



SAR TEST REPORT

Applicant ZTE Corporation
FCC ID SRQ-A2023PG
Product 5G NR Multi model smart phone
Model ZTE A2023PG
Report No. R2205A0428-S1
Issue Date June 2, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **IEEE 1528- 2013, ANSI C95.1: 1992, IEEE C95.1: 1991**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Fangying Wei

Prepared by: Fangying Wei

Guangchang Fan

Approved by: Guangchang Fan

TA Technology (Shanghai) Co., Ltd.

No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China

TEL: +86-021-50791141/2/3

FAX: +86-021-50791141/2/3-8000

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1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City: Shanghai
Post code: 201201
Country: P. R. China
Contact: Fan Guangchang
Telephone: +86-021-50791141/2/3
Fax: +86-021-50791141/2/3-8000
Website: <http://www.ta-shanghai.com>
E-mail: fanguangchang@ta-shanghai.com



1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	



2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for the EUT are as follows:

Table 1: Highest Reported SAR

Mode	Highest Reported SAR (W/kg)			Product Specific 10-g SAR
	1g SAR Head	1g SAR Body-worn	1g SAR Hotspot	
GSM 850	0.272	0.394	0.760	NA
GSM 1900	0.192	0.168	0.638	NA
WCDMA Band II	0.704	0.342	1.058	2.905
WCDMA Band V	0.298	0.562	0.631	NA
LTE FDD 2	0.735	0.379	0.953	2.671
LTE FDD 3	0.801	0.489	0.916	3.688
LTE FDD 4	0.345	0.497	0.772	3.717
LTE FDD 5	0.843	0.599	0.577	NA
LTE FDD 7	1.109	0.420	1.030	3.467
LTE FDD 12	0.728	0.171	0.280	NA
LTE FDD 28A	0.547	0.194	0.272	NA
LTE FDD 28B	0.735	0.189	0.260	NA
LTE TDD 38	0.945	0.266	0.762	NA
LTE FDD 66	0.790	0.490	0.693	2.352
NR n66	0.459	0.481	0.489	NA
NR n78	0.115	0.498	0.232	NA
Wi-Fi (2.4G)	1.106	0.170	0.367	NA
Wi-Fi (5G)	0.449	0.399	0.777	NA
BT	0.286	0.070	0.117	NA

Date of Testing: March 20, 2022 ~May 13, 2022 and May 25, 2022

Date of Sample Received: March 17, 2022

Note: 1. The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg and 4.0 W/kg) specified in ANSI C95.1: 1992/IEEE C95.1: 1991, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.

2. All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.



Table 2: Highest Simultaneous Transmission SAR

Exposure Configuration	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	Product Specific 10-g SAR (Separation 0mm)
Highest Simultaneous Transmission SAR (W/kg)	1.555	1.189	1.564	3.717

Note: The detail for simultaneous transmission consideration is described in chapter 10.3.

3 Description of Equipment under Test

Client Information

Applicant	ZTE Corporation
Applicant address	ZTE Plaza, #55 Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, China
Manufacturer	ZTE Corporation
Manufacturer address	ZTE Plaza, #55 Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, China

General Technologies

Application Purpose	Original Grant
EUT Stage	Identical Prototype
Model	ZTE A2023PG
SN	327324440043
Hardware Version	ZTE A2023PGHW1.0
Software Version	MyOS12.0.2_A2023PG_GLB
Antenna Type	Internal Antenna
Device Class	B
Wi-Fi Hotspot	Wi-Fi 2.4G Wi-Fi 5G
Power Class	GSM 850: 4 GSM 1900: 1 UMTS Band II/IV/V: 3 LTE FDD 2/3/4/5/7/12/28/66: 3 LTE TDD 38: 3 NR n66/n78: 3
Power Level	GSM 850: level 5 GSM 1900: level 0 UMTS Band II/IV/V: all up bits LTE FDD 2/3/4/5/7/12/28/66: max power LTE TDD 38: max power NR n66/n78: max power
EUT Accessory	
Adapter	Manufacturer: ShenZhen KunXing Technology Co., Ltd. Model: STC-A59152050AC-Z
Battery	Manufacturer: Zhuhai Cosmx Battery Co., Ltd. Model: Li3949T44P8h806459
Earphone 1	Manufacturer: JUWEI ELECTRONICS CO.,LTD Model: JWEP1092-Z01



Earphone 2	Manufacturer: ShenZhen FDC Electronic Co.,Ltd Model: DEM-9A
USB Cable 1	Manufacturer: King Power Electronics Co., Ltd Model: TC20-TC20-W-100-M-6A-HSF
USB Cable 2	Manufacturer: Luxshare-ICT Co., Ltd Model: TC20-TC20-W-100-M-6A-HSF
Type-C to 3.5 mm Headphone Jack	Manufacturer: HUIZHOU JUWEI ELECTRONICS CO., LTD Model: HMZ24
Note: The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.	



Wireless Technology and Frequency Range

Wireless Technology		Modulation	Operating mode	Tx (MHz)
GSM	850	Voice(GMSK) GPRS(GMSK) EGPRS(GMSK,8PSK)	<input type="checkbox"/> Multi-slot Class:8-1UP <input type="checkbox"/> Multi-slot Class:10-2UP <input checked="" type="checkbox"/> Multi-slot Class:12-4UP <input type="checkbox"/> Multi-slot Class:33-4UP	824 ~ 849
	1900			1850 ~ 1910
Does this device support DTM (Dual Transfer Mode)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
UMTS	Band II	QPSK, 16QAM	HSDPA UE Category:24 HSUPA UE Category:6	1850 ~ 1910
	Band IV			1710 ~ 1755
	Band V			824 ~ 849
LTE	FDD 2	QPSK, 16QAM, 64QAM	Rel.15	1850 ~ 1910
	FDD 3			1710 ~ 1785
	FDD 4			1710 ~ 1755
	FDD 5			824 ~ 849
	FDD 7			2500 ~ 2570
	FDD 12			699 ~ 716
	FDD 28A			703 ~ 733
	FDD 28B			718 ~ 748
	TDD 38			2570 ~ 2620
	FDD 66			1710 ~ 1780
Does this device support Carrier Aggregation (CA) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Does this device support SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
NR	FDD n66	CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM; DFT-s OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	/	1710 ~ 1780
	FDD n78 Subset 1			3450 ~ 3550
	FDD n78 Subset 2			3700 ~ 3800
EN-DC Band	DC_2A-n66A; DC_5A-n66A DC_2A-n78A; DC_7A-n78A; DC_28A-n78A			
BT	2.4G	Version 5.2 BR/EDR + LE		2402 ~2480
Wi-Fi	2.4G	DSSS, OFDM	802.11b/g/n HT20/ax HE20	2412 ~ 2462
		OFDM	802.11n HT40/ax HE40	2422 ~ 2452
	5G	OFDM	802.11a/n HT20/ HT40/ ac VHT20/ VHT40/ VHT80/ ax HE20/HE40/HE80	5150 ~ 5350 5470 ~ 5850
Does this device support MIMO <input checked="" type="checkbox"/> Yes(2TX, 2RX) <input type="checkbox"/> No				
NFC	13.56MHz			

4 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE 1528- 2013, ANSI C95.1: 1992, IEEE C95.1: 1991, the following FCC Published RF exposure KDB procedures:

Reference Standards

KDB 248227 D01 802.11Wi-Fi SAR v02r02

KDB 447498 D01 General RF Exposure Guidance v06

KDB 648474 D04 Handset SAR v01r03

KDB 690783 D01 SAR Listings on Grants v01r03

KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04

KDB 865664 D02 RF Exposure Reporting v01r02

KDB 941225 D01 3G SAR Procedures v03r01

KDB 941225 D05 SAR for LTE Devices v02r05

KDB 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02

KDB 941225 D06 Hotspot Mode v02r01

5 Operational Conditions during Test

5.1 Test Positions

5.1.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2013 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

5.1.2 Body Worn Configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.

Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

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

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

5.1.3 Phablet SAR test considerations

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

- a) The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
- b) The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for product specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. The 1-g SAR at 5 mm for UMPC mini-tablets is not required. When hotspot mode applies, product specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold. The normal tablet procedures in KDB Publication 616217 are required when the overall diagonal dimension of the device is > 20.0 cm. Hotspot mode SAR is not required when normal tablet procedures are applied. Product specific 10-g SAR is also not required for the front (top) surface of larger form factor full size tablets. The more conservative normal tablet SAR results can be used to support phablet mode product specific 10-g SAR.
- c) The simultaneous transmission operating configurations applicable to voice and data transmissions for both phone and mini-tablet modes must be taken into consideration separately for 1-g and 10-g SAR to determine the simultaneous transmission SAR test exclusion and measurement requirements for the relevant wireless modes and exposure conditions.

5.2 Measurement Variability

Per FCC KDB Publication 865664 D01, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

- 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
- 2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
- 3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .
- 4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

5.3 Test Configuration

5.3.1 GSM Test Configuration

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Output power of reductions:

Table 3: The allowed power reduction in the multi-slot configuration

Number of timeslots in uplink assignment	Permissible nominal reduction of maximum output power (dB)
1	0
2	0 to 3,0
3	1,8 to 4,8
4	3,0 to 6,0

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. GSM voice and GPRS data use GMSK, which is a constant amplitude modulation with minimal peak to average power difference within the time-slot burst. For EDGE, GMSK is used for MCS 1 – MCS 4 and 8-PSK is used for MCS 5 – MCS 9; where 8-PSK has an inherently higher peak-to-average power ratio. The GMSK and 8-PSK EDGE configurations are considered separately for SAR compliance. The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance. The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode.

5.3.2 UMTS Test Configuration

5.3.2.1 3G SAR Test Reduction Procedure

The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations modes according to output power, exposure conditions and device operating capabilities. Maximum output power is verified by applying the applicable versions of 3GPP TS 34.121.

5.3.2.2 Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest SAR configuration in 12.2 kbps RMC for head exposure.

5.3.2.3 Body-worn accessory SAR

SAR for body-worn accessory configurations is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the EUT with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the EUT, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC

5.3.2.4 Release 5 HSDPA Test Configuration

The 3G SAR test reduction procedure is applied to HSDPA body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures in the “Release 5 HSDPA Data Devices” section of this document, for the highest SAR body-worn accessory exposure configuration in 12.2 kbps RMC. EUT with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

HSDPA should be configured according to the UE category of a test device. The number of HSDSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors (β_c , β_d), and HS-DPCCH power offset parameters (Δ_{ACK} , Δ_{NACK} , Δ_{CQI}) should be set according to values indicated in the Table below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Table 4: Subtests for UMTS Release 5 HSDPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$
 Note 2: CM=1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$.
 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 (TFC1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.

5.3.2.5 Release 6 HSUPA Test Configuration

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures in the “Release 6 HSPA Data Devices” section of this document, for the highest body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When VOIP is applicable for next to the ear head exposure in HSPA, the 3G SAR test reduction procedure is applied to HSPA with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body-worn accessory measurements is tested for next to the ear head exposure.

Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the β values indicated in Table 2 and other applicable procedures described in the ‘WCDMA EUT’ and ‘Release 5 HSDPA Data Devices’ sections of this document

Table 5: Sub-Test 5 Setup for Release 6 HSUPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	$\beta_{hs}^{(1)}$	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: $\Delta_{ACK}, \Delta_{NACK}$ 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 $\beta_c/\beta_d = 12/15, \beta_{hs}/\beta_c = 24/15$. 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 $\beta_c = 10/15$ and $\beta_d = 15/15$.

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 $\beta_c = 14/15$ and $\beta_d = 15/15$.

Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.

Note 6: β_{ed} cannot be set directly; it is set by Absolute Grant Value.

Table 6: HSUPA UE category

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCHTTI (ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592



4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	2	2 SF2 & 2	11484	5.76
	4	4	10	SF4	20000	2.00
7 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	22996	?
	4	4	10		20000	?

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.
 UE Categories 1 to 6 supports QPSK only. UE Category 7 supports QPSK and 16QAM.
 (TS25.306-7.3.0)

5.3.2.6 HSPA, HSPA+ and DC-HSDPA Test Configuration

SAR test exclusion may apply to 3GPP Rel. 6 HSPA and Rel. 8 DC-HSDPA. When SAR measurement is required for HSPA or DC-HSDPA, a KDB inquiry is required to confirm that the wireless mode configurations in the test setup have remained stable throughout the SAR measurements. Without prior KDB confirmation to determine the SAR results are acceptable, a PAG is required for equipment approval.

SAR test exclusion for HSPA, HSPA+ and DC-HSDPA is determined according to the following:

1) The HSPA procedures are applied to configure 3GPP Rel. 6 HSPA devices in the required sub-test mode(s) to determine SAR test exclusion.

2) SAR is required for Rel. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (uplink) HSPA+ with 12.2 kbps RMC as the primary mode. Power is measured for HSPA+ that supports uplink 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.

3) SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

4) Regardless of whether a PBA is required, the following information must be verified and included in the SAR report for devices supporting HSPA, HSPA+ or DC-HSDPA:

a) The output power measurement results and applicable release version(s) of 3GPP TS 34.121. Power measurement difficulties due to test equipment setup or availability must be resolved between the grantee and its test lab.

b) The power measurement results are in agreement with the individual device implementation and specifications. When Enhanced MPR (E-MPR) applies, the normal MPR targets may be modified according to the Cubic Metric (CM) measured by the device, which must be taken into consideration.

c) The UE category, operating parameters, such as the β and Δ values used to configure the device for testing, power setback procedures described in 3GPP TS 34.121 for the power measurements, and HSPA/HSPA+ channel conditions (active and stable) for the entire duration of the measurement according to the required E-TFCI and AG index values.

5) When SAR measurement is required, the test configurations, procedures and power measurement

results must be clearly described to confirm that the required test parameters are used, including E-TFCI and AG index stability and output power conditions.

Table 7: HS-DSCH UE category

HS-DSCH category	Maximum number of HS-DSCH codes received	Minimum inter-TTI interval	Maximum number of bits of an HS-DSCH transport block received within an HS-DSCH TTI NOTE 1	Total number of soft channel bits	Supported modulations without MIMO operation or dual cell operation	Supported modulations with MIMO operation and without dual cell operation	Supported modulations with dual cell operation
Category 1	5	3	7298	19200	QPSK, 16QAM	Not applicable (MIMO not supported)	Not applicable (dual cell operation not supported)
Category 2	5	3	7298	28800			
Category 3	5	2	7298	28800			
Category 4	5	2	7298	38400			
Category 5	5	1	7298	57600			
Category 6	5	1	7298	67200			
Category 7	10	1	14411	115200			
Category 8	10	1	14411	134400			
Category 9	15	1	20251	172800			
Category 10	15	1	27952	172800			
Category 11	5	2	3630	14400	QPSK	Not applicable (dual cell operation not supported)	
Category 12	5	1	3630	28800	QPSK, 16QAM, 64QAM		
Category 13	15	1	35280	259200			
Category 14	15	1	42192	259200	QPSK, 16QAM		
Category 15	15	1	23370	345600			
Category 16	15	1	27952	345600	QPSK, 16QAM, 64QAM		-
Category 17 NOTE 2	15	1	35280	259200			
			23370	345600	-		QPSK, 16QAM
Category 18 NOTE 3	15	1	42192	259200	QPSK, 16QAM, 64QAM		-
			27952	345600	-		QPSK, 16QAM
Category 19	15	1	35280	518400	QPSK, 16QAM, 64QAM		
Category 20	15	1	42192	518400	QPSK, 16QAM, 64QAM		
Category 21	15	1	23370	345600	-	-	QPSK, 16QAM
Category 22	15	1	27952	345600			
Category 23	15	1	35280	518400			
Category 24	15	1	42192	518400	-		QPSK, 16QAM, 64QAM

5.3.3 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

A) Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

B) MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

C) A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

2) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

3) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100% RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

4) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is $> \frac{1}{2}$ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

E) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is $> \frac{1}{2}$ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

5.3.4 Additional requirements for TDD LTE specification

For Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

TDD LTE Band supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table: Uplink-downlink configurations for uplink-downlink configurations and Table: Configuration of special subframe (lengths of DwPTS/GP/UpPTS) for Special subframe configurations.

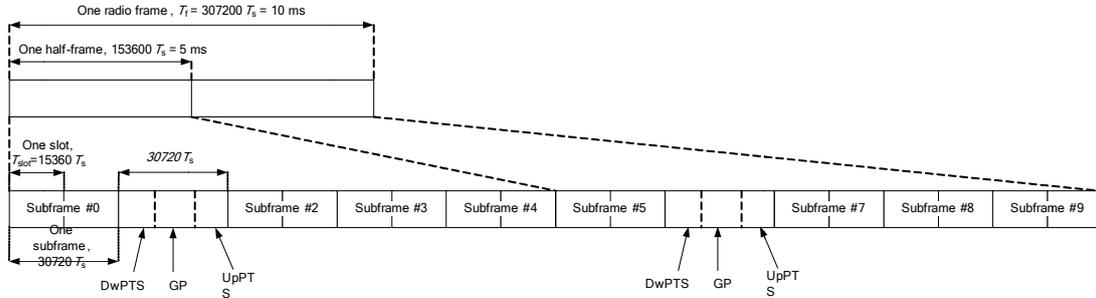


Figure 1: Frame structure type 2

Table 8: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

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

Table 9: Uplink-downlink configurations

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

According to Figure 1, one radio frame is configured by 10 subframes, which consist of Uplink-subframe, Downlink-subframe and Special subframe. For TDD-LTE, the Duty Cycle should be calculated on Uplink-subframes and Special subframes, due to Special subframe containing both Uplink transmissions. So for one radio frame, Duty Cycle can be calculated with formula as below. The count of Uplink subframes are according to Table: Uplink-downlink configurations:

$$\text{Duty cycle} = (30720Ts * \text{Ups} + \text{Uplink Component} * \text{Specials}) / (307200Ts)$$

About the uplink component of Special subframes, we can figure out by Table: Configuration of special subframe (lengths of DwPTS/GP/UpPTS):

$$\text{Uplink Component} = \text{UpPTS}$$

In conclusion, for the TDD LTE Band, Duty Cycle can be calculated with formula as below. All these sets are ok when we test, or we can set as below.

$$\text{Duty cycle} = [(30720Ts * \text{Ups}) + \text{UpPTS} * \text{Specials}] / (307200Ts)$$

And we can get different Duty cycles under different configurations:

Uplink-downlink configuration	Subframe number			Configuration of special subframe							
				Normal cyclic prefix in downlink				Extended cyclic prefix in downlink			
	D	S	U	Normal cyclic prefix in uplink		Extended cyclic prefix in uplink		Normal cyclic prefix in uplink		Extended cyclic prefix in uplink	
				configuration 0~4	configuration 5~9	configuration 0~4	configuration 5~9	configuration 0~3	configuration 4~7	configuration 0~3	configuration 4~7
0	2	2	6	61.43%	62.85%	61.67%	63.33%	61.43%	62.85%	61.67%	63.33%
1	4	2	4	41.43%	42.85%	41.67%	43.33%	41.43%	42.85%	41.67%	43.33%
2	6	2	2	21.43%	22.85%	21.67%	23.33%	21.43%	22.85%	21.67%	23.33%
3	6	1	3	30.71%	31.43%	30.83%	31.67%	30.71%	31.43%	30.83%	31.67%
4	7	1	2	20.71%	21.43%	20.83%	21.67%	20.71%	21.43%	20.83%	21.67%
5	8	1	1	10.71%	11.43%	10.83%	11.67%	10.71%	11.43%	10.83%	11.67%
6	3	2	5	51.43%	52.85%	51.67%	53.33%	51.43%	52.85%	51.67%	53.33%

SAR test Plan: For TDD LTE, SAR should be tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7 for Frame structure type

Path: Physical Cell Setup/TDD/Uplink Downlink Configuration

Duplex Mode	TDD	Use Carrier Specific:	<input type="checkbox"/> FrameStructure Type 2
Scenario	Search... 1CC - 1x1		
DL Cell Bandwidth	20.0 MHz	#RB Max:	100
UL Cell Bandwidth	20.0 MHz		
Physical Cell ID	0		
Cyclic Prefix	Normal		
Sounding RS (SRS)	<input type="checkbox"/>		
TDD	<input type="checkbox"/>		
Use Carrier Specific	<input type="checkbox"/>		
Uplink Downlink Configurat...	0		
Subframe Number	0 1 2 3 4 5 6 7 8 9		
Direction	↓ S ↑ ↑ ↑ ↓ S ↑ ↑ ↑		
Special Subframe	7		

LTE Signaling **ON**

5.3.5 5G NR Test Configuration

For 5G NR SAR testing, due to test setup limitations, SAR testing for NR was performed using factory test mode software to establish the connection and perform SAR with 100% transmission.

The DFT-s-OFDM and CP-OFDM waveforms were investigated, and DFT-s-OFDM was found to be the worst case.

The worst-case scenario for all measurements is based on an engineering evaluation and QPSK was observed as the worst one and set for all conducted and radiated. Output power measurements were measured on QPSK, 16QAM, 64QAM, 256QAM, and BPSK, modulations.

For TDD NR Band operation and final implementation, TDD NR slot configuration extended cyclic prefix uplink duty cycle =25%; However, EN-DC transmission on test DUT is only possible using FTM mode with continuous transmission (duty cycle =100%). SAR testing was performed using FTM mode at maximum output power adjusted for duty cycle to mimic final 25% cycle

For EN-DC SAR, as the existing SAR test system can not test the multiple different frequency bands simultaneous Transmission SAR at the same time , we suggest that the conservative "max tune-up + max 10dBm tune-up" for hotspot multi-Tx and SAR scaling method can be used to evaluate the inter-band Uplink EN-DC SAR from standalone SAR test results of each LTE and NR EN-DC component band and the conservative "max tune-up + max 10dBm tune-up" for hotspot multi-Tx method to combine the scaled SAR value from each EN-DC component band as the inter-band Uplink EN-DC SAR. All Simultaneous Transmission Scenarios will be evaluated independently in the final SAR report.

5.3.6 Wi-Fi Test Configuration

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; These are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the *initial test position(s)* by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The *initial test position(s)* is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s). When the *reported SAR* for the *initial test position* is:

- ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the *initial test position* to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the *reported SAR* is ≤ 0.8 W/kg or all required test positions are tested.
 - ◇ For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
 - ◇ When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported SAR* is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported SAR* is ≤ 1.2 W/kg or all required test channels are considered.
 - ◇ The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.

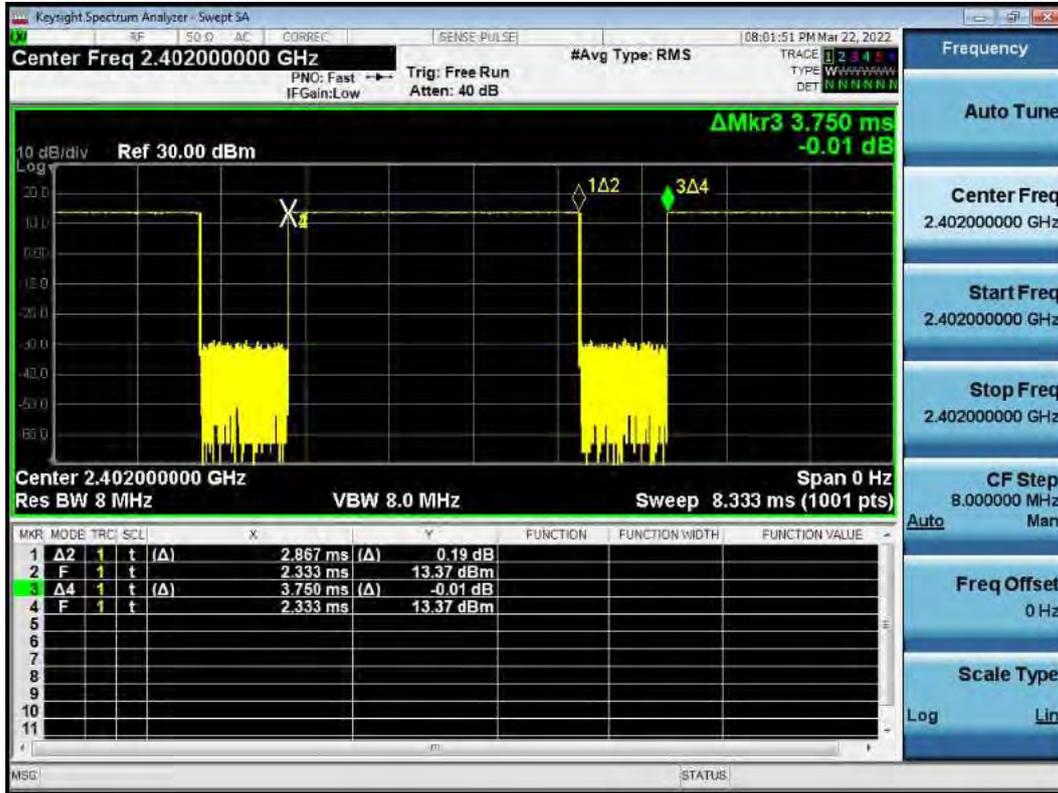
To determine the initial test position, Area Scans were performed to determine the position with the Maximum Value of SAR (measured). The position that produced the highest Maximum Value of SAR is considered the worst case position; thus used as the initial test position.

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.

5.3.7 BT Test Configuration

For BT SAR testing, BT engineering testing software installed on the EUT can provide continuous transmitting RF signal with maximum output power. And the CBT control the EUT operating with hopping off and data rate set for DH5.

The SAR measurement takes full account of the BT duty cycle and is reflected in the report, and the duty factor of the device is as follow:



Note: Duty factor= Ton (ms)/ T(on+off) (ms)=2.867/3.750=76.5%

5.3.8 LTE CA specification

The device supports LTE advanced Rel. 15, Carrier Aggregation (CA) is supported for Intra band only, more details information is provided in tables below:

1) CA Intra band contiguous

E-UTRA CA configuration / Bandwidth combination set								
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]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_7C	CA_7C	15	15				40	0
		20	20					
		10	20				40	1
		15	15, 20					
		20	10, 15, 20					
		15	10, 15				40	2
		20	15, 20					

5.3.9 Proximity sensor Configuration

Due to the operating configurations and exposure conditions required by the device, the proximity sensor is used to indicate when the device is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of Antenna 2 to ensure SAR compliance. It is also set an output power leveled to the lowest one to make sure that in any case of SAR sensor hardware failure, the SAR requirements can still be satisfied.

The following tables summarize the key power reduction information for proximity sensor. The test procedures be applied to determine proximity sensor triggering distances, and sensor coverage for normal and tilt positions. To ensure all production units are compliant, it is generally necessary to reduce the triggering distance determined from the triggering tests by 1 mm, or more if it is necessary, and use the smallest distance for movements to and from the phantom, minus 1 mm, as the sensor triggering distance for determining the SAR measurement distance.

Antenna 2				
Band	Test position	Sensor Trigger Distance range (DUT to Phantom)	Power reduction amount(dB)	Power level
UMTS B2	Back side	0mm≤distance≤10mm	1.5	sensor on
		10mm<distance	0	sensor off
	Front side	/	0	sensor off
	Left edge	/	0	sensor off
	Right edge	/	0	sensor off
	Top edge	/	0	sensor off
	Bottom Edge	0mm≤distance≤10mm	1.5	sensor on
		10mm<distance	0	sensor off
LTE B2	Back side	0mm≤distance≤10mm	2	sensor on
		10mm<distance	0	sensor off
	Front side	/	0	sensor off
	Left edge	/	0	sensor off
	Right edge	/	0	sensor off
	Top edge	/	0	sensor off
	Bottom Edge	0mm≤distance≤10mm	2	sensor on
		10mm<distance	0	sensor off

Note:

To ensure all production units are compliant, the smallest separation distance determined by the sensor triggering and sensor coverage for normal and tit positions for all usage conditions and applicable sides, minus 1 mm, must be used as the test separation distance for additional SAR testing of each higher power stage.

For the other sides or other frequency bands of the device, SAR is still tested at the DSI-2level with sensor off.

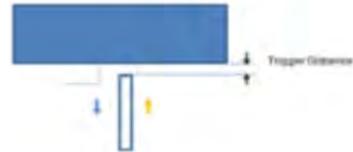
Procedures for determining proximity sensor triggering distances

The device was tested by the test lab to determine the proximity sensor triggering distances for the backside, top side and bottom edge of the device. To ensure all production units are compliant, the smallest separation distance determined by the sensor triggering minus 1 mm, must be used as the test separation distance for SAR testing.

The Proximity sensor triggering distance measurement method are as below:



Picture : Proximity sensor triggering distances assessment(Back side)



Picture : Proximity sensor triggering distances assessment(Bottom edge)

Table: Summary of Trigger Distances

Band	Trigger distance-Back Side		Trigger distance-Bottom Edge	
	Moving toward Phantom	Moving away from Phantom	Moving toward Phantom	Moving away from Phantom
WCDMA Band 2	10	10	10	10
LTE Band 2	10	10	10	10

Conclusion: It can be ensured that the proximity sensor can be valid triggered for the body exposure condition (WCDMA Band 2, LTE Band 2 with Antenna 2)

The detailed conducted power measurement data to determine the triggering distances is as below:

Table: Reduced power (Moving toward phantom)

Position	Ant	Band	Power Reduction Status(dBm)																								
			25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Back Side	Antenna 2	WCDMA B2	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	
Back Side	Antenna 2	LTE B2	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	
Bottom Edge	Antenna 2	WCDMA B2	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	
Bottom Edge	Antenna 2	LTE B2	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	

Table: Full power (Moving away from phantom)

Position	Ant	Band	Power Reduction Status(dBm)																								
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Back Side	Antenna 2	WCDMA B2	22.80	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	
Back Side	Antenna 2	LTE B2	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	
Bottom Edge	Antenna 2	WCDMA B2	22.80	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	24.12	
Bottom Edge	Antenna 2	LTE B2	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	22.66	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	24.06	

Procedures for determining device tilt angle influences to proximity sensor triggering

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

The proximity sensor triggering tilt angle measurement method are as below:

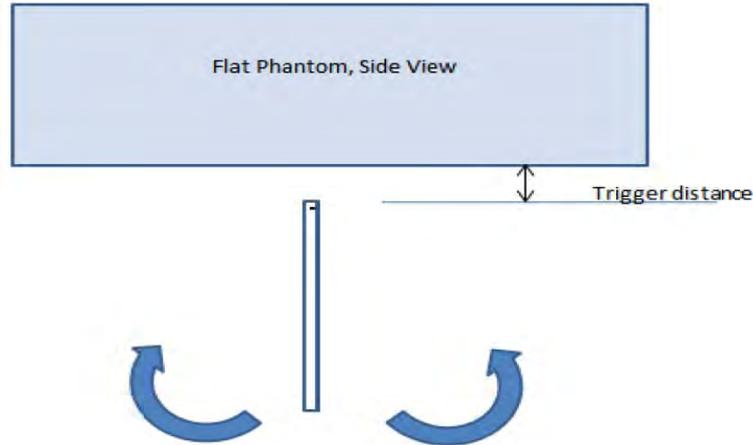


Table: Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering

Band	Position	Minimum trigger distance at which power reduction was maintained over ±45°	Power Reduction Status											
			-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°	
WCDMA B2	Bottom edge	10mm	on	on	on	on	on	on	on	on	on	on	on	on
LTE B2	Bottom edge	10mm	on	on	on	on	on	on	on	on	on	on	on	on

Conclusion: It can be ensured that the proximity sensor can be valid triggered for the DUT tilt coverage exposure condition.

5.3.10 Receiver detection mechanism specification

This device support the receiver detection mechanism, the main purpose is to minimize triggering associated with power reduction scenarios by receiver detection mechanisms and provide enhanced user experience. It uses the receiver to indicate whether the user is making a call in head scenario or not. The selection between head and body power levels is based on the receiver detection mechanism. It can determine proximity to head or body and set the relevant power level for 3G&4G&5G and Wi-Fi antennas accordingly.

More details information followings:

1. When there is a voice call (including VOIP) and the modem chip detects that the Headset is unconnected and speaker is off, then the receiver is triggered and it is considered as Held to ear scenario (Head). The power level receiver on is applied.
2. When there is a voice call, but the headset is connected or speaker mode is on, the receiver will not work. It is considered as other scenarios (Body etc.). The power level receiver off and receiver off+hotspot on is applied.
3. When there is data service only(No voice call, including VOIP), the receiver will not work too. It is considered as other scenarios (Body etc.).The power level receiver off and receiver off+hotspot on is applied.

Note: The power level receiver on and receiver off and receiver off+hotspot on can be set to the same or different.

WWAN Reduced power level table

Antenna	Position	Power level	Receiver State	Hotspot State	Sensor State	Transmitting conditions					
Ant 1	Head	Receiver on	On	N/A	N/A	WWAN Only					
						WWAN+WLAN2.4G					
						WWAN+WLAN5G					
						WWAN+WLAN2.4G+WLAN5G					
	Body worn/ Product Specific	Receiver off	Off	N/A	N/A	WWAN Only					
						Hotspot	Hotspot on	Off	On	N/A	WWAN+WLAN2.4G
Hotspot	WWAN+WLAN5G										
	WWAN+WLAN2.4G+WLAN5G										
Ant 2	Head	Receiver on	On	N/A	N/A	WWAN Only					
						WWAN+WLAN2.4G					
						WWAN+WLAN5G					
						WWAN+WLAN2.4G+WLAN5G					
	Body worn	Receiver off	Off	N/A	N/A	WWAN Only					
						Hotspot	Hotspot on	Off	On	N/A	WWAN+WLAN2.4G
											WWAN+WLAN5G
	WWAN+WLAN2.4G+WLAN5G										
	Product Specific	Sensor on	Off	N/A	N/A	On	WWAN Only and sensor on				
						On	WWAN+WLAN2.4G and sensor on				
						On	WWAN+WLAN5G and sensor on				
						On	WWAN+WLAN2.4G+WLAN5G and sensor on				
Sensor off		Off	Off	Off	Off	WWAN Only and sensor off					



			Off		Off	WWAN+WLAN2.4G and sensor off
			Off		Off	WWAN+WLAN5G and sensor off
			Off		Off	WWAN+WLAN2.4G+WLAN5G and sensor off
Ant 3	Head	Receiver on	On	N/A	N/A	WWAN Only
						WWAN+WLAN2.4G
						WWAN+WLAN5G
						WWAN+WLAN2.4G+WLAN5G
	Body worn/ Product Specific	Receiver off	Off	N/A	N/A	WWAN Only
Hotspot	Hotspot on	Off	On	N/A	WWAN+WLAN2.4G	
					WWAN+WLAN5G	
					WWAN+WLAN2.4G+WLAN5G	
Ant 4	Head	Receiver on	On	N/A	N/A	WWAN Only
						WWAN+WLAN2.4G
						WWAN+WLAN5G
						WWAN+WLAN2.4G+WLAN5G
	Body worn/ Product Specific	Receiver off	Off	N/A	N/A	WWAN Only
Hotspot	Hotspot on	Off	On	N/A	WWAN+WLAN2.4G	
					WWAN+WLAN5G	
					WWAN+WLAN2.4G+WLAN5G	
Ant 5	Head	Receiver on	On	N/A	N/A	WWAN Only
						WWAN+WLAN2.4G
						WWAN+WLAN5G
						WWAN+WLAN2.4G+WLAN5G
	Body worn/ Product Specific	Receiver off	Off	N/A	N/A	WWAN Only
Hotspot	Hotspot on	Off	On	N/A	WWAN+WLAN2.4G	
					WWAN+WLAN5G	
					WWAN+WLAN2.4G+WLAN5G	
Ant 6	Head	Receiver on	On	N/A	N/A	WWAN Only
						WWAN+WLAN2.4G
						WWAN+WLAN5G
						WWAN+WLAN2.4G+WLAN5G
	Body worn/ Product Specific	Receiver off	Off	N/A	N/A	WWAN Only
Hotspot	Hotspot on	Off	On	N/A	WWAN+WLAN2.4G	
					WWAN+WLAN5G	
					WWAN+WLAN2.4G+WLAN5G	
Ant 10	Head	Receiver on	On	N/A	N/A	WWAN Only
						WWAN+WLAN2.4G
						WWAN+WLAN5G
						WWAN+WLAN2.4G+WLAN5G



	Body worn/ Product Specific	Receiver off	Off	N/A	N/A	WWAN Only
	Hotspot	Hotspot on	Off	On	N/A	WWAN+WLAN2.4G
						WWAN+WLAN5G
						WWAN+WLAN2.4G+WLAN5G

WLAN Reduced power level table

Antenna	Position	Power level	Receiver State	Transmitting conditions	
Ant 7	Head	Receiver on	On	WLAN Only	
		WWAN+WLAN Receiver on	On	WWAN+WLAN2.4G	
				WWAN+WLAN5G	
	Body worn/ Product Specific	Receiver off	Off	WLAN Only	
		Hotspot		WWAN+WLAN Receiver off	WWAN+WLAN2.4G
					WWAN+WLAN5G
	Ant 8	Head	Receiver on	On	WLAN Only
			WWAN+WLAN Receiver on	On	WWAN+WLAN2.4G
WWAN+WLAN5G					
Body worn/ Product Specific		Receiver off	Off	WLAN Only	
		Hotspot		WWAN+WLAN Receiver off	WWAN+WLAN2.4G
					WWAN+WLAN5G

WWAN Reduced power level table

Mode	Band	Full power (Tune up)	Antenna	Head (Receiver on)				Body worn (Receiver off)				Hotspot (Receiver off+Hotspot on)		
				Standalone	Simultaneous transmission			Standalone	Simultaneous transmission			Simultaneous transmission		
					WWAN+2.4G WLAN	WWAN+5G WLAN	WWAN+2.4G+5G WLAN		WWAN+2.4G WLAN	WWAN+5G WLAN	WWAN+2.4G+5G WLAN	WWAN+2.4G WLAN	WWAN+5G WLAN	WWAN+2.4G+5G WLAN
GSM (CS)	GSM	33.0	Ant.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	850	31.5	Ant.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GSM (CS)	GSM	30.5	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1900	28.5	Ant.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.2k bps RMC	WCD	25.0	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0
	MA B2	23.0	Ant.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.2k	WCD	25.0	Ant.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



bps RMC	MA B5	23.0	Ant.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
LTE Bands	LTE	25.0	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0	
	B2	23.0	Ant.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	LTE	B3	24.5	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5	2.5
			25.0	Ant.3	2.5	2.5	2.5	2.5	0.0	0.0	0.0	0.0	2.5	2.5	2.5
		23.5	Ant.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LTE	B4	25.0	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
			24.0	Ant.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LTE	B5	26.0	Ant.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
			24.0	Ant.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LTE	B7	24.5	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0
			22.0	Ant.4	4.0	4.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LTE	B12	26.0	Ant.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			25.0	Ant.6	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LTE	B28A	25.0	Ant.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			24.0	Ant.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LTE	B28B	25.0	Ant.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			24.0	Ant.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	LTE	B38	25.0	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
			22.5	Ant.4	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			24.5	Ant.4	4.0	4.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LTE	B66	25.0	Ant.3	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0	
SA Bands	n 66	23.5	Ant.3	3.5	3.5	3.5	3.5	0.0	0.0	0.0	0.0	3.5	3.5	3.5	
		23.0	Ant.5	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0	
		17.0	Ant.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	



Mode	Band	Full power (Tune up)	Antenna	Product Specific (Receiver off+Sensor on)				Product Specific (Receiver off+Sensor off)				
				Standalone	Simultaneous transmission			Standalone	Simultaneous transmission			
					WWAN+ 2.4G WLAN	WWAN+ 5G WLAN	WWAN+ 2.4G+5G WLAN		WWAN+ 2.4G WLAN	WWAN+ 5G WLAN	WWAN+ 2.4G+5G WLAN	
GSM (CS)	GSM 850	33.0	Ant.1	/	/	/	/	/	/	/	/	
		31.5	Ant.6	/	/	/	/	/	/	/	/	
GSM (CS)	GSM 1900	30.5	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		28.5	Ant.4	/	/	/	/	/	/	/	/	
12.2kbps RMC	WCDMA B2	25.0	Ant.2	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	
		23.0	Ant.4	/	/	/	/	/	/	/	/	
12.2kbps RMC	WCDMA B5	25.0	Ant.1	/	/	/	/	/	/	/	/	
		23.0	Ant.6	/	/	/	/	/	/	/	/	
LTE Bands	LTE B2	25.0	Ant.2	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	
		23.0	Ant.4	/	/	/	/	/	/	/	/	
	LTE B3	24.5	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		25.0	Ant.3	/	/	/	/	/	/	/	/	
		23.5	Ant.4	/	/	/	/	/	/	/	/	
	LTE B4	25.0	Ant.2	/	/	/	/	/	/	/	/	
		24.0	Ant.4	/	/	/	/	/	/	/	/	
	LTE B5	26.0	Ant.1	/	/	/	/	/	/	/	/	
		24.0	Ant.6	/	/	/	/	/	/	/	/	
	LTE B7	24.5	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		22.0	Ant.4	/	/	/	/	/	/	/	/	
	LTE B12	26.0	Ant.1	/	/	/	/	/	/	/	/	
		25.0	Ant.6	/	/	/	/	/	/	/	/	
	LTE B28A	25.0	Ant.1	/	/	/	/	/	/	/	/	
		24.0	Ant.6	/	/	/	/	/	/	/	/	
	LTE B28B	25.0	Ant.1	/	/	/	/	/	/	/	/	
		24.0	Ant.6	/	/	/	/	/	/	/	/	
	LTE B38	25.0	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		22.5	Ant.4	/	/	/	/	/	/	/	/	
	LTE B66	25.0	Ant.3	/	/	/	/	/	/	/	/	
	SA Bands	n 66	23.5	Ant.3	/	/	/	/	/	/	/	/
		n 78	23.0	Ant.5	/	/	/	/	/	/	/	/
			17.0	Ant.10	/	/	/	/	/	/	/	/



Mode	Band	Full power (Tune up)	Antenna	Head (Receiver on)				Body worn (Receiver off)				Hotspot (Receiver off+Hotspot on)		
				Standalone	Simultaneous transmission			Standalone	Simultaneous transmission			Simultaneous transmission		
					WWAN+ 2.4G WLAN	WWAN+ 5G WLAN	WWAN+ 2.4G+5G WLAN		WWAN+ 2.4G WLAN	WWAN+ 5G WLAN	WWAN+ 2.4G+5G WLAN	WWAN+ 2.4G WLAN	WWAN+ 5G WLAN	WWAN+ 2.4G+5G WLAN
EN-DC (B2+n66)	LTE B2	25.0	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
	n 66	25.0	Ant.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EN-DC (B5+n66)	LTE B5	26.0	Ant.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
	n 66	23.5	Ant.3	3.5	3.5	3.5	3.5	0.0	0.0	0.0	0.0	3.5	3.5	3.5
EN-DC (B2+n78)	LTE B2	25.0	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
	n 78	23.0	Ant.5	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
EN-DC (B7+n78)	LTE B7	24.5	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0
	n 78	23.0	Ant.5	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0
EN-DC (B28+n78)	LTE B28	25.0	Ant.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	n 78	23.0	Ant.5	3.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0

Mode	Band	Full power (Tune up)	Antenna	Product Specific (Receiver off+Sensor on)				Product Specific (Receiver off+Sensor off)			
				Standalone	Simultaneous transmission			Standalone	Simultaneous transmission		
					WWAN+ 2.4G WLAN	WWAN+ 5G WLAN	WWAN+ 2.4G+5G WLAN		WWAN+ 2.4G WLAN	WWAN+ 5G WLAN	WWAN+ 2.4G+5G WLAN
EN-DC (B2+n66)	LTE B2	25.0	Ant.2	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0
	n 66	25.0	Ant.1	/	/	/	/	/	/	/	/
EN-DC (B5+n66)	LTE B5	26.0	Ant.1	/	/	/	/	/	/	/	/
	n 66	23.5	Ant.3	/	/	/	/	/	/	/	/
EN-DC (B2+n78)	LTE B2	25.0	Ant.2	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0
	n 78	23.0	Ant.5	/	/	/	/	/	/	/	/
EN-DC (B7+n78)	LTE B7	24.5	Ant.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	n 78	23.0	Ant.5	/	/	/	/	/	/	/	/
EN-DC (B28+n78)	LTE B28	25.0	Ant.1	/	/	/	/	/	/	/	/
	n 78	23.0	Ant.5	/	/	/	/	/	/	/	/



WLAN Reduced power level table

Mode	Band	Full power (Tune up)	Antenna	Head (Receiver on)			Body worn/Hotspot/ Product Specific (Receiver off)			
				Standalone	Simultaneous transmission		Standalone	Simultaneous transmission		
					WWAN+ 2.4/5G WLAN	WWAN+ 2.4+5G WLAN		WWAN+ 2.4/5G WLAN	WWAN+ 2.4+5G WLAN	
2.4G	802.11b CH1-11	20.0	Ant.7	5.0	7.0	7.0	0.0	0.0	0.0	
	802.11g CH1-11	20.0		5.0	7.0	7.0	0.0	0.0	0.0	
	802.11nHT20 CH1-11	19.5		5.0	6.5	6.5	0.0	0.0	0.0	
	802.11nHT40 CH3-9	19.0		5.0	6.5	6.5	0.0	0.0	0.0	
	802.11ax20 CH1-11	19.5		5.0	6.5	6.5	0.0	0.0	0.0	
	802.11ax20 CH3-9	19.0		5.0	6.5	6.5	0.0	0.0	0.0	
	2.4G	802.11b CH1-11	20.0	Ant.9	3.0	4.0	4.0	0.0	0.0	0.0
		802.11g CH1-11	20.0		3.0	4.0	4.0	0.0	0.0	0.0
		802.11nHT20 CH1-11	19.5		3.0	3.5	3.5	0.0	0.0	0.0
		802.11nHT40 CH3-9	19.0		3.0	3.0	3.0	0.0	0.0	0.0
		802.11ax20 CH1-11	19.5		3.0	3.5	3.5	0.0	0.0	0.0
		802.11ax20 CH3-9	19.0		3.0	3.0	3.0	0.0	0.0	0.0
5G U-NII-1	802.11a CH36-48	18.5	Ant.7	7.5	7.5	7.5	0.0	0.0	0.0	
	802.11nHT20 CH36-48	18.0		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11nHT40 CH38-46	17.0		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11acVHT20 CH36-48	17.5		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11acVHT40 CH38-46	17.0		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11acVHT80 CH42	17.0		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11ax20 CH36-48	17.5		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11ax40 CH38-46	17.0		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11ax80 CH42	16.5	7.5	7.5	7.5	0.0	0.0	0.0		
	5G U-NII-1	802.11a CH36-48	21.0	Ant.9	5.0	5.0	5.0	0.0	0.0	0.0
		802.11nHT20 CH36-48	20.5		5.0	5.0	5.0	0.0	0.0	0.0
		802.11nHT40 CH38-46	19.5		5.0	5.0	5.0	0.0	0.0	0.0
		802.11acVHT20 CH36-48	20.0		5.0	5.0	5.0	0.0	0.0	0.0
		802.11acVHT40 CH38-46	19.5		5.0	5.0	5.0	0.0	0.0	0.0
		802.11acVHT80 CH42	19.5		5.0	5.0	5.0	0.0	0.0	0.0
		802.11ax20 CH36-48	20.0		5.0	5.0	5.0	0.0	0.0	0.0
		802.11ax40 CH38-46	19.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11ax80 CH42	19.0	5.0	5.0	5.0	0.0	0.0	0.0		
5G U-NII-2A	802.11a CH52-64	18.5	Ant.7	7.5	7.5	7.5	0.0	0.0	0.0	
	802.11nHT20 CH52-64	18.0		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11nHT40 CH54-62	17.0		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11acVHT20 CH52-64	17.5		7.5	7.5	7.5	0.0	0.0	0.0	
	802.11acVHT40 CH54-62	17.0		7.5	7.5	7.5	0.0	0.0	0.0	



	802.11acVHT80 CH58	17.0	Ant.9	7.5	7.5	7.5	0.0	0.0	0.0
	802.11ax20 CH52-64	17.5		7.5	7.5	7.5	0.0	0.0	0.0
	802.11ax40 CH54-62	17.0		7.5	7.5	7.5	0.0	0.0	0.0
	802.11ax80 CH58	16.5		7.5	7.5	7.5	0.0	0.0	0.0
	802.11a CH52-64	21.0		5.0	5.0	5.0	0.0	0.0	0.0
	802.11nHT20 CH52-64	20.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11nHT40 CH54-62	19.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11acVHT20 CH52-64	20.0		5.0	5.0	5.0	0.0	0.0	0.0
	802.11acVHT40 CH54-62	19.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11acVHT80 CH58	19.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11ax20 CH52-64	20.0		5.0	5.0	5.0	0.0	0.0	0.0
	802.11ax40 CH54-62	19.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11ax80 CH58	19.0		5.0	5.0	5.0	0.0	0.0	0.0
5G U-NII-2C	802.11a CH100-144	18.5	Ant.7	7.5	7.5	7.5	0.0	0.0	0.0
	802.11nHT20 CH100-144	18.0		7.5	7.5	7.5	0.0	0.0	0.0
	802.11nHT40 CH102-142	17.0		7.5	7.5	7.5	0.0	0.0	0.0
	802.11acVHT20 CH100-144	17.5		7.5	7.5	7.5	0.0	0.0	0.0
	802.11acVHT40 CH102-142	17.0		7.5	7.5	7.5	0.0	0.0	0.0
	802.11acVHT80 CH106-138	17.0		7.5	7.5	7.5	0.0	0.0	0.0
	802.11x20 CH100-144	17.5		7.5	7.5	7.5	0.0	0.0	0.0
	802.11ax40 CH102-142	17.0		7.5	7.5	7.5	0.0	0.0	0.0
	802.11ax80 CH106-138	16.5	7.5	7.5	7.5	0.0	0.0	0.0	
	802.11a CH100-144	21.0	Ant.9	5.0	5.0	5.0	5.0	0.0	0.0
	802.11nHT20 CH100-144	20.5		5.0	5.0	5.0	5.0	0.0	0.0
	802.11nHT40 CH102-142	19.5		5.0	5.0	5.0	5.0	0.0	0.0
	802.11acVHT20 CH100-144	20.0		5.0	5.0	5.0	5.0	0.0	0.0
	802.11acVHT40 CH102-142	19.5		5.0	5.0	5.0	5.0	0.0	0.0
	802.11acVHT80 CH106-138	19.5		5.0	5.0	5.0	5.0	0.0	0.0
	802.11x20 CH100-144	20.0		5.0	5.0	5.0	5.0	0.0	0.0
	802.11ax40 CH102-142	19.5		5.0	5.0	5.0	5.0	0.0	0.0
	802.11ax80 CH106-138	19.0		5.0	5.0	5.0	5.0	0.0	0.0
5G U-NII-3	802.11a CH149-165	18.0		Ant.7	7.5	7.5	7.5	0.0	0.0
	802.11nHT20 CH149-165	18.0	7.5		7.5	7.5	0.0	0.0	0.0
	802.11nHT40 CH151-159	18.0	7.5		7.5	7.5	0.0	0.0	0.0
	802.11acVHT20 CH149-165	18.0	7.5		7.5	7.5	0.0	0.0	0.0
	802.11acVHT40 CH151-159	18.0	7.5		7.5	7.5	0.0	0.0	0.0
	802.11acVHT80 CH155	18.0	7.5		7.5	7.5	0.0	0.0	0.0
	802.11ax20 CH149-165	18.0	7.5		7.5	7.5	0.0	0.0	0.0
	802.11ax40 CH151-159	18.0	7.5		7.5	7.5	0.0	0.0	0.0
	802.11ax80 CH155	18.0	7.5	7.5	7.5	0.0	0.0	0.0	
	802.11a CH149-165	15.5	Ant.9	5.0	5.0	5.0	0.0	0.0	0.0
	802.11nHT20 CH149-165	15.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11nHT40 CH151-159	15.5		5.0	5.0	5.0	0.0	0.0	0.0

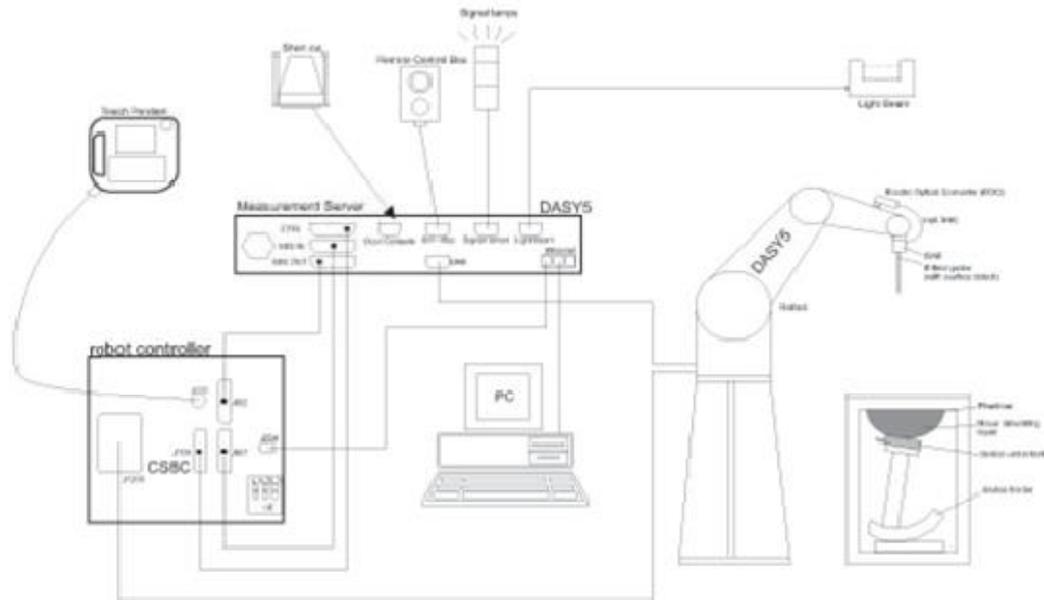


	802.11acVHT20 CH149-165	15.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11acVHT40 CH151-159	15.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11acVHT80 CH155	15.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11ax20 CH149-165	15.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11ax40 CH151-159	15.5		5.0	5.0	5.0	0.0	0.0	0.0
	802.11ax80 CH155	15.5		5.0	5.0	5.0	0.0	0.0	0.0

6 SAR Measurements System Configuration

6.1 SAR Measurement Set-up

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



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

6.2 DASY5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

EX3DV4 Probe Specification

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 μ W/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μ W/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure Scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.



E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than $\pm 10\%$. The spherical isotropy was evaluated and found to be better than ± 0.25 dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies below 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.



$$\text{SAR} = C \Delta T / \Delta t$$

Where: Δt = Exposure time (30 seconds),
 C = Heat capacity of tissue (brain or muscle),
 ΔT = Temperature increase due to RF exposure.

Or

$$\text{SAR} = |E|^2 \sigma / \rho$$

Where: σ = Simulated tissue conductivity,
 ρ = Tissue density (kg/m^3).

6.3 SAR Measurement Procedure

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.

Area Scan

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

Area scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	≤ 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 \leq the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

Zoom Scan

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

Zoom scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

			≤3GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{zoom} \Delta y_{zoom}$			≤2GHz: ≤8mm 2 – 3GHz: ≤5mm*	3 – 4GHz: ≤5mm* 4 – 6GHz: ≤4mm*
Maximum zoom scan spatial resolution, normal to phantom surface	Uniform grid: $\Delta z_{zoom}(n)$		≤5mm	3 – 4GHz: ≤4mm 4 – 5GHz: ≤3mm 5 – 6GHz: ≤2mm
	Graded grid	$\Delta z_{zoom}(1)$: between 1 st two points closest to phantom surface	≤4mm	3 – 4GHz: ≤3mm 4 – 5GHz: ≤2.5mm 5 – 6GHz: ≤2mm
		$\Delta z_{zoom}(n > 1)$: between subsequent points	≤1.5• $\Delta z_{zoom}(n-1)$	
Minimum zoom scan volume	X, y, z		≥30mm	3 – 4GHz: ≥28mm 4 – 5GHz: ≥25mm 5 – 6GHz: ≥22mm
<p>Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.</p> <p>* When zoom scan is required and the <u>reported</u> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4W/kg, ≤8mm, ≤7mm and ≤5mm zoom scan resolution may be applied, respectively, for 2GHz to 3GHz, 3GHz to 4GHz and 4GHz to 6GHz.</p>				

Volume Scan Procedures

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

Power Drift Monitoring

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



7 Main Test Equipment

Name of Equipment	Manufacturer	Type/Model	Serial Number	Last Cal.	Cal. Due Date
Network analyzer	Agilent	E5071B	MY42404014	2021-05-15	2022-05-14
Dielectric Probe Kit	Agilent	85070E	US44020115	/	/
Power meter	Agilent	E4417A	GB41291714	2021-05-15	2022-05-14
Power sensor	Agilent	N8481H	MY50350004	2021-05-15	2022-05-14
Power sensor	Agilent	E9327A	US40441622	2021-05-15	2022-05-14
Dual directional coupler	UCL	UCL-DDC0 56G-S	20010600118	/	/
Amplifier	INDEXSAR	TPA-005060 G01	13030502	2021-05-15	2022-05-14
Wireless communication tester	Anritsu	MT8820C	6201342015	2021-12-12	2022-12-11
Wireless communication tester	Key sight	E5515C	MY48360988	2021-12-12	2022-12-11
Wideband radio communication tester	R&S	CMW 500	113645	2021-05-15	2022-05-14
Base Station Simulator	R&S	CMW270	100673	2021-05-15	2022-05-14
E-field Probe	SPEAG	EX3DV4	7543	2021-12-28	2022-12-27
DAE	SPEAG	DAE4	1291	2022-03-24	2023-03-23
E-field Probe	SPEAG	EX3DV4	3677	2021-08-12	2022-08-11
DAE	SPEAG	DAE4	1692	2021-10-04	2022-10-03
Validation Kit 750MHz	SPEAG	D750V3	1045	2020-08-28	2023-08-27
Validation Kit 835MHz	SPEAG	D835V2	4d020	2020-08-28	2023-08-27
Validation Kit 1750MHz	SPEAG	D1750V2	1033	2020-02-25	2023-02-24
Validation Kit 1900MHz	SPEAG	D1900V2	5d060	2020-08-27	2023-08-26
Validation Kit 2450MHz	SPEAG	D2450V2	786	2020-08-27	2023-08-26
Validation Kit 2600MHz	SPEAG	D2600V2	1025	2021-04-23	2024-04-22
Validation Kit 3500MHz	SPEAG	D3500V2	1083	2019-08-20	2022-08-19
Validation Kit 3700MHz	SPEAG	D3700V2	1048	2019-08-20	2022-08-19
Validation Kit 3900MHz	SPEAG	D3900V2	1027	2019-09-20	2022-09-19
Validation Kit 5GHz	SPEAG	D5GHZV2	1151	2020-02-27	2023-02-26



Temperature Probe	Tianjin jinming	JM222	381	2021-05-15	2022-05-14
Software for Tissue	Agilent	85070	/	/	/
SAR Lab 1					
Twin SAM Phantom	SPEAG	SAM2	1666	/	/
Hygrothermograph	Anymetr	HTC - 1	TY2020A003	2021-05-15	2022-05-14
TX90 XL	SPEAG	Staubli TX90 XL	/	/	/
Software for Test	SPEAG	DASY52	52.10.4.1527	/	/
SAR Lab 2					
Twin SAM Phantom	SPEAG	SAM2	1524	/	/
Hygrothermograph	Anymetr	HTC - 1	TY2020A001	2021-05-15	2022-05-14
TX90 XL	SPEAG	Staubli TX90 XL	/	/	/
Software for Test	SPEAG	DASY52	52.10.4.1527	/	/

8 Tissue Dielectric Parameter Measurements & System Verification

8.1 Tissue Verification

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 24 hours of use; or earlier if the dielectric parameters can become out of tolerance.

Target values

Frequency (MHz)	ϵ_r	σ (s/m)
750	41.9	0.89
835	41.5	0.90
1750	40.1	1.37
1900	40.0	1.40
2450	39.2	1.80
2600	39.0	1.96
3400	37.4	2.81
3500	37.9	2.91
3700	37.7	3.12
3900	37.5	3.32
5250	35.9	4.71
5600	35.5	5.07
5750	35.4	5.22

Measurements results

Frequency (MHz)	Test Date	Temp °C	Measured Dielectric Parameters		Target Dielectric Parameters		Limit (Within ±5%)	
			ϵ_r	σ (s/m)	ϵ_r	σ (s/m)	Dev ϵ_r (%)	Dev σ (%)
750	2022/3/26	21.5	42.3	0.88	41.9	0.89	0.95	-1.12
	2022/3/28	21.5	42.0	0.87	41.9	0.89	0.24	-2.25
	2022/4/2	21.5	41.8	0.89	41.9	0.89	-0.24	0.00
835	2022/3/23	21.5	41.4	0.88	41.5	0.90	-0.24	-2.22
	2022/3/24	21.5	41.3	0.87	41.5	0.90	-0.48	-3.33
	2022/3/25	21.5	41.4	0.92	41.5	0.90	-0.24	2.22
1750	2022/4/3	21.5	40.2	1.34	40.1	1.37	0.25	-2.19

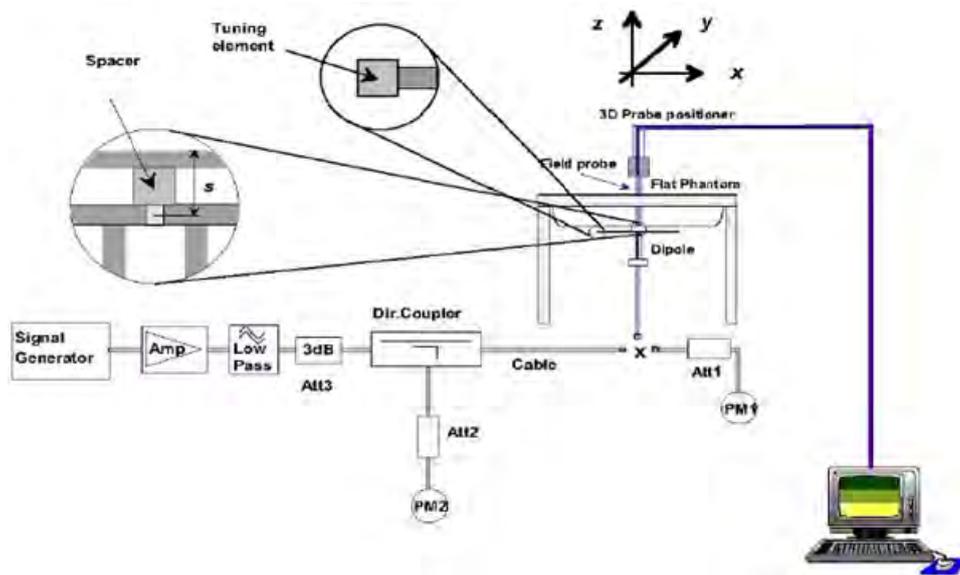


	2022/4/15	21.5	40.1	1.34	40.1	1.37	0.00	-2.19
	2022/4/20	21.5	40.2	1.36	40.1	1.37	0.25	-0.73
	2022/5/25	21.5	40.0	1.33	40.1	1.37	-0.25	-2.92
1900	2022/3/20	21.5	40.1	1.41	40.0	1.40	0.25	0.71
	2022/4/1	21.5	40.2	1.43	40.0	1.40	0.50	2.14
	2022/4/2	21.5	40.0	1.40	40.0	1.40	0.00	0.00
	2022/4/12	21.5	40.5	1.34	40.0	1.40	1.25	-4.29
2450	2022/5/1	21.5	38.6	1.81	39.2	1.80	-1.53	0.56
	2022/5/7	21.5	38.7	1.81	39.2	1.80	-1.28	0.56
	2022/4/11	21.5	38.6	1.81	39.2	1.80	-1.53	0.56
2600	2022/3/27	21.5	38.2	2.01	39.0	1.96	-2.05	2.55
	2022/3/31	21.5	38.2	2.01	39.0	1.96	-2.05	2.55
	2022/4/7	21.5	38.4	1.94	39.0	1.96	-1.54	-1.02
	2022/4/8	21.5	38.3	1.99	39.0	1.96	-1.79	1.53
	2022/4/11	21.5	38.5	1.95	39.0	1.96	-1.28	-0.51
	2022/4/14	21.5	38.2	2.01	39.0	1.96	-2.05	2.55
	2022/4/21	21.5	38.3	1.99	39.0	1.96	-1.79	1.53
	2022/5/13	21.5	39.0	1.98	39.0	1.96	0.00	1.02
3400	2022/4/5	21.5	37.1	2.83	37.4	2.81	-0.80	0.71
3500	2022/4/5	21.5	37.6	2.83	37.9	2.91	-0.79	-2.75
	2022/4/6	21.5	37.9	2.85	37.9	2.91	0.00	-2.06
3700	2022/4/9	21.5	38.0	3.01	37.7	3.12	0.80	-3.53
	2022/4/10	21.5	38.1	3.03	37.7	3.12	1.06	-2.88
3900	2022/4/10	21.5	37.9	3.42	37.5	3.32	1.07	3.01
5250	2022/5/2	21.5	36.2	4.77	35.9	4.71	0.84	1.27
	2022/5/3	21.5	35.5	4.80	35.9	4.71	-1.11	1.91
5600	2022/5/3	21.5	34.2	5.21	35.5	5.07	-3.66	2.76
	2022/5/4	21.5	34.4	5.17	35.5	5.07	-3.10	1.97
5750	2022/4/13	21.5	34.9	5.21	35.4	5.22	-1.41	-0.19
	2022/5/5	21.5	35.6	5.14	35.4	5.22	0.56	-1.53
Note: The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.								

8.2 System Performance Check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulates were measured using the dielectric probe kit and the network analyzer. A system check measurement for every day was made following the determination of the dielectric parameters of the Tissue simulates, using the dipole validation kit. The dipole antenna was placed under the flat section of the twin SAM phantom.

System check is performed regularly on all frequency bands where tests are performed with the DASY system.



Picture 1 System Performance Check setup



Picture 2 Setup Photo

**Justification for Extended SAR Dipole Calibrations**

Usage of SAR dipoles calibrated less than 3 years ago but more than 1 year ago were confirmed in maintaining return loss (< -20 dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibrations in KDB 865664 D01:

Dipole		Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	$\Delta\Omega$
Dipole D750V3 SN: 1045	Head	8/28/2020	-26.6	/	54.3	/
	Liquid	8/27/2021	-26.2	-1.5	53.9	-0.4
Dipole D835V2 SN: 4d020	Head	8/28/2020	-26.2	/	54.8	/
	Liquid	8/27/2021	-26.5	1.1	55.2	0.4
Dipole D1750V2 SN: 1033	Head	2/25/2020	-38.3	/	48.8	/
		2/24/2021	-40.0	4.4	49.9	1.1
		2/23/2022	-40.6	1.5	51.1	1.2
Dipole D1900V2 SN: 5d060	Head	8/27/2020	-23.3	/	52.5	/
	Liquid	8/26/2021	-23.0	-1.3	51.9	-0.6
Dipole D2450V2 SN: 786	Head	8/27/2020	-26.9	/	54.5	/
	Liquid	8/26/2021	-27.1	0.7	53.8	-0.7
Dipole D3500V2 SN: 1083 (3400MHz)	Head	9/20/2019	-21.6	/	44.5	/
		9/19/2020	-21.3	-1.4	44.3	-0.2
		9/18/2021	-20.6	-3.3	43.8	-0.5
Dipole D3500V2 SN: 1083 (3500MHz)	Head	9/20/2019	-31.4	/	52.3	/
		9/19/2020	-31.1	-1.0	52.2	-0.1
		9/18/2021	-31.0	-0.3	51.9	-0.3
Dipole D3700V2 SN: 1048	Head	9/20/2019	-24.1	/	44.7	/
		9/19/2020	-23.7	-1.7	44.4	-0.3
		9/18/2021	-23.8	0.4	44.3	-0.1
Dipole D3900V2 SN: 1027 (3900MHz)	Head	9/20/2019	-24.2	/	48.0	/
		9/19/2020	-24.4	0.8	47.8	-0.2
		9/18/2021	-23.7	-2.9	47.7	-0.1
Dipole D5GHzV2 SN: 1151 (5250MHz)	Head	2/27/2020	-23.4	/	52.4	/
		2/26/2021	-23.8	1.7	50.0	-2.4
		2/25/2022	-23.9	0.4	49.3	-0.7
Dipole D5GHzV2 SN: 1151 (5600MHz)	Head	2/27/2020	-22.6	/	52.4	/
		2/26/2021	-21.5	-4.9	50.0	-2.4
		2/25/2022	-20.9	-2.8	49.3	-0.7
Dipole D5GHzV2 SN: 1151 (5750MHz)	Head	2/27/2020	-25.0	/	55.9	/
		2/26/2021	-26.8	-1.8	52.5	-3.4
		2/25/2022	-27.1	1.1	52.1	-0.4



System Check results

Frequency (MHz)	Test Date	Temp °C	250mW Measured SAR _{1g} (W/kg)	1W Normalized SAR _{1g} (W/kg)	1W Target SAR _{1g} (W/kg)	Δ % (Limit ±10%)	Plot No.
750	2022/3/26	21.5	2.13	8.52	8.37	1.79	1
	2022/3/28	21.5	2.10	8.40	8.37	0.36	2
	2022/4/2	21.5	2.04	8.16	8.37	-2.51	3
835	2022/3/23	21.5	2.44	9.76	9.65	1.14	4
	2022/3/24	21.5	2.46	9.84	9.65	1.97	5
	2022/3/25	21.5	2.43	9.72	9.65	0.73	6
1750	2022/4/3	21.5	8.95	35.80	35.90	-0.28	7
	2022/4/15	21.5	9.11	36.44	35.90	1.50	8
	2022/4/20	21.5	8.96	35.84	35.90	-0.17	9
	2022/5/25	21.5	8.92	35.68	35.90	-0.61	10
1900	2022/3/20	21.5	9.88	39.52	39.50	0.05	11
	2022/4/1	21.5	9.85	39.40	39.50	-0.25	12
	2022/4/2	21.5	10.55	42.20	39.50	6.84	13
	2022/4/12	21.5	10.50	42.00	39.50	6.33	14
2450	2022/5/1	21.5	13.70	54.80	52.30	4.78	15
	2022/5/7	21.5	13.20	52.80	52.30	0.96	16
	2022/4/11	21.5	13.70	54.80	52.30	4.78	17
2600	2022/3/27	21.5	13.90	55.60	56.10	-0.89	18
	2022/3/31	21.5	13.90	55.60	56.10	-0.89	19
	2022/4/7	21.5	13.88	55.52	56.10	-1.03	20
	2022/4/8	21.5	13.94	55.76	56.10	-0.61	21
	2022/4/11	21.5	13.91	55.64	56.10	-0.82	22
	2022/4/14	21.5	13.89	55.56	56.10	-0.96	23
	2022/4/21	21.5	13.93	55.72	56.10	-0.68	24
	2022/5/13	21.5	13.85	55.40	56.10	-1.25	25
Frequency (MHz)	Test Date	Temp °C	100mW Measured SAR _{1g} (W/kg)	1W Normalized SAR _{1g} (W/kg)	1W Target SAR _{1g} (W/kg)	Δ % (Limit ±10%)	Plot No.
3400	2022/4/5	21.5	6.57	65.70	69.6	-5.60	26
3500	2022/4/5	21.5	6.50	65.00	67.1	-3.13	27
	2022/4/6	21.5	6.53	65.30	67.1	-2.68	28
3700	2022/4/9	21.5	6.63	66.30	67.2	-1.34	29
	2022/4/10	21.5	6.61	66.10	67.2	-1.64	30
3900	2022/4/10	21.5	6.83	68.30	71.5	-4.48	31



5250	2022/5/2	21.5	7.87	78.70	78.00	0.90	32
	2022/5/3	21.5	7.87	78.70	78.00	0.90	33
5600	2022/5/3	21.5	8.17	81.70	80.50	1.49	34
	2022/5/4	21.5	8.18	81.80	80.50	1.61	35
5750	2022/4/13	21.5	7.66	76.60	77.40	-1.03	36
	2022/5/5	21.5	7.65	76.50	77.40	-1.16	37

Note: Target Values used derive from the calibration certificate Data Storage and Evaluation.

