

FCC SAR Test Report

Applicant: Patrol 6, LLC
EUT Description: 4G Badage Camera
Model: BC1
Brand: PATROL 6
FCC ID: 2BVFCP6-MBC-V1
Standards: FCC 47CFR §2.1093
Date of Receipt: 2026/06/11
Date of Test: 2026/07/10 to 2026/07/26
Date of Issue: 2026/08/14

TOWE tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of the model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. Without written approval of TOWE, the test report shall not be reproduced except in full.


Jim Huang
Approved By:


Jack Li
Reviewed By:

Revision History

Rev.	Issue Date	Description	Revised by
01	2026/08/14	Original	Jack Li

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1 Summary of Test Results

Band	Highest SAR(W/kg)
	Body 5mm
LTE Band 2	0.88
LTE Band 5	0.71
LTE Band 12/17	0.27
LTE Band 30	0.99
LTE Band 66/4	0.72
LTE Band 71	0.16
WIFI 2.4G	0.51
WIFI 5G	0.16
BT	0.10
SAR Limited(W/kg)	1.6
Highest Simultaneous Transmission SAR (W/kg)	
Scenario	Body 5mm
Summed SAR	1.39
SAR Limited(W/kg)	1.6
Remark: This device supports LTE B2/B4/B5/B12/B17/B30/B66/B71. Since the supported frequency span for LTE B4/17 falls completely within the support's frequency span for LTE B66/12, both LTE bands have the same target power, and both LTE bands share the same transmission path, therefore SAR was only assessed for LTE B66/12.	

2 Guidance Applied

FCC 47CFR §2.1093
ANSI/IEEE C95.1-1992
IEC/IEEE 62209-1528:2020
FCC KDB 941225 D01 3G SAR Measurement Procedures v03r01
FCC KDB 941225 D05 SAR for LTE Devices v02r05
FCC KDB 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02
FCC KDB 941225 D07 UMPC Mini Tablet v01r02
FCC KDB 248227 D01 SAR Guidance for IEEE 802.11 Wi-Fi SAR v02r02
FCC KDB 648474 D04 Handset SAR v01r03
FCC KDB 447498 D01 General RF Exposure Guidance v06
FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
FCC KDB 865664 D02 RF Exposure Reporting v01r02

3 Lab Information

3.1 Testing Location

These measurement tests were conducted at the Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. facility located at F 401 and F 101, Building E, Hongwei Industrial Zone, No. 6, Liuxian 3rd Road, Zone 70, Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, People's Republic of China. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014

Tel.: +86-755-27212361

Contact Email: info@towewireless.com

3.2 Test Facility / Accreditations

A2LA (Certificate Number: 7088.01)

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

FCC Designation No.: CN1353

Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory.

Test Firm Registration Number: 684095

Designation Number: CN1353.

ISED CAB identifier: CN0152

Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0152

Company Number: 31000

3.3 Ambient Condition

Temperature: 18°C~25°C

Relative Humidity: 30%~75%

4 Client Information

4.1 Applicant

Applicant:	Patrol 6, LLC
Address:	2843E. Robin Lane Phoenix, AZ 85050 USA

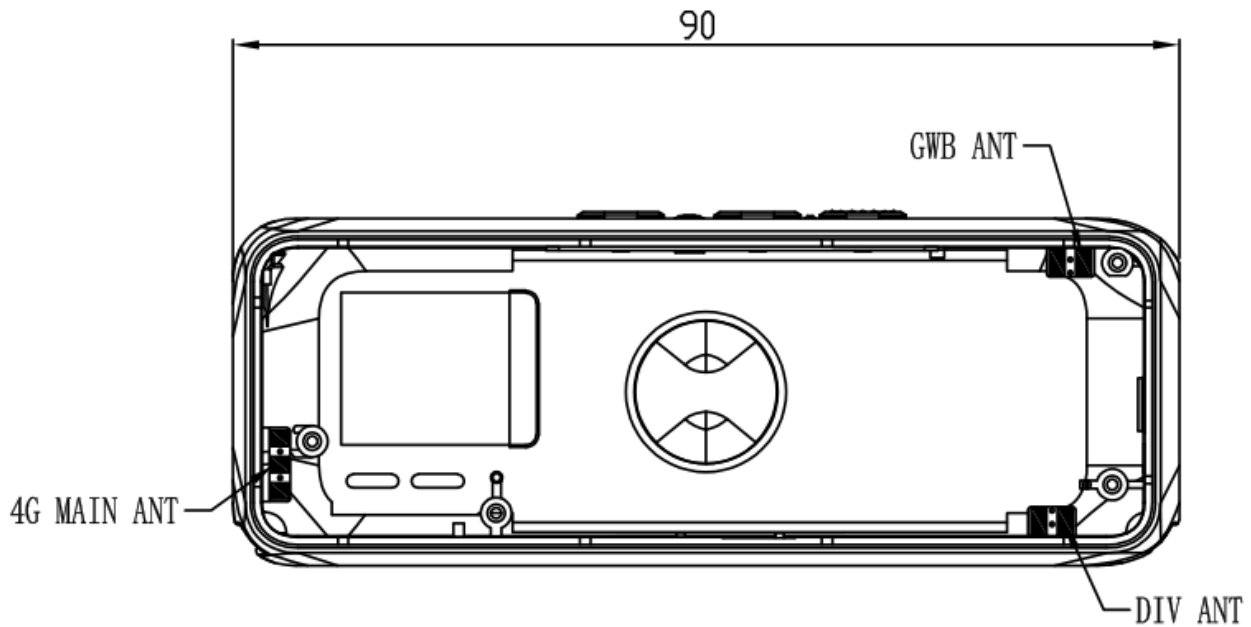
4.2 Manufacturer

Manufacturer:	Shenzhen Dachengwei Electronic Technology Co.,Ltd
Address:	No.201 (2nd Floor), Building No.407, East Village, Hengkeng River, Guancheng Community, anhu Sub-district, Longhua District, Shenzhen City

5 Product Information

EUT Description	4G Badage Camera	
Model No.	BC1	
Brand	PATROL 6	
Hardware Version	X920_MB_V1.1	
Software Version	X920_DEMO_20260528_modem_0528_1	
SN	MTK0002605091500420 MTK0002606151414240	
Device Capabilities:		
Band	Frequency Range (MHz)	Modulation Type
LTE Band 2	1850 ~ 1910	QPSK 16QAM 64QAM
LTE Band 4	1710 ~ 1755	
LTE Band 5	824 ~ 849	
LTE Band 12	699 ~ 716	
LTE Band 17	704 ~ 716	
LTE Band 30	2305 ~2315	
LTE Band 66	1710 ~ 1780	
LTE Band 71	663 ~ 698	
Bluetooth	2400~2483.5	GFSK, $\pi/4$ DQPSK, 8DPSK
Wi-Fi 2.4G	2400~2483.5	802.11b/g/n
Wi-Fi 5G	5150~5250	802.11a/n/ac
	5725~5850	
Antenna Type	☐ External, ☒ Integrated	
Remark: The above EUT's information was declared by applicant, please refer to the specifications or user's manual for more detailed description.		

5.1 Antenna Locations (Front View)



Note:

- 1) Per KDB 941225 D07, the diagonal length is $\leq 20\text{cm}$, the device is considered a UMPC mini-tablet device and needed to test $\leq 5\text{cm}$ 1-g body SAR. When 1-g SAR is tested at 5 mm, 10-g SAR is not required.
- 2) The Div antenna is only for RX.

6 RF Exposure Limits

Human Exposure	Uncontrolled Environment General Population (W/kg) or (mW/g)	Controlled Environment Occupational (W/kg) or (mW/g)
Spatial Peak SAR¹ (Brain/Trunk)	1.6	8.0
Spatial Average SAR² (Whole Body)	0.08	0.4
Spatial Peak SAR³ (Hands/Feet/Ankle/Wrist)	4.0	20.0

Note:

1, The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

2, The Spatial Average value of the SAR averaged over the whole body.

3, The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

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

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

7 Introduction

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

7.1 SAR Definition

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

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

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

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

Where:

σ is the conductivity of the tissue material (S/m)

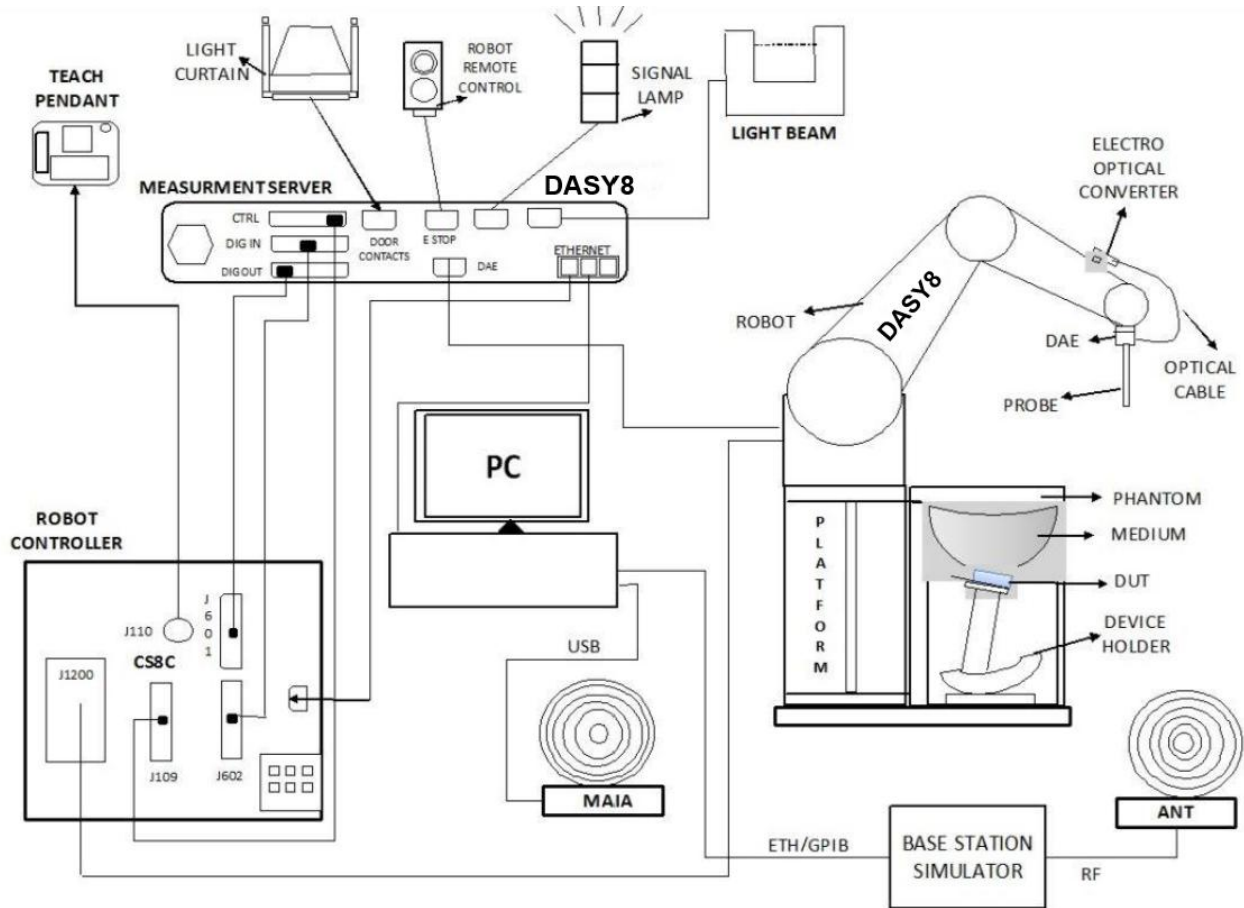
ρ is the mass density of the tissue material (kg/m³)

E is the RMS electrical field strength (V/m)

8 SAR Measurements System

8.1 The SAR Measurement Set-up

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Windows 11 and the DASY8 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

8.2 E-Field Probe

	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 TSL (rotation around probe axis) ± 0.5 dB in TSL (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: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm

8.3 Data Acquisition Electronics (DAE)

	The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock. The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.
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8.4 Phantom

SAM Twin Phantom:

Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet	
Filling Volume	Approx. 25 liters	
Wooden Support	SPEAG standard phantom table	

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

ELI Phantom:

ELI Phantom	
Material	Vinylester, glass fiber reinforced (VE-GF)
Shell Thickness	2.0 ± 0.2 mm (bottom plate)
Dimensions	Major axis: 600 mm Minor axis: 400 mm
Filling Volume	approx. 30 liters
Wooden Support	SPEAG standard phantom table

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

8.5 Device Holder

The SAR measured in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5mm distance, a positioning uncertainty of $\pm 0.5\text{mm}$ would produce uncertainty in the SAR of $\pm 20\%$. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions at which the devices must be measured are defined by the standards. The DASY8 device holder along with the associated adaptors / options is designed to accommodate different types & sizes (laptops, tablets, phones) of test devices and yet provide accurate and repeatable positioning as described in the test standards.

