM	75	0	16.44	16.46	16.33	
Channel				132022	132322	132622	Tune-up

Frequency (MHz)				1715	1745	1775	limit (dBm)
10	QPSK	1	0	17.95	18.16	17.93	18.5
10	QPSK	1	25	17.97	18.05	18.02	
10	QPSK	1	49	17.93	18.03	18.08	
10	QPSK	25	0	16.98	16.92	16.91	17.5
10	QPSK	25	12	17.06	16.85	16.87	
10	QPSK	25	25	16.97	16.90	16.97	
10	QPSK	50	0	16.97	17.07	17.05	
10	16QAM	1	0	16.91	17.00	17.01	17.5
10	16QAM	1	25	17.02	16.95	16.90	
10	16QAM	1	49	16.89	17.05	17.04	
10	16QAM	25	0	16.84	16.87	16.72	17
10	16QAM	25	12	16.67	16.75	16.89	
10	16QAM	25	25	16.69	16.63	16.64	
10	16QAM	50	0	16.77	16.72	16.69	
10	64QAM	1	0	16.46	16.44	16.48	16.5
10	64QAM	1	25	16.38	16.32	16.49	
10	64QAM	1	49	16.33	16.49	16.48	
10	64QAM	25	0	16.43	16.46	16.36	16.5
10	64QAM	25	12	16.32	16.37	16.45	
10	64QAM	25	25	16.41	16.35	16.45	
10	64QAM	50	0	16.34	16.42	16.37	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	18.05	17.98	17.97	18.5
5	QPSK	1	12	17.95	17.92	18.13	
5	QPSK	1	24	18.11	18.08	18.06	
5	QPSK	12	0	18.11	18.02	18.14	17.5
5	QPSK	12	7	16.99	17.07	16.92	
5	QPSK	12	13	16.94	16.81	16.91	
5	QPSK	25	0	17.10	16.85	16.85	
5	16QAM	1	0	16.96	16.94	16.81	17.5
5	16QAM	1	12	16.89	17.04	16.95	
5	16QAM	1	24	16.90	17.04	16.90	
5	16QAM	12	0	16.66	16.89	16.73	17
5	16QAM	12	7	16.77	16.73	16.88	

5	16QAM	12	13	16.70	16.82	16.65	
5	16QAM	25	0	16.81	16.75	16.70	
5	64QAM	1	0	16.47	16.40	16.49	16.5
5	64QAM	1	12	16.31	16.37	16.50	
5	64QAM	1	24	16.47	16.32	16.45	
5	64QAM	12	0	16.43	16.42	16.38	16.5
5	64QAM	12	7	16.36	16.44	16.36	
5	64QAM	12	13	16.34	16.41	16.43	
5	64QAM	25	0	16.30	16.42	16.43	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	17.95	18.16	17.93	18.5
3	QPSK	1	8	17.97	18.05	18.02	
3	QPSK	1	14	17.93	18.03	18.08	
3	QPSK	8	0	16.93	17.00	17.08	17.5
3	QPSK	8	4	17.02	16.95	16.87	
3	QPSK	8	7	17.07	16.84	17.03	
3	QPSK	15	0	16.82	16.89	16.85	
3	16QAM	1	0	16.92	16.92	16.95	17.5
3	16QAM	1	8	16.94	16.93	16.85	
3	16QAM	1	14	16.62	16.73	16.69	
3	16QAM	8	0	16.72	16.61	16.63	17
3	16QAM	8	4	16.64	16.80	16.68	
3	16QAM	8	7	16.87	16.64	16.83	
3	16QAM	15	0	16.32	16.46	16.31	
3	64QAM	1	0	16.38	16.43	16.33	16.5
3	64QAM	1	8	16.40	16.49	16.48	
3	64QAM	1	14	16.46	16.44	16.48	
3	64QAM	8	0	16.38	16.32	16.49	16.5
3	64QAM	8	4	16.33	16.49	16.48	
3	64QAM	8	7	16.02	16.29	16.19	
3	64QAM	15	0	15.89	15.99	15.89	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	17.92	18.05	18.14	18.5
1.4	QPSK	1	3	18.07	18.00	18.02	

1.4	QPSK	1	5	17.92	18.04	18.05	
1.4	QPSK	3	0	17.02	16.95	16.90	
1.4	QPSK	3	1	16.89	17.05	17.04	
1.4	QPSK	3	3	16.92	17.01	16.93	
1.4	QPSK	6	0	16.86	16.82	16.80	17.5
1.4	16QAM	1	0	16.89	17.04	16.95	17.5
1.4	16QAM	1	3	16.72	16.77	16.85	
1.4	16QAM	1	5	16.68	16.87	16.83	
1.4	16QAM	3	0	16.75	16.87	16.64	
1.4	16QAM	3	1	16.68	16.67	16.69	
1.4	16QAM	3	3	16.47	16.32	16.45	
1.4	16QAM	6	0	16.30	16.44	16.31	16.5
1.4	64QAM	1	0	16.42	16.40	16.42	16.5
1.4	64QAM	1	3	16.43	16.44	16.33	
1.4	64QAM	1	5	16.38	16.32	16.49	
1.4	64QAM	3	0	16.40	16.32	16.34	
1.4	64QAM	3	1	16.39	16.49	16.49	
1.4	64QAM	3	3	16.37	16.37	16.37	
1.4	64QAM	6	0	16.47	16.30	16.40	16.5

WLAN Conducted Power:

2.4GHz WLAN:

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
2.4GHz WLAN ANT 0	802.11b 1Mbps	CH 1	2412	12.10	12.50	11.00	100.00
		CH 6	2437	**12.23**	12.50	11.00	
		CH 11	2462	12.06	12.50	11.00	
	802.11g 6Mbps	CH 1	2412	12.22	12.50	11.00	98.10
		CH 6	2437	12.34	12.50	11.00	
		CH 11	2462	12.41	12.50	11.00	
	802.11n-HT20 MCS0	CH 1	2412	12.31	12.50	11.00	97.96
		CH 6	2437	12.34	12.50	11.00	
		CH 11	2462	12.21	12.50	11.00	
	802.11n-HT40 MCS0	CH 3	2422	12.78	13.00	11.00	95.00
		CH 6	2437	12.81	13.00	11.00	
		CH 9	2452	12.94	13.00	11.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
2.4GHz WLAN ANT 1	802.11b 1Mbps	CH 1	2412	12.78	13.00	20.00	98.43
		CH 6	2437	12.82	13.00	20.00	
		CH 11	2462	**12.91**	13.00	20.00	
	802.11g 6Mbps	CH 1	2412	12.42	12.50	20.00	98.47
		CH 6	2437	12.31	12.50	20.00	
		CH 11	2462	12.51	13.00	20.00	
	802.11n-HT20 MCS0	CH 1	2412	12.33	12.50	20.00	97.96
		CH 6	2437	12.21	12.50	20.00	
		CH 11	2462	12.41	12.50	20.00	
	802.11n-HT40 MCS0	CH 3	2422	12.51	13.00	20.00	95.00
		CH 6	2437	12.67	13.00	20.00	
		CH 9	2452	12.55	13.00	20.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting
2.4GHz WLAN ANT 0+1	802.11b 1Mbps	CH 1	2412	15.46	15.50	11.00
		CH 6	2437	15.52	16.00	11.00
		CH 11	2462	**15.55**	16.00	11.00
	802.11g 6Mbps	CH 1	2412	15.33	15.50	11.00
		CH 6	2437	15.34	15.50	11.00
		CH 11	2462	15.47	15.50	11.00
	802.11n-HT20 MCS0	CH 1	2412	15.33	15.50	11.00
		CH 6	2437	15.29	15.50	11.00
		CH 11	2462	15.32	15.50	11.00
	802.11n-HT40 MCS0	CH 3	2422	15.66	16.00	11.00
		CH 6	2437	15.75	16.00	11.00
		CH 9	2452	15.76	16.00	11.00

Note: The WLAN 2.4G antenna gain is 1.81dBi

5GHz WLAN:

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.2GHz WLAN ANT 0	802.11a 6Mbps	CH 36	5180	10.76	11.00	8.00	98.33
		CH 44	5220	11.10	11.50	8.00	
		CH 48	5240	11.21	11.50	8.00	
	802.11n-HT20 MCS0	CH 36	5180	10.81	11.00	8.00	98.21
		CH 44	5220	11.22	11.50	8.00	
		CH 48	5240	11.33	11.50	8.00	
	802.11n-HT40 MCS0	CH 38	5190	12.53	13.00	8.00	96.50
		CH 46	5230	**13.26**	13.50	8.00	
	802.11ac-VHT20 MCS0	CH 36	5180	10.77	11.00	8.00	96.34
		CH 44	5220	11.15	11.50	8.00	
		CH 48	5240	11.28	11.50	8.00	
	802.11ac-VHT40 MCS0	CH 38	5190	12.55	13.00	8.00	93.28
		CH 46	5230	12.18	12.50	8.00	
	802.11ac-VHT80 MCS0	CH 42	5210	12.48	12.50	8.00	87.67

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.2GHz WLAN ANT 1	802.11a 6Mbps	CH 36	5180	6.56	7.00	8.00	98.10
		CH 44	5220	6.53	7.00	8.00	
		CH 48	5240	6.65	7.00	8.00	
	802.11n-HT20 MCS0	CH 36	5180	5.38	5.50	8.00	97.96
		CH 44	5220	6.41	6.50	8.00	
		CH 48	5240	6.71	7.00	8.00	
	802.11n-HT40 MCS0	CH 38	5190	5.93	6.00	8.00	96.11
		CH 46	5230	**6.87**	7.00	8.00	
	802.11ac-VHT20 MCS0	CH 36	5180	5.43	5.50	8.00	96.34
		CH 44	5220	6.31	6.50	8.00	
		CH 48	5240	6.65	7.00	8.00	
	802.11ac-VHT40 MCS0	CH 38	5190	5.82	6.00	8.00	93.28
		CH 46	5230	6.84	7.00	8.00	
	802.11ac-VHT80 MCS0	CH 42	5210	5.39	5.50	8.00	87.67

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting
5.2GHz WLAN ANT 0+1	802.11a 6Mbps	CH 36	5180	12.16	12.50	8.00
		CH 44	5220	12.40	12.50	8.00
		CH 48	5240	12.51	13.00	8.00
	802.11n-HT20 MCS0	CH 36	5180	11.90	12.00	8.00
		CH 44	5220	12.46	12.50	8.00
		CH 48	5240	12.62	13.00	8.00
	802.11n-HT40 MCS0	CH 38	5190	13.39	13.50	8.00
		CH 46	5230	**14.16**	14.50	8.00
	802.11ac-VHT20 MCS0	CH 36	5180	11.88	12.00	8.00
		CH 44	5220	12.38	12.50	8.00
		CH 48	5240	12.57	13.00	8.00
	802.11ac-VHT40 MCS0	CH 38	5190	13.39	13.50	8.00
		CH 46	5230	13.29	13.50	8.00
	802.11ac-VHT80 MCS0	CH 42	5210	13.26	13.50	8.00

Note: The WLAN 5.2G antenna gain is 1.40dBi

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.3GHz WLAN ANT 0	802.11a 6Mbps	CH 52	5260	11.12	11.50	8.00	98.33
		CH 60	5300	14.21	14.50	8.00	
		CH 64	5320	14.29	14.50	8.00	
	802.11n-HT20 MCS0	CH 52	5260	11.18	11.50	8.00	98.21
		CH 60	5300	14.54	15.00	8.00	
		CH 64	5320	13.91	14.00	8.00	
	802.11n-HT40 MCS0	CH 54	5270	14.82	15.00	8.00	96.50
		CH 62	5310	**17.17**	17.50	8.00	
	802.11ac-VHT20 MCS0	CH 52	5260	11.14	11.50	8.00	96.34
		CH 60	5300	14.05	14.50	8.00	
		CH 64	5320	14.82	15.00	8.00	
	802.11ac-VHT40 MCS0	CH 54	5270	14.75	15.00	8.00	93.28
		CH 62	5310	16.98	17.00	8.00	
	802.11ac-VHT80 MCS0	CH 58	5290	15.11	15.50	8.00	87.67

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.3GHz WLAN ANT 1	802.11a 6Mbps	CH 52	5260	6.89	7.00	14.00	98.10
		CH 60	5300	11.21	11.50	14.00	
		CH 64	5320	10.94	11.00	14.00	
	802.11n-HT20 MCS0	CH 52	5260	6.99	7.00	14.00	97.96
		CH 60	5300	10.93	11.00	14.00	
		CH 64	5320	10.71	11.00	14.00	
	802.11n-HT40 MCS0	CH 54	5270	7.51	8.00	14.00	96.11
		CH 62	5310	**11.21**	11.50	14.00	
	802.11ac-VHT20 MCS0	CH 52	5260	7.01	7.50	14.00	96.34
		CH 60	5300	11.01	11.50	14.00	
		CH 64	5320	10.71	11.00	14.00	
	802.11ac-VHT40 MCS0	CH 54	5270	7.46	7.50	14.00	93.28
		CH 62	5310	11.18	11.50	14.00	
	802.11ac-VHT80	CH 58	5290	7.06	7.50	14.00	87.67

	MCS0						

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting
5.3GHz WLAN ANT 0+1	802.11a 6Mbps	CH 52	5260	12.51	13.00	6.00
		CH 60	5300	15.97	16.00	6.00
		CH 64	5320	15.94	16.00	6.00
	802.11n-HT20 MCS0	CH 52	5260	12.58	13.00	6.00
		CH 60	5300	16.11	16.50	6.00
		CH 64	5320	15.61	16.00	6.00
	802.11n-HT40 MCS0	CH 54	5270	15.56	16.00	6.00
		CH 62	5310	**18.15**	18.50	6.00
	802.11ac-VHT20 MCS0	CH 52	5260	12.56	13.00	6.00
		CH 60	5300	15.80	16.00	6.00
		CH 64	5320	16.24	16.50	6.00
	802.11ac-VHT40 MCS0	CH 54	5270	15.49	15.50	6.00
		CH 62	5310	17.99	18.00	6.00
	802.11ac-VHT80 MCS0	CH 58	5290	15.74	16.00	6.00

Note: The WLAN 5.3G antenna gain is 1.46dBi

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.5GHz WLAN ANT 0	802.11a 6Mbps	CH 100	5500	9.87	10.00	4.00	98.33
		CH 116	5580	9.92	10.00	4.00	
		CH 144	5720	10.11	10.50	4.00	
	802.11n-HT20 MCS0	CH 100	5500	10.01	10.50	4.00	98.21
		CH 116	5580	10.12	10.50	4.00	
		CH 144	5720	10.21	10.50	4.00	
	802.11n-HT40 MCS0	CH 102	5510	11.51	12.00	4.00	96.50
		CH 126	5630	10.46	10.50	4.00	
		CH 142	5710	12.69	13.00	4.00	
	802.11ac-VHT20 MCS0	CH 100	5500	9.94	10.00	4.00	96.34
		CH 116	5580	10.05	10.50	4.00	
		CH 144	5720	10.14	10.50	4.00	
	802.11ac-VHT40	CH 102	5510	11.55	12.00	4.00	93.28

	MCS0	CH 126	5630	7.78	8.00	4.00	
		CH 134	5670	9.36	10.00	4.00	
		CH 142	5710	**12.74**	13.00	4.00	
	802.11ac-VHT80 MCS0	CH 106	5530	10.95	11.00	4.00	87.67
		CH 122	5610	7.63	8.00	4.00	
		CH 138	5690	11.83	12.00	4.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.5GHz WLAN ANT 1	802.11a 6Mbps	CH 100	5500	5.54	6.00	14.00	98.10
		CH 116	5580	5.56	6.00	14.00	
		CH 140	5700	5.72	6.00	14.00	
		CH 144	5720	5.42	5.50	14.00	
	802.11n-HT20 MCS0	CH 100	5500	5.91	6.00	14.00	97.96
		CH 116	5580	5.97	6.00	14.00	
		CH 140	5700	5.59	6.00	14.00	
		CH 144	5720	6.23	6.50	14.00	
	802.11n-HT40 MCS0	CH 102	5510	6.24	6.50	14.00	96.11
		CH 110	5550	6.11	6.50	14.00	
		CH 126	5630	**8.85**	9.00	14.00	
		CH 134	5670	6.54	7.00	14.00	
		CH 142	5710	6.79	7.00	14.00	
	802.11ac-VHT20 MCS0	CH 100	5500	5.99	6.00	14.00	96.34
		CH 116	5580	6.01	6.50	14.00	
		CH 144	5720	6.29	6.50	14.00	
	802.11ac-VHT40 MCS0	CH 102	5510	5.13	5.50	14.00	93.28
		CH 142	5710	6.88	7.00	14.00	
	802.11ac-VHT80 MCS0	CH 106	5530	4.43	4.50	14.00	87.67
		CH 122	5610	6.02	6.50	14.00	
		CH 138	5690	6.45	6.50	14.00	

5.5GHz WLAN ANT 0+1	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting
	802.11a 6Mbps	CH 100	5500	11.23	11.50	6.00
		CH 116	5580	11.31	11.50	6.00

		CH 144	5720	11.38	11.50	6.00
	802.11n-HT20 MCS0	CH 100	5500	11.44	11.50	6.00
		CH 116	5580	11.53	12.00	6.00
		CH 144	5720	11.67	12.00	6.00
	802.11n-HT40 MCS0	CH 102	5510	12.64	13.00	6.00
		CH 142	5710	13.68	14.00	6.00
	802.11ac-VHT20 MCS0	CH 100	5500	11.41	11.50	6.00
		CH 116	5580	11.49	11.50	6.00
		CH 144	5720	11.64	12.00	6.00
	802.11ac-VHT40 MCS0	CH 102	5510	12.44	12.50	6.00
		CH 142	5710	**13.74**	14.00	6.00
	802.11ac-VHT80 MCS0	CH 106	5530	11.82	12.00	6.00
		CH 122	5610	9.91	10.00	6.00
		CH 138	5690	12.94	13.00	6.00

Note: The WLAN 5.5G antenna gain is 1.44dBi

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.8GHz WLAN ANT 0	802.11a MCS0	CH 149	5745	10.56	11.00	6.00	98.33
		CH 157	5785	10.61	11.00	6.00	
		CH 165	5825	10.72	11.00	6.00	
	802.11n-HT20 MCS0	CH 149	5745	10.64	11.00	6.00	98.21
		CH 157	5785	10.66	11.00	6.00	
		CH 165	5825	10.67	11.00	6.00	
	802.11n-HT40 MCS0	CH 151	5755	12.23	12.50	6.00	96.50
		CH 159	5795	12.12	12.50	6.00	
	802.11ac-VHT20 MCS0	CH 149	5745	10.66	11.00	6.00	96.34
		CH 157	5785	10.71	11.00	6.00	
		CH 165	5825	10.75	11.00	6.00	
	802.11ac-VHT40 MCS0	CH 151	5755	**12.31**	12.50	6.00	93.28
		CH 159	5795	12.25	12.50	6.00	
	802.11ac-VHT80 MCS0	CH 155	5775	11.67	12.00	6.00	87.67

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.8GHz WLAN ANT 1	802.11a MCS0	CH 149	5745	6.06	6.50	16.00	98.10
		CH 157	5785	6.51	7.00	16.00	
		CH 165	5825	6.71	7.00	16.00	
	802.11n-HT20 MCS0	CH 149	5745	6.14	6.50	16.00	97.96
		CH 157	5785	6.51	7.00	16.00	
		CH 165	5825	6.78	7.00	16.00	
	802.11n-HT40 MCS0	CH 151	5755	6.94	7.00	16.00	96.11
		CH 159	5795	6.76	7.00	16.00	
	802.11ac-VHT20 MCS0	CH 149	5745	6.11	6.50	16.00	96.34
		CH 157	5785	6.55	7.00	16.00	
		CH 165	5825	6.85	7.00	16.00	
	802.11ac-VHT40 MCS0	CH 151	5755	**7.04**	7.50	16.00	93.28
		CH 159	5795	6.55	7.00	16.00	
	802.11ac-VHT80 MCS0	CH 155	5775	6.77	7.00	16.00	87.67

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting
5.8GHz WLAN ANT 0+1	802.11a MCS0	CH 149	5745	11.88	12.00	8.00
		CH 157	5785	12.04	12.50	8.00
		CH 165	5825	12.17	12.50	8.00
	802.11n-HT20 MCS0	CH 149	5745	11.96	12.00	8.00
		CH 157	5785	12.07	12.50	8.00
		CH 165	5825	12.16	12.50	8.00
	802.11n-HT40 MCS0	CH 151	5755	13.36	13.50	8.00
		CH 159	5795	13.23	13.50	8.00
	802.11ac-VHT20 MCS0	CH 149	5745	11.97	12.00	8.00
		CH 157	5785	12.12	12.50	8.00
		CH 165	5825	12.23	12.50	8.00
	802.11ac-VHT40 MCS0	CH 151	5755	**13.44**	13.50	8.00
		CH 159	5795	13.29	13.50	8.00
	802.11ac-VHT80 MCS0	CH 155	5775	12.89	13.00	8.00

Note: The WLAN 5.8G antenna gain is 1.60dBi

14. LTE Carrier Aggregation

This device supports Carrier Aggregation on downlink for inter. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.