8.3 SAR System Validation

Per FCC KDB 865664 D02v01, SAR system verification is required to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles are used with the required tissue-equivalent media for system validation, according to the procedures outlined in FCC KDB 865664 D01 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point must be validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status, measurement frequencies, SAR probes, calibrated signal type(s) and tissue dielectric parameters has been included.

Frequency [MHz]	Date	Probe SN	Probe Type	Probe Cal Point		PERM (Er)	COND (Σ)	CW Validation		
								Sensitivity	Probe Linearity	Probe Isotropy
750	12/28/2022	7543	EX3DV4	750	Head	41.9	0.89	PASS	PASS	PASS
835	12/28/2022	7543	EX3DV4	835	Head	41.5	0.90	PASS	PASS	PASS
1750	12/28/2022	7543	EX3DV4	1750	Head	40.1	1.37	PASS	PASS	PASS
1900	12/28/2022	7543	EX3DV4	1900	Head	40.0	1.40	PASS	PASS	PASS
2450	12/28/2022	7543	EX3DV4	2450	Head	39.2	1.80	PASS	PASS	PASS
2600	12/28/2022	7543	EX3DV4	2600	Head	39.0	1.96	PASS	PASS	PASS
3300	12/28/2022	7543	EX3DV4	3400	Head	38.2	2.71	PASS	PASS	PASS
3500	12/28/2022	7543	EX3DV4	3500	Head	37.9	2.91	PASS	PASS	PASS
3700	12/28/2022	7543	EX3DV4	3700	Head	37.7	3.12	PASS	PASS	PASS
3900	12/28/2022	7543	EX3DV4	3900	Head	37.5	3.32	PASS	PASS	PASS
5250	12/28/2022	7543	EX3DV4	5250	Head	35.9	4.71	PASS	PASS	PASS
5600	12/28/2022	7543	EX3DV4	5600	Head	35.5	5.07	PASS	PASS	PASS
5750	12/28/2022	7543	EX3DV4	5750	Head	35.4	5.22	PASS	PASS	PASS

Frequency [MHz]	Date	Probe SN	Probe Type	Probe Cal Point		PERM (Er)	COND (Σ)	CW Validation		
								Sensitivity	Probe Linearity	Probe Isotropy
2450	8/12/2021	3677	EX3DV4	2450	Head	39.2	1.80	PASS	PASS	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664D01v01 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5dB), such as OFDM according to KDB 865664.



9 Normal and Maximum Output Power

KDB 447498 D01 at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

9.1 GSM Mode

GSM850										
Full Power & Receiver on & Receiver off & Hotspot on-Ant1		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	128/824.2	190/836.6	251/848.8		MAX	128/824.2	190/836.6	251/848.8
GSM	CS	33.00	32.06	32.22	32.42	9.03	23.97	23.03	23.19	23.39
GPRS/EGPRS (GMSK)	1 Tx Slot	33.00	31.92	32.11	32.40	9.03	23.97	22.89	23.08	23.37
	2 Tx Slots	31.00	30.22	30.45	30.35	6.02	24.98	24.20	24.43	24.33
	3 Tx Slots	29.00	28.00	28.15	28.20	4.26	24.74	23.74	23.89	23.94
	4 Tx Slots	28.00	27.04	26.92	27.10	3.01	24.99	24.03	23.91	24.09
EGPRS (8PSK)	1 Tx Slot	27.50	26.35	26.37	26.44	9.03	18.47	17.32	17.34	17.41
	2 Tx Slots	25.00	23.94	24.09	23.98	6.02	18.98	17.92	18.07	17.96
	3 Tx Slots	23.00	22.13	22.16	22.20	4.26	18.74	17.87	17.90	17.94
	4 Tx Slots	22.00	21.12	21.21	21.21	3.01	18.99	18.11	18.20	18.20
GSM850										
Full Power & Receiver on & Receiver off & Hotspot on-Ant6		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	128/824.2	190/836.6	251/848.8		MAX	128/824.2	190/836.6	251/848.8
GSM	CS	31.50	30.42	30.65	30.74	9.03	22.47	21.39	21.62	21.71
GPRS/EGPRS (GMSK)	1 Tx Slot	31.50	30.46	30.68	30.21	9.03	22.47	21.43	21.65	21.18
	2 Tx Slots	29.00	28.48	28.48	27.59	6.02	22.98	22.46	22.46	21.57
	3 Tx Slots	27.00	26.19	26.36	25.95	4.26	22.74	21.93	22.10	21.69
	4 Tx Slots	26.00	25.00	25.36	25.00	3.01	22.99	21.99	22.35	21.99
EGPRS (8PSK)	1 Tx Slot	26.00	24.43	24.70	25.02	9.03	16.97	15.40	15.67	15.99
	2 Tx Slots	23.00	22.42	21.90	22.33	6.02	16.98	16.40	15.88	16.31
	3 Tx Slots	21.50	20.14	20.03	21.03	4.26	17.24	15.88	15.77	16.77
	4 Tx Slots	20.50	19.11	19.22	19.92	3.01	17.49	16.10	16.21	16.91
PCS 1900										
Full Power & Receiver on & Receiver off & Hotspot on & Sensor on & Sensor off-Ant2		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	512/1850.2	661/1880	810/1909.8		MAX	512/1850.2	661/1880	810/1909.8
GSM	CS	30.50	29.59	29.45	29.61	9.03	21.47	20.56	20.42	20.58
GPRS/EGPRS (GMSK)	1 Tx Slot	30.50	29.51	29.55	29.60	9.03	21.47	20.48	20.52	20.57
	2 Tx Slots	27.50	27.00	26.88	26.95	6.02	21.48	20.98	20.86	20.93



	3 Tx Slots	25.50	24.88	24.78	24.62	4.26	21.24	20.62	20.52	20.36
	4 Tx Slots	24.50	23.71	23.45	23.60	3.01	21.49	20.70	20.44	20.59
EGPRS (8PSK)	1 Tx Slot	26.50	25.57	25.41	25.52	9.03	17.47	16.54	16.38	16.49
	2 Tx Slots	23.50	22.81	22.81	22.75	6.02	17.48	16.79	16.79	16.73
	3 Tx Slots	22.00	20.97	21.23	21.15	4.26	17.74	16.71	16.97	16.89
	4 Tx Slots	21.00	19.97	19.93	19.96	3.01	17.99	16.96	16.92	16.95
PCS 1900										
Full Power& Receiver on& Receiver off& Hotspot on-Ant4		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	512/1850.2	661/1880	810/1909.8		MAX	512/1850.2	661/1880	810/1909.8
GSM	CS	28.50	27.70	27.62	27.75	9.03	19.47	18.67	18.59	18.72
GPRS/EGPRS (GMSK)	1 Tx Slot	28.50	27.66	27.62	27.75	9.03	19.47	18.63	18.59	18.72
	2 Tx Slots	25.50	25.14	25.15	25.00	6.02	19.48	19.12	19.13	18.98
	3 Tx Slots	23.50	23.12	22.97	23.05	4.26	19.24	18.86	18.71	18.79
	4 Tx Slots	22.50	21.83	21.67	21.70	3.01	19.49	18.82	18.66	18.69
EGPRS (8PSK)	1 Tx Slot	25.00	24.03	23.54	23.66	9.03	15.97	15.00	14.51	14.63
	2 Tx Slots	22.00	21.36	21.00	20.82	6.02	15.98	15.34	14.98	14.80
	3 Tx Slots	20.50	19.20	19.52	19.52	4.26	16.24	14.94	15.26	15.26
	4 Tx Slots	19.00	18.22	18.07	17.98	3.01	15.99	15.21	15.06	14.97
Notes:The worst-case configuration and mode for SAR testing is determined to be as follows:										
1. Standalone: GSM 850 GMSK (GPRS) mode with 4 time slots for Max power, PCS 1900 GMSK (GPRS) mode with 4 time slots for Max power, based on the output power measurements above..										

9.2 WCDMA Mode

The following tests were completed according to the test requirements outlined in the 3GPP TS34.121 specification.

WCDMA Band II					
Full Power& Receiver on& Receiver off& Sensor off-Ant2		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		9262/1852.4	9400/1880	9538/1907.6	
RMC	12.2k	24.02	24.12	24.15	25.00
AMR	12.2k	24.04	24.28	24.17	25.00
HSDPA	Subtest 1	22.92	22.96	23.23	24.00
	Subtest 2	22.94	22.98	23.01	24.00
	Subtest 3	22.46	22.66	22.73	23.50
	Subtest 4	22.50	22.58	22.79	23.50
HSUPA	Subtest 1	23.08	23.06	23.07	24.00
	Subtest 2	20.92	21.00	21.27	22.00
	Subtest 3	22.02	22.02	22.17	23.00
	Subtest 4	21.02	21.04	21.07	22.00
	Subtest 5	23.08	23.00	23.17	24.00
HSPA+	16QAM	21.71	21.99	21.84	22.50

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band II					
Hotspot on-Ant2		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		9262/1852.4	9400/1880	9538/1907.6	
RMC	12.2k	22.19	22.15	22.05	23.00
AMR	12.2k	22.31	22.09	21.89	23.00
HSDPA	Subtest 1	21.15	21.19	21.01	22.00
	Subtest 2	21.17	21.07	20.93	22.00
	Subtest 3	20.61	20.49	20.61	21.50
	Subtest 4	20.83	20.75	20.41	21.50
HSUPA	Subtest 1	21.31	21.19	20.99	22.00
	Subtest 2	19.17	19.11	19.19	20.00
	Subtest 3	20.21	20.01	20.09	21.00
	Subtest 4	19.21	19.03	19.09	20.00
	Subtest 5	21.29	21.23	20.99	22.00
HSPA+	16QAM	20.15	20.17	20.11	20.50

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".



WCDMA Band II					
sensor on-Ant2		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		9262/1852.4	9400/1880	9538/1907.6	
RMC	12.2k	22.86	22.90	22.84	23.50
AMR	12.2k	22.96	22.76	22.96	23.50
HSDPA	Subtest 1	21.96	21.88	21.92	22.50
	Subtest 2	21.76	21.98	22.00	22.50
	Subtest 3	21.46	21.54	21.50	22.00
	Subtest 4	21.32	21.24	21.50	22.00
HSUPA	Subtest 1	21.72	21.84	21.90	22.50
	Subtest 2	19.98	19.92	19.86	20.50
	Subtest 3	20.70	21.06	21.00	21.50
	Subtest 4	19.92	20.00	19.80	20.50
	Subtest 5	21.98	22.06	21.94	22.50
HSPA+	16QAM	20.57	20.71	20.49	21.00

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band II					
Full Power& Receiver on& Receiver off& Hotspot on-Ant4		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		9262/1852.4	9400/1880	9538/1907.6	
RMC	12.2k	22.21	22.25	22.20	23.00
AMR	12.2k	22.09	22.17	22.14	23.00
HSDPA	Subtest 1	21.41	21.49	21.38	22.00
	Subtest 2	21.39	21.48	21.35	22.00
	Subtest 3	20.91	21.00	20.89	21.50
	Subtest 4	20.93	20.96	20.83	21.50
HSUPA	Subtest 1	21.40	21.47	21.33	22.00
	Subtest 2	19.39	19.46	19.34	20.00
	Subtest 3	20.40	20.46	20.33	21.00
	Subtest 4	19.40	19.45	19.33	20.00
	Subtest 5	21.39	21.46	21.31	22.00
HSPA+	16QAM	20.15	20.17	20.20	20.50

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band V					
Full Power & Receiver on & Receiver off & Hotspot on-Ant1		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		4132/826.4	4183/836.6	4233/846.6	
RMC	12.2k	24.13	24.16	24.22	25.00
AMR	12.2k	24.29	24.10	24.18	25.00
HSDPA	Subtest 1	23.21	23.20	23.28	24.00
	Subtest 2	23.21	23.32	23.22	24.00
	Subtest 3	22.63	22.78	22.70	23.50
	Subtest 4	22.77	22.56	22.62	23.50
HSUPA	Subtest 1	23.19	23.16	23.32	24.00
	Subtest 2	21.27	21.04	21.08	22.00
	Subtest 3	22.25	22.28	22.12	23.00
	Subtest 4	21.09	21.26	21.06	22.00
	Subtest 5	23.13	23.10	23.28	24.00
HSPA+	16QAM	21.93	21.74	22.02	22.50

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band V					
Full Power & Receiver on & Receiver off & Hotspot on-Ant6		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		4132/826.4	4183/836.6	4233/846.6	
RMC	12.2k	22.30	22.48	22.54	23.00
AMR	12.2k	22.24	22.44	22.38	23.00
HSDPA	Subtest 1	21.36	21.42	21.64	22.00
	Subtest 2	21.44	21.46	21.62	22.00
	Subtest 3	20.86	21.02	20.88	21.50
	Subtest 4	20.88	20.96	21.16	21.50
HSUPA	Subtest 1	21.16	21.56	21.42	22.00
	Subtest 2	19.36	19.58	19.66	20.00
	Subtest 3	20.18	20.36	20.50	21.00
	Subtest 4	19.16	19.40	19.60	20.00
	Subtest 5	21.42	21.36	21.56	22.00
HSPA+	16QAM	19.96	20.24	20.20	20.50

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

9.3 LTE Mode

9.3.1 LTE Single Carrier

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3

LTE Band 2							
Full Power & Receiver on & Receiver off & Sensor off-Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	23.83	23.95	23.95	25.00
		1	2	23.87	24.07	24.01	25.00
		1	5	23.82	24.05	23.98	25.00
		3	0	23.83	23.91	23.81	25.00
		3	2	23.82	23.88	23.89	25.00
		3	3	23.84	23.85	23.85	25.00
		6	0	22.94	22.92	22.91	24.00
	16QAM	1	0	23.17	23.16	23.26	24.00
		1	2	23.24	23.27	23.29	24.00
		1	5	23.02	23.13	23.17	24.00
		3	0	22.83	22.85	22.80	24.00
		3	2	22.90	22.87	22.95	24.00
		3	3	22.87	22.94	22.82	24.00
		6	0	21.94	21.95	21.91	23.00
	64QAM	1	0	22.16	22.08	22.02	23.00
		1	2	22.04	22.13	22.05	23.00
		1	5	21.91	22.07	21.97	23.00
		3	0	21.85	21.83	21.79	23.00
		3	2	21.90	21.88	21.91	23.00
		3	3	21.82	21.93	21.80	23.00
		6	0	20.96	20.94	20.92	22.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	23.85	23.99	23.98	25.00
		1	7	23.85	24.10	24.05	25.00
		1	14	23.85	24.10	24.02	25.00
		8	0	22.93	23.03	22.94	24.00
		8	4	22.94	22.98	23.01	24.00
		8	7	22.94	22.96	22.95	24.00
		15	0	22.94	22.96	22.94	24.00
	16QAM	1	0	23.17	23.18	23.29	24.00
		1	7	23.24	23.27	23.33	24.00
		1	14	23.04	23.17	23.20	24.00
		8	0	21.94	21.98	21.92	23.00
		8	4	22.01	22.00	22.07	23.00
		8	7	21.97	22.06	21.95	23.00
		15	0	21.97	21.99	21.94	23.00
	64QAM	1	0	22.19	22.10	22.05	23.00
		1	7	22.07	22.13	22.07	23.00
		1	14	21.93	22.06	22.00	23.00
		8	0	20.96	20.96	20.91	22.00
		8	4	21.01	21.01	21.03	22.00
		8	7	20.92	21.05	20.93	22.00
		15	0	20.99	20.98	20.95	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
5MHz	QPSK	1	0	23.82	23.97	23.94	25.00
		1	13	23.83	24.06	24.02	25.00
		1	24	23.82	24.05	23.98	25.00
		12	0	22.90	22.98	22.90	24.00
		12	6	22.92	22.94	22.96	24.00
		12	13	22.92	22.94	22.91	24.00
		25	0	22.94	22.95	22.92	24.00
	16QAM	1	0	23.17	23.14	23.26	24.00
		1	13	23.24	23.25	23.30	24.00
		1	24	23.01	23.15	23.16	24.00
		12	0	21.92	21.94	21.89	23.00
		12	6	21.98	21.95	22.03	23.00
		12	13	21.94	22.01	21.91	23.00
		25	0	21.95	21.95	21.89	23.00
	64QAM	1	0	22.16	22.10	22.02	23.00
		1	13	22.04	22.15	22.04	23.00
		1	24	21.94	22.04	21.96	23.00
		12	0	20.94	20.92	20.92	22.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18650/1855	18900/1880	19150/1905	
		12	6	20.98	20.96	20.99	22.00
		12	13	20.89	21.00	20.89	22.00
		25	0	20.97	20.94	20.90	22.00
10MHz	QPSK	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	23.84	23.98	23.97	25.00
		1	25	23.86	24.11	24.06	25.00
		1	49	23.84	24.09	24.01	25.00
		25	0	22.93	23.03	22.94	24.00
		25	13	22.95	22.99	23.00	24.00
		25	25	22.94	22.98	22.96	24.00
		50	0	22.98	22.97	22.96	24.00
	16QAM	1	0	23.21	23.17	23.28	24.00
		1	25	23.28	23.29	23.33	24.00
		1	49	23.04	23.17	23.19	24.00
		25	0	21.95	21.99	21.93	23.00
		25	13	22.00	21.99	22.06	23.00
		25	25	21.97	22.06	21.95	23.00
		50	0	21.98	22.00	21.93	23.00
	64QAM	1	0	22.18	22.09	22.04	23.00
		1	25	22.07	22.15	22.07	23.00
		1	49	21.93	22.06	21.99	23.00
		25	0	20.97	20.97	20.92	22.00
		25	13	21.00	21.00	21.02	22.00
		25	25	20.92	21.05	20.93	22.00
		50	0	21.00	20.99	20.94	22.00
15MHz	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	23.83	23.94	23.95	25.00
		1	38	23.84	24.10	24.03	25.00
		1	74	23.81	24.04	23.97	25.00
		36	0	22.91	22.99	22.91	24.00
		36	18	22.92	22.94	22.96	24.00
		36	39	22.91	22.95	22.92	24.00
		75	0	22.96	22.93	22.91	24.00
	16QAM	1	0	23.19	23.15	23.26	24.00
		1	38	23.26	23.26	23.31	24.00
		1	74	23.02	23.13	23.16	24.00
		36	0	21.92	21.97	21.90	23.00
		36	18	21.97	21.94	22.02	23.00
		36	39	21.95	22.02	21.92	23.00
		75	0	21.95	21.95	21.89	23.00
	64QAM	1	0	22.13	22.07	22.02	23.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18700/1860	18900/1880	19100/1900	
		1	38	22.05	22.12	22.05	23.00
		1	74	21.94	22.05	22.00	23.00
		36	0	20.96	20.99	20.93	22.00
		36	18	20.98	20.97	21.01	22.00
		36	39	20.90	21.01	20.90	22.00
		75	0	20.97	20.94	20.90	22.00
20MHz	QPSK	1	0	23.80	23.90	23.92	25.00
		1	50	23.83	24.06	24.01	25.00
		1	99	23.79	24.03	23.94	25.00
		50	0	22.88	22.94	22.87	24.00
		50	25	22.90	22.90	22.93	24.00
		50	50	22.88	22.90	22.88	24.00
		100	0	22.93	22.88	22.87	24.00
	16QAM	1	0	23.16	23.11	23.21	24.00
		1	50	23.23	23.24	23.27	24.00
		1	99	22.99	23.10	23.14	24.00
		50	0	21.89	21.93	21.87	23.00
		50	25	21.94	21.92	21.99	23.00
		50	50	21.92	21.97	21.88	23.00
		100	0	21.93	21.91	21.86	23.00
	64QAM	1	0	22.11	22.03	21.97	23.00
		1	50	22.01	22.10	22.01	23.00
		1	99	21.88	21.99	21.94	23.00
		50	0	20.91	20.91	20.86	22.00
		50	25	20.94	20.93	20.95	22.00
		50	50	20.87	20.96	20.86	22.00
		100	0	20.95	20.90	20.87	22.00

LTE Band 2							
Hotspot on-Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	20.79	20.69	20.74	22.00
		1	2	20.93	20.82	20.82	22.00
		1	5	20.90	20.84	20.82	22.00
		3	0	20.41	20.39	20.34	22.00
		3	2	20.42	20.48	20.42	22.00
		3	3	20.48	20.34	20.39	22.00
		6	0	19.46	19.48	19.46	21.00
	16QAM	1	0	20.09	19.95	19.95	21.00
		1	2	20.23	19.99	20.05	21.00



		1	5	20.18	20.02	19.92	21.00	
		3	0	19.45	19.30	19.37	21.00	
		3	2	19.41	19.43	19.48	21.00	
		3	3	19.44	19.40	19.41	21.00	
		6	0	18.50	18.55	18.71	20.00	
		64QAM	1	0	18.95	18.80	18.97	20.00
			1	2	18.87	18.85	19.10	20.00
			1	5	18.92	18.89	19.06	20.00
			3	0	18.53	18.34	18.37	20.00
			3	2	18.52	18.46	18.42	20.00
			3	3	18.52	18.36	18.41	20.00
			6	0	17.63	17.46	17.51	19.00
		Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)		
18615/1851.5	18900/1880					19185/1908.5		
3MHz	QPSK	1	0	20.81	20.73	20.77	22.00	
		1	7	20.91	20.85	20.86	22.00	
		1	14	20.93	20.89	20.86	22.00	
		8	0	19.51	19.51	19.47	21.00	
		8	4	19.54	19.58	19.54	21.00	
		8	7	19.58	19.45	19.49	21.00	
		15	0	19.46	19.52	19.49	21.00	
	16QAM	1	0	20.09	19.97	19.98	21.00	
		1	7	20.23	19.99	20.09	21.00	
		1	14	20.20	20.06	19.95	21.00	
		8	0	18.56	18.43	18.49	20.00	
		8	4	18.52	18.56	18.60	20.00	
		8	7	18.54	18.52	18.54	20.00	
		15	0	18.53	18.59	18.74	20.00	
	64QAM	1	0	18.98	18.82	19.00	20.00	
		1	7	18.90	18.85	19.12	20.00	
		1	14	18.94	18.88	19.09	20.00	
		8	0	17.64	17.47	17.49	19.00	
		8	4	17.63	17.59	17.54	19.00	
		8	7	17.62	17.48	17.54	19.00	
		15	0	17.66	17.50	17.54	19.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18625/1852.5	18900/1880	19175/1907.5		
5MHz	QPSK	1	0	20.78	20.71	20.73	22.00	
		1	13	20.89	20.81	20.83	22.00	
		1	24	20.90	20.84	20.82	22.00	
		12	0	19.48	19.46	19.43	21.00	
		12	6	19.52	19.54	19.49	21.00	
		12	13	19.56	19.43	19.45	21.00	



	16QAM	25	0	19.46	19.51	19.47	21.00
		1	0	20.09	19.93	19.95	21.00
		1	13	20.23	19.97	20.06	21.00
		1	24	20.17	20.04	19.91	21.00
		12	0	18.54	18.39	18.46	20.00
		12	6	18.49	18.51	18.56	20.00
		12	13	18.51	18.47	18.50	20.00
		25	0	18.51	18.55	18.69	20.00
	64QAM	1	0	18.95	18.82	18.97	20.00
		1	13	18.87	18.87	19.09	20.00
		1	24	18.95	18.86	19.05	20.00
		12	0	17.62	17.43	17.50	19.00
		12	6	17.60	17.54	17.50	19.00
		12	13	17.59	17.43	17.50	19.00
		25	0	17.64	17.46	17.49	19.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	20.80	20.72	20.76	22.00
		1	25	20.92	20.86	20.87	22.00
		1	49	20.92	20.88	20.85	22.00
		25	0	19.51	19.51	19.47	21.00
		25	13	19.55	19.59	19.53	21.00
		25	25	19.58	19.47	19.50	21.00
		50	0	19.50	19.53	19.51	21.00
	16QAM	1	0	20.13	19.96	19.97	21.00
		1	25	20.27	20.01	20.09	21.00
		1	49	20.20	20.06	19.94	21.00
		25	0	18.57	18.44	18.50	20.00
		25	13	18.51	18.55	18.59	20.00
		25	25	18.54	18.52	18.54	20.00
		50	0	18.54	18.60	18.73	20.00
	64QAM	1	0	18.97	18.81	18.99	20.00
		1	25	18.90	18.87	19.12	20.00
		1	49	18.94	18.88	19.08	20.00
		25	0	17.65	17.48	17.50	19.00
		25	13	17.62	17.58	17.53	19.00
		25	25	17.62	17.48	17.54	19.00
		50	0	17.67	17.51	17.53	19.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	20.79	20.68	20.74	22.00
		1	38	20.90	20.85	20.84	22.00
		1	74	20.89	20.83	20.81	22.00



		36	0	19.49	19.47	19.44	21.00	
		36	18	19.52	19.54	19.49	21.00	
		36	39	19.55	19.44	19.46	21.00	
		75	0	19.48	19.49	19.46	21.00	
	16QAM	1	0	20.11	19.94	19.95	21.00	
		1	38	20.25	19.98	20.07	21.00	
		1	74	20.18	20.02	19.91	21.00	
		36	0	18.54	18.42	18.47	20.00	
		36	18	18.48	18.50	18.55	20.00	
		36	39	18.52	18.48	18.51	20.00	
		75	0	18.51	18.55	18.69	20.00	
	64QAM	1	0	18.92	18.79	18.97	20.00	
		1	38	18.88	18.84	19.10	20.00	
		1	74	18.95	18.87	19.09	20.00	
		36	0	17.64	17.50	17.51	19.00	
		36	18	17.60	17.55	17.52	19.00	
		36	39	17.60	17.44	17.51	19.00	
		75	0	17.64	17.46	17.49	19.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					18700/1860	18900/1880	19100/1900	
	20MHz	QPSK	1	0	20.76	20.64	20.71	22.00
1			50	20.89	20.81	20.82	22.00	
1			99	20.87	20.82	20.78	22.00	
50			0	19.46	19.42	19.40	21.00	
50			25	19.50	19.50	19.46	21.00	
50			50	19.52	19.39	19.42	21.00	
100			0	19.45	19.44	19.42	21.00	
16QAM		1	0	20.08	19.90	19.90	21.00	
		1	50	20.22	19.96	20.03	21.00	
		1	99	20.15	19.99	19.89	21.00	
		50	0	18.51	18.38	18.44	20.00	
		50	25	18.45	18.48	18.52	20.00	
		50	50	18.49	18.43	18.47	20.00	
		100	0	18.49	18.51	18.66	20.00	
64QAM		1	0	18.90	18.75	18.92	20.00	
		1	50	18.84	18.82	19.06	20.00	
		1	99	18.89	18.81	19.03	20.00	
		50	0	17.59	17.42	17.44	19.00	
		50	25	17.56	17.51	17.46	19.00	
		50	50	17.57	17.39	17.47	19.00	
		100	0	17.62	17.42	17.46	19.00	



LTE Band 2							
Sensor on-Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.40	22.35	22.56	23.00
		1	2	22.52	22.67	22.48	23.00
		1	5	22.45	22.57	22.42	23.00
		3	0	22.28	22.32	22.29	23.00
		3	2	22.29	22.29	22.41	23.00
		3	3	22.32	22.34	22.37	23.00
		6	0	21.41	21.39	21.42	22.00
	16QAM	1	0	21.60	21.63	21.77	22.00
		1	2	21.76	21.73	21.79	22.00
		1	5	21.52	21.49	21.71	22.00
		3	0	21.28	21.38	21.31	22.00
		3	2	21.35	21.33	21.43	22.00
		3	3	21.28	21.39	21.35	22.00
		6	0	20.44	20.40	20.43	21.00
	64QAM	1	0	20.56	20.73	20.62	21.00
		1	2	20.59	20.77	20.59	21.00
		1	5	20.45	20.66	20.51	21.00
		3	0	20.32	20.30	20.33	21.00
		3	2	20.37	20.31	20.38	21.00
		3	3	20.32	20.34	20.35	21.00
		6	0	19.39	19.40	19.38	20.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	22.42	22.39	22.59	23.00
		1	7	22.50	22.70	22.52	23.00
		1	14	22.48	22.62	22.46	23.00
		8	0	21.38	21.44	21.42	22.00
		8	4	21.41	21.39	21.53	22.00
		8	7	21.42	21.45	21.47	22.00
		15	0	21.41	21.43	21.45	22.00
	16QAM	1	0	21.60	21.65	21.80	22.00
		1	7	21.76	21.73	21.83	22.00
		1	14	21.54	21.53	21.74	22.00
		8	0	20.39	20.51	20.43	21.00
		8	4	20.46	20.46	20.55	21.00
		8	7	20.38	20.51	20.48	21.00
		15	0	20.47	20.44	20.46	21.00
	64QAM	1	0	20.59	20.75	20.65	21.00
1		7	20.62	20.77	20.61	21.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18625/1852.5	18900/1880	19175/1907.5		
		1	14	20.47	20.65	20.54	21.00	
		8	0	19.43	19.43	19.45	20.00	
		8	4	19.48	19.44	19.50	20.00	
		8	7	19.42	19.46	19.48	20.00	
		15	0	19.42	19.44	19.41	20.00	
5MHz	QPSK	1	0	22.39	22.37	22.55	23.00	
		1	13	22.48	22.66	22.49	23.00	
		1	24	22.45	22.57	22.42	23.00	
		12	0	21.35	21.39	21.38	22.00	
		12	6	21.39	21.35	21.48	22.00	
		12	13	21.40	21.43	21.43	22.00	
		25	0	21.41	21.42	21.43	22.00	
	16QAM	1	0	21.60	21.61	21.77	22.00	
		1	13	21.76	21.71	21.80	22.00	
		1	24	21.51	21.51	21.70	22.00	
		12	0	20.37	20.47	20.40	21.00	
		12	6	20.43	20.41	20.51	21.00	
		12	13	20.35	20.46	20.44	21.00	
		25	0	20.45	20.40	20.41	21.00	
	64QAM	1	0	20.56	20.75	20.62	21.00	
		1	13	20.59	20.79	20.58	21.00	
		1	24	20.48	20.63	20.50	21.00	
		12	0	19.41	19.39	19.46	20.00	
		12	6	19.45	19.39	19.46	20.00	
		12	13	19.39	19.41	19.44	20.00	
		25	0	19.40	19.40	19.36	20.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					18650/1855	18900/1880	19150/1905	
	10MHz	QPSK	1	0	22.41	22.38	22.58	23.00
1			25	22.51	22.71	22.53	23.00	
1			49	22.47	22.61	22.45	23.00	
25			0	21.38	21.44	21.42	22.00	
25			13	21.42	21.40	21.52	22.00	
25			25	21.42	21.47	21.48	22.00	
50			0	21.45	21.44	21.47	22.00	
16QAM		1	0	21.64	21.64	21.79	22.00	
		1	25	21.80	21.75	21.83	22.00	
		1	49	21.54	21.53	21.73	22.00	
		25	0	20.40	20.52	20.44	21.00	
		25	13	20.45	20.45	20.54	21.00	
		25	25	20.38	20.51	20.48	21.00	



	64QAM	50	0	20.48	20.45	20.45	21.00	
		1	0	20.58	20.74	20.64	21.00	
		1	25	20.62	20.79	20.61	21.00	
		1	49	20.47	20.65	20.53	21.00	
		25	0	19.44	19.44	19.46	20.00	
		25	13	19.47	19.43	19.49	20.00	
		25	25	19.42	19.46	19.48	20.00	
		50	0	19.43	19.45	19.40	20.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18675/1857.5	18900/1880	19125/1902.5		
15MHz	QPSK	1	0	22.40	22.34	22.56	23.00	
		1	38	22.49	22.70	22.50	23.00	
		1	74	22.44	22.56	22.41	23.00	
		36	0	21.36	21.40	21.39	22.00	
		36	18	21.39	21.35	21.48	22.00	
		36	39	21.39	21.44	21.44	22.00	
		75	0	21.43	21.40	21.42	22.00	
	16QAM	1	0	21.62	21.62	21.77	22.00	
		1	38	21.78	21.72	21.81	22.00	
		1	74	21.52	21.49	21.70	22.00	
		36	0	20.37	20.50	20.41	21.00	
		36	18	20.42	20.40	20.50	21.00	
		36	39	20.36	20.47	20.45	21.00	
		75	0	20.45	20.40	20.41	21.00	
	64QAM	1	0	20.53	20.72	20.62	21.00	
		1	38	20.60	20.76	20.59	21.00	
		1	74	20.48	20.64	20.54	21.00	
		36	0	19.43	19.46	19.47	20.00	
		36	18	19.45	19.40	19.48	20.00	
		36	39	19.40	19.42	19.45	20.00	
		75	0	19.40	19.40	19.36	20.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					18700/1860	18900/1880	19100/1900	
	20MHz	QPSK	1	0	22.37	22.30	22.53	23.00
1			50	22.48	22.66	22.48	23.00	
1			99	22.42	22.55	22.38	23.00	
50			0	21.33	21.35	21.35	22.00	
50			25	21.37	21.31	21.45	22.00	
50			50	21.36	21.39	21.40	22.00	
100			0	21.40	21.35	21.38	22.00	
16QAM		1	0	21.59	21.58	21.72	22.00	
		1	50	21.75	21.70	21.77	22.00	
		1	99	21.49	21.46	21.68	22.00	



		50	0	20.34	20.46	20.38	21.00
		50	25	20.39	20.38	20.47	21.00
		50	50	20.33	20.42	20.41	21.00
		100	0	20.43	20.36	20.38	21.00
	64QAM	1	0	20.51	20.68	20.57	21.00
		1	50	20.56	20.74	20.55	21.00
		1	99	20.42	20.58	20.48	21.00
		50	0	19.38	19.38	19.40	20.00
		50	25	19.41	19.36	19.42	20.00
		50	50	19.37	19.37	19.41	20.00
		100	0	19.38	19.36	19.33	20.00

LTE Band 2							
Full Power & Receiver on & Receiver off & Hotspot on-Ant4				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.61	22.21	21.94	23.00
		1	2	22.27	22.05	22.29	23.00
		1	5	22.60	21.99	22.18	23.00
		3	0	22.24	21.82	22.06	23.00
		3	2	22.34	21.63	22.29	23.00
		3	3	22.36	21.78	22.29	23.00
		6	0	21.40	20.76	21.17	22.00
	16QAM	1	0	21.05	20.92	20.93	22.00
		1	2	21.71	21.65	21.65	22.00
		1	5	21.25	21.06	21.11	22.00
		3	0	21.15	20.94	21.00	22.00
		3	2	21.02	20.78	20.86	22.00
		3	3	20.93	20.75	20.77	22.00
		6	0	19.93	19.76	19.81	21.00
	64QAM	1	0	20.65	20.43	20.51	21.00
		1	2	20.57	20.45	20.52	21.00
		1	5	20.72	20.58	20.58	21.00
		3	0	20.22	20.05	20.11	21.00
		3	2	20.41	20.17	20.25	21.00
		3	3	20.48	20.27	20.29	21.00
		6	0	19.47	19.30	19.35	20.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK	1	0	22.63	22.25	21.97	23.00
		1	7	22.25	22.08	22.33	23.00
		1	14	22.63	22.04	22.22	23.00



		8	0	21.34	20.94	21.19	22.00	
		8	4	21.46	20.73	21.41	22.00	
		8	7	21.46	20.89	21.39	22.00	
		15	0	21.40	20.80	21.20	22.00	
	16QAM	1	0	21.05	20.94	20.96	22.00	
		1	7	21.71	21.65	21.69	22.00	
		1	14	21.27	21.10	21.14	22.00	
		8	0	20.26	20.07	20.12	21.00	
		8	4	20.13	19.91	19.98	21.00	
		8	7	20.03	19.87	19.90	21.00	
		15	0	19.96	19.80	19.84	21.00	
	64QAM	1	0	20.68	20.45	20.54	21.00	
		1	7	20.60	20.45	20.54	21.00	
		1	14	20.74	20.57	20.61	21.00	
		8	0	19.33	19.18	19.23	20.00	
		8	4	19.52	19.30	19.37	20.00	
		8	7	19.58	19.39	19.42	20.00	
		15	0	19.50	19.34	19.38	20.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	22.60	22.23	21.93	23.00
1			13	22.23	22.04	22.30	23.00	
1			24	22.60	21.99	22.18	23.00	
12			0	21.31	20.89	21.15	22.00	
12			6	21.44	20.69	21.36	22.00	
12			13	21.44	20.87	21.35	22.00	
25			0	21.40	20.79	21.18	22.00	
16QAM		1	0	21.05	20.90	20.93	22.00	
		1	13	21.71	21.63	21.66	22.00	
		1	24	21.24	21.08	21.10	22.00	
		12	0	20.24	20.03	20.09	21.00	
		12	6	20.10	19.86	19.94	21.00	
		12	13	20.00	19.82	19.86	21.00	
		25	0	19.94	19.76	19.79	21.00	
64QAM		1	0	20.65	20.45	20.51	21.00	
		1	13	20.57	20.47	20.51	21.00	
		1	24	20.75	20.55	20.57	21.00	
		12	0	19.31	19.14	19.24	20.00	
		12	6	19.49	19.25	19.33	20.00	
		12	13	19.55	19.34	19.38	20.00	
		25	0	19.48	19.30	19.33	20.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	22.62	22.24	21.96	23.00
		1	25	22.26	22.09	22.34	23.00
		1	49	22.62	22.03	22.21	23.00
		25	0	21.34	20.94	21.19	22.00
		25	13	21.47	20.74	21.40	22.00
		25	25	21.46	20.91	21.40	22.00
		50	0	21.44	20.81	21.22	22.00
	16QAM	1	0	21.09	20.93	20.95	22.00
		1	25	21.75	21.67	21.69	22.00
		1	49	21.27	21.10	21.13	22.00
		25	0	20.27	20.08	20.13	21.00
		25	13	20.12	19.90	19.97	21.00
		25	25	20.03	19.87	19.90	21.00
		50	0	19.97	19.81	19.83	21.00
	64QAM	1	0	20.67	20.44	20.53	21.00
		1	25	20.60	20.47	20.54	21.00
		1	49	20.74	20.57	20.60	21.00
		25	0	19.34	19.19	19.24	20.00
		25	13	19.51	19.29	19.36	20.00
		25	25	19.58	19.39	19.42	20.00
		50	0	19.51	19.35	19.37	20.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
15MHz	QPSK	1	0	22.61	22.20	21.94	23.00
		1	38	22.24	22.08	22.31	23.00
		1	74	22.59	21.98	22.17	23.00
		36	0	21.32	20.90	21.16	22.00
		36	18	21.44	20.69	21.36	22.00
		36	39	21.43	20.88	21.36	22.00
		75	0	21.42	20.77	21.17	22.00
	16QAM	1	0	21.07	20.91	20.93	22.00
		1	38	21.73	21.64	21.67	22.00
		1	74	21.25	21.06	21.10	22.00
		36	0	20.24	20.06	20.10	21.00
		36	18	20.09	19.85	19.93	21.00
		36	39	20.01	19.83	19.87	21.00
		75	0	19.94	19.76	19.79	21.00
	64QAM	1	0	20.62	20.42	20.51	21.00
		1	38	20.58	20.44	20.52	21.00
		1	74	20.75	20.56	20.61	21.00
		36	0	19.33	19.21	19.25	20.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	36	18	19.49	19.26	19.35	20.00
		36	39	19.56	19.35	19.39	20.00
		75	0	19.48	19.30	19.33	20.00
		1	0	22.58	22.16	21.91	23.00
		1	50	22.23	22.04	22.29	23.00
		1	99	22.57	21.97	22.14	23.00
		50	0	21.29	20.85	21.12	22.00
	50	25	21.42	20.65	21.33	22.00	
	50	50	21.40	20.83	21.32	22.00	
	100	0	21.39	20.72	21.13	22.00	
	16QAM	1	0	21.04	20.87	20.88	22.00
		1	50	21.70	21.62	21.63	22.00
		1	99	21.22	21.03	21.08	22.00
		50	0	20.21	20.02	20.07	21.00
		50	25	20.06	19.83	19.90	21.00
		50	50	19.98	19.78	19.83	21.00
		100	0	19.92	19.72	19.76	21.00
	64QAM	1	0	20.60	20.38	20.46	21.00
		1	50	20.54	20.42	20.48	21.00
		1	99	20.69	20.50	20.55	21.00
		50	0	19.28	19.13	19.18	20.00
		50	25	19.45	19.22	19.29	20.00
		50	50	19.53	19.30	19.35	20.00
		100	0	19.46	19.26	19.30	20.00

LTE Band 3							
Full Power&Receiver on&Receiver off&Sensor on&Sensor off-Main Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19207/1710.7	19575/1747.5	19943/1784.3	
1.4MHz	QPSK	1	0	23.59	23.92	23.93	24.50
		1	2	23.44	24.10	24.07	24.50
		1	5	23.46	24.12	23.97	24.50
		3	0	23.53	23.67	23.66	24.50
		3	2	23.55	23.73	23.72	24.50
		3	3	23.55	23.68	23.32	24.50
		6	0	22.60	22.79	22.69	23.50
	16QAM	1	0	22.74	23.28	23.00	23.50
		1	2	22.77	23.10	23.21	23.50
		1	5	22.81	23.06	22.94	23.50
		3	0	22.48	22.61	22.71	23.50



		3	2	22.56	22.73	22.73	23.50
		3	3	22.63	22.73	22.56	23.50
		6	0	21.62	21.75	21.83	22.50
	64QAM	1	0	21.80	21.69	21.77	22.50
		1	2	21.80	21.71	21.83	22.50
		1	5	21.77	21.87	21.72	22.50
		3	0	21.47	21.59	21.69	22.50
		3	2	21.60	21.68	21.75	22.50
		3	3	21.55	21.73	21.65	22.50
	6	0	20.64	20.74	20.83	21.50	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19215/1711.5	19575/1747.5	19935/1783.5	
3MHz	QPSK	1	0	23.61	23.96	23.96	24.50
		1	7	23.42	24.13	24.11	24.50
		1	14	23.49	24.17	24.01	24.50
		8	0	22.63	22.79	22.79	23.50
		8	4	22.67	22.83	22.84	23.50
		8	7	22.65	22.79	22.42	23.50
		15	0	22.60	22.83	22.72	23.50
	16QAM	1	0	22.74	23.30	23.03	23.50
		1	7	22.77	23.10	23.25	23.50
		1	14	22.83	23.10	22.97	23.50
		8	0	21.59	21.74	21.83	22.50
		8	4	21.67	21.86	21.85	22.50
		8	7	21.73	21.85	21.69	22.50
		15	0	21.65	21.79	21.86	22.50
	64QAM	1	0	21.83	21.71	21.80	22.50
		1	7	21.83	21.71	21.85	22.50
		1	14	21.79	21.86	21.75	22.50
		8	0	20.58	20.72	20.81	21.50
		8	4	20.71	20.81	20.87	21.50
		8	7	20.65	20.85	20.78	21.50
		15	0	20.67	20.78	20.86	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19225/1712.5	19575/1747.5	19925/1782.5	
5MHz	QPSK	1	0	23.58	23.94	23.92	24.50
		1	13	23.40	24.09	24.08	24.50
		1	24	23.46	24.12	23.97	24.50
		12	0	22.60	22.74	22.75	23.50
		12	6	22.65	22.79	22.79	23.50
		12	13	22.63	22.77	22.38	23.50
		25	0	22.60	22.82	22.70	23.50
	16QAM	1	0	22.74	23.26	23.00	23.50



		1	13	22.77	23.08	23.22	23.50
		1	24	22.80	23.08	22.93	23.50
		12	0	21.57	21.70	21.80	22.50
		12	6	21.64	21.81	21.81	22.50
		12	13	21.70	21.80	21.65	22.50
		25	0	21.63	21.75	21.81	22.50
	64QAM	1	0	21.80	21.71	21.77	22.50
		1	13	21.80	21.73	21.82	22.50
		1	24	21.80	21.84	21.71	22.50
		12	0	20.56	20.68	20.82	21.50
		12	6	20.68	20.76	20.83	21.50
		12	13	20.62	20.80	20.74	21.50
		25	0	20.65	20.74	20.81	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19250/1715	19575/1747.5	19900/1780	
10MHz	QPSK	1	0	23.60	23.95	23.95	24.50
		1	25	23.43	24.14	24.12	24.50
		1	49	23.48	24.16	24.00	24.50
		25	0	22.63	22.79	22.79	23.50
		25	13	22.68	22.84	22.83	23.50
		25	25	22.65	22.81	22.43	23.50
		50	0	22.64	22.84	22.74	23.50
	16QAM	1	0	22.78	23.29	23.02	23.50
		1	25	22.81	23.12	23.25	23.50
		1	49	22.83	23.10	22.96	23.50
		25	0	21.60	21.75	21.84	22.50
		25	13	21.66	21.85	21.84	22.50
		25	25	21.73	21.85	21.69	22.50
		50	0	21.66	21.80	21.85	22.50
	64QAM	1	0	21.82	21.70	21.79	22.50
		1	25	21.83	21.73	21.85	22.50
		1	49	21.79	21.86	21.74	22.50
		25	0	20.59	20.73	20.82	21.50
		25	13	20.70	20.80	20.86	21.50
		25	25	20.65	20.85	20.78	21.50
		50	0	20.68	20.79	20.85	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19275/1717.5	19575/1747.5	19875/1777.5	
15MHz	QPSK	1	0	23.59	23.91	23.93	24.50
		1	38	23.41	24.13	24.09	24.50
		1	74	23.45	24.11	23.96	24.50
		36	0	22.61	22.75	22.76	23.50
		36	18	22.65	22.79	22.79	23.50



		36	39	22.62	22.78	22.39	23.50
		75	0	22.62	22.80	22.69	23.50
	16QAM	1	0	22.76	23.27	23.00	23.50
		1	38	22.79	23.09	23.23	23.50
		1	74	22.81	23.06	22.93	23.50
		36	0	21.57	21.73	21.81	22.50
		36	18	21.63	21.80	21.80	22.50
		36	39	21.71	21.81	21.66	22.50
		75	0	21.63	21.75	21.81	22.50
		64QAM	1	0	21.77	21.68	21.77
	1		38	21.81	21.70	21.83	22.50
	1		74	21.80	21.85	21.75	22.50
	36		0	20.58	20.75	20.83	21.50
	36		18	20.68	20.77	20.85	21.50
	36		39	20.63	20.81	20.75	21.50
	75		0	20.65	20.74	20.81	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19300/1720	19575/1747.5	19850/1775	
20MHz	QPSK	1	0	23.56	23.87	23.90	24.50
		1	50	23.40	24.09	24.07	24.50
		1	99	23.43	24.10	23.93	24.50
		50	0	22.58	22.70	22.72	23.50
		50	25	22.63	22.75	22.76	23.50
		50	50	22.59	22.73	22.35	23.50
		100	0	22.59	22.75	22.65	23.50
	16QAM	1	0	22.73	23.23	22.95	23.50
		1	50	22.76	23.07	23.19	23.50
		1	99	22.78	23.03	22.91	23.50
		50	0	21.54	21.69	21.78	22.50
		50	25	21.60	21.78	21.77	22.50
		50	50	21.68	21.76	21.62	22.50
		100	0	21.61	21.71	21.78	22.50
	64QAM	1	0	21.75	21.64	21.72	22.50
		1	50	21.77	21.68	21.79	22.50
		1	99	21.74	21.79	21.69	22.50
		50	0	20.53	20.67	20.76	21.50
		50	25	20.64	20.73	20.79	21.50
		50	50	20.60	20.76	20.71	21.50
		100	0	20.63	20.70	20.78	21.50



LTE Band 3							
Hotspot on-Main Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19207/1710.7	19575/1747.5	19943/1784.3	
1.4MHz	QPSK	1	0	21.42	21.71	21.63	22.00
		1	2	21.39	21.31	21.38	22.00
		1	5	21.21	21.38	21.69	22.00
		3	0	20.97	21.15	21.09	22.00
		3	2	21.03	21.16	21.17	22.00
		3	3	21.19	21.11	21.23	22.00
	16QAM	6	0	20.15	20.25	20.27	21.00
		1	0	20.62	20.56	20.58	21.00
		1	2	20.50	20.39	20.59	21.00
		1	5	20.45	20.30	20.59	21.00
		3	0	20.00	20.03	20.13	21.00
		3	2	20.05	20.21	20.21	21.00
	64QAM	3	3	20.01	20.22	20.21	21.00
		6	0	19.14	19.37	19.38	20.00
		1	0	19.36	19.61	19.80	20.00
		1	2	19.16	19.53	19.65	20.00
		1	5	19.46	19.56	19.75	20.00
		3	0	19.05	19.05	19.17	20.00
3MHz	QPSK	3	2	19.06	19.17	19.18	20.00
		3	3	19.11	19.17	19.17	20.00
		6	0	18.11	18.22	18.24	19.00
		1	0	21.44	21.75	21.66	22.00
		1	7	21.37	21.34	21.42	22.00
		1	14	21.24	21.43	21.73	22.00
	16QAM	8	0	20.07	20.27	20.22	21.00
		8	4	20.15	20.26	20.29	21.00
		8	7	20.29	20.22	20.33	21.00
		15	0	20.15	20.29	20.30	21.00
		1	0	20.62	20.58	20.61	21.00
		1	7	20.50	20.39	20.63	21.00
64QAM	1	14	20.47	20.34	20.62	21.00	
	8	0	19.11	19.16	19.25	20.00	
	8	4	19.16	19.34	19.33	20.00	
	8	7	19.11	19.34	19.34	20.00	
	15	0	19.17	19.41	19.41	20.00	
	1	0	19.39	19.63	19.83	20.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				19225/1712.5	19575/1747.5	19925/1782.5		
		1	7	19.19	19.53	19.67	20.00	
		1	14	19.48	19.55	19.78	20.00	
		8	0	18.16	18.18	18.29	19.00	
		8	4	18.17	18.30	18.30	19.00	
		8	7	18.21	18.29	18.30	19.00	
		15	0	18.14	18.26	18.27	19.00	
5MHz	QPSK	1	0	21.41	21.73	21.62	22.00	
		1	13	21.35	21.30	21.39	22.00	
		1	24	21.21	21.38	21.69	22.00	
		12	0	20.04	20.22	20.18	21.00	
		12	6	20.13	20.22	20.24	21.00	
		12	13	20.27	20.20	20.29	21.00	
	16QAM	25	0	20.15	20.28	20.28	21.00	
		1	0	20.62	20.54	20.58	21.00	
		1	13	20.50	20.37	20.60	21.00	
		1	24	20.44	20.32	20.58	21.00	
		12	0	19.09	19.12	19.22	20.00	
		12	6	19.13	19.29	19.29	20.00	
	64QAM	12	13	19.08	19.29	19.30	20.00	
		25	0	19.15	19.37	19.36	20.00	
		1	0	19.36	19.63	19.80	20.00	
		1	13	19.16	19.55	19.64	20.00	
		1	24	19.49	19.53	19.74	20.00	
		12	0	18.14	18.14	18.30	19.00	
	10MHz	QPSK	12	6	18.14	18.25	18.26	19.00
			12	13	18.18	18.24	18.26	19.00
			25	0	18.12	18.22	18.22	19.00
			1	0	21.43	21.74	21.65	22.00
			1	25	21.38	21.35	21.43	22.00
			1	49	21.23	21.42	21.72	22.00
16QAM		25	0	20.07	20.27	20.22	21.00	
		25	13	20.16	20.27	20.28	21.00	
		25	25	20.29	20.24	20.34	21.00	
		50	0	20.19	20.30	20.32	21.00	
		1	0	20.66	20.57	20.60	21.00	
		1	25	20.54	20.41	20.63	21.00	
		1	49	20.47	20.34	20.61	21.00	
		25	0	19.12	19.17	19.26	20.00	
		25	13	19.15	19.33	19.32	20.00	
		25	13	19.15	19.33	19.32	20.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				19275/1717.5	19575/1747.5	19875/1777.5		
	64QAM	25	25	19.11	19.34	19.34	20.00	
		50	0	19.18	19.42	19.40	20.00	
		1	0	19.38	19.62	19.82	20.00	
		1	25	19.19	19.55	19.67	20.00	
		1	49	19.48	19.55	19.77	20.00	
		25	0	18.17	18.19	18.30	19.00	
		25	13	18.16	18.29	18.29	19.00	
		25	25	18.21	18.29	18.30	19.00	
		50	0	18.15	18.27	18.26	19.00	
15MHz	QPSK	1	0	21.42	21.70	21.63	22.00	
		1	38	21.36	21.34	21.40	22.00	
		1	74	21.20	21.37	21.68	22.00	
		36	0	20.05	20.23	20.19	21.00	
		36	18	20.13	20.22	20.24	21.00	
		36	39	20.26	20.21	20.30	21.00	
		75	0	20.17	20.26	20.27	21.00	
	16QAM	1	0	20.64	20.55	20.58	21.00	
		1	38	20.52	20.38	20.61	21.00	
		1	74	20.45	20.30	20.58	21.00	
		36	0	19.09	19.15	19.23	20.00	
		36	18	19.12	19.28	19.28	20.00	
		36	39	19.09	19.30	19.31	20.00	
		75	0	19.15	19.37	19.36	20.00	
	64QAM	1	0	19.33	19.60	19.80	20.00	
		1	38	19.17	19.52	19.65	20.00	
		1	74	19.49	19.54	19.78	20.00	
		36	0	18.16	18.21	18.31	19.00	
		36	18	18.14	18.26	18.28	19.00	
		36	39	18.19	18.25	18.27	19.00	
		75	0	18.12	18.22	18.22	19.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					19300/1720	19575/1747.5	19850/1775	
	20MHz	QPSK	1	0	21.39	21.66	21.60	22.00
1			50	21.35	21.30	21.38	22.00	
1			99	21.18	21.36	21.65	22.00	
50			0	20.02	20.18	20.15	21.00	
50			25	20.11	20.18	20.21	21.00	
50			50	20.23	20.16	20.26	21.00	
100			0	20.14	20.21	20.23	21.00	
16QAM		1	0	20.61	20.51	20.53	21.00	
		1	50	20.49	20.36	20.57	21.00	



		1	99	20.42	20.27	20.56	21.00
		50	0	19.06	19.11	19.20	20.00
		50	25	19.09	19.26	19.25	20.00
		50	50	19.06	19.25	19.27	20.00
		100	0	19.13	19.33	19.33	20.00
	64QAM	1	0	19.31	19.56	19.75	20.00
		1	50	19.13	19.50	19.61	20.00
		1	99	19.43	19.48	19.72	20.00
		50	0	18.11	18.13	18.24	19.00
		50	25	18.10	18.22	18.22	19.00
		50	50	18.16	18.20	18.23	19.00
		100	0	18.10	18.18	18.19	19.00

LTE Band 3							
Full Power&Receiver off-Div Ant3				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19207/1710.7	19575/1747.5	19943/1784.3	
1.4MHz	QPSK	1	0	23.81	24.26	24.18	25.00
		1	2	24.25	24.28	23.67	25.00
		1	5	24.12	24.15	23.38	25.00
		3	0	24.03	24.07	23.97	25.00
		3	2	24.04	24.06	23.74	25.00
		3	3	24.02	24.02	23.45	25.00
		6	0	23.11	23.09	22.51	24.00
	16QAM	1	0	23.72	23.57	23.64	24.00
		1	2	23.67	23.61	23.63	24.00
		1	5	23.57	23.41	23.48	24.00
		3	0	23.22	23.03	23.09	24.00
		3	2	23.22	23.03	23.12	24.00
		3	3	23.18	23.02	23.08	24.00
		6	0	22.22	22.06	22.15	23.00
	64QAM	1	0	22.61	22.44	22.51	23.00
		1	2	22.47	22.38	22.42	23.00
		1	5	22.41	22.29	22.31	23.00
		3	0	22.19	22.04	22.10	23.00
		3	2	22.46	22.26	22.35	23.00
		3	3	22.20	22.01	22.07	23.00
		6	0	21.19	21.04	21.13	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK			19215/1711.5	19575/1747.5	19935/1783.5	
		1	0	23.83	24.30	24.21	25.00
		1	7	24.23	24.31	23.71	25.00
		1	14	24.15	24.20	23.42	25.00



		8	0	23.13	23.19	23.10	24.00	
		8	4	23.16	23.16	22.86	24.00	
		8	7	23.12	23.13	22.55	24.00	
		15	0	23.11	23.13	22.54	24.00	
	16QAM	1	0	23.72	23.59	23.67	24.00	
		1	7	23.67	23.61	23.67	24.00	
		1	14	23.59	23.45	23.51	24.00	
		8	0	22.33	22.16	22.21	23.00	
		8	4	22.33	22.16	22.24	23.00	
		8	7	22.28	22.14	22.21	23.00	
		15	0	22.25	22.10	22.18	23.00	
		64QAM	1	0	22.64	22.46	22.54	23.00
	1		7	22.50	22.38	22.44	23.00	
	1		14	22.43	22.28	22.34	23.00	
	8		0	21.30	21.17	21.22	22.00	
	8		4	21.57	21.39	21.47	22.00	
	8		7	21.30	21.13	21.20	22.00	
	15		0	21.22	21.08	21.16	22.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					19225/1712.5	19575/1747.5	19925/1782.5	
	5MHz	QPSK	1	0	23.80	24.28	24.17	25.00
1			13	24.21	24.27	23.68	25.00	
1			24	24.12	24.15	23.38	25.00	
12			0	23.10	23.14	23.06	24.00	
12			6	23.14	23.12	22.81	24.00	
12			13	23.10	23.11	22.51	24.00	
25			0	23.11	23.12	22.52	24.00	
16QAM		1	0	23.72	23.55	23.64	24.00	
		1	13	23.67	23.59	23.64	24.00	
		1	24	23.56	23.43	23.47	24.00	
		12	0	22.31	22.12	22.18	23.00	
		12	6	22.30	22.11	22.20	23.00	
		12	13	22.25	22.09	22.17	23.00	
		25	0	22.23	22.06	22.13	23.00	
64QAM		1	0	22.61	22.46	22.51	23.00	
		1	13	22.47	22.40	22.41	23.00	
		1	24	22.44	22.26	22.30	23.00	
		12	0	21.28	21.13	21.23	22.00	
		12	6	21.54	21.34	21.43	22.00	
		12	13	21.27	21.08	21.16	22.00	
		25	0	21.20	21.04	21.11	22.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19250/1715	19575/1747.5	19900/1780	
10MHz	QPSK	1	0	23.82	24.29	24.20	25.00
		1	25	24.24	24.32	23.72	25.00
		1	49	24.14	24.19	23.41	25.00
		25	0	23.13	23.19	23.10	24.00
		25	13	23.17	23.17	22.85	24.00
		25	25	23.12	23.15	22.56	24.00
		50	0	23.15	23.14	22.56	24.00
	16QAM	1	0	23.76	23.58	23.66	24.00
		1	25	23.71	23.63	23.67	24.00
		1	49	23.59	23.45	23.50	24.00
		25	0	22.34	22.17	22.22	23.00
		25	13	22.32	22.15	22.23	23.00
		25	25	22.28	22.14	22.21	23.00
		50	0	22.26	22.11	22.17	23.00
	64QAM	1	0	22.63	22.45	22.53	23.00
		1	25	22.50	22.40	22.44	23.00
		1	49	22.43	22.28	22.33	23.00
		25	0	21.31	21.18	21.23	22.00
		25	13	21.56	21.38	21.46	22.00
		25	25	21.30	21.13	21.20	22.00
		50	0	21.23	21.09	21.15	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
15MHz	QPSK	1	0	23.81	24.25	24.18	25.00
		1	38	24.22	24.31	23.69	25.00
		1	74	24.11	24.14	23.37	25.00
		36	0	23.11	23.15	23.07	24.00
		36	18	23.14	23.12	22.81	24.00
		36	39	23.09	23.12	22.52	24.00
		75	0	23.13	23.10	22.51	24.00
	16QAM	1	0	23.74	23.56	23.64	24.00
		1	38	23.69	23.60	23.65	24.00
		1	74	23.57	23.41	23.47	24.00
		36	0	22.31	22.15	22.19	23.00
		36	18	22.29	22.10	22.19	23.00
		36	39	22.26	22.10	22.18	23.00
		75	0	22.23	22.06	22.13	23.00
	64QAM	1	0	22.58	22.43	22.51	23.00
		1	38	22.48	22.37	22.42	23.00
		1	74	22.44	22.27	22.34	23.00
		36	0	21.30	21.20	21.24	22.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19300/1720	19575/1747.5	19850/1775	
20MHz	QPSK	36	18	21.54	21.35	21.45	22.00
		36	39	21.28	21.09	21.17	22.00
		75	0	21.20	21.04	21.11	22.00
		1	0	23.78	24.21	24.15	25.00
		1	50	24.21	24.27	23.67	25.00
		1	99	24.09	24.13	23.34	25.00
		50	0	23.08	23.10	23.03	24.00
	50	25	23.12	23.08	22.78	24.00	
	50	50	23.06	23.07	22.48	24.00	
	100	0	23.10	23.05	22.47	24.00	
	16QAM	1	0	23.71	23.52	23.59	24.00
		1	50	23.66	23.58	23.61	24.00
		1	99	23.54	23.38	23.45	24.00
		50	0	22.28	22.11	22.16	23.00
		50	25	22.26	22.08	22.16	23.00
		50	50	22.23	22.05	22.14	23.00
		100	0	22.21	22.02	22.10	23.00
	64QAM	1	0	22.56	22.39	22.46	23.00
		1	50	22.44	22.35	22.38	23.00
		1	99	22.38	22.21	22.28	23.00
		50	0	21.25	21.12	21.17	22.00
50		25	21.50	21.31	21.39	22.00	
50		50	21.25	21.04	21.13	22.00	
100		0	21.18	21.00	21.08	22.00	

LTE Band 3							
Receiver on&Hotspot on-Div Ant3				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19207/1710.7	19575/1747.5	19943/1784.3	
1.4MHz	QPSK	1	0	21.84	21.95	21.96	22.50
		1	2	21.75	21.92	21.97	22.50
		1	5	21.72	21.96	21.92	22.50
		3	0	21.63	21.70	21.58	22.50
		3	2	21.68	21.70	21.67	22.50
		3	3	21.62	21.67	21.54	22.50
		6	0	20.76	20.75	20.72	21.50
	16QAM	1	0	21.13	21.27	21.30	21.50
		1	2	20.80	21.29	21.30	21.50
		1	5	20.80	21.08	20.83	21.50
		3	0	20.64	20.53	20.62	21.50
		3	2	20.65	20.64	20.66	21.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19215/1711.5	19575/1747.5	19935/1783.5	
		3	3	20.68	20.64	20.62	21.50
		6	0	19.74	19.69	19.72	20.50
	64QAM	1	0	19.70	19.69	19.71	20.50
		1	2	19.70	19.53	19.56	20.50
		1	5	19.54	19.72	19.71	20.50
		3	0	19.73	19.55	19.58	20.50
		3	2	19.73	19.58	19.62	20.50
		3	3	19.70	19.50	19.50	20.50
		6	0	18.72	18.67	18.70	19.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19215/1711.5	19575/1747.5	19935/1783.5	
3MHz	QPSK	1	0	21.86	21.99	21.99	22.50
		1	7	21.73	21.95	22.01	22.50
		1	14	21.75	22.01	21.96	22.50
		8	0	20.73	20.82	20.71	21.50
		8	4	20.80	20.80	20.79	21.50
		8	7	20.72	20.78	20.64	21.50
		15	0	20.76	20.79	20.75	21.50
	16QAM	1	0	21.13	21.29	21.33	21.50
		1	7	20.80	21.29	21.34	21.50
		1	14	20.82	21.12	20.86	21.50
		8	0	19.75	19.66	19.74	20.50
		8	4	19.76	19.77	19.78	20.50
		8	7	19.78	19.76	19.75	20.50
		15	0	19.77	19.73	19.75	20.50
	64QAM	1	0	19.73	19.71	19.74	20.50
		1	7	19.73	19.53	19.58	20.50
		1	14	19.56	19.71	19.74	20.50
		8	0	18.84	18.68	18.70	19.50
		8	4	18.84	18.71	18.74	19.50
		8	7	18.80	18.62	18.63	19.50
		15	0	18.75	18.71	18.73	19.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19225/1712.5	19575/1747.5	19925/1782.5	
5MHz	QPSK	1	0	21.83	21.97	21.95	22.50
		1	13	21.71	21.91	21.98	22.50
		1	24	21.72	21.96	21.92	22.50
		12	0	20.70	20.77	20.67	21.50
		12	6	20.78	20.76	20.74	21.50
		12	13	20.70	20.76	20.60	21.50
		25	0	20.76	20.78	20.73	21.50
	16QAM	1	0	21.13	21.25	21.30	21.50
		1	13	20.80	21.27	21.31	21.50



		1	24	20.79	21.10	20.82	21.50	
		12	0	19.73	19.62	19.71	20.50	
		12	6	19.73	19.72	19.74	20.50	
		12	13	19.75	19.71	19.71	20.50	
		25	0	19.75	19.69	19.70	20.50	
		64QAM	1	0	19.70	19.71	19.71	20.50
			1	13	19.70	19.55	19.55	20.50
			1	24	19.57	19.69	19.70	20.50
			12	0	18.82	18.64	18.71	19.50
			12	6	18.81	18.66	18.70	19.50
			12	13	18.77	18.57	18.59	19.50
			25	0	18.73	18.67	18.68	19.50
		Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)		
19250/1715	19575/1747.5					19900/1780		
10MHz	QPSK	1	0	21.85	21.98	21.98	22.50	
		1	25	21.74	21.96	22.02	22.50	
		1	49	21.74	22.00	21.95	22.50	
		25	0	20.73	20.82	20.71	21.50	
		25	13	20.81	20.81	20.78	21.50	
		25	25	20.72	20.80	20.65	21.50	
		50	0	20.80	20.80	20.77	21.50	
	16QAM	1	0	21.17	21.28	21.32	21.50	
		1	25	20.84	21.31	21.34	21.50	
		1	49	20.82	21.12	20.85	21.50	
		25	0	19.76	19.67	19.75	20.50	
		25	13	19.75	19.76	19.77	20.50	
		25	25	19.78	19.76	19.75	20.50	
		50	0	19.78	19.74	19.74	20.50	
	64QAM	1	0	19.72	19.70	19.73	20.50	
		1	25	19.73	19.55	19.58	20.50	
		1	49	19.56	19.71	19.73	20.50	
		25	0	18.85	18.69	18.71	19.50	
		25	13	18.83	18.70	18.73	19.50	
		25	25	18.80	18.62	18.63	19.50	
		50	0	18.76	18.72	18.72	19.50	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				19275/1717.5	19575/1747.5	19875/1777.5		
15MHz	QPSK	1	0	21.84	21.94	21.96	22.50	
		1	38	21.72	21.95	21.99	22.50	
		1	74	21.71	21.95	21.91	22.50	
		36	0	20.71	20.78	20.68	21.50	
		36	18	20.78	20.76	20.74	21.50	
		36	39	20.69	20.77	20.61	21.50	



	16QAM	75	0	20.78	20.76	20.72	21.50
		1	0	21.15	21.26	21.30	21.50
		1	38	20.82	21.28	21.32	21.50
		1	74	20.80	21.08	20.82	21.50
		36	0	19.73	19.65	19.72	20.50
		36	18	19.72	19.71	19.73	20.50
		36	39	19.76	19.72	19.72	20.50
		75	0	19.75	19.69	19.70	20.50
	64QAM	1	0	19.67	19.68	19.71	20.50
		1	38	19.71	19.52	19.56	20.50
		1	74	19.57	19.70	19.74	20.50
		36	0	18.84	18.71	18.72	19.50
		36	18	18.81	18.67	18.72	19.50
		36	39	18.78	18.58	18.60	19.50
		75	0	18.73	18.67	18.68	19.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19300/1720	19575/1747.5	19850/1775	
20MHz	QPSK	1	0	21.81	21.90	21.93	22.50
		1	50	21.71	21.91	21.97	22.50
		1	99	21.69	21.94	21.88	22.50
		50	0	20.68	20.73	20.64	21.50
		50	25	20.76	20.72	20.71	21.50
		50	50	20.66	20.72	20.57	21.50
		100	0	20.75	20.71	20.68	21.50
	16QAM	1	0	21.12	21.22	21.25	21.50
		1	50	20.79	21.26	21.28	21.50
		1	99	20.77	21.05	20.80	21.50
		50	0	19.70	19.61	19.69	20.50
		50	25	19.69	19.69	19.70	20.50
		50	50	19.73	19.67	19.68	20.50
		100	0	19.73	19.65	19.67	20.50
	64QAM	1	0	19.65	19.64	19.66	20.50
		1	50	19.67	19.50	19.52	20.50
		1	99	19.51	19.64	19.68	20.50
		50	0	18.79	18.63	18.65	19.50
		50	25	18.77	18.63	18.66	19.50
		50	50	18.75	18.53	18.56	19.50
		100	0	18.71	18.63	18.65	19.50