The device holder is available in two configurations (see Figure 3.13.1): for hand held transmitters (mobile phones) – MD4HHTV5 – Mounting Device for Hand-Held Transmitters and for Body-Worn transmitters – MD4LAP5 – Mounting Device for laptops and other body worn transmitters.



(a) MD4HHTV5



(b) MD4LAPV5

Figure 3.13.1: Mounting Device for Hand-Held Devices and Laptop / Body-Worn Devices

8.6 Measurement procedure

8.6.1 Power reference measurement

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

8.6.2 Area scan

Measurement procedures for evaluating SAR from wireless handsets typically start with a coarse measurement grid to determine the approximate location of the local peak SAR values. This is known as the area-scan procedure. In addition, identify the positions of any local maxima with SAR values within 2 dB of the maximum value, and that will not be within the zoom scan of other peaks. Additional zoom scans shall be measured for such peaks only when the primary peak is within 2 dB of the SAR compliance limit.

Area scan parameters SAR measurement as below:

Parameter	DUT transmit frequency being tested	
	$f \leq 3 \text{ GHz}$	$3 \text{ GHz} < f \leq 10 \text{ GHz}$
Maximum distance between the measured points (geometric centre of the sensors) and the inner phantom surface (z_{M1} in Figure 20 in mm)	5 ± 1	$\delta \ln(2)/2 \pm 0,5^a$
Maximum spacing between adjacent measured points in mm (see O.8.3.1) ^b	20, or half of the corresponding zoom scan length, whichever is smaller	$60/f$, or half of the corresponding zoom scan length, whichever is smaller
Maximum angle between the probe axis and the phantom surface normal (α in Figure 20) ^c	5° (flat phantom only) 30° (other phantoms)	5° (flat phantom only) 20° (other phantoms)
Tolerance in the probe angle	1°	1°
^a δ is the penetration depth for a plane-wave incident normally on a planar half-space. ^b See Clause O.8 on how Δx and Δy may be selected for individual area scan requirements. ^c The probe angle relative to the phantom surface normal is restricted due to the degradation in the measurement accuracy in fields with steep spatial gradients. The measurement accuracy decreases with increasing probe angle and increasing frequency. This is the reason for the tighter probe angle restriction at frequencies above 3 GHz.		

8.6.3 Zoom Scan

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. 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 g and 10 g and displays these values next to the job's label.

Zoom Scan parameters SAR measurement as below:

Parameter	DUT transmit frequency being tested	
	$f \leq 3 \text{ GHz}$	$3 \text{ GHz} < f \leq 10 \text{ GHz}$
Maximum distance between the closest measured points and the phantom surface (z_{M1} in Figure 20 and Table 3, in mm)	5	$\delta \ln(2)/2^a$
Maximum angle between the probe axis and the phantom surface normal (α in Figure 20)	5° (flat phantom only) 30° (other phantoms)	5° (flat phantom only) 20° (other phantoms)
Maximum spacing between measured points in the x - and y -directions (Δx and Δy , in mm)	8	$24/f^b$
For uniform grids: Maximum spacing between measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	5	$10/(f - 1)$
For graded grids: Maximum spacing between the two closest measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	4	$12/f$
For graded grids: Maximum incremental increase in the spacing between measured points in the direction normal to the phantom shell ($R_z = \Delta z_2/\Delta z_1$ in Figure 20)	1,5	1,5
Minimum edge length of the zoom scan volume in the x - and y -directions (L_z in O.8.3.2, in mm)	30	22
Minimum edge length of the zoom scan volume in the direction normal to the phantom shell (L_h in O.8.3.2 in mm)	30	22
Tolerance in the probe angle	1°	1°
^a δ is the penetration depth for a plane-wave incident normally on a planar half-space.		
^b This is the maximum spacing allowed, which might not work for all circumstances.		

8.6.4 Power Drift Measurement

The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. Several drift measurements are possible for one reference measurement. This allows a user to monitor the power drift of the device under test that must remain within a maximum variation of $\pm 5\%$. Detail power drift measurement refer to appendix B.

9 Test Equipment list

Manufacturer	Equipment Name	Model	Serial Number	Calibration Date	Due Date of calibration
SPEAG	Twin Phantom	SAM	2168	NCR	NCR
SPEAG	Twin Phantom	SAM	2173	NCR	NCR
SPEAG	E-Field Probe	EX3DV4	7858	2026/02/20	2027/02/19
SPEAG	E-Field Probe	EX3DV4	7812	2026/01/19	2027/01/18
SPEAG	Data Acquisition Electronics	DAE4	1846	2026/01/07	2027/01/06
SPEAG	Data Acquisition Electronics	DAE4	1847	2026/03/17	2027/03/16
SPEAG	System Validation Kits	D750V3	1231	2026/05/18	2029/05/17
SPEAG	System Validation Kits	D835V2	4d302	2026/02/03	2029/02/02
SPEAG	System Validation Kits	D1750V2	1115	2026/02/05	2029/02/04
SPEAG	System Validation Kits	D1900V2	512	2026/02/04	2029/02/03
SPEAG	System Validation Kits	D2300V2	1137	2026/05/20	2029/05/19
SPEAG	System Validation Kits	D2450V2	1099	2026/02/05	2029/02/04
SPEAG	System Validation Kits	D5GHzV2	1371	2026/02/09	2029/02/08
SPEAG	Dielectric parameter probes	DAK	1199	2026/01/13	2027/01/12
Agilent	Network Analyzer	E5071B	MY42302220	2026/03/05	2027/03/04
Anritsu	Radio Communication Analyzer	MT8821C	6262170463	2026/03/05	2027/03/04
Anritsu	Radio Communication Analyzer	MT8821C	6261991091	2026/03/05	2027/03/04
R&S	Wideband Radio Communication Tester	CMW500	153024	2026/03/05	2027/03/04
Talent Microwave	Directional Coupler	TC-05180-10S	220420003	NCR	NCR
R&S	Signal Generator	SMR20	100648	2026/03/05	2027/03/04
QiJi	Preamplifier	YX28982302	TOWE-EQ-SR-020	NCR	NCR
QiJi	Preamplifier	YX28982301	TOWE-EQ-SR-021	NCR	NCR
R&S	Power Sensor	NRP-Z21	101651	2026/03/05	2027/03/04
R&S	Power Sensor	NRP-Z21	104189	2026/03/05	2027/03/04
HiSiDiKe	Thermometer	TP300	TOWE-EQ-SR-023	2026/03/09	2027/03/08
BingYu	Temperature and Humidity Indicator	HTC-1	TOWE-EQ-SR-024	2026/03/09	2027/03/08
BingYu	Temperature and Humidity Indicator	HTC-1	TOWE-EQ-SR-025	2026/06/01	2027/05/31

Note:

- Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged or repaired during the interval.
- The justification data of dipole can be found in Appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

10 SAR measurement variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 or 2 W/kg (1-g or 10-g respectively); steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 or 2 W/kg (1-g or 10-g respectively), repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 or 3.6 W/kg ($\sim 10\%$ from the 1-g or 10-g respective SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20

11 Description of Test Position

11.1 Body exposure conditions

The overall diagonal dimension of the display section of a tablet is > 20 cm, Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. SAR evaluation for the front surface of tablet display screens is generally not necessary. The SAR Exclusion Threshold in KDB 447498 D04 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

12 System Verification

12.1 Tissue Verification

The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. The temperature variation of the Tissue Simulate Liquids was $22\pm 2^\circ\text{C}$, the liquid depth of the ear reference point or the flat phantom was at least 15 cm (which is shown in Figure 12-1).

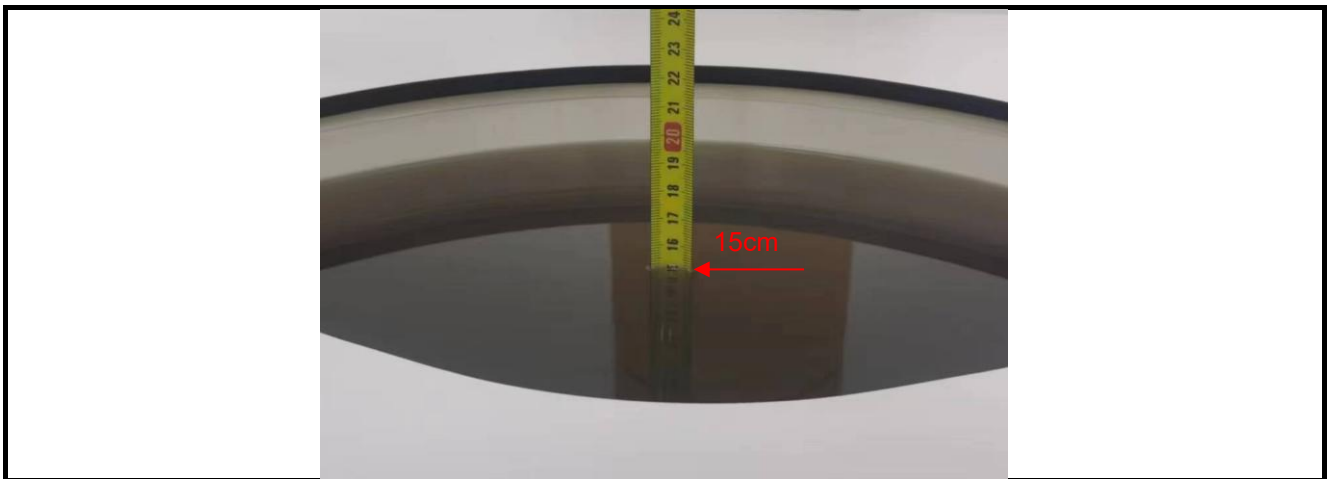


Figure 12-1 Liquid depth in the Flat Phantom

Frequency (MHz)	Tissue Type	Liquid Temp. (°C)	Target Tissue		Measured Tissue		Deviation (Limit $\pm 5\%$)		Date
			Permittivity ϵ_r	Conductivity $\sigma(\text{S/m})$	Permittivity ϵ_r	Conductivity $\sigma(\text{S/m})$	$\Delta\epsilon_r$	$\Delta\sigma$	
750	Head	22.1	41.90	0.89	42.800	0.893	2.15%	0.34%	2026/07/25
835	Head	22.3	41.50	0.90	41.800	0.892	0.72%	-0.89%	2026/07/10
1750	Head	22.3	40.10	1.37	40.700	1.370	1.50%	0.00%	2026/07/10
1900	Head	22.3	40.00	1.40	40.200	1.380	0.50%	-1.43%	2026/07/10
2300	Head	22.1	39.50	1.67	40.500	1.680	2.53%	0.60%	2026/07/25
2450	Head	21.9	39.20	1.80	39.900	1.820	1.79%	1.11%	2026/07/26
5200	Head	22.1	36.00	4.66	36.700	4.770	1.94%	2.36%	2026/07/25
5800	Head	22.1	35.30	5.27	35.700	5.420	1.13%	2.85%	2026/07/25

Table 1: Measurement Tissue Parameters

12.2 SAR System Check

Prior to SAR assessment, a SAR system Check measurement was performed to see if the measured SAR was within $\pm 10\%$ from the target SAR values. The System Performance Check Setup in Figure 12-3.