E-UTRA CA configuration	Uplink CA configurations (NOTE 3)	Component carriers in order of increasing carrier frequency			Maximum aggregated bandwidth [MHz]	Bandwidth combination set
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_38C	CA_38C	15	15		40	0
		20	20			
CA_40C	CA_40C	5	5		40	0
CA_41C	CA_41C	10	20		40	0
		15	15，20			
		20	10,15,20			
		5,10	20		40	1
		15	15，,20			
		20	5,10,15,20			

14.1. LTE Downlink Carrier Aggregation Conducted Power

1. 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.
2. 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.
3. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
4. 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.
5. 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.
6. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy
7. 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

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

Full Power for Two Carrier power verification:

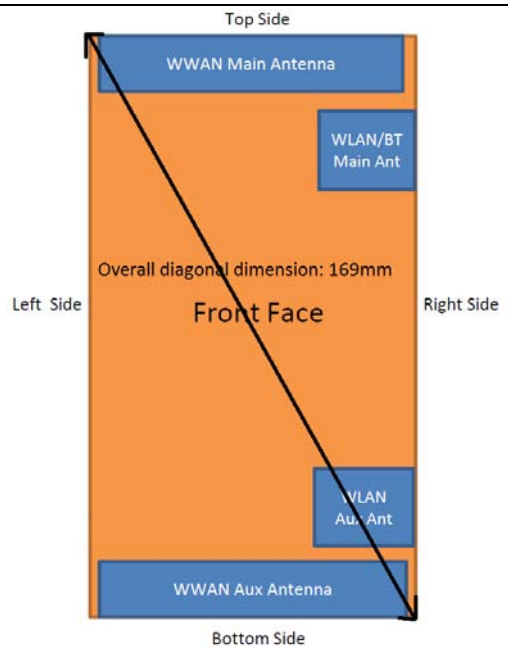
PCC						SCC1					Power	
Band	BW（MHz）	RB	Offset	UL Channel	UL Freq. (MHz)	BW（MHz）	RB	Offset	DL Channel	DL Freq. (MHz)	Tx Power With DL_CA	Releas Tx Power
intra-band CA (2CC)												
LTE Band 38	20	1	0	37850	2580	20	1	0	38048	2599.8	21.06	22.06
LTE Band 38	20	1	0	37901	2585.1	20	1	0	38099	2604.9	21.02	21.94
LTE Band 38	20	1	0	37952	2590.2	20	1	0	38150	2610	21.03	21.83
LTE Band 40-1	5	1	12	38725	2307.5	5	1	12	38800	2315	21.38	22.49
LTE Band 40-2	5	1	12	39200	2355	5	1	12			21.66	22.59
LTE Band 41	5	1	12	39750	2506	20	1	0	39948	2525.8	20.88	22.22
LTE Band 41	20	1	0	40521	2583.1	20	1	0	40719	2602.9	20.98	22.35
LTE Band 41	20	1	0	41292	2660.2	20	1	0	41490	2680	21.04	22.13

Down Power for Two Carrier power verification:

PCC						SCC1					Power	
Band	BW（MHz）	RB	Offset	UL Channel	UL Freq. (MHz)	BW（MHz）	RB	Offset	DL Channel	DL Freq. (MHz)	Tx Power With DL_CA	Releas Tx Power
intra-band CA (2CC)												
LTE Band 38	20	1	0	37850	2580	20	1	0	38048	2599.8	18.46	19.93
LTE Band 38	20	1	0	37901	2585.1	20	1	0	38099	2604.9	18.64	19.70
LTE Band 38	20	1	0	37952	2590.2	20	1	0	38150	2610	18.67	19.78
LTE Band 40-1	5	1	12	38750	2310	5	1	12	38800	2315	20.46	21.33
LTE Band 40-2	5	1	12	39200	2355	5	1	12	39050	2340	20.49	21.37
LTE Band 41	20	1	0	39750	2506	20	1	0	39948	2525.8	19.53	20.42
LTE Band 41	20	1	0	40521	2583.1	20	1	0	40719	2602.9	19.56	20.79
LTE Band 41	20	1	0	41292	2660.2	20	1	0	41490	2680	19.44	20.62

15. Hot-Spot Mode Evaluation Procedure

15.1. EUT Antenna Location



WWAN antenna supported TX bands :
GSM 850/1900
UMTS Band II/IV/V
FDD LTE Band 2/4/5/7/12/17/18/19/25/26/30/66
TDD LTE Band 38/40/41
WLAN antenna supported bands : 2.4GHz/5GHz
BT antenna supported bands: 2.4GHz

EUT Antenna Distance:

Antenna Location	Support Function	Top Side(mm)	Bottom Side(mm)	Left Side(mm)	Right Side(mm)
WWAN Main Antenna	TX/RX	\	142	3	3
WWAN Aux Antenna	DRX	142	\	3	3
WLAN/BT Main Antenna	TX/RX	17	123	26	\
WLAN Aux Antenna	TX/RX	125	15	26	\

Hotspot Evaluation:

Assessment	Hotspot side for SARTest distance: 10mm					
Antennas	Back	Front	Top	Bottom	Left	Right
WWAN Main Antenna	Yes	Yes	Yes	No	Yes	Yes
WWAN Aux Antenna	Yes	Yes	No	Yes	Yes	Yes
WLAN Aux Antenna	Yes	Yes	No	Yes	No	Yes
WLAN/BT Main Antenna	Yes	Yes	Yes	No	No	Yes

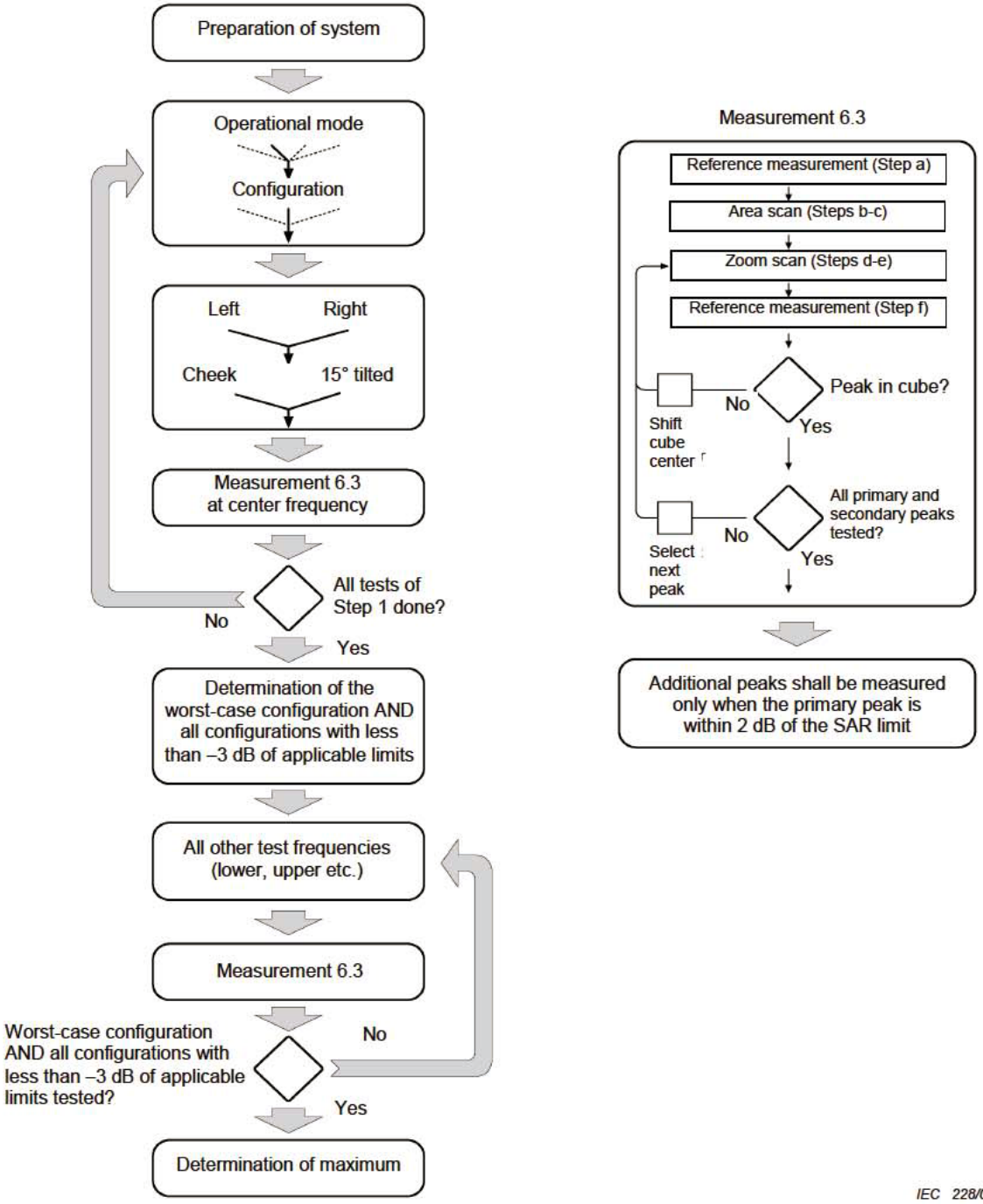
Note :

1. The SAR evaluation procedures for Portable Devices with Wireless Router function is according to KDB 941225 D06 Hotspot SAR v02r01.

2. Head/Body-worn/Hotspot mode SAR assessments are required.
3. Referring to KDB 941225 D06, when the overall device length and width are≥ 9cm*5cm, the test distance is 10 mm. SAR must bemeasured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.
4. For Main antenna, SAR measurements at Top side are not required since the distance between DUT and flatphantom > 25mm.
5. For WLAN&BT antenna, SAR measurements Bottom side and Right side are not required since the distance between DUT and flatphantom > 25mm.
6. For the Diversity antenna, it supports RX only, SAR is not required.

16. Block diagram of the tests to be performed

16.1. Head



16.2. Body

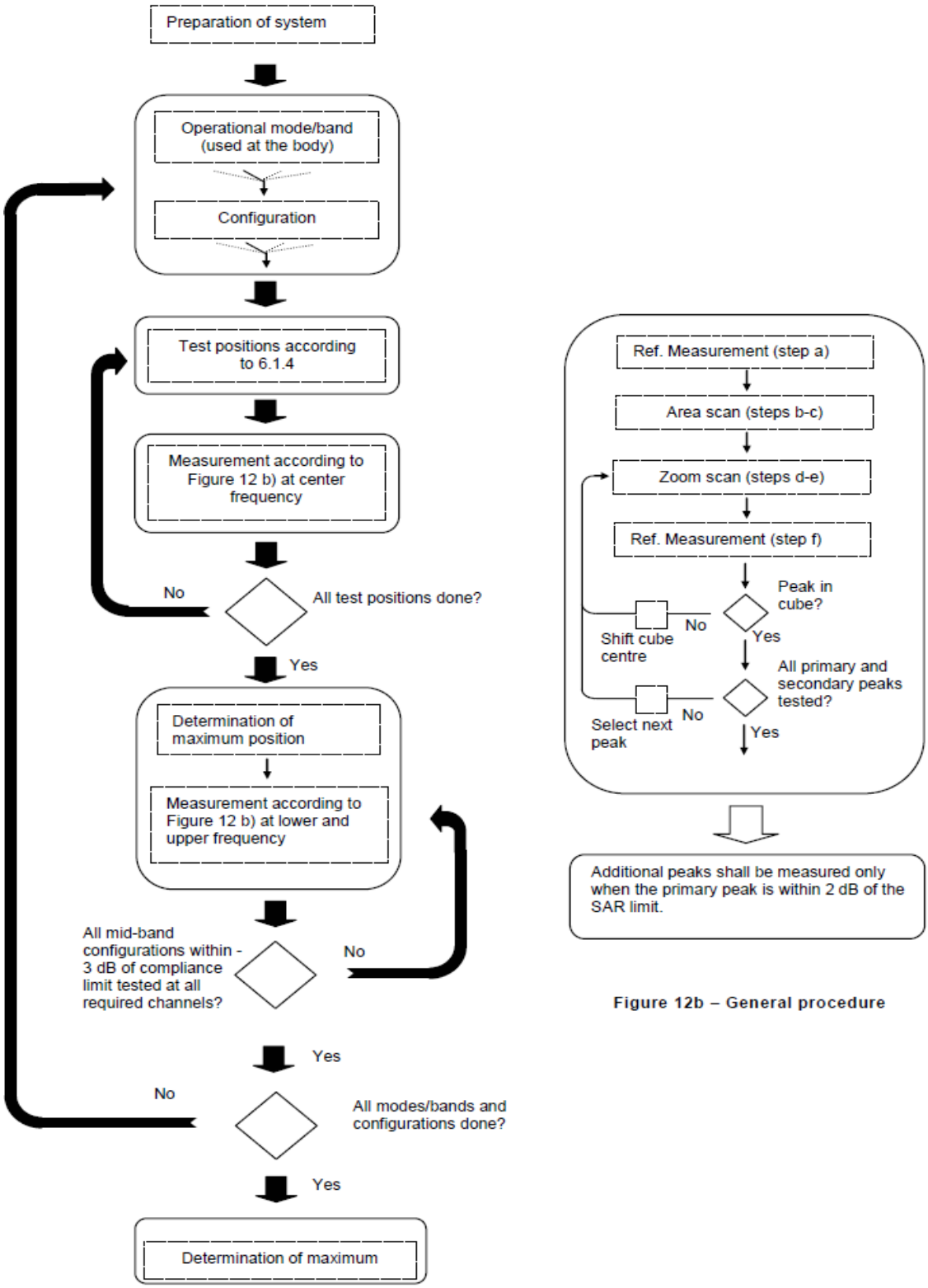


Figure 12b – General procedure

17. Test Results List

17.1. Test Guidance

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 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ☐ ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ☐ ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ☐ ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
4. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
5. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for tablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
6. Per KDB248227 D01v02r02,a Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement. The test frequencies

established using test mode must correspond to the actual channel frequencies required for operations in the U.S. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. In addition, a periodic transmission duty factor is required for current generation SAR systems to measure SAR correctly. Unless it is permitted by specific KDB procedures or continuous transmission is specifically restricted by the device, the reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. When a device is not capable of sustaining continuous transmission or the output can become nonlinear, and it is limited by hardware design and unable to transmit at higher than 85% duty factor, a periodic duty factor within 15% of the maximum duty factor the device is capable of transmitting should be used. The reported SAR must be scaled to the maximum transmission duty factor to determine compliance. Descriptions of the procedures applied to establish the specific duty factor used for SAR testing are required in SAR reports to support the test results.

7. The full power is used to test the WWAN bottom antenna, the downpower is used to test the WWAN top antenna.
8. For the WWAN down power, it will reduce power when the hotspot function is on and be used for hotspot measurement.
9. For TDD-LTE Band 40, the entire band is unable to be used that as per 27.5; only 2 paried block (2305 to 2310MHz, 2350 to 2360MHz) are allowed with regards to "TDD" operation. the channel allocation, and bandwidth covert to test channels shall be re-adjusted; furthermore, as per 27.50, the duty cycle must be adjusted that TDD in this band must not exceed 38%. Before testing, the special combination must be set in the base station before the periodic measurement can be carried out.

.

17.2. Head SAR Data

<GSM>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1#	GSM850	GPRS(4 TX slots)	Right Cheek	Top	128	27.22	27.50	1.067	1.080	**1.152**
	GSM850	GPRS(4 TX slots)	Right Tilt	Top	128	27.22	27.50	1.067	1.040	1.109
	GSM850	GPRS(4 TX slots)	Left Cheek	Top	128	27.22	27.50	1.067	0.880	0.939
	GSM850	GPRS(4 TX slots)	Left Tilt	Top	128	27.22	27.50	1.067	0.698	0.744
	GSM850	GPRS(4 TX slots)	Right Cheek	Top	190	27.15	27.50	1.084	0.966	1.047
	GSM850	GPRS(4 TX slots)	Right Cheek	Top	251	27.16	27.50	1.081	0.949	1.026
	GSM850	GPRS(4 TX slots)	Right Tilt	Top	190	27.15	27.50	1.084	0.919	0.996
	GSM850	GPRS(4 TX slots)	Right Tilt	Top	251	27.16	27.50	1.081	0.908	0.982
	GSM850	GPRS(4 TX slots)	Left Cheek	Top	190	27.15	27.50	1.084	0.679	0.736
	GSM850	GPRS(4 TX slots)	Left Cheek	Top	251	27.16	27.50	1.081	0.639	0.691
	GSM850	GPRS(4 TX slots)	Right Cheek	Bottom	128	27.39	27.50	1.026	0.073	0.074
	GSM850	GPRS(4 TX slots)	Right Tilt	Bottom	128	27.39	27.50	1.026	0.040	0.041
	GSM850	GPRS(4 TX slots)	Left Cheek	Bottom	128	27.39	27.50	1.026	0.059	0.060
	GSM850	GPRS(4 TX slots)	Left Tilt	Bottom	128	27.39	27.50	1.026	0.037	0.038
2#	GSM1900	GPRS(4 TX slots)	Right Cheek	Top	661	23.75	24.00	1.059	0.794	**0.841**
	GSM1900	GPRS(4 TX slots)	Right Tilt	Top	661	23.75	24.00	1.059	0.620	0.657
	GSM1900	GPRS(4 TX slots)	Left Cheek	Top	661	23.75	24.00	1.059	0.375	0.397
	GSM1900	GPRS(4 TX slots)	Left Tilt	Top	661	23.75	24.00	1.059	0.338	0.358
	GSM1900	GPRS(4 TX slots)	Right Cheek	Top	512	23.62	24.00	1.091	0.746	0.814
	GSM1900	GPRS(4 TX slots)	Right Cheek	Top	810	23.64	24.00	1.086	0.763	0.829
	GSM1900	GPRS(4 TX slots)	Right Cheek	Bottom	661	23.72	24.00	1.067	0.028	0.030
	GSM1900	GPRS(4 TX slots)	Right Tilt	Bottom	661	23.72	24.00	1.067	0.018	0.019
	GSM1900	GPRS(4 TX slots)	Left Cheek	Bottom	661	23.72	24.00	1.067	0.057	0.060
	GSM1900	GPRS(4 TX slots)	Left Tilt	Bottom	661	23.72	24.00	1.067	0.027	0.029

<WCDMA>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Top	9400	17.46	17.50	1.009	0.977	0.986
	WCDMA Band II	RMC 12.2Kbps	Right Tilt	Top	9400	17.46	17.50	1.009	0.828	0.836
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Top	9400	17.46	17.50	1.009	0.489	0.494
	WCDMA Band II	RMC 12.2Kbps	Left Tilt	Top	9400	17.46	17.50	1.009	0.413	0.417
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Top	9262	17.20	17.50	1.072	0.915	0.980
3#	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Top	9538	17.18	17.50	1.076	0.954	**1.027**
	WCDMA Band II	RMC 12.2Kbps	Right Tilt	Top	9262	17.20	17.50	1.072	0.735	0.788
	WCDMA Band II	RMC 12.2Kbps	Right Tilt	Top	9538	17.18	17.50	1.076	0.801	0.862
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Bottom	9400	22.44	22.50	1.014	0.056	0.057
	WCDMA Band II	RMC 12.2Kbps	Right Tilt	Bottom	9400	22.44	22.50	1.014	0.047	0.048
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Bottom	9400	22.44	22.50	1.014	0.091	0.093
	WCDMA Band II	RMC 12.2Kbps	Left Tilt	Bottom	9400	22.44	22.50	1.014	0.079	0.079
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Top	1413	19.35	19.50	1.035	1.060	1.097
	WCDMA Band IV	RMC 12.2Kbps	Right Tilt	Top	1413	19.35	19.50	1.035	0.901	0.933
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Top	1413	19.35	19.50	1.035	0.529	0.548
	WCDMA Band IV	RMC 12.2Kbps	Left Tilt	Top	1413	19.35	19.50	1.035	0.555	0.575
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Top	1312	19.30	19.50	1.047	1.040	1.089
4#	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Top	1513	19.06	19.50	1.107	1.080	**1.195**
	WCDMA Band IV	RMC 12.2Kbps	Right Tilt	Top	1312	19.30	19.50	1.047	0.872	0.913
	WCDMA Band IV	RMC 12.2Kbps	Right Tilt	Top	1513	19.06	19.50	1.107	0.907	1.004
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Bottom	1413	22.95	23.00	1.012	0.054	0.054
	WCDMA Band IV	RMC 12.2Kbps	Right Tilt	Bottom	1413	22.95	23.00	1.012	0.015	0.015
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Bottom	1413	22.95	23.00	1.012	0.021	0.021
	WCDMA Band IV	RMC 12.2Kbps	Left Tilt	Bottom	1413	22.95	23.00	1.012	0.008	0.008

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
5#	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Top	4182	22.87	23.00	1.030	0.956	**0.985**
	WCDMA Band V	RMC 12.2Kbps	Right Tilt	Top	4182	22.87	23.00	1.030	0.767	0.790
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Top	4182	22.87	23.00	1.030	0.708	0.730
	WCDMA Band V	RMC 12.2Kbps	Left Tilt	Top	4182	22.87	23.00	1.030	0.620	0.639
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Top	4132	22.85	23.00	1.035	0.909	0.941
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Top	4233	22.67	23.00	1.079	0.899	0.970
	WCDMA Band V	RMC 12.2Kbps	Right Tilt	Top	4132	22.85	23.00	1.035	0.820	0.849
	WCDMA Band V	RMC 12.2Kbps	Right Tilt	Top	4233	22.67	23.00	1.079	0.854	0.921
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Bottom	4182	24.28	24.50	1.052	0.219	0.230
	WCDMA Band V	RMC 12.2Kbps	Right Tilt	Bottom	4182	24.28	24.50	1.052	0.155	0.163
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Bottom	4182	24.28	24.50	1.052	0.176	0.185
	WCDMA Band V	RMC 12.2Kbps	Left Tilt	Bottom	4182	24.28	24.50	1.052	0.144	0.151

<CDMA>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
6#	CDMA2000 BC0	RC3 SO55	Right Cheek	Top	1013	21.00	21.50	1.122	0.663	**0.744**
	CDMA2000 BC0	RC3 SO55	Right Tilt	Top	1013	21.00	21.50	1.122	0.656	0.736
	CDMA2000 BC0	RC3 SO55	Left Cheek	Top	1013	21.00	21.50	1.122	0.470	0.527
	CDMA2000 BC0	RC3 SO55	Left Tilt	Top	1013	21.00	21.50	1.122	0.448	0.503
	CDMA2000 BC0	RC3 SO55	Right Cheek	Bottom	1013	24.03	24.50	1.114	0.114	0.127
	CDMA2000 BC0	RC3 SO55	Right Tilt	Bottom	1013	24.03	24.50	1.114	0.121	0.135
	CDMA2000 BC0	RC3 SO55	Left Cheek	Bottom	1013	24.03	24.50	1.114	0.068	0.075
	CDMA2000 BC0	RC3 SO55	Left Tilt	Bottom	1013	24.03	24.50	1.114	0.074	0.083

<FDD-LTE>

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
7#	LTE Band 2	20Mhz	QPSK1RB 0offset	Right Cheek	Top	19100	17.77	18.00	1.054	0.986	**1.040**
	LTE Band 2	20Mhz	QPSK1RB 0offset	Right Tilt	Top	19100	17.77	18.00	1.054	0.796	0.839
	LTE Band 2	20Mhz	QPSK1RB 0offset	Left Cheek	Top	19100	17.77	18.00	1.054	0.354	0.373
	LTE Band 2	20Mhz	QPSK1RB 0offset	Left Tilt	Top	19100	17.77	18.00	1.054	0.345	0.364
	LTE Band 2	20Mhz	QPSK1RB 0offset	Right Cheek	Top	18700	17.71	18.00	1.069	0.853	0.912
	LTE Band 2	20Mhz	QPSK1RB 0offset	Right Cheek	Top	18900	17.64	18.00	1.086	0.902	0.980
	LTE Band 2	20Mhz	QPSK1RB 0offset	Right Tilt	Top	18700	17.71	18.00	1.069	0.715	0.764
	LTE Band 2	20Mhz	QPSK1RB 0offset	Right Tilt	Top	18900	17.64	18.00	1.086	0.759	0.825
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	19100	16.66	17.00	1.081	0.750	0.811
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Right Tilt	Top	19100	16.66	17.00	1.081	0.630	0.681
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Left Cheek	Top	19100	16.66	17.00	1.081	0.282	0.305
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Left Tilt	Top	19100	16.66	17.00	1.081	0.272	0.294
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	18700	16.66	17.00	1.081	0.649	0.702
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	18900	16.49	17.00	1.125	0.693	0.779
	LTE Band 2	20Mhz	QPSK100RB 0offset	Right Cheek	Top	19100	16.52	17.00	1.117	0.755	0.843
	LTE Band 2	20Mhz	QPSK100RB 0offset	Right Cheek	Top	18700	16.50	17.00	1.122	0.723	0.811
	LTE Band 2	20Mhz	QPSK100RB 0offset	Right Cheek	Top	18900	16.36	17.00	1.159	0.673	0.779
	LTE Band 2	20Mhz	QPSK1RB 0offset	Right Cheek	Bottom	19100	23.23	23.50	1.064	0.048	0.051
	LTE Band 2	20Mhz	QPSK1RB 0offset	Right Tilt	Bottom	19100	23.23	23.50	1.064	0.047	0.050
	LTE Band 2	20Mhz	QPSK1RB 0offset	Left Cheek	Bottom	19100	23.23	23.50	1.064	0.161	0.171
	LTE Band 2	20Mhz	QPSK1RB 0offset	Left Tilt	Bottom	19100	23.23	23.50	1.064	0.049	0.052
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Right Cheek	Bottom	19100	22.15	22.50	1.084	0.041	0.044
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Right Tilt	Bottom	19100	22.15	22.50	1.084	0.036	0.038
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Left Cheek	Bottom	19100	22.15	22.50	1.084	0.136	0.147
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Left Tilt	Bottom	19100	22.15	22.50	1.084	0.060	0.064