LTE Band 3							
Full Power&Receiver on&Receiver off&Hotspot on-Mas Ant4				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19207/1710.7	19575/1747.5	19943/1784.3	
1.4MHz	QPSK	1	0	22.47	23.00	22.95	23.50
		1	2	22.36	22.95	22.42	23.50
		1	5	22.32	22.82	21.93	23.50
		3	0	22.43	22.81	22.72	23.50
		3	2	22.30	22.79	22.62	23.50
		3	3	22.52	22.75	21.88	23.50
		6	0	21.47	21.80	21.29	22.50
	16QAM	1	0	22.17	22.13	22.28	22.50
		1	2	22.18	22.17	22.19	22.50
		1	5	22.16	22.08	22.18	22.50
		3	0	21.90	21.80	21.93	22.50
		3	2	21.87	21.80	21.91	22.50
		3	3	21.88	21.81	21.91	22.50
		6	0	20.84	20.83	20.95	21.50
	64QAM	1	0	21.17	21.13	21.20	21.50
		1	2	21.07	21.03	21.09	21.50
		1	5	21.17	21.14	21.22	21.50
		3	0	20.86	20.76	20.86	21.50
		3	2	20.96	20.85	20.99	21.50
		3	3	20.79	20.73	20.82	21.50
		6	0	19.81	19.78	19.89	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK	1	0	22.49	23.04	22.98	23.50
		1	7	22.34	22.98	22.46	23.50
		1	14	22.35	22.87	21.97	23.50
		8	0	21.53	21.93	21.85	22.50
		8	4	21.42	21.89	21.74	22.50
		8	7	21.62	21.86	20.98	22.50
		15	0	21.47	21.84	21.32	22.50
	16QAM	1	0	22.17	22.15	22.31	22.50
		1	7	22.18	22.17	22.23	22.50
		1	14	22.18	22.12	22.21	22.50
		8	0	21.01	20.93	21.05	21.50
		8	4	20.98	20.93	21.03	21.50
		8	7	20.98	20.93	21.04	21.50
		15	0	20.87	20.87	20.98	21.50
	64QAM	1	0	21.20	21.15	21.23	21.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				19225/1712.5	19575/1747.5	19925/1782.5		
		1	7	21.10	21.03	21.11	21.50	
		1	14	21.19	21.13	21.25	21.50	
		8	0	19.97	19.89	19.98	20.50	
		8	4	20.07	19.98	20.11	20.50	
		8	7	19.89	19.85	19.95	20.50	
		15	0	19.84	19.82	19.92	20.50	
5MHz	QPSK	1	0	22.46	23.02	22.94	23.50	
		1	13	22.32	22.94	22.43	23.50	
		1	24	22.32	22.82	21.93	23.50	
		12	0	21.50	21.88	21.81	22.50	
		12	6	21.40	21.85	21.69	22.50	
		12	13	21.60	21.84	20.94	22.50	
	16QAM	25	0	21.47	21.83	21.30	22.50	
		1	0	22.17	22.11	22.28	22.50	
		1	13	22.18	22.15	22.20	22.50	
		1	24	22.15	22.10	22.17	22.50	
		12	0	20.99	20.89	21.02	21.50	
		12	6	20.95	20.88	20.99	21.50	
	64QAM	12	13	20.95	20.88	21.00	21.50	
		25	0	20.85	20.83	20.93	21.50	
		1	0	21.17	21.15	21.20	21.50	
		1	13	21.07	21.05	21.08	21.50	
		1	24	21.20	21.11	21.21	21.50	
		12	0	19.95	19.85	19.99	20.50	
	10MHz	QPSK	12	6	20.04	19.93	20.07	20.50
			12	13	19.86	19.80	19.91	20.50
			25	0	19.82	19.78	19.87	20.50
			1	0	22.48	23.03	22.97	23.50
			1	25	22.35	22.99	22.47	23.50
			1	49	22.34	22.86	21.96	23.50
16QAM		25	0	21.53	21.93	21.85	22.50	
		25	13	21.43	21.90	21.73	22.50	
		25	25	21.62	21.88	20.99	22.50	
		50	0	21.51	21.85	21.34	22.50	
		1	0	22.21	22.14	22.30	22.50	
		1	25	22.22	22.19	22.23	22.50	
		1	49	22.18	22.12	22.20	22.50	
		25	0	21.02	20.94	21.06	21.50	
		25	13	20.97	20.92	21.02	21.50	
		19250/1715	19575/1747.5	19900/1780				
		19250/1715	19575/1747.5	19900/1780				



		25	25	20.98	20.93	21.04	21.50
		50	0	20.88	20.88	20.97	21.50
	64QAM	1	0	21.19	21.14	21.22	21.50
		1	25	21.10	21.05	21.11	21.50
		1	49	21.19	21.13	21.24	21.50
		25	0	19.98	19.90	19.99	20.50
		25	13	20.06	19.97	20.10	20.50
		25	25	19.89	19.85	19.95	20.50
		50	0	19.85	19.83	19.91	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19275/1717.5	19575/1747.5	19875/1777.5	
15MHz	QPSK	1	0	22.47	22.99	22.95	23.50
		1	38	22.33	22.98	22.44	23.50
		1	74	22.31	22.81	21.92	23.50
		36	0	21.51	21.89	21.82	22.50
		36	18	21.40	21.85	21.69	22.50
		36	39	21.59	21.85	20.95	22.50
		75	0	21.49	21.81	21.29	22.50
	16QAM	1	0	22.19	22.12	22.28	22.50
		1	38	22.20	22.16	22.21	22.50
		1	74	22.16	22.08	22.17	22.50
		36	0	20.99	20.92	21.03	21.50
		36	18	20.94	20.87	20.98	21.50
		36	39	20.96	20.89	21.01	21.50
		75	0	20.85	20.83	20.93	21.50
	64QAM	1	0	21.14	21.12	21.20	21.50
		1	38	21.08	21.02	21.09	21.50
		1	74	21.20	21.12	21.25	21.50
		36	0	19.97	19.92	20.00	20.50
		36	18	20.04	19.94	20.09	20.50
		36	39	19.87	19.81	19.92	20.50
		75	0	19.82	19.78	19.87	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19300/1720	19575/1747.5	19850/1775	
20MHz	QPSK	1	0	22.44	22.95	22.92	23.50
		1	50	22.32	22.94	22.42	23.50
		1	99	22.29	22.80	21.89	23.50
		50	0	21.48	21.84	21.78	22.50
		50	25	21.38	21.81	21.66	22.50
		50	50	21.56	21.80	20.91	22.50
		100	0	21.46	21.76	21.25	22.50
	16QAM	1	0	22.16	22.08	22.23	22.50
		1	50	22.17	22.14	22.17	22.50



		1	99	22.13	22.05	22.15	22.50
		50	0	20.96	20.88	21.00	21.50
		50	25	20.91	20.85	20.95	21.50
		50	50	20.93	20.84	20.97	21.50
		100	0	20.83	20.79	20.90	21.50
	64QAM	1	0	21.12	21.08	21.15	21.50
		1	50	21.04	21.00	21.05	21.50
		1	99	21.14	21.06	21.19	21.50
		50	0	19.92	19.84	19.93	20.50
		50	25	20.00	19.90	20.03	20.50
		50	50	19.84	19.76	19.88	20.50
		100	0	19.80	19.74	19.84	20.50

LTE Band 4							
Full Power & Receiver on & Receiver off & Sensor on & Sensor off-Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	24.30	24.37	24.40	25.00
		1	2	24.40	24.44	24.39	25.00
		1	5	24.34	24.42	24.33	25.00
		3	0	24.21	24.31	24.32	25.00
		3	2	24.21	24.27	24.36	25.00
		3	3	24.21	24.24	24.32	25.00
		6	0	23.30	23.33	23.39	24.00
	16QAM	1	0	23.68	23.69	23.69	24.00
		1	2	23.62	23.75	23.67	24.00
		1	5	23.48	23.42	23.43	24.00
		3	0	23.23	23.26	23.31	24.00
		3	2	23.29	23.27	23.38	24.00
		3	3	23.21	23.26	23.26	24.00
		6	0	22.29	22.32	22.43	23.00
	64QAM	1	0	22.51	22.49	22.65	23.00
		1	2	22.49	22.52	22.49	23.00
		1	5	22.45	22.56	22.37	23.00
		3	0	22.17	22.23	22.27	23.00
		3	2	22.26	22.26	22.34	23.00
		3	3	22.18	22.26	22.23	23.00
		6	0	21.28	21.30	21.41	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK			19965/1711.5	20175/1732.5	20385/1753.5	
		1	0	24.32	24.41	24.43	25.00
		1	7	24.38	24.47	24.43	25.00



		1	14	24.37	24.47	24.37	25.00	
		8	0	23.31	23.43	23.45	24.00	
		8	4	23.33	23.37	23.48	24.00	
		8	7	23.31	23.35	23.42	24.00	
		15	0	23.30	23.37	23.42	24.00	
		16QAM	1	0	23.68	23.71	23.72	24.00
			1	7	23.62	23.75	23.71	24.00
	1		14	23.50	23.46	23.46	24.00	
	8		0	22.34	22.39	22.43	23.00	
	8		4	22.40	22.40	22.50	23.00	
	8		7	22.31	22.38	22.39	23.00	
	64QAM	15	0	22.32	22.36	22.46	23.00	
		1	0	22.54	22.51	22.68	23.00	
		1	7	22.52	22.52	22.51	23.00	
		1	14	22.47	22.55	22.40	23.00	
		8	0	21.28	21.36	21.39	22.00	
		8	4	21.37	21.39	21.46	22.00	
		8	7	21.28	21.38	21.36	22.00	
	15	0	21.31	21.34	21.44	22.00		
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	24.29	24.39	24.39	25.00	
		1	13	24.36	24.43	24.40	25.00	
		1	24	24.34	24.42	24.33	25.00	
		12	0	23.28	23.38	23.41	24.00	
		12	6	23.31	23.33	23.43	24.00	
		12	13	23.29	23.33	23.38	24.00	
		25	0	23.30	23.36	23.40	24.00	
	16QAM	1	0	23.68	23.67	23.69	24.00	
		1	13	23.62	23.73	23.68	24.00	
		1	24	23.47	23.44	23.42	24.00	
		12	0	22.32	22.35	22.40	23.00	
		12	6	22.37	22.35	22.46	23.00	
		12	13	22.28	22.33	22.35	23.00	
		25	0	22.30	22.32	22.41	23.00	
	64QAM	1	0	22.51	22.51	22.65	23.00	
		1	13	22.49	22.54	22.48	23.00	
		1	24	22.48	22.53	22.36	23.00	
		12	0	21.26	21.32	21.40	22.00	
		12	6	21.34	21.34	21.42	22.00	
		12	13	21.25	21.33	21.32	22.00	
		25	0	21.29	21.30	21.39	22.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	24.31	24.40	24.42	25.00
		1	25	24.39	24.48	24.44	25.00
		1	49	24.36	24.46	24.36	25.00
		25	0	23.31	23.43	23.45	24.00
		25	13	23.34	23.38	23.47	24.00
		25	25	23.31	23.37	23.43	24.00
		50	0	23.34	23.38	23.44	24.00
	16QAM	1	0	23.72	23.70	23.71	24.00
		1	25	23.66	23.77	23.71	24.00
		1	49	23.50	23.46	23.45	24.00
		25	0	22.35	22.40	22.44	23.00
		25	13	22.39	22.39	22.49	23.00
		25	25	22.31	22.38	22.39	23.00
		50	0	22.33	22.37	22.45	23.00
	64QAM	1	0	22.53	22.50	22.67	23.00
		1	25	22.52	22.54	22.51	23.00
		1	49	22.47	22.55	22.39	23.00
		25	0	21.29	21.37	21.40	22.00
		25	13	21.36	21.38	21.45	22.00
		25	25	21.28	21.38	21.36	22.00
		50	0	21.32	21.35	21.43	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
15MHz	QPSK	1	0	24.30	24.36	24.40	25.00
		1	38	24.37	24.47	24.41	25.00
		1	74	24.33	24.41	24.32	25.00
		36	0	23.29	23.39	23.42	24.00
		36	18	23.31	23.33	23.43	24.00
		36	39	23.28	23.34	23.39	24.00
		75	0	23.32	23.34	23.39	24.00
	16QAM	1	0	23.70	23.68	23.69	24.00
		1	38	23.64	23.74	23.69	24.00
		1	74	23.48	23.42	23.42	24.00
		36	0	22.32	22.38	22.41	23.00
		36	18	22.36	22.34	22.45	23.00
		36	39	22.29	22.34	22.36	23.00
		75	0	22.30	22.32	22.41	23.00
	64QAM	1	0	22.48	22.48	22.65	23.00
		1	38	22.50	22.51	22.49	23.00
		1	74	22.48	22.54	22.40	23.00
		36	0	21.28	21.39	21.41	22.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	36	18	21.34	21.35	21.44	22.00
		36	39	21.26	21.34	21.33	22.00
		75	0	21.29	21.30	21.39	22.00
		1	0	24.27	24.32	24.37	25.00
		1	50	24.36	24.43	24.39	25.00
		1	99	24.31	24.40	24.29	25.00
		50	0	23.26	23.34	23.38	24.00
	50	25	23.29	23.29	23.40	24.00	
	50	50	23.25	23.29	23.35	24.00	
	100	0	23.29	23.29	23.35	24.00	
	16QAM	1	0	23.67	23.64	23.64	24.00
		1	50	23.61	23.72	23.65	24.00
		1	99	23.45	23.39	23.40	24.00
		50	0	22.29	22.34	22.38	23.00
		50	25	22.33	22.32	22.42	23.00
		50	50	22.26	22.29	22.32	23.00
		100	0	22.28	22.28	22.38	23.00
	64QAM	1	0	22.46	22.44	22.60	23.00
		1	50	22.46	22.49	22.45	23.00
		1	99	22.42	22.48	22.34	23.00
		50	0	21.23	21.31	21.34	22.00
		50	25	21.30	21.31	21.38	22.00
		50	50	21.23	21.29	21.29	22.00
		100	0	21.27	21.26	21.36	22.00

LTE Band 4							
Hotspot on-Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	20.80	20.86	20.93	22.00
		1	2	20.95	20.78	20.92	22.00
		1	5	20.85	20.92	20.91	22.00
		3	0	20.30	20.39	20.41	22.00
		3	2	20.34	20.38	20.39	22.00
		3	3	20.33	20.40	20.41	22.00
		6	0	19.44	19.48	19.49	21.00
	16QAM	1	0	19.87	20.53	20.09	21.00
		1	2	19.91	19.90	20.06	21.00
		1	5	19.99	19.94	19.98	21.00
		3	0	19.31	19.39	19.45	21.00
		3	2	19.38	19.41	19.41	21.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				19965/1711.5	20175/1732.5	20385/1753.5		
	64QAM	3	3	19.38	19.40	19.40	21.00	
		6	0	18.45	18.46	18.52	20.00	
		1	0	18.92	19.07	19.00	20.00	
		1	2	18.91	19.17	19.07	20.00	
		1	5	18.95	19.08	18.97	20.00	
		3	0	18.24	18.38	18.40	20.00	
		3	2	18.29	18.42	18.54	20.00	
		3	3	18.36	18.38	18.34	20.00	
		6	0	17.43	17.46	17.59	19.00	
3MHz	QPSK	1	0	20.82	20.90	20.96	22.00	
		1	7	20.93	20.81	20.96	22.00	
		1	14	20.88	20.97	20.95	22.00	
		8	0	19.40	19.51	19.54	21.00	
		8	4	19.46	19.48	19.51	21.00	
		8	7	19.43	19.51	19.51	21.00	
		15	0	19.44	19.52	19.52	21.00	
	16QAM	1	0	19.87	20.55	20.12	21.00	
		1	7	19.91	19.90	20.10	21.00	
		1	14	20.01	19.98	20.01	21.00	
		8	0	18.42	18.52	18.57	20.00	
		8	4	18.49	18.54	18.53	20.00	
		8	7	18.48	18.52	18.53	20.00	
		15	0	18.48	18.50	18.55	20.00	
	64QAM	1	0	18.95	19.09	19.03	20.00	
		1	7	18.94	19.17	19.09	20.00	
		1	14	18.97	19.07	19.00	20.00	
		8	0	17.35	17.51	17.52	19.00	
		8	4	17.40	17.55	17.66	19.00	
		8	7	17.46	17.50	17.47	19.00	
		15	0	17.46	17.50	17.62	19.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					19975/1712.5	20175/1732.5	20375/1752.5	
	5MHz	QPSK	1	0	20.79	20.88	20.92	22.00
1			13	20.91	20.77	20.93	22.00	
1			24	20.85	20.92	20.91	22.00	
12			0	19.37	19.46	19.50	21.00	
12			6	19.44	19.44	19.46	21.00	
12			13	19.41	19.49	19.47	21.00	
25			0	19.44	19.51	19.50	21.00	
16QAM		1	0	19.87	20.51	20.09	21.00	
		1	13	19.91	19.88	20.07	21.00	



		1	24	19.98	19.96	19.97	21.00	
		12	0	18.40	18.48	18.54	20.00	
		12	6	18.46	18.49	18.49	20.00	
		12	13	18.45	18.47	18.49	20.00	
		25	0	18.46	18.46	18.50	20.00	
		64QAM	1	0	18.92	19.09	19.00	20.00
			1	13	18.91	19.19	19.06	20.00
			1	24	18.98	19.05	18.96	20.00
			12	0	17.33	17.47	17.53	19.00
			12	6	17.37	17.50	17.62	19.00
			12	13	17.43	17.45	17.43	19.00
			25	0	17.44	17.46	17.57	19.00
		Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)		
20000/1715	20175/1732.5					20350/1750		
10MHz	QPSK	1	0	20.81	20.89	20.95	22.00	
		1	25	20.94	20.82	20.97	22.00	
		1	49	20.87	20.96	20.94	22.00	
		25	0	19.40	19.51	19.54	21.00	
		25	13	19.47	19.49	19.50	21.00	
		25	25	19.43	19.53	19.52	21.00	
		50	0	19.48	19.53	19.54	21.00	
	16QAM	1	0	19.91	20.54	20.11	21.00	
		1	25	19.95	19.92	20.10	21.00	
		1	49	20.01	19.98	20.00	21.00	
		25	0	18.43	18.53	18.58	20.00	
		25	13	18.48	18.53	18.52	20.00	
		25	25	18.48	18.52	18.53	20.00	
		50	0	18.49	18.51	18.54	20.00	
	64QAM	1	0	18.94	19.08	19.02	20.00	
		1	25	18.94	19.19	19.09	20.00	
		1	49	18.97	19.07	18.99	20.00	
		25	0	17.36	17.52	17.53	19.00	
		25	13	17.39	17.54	17.65	19.00	
		25	25	17.46	17.50	17.47	19.00	
		50	0	17.47	17.51	17.61	19.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20025/1717.5	20175/1732.5	20325/1747.5		
15MHz	QPSK	1	0	20.80	20.85	20.93	22.00	
		1	38	20.92	20.81	20.94	22.00	
		1	74	20.84	20.91	20.90	22.00	
		36	0	19.38	19.47	19.51	21.00	
		36	18	19.44	19.44	19.46	21.00	
		36	39	19.40	19.50	19.48	21.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20050/1720	20175/1732.5	20300/1745	
	16QAM	75	0	19.46	19.49	19.49	21.00
		1	0	19.89	20.52	20.09	21.00
		1	38	19.93	19.89	20.08	21.00
		1	74	19.99	19.94	19.97	21.00
		36	0	18.40	18.51	18.55	20.00
		36	18	18.45	18.48	18.48	20.00
		36	39	18.46	18.48	18.50	20.00
		75	0	18.46	18.46	18.50	20.00
	64QAM	1	0	18.89	19.06	19.00	20.00
		1	38	18.92	19.16	19.07	20.00
		1	74	18.98	19.06	19.00	20.00
		36	0	17.35	17.54	17.54	19.00
		36	18	17.37	17.51	17.64	19.00
		36	39	17.44	17.46	17.44	19.00
		75	0	17.44	17.46	17.57	19.00
20MHz	QPSK	1	0	20.77	20.81	20.90	22.00
		1	50	20.91	20.77	20.92	22.00
		1	99	20.82	20.90	20.87	22.00
		50	0	19.35	19.42	19.47	21.00
		50	25	19.42	19.40	19.43	21.00
		50	50	19.37	19.45	19.44	21.00
		100	0	19.43	19.44	19.45	21.00
	16QAM	1	0	19.86	20.48	20.04	21.00
		1	50	19.90	19.87	20.04	21.00
		1	99	19.96	19.91	19.95	21.00
		50	0	18.37	18.47	18.52	20.00
		50	25	18.42	18.46	18.45	20.00
		50	50	18.43	18.43	18.46	20.00
		100	0	18.44	18.42	18.47	20.00
	64QAM	1	0	18.87	19.02	18.95	20.00
		1	50	18.88	19.14	19.03	20.00
		1	99	18.92	19.00	18.94	20.00
		50	0	17.30	17.46	17.47	19.00
		50	25	17.33	17.47	17.58	19.00
		50	50	17.41	17.41	17.40	19.00
		100	0	17.42	17.42	17.54	19.00



LTE Band 4							
Full Power & Receiver on & Receiver off & Hotspot on-Mas Ant4				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	22.98	23.06	23.09	24.00
		1	2	22.76	23.15	23.20	24.00
		1	5	23.02	23.07	22.91	24.00
		3	0	22.55	22.62	22.66	24.00
		3	2	22.54	22.57	22.64	24.00
		3	3	22.53	22.56	22.52	24.00
		6	0	21.65	21.66	21.71	23.00
	16QAM	1	0	22.38	22.28	22.44	23.00
		1	2	22.92	22.84	22.93	23.00
		1	5	22.48	22.34	22.51	23.00
		3	0	21.73	21.59	21.74	23.00
		3	2	21.74	21.57	21.76	23.00
		3	3	21.69	21.57	21.72	23.00
		6	0	20.74	20.62	20.79	22.00
	64QAM	1	0	21.24	21.08	21.25	22.00
		1	2	21.54	21.42	21.56	22.00
		1	5	21.21	21.14	21.23	22.00
		3	0	20.67	20.55	20.69	22.00
		3	2	20.76	20.59	20.80	22.00
		3	3	20.71	20.59	20.72	22.00
		6	0	19.74	19.61	19.80	21.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	23.00	23.10	23.12	24.00
		1	7	22.74	23.18	23.24	24.00
		1	14	23.05	23.12	22.95	24.00
		8	0	21.65	21.74	21.79	23.00
		8	4	21.66	21.67	21.76	23.00
		8	7	21.63	21.67	21.62	23.00
		15	0	21.65	21.70	21.74	23.00
	16QAM	1	0	22.38	22.30	22.47	23.00
		1	7	22.92	22.84	22.97	23.00
		1	14	22.50	22.38	22.54	23.00
		8	0	20.84	20.72	20.86	22.00
		8	4	20.85	20.70	20.88	22.00
		8	7	20.79	20.69	20.85	22.00
		15	0	20.77	20.66	20.82	22.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	64QAM	1	0	21.27	21.10	21.28	22.00
		1	7	21.57	21.42	21.58	22.00
		1	14	21.23	21.13	21.26	22.00
		8	0	19.78	19.68	19.81	21.00
		8	4	19.87	19.72	19.92	21.00
		8	7	19.81	19.71	19.85	21.00
		15	0	19.77	19.65	19.83	21.00
5MHz	QPSK	1	0	22.97	23.08	23.08	24.00
		1	13	22.72	23.14	23.21	24.00
		1	24	23.02	23.07	22.91	24.00
		12	0	21.62	21.69	21.75	23.00
		12	6	21.64	21.63	21.71	23.00
		12	13	21.61	21.65	21.58	23.00
		25	0	21.65	21.69	21.72	23.00
	16QAM	1	0	22.38	22.26	22.44	23.00
		1	13	22.92	22.82	22.94	23.00
		1	24	22.47	22.36	22.50	23.00
		12	0	20.82	20.68	20.83	22.00
		12	6	20.82	20.65	20.84	22.00
		12	13	20.76	20.64	20.81	22.00
		25	0	20.75	20.62	20.77	22.00
	64QAM	1	0	21.24	21.10	21.25	22.00
		1	13	21.54	21.44	21.55	22.00
		1	24	21.24	21.11	21.22	22.00
		12	0	19.76	19.64	19.82	21.00
		12	6	19.84	19.67	19.88	21.00
		12	13	19.78	19.66	19.81	21.00
		25	0	19.75	19.61	19.78	21.00
10MHz	QPSK	1	0	22.99	23.09	23.11	24.00
		1	25	22.75	23.19	23.25	24.00
1		49	23.04	23.11	22.94	24.00	
25		0	21.65	21.74	21.79	23.00	
25		13	21.67	21.68	21.75	23.00	
25		25	21.63	21.69	21.63	23.00	
50		0	21.69	21.71	21.76	23.00	
16QAM	1	0	22.42	22.29	22.46	23.00	
	1	25	22.96	22.86	22.97	23.00	
	1	49	22.50	22.38	22.53	23.00	
	25	0	20.85	20.73	20.87	22.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20025/1717.5	20175/1732.5	20325/1747.5		
	64QAM	25	13	20.84	20.69	20.87	22.00	
		25	25	20.79	20.69	20.85	22.00	
		50	0	20.78	20.67	20.81	22.00	
		1	0	21.26	21.09	21.27	22.00	
		1	25	21.57	21.44	21.58	22.00	
		1	49	21.23	21.13	21.25	22.00	
		25	0	19.79	19.69	19.82	21.00	
		25	13	19.86	19.71	19.91	21.00	
		25	25	19.81	19.71	19.85	21.00	
		50	0	19.78	19.66	19.82	21.00	
15MHz	QPSK	1	0	22.98	23.05	23.09	24.00	
		1	38	22.73	23.18	23.22	24.00	
		1	74	23.01	23.06	22.90	24.00	
		36	0	21.63	21.70	21.76	23.00	
		36	18	21.64	21.63	21.71	23.00	
		36	39	21.60	21.66	21.59	23.00	
		75	0	21.67	21.67	21.71	23.00	
	16QAM	1	0	22.40	22.27	22.44	23.00	
		1	38	22.94	22.83	22.95	23.00	
		1	74	22.48	22.34	22.50	23.00	
		36	0	20.82	20.71	20.84	22.00	
		36	18	20.81	20.64	20.83	22.00	
		36	39	20.77	20.65	20.82	22.00	
		75	0	20.75	20.62	20.77	22.00	
	64QAM	1	0	21.21	21.07	21.25	22.00	
		1	38	21.55	21.41	21.56	22.00	
		1	74	21.24	21.12	21.26	22.00	
		36	0	19.78	19.71	19.83	21.00	
		36	18	19.84	19.68	19.90	21.00	
		36	39	19.79	19.67	19.82	21.00	
		75	0	19.75	19.61	19.78	21.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20050/1720	20175/1732.5	20300/1745	
	20MHz	QPSK	1	0	22.95	23.01	23.06	24.00
			1	50	22.72	23.14	23.20	24.00
			1	99	22.99	23.05	22.87	24.00
			50	0	21.60	21.65	21.72	23.00
			50	25	21.62	21.59	21.68	23.00
50			50	21.57	21.61	21.55	23.00	
100			0	21.64	21.62	21.67	23.00	
16QAM		1	0	22.37	22.23	22.39	23.00	



		1	50	22.91	22.81	22.91	23.00
		1	99	22.45	22.31	22.48	23.00
		50	0	20.79	20.67	20.81	22.00
		50	25	20.78	20.62	20.80	22.00
		50	50	20.74	20.60	20.78	22.00
		100	0	20.73	20.58	20.74	22.00
	64QAM	1	0	21.19	21.03	21.20	22.00
		1	50	21.51	21.39	21.52	22.00
		1	99	21.18	21.06	21.20	22.00
		50	0	19.73	19.63	19.76	21.00
		50	25	19.80	19.64	19.84	21.00
		50	50	19.76	19.62	19.78	21.00
		100	0	19.73	19.57	19.75	21.00

LTE Band 5							
Full Power & Receiver on & Receiver off-Ant1				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	25.04	25.01	25.13	26.00
		1	2	25.03	24.97	25.10	26.00
		1	5	24.97	24.97	25.05	26.00
		3	0	24.94	24.99	25.04	26.00
		3	2	24.98	25.07	25.14	26.00
		3	3	25.00	25.02	25.11	26.00
		6	0	24.08	24.12	24.21	25.00
	16QAM	1	0	24.26	24.61	24.42	25.00
		1	2	24.43	24.37	24.36	25.00
		1	5	24.35	24.43	24.14	25.00
		3	0	23.91	23.95	24.07	25.00
		3	2	24.06	24.06	24.15	25.00
		3	3	24.03	24.09	24.14	25.00
		6	0	23.07	23.13	23.26	24.00
	64QAM	1	0	23.32	23.36	23.26	24.00
		1	2	23.28	23.37	23.37	24.00
		1	5	23.38	23.28	23.28	24.00
		3	0	22.91	22.93	23.02	24.00
		3	2	23.03	23.07	23.16	24.00
		3	3	22.99	23.06	23.11	24.00
		6	0	22.06	22.16	22.22	23.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK	1	0	20415/825.5	20525/836.5	20635/847.5	26.00



		1	7	25.01	25.00	25.14	26.00	
		1	14	25.00	25.02	25.09	26.00	
		8	0	24.04	24.11	24.17	25.00	
		8	4	24.10	24.17	24.26	25.00	
		8	7	24.10	24.13	24.21	25.00	
		15	0	24.08	24.16	24.24	25.00	
	16QAM	1	0	24.26	24.63	24.45	25.00	
		1	7	24.43	24.37	24.40	25.00	
		1	14	24.37	24.47	24.17	25.00	
		8	0	23.02	23.08	23.19	24.00	
		8	4	23.17	23.19	23.27	24.00	
		8	7	23.13	23.21	23.27	24.00	
	64QAM	15	0	23.10	23.17	23.29	24.00	
		1	0	23.35	23.38	23.29	24.00	
		1	7	23.31	23.37	23.39	24.00	
		1	14	23.40	23.27	23.31	24.00	
		8	0	22.02	22.06	22.14	23.00	
		8	4	22.14	22.20	22.28	23.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20425/826.5	20525/836.5	20625/846.5	
		5MHz	QPSK	1	0	25.04	25.00	25.13
1				13	25.00	25.00	25.12	26.00
1				24	24.96	24.96	25.04	26.00
12				0	24.02	24.07	24.14	25.00
12				6	24.08	24.13	24.21	25.00
12				13	24.07	24.12	24.18	25.00
16QAM			25	0	24.10	24.13	24.21	25.00
			1	0	24.28	24.60	24.42	25.00
			1	13	24.45	24.36	24.38	25.00
			1	24	24.35	24.43	24.13	25.00
			12	0	23.00	23.07	23.17	24.00
			12	6	23.13	23.13	23.22	24.00
64QAM			12	13	23.11	23.17	23.24	24.00
			25	0	23.08	23.13	23.24	24.00
			1	0	23.29	23.35	23.26	24.00
			1	13	23.29	23.36	23.37	24.00
			1	24	23.41	23.26	23.31	24.00
			12	0	22.02	22.09	22.16	23.00
				12	6	22.11	22.16	22.26
	12			13	22.07	22.14	22.21	23.00
	25			0	22.07	22.16	22.20	23.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	25.01	24.96	25.10	26.00
		1	25	24.99	24.96	25.10	26.00
		1	49	24.94	24.95	25.01	26.00
		25	0	23.99	24.02	24.10	25.00
		25	13	24.06	24.09	24.18	25.00
		25	25	24.04	24.07	24.14	25.00
		50	0	24.07	24.08	24.17	25.00
	16QAM	1	0	24.25	24.56	24.37	25.00
		1	25	24.42	24.34	24.34	25.00
		1	49	24.32	24.40	24.11	25.00
		25	0	22.97	23.03	23.14	24.00
		25	13	23.10	23.11	23.19	24.00
		25	25	23.08	23.12	23.20	24.00
		50	0	23.06	23.09	23.21	24.00
	64QAM	1	0	23.27	23.31	23.21	24.00
		1	25	23.25	23.34	23.33	24.00
		1	49	23.35	23.20	23.25	24.00
		25	0	21.97	22.01	22.09	23.00
		25	13	22.07	22.12	22.20	23.00
		25	25	22.04	22.09	22.17	23.00
		50	0	22.05	22.12	22.17	23.00

LTE Band 5							
Hotspot on-Ant1				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	24.14	24.25	24.24	25.00
		1	2	24.24	24.21	24.20	25.00
		1	5	24.14	24.18	24.16	25.00
		3	0	23.91	24.03	24.03	25.00
		3	2	24.02	24.10	24.16	25.00
		3	3	24.02	24.12	24.14	25.00
		6	0	23.08	23.21	23.25	24.00
	16QAM	1	0	23.49	23.79	23.69	24.00
		1	2	23.52	23.73	23.64	24.00
		1	5	23.55	23.84	23.54	24.00
		3	0	23.00	23.02	23.11	24.00
		3	2	23.08	23.17	23.22	24.00
		3	3	23.04	23.17	23.16	24.00
		6	0	22.17	22.14	22.26	23.00
	64QAM	1	0	22.62	22.56	22.57	23.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20415/825.5	20525/836.5	20635/847.5		
		1	2	22.54	22.57	22.59	23.00	
		1	5	22.58	22.68	22.56	23.00	
		3	0	21.96	22.09	22.07	23.00	
		3	2	22.09	22.15	22.22	23.00	
		3	3	22.09	22.15	22.16	23.00	
		6	0	21.11	21.21	21.26	22.00	
3MHz	QPSK	1	0	24.16	24.29	24.27	25.00	
		1	7	24.22	24.24	24.24	25.00	
		1	14	24.17	24.23	24.20	25.00	
		8	0	23.01	23.15	23.16	24.00	
		8	4	23.14	23.20	23.28	24.00	
		8	7	23.12	23.23	23.24	24.00	
	16QAM	15	0	23.08	23.25	23.28	24.00	
		1	0	23.49	23.81	23.72	24.00	
		1	7	23.52	23.73	23.68	24.00	
		1	14	23.57	23.88	23.57	24.00	
		8	0	22.11	22.15	22.23	23.00	
		8	4	22.19	22.30	22.34	23.00	
	64QAM	8	7	22.14	22.29	22.29	23.00	
		15	0	22.20	22.18	22.29	23.00	
		1	0	22.65	22.58	22.60	23.00	
		1	7	22.57	22.57	22.61	23.00	
		1	14	22.60	22.67	22.59	23.00	
		8	0	21.07	21.22	21.19	22.00	
	5MHz	QPSK	8	4	21.20	21.28	21.34	22.00
			8	7	21.19	21.27	21.29	22.00
			15	0	21.14	21.25	21.29	22.00
			1	0	24.14	24.24	24.24	25.00
			1	13	24.21	24.24	24.22	25.00
			1	24	24.13	24.17	24.15	25.00
16QAM		12	0	22.99	23.11	23.13	24.00	
		12	6	23.12	23.16	23.23	24.00	
		12	13	23.09	23.22	23.21	24.00	
		25	0	23.10	23.22	23.25	24.00	
		1	0	23.51	23.78	23.69	24.00	
		1	13	23.54	23.72	23.66	24.00	
		1	24	23.55	23.84	23.53	24.00	
		12	0	22.09	22.14	22.21	23.00	
		12	6	22.15	22.24	22.29	23.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20450/829	20525/836.5	20600/844	
		12	13	22.12	22.25	22.26	23.00
		25	0	22.18	22.14	22.24	23.00
	64QAM	1	0	22.59	22.55	22.57	23.00
		1	13	22.55	22.56	22.59	23.00
		1	24	22.61	22.66	22.59	23.00
		12	0	21.07	21.25	21.21	22.00
		12	6	21.17	21.24	21.32	22.00
		12	13	21.17	21.23	21.26	22.00
	25	0	21.12	21.21	21.24	22.00	
	10MHz	QPSK	1	0	24.11	24.20	24.21
1			25	24.20	24.20	24.20	25.00
1			49	24.11	24.16	24.12	25.00
25			0	22.96	23.06	23.09	24.00
25			13	23.10	23.12	23.20	24.00
25			25	23.06	23.17	23.17	24.00
50			0	23.07	23.17	23.21	24.00
16QAM		1	0	23.48	23.74	23.64	24.00
		1	25	23.51	23.70	23.62	24.00
		1	49	23.52	23.81	23.51	24.00
		25	0	22.06	22.10	22.18	23.00
		25	13	22.12	22.22	22.26	23.00
		25	25	22.09	22.20	22.22	23.00
		50	0	22.16	22.10	22.21	23.00
64QAM		1	0	22.57	22.51	22.52	23.00
		1	25	22.51	22.54	22.55	23.00
		1	49	22.55	22.60	22.53	23.00
		25	0	21.02	21.17	21.14	22.00
		25	13	21.13	21.20	21.26	22.00
		25	25	21.14	21.18	21.22	22.00
		50	0	21.10	21.17	21.21	22.00

LTE Band 5							
Full Power & Receiver on & Receiver off & Hotspot on-Ant6				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	22.75	22.91	23.03	24.00
		1	2	22.86	22.92	23.02	24.00
		1	5	22.82	22.94	23.02	24.00
		3	0	22.75	22.85	22.92	24.00
		3	2	22.84	23.00	23.02	24.00



		3	3	22.86	22.95	23.02	24.00
		6	0	21.91	22.04	22.09	23.00
	16QAM	1	0	22.22	22.27	22.47	23.00
		1	2	22.18	22.22	22.34	23.00
		1	5	22.29	22.33	22.24	23.00
		3	0	21.76	21.85	21.90	23.00
		3	2	21.87	21.96	22.03	23.00
		3	3	21.90	21.96	22.01	23.00
		6	0	20.92	21.05	21.12	22.00
	64QAM	1	0	21.34	21.36	21.52	22.00
		1	2	21.26	21.44	21.57	22.00
		1	5	21.42	21.42	21.48	22.00
		3	0	21.09	21.21	21.25	22.00
		3	2	21.25	21.33	21.37	22.00
3		3	21.25	21.32	21.35	22.00	
	6	0	20.25	20.39	20.49	21.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	22.76	22.94	23.05	24.00
		1	7	22.85	22.96	23.07	24.00
		1	14	22.84	22.98	23.05	24.00
		8	0	21.85	21.97	22.05	23.00
		8	4	21.97	22.11	22.13	23.00
		8	7	21.96	22.08	22.13	23.00
		15	0	21.95	22.09	22.14	23.00
	16QAM	1	0	22.26	22.28	22.49	23.00
		1	7	22.22	22.24	22.38	23.00
		1	14	22.31	22.37	22.26	23.00
		8	0	20.88	20.99	21.03	22.00
		8	4	20.97	21.08	21.14	22.00
		8	7	21.00	21.08	21.14	22.00
		15	0	20.96	21.10	21.14	22.00
	64QAM	1	0	21.36	21.37	21.54	22.00
		1	7	21.29	21.46	21.59	22.00
		1	14	21.44	21.41	21.50	22.00
		8	0	20.21	20.35	20.38	21.00
		8	4	20.35	20.45	20.48	21.00
		8	7	20.35	20.44	20.48	21.00
		15	0	20.29	20.44	20.51	21.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	22.75	22.90	23.03	24.00
		1	13	22.83	22.95	23.04	24.00



		1	24	22.81	22.93	23.01	24.00		
		12	0	21.83	21.93	22.02	23.00		
		12	6	21.94	22.06	22.09	23.00		
		12	13	21.93	22.05	22.09	23.00		
		25	0	21.93	22.05	22.09	23.00		
		16QAM	1	0	22.24	22.26	22.47	23.00	
			1	13	22.20	22.21	22.36	23.00	
	1		24	22.29	22.33	22.23	23.00		
	12		0	20.85	20.97	21.00	22.00		
	12		6	20.94	21.03	21.10	22.00		
	12		13	20.98	21.04	21.11	22.00		
	64QAM	25	0	20.93	21.05	21.10	22.00		
		1	0	21.31	21.35	21.52	22.00		
		1	13	21.27	21.43	21.57	22.00		
		1	24	21.45	21.40	21.51	22.00		
		12	0	20.20	20.37	20.39	21.00		
		12	6	20.33	20.42	20.47	21.00		
		12	13	20.33	20.40	20.45	21.00		
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
					20450/829	20525/836.5	20600/844		
			10MHz	QPSK	1	0	22.72	22.86	23.00
1					25	22.82	22.91	23.02	24.00
1					49	22.79	22.92	22.98	24.00
25					0	21.80	21.88	21.98	23.00
25					13	21.92	22.02	22.06	23.00
25	25	21.90			22.00	22.05	23.00		
50	0	21.90			22.00	22.05	23.00		
16QAM	1	0		22.21	22.22	22.42	23.00		
	1	25		22.17	22.19	22.32	23.00		
	1	49		22.26	22.30	22.21	23.00		
	25	0		20.82	20.93	20.97	22.00		
	25	13		20.91	21.01	21.07	22.00		
	25	25		20.95	20.99	21.07	22.00		
	50	0		20.91	21.01	21.07	22.00		
64QAM	1	0		21.29	21.31	21.47	22.00		
	1	25		21.23	21.41	21.53	22.00		
	1	49		21.39	21.34	21.45	22.00		
	25	0		20.15	20.29	20.32	21.00		
	25	13		20.29	20.38	20.41	21.00		
	25	25		20.30	20.35	20.41	21.00		
	50	0		20.24	20.35	20.44	21.00		



LTE Band 7							
Full Power & Receiver on & Receiver off & Sensor on & Sensor off-Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	23.30	23.45	23.52	24.50
		1	13	23.34	23.65	23.71	24.50
		1	24	23.46	23.65	23.73	24.50
		12	0	22.43	22.48	22.55	23.50
		12	6	22.52	22.53	22.67	23.50
		12	13	22.49	22.61	22.68	23.50
		25	0	22.49	22.55	22.60	23.50
	16QAM	1	0	22.58	22.60	22.63	23.50
		1	13	22.91	22.81	22.88	23.50
		1	24	22.65	22.70	22.82	23.50
		12	0	21.45	21.45	21.52	22.50
		12	6	21.52	21.50	21.69	22.50
		12	13	21.48	21.62	21.70	22.50
		25	0	21.52	21.52	21.56	22.50
	64QAM	1	0	21.65	21.67	21.58	22.50
		1	13	21.62	21.76	21.85	22.50
		1	24	21.73	21.86	21.79	22.50
		12	0	20.54	20.61	20.70	21.50
		12	6	20.68	20.65	20.82	21.50
		12	13	20.64	20.76	20.83	21.50
		25	0	20.65	20.67	20.69	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	23.32	23.46	23.55	24.50
		1	25	23.37	23.70	23.75	24.50
		1	49	23.48	23.69	23.76	24.50
		25	0	22.46	22.53	22.59	23.50
		25	13	22.55	22.58	22.71	23.50
		25	25	22.51	22.65	22.73	23.50
		50	0	22.53	22.57	22.64	23.50
	16QAM	1	0	22.62	22.63	22.65	23.50
		1	25	22.95	22.85	22.91	23.50
		1	49	22.68	22.72	22.85	23.50
		25	0	21.48	21.50	21.56	22.50
		25	13	21.54	21.54	21.72	22.50
		25	25	21.51	21.67	21.74	22.50
		50	0	21.55	21.57	21.60	22.50
	64QAM	1	0	21.67	21.66	21.60	22.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20825/2507.5	21100/2535	21375/2562.5		
		1	25	21.65	21.76	21.88	22.50	
		1	49	21.72	21.88	21.82	22.50	
		25	0	20.57	20.66	20.70	21.50	
		25	13	20.70	20.69	20.85	21.50	
		25	25	20.67	20.81	20.87	21.50	
		50	0	20.68	20.72	20.73	21.50	
15MHz	QPSK	1	0	23.31	23.42	23.53	24.50	
		1	38	23.35	23.69	23.72	24.50	
		1	74	23.45	23.64	23.72	24.50	
		36	0	22.44	22.49	22.56	23.50	
		36	18	22.52	22.53	22.67	23.50	
		36	39	22.48	22.62	22.69	23.50	
	16QAM	75	0	22.51	22.53	22.59	23.50	
		1	0	22.60	22.61	22.63	23.50	
		1	38	22.93	22.82	22.89	23.50	
		1	74	22.66	22.68	22.82	23.50	
		36	0	21.45	21.48	21.53	22.50	
		36	18	21.51	21.49	21.68	22.50	
	64QAM	36	39	21.49	21.63	21.71	22.50	
		75	0	21.52	21.52	21.56	22.50	
		1	0	21.62	21.64	21.58	22.50	
		1	38	21.63	21.73	21.86	22.50	
		1	74	21.73	21.87	21.83	22.50	
		36	0	20.56	20.68	20.71	21.50	
	20MHz	QPSK	36	18	20.68	20.66	20.84	21.50
			36	39	20.65	20.77	20.84	21.50
			75	0	20.65	20.67	20.69	21.50
			1	0	23.28	23.38	23.50	24.50
			1	50	23.34	23.65	23.70	24.50
			1	99	23.43	23.66	23.71	24.50
16QAM		50	0	22.41	22.44	22.52	23.50	
		50	25	22.50	22.49	22.65	23.50	
		50	50	22.45	22.57	22.65	23.50	
		100	0	22.48	22.48	22.55	23.50	
		1	0	22.57	22.57	22.58	23.50	
		1	50	22.90	22.80	22.85	23.50	
		1	99	22.63	22.65	22.80	23.50	
		50	0	21.42	21.44	21.50	22.50	
		50	25	21.48	21.47	21.65	22.50	



		50	50	21.46	21.58	21.67	22.50
		100	0	21.50	21.48	21.53	22.50
	64QAM	1	0	21.60	21.60	21.53	22.50
		1	50	21.59	21.71	21.82	22.50
		1	99	21.67	21.81	21.77	22.50
		50	0	20.51	20.60	20.64	21.50
		50	25	20.64	20.62	20.78	21.50
		50	50	20.62	20.72	20.80	21.50
		100	0	20.63	20.63	20.66	21.50

LTE Band 7							
Hotspot on-Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	21.66	22.01	22.04	22.50
		1	13	21.70	22.15	22.13	22.50
		1	24	21.93	22.13	22.26	22.50
		12	0	20.43	20.73	20.23	21.50
		12	6	20.54	20.61	20.85	21.50
		12	13	20.57	20.75	20.89	21.50
		25	0	20.51	20.70	20.81	21.50
	16QAM	1	0	20.79	21.02	21.29	21.50
		1	13	20.93	21.13	21.28	21.50
		1	24	21.00	21.25	21.25	21.50
		12	0	19.46	19.60	19.76	20.50
		12	6	19.56	19.66	19.89	20.50
		12	13	19.59	19.76	19.85	20.50
		25	0	19.52	19.75	19.81	20.50
	64QAM	1	0	19.80	20.07	20.15	20.50
		1	13	19.81	20.02	20.22	20.50
		1	24	19.95	20.14	20.20	20.50
		12	0	18.55	18.67	18.78	19.50
		12	6	18.46	18.67	19.00	19.50
		12	13	18.58	18.78	18.85	19.50
		25	0	18.57	18.69	18.90	19.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
10MHz	QPSK	1	0	21.68	22.02	22.07	22.50
		1	25	21.73	22.20	22.17	22.50
		1	49	21.95	22.17	22.29	22.50
		25	0	20.46	20.78	20.27	21.50
		25	13	20.57	20.66	20.89	21.50
		25	25	20.59	20.79	20.94	21.50



	16QAM	50	0	20.55	20.72	20.85	21.50
		1	0	20.83	21.05	21.31	21.50
		1	25	20.97	21.17	21.31	21.50
		1	49	21.03	21.27	21.28	21.50
		25	0	19.49	19.65	19.80	20.50
		25	13	19.58	19.70	19.92	20.50
		25	25	19.62	19.81	19.89	20.50
		50	0	19.55	19.80	19.85	20.50
	64QAM	1	0	19.82	20.06	20.17	20.50
		1	25	19.84	20.02	20.25	20.50
		1	49	19.94	20.16	20.23	20.50
		25	0	18.58	18.72	18.78	19.50
		25	13	18.48	18.71	19.03	19.50
		25	25	18.61	18.83	18.89	19.50
50	0	18.60	18.74	18.94	19.50		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	21.67	21.98	22.05	22.50
		1	38	21.71	22.19	22.14	22.50
		1	74	21.92	22.12	22.25	22.50
		36	0	20.44	20.74	20.24	21.50
		36	18	20.54	20.61	20.85	21.50
		36	39	20.56	20.76	20.90	21.50
		75	0	20.53	20.68	20.80	21.50
	16QAM	1	0	20.81	21.03	21.29	21.50
		1	38	20.95	21.14	21.29	21.50
		1	74	21.01	21.23	21.25	21.50
		36	0	19.46	19.63	19.77	20.50
		36	18	19.55	19.65	19.88	20.50
		36	39	19.60	19.77	19.86	20.50
		75	0	19.52	19.75	19.81	20.50
	64QAM	1	0	19.77	20.04	20.15	20.50
		1	38	19.82	19.99	20.23	20.50
		1	74	19.95	20.15	20.24	20.50
		36	0	18.57	18.74	18.79	19.50
		36	18	18.46	18.68	19.02	19.50
		36	39	18.59	18.79	18.86	19.50
		75	0	18.57	18.69	18.90	19.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	21.64	21.94	22.02	22.50
		1	50	21.70	22.15	22.12	22.50
		1	99	21.90	22.11	22.22	22.50



		50	0	20.41	20.69	20.20	21.50
		50	25	20.52	20.57	20.82	21.50
		50	50	20.53	20.71	20.86	21.50
		100	0	20.50	20.63	20.76	21.50
	16QAM	1	0	20.78	20.99	21.24	21.50
		1	50	20.92	21.12	21.25	21.50
		1	99	20.98	21.20	21.23	21.50
		50	0	19.43	19.59	19.74	20.50
		50	25	19.52	19.63	19.85	20.50
		50	50	19.57	19.72	19.82	20.50
		100	0	19.50	19.71	19.78	20.50
	64QAM	1	0	19.75	20.00	20.10	20.50
		1	50	19.78	19.97	20.19	20.50
		1	99	19.89	20.09	20.18	20.50
		50	0	18.52	18.66	18.72	19.50
		50	25	18.42	18.64	18.96	19.50
		50	50	18.56	18.74	18.82	19.50
		100	0	18.55	18.65	18.87	19.50

LTE Band 7							
Full Power & Receiver off & Hotspot on-Mas Ant4				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	21.32	20.65	21.32	22.00
		1	13	21.26	21.20	21.32	22.00
		1	24	21.28	21.26	21.30	22.00
		12	0	20.07	19.86	20.10	21.00
		12	6	20.13	19.82	20.15	21.00
		12	13	20.13	19.92	20.23	21.00
		25	0	20.09	19.80	20.16	21.00
	16QAM	1	0	20.44	20.28	20.43	21.00
		1	13	20.17	20.08	20.17	21.00
		1	24	20.68	20.80	20.81	21.00
		12	0	18.98	18.79	18.92	20.00
		12	6	19.04	18.83	19.00	20.00
		12	13	19.17	18.97	19.12	20.00
		25	0	18.93	18.79	18.93	20.00
	64QAM	1	0	19.18	19.04	19.17	20.00
		1	13	19.37	19.29	19.36	20.00
		1	24	19.41	19.22	19.32	20.00
		12	0	17.80	17.63	17.78	19.00
		12	6	17.94	17.70	17.87	19.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20800/2505	21100/2535	21400/2565		
		12	13	17.94	17.75	17.90	19.00	
		25	0	17.86	17.68	17.83	19.00	
10MHz	QPSK	1	0	21.34	20.66	21.35	22.00	
		1	25	21.29	21.25	21.36	22.00	
		1	49	21.30	21.30	21.33	22.00	
		25	0	20.10	19.91	20.14	21.00	
		25	13	20.16	19.87	20.19	21.00	
		25	25	20.15	19.96	20.28	21.00	
		50	0	20.13	19.82	20.20	21.00	
	16QAM	1	0	20.48	20.31	20.45	21.00	
		1	25	20.21	20.12	20.20	21.00	
		1	49	20.71	20.82	20.84	21.00	
		25	0	19.01	18.84	18.96	20.00	
		25	13	19.06	18.87	19.03	20.00	
		25	25	19.20	19.02	19.16	20.00	
		50	0	18.96	18.84	18.97	20.00	
	64QAM	1	0	19.20	19.03	19.19	20.00	
		1	25	19.40	19.29	19.39	20.00	
		1	49	19.40	19.24	19.35	20.00	
		25	0	17.83	17.68	17.78	19.00	
		25	13	17.96	17.74	17.90	19.00	
		25	25	17.97	17.80	17.94	19.00	
		50	0	17.89	17.73	17.87	19.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20825/2507.5	21100/2535	21375/2562.5	
	15MHz	QPSK	1	0	21.33	20.62	21.33	22.00
			1	38	21.27	21.24	21.33	22.00
			1	74	21.27	21.25	21.29	22.00
			36	0	20.08	19.87	20.11	21.00
			36	18	20.13	19.82	20.15	21.00
36			39	20.12	19.93	20.24	21.00	
75			0	20.11	19.78	20.15	21.00	
16QAM		1	0	20.46	20.29	20.43	21.00	
		1	38	20.19	20.09	20.18	21.00	
		1	74	20.69	20.78	20.81	21.00	
		36	0	18.98	18.82	18.93	20.00	
		36	18	19.03	18.82	18.99	20.00	
		36	39	19.18	18.98	19.13	20.00	
		75	0	18.93	18.79	18.93	20.00	
64QAM		1	0	19.15	19.01	19.17	20.00	
		1	38	19.38	19.26	19.37	20.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20850/2510	21100/2535	21350/2560	
		1	74	19.41	19.23	19.36	20.00
		36	0	17.82	17.70	17.79	19.00
		36	18	17.94	17.71	17.89	19.00
		36	39	17.95	17.76	17.91	19.00
		75	0	17.86	17.68	17.83	19.00
20MHz	QPSK	1	0	21.30	20.58	21.30	22.00
		1	50	21.26	21.20	21.31	22.00
		1	99	21.25	21.24	21.26	22.00
		50	0	20.05	19.82	20.07	21.00
		50	25	20.11	19.78	20.12	21.00
		50	50	20.09	19.88	20.20	21.00
		100	0	20.08	19.73	20.11	21.00
	16QAM	1	0	20.43	20.25	20.38	21.00
		1	50	20.16	20.07	20.14	21.00
		1	99	20.66	20.75	20.79	21.00
		50	0	18.95	18.78	18.90	20.00
		50	25	19.00	18.80	18.96	20.00
		50	50	19.15	18.93	19.09	20.00
		100	0	18.91	18.75	18.90	20.00
	64QAM	1	0	19.13	18.97	19.12	20.00
		1	50	19.34	19.24	19.33	20.00
		1	99	19.35	19.17	19.30	20.00
		50	0	17.77	17.62	17.72	19.00
		50	25	17.90	17.67	17.83	19.00
		50	50	17.92	17.71	17.87	19.00
		100	0	17.84	17.64	17.80	19.00

LTE Band 7							
Receiver on-Mas Ant4				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	16.02	16.00	16.20	17.50
		1	13	15.94	16.12	16.17	17.50
		1	24	16.05	16.12	16.25	17.50
		12	0	14.96	15.24	15.29	16.50
		12	6	15.13	15.29	15.43	16.50
		12	13	15.12	15.33	15.41	16.50
		25	0	15.11	15.26	15.48	16.50
	16QAM	1	0	15.45	15.38	15.51	16.50
		1	13	15.54	15.48	15.57	16.50
		1	24	15.43	15.39	15.47	16.50



		12	0	14.40	14.28	14.42	15.50
		12	6	14.41	14.32	14.44	15.50
		12	13	14.43	14.34	14.47	15.50
		25	0	14.27	14.23	14.33	15.50
	64QAM	1	0	15.03	15.00	15.08	15.50
		1	13	15.06	15.05	15.09	15.50
		1	24	15.15	15.06	15.13	15.50
		12	0	14.21	14.10	14.23	14.50
		12	6	14.20	14.10	14.21	14.50
		12	13	14.25	14.17	14.21	14.50
25	0	14.09	14.03	14.10	14.50		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	16.04	16.01	16.23	17.50
		1	25	15.97	16.17	16.21	17.50
		1	49	16.07	16.16	16.28	17.50
		25	0	14.99	15.29	15.33	16.50
		25	13	15.16	15.34	15.47	16.50
		25	25	15.14	15.37	15.46	16.50
		50	0	15.15	15.28	15.52	16.50
	16QAM	1	0	15.49	15.41	15.53	16.50
		1	25	15.58	15.52	15.60	16.50
		1	49	15.46	15.41	15.50	16.50
		25	0	14.43	14.33	14.46	15.50
		25	13	14.43	14.36	14.47	15.50
		25	25	14.46	14.39	14.51	15.50
		50	0	14.30	14.28	14.37	15.50
	64QAM	1	0	15.05	14.99	15.10	15.50
		1	25	15.09	15.05	15.12	15.50
		1	49	15.14	15.08	15.16	15.50
		25	0	14.24	14.15	14.23	14.50
		25	13	14.22	14.14	14.24	14.50
		25	25	14.28	14.22	14.25	14.50
		50	0	14.12	14.08	14.14	14.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	16.03	15.97	16.21	17.50
		1	38	15.95	16.16	16.18	17.50
		1	74	16.04	16.11	16.24	17.50
		36	0	14.97	15.25	15.30	16.50
		36	18	15.13	15.29	15.43	16.50
		36	39	15.11	15.34	15.42	16.50
		75	0	15.13	15.24	15.47	16.50



	16QAM	1	0	15.47	15.39	15.51	16.50
		1	38	15.56	15.49	15.58	16.50
		1	74	15.44	15.37	15.47	16.50
		36	0	14.40	14.31	14.43	15.50
		36	18	14.40	14.31	14.43	15.50
		36	39	14.44	14.35	14.48	15.50
		75	0	14.27	14.23	14.33	15.50
	64QAM	1	0	15.00	14.97	15.08	15.50
		1	38	15.07	15.02	15.10	15.50
		1	74	15.15	15.07	15.17	15.50
		36	0	14.23	14.17	14.24	14.50
		36	18	14.20	14.11	14.23	14.50
		36	39	14.26	14.18	14.22	14.50
		75	0	14.09	14.03	14.10	14.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	16.00	15.93	16.18	17.50
		1	50	15.94	16.12	16.16	17.50
		1	99	16.02	16.10	16.21	17.50
		50	0	14.94	15.20	15.26	16.50
		50	25	15.11	15.25	15.40	16.50
		50	50	15.08	15.29	15.38	16.50
		100	0	15.10	15.19	15.43	16.50
	16QAM	1	0	15.44	15.35	15.46	16.50
		1	50	15.53	15.47	15.54	16.50
		1	99	15.41	15.34	15.45	16.50
		50	0	14.37	14.27	14.40	15.50
		50	25	14.37	14.29	14.40	15.50
		50	50	14.41	14.30	14.44	15.50
		100	0	14.25	14.19	14.30	15.50
	64QAM	1	0	14.98	14.93	15.03	15.50
		1	50	15.03	15.00	15.06	15.50
		1	99	15.09	15.01	15.11	15.50
		50	0	14.18	14.09	14.17	14.50
		50	25	14.16	14.07	14.17	14.50
		50	50	14.23	14.13	14.18	14.50
		100	0	14.07	13.99	14.07	14.50



LTE Band 12							
Full Power & Receiver on & Receiver off & Hotspot on-Ant1				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	25.11	25.22	25.17	26.00
		1	2	25.16	25.11	25.09	26.00
		1	5	25.07	25.11	25.07	26.00
		3	0	24.98	25.00	24.98	26.00
		3	2	25.06	25.06	25.11	26.00
		3	3	25.08	25.05	25.08	26.00
		6	0	24.10	24.07	24.16	25.00
	16QAM	1	0	24.53	24.52	24.66	25.00
		1	2	24.43	24.40	24.48	25.00
		1	5	24.42	24.37	24.49	25.00
		3	0	24.09	24.01	24.17	25.00
		3	2	24.10	24.03	24.18	25.00
		3	3	24.12	24.09	24.17	25.00
		6	0	23.09	23.07	23.21	24.00
	64QAM	1	0	23.39	23.32	23.46	24.00
		1	2	23.31	23.25	23.35	24.00
		1	5	23.40	23.40	23.47	24.00
		3	0	23.04	22.96	23.08	24.00
		3	2	23.11	23.04	23.19	24.00
		3	3	23.08	23.05	23.16	24.00
		6	0	22.09	22.07	22.21	23.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK	1	0	25.12	25.25	25.19	26.00
		1	7	25.15	25.15	25.14	26.00
		1	14	25.09	25.15	25.10	26.00
		8	0	24.08	24.12	24.11	25.00
		8	4	24.19	24.17	24.22	25.00
		8	7	24.18	24.18	24.19	25.00
		15	0	24.14	24.12	24.21	25.00
	16QAM	1	0	24.57	24.53	24.68	25.00
		1	7	24.47	24.42	24.52	25.00
		1	14	24.44	24.41	24.51	25.00
		8	0	23.21	23.15	23.30	24.00
		8	4	23.20	23.15	23.29	24.00
		8	7	23.22	23.21	23.30	24.00
		15	0	23.13	23.12	23.23	24.00
						23025/700.5	23095/707.5



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				23035/701.5	23095/707.5	23155/713.5		
	64QAM	1	0	23.41	23.33	23.48	24.00	
		1	7	23.34	23.27	23.37	24.00	
		1	14	23.42	23.39	23.49	24.00	
		8	0	22.16	22.10	22.21	23.00	
		8	4	22.21	22.16	22.30	23.00	
		8	7	22.18	22.17	22.29	23.00	
		15	0	22.13	22.12	22.23	23.00	
5MHz	QPSK	1	0	25.11	25.21	25.17	26.00	
		1	13	25.13	25.14	25.11	26.00	
		1	24	25.06	25.10	25.06	26.00	
		12	0	24.06	24.08	24.08	25.00	
		12	6	24.16	24.12	24.18	25.00	
		12	13	24.15	24.15	24.15	25.00	
		25	0	24.12	24.08	24.16	25.00	
	16QAM	1	0	24.55	24.51	24.66	25.00	
		1	13	24.45	24.39	24.50	25.00	
		1	24	24.42	24.37	24.48	25.00	
		12	0	23.18	23.13	23.27	24.00	
		12	6	23.17	23.10	23.25	24.00	
		12	13	23.20	23.17	23.27	24.00	
		25	0	23.10	23.07	23.19	24.00	
	64QAM	1	0	23.36	23.31	23.46	24.00	
		1	13	23.32	23.24	23.35	24.00	
		1	24	23.43	23.38	23.50	24.00	
		12	0	22.15	22.12	22.22	23.00	
		12	6	22.19	22.13	22.29	23.00	
		12	13	22.16	22.13	22.26	23.00	
		25	0	22.10	22.07	22.19	23.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					23060/704	23095/707.5	23130/711	
	10MHz	QPSK	1	0	25.08	25.17	25.14	26.00
			1	25	25.12	25.10	25.09	26.00
			1	49	25.04	25.09	25.03	26.00
			25	0	24.03	24.03	24.04	25.00
			25	13	24.14	24.08	24.15	25.00
25			25	24.12	24.10	24.11	25.00	
50			0	24.09	24.03	24.12	25.00	
16QAM		1	0	24.52	24.47	24.61	25.00	
		1	25	24.42	24.37	24.46	25.00	
		1	49	24.39	24.34	24.46	25.00	
		25	0	23.15	23.09	23.24	24.00	



		25	13	23.14	23.08	23.22	24.00
		25	25	23.17	23.12	23.23	24.00
		50	0	23.08	23.03	23.16	24.00
	64QAM	1	0	23.34	23.27	23.41	24.00
		1	25	23.28	23.22	23.31	24.00
		1	49	23.37	23.32	23.44	24.00
		25	0	22.10	22.04	22.15	23.00
		25	13	22.15	22.09	22.23	23.00
		25	25	22.13	22.08	22.22	23.00
	50	0	22.08	22.03	22.16	23.00	

LTE Band 12							
Full Power & Receiver off & Hotspot on-Ant6				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	24.23	24.32	24.22	25.00
		1	2	24.44	24.40	24.20	25.00
		1	5	24.42	24.23	24.47	25.00
		3	0	24.16	24.34	24.12	25.00
		3	2	24.27	24.24	24.25	25.00
		3	3	24.26	24.25	24.27	25.00
		6	0	23.30	23.28	23.27	24.00
	16QAM	1	0	23.62	23.46	23.55	24.00
		1	2	23.79	23.70	23.73	24.00
		1	5	23.72	23.57	23.64	24.00
		3	0	23.37	23.18	23.28	24.00
		3	2	23.46	23.27	23.36	24.00
		3	3	23.38	23.24	23.27	24.00
		6	0	22.36	22.20	22.29	23.00
	64QAM	1	0	22.84	22.66	22.73	23.00
		1	2	22.78	22.83	22.87	23.00
		1	5	22.59	22.48	22.50	23.00
		3	0	22.22	22.07	22.13	23.00
		3	2	22.43	22.23	22.32	23.00
		3	3	22.40	22.23	22.29	23.00
		6	0	21.46	21.31	21.40	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK			23025/700.5	23095/707.5	23165/714.5	
		1	0	24.24	24.35	24.24	25.00
		1	7	24.43	24.44	24.25	25.00
		1	14	24.44	24.27	24.50	25.00
		8	0	23.26	23.46	23.25	24.00



		8	4	23.40	23.35	23.36	24.00
		8	7	23.36	23.38	23.38	24.00
		15	0	23.34	23.33	23.32	24.00
	16QAM	1	0	23.66	23.47	23.57	24.00
		1	7	23.83	23.72	23.77	24.00
		1	14	23.74	23.61	23.66	24.00
		8	0	22.49	22.32	22.41	23.00
		8	4	22.56	22.39	22.47	23.00
		8	7	22.48	22.36	22.40	23.00
		15	0	22.40	22.25	22.31	23.00
	64QAM	1	0	22.86	22.67	22.75	23.00
		1	7	22.81	22.85	22.89	23.00
		1	14	22.61	22.47	22.52	23.00
		8	0	21.34	21.21	21.26	22.00
		8	4	21.53	21.35	21.43	22.00
8		7	21.50	21.35	21.42	22.00	
15		0	21.50	21.36	21.42	22.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	24.23	24.31	24.22	25.00
		1	13	24.41	24.43	24.22	25.00
		1	24	24.41	24.22	24.46	25.00
		12	0	23.24	23.42	23.22	24.00
		12	6	23.37	23.30	23.32	24.00
		12	13	23.33	23.35	23.34	24.00
		25	0	23.32	23.29	23.27	24.00
	16QAM	1	0	23.64	23.45	23.55	24.00
		1	13	23.81	23.69	23.75	24.00
		1	24	23.72	23.57	23.63	24.00
		12	0	22.46	22.30	22.38	23.00
		12	6	22.53	22.34	22.43	23.00
		12	13	22.46	22.32	22.37	23.00
		25	0	22.37	22.20	22.27	23.00
	64QAM	1	0	22.81	22.65	22.73	23.00
		1	13	22.79	22.82	22.87	23.00
		1	24	22.62	22.46	22.53	23.00
		12	0	21.33	21.23	21.27	22.00
		12	6	21.51	21.32	21.42	22.00
		12	13	21.48	21.31	21.39	22.00
		25	0	21.47	21.31	21.38	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	24.20	24.27	24.19	25.00



		1	25	24.40	24.39	24.20	25.00	
		1	49	24.39	24.21	24.43	25.00	
		25	0	23.21	23.37	23.18	24.00	
		25	13	23.35	23.26	23.29	24.00	
		25	25	23.30	23.30	23.30	24.00	
		50	0	23.29	23.24	23.23	24.00	
	16QAM	1	0	23.61	23.41	23.50	24.00	
		1	25	23.78	23.67	23.71	24.00	
		1	49	23.69	23.54	23.61	24.00	
		25	0	22.43	22.26	22.35	23.00	
		25	13	22.50	22.32	22.40	23.00	
		25	25	22.43	22.27	22.33	23.00	
	64QAM	50	0	22.35	22.16	22.24	23.00	
		1	0	22.79	22.61	22.68	23.00	
		1	25	22.75	22.80	22.83	23.00	
		1	49	22.56	22.40	22.47	23.00	
		25	0	21.28	21.15	21.20	22.00	
		25	13	21.47	21.28	21.36	22.00	
			25	25	21.45	21.26	21.35	22.00
			50	0	21.45	21.27	21.35	22.00

LTE Band 12								
Receiver on-Ant6				Maximum Output Power (dBm)			Tune-up	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)				
				23017/699.7	23095/707.5	23173/715.3		
1.4MHz	QPSK	1	0	21.94	22.05	21.52	23.00	
		1	2	22.03	21.61	21.66	23.00	
		1	5	21.74	21.74	21.45	23.00	
		3	0	21.95	21.87	21.95	23.00	
		3	2	21.85	22.04	21.85	23.00	
		3	3	21.91	21.77	21.91	23.00	
	16QAM	6	0	21.08	20.93	21.06	22.00	
		1	0	20.83	20.75	20.77	22.00	
		1	2	21.21	20.56	20.57	22.00	
		1	5	21.17	21.07	20.77	22.00	
		3	0	21.28	21.26	21.21	22.00	
		3	2	21.32	21.23	21.27	22.00	
		3	3	21.36	21.35	21.35	22.00	
	64QAM	6	0	20.37	20.25	20.33	21.00	
		1	0	20.57	20.41	20.49	21.00	
		1	2	20.43	20.23	20.40	21.00	
		1	5	20.58	20.37	20.35	21.00	
			3	0	20.34	20.34	20.41	21.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				23025/700.5	23095/707.5	23165/714.5		
		3	2	20.35	20.37	20.16	21.00	
		3	3	20.36	20.28	20.48	21.00	
		6	0	19.49	19.39	19.13	20.00	
3MHz	QPSK	1	0	21.96	22.09	21.55	23.00	
		1	7	22.01	21.64	21.70	23.00	
		1	14	21.77	21.79	21.49	23.00	
		8	0	21.05	20.99	21.08	22.00	
		8	4	20.97	21.14	20.97	22.00	
		8	7	21.01	20.88	21.01	22.00	
		15	0	21.08	20.97	21.09	22.00	
	16QAM	1	0	20.83	20.77	20.80	22.00	
		1	7	21.21	20.56	20.61	22.00	
		1	14	21.19	21.11	20.80	22.00	
		8	0	20.39	20.39	20.33	21.00	
		8	4	20.43	20.36	20.39	21.00	
		8	7	20.46	20.47	20.48	21.00	
		15	0	20.40	20.29	20.36	21.00	
	64QAM	1	0	20.60	20.43	20.52	21.00	
		1	7	20.46	20.23	20.42	21.00	
		1	14	20.60	20.36	20.38	21.00	
		8	0	19.45	19.47	19.53	20.00	
		8	4	19.46	19.50	19.28	20.00	
		8	7	19.46	19.40	19.61	20.00	
		15	0	19.52	19.43	19.16	20.00	
	5MHz		3	2	20.35	20.37	20.16	21.00
			3	3	20.36	20.28	20.48	21.00
	5MHz	QPSK	1	0	21.94	22.04	21.52	23.00
1			13	22.00	21.64	21.68	23.00	
1			24	21.73	21.73	21.44	23.00	
12			0	21.03	20.95	21.05	22.00	
12			6	20.95	21.10	20.92	22.00	
12			13	20.98	20.87	20.98	22.00	
25			0	21.10	20.94	21.06	22.00	
16QAM		1	0	20.85	20.74	20.77	22.00	
		1	13	21.23	20.55	20.59	22.00	
		1	24	21.17	21.07	20.76	22.00	
		12	0	20.37	20.38	20.31	21.00	
		12	6	20.39	20.30	20.34	21.00	
		12	13	20.44	20.43	20.45	21.00	
		25	0	20.38	20.25	20.31	21.00	
64QAM		1	0	20.54	20.40	20.49	21.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				23060/704	23095/707.5	23130/711		
		1	13	20.44	20.22	20.40	21.00	
		1	24	20.61	20.35	20.38	21.00	
		12	0	19.45	19.50	19.55	20.00	
		12	6	19.43	19.46	19.26	20.00	
		12	13	19.44	19.36	19.58	20.00	
		25	0	19.50	19.39	19.11	20.00	
10MHz	QPSK	1	0	21.91	22.10	21.49	23.00	
		1	25	21.99	21.60	21.66	23.00	
		1	49	21.71	21.72	21.41	23.00	
		25	0	21.00	20.90	21.01	22.00	
		25	13	20.93	21.06	20.89	22.00	
		25	25	20.95	20.82	20.94	22.00	
	16QAM	50	0	21.07	20.89	21.02	22.00	
		1	0	20.82	20.70	20.72	22.00	
		1	25	21.20	20.53	20.55	22.00	
		1	49	21.14	21.04	20.74	22.00	
		25	0	20.34	20.34	20.28	21.00	
		25	13	20.36	20.28	20.31	21.00	
	64QAM	25	25	20.41	20.38	20.41	21.00	
		50	0	20.36	20.21	20.28	21.00	
		1	0	20.52	20.36	20.44	21.00	
		1	25	20.40	20.20	20.36	21.00	
		1	49	20.55	20.29	20.32	21.00	
		25	0	19.40	19.42	19.48	20.00	
			25	13	19.39	19.42	19.20	20.00
			25	25	19.41	19.31	19.54	20.00
			50	0	19.48	19.35	19.08	20.00

