

# TEST REPORT

**Applicant:** Blackshark Technologies (Nanchang) Co., Ltd.  
**Address:** Room 815-1, 8th floor, Block A, Huajiang Building,  
No.1 Tsinghua Science Park, Nanchang City, China  
**Equipment Type:** 5G Digital Mobile Phone  
**Model Name:** SHARK PAR-H0  
**Brand Name:** BLACK SHARK  
**FCC ID:** 2A2ZHPAR-H0  
**Test Standard:** FCC 47 CFR Part 2.1093  
(refer section 3.1)  
**Maximum SAR:** Head (1 g): 1.10 W/kg  
Body (1 g): 0.32 W/kg  
Hotspot (1 g): 0.88 W/kg  
Specific (10 g): 1.66 W/kg  
**Test Date:** Dec. 27, 2021 – Jan. 30, 2022  
**Date of Issue:** Mar. 14, 2022

## ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

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<b>Revision History</b>		
Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Mar. 14, 2022</u>	<u>Initial Issue</u>

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# 1 GENERAL INFORMATION

## 1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park Shahe Xi Road, Nanshan District Shenzhen, Guangdong Province, People's Republic of China
Phone Number	+86 755 6685 0100
Fax Number	+86 755 6182 4271

## 1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park Shahe Xi Road, Nanshan District Shenzhen, Guangdong Province, People's Republic of China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.
Description	All measurement facilities used to collect the measurement data are located at Block B, 1/F, Baisha Science and Technology Park Shahe Xi Road, Nanshan District Shenzhen, Guangdong Province, People's Republic of China

## 2 PRODUCT INFORMATION

### 2.1 Applicant Information

Applicant	Blackshark Technologies (Nanchang) Co., Ltd.
Address	Room 815-1, 8th floor, Block A, Huajiang Building, No.1 Tsinghua Science Park, Nanchang City, China

### 2.2 Manufacturer Information

Manufacturer	Blackshark Technologies (Nanchang) Co., Ltd.
Address	Room 815-1, 8th floor, Block A, Huajiang Building, No.1 Tsinghua Science Park, Nanchang City, China

### 2.3 Factory Information

Factory	N/A
Address	N/A

### 2.4 General Description for Equipment under Test (EUT)

EUT Name	5G Digital Mobile Phone
Model Name Under Test	SHARK PAR-H0
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

### 2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No.	BS10FA
	Serial No.	N/A
	Capacity	2240 mAh
	Rated Voltage	N/A
	Limit Charge Voltage	N/A
	Manufacturer	DongGuan Amperex Technology Limited

## 2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 EVDO Rel. 0/Rev. A Band Class 0 4G Network FDD LTE Band 2/4/5/7/12/17/26 TDD LTE Band 38/41 LTE CA Uplink (UL): CA_7C 5G Network SA: NR n5/n7/n41/n77/n78 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40), 802.11ax(HE20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) and 802.11ax(HE20/40/80) U-NII-1/2A/2C/3, GPS, GLONASS, Beidou, Galileo, NFC
<b>Note:</b> The EUT is a mobile phone, which supports dual SIM card under the same transceiver. Each SIM supports GSM, WCDMA, LTE and NR, and both SIM share the same transmitting electro circuit, NV parameters, so only SIM1 was tested in this report.	

The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	GSM, WCDMA, LTE, NR, 2.4G WLAN, 5G WLAN, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 26	TX: 814 ~ 849 MHz	RX: 859 ~ 894 MHz
	LTE Band 38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	LTE Band 41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	NR n5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	NR n7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	NR n41	TX: 2496 ~ 2690 MHz	RX: 2570 ~ 2620 MHz
	NR n77	TX: 3450 ~ 3550 MHz TX: 3700 ~ 3980 MHz	RX: 3450 ~ 3550 MHz RX: 3700 ~ 3980 MHz
	NR n78	TX: 3450 ~ 3550 MHz TX: 3700 ~ 3800 MHz	RX: 3450 ~ 3550 MHz RX: 3700 ~ 3800 MHz
802.11b/g	2412 ~ 2462 MHz		

	/n(HT20/HT40)	
	802.11 ax(HE20/HE40)	2412 ~ 2462 MHz
	802.11a	5150 ~ 5250 MHz
		5250 ~ 5350 MHz
		5470 ~ 5725 MHz
		5725 ~ 5850 MHz
	802.11n (HT20/HT40)	5150 ~ 5250 MHz
		5250 ~ 5350 MHz
		5470 ~ 5725 MHz
		5725 ~ 5850 MHz
	802.11 ac(VHT20/VHT40/VHT80)	5150 ~ 5250 MHz
		5250 ~ 5350 MHz
		5470 ~ 5725 MHz
		5725 ~ 5850 MHz
802.11 ax(HE20/HE40/HE80)	5150 ~ 5250 MHz	
	5250 ~ 5350 MHz	
	5470 ~ 5725 MHz	
	5725 ~ 5850 MHz	
Bluetooth	2402 ~ 2480 MHz	
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna	
DTM	N/A	
Hotspot Function	Support	
Power Reduction	Support	
Exposure Category	General Population/Uncontrolled exposure	
EUT Stage	Portable Device	
Product	Type	
	<input checked="" type="checkbox"/> Production unit	<input type="checkbox"/> Identical prototype
<p>Note:</p> <ol style="list-style-type: none"> <li>1. The device utilizes independent power reduction mechanisms for SAR compliance for the 2/3/4/5G transmitter for held-to-ear exposure conditions.</li> <li>2. The device utilizes independent power reduction mechanisms for SAR compliance for the 2/3/4/5G transmitter for near to body exposure conditions.</li> <li>3. The reduction power details please refer section 8.7.</li> </ol>		



### 3 SUMMARY OF TEST RESULT

#### 3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	ANSI C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
6	FCC KDB 941225 D05 v02r05	SAR Evaluation Considerations for LTE Devices
7	FCC KDB 941225 D06 v02r01	SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities
8	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
9	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
10	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
11	KDB 248227 D01 v02r02	SAR Guidance for IEEE 802.11 (Wi-Fi) Transmitters

### 3.2 Device Category and SAR Limit

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user.

Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

Table of Exposure Limits:

Body Position	SAR Value (W/Kg)	
	General Population/ Uncontrolled Exposure	Occupational/ Controlled Exposure
Whole-Body SAR (averaged over the entire body)	0.08	0.4
Partial-Body SAR (averaged over any 1 gram of tissue)	1.60	8.0
SAR for hands, wrists, feet and ankles (averaged over any 10 grams of tissue)	4.0	20.0

**NOTE:**

**General Population/Uncontrolled Exposure:** Locations where there is the exposure of individuals who have no knowledge or control of their exposure. 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.

**Occupational/Controlled Exposure:** Locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, 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. This 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.

### 3.3 Test Result Summary

#### 3.3.1 Highest SAR (1 g Value)

Band	Maximum Scaled SAR (W/kg)			Maximum Report SAR (W/kg)		
	Head	Body-worn Accessory	Hotspot	Head	Body-worn Accessory	Hotspot
GSM 850	0.39	<b>0.32</b>	0.48	1.10	0.32	0.88
GSM 1900	<b>1.10</b>	0.16	0.55			
WCDMA Band 2	0.82	0.25	0.86			
WCDMA Band 4	0.61	0.21	0.72			
WCDMA Band 5	0.36	0.29	<b>0.88</b>			
CDMA BC0	0.40	0.27	0.69			
LTE Band 2	0.88	0.22	0.53			
LTE Band 4	0.73	0.22	0.65			
LTE Band 5	0.39	0.27	0.71			
LTE Band 7	0.94	0.20	0.76			
LTE Band 12	0.24	0.18	0.42			
LTE Band 17	0.19	0.19	0.36			
LTE Band 26	0.43	0.23	0.75			
LTE Band 38	0.62	0.13	0.70			
LTE Band 41	0.92	0.15	0.79			
CA_7C	0.92	0.18	0.75			
NR 5	0.40	0.19	0.60			
NR 7	0.89	0.16	0.80			
NR 41	1.05	0.19	0.73			
NR 77	0.88	0.17	0.60			
NR 78	0.71	0.09	0.57			
2.4G WLAN	0.58	0.11	0.45			
5.2G WLAN	/	/	0.29			
5.3G WLAN	0.78	0.20	/			
5.6G WLAN	0.61	0.20	/			
5.8G WLAN	0.87	0.17	0.38			
Bluetooth	0.02	0.02	0.01			
Limit (W/kg)	1.6			1.6		
Verdict	PASS					

### 3.3.2 Highest Specific SAR (10 g Value)

Band	Maximum Scaled SAR (W/kg)	Maximum Report SAR (W/kg)
	Specific 10g	
LTE Band 7	1.46	1.66
NR 41	1.13	
5.3G WLAN	<b>1.66</b>	
5.6G WLAN	1.61	
Limit (W/kg)	4.0	4.0
Verdict	Pass	

### 3.3.3 Highest Simultaneous SAR

Note: The highest simultaneous SAR please refer section 12.

### 3.4 Test Uncertainty

According to KDB 865664 D01, When the highest measured 1 g SAR within a frequency band is  $< 1.5$  W/kg, the extensive SAR measurement uncertainty analysis is not required in SAR reports submitted for equipment approval.

The maximum 1 g SAR for the EUT in this report is 1.10 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

The maximum 10 g SAR for the EUT in this report is 1.66 W/kg, which is lower than 3.75 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

## 4 MEASUREMENT SYSTEM

### 4.1 Specific Absorption Rate (SAR) Definition

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.

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 ( $\rho$ ). 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 measurement can be related to the electrical field in the tissue by

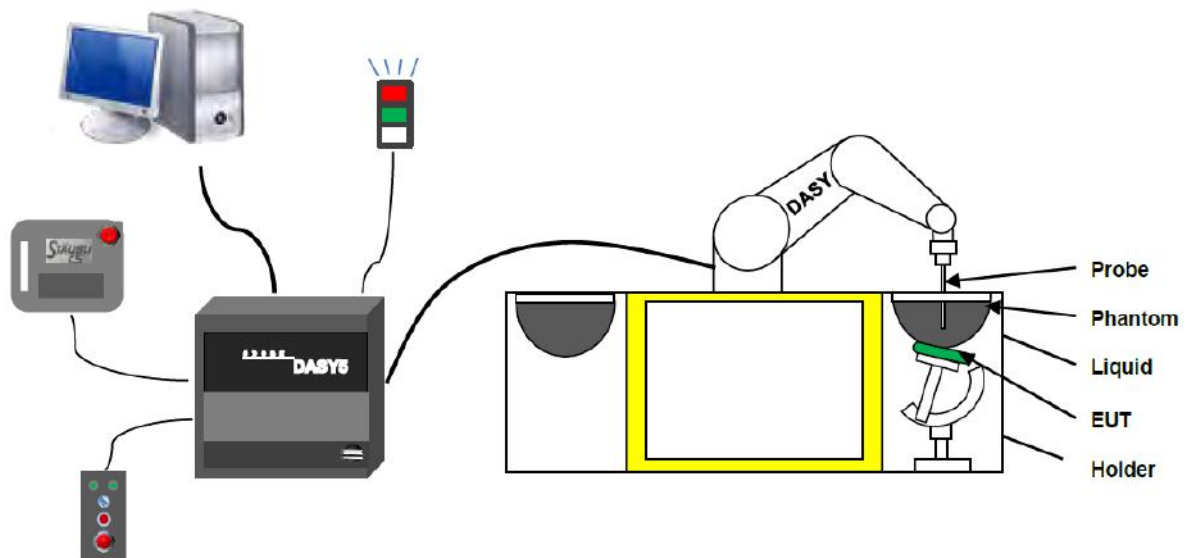
$$SAR = \frac{\sigma E^2}{\rho}$$

Where:  $\sigma$  is the conductivity of the tissue,

$\rho$  is the mass density of the tissue and  $E$  is the RMS electrical field strength.

## 4.2 DASY SAR System

### 4.2.1 DASY SAR System Diagram



The DASY5 system for performing compliance tests consists of the following items:

1. A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
3. A data acquisition electronic (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.
4. A unit to operate the optical surface detector which is connected to the EOC.
5. The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.
6. The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
7. DASY5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

#### 4.2.2 Robot

The Dasy SAR system uses the high precision robots. Symmetrical design with triangular core Built-in optical fiber for surface detection system For the 6-axis controller system, Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents). The robot series have many features that are important for our application:



- High precision  
(repeatability  $\pm 0.02$  mm)
- High reliability  
(industrial design)
- Low maintenance costs  
(virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements  
(brush less synchron motors; no stepper motors)
- Low ELF interference  
(motor control \_elds shielded via the closed metallic construction shields)



### 4.2.3 E-Field Probe

The probe is specially designed and calibrated for use in liquids with high permittivities for the measurements the Specific Dosimetric E-Field Probe EX3DV4-SN:7607 with following specifications is used.

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to 6 GHz; Linearity: $\pm 0.2$ dB (30 MHz to 6 GHz)
Directivity	$\pm 0.2$ dB in HSL (rotation around probe axis) ; $\pm 0.4$ dB in HSL (rotation normal to probe axis)
Dynamic range	5 $\mu$ W/g to > 100 mW/g; Linearity: $\pm 0.2$ dB
Dimensions	Overall length: 337 mm (Tip: 9 mm) Tip diameter: 2.5 mm (Body: 10 mm) Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (EX3DV4)



#### E-Field Probe Calibration Process

Probe calibration is realized, in compliance with CENELEC EN 62209-1/-2 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 62209-1/2 annexe technique using reference guide at the five frequencies.

#### 4.2.4 Data Acquisition Electronics

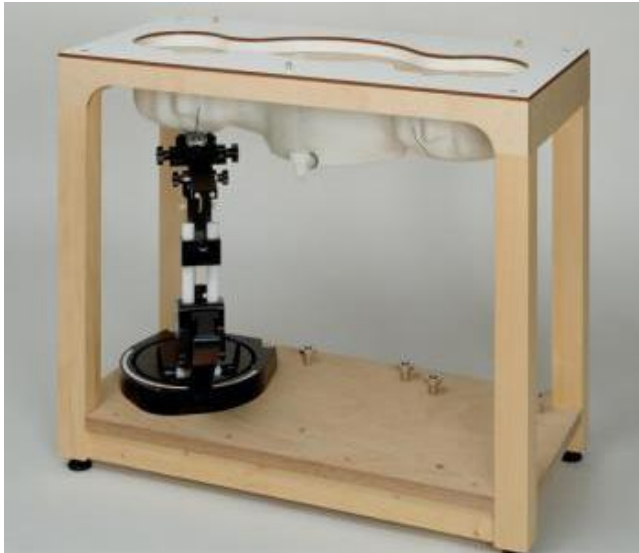
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an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



- Input Impedance: 200M $\Omega$
- The Inputs: Symmetrical and Floating
- Common Mode Rejection: Above 80dB

### 4.2.5 Phantoms

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



- Left hand
- Right hand
- Flat phantom

**Photo of Phantom SN1859**



Serial Number	Material	Length	Height
SN 1859 SAM2	Vinylester, glass fiber reinforced	1000	500

#### 4.2.6 Device Holder

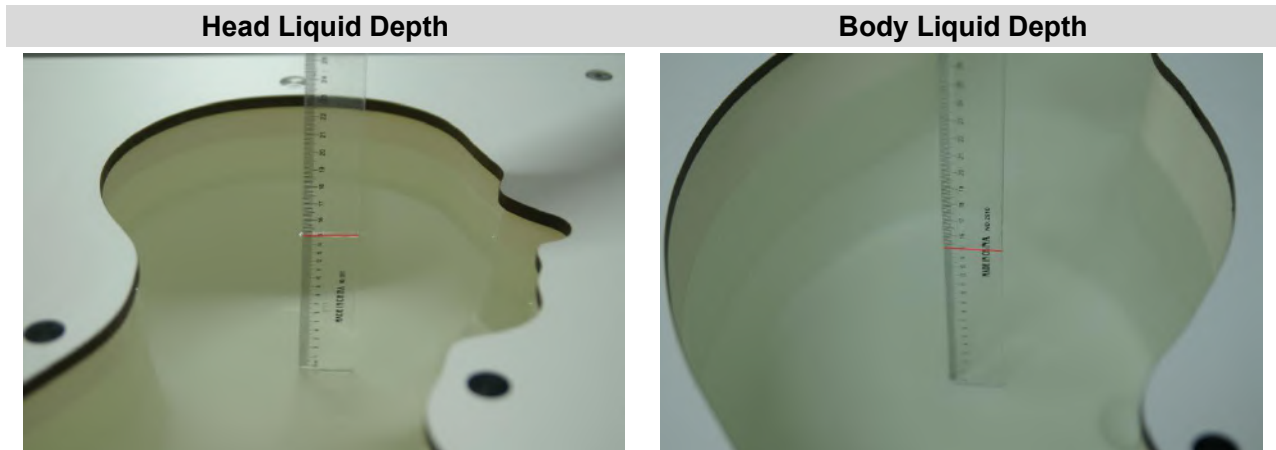
The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of  $65^\circ$ . The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA"s only. If necessary an additional support of polystyrene material is used. Larger DUT"s (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values. Therefore those devices are normally only tested at the flat part of the SAM.



The positioning system allows obtaining cheek and tilting position with a very good accuracy. Incompliance with CENELEC, the tilt angle uncertainty is lower than  $1^\circ$ .

#### 4.2.7 Simulating Liquid

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5%.



The following table gives the recipes for tissue simulating liquid and the theoretical Conductivity/Permittivity.

Head (Reference IEEE1528)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity $\sigma$ (S/m)	Permittivity $\epsilon$
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.4	40.0
2450	55.0	0	0	0.1	0	44.9	1.80	39.2
2600	54.9	0	0	0.1	0	45.0	1.96	39.0
Frequency (MHz)	Water (%)	Hexyl Carbitol (%)			Triton X-100 (%)		Conductivity $\sigma$ (S/m)	Permittivity $\epsilon$
5200	62.52	17.24			17.24		4.66	36.0
5800	62.52	17.24			17.24		5.27	35.3
Body (From instrument manufacturer)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity $\sigma$ (S/m)	Permittivity $\epsilon$
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0.1	0	31.3	1.95	52.7
2600	68.2	0	0	0.1	0	31.7	2.16	52.5
Frequency(MHz)	Water	DGBE			Salt		Conductivity	Permittivity

		(%)	(%)	$\sigma$ (S/m)	$\epsilon$
5200	78.60	21.40	/	5.54	47.86
5800	78.50	21.40	0.1	6.0	48.20

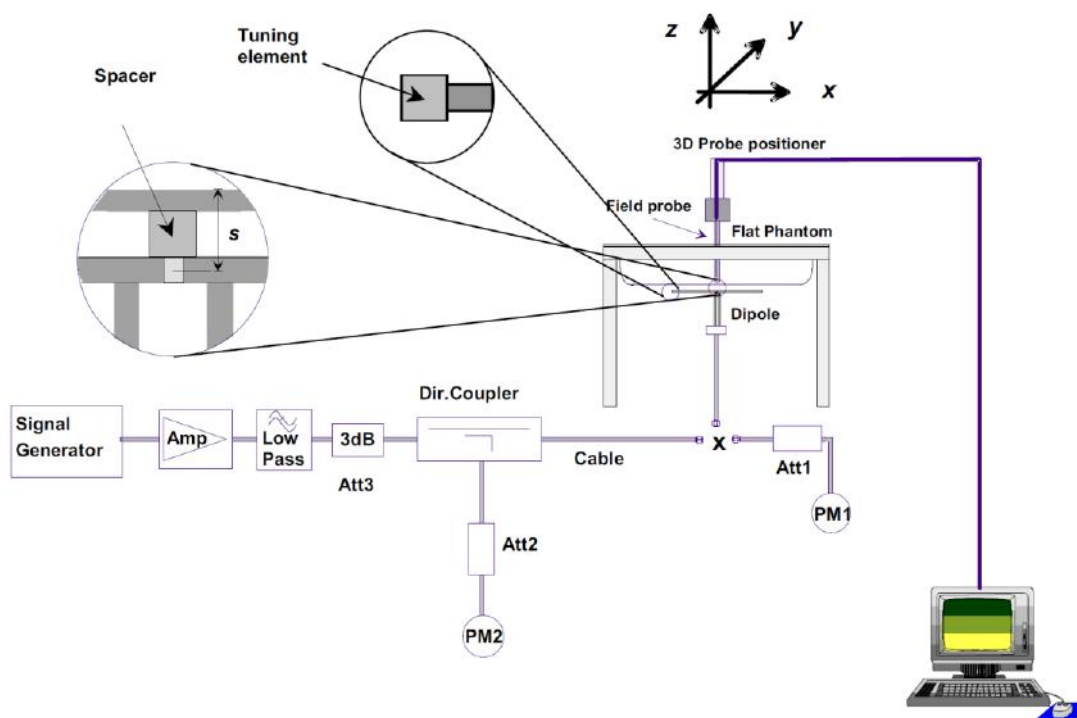
## 5 SYSTEM VERIFICATION

### 5.1 Purpose of System Check

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

### 5.2 System Check Setup

In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



## 6 TEST POSITION CONFIGURATIONS

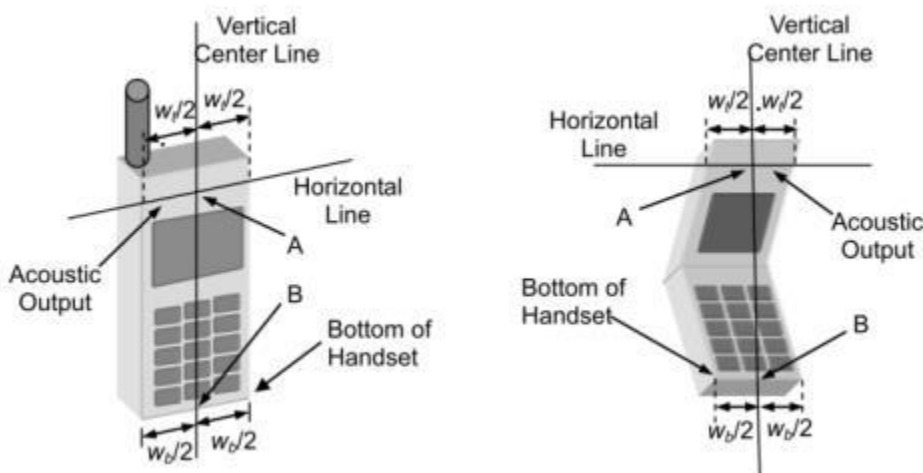
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

### 6.1 Head Exposure Conditions

Head exposure is limited to next to the ear voice mode operations. Head SAR compliance is tested according to the test positions defined in IEEE Std 1528-2013 using the SAM phantom illustrated as below.

#### 6.1.1 Two Imaginary Lines on the Handset

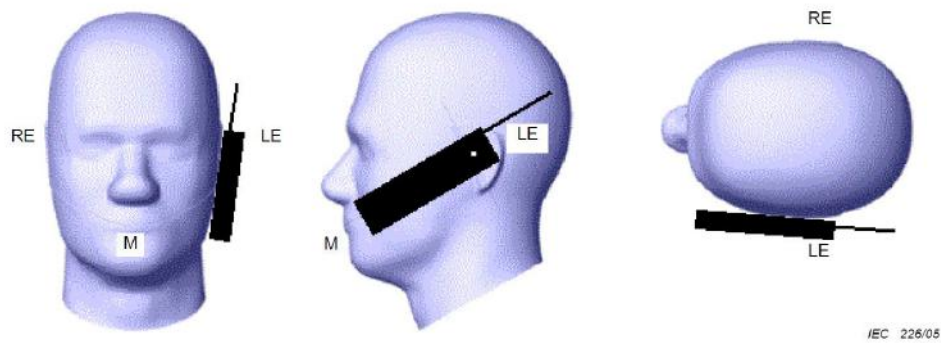
- The vertical center line passes through two points on the front side of the handset - the midpoint of the width  $w_t$  of the handset at the level of the acoustic output, and the midpoint of the width  $w_b$  of the bottom of the handset.
- The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.
- The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical center line is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



#### 6.1.2 Cheek Position

- To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
- To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.