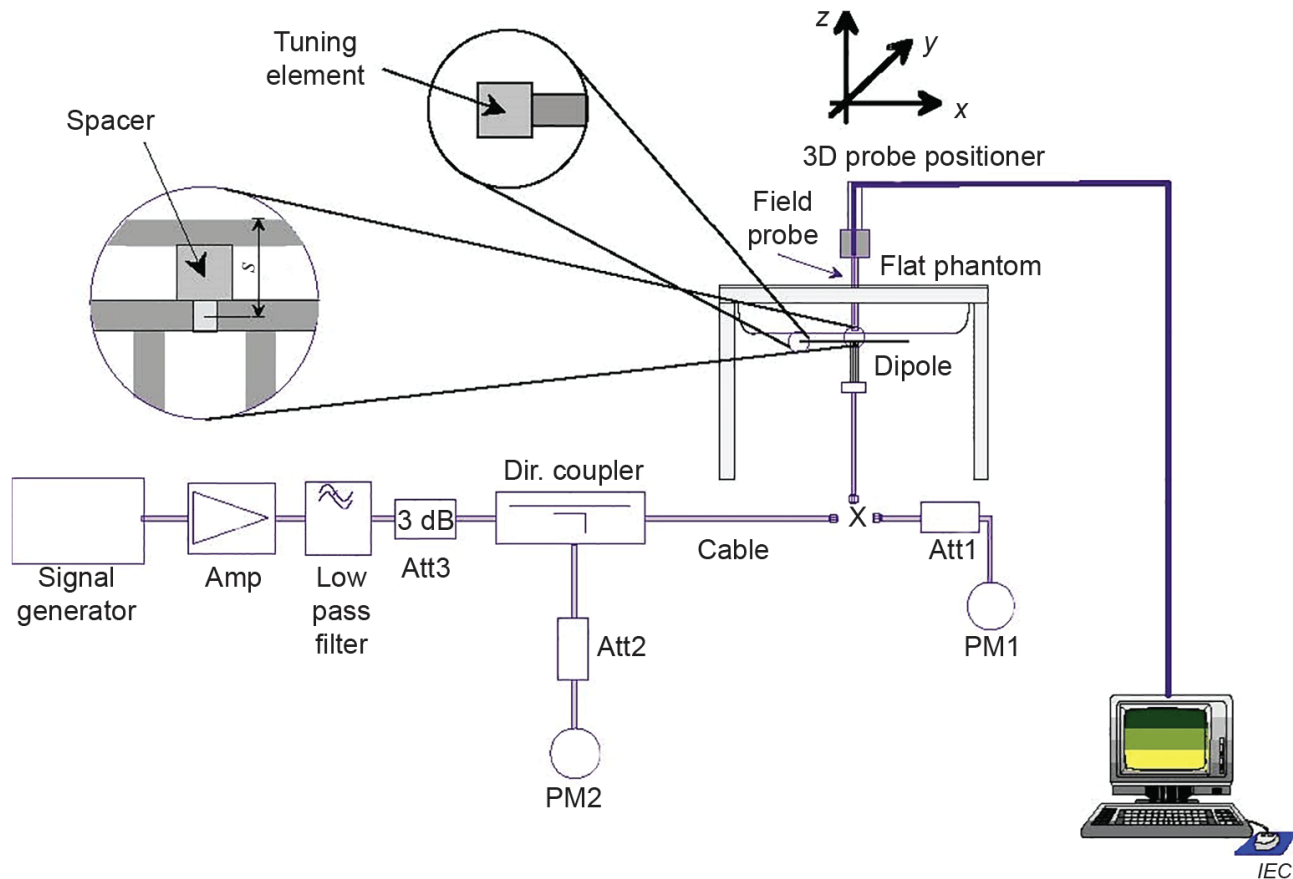


Figure 12-3 System Performance Check Setup

12.2.1 System Check Result

Frequency (MHz)	Tissue Type	Dipole	S/N	Target SAR (1W)		Measured SAR (100mW)		Measured SAR (normalized to 1W)		Deviation (Limit $\pm 10\%$)		Date
				1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	$\Delta 1g$	$\Delta 10g$	
750	Head	D750V3	1231	8.54	5.58	0.890	0.593	8.90	5.93	4.22%	6.27%	2026/07/25
835	Head	D835V2	4d302	9.50	6.16	0.934	0.620	9.34	6.20	-1.68%	0.65%	2026/07/10
1750	Head	D1750V2	1115	36.70	19.50	3.650	2.000	36.50	20.00	-0.54%	2.56%	2026/07/10
1900	Head	D1900V2	512	39.90	20.80	3.950	2.120	39.50	21.20	-1.00%	1.92%	2026/07/10
2300	Head	D2300V2	1137	49.00	23.60	4.820	2.330	48.20	23.30	-1.63%	-1.27%	2026/07/25
2450	Head	D2450V2	1099	52.70	24.70	5.280	2.480	52.80	24.80	0.19%	0.40%	2026/07/26
5200	Head	D5GHzV2	1371	76.50	21.50	7.740	2.240	77.40	22.40	1.18%	4.19%	2026/07/25
5800	Head	D5GHzV2	1371	78.60	22.10	7.770	2.220	77.70	22.20	-1.15%	0.45%	2026/07/25

Table 2: SAR System Check Result

12.2.2 Detailed System Check Result

Please see Appendix A

13 SAR General Measurement Procedures

13.1 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is ≤ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

13.2 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 or Anritsu MT8820C/MT8821C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

13.2.1 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.

13.2.2 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.

Modulation	Channel bandwidth/Transmission bandwidth						MPR (dB)
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	0
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1
16QAM	> 5	> 4	> 8	> 12	> 16	> 18	2
64QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	2
64QAM	> 5	> 4	> 8	> 12	> 16	> 18	3
256QAM	≥ 1						5

13.2.3 A-MPR

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

13.2.4 Largest channel bandwidth standalone SAR test requirements

A. 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.

B. QPSK with 50% RB allocation

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

C. 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 A and B 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.

D. Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in A, B, and C 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.

13.2.5 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 13.4.4 to determine the channels and RB configurations that need SAR testing, then 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.

13.3 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01 for more details.

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.

For WiFi SAR testing, a communication link is set up with some command for WiFi mode test. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Per KDB248227 D01, a minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

13.3.1 Initial Test Position Procedure

DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. The initial test position procedure is described in the following:

1. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).
2. When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.
3. For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. a) Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

13.3.2 Initial Test Configuration Procedure

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required. SAR test reduction for subsequent highest output test channels is determined according to reported SAR of the initial test configuration.

For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.

When the reported SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until reported SAR is ≤ 1.2 W/kg or all required channels are tested.

13.3.3 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency Band and aggregated Band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position on procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg for 1g SAR and ≤ 3.0 W/kg for 10g SAR, no additional SAR tests for the subsequent test configurations are required.

13.3.4 2.4 GHz SAR Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions.

A) 802.11b DSSS SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either a fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1. When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS is that exposure configuration.
2. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

B) 2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3 of of KDB248227 D01). SAR is not required for the following 2.4 GHz OFDM conditions.

1. When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
2. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

C) SAR Test Requirements for OFDM configurations

When SAR measurement is required for 802.11 g/n OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

13.3.5 5 GHz SAR Procedures

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

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

- 1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.
- 2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.
- 3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

13.3.5.2 U-NII-2C and U-NII-3 Bands

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels. When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

13.3.6 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

13.3.7 MIMO SAR Considerations

Per KDB 248227 D01, the simultaneous SAR provisions in KDB 447498 D01v06 should be applied to determine simultaneous transmission SAR test exclusion for WIFI MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6 W/kg, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation.

14 Conducted Power

LTE Band 2				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
1.4MHz	QPSK	1	0	18607	18900	19193	24.00
		1	2	23.25	23.09	22.86	24.00
		1	5	23.43	23.41	23.11	24.00
		3	0	23.11	22.99	22.77	24.00
		3	0	23.18	23.09	22.90	24.00
		3	2	23.39	23.31	23.06	24.00
		3	3	23.09	23.00	22.74	24.00
	16QAM	6	0	22.36	22.39	22.22	23.00
		1	0	22.46	22.33	22.11	23.00
		1	2	22.53	22.46	22.28	23.00
		1	5	22.27	22.26	22.03	23.00
		3	0	22.44	22.30	22.14	23.00
		3	2	22.31	22.39	22.25	23.00
		3	3	22.21	22.21	22.06	23.00
	64QAM	6	0	21.35	21.28	21.10	22.00
		1	0	21.32	21.16	20.99	22.00
		1	2	21.51	21.56	21.32	22.00
		1	5	21.29	21.20	21.05	22.00
		3	0	21.30	21.20	20.99	22.00
		3	2	21.34	21.35	21.33	22.00
		3	3	21.27	21.15	21.06	22.00
		6	0	20.46	20.38	20.18	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
3MHz	QPSK	1	0	18615	18900	19185	24.00
		1	7	23.24	23.06	22.91	24.00
		1	14	23.50	23.38	23.10	24.00
		8	0	23.10	22.98	22.72	24.00
		8	4	22.31	22.21	22.04	23.00
		8	4	22.43	22.38	22.10	23.00
		8	7	22.35	22.39	22.22	23.00
	16QAM	15	0	22.36	22.31	22.19	23.00
		1	0	22.48	22.37	22.09	23.00
		1	7	22.54	22.48	22.26	23.00
		1	14	22.23	22.19	22.04	23.00
		8	0	21.40	21.29	21.05	22.00
		8	4	21.52	21.36	21.25	22.00
		8	7	21.41	21.40	21.27	22.00
	64QAM	15	0	21.36	21.36	21.08	22.00
		1	0	21.29	21.17	20.94	22.00
		1	7	21.57	21.53	21.35	22.00
		1	14	21.29	21.19	21.03	22.00
		8	0	20.34	20.33	20.17	21.00
		8	4	20.53	20.40	20.15	21.00
		8	7	20.55	20.46	20.23	21.00
		15	0	20.46	20.40	20.18	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
5MHz	QPSK	1	0	18625	18900	19175	24.00
		1	13	23.22	23.06	22.87	24.00
		1	24	23.57	23.36	23.08	24.00
		12	0	23.14	23.01	22.76	24.00
		12	6	22.31	22.23	22.01	23.00
		12	13	22.40	22.39	22.16	23.00
		25	0	22.41	22.40	22.17	23.00
	16QAM	1	0	22.37	22.31	22.20	23.00
		1	0	22.40	22.34	22.15	23.00
		1	13	22.54	22.52	22.26	23.00
		1	24	22.21	22.19	22.01	23.00
		12	0	21.40	21.27	21.07	22.00
		12	6	21.48	21.40	21.27	22.00
		12	13	21.43	21.42	21.25	22.00
	64QAM	25	0	21.37	21.29	21.08	22.00
		1	0	21.30	21.18	21.00	22.00
		1	13	21.56	21.51	21.31	22.00
		1	24	21.27	21.15	21.05	22.00
		12	0	20.37	20.31	20.14	21.00
		12	6	20.49	20.45	20.20	21.00
		12	13	20.53	20.41	20.19	21.00
		25	0	20.44	20.41	20.20	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
10MHz	QPSK	1	0	18650	18900	19150	24.00