LTE Band 28							
Full Power & Receiver on & Receiver off & Hotspot on-Ant1				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				27225/704.5	27360/718	27495/731.5	
3MHz	QPSK	1	0	24.04	24.09	24.15	25.00
		1	7	24.10	24.12	24.14	25.00
		1	14	24.19	24.18	24.02	25.00
		8	0	23.10	23.12	23.05	24.00
		8	4	23.11	23.23	23.07	24.00
		8	7	23.14	23.14	23.11	24.00
		15	0	23.10	23.12	23.05	24.00
	16QAM	1	0	23.33	23.26	23.28	24.00



		1	7	23.53	23.47	23.51	24.00
		1	14	23.62	23.49	23.53	24.00
		8	0	22.28	22.11	22.16	23.00
		8	4	22.38	22.21	22.28	23.00
		8	7	22.29	22.19	22.22	23.00
		15	0	22.23	22.13	22.17	23.00
	64QAM	1	0	22.44	22.26	22.35	23.00
		1	7	22.63	22.47	22.56	23.00
		1	14	22.65	22.49	22.53	23.00
		8	0	21.26	21.11	21.16	22.00
		8	4	21.39	21.21	21.28	22.00
		8	7	21.32	21.19	21.22	22.00
	15	0	21.23	21.13	21.17	22.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				27235/705.5	27360/718	27485/730.5	
5MHz	QPSK	1	0	24.01	24.07	24.11	25.00
		1	13	24.08	24.08	24.11	25.00
		1	24	24.16	24.13	23.98	25.00
		12	0	23.07	23.07	23.01	24.00
		12	6	23.09	23.19	23.02	24.00
		12	13	23.12	23.12	23.07	24.00
		25	0	23.10	23.11	23.03	24.00
	16QAM	1	0	23.33	23.22	23.25	24.00
		1	13	23.53	23.45	23.48	24.00
		1	24	23.59	23.47	23.49	24.00
		12	0	22.26	22.07	22.13	23.00
		12	6	22.35	22.16	22.24	23.00
		12	13	22.26	22.14	22.18	23.00
		25	0	22.21	22.09	22.12	23.00
	64QAM	1	0	22.41	22.26	22.32	23.00
		1	13	22.60	22.49	22.53	23.00
		1	24	22.66	22.47	22.49	23.00
		12	0	21.24	21.07	21.17	22.00
		12	6	21.36	21.16	21.24	22.00
		12	13	21.29	21.14	21.18	22.00
		25	0	21.21	21.09	21.12	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				27260/708	27360/718	27460/728	
10MHz	QPSK	1	0	24.03	24.08	24.14	25.00
		1	25	24.11	24.13	24.15	25.00
		1	49	24.18	24.17	24.01	25.00
		25	0	23.10	23.12	23.05	24.00
		25	13	23.12	23.24	23.06	24.00



		25	25	23.14	23.16	23.12	24.00
		50	0	23.14	23.13	23.07	24.00
	16QAM	1	0	23.37	23.25	23.27	24.00
		1	25	23.57	23.49	23.51	24.00
		1	49	23.62	23.49	23.52	24.00
		25	0	22.29	22.12	22.17	23.00
		25	13	22.37	22.20	22.27	23.00
		25	25	22.29	22.19	22.22	23.00
		50	0	22.24	22.14	22.16	23.00
	64QAM	1	0	22.43	22.25	22.34	23.00
		1	25	22.63	22.49	22.56	23.00
		1	49	22.65	22.49	22.52	23.00
		25	0	21.27	21.12	21.17	22.00
		25	13	21.38	21.20	21.27	22.00
25		25	21.32	21.19	21.22	22.00	
50		0	21.24	21.14	21.16	22.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				27285/710.5	27360/718	27435/725.5	
15MHz	QPSK	1	0	24.02	24.04	24.12	25.00
		1	38	24.09	24.12	24.12	25.00
		1	74	24.15	24.12	23.97	25.00
		36	0	23.08	23.08	23.02	24.00
		36	18	23.09	23.19	23.02	24.00
		36	39	23.11	23.13	23.08	24.00
		75	0	23.12	23.09	23.02	24.00
	16QAM	1	0	23.35	23.23	23.25	24.00
		1	38	23.55	23.46	23.49	24.00
		1	74	23.60	23.45	23.49	24.00
		36	0	22.26	22.10	22.14	23.00
		36	18	22.34	22.15	22.23	23.00
		36	39	22.27	22.15	22.19	23.00
		75	0	22.21	22.09	22.12	23.00
	64QAM	1	0	22.38	22.23	22.32	23.00
		1	38	22.61	22.46	22.54	23.00
		1	74	22.66	22.48	22.53	23.00
		36	0	21.26	21.14	21.18	22.00
		36	18	21.36	21.17	21.26	22.00
		36	39	21.30	21.15	21.19	22.00
		75	0	21.21	21.09	21.12	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				27310/713	27360/718	27410/723	
20MHz	QPSK	1	0	23.99	24.00	24.09	25.00
		1	50	24.08	24.08	24.10	25.00



		1	99	24.13	24.11	23.94	25.00
		50	0	23.05	23.03	22.98	24.00
		50	25	23.07	23.15	22.99	24.00
		50	50	23.08	23.08	23.04	24.00
		100	0	23.09	23.04	22.98	24.00
	16QAM	1	0	23.32	23.19	23.20	24.00
		1	50	23.52	23.44	23.45	24.00
		1	99	23.57	23.42	23.47	24.00
		50	0	22.23	22.06	22.11	23.00
		50	25	22.31	22.13	22.20	23.00
		50	50	22.24	22.10	22.15	23.00
		100	0	22.19	22.05	22.09	23.00
	64QAM	1	0	22.36	22.19	22.27	23.00
		1	50	22.57	22.44	22.50	23.00
		1	99	22.60	22.42	22.47	23.00
		50	0	21.21	21.06	21.11	22.00
		50	25	21.32	21.13	21.20	22.00
		50	50	21.27	21.10	21.15	22.00
		100	0	21.19	21.05	21.09	22.00

LTE Band 28							
Full Power & Receiver on & Receiver off & Hotspot on-Ant6				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				27225/704.5	27360/718	27495/731.5	
3MHz	QPSK	1	0	22.76	22.71	23.36	24.00
		1	7	23.07	23.21	23.08	24.00
		1	14	23.37	23.17	23.19	24.00
		8	0	21.90	21.89	21.78	23.00
		8	4	22.00	22.06	22.00	23.00
		8	7	22.15	22.15	21.97	23.00
		15	0	22.04	21.93	21.87	23.00
	16QAM	1	0	22.21	22.15	22.18	23.00
		1	7	22.06	22.01	22.04	23.00
		1	14	22.58	22.47	22.49	23.00
		8	0	20.98	20.88	20.90	22.00
		8	4	21.19	21.07	21.09	22.00
		8	7	21.25	21.15	21.17	22.00
		15	0	21.02	20.92	20.93	22.00
	64QAM	1	0	21.24	21.09	21.11	22.00
		1	7	21.27	21.14	21.18	22.00
		1	14	21.32	21.24	21.25	22.00
		8	0	19.95	19.85	19.88	21.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				27235/705.5	27360/718	27485/730.5		
		8	4	20.27	20.12	20.16	21.00	
		8	7	20.26	20.18	20.18	21.00	
		15	0	20.01	19.92	19.94	21.00	
5MHz	QPSK	1	0	22.73	22.69	23.32	24.00	
		1	13	23.05	23.17	23.05	24.00	
		1	24	23.34	23.12	23.15	24.00	
		12	0	21.87	21.84	21.74	23.00	
		12	6	21.98	22.02	21.95	23.00	
		12	13	22.13	22.13	21.93	23.00	
		25	0	22.04	21.92	21.85	23.00	
	16QAM	1	0	22.21	22.11	22.15	23.00	
		1	13	22.06	21.99	22.01	23.00	
		1	24	22.55	22.45	22.45	23.00	
		12	0	20.96	20.84	20.87	22.00	
		12	6	21.16	21.02	21.05	22.00	
		12	13	21.22	21.10	21.13	22.00	
		25	0	21.00	20.88	20.88	22.00	
	64QAM	1	0	21.21	21.09	21.08	22.00	
		1	13	21.24	21.16	21.15	22.00	
		1	24	21.33	21.22	21.21	22.00	
		12	0	19.93	19.81	19.89	21.00	
		12	6	20.24	20.07	20.12	21.00	
		12	13	20.23	20.13	20.14	21.00	
		25	0	19.99	19.88	19.89	21.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					27260/708	27360/718	27460/728	
	10MHz	QPSK	1	0	22.75	22.70	23.35	24.00
1			25	23.08	23.22	23.09	24.00	
1			49	23.36	23.16	23.18	24.00	
25			0	21.90	21.89	21.78	23.00	
25			13	22.01	22.07	21.99	23.00	
25			25	22.15	22.17	21.98	23.00	
50			0	22.08	21.94	21.89	23.00	
16QAM		1	0	22.25	22.14	22.17	23.00	
		1	25	22.10	22.03	22.04	23.00	
		1	49	22.58	22.47	22.48	23.00	
		25	0	20.99	20.89	20.91	22.00	
		25	13	21.18	21.06	21.08	22.00	
		25	25	21.25	21.15	21.17	22.00	
		50	0	21.03	20.93	20.92	22.00	
64QAM		1	0	21.23	21.08	21.10	22.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				27285/710.5	27360/718	27435/725.5		
		1	25	21.27	21.16	21.18	22.00	
		1	49	21.32	21.24	21.24	22.00	
		25	0	19.96	19.86	19.89	21.00	
		25	13	20.26	20.11	20.15	21.00	
		25	25	20.26	20.18	20.18	21.00	
		50	0	20.02	19.93	19.93	21.00	
15MHz	QPSK	1	0	22.74	22.66	23.33	24.00	
		1	38	23.06	23.21	23.06	24.00	
		1	74	23.33	23.11	23.14	24.00	
		36	0	21.88	21.85	21.75	23.00	
		36	18	21.98	22.02	21.95	23.00	
		36	39	22.12	22.14	21.94	23.00	
		75	0	22.06	21.90	21.84	23.00	
	16QAM	1	0	22.23	22.12	22.15	23.00	
		1	38	22.08	22.00	22.02	23.00	
		1	74	22.56	22.43	22.45	23.00	
		36	0	20.96	20.87	20.88	22.00	
		36	18	21.15	21.01	21.04	22.00	
		36	39	21.23	21.11	21.14	22.00	
		75	0	21.00	20.88	20.88	22.00	
	64QAM	1	0	21.18	21.06	21.08	22.00	
		1	38	21.25	21.13	21.16	22.00	
		1	74	21.33	21.23	21.25	22.00	
		36	0	19.95	19.88	19.90	21.00	
		36	18	20.24	20.08	20.14	21.00	
		36	39	20.24	20.14	20.15	21.00	
		75	0	19.99	19.88	19.89	21.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					27310/713	27360/718	27410/723	
	20MHz	QPSK	1	0	22.71	22.62	23.30	24.00
1			50	23.05	23.31	23.04	24.00	
1			99	23.31	23.10	23.11	24.00	
50			0	21.85	21.80	21.71	23.00	
50			25	21.96	21.98	21.92	23.00	
50			50	22.09	22.09	21.90	23.00	
100			0	22.03	21.85	21.80	23.00	
16QAM		1	0	22.20	22.08	22.10	23.00	
		1	50	22.05	21.98	21.98	23.00	
		1	99	22.53	22.40	22.43	23.00	
		50	0	20.93	20.83	20.85	22.00	
		50	25	21.12	20.99	21.01	22.00	



		50	50	21.20	21.06	21.10	22.00
		100	0	20.98	20.84	20.85	22.00
	64QAM	1	0	21.16	21.02	21.03	22.00
		1	50	21.21	21.11	21.12	22.00
		1	99	21.27	21.17	21.19	22.00
		50	0	19.90	19.80	19.83	21.00
		50	25	20.20	20.04	20.08	21.00
		50	50	20.21	20.09	20.11	21.00
		100	0	19.97	19.84	19.86	21.00

LTE Band 28							
Full Power & Receiver on & Receiver off & Hotspot on-Ant1				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				27225/704.5	27375/719.5	27645/746.5	
3MHz	QPSK	1	0	24.04	24.22	24.21	25.00
		1	7	24.10	24.12	24.23	25.00
		1	14	24.19	24.26	24.26	25.00
		8	0	23.10	23.09	23.20	24.00
		8	4	23.11	23.19	23.22	24.00
		8	7	23.14	23.12	23.27	24.00
		15	0	23.10	23.18	23.20	24.00
	16QAM	1	0	23.36	23.36	23.47	24.00
		1	7	23.43	23.41	23.50	24.00
		1	14	23.48	23.42	23.52	24.00
		8	0	22.20	22.13	22.24	23.00
		8	4	22.27	22.20	22.30	23.00
		8	7	22.22	22.19	22.29	23.00
		15	0	22.19	22.16	22.27	23.00
	64QAM	1	0	22.39	22.30	22.43	23.00
		1	7	22.41	22.32	22.43	23.00
		1	14	22.26	22.22	22.33	23.00
		8	0	21.05	21.00	21.13	22.00
		8	4	21.27	21.20	21.32	22.00
		8	7	21.11	21.08	21.18	22.00
		15	0	21.12	21.08	21.20	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				27235/705.5	27385/720.5	27635/745.5	
5MHz	QPSK	1	0	24.01	24.20	24.17	25.00
		1	13	24.08	24.08	24.20	25.00
		1	24	24.16	24.21	24.22	25.00
		12	0	23.07	23.04	23.16	24.00
		12	6	23.09	23.15	23.17	24.00



		12	13	23.12	23.10	23.23	24.00
		25	0	23.10	23.17	23.18	24.00
	16QAM	1	0	23.36	23.32	23.44	24.00
		1	13	23.43	23.39	23.47	24.00
		1	24	23.45	23.40	23.48	24.00
		12	0	22.18	22.09	22.21	23.00
		12	6	22.24	22.15	22.26	23.00
		12	13	22.19	22.14	22.25	23.00
		25	0	22.17	22.12	22.22	23.00
	64QAM	1	0	22.36	22.30	22.40	23.00
		1	13	22.38	22.34	22.40	23.00
		1	24	22.27	22.20	22.29	23.00
		12	0	21.03	20.96	21.14	22.00
		12	6	21.24	21.15	21.28	22.00
12		13	21.08	21.03	21.14	22.00	
25		0	21.10	21.04	21.15	22.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				27260/708	27410/723	27610/743	
10MHz	QPSK	1	0	24.03	24.21	24.20	25.00
		1	25	24.11	24.13	24.24	25.00
		1	49	24.18	24.25	24.25	25.00
		25	0	23.10	23.09	23.20	24.00
		25	13	23.12	23.20	23.21	24.00
		25	25	23.14	23.14	23.28	24.00
		50	0	23.14	23.19	23.22	24.00
	16QAM	1	0	23.40	23.35	23.46	24.00
		1	25	23.47	23.43	23.50	24.00
		1	49	23.48	23.42	23.51	24.00
		25	0	22.21	22.14	22.25	23.00
		25	13	22.26	22.19	22.29	23.00
		25	25	22.22	22.19	22.29	23.00
		50	0	22.20	22.17	22.26	23.00
	64QAM	1	0	22.38	22.29	22.42	23.00
		1	25	22.41	22.34	22.43	23.00
		1	49	22.26	22.22	22.32	23.00
		25	0	21.06	21.01	21.14	22.00
		25	13	21.26	21.19	21.31	22.00
		25	25	21.11	21.08	21.18	22.00
		50	0	21.13	21.09	21.19	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				27285/710.5	27435/725.5	27585/740.5	
15MHz	QPSK	1	0	24.02	24.17	24.18	25.00
		1	38	24.09	24.12	24.21	25.00



		1	74	24.15	24.20	24.21	25.00	
		36	0	23.08	23.05	23.17	24.00	
		36	18	23.09	23.15	23.17	24.00	
		36	39	23.11	23.11	23.24	24.00	
		75	0	23.12	23.15	23.17	24.00	
		16QAM	1	0	23.38	23.33	23.44	24.00
		1	38	23.45	23.40	23.48	24.00	
	1	74	23.46	23.38	23.48	24.00		
	36	0	22.18	22.12	22.22	23.00		
	36	18	22.23	22.14	22.25	23.00		
	36	39	22.20	22.15	22.26	23.00		
	75	0	22.17	22.12	22.22	23.00		
	64QAM	1	0	22.33	22.27	22.40	23.00	
	1	38	22.39	22.31	22.41	23.00		
	1	74	22.27	22.21	22.33	23.00		
	36	0	21.05	21.03	21.15	22.00		
	36	18	21.24	21.16	21.30	22.00		
	36	39	21.09	21.04	21.15	22.00		
	75	0	21.10	21.04	21.15	22.00		
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					27310/713	27460/728	27560/738	
20MHz	QPSK	1	0	23.99	24.13	24.15	25.00	
		1	50	24.08	24.08	24.19	25.00	
		1	99	24.13	24.19	24.18	25.00	
		50	0	23.05	23.00	23.13	24.00	
		50	25	23.07	23.11	23.14	24.00	
		50	50	23.08	23.06	23.20	24.00	
		100	0	23.09	23.10	23.13	24.00	
	16QAM	1	0	23.35	23.29	23.39	24.00	
		1	50	23.42	23.38	23.44	24.00	
		1	99	23.43	23.35	23.46	24.00	
		50	0	22.15	22.08	22.19	23.00	
		50	25	22.20	22.12	22.22	23.00	
		50	50	22.17	22.10	22.22	23.00	
		100	0	22.15	22.08	22.19	23.00	
	64QAM	1	0	22.31	22.23	22.35	23.00	
		1	50	22.35	22.29	22.37	23.00	
		1	99	22.21	22.15	22.27	23.00	
		50	0	21.00	20.95	21.08	22.00	
		50	25	21.20	21.12	21.24	22.00	
		50	50	21.06	20.99	21.11	22.00	
		100	0	21.08	21.00	21.12	22.00	



LTE Band 28							
Full Power & Receiver on & Receiver off & Hotspot on-Ant6				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				27225/704.5	27375/719.5	27645/746.5	
3MHz	QPSK	1	0	22.76	22.59	22.65	23.70
		1	7	23.07	22.93	22.88	23.70
		1	14	23.37	22.90	23.19	23.70
		8	0	21.90	21.86	21.76	22.70
		8	4	22.00	21.97	21.97	22.70
		8	7	22.15	22.02	21.98	22.70
		15	0	22.04	22.03	21.81	22.70
	16QAM	1	0	21.93	21.84	21.92	22.70
		1	7	22.11	22.07	22.10	22.70
		1	14	22.17	22.11	22.12	22.70
		8	0	21.03	20.94	20.98	21.70
		8	4	21.18	21.07	21.11	21.70
		8	7	21.03	20.96	20.98	21.70
		15	0	21.10	20.99	21.06	21.70
	64QAM	1	0	21.18	21.06	21.10	22.70
		1	7	21.15	21.05	21.09	22.70
		1	14	21.15	21.06	21.10	22.70
		8	0	19.94	19.88	19.89	21.70
		8	4	20.18	20.08	20.11	21.70
		8	7	20.07	20.00	20.02	21.70
		15	0	20.03	19.95	19.99	21.70
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				27235/705.5	27385/720.5	27635/745.5	
5MHz	QPSK	1	0	22.73	22.57	22.61	23.70
		1	13	23.05	22.89	22.85	23.70
		1	24	23.34	22.85	23.15	23.70
		12	0	21.87	21.81	21.72	22.70
		12	6	21.98	21.93	21.92	22.70
		12	13	22.13	22.00	21.94	22.70
		25	0	22.04	22.02	21.79	22.70
	16QAM	1	0	21.93	21.80	21.89	22.70
		1	13	22.11	22.05	22.07	22.70
		1	24	22.14	22.09	22.08	22.70
		12	0	21.01	20.90	20.95	21.70
		12	6	21.15	21.02	21.07	21.70
		12	13	21.00	20.91	20.94	21.70
		25	0	21.08	20.95	21.01	21.70
	64QAM	1	0	21.15	21.06	21.07	22.70



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				27260/708	27410/723	27610/743		
		1	13	21.12	21.07	21.06	22.70	
		1	24	21.16	21.04	21.06	22.70	
		12	0	19.92	19.84	19.90	21.70	
		12	6	20.15	20.03	20.07	21.70	
		12	13	20.04	19.95	19.98	21.70	
		25	0	20.01	19.91	19.94	21.70	
10MHz	QPSK	1	0	22.75	22.58	22.64	23.70	
		1	25	23.08	22.94	22.89	23.70	
		1	49	23.36	22.89	23.18	23.70	
		25	0	21.90	21.86	21.76	22.70	
		25	13	22.01	21.98	21.96	22.70	
		25	25	22.15	22.04	21.99	22.70	
		50	0	22.08	22.04	21.83	22.70	
	16QAM	1	0	21.97	21.83	21.91	22.70	
		1	25	22.15	22.09	22.10	22.70	
		1	49	22.17	22.11	22.11	22.70	
		25	0	21.04	20.95	20.99	21.70	
		25	13	21.17	21.06	21.10	21.70	
		25	25	21.03	20.96	20.98	21.70	
		50	0	21.11	21.00	21.05	21.70	
	64QAM	1	0	21.17	21.05	21.09	22.70	
		1	25	21.15	21.07	21.09	22.70	
		1	49	21.15	21.06	21.09	22.70	
		25	0	19.95	19.89	19.90	21.70	
		25	13	20.17	20.07	20.10	21.70	
		25	25	20.07	20.00	20.02	21.70	
		50	0	20.04	19.96	19.98	21.70	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					27285/710.5	27435/725.5	27585/740.5	
	15MHz	QPSK	1	0	22.74	22.54	22.62	23.70
1			38	23.06	22.93	22.86	23.70	
1			74	23.33	22.84	23.14	23.70	
36			0	21.88	21.82	21.73	22.70	
36			18	21.98	21.93	21.92	22.70	
36			39	22.12	22.01	21.95	22.70	
75			0	22.06	22.00	21.78	22.70	
16QAM		1	0	21.95	21.81	21.89	22.70	
		1	38	22.13	22.06	22.08	22.70	
		1	74	22.15	22.07	22.08	22.70	
		36	0	21.01	20.93	20.96	21.70	
		36	18	21.14	21.01	21.06	21.70	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				27310/713	27460/728	27560/738	
	64QAM	36	39	21.01	20.92	20.95	21.70
		75	0	21.08	20.95	21.01	21.70
		1	0	21.12	21.03	21.07	22.70
		1	38	21.13	21.04	21.07	22.70
		1	74	21.16	21.05	21.10	22.70
		36	0	19.94	19.91	19.91	21.70
		36	18	20.15	20.04	20.09	21.70
		36	39	20.05	19.96	19.99	21.70
		75	0	20.01	19.91	19.94	21.70
		20MHz	QPSK	1	0	22.75	22.47
1	50			23.02	23.35	22.81	24.00
1	99			23.26	22.80	23.15	24.00
50	0			21.89	21.81	21.66	23.00
50	25			21.93	21.86	21.86	23.00
50	50			22.01	22.17	21.88	23.00
100	0			22.00	21.92	21.78	23.00
16QAM	1		0	21.89	21.81	21.81	23.00
	1		50	22.14	22.01	22.08	23.00
	1		99	22.16	22.08	22.03	23.00
	50		0	20.95	20.93	20.97	22.00
	50		25	21.15	20.96	21.00	22.00
	50		50	20.95	20.91	20.88	22.00
	100		0	21.10	20.88	21.02	22.00
64QAM	1		0	21.07	20.96	20.99	22.00
	1		50	21.06	20.99	21.07	22.00
	1		99	21.14	20.96	21.01	22.00
	50		0	19.86	19.87	19.81	21.00
	50		25	20.15	19.97	20.07	21.00
	50		50	19.99	19.95	19.99	21.00
	100		0	20.03	19.84	19.88	21.00

LTE Band 38							
Full Power & Receiver on & Receiver off & Sensor on & Sensor off-Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	24.10	24.28	24.23	25.00
		1	13	24.03	24.21	24.33	25.00
		1	24	24.47	24.21	24.39	25.00
		12	0	23.05	23.01	23.01	24.00
		12	6	23.19	23.11	23.14	24.00



		12	13	23.16	23.10	23.09	24.00
		25	0	23.13	23.11	23.11	24.00
	16QAM	1	0	23.23	23.37	23.33	24.00
		1	13	23.40	23.30	23.35	24.00
		1	24	23.49	23.39	23.32	24.00
		12	0	22.12	21.98	21.99	23.00
		12	6	22.25	22.13	22.14	23.00
		12	13	22.16	22.07	22.14	23.00
		25	0	22.12	22.07	22.05	23.00
	64QAM	1	0	22.28	22.18	22.30	23.00
		1	13	22.46	22.34	22.29	23.00
		1	24	22.37	22.25	22.35	23.00
		12	0	21.07	20.99	21.08	22.00
		12	6	21.22	21.08	21.16	22.00
12		13	21.16	21.06	21.13	22.00	
25		0	21.11	21.06	21.08	22.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	24.12	24.29	24.26	25.00
		1	25	24.06	24.26	24.37	25.00
		1	49	24.49	24.25	24.42	25.00
		25	0	23.08	23.06	23.05	24.00
		25	13	23.22	23.16	23.18	24.00
		25	25	23.18	23.14	23.14	24.00
		50	0	23.17	23.13	23.15	24.00
	16QAM	1	0	23.27	23.40	23.35	24.00
		1	25	23.44	23.34	23.38	24.00
		1	49	23.52	23.41	23.35	24.00
		25	0	22.15	22.03	22.03	23.00
		25	13	22.27	22.17	22.17	23.00
		25	25	22.19	22.12	22.18	23.00
		50	0	22.15	22.12	22.09	23.00
	64QAM	1	0	22.30	22.17	22.32	23.00
		1	25	22.49	22.34	22.32	23.00
		1	49	22.36	22.27	22.38	23.00
		25	0	21.10	21.04	21.08	22.00
		25	13	21.24	21.12	21.19	22.00
		25	25	21.19	21.11	21.17	22.00
		50	0	21.14	21.11	21.12	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	24.11	24.25	24.24	25.00
		1	38	24.04	24.25	24.34	25.00



		1	74	24.46	24.20	24.38	25.00	
		36	0	23.06	23.02	23.02	24.00	
		36	18	23.19	23.11	23.14	24.00	
		36	39	23.15	23.11	23.10	24.00	
		75	0	23.15	23.09	23.10	24.00	
		16QAM	1	0	23.25	23.38	23.33	24.00
			1	38	23.42	23.31	23.36	24.00
	1		74	23.50	23.37	23.32	24.00	
	36		0	22.12	22.01	22.00	23.00	
	36		18	22.24	22.12	22.13	23.00	
	36		39	22.17	22.08	22.15	23.00	
	75		0	22.12	22.07	22.05	23.00	
	64QAM	1	0	22.25	22.15	22.30	23.00	
		1	38	22.47	22.31	22.30	23.00	
		1	74	22.37	22.26	22.39	23.00	
		36	0	21.09	21.06	21.09	22.00	
		36	18	21.22	21.09	21.18	22.00	
		36	39	21.17	21.07	21.14	22.00	
		75	0	21.11	21.06	21.08	22.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	24.08	24.21	24.21	25.00	
		1	50	24.03	24.21	24.32	25.00	
		1	99	24.44	24.23	24.35	25.00	
		50	0	23.03	22.97	22.98	24.00	
		50	25	23.05	23.07	23.11	24.00	
		50	50	23.06	23.06	23.06	24.00	
		100	0	23.12	23.04	23.06	24.00	
	16QAM	1	0	23.22	23.34	23.28	24.00	
		1	50	23.39	23.29	23.32	24.00	
		1	99	23.47	23.34	23.30	24.00	
		50	0	22.09	21.97	21.97	23.00	
		50	25	22.21	22.10	22.10	23.00	
		50	50	22.14	22.03	22.11	23.00	
		100	0	22.10	22.03	22.02	23.00	
	64QAM	1	0	22.23	22.11	22.25	23.00	
		1	50	22.43	22.29	22.26	23.00	
		1	99	22.31	22.20	22.33	23.00	
		50	0	21.04	20.98	21.02	22.00	
		50	25	21.18	21.05	21.12	22.00	
		50	50	21.14	21.02	21.10	22.00	
		100	0	21.09	21.02	21.05	22.00	



LTE Band 38							
Hotspot on-Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	23.26	23.27	23.25	24.00
		1	13	23.18	23.27	23.31	24.00
		1	24	23.21	23.26	23.40	24.00
		12	0	22.26	22.25	22.31	23.00
		12	6	22.27	22.29	22.30	23.00
		12	13	22.30	22.31	22.38	23.00
		25	0	22.28	22.37	22.33	23.00
	16QAM	1	0	22.68	22.69	22.60	23.00
		1	13	22.71	22.79	22.58	23.00
		1	24	22.70	22.93	22.70	23.00
		12	0	21.26	21.21	21.32	22.00
		12	6	21.34	21.37	21.35	22.00
		12	13	21.36	21.40	21.43	22.00
		25	0	21.29	21.38	21.35	22.00
	64QAM	1	0	21.40	21.65	21.52	22.00
		1	13	21.60	21.59	21.54	22.00
		1	24	21.48	21.77	21.52	22.00
		12	0	20.28	20.23	20.33	21.00
		12	6	20.39	20.37	20.25	21.00
		12	13	20.35	20.36	20.40	21.00
		25	0	20.32	20.33	20.31	21.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	23.28	23.28	23.28	24.00
		1	25	23.21	23.32	23.35	24.00
		1	49	23.23	23.30	23.43	24.00
		25	0	22.29	22.30	22.35	23.00
		25	13	22.30	22.34	22.34	23.00
		25	25	22.32	22.35	22.43	23.00
		50	0	22.32	22.39	22.37	23.00
	16QAM	1	0	22.72	22.72	22.62	23.00
		1	25	22.75	22.83	22.61	23.00
		1	49	22.73	22.95	22.73	23.00
		25	0	21.29	21.26	21.36	22.00
		25	13	21.36	21.41	21.38	22.00
		25	25	21.39	21.45	21.47	22.00
		50	0	21.32	21.43	21.39	22.00
	64QAM	1	0	21.42	21.64	21.54	22.00
1		25	21.63	21.59	21.57	22.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				37825/2577.5	38000/2595	38175/2612.5		
		1	49	21.47	21.79	21.55	22.00	
		25	0	20.31	20.28	20.33	21.00	
		25	13	20.41	20.41	20.28	21.00	
		25	25	20.38	20.41	20.44	21.00	
		50	0	20.35	20.38	20.35	21.00	
15MHz	QPSK	1	0	23.27	23.24	23.26	24.00	
		1	38	23.19	23.31	23.32	24.00	
		1	74	23.20	23.25	23.39	24.00	
		36	0	22.27	22.26	22.32	23.00	
		36	18	22.27	22.29	22.30	23.00	
		36	39	22.29	22.32	22.39	23.00	
		75	0	22.30	22.35	22.32	23.00	
	16QAM	1	0	22.70	22.70	22.60	23.00	
		1	38	22.73	22.80	22.59	23.00	
		1	74	22.71	22.91	22.70	23.00	
		36	0	21.26	21.24	21.33	22.00	
		36	18	21.33	21.36	21.34	22.00	
		36	39	21.37	21.41	21.44	22.00	
		75	0	21.29	21.38	21.35	22.00	
	64QAM	1	0	21.37	21.62	21.52	22.00	
		1	38	21.61	21.56	21.55	22.00	
		1	74	21.48	21.78	21.56	22.00	
		36	0	20.30	20.30	20.34	21.00	
		36	18	20.39	20.38	20.27	21.00	
		36	39	20.36	20.37	20.41	21.00	
		75	0	20.32	20.33	20.31	21.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					37850/2580	38000/2595	38150/2610	
	20MHz	QPSK	1	0	23.24	23.20	23.23	24.00
			1	50	23.18	23.27	23.30	24.00
			1	99	23.18	23.24	23.36	24.00
			50	0	22.24	22.21	22.28	23.00
			50	25	22.25	22.25	22.27	23.00
50			50	22.26	22.27	22.35	23.00	
100			0	22.27	22.30	22.28	23.00	
16QAM		1	0	22.67	22.66	22.55	23.00	
		1	50	22.70	22.78	22.55	23.00	
		1	99	22.68	22.88	22.68	23.00	
		50	0	21.23	21.20	21.30	22.00	
		50	25	21.30	21.34	21.31	22.00	
		50	50	21.34	21.36	21.40	22.00	



		100	0	21.27	21.34	21.32	22.00
	64QAM	1	0	21.35	21.58	21.47	22.00
		1	50	21.57	21.54	21.51	22.00
		1	99	21.42	21.72	21.50	22.00
		50	0	20.25	20.22	20.27	21.00
		50	25	20.35	20.34	20.21	21.00
		50	50	20.33	20.32	20.37	21.00
		100	0	20.30	20.29	20.28	21.00

LTE Band 38							
Full Power & Receiver off & Hotspot on-Ant4				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	21.91	21.99	21.86	22.50
		1	13	21.96	21.76	21.79	22.50
		1	24	21.91	22.03	22.03	22.50
		12	0	20.74	20.71	20.74	21.50
		12	6	20.86	20.84	20.85	21.50
		12	13	20.84	20.79	20.79	21.50
		25	0	20.80	20.80	20.82	21.50
	16QAM	1	0	21.14	20.99	21.08	21.50
		1	13	21.39	21.30	21.35	21.50
		1	24	21.29	21.16	21.20	21.50
		12	0	19.84	19.70	19.76	20.50
		12	6	20.03	19.84	19.93	20.50
		12	13	20.00	19.82	19.90	20.50
		25	0	19.94	19.79	19.86	20.50
	64QAM	1	0	20.19	20.05	20.10	20.50
		1	13	20.38	20.30	20.31	20.50
		1	24	20.28	20.12	20.16	20.50
		12	0	18.84	18.69	18.79	19.50
		12	6	19.01	18.80	18.89	19.50
		12	13	18.92	18.79	18.87	19.50
		25	0	18.95	18.79	18.86	19.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
10MHz	QPSK	1	0	21.93	22.00	21.89	22.50
		1	25	21.99	21.81	21.83	22.50
		1	49	21.93	22.07	22.06	22.50
		25	0	20.77	20.76	20.78	21.50
		25	13	20.89	20.89	20.89	21.50
		25	25	20.86	20.83	20.84	21.50



	16QAM	50	0	20.84	20.82	20.86	21.50
		1	0	21.18	21.02	21.10	21.50
		1	25	21.43	21.34	21.38	21.50
		1	49	21.32	21.18	21.23	21.50
		25	0	19.87	19.75	19.80	20.50
		25	13	20.05	19.88	19.96	20.50
		25	25	20.03	19.87	19.94	20.50
		50	0	19.97	19.84	19.90	20.50
	64QAM	1	0	20.21	20.04	20.12	20.50
		1	25	20.41	20.30	20.34	20.50
		1	49	20.27	20.14	20.19	20.50
		25	0	18.87	18.74	18.79	19.50
		25	13	19.03	18.84	18.92	19.50
		25	25	18.95	18.84	18.91	19.50
50	0	18.98	18.84	18.90	19.50		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	21.92	21.96	21.87	22.50
		1	38	21.97	21.80	21.80	22.50
		1	74	21.90	22.02	22.02	22.50
		36	0	20.75	20.72	20.75	21.50
		36	18	20.86	20.84	20.85	21.50
		36	39	20.83	20.80	20.80	21.50
		75	0	20.82	20.78	20.81	21.50
	16QAM	1	0	21.16	21.00	21.08	21.50
		1	38	21.41	21.31	21.36	21.50
		1	74	21.30	21.14	21.20	21.50
		36	0	19.84	19.73	19.77	20.50
		36	18	20.02	19.83	19.92	20.50
		36	39	20.01	19.83	19.91	20.50
		75	0	19.94	19.79	19.86	20.50
	64QAM	1	0	20.16	20.02	20.10	20.50
		1	38	20.39	20.27	20.32	20.50
		1	74	20.28	20.13	20.20	20.50
		36	0	18.86	18.76	18.80	19.50
		36	18	19.01	18.81	18.91	19.50
		36	39	18.93	18.80	18.88	19.50
		75	0	18.95	18.79	18.86	19.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	21.89	21.92	21.84	22.50
		1	50	21.96	21.76	21.78	22.50
		1	99	22.02	22.01	21.99	22.50



		50	0	20.72	20.67	20.71	21.50
		50	25	20.84	20.80	20.82	21.50
		50	50	20.80	20.75	20.76	21.50
		100	0	20.79	20.73	20.77	21.50
	16QAM	1	0	21.13	20.96	21.03	21.50
		1	50	21.38	21.29	21.32	21.50
		1	99	21.27	21.11	21.18	21.50
		50	0	19.81	19.69	19.74	20.50
		50	25	19.99	19.81	19.89	20.50
		50	50	19.98	19.78	19.87	20.50
		100	0	19.92	19.75	19.83	20.50
	64QAM	1	0	20.14	19.98	20.05	20.50
		1	50	20.35	20.25	20.28	20.50
		1	99	20.22	20.07	20.14	20.50
		50	0	18.81	18.68	18.73	19.50
		50	25	18.97	18.77	18.85	19.50
		50	50	18.90	18.75	18.84	19.50
		100	0	18.93	18.75	18.83	19.50

LTE Band 38							
Receiver on-Ant4				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	17.79	18.26	17.94	19.50
		1	13	17.99	18.27	17.94	19.50
		1	24	17.99	18.08	18.02	19.50
		12	0	16.78	17.01	16.80	18.50
		12	6	16.99	17.03	16.77	18.50
		12	13	16.92	17.18	16.93	18.50
		25	0	16.92	16.99	16.96	18.50
	16QAM	1	0	17.18	17.14	17.26	18.50
		1	13	17.20	17.16	17.26	18.50
		1	24	17.29	17.24	17.30	18.50
		12	0	16.32	16.23	16.36	17.50
		12	6	16.36	16.27	16.40	17.50
		12	13	16.37	16.32	16.43	17.50
		25	0	16.34	16.29	16.40	17.50
	64QAM	1	0	16.49	16.43	16.53	17.50
		1	13	17.07	17.03	17.09	17.50
		1	24	16.92	16.85	16.91	17.50
		12	0	16.15	16.08	16.22	16.50
		12	6	16.24	16.15	16.26	16.50
		12	13	16.17	16.12	16.23	16.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up			
				25	0	16.23		16.17	16.28	16.50
				37800/2575	38000/2595	38200/2615				
10MHz	QPSK	1	0	17.81	18.27	17.97	19.50			
		1	25	18.02	18.32	17.98	19.50			
		1	49	18.01	18.12	18.05	19.50			
		25	0	16.81	17.06	16.84	18.50			
		25	13	17.02	17.08	16.81	18.50			
		25	25	16.94	17.22	16.98	18.50			
		50	0	16.96	17.01	17.00	18.50			
	16QAM	1	0	17.22	17.17	17.28	18.50			
		1	25	17.24	17.20	17.29	18.50			
		1	49	17.32	17.26	17.33	18.50			
		25	0	16.35	16.28	16.40	17.50			
		25	13	16.38	16.31	16.43	17.50			
		25	25	16.40	16.37	16.47	17.50			
		50	0	16.37	16.34	16.44	17.50			
	64QAM	1	0	16.51	16.42	16.55	17.50			
		1	25	17.10	17.03	17.12	17.50			
		1	49	16.91	16.87	16.94	17.50			
		25	0	16.18	16.13	16.22	16.50			
		25	13	16.26	16.19	16.29	16.50			
		25	25	16.20	16.17	16.27	16.50			
		50	0	16.26	16.22	16.32	16.50			
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up			
				37825/2577.5	38000/2595	38175/2612.5				
				17.80	18.23	17.95		19.50		
15MHz	QPSK	1	0	18.00	18.31	17.95	19.50			
		1	38	17.98	18.07	18.01	19.50			
		1	74	16.79	17.02	16.81	18.50			
		36	0	16.99	17.03	16.77	18.50			
		36	18	16.91	17.19	16.94	18.50			
		36	39	16.94	16.97	16.95	18.50			
		75	0	17.20	17.15	17.26	18.50			
	16QAM	1	0	17.22	17.17	17.27	18.50			
		1	38	17.30	17.22	17.30	18.50			
		1	74	16.32	16.26	16.37	17.50			
		36	0	16.35	16.26	16.39	17.50			
		36	18	16.38	16.33	16.44	17.50			
		36	39	16.34	16.29	16.40	17.50			
		75	0	16.46	16.40	16.53	17.50			
	64QAM	1	0	17.08	17.00	17.10	17.50			
		1	38	16.92	16.86	16.95	17.50			
		1	74							



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37850/2580	38000/2595	38150/2610	
		36	0	16.17	16.15	16.23	16.50
		36	18	16.24	16.16	16.28	16.50
		36	39	16.18	16.13	16.24	16.50
		75	0	16.23	16.17	16.28	16.50
20MHz	QPSK	1	0	17.77	18.19	17.92	19.50
		1	50	17.99	18.27	17.93	19.50
		1	99	17.96	18.06	17.98	19.50
		50	0	16.76	16.97	16.77	18.50
		50	25	16.97	16.99	16.74	18.50
		50	50	16.88	17.14	16.90	18.50
		100	0	16.91	16.92	16.91	18.50
	16QAM	1	0	17.17	17.11	17.21	18.50
		1	50	17.19	17.15	17.23	18.50
		1	99	17.27	17.19	17.28	18.50
		50	0	16.29	16.22	16.34	17.50
		50	25	16.32	16.24	16.36	17.50
		50	50	16.35	16.28	16.40	17.50
		100	0	16.32	16.25	16.37	17.50
	64QAM	1	0	16.44	16.36	16.48	17.50
		1	50	17.04	16.98	17.06	17.50
		1	99	16.86	16.80	16.89	17.50
		50	0	16.12	16.07	16.16	16.50
		50	25	16.20	16.12	16.22	16.50
		50	50	16.15	16.08	16.20	16.50
		100	0	16.21	16.13	16.25	16.50

LTE Band 66							
Full Power & Receiver off--Ant3				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	24.14	24.35	23.94	25.00
		1	2	24.49	24.22	24.41	25.00
		1	5	24.41	24.63	24.41	25.00
		3	0	23.95	24.27	24.01	25.00
		3	2	24.12	24.23	24.11	25.00
		3	3	24.07	24.29	24.06	25.00
		6	0	23.17	23.30	23.19	24.00
	16QAM	1	0	23.40	23.36	23.30	24.00
		1	2	23.64	23.65	23.60	24.00
		1	5	23.30	23.26	23.18	24.00
		3	0	23.23	23.14	23.08	24.00



		3	2	23.20	23.11	23.04	24.00
		3	3	23.08	23.04	22.94	24.00
		6	0	22.33	22.27	22.21	23.00
	64QAM	1	0	22.38	22.30	22.22	23.00
		1	2	22.25	22.21	22.16	23.00
		1	5	22.39	22.33	22.22	23.00
		3	0	22.03	21.97	21.93	23.00
		3	2	22.20	22.12	22.05	23.00
		3	3	22.19	22.15	22.05	23.00
		6	0	21.22	21.19	21.12	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				1319871711.5	132322/1745	132657/1778.5	
3MHz	QPSK	1	0	24.16	24.39	23.97	25.00
		1	7	24.47	24.25	24.45	25.00
		1	14	24.44	24.68	24.45	25.00
		8	0	23.05	23.39	23.14	24.00
		8	4	23.24	23.33	23.23	24.00
		8	7	23.17	23.40	23.16	24.00
		15	0	23.17	23.34	23.22	24.00
	16QAM	1	0	23.40	23.38	23.33	24.00
		1	7	23.64	23.65	23.64	24.00
		1	14	23.32	23.30	23.21	24.00
		8	0	22.34	22.27	22.20	23.00
		8	4	22.31	22.24	22.16	23.00
		8	7	22.18	22.16	22.07	23.00
		15	0	22.36	22.31	22.24	23.00
	64QAM	1	0	22.41	22.32	22.25	23.00
		1	7	22.28	22.21	22.18	23.00
		1	14	22.41	22.32	22.25	23.00
		8	0	21.14	21.10	21.05	22.00
		8	4	21.31	21.25	21.17	22.00
		8	7	21.29	21.27	21.18	22.00
		15	0	21.25	21.23	21.15	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	24.13	24.37	23.93	25.00
		1	13	24.45	24.21	24.42	25.00
		1	24	24.41	24.63	24.41	25.00
		12	0	23.02	23.34	23.10	24.00
		12	6	23.22	23.29	23.18	24.00
		12	13	23.15	23.38	23.12	24.00
		25	0	23.17	23.33	23.20	24.00
	16QAM	1	0	23.40	23.34	23.30	24.00



		1	13	23.64	23.63	23.61	24.00	
		1	24	23.29	23.28	23.17	24.00	
		12	0	22.32	22.23	22.17	23.00	
		12	6	22.28	22.19	22.12	23.00	
		12	13	22.15	22.11	22.03	23.00	
		25	0	22.34	22.27	22.19	23.00	
		25	13	22.25	22.23	22.15	23.00	
	64QAM	1	0	22.38	22.32	22.22	23.00	
		1	13	22.25	22.23	22.15	23.00	
		1	24	22.42	22.30	22.21	23.00	
		12	0	21.12	21.06	21.06	22.00	
		12	6	21.28	21.20	21.13	22.00	
		12	13	21.26	21.22	21.14	22.00	
		25	0	21.23	21.19	21.10	22.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				132022/1715	132322/1745	132622/1775		
10MHz	QPSK	1	0	24.15	24.38	23.96	25.00	
		1	25	24.48	24.26	24.46	25.00	
		1	49	24.43	24.67	24.44	25.00	
		25	0	23.05	23.39	23.14	24.00	
		25	13	23.25	23.34	23.22	24.00	
		25	25	23.17	23.42	23.17	24.00	
		50	0	23.21	23.35	23.24	24.00	
	16QAM	1	0	23.44	23.37	23.32	24.00	
		1	25	23.68	23.67	23.64	24.00	
		1	49	23.32	23.30	23.20	24.00	
		25	0	22.35	22.28	22.21	23.00	
		25	13	22.30	22.23	22.15	23.00	
		25	25	22.18	22.16	22.07	23.00	
		50	0	22.37	22.32	22.23	23.00	
	64QAM	1	0	22.40	22.31	22.24	23.00	
		1	25	22.28	22.23	22.18	23.00	
		1	49	22.41	22.32	22.24	23.00	
		25	0	21.15	21.11	21.06	22.00	
		25	13	21.30	21.24	21.16	22.00	
		25	25	21.29	21.27	21.18	22.00	
		50	0	21.26	21.24	21.14	22.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					132047/1717.5	132322/1745	132597/1772.5	
	15MHz	QPSK	1	0	24.14	24.34	23.94	25.00
			1	38	24.46	24.25	24.43	25.00
			1	74	24.40	24.62	24.40	25.00
			36	0	23.03	23.35	23.11	24.00
			36	18	23.22	23.29	23.18	24.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				132072/1720	132322/1745	132572/1770		
20MHz	16QAM	36	39	23.14	23.39	23.13	24.00	
		75	0	23.19	23.31	23.19	24.00	
		1	0	23.42	23.35	23.30	24.00	
		1	38	23.66	23.64	23.62	24.00	
		1	74	23.30	23.26	23.17	24.00	
		36	0	22.32	22.26	22.18	23.00	
		36	18	22.27	22.18	22.11	23.00	
		36	39	22.16	22.12	22.04	23.00	
		75	0	22.34	22.27	22.19	23.00	
		64QAM	1	0	22.35	22.29	22.22	23.00
			1	38	22.26	22.20	22.16	23.00
			1	74	22.42	22.31	22.25	23.00
			36	0	21.14	21.13	21.07	22.00
			36	18	21.28	21.21	21.15	22.00
	36		39	21.27	21.23	21.15	22.00	
	75		0	21.23	21.19	21.10	22.00	
	20MHz	QPSK	1	0	24.11	24.30	23.91	25.00
			1	50	24.45	24.21	24.41	25.00
			1	99	24.38	24.61	24.37	25.00
			50	0	23.00	23.30	23.07	24.00
			50	25	23.20	23.25	23.15	24.00
			50	50	23.11	23.34	23.09	24.00
			100	0	23.16	23.26	23.15	24.00
		16QAM	1	0	23.39	23.31	23.25	24.00
			1	50	23.63	23.62	23.58	24.00
			1	99	23.27	23.23	23.15	24.00
			50	0	22.29	22.22	22.15	23.00
			50	25	22.24	22.16	22.08	23.00
50			50	22.13	22.07	22.00	23.00	
100			0	22.32	22.23	22.16	23.00	
64QAM		1	0	22.33	22.25	22.17	23.00	
		1	50	22.22	22.18	22.12	23.00	
		1	99	22.36	22.25	22.19	23.00	
		50	0	21.09	21.05	21.00	22.00	
		50	25	21.24	21.17	21.09	22.00	
		50	50	21.24	21.18	21.11	22.00	
		100	0	21.21	21.15	21.07	22.00	



LTE Band 66							
Receiver on & Hotspot on-Ant3				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	20.78	20.75	20.82	22.00
		1	2	20.80	20.65	20.80	22.00
		1	5	20.84	20.77	20.76	22.00
		3	0	20.45	20.52	20.49	22.00
		3	2	20.45	20.59	20.41	22.00
		3	3	20.38	20.52	20.47	22.00
		6	0	19.57	19.58	19.49	21.00
	16QAM	1	0	19.88	19.76	19.77	21.00
		1	2	19.55	19.47	19.47	21.00
		1	5	19.99	19.81	19.86	21.00
		3	0	19.64	19.47	19.53	21.00
		3	2	19.69	19.45	19.53	21.00
		3	3	19.72	19.53	19.55	21.00
		6	0	18.74	18.57	18.62	20.00
	64QAM	1	0	18.92	18.69	18.77	20.00
		1	2	18.80	18.65	18.72	20.00
		1	5	18.97	18.84	18.84	20.00
		3	0	18.67	18.50	18.56	20.00
		3	2	18.79	18.55	18.63	20.00
		3	3	18.80	18.61	18.63	20.00
		6	0	17.86	17.69	17.74	19.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				131987/1711.5	132322/1745	132657/1778.5	
3MHz	QPSK	1	0	20.80	20.79	20.85	22.00
		1	7	20.78	20.68	20.84	22.00
		1	14	20.87	20.82	20.80	22.00
		8	0	19.55	19.64	19.62	21.00
		8	4	19.57	19.69	19.53	21.00
		8	7	19.48	19.63	19.57	21.00
		15	0	19.57	19.62	19.52	21.00
	16QAM	1	0	19.88	19.78	19.80	21.00
		1	7	19.55	19.47	19.51	21.00
		1	14	20.01	19.85	19.89	21.00
		8	0	18.75	18.60	18.65	20.00
		8	4	18.80	18.58	18.65	20.00
		8	7	18.82	18.65	18.68	20.00
		15	0	18.77	18.61	18.65	20.00
	64QAM	1	0	18.95	18.71	18.80	20.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				131997/1712.5	132322/1745	132647/1777.5		
		1	7	18.83	18.65	18.74	20.00	
		1	14	18.99	18.83	18.87	20.00	
		8	0	17.78	17.63	17.68	19.00	
		8	4	17.90	17.68	17.75	19.00	
		8	7	17.90	17.73	17.76	19.00	
		15	0	17.89	17.73	17.77	19.00	
5MHz	QPSK	1	0	20.77	20.77	20.81	22.00	
		1	13	20.76	20.64	20.81	22.00	
		1	24	20.84	20.77	20.76	22.00	
		12	0	19.52	19.59	19.58	21.00	
		12	6	19.55	19.65	19.48	21.00	
		12	13	19.46	19.61	19.53	21.00	
		25	0	19.57	19.61	19.50	21.00	
	16QAM	1	0	19.88	19.74	19.77	21.00	
		1	13	19.55	19.45	19.48	21.00	
		1	24	19.98	19.83	19.85	21.00	
		12	0	18.73	18.56	18.62	20.00	
		12	6	18.77	18.53	18.61	20.00	
		12	13	18.79	18.60	18.64	20.00	
		25	0	18.75	18.57	18.60	20.00	
	64QAM	1	0	18.92	18.71	18.77	20.00	
		1	13	18.80	18.67	18.71	20.00	
		1	24	19.00	18.81	18.83	20.00	
		12	0	17.76	17.59	17.69	19.00	
		12	6	17.87	17.63	17.71	19.00	
		12	13	17.87	17.68	17.72	19.00	
		25	0	17.87	17.69	17.72	19.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					132022/1715	132322/1745	132622/1775	
	10MHz	QPSK	1	0	20.79	20.78	20.84	22.00
1			25	20.79	20.69	20.85	22.00	
1			49	20.86	20.81	20.79	22.00	
25			0	19.55	19.64	19.62	21.00	
25			13	19.58	19.70	19.52	21.00	
25			25	19.48	19.65	19.58	21.00	
50			0	19.61	19.63	19.54	21.00	
16QAM		1	0	19.92	19.77	19.79	21.00	
		1	25	19.59	19.49	19.51	21.00	
		1	49	20.01	19.85	19.88	21.00	
		25	0	18.76	18.61	18.66	20.00	
		25	13	18.79	18.57	18.64	20.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				132047/1717.5	132322/1745	132597/1772.5		
	64QAM	25	25	18.82	18.65	18.68	20.00	
		50	0	18.78	18.62	18.64	20.00	
		1	0	18.94	18.70	18.79	20.00	
		1	25	18.83	18.67	18.74	20.00	
		1	49	18.99	18.83	18.86	20.00	
		25	0	17.79	17.64	17.69	19.00	
		25	13	17.89	17.67	17.74	19.00	
		25	25	17.90	17.73	17.76	19.00	
		50	0	17.90	17.74	17.76	19.00	
15MHz	QPSK	1	0	20.78	20.74	20.82	22.00	
		1	38	20.77	20.68	20.82	22.00	
		1	74	20.83	20.76	20.75	22.00	
		36	0	19.53	19.60	19.59	21.00	
		36	18	19.55	19.65	19.48	21.00	
		36	39	19.45	19.62	19.54	21.00	
		75	0	19.59	19.59	19.49	21.00	
	16QAM	1	0	19.90	19.75	19.77	21.00	
		1	38	19.57	19.46	19.49	21.00	
		1	74	19.99	19.81	19.85	21.00	
		36	0	18.73	18.59	18.63	20.00	
		36	18	18.76	18.52	18.60	20.00	
		36	39	18.80	18.61	18.65	20.00	
		75	0	18.75	18.57	18.60	20.00	
	64QAM	1	0	18.89	18.68	18.77	20.00	
		1	38	18.81	18.64	18.72	20.00	
		1	74	19.00	18.82	18.87	20.00	
		36	0	17.78	17.66	17.70	19.00	
		36	18	17.87	17.64	17.73	19.00	
		36	39	17.88	17.69	17.73	19.00	
		75	0	17.87	17.69	17.72	19.00	
	20MHz	QPSK	1	0	20.75	20.70	20.79	22.00
			1	50	20.76	20.64	20.80	22.00
	1		99	20.81	20.75	20.72	22.00	
50	0		19.50	19.55	19.55	21.00		
50	25		19.53	19.61	19.45	21.00		
50	50		19.42	19.57	19.50	21.00		
100	0		19.56	19.54	19.45	21.00		
16QAM	1	0	19.87	19.71	19.72	21.00		
	1	50	19.54	19.44	19.45	21.00		



		1	99	19.96	19.78	19.83	21.00
		50	0	18.70	18.55	18.60	20.00
		50	25	18.73	18.50	18.57	20.00
		50	50	18.77	18.56	18.61	20.00
		100	0	18.73	18.53	18.57	20.00
	64QAM	1	0	18.87	18.64	18.72	20.00
		1	50	18.77	18.62	18.68	20.00
		1	99	18.94	18.76	18.81	20.00
		50	0	17.73	17.58	17.63	19.00
		50	25	17.83	17.60	17.67	19.00
		50	50	17.85	17.64	17.69	19.00
		100	0	17.85	17.65	17.69	19.00



9.3.2 LTE CA

CA Combanati on	Test Scenario	Modulation	PCC							SCC						output power	
			PCC Band	PCC Bandwidth (MHz)	PCC UL RB size	PCC UL RB offset	PCC UL Channel	f _{UL} [MHz]	PCC DL Channel	SCC Band	SCC Bandwidth (MHz)	SCC UL Channel	f _{UL} [MHz]	SCC UL RB size	SCC UL RB offset	conducted power (dbm)	Tune up (dbm)
CA_7C Ant 2	Full Power & Receiver on & Receiver off & Sensor on & Sensor off	QPSK	7	20	1	99	20850	2510	2850	7	20	21048	2529.8	1	0	23.53	24.50
		QPSK	7	20	1	99	21001	2525.1	3001	7	20	21199	2544.9	1	0	23.61	24.50
	Hotspot on	QPSK	7	20	1	0	21350	2560	3350	7	20	21152	2540.2	1	99	23.62	24.50
		QPSK	7	20	1	99	20850	2510	2850	7	20	21048	2529.8	1	0	22.13	22.50
		QPSK	7	20	1	99	21001	2525.1	3001	7	20	21199	2544.9	1	0	22.05	22.50
		QPSK	7	20	1	0	21350	2560	3350	7	20	21152	2540.2	1	99	22.08	22.50
CA_7C Ant 4	Full Power & Receiver off & Hotspot on	QPSK	7	20	1	99	20850	2510	2850	7	20	21048	2529.8	1	0	21.05	22.00
		QPSK	7	20	1	99	21001	2525.1	3001	7	20	21199	2544.9	1	0	21.01	22.00
		QPSK	7	20	1	0	21350	2560	3350	7	20	21152	2540.2	1	99	20.93	22.00
	Receiver on	QPSK	7	20	1	99	20850	2510	2850	7	20	21048	2529.8	1	0	16.12	17.50
		QPSK	7	20	1	99	21001	2525.1	3001	7	20	21199	2544.9	1	0	16.03	17.50
		QPSK	7	20	1	0	21350	2560	3350	7	20	21152	2540.2	1	99	16.10	17.50

9.4 NR Mode

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS 138.521-1 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS138.521-1.

Table 6.2.2.3-1: Maximum Power Reduction (MPR) for Power 3

Modulation	MPR (dB)		
	Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM PI/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
	$\leq 0.5^2$		0^2
DFT-s-OFDM QPSK	≤ 1		0
DFT-s-OFDM 16 QAM	≤ 2		≤ 1
DFT-s-OFDM 64 QAM		≤ 2.5	
DFT-s-OFDM 256 QAM		≤ 4.5	
CP-OFDM QPSK	≤ 3		≤ 1.5
CP-OFDM 16 QAM	≤ 3		≤ 2
CP-OFDM 64 QAM		≤ 3.5	
CP-OFDM 256 QAM		≤ 6.5	

NOTE 1: Applicable for UE operating in TDD mode with PI/2 BPSK modulation and UE indicates support for UE capability *powerBoosting-pi2BPSK* and if the IE *powerBoostPi2BPSK* is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0dB MPR is 26dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 and if the IE *powerBoostPi2BPSK* is set to 0 and if more than 40% of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

The allowed A-MPR values specified below in Table 6.2.3.3.1-1 of 3GPP TS138.521-1 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01"

Table 6.2.3.3.1-1: Additional maximum power reduction (A-MPR)

Network Signalling label	Requirements (subclause)	NR Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01		Table 5.2-1	5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 90, 100	Table 5.3.2-1	N/A

EN-DC Antenna Configuration

EN-DC Band	LTE Band	NR Band	Antenna Configurations	
			LTE	NR
DC_2A-n66A	LTE Band 2	NR n66	Ant 2	Ant 3
DC_5A-n66A	LTE Band 5		Ant 1	Ant 3
DC_2A-n78A	LTE Band 2	NR n78	Ant 2	Ant 5
DC_7A-n78A	LTE Band 7		Ant 2	Ant 5
DC_28A-n78A	LTE Band 28		Ant 1	Ant 5

Note: The EN-DC mode maximum power for LTE are same as LTE standalone mode, so this section only list 5G NR conducted power.