### 6.1.3 Tilted Position

- (a) To position the device in the “cheek” position described above.
- (b) While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.

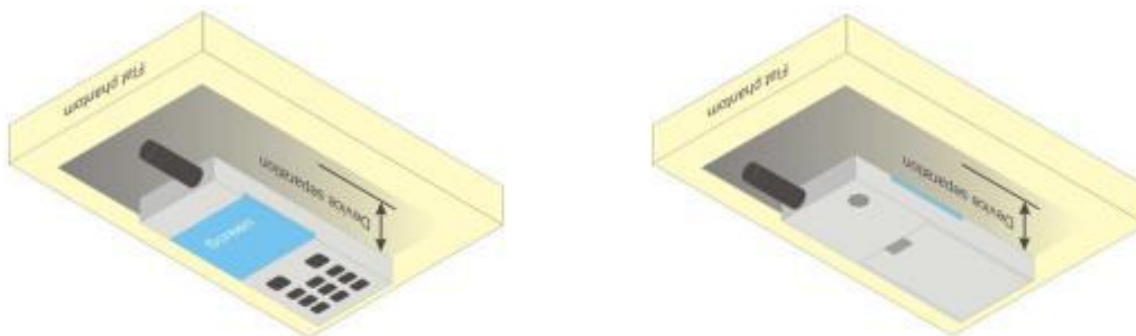


## 6.2 Body-worn Position Conditions

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 KDB 447498 are 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 the reported SAR for a body-worn accessory.

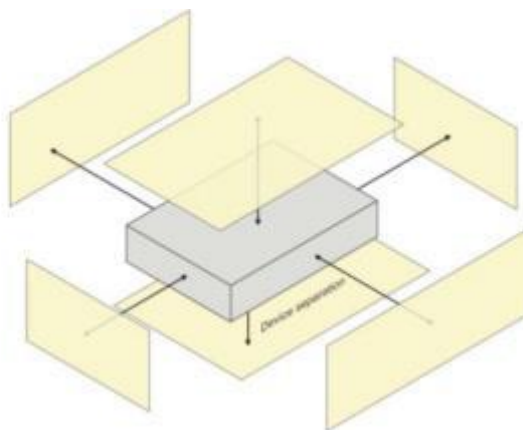
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics. All body-worn accessories containing metallic components are tested in conjunction with the host device.

Body-worn accessory SAR compliance is based on a single minimum test separation distance for all wireless and operating modes applicable to each body-worn accessory used by the host, and according to the relevant voice and/or data mode transmissions and operations. If a body-worn accessory supports voice only operations in its normal and expected use conditions, testing of data mode for body-worn compliance is not required. A conservative minimum test separation distance for supporting off-the-shelf body-worn accessories that may be acquired by users of consumer handsets is used to test for body-worn accessory SAR compliance. This distance is determined by the handset manufacturer, according to the requirements of Supplement C 01-01. Devices that are designed to operate on the body of users using lanyards and straps, or without requiring additional body-worn accessories, will be tested using a conservative minimum test separation distance  $\leq 5$  mm to support compliance.



### 6.3 Hotspot Mode Exposure Position Conditions

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



### 6.4 Product Specific 10g Exposure Consideration

According with FCC KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, 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;

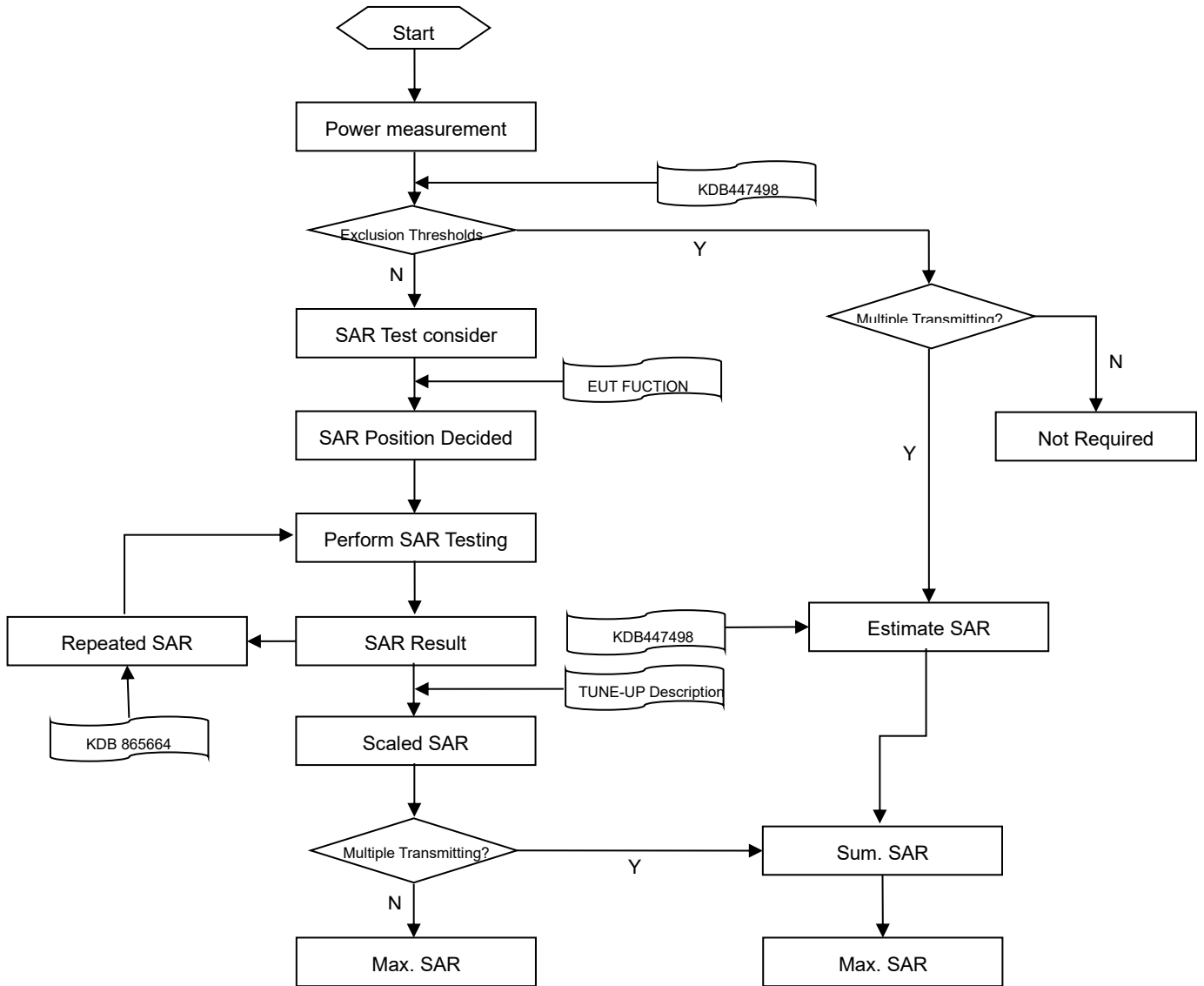
The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664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

6

6.

## 7 MEASUREMENT PROCEDURE

### 7.1 Measurement Process Diagram



## 7.2 SAR Scan General Requirement

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

		≤3GHz	>3GHz
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°±1°	20°±1°
Maximum area scan spatial resolution: $\Delta x$ Area , $\Delta y$ Area		≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3–4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: $\Delta x$ Zoom , $\Delta y$ Zoom		≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3–4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z$ Zoom (n)	≤ 5 mm	3–4 GHz: ≤ 4 mm
			4–5 GHz: ≤ 3 mm
			5–6 GHz: ≤ 2 mm
	graded grid	$\Delta z$ Zoom (1): between 1st two points closest to phantom surface	≤ 4 mm
4–5 GHz: ≤ 2.5 mm			
	$\Delta z$ Zoom (n>1): between subsequent points	≤ 1.5· $\Delta z$ Zoom (n-1)	
Minimum zoom scan volume	x, y, z	≥30 mm	3–4 GHz: ≥ 28 mm
			4–5 GHz: ≥ 25 mm
			5–6 GHz: ≥ 22 mm

### Note:

1.  $\delta$  is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
2. \* When zoom scan is required and the reported SAR from the area scan based 1 g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

### 7.3 Measurement Procedure

The following steps are used for each test position

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

### 7.4 Area & Zoom Scan Procedure

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r04 quoted below. When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

## **8 CONDUCTED RF OUPUT POWER**

### **8.1 GSM**

Please refer the document “Conducted RF Output Power List.pdf”.

### **8.2 WCDMA**

Please refer the document “Conducted RF Output Power List.pdf”.

### **8.3 LTE**

Please refer the document “Conducted RF Output Power List.pdf”.

### **8.4 Intra-Band Uplink CA Normal Power**

Note:

1. This devices supports intra-band uplink CA of 7C.
2. For intra-band uplink carrier aggregation power verification and measurement is selected highest PCC and SCC bandwidth combination to do and was according to 3GPP 36.52101 sectino6.2.2A.1 and section 6.2.2A.2 test procedure.
3. For intra-band uplink CA output power was measured high / middle / low channel combination, and for SAR verification is selected highest output power combination with each exposure condition in each frequency band using the highest SAR configuration test in standalone LTE mode.

Please refer the document “Conducted RF Output Power List.pdf”.

### **8.5 5G NR**

Please refer the document “Conducted RF Output Power List.pdf”.

## 8.6 WIFI

### 8.6.1 2.4G WIFI Leve1 SISO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	<b>14.87</b>	15.00	Yes
		6	2437	14.72	15.00	Yes
		11	2462	14.78	15.00	Yes
	802.11g	1	2412	13.63	14.00	No
		6	2437	13.45	14.00	No
		11	2462	13.51	14.00	No
	802.11n(HT20)	1	2412	13.82	14.00	No
		6	2437	13.53	14.00	No
		11	2462	13.57	14.00	No
	802.11n(HT40)	3	2422	13.59	14.00	No
		6	2437	13.55	14.00	No
		9	2452	13.44	14.00	No
	802.11ax(HE20)	1	2412	13.41	14.00	No
		6	2437	13.87	14.00	No
		11	2462	13.52	14.00	No
802.11ax(HE40)	3	2422	13.61	14.00	No	
	6	2437	13.64	14.00	No	
	9	2452	13.87	14.00	No	

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) According KDB 247228, 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  $\leq 1.2$  W/kg, OFDM SAR test is not required.

Adjusted SAR =  $0.107 * (25.12\text{mW}/31.62\text{mW}) = 0.085$  W/Kg, so 2.4G OFDM SAR test is not required.

### 8.6.2 2.4G WIFI Leve1 SISO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	<b>14.64</b>	15.00	Yes
		6	2437	14.60	15.00	Yes
		11	2462	14.55	15.00	Yes



	802.11g	1	2412	13.63	14.00	No
		6	2437	13.69	14.00	No
		11	2462	13.65	14.00	No
	802.11n(HT20)	1	2412	13.40	14.00	No
		6	2437	13.54	14.00	No
		11	2462	13.51	14.00	No
	802.11n(HT40)	3	2422	13.83	14.00	No
		6	2437	13.72	14.00	No
		9	2452	13.72	14.00	No
	802.11ax(HE20)	1	2412	13.52	14.00	No
		6	2437	13.57	14.00	No
		11	2462	13.52	14.00	No
	802.11ax(HE40)	3	2422	13.72	14.00	No
		6	2437	13.48	14.00	No
		9	2452	13.45	14.00	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) According KDB 247228, 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  $\leq 1.2$  W/kg, OFDM SAR test is not required.

Adjusted SAR =  $0.107 * (25.12\text{mW}/31.62\text{mW}) = 0.085$  W/Kg, so 2.4G OFDM SAR test is not required.

### 8.6.3 2.4G WIFI Leve1 MIMO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11n(HT20)	1	2412	10.66	11.00	No
		6	2437	10.87	11.00	No
		11	2462	10.54	11.00	No
	802.11n(HT40)	3	2422	10.68	11.00	No
		6	2437	10.64	11.00	No
		9	2452	10.57	11.00	No
	802.11ax(HE20)	1	2412	10.55	11.00	No
		6	2437	10.54	11.00	No
		11	2462	10.41	11.00	No
	802.11ax(HE40)	3	2422	10.71	11.00	No
		6	2437	10.76	11.00	No

		9	2452	10.60	11.00	No
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#### 8.6.4 2.4G WIFI Leve1 MIMO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11n(HT20)	1	2412	10.74	11.00	No
		6	2437	10.66	11.00	No
		11	2462	10.61	11.00	No
	802.11n(HT40)	3	2422	10.39	11.00	No
		6	2437	10.73	11.00	No
		9	2452	10.53	11.00	No
	802.11ax(HE20)	1	2412	10.85	11.00	No
		6	2437	10.85	11.00	No
		11	2462	10.76	11.00	No
	802.11ax(HE40)	3	2422	10.86	11.00	No
		6	2437	10.41	11.00	No
		9	2452	10.59	11.00	No

#### 8.6.5 2.4G WIFI Leve2 SISO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	13.62	14.00	Yes
		6	2437	13.42	14.00	Yes
		11	2462	<b>13.72</b>	14.00	Yes
	802.11g	1	2412	12.58	13.00	No
		6	2437	12.53	13.00	No
		11	2462	12.73	13.00	No
	802.11n(HT20)	1	2412	12.84	13.00	No
		6	2437	12.85	13.00	No
		11	2462	12.85	13.00	No
	802.11n(HT40)	3	2422	12.56	13.00	No
		6	2437	12.43	13.00	No
		9	2452	12.78	13.00	No
	802.11ax(HE20)	1	2412	12.55	13.00	No
		6	2437	12.72	13.00	No
		11	2462	12.76	13.00	No
	802.11ax(HE40)	3	2422	12.83	13.00	No
		6	2437	12.39	13.00	No

		9	2452	12.80	13.00	No
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Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

- 1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.
- 2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.
- 3) According KDB 247228, 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  $\leq 1.2$  W/kg, OFDM SAR test is not required.  
Adjusted SAR =  $0.107 * (19.95\text{mW}/25.12\text{mW}) = 0.085$  W/Kg, so 2.4G OFDM SAR test is not required.

### 8.6.6 2.4G WIFI Leve2 SISO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	<b>13.60</b>	14.00	Yes
		6	2437	13.59	14.00	Yes
		11	2462	13.39	14.00	Yes
	802.11g	1	2412	12.48	13.00	No
		6	2437	12.60	13.00	No
		11	2462	12.56	13.00	No
	802.11n(HT20)	1	2412	12.73	13.00	No
		6	2437	12.74	13.00	No
		11	2462	12.83	13.00	No
	802.11n(HT40)	3	2422	12.69	13.00	No
		6	2437	12.62	13.00	No
		9	2452	12.68	13.00	No
	802.11ax(HE20)	1	2412	12.42	13.00	No
		6	2437	12.81	13.00	No
		11	2462	12.59	13.00	No
802.11ax(HE40)	3	2422	12.75	13.00	No	
	6	2437	12.63	13.00	No	
	9	2452	12.42	13.00	No	

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

- 1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.
- 2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.
- 3) According KDB 247228, 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  $\leq 1.2$  W/kg, OFDM SAR test is not required.

Adjusted SAR =  $0.107 * (19.95\text{mW}/25.12\text{mW}) = 0.085$  W/Kg, so 2.4G OFDM SAR test is not required.

### 8.6.7 2.4G WIFI Leve2 MIMO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11n(HT20)	1	2412	9.55	10.00	No
		6	2437	9.38	10.00	No
		11	2462	9.46	10.00	No
	802.11n(HT40)	3	2422	9.60	10.00	No
		6	2437	9.38	10.00	No
		9	2452	9.73	10.00	No
	802.11ax(HE20)	1	2412	9.69	10.00	No
		6	2437	9.87	10.00	No
		11	2462	9.84	10.00	No
	802.11ax(HE40)	3	2422	9.60	10.00	No
		6	2437	9.73	10.00	No
		9	2452	9.63	10.00	No

### 8.6.8 2.4G WIFI Leve2 MIMO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11n(HT20)	1	2412	9.60	10.00	No
		6	2437	9.71	10.00	No
		11	2462	9.49	10.00	No
	802.11n(HT40)	3	2422	9.56	10.00	No
		6	2437	9.85	10.00	No
		9	2452	9.87	10.00	No
	802.11ax(HE20)	1	2412	9.87	10.00	No
		6	2437	9.62	10.00	No
		11	2462	9.86	10.00	No
	802.11ax(HE40)	3	2422	9.74	10.00	No
		6	2437	9.62	10.00	No
		9	2452	9.57	10.00	No

## 8.6.9 2.4G WIFI Leve3 SISO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	17.72	18.00	Yes
		6	2437	<b>17.81</b>	18.00	Yes
		11	2462	17.75	18.00	Yes
	802.11g	1	2412	16.81	17.00	No
		6	2437	16.87	17.00	No
		11	2462	16.90	17.00	No
	802.11n(HT20)	1	2412	16.72	17.00	No
		6	2437	16.89	17.00	No
		11	2462	16.77	17.00	No
	802.11n(HT40)	3	2422	16.53	17.00	No
		6	2437	16.42	17.00	No
		9	2452	16.41	17.00	No
	802.11ax(HE20)	1	2412	16.41	17.00	No
		6	2437	16.53	17.00	No
		11	2462	16.52	17.00	No
	802.11ax(HE40)	3	2422	16.86	17.00	No
		6	2437	16.79	17.00	No
		9	2452	16.73	17.00	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) According KDB 247228, 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  $\leq 1.2$  W/kg, OFDM SAR test is not required.

Adjusted SAR =  $0.107 * (50.12\text{mW}/63.10\text{mW}) = 0.085$  W/Kg, so 2.4G OFDM SAR test is not required.

## 8.6.10 2.4G WIFI Leve3 SISO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	17.30	18.00	Yes
		6	2437	<b>17.86</b>	18.00	Yes
		11	2462	17.69	18.00	Yes
	802.11g	1	2412	16.57	17.00	No
		6	2437	16.54	17.00	No

	802.11n(HT20)	11	2462	16.47	17.00	No	
		1	2412	16.75	17.00	No	
		6	2437	16.84	17.00	No	
	802.11n(HT40)	11	2462	16.64	17.00	No	
		3	2422	16.59	17.00	No	
		6	2437	16.50	17.00	No	
	802.11ax(HE20)	9	2452	16.51	17.00	No	
		1	2412	16.47	17.00	No	
		6	2437	16.48	17.00	No	
	802.11ax(HE40)	11	2462	16.71	17.00	No	
		3	2422	16.42	17.00	No	
		6	2437	16.75	17.00	No	
			9	2452	16.85	17.00	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) According KDB 247228, 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  $\leq 1.2$  W/kg, OFDM SAR test is not required.

Adjusted SAR =  $0.107 * (50.12\text{mW}/63.10\text{mW}) = 0.085$  W/Kg, so 2.4G OFDM SAR test is not required.

### 8.6.11 2.4G WIFI Leve3 MIMO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11n(HT20)	1	2412	13.70	14.00	No
		6	2437	13.84	14.00	No
		11	2462	13.81	14.00	No
	802.11n(HT40)	3	2422	13.47	14.00	No
		6	2437	13.85	14.00	No
		9	2452	13.85	14.00	No
	802.11ax(HE20)	1	2412	13.82	14.00	No
		6	2437	13.51	14.00	No
		11	2462	13.46	14.00	No
	802.11ax(HE40)	3	2422	13.83	14.00	No
		6	2437	13.72	14.00	No
		9	2452	13.71	14.00	No

## 8.6.12 2.4G WIFI Leve3 MIMO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11n(HT20)	1	2412	13.52	14.00	No
		6	2437	13.57	14.00	No
		11	2462	13.71	14.00	No
	802.11n(HT40)	3	2422	13.58	14.00	No
		6	2437	13.45	14.00	No
		9	2452	13.52	14.00	No
	802.11ax(HE20)	1	2412	13.60	14.00	No
		6	2437	13.68	14.00	No
		11	2462	13.77	14.00	No
	802.11ax(HE40)	3	2422	13.42	14.00	No
		6	2437	13.80	14.00	No
		9	2452	13.89	14.00	No

## 8.6.13 2.4G WIFI Leve4 SISO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	17.72	18.00	Yes
		6	2437	<b>17.81</b>	18.00	Yes
		11	2462	17.75	18.00	Yes
	802.11g	1	2412	16.81	17.00	No
		6	2437	16.87	17.00	No
		11	2462	16.90	17.00	No
	802.11n(HT20)	1	2412	16.72	17.00	No
		6	2437	16.89	17.00	No
		11	2462	16.77	17.00	No
	802.11n(HT40)	3	2422	16.53	17.00	No
		6	2437	16.42	17.00	No
		9	2452	16.41	17.00	No
	802.11ax(HE20)	1	2412	16.41	17.00	No
		6	2437	16.53	17.00	No
		11	2462	16.52	17.00	No
	802.11ax(HE40)	3	2422	16.86	17.00	No
		6	2437	16.79	17.00	No
		9	2452	16.73	17.00	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

- 1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.
- 2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.
- 3) According KDB 247228, 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  $\leq 1.2$  W/kg, OFDM SAR test is not required.  
Adjusted SAR =  $0.107 * (50.12\text{mW}/63.10\text{mW}) = 0.085$  W/Kg, so 2.4G OFDM SAR test is not required.

#### 8.6.14 2.4G WIFI Leve4 SISO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	17.30	18.00	Yes
		6	2437	<b>17.86</b>	18.00	Yes
		11	2462	17.69	18.00	Yes
	802.11g	1	2412	16.57	17.00	No
		6	2437	16.54	17.00	No
		11	2462	16.47	17.00	No
	802.11n(HT20)	1	2412	16.75	17.00	No
		6	2437	16.84	17.00	No
		11	2462	16.64	17.00	No
	802.11n(HT40)	3	2422	16.59	17.00	No
		6	2437	16.50	17.00	No
		9	2452	16.51	17.00	No
	802.11ax(HE20)	1	2412	16.47	17.00	No
		6	2437	16.48	17.00	No
		11	2462	16.71	17.00	No
	802.11ax(HE40)	3	2422	16.42	17.00	No
		6	2437	16.75	17.00	No
		9	2452	16.85	17.00	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

- 1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.
- 2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.
- 3) According KDB 247228, 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  $\leq 1.2$  W/kg, OFDM SAR test is not required.  
Adjusted SAR =  $0.107 * (50.12\text{mW}/63.10\text{mW}) = 0.085$  W/Kg, so 2.4G OFDM SAR test is not required.