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 4	20Mhz	QPSK1RB 0offset	Right Cheek	Top	20175	18.69	19.00	1.074	0.892	0.958
	LTE Band 4	20Mhz	QPSK1RB 0offset	Right Tilt	Top	20175	18.69	19.00	1.074	0.843	0.905
	LTE Band 4	20Mhz	QPSK1RB 0offset	Left Cheek	Top	20175	18.69	19.00	1.074	0.490	0.526
	LTE Band 4	20Mhz	QPSK1RB 0offset	Left Tilt	Top	20175	18.69	19.00	1.074	0.523	0.562
	LTE Band 4	20Mhz	QPSK1RB 0offset	Right Cheek	Top	20050	18.66	19.00	1.081	0.916	0.991
	LTE Band 4	20Mhz	QPSK1RB 0offset	Right Cheek	Top	20050	18.66	19.00	1.081	0.876	0.947
8#	LTE Band 4	20Mhz	QPSK1RB 0offset	Right Cheek	Top	20300	18.63	19.00	1.089	0.937	**1.020**
	LTE Band 4	20Mhz	QPSK1RB 0offset	Right Tilt	Top	20050	18.66	19.00	1.081	0.827	0.894
	LTE Band 4	20Mhz	QPSK1RB 0offset	Right Tilt	Top	20300	18.63	19.00	1.089	0.859	0.935
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	20175	17.58	18.00	1.102	0.794	0.875
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Right Tilt	Top	20175	17.58	18.00	1.102	0.672	0.740
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Left Cheek	Top	20175	17.58	18.00	1.102	0.390	0.430
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Left Tilt	Top	20175	17.58	18.00	1.102	0.421	0.464
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	20050	17.57	18.00	1.104	0.800	0.883
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	20300	17.49	18.00	1.125	0.792	0.891
	LTE Band 4	20Mhz	QPSK100RB 0offset	Right Cheek	Top	20175	17.49	18.00	1.125	0.713	0.802
	LTE Band 4	20Mhz	QPSK1RB 0offset	Right Cheek	Bottom	20175	23.48	23.50	1.005	0.019	0.019
	LTE Band 4	20Mhz	QPSK1RB 0offset	Right Tilt	Bottom	20175	23.48	23.50	1.005	0.007	0.007
	LTE Band 4	20Mhz	QPSK1RB 0offset	Left Cheek	Bottom	20175	23.48	23.50	1.005	0.012	0.012
	LTE Band 4	20Mhz	QPSK1RB 0offset	Left Tilt	Bottom	20175	23.48	23.50	1.005	0.002	0.002
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Right Cheek	Bottom	20175	22.46	22.50	1.009	0.016	0.016
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Right Tilt	Bottom	20175	22.46	22.50	1.009	0.007	0.007
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Left Cheek	Bottom	20175	22.46	22.50	1.009	0.007	0.007
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Left Tilt	Bottom	20175	22.46	22.50	1.009	0.002	0.002

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
9#	LTE Band 5	10Mhz	QPSK1RB 25offset	Right Cheek	Top	20450	22.53	23.00	1.114	0.703	**0.783**
	LTE Band 5	10Mhz	QPSK1RB 25offset	Right Tilt	Top	20450	22.53	23.00	1.114	0.702	0.782
	LTE Band 5	10Mhz	QPSK1RB 25offset	Left Cheek	Top	20450	22.53	23.00	1.114	0.571	0.636
	LTE Band 5	10Mhz	QPSK1RB 25offset	Left Tilt	Top	20450	22.53	23.00	1.114	0.530	0.591
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Right Cheek	Top	20525	21.59	22.00	1.099	0.533	0.586
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Right Tilt	Top	20525	21.59	22.00	1.099	0.547	0.601
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Left Cheek	Top	20525	21.59	22.00	1.099	0.454	0.499
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Left Tilt	Top	20525	21.59	22.00	1.099	0.420	0.462
	LTE Band 5	10Mhz	QPSK1RB 25offset	Right Cheek	Bottom	20450	24.39	24.50	1.026	0.126	0.129
	LTE Band 5	10Mhz	QPSK1RB 25offset	Right Tilt	Bottom	20450	24.39	24.50	1.026	0.076	0.078
	LTE Band 5	10Mhz	QPSK1RB 25offset	Left Cheek	Bottom	20450	24.39	24.50	1.026	0.097	0.100
	LTE Band 5	10Mhz	QPSK1RB 25offset	Left Tilt	Bottom	20450	24.39	24.50	1.026	0.081	0.083
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Right Cheek	Bottom	20525	23.26	23.50	1.057	0.144	0.152
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Right Tilt	Bottom	20525	23.26	23.50	1.057	0.060	0.063
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Left Cheek	Bottom	20525	23.26	23.50	1.057	0.082	0.086
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Left Tilt	Bottom	20525	23.26	23.50	1.057	0.079	0.083

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20Mhz	QPSK1RB 0offset	Right Cheek	Top	20850	16.42	16.50	1.019	0.802	0.817
	LTE Band 7	20Mhz	QPSK1RB 0offset	Right Tilt	Top	20850	16.42	16.50	1.019	0.683	0.696
	LTE Band 7	20Mhz	QPSK1RB 0offset	Left Cheek	Top	20850	16.42	16.50	1.019	0.397	0.404
	LTE Band 7	20Mhz	QPSK1RB 0offset	Left Tilt	Top	20850	16.42	16.50	1.019	0.359	0.366
	LTE Band 7	20Mhz	QPSK1RB 0offset	Right Cheek	Top	21100	16.13	16.50	1.089	0.805	0.877
10#	LTE Band 7	20Mhz	QPSK1RB 0offset	Right Cheek	Top	21350	16.17	16.50	1.079	0.849	**0.916**
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	20850	15.35	15.50	1.035	0.650	0.673
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Right Tilt	Top	20850	15.35	15.50	1.035	0.549	0.568
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Left Cheek	Top	20850	15.35	15.50	1.035	0.317	0.328
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Left Tilt	Top	20850	15.35	15.50	1.035	0.283	0.293
	LTE Band 7	20Mhz	QPSK100RB 0offset	Right Cheek	Top	20850	15.28	15.50	1.052	0.614	0.646
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	20850	22.56	23.00	1.107	0.345	0.382
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	20850	22.56	23.00	1.107	0.258	0.286
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	20850	22.56	23.00	1.107	0.677	0.749
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	20850	22.56	23.00	1.107	0.283	0.313
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Right Cheek	Bottom	20850	21.43	22.00	1.140	0.273	0.311
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Right Tilt	Bottom	20850	21.43	22.00	1.140	0.205	0.234
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Left Cheek	Bottom	20850	21.43	22.00	1.140	0.527	0.601
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Left Tilt	Bottom	20850	21.43	22.00	1.140	0.146	0.166

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Cheek	Top	23790	22.02	22.50	1.117	0.877	0.979
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Cheek	Top	23790	22.02	22.50	1.117	0.865	0.966
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Tilt	Top	23790	22.02	22.50	1.117	0.762	0.851
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Left Cheek	Top	23790	22.02	22.50	1.117	0.652	0.728
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Left Tilt	Top	23790	22.02	22.50	1.117	0.495	0.553
11#	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Cheek	Top	23780	21.78	22.50	1.180	0.866	**1.022**
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Cheek	Top	23800	21.91	22.50	1.146	0.862	0.987
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Tilt	Top	23780	21.78	22.50	1.180	0.779	0.919
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Tilt	Top	23800	21.91	22.50	1.146	0.756	0.866
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Right Cheek	Top	23790	21.04	21.50	1.112	0.771	0.857
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Right Tilt	Top	23790	21.04	21.50	1.112	0.677	0.753
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Left Cheek	Top	23790	21.04	21.50	1.112	0.501	0.557
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Left Tilt	Top	23790	21.04	21.50	1.112	0.438	0.487
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Right Cheek	Top	23780	20.97	21.50	1.130	0.496	0.560
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Right Cheek	Top	23800	20.84	21.50	1.164	0.651	0.758
	LTE Band 17	10Mhz	QPSK 50RB 0offset	Right Cheek	Top	23790	21.01	21.50	1.119	0.597	0.668
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	23790	23.13	23.50	1.089	0.031	0.034
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	23790	23.13	23.50	1.089	0.014	0.015
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	23790	23.13	23.50	1.089	0.023	0.025
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	23790	23.13	23.50	1.089	0.014	0.015
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Right Cheek	Bottom	23790	22.23	22.50	1.064	0.020	0.021
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Right Tilt	Bottom	23790	22.23	22.50	1.064	0.013	0.014
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Left Cheek	Bottom	23790	22.23	22.50	1.064	0.021	0.023
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Left Tilt	Bottom	23790	22.23	22.50	1.064	0.012	0.013

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
12#	LTE Band 18	15Mhz	QPSK 1RB 0offset	Right Cheek	Top	23925	22.02	22.50	1.117	0.719	**0.803**
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Right Tilt	Top	23925	22.02	22.50	1.117	0.591	0.660
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Left Cheek	Top	23925	22.02	22.50	1.117	0.529	0.591
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Left Tilt	Top	23925	22.02	22.50	1.117	0.485	0.542
	LTE Band 18	15Mhz	QPSK 75RB 0offset	Right Cheek	Top	23925	20.93	21.50	1.140	0.534	0.609
	LTE Band 18	15Mhz	QPSK 36RB39offset	Right Cheek	Top	23925	21.00	21.50	1.122	0.594	0.667
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Right Tilt	Top	23925	21.00	21.50	1.122	0.481	0.540
	LTE Band 18	15Mhz	QPSK 36RB39offset	Left Cheek	Top	23925	21.00	21.50	1.122	0.426	0.478
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Left Tilt	Top	23925	21.00	21.50	1.122	0.375	0.421
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	23925	23.10	23.50	1.096	0.083	0.091
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	23925	23.10	23.50	1.096	0.025	0.027
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	23925	23.10	23.50	1.096	0.066	0.072
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	23925	23.10	23.50	1.096	0.040	0.044
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Right Cheek	Bottom	23925	22.10	22.50	1.096	0.085	0.094
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Right Tilt	Bottom	23925	22.10	22.50	1.096	0.029	0.031
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Left Cheek	Bottom	23925	22.10	22.50	1.096	0.063	0.069
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Left Tilt	Bottom	23925	22.10	22.50	1.096	0.034	0.037

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
13#	LTE Band 19	15Mhz	QPSK 1RB 0offset	Right Cheek	Top	24075	21.96	22.00	1.009	0.796	**0.803**
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Right Tilt	Top	24075	21.96	22.00	1.009	0.620	0.626
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Left Cheek	Top	24075	21.96	22.00	1.009	0.589	0.594
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Left Tilt	Top	24075	21.96	22.00	1.009	0.564	0.569
	LTE Band 19	15Mhz	QPSK 75RB 0offset	Right Cheek	Top	24075	20.92	21.00	1.019	0.553	0.563
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Right Cheek	Top	24075	20.97	21.00	1.007	0.647	0.651
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Right Tilt	Top	24075	20.97	21.00	1.007	0.504	0.507
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Left Cheek	Top	24075	20.97	21.00	1.007	0.471	0.474
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Left Tilt	Top	24075	20.97	21.00	1.007	0.447	0.450
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	24075	23.29	23.50	1.050	0.102	0.107
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	24075	23.29	23.50	1.050	0.039	0.041
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	24075	23.29	23.50	1.050	0.084	0.088
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	24075	23.29	23.50	1.050	0.043	0.045
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Right Cheek	Bottom	24075	22.11	22.50	1.094	0.089	0.097
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Right Tilt	Bottom	24075	22.11	22.50	1.094	0.034	0.037
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Left Cheek	Bottom	24075	22.11	22.50	1.094	0.074	0.081
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Left Tilt	Bottom	24075	22.11	22.50	1.094	0.035	0.039

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
14#	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Cheek	Top	26140	18.35	18.50	1.035	1.030	**1.066**
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Tilt	Top	26140	18.35	18.50	1.035	0.812	0.841
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Left Cheek	Top	26140	18.35	18.50	1.035	0.441	0.456
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Left Tilt	Top	26140	18.35	18.50	1.035	0.406	0.420
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Cheek	Top	26365	18.19	18.50	1.074	0.962	1.033
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Cheek	Top	26590	18.23	18.50	1.064	0.926	0.985
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Tilt	Top	26365	18.19	18.50	1.074	0.822	0.883
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Tilt	Top	26590	18.23	18.50	1.064	0.833	0.886
	LTE Band 25	20Mhz	QPSK 100RB 0offset	Right Cheek	Top	26140	17.13	17.50	1.089	0.677	0.737
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	26140	17.30	17.50	1.047	0.715	0.749
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Right Tilt	Top	26140	17.30	17.50	1.047	0.644	0.674
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Left Cheek	Top	26140	17.30	17.50	1.047	0.345	0.361
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Left Tilt	Top	26140	17.30	17.50	1.047	0.287	0.301
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Cheek	Bottom	26140	22.99	23.00	1.002	0.053	0.054
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Tilt	Bottom	26140	22.99	23.00	1.002	0.031	0.031
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Left Cheek	Bottom	26140	22.99	23.00	1.002	0.107	0.107
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Left Tilt	Bottom	26140	22.99	23.00	1.002	0.034	0.034
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Right Cheek	Bottom	26140	21.95	22.00	1.012	0.049	0.050
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Right Tilt	Bottom	26140	21.95	22.00	1.012	0.028	0.028
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Left Cheek	Bottom	26140	21.95	22.00	1.012	0.097	0.098
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Left Tilt	Bottom	26140	21.95	22.00	1.012	0.032	0.032

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Right Cheek	Top	26865	21.92	22.00	1.019	0.789	0.804
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Right Tilt	Top	26865	21.92	22.00	1.019	0.762	0.776
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Left Cheek	Top	26865	21.92	22.00	1.019	0.746	0.760
	LTE Band 26	15Mhz	QPSK1RB 37offset	Left Tilt	Top	26865	21.92	22.00	1.019	0.719	0.732
15#	LTE Band 26	15Mhz	QPSK 1RB 37offset	Right Cheek	Top	26765	21.60	22.00	1.096	0.785	**0.861**
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Right Cheek	Top	26915	21.88	22.00	1.028	0.761	0.782
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Right Cheek	Top	26965	21.78	22.00	1.052	0.775	0.815
	LTE Band 26	15Mhz	QPSK 75RB 0offset	Right Cheek	Top	26765	20.92	21.00	1.019	0.631	0.643
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Right Cheek	Top	26865	20.96	21.00	1.009	0.660	0.666
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Right Tilt	Top	26865	20.96	21.00	1.009	0.630	0.636
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Left Cheek	Top	26865	20.96	21.00	1.009	0.610	0.616
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Left Tilt	Top	26865	20.96	21.00	1.009	0.589	0.594
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Right Cheek	Bottom	26865	23.19	23.50	1.074	0.122	0.131
	LTE Band 26	15Mhz	QPSK1RB 37offset	Right Tilt	Bottom	26865	23.19	23.50	1.074	0.048	0.051
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Left Cheek	Bottom	26865	23.19	23.50	1.074	0.088	0.095
	LTE Band 26	15Mhz	QPSK1RB 37offset	Left Tilt	Bottom	26865	23.19	23.50	1.074	0.039	0.042
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Right Cheek	Bottom	26865	22.20	22.50	1.072	0.097	0.104
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Right Tilt	Bottom	26865	22.20	22.50	1.072	0.038	0.041
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Left Cheek	Bottom	26865	22.20	22.50	1.072	0.069	0.074
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Left Tilt	Bottom	26865	22.20	22.50	1.072	0.031	0.033

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Right Cheek	Top	27710	19.44	19.50	1.014	0.663	0.672
16#	LTE Band 30	10Mhz	QPSK 1RB 0offset	Right Tilt	Top	27710	19.44	19.50	1.014	0.817	**0.828**
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Left Cheek	Top	27710	19.44	19.50	1.014	0.252	0.256
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Left Tilt	Top	27710	19.44	19.50	1.014	0.313	0.317
	LTE Band 30	10Mhz	QPSK 50RB 0offset	Right Tilt	Top	27710	18.34	18.50	1.038	0.653	0.678
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Right Cheek	Top	27710	18.38	18.50	1.028	0.558	0.574
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Right Tilt	Top	27710	18.38	18.50	1.028	0.652	0.670
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Left Cheek	Top	27710	18.38	18.50	1.028	0.203	0.209
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Left Tilt	Top	27710	18.38	18.50	1.028	0.253	0.260
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	27710	22.56	23.00	1.107	0.171	0.189
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	27710	22.56	23.00	1.107	0.146	0.162
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	27710	22.56	23.00	1.107	0.357	0.395
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	27710	22.56	23.00	1.107	0.086	0.095
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Right Cheek	Bottom	27710	21.61	23.00	1.377	0.140	0.193
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Right Tilt	Bottom	27710	21.61	23.00	1.377	0.119	0.164
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Left Cheek	Bottom	27710	21.61	23.00	1.377	0.287	0.395
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Left Tilt	Bottom	27710	21.61	23.00	1.377	0.070	0.096

<TDD-LTE>

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	37850	19.93	20.00	1.016	62.9	1.006	0.809	0.827
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Right Tilt	Top	37850	19.93	20.00	1.016	62.9	1.006	0.756	0.773
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Left Cheek	Top	37850	19.93	20.00	1.016	62.9	1.006	0.386	0.395
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Left Tilt	Top	37850	19.93	20.00	1.016	62.9	1.006	0.379	0.387
17#	LTE Band 38	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	38000	19.70	20.00	1.072	62.9	1.006	0.852	**0.919**
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	38150	19.78	20.00	1.052	62.9	1.006	0.857	0.907
	LTE Band 38	20Mhz	QPSK 100RB 0offset	Right Cheek	Top	38000	18.73	19.00	1.064	62.9	1.006	0.672	0.719
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	37850	18.95	19.00	1.012	62.9	1.006	0.692	0.704
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Right Tilt	Top	37850	18.95	19.00	1.012	62.9	1.006	0.603	0.614
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Left Cheek	Top	37850	18.95	19.00	1.012	62.9	1.006	0.308	0.313
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Left Tilt	Top	37850	18.95	19.00	1.012	62.9	1.006	0.303	0.308
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.094	0.105
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.061	0.068
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.247	0.275
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.053	0.059
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Right Cheek	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.071	0.079
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Right Tilt	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.050	0.055
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Left Cheek	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.170	0.190
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Left Tilt	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.039	0.044

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
Band 1													
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Cheek	Top	37850	21.34	21.50	1.038	62.9	1.006	0.421	0.439
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Tilt	Top	37850	21.34	21.50	1.038	62.9	1.006	0.465	0.485
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Cheek	Top	37850	21.34	21.50	1.038	62.9	1.006	0.203	0.212
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Tilt	Top	37850	21.34	21.50	1.038	62.9	1.006	0.275	0.287
	LTE Band 40	10Mhz	QPSK25RB12offset	Right Cheek	Top	37850	20.49	20.50	1.002	62.9	1.006	0.303	0.306
	LTE Band 40	10Mhz	QPSK25RB12offset	Right Tilt	Top	37850	20.49	20.50	1.002	62.9	1.006	0.310	0.313
	LTE Band 40	10Mhz	QPSK25RB12offset	Left Cheek	Top	37850	20.49	20.50	1.002	62.9	1.006	0.125	0.126
	LTE Band 40	10Mhz	QPSK25RB12offset	Left Tilt	Top	37850	20.49	20.50	1.002	62.9	1.006	0.168	0.169
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.071	0.079
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.059	0.066
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.156	0.173
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.081	0.090
	LTE Band 40	10Mhz	QPSK25RB 0offset	Right Cheek	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.052	0.057
	LTE Band 40	10Mhz	QPSK25RB 0offset	Right Tilt	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.041	0.045
	LTE Band 40	10Mhz	QPSK25RB 0offset	Left Cheek	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.123	0.135
	LTE Band 40	10Mhz	QPSK25RB 0offset	Left Tilt	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.036	0.039
Band 2													
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Cheek	Top	39200	21.43	21.50	1.016	62.9	1.006	0.456	0.466
18#	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Tilt	Top	39200	21.43	21.50	1.016	62.9	1.006	0.520	**0.532**
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Cheek	Top	39200	21.43	21.50	1.016	62.9	1.006	0.268	0.274
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Tilt	Top	39200	21.43	21.50	1.016	62.9	1.006	0.207	0.212
	LTE Band 40	10Mhz	QPSK25RB 0offset	Right Cheek	Top	39200	20.62	21.00	1.091	62.9	1.006	0.447	0.491
	LTE Band 40	10Mhz	QPSK25RB 0offset	Right Tilt	Top	39200	20.62	21.00	1.091	62.9	1.006	0.453	0.497
	LTE Band 40	10Mhz	QPSK25RB 0offset	Left Cheek	Top	39200	20.62	21.00	1.091	62.9	1.006	0.289	0.317
	LTE Band 40	10Mhz	QPSK25RB 0offset	Left Tilt	Top	39200	20.62	21.00	1.091	62.9	1.006	0.301	0.330

	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.110	0.121
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.078	0.086
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.201	0.221
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.102	0.112
	LTE Band 40	10Mhz	QPSK25RB12offset	Right Cheek	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.071	0.076
	LTE Band 40	10Mhz	QPSK25RB12offset	Right Tilt	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.065	0.069
	LTE Band 40	10Mhz	QPSK25RB12offset	Left Cheek	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.175	0.187
	LTE Band 40	10Mhz	QPSK25RB12offset	Left Tilt	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.035	0.037