NR Band 66							
Full Power & Receiver off-Ant3(SA & NSA)				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				342500/1712.5	349000/1745	355500/1777.5	
5MHz	DFT-s-OFDM BPSK	1	1	22.84	22.83	22.78	23.50
		1	23	22.78	22.81	22.61	23.50
		12	6	22.80	22.72	22.70	23.50
		25	0	22.72	22.72	22.72	23.50
	DFT-s-OFDM QPSK	1	1	22.77	22.83	22.87	23.50
		1	23	22.91	22.92	22.65	23.50
		12	6	22.82	22.78	22.74	23.50
		25	0	22.84	22.72	22.64	23.50
	DFT-s-OFDM 16QAM	1	1	22.98	22.97	23.06	23.50
		1	23	23.10	23.11	22.53	23.50
		12	6	22.86	22.59	22.60	23.50
		1	1	21.54	21.38	21.44	22.00
	DFT-s-OFDM 64QAM	1	23	21.50	21.50	21.30	22.00
		12	6	21.09	21.18	21.23	22.00
		1	1	19.36	19.24	19.28	20.00
	DFT-s-OFDM 256QAM	1	23	19.32	19.29	19.12	20.00
12		6	19.26	19.08	19.11	20.00	
				Channel/Frequency(MHz)			Tune-up
Bandwidth	Modulation	RB allocation	offset	343000/1715	349000/1745	355000/1775	
10MHz	DFT-s-OFDM BPSK	1	1	22.86	22.84	22.81	23.50
		1	50	22.81	22.86	22.65	23.50
		25	12	22.82	22.76	22.73	23.50
		50	0	22.75	22.77	22.76	23.50
	DFT-s-OFDM QPSK	1	1	22.80	22.88	22.91	23.50
		1	50	22.93	22.96	22.70	23.50
		25	12	22.86	22.80	22.78	23.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				343500/1717.5	349000/1745	354500/1772.5		
15MHz	DFT-s-OFDM 16QAM	50	0	22.88	22.75	22.66	23.50	
		1	1	23.02	23.01	23.09	23.50	
		1	50	23.13	23.13	22.56	23.50	
		25	12	22.89	22.64	22.64	23.50	
	DFT-s-OFDM 64QAM	1	1	21.56	21.42	21.47	22.00	
		1	50	21.53	21.55	21.34	22.00	
		25	12	21.12	21.23	21.27	22.00	
	DFT-s-OFDM 256QAM	1	1	19.38	19.23	19.30	20.00	
		1	50	19.35	19.29	19.15	20.00	
		25	12	19.25	19.10	19.14	20.00	
	15MHz	DFT-s-OFDM BPSK	1	1	22.85	22.80	22.79	23.50
			1	77	22.79	22.85	22.62	23.50
36			18	22.79	22.71	22.69	23.50	
75			0	22.73	22.73	22.73	23.50	
DFT-s-OFDM QPSK		1	1	22.77	22.83	22.87	23.50	
		1	77	22.90	22.93	22.66	23.50	
		36	18	22.84	22.76	22.73	23.50	
DFT-s-OFDM 16QAM		75	0	22.86	22.73	22.64	23.50	
		1	1	23.00	22.98	23.07	23.50	
		1	77	23.11	23.09	22.53	23.50	
DFT-s-OFDM 64QAM		36	18	22.86	22.62	22.61	23.50	
		1	1	21.53	21.37	21.43	22.00	
	1	77	21.51	21.51	21.31	22.00		
DFT-s-OFDM 256QAM	36	18	21.09	21.18	21.23	22.00		
	1	1	19.33	19.21	19.28	20.00		
	1	77	19.33	19.26	19.13	20.00		
DFT-s-OFDM	36	18	19.26	19.09	19.15	20.00		
20MHz	DFT-s-OFDM BPSK	1	1	22.82	22.76	22.76	23.50	
		1	104	22.78	22.81	22.60	23.50	
		50	25	22.77	22.70	22.66	23.50	
		100	0	22.70	22.68	22.69	23.50	
	DFT-s-OFDM QPSK	1	1	22.75	22.79	22.84	23.50	
		1	104	22.87	22.88	22.62	23.50	
		50	25	22.81	22.71	22.69	23.50	
	DFT-s-OFDM 16QAM	100	0	22.83	22.69	22.59	23.50	
		1	1	22.97	22.96	23.03	23.50	
		1	104	23.08	23.06	22.51	23.50	
	DFT-s-OFDM	50	25	22.83	22.58	22.58	23.50	
		1	1	21.50	21.35	21.40	22.00	



	64QAM	1	104	21.48	21.46	21.27	22.00
		50	25	21.07	21.14	21.20	22.00
	DFT-s-OFDM 256QAM	1	1	19.31	19.17	19.23	20.00
		1	104	19.29	19.24	19.09	20.00
		50	25	19.20	19.03	19.09	20.00

NR Band 66								
Receiver on & Hotspot on-Ant3(SA & NSA)				Maximum Output Power (dBm)			Tune-up	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)				
				342500/1712.5	349000/1745	355500/1777.5		
5MHz	DFT-s-OFDM BPSK	1	1	18.89	19.06	18.89	20.00	
		1	23	18.71	18.79	18.75	20.00	
		12	6	18.78	18.87	18.79	20.00	
		25	0	18.72	18.89	18.74	20.00	
	DFT-s-OFDM QPSK	1	1	18.91	19.03	18.97	20.00	
		1	23	19.04	18.91	18.78	20.00	
		12	6	18.87	18.89	18.77	20.00	
	DFT-s-OFDM 16QAM	25	0	18.87	18.87	18.79	20.00	
		1	1	18.75	18.80	18.72	20.00	
		1	23	18.64	18.70	18.61	20.00	
	DFT-s-OFDM 64QAM	12	6	18.73	18.76	18.66	20.00	
		1	1	19.06	19.12	18.99	20.00	
		1	23	19.05	19.16	19.01	20.00	
	DFT-s-OFDM 256QAM	12	6	18.72	18.84	18.72	20.00	
		1	1	18.93	18.95	18.85	20.00	
1		23	18.89	18.90	18.82	20.00		
		12	6	18.79	18.87	18.77	20.00	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
10MHz	DFT-s-OFDM BPSK	1	1	18.83	18.93	18.81	20.00	
		1	50	18.67	18.74	18.68	20.00	
		25	12	18.69	18.75	18.67	20.00	
		50	0	18.65	18.76	18.64	20.00	
	DFT-s-OFDM QPSK	1	1	18.84	18.90	18.85	20.00	
		1	50	18.95	18.82	18.67	20.00	
		25	12	18.84	18.77	18.65	20.00	
	DFT-s-OFDM 16QAM	50	0	18.84	18.78	18.69	20.00	
		1	1	18.72	18.74	18.64	20.00	
		1	50	18.57	18.59	18.52	20.00	
	DFT-s-OFDM 64QAM	25	12	18.65	18.69	18.58	20.00	
		1	1	18.96	18.99	18.87	20.00	
		1	50	18.98	19.03	18.91	20.00	
			25	12	18.65	18.71	18.60	20.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up		
				343500/1717.5	349000/1745	354500/1772.5			
	DFT-s-OFDM 256QAM	1	1	18.80	18.86	18.75	20.00		
		1	50	18.81	18.84	18.74	20.00		
		25	12	18.75	18.79	18.72	20.00		
15MHz	DFT-s-OFDM BPSK	1	1	18.85	18.98	18.84	20.00		
		1	77	18.68	18.74	18.70	20.00		
		36	18	18.73	18.81	18.72	20.00		
		75	0	18.67	18.80	18.67	20.00		
	DFT-s-OFDM QPSK	1	1	18.86	18.94	18.90	20.00		
		1	77	18.98	18.83	18.70	20.00		
		36	18	18.82	18.80	18.68	20.00		
	DFT-s-OFDM 16QAM	75	0	18.82	18.81	18.72	20.00		
		1	1	18.70	18.75	18.66	20.00		
		1	77	18.59	18.63	18.56	20.00		
	DFT-s-OFDM 64QAM	36	18	18.67	18.70	18.60	20.00		
		1	1	19.00	19.05	18.92	20.00		
		1	77	19.00	19.07	18.94	20.00		
	DFT-s-OFDM 256QAM	36	18	18.67	18.75	18.65	20.00		
		1	1	18.86	18.89	18.78	20.00		
		1	77	18.83	18.85	18.76	20.00		
			36	18	18.74	18.80	18.72	20.00	
						Channel/Frequency(MHz)			Tune-up
						344000/1720	349000/1745	354000/1770	
	20MHz	DFT-s-OFDM BPSK	1	1	18.80	18.89	18.78	20.00	
			1	104	18.66	18.70	18.66	20.00	
			50	25	18.67	18.74	18.64	20.00	
			100	0	18.62	18.71	18.60	20.00	
		DFT-s-OFDM QPSK	1	1	18.82	18.86	18.82	20.00	
1			104	18.92	18.77	18.63	20.00		
50			25	18.81	18.72	18.61	20.00		
DFT-s-OFDM 16QAM		100	0	18.81	18.74	18.64	20.00		
		1	1	18.69	18.72	18.60	20.00		
		1	104	18.54	18.56	18.50	20.00		
DFT-s-OFDM 64QAM		50	25	18.62	18.65	18.55	20.00		
		1	1	18.93	18.97	18.84	20.00		
		1	104	18.95	18.98	18.87	20.00		
DFT-s-OFDM 256QAM		50	25	18.63	18.67	18.57	20.00		
		1	1	18.78	18.82	18.70	20.00		
		1	104	18.77	18.82	18.70	20.00		
			50	25	18.69	18.73	18.66	20.00	



NR Band 78							
Full Power & Receiver off-Ant5(SA & NSA)				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				630666/3460	633332/3500	635998/3540	
20MHz	DFT-s-OFDM BPSK	1	1	22.01	21.59	22.01	23.00
		1	49	21.77	21.80	21.33	23.00
		25	12	22.04	21.55	21.78	23.00
		50	0	22.01	21.65	21.70	23.00
	DFT-s-OFDM QPSK	1	1	22.06	21.56	21.50	23.00
		1	49	21.87	21.89	21.69	23.00
		25	12	22.01	21.69	21.76	23.00
		50	0	21.95	21.58	22.31	23.00
	DFT-s-OFDM 16QAM	1	1	22.21	21.64	22.20	23.00
		1	49	22.08	22.12	21.51	23.00
		25	12	22.03	21.52	21.62	23.00
	DFT-s-OFDM 64QAM	1	1	20.75	20.19	20.69	21.50
		1	49	20.50	20.58	20.03	21.50
		25	12	20.51	20.09	20.25	21.50
	DFT-s-OFDM 256QAM	1	1	18.59	18.76	18.56	19.50
1		49	18.44	18.04	17.82	19.50	
25		12	18.62	18.39	18.24	19.50	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
40MHz	DFT-s-OFDM BPSK	1	1	22.03	21.60	22.04	23.00
		1	104	21.80	21.85	21.37	23.00
		50	25	22.06	21.59	21.81	23.00
		100	0	22.04	21.70	21.74	23.00
	DFT-s-OFDM QPSK	1	1	22.09	21.61	21.54	23.00
		1	104	21.89	21.93	21.74	23.00
		50	25	22.05	21.71	21.80	23.00
		100	0	21.99	21.61	22.33	23.00
	DFT-s-OFDM 16QAM	1	1	22.25	21.68	22.23	23.00
		1	104	22.11	22.14	21.54	23.00
		50	25	22.06	21.57	21.66	23.00
	DFT-s-OFDM 64QAM	1	1	20.77	20.23	20.72	21.50
		1	104	20.53	20.63	20.07	21.50
		50	25	20.54	20.14	20.29	21.50
	DFT-s-OFDM 256QAM	1	1	18.61	18.75	18.58	19.50
1		104	18.47	18.04	17.85	19.50	
50		25	18.61	18.41	18.27	19.50	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
60MHz	DFT-s-OFDM	1	1	632000/3480	633332/3500	634666/3520	23.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				632666/3490	633332/3500	633998/3510		
80MHz	BPSK	1	160	21.78	21.84	21.34	23.00	
		81	40	22.03	21.54	21.77	23.00	
		162	0	22.02	21.66	21.71	23.00	
	DFT-s-OFDM QPSK	1	1	22.06	21.56	21.50	23.00	
		1	160	21.86	21.90	21.70	23.00	
		81	40	22.03	21.67	21.75	23.00	
	DFT-s-OFDM 16QAM	162	0	21.97	21.59	22.31	23.00	
		1	1	22.23	21.65	22.21	23.00	
		1	160	22.09	22.10	21.51	23.00	
	DFT-s-OFDM 64QAM	81	40	22.03	21.55	21.63	23.00	
		1	1	20.74	20.18	20.68	21.50	
		1	160	20.51	20.59	20.04	21.50	
	DFT-s-OFDM 256QAM	81	40	20.51	20.09	20.25	21.50	
		1	1	18.56	18.73	18.56	19.50	
		1	160	18.45	18.01	17.83	19.50	
	80MHz	BPSK	81	40	18.62	18.40	18.28	19.50
			1	1	21.99	21.52	21.99	23.00
			1	215	21.77	21.80	21.32	23.00
		DFT-s-OFDM QPSK	108	54	22.01	21.53	21.74	23.00
			216	0	21.99	21.61	21.67	23.00
			1	1	22.04	21.52	21.47	23.00
		DFT-s-OFDM 16QAM	1	215	21.83	21.85	21.66	23.00
			108	54	22.00	21.62	21.71	23.00
			216	0	21.94	21.55	22.26	23.00
DFT-s-OFDM 64QAM		1	1	22.20	21.63	22.17	23.00	
		1	215	22.06	22.07	21.49	23.00	
		108	54	22.00	21.51	21.60	23.00	
DFT-s-OFDM 256QAM		1	1	20.71	20.16	20.65	21.50	
		1	215	20.48	20.54	20.00	21.50	
		108	54	20.49	20.05	20.22	21.50	
DFT-s-OFDM 256QAM		1	1	18.54	18.69	18.51	19.50	
		1	215	18.41	17.99	17.79	19.50	
		108	54	18.56	18.34	18.22	19.50	
Bandwidth		Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					/	633332/3500	/	
100MHz		BPSK	1	1	/	21.46	/	23.00
			1	271	/	21.28	/	23.00
			135	67	/	21.45	/	23.00
			270	0	/	21.47	/	23.00
	DFT-s-OFDM QPSK	1	1	/	21.52	/	23.00	
		1	271	/	21.29	/	23.00	



		135	67	/	21.49	/	23.00
		270	0	/	21.42	/	23.00
	DFT-s-OFDM 16QAM	1	1	/	21.66	/	23.00
		1	271	/	21.52	/	23.00
		135	67	/	21.46	/	23.00
	DFT-s-OFDM 64QAM	1	1	/	20.14	/	21.50
		1	271	/	19.96	/	21.50
		135	67	/	19.97	/	21.50
	DFT-s-OFDM 256QAM	1	1	/	17.99	/	19.50
		1	271	/	17.84	/	19.50
		135	67	/	17.98	/	19.50

NR Band 78									
Full Power & Receiver off-Ant5(SA & NSA)				Maximum Output Power (dBm)			Tune-up		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					
				647334/3710	650000/3750	652666/3790			
20MHz	DFT-s-OFDM BPSK	1	1	21.53	21.64	21.46	23.00		
		1	49	21.50	21.57	21.51	23.00		
		25	12	21.64	21.68	21.62	23.00		
		50	0	21.65	21.77	21.61	23.00		
	DFT-s-OFDM QPSK	1	1	21.47	21.59	21.48	23.00		
		1	49	21.63	21.69	21.60	23.00		
		25	12	21.43	21.60	21.48	23.00		
	DFT-s-OFDM 16QAM	50	0	21.35	21.49	21.44	23.00		
		1	1	21.33	21.37	21.41	23.00		
		1	49	22.06	22.12	22.00	23.00		
	DFT-s-OFDM 64QAM	25	12	21.48	21.52	21.43	23.00		
		1	1	20.36	20.41	20.30	21.50		
		1	49	20.58	20.70	20.54	21.50		
	DFT-s-OFDM 256QAM	25	12	20.00	20.12	20.01	21.50		
		1	1	18.68	18.73	18.64	19.50		
		1	49	18.05	18.00	18.02	19.50		
			25	12	18.36	18.46	18.31	19.50	
			Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)		
648000/3720							650000/3750	652000/3780	
40MHz	DFT-s-OFDM BPSK	1	1	21.51	21.59	21.43	23.00		
		1	104	21.49	21.57	21.49	23.00		
		50	25	21.60	21.62	21.57	23.00		
		100	0	21.63	21.73	21.58	23.00		
	DFT-s-OFDM QPSK	1	1	21.45	21.55	21.43	23.00		
		1	104	21.60	21.68	21.57	23.00		
		50	25	21.45	21.57	21.45	23.00		
		100	0	21.37	21.46	21.41	23.00		



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up		
				648666/3730	650000/3750	651334/3770			
	DFT-s-OFDM 16QAM	1	1	21.35	21.36	21.39	23.00		
		1	104	22.04	22.08	21.96	23.00		
		50	25	21.46	21.51	21.41	23.00		
	DFT-s-OFDM 64QAM	1	1	20.32	20.35	20.25	21.50		
		1	104	20.56	20.66	20.51	21.50		
		50	25	19.98	20.08	19.96	21.50		
	DFT-s-OFDM 256QAM	1	1	18.62	18.70	18.61	19.50		
		1	104	18.03	17.99	18.00	19.50		
		50	25	18.37	18.45	18.31	19.50		
60MHz	DFT-s-OFDM BPSK	1	1	21.47	21.54	21.39	23.00		
		1	160	21.49	21.54	21.48	23.00		
		81	40	21.57	21.60	21.53	23.00		
		162	0	21.60	21.68	21.54	23.00		
	DFT-s-OFDM QPSK	1	1	21.44	21.52	21.39	23.00		
		1	160	21.57	21.65	21.54	23.00		
		81	40	21.46	21.53	21.43	23.00		
	DFT-s-OFDM 16QAM	162	0	21.38	21.41	21.35	23.00		
		1	1	21.36	21.36	21.35	23.00		
		1	160	22.01	22.05	21.93	23.00		
	DFT-s-OFDM 64QAM	81	40	21.44	21.48	21.39	23.00		
		1	1	20.28	20.32	20.21	21.50		
		1	160	20.53	20.61	20.47	21.50		
	DFT-s-OFDM 256QAM	81	40	19.97	20.05	19.92	21.50		
		1	1	18.59	18.65	18.55	19.50		
		1	160	17.99	17.99	17.96	19.50		
			81	40	18.31	18.39	18.24	19.50	
			Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)		
649334/3740							650000/3750	650666/3760	
80MHz	DFT-s-OFDM BPSK	1	1	21.43	21.46	21.34	23.00		
		1	215	21.46	21.49	21.43	23.00		
		108	54	21.52	21.54	21.46	23.00		
		216	0	21.55	21.59	21.47	23.00		
	DFT-s-OFDM QPSK	1	1	21.39	21.43	21.32	23.00		
		1	215	21.51	21.57	21.46	23.00		
		108	54	21.41	21.44	21.34	23.00		
	DFT-s-OFDM 16QAM	216	0	21.33	21.35	21.28	23.00		
		1	1	21.31	21.31	21.29	23.00		
		1	215	21.96	21.98	21.88	23.00		
	DFT-s-OFDM 64QAM	108	54	21.38	21.42	21.33	23.00		
		1	1	20.22	20.25	20.14	21.50		
		1	215	20.48	20.52	20.40	21.50		



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				/	650000/3750	/		
	DFT-s-OFDM 256QAM	108	54	19.92	19.96	19.85	21.50	
		1	1	18.52	18.59	18.48	19.50	
		1	215	17.93	17.94	17.90	19.50	
		108	54	18.26	18.32	18.19	19.50	
100MHz	DFT-s-OFDM BPSK	1	1	/	21.32	/	23.00	
		1	271	/	21.41	/	23.00	
		135	67	/	21.41	/	23.00	
		270	0	/	21.43	/	23.00	
	DFT-s-OFDM QPSK	1	1	/	21.28	/	23.00	
		1	271	/	21.61	/	23.00	
		135	67	/	21.28	/	23.00	
	DFT-s-OFDM 16QAM	270	0	/	21.21	/	23.00	
		1	1	/	21.25	/	23.00	
		1	271	/	21.87	/	23.00	
	DFT-s-OFDM 64QAM	135	67	/	21.31	/	23.00	
		1	1	/	20.10	/	21.50	
		1	271	/	20.36	/	21.50	
	DFT-s-OFDM 256QAM	135	67	/	19.81	/	21.50	
		1	1	/	18.40	/	19.50	
		1	271	/	17.87	/	19.50	
			135	67	/	18.17	/	19.50

NR Band 78							
Receiver on & Hotspot on-Ant5(SA & NSA)				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				630666/3460	633332/3500	635998/3540	
20MHz	DFT-s-OFDM BPSK	1	1	19.25	18.78	19.26	20.00
		1	49	19.00	19.08	18.57	20.00
		25	12	19.26	18.79	19.01	20.00
		50	0	19.25	18.91	18.95	20.00
	DFT-s-OFDM QPSK	1	1	19.28	18.80	18.75	20.00
		1	49	19.08	19.12	18.94	20.00
		25	12	19.23	18.88	18.97	20.00
	DFT-s-OFDM 16QAM	50	0	19.17	18.83	19.54	20.00
		1	1	19.43	18.87	19.44	20.00
		1	49	19.32	19.32	18.75	20.00
	DFT-s-OFDM 64QAM	25	12	19.25	18.79	18.86	20.00
		1	1	17.97	17.43	17.92	18.50
		1	49	17.74	17.84	17.28	18.50
	DFT-s-OFDM	25	12	17.73	17.33	17.50	18.50
		1	1	15.79	15.93	15.79	16.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				631332/3470	633332/3500	635332/3530	
				256QAM	1	49	
		25	12	15.81	15.62	15.52	16.50
40MHz	DFT-s-OFDM BPSK	1	1	19.22	18.74	19.23	20.00
		1	104	18.99	19.04	18.55	20.00
		50	25	19.24	18.78	18.98	20.00
		100	0	19.22	18.86	18.91	20.00
	DFT-s-OFDM QPSK	1	1	19.26	18.76	18.72	20.00
		1	104	19.05	19.07	18.90	20.00
		50	25	19.20	18.83	18.93	20.00
	DFT-s-OFDM 16QAM	100	0	19.14	18.79	19.49	20.00
		1	1	19.40	18.85	19.40	20.00
		1	104	19.29	19.29	18.73	20.00
	DFT-s-OFDM 64QAM	50	25	19.22	18.75	18.83	20.00
		1	1	17.94	17.41	17.89	18.50
		1	104	17.71	17.79	17.24	18.50
	DFT-s-OFDM 256QAM	50	25	17.71	17.29	17.47	18.50
		1	1	15.77	15.89	15.74	16.50
1		104	15.64	15.17	15.02	16.50	
		50	25	15.75	15.56	15.46	16.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				632000/3480	633332/3500	634666/3520	
60MHz	DFT-s-OFDM BPSK	1	1	19.20	18.69	19.20	20.00
		1	160	18.98	19.04	18.53	20.00
		81	40	19.20	18.72	18.93	20.00
		162	0	19.20	18.82	18.88	20.00
	DFT-s-OFDM QPSK	1	1	19.24	18.72	18.67	20.00
		1	160	19.02	19.06	18.87	20.00
		81	40	19.22	18.80	18.90	20.00
	DFT-s-OFDM 16QAM	162	0	19.16	18.76	19.46	20.00
		1	1	19.42	18.84	19.38	20.00
		1	160	19.27	19.25	18.69	20.00
	DFT-s-OFDM 64QAM	81	40	19.20	18.74	18.81	20.00
		1	1	17.90	17.35	17.84	18.50
		1	160	17.69	17.75	17.21	18.50
	DFT-s-OFDM 256QAM	81	40	17.69	17.25	17.42	18.50
		1	1	15.71	15.86	15.71	16.50
1		160	15.62	15.16	15.00	16.50	
		81	40	15.76	15.55	15.46	16.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				632666/3490	633332/3500	633998/3510	
80MHz	DFT-s-OFDM	1	1	19.17	18.65	19.17	20.00



	BPSK	1	215	18.97	19.00	18.51	20.00
		108	54	19.18	18.71	18.90	20.00
		216	0	19.17	18.77	18.84	20.00
	DFT-s-OFDM QPSK	1	1	19.22	18.68	18.64	20.00
		1	215	18.99	19.01	18.83	20.00
		108	54	19.19	18.75	18.86	20.00
	DFT-s-OFDM 16QAM	216	0	19.13	18.72	19.41	20.00
		1	1	19.39	18.82	19.34	20.00
		1	215	19.24	19.22	18.67	20.00
	DFT-s-OFDM 64QAM	108	54	19.17	18.70	18.78	20.00
		1	1	17.87	17.33	17.81	18.50
		1	215	17.66	17.70	17.17	18.50
	DFT-s-OFDM 256QAM	108	54	17.67	17.21	17.39	18.50
		1	1	15.69	15.82	15.66	16.50
		1	215	15.58	15.14	14.96	16.50
		RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				/	633332/3500	/	
100MHz	DFT-s-OFDM BPSK	1	1	/	19.09	/	20.00
		1	271	/	18.94	/	20.00
		135	67	/	19.10	/	20.00
		270	0	/	19.09	/	20.00
	DFT-s-OFDM QPSK	1	1	/	19.16	/	20.00
		1	271	/	18.90	/	20.00
		135	67	/	19.15	/	20.00
	DFT-s-OFDM 16QAM	270	0	/	19.09	/	20.00
		1	1	/	19.35	/	20.00
		1	271	/	19.16	/	20.00
	DFT-s-OFDM 64QAM	135	67	/	19.09	/	20.00
		1	1	/	17.77	/	18.50
		1	271	/	17.58	/	18.50
	DFT-s-OFDM 256QAM	135	67	/	17.61	/	18.50
		1	1	/	15.59	/	16.50
1		271	/	15.48	/	16.50	
		135	67	/	15.59	/	16.50

NR Band 78							
Receiver on & Hotspot on-Ant5(SA & NSA)				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				647334/3710	650000/3750	652666/3790	
20MHz	DFT-s-OFDM BPSK	1	1	19.20	19.27	19.12	20.00
		1	49	19.20	19.25	19.19	20.00
		25	12	19.30	19.33	19.26	20.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				648000/3720	650000/3750	652000/3780	
	DFT-s-OFDM QPSK	50	0	19.32	19.40	19.26	20.00
		1	1	19.15	19.23	19.12	20.00
		1	49	19.29	19.35	19.25	20.00
		25	12	19.14	19.24	19.13	20.00
	DFT-s-OFDM 16QAM	50	0	19.06	19.14	19.08	20.00
		1	1	19.04	19.06	19.07	20.00
		1	49	19.73	19.77	19.66	20.00
	DFT-s-OFDM 64QAM	25	12	19.15	19.19	19.10	20.00
		1	1	18.01	18.05	17.94	18.50
		1	49	18.25	18.33	18.19	18.50
	DFT-s-OFDM 256QAM	25	12	17.68	17.76	17.65	18.50
		1	1	16.32	16.38	16.28	16.50
1		49	15.71	15.69	15.68	16.50	
		25	12	16.03	16.11	15.97	16.50
40MHz	DFT-s-OFDM BPSK	1	1	19.17	19.23	19.09	20.00
		1	104	19.19	19.21	19.17	20.00
		50	25	19.28	19.32	19.23	20.00
		100	0	19.29	19.35	19.22	20.00
	DFT-s-OFDM QPSK	1	1	19.13	19.19	19.09	20.00
		1	104	19.26	19.30	19.21	20.00
		50	25	19.11	19.19	19.09	20.00
	DFT-s-OFDM 16QAM	100	0	19.03	19.10	19.03	20.00
		1	1	19.01	19.04	19.03	20.00
		1	104	19.70	19.74	19.64	20.00
	DFT-s-OFDM 64QAM	50	25	19.12	19.15	19.07	20.00
		1	1	17.98	18.03	17.91	18.50
1		104	18.22	18.28	18.15	18.50	
DFT-s-OFDM 256QAM	50	25	17.66	17.72	17.62	18.50	
	1	1	16.30	16.34	16.23	16.50	
	1	104	15.67	15.67	15.64	16.50	
		50	25	15.97	16.05	15.91	16.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				648666/3730	650000/3750	651334/3770	
60MHz	DFT-s-OFDM BPSK	1	1	19.15	19.18	19.06	20.00
		1	160	19.18	19.21	19.15	20.00
		81	40	19.24	19.26	19.18	20.00
		162	0	19.27	19.31	19.19	20.00
	DFT-s-OFDM QPSK	1	1	19.11	19.15	19.04	20.00
		1	160	19.23	19.29	19.18	20.00
		81	40	19.13	19.16	19.06	20.00
		162	0	19.05	19.07	19.00	20.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up			
				649334/3740	650000/3750	650666/3760				
	DFT-s-OFDM 16QAM	1	1	19.03	19.03	19.01	20.00			
		1	160	19.68	19.70	19.60	20.00			
		81	40	19.10	19.14	19.05	20.00			
	DFT-s-OFDM 64QAM	1	1	17.94	17.97	17.86	18.50			
		1	160	18.20	18.24	18.12	18.50			
		81	40	17.64	17.68	17.57	18.50			
	DFT-s-OFDM 256QAM	1	1	16.24	16.31	16.20	16.50			
		1	160	15.65	15.66	15.62	16.50			
		81	40	15.98	16.04	15.91	16.50			
80MHz	DFT-s-OFDM BPSK	1	1	19.12	19.14	19.03	20.00			
		1	215	19.17	19.17	19.13	20.00			
		108	54	19.22	19.25	19.15	20.00			
		216	0	19.24	19.26	19.15	20.00			
	DFT-s-OFDM QPSK	1	1	19.09	19.11	19.01	20.00			
		1	215	19.20	19.24	19.14	20.00			
		108	54	19.10	19.11	19.02	20.00			
	DFT-s-OFDM 16QAM	216	0	19.02	19.03	18.95	20.00			
		1	1	19.00	19.01	18.97	20.00			
		1	215	19.65	19.67	19.58	20.00			
	DFT-s-OFDM 64QAM	108	54	19.07	19.10	19.02	20.00			
		1	1	17.91	17.95	17.83	18.50			
		1	215	18.17	18.19	18.08	18.50			
	DFT-s-OFDM 256QAM	108	54	17.62	17.64	17.54	18.50			
		1	1	16.22	16.27	16.15	16.50			
		1	215	15.61	15.64	15.58	16.50			
			108	54	15.92	15.98	15.85	16.50		
			Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
							/	650000/3750	/	
	100MHz	DFT-s-OFDM BPSK	1	1	/	19.01	/	20.00		
			1	271	/	19.12	/	20.00		
			135	67	/	19.11	/	20.00		
			270	0	/	19.12	/	20.00		
		DFT-s-OFDM QPSK	1	1	/	18.98	/	20.00		
1			271	/	19.11	/	20.00			
135			67	/	18.97	/	20.00			
DFT-s-OFDM 16QAM		270	0	/	18.90	/	20.00			
		1	1	/	18.94	/	20.00			
		1	271	/	19.56	/	20.00			
DFT-s-OFDM 64QAM		135	67	/	19.00	/	20.00			
		1	1	/	17.79	/	18.50			
			1	271	/	18.05	/	18.50		



DFT-s-OFDM 256QAM	135	67	/	17.51	/	18.50
	1	1	/	16.10	/	16.50
	1	271	/	15.55	/	16.50
	135	67	/	15.83	/	16.50

NR Band 78										
Full Power & Receiver on & Receiver off & Hotspot on-Ant10(SA)				Maximum Output Power (dBm)			Tune-up			
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)						
				630666/3460	633332/3500	635998/3540				
20MHz	DFT-s-OFDM BPSK	1	1	16.33	16.39	16.41	17.00			
		1	49	15.96	15.98	16.01	17.00			
		25	12	16.21	16.25	16.33	17.00			
		50	0	16.19	16.25	16.30	17.00			
	DFT-s-OFDM QPSK	1	1	16.35	16.41	16.47	17.00			
		1	49	16.17	16.21	16.29	17.00			
		25	12	16.13	16.21	16.29	17.00			
	DFT-s-OFDM 16QAM	50	0	16.00	16.07	16.18	17.00			
		1	1	16.12	16.15	16.25	17.00			
		1	49	15.98	16.02	16.05	17.00			
	DFT-s-OFDM 64QAM	25	12	16.13	16.16	16.21	17.00			
		1	1	15.05	15.10	15.17	15.50			
		1	49	14.75	14.81	14.86	15.50			
		25	12	14.65	14.71	14.77	15.50			
		DFT-s-OFDM 256QAM	1	1	12.91	12.95	13.06	13.50		
			1	49	12.57	12.57	12.67	13.50		
25	12		12.63	12.71	12.78	13.50				
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up			
40MHz	DFT-s-OFDM BPSK	631332/3470	633332/3500	635332/3530	1	1	16.32	16.38	16.40	17.00
		1	104	15.97	15.99	16.02	17.00			
		50	25	16.20	16.24	16.32	17.00			
		100	0	16.19	16.25	16.30	17.00			
	DFT-s-OFDM QPSK	1	1	16.36	16.42	16.46	17.00			
		1	104	16.17	16.23	16.30	17.00			
		50	25	16.17	16.22	16.31	17.00			
	DFT-s-OFDM 16QAM	100	0	16.04	16.06	16.17	17.00			
		1	1	16.16	16.17	16.25	17.00			
		1	104	15.98	16.02	16.04	17.00			
	DFT-s-OFDM 64QAM	50	25	16.14	16.17	16.22	17.00			
		1	1	15.04	15.09	15.16	15.50			
		1	104	14.75	14.81	14.86	15.50			
		50	25	14.66	14.72	14.76	15.50			



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up			
				632000/3480	633332/3500	634666/3520				
	DFT-s-OFDM 256QAM	1	1	12.90	12.94	13.05	13.50			
		1	104	12.57	12.59	12.67	13.50			
		50	25	12.63	12.71	12.77	13.50			
60MHz	DFT-s-OFDM BPSK	1	1	16.31	16.34	16.38	17.00			
		1	160	15.95	15.98	15.99	17.00			
		81	40	16.17	16.19	16.28	17.00			
		162	0	16.17	16.21	16.27	17.00			
	DFT-s-OFDM QPSK	1	1	16.33	16.37	16.42	17.00			
		1	160	16.14	16.20	16.26	17.00			
		81	40	16.15	16.18	16.26	17.00			
	DFT-s-OFDM 16QAM	162	0	16.02	16.04	16.15	17.00			
		1	1	16.14	16.14	16.23	17.00			
		1	160	15.96	15.98	16.01	17.00			
	DFT-s-OFDM 64QAM	81	40	16.11	16.15	16.19	17.00			
		1	1	15.01	15.04	15.12	15.50			
		1	160	14.73	14.77	14.83	15.50			
	DFT-s-OFDM 256QAM	81	40	14.63	14.67	14.72	15.50			
		1	1	12.85	12.92	13.03	13.50			
		1	160	12.55	12.56	12.65	13.50			
			81	40	12.64	12.70	12.78	13.50		
			Bandwidth	Modulation	RB allocation	offset	21.96			Tune-up
							632666/3490	633332/3500	633998/3510	
	80MHz	DFT-s-OFDM BPSK	1	1	16.28	16.30	16.35	17.00		
			1	215	15.94	15.94	15.97	17.00		
			108	54	16.15	16.18	16.25	17.00		
			216	0	16.14	16.16	16.23	17.00		
		DFT-s-OFDM QPSK	1	1	16.31	16.33	16.39	17.00		
1			215	16.11	16.15	16.22	17.00			
108			54	16.12	16.13	16.22	17.00			
DFT-s-OFDM 16QAM		216	0	15.99	16.00	16.10	17.00			
		1	1	16.11	16.12	16.19	17.00			
		1	215	15.93	15.95	15.99	17.00			
DFT-s-OFDM 64QAM		108	54	16.08	16.11	16.16	17.00			
		1	1	14.98	15.02	15.09	15.50			
		1	215	14.70	14.72	14.79	15.50			
DFT-s-OFDM 256QAM		108	54	14.61	14.63	14.69	15.50			
		1	1	12.83	12.88	12.98	13.50			
		1	215	12.51	12.54	12.61	13.50			
			108	54	12.58	12.64	12.72	13.50		



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				/	633332/3500	/	
100MHz	DFT-s-OFDM BPSK	1	1	/	16.22	/	17.00
		1	271	/	15.90	/	17.00
		135	67	/	16.07	/	17.00
		270	0	/	16.07	/	17.00
	DFT-s-OFDM QPSK	1	1	/	16.23	/	17.00
		1	271	/	16.04	/	17.00
		135	67	/	16.05	/	17.00
		270	0	/	15.91	/	17.00
	DFT-s-OFDM 16QAM	1	1	/	16.05	/	17.00
		1	271	/	15.87	/	17.00
		135	67	/	16.03	/	17.00
	DFT-s-OFDM 64QAM	1	1	/	14.90	/	15.50
		1	271	/	14.63	/	15.50
		135	67	/	14.53	/	15.50
	DFT-s-OFDM 256QAM	1	1	/	12.75	/	13.50
		1	271	/	12.45	/	13.50
		135	67	/	12.52	/	13.50

NR Band 78								
Full Power & Receiver on & Receiver off & Hotspot on-Ant10(SA)				Maximum Output Power (dBm)			Tune-up	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)				
				647334/3710	650000/3750	652666/3790		
20MHz	DFT-s-OFDM BPSK	1	1	16.12	16.28	16.18	17.00	
		1	49	16.08	16.19	16.13	17.00	
		25	12	16.11	16.25	16.20	17.00	
		50	0	16.14	16.32	16.22	17.00	
	DFT-s-OFDM QPSK	1	1	16.14	16.32	16.23	17.00	
		1	49	16.20	16.35	16.28	17.00	
		25	12	16.10	16.27	16.18	17.00	
	DFT-s-OFDM 16QAM	50	0	15.77	15.93	15.87	17.00	
		1	1	15.90	15.98	15.97	17.00	
		1	49	16.09	16.22	16.14	17.00	
	DFT-s-OFDM 64QAM	25	12	16.00	16.11	16.05	17.00	
		1	1	14.83	14.98	14.91	15.50	
		1	49	14.92	15.10	15.00	15.50	
	DFT-s-OFDM 256QAM	25	12	14.62	14.80	14.71	15.50	
		1	1	12.64	12.81	12.75	13.50	
		1	49	12.65	12.72	12.71	13.50	
			25	12	12.60	12.73	12.66	13.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				648000/3720	650000/3750	652000/3780	
40MHz	DFT-s-OFDM BPSK	1	1	16.09	16.24	16.15	17.00
		1	104	16.07	16.15	16.11	17.00
		50	25	16.09	16.24	16.17	17.00
		100	0	16.11	16.27	16.18	17.00
	DFT-s-OFDM QPSK	1	1	16.12	16.28	16.20	17.00
		1	104	16.17	16.30	16.24	17.00
		50	25	16.07	16.22	16.14	17.00
	DFT-s-OFDM 16QAM	100	0	15.74	15.89	15.82	17.00
		1	1	15.87	15.96	15.93	17.00
		1	104	16.06	16.19	16.12	17.00
	DFT-s-OFDM 64QAM	50	25	15.97	16.07	16.02	17.00
		1	1	14.80	14.96	14.88	15.50
		1	104	14.89	15.05	14.96	15.50
	DFT-s-OFDM 256QAM	50	25	14.60	14.76	14.68	15.50
		1	1	12.62	12.77	12.70	13.50
1		104	12.61	12.70	12.67	13.50	
50	25	12.54	12.67	12.60	13.50		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				648666/3730	650000/3750	651334/3770	
60MHz	DFT-s-OFDM BPSK	1	1	16.07	16.19	16.12	17.00
		1	160	16.06	16.15	16.09	17.00
		81	40	16.05	16.18	16.12	17.00
		162	0	16.09	16.23	16.15	17.00
	DFT-s-OFDM QPSK	1	1	16.10	16.24	16.15	17.00
		1	160	16.14	16.29	16.21	17.00
		81	40	16.09	16.19	16.11	17.00
	DFT-s-OFDM 16QAM	162	0	15.76	15.86	15.79	17.00
		1	1	15.89	15.95	15.91	17.00
		1	160	16.04	16.15	16.08	17.00
	DFT-s-OFDM 64QAM	81	40	15.95	16.06	16.00	17.00
		1	1	14.76	14.90	14.83	15.50
		1	160	14.87	15.01	14.93	15.50
	DFT-s-OFDM 256QAM	81	40	14.58	14.72	14.63	15.50
		1	1	12.56	12.74	12.67	13.50
1		160	12.59	12.69	12.65	13.50	
81	40	12.55	12.66	12.60	13.50		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				649334/3740	650000/3750	650666/3760	
80MHz	DFT-s-OFDM BPSK	1	1	16.04	16.15	16.09	17.00
		1	215	16.05	16.11	16.07	17.00
		108	54	16.03	16.17	16.09	17.00



		216	0	16.06	16.18	16.11	17.00	
	DFT-s-OFDM QPSK	1	1	16.08	16.20	16.12	17.00	
		1	215	16.11	16.24	16.17	17.00	
		108	54	16.06	16.14	16.07	17.00	
		216	0	15.73	15.82	15.74	17.00	
	DFT-s-OFDM 16QAM	1	1	15.86	15.93	15.87	17.00	
		1	215	16.01	16.12	16.06	17.00	
		108	54	15.92	16.02	15.97	17.00	
	DFT-s-OFDM 64QAM	1	1	14.73	14.88	14.80	15.50	
		1	215	14.84	14.96	14.89	15.50	
		108	54	14.56	14.68	14.60	15.50	
	DFT-s-OFDM 256QAM	1	1	12.54	12.70	12.62	13.50	
1		215	12.55	12.67	12.61	13.50		
108		54	12.49	12.60	12.54	13.50		
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				/	650000/3750	/		
100MHz	DFT-s-OFDM BPSK	1	1	/	15.95	/	17.00	
		1	271	/	16.01	/	17.00	
		135	67	/	15.96	/	17.00	
		270	0	/	15.97	/	17.00	
	DFT-s-OFDM QPSK	1	1	/	16.00	/	17.00	
		1	271	/	16.05	/	17.00	
		135	67	/	15.98	/	17.00	
		270	0	/	15.66	/	17.00	
		DFT-s-OFDM 16QAM	1	1	/	15.83	/	17.00
			1	271	/	15.94	/	17.00
	135		67	/	15.87	/	17.00	
	DFT-s-OFDM 64QAM	1	1	/	14.65	/	15.50	
		1	271	/	14.75	/	15.50	
		135	67	/	14.48	/	15.50	
	DFT-s-OFDM 256QAM	1	1	/	12.47	/	13.50	
		1	271	/	12.52	/	13.50	
		135	67	/	12.42	/	13.50	

9.5 WLAN Mode

Wi-Fi 2.4G Full Power & Receiver off & WWAN+WLAN Receiver off-Ant7	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	20.00	18.28
	6/2437	20.00	18.14
	11/2462	20.00	18.15
802.11g (6M)	1/2412	20.00	18.02
	6/2437	20.00	17.72
	11/2462	20.00	17.74
802.11n-HT20 (MCS0)	1/2412	19.50	17.51
	6/2437	19.50	17.32
	11/2462	19.50	17.19
802.11n-HT40 (MCS0)	3/2422	19.00	16.77
	6/2437	19.00	17.04
	9/2452	19.00	16.87
802.11ax HE20 (MCS0)	1/2412	19.50	17.17
	6/2437	19.50	17.07
	11/2462	19.50	17.13
802.11ax HE40 (MCS0)	3/2422	19.00	16.66
	6/2437	19.00	16.72
	9/2452	19.00	16.78

Note: Initial test configuration is 802.11b mode.

Wi-Fi 2.4G Receiver on-Ant7	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	15.00	14.32
	6/2437	15.00	13.84
	11/2462	15.00	13.92
802.11g (6M)	1/2412	15.00	13.73
	6/2437	15.00	13.56
	11/2462	15.00	13.35
802.11n-HT20 (MCS0)	1/2412	14.50	13.13
	6/2437	14.50	12.63
	11/2462	14.50	12.52



802.11n-HT40 (MCS0)	3/2422	14.00	12.30
	6/2437	14.00	12.46
	9/2452	14.00	12.58
802.11ax HE20 (MCS0)	1/2412	14.50	12.91
	6/2437	14.50	12.77
	11/2462	14.50	12.91
802.11ax HE40 (MCS0)	3/2422	14.00	12.44
	6/2437	14.00	12.57
	9/2452	14.00	12.52

Note: Initial test configuration is 802.11b mode.

Wi-Fi 2.4G WWAN+WLAN Receiver on-Ant7 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11b (1M)	1/2412	13.00	12.66
	6/2437	13.00	12.00
	11/2462	13.00	12.10
802.11g (6M)	1/2412	13.00	11.99
	6/2437	13.00	11.72
	11/2462	13.00	11.63
802.11n-HT20 (MCS0)	1/2412	13.00	11.53
	6/2437	13.00	11.20
	11/2462	13.00	11.03
802.11n-HT40 (MCS0)	3/2422	12.50	10.69
	6/2437	12.50	10.91
	9/2452	12.50	10.84
802.11ax HE20 (MCS0)	1/2412	13.00	11.17
	6/2437	13.00	11.05
	11/2462	13.00	11.13
802.11ax HE40 (MCS0)	3/2422	12.50	10.62
	6/2437	12.50	10.72
	9/2452	12.50	10.73

Note: Initial test configuration is 802.11b mode.



Wi-Fi 2.4G Full Power & Receiver off & WWAN+WLAN Receiver off-Ant9	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	20.00	18.38
	6/2437	20.00	18.25
	11/2462	20.00	18.21
802.11g (6M)	1/2412	20.00	18.08
	6/2437	20.00	18.05
	11/2462	20.00	18.10
802.11n-HT20 (MCS0)	1/2412	19.50	17.90
	6/2437	19.50	17.83
	11/2462	19.50	17.71
802.11n-HT40 (MCS0)	3/2422	19.00	17.25
	6/2437	19.00	17.03
	9/2452	19.00	17.16
802.11ax HE20 (MCS0)	1/2412	19.50	17.72
	6/2437	19.50	17.49
	11/2462	19.50	17.41
802.11ax HE40 (MCS0)	3/2422	19.00	17.13
	6/2437	19.00	17.20
	9/2452	19.00	17.10

Note: Initial test configuration is 802.11b mode.

Wi-Fi 2.4G Receiver on-Ant9	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11b (1M)	1/2412	17.00	15.41
	6/2437	17.00	15.23
	11/2462	17.00	15.33
802.11g (6M)	1/2412	17.00	15.18
	6/2437	17.00	15.09
	11/2462	17.00	15.15
802.11n-HT20 (MCS0)	1/2412	16.50	14.84
	6/2437	16.50	14.84
	11/2462	16.50	14.70
802.11n-HT40 (MCS0)	3/2422	16.00	14.28
	6/2437	16.00	14.11
	9/2452	16.00	14.29



802.11ax HE20 (MCS0)	1/2412	16.50	14.82
	6/2437	16.50	14.59
	11/2462	16.50	14.62
802.11ax HE40 (MCS0)	3/2422	16.00	14.17
	6/2437	16.00	14.23
	9/2452	16.00	14.06

Note: Initial test configuration is 802.11b mode.

Wi-Fi 2.4G WWAN+WLAN Receiver on- Ant9 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11b (1M)	1/2412	16.00	15.43
	6/2437	16.00	15.27
	11/2462	16.00	15.22
802.11g (6M)	1/2412	16.00	15.02
	6/2437	16.00	15.02
	11/2462	16.00	15.12
802.11n-HT20 (MCS0)	1/2412	16.00	14.92
	6/2437	16.00	14.82
	11/2462	16.00	14.71
802.11n-HT40 (MCS0)	3/2422	16.00	14.27
	6/2437	16.00	14.02
	9/2452	16.00	14.17
802.11ax HE20 (MCS0)	1/2412	16.00	14.78
	6/2437	16.00	14.58
	11/2462	16.00	14.48
802.11ax HE40 (MCS0)	3/2422	16.00	14.17
	6/2437	16.00	14.22
	9/2452	16.00	14.09

Note: Initial test configuration is 802.11b mode.



Wi-Fi 2.4G Full Power & Receiver off- MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	1/2412	22.51	21.28	18.37	18.16
	6/2437	22.51	21.39	18.32	18.43
	11/2462	22.51	21.41	18.48	18.32
802.11n-HT40 (MCS0)	3/2422	22.51	21.13	18.07	18.16
	6/2437	22.51	21.17	18.18	18.13
	9/2452	22.51	20.86	17.92	17.77
802.11ax HE20 (MCS0)	1/2412	22.51	21.25	18.30	18.17
	6/2437	22.51	21.34	18.28	18.37
	11/2462	22.51	21.33	18.37	18.26
802.11ax HE40 (MCS0)	3/2422	22.51	21.10	18.07	18.11
	6/2437	22.51	21.12	18.14	18.07
	9/2452	22.51	20.77	17.85	17.67

Note: Initial test configuration is 802.11n-HT20 mode.

Wi-Fi 2.4G WWAN+WLAN Receiver off-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	1/2412	20.01	18.11	14.76	15.42
	6/2437	20.01	18.21	14.75	15.60
	11/2462	20.01	18.33	14.99	15.63
802.11n-HT40 (MCS0)	3/2422	20.01	18.28	15.08	15.46
	6/2437	20.01	18.13	14.90	15.32
	9/2452	20.01	18.12	14.92	15.30
802.11ax HE20 (MCS0)	1/2412	20.01	18.24	14.99	15.46
	6/2437	20.01	18.02	14.72	15.28
	11/2462	20.01	18.02	14.83	15.19
802.11ax HE40 (MCS0)	3/2422	20.01	18.18	14.97	15.36
	6/2437	20.01	18.27	14.88	15.60
	9/2452	20.01	18.25	14.86	15.59

Note: Initial test configuration is 802.11n-HT20 mode.



Wi-Fi 2.4G Receiver on-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	1/2412	18.01	16.25	12.87	13.58
	6/2437	18.01	16.23	12.75	13.64
	11/2462	18.01	16.46	13.10	13.77
802.11n-HT40 (MCS0)	3/2422	18.01	16.43	13.19	13.63
	6/2437	18.01	16.25	12.98	13.48
	9/2452	18.01	16.23	13.02	13.41
802.11ax HE20 (MCS0)	1/2412	18.01	16.33	13.01	13.61
	6/2437	18.01	16.10	12.73	13.42
	11/2462	18.01	16.03	12.80	13.23
802.11ax HE40 (MCS0)	3/2422	18.01	16.29	13.06	13.48
	6/2437	18.01	16.34	12.95	13.67
	9/2452	18.01	16.40	13.00	13.75

Note: Initial test configuration is 802.11n-HT20 mode.

Wi-Fi 2.4G WWAN+WLAN Receiver on-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	1/2412	14.01	12.20	8.86	9.49
	6/2437	14.01	12.22	8.77	9.61
	11/2462	14.01	12.41	9.08	9.70
802.11n-HT40 (MCS0)	3/2422	14.01	12.37	9.18	9.54
	6/2437	14.01	12.16	8.94	9.35
	9/2452	14.01	12.15	8.96	9.31
802.11ax HE20 (MCS0)	1/2412	14.01	12.27	9.00	9.51
	6/2437	14.01	12.06	8.72	9.36
	11/2462	14.01	12.02	8.79	9.21
802.11ax HE40 (MCS0)	3/2422	14.01	12.24	9.05	9.41
	6/2437	14.01	12.31	8.94	9.63
	9/2452	14.01	12.34	8.97	9.67

Note: Initial test configuration is 802.11n-HT20 mode.



Wi-Fi 5G (U-NII-1) Full Power&Receiver off&WWAN+WLAN Receiver off-Ant7	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	18.50	16.82
	40/5200	18.50	16.75
	48/5240	18.50	16.85
802.11n-HT20 (MCS0)	36/5180	18.00	16.26
	40/5200	18.00	16.10
	48/5240	18.00	16.00
802.11n-HT40 (MCS0)	38/5190	17.00	15.44
	46/5230	17.00	15.37
802.11ac-VHT20 (MCS0)	36/5180	17.50	15.84
	40/5200	17.50	15.72
	48/5240	17.50	15.85
802.11ac-VHT40 (MCS0)	38/5190	17.00	15.14
	46/5230	17.00	15.09
802.11ac-VHT80 (MCS0)	42/5210	17.00	15.35
802.11ax HE20 (MCS0)	36/5180	17.50	15.91
	40/5200	17.50	15.75
	48/5240	17.50	15.76
802.11ax HE40 (MCS0)	38/5190	17.00	15.13
	46/5230	17.00	14.96
802.11ax HE80 (MCS0)	42/5210	16.50	14.79

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-2A) Full Power&Receiver off&WWAN+WLAN Receiver off-Ant7 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	52/5260	18.50	16.77
	60/5300	18.50	16.74
	64/5320	18.50	16.85
802.11n-HT20 (MCS0)	52/5260	18.00	16.07
	60/5300	18.00	16.20
	64/5320	18.00	16.18
802.11n-HT40 (MCS0)	54/5270	17.00	15.30
	62/5310	17.00	15.42
802.11ac-VHT20 (MCS0)	52/5260	17.50	15.30
	60/5300	17.50	15.26
	64/5320	17.50	15.42
802.11ac-VHT40 (MCS0)	54/5270	17.00	15.15
	62/5310	17.00	15.02
802.11ac-VHT80 (MCS0)	58/5290	17.00	15.47
802.11ax HE20 (MCS0)	52/5260	17.50	15.73
	60/5300	17.50	15.70
	64/5320	17.50	15.61
802.11ax HE40 (MCS0)	54/5270	17.00	14.99
	62/5310	17.00	15.48
802.11ax HE80 (MCS0)	58/5290	16.50	15.03

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-2C) Full Power&Receiver off&WWAN+WLAN Receiver off-Ant7 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	18.50	16.78
	116/5580	18.50	16.82
	132/5660	18.50	16.81
	140/5700	18.50	16.78
802.11n-HT20 (MCS0)	100/5500	18.00	16.47
	116/5580	18.00	16.22
	132/5660	18.00	16.26
	140/5700	18.00	16.30
802.11n-HT40 (MCS0)	102/5510	17.00	15.24
	110/5550	17.00	14.97
	118/5590	17.00	15.26
	134/5670	17.00	15.36
802.11ac-VHT20 (MCS0)	100/5500	17.50	15.79
	116/5580	17.50	15.65
	132/5660	17.50	15.67
	140/5700	17.50	15.76
802.11ac-VHT40 (MCS0)	102/5510	17.00	15.40
	110/5550	17.00	15.41
	118/5590	17.00	15.19
	134/5670	17.00	15.05
802.11ac-VHT80 (MCS0)	106/5530	17.00	15.29
	122/5610	17.00	15.43
802.11ax HE20 (MCS0)	100/5500	17.50	15.88
	116/5580	17.50	15.82
	132/5660	17.50	15.75
	140/5700	17.50	16.00
802.11ax HE40 (MCS0)	102/5510	17.00	15.35
	110/5550	17.00	15.34
	118/5590	17.00	15.29
	134/5670	17.00	15.36
802.11ax HE80 (MCS0)	106/5530	16.50	14.92
	122/5610	16.50	14.62

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-3) Full Power&Receiver off&WWAN+WLAN Receiver off-Ant7	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	149/5745	18.00	16.12
	157/5785	18.00	16.21
	165/5825	18.00	16.34
802.11n-HT20 (MCS0)	149/5745	18.00	15.99
	157/5785	18.00	16.12
	165/5825	18.00	16.33
802.11n-HT40 (MCS0)	151/5755	18.00	16.04
	159/5795	18.00	15.82
802.11ac-VHT20 (MCS0)	149/5745	18.00	15.98
	157/5785	18.00	16.14
	165/5825	18.00	16.29
802.11ac-VHT40 (MCS0)	151/5755	18.00	15.99
	159/5795	18.00	15.82
802.11ac-VHT80 (MCS0)	155/5775	18.00	16.13
802.11ax HE20 (MCS0)	149/5745	18.00	16.03
	157/5785	18.00	16.17
	165/5825	18.00	16.33
802.11ax HE40 (MCS0)	151/5755	18.00	15.94
	159/5795	18.00	16.27
802.11ax HE80 (MCS0)	155/5775	18.00	16.21

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-1) Receiver on-Ant7	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	11.00	9.08
	40/5200	11.00	9.02
	48/5240	11.00	9.21
802.11n-HT20 (MCS0)	36/5180	11.00	8.84
	40/5200	11.00	9.09
	48/5240	11.00	8.90
802.11n-HT40 (MCS0)	38/5190	11.00	8.95
	46/5230	11.00	8.85
802.11ac-VHT20 (MCS0)	36/5180	11.00	9.07
	40/5200	11.00	9.18
	48/5240	11.00	9.10
802.11ac-VHT40 (MCS0)	38/5190	11.00	9.13
	46/5230	11.00	9.09
802.11ac-VHT80 (MCS0)	42/5210	11.00	8.92
802.11ax HE20 (MCS0)	36/5180	11.00	8.97
	40/5200	11.00	8.68
	48/5240	11.00	8.72
802.11ax HE40 (MCS0)	38/5190	11.00	9.08
	46/5230	11.00	9.03
802.11ax HE80 (MCS0)	42/5210	11.00	8.87

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-2A) Receiver on-Ant7	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	52/5260	11.00	9.50
	60/5300	11.00	9.36
	64/5320	11.00	9.89
802.11n-HT20 (MCS0)	52/5260	11.00	9.84
	60/5300	11.00	9.67
	64/5320	11.00	9.76
802.11n-HT40 (MCS0)	54/5270	11.00	9.40
	62/5310	11.00	9.61
802.11ac-VHT20 (MCS0)	52/5260	11.00	8.87
	60/5300	11.00	8.88
	64/5320	11.00	9.00
802.11ac-VHT40 (MCS0)	54/5270	11.00	9.87
	62/5310	11.00	9.71
802.11ac-VHT80 (MCS0)	58/5290	11.00	9.17
802.11ax HE20 (MCS0)	52/5260	11.00	9.42
	60/5300	11.00	9.27
	64/5320	11.00	9.26
802.11ax HE40 (MCS0)	54/5270	11.00	9.19
	62/5310	11.00	9.76
802.11ax HE80 (MCS0)	58/5290	11.00	9.30

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-2C) Receiver on-Ant7 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	13.50	12.00
	116/5580	13.50	12.26
	132/5660	13.50	12.05
	140/5700	13.50	12.03
802.11n-HT20 (MCS0)	100/5500	13.00	11.59
	116/5580	13.00	11.27
	132/5660	13.00	11.07
	140/5700	13.00	11.26
802.11n-HT40 (MCS0)	102/5510	12.00	10.06
	110/5550	12.00	10.01
	118/5590	12.00	10.23
	134/5670	12.00	10.34
802.11ac-VHT20 (MCS0)	100/5500	12.50	10.76
	116/5580	12.50	10.63
	132/5660	12.50	10.63
	140/5700	12.50	10.58
802.11ac-VHT40 (MCS0)	102/5510	12.00	10.44
	110/5550	12.00	10.38
	118/5590	12.00	10.31
	134/5670	12.00	10.16
802.11ac-VHT80 (MCS0)	106/5530	12.00	10.15
	122/5610	12.00	10.07
802.11ax HE20 (MCS0)	100/5500	12.50	10.73
	116/5580	12.50	10.68
	132/5660	12.50	10.59
	140/5700	12.50	10.84
802.11ax HE40 (MCS0)	102/5510	12.00	10.16
	110/5550	12.00	10.28
	118/5590	12.00	10.19
	134/5670	12.00	10.34
802.11ax HE80 (MCS0)	106/5530	11.50	9.88
	122/5610	11.50	9.63

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-3) Receiver on-Ant7 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	149/5745	13.00	11.24
	157/5785	13.00	11.19
	165/5825	13.00	11.41
802.11n-HT20 (MCS0)	149/5745	13.00	11.11
	157/5785	13.00	11.16
	165/5825	13.00	11.34
802.11n-HT40 (MCS0)	151/5755	13.00	11.10
	159/5795	13.00	10.84
802.11ac-VHT20 (MCS0)	149/5745	13.00	10.92
	157/5785	13.00	11.08
	165/5825	13.00	11.16
802.11ac-VHT40 (MCS0)	151/5755	13.00	10.94
	159/5795	13.00	10.78
802.11ac-VHT80 (MCS0)	155/5775	13.00	11.09
802.11ax HE20 (MCS0)	149/5745	13.00	11.09
	157/5785	13.00	11.15
	165/5825	13.00	11.35
802.11ax HE40 (MCS0)	151/5755	13.00	10.89
	159/5795	13.00	11.30
802.11ax HE80 (MCS0)	155/5775	13.00	11.33

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-1) Full Power&Receiver off&WWAN+WLAN Receiver off-Ant9 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	21.00	19.12
	40/5200	21.00	19.32
	48/5240	21.00	19.06
802.11n-HT20 (MCS0)	36/5180	20.50	18.55
	40/5200	20.50	18.60
	48/5240	20.50	18.70
802.11n-HT40 (MCS0)	38/5190	19.50	17.56
	46/5230	19.50	17.62
802.11ac-VHT20 (MCS0)	36/5180	20.00	18.26
	40/5200	20.00	18.24
	48/5240	20.00	18.15
802.11ac-VHT40 (MCS0)	38/5190	19.50	17.69
	46/5230	19.50	17.50
802.11ac-VHT80 (MCS0)	42/5210	19.50	17.93
802.11ax HE20 (MCS0)	36/5180	20.00	18.13
	40/5200	20.00	18.15
	48/5240	20.00	18.32
802.11ax HE40 (MCS0)	38/5190	19.50	17.61
	46/5230	19.50	17.58
802.11ax HE80 (MCS0)	42/5210	19.00	17.32

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-2A) Full Power&Receiver off&WWAN+WLAN Receiver off-Ant9 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	52/5260	21.00	19.02
	60/5300	21.00	19.10
	64/5320	21.00	19.15
802.11n-HT20 (MCS0)	52/5260	20.50	18.65
	60/5300	20.50	18.75
	64/5320	20.50	18.69
802.11n-HT40 (MCS0)	54/5270	19.50	17.65
	62/5310	19.50	17.58
802.11ac-VHT20 (MCS0)	52/5260	20.00	18.11
	60/5300	20.00	18.13
	64/5320	20.00	18.02
802.11ac-VHT40 (MCS0)	54/5270	19.50	17.46
	62/5310	19.50	17.68
802.11ac-VHT80 (MCS0)	58/5290	19.50	17.71
802.11ax HE20 (MCS0)	52/5260	20.00	18.25
	60/5300	20.00	18.42
	64/5320	20.00	18.43
802.11ax HE40 (MCS0)	54/5270	19.50	17.62
	62/5310	19.50	17.54
802.11ax HE80 (MCS0)	58/5290	19.00	17.28

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-2C) Full Power&Receiver off&WWAN+WLAN Receiver off-Ant9 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	21.00	19.05
	116/5580	21.00	19.01
	132/5660	21.00	19.10
	140/5700	21.00	19.19
802.11n-HT20 (MCS0)	100/5500	20.50	18.74
	116/5580	20.50	18.60
	132/5660	20.50	18.52
	140/5700	20.50	18.59
802.11n-HT40 (MCS0)	102/5510	19.50	17.61
	110/5550	19.50	17.52
	118/5590	19.50	17.44
	134/5670	19.50	17.60
802.11ac-VHT20 (MCS0)	100/5500	20.00	18.08
	116/5580	20.00	17.95
	132/5660	20.00	18.10
	140/5700	20.00	18.11
802.11ac-VHT40 (MCS0)	102/5510	19.50	17.54
	110/5550	19.50	17.38
	118/5590	19.50	17.62
	134/5670	19.50	17.53
802.11ac-VHT80 (MCS0)	106/5530	19.50	17.53
	122/5610	19.50	17.62
802.11ax HE20 (MCS0)	100/5500	20.00	18.08
	116/5580	20.00	17.92
	132/5660	20.00	17.96
	140/5700	20.00	18.04
802.11ax HE40 (MCS0)	102/5510	19.50	17.52
	110/5550	19.50	17.23
	118/5590	19.50	17.52
	134/5670	19.50	17.62
802.11ax HE80 (MCS0)	106/5530	19.00	17.15
	122/5610	19.00	17.22

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-3) Full Power&Receiver off&WWAN+WLAN Receiver off-Ant9	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	149/5745	15.50	13.53
	157/5785	15.50	13.81
	165/5825	15.50	13.75
802.11n-HT20 (MCS0)	149/5745	15.50	13.80
	157/5785	15.50	13.79
	165/5825	15.50	13.62
802.11n-HT40 (MCS0)	151/5755	15.50	13.75
	159/5795	15.50	13.66
802.11ac-VHT20 (MCS0)	149/5745	15.50	13.53
	157/5785	15.50	13.49
	165/5825	15.50	13.62
802.11ac-VHT40 (MCS0)	151/5755	15.50	13.73
	159/5795	15.50	13.72
802.11ac-VHT80 (MCS0)	155/5775	15.50	13.50
802.11ax HE20 (MCS0)	149/5745	15.50	13.54
	157/5785	15.50	13.51
	165/5825	15.50	13.66
802.11ax HE40 (MCS0)	151/5755	15.50	13.62
	159/5795	15.50	13.52
802.11ax HE80 (MCS0)	155/5775	15.50	13.60

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.

Wi-Fi 5G (U-NII-1) Receiver on-Ant9	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	36/5180	16.00	14.27
	40/5200	16.00	14.35
	48/5240	16.00	14.16
802.11n-HT20 (MCS0)	36/5180	15.50	13.69
	40/5200	15.50	13.67
	48/5240	15.50	13.76
802.11n-HT40 (MCS0)	38/5190	14.50	12.68
	46/5230	14.50	12.67
802.11ac-VHT20 (MCS0)	36/5180	15.00	13.24
	40/5200	15.00	13.23
	48/5240	15.00	13.09
802.11ac-VHT40 (MCS0)	38/5190	14.50	12.69
	46/5230	14.50	12.52
802.11ac-VHT80 (MCS0)	42/5210	14.50	12.94
802.11ax HE20 (MCS0)	36/5180	15.00	13.22
	40/5200	15.00	13.17
	48/5240	15.00	13.37
802.11ax HE40 (MCS0)	38/5190	14.50	12.61
	46/5230	14.50	12.64
802.11ax HE80 (MCS0)	42/5210	14.00	12.46

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.

Wi-Fi 5G (U-NII-2A) Receiver on-Ant9	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	52/5260	15.50	13.69
	60/5300	15.50	13.57
	64/5320	15.50	13.82
802.11n-HT20 (MCS0)	52/5260	15.00	13.35
	60/5300	15.00	13.44
	64/5320	15.00	13.30
802.11n-HT40 (MCS0)	54/5270	14.00	12.22
	62/5310	14.00	12.14
802.11ac-VHT20 (MCS0)	52/5260	14.50	12.61
	60/5300	14.50	12.62
	64/5320	14.50	12.43
802.11ac-VHT40 (MCS0)	54/5270	14.00	12.04
	62/5310	14.00	12.26
802.11ac-VHT80 (MCS0)	58/5290	14.00	12.28
802.11ax HE20 (MCS0)	52/5260	14.50	12.93
	60/5300	14.50	12.92
	64/5320	14.50	13.04
802.11ax HE40 (MCS0)	54/5270	14.00	12.19
	62/5310	14.00	12.24
802.11ax HE80 (MCS0)	58/5290	13.50	11.98

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-2C) Receiver on-Ant9 Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	14.50	12.77
	116/5580	14.50	12.59
	132/5660	14.50	12.82
	140/5700	14.50	12.93
802.11n-HT20 (MCS0)	100/5500	14.00	12.40
	116/5580	14.00	12.20
	132/5660	14.00	12.08
	140/5700	14.00	12.23
802.11n-HT40 (MCS0)	102/5510	13.00	11.13
	110/5550	13.00	11.12
	118/5590	13.00	10.82
	134/5670	13.00	11.18
802.11ac-VHT20 (MCS0)	100/5500	13.50	11.66
	116/5580	13.50	11.53
	132/5660	13.50	11.66
	140/5700	13.50	11.55
802.11ac-VHT40 (MCS0)	102/5510	13.00	11.06
	110/5550	13.00	10.76
	118/5590	13.00	11.04
	134/5670	13.00	10.87
802.11ac-VHT80 (MCS0)	106/5530	13.00	10.78
	122/5610	13.00	11.05
802.11ax HE20 (MCS0)	100/5500	13.50	11.51
	116/5580	13.50	11.33
	132/5660	13.50	11.45
	140/5700	13.50	11.52
802.11ax HE40 (MCS0)	102/5510	13.00	10.99
	110/5550	13.00	10.64
	118/5590	13.00	11.00
	134/5670	13.00	11.00
802.11ax HE80 (MCS0)	106/5530	12.50	10.68
	122/5610	12.50	10.73

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-3) Receiver on-Ant7	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
Mode			
802.11a (6M)	149/5745	15.50	13.53
	157/5785	15.50	13.81
	165/5825	15.50	13.75
802.11n-HT20 (MCS0)	149/5745	15.50	13.80
	157/5785	15.50	13.79
	165/5825	15.50	13.62
802.11n-HT40 (MCS0)	151/5755	15.50	13.75
	159/5795	15.50	13.66
802.11ac-VHT20 (MCS0)	149/5745	15.50	13.53
	157/5785	15.50	13.49
	165/5825	15.50	13.62
802.11ac-VHT40 (MCS0)	151/5755	15.50	13.73
	159/5795	15.50	13.72
802.11ac-VHT80 (MCS0)	155/5775	15.50	13.50
802.11ax HE20 (MCS0)	149/5745	15.50	13.54
	157/5785	15.50	13.51
	165/5825	15.50	13.66
802.11ax HE40 (MCS0)	151/5755	15.50	13.62
	159/5795	15.50	13.52
802.11ax HE80 (MCS0)	155/5775	15.50	13.60

Note. Initial test configuration is 802.11a mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-1) Full Power&Receiver off&WWAN+WLAN Receiver off-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	36/5180	22.51	21.70	18.75	18.63
	40/5200	22.51	21.72	18.72	18.70
	48/5240	22.51	21.57	18.52	18.60
802.11n-HT40 (MCS0)	38/5190	22.51	22.08	19.27	18.87
	46/5230	22.51	21.87	19.08	18.62
802.11ac-VHT20 (MCS0)	36/5180	22.51	21.76	18.87	18.62
	40/5200	22.51	21.58	18.71	18.42
	48/5240	22.51	21.65	18.68	18.59
802.11ac-VHT40 (MCS0)	38/5190	22.51	21.39	18.34	18.41
	46/5230	22.51	21.35	18.38	18.30
802.11ac-VHT80 (MCS0)	42/5210	22.51	21.91	18.93	18.86
802.11ax HE20 (MCS0)	36/5180	22.51	22.14	19.45	18.78
	40/5200	22.51	22.02	19.26	18.75
	48/5240	22.51	22.05	19.40	18.65
802.11ax HE40 (MCS0)	38/5190	22.51	21.83	18.91	18.73
	46/5230	22.51	21.73	18.75	18.68
802.11ax HE80 (MCS0)	42/5210	22.51	21.54	18.61	18.45

Note. Initial test configuration is 802.11ax HE20 mode, since the highest maximum output power.

Wi-Fi 5G (U-NII-2A) Full Power&Receiver off&WWAN+WLAN Receiver off-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	52/5260	52/5260	22.51	21.53	18.49
	60/5300	60/5300	22.51	21.40	18.43
	64/5320	64/5320	21.01	19.21	16.32
802.11n-HT40 (MCS0)	54/5270	54/5270	22.51	21.94	19.10
	62/5310	62/5310	22.51	20.82	17.87
802.11ac-VHT20 (MCS0)	52/5260	52/5260	22.51	21.58	18.71
	60/5300	60/5300	22.51	21.42	18.52
	64/5320	64/5320	21.01	19.79	16.46
802.11ac-VHT40 (MCS0)	54/5270	54/5270	22.51	21.37	18.40
	62/5310	62/5310	22.51	20.92	17.86
802.11ac-VHT80 (MCS0)	58/5290	58/5290	22.51	20.37	17.53
802.11ax HE20 (MCS0)	52/5260	52/5260	22.51	21.96	19.28
	60/5300	60/5300	22.51	21.89	19.21
	64/5320	64/5320	21.01	19.62	16.55
802.11ax HE40 (MCS0)	54/5270	54/5270	22.51	21.81	18.83
	62/5310	62/5310	22.51	20.71	17.74
802.11ax HE80 (MCS0)	58/5290	58/5290	22.51	20.40	17.52

Note. Initial test configuration is 802.11ax HE20 mode, since the highest maximum output power.



Wi-Fi 5G (U-NII-2C) Full Power&Receiver off&WWAN+WLAN Receiver off-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	100/5500	100/5500	21.01	18.63	15.47
	116/5580	116/5580	21.01	18.61	15.60
	132/5660	132/5660	21.01	18.72	15.55
	140/5700	140/5700	21.01	19.08	15.71
802.11n-HT40 (MCS0)	102/5510	102/5510	22.51	20.61	17.35
	110/5550	110/5550	22.51	20.67	17.40
	118/5590	118/5590	22.51	20.74	17.46
	134/5670	134/5670	22.51	20.89	17.33
802.11ac-VHT20 (MCS0)	100/5500	100/5500	21.01	19.19	15.98
	116/5580	116/5580	21.01	19.25	15.95
	132/5660	132/5660	21.01	19.17	15.85
	140/5700	140/5700	21.01	19.03	15.70
802.11ac-VHT40 (MCS0)	102/5510	102/5510	22.51	20.68	17.26
	110/5550	110/5550	22.51	20.69	17.45
	118/5590	118/5590	22.51	20.79	17.60
	134/5670	134/5670	22.51	20.84	17.20
802.11ac-VHT80 (MCS0)	106/5530	106/5530	22.51	21.01	17.80
	122/5610	122/5610	22.51	20.58	17.40
802.11ax HE20 (MCS0)	100/5500	100/5500	21.51	19.24	16.09
	116/5580	116/5580	21.51	19.28	16.12
	132/5660	132/5660	21.51	19.39	16.05
	140/5700	140/5700	21.51	19.57	16.19
802.11ax HE40 (MCS0)	102/5510	102/5510	22.51	20.54	17.19
	110/5550	110/5550	22.51	20.50	17.10
	118/5590	118/5590	22.51	20.41	17.05
	134/5670	134/5670	22.51	20.31	16.73
802.11ax HE80 (MCS0)	106/5530	106/5530	22.51	20.70	17.50
	122/5610	122/5610	22.51	20.37	17.02

Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power.

Wi-Fi 5G (U-NII-3) Full Power&Receiver off&WWAN+WLAN Receiver off-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	149/5745	16.51	14.65	10.87	12.29
	157/5785	16.51	14.53	11.16	11.84
	165/5825	16.51	14.74	11.43	12.00
802.11n-HT40 (MCS0)	151/5755	16.51	14.62	11.38	11.83
	159/5795	16.51	14.48	11.10	11.81
802.11ac-VHT20 (MCS0)	149/5745	16.51	14.88	11.35	12.33
	157/5785	16.51	14.80	11.37	12.18
	165/5825	16.51	14.74	11.47	11.98
802.11ac-VHT40 (MCS0)	151/5755	16.51	14.88	11.41	12.29
	159/5795	16.51	14.57	11.00	12.06
802.11ac-VHT80 (MCS0)	155/5775	16.51	14.74	11.30	12.12
802.11ax HE20 (MCS0)	149/5745	16.51	14.47	11.03	11.85
	157/5785	16.51	14.62	11.13	12.03
	165/5825	16.51	14.58	11.24	11.88
802.11ax HE40 (MCS0)	151/5755	16.51	14.56	11.25	11.83
	159/5795	16.51	14.46	11.00	11.85
802.11ax HE80 (MCS0)	155/5775	16.51	14.48	10.91	11.96

Note. Initial test configuration is 802.11ac-VHT40 mode, since the highest maximum output power.

Wi-Fi 5G (U-NII-1) Receiver on-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	36/5180	36/5180	13.51	11.79	8.83
	40/5200	40/5200	13.51	11.75	8.74
	48/5240	48/5240	13.51	11.58	8.58
802.11n-HT40 (MCS0)	38/5190	38/5190	13.51	11.66	8.86
	46/5230	46/5230	13.51	11.40	8.61
802.11ac-VHT20 (MCS0)	36/5180	36/5180	13.51	11.93	8.89
	40/5200	40/5200	13.51	11.64	8.75
	48/5240	48/5240	13.51	11.70	8.72
802.11ac-VHT40 (MCS0)	38/5190	38/5190	13.51	11.87	8.83
	46/5230	46/5230	13.51	11.87	8.89
802.11ac-VHT80 (MCS0)	42/5210	42/5210	13.51	11.41	8.43
802.11ax HE20 (MCS0)	36/5180	36/5180	13.51	11.18	8.48
	40/5200	40/5200	13.51	11.10	8.31
	48/5240	48/5240	13.51	11.10	8.43
802.11ax HE40 (MCS0)	38/5190	38/5190	13.51	11.91	8.99
	46/5230	46/5230	13.51	11.75	8.78
802.11ax HE80 (MCS0)	42/5210	42/5210	13.51	11.63	8.70

Note. Initial test configuration is 802.11ac-VHT20 mode, since the highest maximum output power.

Wi-Fi 5G (U-NII-2A) Receiver on-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	52/5260	14.01	12.13	9.07	9.16
	60/5300	14.01	11.93	8.96	8.87
	64/5320	14.01	12.32	9.40	9.21
802.11n-HT40 (MCS0)	54/5270	14.01	12.04	9.18	8.88
	62/5310	14.01	12.42	9.44	9.38
802.11ac-VHT20 (MCS0)	52/5260	14.01	12.16	9.27	9.02
	60/5300	14.01	12.03	9.11	8.93
	64/5320	14.01	12.39	9.02	9.71
802.11ac-VHT40 (MCS0)	54/5270	14.01	12.40	9.41	9.36
	62/5310	14.01	12.47	9.40	9.52
802.11ac-VHT80 (MCS0)	58/5290	14.01	11.91	9.06	8.73
802.11ax HE20 (MCS0)	52/5260	14.01	11.57	8.87	8.22
	60/5300	14.01	11.47	8.77	8.13
	64/5320	14.01	12.18	9.10	9.24
802.11ax HE40 (MCS0)	54/5270	14.01	12.40	9.41	9.37
	62/5310	14.01	12.26	9.27	9.22
802.11ax HE80 (MCS0)	58/5290	14.01	12.03	9.08	8.95

Note. Initial test configuration is 802.11ac-VHT40 mode, since the highest maximum output power.