## 8.6.15 2.4G WIFI Leve4 MIMO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11n(HT20)	1	2412	13.70	14.00	No
		6	2437	13.84	14.00	No
		11	2462	13.81	14.00	No
	802.11n(HT40)	3	2422	13.47	14.00	No
		6	2437	13.85	14.00	No
		9	2452	13.85	14.00	No
	802.11ax(HE20)	1	2412	13.82	14.00	No
		6	2437	13.51	14.00	No
		11	2462	13.46	14.00	No
	802.11ax(HE40)	3	2422	13.83	14.00	No
		6	2437	13.72	14.00	No
		9	2452	13.71	14.00	No

## 8.6.16 2.4G WIFI Leve4 MIMO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11n(HT20)	1	2412	13.52	14.00	No
		6	2437	13.57	14.00	No
		11	2462	13.71	14.00	No
	802.11n(HT40)	3	2422	13.58	14.00	No
		6	2437	13.45	14.00	No
		9	2452	13.52	14.00	No
	802.11ax(HE20)	1	2412	13.60	14.00	No
		6	2437	13.68	14.00	No
		11	2462	13.77	14.00	No
	802.11ax(HE40)	3	2422	13.42	14.00	No
		6	2437	13.80	14.00	No
		9	2452	13.89	14.00	No

## 8.6.17 5G WIFI Leve1 SISO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	16.75	17.00	Yes
		44	5220	16.53	17.00	Yes
		48	5240	<b>16.84</b>	17.00	Yes
	802.11n(HT20)	36	5180	16.17	16.50	No
		44	5220	16.33	16.50	No
		48	5240	16.24	16.50	No
	802.11n(HT40)	38	5190	16.17	16.50	No
		46	5230	16.03	16.50	No
	802.11ac(VHT20)	36	5180	16.16	16.50	No
		44	5220	16.35	16.50	No
		48	5240	16.30	16.50	No
	802.11ac(VHT40)	38	5190	16.16	16.50	No
		46	5230	15.96	16.50	No
	802.11ac(VHT80)	42	5210	16.31	16.50	No
	802.11ax(HE20)	36	5180	15.79	16.00	No
		40	5200	15.57	16.00	No
		48	5240	15.81	16.00	No
	802.11ax(HE40)	38	5190	15.74	16.00	No
46		5230	15.68	16.00	No	
802.11ax(HE80)	42	5210	15.83	16.00	No	
5.3 (5.25~5.35)	802.11a	52	5260	<b>16.81</b>	17.00	Yes
		60	5300	16.67	17.00	Yes
		64	5320	16.61	17.00	Yes
	802.11n(HT20)	52	5260	16.25	16.50	No
		60	5300	16.14	16.50	No
		64	5320	16.02	16.50	No
	802.11n(HT40)	54	5270	16.24	16.50	No
		62	5310	16.41	16.50	No
	802.11ac(VHT20)	52	5260	16.25	16.50	No
		60	5300	16.11	16.50	No
		64	5320	16.03	16.50	No
	802.11ac(VHT40)	54	5270	16.23	16.50	No
		62	5310	16.41	16.50	No
	802.11ac(VHT80)	58	5290	16.11	16.50	No
	802.11ax(HE20)	52	5260	15.83	16.00	No
		60	5300	15.80	16.00	No

		64	5320	15.71	16.00	No	
	802.11ax(HE40)	54	5270	15.43	16.00	No	
		62	5310	15.73	16.00	No	
	802.11ax(HE80)	58	5290	15.59	16.00	No	
5.6 (5.47~5.725)	802.11a	100	5500	16.70	17.00	Yes	
		116	5580	<b>16.80</b>	17.00	Yes	
		140	5700	16.55	17.00	Yes	
	802.11n(HT20)	100	5500	16.04	16.50	No	
		116	5580	16.21	16.50	No	
		140	5700	15.95	16.50	No	
	802.11n(HT40)	102	5510	16.29	16.50	No	
		118	5590	16.11	16.50	No	
		134	5670	16.04	16.50	No	
	802.11ac(VHT20)	100	5500	16.03	16.50	No	
		116	5580	16.16	16.50	No	
		140	5700	15.94	16.50	No	
	802.11ac(VHT40)	102	5510	16.31	16.50	No	
		118	5590	16.13	16.50	No	
		134	5670	16.05	16.50	No	
	802.11ac(VHT80)	106	5530	16.39	16.50	No	
		122	5610	15.96	16.50	No	
		138	5690	16.19	16.50	No	
	802.11ax(HE20)	100	5500	15.72	16.00	No	
		116	5580	15.89	16.00	No	
		140	5700	15.71	16.00	No	
	802.11ax(HE40)	102	5510	15.62	16.00	No	
		110	5550	15.48	16.00	No	
		134	5670	15.87	16.00	No	
	802.11ax(HE80)	106	5530	15.85	16.00	No	
		122	5610	15.46	16.00	No	
		138	5690	15.73	16.00	No	
	5.8 (5.725~5.850)	802.11a	149	5745	16.42	17.00	Yes
			157	5785	16.55	17.00	Yes
			165	5825	<b>16.58</b>	17.00	Yes
802.11n(HT20)		149	5745	16.32	16.50	No	
		157	5785	16.40	16.50	No	
		165	5825	16.00	16.50	No	
802.11n(HT40)		151	5755	15.98	16.50	No	
		159	5795	16.42	16.50	No	

	802.11ac(VHT20)	149	5745	16.25	16.50	No
		157	5785	16.37	16.50	No
		165	5825	15.95	16.50	No
	802.11ac(VHT40)	151	5755	15.95	16.50	No
		159	5795	15.85	16.50	No
	802.11ac(VHT80)	155	5775	15.93	16.50	No
	802.11ax(HE20)	149	5745	15.54	16.00	No
		157	5785	15.51	16.00	No
		165	5825	15.57	16.00	No
	802.11ax(HE40)	151	5755	15.76	16.00	No
		159	5795	15.76	16.00	No
	802.11ax(HE80)	155	5775	15.47	16.00	No

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.18 5G WIFI Level 1 SISO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	16.51	17.00	Yes
		44	5220	16.51	17.00	Yes
		48	5240	<b>16.53</b>	17.00	Yes
	802.11n(HT20)	36	5180	16.38	16.50	No
		44	5220	15.96	16.50	No
		48	5240	16.31	16.50	No
	802.11n(HT40)	38	5190	15.93	16.50	No
		46	5230	15.97	16.50	No
	802.11ac(VHT20)	36	5180	15.92	16.50	No
		44	5220	15.91	16.50	No
		48	5240	15.82	16.50	No
	802.11ac(VHT40)	38	5190	15.91	16.50	No
		46	5230	16.00	16.50	No
	802.11ac(VHT80)	42	5210	16.30	16.50	No
	802.11ax(HE20)	36	5180	15.55	16.00	No
		40	5200	15.56	16.00	No
		48	5240	15.51	16.00	No
	802.11ax(HE40)	38	5190	15.72	16.00	No
		46	5230	15.76	16.00	No
	802.11ax(HE80)	42	5210	15.50	16.00	No

5.3 (5.25~5.35)	802.11a	52	5260	16.49	17.00	Yes
		60	5300	<b>16.58</b>	17.00	Yes
		64	5320	14.51	17.00	Yes
	802.11n(HT20)	52	5260	16.17	16.50	No
		60	5300	16.21	16.50	No
		64	5320	16.13	16.50	No
	802.11n(HT40)	54	5270	16.19	16.50	No
		62	5310	16.07	16.50	No
	802.11ac(VHT20)	52	5260	16.15	16.50	No
		60	5300	16.21	16.50	No
		64	5320	16.12	16.50	No
	802.11ac(VHT40)	54	5270	16.21	16.50	No
		62	5310	16.03	16.50	No
	802.11ac(VHT80)	58	5290	16.01	16.50	No
	802.11ax(HE20)	52	5260	15.81	16.00	No
		60	5300	15.50	16.00	No
		64	5320	15.79	16.00	No
	802.11ax(HE40)	54	5270	15.54	16.00	No
62		5310	15.55	16.00	No	
802.11ax(HE80)	58	5290	15.62	16.00	No	
5.6 (5.47~5.725)	802.11a	100	5500	16.68	17.00	Yes
		116	5580	16.52	17.00	Yes
		140	5700	<b>16.74</b>	17.00	Yes
	802.11n(HT20)	100	5500	16.04	16.50	No
		116	5580	15.91	16.50	No
		140	5700	16.16	16.50	No
	802.11n(HT40)	102	5510	16.24	16.50	No
		118	5590	16.25	16.50	No
		134	5670	16.01	16.50	No
	802.11ac(VHT20)	100	5500	16.03	16.50	No
		116	5580	16.39	16.50	No
		140	5700	16.11	16.50	No
	802.11ac(VHT40)	102	5510	16.24	16.50	No
		118	5590	16.24	16.50	No
		134	5670	16.02	16.50	No
	802.11ac(VHT80)	106	5530	16.42	16.50	No
		122	5610	16.30	16.50	No
		138	5690	16.37	16.50	No
	802.11ax(HE20)	100	5500	15.71	16.00	No

		116	5580	15.58	16.00	No
		140	5700	15.81	16.00	No
		102	5510	15.74	16.00	No
	802.11ax(HE40)	110	5550	15.63	16.00	No
		134	5670	15.86	16.00	No
		106	5530	15.91	16.00	No
	802.11ax(HE80)	122	5610	15.84	16.00	No
		138	5690	15.76	16.00	No
		149	5745	16.64	17.00	Yes
5.8 (5.725~5.850)	802.11a	157	5785	<b>16.85</b>	17.00	Yes
		165	5825	16.56	17.00	Yes
		149	5745	15.98	16.50	No
	802.11n(HT20)	157	5785	16.28	16.50	No
		165	5825	16.41	16.50	No
		151	5755	16.23	16.50	No
	802.11n(HT40)	159	5795	16.17	16.50	No
		149	5745	15.95	16.50	No
	802.11ac(VHT20)	157	5785	16.27	16.50	No
		165	5825	16.39	16.50	No
		151	5755	16.21	16.50	No
	802.11ac(VHT40)	159	5795	16.17	16.50	No
		802.11ac(VHT80)	155	5775	16.13	16.50
	802.11ax(HE20)	149	5745	15.72	16.00	No
		157	5785	15.48	16.00	No
		165	5825	15.64	16.00	No
	802.11ax(HE40)	151	5755	15.56	16.00	No
		159	5795	15.58	16.00	No
	802.11ax(HE80)	155	5775	15.58	16.00	No

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.19 5G WIFI Level 1 MIMO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11n(HT20)	36	5180	13.25	13.50	No
		44	5220	13.02	13.50	No
		48	5240	13.27	13.50	No
	802.11n(HT40)	38	5190	13.15	13.50	No

		46	5230	13.12	13.50	No
	802.11ac(VHT20)	36	5180	13.18	13.50	No
		44	5220	13.02	13.50	No
		48	5240	13.31	13.50	No
	802.11ac(VHT40)	38	5190	13.16	13.50	No
		46	5230	13.16	13.50	No
	802.11ac(VHT80)	42	5210	12.77	13.50	No
	802.11ax(HE20)	36	5180	12.86	13.00	No
		40	5200	12.47	13.00	No
		48	5240	12.57	13.00	No
	802.11ax(HE40)	38	5190	12.51	13.00	No
		46	5230	12.55	13.00	No
802.11ax(HE80)	42	5210	12.73	13.00	No	
5.3 (5.25~5.35)	802.11n(HT20)	52	5260	13.21	13.50	No
		60	5300	13.30	13.50	No
		64	5320	13.18	13.50	No
	802.11n(HT40)	54	5270	12.97	13.50	No
		62	5310	13.01	13.50	No
	802.11ac(VHT20)	52	5260	13.21	13.50	No
		60	5300	13.29	13.50	No
		64	5320	13.23	13.50	No
	802.11ac(VHT40)	54	5270	12.95	13.50	No
		62	5310	13.03	13.50	No
	802.11ac(VHT80)	58	5290	13.24	13.50	No
	802.11ax(HE20)	52	5260	12.57	13.00	No
		60	5300	12.82	13.00	No
		64	5320	12.31	13.00	No
	802.11ax(HE40)	54	5270	12.86	13.00	No
		62	5310	12.90	13.00	No
	802.11ax(HE80)	58	5290	12.77	13.00	No
	5.6 (5.47~5.725)	802.11n(HT20)	100	5500	13.05	13.50
116			5580	13.28	13.50	No
140			5700	13.03	13.50	No
802.11n(HT40)		102	5510	13.32	13.50	No
		118	5590	13.04	13.50	No
		134	5670	12.98	13.50	No
802.11ac(VHT20)		100	5500	13.07	13.50	No
		116	5580	13.27	13.50	No
		140	5700	13.05	13.50	No

	802.11ac(VHT40)	102	5510	13.28	13.50	No
		118	5590	13.04	13.50	No
		134	5670	13.01	13.50	No
	802.11ac(VHT80)	106	5530	13.41	13.50	No
		122	5610	12.87	13.50	No
		138	5690	13.18	13.50	No
	802.11ax(HE20)	100	5500	12.72	13.00	No
		116	5580	12.81	13.00	No
		140	5700	12.71	13.00	No
	802.11ax(HE40)	102	5510	12.80	13.00	No
		110	5550	12.45	13.00	No
		134	5670	12.84	13.00	No
	802.11ax(HE80)	106	5530	12.57	13.00	No
		122	5610	12.90	13.00	No
		138	5690	12.55	13.00	No
5.8 (5.725~5.850)	802.11n(HT20)	149	5745	12.95	13.50	No
		157	5785	13.18	13.50	No
		165	5825	13.26	13.50	No
	802.11n(HT40)	151	5755	12.96	13.50	No
		159	5795	13.17	13.50	No
	802.11ac(VHT20)	149	5745	13.41	13.50	No
		157	5785	13.21	13.50	No
		165	5825	13.24	13.50	No
	802.11ac(VHT40)	151	5755	13.31	13.50	No
		159	5795	13.18	13.50	No
	802.11ac(VHT80)	155	5775	13.31	13.50	No
	802.11ax(HE20)	149	5745	12.51	13.00	No
		157	5785	12.49	13.00	No
		165	5825	12.56	13.00	No
	802.11ax(HE40)	151	5755	12.85	13.00	No
159		5795	12.74	13.00	No	
802.11ax(HE80)	155	5775	12.45	13.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.



## 8.6.20 5G WIFI Leve1 MIMO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11n(HT20)	36	5180	13.18	13.50	No
		44	5220	13.14	13.50	No
		48	5240	13.02	13.50	No
	802.11n(HT40)	38	5190	13.18	13.50	No
		46	5230	13.03	13.50	No
	802.11ac(VHT20)	36	5180	13.21	13.50	No
		44	5220	13.18	13.50	No
		48	5240	13.03	13.50	No
	802.11ac(VHT40)	38	5190	13.08	13.50	No
		46	5230	12.99	13.50	No
	802.11ac(VHT80)	42	5210	13.16	13.50	No
	802.11ax(HE20)	36	5180	12.49	13.00	No
		40	5200	12.81	13.00	No
		48	5240	12.64	13.00	No
	802.11ax(HE40)	38	5190	12.68	13.00	No
46		5230	12.53	13.00	No	
802.11ax(HE80)	42	5210	12.84	13.00	No	
5.3 (5.25~5.35)	802.11n(HT20)	52	5260	13.01	13.50	No
		60	5300	13.37	13.50	No
		64	5320	13.36	13.50	No
	802.11n(HT40)	54	5270	13.01	13.50	No
		62	5310	13.10	13.50	No
	802.11ac(VHT20)	52	5260	13.00	13.50	No
		60	5300	13.32	13.50	No
		64	5320	13.39	13.50	No
	802.11ac(VHT40)	54	5270	12.98	13.50	No
		62	5310	13.05	13.50	No
	802.11ac(VHT80)	58	5290	13.17	13.50	No
	802.11ax(HE20)	52	5260	12.67	13.00	No
		60	5300	12.48	13.00	No
		64	5320	12.53	13.00	No
	802.11ax(HE40)	54	5270	12.50	13.00	No
62		5310	12.49	13.00	No	
802.11ax(HE80)	58	5290	12.65	13.00	No	
5.6 (5.47~5.725)	802.11n(HT20)	100	5500	13.23	13.50	No
		116	5580	13.42	13.50	No

		140	5700	13.21	13.50	No
	802.11n(HT40)	102	5510	13.34	13.50	No
		118	5590	12.91	13.50	No
		134	5670	13.02	13.50	No
		100	5500	13.24	13.50	No
	802.11ac(VHT20)	116	5580	13.39	13.50	No
		140	5700	13.18	13.50	No
		102	5510	13.35	13.50	No
	802.11ac(VHT40)	118	5590	13.34	13.50	No
		134	5670	13.09	13.50	No
		106	5530	13.21	13.50	No
	802.11ac(VHT80)	122	5610	13.04	13.50	No
		138	5690	12.95	13.50	No
		100	5500	12.87	13.00	No
	802.11ax(HE20)	116	5580	12.71	13.00	No
		140	5700	12.86	13.00	No
		102	5510	12.73	13.00	No
	802.11ax(HE40)	110	5550	12.83	13.00	No
		134	5670	12.41	13.00	No
		106	5530	12.61	13.00	No
	802.11ax(HE80)	122	5610	12.50	13.00	No
		138	5690	12.91	13.00	No
		149	5745	13.01	13.50	No
	5.8 (5.725~5.850)	802.11n(HT20)	157	5785	13.24	13.50
165			5825	13.03	13.50	No
151			5755	13.03	13.50	No
802.11n(HT40)	159	5795	13.03	13.50	No	
	149	5745	12.96	13.50	No	
802.11ac(VHT20)	157	5785	13.26	13.50	No	
	165	5825	13.03	13.50	No	
	151	5755	13.00	13.50	No	
802.11ac(VHT40)	159	5795	13.00	13.50	No	
	802.11ac(VHT80)	155	5775	13.03	13.50	No
802.11ax(HE20)	149	5745	12.68	13.00	No	
	157	5785	12.36	13.00	No	
	165	5825	12.58	13.00	No	
802.11ax(HE40)	151	5755	12.85	13.00	No	
	159	5795	12.84	13.00	No	
802.11ax(HE80)	155	5775	12.45	13.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.21 5G WIFI Leve2 SISO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	13.80	14.00	Yes
		44	5220	13.75	14.00	Yes
		48	5240	13.45	14.00	Yes
	802.11n(HT20)	36	5180	13.18	13.50	No
		44	5220	13.19	13.50	No
		48	5240	12.91	13.50	No
	802.11n(HT40)	38	5190	12.93	13.50	No
		46	5230	13.17	13.50	No
	802.11ac(VHT20)	36	5180	13.24	13.50	No
		44	5220	13.07	13.50	No
		48	5240	13.30	13.50	No
	802.11ac(VHT40)	38	5190	12.93	13.50	No
		46	5230	13.17	13.50	No
	802.11ac(VHT80)	42	5210	12.92	13.50	No
	802.11ax(HE20)	36	5180	12.53	13.00	No
		40	5200	12.61	13.00	No
		48	5240	12.67	13.00	No
	802.11ax(HE40)	38	5190	12.61	13.00	No
46		5230	12.55	13.00	No	
802.11ax(HE80)	42	5210	12.68	13.00	No	
5.3 (5.25~5.35)	802.11a	52	5260	13.64	14.00	Yes
		60	5300	13.47	14.00	Yes
		64	5320	13.58	14.00	Yes
	802.11n(HT20)	52	5260	13.15	13.50	No
		60	5300	13.16	13.50	No
		64	5320	13.35	13.50	No
	802.11n(HT40)	54	5270	13.29	13.50	No
		62	5310	13.32	13.50	No
	802.11ac(VHT20)	52	5260	13.34	13.50	No
		60	5300	12.93	13.50	No
		64	5320	13.22	13.50	No
	802.11ac(VHT40)	54	5270	13.16	13.50	No

		62	5310	12.98	13.50	No
	802.11ac(VHT80)	58	5290	13.35	13.50	No
	802.11ax(HE20)	52	5260	12.47	13.00	No
		60	5300	12.81	13.00	No
		64	5320	12.67	13.00	No
	802.11ax(HE40)	54	5270	12.76	13.00	No
		62	5310	12.64	13.00	No
	802.11ax(HE80)	58	5290	12.77	13.00	No
5.6 (5.47~5.725)	802.11a	100	5500	13.49	14.00	Yes
		116	5580	13.60	14.00	Yes
		140	5700	13.75	14.00	Yes
	802.11n(HT20)	100	5500	13.24	13.50	No
		116	5580	13.22	13.50	No
		140	5700	13.13	13.50	No
	802.11n(HT40)	102	5510	13.07	13.50	No
		118	5590	13.31	13.50	No
		134	5670	12.99	13.50	No
	802.11ac(VHT20)	100	5500	13.21	13.50	No
		116	5580	13.31	13.50	No
		140	5700	12.90	13.50	No
	802.11ac(VHT40)	102	5510	13.15	13.50	No
		118	5590	13.02	13.50	No
		134	5670	13.37	13.50	No
	802.11ac(VHT80)	106	5530	13.27	13.50	No
		122	5610	13.15	13.50	No
		138	5690	13.03	13.50	No
	802.11ax(HE20)	100	5500	12.55	13.00	No
		116	5580	12.79	13.00	No
		140	5700	12.41	13.00	No
	802.11ax(HE40)	102	5510	12.78	13.00	No
		110	5550	12.69	13.00	No
		134	5670	12.58	13.00	No
802.11ax(HE80)	106	5530	12.86	13.00	No	
	122	5610	12.68	13.00	No	
	138	5690	12.65	13.00	No	
5.8 (5.725~5.850)	802.11a	149	5745	13.39	14.00	Yes
		157	5785	13.83	14.00	Yes
		165	5825	13.87	14.00	Yes
	802.11n(HT20)	149	5745	12.89	13.50	No

		157	5785	12.96	13.50	No
		165	5825	12.99	13.50	No
	802.11n(HT40)	151	5755	12.92	13.50	No
		159	5795	13.05	13.50	No
	802.11ac(VHT20)	149	5745	12.88	13.50	No
		157	5785	13.06	13.50	No
		165	5825	13.18	13.50	No
	802.11ac(VHT40)	151	5755	13.25	13.50	No
		159	5795	12.91	13.50	No
	802.11ac(VHT80)	155	5775	13.00	13.50	No
	802.11ax(HE20)	149	5745	12.53	13.00	No
		157	5785	12.49	13.00	No
		165	5825	12.83	13.00	No
	802.11ax(HE40)	151	5755	12.47	13.00	No
		159	5795	12.84	13.00	No
802.11ax(HE80)	155	5775	12.66	13.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.22 5G WIFI Leve2 SISO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	13.65	14.00	Yes
		44	5220	13.57	14.00	Yes
		48	5240	<b>13.82</b>	14.00	Yes
	802.11n(HT20)	36	5180	13.07	13.50	No
		44	5220	13.23	13.50	No
		48	5240	13.05	13.50	No
	802.11n(HT40)	38	5190	13.17	13.50	No
		46	5230	12.94	13.50	No
	802.11ac(VHT20)	36	5180	13.27	13.50	No
		44	5220	13.24	13.50	No
		48	5240	13.18	13.50	No
	802.11ac(VHT40)	38	5190	13.11	13.50	No
		46	5230	13.22	13.50	No
	802.11ac(VHT80)	42	5210	13.06	13.50	No
	802.11ax(HE20)	36	5180	12.75	13.00	No
		40	5200	12.55	13.00	No

		48	5240	12.58	13.00	No
	802.11ax(HE40)	38	5190	12.60	13.00	No
		46	5230	12.45	13.00	No
	802.11ax(HE80)	42	5210	12.85	13.00	No
5.3 (5.25~5.35)	802.11a	52	5260	<b>13.85</b>	14.00	Yes
		60	5300	13.85	14.00	Yes
		64	5320	13.57	14.00	Yes
	802.11n(HT20)	52	5260	13.24	13.50	No
		60	5300	13.27	13.50	No
		64	5320	13.28	13.50	No
	802.11n(HT40)	54	5270	13.35	13.50	No
		62	5310	13.12	13.50	No
	802.11ac(VHT20)	52	5260	12.98	13.50	No
		60	5300	13.19	13.50	No
		64	5320	13.11	13.50	No
	802.11ac(VHT40)	54	5270	13.00	13.50	No
		62	5310	13.11	13.50	No
	802.11ac(VHT80)	58	5290	13.34	13.50	No
	802.11ax(HE20)	52	5260	12.55	13.00	No
		60	5300	12.48	13.00	No
		64	5320	12.83	13.00	No
	802.11ax(HE40)	54	5270	12.81	13.00	No
		62	5310	12.85	13.00	No
	802.11ax(HE80)	58	5290	12.79	13.00	No
5.6 (5.47~5.725)	802.11a	100	5500	13.42	14.00	Yes
		116	5580	13.50	14.00	Yes
		140	5700	<b>13.55</b>	14.00	Yes
	802.11n(HT20)	100	5500	13.25	13.50	No
		116	5580	13.02	13.50	No
		140	5700	13.36	13.50	No
	802.11n(HT40)	102	5510	13.25	13.50	No
		118	5590	13.20	13.50	No
		134	5670	13.09	13.50	No
	802.11ac(VHT20)	100	5500	13.23	13.50	No
		116	5580	13.25	13.50	No
		140	5700	13.36	13.50	No
	802.11ac(VHT40)	102	5510	13.03	13.50	No
		118	5590	12.96	13.50	No
		134	5670	13.05	13.50	No