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	40620	20.79	21.00	1.050	62.9	1.006	0.936	0.988
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Tilt	Top	40620	20.79	21.00	1.050	62.9	1.006	0.879	0.928
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Left Cheek	Top	40620	20.79	21.00	1.050	62.9	1.006	0.423	0.447
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Left Tilt	Top	40620	20.79	21.00	1.050	62.9	1.006	0.453	0.478
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	39750	20.42	21.00	1.143	62.9	1.006	0.858	0.986
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	40185	20.73	21.00	1.064	62.9	1.006	0.963	1.031
19#	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	41055	20.67	21.00	1.079	62.9	1.006	1.090	**1.183**
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	41490	20.62	21.00	1.091	62.9	1.006	0.915	1.005
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Tilt	Top	39750	20.42	21.00	1.143	62.9	1.006	0.657	0.755
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Tilt	Top	40185	20.73	21.00	1.064	62.9	1.006	0.706	0.756
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Tilt	Top	41055	20.67	21.00	1.079	62.9	1.006	0.935	1.015
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Tilt	Top	41490	20.62	21.00	1.091	62.9	1.006	0.855	0.939
	LTE Band 41	20Mhz	QPSK 100RB 0offset	Right Cheek	Top	41055	19.47	20.00	1.130	62.9	1.006	0.679	0.772
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	40620	19.79	20.00	1.050	62.9	1.006	0.814	0.859
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Tilt	Top	40620	19.79	20.00	1.050	62.9	1.006	0.637	0.673
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Left Cheek	Top	40620	19.79	20.00	1.050	62.9	1.006	0.326	0.344
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Left Tilt	Top	40620	19.79	20.00	1.050	62.9	1.006	0.367	0.387
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	39750	19.73	20.00	1.064	62.9	1.006	0.776	0.831

	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	40185	19.73	20.00	1.064	62.9	1.006	0.779	0.834
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	41055	19.66	20.00	1.081	62.9	1.006	0.842	0.916
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Cheek	Top	41490	19.76	20.00	1.057	62.9	1.006	0.854	0.908
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.081	0.084
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.059	0.061
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.191	0.199
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.043	0.045
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Cheek	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.059	0.061
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Tilt	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.051	0.053
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Left Cheek	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.157	0.163
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Left Tilt	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.039	0.040

<FDD-LTE Band 66>

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
20#	LTE Band 66	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	132072	18.34	18.50	1.038	0.907	**0.941**
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Right Tilt	Top	132072	18.34	18.50	1.038	0.635	0.659
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Left Cheek	Top	132072	18.34	18.50	1.038	0.612	0.635
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Left Tilt	Top	132072	18.34	18.50	1.038	0.547	0.568
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	132322	18.13	18.50	1.089	0.748	0.815
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Right Cheek	Top	132572	18.01	18.50	1.119	0.725	0.812
	LTE Band 66	20Mhz	QPSK 100RB 0offset	Right Cheek	Top	132072	17.09	17.50	1.099	0.657	0.722
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Right Cheek	Top	132072	17.27	17.50	1.054	0.753	0.794
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Right Tilt	Top	132072	17.27	17.50	1.054	0.551	0.581
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Left Cheek	Top	132072	17.27	17.50	1.054	0.490	0.517
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Left Tilt	Top	132072	17.27	17.50	1.054	0.436	0.460
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Right Cheek	Bottom	132072	22.98	23.00	1.005	0.008	0.008
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Right Tilt	Bottom	132072	22.98	23.00	1.005	0.002	0.002
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Left Cheek	Bottom	132072	22.98	23.00	1.005	0.019	0.019

	LTE Band 66	20Mhz	QPSK 1RB 0offset	Left Tilt	Bottom	132072	22.98	23.00	1.005	0.009	0.009
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Right Cheek	Bottom	132072	21.98	22.00	1.005	0.008	0.008
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Right Tilt	Bottom	132072	21.98	22.00	1.005	0.002	0.002
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Left Cheek	Bottom	132072	21.98	22.00	1.005	0.015	0.015
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Left Tilt	Bottom	132072	21.98	22.00	1.005	0.009	0.009

<2.4G WLAN>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b	Right Cheek	Ant 0	6	12.23	12.50	1.064	0.163	0.173
	WLAN2.4GHz	802.11b	Right Tilt	Ant 0	6	12.23	12.50	1.064	0.129	0.137
21#	WLAN2.4GHz	802.11b	Left Cheek	Ant 0	6	12.23	12.50	1.064	0.314	**0.334**
	WLAN2.4GHz	802.11b	Left Tilt	Ant 0	6	12.23	12.50	1.064	0.244	0.260
	WLAN2.4GHz	802.11b	Right Cheek	Ant 1	11	12.91	13.00	1.021	0.060	0.062
	WLAN2.4GHz	802.11b	Right Tilt	Ant 1	11	12.91	13.00	1.021	0.047	0.049
	WLAN2.4GHz	802.11b	Left Cheek	Ant 1	11	12.91	13.00	1.021	0.058	0.060
	WLAN2.4GHz	802.11b	Left Tilt	Ant 1	11	12.91	13.00	1.021	0.022	0.023

<5G WLAN>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11n-HT40MCS0	Right Cheek	Ant 0	62	17.17	17.50	1.079	0.219	0.245
	WLAN5GHz	802.11n-HT40MCS0	Right Tilt	Ant 0	62	17.17	17.50	1.079	0.188	0.210
22#	WLAN5GHz	802.11n-HT40MCS0	Left Cheek	Ant 0	62	17.17	17.50	1.079	0.579	**0.647**
	WLAN5GHz	802.11n-HT40MCS0	Left Tilt	Ant 0	62	17.17	17.50	1.079	0.455	0.509
	WLAN5GHz	802.11n-HT40MCS0	Right Cheek	Ant 1	62	11.21	11.50	1.069	0.234	0.260
	WLAN5GHz	802.11n-HT40MCS0	Right Tilt	Ant 1	62	11.21	11.50	1.069	0.200	0.222
	WLAN5GHz	802.11n-HT40MCS0	Left Cheek	Ant 1	62	11.21	11.50	1.069	0.082	0.091
	WLAN5GHz	802.11n-HT40MCS0	Left Tilt	Ant 1	62	11.21	11.50	1.069	0.089	0.099

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11ac-VHT40MCS0	Right Cheek	Ant 0	142	12.74	13.00	1.062	0.131	0.149
	WLAN5GHz	802.11ac-VHT40MCS0	Right Tilt	Ant 0	142	12.74	13.00	1.062	0.125	0.142
	WLAN5GHz	802.11ac-VHT40MCS0	Left Cheek	Ant 0	142	12.74	13.00	1.062	0.245	0.279
23#	WLAN5GHz	802.11ac-VHT40MCS0	Left Tilt	Ant 0	142	12.74	13.00	1.062	0.273	**0.311**
	WLAN5GHz	802.11n-HT40MCS0	Right Cheek	Ant 1	126	8.85	9.00	1.035	0.130	0.140
	WLAN5GHz	802.11n-HT40MCS0	Right Tilt	Ant 1	126	8.85	9.00	1.035	0.125	0.135
	WLAN5GHz	802.11n-HT40MCS0	Left Cheek	Ant 1	126	8.85	9.00	1.035	0.099	0.106
	WLAN5GHz	802.11n-HT40MCS0	Left Tilt	Ant 1	126	8.85	9.00	1.035	0.124	0.133
	WLAN5GHz	802.11ac-VHT40MCS0	Right Cheek	Ant 0	151	12.31	12.50	1.045	0.256	0.287
	WLAN5GHz	802.11ac-VHT40MCS0	Right Tilt	Ant 0	151	12.31	12.50	1.045	0.250	0.280
	WLAN5GHz	802.11ac-VHT40MCS0	Left Cheek	Ant 0	151	12.31	12.50	1.045	0.449	0.503
24#	WLAN5GHz	802.11ac-VHT40MCS0	Left Tilt	Ant 0	151	12.31	12.50	1.045	0.676	**0.757**
	WLAN5GHz	802.11ac-VHT40MCS0	Right Cheek	Ant 1	151	7.04	7.50	1.112	0.155	0.185
	WLAN5GHz	802.11ac-VHT40MCS0	Right Tilt	Ant 1	151	7.04	7.50	1.112	0.199	0.237
	WLAN5GHz	802.11ac-VHT40MCS0	Left Cheek	Ant 1	151	7.04	7.50	1.112	0.153	0.182
	WLAN5GHz	802.11ac-VHT40MCS0	Left Tilt	Ant 1	151	7.04	7.50	1.112	0.129	0.154

Note: The WLAN Reported 1g SAR (W/kg) has been calculated together with the duty cycle scaling factor.

17.3. Body-worn SAR Data

<GSM>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
25#	GSM850	GPRS(4 TX slots)	Front Side	Top	128	27.22	27.50	1.067	0.380	**0.405**
	GSM850	GPRS(4 TX slots)	Back Side	Top	128	27.22	27.50	1.067	0.310	0.331
	GSM850	GPRS(4 TX slots)	Front Side	Bottom	128	27.39	27.50	1.026	0.130	0.133
	GSM850	GPRS(4 TX slots)	Back Side	Bottom	128	27.39	27.50	1.026	0.136	0.139
26#	GSM1900	GPRS(4 TX slots)	Front Side	Top	661	23.75	24.00	1.059	0.139	**0.147**
	GSM1900	GPRS(4 TX slots)	Back Side	Top	661	23.75	24.00	1.059	0.096	0.102
	GSM1900	GPRS(4 TX slots)	Front Side	Bottom	661	23.72	24.00	1.067	0.131	0.140
	GSM1900	GPRS(4 TX slots)	Back Side	Bottom	661	23.72	24.00	1.067	0.069	0.073

<WCDMA>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band II	RMC 12.2Kbps	Front Side	Top	9400	17.46	17.50	1.009	0.178	0.180
	WCDMA Band II	RMC 12.2Kbps	Back Side	Top	9400	17.46	17.50	1.009	0.111	0.112
27#	WCDMA Band II	RMC 12.2Kbps	Front Side	Bottom	9400	22.44	22.50	1.014	0.209	**0.212**
	WCDMA Band II	RMC 12.2Kbps	Back Side	Bottom	9400	22.44	22.50	1.014	0.150	0.152
28#	WCDMA Band IV	RMC 12.2Kbps	Front Side	Top	1413	19.35	19.50	1.035	0.263	**0.272**
	WCDMA Band IV	RMC 12.2Kbps	Back Side	Top	1413	19.35	19.50	1.035	0.138	0.143
	WCDMA Band IV	RMC 12.2Kbps	Front Side	Bottom	1413	22.95	23.00	1.012	0.090	0.091
	WCDMA Band IV	RMC 12.2Kbps	Back Side	Bottom	1413	22.95	23.00	1.012	0.053	0.053

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
29#	WCDMA Band V	RMC 12.2Kbps	Front Side	Top	4182	22.87	23.00	1.030	0.286	**0.295**
	WCDMA Band V	RMC 12.2Kbps	Back Side	Top	4182	22.87	23.00	1.030	0.249	0.257
	WCDMA Band V	RMC 12.2Kbps	Front Side	Bottom	4182	24.28	24.50	1.052	0.233	0.245
	WCDMA Band V	RMC 12.2Kbps	Back Side	Bottom	4182	24.28	24.50	1.052	0.224	0.236

<CDMA>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front Side	Top	1013	20.97	21.50	1.130	0.214	0.242
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back Side	Top	1013	20.97	21.50	1.130	0.159	0.180
30#	CDMA2000 BC0	RTAP 153.6Kbps	Front Side	Top	1013	20.84	21.50	1.164	0.209	**0.243**
	CDMA2000 BC0	RTAP 153.6Kbps	Back Side	Top	1013	20.84	21.50	1.164	0.174	0.203
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front Side	Bottom	1013	23.82	24.00	1.042	0.221	0.230
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back Side	Bottom	1013	23.82	24.00	1.042	0.208	0.217
	CDMA2000 BC0	RTAP 153.6Kbps	Front Side	Bottom	1013	22.41	22.50	1.021	0.165	0.168
	CDMA2000 BC0	RTAP 153.6Kbps	Back Side	Bottom	1013	22.41	22.50	1.021	0.149	0.152

<FDD-LTE >

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Front Side	Top	19100	17.77	18.00	1.054	0.182	0.192
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Back Side	Top	19100	17.77	18.00	1.054	0.123	0.130
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Front Side	Top	19100	16.66	17.00	1.081	0.138	0.149
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Back Side	Top	19100	16.66	17.00	1.081	0.099	0.107
31#	LTE Band 2	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	19100	23.23	23.50	1.064	0.256	**0.272**
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	19100	23.23	23.50	1.064	0.228	0.243
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	19100	22.15	22.50	1.084	0.213	0.231
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	19100	22.15	22.50	1.084	0.188	0.204
32#	LTE Band 4	20Mhz	QPSK 1RB 0offset	Front Side	Top	20175	18.69	19.00	1.074	0.178	**0.191**
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Back Side	Top	20175	18.69	19.00	1.074	0.133	0.143
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Front Side	Top	20175	17.58	18.00	1.102	0.143	0.158
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Back Side	Top	20175	17.58	18.00	1.102	0.108	0.119
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	20175	23.48	23.50	1.005	0.102	0.102
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	20175	23.48	23.50	1.005	0.068	0.068
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	20175	22.46	22.50	1.009	0.083	0.083
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	20175	22.46	22.50	1.009	0.052	0.052

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
33#	LTE Band 5	10Mhz	QPSK 1RB 25offset	Front Side	Top	20450	22.53	23.00	1.114	0.213	**0.237**
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Back Side	Top	20450	22.53	23.00	1.114	0.200	0.223
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Front Side	Top	20450	21.59	22.00	1.099	0.188	0.207
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Back Side	Top	20450	21.59	22.00	1.099	0.162	0.178
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Front Side	Bottom	20450	24.39	24.50	1.026	0.227	0.233
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Back Side	Bottom	20450	24.39	24.50	1.026	0.164	0.168
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Front Side	Bottom	20450	23.26	23.50	1.057	0.196	0.207
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Back Side	Bottom	20450	23.26	23.50	1.057	0.121	0.128
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Front Side	Top	20850	16.42	16.50	1.019	0.131	0.133
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Back Side	Top	20850	16.42	16.50	1.019	0.087	0.089
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Front Side	Top	20850	15.35	15.50	1.035	0.106	0.110
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Back Side	Top	20850	15.35	15.50	1.035	0.073	0.076
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	20850	22.56	23.00	1.107	0.760	0.841
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	20850	22.56	23.00	1.107	0.665	0.736
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	21100	22.46	23.00	1.132	0.716	0.811
34#	LTE Band 7	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	21350	22.37	23.00	1.156	0.735	**0.850**
	LTE Band 7	20Mhz	QPSK 100RB 0offset	Front Side	Bottom	20850	2510	21.43	22.00	1.140	0.573
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	20850	21.43	22.00	1.140	0.584	0.666
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	20850	21.43	22.00	1.140	0.523	0.596

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
35#	LTE Band 17	10Mhz	QPSK 1RB 0offset	Front Side	Top	23790	22.02	22.50	1.117	0.360	**0.402**
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Back Side	Top	23790	22.02	22.50	1.117	0.289	0.323
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Front Side	Top	23790	21.04	21.50	1.112	0.281	0.312
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Back Side	Top	23790	21.04	21.50	1.112	0.223	0.248
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Front Side	Bottom	23790	23.13	23.50	1.089	0.088	0.096
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Back Side	Bottom	23790	23.13	23.50	1.089	0.072	0.079
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Front Side	Bottom	23790	22.23	22.50	1.064	0.079	0.084
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Back Side	Bottom	23790	22.23	22.50	1.064	0.062	0.066
36#	LTE Band 18	15Mhz	QPSK 1RB 0offset	Front Side	Top	23925	22.02	22.50	1.117	0.196	**0.219**
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Back Side	Top	23925	22.02	22.50	1.117	0.160	0.179
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Front Side	Top	23925	21.00	21.50	1.122	0.166	0.186
	LTE Band 18	15Mhz	QPSK 36RB39offset	Back Side	Top	23925	21.00	21.50	1.122	0.134	0.150
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Front Side	Bottom	23925	23.10	23.50	1.096	0.109	0.120
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Back Side	Bottom	23925	23.10	23.50	1.096	0.113	0.124
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Front Side	Bottom	23925	22.10	22.50	1.096	0.107	0.117
	LTE Band 18	15Mhz	QPSK 36RB39offset	Back Side	Bottom	23925	22.10	22.50	1.096	0.113	0.068
37#	LTE Band 19	15Mhz	QPSK 1RB 0offset	Front Side	Top	24075	21.96	22.00	1.009	0.226	**0.228**
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Back Side	Top	24075	21.96	22.00	1.009	0.183	0.185
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Front Side	Top	24075	20.97	21.00	1.007	0.183	0.184
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Back Side	Top	24075	20.97	21.00	1.007	0.151	0.152
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Front Side	Bottom	24075	23.29	23.50	1.050	0.149	0.156
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Back Side	Bottom	24075	23.29	23.50	1.050	0.161	0.169
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Front Side	Bottom	24075	22.11	22.50	1.094	0.149	0.163
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Back Side	Bottom	24075	22.11	22.50	1.094	0.135	0.148

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Front Side	Top	26140	18.35	18.50	1.035	0.198	0.205
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Back Side	Top	26140	18.35	18.50	1.035	0.126	0.130
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Front Side	Top	26140	17.30	17.50	1.047	0.143	0.150
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Back Side	Top	26140	17.30	17.50	1.047	0.101	0.106
38#	LTE Band 25	20Mhz	QPSK 1RB 99offset	Front Side	Bottom	26140	22.99	23.00	1.002	0.244	**0.245**
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Back Side	Bottom	26140	22.99	23.00	1.002	0.195	0.195
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	26140	21.95	22.00	1.012	0.219	0.222
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	26140	21.95	22.00	1.012	0.177	0.179
39#	LTE Band 26	15Mhz	QPSK 1RB 37offset	Front Side	Top	26865	21.92	22.00	1.019	0.198	**0.202**
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Back Side	Top	26865	21.92	22.00	1.019	0.176	0.179
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Front Side	Top	26865	20.96	21.00	1.009	0.165	0.167
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Back Side	Top	26865	20.96	21.00	1.009	0.148	0.149
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Front Side	Bottom	26865	23.19	23.50	1.074	0.148	0.159
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Back Side	Bottom	26865	23.19	23.50	1.074	0.111	0.119
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Front Side	Bottom	26865	22.20	22.50	1.072	0.132	0.141
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Back Side	Bottom	26865	22.20	22.50	1.072	0.098	0.105
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Front Side	Top	27710	19.44	19.50	1.014	0.111	0.113
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Back Side	Top	27710	19.44	19.50	1.014	0.082	0.083
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Front Side	Top	27710	18.38	18.50	1.028	0.087	0.089
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Back Side	Top	27710	18.38	18.50	1.028	0.063	0.065
40#	LTE Band 30	10Mhz	QPSK 1RB 0offset	Front Side	Bottom	27710	22.56	23.00	1.107	0.405	**0.448**
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Back Side	Bottom	27710	22.56	23.00	1.107	0.315	0.349
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Front Side	Bottom	27710	21.61	23.00	1.377	0.331	0.456
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Back Side	Bottom	27710	21.61	23.00	1.377	0.255	0.351

<TDD-LTE>

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Front Side	Top	37850	19.93	20.00	1.016	62.9	1.006	0.134	0.137
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Back Side	Top	37850	19.93	20.00	1.016	62.9	1.006	0.085	0.087
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Front Side	Top	37850	18.95	19.00	1.012	62.9	1.006	0.106	0.108
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Back Side	Top	37850	18.95	19.00	1.012	62.9	1.006	0.067	0.068
41#	LTE Band 38	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.280	**0.312**
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.214	0.238
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.219	0.244
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.167	0.186
Band 1													
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Front Side	Top	37850	21.34	21.50	1.038	62.9	1.006	0.052	0.054
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Back Side	Top	37850	21.34	21.50	1.038	62.9	1.006	0.024	0.025
	LTE Band 40	10Mhz	QPSK25RB12offset	Front Side	Top	37850	20.49	20.50	1.002	62.9	1.006	0.059	0.059
	LTE Band 40	10Mhz	QPSK25RB12offset	Back Side	Top	37850	20.49	20.50	1.002	62.9	1.006	0.032	0.032
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Front Side	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.208	0.231
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Back Side	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.200	0.222
	LTE Band 40	10Mhz	QPSK25RB 0offset	Front Side	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.118	0.129
	LTE Band 40	10Mhz	QPSK25RB 0offset	Back Side	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.105	0.115
Band 2													
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Front Side	Top	39200	21.43	21.50	1.016	62.9	1.006	0.058	0.059
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Back Side	Top	39200	21.43	21.50	1.016	62.9	1.006	0.026	0.027
	LTE Band 40	10Mhz	QPSK25RB 0offset	Front Side	Top	39200	20.62	21.00	1.091	62.9	1.006	0.048	0.053
	LTE Band 40	10Mhz	QPSK25RB 0offset	Back Side	Top	39200	20.62	21.00	1.091	62.9	1.006	0.023	0.025
42#	LTE Band 40	10Mhz	QPSK 1RB 0offset	Front Side	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.211	**0.232**
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Back Side	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.175	0.192
	LTE Band 40	10Mhz	QPSK25RB12offset	Front Side	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.162	0.173
	LTE Band 40	10Mhz	QPSK25RB12offset	Back Side	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.140	0.150

	LTE Band 41	20Mhz	QPSK 1RB 0offset	Front Side	Top	40620	20.79	21.00	1.050	62.9	1.006	0.152	0.160
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Back Side	Top	40620	20.79	21.00	1.050	62.9	1.006	0.088	0.092
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Front Side	Top	40620	19.79	20.00	1.050	62.9	1.006	0.118	0.125
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Back Side	Top	40620	19.79	20.00	1.050	62.9	1.006	0.086	0.091
43#	LTE Band 41	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.331	**0.345**
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.211	0.220
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.261	0.272
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.167	0.174

<FDD-LTE Band 66>

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
44#	LTE Band 66	20Mhz	QPSK 1RB 0offset	Front Side	Top	132072	18.34	18.50	1.038	0.173	**0.179**
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Back Side	Top	132072	18.34	18.50	1.038	0.123	0.128
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Front Side	Top	132072	17.27	17.50	1.054	0.139	0.147
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Back Side	Top	132072	17.27	17.50	1.054	0.094	0.099
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	132072	22.98	23.00	1.005	0.099	0.099
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	132072	22.98	23.00	1.005	0.062	0.062
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Front Side	Bottom	132072	21.98	22.00	1.005	0.073	0.073
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Back Side	Bottom	132072	21.98	22.00	1.005	0.044	0.044

<2.4G WLAN >

Plot No.	Band	Mode	Test Position	Antenna	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b	Front Side	Ant 0	6	12.23	12.50	1.064	0.051	0.054
	WLAN2.4GHz	802.11b	Back Side	Ant 0	6	12.23	12.50	1.064	0.025	0.027
45#	WLAN2.4GHz	802.11b	Front Side	Ant 1	11	12.91	13.00	1.021	0.200	**0.207**
	WLAN2.4GHz	802.11b	Back Side	Ant 1	11	12.91	13.00	1.021	0.146	0.151

<5G WLAN >

Plot No.	Band	Mode	Test Position	Antenna	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11n-HT40MCS0	Front Side	Ant 0	62	17.17	17.50	1.079	0.019	0.022
	WLAN5GHz	802.11n-HT40MCS0	Back Side	Ant 0	62	17.17	17.50	1.079	0.009	0.010
46#	WLAN5GHz	802.11n-HT40MCS0	Front Side	Ant 1	62	11.21	11.50	1.069	0.025	**0.027**
	WLAN5GHz	802.11n-HT40MCS0	Back Side	Ant 1	62	11.21	11.50	1.069	0.009	0.010
47#	WLAN5GHz	802.11ac-VHT40MCS0	Front Side	Ant 0	142	12.74	13.00	1.062	0.071	**0.078**
	WLAN5GHz	802.11ac-VHT40MCS0	Back Side	Ant 0	142	12.74	13.00	1.062	0.004	0.004
	WLAN5GHz	802.11n-HT40MCS0	Front Side	Ant 1	126	8.85	9.00	1.035	0.022	0.024
	WLAN5GHz	802.11n-HT40MCS0	Back Side	Ant 1	126	8.85	9.00	1.035	0.013	0.015
	WLAN5GHz	802.11ac-VHT40MCS0	Front Side	Ant 0	151	12.31	12.50	1.045	0.037	0.041
	WLAN5GHz	802.11ac-VHT40MCS0	Back Side	Ant 0	151	12.31	12.50	1.045	0.003	0.003
48#	WLAN5GHz	802.11ac-VHT40MCS0	Front Side	Ant 1	151	7.04	7.50	1.112	0.063	**0.075**
	WLAN5GHz	802.11ac-VHT40MCS0	Back Side	Ant 1	151	7.04	7.50	1.112	0.030	0.036

Note: The WLAN Reported 1g SAR (W/kg) has been calculated together with the duty cycle scaling factor.