Wi-Fi 5G (U-NII-2C) Receiver on-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	100/5500	14.01	11.87	8.82	8.90
	116/5580	14.01	11.72	8.76	8.66
	132/5660	14.01	11.95	8.88	9.00
	140/5700	14.01	12.34	9.08	9.57
802.11n-HT40 (MCS0)	102/5510	15.51	13.86	10.71	10.98
	110/5550	15.51	13.87	10.68	11.03
	118/5590	15.51	13.94	10.76	11.10
	134/5670	15.51	13.92	10.62	11.18
802.11ac-VHT20 (MCS0)	100/5500	14.01	12.28	9.11	9.43
	116/5580	14.01	12.41	9.20	9.59
	132/5660	14.01	12.27	9.06	9.45
	140/5700	14.01	12.24	9.06	9.39
802.11ac-VHT40 (MCS0)	102/5510	15.51	13.89	10.63	11.12
	110/5550	15.51	13.92	10.81	11.01
	118/5590	15.51	13.91	10.73	11.07
	134/5670	15.51	13.94	10.37	11.43
802.11ac-VHT80 (MCS0)	106/5530	15.51	13.95	10.81	11.06
	122/5610	15.51	13.75	10.61	10.87
802.11ax HE20 (MCS0)	100/5500	14.51	12.40	9.25	9.53
	116/5580	14.51	12.36	9.18	9.51
	132/5660	14.51	12.56	9.22	9.86
	140/5700	14.51	12.75	9.36	10.09
802.11ax HE40 (MCS0)	102/5510	15.51	13.71	10.35	11.03
	110/5550	15.51	13.66	10.25	11.02
	118/5590	15.51	13.57	10.17	10.92
	134/5670	15.51	13.46	9.85	10.98
802.11ax HE80 (MCS0)	106/5530	15.51	13.79	10.56	10.98
	122/5610	15.51	13.55	10.20	10.86

Note. Initial test configuration is 802.11ac-VHT80 mode, since the highest maximum output power.

Wi-Fi 5G (U-NII-3) Receiver on-MIMO (Ant7+Ant9)	Channel /Frequency(MHz)	Maximum Output Power (dBm)			
		Tune-up	Meas.	Ant9	Ant7
Mode					
802.11n-HT20 (MCS0)	149/5745	16.51	14.65	10.87	12.29
	157/5785	16.51	14.53	11.16	11.84
	165/5825	16.51	14.74	11.43	12.00
802.11n-HT40 (MCS0)	151/5755	16.51	14.62	11.38	11.83
	159/5795	16.51	14.48	11.10	11.81
802.11ac-VHT20 (MCS0)	149/5745	16.51	14.84	11.25	12.33
	157/5785	16.51	14.80	11.37	12.18
	165/5825	16.51	14.74	11.47	11.98
802.11ac-VHT40 (MCS0)	151/5755	16.51	14.88	11.41	12.29
	159/5795	16.51	14.57	11.00	12.06
802.11ac-VHT80 (MCS0)	155/5775	16.51	14.74	11.30	12.12
802.11ax HE20 (MCS0)	149/5745	16.51	14.47	11.03	11.85
	157/5785	16.51	14.62	11.13	12.03
	165/5825	16.51	14.58	11.24	11.88
802.11ax HE40 (MCS0)	151/5755	16.51	14.56	11.25	11.83
	159/5795	16.51	14.46	11.00	11.85
802.11ax HE80 (MCS0)	155/5775	16.51	14.48	10.91	11.96

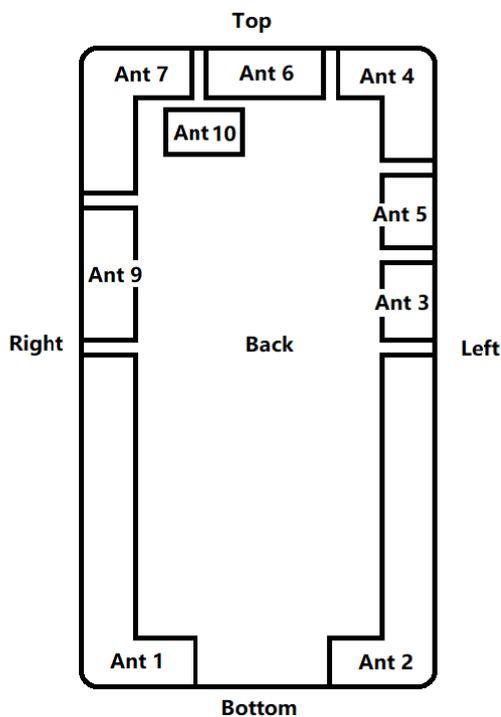
Note. Initial test configuration is 802.11ac-VHT40 mode, since the highest maximum output power.

9.6 Bluetooth Mode

BT	Conducted Power(dBm)			Tune-up Limit (dBm)
	Channel/Frequency(MHz)			
	Ch 0/2402 MHz	Ch 39/2441 MHz	Ch 78/2480 MHz	
GFSK	13.70	13.68	14.27	15.00
$\pi/4$ DQPSK	14.24	14.32	14.87	15.00
8DPSK	14.62	14.16	14.81	15.00
BLE	Ch 0/2402 MHz	Ch 19/2440 MHz	Ch 39/2480 MHz	Tune-up Limit (dBm)
GFSK (1M)	8.25	8.46	8.72	10.00
GFSK (2M)	8.70	9.09	7.84	10.00

10 Measured and Reported (Scaled) SAR Results

10.1 EUT Antenna Locations



Ant 1	GSM 850/ WCDMA 5/ LTE 5/12/28A/28B
Ant 2	GSM 1900/ WCDMA 2/ LTE 2/3/4/7/38
Ant 3	LTE 3/66/ NR n66
Ant 4	GSM 1900/ WCDMA 2/ LTE 2/3/4/7/38
Ant 5	NR n78
Ant 6	GSM 850/ WCDMA 5/ LTE 5/12/28A/28B
Ant 7	Wi-Fi 2 4G/ Wi-Fi 5G/Bluetooth
Ant 9	Wi-Fi 2 4G/ Wi-Fi 5G
Ant 10	NR n78

Overall (Length x Width): 164 mm x 75 mm						
Overall Diagonal: 178 mm/Display Diagonal: 176mm						
Distance of the Antenna to the EUT surface/edge						
Antenna	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
Ant 1	<25mm	<25mm	>25mm	<25mm	>25mm	<25mm
Ant 2	<25mm	<25mm	<25mm	>25mm	>25mm	<25mm
Ant 3	<25mm	<25mm	<25mm	>25mm	>25mm	>25mm
Ant 4	<25mm	<25mm	<25mm	>25mm	<25mm	>25mm
Ant 5	<25mm	<25mm	<25mm	>25mm	>25mm	>25mm
Ant 6	<25mm	<25mm	>25mm	>25mm	<25mm	>25mm
Ant 7	<25mm	<25mm	>25mm	<25mm	<25mm	>25mm
Ant 9	<25mm	<25mm	>25mm	<25mm	>25mm	>25mm
Ant 10	<25mm	<25mm	>25mm	<25mm	<25mm	>25mm
Hotspot mode, Positions for SAR tests						
Antenna	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
Ant 1	Yes	Yes	N/A	Yes	N/A	Yes
Ant 2	Yes	Yes	Yes	N/A	N/A	Yes
Ant 3	Yes	Yes	Yes	N/A	N/A	N/A
Ant 4	Yes	Yes	Yes	N/A	Yes	N/A



Ant 5	Yes	Yes	Yes	N/A	N/A	N/A
Ant 6	Yes	Yes	N/A	N/A	Yes	N/A
Ant 7	Yes	Yes	N/A	Yes	Yes	N/A
Ant 9	Yes	Yes	N/A	Yes	N/A	N/A
Ant 10	Yes	Yes	N/A	Yes	Yes	N/A

Note: 1. Per KDB 941225 D06, when the overall device length and width are $\geq 9\text{cm} \times 5\text{cm}$, the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

2. For smart phones with an overall diagonal dimension is 178mm. Per KDB 648474 D04, for smart phones with a display diagonal dimension $> 15.0\text{ cm}$ or an overall diagonal dimension $> 16.0\text{ cm}$, product specific 10-g SAR must be tested as a phablet to determine SAR compliance. For Phablet, Since hotspot mode 1-g reported SAR $< 1.2\text{ W/kg}$, product specific 10-g SAR is no required.

3. Per FCC KDB 447498 D01, 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:

a) $\leq 0.8\text{ W/kg}$ or 2.0 W/kg , for 1-g or 10-g respectively, when the transmission band is $\leq 100\text{MHz}$

b) $\leq 0.6\text{ W/kg}$ or 1.5 W/kg , for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.

c) $\leq 0.4\text{ W/kg}$ or 1.0 W/kg , for 1-g or 10-g respectively, when the transmission band is $\geq 200\text{ MHz}$.

4. When the original highest measured SAR is $\geq 0.80\text{ W/kg}$, the measurement was repeated once.

5. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was $\leq 1.2\text{ W/kg}$, no additional SAR evaluations using a headset cable were required.



10.2 Measured SAR Results

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2. For GSM, when multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

3. For WCDMA, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

4. For LTE, QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq 50\%$ limit(1g).

Head SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No
GSM 850	Ant 1	Left cheek	0	GSM	Receiver on	-	-	190/836.6	33.00	32.22	0.219	0.070	1.20	0.262	/
		Left Tilt	0	GSM	Receiver on	-	-	190/836.6	33.00	32.22	0.097	0.070	1.20	0.116	/
		Right cheek	0	GSM	Receiver on	-	-	190/836.6	33.00	32.22	0.227	-0.050	1.20	0.272	38
		Right Tilt	0	GSM	Receiver on	-	-	190/836.6	33.00	32.22	0.117	0.025	1.20	0.140	/
	Ant 6	Left cheek	0	GSM	Receiver on	-	-	190/836.6	31.50	30.65	0.039	0.115	1.22	0.048	/
		Left Tilt	0	GSM	Receiver on	-	-	190/836.6	31.50	30.65	0.029	0.043	1.22	0.035	/
		Right Tilt	0	GSM	Receiver on	-	-	190/836.6	31.50	30.65	0.040	-0.020	1.22	0.048	/
		Right Tilt	0	GSM	Receiver on	-	-	190/836.6	31.50	30.65	0.025	0.073	1.22	0.031	/
GSM 1900	Ant 2	Left cheek	0	GSM	Receiver on	-	-	661/1880	30.50	29.45	0.031	0.028	1.27	0.039	/
		Left Tilt	0	GSM	Receiver on	-	-	661/1880	30.50	29.45	0.018	0.065	1.27	0.023	/
		Right cheek	0	GSM	Receiver on	-	-	661/1880	30.50	29.45	0.036	0.080	1.27	0.046	/
		Right Tilt	0	GSM	Receiver on	-	-	661/1880	30.50	29.45	0.015	0.039	1.27	0.019	/
	Ant 4	Left cheek	0	GSM	Receiver on	-	-	661/1880	28.50	27.62	0.053	0.020	1.22	0.065	/
		Left Tilt	0	GSM	Receiver on	-	-	661/1880	28.50	27.62	0.089	-0.030	1.22	0.109	/
		Right cheek	0	GSM	Receiver on	-	-	661/1880	28.50	27.62	0.157	0.045	1.22	0.192	39
		Right Tilt	0	GSM	Receiver on	-	-	661/1880	28.50	27.62	0.092	0.060	1.22	0.112	/
WCDMA II	Ant 2	Left cheek	0	RMC 12.2K	Receiver on	-	-	9400/1880	25.00	24.12	0.074	0.054	1.22	0.091	/
		Left Tilt	0	RMC 12.2K	Receiver on	-	-	9400/1880	25.00	24.12	0.044	0.044	1.22	0.054	/
		Right cheek	0	RMC 12.2K	Receiver on	-	-	9400/1880	25.00	24.12	0.072	0.045	1.22	0.088	/
		Right Tilt	0	RMC 12.2K	Receiver on	-	-	9400/1880	25.00	24.12	0.058	0.032	1.22	0.071	/
	Ant 4	Left cheek	0	RMC 12.2K	Receiver on	-	-	9400/1880	23.00	22.25	0.251	0.000	1.19	0.298	/
		Left Tilt	0	RMC 12.2K	Receiver on	-	-	9400/1880	23.00	22.25	0.328	0.030	1.19	0.390	/
		Right cheek	0	RMC 12.2K	Receiver on	-	-	9400/1880	23.00	22.25	0.592	0.090	1.19	0.704	40
		Right Tilt	0	RMC 12.2K	Receiver on	-	-	9400/1880	23.00	22.25	0.563	0.070	1.19	0.669	/
WCDMA V	Ant 2	Left cheek	0	RMC 12.2K	Receiver on	-	-	4183/836.6	25.00	24.16	0.161	0.045	1.21	0.195	/
		Left Tilt	0	RMC 12.2K	Receiver on	-	-	4183/836.6	25.00	24.16	0.056	0.064	1.21	0.068	/
		Right cheek	0	RMC 12.2K	Receiver on	-	-	4183/836.6	25.00	24.16	0.246	-0.080	1.21	0.298	41



	Ant 6	Right Tilt	0	RMC 12.2K	Receiver on	-	-	4183/836.6	25.00	24.16	0.070	0.027	1.21	0.084	/
		Left cheek	0	RMC 12.2K	Receiver on	-	-	4183/836.6	23.00	22.48	0.062	0.020	1.13	0.070	/
		Left Tilt	0	RMC 12.2K	Receiver on	-	-	4183/836.6	23.00	22.48	0.057	0.029	1.13	0.064	/
		Right cheek	0	RMC 12.2K	Receiver on	-	-	4183/836.6	23.00	22.48	0.073	0.007	1.13	0.082	/
		Right Tilt	0	RMC 12.2K	Receiver on	-	-	4183/836.6	23.00	22.48	0.067	0.027	1.13	0.076	/
LTE 2	Ant 2	Left cheek	0	QPSK	Receiver on	1	50	18900/1880	25.00	24.06	0.083	0.054	1.24	0.103	/
			0	QPSK	Receiver on	50%	0	18900/1880	24.00	22.94	0.064	0.067	1.28	0.082	/
		Left Tilt	0	QPSK	Receiver on	1	50	18900/1880	25.00	24.06	0.068	0.150	1.24	0.084	/
			0	QPSK	Receiver on	50%	0	18900/1880	24.00	22.94	0.050	0.170	1.28	0.064	/
		Right cheek	0	QPSK	Receiver on	1	50	18900/1880	25.00	24.06	0.096	0.039	1.24	0.119	/
			0	QPSK	Receiver on	50%	0	18900/1880	24.00	22.94	0.083	0.060	1.28	0.106	/
	Right Tilt	0	QPSK	Receiver on	1	50	18900/1880	25.00	24.06	0.069	0.160	1.24	0.085	/	
		0	QPSK	Receiver on	50%	0	18900/1880	24.00	22.94	0.052	0.130	1.28	0.066	/	
	Ant 4	Left cheek	0	QPSK	Receiver on	1	0	18700/1860	23.00	22.58	0.282	0.140	1.10	0.311	/
			0	QPSK	Receiver on	50%	25	18700/1860	22.00	21.42	0.214	0.110	1.14	0.245	/
		Left Tilt	0	QPSK	Receiver on	1	0	18700/1860	23.00	22.58	0.332	0.060	1.10	0.366	/
			0	QPSK	Receiver on	50%	25	18700/1860	22.00	21.42	0.280	0.050	1.14	0.320	/
		Right cheek	0	QPSK	Receiver on	1	0	18700/1860	23.00	22.58	0.642	-0.017	1.10	0.707	/
			0	QPSK	Receiver on	50%	25	18700/1860	22.00	21.42	0.643	0.090	1.14	0.735	/
Right Tilt	0	QPSK	Receiver on	1	0	18700/1860	23.00	22.58	0.647	0.040	1.10	0.713	42		
	0	QPSK	Receiver on	50%	25	18700/1860	22.00	21.42	0.555	0.030	1.14	0.634	/		
LTE 3	Ant 2	Left cheek	0	QPSK	Receiver on	1	50	19575/1747.5	25.50	24.99	0.242	0.024	1.12	0.272	/
			0	QPSK	Receiver on	50%	0	19575/1747.5	24.50	23.88	0.157	0.012	1.15	0.181	/
		Left Tilt	0	QPSK	Receiver on	1	50	19575/1747.5	25.50	24.99	0.066	0.160	1.12	0.074	/
			0	QPSK	Receiver on	50%	0	19575/1747.5	24.50	23.88	0.054	0.012	1.15	0.062	/
		Right cheek	0	QPSK	Receiver on	1	50	19575/1747.5	25.50	24.99	0.172	0.080	1.12	0.193	/
			0	QPSK	Receiver on	50%	0	19575/1747.5	24.50	23.88	0.125	0.010	1.15	0.144	/
	Right Tilt	0	QPSK	Receiver on	1	50	19575/1747.5	25.50	24.99	0.085	0.020	1.12	0.095	/	
		0	QPSK	Receiver on	50%	0	19575/1747.5	24.50	23.88	0.053	-0.023	1.15	0.061	/	
	Ant 3	Left cheek	0	QPSK	Receiver on	1	50	19850/1775	22.50	21.97	0.567	0.010	1.13	0.641	/
			0	QPSK	Receiver on	50%	25	19300/1720	21.50	20.76	0.349	0.090	1.19	0.414	/
		Left Tilt	0	QPSK	Receiver on	1	50	19850/1775	22.50	21.97	0.252	-0.021	1.13	0.285	/
			0	QPSK	Receiver on	50%	25	19300/1720	21.50	20.76	0.158	0.022	1.19	0.187	/
		Right cheek	0	QPSK	Receiver on	1	50	19850/1775	22.50	21.97	0.709	0.090	1.13	0.801	43
			0	QPSK	Receiver on	1	99	19575/1747.5	22.50	21.94	0.636	0.052	1.14	0.724	/
			0	QPSK	Receiver on	1	0	19300/1720	22.50	21.81	0.651	-0.100	1.17	0.763	/
			0	QPSK	Receiver on	50%	25	19300/1720	21.50	20.76	0.532	0.020	1.19	0.631	/
	Right Tilt	0	QPSK	Receiver on	100%	0	19300/1720	21.50	20.75	0.512	0.017	1.19	0.609	/	
		0	QPSK	Receiver on	1	50	19850/1775	22.50	21.97	0.319	0.021	1.13	0.360	/	
			0	QPSK	Receiver on	50%	25	19300/1720	21.50	20.76	0.212	-0.024	1.19	0.251	/
Ant 4	Left cheek	0	QPSK	Receiver on	1	0	19575/1747.5	23.50	22.95	0.397	0.030	1.14	0.451	/	
		0	QPSK	Receiver on	50%	0	19575/1747.5	22.50	21.84	0.168	0.011	1.16	0.196	/	
	Left Tilt	0	QPSK	Receiver on	1	0	19575/1747.5	23.50	22.95	0.608	0.100	1.14	0.690	/	



		Right cheek	0	QPSK	Receiver on	50%	0	19575/1747.5	22.50	21.84	0.255	-0.020	1.16	0.297	/	
			0	QPSK	Receiver on	1	0	19575/1747.5	23.50	22.95	0.662	0.030	1.14	0.751	/	
			0	QPSK	Receiver on	50%	0	19575/1747.5	22.50	21.84	0.487	-0.023	1.16	0.567	/	
		Right Tilt	0	QPSK	Receiver on	1	0	19575/1747.5	23.50	22.95	0.661	0.070	1.14	0.750	/	
			0	QPSK	Receiver on	50%	0	19575/1747.5	22.50	21.84	0.430	-0.021	1.16	0.501	/	
LTE 4	Ant 2	Left cheek	0	QPSK	Receiver on	1	50	20175/1732.5	25.00	24.43	0.142	-0.100	1.14	0.162	/	
			0	QPSK	Receiver on	50%	25	20300/1745	24.00	23.40	0.138	0.027	1.15	0.158	/	
		Left Tilt	0	QPSK	Receiver on	1	50	20175/1732.5	25.00	24.43	0.077	0.080	1.14	0.088	/	
			0	QPSK	Receiver on	50%	25	20300/1745	24.00	23.40	0.063	0.130	1.15	0.073	/	
		Right cheek	0	QPSK	Receiver on	1	50	20175/1732.5	25.00	24.43	0.122	0.035	1.14	0.139	/	
			0	QPSK	Receiver on	50%	25	20300/1745	24.00	23.40	0.099	0.039	1.15	0.114	/	
	Right Tilt	0	QPSK	Receiver on	1	50	20175/1732.5	25.00	24.43	0.079	0.130	1.14	0.090	/		
		0	QPSK	Receiver on	50%	25	20300/1745	24.00	23.40	0.072	0.140	1.15	0.083	/		
	Ant 4	Left cheek	0	QPSK	Receiver on	1	50	20300/1745	24.00	23.20	0.101	0.130	1.20	0.121	/	
			0	QPSK	Receiver on	50%	0	20300/1745	23.00	21.72	0.078	0.021	1.34	0.105	/	
		Left Tilt	0	QPSK	Receiver on	1	50	20300/1745	24.00	23.20	0.115	-0.010	1.20	0.138	/	
			0	QPSK	Receiver on	50%	0	20300/1745	23.00	21.72	0.096	0.140	1.34	0.129	/	
		Right cheek	0	QPSK	Receiver on	1	50	20300/1745	24.00	23.20	0.192	-0.020	1.20	0.231	/	
			0	QPSK	Receiver on	50%	0	20300/1745	23.00	21.72	0.193	0.024	1.34	0.259	/	
		Right Tilt	0	QPSK	Receiver on	1	50	20300/1745	24.00	23.20	0.245	0.080	1.20	0.295	/	
			0	QPSK	Receiver on	50%	0	20300/1745	23.00	21.72	0.257	0.030	1.34	0.345	44	
	LTE 5	Ant 1	Left cheek	0	QPSK	Receiver on	1	0	20600/844	26.00	25.10	0.282	0.051	1.23	0.347	/
				0	QPSK	Receiver on	50%	13	20600/844	25.00	24.18	0.239	0.047	1.21	0.289	/
Left Tilt			0	QPSK	Receiver on	1	0	20600/844	26.00	25.10	0.124	0.016	1.23	0.153	/	
			0	QPSK	Receiver on	50%	13	20600/844	25.00	24.18	0.103	0.031	1.21	0.124	/	
Right cheek			0	QPSK	Receiver on	1	0	20600/844	26.00	25.10	0.265	0.011	1.23	0.326	/	
			0	QPSK	Receiver on	50%	13	20600/844	25.00	24.18	0.227	-0.013	1.21	0.274	/	
Right Tilt		0	QPSK	Receiver on	1	0	20600/844	26.00	25.10	0.096	0.025	1.23	0.118	/		
		0	QPSK	Receiver on	50%	13	20600/844	25.00	24.18	0.078	0.027	1.21	0.094	/		
Ant 6		Left cheek	0	QPSK	Receiver on	1	25	20600/844	24.00	23.02	0.582	-0.040	1.25	0.729	/	
			0	QPSK	Receiver on	50%	13	20600/844	23.00	22.06	0.477	0.010	1.24	0.592	/	
		Left Tilt	0	QPSK	Receiver on	1	25	20600/844	24.00	23.02	0.673	0.060	1.25	0.843	45	
			0	QPSK	Receiver on	1	25	20450/829	24.00	22.82	0.625	-0.100	1.31	0.820	/	
			0	QPSK	Receiver on	1	49	20525/836.5	24.00	22.92	0.628	0.039	1.28	0.805	/	
			0	QPSK	Receiver on	50%	13	20600/844	23.00	22.06	0.551	0.060	1.24	0.684	/	
		Right cheek	0	QPSK	Receiver on	1	25	20600/844	24.00	23.02	0.511	0.040	1.25	0.640	/	
			0	QPSK	Receiver on	50%	13	20600/844	23.00	22.06	0.563	0.000	1.24	0.699	/	
		Right Tilt	0	QPSK	Receiver on	1	25	20600/844	24.00	23.02	0.458	-0.014	1.25	0.574	/	
			0	QPSK	Receiver on	50%	13	20600/844	23.00	22.06	0.398	0.001	1.24	0.494	/	
	LTE 7	Ant 2	Left cheek	0	QPSK	Receiver on	1	99	21350/2560	24.50	23.71	0.115	0.036	1.20	0.138	/
				0	QPSK	Receiver on	50%	25	21350/2560	23.50	22.65	0.089	0.041	1.22	0.108	/
Left Tilt			0	QPSK	Receiver on	1	99	21350/2560	24.50	23.71	0.031	0.093	1.20	0.037	/	



LTE 12	Ant 4	Right cheek	0	QPSK	Receiver on	50%	25	21350/2560	23.50	22.65	0.025	0.055	1.22	0.030	/
			0	QPSK	Receiver on	1	99	21350/2560	24.50	23.71	0.060	0.062	1.20	0.072	/
		Right Tilt	0	QPSK	Receiver on	50%	25	21350/2560	23.50	22.65	0.054	0.013	1.22	0.065	/
			0	QPSK	Receiver on	1	99	21350/2560	24.50	23.71	0.027	0.019	1.20	0.033	/
		Left cheek	0	QPSK	Receiver on	50%	25	21350/2560	23.50	22.65	0.021	0.040	1.22	0.026	/
			0	QPSK	Receiver on	1	99	21350/2560	17.50	16.21	0.282	0.013	1.35	0.380	/
	Left Tilt	0	QPSK	Receiver on	50%	25	21350/2560	16.50	15.40	0.259	0.018	1.29	0.334	/	
		0	QPSK	Receiver on	1	99	21350/2560	17.50	16.21	0.412	-0.021	1.35	0.554	/	
	Right cheek	0	QPSK	Receiver on	50%	25	21350/2560	16.50	15.40	0.365	0.090	1.29	0.470	/	
		0	QPSK	Receiver on	1	99	21350/2560	17.50	16.21	0.824	-0.024	1.35	1.109	46	
		0	QPSK	Receiver on	1	99	20850/2510	17.50	16.02	0.775	0.015	1.41	1.090	/	
		0	QPSK	Receiver on	1	50	21100/2535	17.50	16.12	0.784	0.080	1.37	1.077	/	
		0	QPSK	Receiver on	50%	25	21350/2560	16.50	15.40	0.619	0.010	1.29	0.797	/	
		0	QPSK	Receiver on	100%	0	21350/2560	16.50	15.43	0.578	0.023	1.28	0.739	/	
		0	QPSK	Receiver on	1	99	21350/2560	17.50	16.21	0.817	0.036	1.35	1.100	/	
		Right cheek CA_41C	0	QPSK	Receiver on	1	99	20850/2510	17.50	16.12	0.652	0.010	1.37	0.896	/
			1			0	21048/2529.8	/							
		Right Tilt	0	QPSK	Receiver on	1	99	21350/2560	17.50	16.21	0.563	-0.010	1.35	0.758	/
	0		QPSK	Receiver on	50%	25	21350/2560	16.50	15.40	0.535	0.030	1.29	0.689	/	
	Ant 1	Left cheek	0	QPSK	Receiver on	1	0	23095/707.5	26.00	25.17	0.036	0.017	1.21	0.043	/
0			QPSK	Receiver on	50%	13	23130/711	25.00	24.15	0.026	0.013	1.22	0.032	/	
Left Tilt			0	QPSK	Receiver on	1	0	23095/707.5	26.00	25.17	0.017	0.007	1.21	0.021	/
			0	QPSK	Receiver on	50%	13	23130/711	25.00	24.15	0.011	0.089	1.22	0.013	/
Right cheek			0	QPSK	Receiver on	1	0	23095/707.5	26.00	25.17	0.041	-0.021	1.21	0.050	/
			0	QPSK	Receiver on	50%	13	23130/711	25.00	24.15	0.026	0.023	1.22	0.032	/
Right Tilt		0	QPSK	Receiver on	1	0	23095/707.5	26.00	25.17	0.024	0.071	1.21	0.029	/	
		0	QPSK	Receiver on	50%	13	23130/711	25.00	24.15	0.025	0.051	1.22	0.031	/	
Ant 6		Left cheek	0	QPSK	Receiver on	1	0	23095/707.5	23.00	22.10	0.592	0.032	1.23	0.728	47
			0	QPSK	Receiver on	50%	13	23095/707.5	22.00	21.06	0.468	0.060	1.24	0.581	/
		Left Tilt	0	QPSK	Receiver on	1	0	23095/707.5	23.00	22.10	0.432	0.180	1.23	0.531	/
			0	QPSK	Receiver on	50%	13	23095/707.5	22.00	21.06	0.452	-0.024	1.24	0.561	/
		Right cheek	0	QPSK	Receiver on	1	0	23095/707.5	23.00	22.10	0.375	0.016	1.23	0.461	/
			0	QPSK	Receiver on	50%	13	23095/707.5	22.00	21.06	0.342	0.017	1.24	0.425	/
	Right Tilt	0	QPSK	Receiver on	1	0	23095/707.5	23.00	22.10	0.475	0.044	1.23	0.584	/	
		0	QPSK	Receiver on	50%	13	23095/707.5	22.00	21.06	0.473	0.032	1.24	0.587	/	
Ant 1	Left cheek	0	QPSK	Receiver on	1	99	27310/713	25.00	24.13	0.035	0.017	1.22	0.043	/	
		0	QPSK	Receiver on	50%	25	27360/718	24.00	23.15	0.026	0.018	1.22	0.032	/	
	Left Tilt	0	QPSK	Receiver on	1	99	27310/713	25.00	24.13	0.014	0.011	1.22	0.017	/	
		0	QPSK	Receiver on	50%	25	27360/718	24.00	23.15	0.011	0.049	1.22	0.013	/	
	Right cheek	0	QPSK	Receiver on	1	99	27310/713	25.00	24.13	0.047	0.023	1.22	0.058	/	
		0	QPSK	Receiver on	50%	25	27360/718	24.00	23.15	0.035	0.002	1.22	0.043	/	
	Right Tilt	0	QPSK	Receiver on	1	99	27310/713	25.00	24.13	0.021	0.032	1.22	0.025	/	
		0	QPSK	Receiver on	50%	25	27360/718	24.00	23.15	0.016	0.070	1.22	0.019	/	



	Ant 6	Left cheek	0	QPSK	Receiver on	1	50	27360/718	24.00	23.31	0.442	0.030	1.17	0.518	/		
			0	QPSK	Receiver on	50%	50	27310/713	23.00	22.09	0.370	0.010	1.23	0.456	/		
		Left Tilt	0	QPSK	Receiver on	1	50	27360/718	24.00	23.31	0.467	0.180	1.17	0.547	48		
			0	QPSK	Receiver on	50%	50	27310/713	23.00	22.09	0.375	-0.060	1.23	0.462	/		
		Right cheek	0	QPSK	Receiver on	1	50	27360/718	24.00	23.31	0.307	-0.130	1.17	0.360	/		
			0	QPSK	Receiver on	50%	50	27310/713	23.00	22.09	0.345	-0.150	1.23	0.425	/		
		Right Tilt	0	QPSK	Receiver on	1	50	27360/718	24.00	23.31	0.446	0.024	1.17	0.523	/		
			0	QPSK	Receiver on	50%	50	27310/713	23.00	22.09	0.362	0.060	1.23	0.446	/		
		LTE 28B	Ant 1	Left cheek	0	QPSK	Receiver on	1	50	27560/738	25.00	24.19	0.051	0.001	1.21	0.061	/
					0	QPSK	Receiver on	50%	50	27560/738	24.00	23.20	0.042	0.016	1.20	0.050	/
				Left Tilt	0	QPSK	Receiver on	1	50	27560/738	25.00	24.19	0.012	-0.014	1.21	0.015	/
					0	QPSK	Receiver on	50%	50	27560/738	24.00	23.20	0.010	0.032	1.20	0.012	/
Right cheek	0			QPSK	Receiver on	1	50	27560/738	25.00	24.19	0.040	0.097	1.21	0.048	/		
	0			QPSK	Receiver on	50%	50	27560/738	24.00	23.20	0.033	0.021	1.20	0.040	/		
Right Tilt	0		QPSK	Receiver on	1	50	27560/738	25.00	24.19	0.016	0.038	1.21	0.020	/			
	0		QPSK	Receiver on	50%	50	27560/738	24.00	23.20	0.014	0.071	1.20	0.017	/			
Ant 6	Left cheek		0	QPSK	Receiver on	1	50	27460/728	24.00	23.35	0.529	-0.001	1.16	0.614	/		
			0	QPSK	Receiver on	50%	50	27460/728	23.00	22.17	0.535	0.004	1.21	0.648	/		
	Left Tilt		0	QPSK	Receiver on	1	50	27460/728	24.00	23.35	0.569	-0.190	1.16	0.661	/		
			0	QPSK	Receiver on	50%	50	27460/728	23.00	22.17	0.442	-0.024	1.21	0.535	/		
	Right cheek	0	QPSK	Receiver on	1	50	27460/728	24.00	23.35	0.567	0.040	1.16	0.659	/			
		0	QPSK	Receiver on	50%	50	27460/728	23.00	22.17	0.468	-0.060	1.21	0.567	/			
Right Tilt	0	QPSK	Receiver on	1	50	27460/728	24.00	23.35	0.633	0.160	1.16	0.735	49				
	0	QPSK	Receiver on	50%	50	27460/728	23.00	22.17	0.520	0.037	1.21	0.630	/				
LTE 38	Ant 2	Left cheek	0	QPSK	Receiver on	1	99	37850/2580	25.00	24.44	0.069	-0.010	1.14	0.078	/		
			0	QPSK	Receiver on	50%	25	38150/2610	24.00	23.11	0.059	0.090	1.23	0.072	/		
		Left Tilt	0	QPSK	Receiver on	1	99	37850/2580	25.00	24.44	0.025	0.011	1.14	0.028	/		
			0	QPSK	Receiver on	50%	25	38150/2610	24.00	23.11	0.020	-0.020	1.23	0.025	/		
		Right cheek	0	QPSK	Receiver on	1	99	37850/2580	25.00	24.44	0.061	0.009	1.14	0.069	/		
			0	QPSK	Receiver on	50%	25	38150/2610	24.00	23.11	0.046	0.010	1.23	0.056	/		
	Right Tilt	0	QPSK	Receiver on	1	99	37850/2580	25.00	24.44	0.024	-0.019	1.14	0.027	/			
		0	QPSK	Receiver on	50%	25	38150/2610	24.00	23.11	0.019	-0.020	1.23	0.023	/			
	Ant 4	Left cheek	0	QPSK	Receiver on	1	50	38000/2595	19.50	18.27	0.278	0.012	1.33	0.369	/		
			0	QPSK	Receiver on	50%	50	38000/2595	18.50	17.14	0.224	0.013	1.37	0.306	/		
		Left Tilt	0	QPSK	Receiver on	1	50	38000/2595	19.50	18.27	0.325	0.060	1.33	0.431	/		
			0	QPSK	Receiver on	50%	50	38000/2595	18.50	17.14	0.266	0.010	1.37	0.364	/		
		Right cheek	0	QPSK	Receiver on	1	50	38000/2595	19.50	18.27	0.712	0.050	1.33	0.945	50		
			0	QPSK	Receiver on	1	50	37850/2580	19.50	17.99	0.665	-0.100	1.42	0.942	/		
			0	QPSK	Receiver on	1	99	38150/2610	19.50	17.98	0.629	0.014	1.42	0.893	/		
			0	QPSK	Receiver on	50%	50	38000/2595	18.50	17.14	0.567	0.000	1.37	0.776	/		
		Right Tilt	0	QPSK	Receiver on	100%	0	38000/2595	18.50	16.92	0.552	0.013	1.44	0.794	/		
			0	QPSK	Receiver on	1	50	38000/2595	19.50	18.27	0.621	0.060	1.33	0.824	/		
			Right Tilt	0	QPSK	Receiver on	1	50	37850/2580	19.50	17.99	0.652	0.027	1.42	0.923	/	
				0	QPSK	Receiver on	1	50	37850/2580	19.50	17.99	0.652	0.027	1.42	0.923	/	



			0	QPSK	Receiver on	1	99	38150/2610	19.50	17.98	0.618	0.011	1.42	0.877	/
			0	QPSK	Receiver on	50%	50	38000/2595	18.50	17.14	0.505	0.060	1.37	0.691	/
LTE 66	Ant 3	Left cheek	0	QPSK	Receiver on	1	99	132072/1720	22.00	20.81	0.451	0.012	1.32	0.593	/
			0	QPSK	Receiver on	50%	25	132322/1745	21.00	19.61	0.342	-0.032	1.38	0.471	/
		Left Tilt	0	QPSK	Receiver on	1	99	132072/1720	22.00	20.81	0.185	0.016	1.32	0.243	/
			0	QPSK	Receiver on	50%	25	132322/1745	21.00	19.61	0.136	0.028	1.38	0.187	/
		Right cheek	0	QPSK	Receiver on	1	99	132072/1720	22.00	20.81	0.601	0.044	1.32	0.790	51
			0	QPSK	Receiver on	50%	25	132322/1745	21.00	19.61	0.528	0.072	1.38	0.727	/
		Right Tilt	0	QPSK	Receiver on	1	99	132072/1720	22.00	20.81	0.152	0.100	1.32	0.200	/
			0	QPSK	Receiver on	50%	25	132322/1745	21.00	19.61	0.132	-0.030	1.38	0.182	/

Band	Antenna	Test Position	Dist. (mm)	Type	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No
NR Band n66	Ant 3	Left cheek	0	SA&NSA	DFT-s-OFDM QPSK	Receiver on	1	104	344000/1720	20.00	18.92	0.267	0.140	1.28	0.342	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	20.00	18.81	0.301	0.031	1.32	0.396	/
		Left Tilt	0		DFT-s-OFDM QPSK	Receiver on	1	104	344000/1720	20.00	18.92	0.108	0.150	1.28	0.138	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	20.00	18.81	0.113	0.180	1.32	0.149	/
		Right cheek	0		DFT-s-OFDM QPSK	Receiver on	1	104	344000/1720	20.00	18.92	0.358	0.050	1.28	0.459	52
			0		DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	20.00	18.81	0.330	0.041	1.32	0.434	/
		Right Tilt	0		DFT-s-OFDM QPSK	Receiver on	1	104	344000/1720	20.00	18.92	0.097	0.024	1.28	0.125	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	20.00	18.81	0.103	0.021	1.32	0.135	/
NR Band n78	Ant 5	Left cheek	0	SA&NSA	DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	20.00	19.16	0.016	0.042	1.21	0.019	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	20.00	19.15	0.021	0.065	1.22	0.026	/
		Left Tilt	0		DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	20.00	19.16	0.012	0.032	1.21	0.014	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	20.00	19.15	0.021	0.068	1.22	0.025	/
		Right cheek	0		DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	20.00	19.16	0.080	0.049	1.21	0.097	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	20.00	19.15	0.087	0.027	1.22	0.106	/
		Right cheek	0		DFT-s-OFDM QPSK	Receiver on	1	271	650000/3750	20.00	19.11	0.083	0.000	1.23	0.102	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	67	650000/3750	20.00	18.97	0.091	0.029	1.27	0.115	53
	Ant 10	Left cheek	0	SA	DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	17.00	16.23	0.009	0.099	1.19	0.010	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	17.00	16.05	0.012	0.025	1.24	0.015	/
		Left Tilt	0		DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	17.00	16.23	0.012	0.063	1.19	0.015	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	17.00	16.05	0.010	0.035	1.24	0.012	/
		Right cheek	0		DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	17.00	16.23	0.036	0.056	1.19	0.043	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	17.00	16.05	0.044	0.052	1.24	0.054	/
		Right Tilt	0		DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	17.00	16.23	0.018	0.063	1.19	0.022	/
			0		DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	17.00	16.05	0.030	-0.085	1.24	0.037	/



Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No	
Wi-Fi 2.4G	Ant 7	Left cheek	0	802.11b	100.0%	Receiver on	1/2412	15.00	14.32	0.946	0.089	1.17	1.106	54	
		Left cheek	0	802.11b	100.0%	Receiver on	6/2437	15.00	13.84	0.835	-0.080	1.31	1.091	/	
		Left cheek	0	802.11b	100.0%	Receiver on	11/2462	15.00	13.92	0.862	0.150	1.28	1.105	/	
		Left cheek	0	802.11b	100.0%	Receiver on	1/2412	15.00	14.32	0.941	0.012	1.17	1.100	/	
		Left Tilt	0	802.11b	100.0%	Receiver on	1/2412	15.00	14.32	0.661	-0.074	1.17	0.773	/	
		Right cheek	0	802.11b	100.0%	Receiver on	1/2412	15.00	14.32	0.273	0.028	1.17	0.319	/	
		Right Tilt	0	802.11b	100.0%	Receiver on	1/2412	15.00	14.32	0.273	0.028	1.17	0.319	/	
	Ant 9	Left cheek	0	802.11b	100.0%	Receiver on	1/2412	17.00	15.41	0.224	0.027	1.44	0.323	/	
		Left Tilt	0	802.11b	100.0%	Receiver on	1/2412	17.00	15.41	0.047	-0.024	1.44	0.067	/	
		Right cheek	0	802.11b	100.0%	Receiver on	1/2412	17.00	15.41	0.067	0.028	1.44	0.097	/	
		Right Tilt	0	802.11b	100.0%	Receiver on	1/2412	17.00	15.41	0.021	0.051	1.44	0.030	/	
	MIMO	Left cheek	0	802.11n	100.0%	Receiver on	11/2462	18.01	16.46	0.504	0.015	1.43	0.720	/	
		Left Tilt	0	802.11n	100.0%	Receiver on	11/2462	18.01	16.46	0.384	-0.056	1.43	0.549	/	
		Right cheek	0	802.11n	100.0%	Receiver on	11/2462	18.01	16.46	0.173	0.041	1.43	0.247	/	
		Right Tilt	0	802.11n	100.0%	Receiver on	11/2462	18.01	16.46	0.148	0.018	1.43	0.211	/	
	U-NII-1	Ant 7	Left cheek	0	802.11a	100.0%	Receiver on	48/5240	11.00	9.21	0.272	-0.176	1.51	0.411	/
Left Tilt			0	802.11a	100.0%	Receiver on	48/5240	11.00	9.21	0.212	0.009	1.51	0.320	/	
Right cheek			0	802.11a	100.0%	Receiver on	48/5240	11.00	9.21	0.110	-0.021	1.51	0.166	/	
Right Tilt			0	802.11a	100.0%	Receiver on	48/5240	11.00	9.21	0.100	-0.011	1.51	0.151	/	
Ant 9		Left cheek	0	802.11a	100.0%	Receiver on	40/5200	16.00	14.35	0.301	0.149	1.46	0.440	/	
		Left Tilt	0	802.11a	100.0%	Receiver on	40/5200	16.00	14.35	0.123	0.011	1.46	0.180	/	
		Right cheek	0	802.11a	100.0%	Receiver on	40/5200	16.00	14.35	0.152	-0.013	1.46	0.222	/	
		Right Tilt	0	802.11a	100.0%	Receiver on	40/5200	16.00	14.35	0.126	-0.016	1.46	0.184	/	
MIMO		Left cheek	0	802.11ac-VHT20	100.0%	Receiver on	36/5180	13.51	11.93	0.217	-0.029	1.44	0.312	/	
		Left Tilt	0	802.11ac-VHT20	100.0%	Receiver on	36/5180	13.51	11.93	0.204	0.005	1.44	0.293	/	
		Right cheek	0	802.11ac-VHT20	100.0%	Receiver on	36/5180	13.51	11.93	0.105	0.010	1.44	0.151	/	
		Right Tilt	0	802.11ac-VHT20	100.0%	Receiver on	36/5180	13.51	11.93	0.109	0.007	1.44	0.157	/	
U-NII-2A		Ant 7	Left cheek	0	802.11a	100.0%	Receiver on	64/5320	11.00	9.89	0.278	-0.085	1.29	0.359	/
			Left Tilt	0	802.11a	100.0%	Receiver on	64/5320	11.00	9.89	0.199	0.010	1.29	0.257	/
			Right cheek	0	802.11a	100.0%	Receiver on	64/5320	11.00	9.89	0.105	-0.011	1.29	0.136	/
			Right Tilt	0	802.11a	100.0%	Receiver on	64/5320	11.00	9.89	0.072	-0.021	1.29	0.093	/
	Ant 9	Left cheek	0	802.11a	100.0%	Receiver on	64/5320	15.50	13.82	0.224	0.051	1.47	0.330	/	
		Left Tilt	0	802.11a	100.0%	Receiver on	64/5320	15.50	13.82	0.102	0.010	1.47	0.150	/	
		Right cheek	0	802.11a	100.0%	Receiver on	64/5320	15.50	13.82	0.084	-0.010	1.47	0.124	/	
		Right Tilt	0	802.11a	100.0%	Receiver on	64/5320	15.50	13.82	0.069	-0.006	1.47	0.102	/	
	MIMO	Left cheek	0	802.11ac-VHT40	100.0%	Receiver on	62/5310	14.01	12.47	0.213	0.024	1.43	0.304	/	
		Left Tilt	0	802.11ac-VHT40	100.0%	Receiver on	62/5310	14.01	12.47	0.206	0.021	1.43	0.294	/	
		Right cheek	0	802.11ac-VHT40	100.0%	Receiver on	62/5310	14.01	12.47	0.135	-0.022	1.43	0.192	/	
		Right Tilt	0	802.11ac-VHT40	100.0%	Receiver on	62/5310	14.01	12.47	0.125	-0.015	1.43	0.178	/	



U-NII-2C	Ant 7	Left cheek	0	802.11a	100.0%	Receiver on	116/5580	13.50	12.26	0.316	0.010	1.33	0.420	55
		Left Tilt	0	802.11a	100.0%	Receiver on	116/5580	13.50	12.26	0.282	0.011	1.33	0.375	/
		Right cheek	0	802.11a	100.0%	Receiver on	116/5580	13.50	12.26	0.138	-0.021	1.33	0.184	/
		Right Tilt	0	802.11a	100.0%	Receiver on	116/5580	13.50	12.26	0.171	-0.010	1.33	0.228	/
	Ant 9	Left cheek	0	802.11a	100.0%	Receiver on	140/5700	14.50	12.93	0.313	0.157	1.44	0.449	/
		Left Tilt	0	802.11a	100.0%	Receiver on	140/5700	14.50	12.93	0.132	0.011	1.44	0.189	/
		Right cheek	0	802.11a	100.0%	Receiver on	140/5700	14.50	12.93	0.107	-0.021	1.44	0.154	/
		Right Tilt	0	802.11a	100.0%	Receiver on	140/5700	14.50	12.93	0.098	0.013	1.44	0.141	/
	MIMO	Left cheek	0	802.11ac-VHT80	100.0%	Receiver on	106/5530	15.51	13.95	0.282	0.021	1.43	0.404	/
		Left Tilt	0	802.11ac-VHT80	100.0%	Receiver on	106/5530	15.51	13.95	0.246	0.011	1.43	0.353	/
		Right cheek	0	802.11ac-VHT80	100.0%	Receiver on	106/5530	15.51	13.95	0.128	-0.014	1.43	0.183	/
		Right Tilt	0	802.11ac-VHT80	100.0%	Receiver on	106/5530	15.51	13.95	0.138	-0.016	1.43	0.198	/
U-NII-3	Ant 7	Left cheek	0	802.11a	100.0%	Receiver on	165/5825	13.00	11.41	0.243	0.021	1.44	0.350	/
		Left Tilt	0	802.11a	100.0%	Receiver on	165/5825	13.00	11.41	0.211	-0.012	1.44	0.304	/
		Right cheek	0	802.11a	100.0%	Receiver on	165/5825	13.00	11.41	0.063	0.009	1.44	0.091	/
		Right Tilt	0	802.11a	100.0%	Receiver on	165/5825	13.00	11.41	0.114	0.010	1.44	0.164	/
	Ant 9	Left cheek	0	802.11a	100.0%	Receiver on	157/5785	15.50	13.81	0.224	0.012	1.48	0.331	/
		Left Tilt	0	802.11a	100.0%	Receiver on	157/5785	15.50	13.81	0.082	0.007	1.48	0.121	/
		Right cheek	0	802.11a	100.0%	Receiver on	157/5785	15.50	13.81	0.067	-0.015	1.48	0.099	/
		Right Tilt	0	802.11a	100.0%	Receiver on	157/5785	15.50	13.81	0.077	-0.022	1.48	0.114	/
	MIMO	Left cheek	0	802.11ac-VHT40	100.0%	Receiver on	151/5755	16.51	14.88	0.258	0.170	1.45	0.375	/
		Left Tilt	0	802.11ac-VHT40	100.0%	Receiver on	151/5755	16.51	14.88	0.200	0.015	1.45	0.291	/
		Right cheek	0	802.11ac-VHT40	100.0%	Receiver on	151/5755	16.51	14.88	0.071	-0.012	1.45	0.103	/
		Right Tilt	0	802.11ac-VHT40	100.0%	Receiver on	151/5755	16.51	14.88	0.104	-0.015	1.45	0.151	/
Bluetooth	BT	Left cheek	0	DH5	76.0%	-	78/2480	15.00	14.27	0.184	0.011	1.56	0.286	56
		Left Tilt	0	DH5	76.0%	-	78/2480	15.00	14.27	0.038	0.079	1.56	0.059	/
		Right cheek	0	DH5	76.0%	-	78/2480	15.00	14.27	0.059	0.016	1.56	0.092	/
		Right Tilt	0	DH5	76.0%	-	78/2480	15.00	14.27	0.026	0.026	1.56	0.040	/



Body-worn SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No
GSM 850	Ant 1	Back Side	15	GSM	Receiver off	-	-	190/836.6	33.00	32.22	0.329	-0.017	1.20	0.394	57
		Front Side	15	GSM	Receiver off	-	-	190/836.6	33.00	32.22	0.203	0.010	1.20	0.243	/
	Ant 6	Back Side	15	GSM	Receiver off	-	-	190/836.6	31.50	30.65	0.007	0.006	1.22	0.009	/
		Front Side	15	GSM	Receiver off	-	-	190/836.6	31.50	30.65	0.007	0.023	1.22	0.009	/
GSM 1900	Ant 2	Back Side	15	GSM	Receiver off	-	-	661/1880	30.50	29.45	0.132	-0.025	1.27	0.168	58
		Front Side	15	GSM	Receiver off	-	-	661/1880	30.50	29.45	0.085	0.000	1.27	0.108	/
	Ant 4	Back Side	15	GSM	Receiver off	-	-	661/1880	28.50	27.62	0.024	-0.083	1.22	0.029	/
		Front Side	15	GSM	Receiver off	-	-	661/1880	28.50	27.62	0.016	-0.098	1.22	0.019	/
WCDMA II	Main	Back Side	15	RMC	Receiver off	-	-	9400/1880	25.00	24.12	0.279	0.080	1.22	0.342	59
		Front Side	15	RMC	Receiver off	-	-	9400/1880	25.00	24.12	0.259	0.013	1.22	0.317	/
	Ant 4	Back Side	15	RMC	Receiver off	-	-	9400/1880	23.00	22.25	0.075	-0.081	1.19	0.089	/
		Front Side	15	RMC	Receiver off	-	-	9400/1880	23.00	22.25	0.068	0.043	1.19	0.081	/
WCDMA V	Ant 1	Back Side	15	RMC	Receiver off	-	-	4183/836.6	25.00	24.16	0.463	-0.060	1.21	0.562	60
		Front Side	15	RMC	Receiver off	-	-	4183/836.6	25.00	24.16	0.408	-0.078	1.21	0.495	/
	Ant 6	Back Side	15	RMC	Receiver off	-	-	4183/836.6	23.00	22.48	0.082	-0.150	1.13	0.092	/
		Front Side	15	RMC	Receiver off	-	-	4183/836.6	23.00	22.48	0.075	0.014	1.13	0.085	/
LTE 2	Ant 2	Back Side	15	QPSK	Receiver off	1	50	18900/1880	25.00	24.06	0.305	-0.070	1.24	0.379	61
			15	QPSK	Receiver off	50%	0	18900/1880	24.00	22.94	0.252	0.000	1.28	0.322	/
		Front Side	15	QPSK	Receiver off	1	50	18900/1880	25.00	24.06	0.253	-0.010	1.24	0.314	/
			15	QPSK	Receiver off	50%	0	18900/1880	24.00	22.94	0.200	0.030	1.28	0.255	/
	Ant 4	Back Side	15	QPSK	Receiver off	1	0	18700/1860	23.00	22.58	0.051	-0.034	1.10	0.056	/
			15	QPSK	Receiver off	50%	25	18700/1860	22.00	21.42	0.045	-0.024	1.14	0.051	/
		Front Side	15	QPSK	Receiver off	1	0	18700/1860	23.00	22.58	0.038	-0.110	1.10	0.042	/
			15	QPSK	Receiver off	50%	25	18700/1860	22.00	21.42	0.036	-0.150	1.14	0.041	/
LTE 3	Ant 2	Back Side	15	QPSK	Receiver off	1	99	19575/1747.5	24.50	24.10	0.446	0.080	1.10	0.489	62
			15	QPSK	Receiver off	50%	25	19850/1775	23.50	22.76	0.375	-0.021	1.19	0.445	/
		Front Side	15	QPSK	Receiver off	1	99	19575/1747.5	24.50	24.10	0.316	-0.025	1.10	0.346	/
			15	QPSK	Receiver off	50%	25	19850/1775	23.50	22.76	0.262	0.021	1.19	0.311	/
	Ant 3	Back Side	15	QPSK	Receiver off	1	50	19575/1747.5	25.00	24.27	0.253	-0.021	1.18	0.299	/
			15	QPSK	Receiver off	50%	25	19300/1720	24.00	23.12	0.171	0.010	1.22	0.209	/
		Front Side	15	QPSK	Receiver off	1	50	19575/1747.5	25.00	24.27	0.128	0.011	1.18	0.151	/
			15	QPSK	Receiver off	50%	25	19300/1720	24.00	23.12	0.090	0.015	1.22	0.110	/
	Ant 4	Back Side	15	QPSK	Receiver off	1	0	19575/1747.5	23.50	22.95	0.174	0.009	1.14	0.197	/
			15	QPSK	Receiver off	50%	0	19575/1747.5	22.50	21.84	0.140	0.021	1.16	0.163	/
		Front Side	15	QPSK	Receiver off	1	0	19575/1747.5	23.50	22.95	0.196	-0.023	1.14	0.222	/
			15	QPSK	Receiver off	50%	0	19575/1747.5	22.50	21.84	0.156	0.031	1.16	0.182	/
LTE 4	Ant 2	Back Side	15	QPSK	Receiver off	1	50	20175/1732.5	25.00	24.43	0.436	0.030	1.14	0.497	63
			15	QPSK	Receiver off	50%	25	20300/1745	24.00	23.40	0.356	-0.040	1.15	0.409	/
		Front Side	15	QPSK	Receiver off	1	50	20175/1732.5	25.00	24.43	0.357	0.030	1.14	0.407	/
			15	QPSK	Receiver off	50%	25	20300/1745	24.00	23.40	0.289	0.020	1.15	0.332	/



	Ant 4	Back Side	15	QPSK	Receiver off	1	50	20300/1745	24.00	23.20	0.027	0.031	1.20	0.032	/
			15	QPSK	Receiver off	50%	0	20300/1745	23.00	21.72	0.019	0.070	1.34	0.026	/
		Front Side	15	QPSK	Receiver off	1	50	20300/1745	24.00	23.20	0.019	-0.085	1.20	0.023	/
			15	QPSK	Receiver off	50%	0	20300/1745	23.00	21.72	0.013	0.059	1.34	0.017	/
LTE 5	Ant 1	Back Side	15	QPSK	Receiver off	1	0	20600/844	26.00	25.10	0.487	0.000	1.23	0.599	64
			15	QPSK	Receiver off	50%	13	20600/844	25.00	24.18	0.396	0.041	1.21	0.478	/
		Front Side	15	QPSK	Receiver off	1	0	20600/844	26.00	25.10	0.438	0.019	1.23	0.539	/
			15	QPSK	Receiver off	50%	13	20600/844	25.00	24.18	0.357	-0.030	1.21	0.431	/
	Ant 6	Back Side	15	QPSK	Receiver off	1	25	20600/844	24.00	23.02	0.058	0.027	1.25	0.073	/
			15	QPSK	Receiver off	50%	13	20600/844	23.00	22.06	0.049	-0.052	1.24	0.061	/
		Front Side	15	QPSK	Receiver off	1	25	20600/844	24.00	23.02	0.068	0.080	1.25	0.085	/
			15	QPSK	Receiver off	50%	13	20600/844	23.00	22.06	0.056	-0.017	1.24	0.070	/
LTE 7	Ant 2	Back Side	15	QPSK	Receiver off	1	99	21350/2560	24.50	23.71	0.350	-0.070	1.20	0.420	65
			15	QPSK	Receiver off	50%	25	21350/2560	23.50	22.65	0.291	0.025	1.22	0.354	/
		CA_7C	15	QPSK	Receiver off	1	0	21350/2560	24.50	23.62	0.238	0.035	1.22	0.291	/
			1	99	21152/2540.2	/									
		Front Side	15	QPSK	Receiver off	1	99	21350/2560	24.50	23.71	0.280	0.061	1.20	0.336	/
			15	QPSK	Receiver off	50%	25	21350/2560	23.50	22.65	0.224	0.048	1.22	0.272	/
	Ant 4	Back Side	15	QPSK	Receiver off	1	50	21350/2560	22.00	21.31	0.149	-0.033	1.17	0.175	/
			15	QPSK	Receiver off	50%	50	21350/2560	21.00	20.20	0.115	0.025	1.20	0.138	/
Front Side		15	QPSK	Receiver off	1	50	21350/2560	22.00	21.31	0.213	0.070	1.17	0.250	/	
		15	QPSK	Receiver off	50%	50	21350/2560	21.00	20.20	0.168	0.011	1.20	0.202	/	
LTE 12	Ant 1	Back Side	15	QPSK	Receiver off	1	0	23095/707.5	26.00	25.17	0.141	-0.030	1.21	0.171	66
			15	QPSK	Receiver off	50%	13	23130/711	25.00	24.15	0.123	0.150	1.22	0.150	/
		Front Side	15	QPSK	Receiver off	1	0	23095/707.5	26.00	25.17	0.134	0.028	1.21	0.162	/
			15	QPSK	Receiver off	50%	13	23130/711	25.00	24.15	0.111	-0.090	1.22	0.135	/
	Ant 6	Back Side	15	QPSK	Receiver off	1	49	23130/711	25.00	24.43	0.098	-0.170	1.14	0.112	/
			15	QPSK	Receiver off	50%	0	23095/707.5	24.00	23.37	0.069	0.020	1.16	0.080	/
		Front Side	15	QPSK	Receiver off	1	49	23130/711	25.00	24.43	0.093	0.000	1.14	0.106	/
			15	QPSK	Receiver off	50%	0	23095/707.5	24.00	23.37	0.061	0.010	1.16	0.071	/
LTE 28A	Ant 1	Back Side	15	QPSK	Receiver off	1	99	27310/713	25.00	24.13	0.159	0.010	1.22	0.194	67
			15	QPSK	Receiver off	50%	25	27360/718	24.00	23.15	0.109	0.034	1.22	0.133	/
		Front Side	15	QPSK	Receiver off	1	99	27310/713	25.00	24.13	0.135	-0.170	1.22	0.165	/
			15	QPSK	Receiver off	50%	25	27360/718	24.00	23.15	0.105	0.025	1.22	0.128	/
	Ant 6	Back Side	15	QPSK	Receiver off	1	99	27310/713	24.00	23.31	0.058	0.046	1.17	0.068	/
			15	QPSK	Receiver off	50%	50	27310/713	23.00	22.09	0.045	0.024	1.23	0.055	/
		Front Side	15	QPSK	Receiver off	1	99	27310/713	24.00	23.31	0.073	0.039	1.17	0.086	/
			15	QPSK	Receiver off	50%	50	27310/713	23.00	22.09	0.058	-0.060	1.23	0.072	/
LTE 28B	Ant 1	Back Side	15	QPSK	Receiver off	1	50	27560/738	25.00	24.19	0.157	-0.050	1.21	0.189	68
			15	QPSK	Receiver off	50%	50	27560/738	24.00	23.20	0.134	0.020	1.20	0.161	/
		Front Side	15	QPSK	Receiver off	1	50	27560/738	25.00	24.19	0.131	-0.076	1.21	0.158	/
			15	QPSK	Receiver off	50%	50	27560/738	24.00	23.20	0.115	0.013	1.20	0.138	/
	Ant 6	Back Side	15	QPSK	Receiver off	1	50	27460/728	24.00	23.35	0.064	0.029	1.16	0.074	/



LTE 38	Ant 2	Front Side	15	QPSK	Receiver off	50%	50	27460/728	23.00	22.17	0.055	-0.030	1.21	0.067	/
			15	QPSK	Receiver off	1	99	27460/728	24.00	23.35	0.098	0.041	1.16	0.114	/
	Ant 2	Back Side	15	QPSK	Receiver off	50%	50	27460/728	23.00	22.17	0.069	0.016	1.21	0.084	/
			15	QPSK	Receiver off	1	99	37850/2580	25.00	24.44	0.234	0.069	1.14	0.266	69
	Ant 4	Front Side	15	QPSK	Receiver off	1	99	37850/2580	25.00	24.44	0.173	-0.009	1.14	0.197	/
			15	QPSK	Receiver off	50%	25	38150/2610	24.00	23.11	0.166	-0.020	1.23	0.204	/
Back Side		15	QPSK	Receiver off	1	99	37850/2580	22.50	22.02	0.195	-0.012	1.12	0.218	/	
		15	QPSK	Receiver off	50%	25	37850/2580	21.50	20.84	0.163	0.011	1.16	0.190	/	

Band	Antenna	Test Position	Dist. (mm)	Type	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.
NR Band n66	Ant 3	Back Side	15	SA&	DFT-s-OFDM QPSK	Receiver off	1	104	349000/1745	23.50	22.88	0.376	0.029	1.15	0.434	/
			15		DFT-s-OFDM QPSK	Receiver off	50%	25	344000/1720	23.50	22.81	0.410	-0.110	1.17	0.481	71
		Front Side	15	NSA	DFT-s-OFDM QPSK	Receiver off	1	104	349000/1745	23.50	22.88	0.235	0.019	1.15	0.271	/
			15		DFT-s-OFDM QPSK	Receiver off	50%	25	344000/1720	23.50	22.81	0.292	0.022	1.17	0.342	/
NR Band n78	Ant 5	Back Side	15	SA&	DFT-s-OFDM QPSK	Receiver off	1	271	650000/3750	23.00	21.61	0.312	0.032	1.38	0.430	/
			15		DFT-s-OFDM QPSK	Receiver off	50%	67	650000/3750	23.00	21.28	0.335	0.090	1.49	0.498	72
		Back Side	15	NSA	DFT-s-OFDM QPSK	Receiver off	1	1	633332/3500	23.00	21.52	0.286	0.072	1.41	0.402	/
			15		DFT-s-OFDM QPSK	Receiver off	50%	67	633332/3500	23.00	21.49	0.315	0.000	1.42	0.446	/
		Front Side	15	NSA	DFT-s-OFDM QPSK	Receiver off	1	271	650000/3750	23.00	21.61	0.134	0.062	1.38	0.185	/
			15		DFT-s-OFDM QPSK	Receiver off	50%	67	650000/3750	23.00	21.28	0.108	0.018	1.49	0.160	/
	Ant 10	Back Side	15	SA	DFT-s-OFDM QPSK	Receiver off	1	271	650000/3750	17.00	16.05	0.121	0.024	1.24	0.151	/
			15		DFT-s-OFDM QPSK	Receiver off	50%	67	636666/3549.99	17.00	15.98	0.081	0.161	1.26	0.102	/
		Front Side	15	SA	DFT-s-OFDM QPSK	Receiver off	1	1	650000/3750	17.00	16.05	0.024	0.048	1.24	0.030	/
			15		DFT-s-OFDM QPSK	Receiver off	50%	67	636666/3549.99	17.00	15.98	0.014	-0.028	1.26	0.018	/

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.
Wi-Fi 2.4G	Ant 7	Back Side	15	802.11b	100.0%	Receiver off	1/2412	20.00	18.28	0.102	0.070	1.49	0.152	/
		Front Side	15	802.11b	100.0%	Receiver off	1/2412	20.00	18.28	0.083	0.042	1.49	0.123	/
	Ant 9	Back Side	15	802.11b	100.0%	Receiver off	1/2412	20.00	18.38	0.081	-0.057	1.45	0.118	/
		Front Side	15	802.11b	100.0%	Receiver off	1/2412	20.00	18.38	0.065	0.034	1.45	0.094	/
	MIMO	Back Side	15	802.11nHT20	100.0%	Receiver off	11/2462	22.51	21.41	0.132	0.018	1.29	0.170	73
		Front Side	15	802.11nHT20	100.0%	Receiver off	11/2462	22.51	21.41	0.098	-0.030	1.29	0.126	/
U-NII-1	Ant 7	Back Side	15	802.11a	100.0%	Receiver off	48/5240	18.50	16.85	0.273	0.025	1.46	0.399	74



	Ant 9	Front Side	15	802.11a	100.0%	Receiver off	48/5240	18.50	16.85	0.233	0.030	1.46	0.341	/
		Back Side	15	802.11a	100.0%	Receiver off	40/5200	21.00	19.32	0.163	0.010	1.47	0.240	/
		Front Side	15	802.11a	100.0%	Receiver off	40/5200	21.00	19.32	0.133	0.026	1.47	0.196	/
	MIMO	Back Side	15	802.11ax-HE20	100.0%	Receiver off	36/5180	22.51	22.14	0.237	-0.010	1.09	0.258	/
		Front Side	15	802.11ax-HE20	100.0%	Receiver off	36/5180	22.51	22.14	0.249	0.000	1.09	0.271	/
U-NII-2A	Ant 7	Back Side	15	802.11a	100.0%	Receiver off	64/5320	18.50	16.85	0.217	0.102	1.46	0.317	/
		Front Side	15	802.11a	100.0%	Receiver off	64/5320	18.50	16.85	0.182	0.033	1.46	0.266	/
	Ant 9	Back Side	15	802.11a	100.0%	Receiver off	64/5320	21.00	19.15	0.193	0.037	1.53	0.295	/
		Front Side	15	802.11a	100.0%	Receiver off	64/5320	21.00	19.15	0.134	0.018	1.53	0.205	/
	MIMO	Back Side	15	802.11ax-HE20	100.0%	Receiver off	52/5260	22.51	21.96	0.207	-0.046	1.13	0.235	/
		Front Side	15	802.11ax-HE20	100.0%	Receiver off	52/5260	22.51	21.96	0.159	0.025	1.13	0.180	/
U-NII-2C	Ant 7	Back Side	15	802.11a	100.0%	Receiver off	116/5580	18.50	16.82	0.204	0.050	1.47	0.300	/
		Front Side	15	802.11a	100.0%	Receiver off	116/5580	18.50	16.82	0.191	0.015	1.47	0.281	/
	Ant 9	Back Side	15	802.11a	100.0%	Receiver off	140/5700	21.00	19.19	0.189	0.021	1.52	0.287	/
		Front Side	15	802.11a	100.0%	Receiver off	140/5700	21.00	19.19	0.186	0.030	1.52	0.282	/
	MIMO	Back Side	15	802.11ac-VHT80	100.0%	Receiver off	106/5530	22.51	21.01	0.166	0.047	1.41	0.234	/
		Front Side	15	802.11ac-VHT80	100.0%	Receiver off	106/5530	22.51	21.01	0.140	-0.029	1.41	0.198	/
U-NII-3	Ant 7	Back Side	15	802.11a	100.0%	Receiver off	165/5825	18.00	16.34	0.243	0.074	1.47	0.356	/
		Front Side	15	802.11a	100.0%	Receiver off	165/5825	18.00	16.34	0.188	0.014	1.47	0.276	/
	Ant 9	Back Side	15	802.11a	100.0%	Receiver off	157/5785	15.50	13.81	0.221	0.028	1.48	0.326	/
		Front Side	15	802.11a	100.0%	Receiver off	157/5785	15.50	13.81	0.190	-0.073	1.48	0.280	/
	MIMO	Back Side	15	802.11ac-VHT40	100.0%	Receiver off	151/5755	16.51	14.88	0.236	0.021	1.45	0.343	/
		Front Side	15	802.11ac-VHT40	100.0%	Receiver off	151/5755	16.51	14.88	0.182	0.015	1.45	0.265	/



Hotspot SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.
GSM850	Ant 1	Back Side	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	28.00	26.92	0.593	0.043	1.28	0.760	75
		Front Side	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	28.00	26.92	0.509	-0.010	1.28	0.653	/
		Left Edge	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	28.00	26.92	0.163	-0.020	1.28	0.209	/
		Right Edge	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	28.00	26.92	0.137	0.012	1.28	0.176	/
		Top Edge	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	28.00	26.92	0.015	-0.007	1.28	0.019	/
		Bottom Edge	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	28.00	26.92	0.302	0.014	1.28	0.387	/
	Ant 6	Back Side	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	26.00	25.36	0.012	-0.010	1.16	0.014	/
		Front Side	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	26.00	25.36	0.011	0.020	1.16	0.013	/
		Left Edge	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	26.00	25.36	0.005	-0.010	1.16	0.006	/
		Right Edge	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	26.00	25.36	0.000	0.000	1.16	0.000	/
		Top Edge	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	26.00	25.36	0.011	-0.020	1.16	0.013	/
		Bottom Edge	10	GPRS 4TX Slots	Hotspot on	-	-	190/836.6	26.00	25.36	0.000	0.000	1.16	0.000	/
GSM1900	Ant 2	Back Side	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	24.50	23.45	0.207	0.021	1.27	0.264	/
		Front Side	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	24.50	23.45	0.218	-0.023	1.27	0.278	/
		Left Edge	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	24.50	23.45	0.114	0.010	1.27	0.145	/
		Right Edge	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	24.50	23.45	0.027	-0.004	1.27	0.034	/
		Top Edge	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	24.50	23.45	0.015	-0.012	1.27	0.019	/
		Bottom Edge	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	24.50	23.45	0.501	-0.150	1.27	0.638	76
	Div Ant 4	Back Side	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	22.50	21.67	0.041	-0.021	1.21	0.050	/
		Front Side	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	22.50	21.67	0.002	-0.001	1.21	0.002	/
		Left Edge	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	22.50	21.67	0.000	0.000	1.21	0.000	/
		Right Edge	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	22.50	21.67	0.011	-0.020	1.21	0.013	/
		Top Edge	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	22.50	21.67	0.063	0.011	1.21	0.076	/
		Bottom Edge	10	GPRS 4TX Slots	Hotspot on	-	-	661/1880	22.50	21.67	0.003	-0.001	1.21	0.004	/
WCDMA II	Ant 2	Back Side	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.15	0.395	0.024	1.22	0.480	/
		Front Side	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.15	0.348	0.017	1.22	0.423	/
		Left Edge	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.15	0.093	0.099	1.22	0.113	/
		Right Edge	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.15	0.000	0.000	1.22	0.000	/
		Top Edge	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.15	0.000	0.000	1.22	0.000	/
		Bottom Edge	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.15	0.870	0.130	1.22	1.058	77
		Bottom Edge	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.15	0.864	0.090	1.22	1.051	/
		Bottom Edge	10	RMC	Hotspot on	-	-	9262/1852.4	23.00	22.19	0.769	0.180	1.21	0.927	/
	Ant 4	Bottom Edge	10	RMC	Hotspot on	-	-	9538/1907.6	23.00	22.05	0.825	-0.069	1.24	1.027	/
		Back Side	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.25	0.117	0.024	1.19	0.139	/
		Front Side	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.25	0.120	0.018	1.19	0.143	/
		Left Edge	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.25	0.144	-0.010	1.19	0.171	/
		Right Edge	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.25	0.000	0.000	1.19	0.000	/
		Top Edge	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.25	0.251	0.022	1.19	0.298	/
Bottom Edge	10	RMC	Hotspot on	-	-	9400/1880	23.00	22.25	0.000	0.000	1.19	0.000	/		