	802.11ac(VHT80)	106	5530	13.13	13.50	No
		122	5610	13.27	13.50	No
		138	5690	13.16	13.50	No
	802.11ax(HE20)	100	5500	12.52	13.00	No
		116	5580	12.70	13.00	No
		140	5700	12.41	13.00	No
	802.11ax(HE40)	102	5510	12.68	13.00	No
		110	5550	12.44	13.00	No
		134	5670	12.87	13.00	No
	802.11ax(HE80)	106	5530	12.74	13.00	No
		122	5610	12.84	13.00	No
		138	5690	12.85	13.00	No
5.8 (5.725~5.850)	802.11a	149	5745	<b>13.72</b>	14.00	Yes
		157	5785	13.46	14.00	Yes
		165	5825	13.46	14.00	Yes
	802.11n(HT20)	149	5745	13.20	13.50	No
		157	5785	12.99	13.50	No
		165	5825	13.36	13.50	No
	802.11n(HT40)	151	5755	13.29	13.50	No
		159	5795	13.36	13.50	No
	802.11ac(VHT20)	149	5745	13.29	13.50	No
		157	5785	13.03	13.50	No
		165	5825	13.24	13.50	No
	802.11ac(VHT40)	151	5755	12.88	13.50	No
		159	5795	13.36	13.50	No
	802.11ac(VHT80)	155	5775	12.95	13.50	No
	802.11ax(HE20)	149	5745	12.52	13.00	No
		157	5785	12.71	13.00	No
		165	5825	12.40	13.00	No
	802.11ax(HE40)	151	5755	12.50	13.00	No
		159	5795	12.80	13.00	No
	802.11ax(HE80)	155	5775	12.84	13.00	No

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

## 8.6.23 5G WIFI Leve2 MIMO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11n(HT20)	36	5180	10.26	10.50	No
		44	5220	10.07	10.50	No
		48	5240	10.22	10.50	No
	802.11n(HT40)	38	5190	10.20	10.50	No
		46	5230	10.19	10.50	No
	802.11ac(VHT20)	36	5180	10.27	10.50	No
		44	5220	9.97	10.50	No
		48	5240	9.94	10.50	No
	802.11ac(VHT40)	38	5190	10.18	10.50	No
		46	5230	10.05	10.50	No
	802.11ac(VHT80)	42	5210	10.14	10.50	No
	802.11ax(HE20)	36	5180	9.48	10.00	No
		40	5200	9.46	10.00	No
		48	5240	9.78	10.00	No
	802.11ax(HE40)	38	5190	9.63	10.00	No
46		5230	9.58	10.00	No	
802.11ax(HE80)	42	5210	9.86	10.00	No	
5.3 (5.25~5.35)	802.11n(HT20)	52	5260	10.06	10.50	No
		60	5300	10.17	10.50	No
		64	5320	10.10	10.50	No
	802.11n(HT40)	54	5270	10.03	10.50	No
		62	5310	10.21	10.50	No
	802.11ac(VHT20)	52	5260	10.35	10.50	No
		60	5300	10.22	10.50	No
		64	5320	10.23	10.50	No
	802.11ac(VHT40)	54	5270	10.18	10.50	No
		62	5310	10.21	10.50	No
	802.11ac(VHT80)	58	5290	10.06	10.50	No
	802.11ax(HE20)	52	5260	9.66	10.00	No
		60	5300	9.62	10.00	No
		64	5320	9.39	10.00	No
	802.11ax(HE40)	54	5270	9.52	10.00	No
62		5310	9.41	10.00	No	
802.11ax(HE80)	58	5290	9.80	10.00	No	
5.6 (5.47~5.725)	802.11n(HT20)	100	5500	10.17	10.50	No
		116	5580	10.31	10.50	No



		140	5700	10.16	10.50	No	
	802.11n(HT40)	102	5510	10.01	10.50	No	
		118	5590	10.33	10.50	No	
		134	5670	10.36	10.50	No	
	802.11ac(VHT20)	100	5500	9.88	10.50	No	
		116	5580	10.23	10.50	No	
		140	5700	10.22	10.50	No	
	802.11ac(VHT40)	102	5510	9.98	10.50	No	
		118	5590	10.15	10.50	No	
		134	5670	10.08	10.50	No	
	802.11ac(VHT80)	106	5530	10.30	10.50	No	
		122	5610	10.21	10.50	No	
		138	5690	10.30	10.50	No	
	802.11ax(HE20)	100	5500	9.86	10.00	No	
		116	5580	9.49	10.00	No	
		140	5700	9.59	10.00	No	
	802.11ax(HE40)	102	5510	9.72	10.00	No	
		110	5550	9.62	10.00	No	
		134	5670	9.44	10.00	No	
	802.11ax(HE80)	106	5530	9.80	10.00	No	
		122	5610	9.66	10.00	No	
		138	5690	9.82	10.00	No	
	5.8 (5.725~5.850)	802.11n(HT20)	149	5745	10.26	10.50	No
			157	5785	10.17	10.50	No
165			5825	10.28	10.50	No	
802.11n(HT40)		151	5755	10.13	10.50	No	
		159	5795	10.26	10.50	No	
802.11ac(VHT20)		149	5745	10.24	10.50	No	
		157	5785	10.30	10.50	No	
		165	5825	9.89	10.50	No	
802.11ac(VHT40)		151	5755	10.11	10.50	No	
		159	5795	10.29	10.50	No	
802.11ac(VHT80)		155	5775	9.96	10.50	No	
802.11ax(HE20)		149	5745	9.76	10.00	No	
		157	5785	9.70	10.00	No	
		165	5825	9.52	10.00	No	
802.11ax(HE40)		151	5755	9.38	10.00	No	
		159	5795	9.45	10.00	No	
802.11ax(HE80)		155	5775	9.61	10.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.24 5G WIFI Leve2 MIMO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11n(HT20)	36	5180	10.22	10.50	No
		44	5220	10.26	10.50	No
		48	5240	10.16	10.50	No
	802.11n(HT40)	38	5190	10.11	10.50	No
		46	5230	9.97	10.50	No
	802.11ac(VHT20)	36	5180	9.95	10.50	No
		44	5220	10.03	10.50	No
		48	5240	10.36	10.50	No
	802.11ac(VHT40)	38	5190	10.37	10.50	No
		46	5230	10.29	10.50	No
	802.11ac(VHT80)	42	5210	10.07	10.50	No
	802.11ax(HE20)	36	5180	9.45	10.00	No
		40	5200	9.77	10.00	No
		48	5240	9.79	10.00	No
	802.11ax(HE40)	38	5190	9.75	10.00	No
46		5230	9.48	10.00	No	
802.11ax(HE80)	42	5210	9.81	10.00	No	
5.3 (5.25~5.35)	802.11n(HT20)	52	5260	10.21	10.50	No
		60	5300	10.23	10.50	No
		64	5320	10.31	10.50	No
	802.11n(HT40)	54	5270	10.03	10.50	No
		62	5310	10.03	10.50	No
	802.11ac(VHT20)	52	5260	10.35	10.50	No
		60	5300	10.23	10.50	No
		64	5320	10.17	10.50	No
	802.11ac(VHT40)	54	5270	10.35	10.50	No
		62	5310	10.28	10.50	No
	802.11ac(VHT80)	58	5290	9.91	10.50	No
	802.11ax(HE20)	52	5260	9.45	10.00	No
		60	5300	9.44	10.00	No
		64	5320	9.82	10.00	No
	802.11ax(HE40)	54	5270	9.46	10.00	No

		62	5310	9.66	10.00	No
	802.11ax(HE80)	58	5290	9.50	10.00	No
5.6 (5.47~5.725)	802.11n(HT20)	100	5500	10.17	10.50	No
		116	5580	10.26	10.50	No
		140	5700	10.11	10.50	No
	802.11n(HT40)	102	5510	10.00	10.50	No
		118	5590	10.31	10.50	No
		134	5670	10.35	10.50	No
	802.11ac(VHT20)	100	5500	10.25	10.50	No
		116	5580	10.10	10.50	No
		140	5700	9.91	10.50	No
	802.11ac(VHT40)	102	5510	10.37	10.50	No
		118	5590	10.00	10.50	No
		134	5670	10.07	10.50	No
	802.11ac(VHT80)	106	5530	10.19	10.50	No
		122	5610	10.03	10.50	No
		138	5690	9.89	10.50	No
	802.11ax(HE20)	100	5500	9.71	10.00	No
		116	5580	9.38	10.00	No
		140	5700	9.78	10.00	No
	802.11ax(HE40)	102	5510	9.56	10.00	No
		110	5550	9.45	10.00	No
		134	5670	9.72	10.00	No
	802.11ax(HE80)	106	5530	9.87	10.00	No
		122	5610	9.44	10.00	No
		138	5690	9.65	10.00	No
5.8 (5.725~5.850)	802.11n(HT20)	149	5745	10.10	10.50	No
		157	5785	10.28	10.50	No
		165	5825	10.25	10.50	No
	802.11n(HT40)	151	5755	10.36	10.50	No
		159	5795	10.01	10.50	No
	802.11ac(VHT20)	149	5745	10.12	10.50	No
		157	5785	10.06	10.50	No
		165	5825	10.19	10.50	No
	802.11ac(VHT40)	151	5755	10.21	10.50	No
		159	5795	10.22	10.50	No
	802.11ac(VHT80)	155	5775	10.31	10.50	No
	802.11ax(HE20)	149	5745	9.86	10.00	No
		157	5785	9.45	10.00	No

		165	5825	9.81	10.00	No
	802.11ax(HE40)	151	5755	9.69	10.00	No
		159	5795	9.64	10.00	No
	802.11ax(HE80)	155	5775	9.62	10.00	No

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.25 5G WIFI Leve3 SISO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	16.75	17.00	Yes
		44	5220	16.53	17.00	Yes
		48	5240	<b>16.84</b>	17.00	Yes
	802.11n(HT20)	36	5180	16.17	16.50	No
		44	5220	16.33	16.50	No
		48	5240	16.24	16.50	No
	802.11n(HT40)	38	5190	16.17	16.50	No
		46	5230	16.03	16.50	No
	802.11ac(VHT20)	36	5180	16.16	16.50	No
		44	5220	16.35	16.50	No
		48	5240	16.30	16.50	No
	802.11ac(VHT40)	38	5190	16.16	16.50	No
		46	5230	15.96	16.50	No
	802.11ac(VHT80)	42	5210	16.31	16.50	No
	802.11ax(HE20)	36	5180	15.79	16.00	No
		40	5200	15.57	16.00	No
		48	5240	15.81	16.00	No
	802.11ax(HE40)	38	5190	15.74	16.00	No
46		5230	15.68	16.00	No	
802.11ax(HE80)	42	5210	15.83	16.00	No	
5.3 (5.25~5.35)	802.11a	52	5260	<b>16.81</b>	17.00	Yes
		60	5300	16.67	17.00	Yes
		64	5320	16.61	17.00	Yes
	802.11n(HT20)	52	5260	16.25	16.50	No
		60	5300	16.14	16.50	No
		64	5320	16.02	16.50	No
	802.11n(HT40)	54	5270	16.24	16.50	No
		62	5310	16.41	16.50	No

	802.11ac(VHT20)	52	5260	16.25	16.50	No
		60	5300	16.11	16.50	No
		64	5320	16.03	16.50	No
	802.11ac(VHT40)	54	5270	16.23	16.50	No
		62	5310	16.41	16.50	No
	802.11ac(VHT80)	58	5290	16.11	16.50	No
	802.11ax(HE20)	52	5260	15.83	16.00	No
		60	5300	15.80	16.00	No
		64	5320	15.71	16.00	No
	802.11ax(HE40)	54	5270	15.43	16.00	No
		62	5310	15.73	16.00	No
	802.11ax(HE80)	58	5290	15.59	16.00	No
5.6 (5.47~5.725)	802.11a	100	5500	16.70	17.00	Yes
		116	5580	<b>16.80</b>	17.00	Yes
		140	5700	16.55	17.00	Yes
	802.11n(HT20)	100	5500	16.04	16.50	No
		116	5580	16.21	16.50	No
		140	5700	15.95	16.50	No
	802.11n(HT40)	102	5510	16.29	16.50	No
		118	5590	16.11	16.50	No
		134	5670	16.04	16.50	No
	802.11ac(VHT20)	100	5500	16.03	16.50	No
		116	5580	16.16	16.50	No
		140	5700	15.94	16.50	No
	802.11ac(VHT40)	102	5510	16.31	16.50	No
		118	5590	16.13	16.50	No
		134	5670	16.05	16.50	No
	802.11ac(VHT80)	106	5530	16.39	16.50	No
		122	5610	15.96	16.50	No
		138	5690	16.19	16.50	No
	802.11ax(HE20)	100	5500	15.72	16.00	No
		116	5580	15.89	16.00	No
		140	5700	15.71	16.00	No
	802.11ax(HE40)	102	5510	15.62	16.00	No
		110	5550	15.48	16.00	No
		134	5670	15.87	16.00	No
	802.11ax(HE80)	106	5530	15.85	16.00	No
		122	5610	15.46	16.00	No
		138	5690	15.73	16.00	No

5.8 (5.725~5.850)	802.11a	149	5745	16.42	17.00	Yes
		157	5785	16.55	17.00	Yes
		165	5825	<b>16.58</b>	17.00	Yes
	802.11n(HT20)	149	5745	16.32	16.50	No
		157	5785	16.40	16.50	No
		165	5825	16.00	16.50	No
	802.11n(HT40)	151	5755	15.98	16.50	No
		159	5795	16.42	16.50	No
	802.11ac(VHT20)	149	5745	16.25	16.50	No
		157	5785	16.37	16.50	No
		165	5825	15.95	16.50	No
	802.11ac(VHT40)	151	5755	15.95	16.50	No
		159	5795	15.85	16.50	No
	802.11ac(VHT80)	155	5775	15.93	16.50	No
	802.11ax(HE20)	149	5745	15.54	16.00	No
		157	5785	15.51	16.00	No
		165	5825	15.57	16.00	No
	802.11ax(HE40)	151	5755	15.76	16.00	No
159		5795	15.76	16.00	No	
802.11ax(HE80)	155	5775	15.47	16.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.26 5G WIFI Leve3 SISO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	16.51	17.00	Yes
		44	5220	16.51	17.00	Yes
		48	5240	<b>16.53</b>	17.00	Yes
	802.11n(HT20)	36	5180	16.38	16.50	No
		44	5220	15.96	16.50	No
		48	5240	16.31	16.50	No
	802.11n(HT40)	38	5190	15.93	16.50	No
		46	5230	15.97	16.50	No
	802.11ac(VHT20)	36	5180	15.92	16.50	No
		44	5220	15.91	16.50	No
		48	5240	15.82	16.50	No
	802.11ac(VHT40)	38	5190	15.91	16.50	No

		46	5230	16.00	16.50	No
	802.11ac(VHT80)	42	5210	16.30	16.50	No
	802.11ax(HE20)	36	5180	15.55	16.00	No
		40	5200	15.56	16.00	No
		48	5240	15.51	16.00	No
	802.11ax(HE40)	38	5190	15.72	16.00	No
		46	5230	15.76	16.00	No
802.11ax(HE80)	42	5210	15.50	16.00	No	
5.3 (5.25~5.35)	802.11a	52	5260	16.49	17.00	Yes
		60	5300	<b>16.58</b>	17.00	Yes
		64	5320	14.51	17.00	Yes
	802.11n(HT20)	52	5260	16.17	16.50	No
		60	5300	16.21	16.50	No
		64	5320	16.13	16.50	No
	802.11n(HT40)	54	5270	16.19	16.50	No
		62	5310	16.07	16.50	No
	802.11ac(VHT20)	52	5260	16.15	16.50	No
		60	5300	16.21	16.50	No
		64	5320	16.12	16.50	No
	802.11ac(VHT40)	54	5270	16.21	16.50	No
		62	5310	16.03	16.50	No
	802.11ac(VHT80)	58	5290	16.01	16.50	No
	802.11ax(HE20)	52	5260	15.81	16.00	No
		60	5300	15.50	16.00	No
		64	5320	15.79	16.00	No
	802.11ax(HE40)	54	5270	15.54	16.00	No
		62	5310	15.55	16.00	No
	802.11ax(HE80)	58	5290	15.62	16.00	No
	5.6 (5.47~5.725)	802.11a	100	5500	16.68	17.00
116			5580	16.52	17.00	Yes
140			5700	<b>16.74</b>	17.00	Yes
802.11n(HT20)		100	5500	16.04	16.50	No
		116	5580	15.91	16.50	No
		140	5700	16.16	16.50	No
802.11n(HT40)		102	5510	16.24	16.50	No
		118	5590	16.25	16.50	No
		134	5670	16.01	16.50	No
802.11ac(VHT20)		100	5500	16.03	16.50	No
		116	5580	16.39	16.50	No

		140	5700	16.11	16.50	No	
	802.11ac(VHT40)	102	5510	16.24	16.50	No	
		118	5590	16.24	16.50	No	
		134	5670	16.02	16.50	No	
	802.11ac(VHT80)	106	5530	16.42	16.50	No	
		122	5610	16.30	16.50	No	
		138	5690	16.37	16.50	No	
	802.11ax(HE20)	100	5500	15.71	16.00	No	
		116	5580	15.58	16.00	No	
		140	5700	15.81	16.00	No	
	802.11ax(HE40)	102	5510	15.74	16.00	No	
		110	5550	15.63	16.00	No	
		134	5670	15.86	16.00	No	
	802.11ax(HE80)	106	5530	15.91	16.00	No	
		122	5610	15.84	16.00	No	
		138	5690	15.76	16.00	No	
	5.8 (5.725~5.850)	802.11a	149	5745	16.64	17.00	Yes
			157	5785	<b>16.85</b>	17.00	Yes
			165	5825	16.56	17.00	Yes
		802.11n(HT20)	149	5745	15.98	16.50	No
			157	5785	16.28	16.50	No
165			5825	16.41	16.50	No	
802.11n(HT40)		151	5755	16.23	16.50	No	
		159	5795	16.17	16.50	No	
802.11ac(VHT20)		149	5745	15.95	16.50	No	
		157	5785	16.27	16.50	No	
		165	5825	16.39	16.50	No	
802.11ac(VHT40)		151	5755	16.21	16.50	No	
		159	5795	16.17	16.50	No	
802.11ac(VHT80)		155	5775	16.13	16.50	No	
802.11ax(HE20)		149	5745	15.72	16.00	No	
		157	5785	15.48	16.00	No	
		165	5825	15.64	16.00	No	
802.11ax(HE40)		151	5755	15.56	16.00	No	
		159	5795	15.58	16.00	No	
802.11ax(HE80)		155	5775	15.58	16.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.



## 8.6.27 5G WIFI Leve3 MIMO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11n(HT20)	36	5180	13.25	13.50	No
		44	5220	13.02	13.50	No
		48	5240	13.27	13.50	No
	802.11n(HT40)	38	5190	13.15	13.50	No
		46	5230	13.12	13.50	No
	802.11ac(VHT20)	36	5180	13.18	13.50	No
		44	5220	13.02	13.50	No
		48	5240	13.31	13.50	No
	802.11ac(VHT40)	38	5190	13.16	13.50	No
		46	5230	13.16	13.50	No
	802.11ac(VHT80)	42	5210	12.77	13.50	No
	802.11ax(HE20)	36	5180	12.86	13.00	No
		40	5200	12.47	13.00	No
		48	5240	12.57	13.00	No
	802.11ax(HE40)	38	5190	12.51	13.00	No
46		5230	12.55	13.00	No	
802.11ax(HE80)	42	5210	12.73	13.00	No	
5.3 (5.25~5.35)	802.11n(HT20)	52	5260	13.21	13.50	No
		60	5300	13.30	13.50	No
		64	5320	13.18	13.50	No
	802.11n(HT40)	54	5270	12.97	13.50	No
		62	5310	13.01	13.50	No
	802.11ac(VHT20)	52	5260	13.21	13.50	No
		60	5300	13.29	13.50	No
		64	5320	13.23	13.50	No
	802.11ac(VHT40)	54	5270	12.95	13.50	No
		62	5310	13.03	13.50	No
	802.11ac(VHT80)	58	5290	13.24	13.50	No
	802.11ax(HE20)	52	5260	12.57	13.00	No
		60	5300	12.82	13.00	No
		64	5320	12.31	13.00	No
	802.11ax(HE40)	54	5270	12.86	13.00	No
62		5310	12.90	13.00	No	
802.11ax(HE80)	58	5290	12.77	13.00	No	
5.6 (5.47~5.725)	802.11n(HT20)	100	5500	13.05	13.50	No
		116	5580	13.28	13.50	No

		140	5700	13.03	13.50	No	
	802.11n(HT40)	102	5510	13.32	13.50	No	
		118	5590	13.04	13.50	No	
		134	5670	12.98	13.50	No	
	802.11ac(VHT20)	100	5500	13.07	13.50	No	
		116	5580	13.27	13.50	No	
		140	5700	13.05	13.50	No	
	802.11ac(VHT40)	102	5510	13.28	13.50	No	
		118	5590	13.04	13.50	No	
		134	5670	13.01	13.50	No	
	802.11ac(VHT80)	106	5530	13.41	13.50	No	
		122	5610	12.87	13.50	No	
		138	5690	13.18	13.50	No	
	802.11ax(HE20)	100	5500	12.72	13.00	No	
		116	5580	12.81	13.00	No	
		140	5700	12.71	13.00	No	
	802.11ax(HE40)	102	5510	12.80	13.00	No	
		110	5550	12.45	13.00	No	
		134	5670	12.84	13.00	No	
	802.11ax(HE80)	106	5530	12.57	13.00	No	
		122	5610	12.90	13.00	No	
		138	5690	12.55	13.00	No	
	5.8 (5.725~5.850)	802.11n(HT20)	149	5745	12.95	13.50	No
			157	5785	13.18	13.50	No
165			5825	13.26	13.50	No	
802.11n(HT40)		151	5755	12.96	13.50	No	
		159	5795	13.17	13.50	No	
802.11ac(VHT20)		149	5745	13.41	13.50	No	
		157	5785	13.21	13.50	No	
		165	5825	13.24	13.50	No	
802.11ac(VHT40)		151	5755	13.31	13.50	No	
		159	5795	13.18	13.50	No	
802.11ac(VHT80)		155	5775	13.31	13.50	No	
802.11ax(HE20)		149	5745	12.51	13.00	No	
		157	5785	12.49	13.00	No	
		165	5825	12.56	13.00	No	
802.11ax(HE40)		151	5755	12.85	13.00	No	
		159	5795	12.74	13.00	No	
802.11ax(HE80)		155	5775	12.45	13.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.28 5G WIFI Leve3 MIMO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11n(HT20)	36	5180	13.18	13.50	No
		44	5220	13.14	13.50	No
		48	5240	13.02	13.50	No
	802.11n(HT40)	38	5190	13.18	13.50	No
		46	5230	13.03	13.50	No
	802.11ac(VHT20)	36	5180	13.21	13.50	No
		44	5220	13.18	13.50	No
		48	5240	13.03	13.50	No
	802.11ac(VHT40)	38	5190	13.08	13.50	No
		46	5230	12.99	13.50	No
	802.11ac(VHT80)	42	5210	13.16	13.50	No
	802.11ax(HE20)	36	5180	12.49	13.00	No
		40	5200	12.81	13.00	No
		48	5240	12.64	13.00	No
	802.11ax(HE40)	38	5190	12.68	13.00	No
46		5230	12.53	13.00	No	
802.11ax(HE80)	42	5210	12.84	13.00	No	
5.3 (5.25~5.35)	802.11n(HT20)	52	5260	13.01	13.50	No
		60	5300	13.37	13.50	No
		64	5320	13.36	13.50	No
	802.11n(HT40)	54	5270	13.01	13.50	No
		62	5310	13.10	13.50	No
	802.11ac(VHT20)	52	5260	13.00	13.50	No
		60	5300	13.32	13.50	No
		64	5320	13.39	13.50	No
	802.11ac(VHT40)	54	5270	12.98	13.50	No
		62	5310	13.05	13.50	No
	802.11ac(VHT80)	58	5290	13.17	13.50	No
	802.11ax(HE20)	52	5260	12.67	13.00	No
		60	5300	12.48	13.00	No
		64	5320	12.53	13.00	No
	802.11ax(HE40)	54	5270	12.50	13.00	No