<Bluetooth >

Plot No.	Band	Mode	Test Position	Antenna	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
49#	Bluetooth	DH5	Front Side	Ant 1	78	12.81	13.00	1.045	76.8	1.302	0.081	**0.110**
	Bluetooth	DH5	Back Side	Ant 1	78	12.81	13.00	1.045	76.8	1.302	0.036	0.048

17.4. Hotspot SAR Data

<GSM>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS(4 TX slots)	Front Side	Top	128	27.39	27.50	1.026	0.380	0.390
	GSM850	GPRS(4 TX slots)	Back Side	Top	128	27.39	27.50	1.026	0.310	0.318
	GSM850	GPRS(4 TX slots)	Left Side	Top	128	27.39	27.50	1.026	0.250	0.256
	GSM850	GPRS(4 TX slots)	Right Side	Top	128	27.39	27.50	1.026	0.043	0.044
50#	GSM850	GPRS(4 TX slots)	Top Side	Top	128	27.39	27.50	1.026	0.415	**0.426**
	GSM850	GPRS(4 TX slots)	Front Side	Bottom	128	27.22	27.50	1.067	0.130	0.139
	GSM850	GPRS(4 TX slots)	Back Side	Bottom	128	27.22	27.50	1.067	0.136	0.145
	GSM850	GPRS(4 TX slots)	Left Side	Bottom	128	27.22	27.50	1.067	0.043	0.046
	GSM850	GPRS(4 TX slots)	Right Side	Bottom	128	27.22	27.50	1.067	0.161	0.172
	GSM850	GPRS(4 TX slots)	Bottom Side	Bottom	128	27.22	27.50	1.067	0.188	0.201
	GSM1900	GPRS(4 TX slots)	Front Side	Top	661	23.75	24.00	1.059	0.139	0.147
	GSM1900	GPRS(4 TX slots)	Back Side	Top	661	23.75	24.00	1.059	0.096	0.102
	GSM1900	GPRS(4 TX slots)	Left Side	Top	661	23.75	24.00	1.059	0.111	0.118
	GSM1900	GPRS(4 TX slots)	Right Side	Top	661	23.75	24.00	1.059	0.008	0.008
51#	GSM1900	GPRS(4 TX slots)	Top Side	Top	661	23.75	24.00	1.059	0.158	**0.167**
	GSM1900	GPRS(4 TX slots)	Front Side	Bottom	661	23.72	24.00	1.067	0.131	0.140
	GSM1900	GPRS(4 TX slots)	Back Side	Bottom	661	23.72	24.00	1.067	0.069	0.073

	GSM1900	GPRS(4 TX slots)	Left Side	Bottom	661	23.72	24.00	1.067	0.113	0.121
	GSM1900	GPRS(4 TX slots)	Right Side	Bottom	661	23.72	24.00	1.067	0.054	0.057
	GSM1900	GPRS(4 TX slots)	Bottom Side	Bottom	661	23.72	24.00	1.067	0.123	0.131

<WCDMA>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band II	RMC 12.2Kbps	Front Side	Top	9400	17.46	17.50	1.009	0.178	0.180
	WCDMA Band II	RMC 12.2Kbps	Back Side	Top	9400	17.46	17.50	1.009	0.111	0.112
	WCDMA Band II	RMC 12.2Kbps	Left Side	Top	9400	17.46	17.50	1.009	0.142	0.143
	WCDMA Band II	RMC 12.2Kbps	Right Side	Top	9400	17.46	17.50	1.009	0.007	0.007
	WCDMA Band II	RMC 12.2Kbps	Top Side	Top	9400	17.46	17.50	1.009	0.172	0.174
	WCDMA Band II	RMC 12.2Kbps	Front Side	Bottom	9400	22.44	22.50	1.014	0.209	0.212
	WCDMA Band II	RMC 12.2Kbps	Back Side	Bottom	9400	22.44	22.50	1.014	0.150	0.152
	WCDMA Band II	RMC 12.2Kbps	Left Side	Bottom	9400	22.44	22.50	1.014	0.146	0.148
	WCDMA Band II	RMC 12.2Kbps	Right Side	Bottom	9400	22.44	22.50	1.014	0.053	0.054
52#	WCDMA Band II	RMC 12.2Kbps	Bottom Side	Bottom	9400	22.44	22.50	1.014	0.395	**0.400**
	WCDMA Band IV	RMC 12.2Kbps	Front Side	Top	1413	19.35	19.50	1.035	0.263	0.272
	WCDMA Band IV	RMC 12.2Kbps	Back Side	Top	1413	19.35	19.50	1.035	0.138	0.143
	WCDMA Band IV	RMC 12.2Kbps	Left Side	Top	1413	19.35	19.50	1.035	0.141	0.146
	WCDMA Band IV	RMC 12.2Kbps	Right Side	Top	1413	19.35	19.50	1.035	0.023	0.023
53#	WCDMA Band IV	RMC 12.2Kbps	Top Side	Top	1413	19.35	19.50	1.035	0.408	**0.422**
	WCDMA Band IV	RMC 12.2Kbps	Front Side	Bottom	1413	22.95	23.00	1.012	0.090	0.091
	WCDMA Band IV	RMC 12.2Kbps	Back Side	Bottom	1413	22.95	23.00	1.012	0.053	0.053
	WCDMA Band IV	RMC 12.2Kbps	Left Side	Bottom	1413	22.95	23.00	1.012	0.029	0.030
	WCDMA Band IV	RMC 12.2Kbps	Right Side	Bottom	1413	22.95	23.00	1.012	0.025	0.025
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	Bottom	1413	22.95	23.00	1.012	0.183	0.185

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Front Side	Top	4182	22.87	23.00	1.030	0.286	0.295
	WCDMA Band V	RMC 12.2Kbps	Back Side	Top	4182	22.87	23.00	1.030	0.249	0.257
	WCDMA Band V	RMC 12.2Kbps	Left Side	Top	4182	22.87	23.00	1.030	0.162	0.167
	WCDMA Band V	RMC 12.2Kbps	Right Side	Top	4182	22.87	23.00	1.030	0.024	0.025
54#	WCDMA Band V	RMC 12.2Kbps	Top Side	Top	4182	22.87	23.00	1.030	0.329	**0.339**
	WCDMA Band V	RMC 12.2Kbps	Front Side	Bottom	4182	24.28	24.50	1.052	0.233	0.245
	WCDMA Band V	RMC 12.2Kbps	Back Side	Bottom	4182	24.28	24.50	1.052	0.224	0.236
	WCDMA Band V	RMC 12.2Kbps	Left Side	Bottom	4182	24.28	24.50	1.052	0.035	0.037
	WCDMA Band V	RMC 12.2Kbps	Right Side	Bottom	4182	24.28	24.50	1.052	0.202	0.212
	WCDMA Band V	RMC 12.2Kbps	Bottom Side	Bottom	4182	24.28	24.50	1.052	0.009	0.009

<CDMA>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front Side	Top	1013	20.97	21.50	1.130	0.214	0.242
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back Side	Top	1013	20.97	21.50	1.130	0.159	0.180
	CDMA2000 BC0	RTAP 153.6Kbps	Front Side	Top	1013	20.84	21.50	1.164	0.209	0.243
	CDMA2000 BC0	RTAP 153.6Kbps	Back Side	Top	1013	20.84	21.50	1.164	0.174	0.203
	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	Top	1013	20.84	21.50	1.164	0.112	0.130
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	Top	1013	20.84	21.50	1.164	0.018	0.020
55#	CDMA2000 BC0	RTAP 153.6Kbps	Top Side	Top	1013	20.84	21.50	1.164	0.225	**0.262**
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front Side	Bottom	1013	23.82	24.00	1.042	0.221	0.230
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back Side	Bottom	1013	23.82	24.00	1.042	0.208	0.217
	CDMA2000 BC0	RTAP 153.6Kbps	Front Side	Bottom	1013	22.41	22.50	1.021	0.165	0.168
	CDMA2000 BC0	RTAP 153.6Kbps	Back Side	Bottom	1013	22.41	22.50	1.021	0.149	0.152
	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	Bottom	1013	22.41	22.50	1.021	0.035	0.035
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	Bottom	1013	22.41	22.50	1.021	0.168	0.172
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	Bottom	1013	22.41	22.50	1.021	0.216	0.221

<FDD-LTE >

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Front Side	Top	19100	17.77	18.00	1.054	0.182	0.192
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Back Side	Top	19100	17.77	18.00	1.054	0.123	0.130
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Left Side	Top	19100	17.77	18.00	1.054	0.158	0.167
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Right Side	Top	19100	17.77	18.00	1.054	0.018	0.019
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Top Side	Top	19100	17.77	18.00	1.054	0.241	0.254
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Front Side	Top	19100	16.66	17.00	1.081	0.138	0.149
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Back Side	Top	19100	16.66	17.00	1.081	0.099	0.107
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Left Side	Top	19100	16.66	17.00	1.081	0.124	0.134
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Right Side	Top	19100	16.66	17.00	1.081	0.015	0.016
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Top Side	Top	19100	16.66	17.00	1.081	0.186	0.201
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	19100	23.23	23.50	1.064	0.256	0.272
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	19100	23.23	23.50	1.064	0.228	0.243
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Left Side	Bottom	19100	23.23	23.50	1.064	0.239	0.254
	LTE Band 2	20Mhz	QPSK 1RB 0offset	Right Side	Bottom	19100	23.23	23.50	1.064	0.043	0.046
56#	LTE Band 2	20Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	19100	23.23	23.50	1.064	0.458	**0.487**
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	19100	22.15	22.50	1.084	0.213	0.231
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	19100	22.15	22.50	1.084	0.188	0.204
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Left Side	Bottom	19100	22.15	22.50	1.084	0.196	0.212
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Right Side	Bottom	19100	22.15	22.50	1.084	0.034	0.037
	LTE Band 2	20Mhz	QPSK 50RB 0offset	Bottom Side	Bottom	19100	22.15	22.50	1.084	0.370	0.401

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Front Side	Top	20175	18.69	19.00	1.074	0.178	0.191
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Back Side	Top	20175	18.69	19.00	1.074	0.133	0.143
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Left Side	Top	20175	18.69	19.00	1.074	0.111	0.119
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Right Side	Top	20175	18.69	19.00	1.074	0.028	0.030
57#	LTE Band 4	20Mhz	QPSK 1RB 0offset	Top Side	Top	20175	18.69	19.00	1.074	0.341	**0.366**
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Front Side	Top	20175	17.58	18.00	1.102	0.143	0.158
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Back Side	Top	20175	17.58	18.00	1.102	0.108	0.119
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Left Side	Top	20175	17.58	18.00	1.102	0.081	0.089
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Right Side	Top	20175	17.58	18.00	1.102	0.024	0.027
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Top Side	Top	20050	17.58	18.00	1.102	0.275	0.303
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	20175	23.48	23.50	1.005	0.102	0.102
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	20175	23.48	23.50	1.005	0.068	0.068
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Left Side	Bottom	20175	23.48	23.50	1.005	0.026	0.026
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Right Side	Bottom	20175	23.48	23.50	1.005	0.020	0.020
	LTE Band 4	20Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	20175	23.48	23.50	1.005	0.180	0.181
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	20175	22.46	22.50	1.009	0.083	0.083
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	20175	22.46	22.50	1.009	0.052	0.052
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Left Side	Bottom	20175	22.46	22.50	1.009	0.022	0.022
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Right Side	Bottom	20175	22.46	22.50	1.009	0.021	0.021
	LTE Band 4	20Mhz	QPSK 50RB 0offset	Bottom Side	Bottom	20050	22.46	22.50	1.009	0.141	0.142

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Front Side	Top	20450	22.53	23.00	1.114	0.213	0.237
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Back Side	Top	20450	22.53	23.00	1.114	0.200	0.223
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Left Side	Top	20450	22.53	23.00	1.114	0.094	0.104
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Right Side	Top	20450	22.53	23.00	1.114	0.044	0.049
58#	LTE Band 5	10Mhz	QPSK 1RB 25offset	Top Side	Top	20450	22.53	23.00	1.114	0.241	**0.269**
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Front Side	Top	20450	21.59	22.00	1.099	0.188	0.207
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Back Side	Top	20450	21.59	22.00	1.099	0.162	0.178
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Left Side	Top	20450	21.59	22.00	1.099	0.078	0.086
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Right Side	Top	20450	21.59	22.00	1.099	0.032	0.035
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Top Side	Top	20450	21.59	22.00	1.099	0.199	0.219
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Front Side	Bottom	20450	24.39	24.50	1.026	0.227	0.233
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Back Side	Bottom	20450	24.39	24.50	1.026	0.164	0.168
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Left Side	Bottom	20450	24.39	24.50	1.026	0.046	0.047
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Right Side	Bottom	20450	24.39	24.50	1.026	0.029	0.030
	LTE Band 5	10Mhz	QPSK 1RB 25offset	Bottom Side	Bottom	20450	24.39	24.50	1.026	0.292	0.299
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Front Side	Bottom	20450	23.26	23.50	1.057	0.196	0.207
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Back Side	Bottom	20450	23.26	23.50	1.057	0.121	0.128
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Left Side	Bottom	20450	23.26	23.50	1.057	0.036	0.038
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Right Side	Bottom	20450	23.26	23.50	1.057	0.020	0.021
	LTE Band 5	10Mhz	QPSK 25RB 0offset	Bottom Side	Bottom	20450	23.26	23.50	1.057	0.214	0.226

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Front Side	Top	20850	16.42	16.50	1.019	0.131	0.133
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Back Side	Top	20850	16.42	16.50	1.019	0.087	0.089
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Left Side	Top	20850	16.42	16.50	1.019	0.071	0.073
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Right Side	Top	20850	16.42	16.50	1.019	0.029	0.030
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Top Side	Top	20850	16.42	16.50	1.019	0.071	0.072
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Front Side	Top	20850	15.35	15.50	1.035	0.106	0.110
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Back Side	Top	20850	15.35	15.50	1.035	0.073	0.076
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Left Side	Top	20850	15.35	15.50	1.035	0.063	0.065
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Right Side	Top	20850	15.35	15.50	1.035	0.024	0.025
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Top Side	Top	20850	15.35	15.50	1.035	0.054	0.056
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	20850	22.56	23.00	1.107	0.760	0.841
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	20850	22.56	23.00	1.107	0.665	0.736
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Left Side	Bottom	20850	22.56	23.00	1.107	0.514	0.569
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Right Side	Bottom	20850	22.56	23.00	1.107	0.073	0.081
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	20850	22.56	23.00	1.107	0.487	0.539
	LTE Band 7	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	21100	22.46	23.00	1.132	0.716	0.811
59#	LTE Band 7	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	21350	22.37	23.00	1.156	0.735	**0.850**
	LTE Band 7	20Mhz	QPSK 100RB 0offset	Front Side	Bottom	20850	2510	21.43	22.00	1.140	0.573
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	20850	21.43	22.00	1.140	0.584	0.666
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	20850	21.43	22.00	1.140	0.523	0.596
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Left Side	Bottom	20850	21.43	22.00	1.140	0.412	0.470
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Right Side	Bottom	20850	21.43	22.00	1.140	0.058	0.066
	LTE Band 7	20Mhz	QPSK 50RB 0offset	Bottom Side	Bottom	20850	21.43	22.00	1.140	0.588	0.670

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Front Side	Top	23790	22.02	22.50	1.117	0.360	0.402
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Back Side	Top	23790	22.02	22.50	1.117	0.289	0.323
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Left Side	Top	23790	22.02	22.50	1.117	0.228	0.255
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Side	Top	23790	22.02	22.50	1.117	0.061	0.068
60#	LTE Band 17	10Mhz	QPSK 1RB 0offset	Top Side	Top	23790	22.02	22.50	1.117	0.428	**0.478**
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Front Side	Top	23790	21.04	21.50	1.112	0.281	0.312
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Back Side	Top	23790	21.04	21.50	1.112	0.223	0.248
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Left Side	Top	23790	21.04	21.50	1.112	0.178	0.198
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Right Side	Top	23790	21.04	21.50	1.112	0.049	0.054
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Top Side	Top	23790	21.04	21.50	1.112	0.337	0.375
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Front Side	Bottom	23790	23.13	23.50	1.089	0.088	0.096
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Back Side	Bottom	23790	23.13	23.50	1.089	0.072	0.079
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Left Side	Bottom	23790	23.13	23.50	1.089	0.018	0.020
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Right Side	Bottom	23790	23.13	23.50	1.089	0.060	0.065
	LTE Band 17	10Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	23790	23.13	23.50	1.089	0.086	0.093
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Front Side	Bottom	23790	22.23	22.50	1.064	0.079	0.084
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Back Side	Bottom	23790	22.23	22.50	1.064	0.062	0.066
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Left Side	Bottom	23790	22.23	22.50	1.064	0.014	0.015
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Right Side	Bottom	23790	22.23	22.50	1.064	0.050	0.053
	LTE Band 17	10Mhz	QPSK 25RB 12offset	Bottom Side	Bottom	23790	22.23	22.50	1.064	0.084	0.090

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Front Side	Top	23925	22.02	22.50	1.117	0.196	0.219
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Back Side	Top	23925	22.02	22.50	1.117	0.160	0.179
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Left Side	Top	23925	22.02	22.50	1.117	0.088	0.098
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Right Side	Top	23925	22.02	22.50	1.117	0.017	0.019
61#	LTE Band 18	15Mhz	QPSK 1RB 0offset	Top Side	Top	23925	22.02	22.50	1.117	0.245	**0.274**
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Front Side	Top	23925	21.00	21.50	1.122	0.166	0.186
	LTE Band 18	15Mhz	QPSK 36RB39offset	Back Side	Top	23925	21.00	21.50	1.122	0.134	0.150
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Left Side	Top	23925	21.00	21.50	1.122	0.082	0.092
	LTE Band 18	15Mhz	QPSK 36RB39offset	Right Side	Top	23925	21.00	21.50	1.122	0.010	0.011
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Top Side	Top	23925	21.00	21.50	1.122	0.201	0.226
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Front Side		23925	23.10	23.50	1.096	0.109	0.120
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Back Side	Bottom	23925	23.10	23.50	1.096	0.113	0.124
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Left Side	Bottom	23925	23.10	23.50	1.096	0.024	0.026
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Right Side	Bottom	23925	23.10	23.50	1.096	0.104	0.114
	LTE Band 18	15Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	23925	23.10	23.50	1.096	0.134	0.147
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Front Side	Bottom	23925	22.10	22.50	1.096	0.107	0.117
	LTE Band 18	15Mhz	QPSK 36RB39offset	Back Side	Bottom	23925	22.10	22.50	1.096	0.113	0.068
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Left Side	Bottom	23925	22.10	22.50	1.096	0.021	0.023
	LTE Band 18	15Mhz	QPSK 36RB39offset	Right Side	Bottom	23925	22.10	22.50	1.096	0.091	0.100
	LTE Band 18	15Mhz	QPSK 36RB 39offset	Bottom Side	Bottom	23925	22.10	22.50	1.096	0.131	0.144

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Front Side	Top	24075	21.96	22.00	1.009	0.226	0.228
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Back Side	Top	24075	21.96	22.00	1.009	0.183	0.185
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Left Side	Top	24075	21.96	22.00	1.009	0.111	0.112
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Right Side	Top	24075	21.96	22.00	1.009	0.010	0.010
62#	LTE Band 19	15Mhz	QPSK 1RB 0offset	Top Side	Top	24075	21.96	22.00	1.009	0.267	**0.269**
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Front Side	Top	24075	20.97	21.00	1.007	0.183	0.184
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Back Side	Top	24075	20.97	21.00	1.007	0.151	0.152
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Left Side	Top	24075	20.97	21.00	1.007	0.086	0.087
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Right Side	Top	24075	20.97	21.00	1.007	0.007	0.007
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Top Side	Top	24075	20.97	21.00	1.007	0.215	0.216
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Front Side	Bottom	24075	23.29	23.50	1.050	0.149	0.156
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Back Side	Bottom	24075	23.29	23.50	1.050	0.161	0.169
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Left Side	Bottom	24075	23.29	23.50	1.050	0.033	0.034
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Right Side	Bottom	24075	23.29	23.50	1.050	0.135	0.142
	LTE Band 19	15Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	24075	23.29	23.50	1.050	0.189	0.198
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Front Side	Bottom	24075	22.11	22.50	1.094	0.149	0.163
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Back Side	Bottom	24075	22.11	22.50	1.094	0.135	0.148
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Left Side	Bottom	24075	22.11	22.50	1.094	0.028	0.031
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Right Side	Bottom	24075	22.11	22.50	1.094	0.125	0.137
	LTE Band 19	15Mhz	QPSK 36RB 20offset	Bottom Side	Bottom	24075	22.11	22.50	1.094	0.04	0.185