WCDMA V	Main	Ant 1	Back Side	10	RMC	Hotspot on	-	-	4183/836.6	25.00	24.16	0.520	-0.120	1.21	0.631	78
			Front Side	10	RMC	Hotspot on	-	-	4183/836.6	25.00	24.16	0.494	0.029	1.21	0.599	/
			Left Edge	10	RMC	Hotspot on	-	-	4183/836.6	25.00	24.16	0.235	-0.010	1.21	0.285	/
			Right Edge	10	RMC	Hotspot on	-	-	4183/836.6	25.00	24.16	0.272	0.036	1.21	0.330	/
			Top Edge	10	RMC	Hotspot on	-	-	4183/836.6	25.00	24.16	0.000	0.000	1.21	0.000	/
			Bottom Edge	10	RMC	Hotspot on	-	-	4183/836.6	25.00	24.16	0.309	0.010	1.21	0.375	/
	Ant 6	Back Side	10	RMC	Hotspot on	-	-	4183/836.6	23.00	22.48	0.075	0.012	1.13	0.085	/	
		Front Side	10	RMC	Hotspot on	-	-	4183/836.6	23.00	22.48	0.112	0.040	1.13	0.126	/	
		Left Edge	10	RMC	Hotspot on	-	-	4183/836.6	23.00	22.48	0.000	0.000	1.13	0.000	/	
		Right Edge	10	RMC	Hotspot on	-	-	4183/836.6	23.00	22.48	0.000	0.000	1.13	0.000	/	
		Top Edge	10	RMC	Hotspot on	-	-	4183/836.6	23.00	22.48	0.086	0.059	1.13	0.097	/	
		Bottom Edge	10	RMC	Hotspot on	-	-	4183/836.6	23.00	22.48	0.000	0.000	1.13	0.000	/	
LTE 2	Ant 2	Back Side	10	QPSK	Hotspot on	1	50	18700/1860	22.00	20.89	0.432	0.026	1.29	0.558	/	
			10	QPSK	Hotspot on	50%	50	18700/1860	21.00	19.52	0.309	-0.018	1.41	0.434	/	
		Front Side	10	QPSK	Hotspot on	1	50	18700/1860	22.00	20.89	0.337	0.110	1.29	0.435	/	
			10	QPSK	Hotspot on	50%	50	18700/1860	21.00	19.52	0.248	0.034	1.41	0.349	/	
		Left Edge	10	QPSK	Hotspot on	1	50	18700/1860	22.00	20.89	0.112	0.075	1.29	0.145	/	
			10	QPSK	Hotspot on	50%	50	18700/1860	21.00	19.52	0.095	0.032	1.41	0.134	/	
		Right Edge	10	QPSK	Hotspot on	1	50	18700/1860	22.00	20.89	0.000	0.000	1.29	0.000	/	
			10	QPSK	Hotspot on	50%	50	18700/1860	21.00	19.52	0.000	0.000	1.41	0.000	/	
		Top Edge	10	QPSK	Hotspot on	1	50	18700/1860	22.00	20.89	0.000	0.000	1.29	0.000	/	
			10	QPSK	Hotspot on	50%	50	18700/1860	21.00	19.52	0.000	0.000	1.41	0.000	/	
	Bottom Edge	10	QPSK	Hotspot on	1	50	18700/1860	22.00	20.89	0.738	0.019	1.29	0.953	79		
		10	QPSK	Hotspot on	1	99	18900/1880	22.00	20.82	0.684	-0.040	1.31	0.898	/		
		10	QPSK	Hotspot on	1	50	19100/1900	22.00	20.82	0.672	0.034	1.31	0.882	/		
		10	QPSK	Hotspot on	50%	50	18700/1860	21.00	19.52	0.549	0.000	1.41	0.772	/		
		10	QPSK	Hotspot on	100%	0	18700/1860	21.00	19.45	0.518	0.014	1.43	0.740	/		
	Ant 4	Back Side	10	QPSK	Hotspot on	1	0	18700/1860	23.00	22.58	0.093	0.030	1.10	0.102	/	
			10	QPSK	Hotspot on	50%	25	18700/1860	22.00	21.42	0.085	0.010	1.14	0.097	/	
		Front Side	10	QPSK	Hotspot on	1	0	18700/1860	23.00	22.58	0.063	-0.120	1.10	0.069	/	
			10	QPSK	Hotspot on	50%	25	18700/1860	22.00	21.42	0.060	-0.120	1.14	0.069	/	
		Left Edge	10	QPSK	Hotspot on	1	0	18700/1860	23.00	22.58	0.146	-0.040	1.10	0.161	/	
10			QPSK	Hotspot on	50%	25	18700/1860	22.00	21.42	0.107	0.010	1.14	0.122	/		
Right Edge		10	QPSK	Hotspot on	1	0	18700/1860	23.00	22.58	0.024	-0.190	1.10	0.026	/		
		10	QPSK	Hotspot on	50%	25	18700/1860	22.00	21.42	0.025	-0.110	1.14	0.029	/		
Top Edge		10	QPSK	Hotspot on	1	0	18700/1860	23.00	22.58	0.207	-0.100	1.10	0.228	/		
		10	QPSK	Hotspot on	50%	25	18700/1860	22.00	21.42	0.176	-0.030	1.14	0.201	/		
Bottom Edge	10	QPSK	Hotspot on	1	0	18700/1860	23.00	22.58	0.005	0.053	1.10	0.006	/			
	10	QPSK	Hotspot on	50%	25	18700/1860	22.00	21.42	0.003	-0.060	1.14	0.003	/			
LTE 3	Ant 2	Back Side	10	QPSK	Hotspot on	1	0	19575/1747.5	22.00	21.66	0.586	0.011	1.08	0.634	/	
			10	QPSK	Hotspot on	50%	50	19850/1775	21.00	20.26	0.560	-0.015	1.19	0.664	/	
		Front Side	10	QPSK	Hotspot on	1	0	19575/1747.5	22.00	21.66	0.375	0.012	1.08	0.406	/	
			10	QPSK	Hotspot on	50%	50	19850/1775	21.00	20.26	0.329	0.022	1.19	0.390	/	



		Left Edge	10	QPSK	Hotspot on	1	0	19575/1747.5	22.00	21.66	0.146	-0.020	1.08	0.158	/
			10	QPSK	Hotspot on	50%	50	19850/1775	21.00	20.26	0.123	0.022	1.19	0.146	/
		Right Edge	10	QPSK	Hotspot on	1	0	19575/1747.5	22.00	21.66	0.113	0.023	1.08	0.122	/
			10	QPSK	Hotspot on	50%	50	19850/1775	21.00	20.26	0.099	-0.025	1.19	0.117	/
		Top Edge	10	QPSK	Hotspot on	1	0	19575/1747.5	22.00	21.66	0.014	0.001	1.08	0.015	/
			10	QPSK	Hotspot on	50%	50	19850/1775	21.00	20.26	0.012	-0.022	1.19	0.014	/
		Bottom Edge	10	QPSK	Hotspot on	1	0	19575/1747.5	22.00	21.66	0.847	0.030	1.08	0.916	/
			10	QPSK	Hotspot on	1	0	19300/1720	22.00	21.39	0.776	0.028	1.15	0.893	/
			10	QPSK	Hotspot on	1	99	19850/1775	22.00	21.65	0.842	0.030	1.08	0.913	/
			10	QPSK	Hotspot on	50%	50	19850/1775	21.00	20.26	0.672	-0.021	1.19	0.797	/
	10		QPSK	Hotspot on	100%	0	19850/1775	21.00	20.23	0.645	0.070	1.19	0.770	/	
	Ant 3	Back Side	10	QPSK	Hotspot on	1	50	19850/1775	22.50	21.97	0.404	0.010	1.13	0.456	/
			10	QPSK	Hotspot on	50%	25	19300/1720	21.50	20.76	0.252	0.015	1.19	0.299	/
		Front Side	10	QPSK	Hotspot on	1	50	19850/1775	22.50	21.97	0.241	-0.023	1.13	0.272	/
			10	QPSK	Hotspot on	50%	25	19300/1720	21.50	20.76	0.148	0.024	1.19	0.175	/
		Left Edge	10	QPSK	Hotspot on	1	50	19850/1775	22.50	21.97	0.582	0.012	1.13	0.658	/
			10	QPSK	Hotspot on	50%	25	19300/1720	21.50	20.76	0.411	0.011	1.19	0.487	/
		Right Edge	10	QPSK	Hotspot on	1	50	19850/1775	22.50	21.97	0.013	0.009	1.13	0.015	/
			10	QPSK	Hotspot on	50%	25	19300/1720	21.50	20.76	0.000	0.000	1.19	0.000	/
		Top Edge	10	QPSK	Hotspot on	1	50	19850/1775	22.50	21.97	0.101	-0.031	1.13	0.114	/
10			QPSK	Hotspot on	50%	25	19300/1720	21.50	20.76	0.060	-0.021	1.19	0.071	/	
Bottom Edge	10	QPSK	Hotspot on	1	50	19850/1775	22.50	21.97	0.013	-0.025	1.13	0.015	/		
	10	QPSK	Hotspot on	50%	25	19300/1720	21.50	20.76	0.006	0.009	1.19	0.007	/		
Ant 4	Back Side	10	QPSK	Hotspot on	1	0	19575/1747.5	23.50	22.95	0.292	0.012	1.14	0.331	/	
		10	QPSK	Hotspot on	50%	0	19575/1747.5	22.50	21.84	0.265	0.014	1.16	0.308	/	
	Front Side	10	QPSK	Hotspot on	1	0	19575/1747.5	23.50	22.95	0.263	-0.015	1.14	0.299	/	
		10	QPSK	Hotspot on	50%	0	19575/1747.5	22.50	21.84	0.239	-0.070	1.16	0.278	/	
	Left Edge	10	QPSK	Hotspot on	1	0	19575/1747.5	23.50	22.95	0.079	0.021	1.14	0.090	/	
		10	QPSK	Hotspot on	50%	0	19575/1747.5	22.50	21.84	0.075	0.080	1.16	0.087	/	
	Right Edge	10	QPSK	Hotspot on	1	0	19575/1747.5	23.50	22.95	0.076	0.011	1.14	0.086	/	
		10	QPSK	Hotspot on	50%	0	19575/1747.5	22.50	21.84	0.068	0.070	1.16	0.079	/	
	Top Edge	10	QPSK	Hotspot on	1	0	19575/1747.5	23.50	22.95	0.528	0.019	1.14	0.599	/	
		10	QPSK	Hotspot on	50%	0	19575/1747.5	22.50	21.84	0.473	-0.010	1.16	0.551	/	
Bottom Edge	10	QPSK	Hotspot on	1	0	19575/1747.5	23.50	22.95	0.027	0.032	1.14	0.031	/		
	10	QPSK	Hotspot on	50%	0	19575/1747.5	22.50	21.84	0.022	0.000	1.16	0.026	/		
LTE 4	Ant 2	Back Side	10	QPSK	Hotspot on	1	50	20300/1745	22.00	20.92	0.382	0.023	1.28	0.490	/
			10	QPSK	Hotspot on	50%	0	20300/1745	21.00	19.47	0.234	0.080	1.42	0.333	/
		Front Side	10	QPSK	Hotspot on	1	50	20300/1745	22.00	20.92	0.240	0.014	1.28	0.308	/
			10	QPSK	Hotspot on	50%	0	20300/1745	21.00	19.47	0.207	-0.100	1.42	0.294	/
		Left Edge	10	QPSK	Hotspot on	1	50	20300/1745	22.00	20.92	0.081	0.025	1.28	0.104	/
			10	QPSK	Hotspot on	50%	0	20300/1745	21.00	19.47	0.066	0.014	1.42	0.094	/
		Right Edge	10	QPSK	Hotspot on	1	50	20300/1745	22.00	20.92	0.000	0.000	1.28	0.000	/
			10	QPSK	Hotspot on	50%	0	20300/1745	21.00	19.47	0.000	0.000	1.42	0.000	/



LTE 5	Ant 4	Top Edge	10	QPSK	Hotspot on	1	50	20300/1745	22.00	20.92	0.026	0.022	1.28	0.033	/	
			10	QPSK	Hotspot on	50%	0	20300/1745	21.00	19.47	0.021	0.047	1.42	0.030	/	
		Bottom Edge	10	QPSK	Hotspot on	1	50	20300/1745	22.00	20.92	0.602	0.028	1.28	0.772	80	
			10	QPSK	Hotspot on	50%	0	20300/1745	21.00	19.47	0.437	-0.060	1.42	0.622	/	
		Back Side	10	QPSK	Hotspot on	1	50	20300/1745	24.00	23.20	0.066	0.100	1.20	0.079	/	
			10	QPSK	Hotspot on	50%	0	20300/1745	23.00	21.72	0.050	0.016	1.34	0.067	/	
		Front Side	10	QPSK	Hotspot on	1	50	20300/1745	24.00	23.20	0.052	-0.058	1.20	0.063	/	
			10	QPSK	Hotspot on	50%	0	20300/1745	23.00	21.72	0.038	0.021	1.34	0.051	/	
		Left Edge	10	QPSK	Hotspot on	1	50	20300/1745	24.00	23.20	0.075	0.047	1.20	0.090	/	
			10	QPSK	Hotspot on	50%	0	20300/1745	23.00	21.72	0.056	0.023	1.34	0.075	/	
	Right Edge	10	QPSK	Hotspot on	1	50	20300/1745	24.00	23.20	0.000	0.000	1.20	0.000	/		
		10	QPSK	Hotspot on	50%	0	20300/1745	23.00	21.72	0.000	0.000	1.34	0.000	/		
	Top Edge	10	QPSK	Hotspot on	1	50	20300/1745	24.00	23.20	0.124	0.011	1.20	0.149	/		
		10	QPSK	Hotspot on	50%	0	20300/1745	23.00	21.72	0.093	0.016	1.34	0.125	/		
	Bottom Edge	10	QPSK	Hotspot on	1	50	20300/1745	24.00	23.20	0.000	0.000	1.20	0.000	/		
		10	QPSK	Hotspot on	50%	0	20300/1745	23.00	21.72	0.000	0.000	1.34	0.000	/		
	LTE 5	Ant 1	Back Side	10	QPSK	Hotspot on	1	0	20600/844	25.00	24.21	0.481	-0.050	1.20	0.577	81
				10	QPSK	Hotspot on	50%	13	20600/844	24.00	23.20	0.412	0.025	1.20	0.495	/
			Front Side	10	QPSK	Hotspot on	1	0	20600/844	25.00	24.21	0.333	0.016	1.20	0.399	/
				10	QPSK	Hotspot on	50%	13	20600/844	24.00	23.20	0.246	-0.090	1.20	0.296	/
Left Edge			10	QPSK	Hotspot on	1	0	20600/844	25.00	24.21	0.000	0.000	1.20	0.000	/	
			10	QPSK	Hotspot on	50%	13	20600/844	24.00	23.20	0.000	0.000	1.20	0.000	/	
Right Edge			10	QPSK	Hotspot on	1	0	20600/844	25.00	24.21	0.186	0.011	1.20	0.223	/	
			10	QPSK	Hotspot on	50%	13	20600/844	24.00	23.20	0.171	0.015	1.20	0.206	/	
Top Edge			10	QPSK	Hotspot on	1	0	20600/844	25.00	24.21	0.000	0.000	1.20	0.000	/	
			10	QPSK	Hotspot on	50%	13	20600/844	24.00	23.20	0.000	0.000	1.20	0.000	/	
Bottom Edge		10	QPSK	Hotspot on	1	0	20600/844	25.00	24.21	0.395	0.100	1.20	0.474	/		
		10	QPSK	Hotspot on	50%	13	20600/844	24.00	23.20	0.351	-0.080	1.20	0.422	/		
Ant 6		Back Side	10	QPSK	Hotspot on	1	25	20600/844	24.00	23.02	0.117	0.026	1.25	0.147	/	
			10	QPSK	Hotspot on	50%	13	20600/844	23.00	22.06	0.096	0.015	1.24	0.119	/	
		Front Side	10	QPSK	Hotspot on	1	25	20600/844	24.00	23.02	0.191	-0.049	1.25	0.239	/	
			10	QPSK	Hotspot on	50%	13	20600/844	23.00	22.06	0.152	0.070	1.24	0.189	/	
		Left Edge	10	QPSK	Hotspot on	1	25	20600/844	24.00	23.02	0.000	0.000	1.25	0.000	/	
			10	QPSK	Hotspot on	50%	13	20600/844	23.00	22.06	0.000	0.000	1.24	0.000	/	
	Right Edge	10	QPSK	Hotspot on	1	25	20600/844	24.00	23.02	0.000	0.000	1.25	0.000	/		
		10	QPSK	Hotspot on	50%	13	20600/844	23.00	22.06	0.000	0.000	1.24	0.000	/		
	Top Edge	10	QPSK	Hotspot on	1	25	20600/844	24.00	23.02	0.136	0.016	1.25	0.170	/		
		10	QPSK	Hotspot on	50%	13	20600/844	23.00	22.06	0.102	0.089	1.24	0.127	/		
Bottom Edge	10	QPSK	Hotspot on	1	25	20600/844	24.00	23.02	0.000	0.000	1.25	0.000	82			
	10	QPSK	Hotspot on	50%	13	20600/844	23.00	22.06	0.000	0.000	1.24	0.000				
LTE 7	Ant 2	Back Side	10	QPSK	Hotspot on	1	99	21350/2560	22.50	22.22	0.636	0.020	1.07	0.678	/	
			10	QPSK	Hotspot on	50%	50	21350/2560	21.50	20.86	0.426	-0.014	1.16	0.494	/	
		Front Side	10	QPSK	Hotspot on	1	99	21350/2560	22.50	22.22	0.381	0.032	1.07	0.406	/	



LTE 12	Ant 4	Left Edge	10	QPSK	Hotspot on	50%	50	21350/2560	21.50	20.86	0.274	0.022	1.16	0.318	/
			10	QPSK	Hotspot on	1	99	21350/2560	22.50	22.22	0.093	0.035	1.07	0.099	/
		Right Edge	10	QPSK	Hotspot on	50%	50	21350/2560	21.50	20.86	0.065	-0.075	1.16	0.075	/
			10	QPSK	Hotspot on	1	99	21350/2560	22.50	22.22	0.072	0.012	1.07	0.077	/
		Top Edge	10	QPSK	Hotspot on	50%	50	21350/2560	21.50	20.86	0.065	0.035	1.16	0.075	/
			10	QPSK	Hotspot on	1	99	21350/2560	22.50	22.22	0.039	0.042	1.07	0.042	/
		Bottom Edge	10	QPSK	Hotspot on	1	99	21350/2560	22.50	22.22	0.960	0.062	1.07	1.024	/
			10	QPSK	Hotspot on	1	99	20850/2510	22.50	21.90	0.887	0.090	1.15	1.018	/
			10	QPSK	Hotspot on	1	50	21100/2535	22.50	22.15	0.942	0.000	1.08	1.021	/
			10	QPSK	Hotspot on	50%	50	21350/2560	21.50	20.86	0.685	0.038	1.16	0.794	/
			10	QPSK	Hotspot on	100%	0	21350/2560	21.50	20.76	0.647	0.060	1.19	0.767	/
		Bottom Edge	10	QPSK	Hotspot on	1	99	21350/2560	22.50	22.22	0.966	0.011	1.07	1.030	83
		Bottom Edge CA_7C	10	QPSK	Hotspot on	1	99	20850/2510	22.50	22.13	0.784	0.030	1.09	0.854	/
			1	0	21048/2529.8										
		Ant 4	Back Side	10	QPSK	Hotspot on	1	50	21350/2560	22.00	21.31	0.338	-0.018	1.17	0.396
	10			QPSK	Hotspot on	50%	50	21350/2560	21.00	20.20	0.238	0.042	1.20	0.286	/
	Front Side		10	QPSK	Hotspot on	1	50	21350/2560	22.00	21.31	0.412	-0.025	1.17	0.483	/
			10	QPSK	Hotspot on	50%	50	21350/2560	21.00	20.20	0.358	-0.028	1.20	0.430	/
	Left Edge		10	QPSK	Hotspot on	1	50	21350/2560	22.00	21.31	0.111	-0.035	1.17	0.130	/
			10	QPSK	Hotspot on	50%	50	21350/2560	21.00	20.20	0.093	0.013	1.20	0.112	/
	Right Edge		10	QPSK	Hotspot on	1	50	21350/2560	22.00	21.31	0.064	-0.069	1.17	0.075	/
			10	QPSK	Hotspot on	50%	50	21350/2560	21.00	20.20	0.048	0.000	1.20	0.058	/
	Top Edge		10	QPSK	Hotspot on	1	50	21350/2560	22.00	21.31	0.394	0.039	1.17	0.462	/
			10	QPSK	Hotspot on	50%	50	21350/2560	21.00	20.20	0.342	-0.011	1.20	0.411	/
	Bottom Edge	10	QPSK	Hotspot on	1	50	21350/2560	22.00	21.31	0.000	0.000	1.17	0.000	/	
10		QPSK	Hotspot on	50%	50	21350/2560	21.00	20.20	0.000	0.000	1.20	0.000	/		
Ant 1	Back Side	10	QPSK	Hotspot on	1	0	23095/707.5	26.00	25.17	0.231	-0.160	1.21	0.280	84	
		10	QPSK	Hotspot on	50%	13	23130/711	25.00	24.15	0.175	0.012	1.22	0.213	/	
	Front Side	10	QPSK	Hotspot on	1	0	23095/707.5	26.00	25.17	0.201	-0.022	1.21	0.243	/	
		10	QPSK	Hotspot on	50%	13	23130/711	25.00	24.15	0.161	0.014	1.22	0.196	/	
	Left Edge	10	QPSK	Hotspot on	1	0	23095/707.5	26.00	25.17	0.112	-0.065	1.21	0.136	/	
		10	QPSK	Hotspot on	50%	13	23130/711	25.00	24.15	0.084	0.060	1.22	0.102	/	
	Right Edge	10	QPSK	Hotspot on	1	0	23095/707.5	26.00	25.17	0.182	0.013	1.21	0.220	/	
		10	QPSK	Hotspot on	50%	13	23130/711	25.00	24.15	0.154	0.017	1.22	0.187	/	
	Top Edge	10	QPSK	Hotspot on	1	0	23095/707.5	26.00	25.17	0.000	0.000	1.21	0.000	/	
		10	QPSK	Hotspot on	50%	13	23130/711	25.00	24.15	0.000	0.000	1.22	0.000	/	
	Bottom Edge	10	QPSK	Hotspot on	1	0	23095/707.5	26.00	25.17	0.142	0.089	1.21	0.172	/	
		10	QPSK	Hotspot on	50%	13	23130/711	25.00	24.15	0.109	-0.031	1.22	0.133	/	
	Ant 6	Back Side	10	QPSK	Hotspot on	1	49	23130/711	25.00	24.43	0.168	0.060	1.14	0.192	/
			10	QPSK	Hotspot on	50%	0	23095/707.5	24.00	23.37	0.121	0.050	1.16	0.140	/
		Front Side	10	QPSK	Hotspot on	1	49	23130/711	25.00	24.43	0.182	0.020	1.14	0.208	/
10			QPSK	Hotspot on	50%	0	23095/707.5	24.00	23.37	0.136	-0.020	1.16	0.157	/	



		Left Edge	10	QPSK	Hotspot on	1	49	23130/711	25.00	24.43	0.081	-0.050	1.14	0.092	/
			10	QPSK	Hotspot on	50%	0	23095/707.5	24.00	23.37	0.062	-0.010	1.16	0.072	/
		Right Edge	10	QPSK	Hotspot on	1	49	23130/711	25.00	24.43	0.011	-0.030	1.14	0.013	/
			10	QPSK	Hotspot on	50%	0	23095/707.5	24.00	23.37	0.007	-0.090	1.16	0.008	/
		Top Edge	10	QPSK	Hotspot on	1	49	23130/711	25.00	24.43	0.132	-0.080	1.14	0.151	/
			10	QPSK	Hotspot on	50%	0	23095/707.5	24.00	23.37	0.112	-0.020	1.16	0.129	/
		Bottom Edge	10	QPSK	Hotspot on	1	49	23130/711	25.00	24.43	0.005	-0.120	1.14	0.006	/
			10	QPSK	Hotspot on	50%	0	23095/707.5	24.00	23.37	0.004	-0.088	1.16	0.005	/
LTE 28A	Ant 1	Back Side	10	QPSK	Hotspot on	1	99	27310/713	25.00	24.13	0.223	-0.080	1.22	0.272	85
			10	QPSK	Hotspot on	50%	25	27360/718	24.00	23.15	0.162	0.018	1.22	0.197	/
		Front Side	10	QPSK	Hotspot on	1	99	27310/713	25.00	24.13	0.199	0.047	1.22	0.243	/
			10	QPSK	Hotspot on	50%	25	27360/718	24.00	23.15	0.146	-0.069	1.22	0.178	/
		Left Edge	10	QPSK	Hotspot on	1	99	27310/713	25.00	24.13	0.108	0.024	1.22	0.132	/
			10	QPSK	Hotspot on	50%	25	27360/718	24.00	23.15	0.079	0.012	1.22	0.096	/
		Right Edge	10	QPSK	Hotspot on	1	99	27310/713	25.00	24.13	0.176	0.036	1.22	0.215	/
			10	QPSK	Hotspot on	50%	25	27360/718	24.00	23.15	0.128	0.017	1.22	0.156	/
		Top Edge	10	QPSK	Hotspot on	1	99	27310/713	25.00	24.13	0.000	0.000	1.22	0.000	/
			10	QPSK	Hotspot on	50%	25	27360/718	24.00	23.15	0.000	0.000	1.22	0.000	/
		Bottom Edge	10	QPSK	Hotspot on	1	99	27310/713	25.00	24.13	0.144	0.015	1.22	0.176	/
			10	QPSK	Hotspot on	50%	25	27360/718	24.00	23.15	0.112	-0.172	1.22	0.136	/
	Ant 6	Back Side	10	QPSK	Hotspot on	1	99	27310/713	24.00	23.31	0.095	0.077	1.17	0.111	/
			10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.09	0.072	0.019	1.23	0.089	/
		Front Side	10	QPSK	Hotspot on	1	99	27310/713	24.00	23.31	0.102	0.058	1.17	0.120	/
			10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.09	0.094	0.016	1.23	0.116	/
		Left Edge	10	QPSK	Hotspot on	1	99	27310/713	24.00	23.31	0.000	0.000	1.17	0.000	/
			10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.09	0.000	0.000	1.23	0.000	/
		Right Edge	10	QPSK	Hotspot on	1	99	27310/713	24.00	23.31	0.000	0.000	1.17	0.000	/
			10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.09	0.000	0.000	1.23	0.000	/
		Top Edge	10	QPSK	Hotspot on	1	99	27310/713	24.00	23.31	0.123	-0.021	1.17	0.144	/
			10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.09	0.072	0.039	1.23	0.089	/
		Bottom Edge	10	QPSK	Hotspot on	1	99	27310/713	24.00	23.31	0.000	0.000	1.17	0.000	/
			10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.09	0.000	0.000	1.23	0.000	/
LTE 28B	Ant 1	Back Side	10	QPSK	Hotspot on	1	50	27560/738	25.00	24.19	0.216	-0.040	1.21	0.260	86
			10	QPSK	Hotspot on	50%	50	27560/738	24.00	23.20	0.182	-0.026	1.20	0.219	/
		Front Side	10	QPSK	Hotspot on	1	50	27560/738	25.00	24.19	0.215	0.016	1.21	0.259	/
			10	QPSK	Hotspot on	50%	50	27560/738	24.00	23.20	0.175	0.025	1.20	0.210	/
		Left Edge	10	QPSK	Hotspot on	1	50	27560/738	25.00	24.19	0.089	0.020	1.21	0.107	/
			10	QPSK	Hotspot on	50%	50	27560/738	24.00	23.20	0.081	-0.042	1.20	0.097	/
		Right Edge	10	QPSK	Hotspot on	1	50	27560/738	25.00	24.19	0.147	0.013	1.21	0.177	/
			10	QPSK	Hotspot on	50%	50	27560/738	24.00	23.20	0.119	0.025	1.20	0.143	/
		Top Edge	10	QPSK	Hotspot on	1	50	27560/738	25.00	24.19	0.000	0.000	1.21	0.000	/
			10	QPSK	Hotspot on	50%	50	27560/738	24.00	23.20	0.000	0.000	1.20	0.000	/
		Bottom Edge	10	QPSK	Hotspot on	1	50	27560/738	25.00	24.19	0.146	0.013	1.21	0.176	/



LTE 38	Ant 6	Back Side	10	QPSK	Hotspot on	50%	50	27560/738	24.00	23.20	0.125	-0.018	1.20	0.150	/		
			10	QPSK	Hotspot on	1	50	27460/728	24.00	23.35	0.070	0.048	1.16	0.081	/		
		Front Side	10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.17	0.075	0.027	1.21	0.091	/		
			10	QPSK	Hotspot on	1	50	27460/728	24.00	23.35	0.093	0.013	1.16	0.108	/		
		Left Edge	10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.17	0.095	0.027	1.21	0.115	/		
			10	QPSK	Hotspot on	1	50	27460/728	24.00	23.35	0.000	0.000	1.16	0.000	/		
		Right Edge	10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.17	0.000	0.000	1.21	0.000	/		
			10	QPSK	Hotspot on	1	50	27460/728	24.00	23.35	0.000	0.000	1.16	0.000	/		
		Top Edge	10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.17	0.000	0.000	1.21	0.000	/		
			10	QPSK	Hotspot on	1	50	27460/728	24.00	23.35	0.083	-0.028	1.16	0.096	/		
		Bottom Edge	10	QPSK	Hotspot on	1	50	27460/728	24.00	23.35	0.000	0.000	1.16	0.000	/		
			10	QPSK	Hotspot on	50%	50	27310/713	23.00	22.17	0.000	0.000	1.21	0.000	/		
		LTE 38	Ant 2	Back Side	10	QPSK	Hotspot on	1	99	38150/2610	24.00	23.36	0.481	0.025	1.16	0.557	/
					10	QPSK	Hotspot on	50%	50	38150/2610	23.00	22.35	0.356	0.090	1.16	0.413	/
				Front Side	10	QPSK	Hotspot on	1	99	38150/2610	24.00	23.36	0.323	0.017	1.16	0.374	/
					10	QPSK	Hotspot on	50%	50	38150/2610	23.00	22.35	0.240	0.011	1.16	0.279	/
				Left Edge	10	QPSK	Hotspot on	1	99	38150/2610	24.00	23.36	0.021	-0.090	1.16	0.024	/
					10	QPSK	Hotspot on	50%	50	38150/2610	23.00	22.35	0.000	0.000	1.16	0.000	/
Right Edge	10			QPSK	Hotspot on	1	99	38150/2610	24.00	23.36	0.000	0.000	1.16	0.000	/		
	10			QPSK	Hotspot on	50%	50	38150/2610	23.00	22.35	0.000	0.000	1.16	0.000	/		
Top Edge	10			QPSK	Hotspot on	1	99	38150/2610	24.00	23.36	0.000	0.000	1.16	0.000	/		
	10			QPSK	Hotspot on	50%	50	38150/2610	23.00	22.35	0.000	0.000	1.16	0.000	/		
Bottom Edge	10			QPSK	Hotspot on	1	99	38150/2610	24.00	23.36	0.579	0.058	1.16	0.671	/		
	10			QPSK	Hotspot on	50%	50	38150/2610	23.00	22.35	0.656	0.030	1.16	0.762	87		
LTE 38	Ant 4			Back Side	10	QPSK	Hotspot on	1	99	37850/2580	22.50	22.02	0.377	0.010	1.12	0.421	/
					10	QPSK	Hotspot on	50%	25	37850/2580	21.50	20.84	0.311	0.013	1.16	0.362	/
				Front Side	10	QPSK	Hotspot on	1	99	37850/2580	22.50	22.02	0.299	-0.014	1.12	0.334	/
					10	QPSK	Hotspot on	50%	25	37850/2580	21.50	20.84	0.239	0.010	1.16	0.278	/
				Left Edge	10	QPSK	Hotspot on	1	99	37850/2580	22.50	22.02	0.155	0.009	1.12	0.173	/
					10	QPSK	Hotspot on	50%	25	37850/2580	21.50	20.84	0.113	-0.020	1.16	0.132	/
		Right Edge	10	QPSK	Hotspot on	1	99	37850/2580	22.50	22.02	0.036	-0.010	1.12	0.040	/		
			10	QPSK	Hotspot on	50%	25	37850/2580	21.50	20.84	0.035	0.003	1.16	0.041	/		
		Top Edge	10	QPSK	Hotspot on	1	99	37850/2580	22.50	22.02	0.309	0.010	1.12	0.345	/		
			10	QPSK	Hotspot on	50%	25	37850/2580	21.50	20.84	0.256	-0.015	1.16	0.298	/		
		Bottom Edge	10	QPSK	Hotspot on	1	99	37850/2580	22.50	22.02	0.018	-0.011	1.12	0.020	/		
			10	QPSK	Hotspot on	50%	25	37850/2580	21.50	20.84	0.013	0.012	1.16	0.015	/		
		LTE 66	Ant 3	Back Side	10	QPSK	Hotspot on	1	99	132072/1720	22.00	20.81	0.146	0.120	1.32	0.192	/
					10	QPSK	Hotspot on	50%	25	132322/1745	21.00	19.61	0.090	0.065	1.38	0.124	/
				Front Side	10	QPSK	Hotspot on	1	99	132072/1720	22.00	20.81	0.156	0.024	1.32	0.205	/
					10	QPSK	Hotspot on	50%	25	132322/1745	21.00	19.61	0.132	-0.032	1.38	0.182	/
				Left Edge	10	QPSK	Hotspot on	1	99	132072/1720	22.00	20.81	0.527	0.160	1.32	0.693	88
					10	QPSK	Hotspot on	50%	25	132322/1745	21.00	19.61	0.447	0.021	1.38	0.616	/



	Right Edge	10	QPSK	Hotspot on	1	99	132072/1720	22.00	20.81	0.000	0.000	1.32	0.000	/
		10	QPSK	Hotspot on	50%	25	132322/1745	21.00	19.61	0.000	0.000	1.38	0.000	/
	Top Edge	10	QPSK	Hotspot on	1	99	132072/1720	22.00	20.81	0.077	0.090	1.32	0.101	/
		10	QPSK	Hotspot on	50%	25	132322/1745	21.00	19.61	0.056	-0.023	1.38	0.077	/
	Bottom Edge	10	QPSK	Hotspot on	1	99	132072/1720	22.00	20.81	0.000	0.000	1.32	0.000	/
		10	QPSK	Hotspot on	50%	25	132322/1745	21.00	19.61	0.000	0.000	1.38	0.000	/

Band	Antenna	Test Position	Dist. (mm)	Type	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.			
NR Band n66	Ant 3	Back Side	10	SA& NSA	DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	20.00	18.92	0.187	0.011	1.28	0.240	/			
			10		DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	20.00	18.81	0.171	-0.020	1.32	0.225	/			
		Front Side	10		DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	20.00	18.92	0.091	-0.009	1.28	0.117	/			
			10		DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	20.00	18.81	0.087	0.021	1.32	0.114	/			
		Left Edge	10		DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	20.00	18.92	0.381	0.010	1.28	0.489	89			
			10		DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	20.00	18.81	0.342	0.021	1.32	0.450	/			
		Right Edge	10		DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	20.00	18.92	0.010	0.007	1.28	0.013	/			
			10		DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	20.00	18.81	0.009	0.010	1.32	0.012	/			
		Top Edge	10		DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	20.00	18.92	0.052	-0.020	1.28	0.067	/			
			10		DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	20.00	18.81	0.052	0.010	1.32	0.068	/			
		Bottom Edge	10		DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	20.00	18.92	0.010	0.009	1.28	0.013	/			
			10		DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	20.00	18.81	0.009	0.007	1.32	0.012	/			
		NR Band n78	Ant 5		Back Side	10	SA& NSA	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	20.00	19.16	0.091	0.046	1.21	0.110	/
						10		DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	20.00	19.15	0.102	-0.018	1.22	0.124	/
					Front Side	10		DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	20.00	19.16	0.028	0.040	1.21	0.034	/
						10		DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	20.00	19.15	0.032	0.010	1.22	0.039	/
					Left Edge	10		DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	20.00	19.16	0.132	0.000	1.21	0.160	/
						10		DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	20.00	19.15	0.161	0.019	1.22	0.196	/
Right Edge	10			DFT-s-OFDM QPSK	Hotspot on	1		1	633332/3500	20.00	19.16	0.023	-0.020	1.21	0.028	/			
	10			DFT-s-OFDM QPSK	Hotspot on	50%		67	633332/3500	20.00	19.15	0.045	0.140	1.22	0.055	/			
Top Edge	10			DFT-s-OFDM QPSK	Hotspot on	1		1	633332/3500	20.00	19.16	0.021	0.021	1.21	0.025	/			
	10			DFT-s-OFDM QPSK	Hotspot on	50%		67	633332/3500	20.00	19.15	0.030	0.090	1.22	0.036	/			
Bottom Edge	10			DFT-s-OFDM QPSK	Hotspot on	1		1	633332/3500	20.00	19.16	0.000	0.000	1.21	0.000	/			
	10			DFT-s-OFDM QPSK	Hotspot on	50%		67	633332/3500	20.00	19.15	0.000	0.000	1.22	0.000	/			
NR Band n78	Ant 10			Back Side	10	SA		DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	17.00	16.23	0.117	0.034	1.19	0.140	/
					10			DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	17.00	16.05	0.078	0.016	1.24	0.097	/
				Front Side	10			DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	17.00	16.23	0.069	0.049	1.19	0.082	/
					10			DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	17.00	16.05	0.052	-0.067	1.24	0.065	/
				Left Edge	10			DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	17.00	16.23	0.032	0.068	1.19	0.038	/
					10			DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	17.00	16.05	0.027	-0.015	1.24	0.034	/
		Right Edge	10	DFT-s-OFDM QPSK	Hotspot on		1	1	633332/3500	17.00	16.23	0.058	0.019	1.19	0.069	/			
			10	DFT-s-OFDM QPSK	Hotspot on		50%	67	633332/3500	17.00	16.05	0.025	0.060	1.24	0.031	/			
		Top Edge	10	DFT-s-OFDM QPSK	Hotspot on		1	1	633332/3500	17.00	16.23	0.194	0.028	1.19	0.232	90			



		Top Edge	10	DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	17.00	16.05	0.085	0.011	1.24	0.106	/
			10	DFT-s-OFDM QPSK	Hotspot on	1	271	650000/3750	17.00	15.98	0.126	0.060	1.26	0.159	/
			10	DFT-s-OFDM QPSK	Hotspot on	50%	67	650000/3750	17.00	16.05	0.092	0.013	1.24	0.114	/
		Bottom Edge	10	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	17.00	16.23	0.048	-0.013	1.19	0.057	/
			10	DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	17.00	16.05	0.029	0.037	1.24	0.036	/

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.
Wi-Fi 2.4G	Ant 7	Back Side	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.28	0.110	0.010	1.49	0.163	/
		Front Side	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.28	0.247	0.015	1.49	0.367	91
		Left Edge	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.28	0.010	0.005	1.49	0.015	/
		Right Edge	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.28	0.080	-0.011	1.49	0.119	/
		Top Edge	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.28	0.042	-0.015	1.49	0.062	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Ant 9	Back Side	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.38	0.151	0.011	1.45	0.219	/
		Front Side	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.38	0.158	0.021	1.45	0.229	/
		Left Edge	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.38	0.015	-0.011	1.45	0.022	/
		Right Edge	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.38	0.236	0.021	1.45	0.343	/
		Top Edge	10	802.11b	100.0%	WWAN+WLAN Receiver off-	1/2412	20.00	18.38	0.063	-0.015	1.45	0.091	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	MIMO	Back Side	10	802.11nHT20	100.0%	WWAN+WLAN Receiver off-	11/2462	20.01	18.33	0.121	0.015	1.47	0.178	/
		Front Side	10	802.11nHT20	100.0%	WWAN+WLAN Receiver off-	11/2462	20.01	18.33	0.123	-0.030	1.47	0.181	/
		Left Edge	10	802.11nHT20	100.0%	WWAN+WLAN Receiver off-	11/2462	20.01	18.33	0.011	0.039	1.47	0.016	/
		Right Edge	10	802.11nHT20	100.0%	WWAN+WLAN Receiver off-	11/2462	20.01	18.33	0.153	0.028	1.47	0.225	/
		Top Edge	10	802.11nHT20	100.0%	WWAN+WLAN Receiver off-	11/2462	20.01	18.33	0.121	0.060	1.47	0.178	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
U-NII-1	Ant 7	Back Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	48/5240	18.50	16.85	0.221	0.013	1.46	0.323	/
		Front Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	48/5240	18.50	16.85	0.232	-0.021	1.46	0.339	/
		Left Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	48/5240	18.50	16.85	0.058	0.045	1.46	0.085	/
		Right Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	48/5240	18.50	16.85	0.257	0.048	1.46	0.376	/
		Top Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	48/5240	18.50	16.85	0.326	-0.031	1.46	0.477	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Ant 9	Back Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	40/5200	21.00	19.32	0.224	0.019	1.47	0.330	/
		Front Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	40/5200	21.00	19.32	0.206	0.051	1.47	0.303	/
		Left Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	40/5200	21.00	19.32	0.083	0.036	1.47	0.122	/
		Right Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	40/5200	21.00	19.32	0.478	0.080	1.47	0.704	/
		Top Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	40/5200	21.00	19.32	0.144	0.100	1.47	0.212	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	MIMO	Back Side	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	36/5180	22.51	22.14	0.320	-0.025	1.09	0.349	/
		Front Side	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	36/5180	22.51	22.14	0.349	0.019	1.09	0.380	/
		Left Edge	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	36/5180	22.51	22.14	0.060	0.041	1.09	0.065	/
		Right Edge	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	36/5180	22.51	22.14	0.428	0.038	1.09	0.466	/



		Top Edge	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	36/5180	22.51	22.14	0.692	0.056	1.09	0.754	92
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
U-NII-2A	Ant 7	Back Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	18.50	16.85	0.258	0.011	1.46	0.377	/
		Front Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	18.50	16.85	0.356	0.020	1.46	0.521	/
		Left Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	18.50	16.85	0.053	-0.015	1.46	0.077	/
		Right Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	18.50	16.85	0.311	0.011	1.46	0.455	/
		Top Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	18.50	16.85	0.430	0.021	1.46	0.629	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
	Ant 9	Back Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	21.00	19.15	0.236	0.014	1.53	0.361	/
		Front Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	21.00	19.15	0.188	0.032	1.53	0.288	/
		Left Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	21.00	19.15	0.060	0.000	1.53	0.092	/
		Right Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	21.00	19.15	0.411	0.027	1.53	0.629	/
		Top Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	64/5320	21.00	19.15	0.161	0.011	1.53	0.247	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
	MIMO	Back Side	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	52/5260	22.51	21.96	0.346	0.013	1.13	0.392	/
		Front Side	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	52/5260	22.51	21.96	0.329	0.024	1.13	0.373	/
		Left Edge	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	52/5260	22.51	21.96	0.072	-0.090	1.13	0.082	/
		Right Edge	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	52/5260	22.51	21.96	0.399	0.042	1.13	0.452	/
		Top Edge	10	802.11ax-HE 20	100.0%	WWAN+WLAN Receiver off-	52/5260	22.51	21.96	0.685	-0.039	1.13	0.777	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
U-NII-2C	Ant 7	Back Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	116/5580	18.50	16.82	0.266	0.012	1.47	0.392	/
		Front Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	116/5580	18.50	16.82	0.247	-0.022	1.47	0.364	/
		Left Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	116/5580	18.50	16.82	0.044	0.020	1.47	0.065	/
		Right Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	116/5580	18.50	16.82	0.323	0.011	1.47	0.476	/
		Top Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	116/5580	18.50	16.82	0.321	0.021	1.47	0.473	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
	Ant 9	Back Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	140/5700	21.00	19.19	0.360	0.010	1.52	0.546	/
		Front Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	140/5700	21.00	19.19	0.292	0.023	1.52	0.443	/
		Left Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	140/5700	21.00	19.19	0.032	0.021	1.52	0.049	/
		Right Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	140/5700	21.00	19.19	0.373	0.010	1.52	0.566	/
		Top Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	140/5700	21.00	19.19	0.115	0.021	1.52	0.174	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
	MIMO	Back Side	10	802.11ac-VHT80	100.0%	WWAN+WLAN Receiver off-	106/5530	22.51	21.01	0.291	0.009	1.41	0.411	/
		Front Side	10	802.11ac-VHT80	100.0%	WWAN+WLAN Receiver off-	106/5530	22.51	21.01	0.385	0.040	1.41	0.544	/
		Left Edge	10	802.11ac-VHT80	100.0%	WWAN+WLAN Receiver off-	106/5530	22.51	21.01	0.027	0.011	1.41	0.038	/
		Right Edge	10	802.11ac-VHT80	100.0%	WWAN+WLAN Receiver off-	106/5530	22.51	21.01	0.478	-0.130	1.41	0.675	/
		Top Edge	10	802.11ac-VHT80	100.0%	WWAN+WLAN Receiver off-	106/5530	22.51	21.01	0.314	-0.050	1.41	0.444	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
U-NII-3	Ant 7	Back Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	165/5825	18.00	16.34	0.121	0.014	1.47	0.177	/
		Front Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	165/5825	18.00	16.34	0.105	0.026	1.47	0.154	/
		Left Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	165/5825	18.00	16.34	0.055	-0.090	1.47	0.081	/
		Right Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	165/5825	18.00	16.34	0.188	0.070	1.47	0.276	/
		Top Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	165/5825	18.00	16.34	0.091	0.012	1.47	0.133	/



		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
	Ant 9	Back Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	157/5785	15.50	13.81	0.093	0.040	1.48	0.137	/
		Front Side	10	802.11a	100.0%	WWAN+WLAN Receiver off-	157/5785	15.50	13.81	0.093	0.000	1.48	0.137	/
		Left Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	157/5785	15.50	13.81	0.059	0.023	1.48	0.087	/
		Right Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	157/5785	15.50	13.81	0.099	0.058	1.48	0.146	/
		Top Edge	10	802.11a	100.0%	WWAN+WLAN Receiver off-	157/5785	15.50	13.81	0.115	0.011	1.48	0.170	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
	MIMO	Back Side	10	802.11ac-VHT40	100.0%	WWAN+WLAN Receiver off-	151/5755	16.51	14.88	0.094	0.016	1.45	0.137	/
		Front Side	10	802.11ac-VHT40	100.0%	WWAN+WLAN Receiver off-	151/5755	16.51	14.88	0.069	-0.038	1.45	0.100	/
		Left Edge	10	802.11ac-VHT40	100.0%	WWAN+WLAN Receiver off-	151/5755	16.51	14.88	0.014	0.025	1.45	0.020	/
		Right Edge	10	802.11ac-VHT40	100.0%	WWAN+WLAN Receiver off-	151/5755	16.51	14.88	0.122	0.020	1.45	0.177	/
		Top Edge	10	802.11ac-VHT40	100.0%	WWAN+WLAN Receiver off-	151/5755	16.51	14.88	0.125	-0.045	1.45	0.182	/
		Bottom Edge	10	N/A	100.0%	WWAN+WLAN Receiver off-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
Bluetooth	BT	Back Side	10	DH5	76.0%	-	78/2480	15.00	14.27	0.045	0.032	1.56	0.070	/
		Front Side	10	DH5	76.0%	-	78/2480	15.00	14.27	0.042	0.018	1.56	0.065	/
		Left Edge	10	DH5	76.0%	-	78/2480	15.00	14.27	0.000	0.000	1.56	0.000	/
		Right Edge	10	DH5	76.0%	-	78/2480	15.00	14.27	0.063	0.022	1.56	0.098	/
		Top Edge	10	DH5	76.0%	-	78/2480	15.00	14.27	0.075	0.010	1.56	0.117	93
		Bottom Edge	10	DH5	76.0%	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/



Product-specific 10g SAR Evaluation

Band	Antenna	Test Position	Mode	Power Reduction	RB	offset	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Scaling Factor	Report SAR1g	0mm SAR
WCDMA II	Ant 2	Back Side	RMC	Hotspot on	-	-	9400/1880	25.00	23.00	0.480	1.58	0.761	NO
		Front Side	RMC	Hotspot on	-	-	9400/1880	25.00	23.00	0.423	1.58	0.671	NO
		Left Edge	RMC	Hotspot on	-	-	9400/1880	25.00	23.00	0.113	1.58	0.179	NO
		Right Edge	RMC	Hotspot on	-	-	9400/1880	25.00	23.00	0.000	1.58	0.000	NO
		Top Edge	RMC	Hotspot on	-	-	9400/1880	25.00	23.00	0.000	1.58	0.000	NO
		Bottom Edge	RMC	Hotspot on	-	-	9400/1880	25.00	23.00	1.058	1.58	1.677	YES
LTE 2	Ant 2	Back Side	QPSK	Hotspot on	1	50	18700/1860	25.00	22.00	0.558	2.00	1.113	NO
			QPSK	Hotspot on	50%	50	18700/1860	24.00	21.00	0.434	2.00	0.867	NO
		Front Side	QPSK	Hotspot on	1	50	18700/1860	25.00	22.00	0.435	2.00	0.868	NO
			QPSK	Hotspot on	50%	50	18700/1860	24.00	21.00	0.349	2.00	0.696	NO
		Left Edge	QPSK	Hotspot on	1	50	18700/1860	25.00	22.00	0.145	2.00	0.289	NO
			QPSK	Hotspot on	50%	50	18700/1860	24.00	21.00	0.134	2.00	0.267	NO
		Right Edge	QPSK	Hotspot on	1	50	18700/1860	25.00	22.00	0.000	2.00	0.000	NO
			QPSK	Hotspot on	50%	50	18700/1860	24.00	21.00	0.000	2.00	0.000	NO
		Top Edge	QPSK	Hotspot on	1	50	18700/1860	25.00	22.00	0.000	2.00	0.000	NO
			QPSK	Hotspot on	50%	50	18700/1860	24.00	21.00	0.000	2.00	0.000	NO
		Bottom Edge	QPSK	Hotspot on	1	50	18700/1860	25.00	22.00	0.953	2.00	1.901	YES
			QPSK	Hotspot on	50%	50	18700/1860	24.00	21.00	0.772	2.00	1.540	YES
LTE 3	Ant 2	Back Side	QPSK	Hotspot on	1	0	19575/1747.5	24.50	22.00	0.634	1.78	1.127	NO
			QPSK	Hotspot on	50%	50	19850/1775	23.50	21.00	0.664	1.78	1.181	NO
		Front Side	QPSK	Hotspot on	1	0	19575/1747.5	24.50	22.00	0.406	1.78	0.721	NO
			QPSK	Hotspot on	50%	50	19850/1775	23.50	21.00	0.390	1.78	0.694	NO
		Left Edge	QPSK	Hotspot on	1	0	19575/1747.5	24.50	22.00	0.158	1.78	0.281	NO
			QPSK	Hotspot on	50%	50	19850/1775	23.50	21.00	0.146	1.78	0.259	NO
		Right Edge	QPSK	Hotspot on	1	0	19575/1747.5	24.50	22.00	0.122	1.78	0.217	NO
			QPSK	Hotspot on	50%	50	19850/1775	23.50	21.00	0.117	1.78	0.209	NO
		Top Edge	QPSK	Hotspot on	1	0	19575/1747.5	24.50	22.00	0.015	1.78	0.027	NO
			QPSK	Hotspot on	50%	50	19850/1775	23.50	21.00	0.014	1.78	0.025	NO
		Bottom Edge	QPSK	Hotspot on	1	0	19575/1747.5	24.50	22.00	0.916	1.78	1.629	YES
			QPSK	Hotspot on	50%	50	19850/1775	23.50	21.00	0.797	1.78	1.417	YES
	Ant 3	Back Side	QPSK	Hotspot on	1	50	19850/1775	25.00	22.50	0.456	1.78	0.812	NO
			QPSK	Hotspot on	50%	25	19300/1720	24.00	21.50	0.299	1.78	0.531	NO
		Front Side	QPSK	Hotspot on	1	50	19850/1775	25.00	22.50	0.272	1.78	0.484	NO
			QPSK	Hotspot on	50%	25	19300/1720	24.00	21.50	0.175	1.78	0.312	NO
		Left Edge	QPSK	Hotspot on	1	50	19850/1775	25.00	22.50	0.658	1.78	1.169	NO
			QPSK	Hotspot on	50%	25	19300/1720	24.00	21.50	0.487	1.78	0.867	NO
Right Edge	QPSK	Hotspot on	1	50	19850/1775	25.00	22.50	0.015	1.78	0.026	NO		
	QPSK	Hotspot on	50%	25	19300/1720	24.00	21.50	0.000	1.78	0.000	NO		
Top Edge	QPSK	Hotspot on	1	50	19850/1775	25.00	22.50	0.114	1.78	0.203	NO		
	QPSK	Hotspot on	50%	25	19300/1720	24.00	21.50	0.071	1.78	0.127	NO		



		Bottom Edge	QPSK	Hotspot on	1	50	19850/1775	25.00	22.50	0.015	1.78	0.026	NO
			QPSK	Hotspot on	50%	25	19300/1720	24.00	21.50	0.007	1.78	0.013	NO
LTE 4	Ant 2	Back Side	QPSK	Hotspot on	1	50	20300/1745	25.00	22.00	0.490	2.00	0.977	NO
			QPSK	Hotspot on	50%	0	20300/1745	24.00	21.00	0.333	2.00	0.664	NO
		Front Side	QPSK	Hotspot on	1	50	20300/1745	25.00	22.00	0.308	2.00	0.614	NO
			QPSK	Hotspot on	50%	0	20300/1745	24.00	21.00	0.294	2.00	0.587	NO
		Left Edge	QPSK	Hotspot on	1	50	20300/1745	25.00	22.00	0.104	2.00	0.207	NO
			QPSK	Hotspot on	50%	0	20300/1745	24.00	21.00	0.094	2.00	0.187	NO
		Right Edge	QPSK	Hotspot on	1	50	20300/1745	25.00	22.00	0.000	2.00	0.000	NO
			QPSK	Hotspot on	50%	0	20300/1745	24.00	21.00	0.000	2.00	0.000	NO
		Top Edge	QPSK	Hotspot on	1	50	20300/1745	25.00	22.00	0.033	2.00	0.067	NO
			QPSK	Hotspot on	50%	0	20300/1745	24.00	21.00	0.030	2.00	0.060	NO
Bottom Edge	QPSK	Hotspot on	1	50	20300/1745	25.00	22.00	0.772	2.00	1.540	YES		
	QPSK	Hotspot on	50%	0	20300/1745	24.00	21.00	0.622	2.00	1.240	YES		
LTE 7	Ant 2	Back Side	QPSK	Hotspot on	1	99	21350/2560	24.50	22.50	0.678	1.58	1.075	NO
			QPSK	Hotspot on	50%	50	21350/2560	23.50	21.50	0.494	1.58	0.782	NO
		Front Side	QPSK	Hotspot on	1	99	21350/2560	24.50	22.50	0.406	1.58	0.644	NO
			QPSK	Hotspot on	50%	50	21350/2560	23.50	21.50	0.318	1.58	0.503	NO
		Left Edge	QPSK	Hotspot on	1	99	21350/2560	24.50	22.50	0.099	1.58	0.157	NO
			QPSK	Hotspot on	50%	50	21350/2560	23.50	21.50	0.075	1.58	0.119	NO
		Right Edge	QPSK	Hotspot on	1	99	21350/2560	24.50	22.50	0.077	1.58	0.122	NO
			QPSK	Hotspot on	50%	50	21350/2560	23.50	21.50	0.075	1.58	0.119	NO
		Top Edge	QPSK	Hotspot on	1	99	21350/2560	24.50	22.50	0.042	1.58	0.066	NO
			QPSK	Hotspot on	50%	50	21350/2560	23.50	21.50	0.037	1.58	0.059	NO
Bottom Edge	QPSK	Hotspot on	1	99	21350/2560	24.50	22.50	1.024	1.58	1.623	YES		
	QPSK	Hotspot on	50%	50	21350/2560	23.50	21.50	0.794	1.58	1.258	YES		
LTE 38	Ant 2	Back Side	QPSK	Hotspot on	1	99	38150/2610	25.00	24.00	0.557	1.26	0.702	NO
			QPSK	Hotspot on	50%	50	38150/2610	24.00	23.00	0.413	1.26	0.521	NO
		Front Side	QPSK	Hotspot on	1	99	38150/2610	25.00	24.00	0.374	1.26	0.471	NO
			QPSK	Hotspot on	50%	50	38150/2610	24.00	23.00	0.279	1.26	0.351	NO
		Left Edge	QPSK	Hotspot on	1	99	38150/2610	25.00	24.00	0.024	1.26	0.031	NO
			QPSK	Hotspot on	50%	50	38150/2610	24.00	23.00	0.000	1.26	0.000	NO
		Right Edge	QPSK	Hotspot on	1	99	38150/2610	25.00	24.00	0.000	1.26	0.000	NO
			QPSK	Hotspot on	50%	50	38150/2610	24.00	23.00	0.000	1.26	0.000	NO
		Top Edge	QPSK	Hotspot on	1	99	38150/2610	25.00	24.00	0.000	1.26	0.000	NO
			QPSK	Hotspot on	50%	50	38150/2610	24.00	23.00	0.000	1.26	0.000	NO
Bottom Edge	QPSK	Hotspot on	1	99	38150/2610	25.00	24.00	0.671	1.26	0.845	NO		
	QPSK	Hotspot on	50%	50	38150/2610	24.00	23.00	0.762	1.26	0.959	NO		
LTE 66	Ant 3	Back Side	QPSK	Hotspot on	1	99	132072/1720	25.00	22.00	0.192	2.00	0.383	NO
			QPSK	Hotspot on	50%	25	132322/1745	24.00	21.00	0.124	2.00	0.247	NO
		Front Side	QPSK	Hotspot on	1	99	132072/1720	25.00	22.00	0.205	2.00	0.409	NO
			QPSK	Hotspot on	50%	25	132322/1745	24.00	21.00	0.182	2.00	0.363	NO
Left Edge	QPSK	Hotspot on	1	99	132072/1720	25.00	22.00	0.693	2.00	1.383	YES		



	Right Edge	QPSK	Hotspot on	50%	25	132322/1745	24.00	21.00	0.616	2.00	1.228	YES	
		QPSK	Hotspot on	1	99	132072/1720	25.00	22.00	0.000	2.00	0.000	NO	
		QPSK	Hotspot on	50%	25	132322/1745	24.00	21.00	0.000	2.00	0.000	NO	
		Top Edge	QPSK	Hotspot on	1	99	132072/1720	25.00	22.00	0.101	2.00	0.202	NO
			QPSK	Hotspot on	50%	25	132322/1745	24.00	21.00	0.077	2.00	0.154	NO
		Bottom Edge	QPSK	Hotspot on	1	99	132072/1720	25.00	22.00	0.000	2.00	0.000	NO
QPSK	Hotspot on		50%	25	132322/1745	24.00	21.00	0.000	2.00	0.000	NO		

Band	Antenna	Test Position	Type	Mode	Power Reduction	RB	offset	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Scaling Factor	Report SAR1g	0mm SAR
n78	Ant 5	Back Side	SA&NSA	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	23.00	20.00	0.110	2.00	0.220	NO
				DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	23.00	20.00	0.124	2.00	0.248	NO
		Front Side		DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	23.00	20.00	0.034	2.00	0.068	NO
				DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	23.00	20.00	0.039	2.00	0.078	NO
		Left Edge		DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	23.00	20.00	0.160	2.00	0.320	NO
				DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	23.00	20.00	0.196	2.00	0.391	NO
		Right Edge		DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	23.00	20.00	0.028	2.00	0.056	NO
				DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	23.00	20.00	0.055	2.00	0.109	NO
		Top Edge		DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	23.00	20.00	0.025	2.00	0.051	NO
				DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	23.00	20.00	0.036	2.00	0.073	NO
Bottom Edge	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	23.00	20.00	0.000	2.00	0.000	NO			
	DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	23.00	20.00	0.000	2.00	0.000	NO			

Band	Antenna	Test Position	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Scaling Factor	Report SAR1g (W/kg)	0mm SAR
2.4G	MIMO	Back Side	802.11n HT20	100.0%	WWAN+WLAN Receiver off-	11/2462	22.51	20.01	0.178	1.78	0.317	NO
		Front Side	802.11n HT20	100.0%	WWAN+WLAN Receiver off-	11/2462	22.51	20.01	0.181	1.78	0.322	NO
		Left Edge	802.11n HT20	100.0%	WWAN+WLAN Receiver off-	11/2462	22.51	20.01	0.016	1.78	0.029	NO
		Right Edge	802.11n HT20	100.0%	WWAN+WLAN Receiver off-	11/2462	22.51	20.01	0.225	1.78	0.400	NO
		Top Edge	802.11n HT20	100.0%	WWAN+WLAN Receiver off-	11/2462	22.51	20.01	0.178	1.78	0.317	NO



Product-specific 10g SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR10g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR10g (W/kg)	Plot No.
WCDMA II	Ant 2	Bottom Edge	0	RMC	Sensor on	-	-	9262/1852.4	23.50	22.86	2.160	0.014	1.16	2.503	/
			0	RMC	Sensor on	-	-	9400/1880	23.50	22.90	2.530	-0.029	1.15	2.905	94
			0	RMC	Sensor on	-	-	9538/1907.6	23.50	22.84	2.380	0.020	1.16	2.771	/
LTE 2	Ant 2	Bottom Edge	0	QPSK	Sensor on	1	50	18900/1880	23.00	22.66	2.470	0.130	1.08	2.671	95
			0	QPSK	Sensor on	1	50	18700/1860	23.00	22.48	2.260	-0.050	1.13	2.547	/
			0	QPSK	Sensor on	1	0	19100/1900	23.00	22.53	2.290	-0.028	1.11	2.552	/
			0	QPSK	Sensor on	50%	25	19100/1900	22.00	21.45	1.890	0.100	1.14	2.145	/
			0	QPSK	Sensor on	100%	0	19100/1900	22.00	21.40	1.950	0.000	1.15	2.239	/
LTE 3	Ant 2	Bottom Edge	0	QPSK	Sensor on	1	99	19575/1747.5	24.50	24.10	3.000	-0.022	1.10	3.289	/
			0	QPSK	Sensor on	1	0	19300/1720	24.50	23.56	2.970	0.130	1.24	3.688	/
			0	QPSK	Sensor on	1	50	19850/1775	24.50	24.07	3.120	0.130	1.10	3.445	96
			0	QPSK	Sensor on	50%	25	19850/1775	23.50	22.76	2.480	0.100	1.19	2.941	/
			0	QPSK	Sensor on	50%	25	19575/1747.5	23.50	22.63	2.520	0.000	1.22	3.079	/
			0	QPSK	Sensor on	50%	25	19300/1720	23.50	22.75	2.280	-0.030	1.19	2.710	/
			0	QPSK	Sensor on	100%	0	19575/1747.5	23.50	22.75	2.340	0.049	1.19	2.781	/
			0	QPSK	Sensor on	100%	0	19300/1720	23.50	22.59	2.170	0.011	1.23	2.676	/
LTE 4	Ant 2	Bottom Edge	0	QPSK	Sensor on	1	50	20175/1732.5	25.00	24.43	3.110	0.026	1.14	3.546	/
			0	QPSK	Sensor on	50%	25	20300/1745	24.00	23.40	2.580	0.026	1.15	2.962	/
			0	QPSK	Sensor on	100%	0	20300/1745	24.00	23.35	2.670	-0.033	1.16	3.101	/
			0	QPSK	Sensor on	1	50	20050/1720	25.00	24.36	3.080	0.022	1.16	3.569	/
			0	QPSK	Sensor on	1	50	20300/1745	25.00	24.39	3.230	0.190	1.15	3.717	97
LTE 7	Ant 2	Bottom Edge	0	QPSK	Sensor on	1	99	21350/2560	24.50	23.71	2.890	0.011	1.20	3.467	98
			0	QPSK	Sensor on	1	99	20850/2510	24.50	23.43	2.620	0.015	1.28	3.352	/
			0	QPSK	Sensor on	1	99	21100/2535	24.50	23.66	2.830	0.029	1.21	3.434	/
			0	QPSK	Sensor on	50%	25	21350/2560	23.50	22.65	2.420	0.094	1.22	2.943	/
			0	QPSK	Sensor on	100%	0	21350/2560	23.50	22.55	2.750	0.020	1.24	3.422	/
LTE 66	Ant 3	Left Edge	0	QPSK	Receiver off	1	99	132322/1745	25.00	24.61	2.150	0.050	1.09	2.352	99
			0	QPSK	Receiver off	1	50	132072/1720	25.00	24.45	2.020	-0.022	1.14	2.293	/
			0	QPSK	Receiver off	1	50	132572/1770	25.00	24.41	1.980	-0.100	1.15	2.268	/
			0	QPSK	Receiver off	50%	50	132322/1745	24.00	23.34	1.770	0.080	1.16	2.061	/
			0	QPSK	Receiver off	100%	0	132322/1745	24.00	23.26	1.830	0.016	1.19	2.170	/



Additional SAR test at a conservative distance (triggering distance minus 1mm)

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR10g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR10g (W/kg)
WCDMA II	Ant 2	Bottom Edge	9	RMC	Sensor off	-	-	9400/1880	25.00	24.12	0.230	0.018	1.22	0.282
LTE 2	Ant 2	Bottom Edge	9	QPSK	Sensor off	1	50	18900/1880	25.00	24.06	0.281	0.025	1.24	0.349
			9	QPSK	Sensor off	50%	0	18900/1880	24.00	22.94	0.195	0.014	1.28	0.249

Head SAR for Simultaneous

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)
Wi-Fi 2.4G	Ant 7	Left cheek	0	802.11b	100.0%	WWAN+WLAN Receiver on	1/2412	13.00	12.66	0.333	0.033	1.08	0.360
		Left Tilt	0	802.11b	100.0%	WWAN+WLAN Receiver on	1/2412	13.00	12.66	0.232	0.021	1.08	0.251
		Right cheek	0	802.11b	100.0%	WWAN+WLAN Receiver on	1/2412	13.00	12.66	0.131	-0.007	1.08	0.142
		Right Tilt	0	802.11b	100.0%	WWAN+WLAN Receiver on	1/2412	13.00	12.66	0.102	-0.011	1.08	0.110
	Ant 9	Left cheek	0	802.11b	100.0%	WWAN+WLAN Receiver on	1/2412	16.00	15.43	0.296	0.021	1.14	0.338
		Left Tilt	0	802.11b	100.0%	WWAN+WLAN Receiver on	1/2412	16.00	15.43	0.099	-0.011	1.14	0.113
		Right cheek	0	802.11b	100.0%	WWAN+WLAN Receiver on	1/2412	16.00	15.43	0.121	0.015	1.14	0.138
		Right Tilt	0	802.11b	100.0%	WWAN+WLAN Receiver on	1/2412	16.00	15.43	0.037	0.012	1.14	0.042
	MIMO	Left cheek	0	802.11n	100.0%	WWAN+WLAN Receiver on	11/2462	14.01	12.41	0.212	-0.050	1.45	0.306
		Left Tilt	0	802.11n	100.0%	WWAN+WLAN Receiver on	11/2462	14.01	12.41	0.165	0.011	1.45	0.238
		Right cheek	0	802.11n	100.0%	WWAN+WLAN Receiver on	11/2462	14.01	12.41	0.098	-0.012	1.45	0.142
		Right Tilt	0	802.11n	100.0%	WWAN+WLAN Receiver on	11/2462	14.01	12.41	0.082	0.007	1.45	0.118



10dBm SAR Evaluation

Head SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Scaling Factor	Report SAR1g (W/kg)
LTE 2	Ant 2	Left cheek	0	QPSK	Receiver on	1	50	18900/1880	10.00	25.00	0.103	0.03	0.003
			0	QPSK	Receiver on	50%	0	18900/1880	10.00	24.00	0.082	0.04	0.003
		Left Tilt	0	QPSK	Receiver on	1	50	18900/1880	10.00	25.00	0.084	0.03	0.003
			0	QPSK	Receiver on	50%	0	18900/1880	10.00	24.00	0.064	0.04	0.003
		Right cheek	0	QPSK	Receiver on	1	50	18900/1880	10.00	25.00	0.119	0.03	0.004
			0	QPSK	Receiver on	50%	0	18900/1880	10.00	24.00	0.106	0.04	0.004
		Right Tilt	0	QPSK	Receiver on	1	50	18900/1880	10.00	25.00	0.085	0.03	0.003
			0	QPSK	Receiver on	50%	0	18900/1880	10.00	24.00	0.066	0.04	0.003
LTE 5	Ant 1	Left cheek	0	QPSK	Receiver on	1	0	20600/844	10.00	26.00	0.347	0.03	0.009
			0	QPSK	Receiver on	50%	13	20600/844	10.00	25.00	0.289	0.03	0.009
		Left Tilt	0	QPSK	Receiver on	1	0	20600/844	10.00	26.00	0.153	0.03	0.004
			0	QPSK	Receiver on	50%	13	20600/844	10.00	25.00	0.124	0.03	0.004
		Right cheek	0	QPSK	Receiver on	1	0	20600/844	10.00	26.00	0.326	0.03	0.008
			0	QPSK	Receiver on	50%	13	20600/844	10.00	25.00	0.274	0.03	0.009
		Right Tilt	0	QPSK	Receiver on	1	0	20600/844	10.00	26.00	0.118	0.03	0.003
			0	QPSK	Receiver on	50%	13	20600/844	10.00	25.00	0.094	0.03	0.003
LTE 7	Ant 2	Left cheek	0	QPSK	Receiver on	1	99	21350/2560	10.00	24.50	0.138	0.04	0.005
			0	QPSK	Receiver on	50%	25	21350/2560	10.00	23.50	0.108	0.04	0.005
		Left Tilt	0	QPSK	Receiver on	1	99	21350/2560	10.00	24.50	0.037	0.04	0.001
			0	QPSK	Receiver on	50%	25	21350/2560	10.00	23.50	0.030	0.04	0.001
		Right cheek	0	QPSK	Receiver on	1	99	21350/2560	10.00	24.50	0.072	0.04	0.003
			0	QPSK	Receiver on	50%	25	21350/2560	10.00	23.50	0.065	0.04	0.003
		Right Tilt	0	QPSK	Receiver on	1	99	21350/2560	10.00	24.50	0.033	0.04	0.001
			0	QPSK	Receiver on	50%	25	21350/2560	10.00	23.50	0.026	0.04	0.001
LTE 12	Ant 1	Left cheek	0	QPSK	Receiver on	1	0	23095/707.5	10.00	26.00	0.043	0.03	0.001
			0	QPSK	Receiver on	50%	13	23130/711	10.00	25.00	0.032	0.03	0.001
		Left Tilt	0	QPSK	Receiver on	1	0	23095/707.5	10.00	26.00	0.021	0.03	0.001
			0	QPSK	Receiver on	50%	13	23130/711	10.00	25.00	0.013	0.03	0.000
		Right cheek	0	QPSK	Receiver on	1	0	23095/707.5	10.00	26.00	0.050	0.03	0.001
			0	QPSK	Receiver on	50%	13	23130/711	10.00	25.00	0.032	0.03	0.001
		Right Tilt	0	QPSK	Receiver on	1	0	23095/707.5	10.00	26.00	0.029	0.03	0.001
			0	QPSK	Receiver on	50%	13	23130/711	10.00	25.00	0.031	0.03	0.001
LTE 28A	Ant 1	Left cheek	0	QPSK	Receiver on	1	99	27310/713	10.00	25.00	0.043	0.03	0.001
			0	QPSK	Receiver on	50%	25	27360/718	10.00	24.00	0.032	0.04	0.001
		Left Tilt	0	QPSK	Receiver on	1	99	27310/713	10.00	25.00	0.017	0.03	0.001
			0	QPSK	Receiver on	50%	25	27360/718	10.00	24.00	0.013	0.04	0.001
		Right cheek	0	QPSK	Receiver on	1	99	27310/713	10.00	25.00	0.058	0.03	0.002
			0	QPSK	Receiver on	50%	25	27360/718	10.00	24.00	0.043	0.04	0.002