		62	5310	12.49	13.00	No
	802.11ax(HE80)	58	5290	12.65	13.00	No
5.6 (5.47~5.725)	802.11n(HT20)	100	5500	13.23	13.50	No
		116	5580	13.42	13.50	No
		140	5700	13.21	13.50	No
	802.11n(HT40)	102	5510	13.34	13.50	No
		118	5590	12.91	13.50	No
		134	5670	13.02	13.50	No
	802.11ac(VHT20)	100	5500	13.24	13.50	No
		116	5580	13.39	13.50	No
		140	5700	13.18	13.50	No
	802.11ac(VHT40)	102	5510	13.35	13.50	No
		118	5590	13.34	13.50	No
		134	5670	13.09	13.50	No
	802.11ac(VHT80)	106	5530	13.21	13.50	No
		122	5610	13.04	13.50	No
		138	5690	12.95	13.50	No
	802.11ax(HE20)	100	5500	12.87	13.00	No
		116	5580	12.71	13.00	No
		140	5700	12.86	13.00	No
	802.11ax(HE40)	102	5510	12.73	13.00	No
		110	5550	12.83	13.00	No
		134	5670	12.41	13.00	No
	802.11ax(HE80)	106	5530	12.61	13.00	No
		122	5610	12.50	13.00	No
		138	5690	12.91	13.00	No
5.8 (5.725~5.850)	802.11n(HT20)	149	5745	13.01	13.50	No
		157	5785	13.24	13.50	No
		165	5825	13.03	13.50	No
	802.11n(HT40)	151	5755	13.03	13.50	No
		159	5795	13.03	13.50	No
	802.11ac(VHT20)	149	5745	12.96	13.50	No
		157	5785	13.26	13.50	No
		165	5825	13.03	13.50	No
	802.11ac(VHT40)	151	5755	13.00	13.50	No
		159	5795	13.00	13.50	No
	802.11ac(VHT80)	155	5775	13.03	13.50	No
	802.11ax(HE20)	149	5745	12.68	13.00	No
		157	5785	12.36	13.00	No

		165	5825	12.58	13.00	No
	802.11ax(HE40)	151	5755	12.85	13.00	No
		159	5795	12.84	13.00	No
	802.11ax(HE80)	155	5775	12.45	13.00	No

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.29 5G WIFI Leve4 SISO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	16.75	17.00	Yes
		44	5220	16.53	17.00	Yes
		48	5240	<b>16.84</b>	17.00	Yes
	802.11n(HT20)	36	5180	16.17	16.50	No
		44	5220	16.33	16.50	No
		48	5240	16.24	16.50	No
	802.11n(HT40)	38	5190	16.17	16.50	No
		46	5230	16.03	16.50	No
	802.11ac(VHT20)	36	5180	16.16	16.50	No
		44	5220	16.35	16.50	No
		48	5240	16.30	16.50	No
	802.11ac(VHT40)	38	5190	16.16	16.50	No
		46	5230	15.96	16.50	No
	802.11ac(VHT80)	42	5210	16.31	16.50	No
	802.11ax(HE20)	36	5180	15.79	16.00	No
		40	5200	15.57	16.00	No
		48	5240	15.81	16.00	No
	802.11ax(HE40)	38	5190	15.74	16.00	No
46		5230	15.68	16.00	No	
802.11ax(HE80)	42	5210	15.83	16.00	No	
5.3 (5.25~5.35)	802.11a	52	5260	<b>16.81</b>	17.00	Yes
		60	5300	16.67	17.00	Yes
		64	5320	16.61	17.00	Yes
	802.11n(HT20)	52	5260	16.25	16.50	No
		60	5300	16.14	16.50	No
		64	5320	16.02	16.50	No
	802.11n(HT40)	54	5270	16.24	16.50	No
		62	5310	16.41	16.50	No

	802.11ac(VHT20)	52	5260	16.25	16.50	No
		60	5300	16.11	16.50	No
		64	5320	16.03	16.50	No
	802.11ac(VHT40)	54	5270	16.23	16.50	No
		62	5310	16.41	16.50	No
	802.11ac(VHT80)	58	5290	16.11	16.50	No
	802.11ax(HE20)	52	5260	15.83	16.00	No
		60	5300	15.80	16.00	No
		64	5320	15.71	16.00	No
	802.11ax(HE40)	54	5270	15.43	16.00	No
		62	5310	15.73	16.00	No
	802.11ax(HE80)	58	5290	15.59	16.00	No
5.6 (5.47~5.725)	802.11a	100	5500	16.70	17.00	Yes
		116	5580	<b>16.80</b>	17.00	Yes
		140	5700	16.55	17.00	Yes
	802.11n(HT20)	100	5500	16.04	16.50	No
		116	5580	16.21	16.50	No
		140	5700	15.95	16.50	No
	802.11n(HT40)	102	5510	16.29	16.50	No
		118	5590	16.11	16.50	No
		134	5670	16.04	16.50	No
	802.11ac(VHT20)	100	5500	16.03	16.50	No
		116	5580	16.16	16.50	No
		140	5700	15.94	16.50	No
	802.11ac(VHT40)	102	5510	16.31	16.50	No
		118	5590	16.13	16.50	No
		134	5670	16.05	16.50	No
	802.11ac(VHT80)	106	5530	16.39	16.50	No
		122	5610	15.96	16.50	No
		138	5690	16.19	16.50	No
	802.11ax(HE20)	100	5500	15.72	16.00	No
		116	5580	15.89	16.00	No
		140	5700	15.71	16.00	No
	802.11ax(HE40)	102	5510	15.62	16.00	No
		110	5550	15.48	16.00	No
		134	5670	15.87	16.00	No
	802.11ax(HE80)	106	5530	15.85	16.00	No
		122	5610	15.46	16.00	No
		138	5690	15.73	16.00	No

5.8 (5.725~5.850)	802.11a	149	5745	16.42	17.00	Yes
		157	5785	16.55	17.00	Yes
		165	5825	<b>16.58</b>	17.00	Yes
	802.11n(HT20)	149	5745	16.32	16.50	No
		157	5785	16.40	16.50	No
		165	5825	16.00	16.50	No
	802.11n(HT40)	151	5755	15.98	16.50	No
		159	5795	16.42	16.50	No
	802.11ac(VHT20)	149	5745	16.25	16.50	No
		157	5785	16.37	16.50	No
		165	5825	15.95	16.50	No
	802.11ac(VHT40)	151	5755	15.95	16.50	No
		159	5795	15.85	16.50	No
	802.11ac(VHT80)	155	5775	15.93	16.50	No
	802.11ax(HE20)	149	5745	15.54	16.00	No
		157	5785	15.51	16.00	No
		165	5825	15.57	16.00	No
	802.11ax(HE40)	151	5755	15.76	16.00	No
159		5795	15.76	16.00	No	
802.11ax(HE80)	155	5775	15.47	16.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.30 5G WIFI Leve4 SISO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	16.51	17.00	Yes
		44	5220	16.51	17.00	Yes
		48	5240	<b>16.53</b>	17.00	Yes
	802.11n(HT20)	36	5180	16.38	16.50	No
		44	5220	15.96	16.50	No
		48	5240	16.31	16.50	No
	802.11n(HT40)	38	5190	15.93	16.50	No
		46	5230	15.97	16.50	No
	802.11ac(VHT20)	36	5180	15.92	16.50	No
		44	5220	15.91	16.50	No
		48	5240	15.82	16.50	No
	802.11ac(VHT40)	38	5190	15.91	16.50	No

		46	5230	16.00	16.50	No
	802.11ac(VHT80)	42	5210	16.30	16.50	No
	802.11ax(HE20)	36	5180	15.55	16.00	No
		40	5200	15.56	16.00	No
		48	5240	15.51	16.00	No
	802.11ax(HE40)	38	5190	15.72	16.00	No
		46	5230	15.76	16.00	No
802.11ax(HE80)	42	5210	15.50	16.00	No	
5.3 (5.25~5.35)	802.11a	52	5260	16.49	17.00	Yes
		60	5300	<b>16.58</b>	17.00	Yes
		64	5320	14.51	17.00	Yes
	802.11n(HT20)	52	5260	16.17	16.50	No
		60	5300	16.21	16.50	No
		64	5320	16.13	16.50	No
	802.11n(HT40)	54	5270	16.19	16.50	No
		62	5310	16.07	16.50	No
	802.11ac(VHT20)	52	5260	16.15	16.50	No
		60	5300	16.21	16.50	No
		64	5320	16.12	16.50	No
	802.11ac(VHT40)	54	5270	16.21	16.50	No
		62	5310	16.03	16.50	No
	802.11ac(VHT80)	58	5290	16.01	16.50	No
	802.11ax(HE20)	52	5260	15.81	16.00	No
		60	5300	15.50	16.00	No
		64	5320	15.79	16.00	No
	802.11ax(HE40)	54	5270	15.54	16.00	No
		62	5310	15.55	16.00	No
	802.11ax(HE80)	58	5290	15.62	16.00	No
	5.6 (5.47~5.725)	802.11a	100	5500	16.68	17.00
116			5580	16.52	17.00	Yes
140			5700	<b>16.74</b>	17.00	Yes
802.11n(HT20)		100	5500	16.04	16.50	No
		116	5580	15.91	16.50	No
		140	5700	16.16	16.50	No
802.11n(HT40)		102	5510	16.24	16.50	No
		118	5590	16.25	16.50	No
		134	5670	16.01	16.50	No
802.11ac(VHT20)		100	5500	16.03	16.50	No
		116	5580	16.39	16.50	No



		140	5700	16.11	16.50	No	
	802.11ac(VHT40)	102	5510	16.24	16.50	No	
		118	5590	16.24	16.50	No	
		134	5670	16.02	16.50	No	
	802.11ac(VHT80)	106	5530	16.42	16.50	No	
		122	5610	16.30	16.50	No	
		138	5690	16.37	16.50	No	
	802.11ax(HE20)	100	5500	15.71	16.00	No	
		116	5580	15.58	16.00	No	
		140	5700	15.81	16.00	No	
	802.11ax(HE40)	102	5510	15.74	16.00	No	
		110	5550	15.63	16.00	No	
		134	5670	15.86	16.00	No	
	802.11ax(HE80)	106	5530	15.91	16.00	No	
		122	5610	15.84	16.00	No	
		138	5690	15.76	16.00	No	
	5.8 (5.725~5.850)	802.11a	149	5745	16.64	17.00	Yes
			157	5785	<b>16.85</b>	17.00	Yes
			165	5825	16.56	17.00	Yes
		802.11n(HT20)	149	5745	15.98	16.50	No
			157	5785	16.28	16.50	No
165			5825	16.41	16.50	No	
802.11n(HT40)		151	5755	16.23	16.50	No	
		159	5795	16.17	16.50	No	
802.11ac(VHT20)		149	5745	15.95	16.50	No	
		157	5785	16.27	16.50	No	
		165	5825	16.39	16.50	No	
802.11ac(VHT40)		151	5755	16.21	16.50	No	
		159	5795	16.17	16.50	No	
802.11ac(VHT80)		155	5775	16.13	16.50	No	
802.11ax(HE20)		149	5745	15.72	16.00	No	
		157	5785	15.48	16.00	No	
		165	5825	15.64	16.00	No	
802.11ax(HE40)		151	5755	15.56	16.00	No	
		159	5795	15.58	16.00	No	
802.11ax(HE80)		155	5775	15.58	16.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

## 8.6.31 5G WIFI Leve4 MIMO 1

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11n(HT20)	36	5180	13.25	13.50	No
		44	5220	13.02	13.50	No
		48	5240	13.27	13.50	No
	802.11n(HT40)	38	5190	13.15	13.50	No
		46	5230	13.12	13.50	No
	802.11ac(VHT20)	36	5180	13.18	13.50	No
		44	5220	13.02	13.50	No
		48	5240	13.31	13.50	No
	802.11ac(VHT40)	38	5190	13.16	13.50	No
		46	5230	13.16	13.50	No
	802.11ac(VHT80)	42	5210	12.77	13.50	No
	802.11ax(HE20)	36	5180	12.86	13.00	No
		40	5200	12.47	13.00	No
		48	5240	12.57	13.00	No
	802.11ax(HE40)	38	5190	12.51	13.00	No
46		5230	12.55	13.00	No	
802.11ax(HE80)	42	5210	12.73	13.00	No	
5.3 (5.25~5.35)	802.11n(HT20)	52	5260	13.21	13.50	No
		60	5300	13.30	13.50	No
		64	5320	13.18	13.50	No
	802.11n(HT40)	54	5270	12.97	13.50	No
		62	5310	13.01	13.50	No
	802.11ac(VHT20)	52	5260	13.21	13.50	No
		60	5300	13.29	13.50	No
		64	5320	13.23	13.50	No
	802.11ac(VHT40)	54	5270	12.95	13.50	No
		62	5310	13.03	13.50	No
	802.11ac(VHT80)	58	5290	13.24	13.50	No
	802.11ax(HE20)	52	5260	12.57	13.00	No
		60	5300	12.82	13.00	No
		64	5320	12.31	13.00	No
	802.11ax(HE40)	54	5270	12.86	13.00	No
62		5310	12.90	13.00	No	
802.11ax(HE80)	58	5290	12.77	13.00	No	
5.6 (5.47~5.725)	802.11n(HT20)	100	5500	13.05	13.50	No
		116	5580	13.28	13.50	No

		140	5700	13.03	13.50	No	
	802.11n(HT40)	102	5510	13.32	13.50	No	
		118	5590	13.04	13.50	No	
		134	5670	12.98	13.50	No	
	802.11ac(VHT20)	100	5500	13.07	13.50	No	
		116	5580	13.27	13.50	No	
		140	5700	13.05	13.50	No	
	802.11ac(VHT40)	102	5510	13.28	13.50	No	
		118	5590	13.04	13.50	No	
		134	5670	13.01	13.50	No	
	802.11ac(VHT80)	106	5530	13.41	13.50	No	
		122	5610	12.87	13.50	No	
		138	5690	13.18	13.50	No	
	802.11ax(HE20)	100	5500	12.72	13.00	No	
		116	5580	12.81	13.00	No	
		140	5700	12.71	13.00	No	
	802.11ax(HE40)	102	5510	12.80	13.00	No	
		110	5550	12.45	13.00	No	
		134	5670	12.84	13.00	No	
	802.11ax(HE80)	106	5530	12.57	13.00	No	
		122	5610	12.90	13.00	No	
		138	5690	12.55	13.00	No	
	5.8 (5.725~5.850)	802.11n(HT20)	149	5745	12.95	13.50	No
			157	5785	13.18	13.50	No
165			5825	13.26	13.50	No	
802.11n(HT40)		151	5755	12.96	13.50	No	
		159	5795	13.17	13.50	No	
802.11ac(VHT20)		149	5745	13.41	13.50	No	
		157	5785	13.21	13.50	No	
		165	5825	13.24	13.50	No	
802.11ac(VHT40)		151	5755	13.31	13.50	No	
		159	5795	13.18	13.50	No	
802.11ac(VHT80)		155	5775	13.31	13.50	No	
802.11ax(HE20)		149	5745	12.51	13.00	No	
		157	5785	12.49	13.00	No	
		165	5825	12.56	13.00	No	
802.11ax(HE40)		151	5755	12.85	13.00	No	
		159	5795	12.74	13.00	No	
802.11ax(HE80)		155	5775	12.45	13.00	No	

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

### 8.6.32 5G WIFI Leve4 MIMO 2

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11n(HT20)	36	5180	13.18	13.50	No
		44	5220	13.14	13.50	No
		48	5240	13.02	13.50	No
	802.11n(HT40)	38	5190	13.18	13.50	No
		46	5230	13.03	13.50	No
	802.11ac(VHT20)	36	5180	13.21	13.50	No
		44	5220	13.18	13.50	No
		48	5240	13.03	13.50	No
	802.11ac(VHT40)	38	5190	13.08	13.50	No
		46	5230	12.99	13.50	No
	802.11ac(VHT80)	42	5210	13.16	13.50	No
	802.11ax(HE20)	36	5180	12.49	13.00	No
		40	5200	12.81	13.00	No
		48	5240	12.64	13.00	No
	802.11ax(HE40)	38	5190	12.68	13.00	No
46		5230	12.53	13.00	No	
802.11ax(HE80)	42	5210	12.84	13.00	No	
5.3 (5.25~5.35)	802.11n(HT20)	52	5260	13.01	13.50	No
		60	5300	13.37	13.50	No
		64	5320	13.36	13.50	No
	802.11n(HT40)	54	5270	13.01	13.50	No
		62	5310	13.10	13.50	No
	802.11ac(VHT20)	52	5260	13.00	13.50	No
		60	5300	13.32	13.50	No
		64	5320	13.39	13.50	No
	802.11ac(VHT40)	54	5270	12.98	13.50	No
		62	5310	13.05	13.50	No
	802.11ac(VHT80)	58	5290	13.17	13.50	No
	802.11ax(HE20)	52	5260	12.67	13.00	No
		60	5300	12.48	13.00	No
		64	5320	12.53	13.00	No
	802.11ax(HE40)	54	5270	12.50	13.00	No

		62	5310	12.49	13.00	No
	802.11ax(HE80)	58	5290	12.65	13.00	No
5.6 (5.47~5.725)	802.11n(HT20)	100	5500	13.23	13.50	No
		116	5580	13.42	13.50	No
		140	5700	13.21	13.50	No
	802.11n(HT40)	102	5510	13.34	13.50	No
		118	5590	12.91	13.50	No
		134	5670	13.02	13.50	No
	802.11ac(VHT20)	100	5500	13.24	13.50	No
		116	5580	13.39	13.50	No
		140	5700	13.18	13.50	No
	802.11ac(VHT40)	102	5510	13.35	13.50	No
		118	5590	13.34	13.50	No
		134	5670	13.09	13.50	No
	802.11ac(VHT80)	106	5530	13.21	13.50	No
		122	5610	13.04	13.50	No
		138	5690	12.95	13.50	No
	802.11ax(HE20)	100	5500	12.87	13.00	No
		116	5580	12.71	13.00	No
		140	5700	12.86	13.00	No
	802.11ax(HE40)	102	5510	12.73	13.00	No
		110	5550	12.83	13.00	No
		134	5670	12.41	13.00	No
	802.11ax(HE80)	106	5530	12.61	13.00	No
		122	5610	12.50	13.00	No
		138	5690	12.91	13.00	No
5.8 (5.725~5.850)	802.11n(HT20)	149	5745	13.01	13.50	No
		157	5785	13.24	13.50	No
		165	5825	13.03	13.50	No
	802.11n(HT40)	151	5755	13.03	13.50	No
		159	5795	13.03	13.50	No
	802.11ac(VHT20)	149	5745	12.96	13.50	No
		157	5785	13.26	13.50	No
		165	5825	13.03	13.50	No
	802.11ac(VHT40)	151	5755	13.00	13.50	No
		159	5795	13.00	13.50	No
	802.11ac(VHT80)	155	5775	13.03	13.50	No
	802.11ax(HE20)	149	5745	12.68	13.00	No
		157	5785	12.36	13.00	No

		165	5825	12.58	13.00	No
	802.11ax(HE40)	151	5755	12.85	13.00	No
		159	5795	12.84	13.00	No
	802.11ax(HE80)	155	5775	12.45	13.00	No

Note: 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  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

## 8.7 Bluetooth

### 8.7.1 Bluetooth ANT 3

Mode	GFSK			$\pi/4$ -DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Average Power (dBm)	-1.46	-0.44	-0.76	-1.95	-1.06	-1.31
Tune-Up Limit (dBm)	0.00	0.00	0.00	-0.50	-0.50	-0.50
SAR Test Require	Yes	Yes	Yes	No	No	No
Mode	8-DPSK			/		
Channel	0	39	78	/	/	/
Frequency (MHz)	2402	2441	2480	/	/	/
Average Power (dBm)	-1.50	-0.64	-0.85	/	/	/
Tune-Up Limit (dBm)	-0.50	-0.50	-0.50	/		
SAR Test Require	No	No	No	/	/	/
Mode	BLE-1Mbps			BLE-2Mbps		
Channel	0	19	39	0	19	39
Frequency (MHz)	2402	2440	2480	2402	2440	2480
Average Power (dBm)	-5.56	-4.68	-4.93	-5.53	-4.55	-4.94
Tune-Up Limit (dBm)	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
SAR Test Require	No	No	No	No	No	No

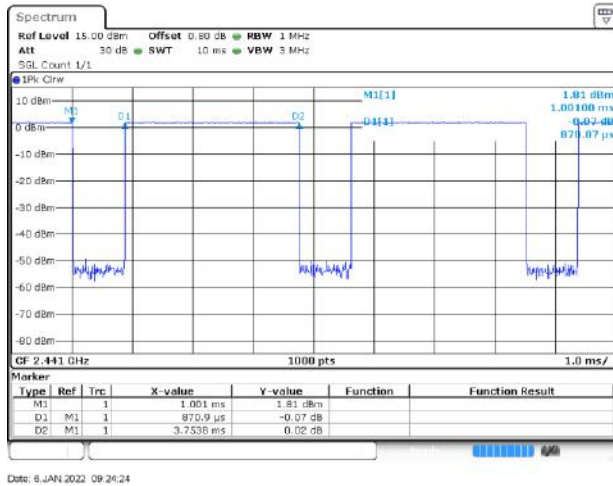
### 8.7.2 Bluetooth ANT 6

Mode	GFSK			$\pi/4$ -DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Average Power (dBm)	1.24	2.04	0.40	0.78	1.54	-0.07
Tune-Up Limit (dBm)	2.50	2.50	1.50	2.00	2.00	1.00
SAR Test Require	Yes	Yes	Yes	No	No	No
Mode	8-DPSK			/		
Channel	0	39	78	/	/	/
Frequency (MHz)	2402	2441	2480	/	/	/
Average Power (dBm)	1.14	1.90	0.33	/	/	/
Tune-Up Limit (dBm)	2.00	2.00	1.00	/		
SAR Test Require	No	No	No	/	/	/
Mode	BLE-1Mbps			BLE-2Mbps		
Channel	0	19	39	0	19	39
Frequency (MHz)	2402	2440	2480	2402	2440	2480
Average Power (dBm)	-2.76	-1.98	-3.68	-2.79	-1.90	-3.60
Tune-Up Limit (dBm)	-1.50	-1.50	-2.50	-1.50	-1.50	-2.50
SAR Test Require	No	No	No	No	No	No

Note: The Bluetooth duty cycle is 76.80 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

### Duty Cycle Test plots

#### GFSK



Date: 6 JAN 2022 09:24:24



## 8.8 Power Reduction List

- 1.This mobile phone device supports the receiver detection mechanism. This device uses the receiver to indicate whether the user is making a call in head.
- 2.When device is making call in head, the power reduction will applied for SAR compliance.
- 3.This device uses the P-sensor to detect Body-worn,Hotspot and Specific state for Antenna7.
4. The power reduction state of the head is consistent with the power reduction of the body's P-Sensor trigger state

**WWAN Antenna Reduced power level table**

Reduced level	Receiver state	Transmitting conditions
Level1	On (head scenario)	WWAN Use Only WWAN+WLAN/BT
Level2	Off (Body scenario)	WWAN Use Only WWAN+WLAN/BT

**WWAN Antenna Power table**

Mode	Antenna	Full Power (dBm)	Receiver on	Receiver off
			Head	Body
			Standalone & Simultaneous transmission	Standalone & Simultaneous transmission
			Level1	Level2
GSM 850	Ant1	33.00	33.00	33.00
GPRS850 1 Tx Slot	Ant1	33.00	33.00	33.00
GPRS850 2 Tx Slots	Ant1	31.00	31.00	31.00
GPRS850 3 Tx Slots	Ant1	29.00	29.00	29.00
GPRS850 4 Tx Slots	Ant1	26.50	26.50	26.50
EGPRS850 1 Tx Slot	Ant1	27.00	27.00	27.00
EGPRS850 2 Tx Slots	Ant1	26.00	26.00	26.00
EGPRS850 3 Tx Slots	Ant1	24.50	24.50	24.50
EGPRS850 4 Tx Slots	Ant1	23.00	23.00	23.00
GSM 850	Ant2	33.00	33.00	33.00
GPRS850 1 Tx Slot	Ant2	33.00	33.00	33.00
GPRS850 2 Tx Slots	Ant2	31.00	31.00	31.00