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Front Side	Top	26140	18.35	18.50	1.035	0.198	0.205
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Back Side	Top	26140	18.35	18.50	1.035	0.126	0.130
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Left Side	Top	26140	18.35	18.50	1.035	0.156	0.161
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Side	Top	26140	18.35	18.50	1.035	0.014	0.014
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Top Side	Top	26140	18.35	18.50	1.035	0.222	0.230
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Front Side	Top	26140	17.30	17.50	1.047	0.143	0.150
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Back Side	Top	26140	17.30	17.50	1.047	0.101	0.106
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Left Side	Top	26140	17.30	17.50	1.047	0.119	0.125
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Right Side	Top	26140	17.30	17.50	1.047	0.012	0.013
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Top Side	Top	26140	17.30	17.50	1.047	0.178	0.186
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Front Side	Bottom	26140	22.99	23.00	1.002	0.244	0.245
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Back Side	Bottom	26140	22.99	23.00	1.002	0.195	0.195
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Left Side	Bottom	26140	22.99	23.00	1.002	0.207	0.207
	LTE Band 25	20Mhz	QPSK 1RB 99offset	Right Side	Bottom	26140	22.99	23.00	1.002	0.014	0.014
63#	LTE Band 25	20Mhz	QPSK 1RB 99offset	Bottom Side	Bottom	26140	22.99	23.00	1.002	0.390	**0.391**
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	26140	21.95	22.00	1.012	0.219	0.222
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	26140	21.95	22.00	1.012	0.177	0.179
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Left Side	Bottom	26140	21.95	22.00	1.012	0.189	0.191
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Right Side	Bottom	26140	21.95	22.00	1.012	0.004	0.004
	LTE Band 25	20Mhz	QPSK 50RB 0offset	Bottom Side	Bottom	26140	21.95	22.00	1.012	0.302	0.305

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Front Side	Top	26865	21.92	22.00	1.019	0.198	0.202
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Back Side	Top	26865	21.92	22.00	1.019	0.176	0.179
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Left Side	Top	26865	21.92	22.00	1.019	0.095	0.097
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Right Side	Top	26865	21.92	22.00	1.019	0.040	0.041
64#	LTE Band 26	15Mhz	QPSK 1RB 37offset	Top Side	Top	26865	21.92	22.00	1.019	0.234	**0.238**
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Front Side	Top	26865	20.96	21.00	1.009	0.165	0.167
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Back Side	Top	26865	20.96	21.00	1.009	0.148	0.149
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Left Side	Top	26865	20.96	21.00	1.009	0.078	0.079
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Right Side	Top	26865	20.96	21.00	1.009	0.034	0.034
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Top Side	Top	26865	20.96	21.00	1.009	0.197	0.199
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Front Side	Bottom	26865	23.19	23.50	1.074	0.148	0.159
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Back Side	Bottom	26865	23.19	23.50	1.074	0.111	0.119
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Left Side	Bottom	26865	23.19	23.50	1.074	0.030	0.032
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Right Side	Bottom	26865	23.19	23.50	1.074	0.021	0.023
	LTE Band 26	15Mhz	QPSK 1RB 37offset	Bottom Side	Bottom	26865	23.19	23.50	1.074	0.159	0.171
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Front Side	Bottom	26865	22.20	22.50	1.072	0.132	0.141
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Back Side	Bottom	26865	22.20	22.50	1.072	0.098	0.105
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Left Side	Bottom	26865	22.20	22.50	1.072	0.027	0.029
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Right Side	Bottom	26865	22.20	22.50	1.072	0.018	0.019
	LTE Band 26	15Mhz	QPSK 36RB 20offset	Bottom Side	Bottom	26865	22.20	22.50	1.072	0.143	0.153

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Front Side	Top	27710	19.44	19.50	1.014	0.111	0.113
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Back Side	Top	27710	19.44	19.50	1.014	0.082	0.083
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Left Side	Top	27710	19.44	19.50	1.014	0.097	0.099
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Right Side	Top	27710	19.44	19.50	1.014	0.004	0.004
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Top Side	Top	27710	19.44	19.50	1.014	0.086	0.087
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Front Side	Top	27710	18.38	18.50	1.028	0.087	0.089
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Back Side	Top	27710	18.38	18.50	1.028	0.063	0.065
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Left Side	Top	27710	18.38	18.50	1.028	0.077	0.079
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Right Side	Top	27710	18.38	18.50	1.028	0.003	0.003
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Top Side	Top	27710	18.38	18.50	1.028	0.055	0.056
65#	LTE Band 30	10Mhz	QPSK 1RB 0offset	Front Side	Bottom	27710	22.56	23.00	1.107	0.405	**0.448**
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Back Side	Bottom	27710	22.56	23.00	1.107	0.315	0.349
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Left Side	Bottom	27710	22.56	23.00	1.107	0.340	0.376
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Right Side	Bottom	27710	22.56	23.00	1.107	0.086	0.096
	LTE Band 30	10Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	27710	22.56	23.00	1.107	0.307	0.340
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Front Side	Bottom	27710	21.61	23.00	1.377	0.331	0.456
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Back Side	Bottom	27710	21.61	23.00	1.377	0.255	0.351
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Left Side	Bottom	27710	21.61	23.00	1.377	0.274	0.377
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Right Side	Bottom	27710	21.61	23.00	1.377	0.067	0.093
	LTE Band 30	10Mhz	QPSK 25RB 0offset	Bottom Side	Bottom	27710	21.61	23.00	1.377	0.249	0.343

<TDD-LTE>

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Front Side	Top	37850	19.93	20.00	1.016	62.9	1.006	0.134	0.137
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Back Side	Top	37850	19.93	20.00	1.016	62.9	1.006	0.085	0.087
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Left Side	Top	37850	19.93	20.00	1.016	62.9	1.006	0.087	0.089
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Right Side	Top	37850	19.93	20.00	1.016	62.9	1.006	0.012	0.012
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Top Side	Top	37850	19.93	20.00	1.016	62.9	1.006	0.078	0.079
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Front Side	Top	37850	18.95	19.00	1.012	62.9	1.006	0.106	0.108
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Back Side	Top	37850	18.95	19.00	1.012	62.9	1.006	0.067	0.068
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Left Side	Top	37850	18.95	19.00	1.012	62.9	1.006	0.065	0.066
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Right Side	Top	37850	18.95	19.00	1.012	62.9	1.006	0.005	0.005
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Top Side	Top	37850	18.95	19.00	1.012	62.9	1.006	0.060	0.061
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.280	0.312
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.214	0.238
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Left Side	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.201	0.224
	LTE Band 38	20Mhz	QPSK 1RB 0offset	Right Side	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.032	0.036
66#	LTE Band 38	20Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	37850	22.06	22.50	1.107	62.9	1.006	0.381	**0.424**
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.219	0.244
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.167	0.186
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Left Side	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.143	0.160
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Right Side	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.026	0.029
	LTE Band 38	20Mhz	QPSK 50RB 0offset	Bottom Side	Bottom	37850	21.05	21.50	1.109	62.9	1.006	0.274	0.306

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
Band 1													
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Front Side	Top	37850	21.34	21.50	1.038	62.9	1.006	0.052	0.054
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Back Side	Top	37850	21.34	21.50	1.038	62.9	1.006	0.024	0.025
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Side	Top	37850	21.34	21.50	1.038	62.9	1.006	0.048	0.050
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Side	Top	37850	21.34	21.50	1.038	62.9	1.006	0.005	0.005
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Top Side	Top	37850	21.34	21.50	1.038	62.9	1.006	0.046	0.048
	LTE Band 40	10Mhz	QPSK25RB12offset	Front Side	Top	37850	20.49	20.50	1.002	62.9	1.006	0.059	0.059
	LTE Band 40	10Mhz	QPSK25RB12offset	Back Side	Top	37850	20.49	20.50	1.002	62.9	1.006	0.032	0.032
	LTE Band 40	10Mhz	QPSK25RB12offset	Left Side	Top	37850	20.49	20.50	1.002	62.9	1.006	0.047	0.047
	LTE Band 40	10Mhz	QPSK25RB12offset	Right Side	Top	37850	20.49	20.50	1.002	62.9	1.006	0.001	0.001
	LTE Band 40	10Mhz	QPSK25RB12offset	Top Side	Top	37850	20.49	20.50	1.002	62.9	1.006	0.055	0.055
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Front Side	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.208	0.231
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Back Side	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.200	0.222
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Side	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.189	0.210
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Side	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.024	0.027
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	37850	22.57	23.00	1.104	62.9	1.006	0.215	0.239
	LTE Band 40	10Mhz	QPSK25RB 0offset	Front Side	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.118	0.129
	LTE Band 40	10Mhz	QPSK25RB 0offset	Back Side	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.105	0.115
	LTE Band 40	10Mhz	QPSK25RB 0offset	Left Side	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.121	0.133
	LTE Band 40	10Mhz	QPSK25RB 0offset	Right Side	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.010	0.011
	LTE Band 40	10Mhz	QPSK25RB 0offset	Bottom Side	Bottom	37850	21.63	22.00	1.089	62.9	1.006	0.119	0.130
Band 2													
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Front Side	Top	39200	21.43	21.50	1.016	62.9	1.006	0.058	0.059
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Back Side	Top	39200	21.43	21.50	1.016	62.9	1.006	0.026	0.027
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Side	Top	39200	21.43	21.50	1.016	62.9	1.006	0.047	0.048
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Side	Top	39200	21.43	21.50	1.016	62.9	1.006	0.005	0.005
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Top Side	Top	39200	21.43	21.50	1.016	62.9	1.006	0.062	0.063

	LTE Band 40	10Mhz	QPSK25RB 0offset	Front Side	Top	39200	20.62	21.00	1.091	62.9	1.006	0.048	0.053
	LTE Band 40	10Mhz	QPSK25RB 0offset	Back Side	Top	39200	20.62	21.00	1.091	62.9	1.006	0.023	0.025
	LTE Band 40	10Mhz	QPSK25RB 0offset	Left Side	Top	39200	20.62	21.00	1.091	62.9	1.006	0.045	0.049
	LTE Band 40	10Mhz	QPSK25RB 0offset	Right Side	Top	39200	20.62	21.00	1.091	62.9	1.006	0.001	0.001
	LTE Band 40	10Mhz	QPSK25RB 0offset	Top Side	Top	39200	20.62	21.00	1.091	62.9	1.006	0.049	0.054
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Front Side	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.211	0.232
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Back Side	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.175	0.192
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Left Side	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.189	0.208
	LTE Band 40	10Mhz	QPSK 1RB 0offset	Right Side	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.031	0.034
67#	LTE Band 40	10Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	39200	22.62	23.00	1.091	62.9	1.006	0.241	**0.265**
	LTE Band 40	10Mhz	QPSK25RB12offset	Front Side	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.162	0.173
	LTE Band 40	10Mhz	QPSK25RB12offset	Back Side	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.140	0.150
	LTE Band 40	10Mhz	QPSK25RB12offset	Left Side	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.126	0.135
	LTE Band 40	10Mhz	QPSK25RB12offset	Right Side	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.018	0.019
	LTE Band 40	10Mhz	QPSK25RB12offset	Bottom Side	Bottom	39200	21.74	22.00	1.062	62.9	1.006	0.198	0.211

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Front Side	Top	40620	20.79	21.00	1.050	62.9	1.006	0.152	0.160
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Back Side	Top	40620	20.79	21.00	1.050	62.9	1.006	0.088	0.092
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Left Side	Top	40620	20.79	21.00	1.050	62.9	1.006	0.119	0.126
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Side	Top	40620	20.79	21.00	1.050	62.9	1.006	0.018	0.019
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Top Side	Top	40620	20.79	21.00	1.050	62.9	1.006	0.098	0.103
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Front Side	Top	40620	19.79	20.00	1.050	62.9	1.006	0.118	0.125
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Back Side	Top	40620	19.79	20.00	1.050	62.9	1.006	0.086	0.091
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Left Side	Top	40620	19.79	20.00	1.050	62.9	1.006	0.094	0.100
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Side	Top	40620	19.79	20.00	1.050	62.9	1.006	0.011	0.012
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Top Side	Top	40620	19.79	20.00	1.050	62.9	1.006	0.067	0.070

	LTE Band 41	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.331	0.345
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.211	0.220
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Left Side	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.228	0.237
	LTE Band 41	20Mhz	QPSK 1RB 0offset	Right Side	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.052	0.054
68#	LTE Band 41	20Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	40620	22.35	22.50	1.035	62.9	1.006	0.389	**0.405**
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Front Side	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.261	0.272
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Back Side	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.167	0.174
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Left Side	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.180	0.187
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Right Side	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.042	0.044
	LTE Band 41	20Mhz	QPSK 50RB 0offset	Bottom Side	Bottom	40620	21.35	21.50	1.035	62.9	1.006	0.302	0.314

<FDD-LTE Band 66>

Plot No.	Band	BW (MHz)	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Front Side	Top	132072	18.34	18.50	1.038	0.173	0.179
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Back Side	Top	132072	18.34	18.50	1.038	0.123	0.128
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Left Side	Top	132072	18.34	18.50	1.038	0.098	0.101
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Right Side	Top	132072	18.34	18.50	1.038	0.021	0.022
69#	LTE Band 66	20Mhz	QPSK 1RB 0offset	Top Side	Top	132072	18.34	18.50	1.038	0.309	**0.321**
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Front Side	Top	132072	17.27	17.50	1.054	0.139	0.147
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Back Side	Top	132072	17.27	17.50	1.054	0.094	0.099
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Left Side	Top	132072	17.27	17.50	1.054	0.081	0.086
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Right Side	Top	132072	17.27	17.50	1.054	0.019	0.020
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Top Side	Top	132072	17.27	17.50	1.054	0.260	0.274
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Front Side	Bottom	132072	22.98	23.00	1.005	0.099	0.099
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Back Side	Bottom	132072	22.98	23.00	1.005	0.062	0.062
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Left Side	Bottom	132072	22.98	23.00	1.005	0.023	0.023
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Right Side	Bottom	132072	22.98	23.00	1.005	0.017	0.017
	LTE Band 66	20Mhz	QPSK 1RB 0offset	Bottom Side	Bottom	132072	22.98	23.00	1.005	0.196	0.197

	LTE Band 66	20Mhz	QPSK 50RB 50offset	Front Side	Bottom	132072	21.98	22.00	1.005	0.073	0.073
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Back Side	Bottom	132072	21.98	22.00	1.005	0.044	0.044
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Left Side	Bottom	132072	21.98	22.00	1.005	0.016	0.016
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Right Side	Bottom	132072	21.98	22.00	1.005	0.023	0.023
	LTE Band 66	20Mhz	QPSK 50RB 50offset	Bottom Side	Bottom	132072	21.98	22.00	1.005	0.155	0.156

<2.4G WLAN >

Plot No.	Band	Mode	Test Position	Antenna	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b	Front Side	Ant 0	6	12.23	12.50	1.064	0.051	0.054
	WLAN2.4GHz	802.11b	Back Side	Ant 0	6	12.23	12.50	1.064	0.025	0.027
	WLAN2.4GHz	802.11b	Left Side	Ant 0	6	12.23	12.50	1.064	0.044	0.046
	WLAN2.4GHz	802.11b	Right Side	Ant 0	6	12.23	12.50	1.064	0.005	0.005
	WLAN2.4GHz	802.11b	Top Side	Ant 0	6	12.23	12.50	1.064	0.020	0.021
	WLAN2.4GHz	802.11b	Front Side	Ant 1	11	12.91	13.00	1.021	0.200	0.207
	WLAN2.4GHz	802.11b	Back Side	Ant 1	11	12.91	13.00	1.021	0.146	0.151
	WLAN2.4GHz	802.11b	Left Side	Ant 1	11	12.91	13.00	1.021	0.090	0.093
	WLAN2.4GHz	802.11b	Right Side	Ant 1	11	12.91	13.00	1.021	0.127	0.132
70#	WLAN2.4GHz	802.11b	Bottom Side	Ant 1	11	12.91	13.00	1.021	0.298	**0.309**

<5G WLAN >

Plot No.	Band	Mode	Test Position	Antenna	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11n-HT40MCS0	Front Side	Ant 0	62	17.17	17.50	1.079	0.019	0.022
	WLAN5GHz	802.11n-HT40MCS0	Back Side	Ant 0	62	17.17	17.50	1.079	0.009	0.010
	WLAN5GHz	802.11n-HT40MCS0	Right Side	Ant 0	62	17.17	17.50	1.079	0.003	0.003
	WLAN5GHz	802.11n-HT40MCS0	Top Side	Ant 0	62	17.17	17.50	1.079	0.003	0.003
71#	WLAN5GHz	802.11n-HT40MCS0	Front Side	Ant 1	62	11.21	11.50	1.069	0.025	**0.027**
	WLAN5GHz	802.11n-HT40MCS0	Back Side	Ant 1	62	11.21	11.50	1.069	0.005	**0.010**
	WLAN5GHz	802.11n-HT40MCS0	Left Side	Ant 1	62	11.21	11.50	1.069	0.012	0.014
	WLAN5GHz	802.11n-HT40MCS0	Right Side	Ant 1	62	11.21	11.50	1.069	0.002	0.002
	WLAN5GHz	802.11n-HT40MCS0	Top Side	Ant 1	62	11.21	11.50	1.069	0.019	0.021
72#	WLAN5GHz	802.11ac-VHT40MCS0	Front Side	Ant 0	142	12.74	13.00	1.062	0.071	**0.078**
	WLAN5GHz	802.11ac-VHT40MCS0	Back Side	Ant 0	142	12.74	13.00	1.062	0.004	**0.004**
	WLAN5GHz	802.11ac-VHT40MCS0	Right Side	Ant 0	142	12.74	13.00	1.062	0.001	0.001
	WLAN5GHz	802.11ac-VHT40MCS0	Top Side	Ant 0	142	12.74	13.00	1.062	0.018	0.019
	WLAN5GHz	802.11n-HT40MCS0	Front Side	Ant 1	126	8.85	9.00	1.035	0.022	0.024
	WLAN5GHz	802.11n-HT40MCS0	Back Side	Ant 1	126	8.85	9.00	1.035	0.013	0.015
	WLAN5GHz	802.11n-HT40MCS0	Left Side	Ant 1	126	8.85	9.00	1.035	0.006	0.006
	WLAN5GHz	802.11n-HT40MCS0	Right Side	Ant 1	126	8.85	9.00	1.035	0.003	0.003
	WLAN5GHz	802.11n-HT40MCS0	Top Side	Ant 1	126	8.85	9.00	1.035	0.012	0.014

Plot No.	Band	Mode	Test Position	Antenna	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5GHz	802.11ac-VHT40MCS0	Front Side	Ant 0	151	12.31	12.50	1.045	0.037	0.041
	WLAN5GHz	802.11ac-VHT40MCS0	Back Side	Ant 0	151	12.31	12.50	1.045	0.003	0.003
	WLAN5GHz	802.11ac-VHT40MCS0	Right Side	Ant 0	151	12.31	12.50	1.045	0.009	0.010
	WLAN5GHz	802.11ac-VHT40MCS0	Top Side	Ant 0	151	12.31	12.50	1.045	0.005	0.006
73#	WLAN5GHz	802.11ac-VHT40MCS0	Front Side	Ant 1	151	7.04	7.50	1.112	0.063	**0.036**
	WLAN5GHz	802.11ac-VHT40MCS0	Back Side	Ant 1	151	7.04	7.50	1.112	0.03	**0.03**
	WLAN5GHz	802.11ac-VHT40MCS0	Left Side	Ant 1	151	7.04	7.50	1.112	0.012	0.014
	WLAN5GHz	802.11ac-VHT40MCS0	Right Side	Ant 1	151	7.04	7.50	1.112	0.014	0.017
	WLAN5GHz	802.11ac-VHT40MCS0	Top Side	Ant 1	151	7.04	7.50	1.112	0.010	0.012

Note: The WLAN Reported 1g SAR (W/kg) has been calculated together with the duty cycle scaling factor.

<Bluetooth >

Plot No.	Band	Mode	Test Position	Antenna	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
74#	Bluetooth	DH5	Front Side	Ant 1	78	12.81	13.00	1.045	76.8	1.302	0.081	**0.110**
	Bluetooth	DH5	Back Side	Ant 1	78	12.81	13.00	1.045	76.8	1.302	0.036	0.048
	Bluetooth	DH5	Right Side	Ant 1	78	12.81	13.00	1.045	76.8	1.302	0.061	0.082
	Bluetooth	DH5	Top Side	Ant 1	78	12.81	13.00	1.045	76.8	1.302	0.037	0.050

17.5. Repeated SAR Measurement

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz. These additional measurements are repeated after the completion of all measurements requiring the samehead or body tissue-equivalent medium in a frequency band. The test device should be returned to ambientconditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder forthe repeated measurement(s) to minimize any unexpected variations in the repeated results.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2)through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and firstrepeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% fromthe 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kgand the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

<Head Repeated SAR>
<GSM/WCDMA>

Plot No.	Band	Mode	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
OR	GSM850	GPRS(4 TX slots)	Right Cheek	Top	128	27.39	27.50	1.026	1.080	**1.108**
Repeated	GSM850	GPRS(4 TX slots)	Right Cheek	Top	128	27.39	27.50	1.026	1.020	1.046
OR	GSM1900	GPRS(4 TX slots)	Right Cheek	Top	661	23.75	24.00	1.059	0.794	**0.841**
Repeated	GSM1900	GPRS(4 TX slots)	Right Cheek	Top	661	23.75	24.00	1.059	0.790	0.837
OR	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Top	9538	17.18	17.50	1.076	0.954	**1.027**
Repeated	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Top	9538	17.18	17.50	1.076	0.951	1.024
OR	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Top	1513	19.06	19.50	1.107	1.080	**1.195**
Repeated	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Top	1513	19.06	19.50	1.107	1.050	1.162
OR	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Top	4182	22.87	23.00	1.030	0.956	**0.985**
Repeated	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Top	4182	22.87	23.00	1.030	0.951	0.980

<LTE>

Plot No.	Band	Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
OR	LTE Band 2	QPSK 1RB 0offset	Right Cheek	Top	19100	17.77	18.00	1.054	0.986	**1.040**
Repeated	LTE Band 2	QPSK 1RB 0offset	Right Cheek	Top	19100	17.77	18.00	1.054	0.962	1.014
OR	LTE Band 4	QPSK 1RB 0offset	Right Cheek	Top	20300	18.63	19.00	1.089	0.937	**1.020**
Repeated	LTE Band 4	QPSK 1RB 0offset	Right Cheek	Top	20300	18.63	19.00	1.089	0.876	0.954
OR	LTE Band 7	QPSK 1RB 0offset	Right Cheek	Top	21350	16.17	16.50	1.079	0.849	**0.916**
Repeated	LTE Band 7	QPSK 1RB 0offset	Right Cheek	Top	21350	16.17	16.50	1.079	0.836	0.902
OR	LTE Band 17	QPSK 1RB 0offset	Right Cheek	Top	23780	21.78	22.50	1.180	0.866	**1.022**
Repeated	LTE Band 17	QPSK 1RB 0offset	Right Cheek	Top	23780	21.78	22.50	1.180	0.865	1.021
OR	LTE Band 18	QPSK 1RB 0offset	Right Cheek	Top	23925	22.02	22.50	1.117	0.719	**0.803**
Repeated	LTE Band 18	QPSK 1RB 0offset	Right Cheek	Top	23925	22.02	22.50	1.117	0.715	0.799
OR	LTE Band 19	QPSK 1RB 0offset	Right Cheek	Top	24075	21.96	22.00	1.009	0.796	**0.803**
Repeated	LTE Band 19	QPSK 1RB 0offset	Right Cheek	Top	24075	21.96	22.00	1.009	0.793	0.800
OR	LTE Band 25	QPSK 1RB 99offset	Right Cheek	Top	26140	18.35	18.50	1.035	1.030	**1.066**
Repeated	LTE Band 25	QPSK 1RB 99offset	Right Cheek	Top	26140	18.35	18.50	1.035	1.010	1.045
OR	LTE Band 26	QPSK 1RB 37offset	Right Cheek	Top	26765	21.60	22.00	1.096	0.785	0.861
Repeated	LTE Band 26	QPSK 1RB37offset	Right Cheek	Top	26765	21.60	22.00	1.096	0.782	0.857
OR	LTE Band 30	QPSK 1RB 0offset	Right Tilt	Top	27710	19.44	19.50	1.014	0.817	**0.828**
Repeated	LTE Band 30	QPSK 1RB 0offset	Right Tilt	Top	27710	19.44	19.50	1.014	0.813	0.824
OR	LTE Band 38	QPSK 1RB 0offset	Right Cheek	Top	38000	19.70	20.00	1.072	0.853	**0.919**
Repeated	LTE Band 38	QPSK 1RB 0offset	Right Cheek	Top	38000	19.70	20.00	1.072	0.851	0.917
OR	LTE Band 41	QPSK 1RB 0offset	Right Cheek	Top	41055	20.67	21.00	1.079	1.090	**1.183**

Repeated	LTE Band 41	QPSK 1RB 0offset	Right Cheek	Top	41055	20.67	21.00	1.079	1.050	1.140
OR	LTE Band 66	QPSK 1RB 0offset	Right Cheek	Top	132072	18.34	18.50	1.038	0.907	**0.941**
Repeated	LTE Band 66	QPSK 1RB 0offset	Right Cheek	Top	132072	18.34	18.50	1.038	0.905	0.939

<Body-worn & Hotspot Repeated SAR (Test distance 10mm)>

Plot No.	Band	Mode/Modulation RB/offset	Test Position	Ant.	Ch.	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
OR	LTE Band 7	QPSK 1RB 0offset	Front Side	Bottom	21350	22.37	23.00	1.156	0.735	**0.850**
Repeated	LTE Band 7	QPSK 1RB 0offset	Front Side	Bottom	21350	22.37	23.00	1.156	0.731	0.845

18. Stand-alone SAR test Exclusion

Bluetooth SAR is estimated per KDB 447498 D01v06 based on the formula below.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10 -g extremity SAR,where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine

<Bluetooth Estimated SAR>

Maximum tune-up tolerance (dBm)	Maximum tune-up tolerance (mW)	Minimum Distance(mm)	Frequency(GHz)	Test threshold
15.00	31.62	10	2.48	4.98

So Bluetooth needs to be tested.