		Right Tilt	0	QPSK	Receiver on	1	99	27310/713	10.00	25.00	0.025	0.03	0.001
			0	QPSK	Receiver on	50%	25	27360/718	10.00	24.00	0.019	0.04	0.001
LTE 28B	Ant 1	Left cheek	0	QPSK	Receiver on	1	50	27560/738	10.00	25.00	0.061	0.03	0.002
			0	QPSK	Receiver on	50%	50	27560/738	10.00	24.00	0.050	0.04	0.002
		Left Tilt	0	QPSK	Receiver on	1	50	27560/738	10.00	25.00	0.015	0.03	0.000
			0	QPSK	Receiver on	50%	50	27560/738	10.00	24.00	0.012	0.04	0.000
		Right cheek	0	QPSK	Receiver on	1	50	27560/738	10.00	25.00	0.048	0.03	0.002
			0	QPSK	Receiver on	50%	50	27560/738	10.00	24.00	0.040	0.04	0.002
		Right Tilt	0	QPSK	Receiver on	1	50	27560/738	10.00	25.00	0.020	0.03	0.001
			0	QPSK	Receiver on	50%	50	27560/738	10.00	24.00	0.017	0.04	0.001
LTE 66	Ant 3	Left cheek	0	QPSK	Receiver on	1	99	132072/1720	10.00	22.00	0.593	0.06	0.037
			0	QPSK	Receiver on	50%	25	132322/1745	10.00	21.00	0.471	0.08	0.037
		Left Tilt	0	QPSK	Receiver on	1	99	132072/1720	10.00	22.00	0.243	0.06	0.015
			0	QPSK	Receiver on	50%	25	132322/1745	10.00	21.00	0.187	0.08	0.015
		Right cheek	0	QPSK	Receiver on	1	99	132072/1720	10.00	22.00	0.790	0.06	0.050
			0	QPSK	Receiver on	50%	25	132322/1745	10.00	21.00	0.727	0.08	0.058
		Right Tilt	0	QPSK	Receiver on	1	99	132072/1720	10.00	22.00	0.200	0.06	0.013
			0	QPSK	Receiver on	50%	25	132322/1745	10.00	21.00	0.182	0.08	0.014
NR Band n66	Ant 3	Left cheek	0	DFT-s-OFDM QPSK	Receiver on	1	104	344000/1720	10.00	20.00	0.342	0.10	0.034
			0	DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	10.00	20.00	0.396	0.10	0.040
		Left Tilt	0	DFT-s-OFDM QPSK	Receiver on	1	104	344000/1720	10.00	20.00	0.138	0.10	0.014
			0	DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	10.00	20.00	0.149	0.10	0.015
		Right cheek	0	DFT-s-OFDM QPSK	Receiver on	1	104	344000/1720	10.00	20.00	0.459	0.10	0.046
			0	DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	10.00	20.00	0.434	0.10	0.043
		Right Tilt	0	DFT-s-OFDM QPSK	Receiver on	1	104	344000/1720	10.00	20.00	0.125	0.10	0.012
			0	DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	10.00	20.00	0.135	0.10	0.014
NR Band n78	Ant 5	Left cheek	0	DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	10.00	20.00	0.019	0.10	0.002
			0	DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	10.00	20.00	0.026	0.10	0.003
		Left Tilt	0	DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	10.00	20.00	0.014	0.10	0.001
			0	DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	10.00	20.00	0.025	0.10	0.003
		Right cheek	0	DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	10.00	20.00	0.097	0.10	0.010
			0	DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	10.00	20.00	0.106	0.10	0.011
		Right cheek	0	DFT-s-OFDM QPSK	Receiver on	1	271	650000/3750	10.00	20.00	0.102	0.10	0.010
			0	DFT-s-OFDM QPSK	Receiver on	50%	67	650000/3750	10.00	20.00	0.115	0.10	0.012
Right Tilt	0	DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	10.00	20.00	0.046	0.10	0.005		
	0	DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	10.00	20.00	0.061	0.10	0.006		



Body-worn SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Scaling Factor	Report SAR1g (W/kg)
LTE 2	Ant 2	Back Side	15	QPSK	Receiver off	1	50	18900/1880	10.00	25.00	0.379	0.03	0.012
			15	QPSK	Receiver off	50%	0	18900/1880	10.00	24.00	0.322	0.04	0.013
		Front Side	15	QPSK	Receiver off	1	50	18900/1880	10.00	25.00	0.314	0.03	0.010
			15	QPSK	Receiver off	50%	0	18900/1880	10.00	24.00	0.255	0.04	0.010
LTE 5	Ant 1	Back Side	15	QPSK	Receiver off	1	0	20600/844	10.00	26.00	0.599	0.03	0.015
			15	QPSK	Receiver off	50%	13	20600/844	10.00	25.00	0.478	0.03	0.015
		Front Side	15	QPSK	Receiver off	1	0	20600/844	10.00	26.00	0.539	0.03	0.014
			15	QPSK	Receiver off	50%	13	20600/844	10.00	25.00	0.431	0.03	0.014
LTE 7	Ant 2	Back Side	15	QPSK	Receiver off	1	99	21350/2560	10.00	24.50	0.420	0.04	0.015
			15	QPSK	Receiver off	50%	25	21350/2560	10.00	23.50	0.354	0.04	0.016
		Back Side CA_7C	15	QPSK	Receiver off	1	0	21350/2560	10.00	24.50	0.291	0.04	0.010
			15	QPSK	Receiver off	50%	99	21152/2540.2					
		Front Side	15	QPSK	Receiver off	1	99	21350/2560	10.00	24.50	0.336	0.04	0.012
			15	QPSK	Receiver off	50%	25	21350/2560	10.00	23.50	0.272	0.04	0.012
LTE 12	Ant 1	Back Side	15	QPSK	Receiver off	1	0	23095/707.5	10.00	26.00	0.171	0.03	0.004
			15	QPSK	Receiver off	50%	13	23130/711	10.00	25.00	0.150	0.03	0.005
		Front Side	15	QPSK	Receiver off	1	0	23095/707.5	10.00	26.00	0.162	0.03	0.004
			15	QPSK	Receiver off	50%	13	23130/711	10.00	25.00	0.135	0.03	0.004
LTE 28A	Ant 1	Back Side	15	QPSK	Receiver off	1	99	27310/713	10.00	25.00	0.194	0.03	0.006
			15	QPSK	Receiver off	50%	25	27360/718	10.00	24.00	0.133	0.04	0.005
		Front Side	15	QPSK	Receiver off	1	99	27310/713	10.00	25.00	0.165	0.03	0.005
			15	QPSK	Receiver off	50%	25	27360/718	10.00	24.00	0.128	0.04	0.005
LTE 28B	Ant 1	Back Side	15	QPSK	Receiver off	1	50	27560/738	10.00	25.00	0.189	0.03	0.006
			15	QPSK	Receiver off	50%	50	27560/738	10.00	24.00	0.161	0.04	0.006
		Front Side	15	QPSK	Receiver off	1	50	27560/738	10.00	25.00	0.158	0.03	0.005
			15	QPSK	Receiver off	50%	50	27560/738	10.00	24.00	0.138	0.04	0.006
LTE 66	Ant 3	Back Side	15	QPSK	Receiver off	1	99	132322/1745	10.00	25.00	0.490	0.03	0.015
			15	QPSK	Receiver off	50%	50	132322/1745	10.00	24.00	0.412	0.04	0.016
		Front Side	15	QPSK	Receiver off	1	99	132322/1745	10.00	25.00	0.316	0.03	0.010
			15	QPSK	Receiver off	50%	50	132322/1745	10.00	24.00	0.257	0.04	0.010
NR Band n66	Ant 3	Back Side	15	DFT-s-OFDM QPSK	Receiver on	1	104	349000/1745	10.00	23.50	0.434	0.04	0.019
			15	DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	10.00	23.50	0.481	0.04	0.021
		Front Side	15	DFT-s-OFDM QPSK	Receiver on	1	104	349000/1745	10.00	23.50	0.271	0.04	0.012
			15	DFT-s-OFDM QPSK	Receiver on	50%	25	344000/1720	10.00	23.50	0.342	0.04	0.015
NR Band n78	Ant 5	Back Side	15	DFT-s-OFDM QPSK	Receiver on	1	271	650000/3750	10.00	23.00	0.430	0.05	0.022
			15	DFT-s-OFDM QPSK	Receiver on	50%	67	650000/3750	10.00	23.00	0.498	0.05	0.025
		Back Side	15	DFT-s-OFDM QPSK	Receiver on	1	1	633332/3500	10.00	23.00	0.402	0.05	0.020
			15	DFT-s-OFDM QPSK	Receiver on	50%	67	633332/3500	10.00	23.00	0.446	0.05	0.022
		Front Side	15	DFT-s-OFDM QPSK	Receiver on	1	271	650000/3750	10.00	23.00	0.185	0.05	0.009



			15	DFT-s-OFDM QPSK	Receiver on	50%	67	650000/3750	10.00	23.00	0.160	0.05	0.008
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Hotspot SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/kg)	Scaling Factor	Report SAR1g (W/kg)
LTE 2	Ant 2	Back Side	10	QPSK	Hotspot on	1	50	18700/1860	10.00	22.00	0.558	0.06	0.035
			10	QPSK	Hotspot on	50%	50	18700/1860	10.00	21.00	0.434	0.08	0.035
		Front Side	10	QPSK	Hotspot on	1	50	18700/1860	10.00	22.00	0.435	0.06	0.027
			10	QPSK	Hotspot on	50%	50	18700/1860	10.00	21.00	0.349	0.08	0.028
		Left Edge	10	QPSK	Hotspot on	1	50	18700/1860	10.00	22.00	0.145	0.06	0.009
			10	QPSK	Hotspot on	50%	50	18700/1860	10.00	21.00	0.134	0.08	0.011
		Right Edge	10	QPSK	Hotspot on	1	50	18700/1860	10.00	22.00	0.000	0.06	0.000
			10	QPSK	Hotspot on	50%	50	18700/1860	10.00	21.00	0.000	0.08	0.000
		Top Edge	10	QPSK	Hotspot on	1	50	18700/1860	10.00	22.00	0.000	0.06	0.000
			10	QPSK	Hotspot on	50%	50	18700/1860	10.00	21.00	0.000	0.08	0.000
		Bottom Edge	10	QPSK	Hotspot on	1	50	18700/1860	10.00	22.00	0.953	0.06	0.060
			10	QPSK	Hotspot on	1	99	18900/1880	10.00	22.00	0.898	0.06	0.057
			10	QPSK	Hotspot on	1	50	19100/1900	10.00	22.00	0.882	0.06	0.056
			10	QPSK	Hotspot on	50%	50	18700/1860	10.00	21.00	0.772	0.08	0.061
			10	QPSK	Hotspot on	100%	0	18700/1860	10.00	21.00	0.740	0.08	0.059
LTE 5	Ant 1	Back Side	10	QPSK	Hotspot on	1	0	20600/844	10.00	25.00	0.577	0.03	0.018
			10	QPSK	Hotspot on	50%	13	20600/844	10.00	24.00	0.495	0.04	0.020
		Front Side	10	QPSK	Hotspot on	1	0	20600/844	10.00	25.00	0.399	0.03	0.013
			10	QPSK	Hotspot on	50%	13	20600/844	10.00	24.00	0.296	0.04	0.012
		Left Edge	10	QPSK	Hotspot on	1	0	20600/844	10.00	25.00	0.000	0.03	0.000
			10	QPSK	Hotspot on	50%	13	20600/844	10.00	24.00	0.000	0.04	0.000
		Right Edge	10	QPSK	Hotspot on	1	0	20600/844	10.00	25.00	0.223	0.03	0.007
			10	QPSK	Hotspot on	50%	13	20600/844	10.00	24.00	0.206	0.04	0.008
		Top Edge	10	QPSK	Hotspot on	1	0	20600/844	10.00	25.00	0.000	0.03	0.000
			10	QPSK	Hotspot on	50%	13	20600/844	10.00	24.00	0.000	0.04	0.000
Bottom Edge	10	QPSK	Hotspot on	1	0	20600/844	10.00	25.00	0.474	0.03	0.015		
	10	QPSK	Hotspot on	50%	13	20600/844	10.00	24.00	0.422	0.04	0.017		
LTE 7	Ant 2	Back Side	10	QPSK	Hotspot on	1	99	21350/2560	10.00	22.50	0.678	0.06	0.038
			10	QPSK	Hotspot on	50%	50	21350/2560	10.00	21.50	0.494	0.07	0.035
		Front Side	10	QPSK	Hotspot on	1	99	21350/2560	10.00	22.50	0.406	0.06	0.023
			10	QPSK	Hotspot on	50%	50	21350/2560	10.00	21.50	0.318	0.07	0.022
		Left Edge	10	QPSK	Hotspot on	1	99	21350/2560	10.00	22.50	0.099	0.06	0.006
			10	QPSK	Hotspot on	50%	50	21350/2560	10.00	21.50	0.075	0.07	0.005
		Right Edge	10	QPSK	Hotspot on	1	99	21350/2560	10.00	22.50	0.077	0.06	0.004
			10	QPSK	Hotspot on	50%	50	21350/2560	10.00	21.50	0.075	0.07	0.005
Top Edge	10	QPSK	Hotspot on	1	99	21350/2560	10.00	22.50	0.042	0.06	0.002		
	10	QPSK	Hotspot on	50%	50	21350/2560	10.00	21.50	0.037	0.07	0.003		



		Bottom Edge	10	QPSK	Hotspot on	1	99	21350/2560	10.00	22.50	1.024	0.06	0.058		
			10	QPSK	Hotspot on	1	99	20850/2510	10.00	22.50	1.018	0.06	0.057		
			10	QPSK	Hotspot on	1	50	21100/2535	10.00	22.50	1.021	0.06	0.057		
			10	QPSK	Hotspot on	50%	50	21350/2560	10.00	21.50	0.794	0.07	0.056		
			10	QPSK	Hotspot on	100%	0	21350/2560	10.00	21.50	0.767	0.07	0.054		
		Bottom Edge	10	QPSK	Hotspot on	1	99	21350/2560	10.00	22.50	1.030	0.06	0.058		
		Bottom Edge	10	QPSK	Hotspot on	1	99	20850/2510	10.00	22.50	0.854	0.06	0.048		
	1	0	21048/2529.8												
LTE 12	Ant 1	Back Side	10	QPSK	Hotspot on	1	0	23095/707.5	10.00	26.00	0.280	0.03	0.007		
			10	QPSK	Hotspot on	50%	13	23130/711	10.00	25.00	0.213	0.03	0.007		
		Front Side	10	QPSK	Hotspot on	1	0	23095/707.5	10.00	26.00	0.243	0.03	0.006		
			10	QPSK	Hotspot on	50%	13	23130/711	10.00	25.00	0.196	0.03	0.006		
		Left Edge	10	QPSK	Hotspot on	1	0	23095/707.5	10.00	26.00	0.136	0.03	0.003		
			10	QPSK	Hotspot on	50%	13	23130/711	10.00	25.00	0.102	0.03	0.003		
		Right Edge	10	QPSK	Hotspot on	1	0	23095/707.5	10.00	26.00	0.220	0.03	0.006		
			10	QPSK	Hotspot on	50%	13	23130/711	10.00	25.00	0.187	0.03	0.006		
		Top Edge	10	QPSK	Hotspot on	1	0	23095/707.5	10.00	26.00	0.000	0.03	0.000		
			10	QPSK	Hotspot on	50%	13	23130/711	10.00	25.00	0.000	0.03	0.000		
		Bottom Edge	10	QPSK	Hotspot on	1	0	23095/707.5	10.00	26.00	0.172	0.03	0.004		
			10	QPSK	Hotspot on	50%	13	23130/711	10.00	25.00	0.133	0.03	0.004		
		LTE 28A	Ant 1	Back Side	10	QPSK	Hotspot on	1	99	27310/713	10.00	25.00	0.272	0.03	0.009
					10	QPSK	Hotspot on	50%	25	27360/718	10.00	24.00	0.197	0.04	0.008
Front Side	10			QPSK	Hotspot on	1	99	27310/713	10.00	25.00	0.243	0.03	0.008		
	10			QPSK	Hotspot on	50%	25	27360/718	10.00	24.00	0.178	0.04	0.007		
Left Edge	10			QPSK	Hotspot on	1	99	27310/713	10.00	25.00	0.132	0.03	0.004		
	10			QPSK	Hotspot on	50%	25	27360/718	10.00	24.00	0.096	0.04	0.004		
Right Edge	10			QPSK	Hotspot on	1	99	27310/713	10.00	25.00	0.215	0.03	0.007		
	10			QPSK	Hotspot on	50%	25	27360/718	10.00	24.00	0.156	0.04	0.006		
Top Edge	10			QPSK	Hotspot on	1	99	27310/713	10.00	25.00	0.000	0.03	0.000		
	10			QPSK	Hotspot on	50%	25	27360/718	10.00	24.00	0.000	0.04	0.000		
Bottom Edge	10	QPSK	Hotspot on	1	99	27310/713	10.00	25.00	0.176	0.03	0.006				
	10	QPSK	Hotspot on	50%	25	27360/718	10.00	24.00	0.136	0.04	0.005				
LTE 28B	Ant 1	Back Side	10	QPSK	Hotspot on	1	50	27560/738	10.00	25.00	0.260	0.03	0.008		
			10	QPSK	Hotspot on	50%	50	27560/738	10.00	24.00	0.219	0.04	0.009		
		Front Side	10	QPSK	Hotspot on	1	50	27560/738	10.00	25.00	0.259	0.03	0.008		
			10	QPSK	Hotspot on	50%	50	27560/738	10.00	24.00	0.210	0.04	0.008		
		Left Edge	10	QPSK	Hotspot on	1	50	27560/738	10.00	25.00	0.107	0.03	0.003		
			10	QPSK	Hotspot on	50%	50	27560/738	10.00	24.00	0.097	0.04	0.004		
		Right Edge	10	QPSK	Hotspot on	1	50	27560/738	10.00	25.00	0.177	0.03	0.006		
			10	QPSK	Hotspot on	50%	50	27560/738	10.00	24.00	0.143	0.04	0.006		
		Top Edge	10	QPSK	Hotspot on	1	50	27560/738	10.00	25.00	0.000	0.03	0.000		
			10	QPSK	Hotspot on	50%	50	27560/738	10.00	24.00	0.000	0.04	0.000		
Bottom Edge	10	QPSK	Hotspot on	1	50	27560/738	10.00	25.00	0.176	0.03	0.006				



LTE 66	Ant 3	Back Side	10	QPSK	Hotspot on	50%	50	27560/738	10.00	24.00	0.150	0.04	0.006		
			10	QPSK	Hotspot on	1	99	132072/1720	10.00	22.00	0.192	0.06	0.012		
		Front Side	10	QPSK	Hotspot on	50%	25	132322/1745	10.00	21.00	0.124	0.08	0.010		
			10	QPSK	Hotspot on	1	99	132072/1720	10.00	22.00	0.205	0.06	0.013		
		Left Edge	10	QPSK	Hotspot on	50%	25	132322/1745	10.00	21.00	0.182	0.08	0.014		
			10	QPSK	Hotspot on	1	99	132072/1720	10.00	22.00	0.693	0.06	0.044		
		Right Edge	10	QPSK	Hotspot on	50%	25	132322/1745	10.00	21.00	0.616	0.08	0.049		
			10	QPSK	Hotspot on	1	99	132072/1720	10.00	22.00	0.000	0.06	0.000		
		Top Edge	10	QPSK	Hotspot on	50%	25	132322/1745	10.00	21.00	0.000	0.08	0.000		
			10	QPSK	Hotspot on	1	99	132072/1720	10.00	22.00	0.101	0.06	0.006		
		Bottom Edge	10	QPSK	Hotspot on	50%	25	132322/1745	10.00	21.00	0.077	0.08	0.006		
			10	QPSK	Hotspot on	1	99	132072/1720	10.00	22.00	0.000	0.06	0.000		
		NR Band n66	Ant 3	Back Side	10	DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	10.00	20.00	0.225	0.10	0.022
					10	DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	10.00	20.00	0.240	0.10	0.024
				Front Side	10	DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	10.00	20.00	0.114	0.10	0.011
					10	DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	10.00	20.00	0.117	0.10	0.012
				Left Edge	10	DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	10.00	20.00	0.450	0.10	0.045
					10	DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	10.00	20.00	0.489	0.10	0.049
Right Edge	10			DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	10.00	20.00	0.012	0.10	0.001		
	10			DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	10.00	20.00	0.013	0.10	0.001		
Top Edge	10			DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	10.00	20.00	0.068	0.10	0.007		
	10			DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	10.00	20.00	0.067	0.10	0.007		
Bottom Edge	10			DFT-s-OFDM QPSK	Hotspot on	50%	25	344000/1720	10.00	20.00	0.012	0.10	0.001		
	10			DFT-s-OFDM QPSK	Hotspot on	1	104	344000/1720	10.00	20.00	0.013	0.10	0.001		
NR Band n78	Ant 5			Back Side	10	DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	10.00	20.00	0.124	0.10	0.012
					10	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	10.00	20.00	0.110	0.10	0.011
				Front Side	10	DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	10.00	20.00	0.039	0.10	0.004
					10	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	10.00	20.00	0.034	0.10	0.003
				Left Edge	10	DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	10.00	20.00	0.196	0.10	0.020
					10	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	10.00	20.00	0.160	0.10	0.016
		Right Edge	10	DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	10.00	20.00	0.055	0.10	0.005		
			10	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	10.00	20.00	0.028	0.10	0.003		
		Top Edge	10	DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	10.00	20.00	0.036	0.10	0.004		
			10	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	10.00	20.00	0.025	0.10	0.003		
		Bottom Edge	10	DFT-s-OFDM QPSK	Hotspot on	50%	67	633332/3500	10.00	20.00	0.000	0.10	0.000		
			10	DFT-s-OFDM QPSK	Hotspot on	1	1	633332/3500	10.00	20.00	0.000	0.10	0.000		

10.3 Simultaneous Transmission Analysis

Simultaneous Transmission Configurations	Head	Body-worn	Hotspot	Product Specific 10-g SAR
GSM / WCDMA / LTE/ NR + Bluetooth	Yes	Yes	Yes	Yes
GSM / WCDMA / LTE/ NR + Wi-Fi 2.4GHz	Yes	Yes	Yes	Yes
GSM / WCDMA / LTE/ NR + Wi-Fi 5GHz	Yes	Yes	Yes	Yes
Wi-Fi 2.4GHz + Wi-Fi 5GHz	Yes	Yes	Yes	Yes
GSM / WCDMA / LTE/ NR + Wi-Fi 2.4GHz + Wi-Fi 5GHz	Yes	Yes	Yes	Yes
Wi-Fi 2.4GHz + Bluetooth	N/A	N/A	N/A	N/A
Wi-Fi 5GHz + Bluetooth	N/A	N/A	N/A	N/A
Main Antenna + DIV Antenna	N/A	N/A	N/A	N/A

General Note:

1. The Scaled SAR summation is calculated based on the same configuration and test position.
2. Per KDB 447498 D01, simultaneous transmission SAR is compliant if,
 - i) Scalar SAR summation < 1.6W/kg, simultaneously transmission SAR measurement is not necessary.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - iii) If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.



The maximum SAR_{1g/10g} Value for GSM / WCDMA / LTE/ NR

Test Position		SAR _{1g/10g} (W/kg)	GSM 850		GSM 1900		WCDMA Band II		WCDMA Band V		MAX. SAR _{1g/10g}
			Ant 1	Ant 6	Ant 2	Ant 4	Ant 2	Ant 4	Ant 2	Ant 6	
Head	Left Cheek	0.262	0.048	0.039	0.065	0.091	0.298	0.195	0.070	0.298	
	Left Tilt	0.116	0.035	0.023	0.109	0.054	0.390	0.068	0.064	0.390	
	Right Cheek	0.272	0.048	0.046	0.192	0.088	0.704	0.298	0.082	0.704	
	Right Tilt	0.140	0.031	0.019	0.112	0.071	0.669	0.084	0.076	0.669	
Body worn	Back Side	0.394	0.009	0.168	0.029	0.342	0.089	0.562	0.092	0.562	
	Front Side	0.243	0.009	0.108	0.019	0.317	0.081	0.495	0.085	0.495	
Hotspot	Back Side	0.760	0.014	0.264	0.050	0.480	0.139	0.631	0.085	0.760	
	Front Side	0.653	0.013	0.278	0.002	0.423	0.143	0.599	0.126	0.653	
	Left Edge	0.209	0.006	0.145	0.000	0.113	0.171	0.285	0.000	0.285	
	Right Edge	0.176	0.000	0.034	0.013	0.000	0.000	0.330	0.000	0.330	
	Top Edge	0.019	0.013	0.019	0.076	0.000	0.298	0.000	0.097	0.298	
	Bottom Edge	0.387	0.000	0.638	0.004	1.058	0.000	0.375	0.000	1.058	
Product Specific 10-g SAR	Back Side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Front Side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Bottom Edge	N/A	N/A	N/A	N/A	2.905	N/A	N/A	N/A	2.905	

Test Position		SAR _{1g/10g} (W/kg)	LTE Band 2		LTE Band 3			LTE Band 4		LTE Band 5		LTE Band 7		LTE Band 12		MAX. SAR _{1g/10g}
			Ant 2	Ant 4	Ant 2	Ant 3	Ant 4	Ant 2	Ant 4	Ant 1	Ant 6	Ant 2	Ant 4	Ant 1	Ant 6	
Head	Left Cheek	0.103	0.311	0.272	0.641	0.451	0.162	0.121	0.347	0.729	0.138	0.380	0.043	0.728	0.729	
	Left Tilt	0.084	0.366	0.074	0.285	0.690	0.088	0.138	0.153	0.843	0.037	0.554	0.021	0.561	0.843	
	Right Cheek	0.119	0.735	0.193	0.801	0.751	0.139	0.259	0.326	0.699	0.072	1.109	0.050	0.461	1.109	
	Right Tilt	0.085	0.713	0.095	0.360	0.750	0.090	0.345	0.118	0.574	0.033	0.758	0.031	0.587	0.758	
Body worn	Back Side	0.379	0.056	0.489	0.299	0.197	0.497	0.032	0.599	0.073	0.420	0.175	0.171	0.112	0.599	
	Front Side	0.314	0.042	0.346	0.151	0.222	0.407	0.023	0.539	0.085	0.336	0.250	0.162	0.106	0.539	
Hotspot	Back Side	0.558	0.102	0.664	0.456	0.331	0.490	0.079	0.577	0.147	0.678	0.396	0.280	0.192	0.678	
	Front Side	0.435	0.069	0.406	0.272	0.299	0.308	0.063	0.399	0.239	0.406	0.483	0.243	0.208	0.483	
	Left Edge	0.145	0.161	0.158	0.658	0.090	0.104	0.090	0.000	0.000	0.099	0.130	0.136	0.092	0.658	
	Right Edge	0.000	0.029	0.122	0.015	0.086	0.000	0.000	0.223	0.000	0.077	0.075	0.220	0.013	0.223	
	Top Edge	0.000	0.228	0.015	0.114	0.599	0.033	0.149	0.000	0.170	0.042	0.462	0.000	0.151	0.599	
	Bottom Edge	0.953	0.006	0.916	0.015	0.031	0.772	0.000	0.474	0.000	1.030	0.000	0.172	0.006	1.030	
Product Specific 10-g SAR	Back Side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Front Side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000	
	Bottom Edge	2.671	N/A	3.688	N/A	N/A	3.717	N/A	N/A	N/A	3.467	N/A	N/A	N/A	3.717	



SAR _{1g/10g} (W/kg)		LTE Band 28A		LTE Band 28B		LTE Band 38		LTE Band 66	NR Band n66	NR Band n78		MAX. SAR _{1g/10g}
		Ant 1	Ant 6	Ant 1	Ant 6	Ant 2	Ant 4	Ant 3	Ant 3	Ant 5	Ant 10	
Head	Left Cheek	0.043	0.518	0.061	0.648	0.078	0.369	0.593	0.396	0.026	0.015	0.648
	Left Tilt	0.017	0.547	0.015	0.661	0.028	0.431	0.243	0.149	0.025	0.015	0.661
	Right Cheek	0.058	0.425	0.048	0.659	0.069	0.945	0.790	0.459	0.115	0.054	0.945
	Right Tilt	0.025	0.523	0.020	0.735	0.027	0.923	0.200	0.135	0.061	0.037	0.923
Body worn	Back Side	0.194	0.068	0.189	0.074	0.266	0.218	0.490	0.481	0.498	0.151	0.498
	Front Side	0.165	0.086	0.158	0.114	0.197	0.175	0.316	0.342	0.185	0.030	0.342
Hotspot	Back Side	0.272	0.111	0.260	0.091	0.557	0.421	0.192	0.240	0.124	0.140	0.557
	Front Side	0.243	0.120	0.259	0.115	0.374	0.334	0.205	0.117	0.039	0.082	0.374
	Left Edge	0.132	0.000	0.107	0.000	0.024	0.173	0.693	0.489	0.196	0.038	0.693
	Right Edge	0.215	0.000	0.177	0.000	0.000	0.041	0.000	0.013	0.055	0.069	0.215
	Top Edge	0.000	0.144	0.000	0.096	0.000	0.345	0.101	0.068	0.036	0.232	0.345
	Bottom Edge	0.176	0.000	0.176	0.000	0.762	0.020	0.000	0.013	0.000	0.057	0.762
Product Specific 10-g SAR	Back Side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000
	Front Side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000
	Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	2.352	N/A	N/A	N/A	2.352
	Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000
	Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000
	Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000

Band		LTE Full Power, NR 10 dBm												EN-DC MAX SAR _{1g/10g}
		LTE 2	LTE 5	LTE 7	LTE 28A	LTE 28B	NR n66	NR n78	DC_2A -n66A	DC_5A -n66A	DC_2A-n78 A	DC_7A-n78 A	DC_28A-n7 8A	
		Ant 2	Ant 1	Ant 2	Ant 1	Ant 1	Ant 3	Ant 5	Ant 2+ Ant 3	Ant 1+ Ant 3	Ant 2+ Ant 5	Ant 2+ Ant 5	Ant 1+ Ant 5	
Head	Left cheek	0.103	0.347	0.138	0.043	0.061	0.040	0.003	0.143	0.387	0.106	0.141	0.064	0.387
	Left Tilt	0.084	0.153	0.037	0.017	0.015	0.015	0.003	0.099	0.168	0.087	0.040	0.020	0.168
	Right cheek	0.119	0.326	0.072	0.058	0.048	0.046	0.012	0.165	0.372	0.131	0.084	0.070	0.372
	Right Tilt	0.085	0.118	0.033	0.025	0.020	0.014	0.006	0.099	0.132	0.091	0.039	0.031	0.132
Body worn	Back Side	0.379	0.599	0.420	0.194	0.189	0.021	0.025	0.400	0.620	0.404	0.445	0.219	0.620
	Front Side	0.314	0.539	0.336	0.165	0.158	0.015	0.009	0.329	0.554	0.323	0.345	0.174	0.554
Hotspot	Back Side	0.558	0.577	0.678	0.272	0.260	0.024	0.012	0.582	0.601	0.570	0.690	0.284	0.690
	Front Side	0.435	0.399	0.406	0.243	0.259	0.012	0.004	0.447	0.411	0.439	0.410	0.263	0.447
	Left Edge	0.145	0.000	0.099	0.132	0.107	0.049	0.020	0.194	0.049	0.165	0.119	0.152	0.194
	Right Edge	0.000	0.223	0.077	0.215	0.177	0.001	0.005	0.001	0.224	0.005	0.082	0.220	0.224
	Top Edge	0.000	0.000	0.042	0.000	0.000	0.007	0.004	0.007	0.007	0.004	0.046	0.004	0.046
	Bottom Edge	0.953	0.474	1.030	0.176	0.176	0.001	0.000	0.954	0.475	0.953	1.030	0.176	1.030
Product-specific 10g SAR	Back Side	N/A	N/A	N/A	N/A	N/A	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000
	Front Side	N/A	N/A	N/A	N/A	N/A	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000
	Left Edge	N/A	N/A	N/A	N/A	N/A	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000



	Right Edge	N/A	N/A	N/A	N/A	N/A	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000
	Top Edge	N/A	N/A	N/A	N/A	N/A	NA	NA	0.000	0.000	0.000	0.000	0.000	0.000
	Bottom Edge	2.671	N/A	3.467	N/A	N/A	NA	NA	2.671	0.000	2.671	3.467	0.000	3.467

Band		NR Full Power, LTE 10 dBm												
		LTE 2	LTE 5	LTE 7	LTE 28A	LTE 28B	NR n66	NR n78	DC_2A -n66A	DC_5A -n66A	DC_2A-n78 A	DC_7A-n78 A	DC_28A-n7 8A	EN-DC MAX SAR _{1g/10g}
		Ant 2	Ant 1	Ant 2	Ant 1	Ant 1	Ant 3	Ant 5	Ant 2+ Ant 3	Ant 1+ Ant 3	Ant 2+ Ant 5	Ant 2+ Ant 5	Ant 1+ Ant 5	
Head	Left cheek	0.003	0.009	0.005	0.001	0.002	0.396	0.026	0.399	0.405	0.029	0.031	0.028	0.405
	Left Tilt	0.003	0.004	0.001	0.001	0.000	0.149	0.025	0.152	0.153	0.028	0.026	0.026	0.153
	Right cheek	0.004	0.009	0.003	0.002	0.002	0.459	0.115	0.463	0.468	0.119	0.118	0.117	0.468
	Right Tilt	0.003	0.003	0.001	0.001	0.001	0.135	0.061	0.138	0.138	0.064	0.062	0.062	0.138
Body worn	Back Side	0.013	0.015	0.016	0.006	0.006	0.481	0.498	0.494	0.496	0.511	0.514	0.504	0.514
	Front Side	0.010	0.014	0.012	0.005	0.006	0.342	0.185	0.352	0.356	0.195	0.197	0.191	0.356
Hotspot	Back Side	0.035	0.020	0.038	0.009	0.009	0.240	0.124	0.275	0.260	0.159	0.162	0.133	0.275
	Front Side	0.028	0.013	0.023	0.008	0.008	0.117	0.039	0.145	0.130	0.067	0.062	0.047	0.145
	Left Edge	0.011	0.000	0.006	0.004	0.004	0.489	0.196	0.500	0.489	0.207	0.202	0.200	0.500
	Right Edge	0.000	0.008	0.005	0.007	0.006	0.013	0.055	0.013	0.021	0.055	0.060	0.062	0.062
	Top Edge	0.000	0.000	0.003	0.000	0.000	0.068	0.036	0.068	0.068	0.036	0.039	0.036	0.068
	Bottom Edge	0.061	0.017	0.058	0.006	0.006	0.013	0.000	0.074	0.030	0.061	0.058	0.006	0.074
Product-specific 10g SAR	Back Side	NA	NA	NA	NA	NA	N/A	N/A	0.000	0.000	0.000	0.000	0.000	0.000
	Front Side	NA	NA	NA	NA	NA	N/A	N/A	0.000	0.000	0.000	0.000	0.000	0.000
	Left Edge	NA	NA	NA	NA	NA	N/A	N/A	0.000	0.000	0.000	0.000	0.000	0.000
	Right Edge	NA	NA	NA	NA	NA	N/A	N/A	0.000	0.000	0.000	0.000	0.000	0.000
	Top Edge	NA	NA	NA	NA	NA	N/A	N/A	0.000	0.000	0.000	0.000	0.000	0.000
	Bottom Edge	NA	NA	NA	NA	NA	N/A	N/A	0.000	0.000	0.000	0.000	0.000	0.000

SAR _{1g/10g} (W/kg)		Wi-Fi 2.4G			Wi-Fi 2.4G	U-NII-1			U-NII-2A			U-NII-2C			U-NII-3			Wi-Fi 5G
		Ant 7	Ant 9	MIMO	MAX. SAR _{1g/10g}	Ant 7	Ant 9	MIMO	Ant 7	Ant 9	MIMO	Ant 7	Ant 9	MIMO	Ant 7	Ant 9	MIMO	MAX. SAR _{1g/10g}
Head	Left Cheek	0.360	0.338	0.306	0.360	0.411	0.440	0.312	0.359	0.330	0.304	0.420	0.449	0.404	0.350	0.331	0.375	0.449
	Left Tilt	0.251	0.113	0.238	0.251	0.320	0.180	0.293	0.257	0.150	0.294	0.375	0.189	0.353	0.304	0.121	0.291	0.375
	Right Cheek	0.142	0.138	0.142	0.142	0.166	0.222	0.151	0.136	0.124	0.192	0.184	0.154	0.183	0.091	0.099	0.103	0.222
	Right Tilt	0.110	0.042	0.118	0.118	0.151	0.184	0.157	0.093	0.102	0.178	0.228	0.141	0.198	0.164	0.114	0.151	0.228
Body worn	Back Side	0.152	0.118	0.170	0.170	0.399	0.240	0.258	0.317	0.295	0.235	0.300	0.287	0.234	0.356	0.326	0.343	0.399
	Front Side	0.123	0.094	0.126	0.126	0.341	0.196	0.271	0.266	0.205	0.180	0.281	0.282	0.198	0.276	0.280	0.265	0.341
Hotspot	Back Side	0.163	0.219	0.178	0.219	0.323	0.330	0.349	0.377	0.361	0.392	0.392	0.546	0.411	0.177	0.137	0.137	0.546
	Front Side	0.367	0.229	0.181	0.367	0.339	0.303	0.380	0.521	0.288	0.373	0.364	0.443	0.544	0.154	0.137	0.100	0.544
	Left Edge	0.015	0.022	0.016	0.022	0.085	0.122	0.065	0.077	0.092	0.082	0.065	0.049	0.038	0.081	0.087	0.020	0.122
	Right Edge	0.119	0.343	0.225	0.343	0.376	0.704	0.466	0.455	0.629	0.452	0.476	0.566	0.675	0.276	0.146	0.177	0.704



	Top Edge	0.062	0.091	0.178	0.178	0.477	0.212	0.754	0.629	0.247	0.777	0.473	0.174	0.444	0.133	0.170	0.182	0.777	
	Bottom Edge	N/A	N/A	N/A	0.000	N/A	0.000												
Product Specific 10-g SAR	Back Side	N/A	N/A	N/A	0.000	N/A	0.000												
	Front Side	N/A	N/A	N/A	0.000	N/A	0.000												
	Left Edge	N/A	N/A	N/A	0.000	N/A	0.000												
	Right Edge	N/A	N/A	N/A	0.000	N/A	0.000												
	Top Edge	N/A	N/A	N/A	0.000	N/A	0.000												
	Bottom Edge	N/A	N/A	N/A	0.000	N/A	0.000												

SAR _{1g/10g} (W/kg)		GSM/WCDMA/LTE/SA/NSA			EN-DC		MAX. SAR _{1g/10g}
Test Position							
Head	Left Cheek	0.298	0.729	0.648	0.387	0.405	0.729
	Left Tilt	0.390	0.843	0.661	0.168	0.153	0.843
	Right Cheek	0.704	1.109	0.945	0.372	0.468	1.109
	Right Tilt	0.669	0.758	0.923	0.132	0.138	0.923
Body worn	Back Side	0.562	0.599	0.498	0.620	0.514	0.620
	Front Side	0.495	0.539	0.342	0.554	0.356	0.554
Hotspot	Back Side	0.760	0.678	0.557	0.690	0.275	0.760
	Front Side	0.653	0.483	0.374	0.447	0.145	0.653
	Left Edge	0.285	0.658	0.693	0.194	0.500	0.693
	Right Edge	0.330	0.223	0.215	0.224	0.062	0.330
	Top Edge	0.298	0.599	0.345	0.046	0.068	0.599
	Bottom Edge	1.058	1.030	0.762	1.030	0.074	1.058
Product Specific 10-g SAR	Back Side	0.000	0.000	0.000	0.000	0.000	0.000
	Front Side	0.000	0.000	0.000	0.000	0.000	0.000
	Left Edge	0.000	0.000	2.352	0.000	0.000	2.352
	Right Edge	0.000	0.000	0.000	0.000	0.000	0.000
	Top Edge	0.000	0.000	0.000	0.000	0.000	0.000
	Bottom Edge	2.905	3.717	0.000	3.467	0.000	3.717



About Wi-Fi /Bluetooth and Main-Antenna

SAR _{1g/10g} (W/kg) Test Position		GSM/WCDMA /LTE/NR	Wi-Fi 2.4G	Wi-Fi 5G	Bluetooth	MAX. Σ SAR _{1g/10g}			
			MAX. SAR _{1g/10g}	MAX. SAR _{1g/10g}		1+4	1+2	1+3	1+2+3
			1	2		3	4	1+4	1+2
Head	Left Cheek	0.729	0.360	0.449	0.286	1.015	1.089	1.178	1.538
	Left Tilt	0.843	0.251	0.375	0.059	0.902	1.094	1.218	1.469
	Right Cheek	1.109	0.142	0.222	0.092	1.201	1.251	1.331	1.473
	Right Tilt	0.923	0.118	0.228	0.040	0.963	1.041	1.151	1.269
Body worn	Back Side	0.620	0.170	0.399	0.070	0.690	0.790	1.019	1.189
	Front Side	0.554	0.126	0.341	0.065	0.619	0.680	0.895	1.021
Hotspot	Back Side	0.760	0.219	0.546	0.070	0.830	0.979	1.306	1.525
	Front Side	0.653	0.367	0.544	0.065	0.718	1.020	1.197	1.564
	Left Edge	0.693	0.022	0.122	0.000	0.693	0.715	0.815	0.837
	Right Edge	0.330	0.343	0.704	0.098	0.428	0.673	1.034	1.377
	Top Edge	0.599	0.178	0.777	0.117	0.716	0.777	1.376	1.554
	Bottom Edge	1.058	0.000	0.000	N/A	1.058	1.058	1.058	1.058
Product Specific 10-g SAR	Back Side	0.000	0.000	0.000	N/A	0.000	0.000	0.000	0.000
	Front Side	0.000	0.000	0.000	N/A	0.000	0.000	0.000	0.000
	Left Edge	2.352	0.000	0.000	N/A	2.352	2.352	2.352	2.352
	Right Edge	0.000	0.000	0.000	N/A	0.000	0.000	0.000	0.000
	Top Edge	0.000	0.000	0.000	N/A	0.000	0.000	0.000	0.000
	Bottom Edge	3.717	0.000	0.000	N/A	3.717	3.717	3.717	3.717

Note: 1. The value with blue color is the maximum Σ SAR_{1g/10g} Value.

2. MAX. Σ SAR_{1g/10g} = Unlicensed SAR_{MAX} + Licensed SAR_{MAX}

MAX. Σ SAR_{1g} = 1.564W/kg < 1.6W/kg and MAX. Σ SAR_{10g} = 3.717W/kg < 4 W/kg, so the Simultaneous transmission SAR with volum scan are not required for Wi-Fi /Bluetooth and GSM/WCDMA/LTE/NR Antenna.



About Wi-Fi 2.4G and Wi-Fi 5G

SAR _{1g/10g} (W/kg)		Wi-Fi 2.4G			U-NII-1			U-NII-2A			U-NII-2C			U-NII-3			MAX.
		Ant 7	Ant 9	MIMO	Ant 7	Ant 9	MIMO	Ant 7	Ant 9	MIMO	Ant 7	Ant 9	MIMO	Ant 7	Ant 9	MIMO	ΣSAR _{1g/10g}
Head	Left Cheek	1.106	0.323	0.720	0.411	0.440	0.312	0.359	0.330	0.304	0.420	0.449	0.404	0.350	0.331	0.375	1.555
	Left Tilt	0.773	0.067	0.549	0.320	0.180	0.293	0.257	0.150	0.294	0.375	0.189	0.353	0.304	0.121	0.291	1.148
	Right Cheek	0.319	0.097	0.247	0.166	0.222	0.151	0.136	0.124	0.192	0.184	0.154	0.183	0.091	0.099	0.103	0.541
	Right Tilt	0.319	0.030	0.211	0.151	0.184	0.157	0.093	0.102	0.178	0.228	0.141	0.198	0.164	0.114	0.151	0.547
Body worn	Back Side	0.152	0.118	0.170	0.399	0.240	0.258	0.317	0.295	0.235	0.300	0.287	0.234	0.356	0.326	0.343	0.569
	Front Side	0.123	0.094	0.126	0.341	0.196	0.271	0.266	0.205	0.180	0.281	0.282	0.198	0.276	0.280	0.265	0.467
Hotspot	Back Side	0.163	0.219	0.178	0.323	0.330	0.349	0.377	0.361	0.392	0.546	0.411	0.177	0.137	0.137	0.765	
	Front Side	0.367	0.229	0.181	0.339	0.303	0.380	0.521	0.288	0.373	0.364	0.443	0.544	0.154	0.137	0.100	0.911
	Left Edge	0.015	0.022	0.016	0.085	0.122	0.065	0.077	0.092	0.082	0.065	0.049	0.038	0.081	0.087	0.020	0.144
	Right Edge	0.119	0.343	0.225	0.376	0.704	0.466	0.455	0.629	0.452	0.476	0.566	0.675	0.276	0.146	0.177	1.047
	Top Edge	0.062	0.091	0.178	0.477	0.212	0.754	0.629	0.247	0.777	0.473	0.174	0.444	0.133	0.170	0.182	0.955
	Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Product Specific 10-g SAR	Back Side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Front Side	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: 1. The value with blue color is the maximum ΣSAR_{1g/10g} Value.

2. MAX. ΣSAR_{1g/10g} = Unlicensed SAR_{MAX} + Licensed SAR_{MAX}

MAX. ΣSAR_{1g} = 1.555W/kg < 1.6W/kg, so the Simultaneous transimition SAR with volum scan are not required for Wi-Fi 2.4G and Wi-Fi 5G.



11 Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528- 2013 is not required in SAR reports submitted for equipment approval. This also applies to the 10-g SAR required for phablets in KDB Publication 648474.

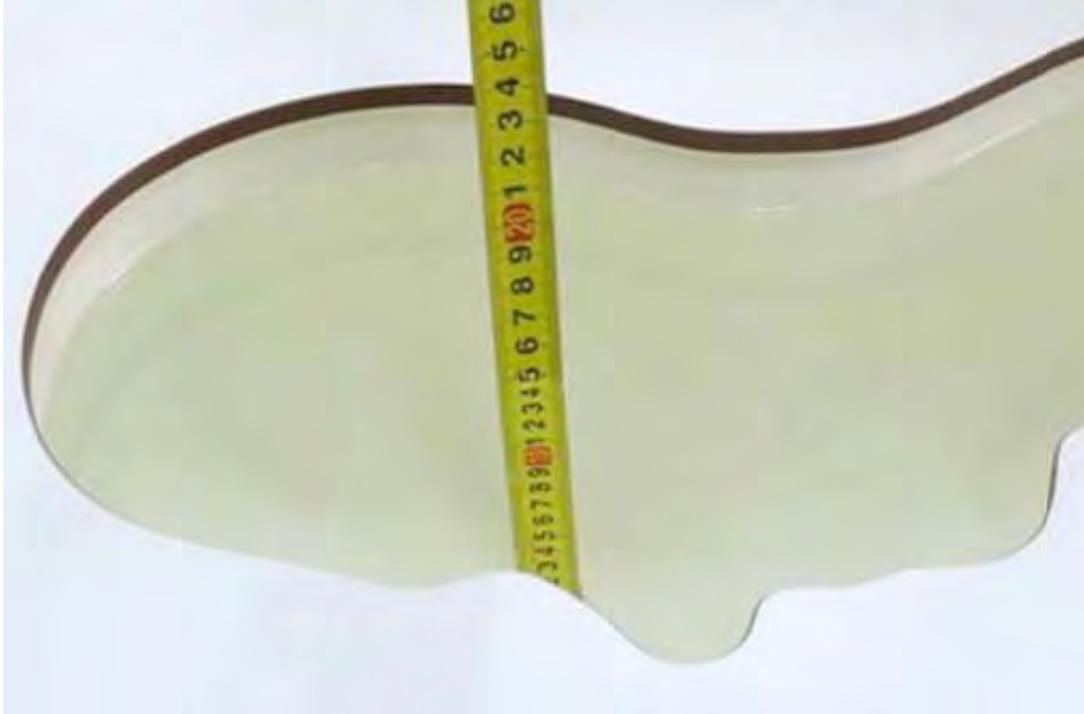
*****END OF REPORT *****

ANNEX A: Test Layout

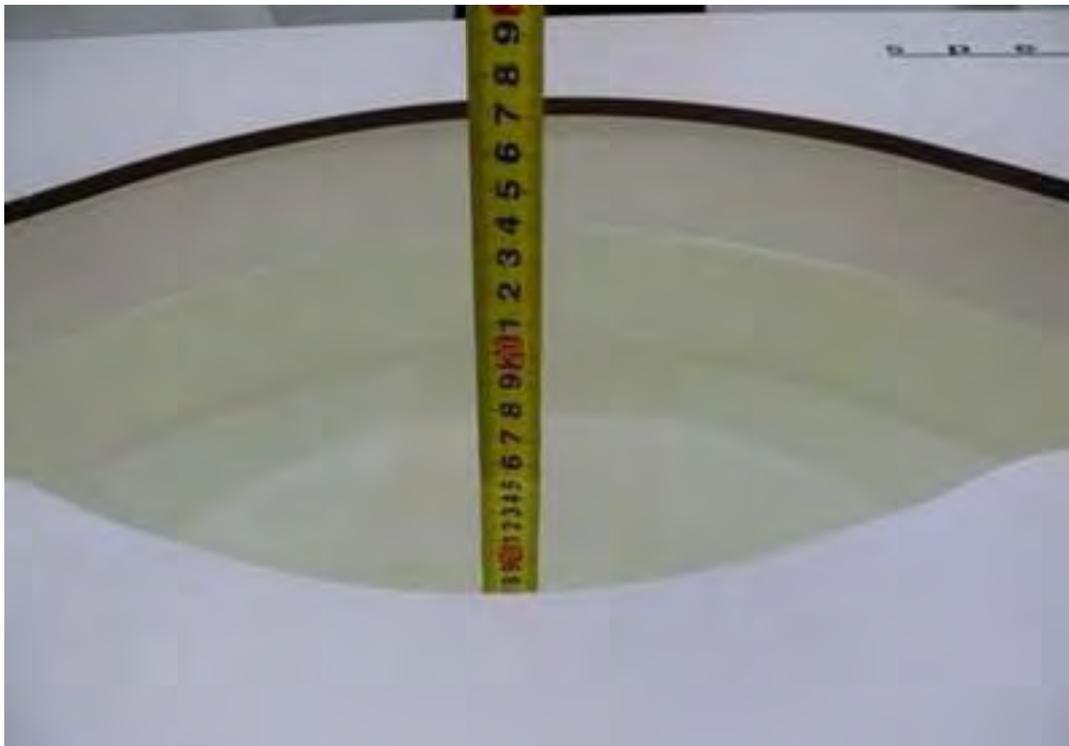


Tissue Simulating Liquids

For the measurement of the field distribution inside the flat phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For Head and 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 Picture 3 and Picture 4.



Picture 3: liquid depth in the head Phantom



Picture 4: Liquid depth in the flat Phantom

ANNEX B: System Check Results

Plot 1 System Performance Check at 750 MHz TSL

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1045

Date: 2022/3/26

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.88 \text{ S/m}$; $\epsilon_r = 42.3$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7543; ConvF(10.27, 10.27, 10.27); Calibrated: 2021/12/28

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=15mm, Pin=250mW/Area Scan (4x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.29 W/kg

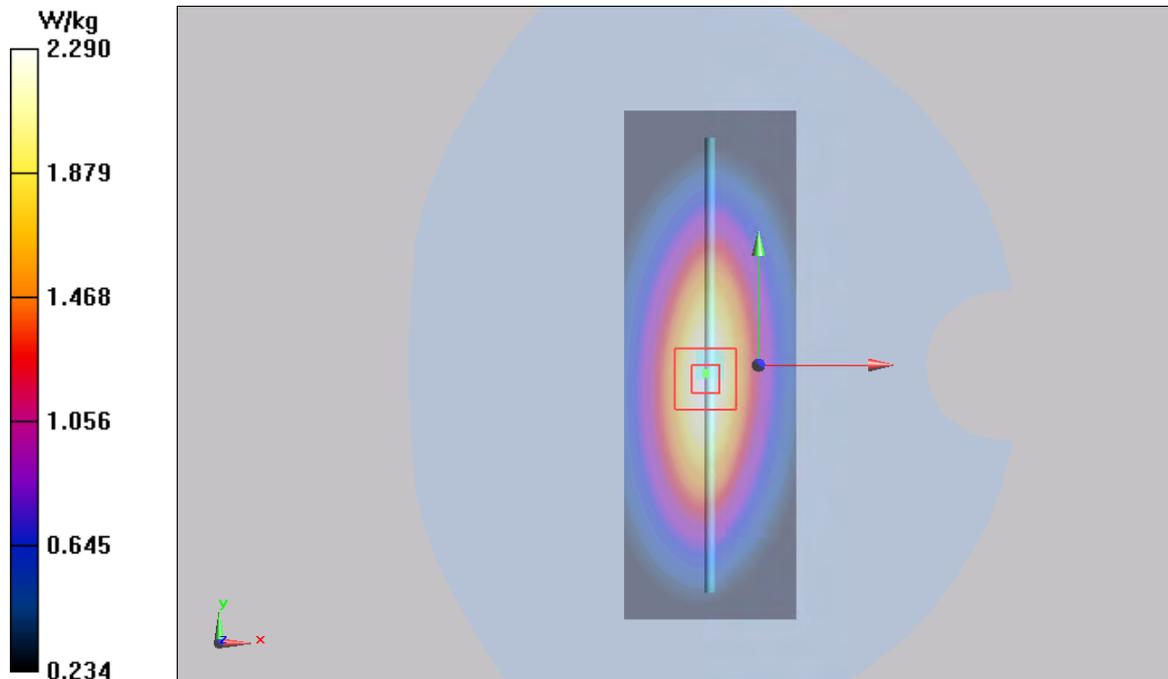
d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.653 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 3.16 W/kg

SAR(1 g) = 2.13 W/kg; SAR(10 g) = 1.41 W/kg

Maximum value of SAR (measured) = 2.29 W/kg



Plot 2 System Performance Check at 750 MHz TSL

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1045

Date: 2022/3/28

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.87 \text{ S/m}$; $\epsilon_r = 42.0$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7543; ConvF(10.27, 10.27, 10.27); Calibrated: 2021/12/28

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=15mm, Pin=250mW/Area Scan (4x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.31 W/kg

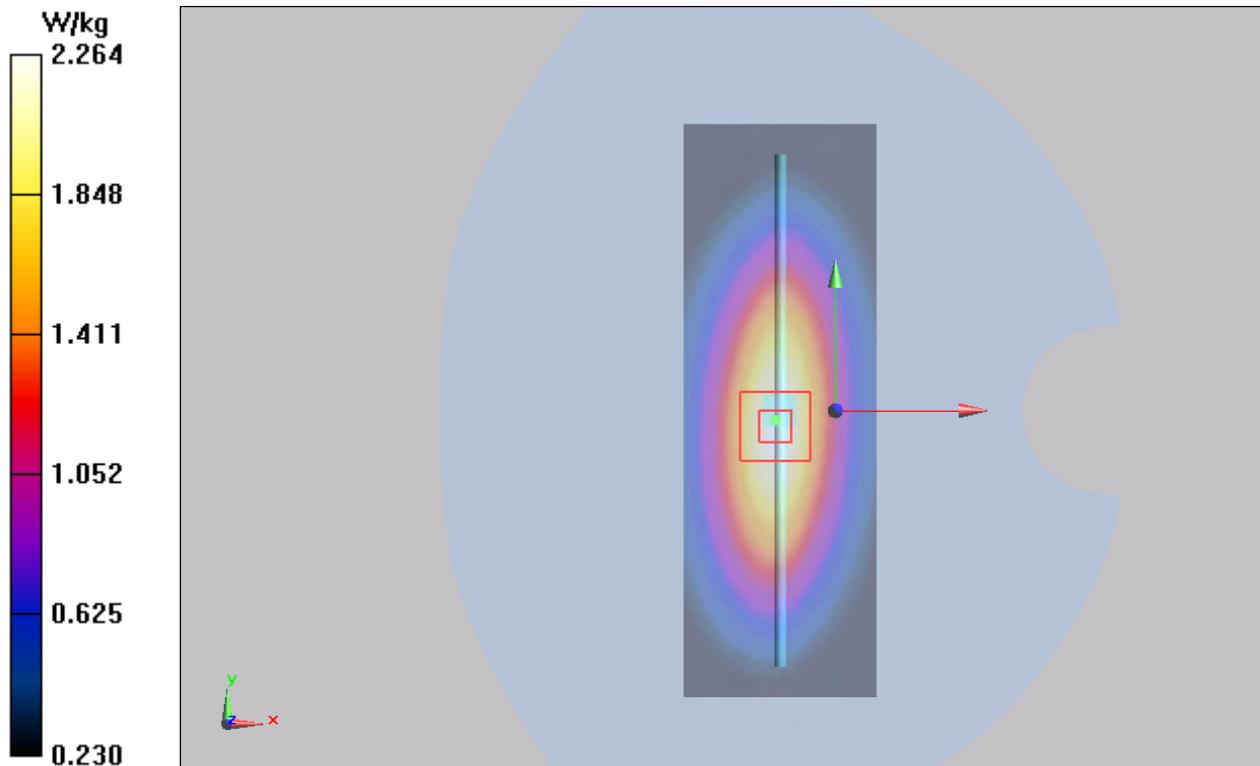
d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.557 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 3.14 W/kg

SAR(1 g) = 2.10 W/kg; SAR(10 g) = 1.37 W/kg

Maximum value of SAR (measured) = 2.264 W/kg



Plot 3 System Performance Check at 750 MHz TSL

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1045

Date: 2022/4/2

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.89 \text{ S/m}$; $\epsilon_r = 41.8$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7543; ConvF(10.27, 10.27, 10.27); Calibrated: 2021/12/28

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=15mm, Pin=250mW/Area Scan (4x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.16 W/kg

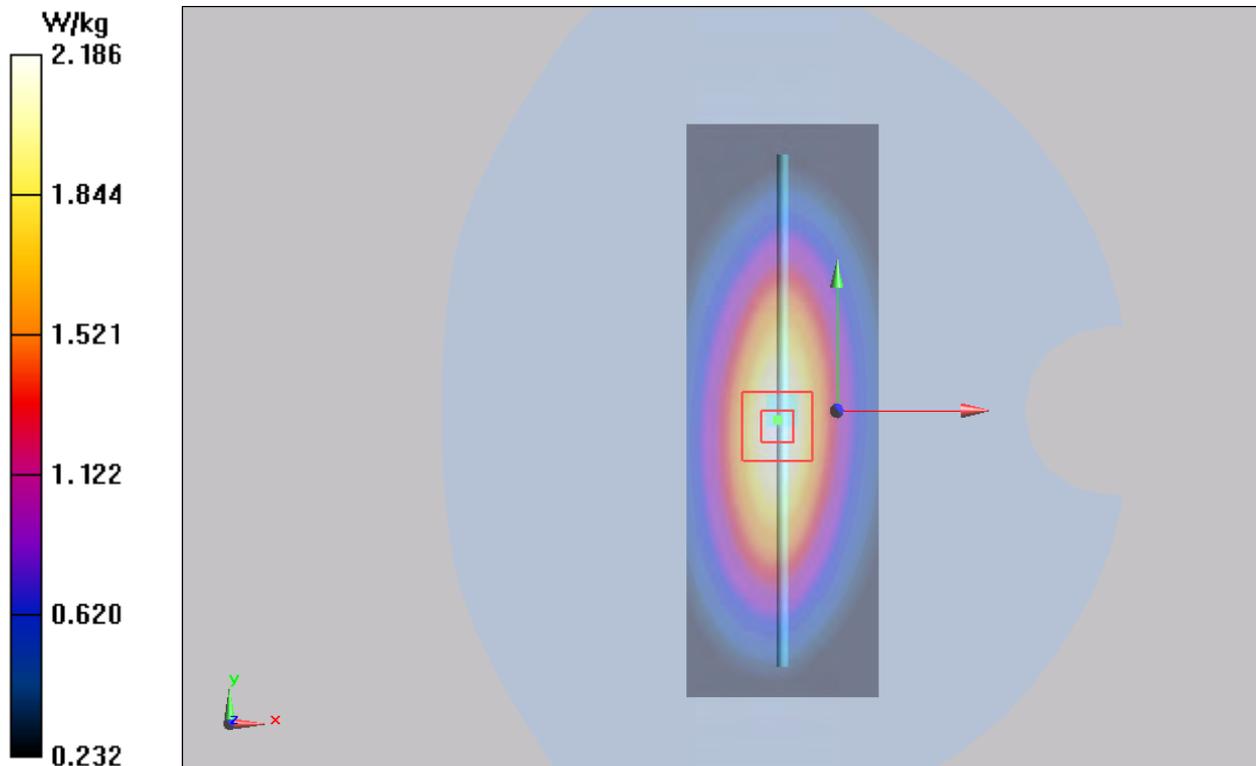
d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.376 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 3.10 W/kg

SAR(1 g) = 2.04 W/kg; SAR(10 g) = 1.34 W/kg

Maximum value of SAR (measured) = 2.186 W/kg



Plot 4 System Performance Check at 835 MHz TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d020

Date: 2022/3/23

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.88 \text{ S/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7543; ConvF(9.89, 9.89, 9.89); Calibrated: 2021/12/28

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=15mm, Pin=250mW/Area Scan (4x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.64 mW/g

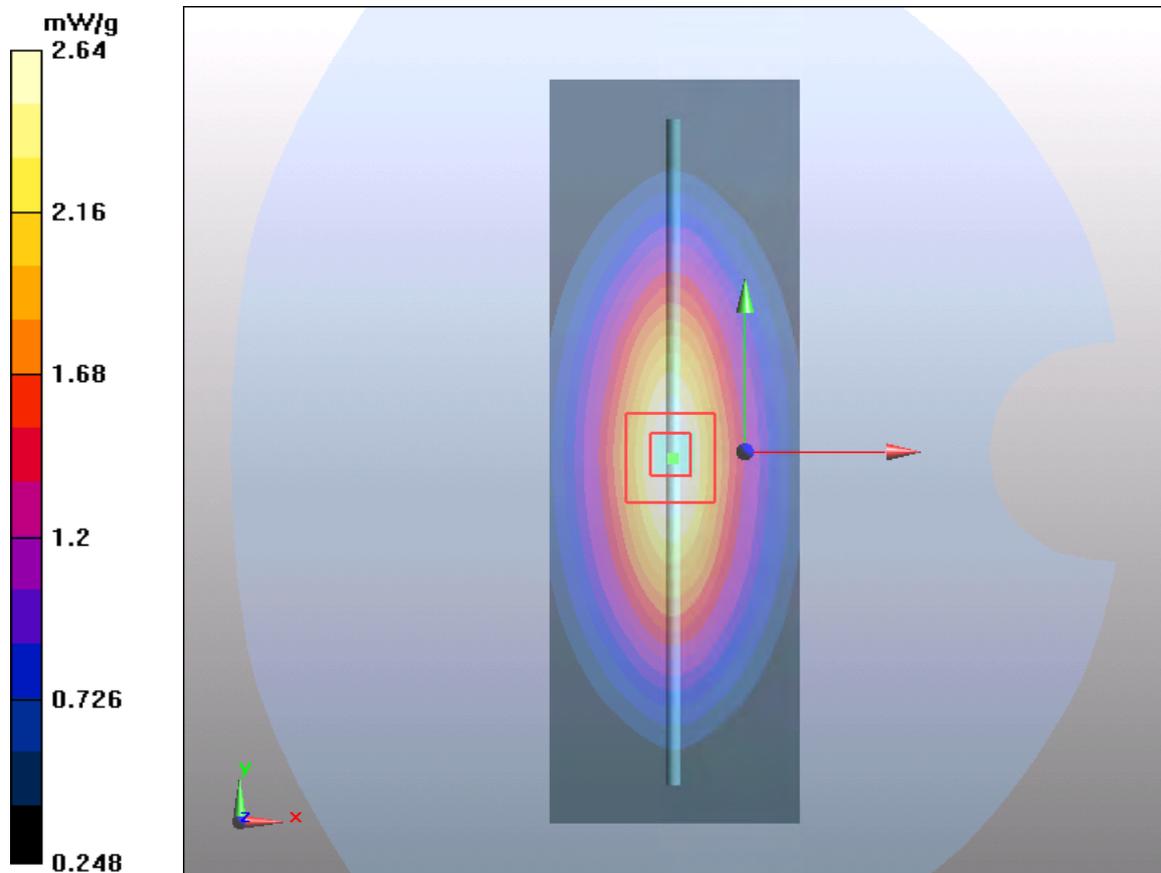
d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (measured) = 2.64 mW/g



Plot 5 System Performance Check at 835 MHz TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d020

Date: 2022/3/24

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.87 \text{ S/m}$; $\epsilon_r = 41.3$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7543; ConvF(9.89, 9.89, 9.89); Calibrated: 2021/12/28

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=15mm, Pin=250mW/Area Scan (4x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.59 mW/g

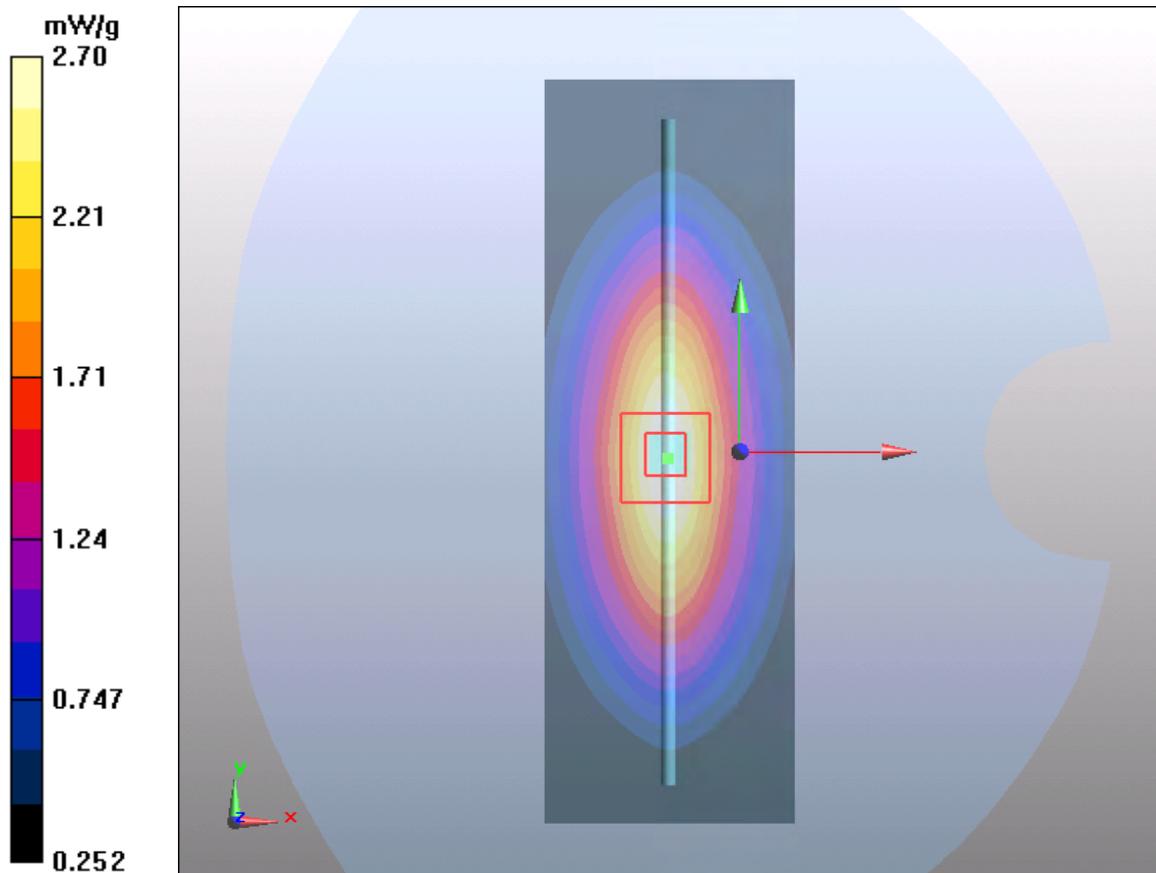
d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.3 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.65 mW/g

Maximum value of SAR (measured) = 2.70 mW/g



Plot 6 System Performance Check at 835 MHz TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d020

Date: 2022/3/25

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.92 \text{ S/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7543; ConvF(9.89, 9.89, 9.89); Calibrated: 2021/12/28

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

d=15mm, Pin=250mW/Area Scan (4x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.64 mW/g

d=15mm, Pin=250mW/Zoom Scan(5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.61 mW/g

Maximum value of SAR (measured) = 2.66 mW/g