		1	25	23.50	23.43	23.06	24.00
		1	49	23.08	23.02	22.71	24.00
		25	0	22.30	22.25	22.04	23.00
		25	13	22.41	22.37	22.16	23.00
		25	25	22.39	22.34	22.18	23.00
		50	0	22.34	22.38	22.20	23.00
		1	0	22.44	22.29	22.08	23.00
		1	25	22.54	22.48	22.24	23.00
		1	49	22.22	22.25	22.05	23.00
		25	0	21.35	21.28	21.10	22.00
	16QAM	25	13	21.50	21.36	21.26	22.00
		25	25	21.48	21.45	21.30	22.00
		50	0	21.38	21.29	21.12	22.00
		1	0	21.29	21.20	20.97	22.00
		1	25	21.55	21.50	21.35	22.00
	64QAM	1	49	21.31	21.18	21.02	22.00
		25	0	20.33	20.30	20.11	21.00
		25	13	20.54	20.41	20.20	21.00
		25	25	20.51	20.39	20.18	21.00
		50	0	20.47	20.33	20.18	21.00
Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	23.25	23.08	22.94	24.00
		1	38	23.56	23.42	23.11	24.00
		1	74	23.12	23.03	22.71	24.00
		36	0	22.26	22.22	22.00	23.00
		36	18	22.40	22.35	22.14	23.00
		36	39	22.37	22.32	22.19	23.00
		75	0	22.34	22.33	22.21	23.00
	16QAM	1	0	22.40	22.29	22.15	23.00
		1	38	22.55	22.52	22.31	23.00
		1	74	22.26	22.25	22.01	23.00
		36	0	21.37	21.27	21.05	22.00
		36	18	21.45	21.37	21.25	22.00
		36	39	21.46	21.39	21.30	22.00
		75	0	21.40	21.35	21.11	22.00
	64QAM	1	0	21.28	21.22	20.96	22.00
		1	38	21.59	21.51	21.32	22.00
		1	74	21.28	21.23	21.07	22.00
		36	0	20.32	20.35	20.14	21.00
		36	18	20.52	20.45	20.15	21.00
		36	39	20.48	20.41	20.25	21.00
		75	0	20.43	20.38	20.20	21.00
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	23.28	23.13	22.96	24.00
		1	50	23.59	23.45	23.15	24.00
		1	99	23.18	23.05	22.81	24.00
		50	0	22.35	22.29	22.06	23.00
		50	25	22.48	22.43	22.20	23.00
		50	50	22.45	22.42	22.24	23.00
		100	0	22.42	22.41	22.25	23.00
	16QAM	1	0	22.50	22.39	22.17	23.00
		1	50	22.59	22.56	22.33	23.00
		1	99	22.31	22.28	22.08	23.00
		50	0	21.44	21.34	21.12	22.00
		50	25	21.54	21.46	21.29	22.00
		50	50	21.50	21.47	21.32	22.00
		100	0	21.42	21.38	21.15	22.00
	64QAM	1	0	21.36	21.26	21.02	22.00
		1	50	21.61	21.58	21.37	22.00
		1	99	21.37	21.25	21.10	22.00
		50	0	20.40	20.37	20.21	21.00
		50	25	20.58	20.47	20.23	21.00
		50	50	20.57	20.49	20.27	21.00
		100	0	20.51	20.43	20.22	21.00

LTE Band 4				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	23.46	23.55	23.46	24.00
		1	2	23.62	23.65	23.65	24.00
		1	5	23.55	23.58	23.55	24.00
		3	0	23.55	23.65	23.55	24.00

		3	2	23.57	23.60	23.64	24.00
		3	3	23.62	23.61	23.64	24.00
		6	0	22.72	22.76	22.68	23.00
	16QAM	1	0	22.78	22.81	22.79	23.00
		1	2	22.83	22.85	22.79	23.00
		1	5	22.71	22.79	22.77	23.00
		3	0	22.64	22.71	22.62	23.00
		3	2	22.57	22.67	22.61	23.00
		3	3	22.63	22.68	22.62	23.00
		6	0	21.76	21.81	21.73	22.00
	64QAM	1	0	21.74	21.78	21.76	22.00
		1	2	21.80	21.90	21.83	22.00
		1	5	21.73	21.77	21.73	22.00
		3	0	21.74	21.82	21.73	22.00
		3	2	21.73	21.78	21.75	22.00
		3	3	21.76	21.78	21.75	22.00
		6	0	20.65	20.69	20.59	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19965	20175	20385	
3MHz	QPSK	1	0	23.09	23.21	23.19	24.00
		1	7	23.51	23.60	23.57	24.00
		1	14	23.30	23.39	23.42	24.00
		8	0	22.53	22.62	22.57	23.00
		8	4	22.66	22.63	22.52	23.00
		8	7	22.49	22.59	22.58	23.00
		15	0	22.50	22.54	22.49	23.00
	16QAM	1	0	22.35	22.53	22.46	23.00
		1	7	22.78	22.91	22.89	23.00
		1	14	22.60	22.66	22.61	23.00
		8	0	21.46	21.56	21.48	22.00
		8	4	21.62	21.61	21.59	22.00
		8	7	21.60	21.62	21.53	22.00
		15	0	21.49	21.58	21.50	22.00
	64QAM	1	0	21.46	21.52	21.46	22.00
		1	7	21.76	21.84	21.76	22.00
		1	14	21.48	21.53	21.49	22.00
		8	0	20.43	20.57	20.48	21.00
		8	4	20.50	20.56	20.57	21.00
		8	7	20.52	20.67	20.56	21.00
		15	0	20.64	20.65	20.54	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19975	20175	20375	
5MHz	QPSK	1	0	23.09	23.20	23.17	24.00
		1	13	23.49	23.66	23.58	24.00
		1	24	23.32	23.44	23.41	24.00
		12	0	22.61	22.61	22.59	23.00
		12	6	22.65	22.63	22.53	23.00
		12	13	22.48	22.63	22.55	23.00
		25	0	22.49	22.56	22.48	23.00
	16QAM	1	0	22.39	22.50	22.51	23.00
		1	13	22.80	22.83	22.86	23.00
		1	24	22.64	22.66	22.64	23.00
		12	0	21.43	21.57	21.49	22.00
		12	6	21.60	21.58	21.59	22.00
		12	13	21.54	21.56	21.61	22.00
		25	0	21.50	21.57	21.50	22.00
	64QAM	1	0	21.43	21.51	21.46	22.00
		1	13	21.72	21.81	21.74	22.00
		1	24	21.40	21.52	21.52	22.00
		12	0	20.43	20.57	20.51	21.00
		12	6	20.51	20.56	20.52	21.00
		12	13	20.59	20.66	20.54	21.00
		25	0	20.59	20.60	20.55	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20000	20175	20350	
10MHz	QPSK	1	0	23.12	23.21	23.17	24.00
		1	25	23.43	23.59	23.63	24.00
		1	49	23.34	23.42	23.38	24.00
		25	0	22.56	22.59	22.61	23.00
		25	13	22.58	22.64	22.54	23.00
		25	25	22.50	22.61	22.57	23.00
		50	0	22.47	22.55	22.44	23.00
	16QAM	1	0	22.43	22.45	22.45	23.00
		1	25	22.81	22.85	22.85	23.00
		1	49	22.59	22.65	22.64	23.00

	64QAM	25	0	21.47	21.54	21.47	22.00
		25	13	21.64	21.58	21.60	22.00
		25	25	21.61	21.64	21.59	22.00
		50	0	21.47	21.57	21.49	22.00
		1	0	21.51	21.51	21.44	22.00
		1	25	21.76	21.84	21.79	22.00
		1	49	21.47	21.51	21.54	22.00
		25	0	20.44	20.52	20.54	21.00
		25	13	20.48	20.60	20.57	21.00
		25	25	20.58	20.64	20.57	21.00
		50	0	20.63	20.63	20.55	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20025	20175	20325	
15MHz	QPSK	1	0	23.13	23.18	23.12	24.00
		1	38	23.48	23.63	23.56	24.00
		1	74	23.37	23.46	23.42	24.00
		36	0	22.56	22.64	22.54	23.00
		36	18	22.65	22.65	22.55	23.00
		36	39	22.52	22.61	22.57	23.00
		75	0	22.53	22.57	22.49	23.00
	16QAM	1	0	22.36	22.47	22.50	23.00
		1	38	22.78	22.86	22.82	23.00
		1	74	22.58	22.66	22.58	23.00
		36	0	21.43	21.55	21.50	22.00
		36	18	21.61	21.65	21.58	22.00
		36	39	21.58	21.56	21.56	22.00
		75	0	21.46	21.61	21.51	22.00
	64QAM	1	0	21.47	21.49	21.45	22.00
		1	38	21.78	21.77	21.77	22.00
		1	74	21.40	21.50	21.50	22.00
		36	0	20.51	20.57	20.48	21.00
		36	18	20.49	20.59	20.58	21.00
		36	39	20.52	20.67	20.54	21.00
		75	0	20.57	20.65	20.57	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20050	20175	20300	
20MHz	QPSK	1	0	23.17	23.25	23.21	24.00
		1	50	23.53	23.68	23.66	24.00
		1	99	23.39	23.49	23.46	24.00
		50	0	22.63	22.66	22.63	23.00
		50	25	22.68	22.71	22.62	23.00
		50	50	22.58	22.67	22.63	23.00
		100	0	22.56	22.63	22.54	23.00
	16QAM	1	0	22.45	22.55	22.53	23.00
		1	50	22.84	22.93	22.91	23.00
		1	99	22.66	22.75	22.66	23.00
		50	0	21.51	21.59	21.54	22.00
		50	25	21.66	21.68	21.65	22.00
		50	50	21.64	21.66	21.63	22.00
		100	0	21.55	21.63	21.57	22.00
	64QAM	1	0	21.53	21.58	21.51	22.00
		1	50	21.81	21.86	21.84	22.00
		1	99	21.50	21.59	21.57	22.00
		50	0	20.53	20.61	20.57	21.00
		50	25	20.56	20.64	20.61	21.00
		50	50	20.61	20.70	20.63	21.00
		100	0	20.66	20.68	20.60	21.00

LTE Band 5				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20407	20525	20643	
1.4MHz	QPSK	1	0	21.46	22.03	21.60	22.50
		1	2	21.91	21.70	22.08	22.50
		1	5	21.89	21.71	21.74	22.50
		3	0	21.73	21.79	21.60	22.50
		3	2	21.81	21.73	21.86	22.50
		3	3	21.83	21.71	21.71	22.50
	16QAM	6	0	20.88	20.75	20.97	21.50
		1	0	21.15	20.95	21.25	21.50
		1	2	20.98	20.78	21.13	21.50
		1	5	21.16	20.96	21.24	21.50
		3	0	21.18	20.96	21.17	21.50
		3	2	20.97	20.83	21.11	21.50
	64QAM	3	3	21.01	20.99	20.97	21.50
		6	0	20.03	19.84	20.10	20.50
		1	0	20.14	20.03	20.33	20.50
		1	2	20.06	19.87	20.12	20.50
		1	5	20.03	19.92	20.15	20.50
		3	0	20.19	20.03	20.18	20.50
3MHz	QPSK	3	2	20.09	19.87	20.15	20.50
		3	3	20.05	19.92	20.16	20.50
		6	0	18.96	18.84	19.00	19.50
	16QAM	1	0	21.51	21.96	21.61	22.50
		1	7	21.92	21.69	22.07	22.50
		1	14	21.91	21.69	21.73	22.50
	64QAM	8	0	20.85	20.73	20.91	21.50
		8	4	20.75	20.54	20.82	21.50
		8	7	20.86	20.75	21.00	21.50
	16QAM	15	0	20.86	20.79	20.94	21.50
		1	0	21.17	20.98	21.25	21.50
		1	7	20.95	20.83	21.11	21.50
		1	14	21.14	21.03	21.25	21.50
		8	0	20.05	19.91	20.13	20.50
	64QAM	8	4	19.79	19.71	19.94	20.50
		8	7	19.89	19.76	20.03	20.50
		15	0	19.97	19.80	20.04	20.50
	16QAM	1	0	20.22	20.09	20.33	20.50
		1	7	20.04	19.89	20.14	20.50
		1	14	20.03	19.88	20.20	20.50
		8	0	19.04	18.90	19.14	19.50
		8	4	18.84	18.72	18.94	19.50
		8	7	18.86	18.72	18.94	19.50
		15	0	18.97	18.80	19.05	19.50
5MHz	QPSK	1	0	21.46	22.03	21.66	22.50
		1	13	21.93	21.67	22.01	22.50
		1	24	21.86	21.65	21.74	22.50
		12	0	20.86	20.67	20.94	21.50
		12	6	20.68	20.58	20.78	21.50
		12	13	20.93	20.72	21.01	21.50
	16QAM	25	0	20.82	20.79	20.97	21.50
		1	0	21.15	21.01	21.19	21.50
		1	13	21.01	20.80	21.06	21.50
		1	24	21.10	20.95	21.29	21.50
		12	0	20.03	19.90	20.18	20.50
		12	6	19.80	19.71	19.90	20.50
	64QAM	12	13	19.87	19.80	20.06	20.50
		25	0	20.02	19.86	20.09	20.50
		1	0	20.20	20.06	20.36	20.50
		1	13	20.03	19.94	20.08	20.50
		1	24	20.06	19.87	20.21	20.50
		12	0	19.06	18.94	19.10	19.50
10MHz	QPSK	12	6	18.89	18.66	18.99	19.50
		12	13	18.88	18.79	18.97	19.50
		25	0	18.98	18.82	19.07	19.50
	16QAM	1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50
		1	0	20.45	20.25	20.50	21.50
		1	13	20.45	20.25	20.50	21.50
		1	24	20.45	20.25	20.50	21.50
	64QAM	12	0	20.45	20.25	20.50	21.50
		12	6	20.45	20.25	20.50	21.50
		12	13	20.45	20.25	20.50	21.50
	16QAM	25	0	20.45	20.25	20.50	21.50