Note：Held-to ear configuration are not applicable to Bluetooth operations and therefore were not considered for simultaneous transmission.

19. Simultaneous Transmission Evaluation

Simultaneous Evaluation:

No.	Simultaneous transmission Condition	Head	Body-worn	Hotspot
1	WWAN + WLAN 2.4GHz Ant.0	Yes	Yes	Yes
2	WWAN + WLAN 2.4GHz Ant.1	Yes	Yes	Yes
3	WWAN + WLAN 2.4GHz MIMO	Yes	Yes	Yes
4	WWAN + WLAN 5GHz Ant.0	Yes	Yes	Yes
5	WWAN + WLAN 5GHz Ant.1	Yes	Yes	Yes
6	WWAN + WLAN 5GHz MIMO	Yes	Yes	Yes
7	WWAN +Bluetooth	Yes	Yes	Yes

Note:

1. When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the Wi-Fi transmitter and another WWAN transmitter. Both transmitter often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.
2. The hotspot SAR result may overlap with the body-worn accessory SAR requirements, per KDB 941225 D06, the more conservative configurations can be considered, thus excluding some unnecessary body-worn accessory SAR tests.
3. GSM supports voice and data transmission, though not simultaneously. WCDMA supports voice and data transmission simultaneously.
4. Simultaneous Transmission SAR evaluation is not required for BT and Wi-Fi , because the software mechanism have been incorporated to guarantee that the WLAN and Bluetooth transmitters would not simultaneously operate.
5. Per KDB 447498D01v06, Simultaneous Transmission SAR Evaluation procedures is as followed:

   Step 1: If sum of 1 g SAR < 1.6 W/kg, Simultaneous SAR measurement is not required.

   Step 2: If sum of 1 g SAR > 1.6 W/kg, ratio of SAR to peak separation distance for pair of transmitters calculated.

   Step 3: If the ratio of SAR to peak separation distance is ≤ 0.04, Simultaneous SAR measurement is not required.

   Step 4: If the ratio of SAR to peak separation distance is > 0.04, Simultaneous SAR measurement is required and simultaneous transmission SAR value is calculated.

   (The ratio is determined by: (SAR1 + SAR2) ^ 1.5/Ri ≤ 0.04,

   Ri is the separation distance between the peak SAR locations for the antenna pair in mm.
6. 2.4G&5G MIMO SAR was combined standalone SAR of antenna 0 and antenna 1.

< Head Exposure>

WLAN Antenna 0:

WWAN Band		Exposure Position	WWAN 1g SAR (W/kg)	2.4GHz WLAN Ant 0 1g SAR (W/kg)	5GHz WLAN Ant 0 1g SAR (W/kg)	WWAN+2.4G WLANAnt 0 Summed 1g SAR (W/kg)	WWAN+5G WLANAnt 0 Summed 1g SAR (W/kg)
GSM	GSM850	Right Cheek	1.152	0.173	0.287	1.325	1.439
		Right Tilt	1.109	0.137	0.280	1.246	1.389
		Left Cheek	0.939	0.334	0.647	1.273	1.586
		Left Tilt	0.744	0.260	0.757	1.004	1.501
	GSM1900	Right Cheek	0.841	0.173	0.287	1.014	1.128
		Right Tilt	0.657	0.137	0.280	0.794	0.937
		Left Cheek	0.397	0.334	0.647	0.731	1.044
		Left Tilt	0.358	0.260	0.757	0.618	1.115
WCDMA	WCDMA Band II	Right Cheek	1.027	0.173	0.287	1.200	1.314
		Right Tilt	0.862	0.137	0.280	0.999	1.142
		Left Cheek	0.494	0.334	0.647	0.828	1.141
		Left Tilt	0.417	0.260	0.757	0.677	1.174
	WCDMA Band IV	Right Cheek	1.195	0.173	0.287	1.368	1.482
		Right Tilt	1.004	0.137	0.280	1.141	1.284
		Left Cheek	0.548	0.334	0.647	0.882	1.195
		Left Tilt	0.575	0.260	0.757	0.835	1.332
	WCDMA Band V	Right Cheek	0.985	0.173	0.287	1.158	1.272
		Right Tilt	0.921	0.137	0.280	1.058	1.201
		Left Cheek	0.730	0.334	0.647	1.064	1.377
		Left Tilt	0.639	0.260	0.757	0.899	1.396
CDNA2000	CDMA2000 BC0	Right Cheek	0.744	0.173	0.287	0.917	1.031
		Right Tilt	0.736	0.137	0.280	0.873	1.016
		Left Cheek	0.527	0.334	0.647	0.861	1.174
		Left Tilt	0.503	0.260	0.757	0.763	1.260
LTE	LTE Band 2	Right Cheek	1.040	0.173	0.287	1.213	1.327
		Right Tilt	0.839	0.137	0.280	0.976	1.119
		Left Cheek	0.373	0.334	0.647	0.707	1.020
		Left Tilt	0.364	0.260	0.757	0.624	1.121
	LTE Band 4	Right Cheek	1.020	0.173	0.287	1.193	1.307
		Right Tilt	0.935	0.137	0.280	1.072	1.215
		Left Cheek	0.526	0.334	0.647	0.860	1.173

		Left Tilt	0.562	0.260	0.757	0.822	1.319
	LTE Band 5	Right Cheek	0.783	0.173	0.287	0.956	1.070
		Right Tilt	0.782	0.137	0.280	0.919	1.062
		Left Cheek	0.636	0.334	0.647	0.970	1.283
		Left Tilt	0.591	0.260	0.757	0.851	1.348
	LTE Band 7	Right Cheek	0.916	0.173	0.287	1.089	1.203
		Right Tilt	0.696	0.137	0.280	0.833	0.976
		Left Cheek	0.749	0.334	0.647	1.083	1.396
		Left Tilt	0.366	0.260	0.757	0.626	1.123
	LTE Band 17	Right Cheek	1.022	0.173	0.287	1.195	1.309
		Right Tilt	0.919	0.137	0.280	1.056	1.199
		Left Cheek	0.728	0.334	0.647	1.062	1.375
		Left Tilt	0.553	0.260	0.757	0.813	1.310
	LTE Band 18	Right Cheek	0.803	0.173	0.287	0.976	1.090
		Right Tilt	0.660	0.137	0.280	0.797	0.940
		Left Cheek	0.591	0.334	0.647	0.925	1.238
		Left Tilt	0.542	0.260	0.757	0.802	1.299
	LTE Band 19	Right Cheek	0.803	0.173	0.287	0.976	1.090
		Right Tilt	0.626	0.137	0.280	0.763	0.906
		Left Cheek	0.594	0.334	0.647	0.928	1.241
		Left Tilt	0.569	0.260	0.757	0.829	1.326
	LTE Band 25	Right Cheek	1.066	0.173	0.287	1.239	1.353
		Right Tilt	0.886	0.137	0.280	1.023	1.166
		Left Cheek	0.456	0.334	0.647	0.790	1.103
		Left Tilt	0.420	0.260	0.757	0.680	1.177
	LTE Band 26	Right Cheek	0.861	0.173	0.287	1.034	1.148
		Right Tilt	0.776	0.137	0.280	0.913	1.056
		Left Cheek	0.760	0.334	0.647	1.094	1.407
		Left Tilt	0.732	0.260	0.757	0.992	1.489
	LTE Band 30	Right Cheek	0.672	0.173	0.287	0.845	0.959
		Right Tilt	0.828	0.137	0.280	0.965	1.108
		Left Cheek	0.395	0.334	0.647	0.729	1.042
		Left Tilt	0.317	0.260	0.757	0.577	1.074
	LTE Band 38	Right Cheek	0.919	0.173	0.287	1.092	1.206
		Right Tilt	0.773	0.137	0.280	0.910	1.053
		Left Cheek	0.395	0.334	0.647	0.729	1.042
		Left Tilt	0.387	0.260	0.757	0.647	1.144
	LTE Band	Right Cheek	0.466	0.173	0.287	0.639	0.753

	40	Right Tilt	0.532	0.137	0.280	0.669	0.812
		Left Cheek	0.317	0.334	0.647	0.651	0.964
		Left Tilt	0.330	0.260	0.757	0.590	1.087
	LTE Band 41	Right Cheek	1.183	0.173	0.287	1.356	1.470
		Right Tilt	1.015	0.137	0.280	1.152	1.295
		Left Cheek	0.447	0.334	0.647	0.781	1.094
		Left Tilt	0.478	0.260	0.757	0.738	1.235
	LTE Band 66	Right Cheek	0.941	0.173	0.287	1.114	1.228
		Right Tilt	0.659	0.137	0.280	0.796	0.939
		Left Cheek	0.635	0.334	0.647	0.969	1.282
		Left Tilt	0.568	0.260	0.757	0.828	1.325

WLAN Antenna 0+1

Band	Exposure Position	Ant 0	Ant 1	Ant 0+1
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WLAN 2.4GHz	Right Cheek	0.170	0.062	0.232
	Right Tilt	0.134	0.049	0.183
	Left Cheek	0.327	0.060	0.387
	Left Tilt	0.254	0.023	0.277
WLAN 5.3GHz	Right Cheek	0.223	0.259	0.482
	Right Tilt	0.191	0.221	0.412
	Left Cheek	**0.588**	0.091	0.679
	Left Tilt	0.462	0.098	0.560
WLAN 5.5GHz	Right Cheek	0.143	0.142	0.285
	Right Tilt	0.136	0.136	0.272
	Left Cheek	0.267	0.107	0.374
	Left Tilt	0.297	0.135	0.432
WLAN 5.8GHz	Right Cheek	0.258	0.158	0.416
	Right Tilt	0.252	0.202	0.454
	Left Cheek	0.453	0.155	0.608
	Left Tilt	0.682	0.131	0.813

<Hotspot Exposure>

WLAN Antenna 0:

WWAN Band		Exposure Position	WWAN 1g SAR (W/kg)	2.4GHz WLANAnt 0 1g SAR (W/kg)	5GHz WLANAnt 0 1g SAR (W/kg)	Bluetooth Estimated 1g SAR (W/kg)	WWAN+2.4G WLANAnt 0 Summed 1g SAR (W/kg)	WWAN+5G WLANAnt 0 Summed 1g SAR (W/kg)	WWAN+ Bluetooth Summed 1g SAR (W/kg)
GSM	GSM850	Front	0.405	0.054	0.078	0.110	0.459	0.483	0.515
		Back	0.331	0.027	0.010	0.048	0.358	0.341	0.379
		Left side	0.267	0.046			0.313	0.267	0.267
		Right side	0.165	0.005	0.010	0.082	0.170	0.175	0.247
		Top side	0.443	0.021	0.019	0.050	0.464	0.462	0.493
		Bottom side	0.193				0.193	0.193	0.193
	GSM1900	Front	0.147	0.054	0.078	0.110	0.201	0.225	0.257
		Back	0.102	0.027	0.010	0.048	0.129	0.112	0.15
		Left side	0.121	0.046			0.167	0.121	0.121
		Right side	0.057	0.005	0.010	0.082	0.062	0.067	0.139
		Top side	0.167	0.021	0.019	0.050	0.188	0.186	0.217
		Bottom side	0.131				0.131	0.131	0.131
WCDMA	WCDMA Band II	Front	0.212	0.054	0.078	0.110	0.266	0.290	0.322
		Back	0.152	0.027	0.010	0.048	0.179	0.162	0.2
		Left side	0.148	0.046			0.194	0.148	0.148
		Right side	0.054	0.005	0.010	0.082	0.059	0.064	0.136
		Top side	0.174	0.021	0.019	0.050	0.195	0.193	0.224
		Bottom side	0.400				0.400	0.400	0.4
	WCDMA Band IV	Front	0.272	0.054	0.078	0.110	0.326	0.350	0.382
		Back	0.143	0.027	0.010	0.048	0.170	0.153	0.191
		Left side	0.146	0.046			0.192	0.146	0.146
		Right side	0.025	0.005	0.010	0.082	0.030	0.035	0.107
		Top side	0.422	0.021	0.019	0.050	0.443	0.441	0.472
		Bottom side	0.185				0.185	0.185	0.185
	WCDMA Band V	Front	0.295	0.054	0.078	0.110	0.349	0.373	0.405
		Back	0.257	0.027	0.010	0.048	0.284	0.267	0.305
		Left side	0.167	0.046			0.213	0.167	0.167
		Right side	0.212	0.005	0.010	0.082	0.217	0.222	0.294
		Top side	0.339	0.021	0.019	0.050	0.360	0.358	0.389
		Bottom side	0.009				0.009	0.009	0.009
CDMA2000	CDMA2000	Front	0.243	0.054	0.078	0.110	0.297	0.321	0.353

	BC0	Back	0.217	0.027	0.010	0.048	0.244	0.227	0.265
		Left side	0.130	0.046			0.176	0.130	0.13
		Right side	0.172	0.005	0.010	0.082	0.177	0.182	0.254
		Top side	0.262	0.021	0.019	0.050	0.283	0.281	0.312
		Bottom side	0.221				0.221	0.221	0.221
LTE	LTE Band 2	Front	0.272	0.054	0.078	0.110	0.326	0.350	0.382
		Back	0.243	0.027	0.010	0.048	0.270	0.253	0.291
		Left side	0.254	0.046			0.300	0.254	0.254
		Right side	0.046	0.005	0.010	0.082	0.051	0.056	0.128
		Top side	0.254	0.021	0.019	0.050	0.275	0.273	0.304
		Bottom side	0.487				0.487	0.487	0.487
	LTE Band 4	Front	0.191	0.054	0.078	0.110	0.245	0.269	0.301
		Back	0.143	0.027	0.010	0.048	0.170	0.153	0.191
		Left side	0.119	0.046			0.165	0.119	0.119
		Right side	0.030	0.005	0.010	0.082	0.035	0.040	0.112
		Top side	0.366	0.021	0.019	0.050	0.387	0.385	0.416
		Bottom side	0.181				0.181	0.181	0.181
	LTE Band 5	Front	0.237	0.054	0.078	0.110	0.291	0.315	0.347
		Back	0.223	0.027	0.010	0.048	0.250	0.233	0.271
		Left side	0.104	0.046			0.150	0.104	0.104
		Right side	0.049	0.005	0.010	0.082	0.054	0.059	0.131
		Top side	0.269	0.021	0.019	0.050	0.290	0.288	0.319
		Bottom side	0.299				0.299	0.299	0.299
	LTE Band 7	Front	0.850	0.054	0.078	0.110	0.904	0.928	0.96
		Back	0.736	0.027	0.010	0.048	0.763	0.746	0.784
		Left side	0.569	0.046			0.615	0.569	0.569
		Right side	0.081	0.005	0.010	0.082	0.086	0.091	0.163
		Top side	0.072	0.021	0.019	0.050	0.093	0.091	0.122
		Bottom side	0.670				0.670	0.670	0.67
	LTE Band 17	Front	0.402	0.054	0.078	0.110	0.456	0.480	0.512
		Back	0.323	0.027	0.010	0.048	0.350	0.333	0.371
		Left side	0.255	0.046			0.301	0.255	0.255
		Right side	0.068	0.005	0.010	0.082	0.073	0.078	0.15
		Top side	0.478	0.021	0.019	0.050	0.499	0.497	0.528
		Bottom side	0.093				0.093	0.093	0.093
	LTE Band 18	Front	0.219	0.054	0.078	0.110	0.273	0.297	0.329
		Back	0.179	0.027	0.010	0.048	0.206	0.189	0.227
		Left side	0.098	0.046			0.144	0.098	0.098

		Right side	0.114	0.005	0.010	0.082	0.119	0.124	0.196
		Top side	0.274	0.021	0.019	0.050	0.295	0.293	0.324
		Bottom side	0.147				0.147	0.147	0.147
	LTE Band 19	Front	0.228	0.054	0.078	0.110	0.282	0.306	0.338
		Back	0.185	0.027	0.010	0.048	0.212	0.195	0.233
		Left side	0.112	0.046			0.158	0.112	0.112
		Right side	0.142	0.005	0.010	0.082	0.147	0.152	0.224
		Top side	0.269	0.021	0.019	0.050	0.290	0.288	0.319
		Bottom side	0.198				0.198	0.198	0.198
	LTE Band 25	Front	0.245	0.054	0.078	0.110	0.299	0.323	0.355
		Back	0.195	0.027	0.010	0.048	0.222	0.205	0.243
		Left side	0.207	0.046			0.253	0.207	0.207
		Right side	0.014	0.005	0.010	0.082	0.019	0.024	0.096
		Top side	0.230	0.021	0.019	0.050	0.251	0.249	0.28
		Bottom side	0.391				0.391	0.391	0.391
	LTE Band 26	Front	0.202	0.054	0.078	0.110	0.256	0.280	0.312
		Back	0.179	0.027	0.010	0.048	0.206	0.189	0.227
		Left side	0.097	0.046			0.143	0.097	0.097
		Right side	0.041	0.005	0.010	0.082	0.046	0.051	0.123
		Top side	0.238	0.021	0.019	0.050	0.259	0.257	0.288
		Bottom side	0.171				0.171	0.171	0.171
	LTE Band 30	Front	0.456	0.054	0.078	0.110	0.510	0.534	0.566
		Back	0.351	0.027	0.010	0.048	0.378	0.361	0.399
		Left side	0.377	0.046			0.423	0.377	0.377
		Right side	0.096	0.005	0.010	0.082	0.101	0.106	0.178
		Top side	0.087	0.021	0.019	0.050	0.108	0.106	0.137
		Bottom side	0.343				0.343	0.343	0.343
	LTE Band 38	Front	0.312	0.054	0.078	0.110	0.366	0.390	0.422
		Back	0.238	0.027	0.010	0.048	0.265	0.248	0.286
		Left side	0.224	0.046			0.270	0.224	0.224
		Right side	0.036	0.005	0.010	0.082	0.041	0.046	0.118
		Top side	0.079	0.021	0.019	0.050	0.100	0.098	0.129
		Bottom side	0.424				0.424	0.424	0.424
	LTE Band 40	Front	0.232	0.054	0.078	0.110	0.286	0.310	0.342
		Back	0.222	0.027	0.010	0.048	0.249	0.232	0.27
		Left side	0.210	0.046			0.256	0.210	0.21
		Right side	0.034	0.005	0.010	0.082	0.039	0.044	0.116
		Top side	0.063	0.021	0.019	0.050	0.084	0.082	0.113

		Bottom side	0.265				0.265	0.265	0.265
	LTE Band 41	Front	0.345	0.054	0.078	0.110	0.399	0.423	0.455
		Back	0.220	0.027	0.010	0.048	0.247	0.230	0.268
		Left side	0.237	0.046			0.283	0.237	0.237
		Right side	0.054	0.005	0.010	0.082	0.059	0.064	0.136
		Top side	0.103	0.021	0.019	0.050	0.124	0.122	0.153
		Bottom side	0.405				0.405	0.405	0.405
	LTE Band 66	Front	0.179	0.054	0.078	0.110	0.233	0.257	0.289
		Back	0.128	0.027	0.010	0.048	0.155	0.138	0.176
		Left side	0.101	0.046			0.147	0.101	0.101
		Right side	0.023	0.005	0.010	0.082	0.028	0.033	0.105
		Top side	0.321	0.021	0.019	0.050	0.342	0.340	0.371
		Bottom side	0.197				0.197	0.197	0.197

WLAN Antenna 1:

WWAN Band		Exposure Position	WWAN 1g SAR (W/kg)	2.4GHz WLAN Ant 1 1g SAR (W/kg)	5GHz WLAN Ant 1 1g SAR (W/kg)	Bluetooth Estimated 1g SAR (W/kg)	WWAN+2.4G WLANAnt 1 Summed 1g SAR (W/kg)	WWAN+5G WLANAnt 1 Summed 1g SAR (W/kg)	WWAN+ Bluetooth Summed 1g SAR (W/kg)
GSM	GSM850	Front	0.405	0.207	0.075	0.110	0.612	0.480	0.515
		Back	0.331	0.151	0.036	0.048	0.482	0.367	0.379
		Left side	0.267	0.093	0.014		0.360	0.281	0.267
		Right side	0.165	0.132	0.017	0.082	0.297	0.182	0.247
		Top side	0.443		0.021	0.050	0.443	0.464	0.493
		Bottom side	0.193	0.309			0.502	0.193	0.193
	GSM1900	Front	0.147	0.207	0.075	0.110	0.354	0.222	0.257
		Back	0.102	0.151	0.036	0.048	0.253	0.138	0.15
		Left side	0.121	0.093	0.014		0.214	0.135	0.121
		Right side	0.057	0.132	0.017	0.082	0.189	0.074	0.139
		Top side	0.167		0.021	0.050	0.167	0.188	0.217
		Bottom side	0.131	0.309			0.440	0.131	0.131
WCDMA	WCDMA Band II	Front	0.212	0.207	0.075	0.110	0.419	0.287	0.322
		Back	0.152	0.151	0.036	0.048	0.303	0.188	0.2
		Left side	0.148	0.093	0.014		0.241	0.162	0.148
		Right side	0.054	0.132	0.017	0.082	0.186	0.071	0.136
		Top side	0.174		0.021	0.050	0.174	0.195	0.224