GPRS850 3 Tx Slots	Ant2	29.00	29.00	29.00
GPRS850 4 Tx Slots	Ant2	26.50	26.50	26.50
EGPRS850 1 Tx Slot	Ant2	30.00	30.00	30.00
EGPRS850 2 Tx Slots	Ant2	29.00	29.00	29.00
EGPRS850 3 Tx Slots	Ant2	27.00	27.00	27.00
EGPRS850 4 Tx Slots	Ant2	26.00	26.00	26.00
GSM 1900	Ant4	30.50	28.00	30.50
GPRS1900 1 Tx Slot	Ant4	30.50	28.00	30.50
GPRS1900 2 Tx Slots	Ant4	29.50	28.00	29.50
GPRS1900 3 Tx Slots	Ant4	27.50	27.50	27.50
GPRS1900 4 Tx Slots	Ant4	27.50	27.50	25.00
EGPRS1900 1 Tx Slot	Ant4	27.00	27.00	27.00
EGPRS1900 2 Tx Slots	Ant4	26.50	26.50	26.50
EGPRS1900 3 Tx Slots	Ant4	25.00	25.00	25.00
EGPRS1900 4 Tx Slots	Ant4	23.00	23.00	23.00
GSM 1900	Ant2	31.00	31.00	31.00
GPRS1900 1 Tx Slot	Ant2	31.00	31.00	31.00
GPRS1900 2 Tx Slots	Ant2	30.00	30.00	30.00
GPRS1900 3 Tx Slots	Ant2	27.50	27.50	27.50
GPRS1900 4 Tx Slots	Ant2	25.00	25.00	25.00
EGPRS1900 1 Tx Slot	Ant2	27.00	27.00	27.00
EGPRS1900 2 Tx Slots	Ant2	26.50	26.50	26.50
EGPRS1900 3 Tx Slots	Ant2	25.00	25.00	25.00
EGPRS1900 4 Tx Slots	Ant2	23.00	23.00	23.00
WCDMA Band2 RMC	Ant4	25.00	19.50	25.00
HSDPA Subtest-1	Ant4	24.00	18.50	24.00
HSDPA Subtest-2	Ant4	24.00	18.50	24.00
HSDPA Subtest-3	Ant4	23.50	18.00	23.50
HSDPA Subtest-4	Ant4	23.50	18.00	23.50
HSUPA Subtest-1	Ant4	24.00	18.50	24.00

HSUPA Subtest-2	Ant4	22.00	16.50	22.00
HSUPA Subtest-3	Ant4	23.00	17.50	23.00
HSUPA Subtest-4	Ant4	22.00	16.50	22.00
HSUPA Subtest-5	Ant4	24.00	18.50	24.00
WCDMA Band2 RMC	Ant2	25.00	25.00	25.00
HSDPA Subtest-1	Ant2	24.00	24.00	24.00
HSDPA Subtest-2	Ant2	24.00	24.00	24.00
HSDPA Subtest-3	Ant2	23.50	23.50	23.50
HSDPA Subtest-4	Ant2	23.50	23.50	23.50
HSUPA Subtest-1	Ant2	24.00	24.00	24.00
HSUPA Subtest-2	Ant2	22.00	22.00	22.00
HSUPA Subtest-3	Ant2	23.00	23.00	23.00
HSUPA Subtest-4	Ant2	22.00	22.00	22.00
HSUPA Subtest-5	Ant2	24.00	24.00	24.00
WCDMA Band4 RMC	Ant4	24.50	19.00	24.50
HSDPA Subtest-1	Ant4	23.50	18.00	23.50
HSDPA Subtest-2	Ant4	23.50	18.00	23.50
HSDPA Subtest-3	Ant4	23.00	17.50	23.00
HSDPA Subtest-4	Ant4	23.00	17.50	23.00
HSUPA Subtest-1	Ant4	23.50	18.00	23.50
HSUPA Subtest-2	Ant4	21.50	16.00	21.50
HSUPA Subtest-3	Ant4	22.50	17.00	22.50
HSUPA Subtest-4	Ant4	21.50	16.00	21.50
HSUPA Subtest-5	Ant4	23.50	18.00	23.50
WCDMA Band4 RMC	Ant2	24.50	24.50	24.50
HSDPA Subtest-1	Ant2	23.50	23.50	23.50
HSDPA Subtest-2	Ant2	23.50	23.50	23.50
HSDPA Subtest-3	Ant2	23.00	23.00	23.00
HSDPA Subtest-4	Ant2	23.00	23.00	23.00
HSUPA Subtest-1	Ant2	23.50	23.50	23.50

HSUPA Subtest-2	Ant2	21.50	21.50	21.50
HSUPA Subtest-3	Ant2	22.50	22.50	22.50
HSUPA Subtest-4	Ant2	21.50	21.50	21.50
HSUPA Subtest-5	Ant2	23.50	23.50	23.50
WCDMA Band5 RMC	Ant1	24.50	24.50	24.50
HSDPA Subtest-1	Ant1	23.50	23.50	23.50
HSDPA Subtest-2	Ant1	23.50	23.50	23.50
HSDPA Subtest-3	Ant1	23.00	23.00	23.00
HSDPA Subtest-4	Ant1	23.00	23.00	23.00
HSUPA Subtest-1	Ant1	23.50	23.50	23.50
HSUPA Subtest-2	Ant1	21.50	21.50	21.50
HSUPA Subtest-3	Ant1	22.50	22.50	22.50
HSUPA Subtest-4	Ant1	21.50	21.50	21.50
HSUPA Subtest-5	Ant1	23.50	23.50	23.50
WCDMA Band5 RMC	Ant2	24.50	24.50	24.50
HSDPA Subtest-1	Ant2	23.50	23.50	23.50
HSDPA Subtest-2	Ant2	23.50	23.50	23.50
HSDPA Subtest-3	Ant2	23.00	23.00	23.00
HSDPA Subtest-4	Ant2	23.00	23.00	23.00
HSUPA Subtest-1	Ant2	23.50	23.50	23.50
HSUPA Subtest-2	Ant2	21.50	21.50	21.50
HSUPA Subtest-3	Ant2	22.50	22.50	22.50
HSUPA Subtest-4	Ant2	21.50	21.50	21.50
HSUPA Subtest-5	Ant2	23.50	23.50	23.50
1xEVDO Rel.0 RTAP 153.6kbps	Ant1	24.00	24.00	24.00
1xEVDO Rel.A RETAP :4096	Ant1	24.00	24.00	24.00
1xEVDO Rel.0 RTAP 153.6kbps	Ant2	24.50	24.50	24.50
1xEVDO Rel.A RETAP :4096	Ant2	24.50	24.50	24.50

LTE Band2	Ant4	24.50	19.00	24.50
LTE Band2	Ant2	24.50	24.50	24.50
LTE Band4	Ant4	24.00	19.00	24.00
LTE Band4	Ant2	24.00	24.00	24.00
LTE Band5	Ant1	24.00	24.00	24.00
LTE Band5	Ant2	23.50	23.50	23.50
LTE Band7	Ant4	19.50	16.50	19.50
LTE Band7	Ant2	24.00	24.00	24.00
LTE Band12	Ant1	24.00	24.00	24.00
LTE Band12	Ant2	23.00	23.00	23.00
LTE Band17	Ant1	24.00	24.00	24.00
LTE Band17	Ant2	23.00	23.00	23.00
LTE Band26	Ant1	24.00	24.00	24.00
LTE Band26	Ant2	23.50	23.50	23.50

Mode	Band	Antenna		
			Receiver on	Receiver off
			Head	Body&Limbs
			Standalone & Simultaneous transmission	Standalone & Simultaneous transmission
			Level 1	Level 2
5G NR n5 SA	n5	Ant2	24.00	24.00
5G NR n7 SA	n7	Ant2	24.50	24.50
5G NR n41 SA (PC2&3)	n41	Ant2	24.00	24.00
		Ant8	17.00	19.00
5G NR n77 SA (PC2&3) 3700-3980MHz	n77	Ant8	16.00	18.00
5G NR n77 SA (PC2&3) 3450-3550MHz	n77	Ant8	16.00	18.00
5G NR n78 SA (PC2&3) 3700-3800MHz	n78	Ant8	16.00	18.00

5G NR n78 SA (PC2&3) 3450-3550MHz	n78	Ant8	16.00	18.00
DC_5A+n78A	n78	Ant8	15.00	18.00
	LTE Band5	Ant1	24.00	24.00
DC_5A+n78A	n78	Ant8	15.00	18.00
	LTE Band5	Ant2	23.50	23.50
DC_7A+n78A	n78	Ant8	15.00	18.00
	LTE Band7	Ant4	13.50	17.50
DC_7A+n78A	n78	Ant8	15.00	18.00
	LTE Band7	Ant2	20.00	23.00
DC_38A+n78A	n78	Ant8	15.00	18.00
	LTE Band38	Ant4	17.50	22.00
DC_38A+n78A	n78	Ant8	15.00	18.00
	LTE Band38	Ant2	22.00	25.00

**WLAN Antenna Reduced power level table**

Reduced level	Receiver state	Transmitting conditions
Level 1	On (head scenario)	WLAN Use Only
Level 2	On (head scenario)	WWAN + WLAN
Level 3	Off (Body scenario)	WLAN Use Only
Level 4	Off (Body scenario)	WWAN + WLAN

**WLAN Reduced power level table**

Mode	Antenna	Full Power (dBm)	WLAN Antenna			
			Receiver on		Receiver off	
			Head		Body	
			Standalone	Simultaneous transmission	Standalone	Simultaneous transmission
				2.4G+5G		2.4G+5G
Level 1	Level 2	Level 3	Level 4			
2.4G WLAN 802.11b	Ant.3	18.00	15.00	14.00	18.00	18.00
2.4G WLAN 802.11g	Ant.3	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11n20	Ant.3	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11n40	Ant.3	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11ax20	Ant.3	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11ax40	Ant.3	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11b	Ant.6	18.00	15.00	14.00	18.00	18.00
2.4G WLAN 802.11g	Ant.6	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11n20	Ant.6	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11n40	Ant.6	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11ax20	Ant.6	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11ax40	Ant.6	17.00	15.00	14.00	17.00	17.00
2.4G WLAN 802.11n20	Ant.3+6	14.00	11.00	10.00	14.00	14.00
2.4G WLAN 802.11n40	Ant.3+6	14.00	11.00	10.00	14.00	14.00

2.4G WLAN 802.11ax20	Ant.3+6	14.00	11.00	10.00	14.00	14.00
2.4G WLAN 802.11ax40	Ant.3+6	14.00	11.00	10.00	14.00	14.00
5.2G WLAN 802.11a	Ant.6	17.00	17.00	14.00	17.00	17.00
5.2G WLAN 802.11n20	Ant.6	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11n40	Ant.6	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11ac20	Ant.6	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11ac40	Ant.6	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11ac80	Ant.6	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11ax20	Ant.6	16.00	16.00	13.00	16.00	16.00
5.2G WLAN 802.11ax40	Ant.6	16.00	16.00	13.00	16.00	16.00
5.2G WLAN 802.11ax80	Ant.6	16.00	16.00	13.00	16.00	16.00
5.2G WLAN 802.11a	Ant.7	17.00	17.00	14.00	17.00	17.00
5.2G WLAN 802.11n20	Ant.7	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11n40	Ant.7	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11ac20	Ant.7	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11ac40	Ant.7	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11ac80	Ant.7	16.50	16.50	13.50	16.50	16.50
5.2G WLAN 802.11ax20	Ant.7	16.00	16.00	13.00	16.00	16.00
5.2G WLAN 802.11ax40	Ant.7	16.00	16.00	13.00	16.00	16.00
5.2G WLAN 802.11ax80	Ant.7	16.00	16.00	13.00	16.00	16.00
5.2G WLAN 802.11n20	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.2G WLAN 802.11n40	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.2G WLAN 802.11ac20	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.2G WLAN 802.11ac40	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.2G WLAN 802.11ac80	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.2G WLAN 802.11ax20	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.2G WLAN 802.11ax40	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.2G WLAN 802.11ax80	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.3G WLAN 802.11a	Ant.6	17.00	17.00	14.00	17.00	17.00
5.3G WLAN 802.11n20	Ant.6	16.50	16.50	13.50	16.50	16.50

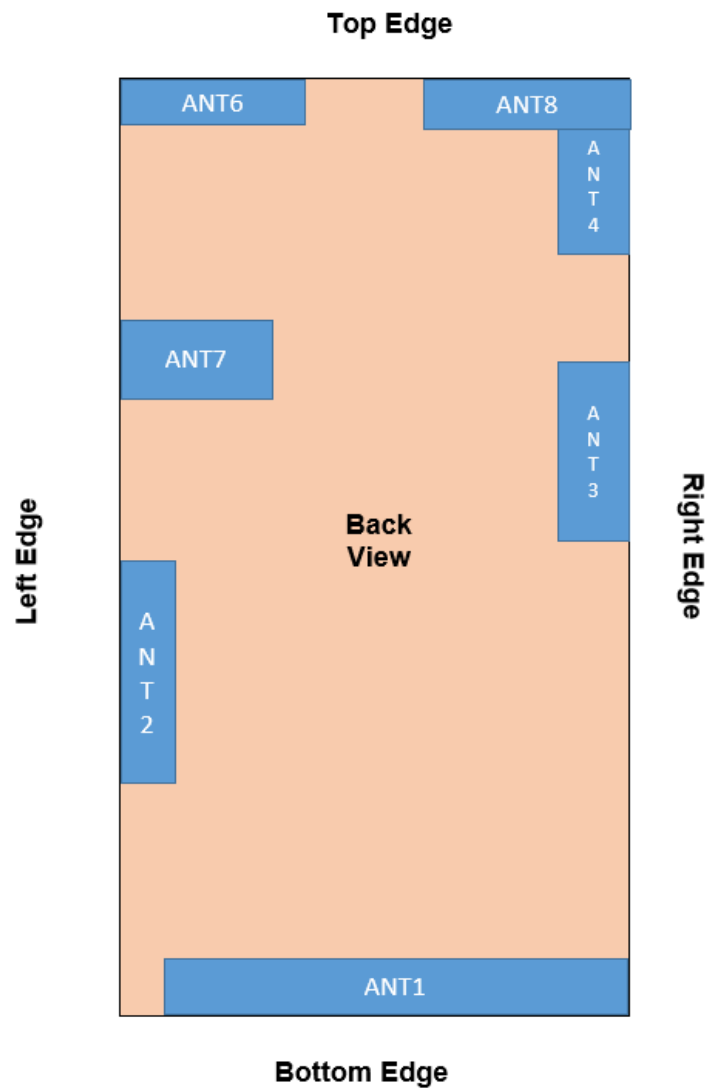


5.3G WLAN 802.11n40	Ant.6	16.50	16.50	13.50	16.50	16.50
5.3G WLAN 802.11ac20	Ant.6	16.50	16.50	13.50	16.50	16.50
5.3G WLAN 802.11ac40	Ant.6	16.50	16.50	13.50	16.50	16.50
5.3G WLAN 802.11ac80	Ant.6	16.50	16.50	13.50	16.50	16.50
5.3G WLAN 802.11ax20	Ant.6	16.00	16.00	13.00	16.00	16.00
5.3G WLAN 802.11ax40	Ant.6	16.00	16.00	13.00	16.00	16.00
5.3G WLAN 802.11ax80	Ant.6	16.00	16.00	13.00	16.00	16.00
5.3G WLAN 802.11a	Ant.7	17.00	17.00	14.00	17.00	17.00
5.3G WLAN 802.11n20	Ant.7	16.50	16.50	13.50	16.50	16.50
5.3G WLAN 802.11n40	Ant.7	16.50	16.50	13.50	16.50	16.50
5.3G WLAN 802.11ac20	Ant.7	16.50	16.50	13.50	16.50	16.50
5.3G WLAN 802.11ac40	Ant.7	16.50	16.50	13.50	16.50	16.50
5.3G WLAN 802.11ac80	Ant.7	16.50	16.50	13.50	16.50	16.50
5.3G WLAN 802.11ax20	Ant.7	16.00	16.00	13.00	16.00	16.00
5.3G WLAN 802.11ax40	Ant.7	16.00	16.00	13.00	16.00	16.00
5.3G WLAN 802.11ax80	Ant.7	16.00	16.00	13.00	16.00	16.00
5.3G WLAN 802.11n20	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.3G WLAN 802.11n40	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.3G WLAN 802.11ac20	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.3G WLAN 802.11ac40	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.3G WLAN 802.11ac80	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.3G WLAN 802.11ax20	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.3G WLAN 802.11ax40	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.3G WLAN 802.11ax80	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.6G WLAN 802.11a	Ant.6	17.00	17.00	14.00	17.00	17.00
5.6G WLAN 802.11n20	Ant.6	16.50	16.50	13.50	16.50	16.50
5.6G WLAN 802.11n40	Ant.6	16.50	16.50	13.50	16.50	16.50
5.6G WLAN 802.11ac20	Ant.6	16.50	16.50	13.50	16.50	16.50
5.6G WLAN 802.11ac40	Ant.6	16.50	16.50	13.50	16.50	16.50
5.6G WLAN 802.11ac80	Ant.6	16.50	16.50	13.50	16.50	16.50

5.6G WLAN 802.11ax20	Ant.6	16.00	16.00	13.00	16.00	16.00
5.6G WLAN 802.11ax40	Ant.6	16.00	16.00	13.00	16.00	16.00
5.6G WLAN 802.11ax80	Ant.6	16.00	16.00	13.00	16.00	16.00
5.6G WLAN 802.11a	Ant.7	17.00	17.00	14.00	17.00	17.00
5.6G WLAN 802.11n20	Ant.7	16.50	16.50	13.50	16.50	16.50
5.6G WLAN 802.11n40	Ant.7	16.50	16.50	13.50	16.50	16.50
5.6G WLAN 802.11ac20	Ant.7	16.50	16.50	13.50	16.50	16.50
5.6G WLAN 802.11ac40	Ant.7	16.50	16.50	13.50	16.50	16.50
5.6G WLAN 802.11ac80	Ant.7	16.50	16.50	13.50	16.50	16.50
5.6G WLAN 802.11ax20	Ant.7	16.00	16.00	13.00	16.00	16.00
5.6G WLAN 802.11ax40	Ant.7	16.00	16.00	13.00	16.00	16.00
5.6G WLAN 802.11ax80	Ant.7	16.00	16.00	13.00	16.00	16.00
5.6G WLAN 802.11n20	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.6G WLAN 802.11n40	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.6G WLAN 802.11ac20	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.6G WLAN 802.11ac40	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.6G WLAN 802.11ac80	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.6G WLAN 802.11ax20	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.6G WLAN 802.11ax40	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.6G WLAN 802.11ax80	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.8G WLAN 802.11a	Ant.6	17.00	17.00	14.00	17.00	17.00
5.8G WLAN 802.11n20	Ant.6	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11n40	Ant.6	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11ac20	Ant.6	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11ac40	Ant.6	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11ac80	Ant.6	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11ax20	Ant.6	16.00	16.00	13.00	16.00	16.00
5.8G WLAN 802.11ax40	Ant.6	16.00	16.00	13.00	16.00	16.00
5.8G WLAN 802.11ax80	Ant.6	16.00	16.00	13.00	16.00	16.00
5.8G WLAN 802.11a	Ant.7	17.00	17.00	14.00	17.00	17.00

5.8G WLAN 802.11n20	Ant.7	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11n40	Ant.7	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11ac20	Ant.7	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11ac40	Ant.7	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11ac80	Ant.7	16.50	16.50	13.50	16.50	16.50
5.8G WLAN 802.11ax20	Ant.7	16.00	16.00	13.00	16.00	16.00
5.8G WLAN 802.11ax40	Ant.7	16.00	16.00	13.00	16.00	16.00
5.8G WLAN 802.11ax80	Ant.7	16.00	16.00	13.00	16.00	16.00
5.8G WLAN 802.11n20	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.8G WLAN 802.11n40	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.8G WLAN 802.11ac20	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.8G WLAN 802.11ac40	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.8G WLAN 802.11ac80	Ant.6+7	13.50	13.50	10.50	13.50	13.50
5.8G WLAN 802.11ax20	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.8G WLAN 802.11ax40	Ant.6+7	13.00	13.00	10.00	13.00	13.00
5.8G WLAN 802.11ax80	Ant.6+7	13.00	13.00	10.00	13.00	13.00
Bluetooth	Ant.3	0.00	0.00	0.00	0.00	0.00
Bluetooth	Ant.6	2.30	2.30	2.30	2.30	2.30

## 9 TEST EXCLUSION CONSIDERATION



Antenna	Support Bands
ANT1	GSM850
	WCDMA B5; BC0
	LTE B5/12/17/26
ANT2	GSM850/1900
	WCDMA B2/4/5; BC0
	LTE B2/4/5/7/12/17/26/38/41
	5G N5/7/41
ANT3	WIFI 2.4G; BT

ANT4	GSM1900
	WCDMA B2/4
	LTE B2/4/7/38/41
ANT6	WIFI 2.4G; WIFI 5G; BT
ANT7	WIFI 5G
ANT8	5G N41/77/78

Antenna	Front Side(mm)	Back Side(mm)	Left Edge(mm)	Right Edge(mm)	Top Edge(mm)	Bottom Edge(mm)
ANT1	<5	<5	<25	<5	>25	<5
ANT2	<5	<5	<5	>25	>25	>25
ANT3	<5	<5	>25	<5	>25	>25
ANT4	<5	<5	>25	<5	<25	>25
ANT6	<5	<5	<5	>25	<5	>25
ANT7	<5	<5	<5	>25	>25	>25
ANT8	<5	<5	>25	<5	<5	>25

## 9.1 SAR Test Exclusion Consideration Table

According with FCC KDB 447498 D01, Appendix A, <SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and  $\leq 50$  mm> Table, this Device SAR test configurations consider as following :

### ANT 1

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/Back	Left Edge	Right Edge	Top Edge	Bottom Edge
GSM 850	Distance to User			<5mm	<5mm	<25mm	<5mm	>25mm	<5mm
	Data	33.00	1995.26	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band 5	Distance to User			<5mm	<5mm	<25mm	<5mm	>25mm	<5mm
	RMC	24.50	281.84	Yes	Yes	Yes	Yes	No	Yes
CDMA BC0	Distance to User			<5mm	<5mm	<25mm	<5mm	>25mm	<5mm
	RMC	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes
LTE Band 5	Distance to User			<5mm	<5mm	<25mm	<5mm	>25mm	<5mm
	QPSK	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes
LTE Band 12	Distance to User			<5mm	<5mm	<25mm	<5mm	>25mm	<5mm
	QPSK	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes
LTE Band 17	Distance to User			<5mm	<5mm	<25mm	<5mm	>25mm	<5mm
	QPSK	23.00	199.53	Yes	Yes	Yes	Yes	No	Yes
LTE Band 26	Distance to User			<5mm	<5mm	<25mm	<5mm	>25mm	<5mm
	QPSK	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes

### ANT 2

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/Back	Left Edge	Right Edge	Top Edge	Bottom Edge
GSM 850	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	Data	33.00	1995.26	Yes	Yes	Yes	No	No	No
GSM 1900	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	Data	31.00	1258.93	Yes	Yes	Yes	No	No	No
WCDMA Band 2	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	RMC	25.00	316.23	Yes	Yes	Yes	No	No	No
WCDMA Band 4	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	RMC	24.50	281.84	Yes	Yes	Yes	No	No	No
WCDMA Band 5	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	RMC	24.50	281.84	Yes	Yes	Yes	No	No	No
CDMA BC0	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	RMC	24.50	281.84	Yes	Yes	Yes	No	No	No
LTE Band 2	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm

	QPSK	24.50	281.84	Yes	Yes	Yes	No	No	No
LTE Band 4	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	QPSK	24.00	251.19	Yes	Yes	Yes	No	No	No
LTE Band 5	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	QPSK	23.50	223.87	Yes	Yes	Yes	No	No	No
LTE Band 7	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	QPSK	24.00	251.19	Yes	Yes	Yes	No	No	No
LTE Band 12	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	QPSK	24.00	251.19	Yes	Yes	Yes	No	No	No
LTE Band 17	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	QPSK	24.00	251.19	Yes	Yes	Yes	No	No	No
LTE Band 26	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	QPSK	24.00	251.19	Yes	Yes	Yes	No	No	No
LTE Band 38	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	QPSK	25.00	316.23	Yes	Yes	Yes	No	No	No
LTE Band 41	Distance to User			<5mm	<5mm	<5mm	>25mm	>25mm	>25mm
	QPSK	25.00	316.23	Yes	Yes	Yes	No	No	No

## ANT 3

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/ Back	Left Edge	Right Edge	Top Edge	Bottom Edge
WLAN 2.4 G	Distance to User			<5mm	<5mm	>25mm	<5mm	>25mm	>25mm
	802.11b	15.00	31.62	Yes	Yes	No	Yes	No	No
	802.11g	14.00	25.12	Yes	Yes	No	Yes	No	No
	802.11n(HT20)	14.00	25.12	Yes	Yes	No	Yes	No	No
	802.11n(HT40)	14.00	25.12	Yes	Yes	No	Yes	No	No
	802.11ax(HE20)	14.00	25.12	Yes	Yes	No	Yes	No	No
	802.11ax(HE40)	14.00	25.12	Yes	Yes	No	Yes	No	No
Bluetooth	Distance to User			<5mm	<5mm	>25mm	<5mm	>25mm	>25mm
	BT	0.00	1.00	Yes	Yes	No	Yes	No	No

## ANT 4

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/ Back	Left Edge	Right Edge	Top Edge	Bottom Edge
GSM 1900	Distance to User			<5mm	<5mm	>25mm	<5mm	<25mm	>25mm
	Data	30.50	1122.02	Yes	Yes	No	Yes	Yes	No
WCDMA Band 2	Distance to User			<5mm	<5mm	>25mm	<5mm	<25mm	>25mm
	RMC	25.00	316.23	Yes	Yes	No	Yes	Yes	No

WCDMA Band 4	Distance to User			<5mm	<5mm	>25mm	<5mm	<25mm	>25mm
	RMC	24.50	281.84	Yes	Yes	No	Yes	Yes	No
LTE Band 2	Distance to User			<5mm	<5mm	>25mm	<5mm	<25mm	>25mm
	QPSK	24.50	281.84	Yes	Yes	No	Yes	Yes	No
LTE Band 4	Distance to User			<5mm	<5mm	>25mm	<5mm	<25mm	>25mm
	QPSK	24.00	251.19	Yes	Yes	No	Yes	Yes	No
LTE Band 7	Distance to User			<5mm	<5mm	>25mm	<5mm	<25mm	>25mm
	QPSK	19.50	89.13	Yes	Yes	No	Yes	Yes	No
LTE Band 38	Distance to User			<5mm	<5mm	>25mm	<5mm	<25mm	>25mm
	QPSK	23.50	223.87	Yes	Yes	No	Yes	Yes	No
LTE Band 38	Distance to User			<5mm	<5mm	>25mm	<5mm	<25mm	>25mm
	QPSK	24.50	281.84	Yes	Yes	No	Yes	Yes	No

ANT 6

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/ Back	Left Edge	Right Edge	Top Edge	Bottom Edge
WLAN 2.4 G	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	802.11b	14.00	25.12	Yes	Yes	Yes	No	Yes	No
	802.11g	13.00	19.95	Yes	Yes	Yes	No	Yes	No
	802.11n(HT20)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
	802.11n(HT40)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE20)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE40)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
WLAN 5.2 G	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	802.11a	14.00	25.12	Yes	Yes	Yes	No	Yes	No
	802.11n(HT20)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11n(HT40)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT20)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT40)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT80)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE20)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE40)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
802.11ax(HE80)	13.00	19.95	Yes	Yes	Yes	No	Yes	No	
WLAN 5.3 G	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	802.11a	14.00	25.12	Yes	Yes	Yes	No	Yes	No
	802.11n(HT20)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11n(HT40)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT20)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT40)	13.50	22.39	Yes	Yes	Yes	No	Yes	No



	802.11ac(VHT80)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE20)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE40)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE80)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
WLAN 5.6 G	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	802.11a	14.00	25.12	Yes	Yes	Yes	No	Yes	No
	802.11n(HT20)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11n(HT40)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT20)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT40)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT80)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE20)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE40)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
WLAN 5.8 G	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	802.11a	14.00	25.12	Yes	Yes	Yes	No	Yes	No
	802.11n(HT20)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11n(HT40)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT20)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT40)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT80)	13.50	22.39	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE20)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE40)	13.00	19.95	Yes	Yes	Yes	No	Yes	No
Bluetooth	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	BT	2.50	1.78	Yes	Yes	Yes	No	Yes	No

## ANT 7

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/ Back	Left Edge	Right Edge	Top Edge	Bottom Edge
WLAN 5.2 G	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	802.11a	17.00	50.12	Yes	Yes	Yes	No	Yes	No
	802.11n(HT20)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11n(HT40)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT20)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT40)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT80)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE20)	16.00	39.81	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE40)	16.00	39.81	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE80)	16.00	39.81	Yes	Yes	Yes	No	Yes	No

WLAN 5.3 G	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	802.11a	17.00	50.12	Yes	Yes	Yes	No	Yes	No
	802.11n(HT20)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11n(HT40)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT20)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT40)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT80)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE20)	16.00	39.81	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE40)	16.00	39.81	Yes	Yes	Yes	No	Yes	No
802.11ax(HE80)	16.00	39.81	Yes	Yes	Yes	No	Yes	No	
WLAN 5.6 G	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	802.11a	17.00	50.12	Yes	Yes	Yes	No	Yes	No
	802.11n(HT20)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11n(HT40)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT20)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT40)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT80)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE20)	16.00	39.81	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE40)	16.00	39.81	Yes	Yes	Yes	No	Yes	No
802.11ax(HE80)	16.00	39.81	Yes	Yes	Yes	No	Yes	No	
WLAN 5.8 G	Distance to User			<5mm	<5mm	<5mm	>25mm	<5mm	>25mm
	802.11a	17.00	50.12	Yes	Yes	Yes	No	Yes	No
	802.11n(HT20)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11n(HT40)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT20)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT40)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ac(VHT80)	16.50	44.67	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE20)	16.00	39.81	Yes	Yes	Yes	No	Yes	No
	802.11ax(HE40)	16.00	39.81	Yes	Yes	Yes	No	Yes	No
802.11ax(HE80)	16.00	39.81	Yes	Yes	Yes	No	Yes	No	

ANT 8

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/ Back	Left Edge	Right Edge	Top Edge	Bottom Edge
n41	Distance to User			<5mm	<5mm	>25mm	<5mm	<5mm	>25mm
	DFT-s-OFDM QPSK	19.00	79.43	Yes	Yes	No	Yes	Yes	No
n77	Distance to User			<5mm	<5mm	>25mm	<5mm	<5mm	>25mm
	DFT-s-OFDM QPSK	18.00	63.10	Yes	Yes	No	Yes	Yes	No

n78	Distance to User			<5mm	<5mm	>25mm	<5mm	<5mm	>25mm
	DFT-s-OFDM	18.00	63.10	Yes	Yes	No	Yes	Yes	No
QPSK									

Note:

1. Maximum power is the source-based time-average power and represents the maximum RF output power including tune-up tolerance among production units
2. Per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D01, standalone SAR test exclusion threshold is applied; If the distance of the antenna to the user is < 5mm, 5mm is used to determine SAR exclusion threshold
4. Per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
 
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot \sqrt{f(\text{GHz})} \leq 3.0$$
 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
  - a. f(GHz) is the RF channel transmit frequency in GHz
  - b. Power and distance are rounded to the nearest mW and mm before calculation
  - c. The result is rounded to one decimal place for comparison
  - d. For < 50 mm distance, we just calculate mW of the exclusion threshold value (3.0) to do compare. This formula is  $[3.0] / \sqrt{f(\text{GHz})} \cdot [(\text{min. test separation distance, mm})] = \text{exclusion threshold of mW}$ .
5. Per KDB 447498 D01, at 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following
  - a. [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · ( f(MHz)/150)] mW, at 100 MHz to 1500 MHz
  - b. [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz
6. Per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA /HSUPA /DC-HSDPA output power is < 0.25dB higher than RMC12.2Kbps, or reported SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded.
7. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion.8. For each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 1/4dB higher than those measured at the lowest data rate
8. Per KDB 248227 D01 SAR is not required for the following 2.4 GHz OFDM conditions.
  - a. When KDB Publication 447498 D01 SAR test exclusion applies to the OFDM configuration.
  - b. 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.
9. Per KDB 248227 D01 SAR is not required for the following U-NII-1 and U-NII-2A bands conditions.
  - a. 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, each band is tested independently for SAR.
  - b. 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, each

band is tested independently for SAR.

# 10 TEST RESULT

## 10.1 GSM 850

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Ant.2	Level1	GPRS 2 slots	Left Cheek	0	128	824.2	-0.13	0.115	30.40	31.00	1.149	0.132	/
	Level1		Left Tilt	0	128	824.2	0.01	0.046	30.40	31.00	1.149	0.053	/
	Level1		Right Cheek	0	128	824.2	0.17	0.336	30.40	31.00	1.149	<b>0.386</b>	1#
	Level1		Right Tilt	0	128	824.2	0.11	0.081	30.40	31.00	1.149	0.093	/
Ant.1	Level1	GPRS 2 slots	Left Cheek	0	128	824.2	0.15	0.056	30.65	31.00	1.084	0.061	/
	Level1		Left Tilt	0	128	824.2	-0.09	0.031	30.65	31.00	1.084	0.034	/
	Level1		Right Cheek	0	128	824.2	-0.08	0.083	30.65	31.00	1.084	0.090	/
	Level1		Right Tilt	0	128	824.2	0.18	0.047	30.65	31.00	1.084	0.051	/
<b>Body-worn</b>													
Ant.2	Level2	GPRS 2 slots	Front Side	15	128	824.2	0.19	0.208	30.40	31.00	1.149	0.239	/
	Level2		Back Side	15	128	824.2	0.08	0.188	30.40	31.00	1.149	0.216	/
Ant.1	Level2	GPRS 2 slots	Front Side	15	128	824.2	0.00	0.261	30.65	31.00	1.084	0.283	/
	Level2		Back Side	15	128	824.2	-0.09	0.295	30.65	31.00	1.084	<b>0.320</b>	2#
<b>Hotspot</b>													
Ant.2	Level2	GPRS 2 slots	Front Side	10	128	824.2	0.00	0.389	30.40	31.00	1.149	0.447	/
	Level2		Back Side	10	128	824.2	-0.14	0.335	30.40	31.00	1.149	0.385	/
	Level2		Left Edge	10	128	824.2	0.09	0.312	30.40	31.00	1.149	0.359	/
Ant.1	Level2	GPRS 2 slots	Front Side	10	128	824.2	-0.11	0.406	30.65	31.00	1.084	0.440	/
	Level2		Back Side	10	128	824.2	-0.19	0.440	30.65	31.00	1.084	<b>0.477</b>	3#
	Level2		Left Edge	10	128	824.2	-0.04	0.224	30.65	31.00	1.084	0.243	/
	Level2		Right Edge	10	128	824.2	0.17	0.087	30.65	31.00	1.084	0.094	/
	Level2		Bottom Edge	10	128	824.2	-0.13	0.352	30.65	31.00	1.084	0.382	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

# 10.2GSM 1900

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Ant.2	Level1	GPRS 2 slots	Left Cheek	0	661	1880.0	-0.17	0.133	29.69	30.00	1.075	0.143	/
	Level1		Left Tilt	0	661	1880.0	-0.05	0.060	29.69	30.00	1.075	0.065	/
	Level1		Right Cheek	0	661	1880.0	-0.15	0.496	29.69	30.00	1.075	0.533	/
	Level1		Right Tilt	0	661	1880.0	-0.06	0.055	29.69	30.00	1.075	0.059	/
Ant.4	Level1	GPRS 4 slots	Left Cheek	0	661	1880.0	0.13	0.331	27.44	27.50	1.013	0.335	/
	Level1		Left Tilt	0	661	1880.0	0.16	0.196	27.44	27.50	1.013	0.199	/
	Level1		Right Cheek	0	661	1880.0	0.04	1.070	27.44	27.50	1.013	1.084	/
				0	512	1850.2	-0.06	0.957	27.41	27.50	1.022	0.978	/
	Level1		0	810	1909.8	-0.03	1.080	27.42	27.50	1.019	<b>1.100</b>	<b>4#</b>	
	Level1		Right Tilt	0	661	1880.0	-0.16	0.559	27.34	27.50	1.037	0.580	/
<b>Body-worn</b>													
Ant.2	Level2	GPRS 2 slots	Front Side	15	661	1880.0	-0.09	0.070	29.69	30.00	1.075	0.075	/
	Level2		Back Side	15	661	1880.0	-0.15	0.068	29.69	30.00	1.075	0.073	/
Ant.4	Level2	GPRS 2 slots	Front Side	15	810	1909.8	0.15	0.151	29.26	29.50	1.057	<b>0.160</b>	<b>5#</b>
	Level2		Back Side	15	810	1909.8	-0.17	0.134	29.26	29.50	1.057	0.142	/
<b>Hotspot</b>													
Ant.2	Level2	GPRS 2 slots	Front Side	10	661	1880.0	0.05	0.130	29.69	30.00	1.075	0.140	/
	Level2		Back Side	10	661	1880.0	-0.16	0.127	29.69	30.00	1.075	0.137	/
	Level2		Left Edge	10	661	1880.0	0.12	0.288	29.69	30.00	1.075	0.310	/
Ant.4	Level2	GPRS 2 slots	Front Side	10	810	1909.8	0.02	0.313	29.26	29.50	1.057	0.331	/
	Level2		Back Side	10	810	1909.8	-0.07	0.297	29.26	29.50	1.057	0.314	/
	Level2		Right Edge	10	810	1909.8	-0.02	0.516	29.26	29.50	1.057	<b>0.545</b>	<b>6#</b>
	Level2		Top Edge	10	810	1909.8	0.17	0.284	29.26	29.50	1.057	0.300	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

### 10.3WCDMA Band 2

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.	
<b>Head</b>														
Ant.2	Level1	RMC	Left Cheek	0	9400	1880.0	0.01	0.313	24.53	25.00	1.114	0.349	/	
	Level1		Left Tilt	0	9400	1880.0	0.13	0.154	24.53	25.00	1.114	0.172	/	
	Level1		Right Cheek		0	9400	1880.0	0.04	0.726	24.53	25.00	1.114	0.809	/
	Level1				0	9262	1852.4	-0.12	0.682	24.37	25.00	1.156	0.788	/
	Level1				0	9538	1907.6	0.13	0.674	24.22	25.00	1.197	0.807	/
	Level1		Right Tilt	0	9400	1880.0	-0.17	0.140	24.53	25.00	1.114	0.156	/	
Ant.4	Level1	RMC	Left Cheek	0	9400	1880.0	0.15	0.192	19.31	19.50	1.045	0.201	/	
	Level1		Left Tilt	0	9400	1880.0	-0.19	0.143	19.31	19.50	1.045	0.149	/	
	Level1		Right Cheek		0	9400	1880.0	0.12	0.774	19.31	19.50	1.045	0.809	/
	Level1				0	9262	1852.4	-0.03	0.718	19.02	19.50	1.117	0.802	/
	Level1				0	9538	1907.6	-0.02	0.737	19.05	19.50	1.109	<b>0.817</b>	7#
	Level1		Right Tilt	0	9400	1880.0	0.01	0.392	19.31	19.50	1.045	0.410	/	
<b>Body-worn</b>														
Ant.2	Level2	RMC	Front Side	15	9262	1852.4	-0.02	0.118	24.53	25.00	1.114	0.131	/	
	Level2		Back Side	15	9262	1852.4	-0.02	0.208	24.53	25.00	1.114	0.232	/	
Ant.4	Level2	RMC	Front Side	15	9400	1880.0	0.10	0.231	24.67	25.00	1.079	<b>0.249</b>	8#	
	Level2		Back Side	15	9400	1880.0	0.02	0.228	24.67	25.00	1.079	0.246	/	
<b>Hotspot</b>														
Ant.2	Level2	RMC	Front Side	10	9262	1852.4	-0.07	0.228	24.53	25.00	1.114	0.254	/	
	Level2		Back Side	10	9262	1852.4	-0.06	0.298	24.53	25.00	1.114	0.332	/	
	Level2		Left Edge	10	9262	1852.4	-0.06	0.312	24.53	25.00	1.114	0.348	/	
Ant.4	Level2	RMC	Front Side	10	9400	1880.0	-0.03	0.535	24.67	25.00	1.079	0.577	/	
	Level2		Back Side	10	9400	1880.0	0.15	0.504	24.67	25.00	1.079	0.544	/	
	Level2		Right Edge	10	9400	1880.0	-0.04	0.796	24.67	25.00	1.079	<b>0.859</b>	9#	
				10	9262	1852.4	-0.13	0.752	24.60	25.00	1.096	0.825	/	
				10	9538	1907.6	0.17	0.732	24.52	25.00	1.117	0.818	/	
	Level2		Top Edge	10	9400	1880.0	-0.15	0.413	24.67	25.00	1.079	0.446	/	
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

### 10.4WCDMA Band 4

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Ant.2	Level1	RMC	Left Cheek	0	1513	1752.6	-0.15	0.188	24.02	24.50	1.117	0.210	/
	Level1		Left Tilt	0	1513	1752.6	-0.12	0.101	24.02	24.50	1.117	0.113	/

	Level1		Right Cheek	0	1513	1752.6	0.03	0.496	24.02	24.50	1.117	0.554	/
	Level1		Right Tilt	0	1513	1752.6	0.09	0.120	24.02	24.50	1.117	0.134	/
Ant.4	Level1	RMC	Left Cheek	0	1412	1732.4	0.09	0.155	18.92	19.00	1.019	0.158	/
	Level1		Left Tilt	0	1412	1732.4	0.13	0.121	18.92	19.00	1.019	0.123	/
	Level1		Right Cheek	0	1412	1732.4	0.08	0.601	18.92	19.00	1.019	<b>0.612</b>	10#
	Level1		Right Tilt	0	1412	1732.4	0.15	0.323	18.92	19.00	1.019	0.329	/
<b>Body-worn</b>													
Ant.2	Level2	RMC	Front Side	15	1312	1712.4	0.02	0.176	24.02	24.50	1.117	0.197	/
	Level2		Back Side	15	1312	1712.4	0.11	0.182	24.02	24.50	1.117	0.203	/
Ant.4	Level2	RMC	Front Side	15	1312	1712.4	0.14	0.206	24.39	24.50	1.026	<b>0.211</b>	11#
	Level2		Back Side	15	1312	1712.4	0.04	0.185	24.39	24.50	1.026	0.190	/
<b>Hotspot</b>													
Ant.2	Level2	RMC	Front Side	10	1312	1712.4	-0.03	0.342	24.02	24.50	1.117	0.382	/
	Level2		Back Side	10	1312	1712.4	0.12	0.367	24.02	24.50	1.117	0.410	/
	Level2		Left Edge	10	1312	1712.4	-0.14	0.540	24.02	24.50	1.117	0.603	/
Ant.4	Level2	RMC	Front Side	10	1312	1712.4	0.04	0.415	24.39	24.50	1.026	0.426	/
	Level2		Back Side	10	1312	1712.4	0.08	0.377	24.39	24.50	1.026	0.387	/
	Level2		Right Edge	10	1312	1712.4	-0.11	0.700	24.39	24.50	1.026	<b>0.718</b>	12#
	Level2		Top Edge	10	1312	1712.4	-0.13	0.339	24.39	24.50	1.026	0.348	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

## 10.5WCDMA Band 5

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Ant.2	Level1	RMC	Left Cheek	0	4182	836.4	-0.05	0.126	24.05	24.50	1.109	0.140	/
	Level1		Left Tilt	0	4182	836.4	0.14	0.047	24.05	24.50	1.109	0.052	/
	Level1		Right Cheek	0	4182	836.4	0.05	0.328	24.05	24.50	1.109	<b>0.364</b>	13#
	Level1		Right Tilt	0	4182	836.4	0.15	0.086	24.05	24.50	1.109	0.095	/
Ant.1	Level1	RMC	Left Cheek	0	4132	826.4	-0.18	0.043	24.19	24.50	1.074	0.046	/
	Level1		Left Tilt	0	4132	826.4	-0.15	0.026	24.19	24.50	1.074	0.028	/
	Level1		Right Cheek	0	4132	826.4	-0.15	0.066	24.19	24.50	1.074	0.071	/
	Level1		Right Tilt	0	4132	826.4	0.04	0.045	24.19	24.50	1.074	0.048	/
<b>Body-worn</b>													
Ant.2	Level2	RMC	Front Side	15	4182	836.4	-0.04	0.220	24.05	24.50	1.109	0.244	/
	Level2		Back Side	15	4182	836.4	-0.17	0.210	24.05	24.50	1.109	0.233	/
Ant.1	Level2	RMC	Front Side	15	4132	826.4	0.09	0.265	24.19	24.50	1.074	0.285	/
	Level2		Back Side	15	4132	826.4	0.06	0.272	24.19	24.50	1.074	<b>0.292</b>	14#
<b>Hotspot</b>													
Ant.2	Level2	RMC	Front Side	10	4182	836.4	-0.05	0.408	24.05	24.50	1.109	0.453	/
	Level2		Back Side	10	4182	836.4	-0.07	0.376	24.05	24.50	1.109	0.417	/



	Level2		Left Edge	10	4182	836.4	-0.13	0.795	24.05	24.50	1.109	<b>0.882</b>	15#
	Level2			10	4132	826.4	-0.11	0.744	23.89	24.50	1.151	0.856	/
	Level2			10	4233	846.6	0.19	0.729	23.82	24.50	1.169	0.853	/
Ant.1	Level2	RMC	Front Side	10	4132	826.4	0.17	0.364	24.19	24.50	1.074	0.391	/
	Level2		Back Side	10	4132	826.4	-0.16	0.380	24.19	24.50	1.074	0.408	/
	Level2		Left Edge	10	4132	826.4	0.02	0.193	24.19	24.50	1.074	0.207	/
	Level2		Right Edge	10	4132	826.4	0.15	0.068	24.19	24.50	1.074	0.073	/
	Level2		Bottom Edge	10	4132	826.4	-0.10	0.341	24.19	24.50	1.074	0.366	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.6CDMA BC0