		1	25	21.96	21.77	22.11	22.50
		1	49	21.93	21.73	21.78	22.50
		25	0	20.90	20.77	20.97	21.50
		25	13	20.78	20.64	20.88	21.50
		25	25	20.95	20.80	21.03	21.50
		50	0	20.91	20.81	21.02	21.50
	16QAM	1	0	21.20	21.03	21.27	21.50
		1	25	21.04	20.88	21.15	21.50
		1	49	21.18	21.05	21.31	21.50
		25	0	20.10	19.96	20.20	20.50
		25	13	19.88	19.78	20.00	20.50
		25	25	19.95	19.83	20.08	20.50
	64QAM	50	0	20.07	19.89	20.13	20.50
		1	0	20.24	20.11	20.40	20.50
		1	25	20.11	19.96	20.17	20.50
		1	49	20.10	19.97	20.23	20.50
		25	0	19.14	18.96	19.18	19.50
		25	13	18.92	18.74	19.02	19.50
		25	25	18.92	18.82	19.04	19.50
		50	0	19.06	18.89	19.10	19.50

LTE Band 12				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23017	23095	23173	
1.4MHz	QPSK	1	0	21.42	21.42	21.40	22.50
		1	2	21.58	21.67	21.64	22.50
		1	5	21.50	21.50	21.44	22.50
		3	0	21.49	21.43	21.42	22.50
		3	2	21.58	21.57	21.58	22.50
		3	3	21.52	21.47	21.45	22.50
	16QAM	6	0	20.62	20.72	20.65	21.50
		1	0	20.60	20.72	20.70	21.50
		1	2	20.73	20.84	20.84	21.50
		1	5	20.75	20.83	20.76	21.50
		3	0	20.67	20.69	20.67	21.50
		3	2	20.71	20.80	20.80	21.50
	64QAM	3	3	20.81	20.80	20.76	21.50
		6	0	19.60	19.73	19.69	20.50
		1	0	19.63	19.68	19.54	20.50
		1	2	19.64	19.73	19.65	20.50
		1	5	19.58	19.61	19.52	20.50
		3	0	19.61	19.63	19.58	20.50
3MHz	QPSK	3	2	19.71	19.71	19.72	20.50
		3	3	19.54	19.64	19.59	20.50
		6	0	18.74	18.84	18.81	19.50
	16QAM	1	0	21.50	21.45	21.46	22.50
		1	7	21.54	21.65	21.60	22.50
		1	14	21.46	21.52	21.45	22.50
	64QAM	8	0	20.59	20.64	20.52	21.50
		8	4	20.61	20.56	20.56	21.50
		8	7	20.57	20.66	20.60	21.50
	QPSK	15	0	20.68	20.69	20.69	21.50
		1	0	20.60	20.74	20.67	21.50
		1	7	20.71	20.87	20.84	21.50
		1	14	20.75	20.85	20.78	21.50
	16QAM	8	0	19.58	19.69	19.67	20.50
		8	4	19.53	19.62	19.53	20.50
		8	7	19.54	19.67	19.56	20.50
	64QAM	15	0	19.61	19.73	19.62	20.50
		1	0	19.65	19.70	19.61	20.50
		1	7	19.65	19.75	19.70	20.50
		1	14	19.54	19.67	19.59	20.50
	QPSK	8	0	18.77	18.84	18.71	19.50
		8	4	18.61	18.61	18.61	19.50
		8	7	18.72	18.74	18.65	19.50
		15	0	18.75	18.83	18.80	19.50
5MHz	QPSK	1	0	21.43	21.41	21.47	22.50
		1	13	21.59	21.68	21.58	22.50
		1	24	21.46	21.50	21.41	22.50
		12	0	20.54	20.69	20.60	21.50

		12	6	20.55	20.64	20.57	21.50
		12	13	20.62	20.62	20.63	21.50
		25	0	20.61	20.67	20.63	21.50
	16QAM	1	0	20.68	20.70	20.66	21.50
		1	13	20.77	20.80	20.83	21.50
		1	24	20.83	20.85	20.78	21.50
		12	0	19.63	19.75	19.65	20.50
		12	6	19.55	19.58	19.53	20.50
		12	13	19.51	19.61	19.53	20.50
		25	0	19.64	19.68	19.67	20.50
	64QAM	1	0	19.65	19.63	19.61	20.50
		1	13	19.63	19.71	19.65	20.50
		1	24	19.59	19.60	19.53	20.50
		12	0	18.77	18.83	18.75	19.50
		12	6	18.57	18.63	18.62	19.50
		12	13	18.78	18.80	18.66	19.50
		25	0	18.74	18.82	18.77	19.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23060	23095	23130	
10MHz	QPSK	1	0	21.52	21.51	21.50	22.50
		1	25	21.63	21.75	21.66	22.50
		1	49	21.55	21.56	21.51	22.50
		25	0	20.63	20.71	20.62	21.50
		25	13	20.63	20.66	20.59	21.50
		25	25	20.64	20.70	20.67	21.50
		50	0	20.71	20.76	20.73	21.50
	16QAM	1	0	20.70	20.79	20.76	21.50
		1	25	20.80	20.89	20.87	21.50
		1	49	20.85	20.88	20.81	21.50
		25	0	19.67	19.77	19.73	20.50
		25	13	19.58	19.66	19.58	20.50
		25	25	19.61	19.71	19.61	20.50
		50	0	19.70	19.77	19.71	20.50
	64QAM	1	0	19.67	19.72	19.63	20.50
		1	25	19.73	19.78	19.74	20.50
		1	49	19.61	19.70	19.62	20.50
		25	0	18.87	18.89	18.81	19.50
		25	13	18.65	18.71	18.65	19.50
		25	25	18.81	18.83	18.73	19.50
		50	0	18.78	18.88	18.83	19.50

LTE Band 17				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23755	23790	23825	
5MHz	QPSK	1	0	21.50	21.64	21.49	22.50
		1	13	21.63	21.65	21.59	22.50
		1	24	21.44	21.46	21.48	22.50
		12	0	20.61	20.67	20.63	21.50
		12	6	20.55	20.53	20.58	21.50
		12	13	20.48	20.56	20.44	21.50
		25	0	20.66	20.67	20.59	21.50
	16QAM	1	0	20.66	20.75	20.68	21.50
		1	13	20.71	20.78	20.71	21.50
		1	24	20.69	20.77	20.65	21.50
		12	0	19.63	19.73	19.64	20.50
		12	6	19.57	19.62	19.58	20.50
		12	13	19.49	19.58	19.51	20.50
		25	0	19.50	19.59	19.55	20.50
	64QAM	1	0	19.65	19.68	19.63	20.50
		1	13	19.59	19.68	19.65	20.50
		1	24	19.44	19.52	19.54	20.50
		12	0	18.52	18.59	18.61	19.50
		12	6	18.61	18.65	18.61	19.50
		12	13	18.53	18.62	18.58	19.50
		25	0	18.60	18.66	18.65	19.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23780	23790	23800	
10MHz	QPSK	1	0	21.55	21.66	21.56	22.50
		1	25	21.72	21.68	21.65	22.50
		1	49	21.53	21.55	21.58	22.50
		25	0	20.67	20.70	20.68	21.50
		25	13	20.59	20.63	20.61	21.50
		25	25	20.50	20.60	20.50	21.50
		50	0	20.69	20.71	20.66	21.50

	16QAM	1	0	20.72	20.81	20.75	21.50
		1	25	20.78	20.86	20.81	21.50
		1	49	20.75	20.79	20.70	21.50
		25	0	19.70	19.75	19.72	20.50
		25	13	19.59	19.66	19.60	20.50
		25	25	19.55	19.65	19.60	20.50
		50	0	19.60	19.62	19.58	20.50
	64QAM	1	0	19.70	19.73	19.71	20.50
		1	25	19.65	19.71	19.67	20.50
		1	49	19.54	19.62	19.60	20.50
		25	0	18.56	18.66	18.64	19.50
		25	13	18.68	18.71	18.68	19.50
		25	25	18.63	18.66	18.64	19.50
		50	0	18.68	18.73	18.70	19.50

LTE Band 30				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				27685	27710	27735	
5MHz	QPSK	1	0	19.61	19.58	19.65	21.00
		1	13	19.77	19.76	19.71	21.00
		1	24	19.53	19.58	19.55	21.00
		12	0	18.58	18.63	18.58	20.00
		12	6	18.62	18.62	18.64	20.00
		12	13	18.55	18.53	18.53	20.00
		25	0	18.56	18.59	18.57	20.00
	16QAM	1	0	18.90	18.83	18.91	20.00
		1	13	18.95	18.90	18.93	20.00
		1	24	18.82	18.83	18.86	20.00
		12	0	17.63	17.67	17.59	19.00
		12	6	17.64	17.70	17.70	19.00
		12	13	17.59	17.53	17.57	19.00
		25	0	17.56	17.62	17.59	19.00
	64QAM	1	0	17.87	17.87	17.86	19.00
		1	13	17.85	17.92	17.90	19.00
		1	24	17.78	17.83	17.83	19.00
		12	0	16.52	16.51	16.50	18.00
		12	6	16.66	16.66	16.60	18.00
		12	13	16.58	16.57	16.52	18.00
		25	0	16.61	16.62	16.61	18.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
10MHz	QPSK	1	0	/	27710	/	21.00
		1	25	/	19.68	/	21.00
		1	49	/	19.79	/	21.00
		25	0	/	19.62	/	21.00
		25	13	/	18.68	/	20.00
		25	25	/	18.71	/	20.00
		50	0	/	18.57	/	20.00
	16QAM	1	0	/	18.62	/	20.00
		1	0	/	18.93	/	20.00
		1	25	/	18.99	/	20.00
		1	49	/	18.91	/	20.00
		25	0	/	17.69	/	19.00
		25	13	/	17.74	/	19.00
		25	25	/	17.61	/	19.00
	64QAM	50	0	/	17.64	/	19.00
		1	0	/	17.95	/	19.00
		1	25	/	17.94	/	19.00
		1	49	/	17.87	/	19.00
		25	0	/	16.57	/	18.00
		25	13	/	16.68	/	18.00
		25	25	/	16.60	/	18.00
		50	0	/	16.64	/	18.00

LTE Band 66				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				131979	132322	132665	
1.4MHz	QPSK	1	0	22.67	22.78	22.85	24.00
		1	2	23.05	23.12	23.27	24.00
		1	5	23.00	23.01	23.15	24.00
		3	0	21.97	22.05	22.07	23.00
		3	2	22.03	22.09	22.11	23.00
		3	3	22.04	22.05	22.10	23.00
		6	0	21.91	22.02	21.91	23.00