		Bottom side	0.400	0.309			0.709	0.400	0.4
	WCDMA Band IV	Front	0.272	0.207	0.075	0.110	0.479	0.347	0.382
		Back	0.143	0.151	0.036	0.048	0.294	0.179	0.191
		Left side	0.146	0.093	0.014		0.239	0.160	0.146
		Right side	0.025	0.132	0.017	0.082	0.157	0.042	0.107
		Top side	0.422		0.021	0.050	0.422	0.443	0.472
		Bottom side	0.185	0.309			0.494	0.185	0.185
	WCDMA Band V	Front	0.295	0.207	0.075	0.110	0.502	0.370	0.405
		Back	0.257	0.151	0.036	0.048	0.408	0.293	0.305
		Left side	0.167	0.093	0.014		0.260	0.181	0.167
		Right side	0.212	0.132	0.017	0.082	0.344	0.229	0.294
		Top side	0.339		0.021	0.050	0.339	0.360	0.389
		Bottom side	0.009	0.309			0.318	0.009	0.009
CDMA2000	CDMA2000 BC0	Front	0.243	0.207	0.075	0.110	0.450	0.318	0.353
		Back	0.217	0.151	0.036	0.048	0.368	0.253	0.265
		Left side	0.130	0.093	0.014		0.223	0.144	0.13
		Right side	0.172	0.132	0.017	0.082	0.304	0.189	0.254
		Top side	0.262		0.021	0.050	0.262	0.283	0.312
		Bottom side	0.221	0.309			0.530	0.221	0.221
LTE	LTE Band 2	Front	0.272	0.207	0.075	0.110	0.479	0.347	0.382
		Back	0.243	0.151	0.036	0.048	0.394	0.279	0.291
		Left side	0.254	0.093	0.014		0.347	0.268	0.254
		Right side	0.046	0.132	0.017	0.082	0.178	0.063	0.128
		Top side	0.254		0.021	0.050	0.254	0.275	0.304
		Bottom side	0.487	0.309			0.796	0.487	0.487
	LTE Band 4	Front	0.191	0.207	0.075	0.110	0.398	0.266	0.301
		Back	0.143	0.151	0.036	0.048	0.294	0.179	0.191
		Left side	0.119	0.093	0.014		0.212	0.133	0.119
		Right side	0.030	0.132	0.017	0.082	0.162	0.047	0.112
		Top side	0.366		0.021	0.050	0.366	0.387	0.416
		Bottom side	0.181	0.309			0.490	0.181	0.181
	LTE Band 5	Front	0.237	0.207	0.075	0.110	0.444	0.312	0.347
		Back	0.223	0.151	0.036	0.048	0.374	0.259	0.271
		Left side	0.104	0.093	0.014		0.197	0.118	0.104
		Right side	0.049	0.132	0.017	0.082	0.181	0.066	0.131
		Top side	0.269		0.021	0.050	0.269	0.290	0.319
		Bottom side	0.299	0.309			0.608	0.299	0.299
	LTE Band 7	Front	0.850	0.207	0.075	0.110	1.057	0.925	0.96

		Back	0.736	0.151	0.036	0.048	0.887	0.772	0.784
		Left side	0.569	0.093	0.014		0.662	0.583	0.569
		Right side	0.081	0.132	0.017	0.082	0.213	0.098	0.163
		Top side	0.072		0.021	0.050	0.072	0.093	0.122
		Bottom side	0.670	0.309			0.979	0.670	0.67
	LTE Band 17	Front	0.402	0.207	0.075	0.110	0.609	0.477	0.512
		Back	0.323	0.151	0.036	0.048	0.474	0.359	0.371
		Left side	0.255	0.093	0.014		0.348	0.269	0.255
		Right side	0.068	0.132	0.017	0.082	0.200	0.085	0.15
		Top side	0.478		0.021	0.050	0.478	0.499	0.528
		Bottom side	0.093	0.309			0.402	0.093	0.093
	LTE Band 18	Front	0.219	0.207	0.075	0.110	0.426	0.294	0.329
		Back	0.179	0.151	0.036	0.048	0.330	0.215	0.227
		Left side	0.098	0.093	0.014		0.191	0.112	0.098
		Right side	0.114	0.132	0.017	0.082	0.246	0.131	0.196
		Top side	0.274		0.021	0.050	0.274	0.295	0.324
		Bottom side	0.147	0.309			0.456	0.147	0.147
	LTE Band 19	Front	0.228	0.207	0.075	0.110	0.435	0.303	0.338
		Back	0.185	0.151	0.036	0.048	0.336	0.221	0.233
		Left side	0.112	0.093	0.014		0.205	0.126	0.112
		Right side	0.142	0.132	0.017	0.082	0.274	0.159	0.224
		Top side	0.269		0.021	0.050	0.269	0.290	0.319
		Bottom side	0.198	0.309			0.507	0.198	0.198
	LTE Band 25	Front	0.245	0.207	0.075	0.110	0.452	0.320	0.355
		Back	0.195	0.151	0.036	0.048	0.346	0.231	0.243
		Left side	0.207	0.093	0.014		0.300	0.221	0.207
		Right side	0.014	0.132	0.017	0.082	0.146	0.031	0.096
		Top side	0.230		0.021	0.050	0.230	0.251	0.28
		Bottom side	0.391	0.309			0.700	0.391	0.391
	LTE Band 26	Front	0.202	0.207	0.075	0.110	0.409	0.277	0.312
		Back	0.179	0.151	0.036	0.048	0.330	0.215	0.227
		Left side	0.097	0.093	0.014		0.190	0.111	0.097
		Right side	0.041	0.132	0.017	0.082	0.173	0.058	0.123
		Top side	0.238		0.021	0.050	0.238	0.259	0.288
		Bottom side	0.171	0.309			0.480	0.171	0.171
	LTE Band 30	Front	0.456	0.207	0.075	0.110	0.663	0.531	0.566
		Back	0.351	0.151	0.036	0.048	0.502	0.387	0.399
		Left side	0.377	0.093	0.014		0.470	0.391	0.377

		Right side	0.096	0.132	0.017	0.082	0.228	0.113	0.178
		Top side	0.087		0.021	0.050	0.087	0.108	0.137
		Bottom side	0.343	0.309			0.652	0.343	0.343
	LTE Band 38	Front	0.312	0.207	0.075	0.110	0.519	0.387	0.422
		Back	0.238	0.151	0.036	0.048	0.389	0.274	0.286
		Left side	0.224	0.093	0.014		0.317	0.238	0.224
		Right side	0.036	0.132	0.017	0.082	0.168	0.053	0.118
		Top side	0.079		0.021	0.050	0.079	0.100	0.129
		Bottom side	0.424	0.309			0.733	0.424	0.424
	LTE Band 40	Front	0.232	0.207	0.075	0.110	0.439	0.307	0.342
		Back	0.222	0.151	0.036	0.048	0.373	0.258	0.27
		Left side	0.210	0.093	0.014		0.303	0.224	0.21
		Right side	0.034	0.132	0.017	0.082	0.166	0.051	0.116
		Top side	0.063		0.021	0.050	0.063	0.084	0.113
		Bottom side	0.265	0.309			0.574	0.265	0.265
	LTE Band 41	Front	0.345	0.207	0.075	0.110	0.552	0.420	0.455
		Back	0.220	0.151	0.036	0.048	0.371	0.256	0.268
		Left side	0.237	0.093	0.014		0.330	0.251	0.237
		Right side	0.054	0.132	0.017	0.082	0.186	0.071	0.136
		Top side	0.103		0.021	0.050	0.103	0.124	0.153
		Bottom side	0.405	0.309			0.714	0.405	0.405
	LTE Band 66	Front	0.179	0.207	0.075	0.110	0.386	0.254	0.289
		Back	0.128	0.151	0.036	0.048	0.279	0.164	0.176
		Left side	0.101	0.093	0.014		0.194	0.115	0.101
		Right side	0.023	0.132	0.017	0.082	0.155	0.040	0.105
		Top side	0.321		0.021	0.050	0.321	0.342	0.371
		Bottom side	0.197	0.309			0.506	0.197	0.197

WLAN Antenna 0+1

Band	Exposure Position	Ant 0	Ant 1	Ant 0+1
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
WLAN 2.4GHz	Front Side	0.053	0.207	0.26
	Back Side	0.026	0.151	0.18
	Left Side	0.045	0.093	0.14
	Right Side	0.005	0.131	0.14
	Top Side	0.021	**0.308**	0.33
WLAN 5.3GHz	Right Cheek	0.020	0.027	0.047
	Right Tilt	0.009	0.010	0.019
	Left Cheek	0.003	0.014	0.017
	Left Tilt	0.003	0.002	0.005
WLAN 5.5GHz	Right Cheek	0.143	0.077	0.107
	Right Tilt	0.136	0.004	0.006
	Left Cheek	0.267	0.001	0.013
	Left Tilt	0.297	0.019	0.036
WLAN 5.8GHz	Right Cheek	0.037	0.064	0.101
	Right Tilt	0.003	0.030	0.033
	Left Cheek	0.009	0.012	0.021
	Left Tilt	0.005	0.014	0.019

<Body-worn Exposure>

WLAN Antenna 0:

WWAN Band		Exposure Position	WWAN	2.4GHz WLAN Ant 0	5GHz WLAN Ant 0	Bluetooth	WWAN+2.4G WLANAnt 0 Summed	WWAN+5G WLANAnt 0 Summed	WWAN+ Bluetooth Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	Estimated 1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM	GSM850	Front	0.405	0.054	0.078	0.110	0.459	0.483	0.515
		Back	0.331	0.027	0.010	0.048	0.358	0.341	0.379
	GSM1900	Front	0.147	0.054	0.078	0.110	0.201	0.225	0.257
		Back	0.102	0.027	0.010	0.048	0.129	0.112	0.15
WCDMA	WCDMA Band II	Front	0.212	0.054	0.078	0.110	0.266	0.290	0.322
		Back	0.152	0.027	0.010	0.048	0.179	0.162	0.2
	WCDMA Band IV	Front	0.272	0.054	0.078	0.110	0.326	0.350	0.382
		Back	0.143	0.027	0.010	0.048	0.170	0.153	0.191

	WCDMA Band V	Front	0.295	0.054	0.078	0.110	0.349	0.373	0.405
		Back	0.257	0.027	0.010	0.048	0.284	0.267	0.305
CDMA2000	CDMA2000 BC0	Front	0.243	0.054	0.078	0.110	0.297	0.321	0.353
		Back	0.217	0.027	0.010	0.048	0.244	0.227	0.265
LTE	CDMA2000 BC0	Front	0.243	0.054	0.078	0.110	0.297	0.321	0.353
		Back	0.217	0.027	0.010	0.048	0.244	0.227	0.265
	LTE Band 2	Front	0.272	0.054	0.078	0.110	0.326	0.350	0.382
		Back	0.243	0.027	0.010	0.048	0.270	0.253	0.291
	LTE Band 4	Front	0.191	0.054	0.078	0.110	0.245	0.269	0.301
		Back	0.143	0.027	0.010	0.048	0.170	0.153	0.191
	LTE Band 5	Front	0.237	0.054	0.078	0.110	0.291	0.315	0.347
		Back	0.223	0.027	0.010	0.048	0.250	0.233	0.271
	LTE Band 7	Front	0.850	0.054	0.078	0.110	0.904	0.928	0.96
		Back	0.736	0.027	0.010	0.048	0.763	0.746	0.784
	LTE Band 17	Front	0.402	0.054	0.078	0.110	0.456	0.480	0.512
		Back	0.323	0.027	0.010	0.048	0.350	0.333	0.371
	LTE Band 18	Front	0.219	0.054	0.078	0.110	0.273	0.297	0.329
		Back	0.179	0.027	0.010	0.048	0.206	0.189	0.227
	LTE Band 19	Front	0.228	0.054	0.078	0.110	0.282	0.306	0.338
		Back	0.185	0.027	0.010	0.048	0.212	0.195	0.233
	LTE Band 25	Front	0.245	0.054	0.078	0.110	0.299	0.323	0.355
		Back	0.195	0.027	0.010	0.048	0.222	0.205	0.243
	LTE Band 26	Front	0.202	0.054	0.078	0.110	0.256	0.280	0.312
		Back	0.179	0.027	0.010	0.048	0.206	0.189	0.227
	LTE Band 30	Front	0.456	0.054	0.078	0.110	0.510	0.534	0.566
		Back	0.351	0.027	0.010	0.048	0.378	0.361	0.399
	LTE Band 38	Front	0.312	0.054	0.078	0.110	0.366	0.390	0.422
		Back	0.238	0.027	0.010	0.048	0.265	0.248	0.286
	LTE Band 40	Front	0.232	0.054	0.078	0.110	0.286	0.310	0.342
		Back	0.222	0.027	0.010	0.048	0.249	0.232	0.27
	LTE Band 41	Front	0.345	0.054	0.078	0.110	0.399	0.423	0.455
		Back	0.220	0.027	0.010	0.048	0.247	0.230	0.268
	LTE Band 66	Front	0.179	0.054	0.078	0.110	0.233	0.257	0.289
		Back	0.128	0.027	0.010	0.048	0.155	0.138	0.176

WLAN Antenna 1:

WWAN Band		Exposure Position	WWAN 1g SAR (W/kg)	2.4GHz WLAN Ant 1 1g SAR (W/kg)	5GHz WLAN Ant 1 1g SAR (W/kg)	Bluetooth Estimated 1g SAR (W/kg)	WWAN+2.4G WLANAnt 1 Summed 1g SAR (W/kg)	WWAN+5G WLANAnt 1 Summed 1g SAR (W/kg)	WWAN+ Bluetooth Summed 1g SAR (W/kg)
GSM	GSM850	Front	0.405	0.207	0.075	0.110	0.612	0.480	0.515
		Back	0.331	0.151	0.036	0.048	0.482	0.367	0.379
	GSM1900	Front	0.147	0.207	0.075	0.110	0.354	0.222	0.257
		Back	0.102	0.151	0.036	0.048	0.253	0.138	0.15
WCDMA	WCDMA Band II	Front	0.212	0.207	0.075	0.110	0.419	0.287	0.322
		Back	0.152	0.151	0.036	0.048	0.303	0.188	0.2
	WCDMA Band IV	Front	0.272	0.207	0.075	0.110	0.479	0.347	0.382
		Back	0.143	0.151	0.036	0.048	0.294	0.179	0.191
	WCDMA Band V	Front	0.295	0.207	0.075	0.110	0.502	0.370	0.405
		Back	0.257	0.151	0.036	0.048	0.408	0.293	0.305
CDMA2000	CDMA2000 BC0	Front	0.243	0.207	0.075	0.110	0.450	0.318	0.353
		Back	0.217	0.151	0.036	0.048	0.368	0.253	0.265
LTE	CDMA2000 BC0	Front	0.243	0.207	0.075	0.110	0.450	0.318	0.353
		Back	0.217	0.151	0.036	0.048	0.368	0.253	0.265
	LTE Band 2	Front	0.272	0.207	0.075	0.110	0.479	0.347	0.382
		Back	0.243	0.151	0.036	0.048	0.394	0.279	0.291
	LTE Band 4	Front	0.191	0.207	0.075	0.110	0.398	0.266	0.301
		Back	0.143	0.151	0.036	0.048	0.294	0.179	0.191
	LTE Band 5	Front	0.237	0.207	0.075	0.110	0.444	0.312	0.347
		Back	0.223	0.151	0.036	0.048	0.374	0.259	0.271
	LTE Band 7	Front	0.850	0.207	0.075	0.110	1.057	0.925	0.96
		Back	0.736	0.151	0.036	0.048	0.887	0.772	0.784
	LTE Band 17	Front	0.402	0.207	0.075	0.110	0.609	0.477	0.512
		Back	0.323	0.151	0.036	0.048	0.474	0.359	0.371
	LTE Band 18	Front	0.219	0.207	0.075	0.110	0.426	0.294	0.329
		Back	0.179	0.151	0.036	0.048	0.330	0.215	0.227
	LTE Band 19	Front	0.228	0.207	0.075	0.110	0.435	0.303	0.338
		Back	0.185	0.151	0.036	0.048	0.336	0.221	0.233
	LTE Band 25	Front	0.245	0.207	0.075	0.110	0.452	0.320	0.355
		Back	0.195	0.151	0.036	0.048	0.346	0.231	0.243
	LTE Band	Front	0.202	0.207	0.075	0.110	0.409	0.277	0.312

	26	Back	0.179	0.151	0.036	0.048	0.330	0.215	0.227
	LTE Band 30	Front	0.456	0.207	0.075	0.110	0.663	0.531	0.566
		Back	0.351	0.151	0.036	0.048	0.502	0.387	0.399
	LTE Band 38	Front	0.312	0.207	0.075	0.110	0.519	0.387	0.422
		Back	0.238	0.151	0.036	0.048	0.389	0.274	0.286
	LTE Band 40	Front	0.232	0.207	0.075	0.110	0.439	0.307	0.342
		Back	0.222	0.151	0.036	0.048	0.373	0.258	0.27
	LTE Band 41	Front	0.345	0.207	0.075	0.110	0.552	0.420	0.455
		Back	0.220	0.151	0.036	0.048	0.371	0.256	0.268
	LTE Band 66	Front	0.179	0.207	0.075	0.110	0.386	0.254	0.289
		Back	0.128	0.151	0.036	0.048	0.279	0.164	0.176

20. Uncertainty Assessment

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor[(a)]	1/k[(b)]	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

Table 8.1. Standard Uncertainty for Assumed Distribution

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following

tables.

Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
Measurement System							
Probe Calibration	6.0	N	1	1	1	6.0	6.0
Axial Isotropy	4.7	R	1.732	0.7	0.7	1.9	1.9
Hemispherical Isotropy	9.6	R	1.732	0.7	0.7	3.9	3.9
Boundary Effects	1.0	R	1.732	1	1	0.6	0.6
Linearity	4.7	R	1.732	1	1	2.7	2.7
System Detection Limits	1.0	R	1.732	1	1	0.6	0.6
Modulation Response	3.2	R	1.732	1	1	1.8	1.8
Readout Electronics	0.3	N	1	1	1	0.3	0.3
Response Time	0.0	R	1.732	1	1	0.0	0.0
Integration Time	2.6	R	1.732	1	1	1.5	1.5
RF Ambient Noise	3.0	R	1.732	1	1	1.7	1.7
RF Ambient Reflections	3.0	R	1.732	1	1	1.7	1.7
Probe Positioner	0.4	R	1.732	1	1	0.2	0.2
Probe Positioning	2.9	R	1.732	1	1	1.7	1.7
Max. SAR Eval.	2.0	R	1.732	1	1	1.2	1.2
Test Sample Related							
Device Positioning	3.0	N	1	1	1	3.0	3.0
Device Holder	3.6	N	1	1	1	0.089	0.089
Power Drift	5.0	R	1.732	1	1	2.9	2.9
Power Scaling	0.0	R	1.732	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty	6.1	R	1.732	1	1	3.5	3.5
SAR correction	0.0	R	1.732	1	0.84	0.0	0.0
Liquid Conductivity Repeatability	0.2	N	1	0.78	0.71	0.1	0.1
Liquid Conductivity (target)	5.0	R	1.732	0.78	0.71	2.3	2.0
Liquid Conductivity (mea.)	2.5	R	1.732	0.78	0.71	1.1	1.0
Temp. unc. - Conductivity	3.4	R	1.732	0.78	0.71	1.5	1.4
Liquid Permittivity Repeatability	0.15	N	1	0.23	0.26	0.0	0.0
Liquid Permittivity (target)	5.0	R	1.732	0.23	0.26	0.7	0.8
Liquid Permittivity (mea.)	2.5	R	1.732	0.23	0.26	0.3	0.4
Temp. unc. - Permittivity	0.83	R	1.732	0.23	0.26	0.1	0.1
Combined Std. Uncertainty						11.4%	11.4%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						22.9%	22.7%

Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
Measurement System							
Probe Calibration	6.55	N	1	1	1	6.0	6.0
Axial Isotropy	4.7	R	1.732	0.7	0.7	1.9	1.9
Hemispherical Isotropy	9.6	R	1.732	0.7	0.7	3.9	3.9
Boundary Effects	2.0	R	1.732	1	1	1.2	1.2
Linearity	4.7	R	1.732	1	1	2.7	2.7
System Detection Limits	1.0	R	1.732	1	1	0.6	0.6
Modulation Response	3.2	R	1.732	1	1	1.8	1.8
Readout Electronics	0.3	N	1	1	1	0.3	0.3
Response Time	0.0	R	1.732	1	1	0.0	0.0
Integration Time	2.6	R	1.732	1	1	1.5	1.5
RF Ambient Noise	3.0	R	1.732	1	1	1.7	1.7
RF Ambient Reflections	3.0	R	1.732	1	1	1.7	1.7
Probe Positioner	0.4	R	1.732	1	1	0.2	0.2
Probe Positioning	6.7	R	1.732	1	1	3.9	3.9
Max. SAR Eval.	4.0	R	1.732	1	1	2.3	2.3
Test Sample Related							
Device Positioning	3.0	N	1	1	1	3.0	3.0
Device Holder	3.6	N	1	1	1	0.089	0.089
Power Drift	5.0	R	1.732	1	1	2.9	2.9
Power Scaling	0.0	R	1.732	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty	6.1	R	1.732	1	1	3.8	3.8
SAR correction	0.0	R	1.732	1	0.84	0.0	0.0
Liquid Conductivity Repeatability	0.2	N	1	0.78	0.71	0.1	0.1
Liquid Conductivity (target)	5.0	R	1.732	0.78	0.71	2.3	2.0
Liquid Conductivity (mea.)	2.5	R	1.732	0.78	0.71	1.1	1.0
Temp. unc. - Conductivity	3.4	R	1.732	0.78	0.71	1.5	1.4
Liquid Permittivity Repeatability	0.15	N	1	0.23	0.26	0.0	0.0
Liquid Permittivity (target)	5.0	R	1.732	0.23	0.26	0.7	0.8
Liquid Permittivity (mea.)	2.5	R	1.732	0.23	0.26	0.3	0.4
Temp. unc. - Permittivity	0.83	R	1.732	0.23	0.26	0.1	0.1
Combined Std. Uncertainty						12.5%	12.5%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						25.1 %	25.1%