	16QAM	1	0	21.94	22.04	21.95	23.00
		1	2	22.31	22.38	22.33	23.00
		1	5	22.13	22.14	22.14	23.00
		3	0	21.04	21.13	21.03	22.00
		3	2	21.06	21.04	21.04	22.00
		3	3	21.02	21.01	20.97	22.00
		6	0	21.01	21.02	20.97	22.00
	64QAM	1	0	20.90	20.98	20.92	22.00
		1	2	21.19	21.31	21.29	22.00
		1	5	20.90	20.96	20.90	22.00
		3	0	20.06	20.14	20.14	21.00
		3	2	20.11	20.13	20.01	21.00
		3	3	20.07	20.14	20.05	21.00
		6	0	20.06	20.04	19.99	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
3MHz	QPSK	1	0	131987	132322	132657	24.00
		1	7	22.68	22.80	22.88	24.00
		1	14	23.06	23.16	23.28	24.00
		8	0	22.95	22.99	23.12	24.00
		8	4	21.99	22.08	22.08	23.00
		8	7	22.09	22.11	22.19	23.00
	16QAM	8	0	22.00	22.07	22.02	23.00
		15	0	21.92	22.01	21.98	23.00
		1	0	21.90	21.97	21.96	23.00
		1	7	22.29	22.36	22.29	23.00
		1	14	22.11	22.16	22.15	23.00
		8	0	21.08	21.11	21.05	22.00
	64QAM	8	4	21.00	21.06	21.03	22.00
		8	7	20.98	21.00	21.00	22.00
		15	0	21.00	21.03	20.90	22.00
		1	0	20.93	20.97	20.85	22.00
		1	7	21.26	21.35	21.26	22.00
		1	14	20.96	20.98	20.90	22.00
5MHz	QPSK	8	0	20.02	20.15	20.09	21.00
		8	4	20.09	20.07	20.08	21.00
		8	7	20.11	20.13	20.02	21.00
		15	0	20.07	20.04	20.02	21.00
	16QAM	1	0	22.64	22.81	22.90	24.00
		1	13	23.09	23.13	23.32	24.00
		1	24	22.99	22.99	23.11	24.00
		12	0	21.93	22.07	22.08	23.00
		12	6	22.05	22.09	22.18	23.00
		12	13	22.00	22.05	22.04	23.00
	64QAM	25	0	21.96	22.02	21.95	23.00
		1	0	21.93	22.01	21.97	23.00
		1	13	22.25	22.40	22.29	23.00
		1	24	22.13	22.12	22.09	23.00
		12	0	21.05	21.09	21.01	22.00
		12	6	21.00	21.05	21.03	22.00
10MHz	QPSK	12	13	21.00	21.05	21.01	22.00
		25	0	21.01	21.05	20.97	22.00
		1	0	20.92	20.93	20.87	22.00
		1	13	21.21	21.33	21.30	22.00
		1	24	20.97	21.04	20.94	22.00
		12	0	20.09	20.16	20.10	21.00
	16QAM	12	6	20.09	20.09	20.06	21.00
		12	13	20.11	20.14	20.01	21.00
		25	0	20.06	20.12	20.01	21.00
		1	0	21.96	22.03	21.94	23.00
		1	25	22.26	22.36	22.31	23.00
		1	49	22.14	22.17	22.07	23.00
	QPSK	25	0	21.10	21.09	21.02	22.00
		25	13	21.03	21.07	21.00	22.00
		25	25	20.96	21.02	21.05	22.00
	16QAM	1	0	22.64	22.73	22.93	24.00
		1	25	23.08	23.17	23.28	24.00
		1	49	22.95	22.98	23.08	24.00
		25	0	21.94	22.02	22.11	23.00
		25	13	22.09	22.09	22.13	23.00
		25	25	21.99	22.09	22.02	23.00
		50	0	21.97	22.01	21.93	23.00
		1	0	21.96	22.03	21.94	23.00
		1	25	22.26	22.36	22.31	23.00
		1	49	22.14	22.17	22.07	23.00
		25	0	21.10	21.09	21.02	22.00
		25	13	21.03	21.07	21.00	22.00
		25	25	20.96	21.02	21.05	22.00

	64QAM	50	0	21.04	21.01	20.93	22.00
		1	0	20.87	20.98	20.87	22.00
		1	25	21.27	21.29	21.29	22.00
		1	49	20.94	20.97	20.97	22.00
		25	0	20.09	20.10	20.13	21.00
		25	13	20.05	20.12	20.00	21.00
		25	25	20.05	20.14	20.05	21.00
		50	0	20.02	20.05	20.03	21.00
Bandwidth	Modulation	RB size	RB offset	Channel 132047	Channel 132322	Channel 132597	Tune up
15MHz	QPSK	1	0	22.67	22.75	22.91	24.00
		1	38	23.01	23.14	23.33	24.00
		1	74	23.00	23.03	23.14	24.00
		36	0	21.95	22.03	22.11	23.00
		36	18	22.09	22.07	22.14	23.00
		36	39	22.03	22.05	22.10	23.00
		75	0	21.91	22.04	21.93	23.00
		75	0	21.91	22.04	21.93	23.00
	16QAM	1	0	21.89	21.96	21.95	23.00
		1	38	22.27	22.41	22.29	23.00
		1	74	22.17	22.17	22.13	23.00
		36	0	21.09	21.07	21.02	22.00
		36	18	21.08	21.06	21.03	22.00
		36	39	21.03	21.08	21.04	22.00
		75	0	21.02	20.98	20.96	22.00
		75	0	21.02	20.98	20.96	22.00
	64QAM	1	0	20.88	20.94	20.93	22.00
		1	38	21.25	21.34	21.34	22.00
		1	74	20.94	21.03	20.91	22.00
		36	0	20.05	20.16	20.09	21.00
		36	18	20.10	20.13	20.04	21.00
		36	39	20.06	20.12	20.01	21.00
		75	0	20.07	20.09	19.99	21.00
		75	0	20.07	20.09	19.99	21.00
Bandwidth	Modulation	RB size	RB offset	Channel 132072	Channel 132322	Channel 132572	Tune up
20MHz	QPSK	1	0	22.74	22.83	22.95	24.00
		1	50	23.11	23.22	23.37	24.00
		1	99	23.02	23.06	23.18	24.00
		50	0	22.02	22.12	22.17	23.00
		50	25	22.13	22.15	22.21	23.00
		50	50	22.06	22.14	22.12	23.00
		100	0	22.00	22.10	22.00	23.00
		100	0	22.00	22.10	22.00	23.00
	16QAM	1	0	21.99	22.06	22.02	23.00
		1	50	22.34	22.44	22.37	23.00
		1	99	22.19	22.21	22.17	23.00
		50	0	21.12	21.16	21.10	22.00
		50	25	21.10	21.14	21.07	22.00
		50	50	21.06	21.10	21.07	22.00
		100	0	21.06	21.08	20.99	22.00
		100	0	21.06	21.08	20.99	22.00
	64QAM	1	0	20.96	21.03	20.95	22.00
		1	50	21.29	21.39	21.36	22.00
		1	99	20.99	21.06	21.00	22.00
		50	0	20.11	20.20	20.18	21.00
		50	25	20.15	20.17	20.10	21.00
		50	50	20.15	20.18	20.10	21.00
		100	0	20.10	20.14	20.05	21.00
		100	0	20.10	20.14	20.05	21.00

LTE Band 71				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 133147	Channel 133297	Channel 133447	Tune up
5MHz	QPSK	1	0	21.17	21.10	21.03	22.50
		1	13	21.60	21.37	21.38	22.50
		1	24	21.04	20.96	21.03	22.50
		12	0	20.38	20.28	20.30	21.50
		12	6	20.43	20.31	20.30	21.50
		12	13	20.37	20.26	20.12	21.50
		25	0	20.28	20.21	20.19	21.50
		25	0	20.28	20.21	20.19	21.50
	16QAM	1	0	20.39	20.24	20.14	21.50
		1	13	20.76	20.61	20.52	21.50
		1	24	20.50	20.31	20.27	21.50
		12	0	19.47	19.32	19.20	20.50
		12	6	19.51	19.39	19.35	20.50
		12	13	19.47	19.32	19.19	20.50
		25	0	19.42	19.29	19.22	20.50
		25	0	19.42	19.29	19.22	20.50
	64QAM	1	0	19.36	19.25	19.12	20.50
		1	13	19.69	19.61	19.50	20.50

		1	24	19.40	19.30	19.21	20.50
		12	0	18.49	18.32	18.26	19.50
		12	6	18.44	18.33	18.25	19.50
		12	13	18.54	18.43	18.32	19.50
		25	0	18.48	18.39	18.28	19.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				133172	133297	133422	
10MHz	QPSK	1	0	21.14	21.07	20.99	22.50
		1	25	21.59	21.42	21.41	22.50
		1	49	21.05	20.99	21.02	22.50
		25	0	20.36	20.27	20.25	21.50
		25	13	20.42	20.28	20.35	21.50
		25	25	20.36	20.28	20.20	21.50
		50	0	20.31	20.21	20.12	21.50
	16QAM	1	0	20.38	20.30	20.15	21.50
		1	25	20.75	20.64	20.57	21.50
		1	49	20.47	20.36	20.32	21.50
		25	0	19.47	19.35	19.23	20.50
		25	13	19.49	19.36	19.34	20.50
		25	25	19.44	19.31	19.24	20.50
		50	0	19.43	19.32	19.23	20.50
	64QAM	1	0	19.37	19.30	19.16	20.50
		1	25	19.63	19.57	19.50	20.50
		1	49	19.44	19.31	19.21	20.50
		25	0	18.51	18.33	18.26	19.50
		25	13	18.43	18.32	18.26	19.50
		25	25	18.55	18.42	18.32	19.50
		50	0	18.49	18.37	18.25	19.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				133197	133297	133397	
15MHz	QPSK	1	0	21.11	21.10	21.01	22.50
		1	38	21.56	21.42	21.45	22.50
		1	74	21.09	21.00	20.96	22.50
		36	0	20.41	20.27	20.26	21.50
		36	18	20.46	20.27	20.35	21.50
		36	39	20.34	20.23	20.20	21.50
		75	0	20.35	20.20	20.17	21.50
	16QAM	1	0	20.38	20.30	20.22	21.50
		1	38	20.71	20.56	20.52	21.50
		1	74	20.44	20.33	20.30	21.50
		36	0	19.44	19.28	19.18	20.50
		36	18	19.54	19.38	19.33	20.50
		36	39	19.50	19.32	19.26	20.50
		75	0	19.41	19.26	19.16	20.50
	64QAM	1	0	19.33	19.25	19.17	20.50
		1	38	19.65	19.58	19.50	20.50
		1	74	19.39	19.33	19.19	20.50
		36	0	18.48	18.35	18.20	19.50
		36	18	18.45	18.33	18.24	19.50
		36	39	18.55	18.45	18.32	19.50
		75	0	18.52	18.35	18.23	19.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				133222	133322	133372	
20MHz	QPSK	1	0	21.21	21.14	21.09	22.50
		1	50	21.66	21.44	21.48	22.50
		1	99	21.13	21.06	21.06	22.50
		50	0	20.45	20.31	20.34	21.50
		50	25	20.52	20.35	20.38	21.50
		50	50	20.41	20.31	20.22	21.50
		100	0	20.38	20.29	20.22	21.50
	16QAM	1	0	20.43	20.32	20.24	21.50
		1	50	20.81	20.66	20.60	21.50
		1	99	20.53	20.41	20.34	21.50
		50	0	19.50	19.37	19.28	20.50
		50	25	19.56	19.44	19.39	20.50
		50	50	19.54	19.39	19.29	20.50
		100	0	19.46	19.34	19.25	20.50
	64QAM	1	0	19.40	19.32	19.22	20.50
		1	50	19.73	19.65	19.60	20.50
		1	99	19.48	19.38	19.28	20.50
		50	0	18.54	18.39	18.29	19.50
		50	25	18.50	18.42	18.33	19.50
		50	50	18.62	18.47	18.40	19.50
		100	0	18.54	18.43	18.33	19.50

test item	test mode	test channel	Power setting	Average Power (dBm)	Tune up (dBm)
WIFI 2.4G	11b	2412	15.0	14.92	15.5
		2437		14.83	15.5
		2462		14.67	15.5
	11g	2412	17.5	17.06	17.5
		2437		17.16	17.5
		2462		17.11	17.5
	11n20	2412	17.5	17.13	17.5
		2437		17.14	17.5
		2462		17.08	17.5
	11n40	2422	14	13.75	14.5
		2437		13.82	14.5
		2452		13.95	14.5

TYPE	test item	test mode	Test channel	Power setting	Average Power (dBm)	Tune up (dBm)
WIFI 5G U-NII-1	Power	11a	5180	11.0	6.31	7.0
			5200		6.27	7.0
			5240		6.20	7.0
		11n20	5180	11.0	6.12	6.5
			5200		5.97	6.5
			5240		5.95	6.5
		11n40	5190	11.0	6.13	6.5
			5230		5.97	6.5
		11ac20	5180	11.0	6.03	6.5
			5200		6.13	6.5
			5240		6.01	6.5
		11ac40	5190	11.0	6.12	6.5
			5230		6.11	6.5
		11ac80	5210	11.0	6.06	6.5
TYPE	test item	test mode	test channel	Power setting	Average Power (dBm)	Tune up (dBm)
WIFI 5G U-NII-3	Power	11a	5745	14.0	10.93	11.5
			5785		10.92	11.5
			5825		10.80	11.5
		11n20	5745	14.0	10.74	11.0
			5785		10.75	11.0
			5825		10.53	11.0
		11n40	5755	14.0	10.73	11.0
			5795		10.75	11.0
		11ac20	5745	14.0	10.72	11.0
			5785		10.76	11.0
			5825		10.53	11.0
		11ac40	5755	14.0	10.80	11.0
			5795		10.83	11.0
		11ac80	5775	14.0	10.78	11.0

test item	test mode	test channel	Average Power (dBm)	Tune up (dBm)
BT	DH5	2402	11.59	12.0
		2441	11.51	12.0
		2480	10.98	12.0
	2DH5	2402	9.73	10.0
		2441	9.64	10.0
		2480	9.10	10.0
	3DH5	2402	9.73	10.0
		2441	9.74	10.0
		2480	9.09	10.0
BLE	1M	2402	-1.20	0.0
		2440	-1.14	0.0
		2480	-1.43	0.0
	2M	2402	-1.19	0.0
		2440	-1.13	0.0
		2480	-1.42	0.0

15 SAR Data Summary

General Notes:

- 1) The Highest Reported SAR Plot refer to Appendix B.
- 2) Per KDB 447498 D01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1g or 10g SAR for the mid-band or highest output power channel is:
 - $\leq 0.8\text{W/kg}$ for 1g or 2.0W/kg for 10g respectively, when the transmission band is $\leq 100\text{MHz}$.
 - $\leq 0.6\text{ W/kg}$ or 1.5 W/kg , for 1g or 10g respectively, when the transmission band is between 100 MHz and 200MHz.
 - $\leq 0.4\text{ W/kg}$ or 1.0 W/kg , for 1g or 10g respectively, when the transmission band is $\geq 200\text{MHz}$.

15.1 SAR Measurement Result of LTE Band 2

Test Results								
Test position	BW. (MHz)	Mode	Ch./Freq. (MHz)	SAR (W/kg) 1-g	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	Reported 1g SAR (W/kg)
Body 5mm 1RB								
Front side	20	QPSK 1_50	18700/1860	0.632	23.59	24.00	1.099	0.695
Back side	20	QPSK 1_50	18700/1860	0.364	23.59	24.00	1.099	0.400
Left side	20	QPSK 1_50	18700/1860	0.228	23.59	24.00	1.099	0.251
Right side	20	QPSK 1_50	18700/1860	0.531	23.59	24.00	1.099	0.584
Top side	20	QPSK 1_50	18700/1860	0.242	23.59	24.00	1.099	0.266
Bottom side	20	QPSK 1_50	18700/1860	0.048	23.59	24.00	1.099	0.053
Front side	20	QPSK 1_50	18900/1880	0.638	23.45	24.00	1.135	0.724
Front side	20	QPSK 1_50	19100/1900	0.722	23.15	24.00	1.216	0.878
Body 5mm 50%RB								
Front side	20	QPSK 50_25	18700/1860	0.517	22.48	23.00	1.127	0.583
Back side	20	QPSK 50_25	18700/1860	0.265	22.48	23.00	1.127	0.299
Left side	20	QPSK 50_25	18700/1860	0.158	22.48	23.00	1.127	0.178
Right side	20	QPSK 50_25	18700/1860	0.366	22.48	23.00	1.127	0.413
Top side	20	QPSK 50_25	18700/1860	0.185	22.48	23.00	1.127	0.209
Bottom side	20	QPSK 50_25	18700/1860	0.035	22.48	23.00	1.127	0.039
Body 5mm 100%RB								
Front side	20	QPSK 100_0	18900/1880	0.551	22.42	23.00	1.143	0.630

Table 3: SAR of LTE Band 2.

15.2 SAR Measurement Result of LTE Band 5

Test Results								
Test position	BW. (MHz)	Mode	Ch./Freq. (MHz)	SAR (W/kg) 1-g	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	Reported 1g SAR (W/kg)
Body 5mm 1RB								
Front side	10	QPSK 1_25	20600/844	0.651	22.11	22.50	1.094	0.712
Back side	10	QPSK 1_25	20600/844	0.639	22.11	22.50	1.094	0.699
Left side	10	QPSK 1_25	20600/844	0.445	22.11	22.50	1.094	0.487
Right side	10	QPSK 1_25	20600/844	0.528	22.11	22.50	1.094	0.578
Top side	10	QPSK 1_25	20600/844	0.322	22.11	22.50	1.094	0.352
Bottom side	10	QPSK 1_25	20600/844	0.018	22.11	22.50	1.094	0.020
Front side	10	QPSK 1_25	20450/829	0.345	21.96	22.50	1.132	0.391
Front side	10	QPSK 1_25	20525/836.5	0.573	21.77	22.50	1.183	0.678
Body 5mm 50%RB								
Front side	10	QPSK 25_25	20600/844	0.473	21.03	21.50	1.114	0.527
Back side	10	QPSK 25_25	20600/844	0.464	21.03	21.50	1.114	0.517
Left side	10	QPSK 25_25	20600/844	0.282	21.03	21.50	1.114	0.314
Right side	10	QPSK 25_25	20600/844	0.390	21.03	21.50	1.114	0.435
Top side	10	QPSK 25_25	20600/844	0.230	21.03	21.50	1.114	0.256
Bottom side	10	QPSK 25_25	20600/844	0.011	21.03	21.50	1.114	0.012

Table 4: SAR of LTE Band 5.

15.3 SAR Measurement Result of LTE Band 12

Test Results								
Test position	BW. (MHz)	Mode	Ch./Freq. (MHz)	SAR (W/kg) 1-g	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	Reported 1g SAR (W/kg)
Body 5mm 1RB								
Front side	10	QPSK 1_25	23095/707.5	0.102	21.75	22.50	1.189	0.121
Back side	10	QPSK 1_25	23095/707.5	0.100	21.75	22.50	1.189	0.119
Left side	10	QPSK 1_25	23095/707.5	0.058	21.75	22.50	1.189	0.069
Right side	10	QPSK 1_25	23095/707.5	0.083	21.75	22.50	1.189	0.099
Top side	10	QPSK 1_25	23095/707.5	0.086	21.75	22.50	1.189	0.102
Bottom side	10	QPSK 1_25	23095/707.5	0.008	21.75	22.50	1.189	0.010
Front side	10	QPSK 1_25	23060/704	0.095	21.63	22.50	1.222	0.116
Front side	10	QPSK 1_25	23130/711	0.223	21.66	22.50	1.213	0.271
Body 5mm 50%RB								
Front side	10	QPSK 25_0	23095/707.5	0.094	20.71	21.50	1.199	0.113
Back side	10	QPSK 25_0	23095/707.5	0.096	20.71	21.50	1.199	0.115
Left side	10	QPSK 25_0	23095/707.5	0.057	20.71	21.50	1.199	0.068
Right side	10	QPSK 25_0	23095/707.5	0.075	20.71	21.50	1.199	0.090
Top side	10	QPSK 25_0	23095/707.5	0.087	20.71	21.50	1.199	0.104
Bottom side	10	QPSK 25_0	23095/707.5	0.006	20.71	21.50	1.199	0.007

Table 5: SAR of LTE Band 12.

15.4 SAR Measurement Result of LTE Band 30

Test Results								
Test position	BW. (MHz)	Mode	Ch./Freq. (MHz)	SAR (W/kg) 1-g	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	Reported 1g SAR (W/kg)
Body 5mm 1RB								
Front side	10	QPSK 1_25	27710/2310	0.492	19.79	21.00	1.321	0.650
Back side	10	QPSK 1_25	27710/2310	0.489	19.79	21.00	1.321	0.646
Left side	10	QPSK 1_25	27710/2310	0.149	19.79	21.00	1.321	0.197
Right side	10	QPSK 1_25	27710/2310	0.557	19.79	21.00	1.321	0.736
Top side	10	QPSK 1_25	27710/2310	0.716	19.79	21.00	1.321	0.946
Bottom side	10	QPSK 1_25	27710/2310	0.019	19.79	21.00	1.321	0.025
Body 5mm 50%RB								
Front side	10	QPSK 25_13	27710/2310	0.417	18.71	20.00	1.346	0.561
Back side	10	QPSK 25_13	27710/2310	0.446	18.71	20.00	1.346	0.600
Left side	10	QPSK 25_13	27710/2310	0.142	18.71	20.00	1.346	0.191
Right side	10	QPSK 25_13	27710/2310	0.223	18.71	20.00	1.346	0.300
Top side	10	QPSK 25_13	27710/2310	0.736	18.71	20.00	1.346	0.991
Bottom side	10	QPSK 25_13	27710/2310	0.017	18.71	20.00	1.346	0.023
Body 5mm 100%RB								
Top side	10	QPSK 25_13	27710/2310	0.671	18.62	20.00	1.374	0.922

Table 6: SAR of LTE Band 30.

15.5 SAR Measurement Result of LTE Band 66

Test Results								
Test position	BW. (MHz)	Mode	Ch./Freq. (MHz)	SAR (W/kg) 1-g	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	Reported 1g SAR (W/kg)
Body 5mm 1RB								
Front side	20	QPSK 1_50	132572/1770	0.539	23.37	24.00	1.156	0.623
Back side	20	QPSK 1_50	132572/1770	0.310	23.37	24.00	1.156	0.358
Left side	20	QPSK 1_50	132572/1770	0.323	23.37	24.00	1.156	0.373
Right side	20	QPSK 1_50	132572/1770	0.485	23.37	24.00	1.156	0.561
Top side	20	QPSK 1_50	132572/1770	0.251	23.37	24.00	1.156	0.290
Bottom side	20	QPSK 1_50	132572/1770	0.036	23.37	24.00	1.156	0.042
Front side	20	QPSK 1_50	132072/1720	0.588	23.11	24.00	1.227	0.722
Front side	20	QPSK 1_50	132322/1745	0.582	23.22	24.00	1.197	0.697
Body 5mm 50%RB								
Front side	20	QPSK 50_25	132572/1770	0.444	22.21	23.00	1.199	0.533
Back side	20	QPSK 50_25	132572/1770	0.257	22.21	23.00	1.199	0.308
Left side	20	QPSK 50_25	132572/1770	0.242	22.21	23.00	1.199	0.290
Right side	20	QPSK 50_25	132572/1770	0.210	22.21	23.00	1.199	0.252
Top side	20	QPSK 50_25	132572/1770	0.202	22.21	23.00	1.199	0.242
Bottom side	20	QPSK 50_25	132572/1770	0.021	22.21	23.00	1.199	0.025

Table 7: SAR of LTE Band 66.

15.6 SAR Measurement Result of LTE Band 71

Test Results								
Test position	BW. (MHz)	Mode	Ch./Freq. (MHz)	SAR (W/kg) 1-g	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	Reported 1g SAR (W/kg)
Body 5mm 1RB								
Front side	20	QPSK 1_50	133222/673	0.097	21.66	22.50	1.213	0.118
Back side	20	QPSK 1_50	133222/673	0.094	21.66	22.50	1.213	0.114
Left side	20	QPSK 1_50	133222/673	0.054	21.66	22.50	1.213	0.066
Right side	20	QPSK 1_50	133222/673	0.074	21.66	22.50	1.213	0.090
Top side	20	QPSK 1_50	133222/673	0.088	21.66	22.50	1.213	0.107
Bottom side	20	QPSK 1_50	133222/673	0.023	21.66	22.50	1.213	0.028
Front side	20	QPSK 1_50	133322/683	0.125	21.44	22.50	1.276	0.160
Front side	20	QPSK 1_50	133372/688	0.129	21.48	22.50	1.265	0.163
Body 5mm 50%RB								
Front side	20	QPSK 50_25	133222/673	0.125	20.52	21.50	1.253	0.157
Back side	20	QPSK 50_25	133222/673	0.127	20.52	21.50	1.253	0.159
Left side	20	QPSK 50_25	133222/673	0.078	20.52	21.50	1.253	0.098
Right side	20	QPSK 50_25	133222/673	0.097	20.52	21.50	1.253	0.122
Top side	20	QPSK 50_25	133222/673	0.120	20.52	21.50	1.253	0.150
Bottom side	20	QPSK 50_25	133222/673	0.011	20.52	21.50	1.253	0.014

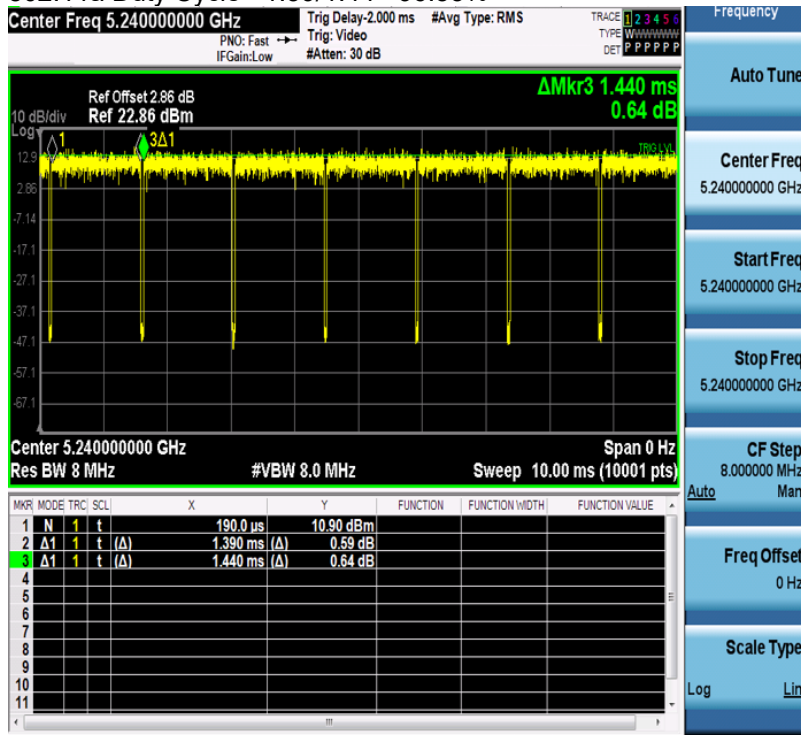
Table 8: SAR of LTE Band 71.

15.8 SAR Measurement Result of WIFI 5G

Test Results									
Test position	Mode	Ch./Freq. (MHz)	SAR (W/kg) 1g	Duty Cycle	Duty Cycle Scaling Factor	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	Reported 1g SAR (W/kg)
U-NII-1 Body 5mm									
Front side	802.11a	36/5180	0.080	96.53%	1.036	6.31	7.0	1.172	0.097
Back side	802.11a	36/5180	0.025	96.53%	1.036	6.31	7.0	1.172	0.030
Left side	802.11a	36/5180	0.010	96.53%	1.036	6.31	7.0	1.172	0.012
Right side	802.11a	36/5180	0.085	96.53%	1.036	6.31	7.0	1.172	0.103
Top side	802.11a	36/5180	0.009	96.53%	1.036	6.31	7.0	1.172	0.011
Bottom side	802.11a	36/5180	0.043	96.53%	1.036	6.31	7.0	1.172	0.052
Right side	802.11a	40/5200	0.083	96.53%	1.036	6.27	7.0	1.183	0.102
Right side	802.11a	48/5240	0.088	96.53%	1.036	6.20	7.0	1.202	0.110
U-NII-3 Body 5mm									
Front side	802.11a	149/5745	0.119	96.53%	1.036	10.93	11.5	1.140	0.141
Back side	802.11a	149/5745	0.125	96.53%	1.036	10.93	11.5	1.140	0.148
Left side	802.11a	149/5745	0.011	96.53%	1.036	10.93	11.5	1.140	0.013
Right side	802.11a	149/5745	0.092	96.53%	1.036	10.93	11.5	1.140	0.109
Top side	802.11a	149/5745	0.010	96.53%	1.036	10.93	11.5	1.140	0.012
Bottom side	802.11a	149/5745	0.127	96.53%	1.036	10.93	11.5	1.140	0.150
Bottom side	802.11a	157/5785	0.124	96.53%	1.036	10.92	11.5	1.143	0.147
Bottom side	802.11a	165/5825	0.130	96.53%	1.036	10.80	11.5	1.175	0.158

Table 10: SAR of WIFI 5G.

802.11a Duty Cycle= 1.39/1.44 =96.53%

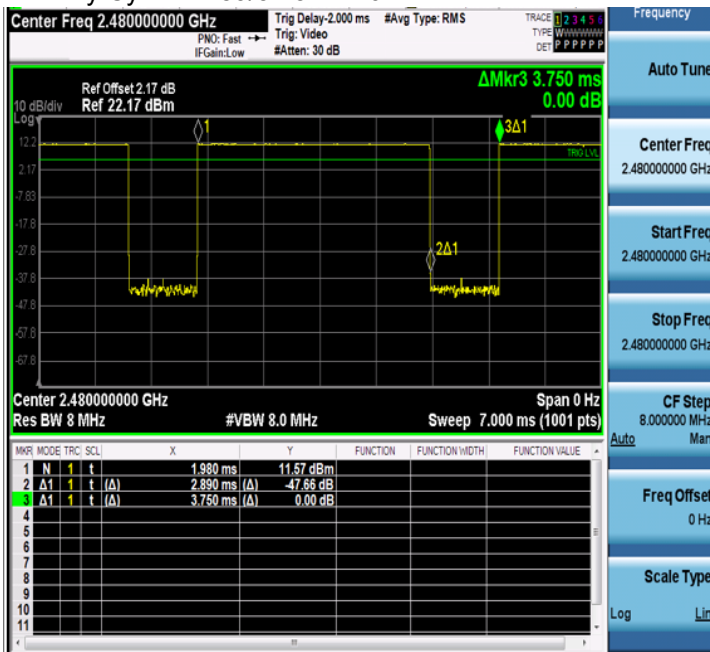


15.9 SAR Measurement Result of BT

Test Results									
Test position	Mode	Ch./Freq. (MHz)	SAR (W/kg) 1g	Duty Cycle	Duty Cycle Scaling Factor	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	Reported 1g SAR (W/kg)
Body 5mm									
Front side	DH5	0/2402	0.071	77.07%	1.000	11.59	12.00	1.098	0.078
Back side	DH5	0/2402	0.019	77.07%	1.000	11.59	12.00	1.098	0.021
Left side	DH5	0/2402	0.010	77.07%	1.000	11.59	12.00	1.098	0.011
Right side	DH5	0/2402	0.038	77.07%	1.000	11.59	12.00	1.098	0.042
Top side	DH5	0/2402	0.005	77.07%	1.000	11.59	12.00	1.098	0.005
Bottom side	DH5	0/2402	0.021	77.07%	1.000	11.59	12.00	1.098	0.023
Front side	DH5	39/2441	0.073	77.07%	1.000	11.51	12.00	1.121	0.082
Front side	DH5	78/2480	0.075	77.07%	1.000	10.98	12.00	1.265	0.095

Table 11: SAR of BT.

BT Duty Cycle= 2.89/3.75 =77.07%



16 Simultaneous Transmission Analysis

The Simultaneous Transmission Possibilities of this device are as below:

NO.	Simultaneous Tx Combination	Body
1	WWAN+WLAN 2.4GHz	Y
2	WWAN+WLAN 5GHz	Y
3	WWAN+ BT	Y
4	WWAN+WLAN 2.4GHz + BT	N
5	WWAN+WLAN 2.4GHz + WLAN 5GHz	N
6	WWAN+ WLAN 5GHz+ BT	N

Summed SAR Analysis:

Test position		SAR _{max} (W/kg)				Summed SAR		
		Main Ant	WiFi 2.4G	WiFi 5G	BT			
		1	2	3	4	1+2	1+3	1+4
LTE B2	Back side	0.878	0.514	0.141	0.095	1.392	1.019	0.973
	Left side	0.400	0.342	0.148	0.021	0.742	0.548	0.421
	Right side	0.251	0.056	0.013	0.011	0.307	0.264	0.262
	Top side	0.584	0.279	0.110	0.042	0.863	0.694	0.626
	Bottom side	0.266	0.056	0.012	0.005	0.322	0.278	0.271
LTE B5	Back side	0.712	0.514	0.141	0.095	1.226	0.853	0.807
	Left side	0.699	0.342	0.148	0.021	1.041	0.847	0.720
	Right side	0.487	0.056	0.013	0.011	0.543	0.500	0.498
	Top side	0.578	0.279	0.110	0.042	0.857	0.688	0.620
	Bottom side	0.352	0.056	0.012	0.005	0.408	0.364	0.357
LTE B12/17	Back side	0.271	0.514	0.141	0.095	0.785	0.412	0.366
	Left side	0.119	0.342	0.148	0.021	0.461	0.267	0.140
	Right side	0.069	0.056	0.013	0.011	0.125	0.082	0.080
	Top side	0.099	0.279	0.110	0.042	0.378	0.209	0.141
	Bottom side	0.104	0.056	0.012	0.005	0.160	0.116	0.109
LTE B30	Back side	0.650	0.514	0.141	0.095	1.164	0.791	0.745
	Left side	0.646	0.342	0.148	0.021	0.988	0.794	0.667
	Right side	0.197	0.056	0.013	0.011	0.253	0.210	0.208
	Top side	0.736	0.279	0.110	0.042	1.015	0.846	0.778
	Bottom side	0.991	0.056	0.012	0.005	1.047	1.003	0.996
LTE B66/4	Back side	0.722	0.514	0.141	0.095	1.236	0.863	0.817
	Left side	0.358	0.342	0.148	0.021	0.700	0.506	0.379
	Right side	0.373	0.056	0.013	0.011	0.429	0.386	0.384
	Top side	0.561	0.279	0.110	0.042	0.840	0.671	0.603
	Bottom side	0.290	0.056	0.012	0.005	0.346	0.302	0.295
LTE B71	Back side	0.163	0.514	0.141	0.095	0.677	0.304	0.258
	Left side	0.159	0.342	0.148	0.021	0.501	0.307	0.180
	Right side	0.098	0.056	0.013	0.011	0.154	0.111	0.109
	Top side	0.122	0.279	0.110	0.042	0.401	0.232	0.164
	Bottom side	0.150	0.056	0.012	0.005	0.206	0.162	0.155

17 Measurement Uncertainty

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

18 Calibration Certificate

Please see the Appendix C

19 Test Setup Photos

Please see the Appendix D

Appendix A: System Check Plots

Appendix B: SAR Test Plots

Appendix C: Calibration certificate

Appendix D: Test Setup Photos

--- The End ---