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Ant.2	Level1	RMC	Left Cheek	0	777	848.3	0.17	0.135	24.15	24.50	1.084	0.146	/
	Level1		Left Tilt	0	777	848.3	0.18	0.052	24.15	24.50	1.084	0.056	/
	Level1		Right Cheek	0	777	848.3	0.12	0.373	24.15	24.50	1.084	<b>0.404</b>	16#
	Level1		Right Tilt	0	777	848.3	0.02	0.093	24.15	24.50	1.084	0.101	/
Ant.1	Level1	RMC	Left Cheek	0	384	836.5	-0.09	0.052	23.72	24.00	1.067	0.055	/
	Level1		Left Tilt	0	384	836.5	-0.06	0.031	23.72	24.00	1.067	0.033	/
	Level1		Right Cheek	0	384	836.5	0.01	0.064	23.72	24.00	1.067	0.068	/
	Level1		Right Tilt	0	384	836.5	0.07	0.042	23.72	24.00	1.067	0.045	/
<b>Body-worn</b>													
Ant.	Level2	RMC	Front Side	15	777	848.3	-0.15	0.243	24.15	24.50	1.084	0.263	/
	Level2		Back Side	15	777	848.3	0.05	0.239	24.15	24.50	1.084	0.259	/
Ant.1	Level2	RMC	Front Side	15	384	836.5	-0.03	0.240	23.72	24.00	1.067	0.256	/
	Level2		Back Side	15	384	836.5	0.03	0.251	23.72	24.00	1.067	<b>0.268</b>	17#
<b>Hotspot</b>													
Ant.2	Level2	RMC	Front Side	10	777	848.3	0.07	0.332	24.15	24.50	1.084	0.360	/
	Level2		Back Side	10	777	848.3	-0.11	0.319	24.15	24.50	1.084	0.346	/
	Level2		Left Edge	10	777	848.3	0.15	0.638	24.15	24.50	1.084	<b>0.692</b>	18#
Ant.1	Level2	RMC	Front Side	10	384	836.5	-0.07	0.363	23.72	24.00	1.067	0.387	/
	Level2		Back Side	10	384	836.5	0.02	0.382	23.72	24.00	1.067	0.407	/
	Level2		Left Edge	10	384	836.5	-0.05	0.185	23.72	24.00	1.067	0.197	/
	Level2		Right Edge	10	384	836.5	0.13	0.079	23.72	24.00	1.067	0.084	/
	Level2		Bottom Edge	10	384	836.5	-0.14	0.322	23.72	24.00	1.067	0.343	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.7LTE Band 2 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	18900	1880	1	Mid	-0.18	0.239	24.29	24.50	1.050	0.251	/
	Level1				0	18900	1880	50	Mid	-0.02	0.192	23.30	23.50	1.047	0.201	/
	Level1			Left Tilt	0	18900	1880	1	Mid	0.16	0.111	24.29	24.50	1.050	0.116	/
	Level1				0	18900	1880	50	Mid	-0.01	0.091	23.30	23.50	1.047	0.095	/
	Level1			Right Cheek	0	18900	1880	1	Mid	0.13	0.634	24.29	24.50	1.050	0.665	/
	Level1				0	18900	1880	50	Mid	-0.13	0.516	23.30	23.50	1.047	0.540	/
	Level1			Right Tilt	0	18900	1880	1	Mid	-0.08	0.103	24.29	24.50	1.050	0.108	/
	Level1				0	18900	1880	50	Mid	-0.02	0.084	23.30	23.50	1.047	0.088	/
Ant.4	Level1	QPSK	SA	Left Cheek	0	18900	1880	1	Mid	-0.09	0.241	18.85	19.00	1.035	0.249	/
	Level1				0	18900	1880	50	Mid	0.01	0.189	17.91	18.00	1.021	0.193	/
	Level1			Left Tilt	0	18900	1880	1	Mid	0.17	0.152	18.85	19.00	1.035	0.157	/
	Level1				0	18900	1880	50	Mid	-0.07	0.119	17.91	18.00	1.021	0.121	/
	Level1			Right Cheek	0	18900	1880	1	Mid	-0.02	0.782	18.85	19.00	1.035	0.809	/
	Level1				0	18700	1860	1	Mid	-0.19	0.779	18.77	19.00	1.054	0.821	/
	Level1				0	19100	1900	1	Mid	-0.13	0.814	18.64	19.00	1.086	<b>0.884</b>	19#
	Level1				0	18900	1880	50	Mid	0.18	0.619	17.91	18.00	1.021	0.632	/
	Level1			Right Tilt	0	18900	1880	100	Low	-0.11	0.622	17.85	18.00	1.035	0.644	/
	Level1				0	18900	1880	1	Mid	0.10	0.408	18.85	19.00	1.035	0.422	/
	Level1			0	18900	1880	50	Mid	0.11	0.398	17.91	18.00	1.021	0.406	/	
	<b>Body-worn</b>															
Ant.2	Level2	QPSK	SA	Front Side	15	18900	1880	1	Mid	0.14	0.125	24.29	24.50	1.050	0.131	/
	Level2				15	18900	1880	50	Mid	0.00	0.104	23.30	23.50	1.047	0.109	/
	Level2			Back Side	15	18900	1880	1	Mid	-0.16	0.108	24.29	24.50	1.050	0.113	/
	Level2				15	18900	1880	50	Mid	0.02	0.087	23.30	23.50	1.047	0.091	/
Ant.4	Level2	QPSK	SA	Front Side	15	18900	1880	1	Mid	-0.18	0.209	24.36	24.50	1.033	<b>0.216</b>	20#
	Level2				15	18900	1880	50	Mid	-0.06	0.168	23.41	23.50	1.021	0.172	/
	Level2			Back Side	15	18900	1880	1	Mid	-0.08	0.202	24.36	24.50	1.033	0.209	/
	Level2				15	18900	1880	50	Mid	0.10	0.163	23.41	23.50	1.021	0.166	/
<b>Hotspot</b>																
Ant.2	Level2	QPSK	SA	Front Side	10	18900	1880	1	Mid	0.11	0.232	24.29	24.50	1.050	0.243	/
	Level2				10	18900	1880	50	Mid	0.16	0.184	23.30	23.50	1.047	0.193	/
	Level2			Back Side	10	18900	1880	1	Mid	-0.10	0.239	24.29	24.50	1.050	0.251	/
	Level2				10	18900	1880	50	Mid	-0.04	0.192	23.30	23.50	1.047	0.201	/
	Level2			Left Edge	10	18900	1880	1	Mid	-0.11	0.381	24.29	24.50	1.050	0.400	/
	Level2				10	18900	1880	50	Mid	0.16	0.313	23.30	23.50	1.047	0.328	/
Ant.4	Level2	QPSK	SA	Front Side	10	18900	1880	1	Mid	-0.06	0.442	24.36	24.50	1.033	0.456	/
	Level2				10	18900	1880	50	Mid	0.13	0.363	23.41	23.50	1.021	0.371	/

	Level2			Back Side	10	18900	1880	1	Mid	0.17	0.415	24.36	24.50	1.033	0.429	/	
	Level2				10	18900	1880	50	Mid	-0.19	0.328	23.41	23.50	1.021	0.335	/	
	Level2			Right Edge	10	18900	1880	1	Mid	-0.03	0.509	24.36	24.50	1.033	<b>0.526</b>	21#	
	Level2				10	18900	1880	50	Mid	-0.17	0.406	23.41	23.50	1.021	0.415	/	
	Level2			/	Top Edge	10	18900	1880	1	Mid	0.18	0.106	24.36	24.50	1.033	0.109	/
	Level2			/		10	18900	1880	50	Mid	-0.11	0.088	23.41	23.50	1.021	0.090	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.8LTE Band 4 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	20300	1745	1	Low	0.14	0.259	23.65	24.00	1.084	0.281	/
	Level1				0	20300	1745	50	Mid	0.13	0.211	22.79	23.00	1.050	0.221	/
	Level1			Left Tilt	0	20300	1745	1	Low	0.05	0.129	23.65	24.00	1.084	0.140	/
	Level1				0	20300	1745	50	Mid	0.04	0.107	22.79	23.00	1.050	0.112	/
	Level1			Right Cheek	0	20300	1745	1	Low	0.00	0.499	23.65	24.00	1.084	0.541	/
	Level1				0	20300	1745	50	Mid	-0.11	0.402	22.79	23.00	1.050	0.422	/
	Level1			Right Tilt	0	20300	1745	1	Low	-0.06	0.177	23.65	24.00	1.084	0.192	/
/	Level1	/			0	20300	1745	50	Mid	0.11	0.144	22.79	23.00	1.050	0.151	/
Ant.4	Level1	QPSK	SA	Left Cheek	0	20175	1732.5	1	Mid	0.18	0.159	18.55	19.00	1.109	0.177	/
	Level1				0	20175	1732.5	50	Mid	0.16	0.127	17.65	18.00	1.084	0.138	/
	Level1			Left Tilt	0	20175	1732.5	1	Mid	0.01	0.123	18.55	19.00	1.109	0.137	/
	Level1				0	20175	1732.5	50	Mid	-0.11	0.101	17.65	18.00	1.084	0.109	/
	Level1			Right Cheek	0	20175	1732.5	1	Mid	0.07	0.662	18.55	19.00	1.109	<b>0.734</b>	22#
	Level1				0	20175	1732.5	100	Mid	-0.09	0.530	17.65	18.00	1.084	0.574	/
	Level1			Right Tilt	0	20175	1732.5	1	Mid	-0.08	0.363	18.55	19.00	1.109	0.402	/
	Level1				0	20050	1720	1	Mid	0.19	0.295	17.65	18.00	1.084	0.320	/
<b>Body-worn</b>																
Ant.2	Level2	QPSK	SA	Front Side	15	20300	1745	1	Low	-0.15	0.201	23.65	24.00	1.084	<b>0.218</b>	23#
	Level2				15	20300	1745	50	Mid	0.01	0.161	22.79	23.00	1.050	0.169	/
	Level2			Back Side	15	20300	1745	1	Low	-0.16	0.197	23.65	24.00	1.084	0.214	/
	Level2				15	20300	1745	50	Mid	0.15	0.156	22.79	23.00	1.050	0.164	/
Ant.4	Level2	QPSK	SA	Front Side	15	20300	1745	1	Low	0.03	0.161	23.96	24.00	1.009	0.162	/
	Level2				15	20300	1745	50	Mid	-0.18	0.129	22.95	23.00	1.012	0.130	/
	Level2			Back Side	15	20300	1745	1	Low	0.14	0.168	23.96	24.00	1.009	0.170	/
	Level2				15	20300	1745	50	Mid	0.04	0.133	22.95	23.00	1.012	0.135	/
<b>Hotspot</b>																
Ant.2	Level2	QPSK	SA	Front Side	10	20300	1745	1	Low	-0.15	0.400	23.65	24.00	1.084	0.434	/
	Level2				10	20300	1745	50	Mid	0.12	0.328	22.79	23.00	1.050	0.344	/
	Level2			Back Side	10	20300	1745	1	Low	-0.02	0.387	23.65	24.00	1.084	0.419	/

	Level2			Left Edge	10	20300	1745	50	Mid	-0.01	0.317	22.79	23.00	1.050	0.333	/
	Level2				10	20300	1745	1	Low	0.15	0.595	23.65	24.00	1.084	<b>0.645</b>	24#
	Level2				10	20300	1745	50	Mid	-0.04	0.476	22.79	23.00	1.050	0.500	/
Ant.4	Level2	QPSK	SA	Front Side	10	20300	1745	1	Low	-0.11	0.414	23.96	24.00	1.009	0.418	/
	Level2				10	20300	1745	50	Mid	0.01	0.329	22.95	23.00	1.012	0.333	/
	Level2			Back Side	10	20300	1745	1	Low	-0.04	0.398	23.96	24.00	1.009	0.402	/
	Level2				10	20300	1745	50	Mid	0.07	0.318	22.95	23.00	1.012	0.322	/
	Level2			Right Edge	10	20300	1745	1	Low	-0.06	0.466	23.96	24.00	1.009	0.470	/
	Level2				10	20300	1745	50	Mid	0.00	0.385	22.95	23.00	1.012	0.389	/
	Level2			Top Edge	10	20300	1745	1	Low	0.01	0.096	23.96	24.00	1.009	0.097	/
	Level2				10	20300	1745	50	Mid	-0.01	0.078	22.95	23.00	1.012	0.079	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.9LTE Band 5 (10MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA&NSA	Left Cheek	0	20600	844	1	High	-0.17	0.109	23.23	23.50	1.064	0.116	/
	Level1				0	20600	844	25	High	-0.15	0.089	22.41	22.50	1.021	0.091	/
	Level1			Left Tilt	0	20600	844	1	High	0.02	0.042	23.23	23.50	1.064	0.045	/
	Level1				0	20600	844	25	High	-0.01	0.034	22.41	22.50	1.021	0.035	/
	Level1			Right Cheek	0	20600	844	1	High	0.08	0.365	23.23	23.50	1.064	<b>0.388</b>	25#
	Level1				0	20600	844	25	High	0.11	0.294	22.41	22.50	1.021	0.300	/
	Level1			Right Tilt	0	20600	844	1	High	0.00	0.069	23.23	23.50	1.064	0.073	/
	Level1				0	20600	844	25	High	-0.12	0.056	22.41	22.50	1.021	0.057	/
Ant.1 上	Level1	QPSK	SA&NSA	Left Cheek	0	20450	829	1	Mid	0.01	0.046	23.81	24.00	1.045	0.048	/
	Level1				0	20450	829	25	Mid	0.14	0.037	22.95	23.00	1.012	0.037	/
	Level1			Left Tilt	0	20450	829	1	Mid	-0.03	0.031	23.81	24.00	1.045	0.032	/
	Level1				0	20450	829	25	Mid	-0.09	0.025	22.95	23.00	1.012	0.025	/
	Level1			Right Cheek	0	20450	829	1	Mid	-0.15	0.083	23.81	24.00	1.045	0.086	/
	Level1				0	20450	829	25	Mid	0.05	0.067	22.95	23.00	1.012	0.068	/
	Level1			Right Tilt	0	20450	829	1	Mid	0.08	0.028	23.81	24.00	1.045	0.029	/
	Level1				0	20450	829	25	Mid	-0.10	0.023	22.95	23.00	1.012	0.023	/
<b>Body-worn</b>																
Ant.2	Level2	QPSK	SA&NSA	Front Side	15	20600	844	1	High	0.12	0.230	23.23	23.50	1.064	0.245	/
	Level2				15	20600	844	25	High	-0.03	0.187	22.41	22.50	1.021	0.191	/
	Level2			Back Side	15	20600	844	1	High	0.13	0.249	23.23	23.50	1.064	<b>0.265</b>	26#
	Level2				15	20600	844	25	High	-0.13	0.198	22.41	22.50	1.021	0.202	/
Ant.1 上	Level2	QPSK	SA&NSA	Front Side	15	20450	829	1	Mid	0.14	0.229	23.81	24.00	1.045	0.239	/
	Level2				15	20450	829	25	Mid	-0.13	0.182	22.95	23.00	1.012	0.184	/
	Level2			Back Side	15	20450	829	1	Mid	-0.15	0.240	23.81	24.00	1.045	0.251	/

	Level2				15	20450	829	25	Mid	-0.05	0.198	22.95	23.00	1.012	0.200	/
<b>Hotspot</b>																
Ant.2	Level2	QPSK	SA&NSA	Front Side	10	20600	844	1	High	-0.08	0.380	23.23	23.50	1.064	0.404	/
	Level2				10	20600	844	25	High	-0.19	0.302	22.41	22.50	1.021	0.308	/
	Level2			Back Side	10	20600	844	1	High	0.01	0.322	23.23	23.50	1.064	0.343	/
	Level2				10	20600	844	25	High	0.04	0.266	22.41	22.50	1.021	0.272	/
	Level2			Left Edge	10	20600	844	1	High	-0.11	0.669	23.23	23.50	1.064	<b>0.712</b>	27#
	Level2				10	20600	844	25	High	0.15	0.553	22.41	22.50	1.021	0.565	/
Ant.1 上	Level2	QPSK	SA&NSA	Front Side	10	20450	829	1	Mid	0.06	0.343	23.81	24.00	1.045	0.358	/
	Level2				10	20450	829	25	Mid	-0.07	0.283	22.95	23.00	1.012	0.286	/
	Level2			Back Side	10	20450	829	1	Mid	-0.04	0.409	23.81	24.00	1.045	0.427	/
	Level2				10	20450	829	25	Mid	0.09	0.330	22.95	23.00	1.012	0.334	/
	Level2			Left Edge	10	20450	829	1	Mid	0.02	0.165	23.81	24.00	1.045	0.172	/
	Level2				10	20450	829	25	Mid	0.03	0.132	22.95	23.00	1.012	0.134	/
	Level2			Right Edge	10	20450	829	1	Mid	-0.08	0.041	23.81	24.00	1.045	0.043	/
	Level2				10	20450	829	25	Mid	0.01	0.034	22.95	23.00	1.012	0.034	/
	Level2			Bottom Edge	10	20450	829	1	Mid	-0.14	0.304	23.81	24.00	1.045	0.318	/
	Level2				10	20450	829	25	Mid	-0.01	0.249	22.95	23.00	1.012	0.252	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.10 LTE Band 7 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	21350	2560	1	High	0.13	0.277	23.68	24.00	1.076	0.298	/
	Level1				0	21350	2560	50	Mid	-0.16	0.218	22.85	23.00	1.035	0.226	/
	Level1			Left Tilt	0	21350	2560	1	High	-0.14	0.159	23.68	24.00	1.076	0.171	/
	Level1				0	21350	2560	50	Mid	0.05	0.125	22.85	23.00	1.035	0.129	/
	Level1			Right Cheek	0	21350	2560	1	High	0.02	0.832	23.68	24.00	1.076	0.896	/
	Level1				0	20850	2510	1	High	-0.01	0.804	23.46	24.00	1.132	0.910	/
	Level1				0	21100	2535	1	High	-0.07	0.848	23.55	24.00	1.109	<b>0.941</b>	28#
	Level1				0	21350	2560	50	Mid	0.06	0.679	22.85	23.00	1.035	0.703	/
	Level1			Right Tilt	0	21350	2560	100	Low	-0.02	0.681	22.87	23.00	1.030	0.702	/
	Level1				0	21350	2560	1	High	-0.11	0.104	23.68	24.00	1.076	0.112	/
	Level1			Right Tilt	0	21350	2560	50	Mid	-0.11	0.086	22.85	23.00	1.035	0.089	/
	Level1				0	21350	2560	1	Low	0.03	0.135	20.53	20.00	0.885	0.119	/
Ant.2	Level1	QPSK	NSA	Left Cheek	0	21350	2560	1	Low	0.03	0.135	20.53	20.00	0.885	0.119	/
	Level1				0	21350	2560	50	Mid	0.08	0.136	20.59	20.00	0.873	0.119	/
	Level1			Left Tilt	0	21350	2560	1	Low	-0.13	0.081	20.53	20.00	0.885	0.072	/
	Level1				0	21350	2560	50	Mid	-0.14	0.081	20.59	20.00	0.873	0.071	/
	Level1			Right Cheek	0	21350	2560	1	Low	0.14	0.421	20.53	20.00	0.885	0.373	/
	Level1				0	21350	2560	50	Mid	-0.13	0.436	20.59	20.00	0.873	0.381	/

	Level1			Right Tilt	0	21350	2560	1	Low	-0.18	0.051	20.59	20.00	0.873	0.045	/
	Level1				0	21350	2560	50	Mid	-0.07	0.056	20.53	20.00	0.885	0.050	/
Ant.4	Level1	QPSK	SA	Left Cheek	0	20850	2510	1	High	-0.04	0.215	16.49	16.50	1.002	0.215	/
	Level1				0	20850	2510	50	High	0.03	0.175	15.46	15.50	1.009	0.177	/
	Level1			Left Tilt	0	20850	2510	1	High	-0.01	0.139	16.49	16.50	1.002	0.139	/
	Level1				0	20850	2510	50	High	0.17	0.109	15.46	15.50	1.009	0.110	/
	Level1			Right Cheek	0	20850	2510	1	High	0.16	0.520	16.49	16.50	1.002	0.521	/
	Level1				0	20850	2510	50	High	-0.18	0.430	15.46	15.50	1.009	0.434	/
	Level1			Right Cheek	0	20850	2510	1	High	-0.08	0.373	16.49	16.50	1.002	0.374	/
	Level1				0	20850	2510	50	High	-0.15	0.306	15.46	15.50	1.009	0.309	/
Ant.4	Level1	QPSK	NSA	Left Cheek	0	21100	2535	1	Low	-0.08	0.111	13.34	13.50	1.038	0.115	/
	Level1				0	21100	2535	50	Low	-0.10	0.108	13.35	13.50	1.035	0.112	/
	Level1			Left Tilt	0	21100	2535	1	Low	-0.16	0.067	13.34	13.50	1.038	0.070	/
	Level1				0	21100	2535	50	Low	-0.13	0.067	13.35	13.50	1.035	0.069	/
	Level1			Right Cheek	0	21100	2535	1	Low	0.11	0.253	13.34	13.50	1.038	0.262	/
	Level1				0	21100	2535	50	Low	0.08	0.282	13.35	13.50	1.035	0.292	/
	Level1			Right Cheek	0	21100	2535	1	Low	-0.15	0.187	13.34	13.50	1.038	0.194	/
	Level1				0	21100	2535	50	Low	0.02	0.199	13.35	13.50	1.035	0.206	/
<b>Body-worn</b>																
Ant.2	Level2	QPSK	SA	Front Side	15	21350	2560	1	High	-0.19	0.173	23.68	24.00	1.076	0.186	
	Level2				15	21350	2560	50	Mid	-0.04	0.143	22.85	23.00	1.035	0.148	
	Level2			Back Side	15	21350	2560	1	High	-0.15	0.186	23.68	24.00	1.076	0.200	29#
	Level2				15	21350	2560	50	Mid	-0.01	0.146	22.85	23.00	1.035	0.151	
Ant.2	Level2	QPSK	NSA	Front Side	15	21350	2560	1	Mid	-0.04	0.143	22.83	23.00	1.040	0.149	/
	Level2				15	21350	2560	50	Mid	0.11	0.143	22.80	23.00	1.047	0.150	/
	Level2			Back Side	15	21350	2560	1	Mid	0.06	0.136	22.83	23.00	1.040	0.141	/
	Level2				15	21350	2560	50	Mid	0.10	0.141	22.80	23.00	1.047	0.148	/
Ant.4	Level2	QPSK	SA	Front Side	15	21100	2535	1	Low	0.02	0.132	19.41	19.50	1.021	0.135	/
	Level2				15	21100	2535	50	High	0.12	0.104	18.35	18.50	1.035	0.108	/
	Level2			Back Side	15	21100	2535	1	Low	0.18	0.099	19.41	19.50	1.021	0.101	/
	Level2				15	21100	2535	50	High	-0.04	0.081	18.35	18.50	1.035	0.084	/
Ant.4	Level2	QPSK	NSA	Front Side	15	21100	2535	1	Low	0.18	0.084	17.38	17.50	1.028	0.086	/
	Level2				15	21100	2535	50	Low	0.11	0.084	17.40	17.50	1.023	0.086	/
	Level2			Back Side	15	21100	2535	1	Low	0.04	0.064	17.38	17.50	1.028	0.066	/
	Level2				15	21100	2535	50	Low	-0.10	0.065	17.40	17.50	1.023	0.067	/
<b>Hotspot</b>																
Ant.2	Level2	QPSK	SA	Front Side	10	21350	2560	1	High	0.15	0.299	23.68	24.00	1.076	0.322	/
	Level2				10	21350	2560	50	Mid	0.06	0.239	22.85	23.00	1.035	0.247	/
	Level2			Back Side	10	21350	2560	1	High	0.01	0.287	23.68	24.00	1.076	0.309	/
	Level2				10	21350	2560	50	Mid	0.17	0.230	22.85	23.00	1.035	0.238	/
	Level2			Left Edge	10	21350	2560	1	High	0.09	0.707	23.68	24.00	1.076	<b>0.761</b>	30#
	Level2				10	21350	2560	50	Mid	-0.13	0.557	22.85	23.00	1.035	0.577	/
Ant.2	Level2	QPSK	NSA	Front Side	10	21350	2560	1	Mid	0.11	0.237	22.83	23.00	1.040	0.246	/

	Level2			Back Side	10	21350	2560	50	Mid	-0.13	0.233	22.80	23.00	1.047	0.244	/	
	Level2				10	21350	2560	1	Mid	0.13	0.222	22.83	23.00	1.040	0.231	/	
	Level2				10	21350	2560	50	Mid	0.19	0.232	22.80	23.00	1.047	0.243	/	
	Level2				Left Edge	10	21350	2560	1	Mid	-0.19	0.549	22.83	23.00	1.040	0.571	/
	Level2					10	21350	2560	50	Mid	-0.12	0.564	22.80	23.00	1.047	0.591	/
Ant.4	Level2	QPSK	SA	Front Side	10	21100	2535	1	Low	0.02	0.287	19.41	19.50	1.021	0.293	/	
	Level2				10	21100	2535	50	High	0.09	0.231	18.35	18.50	1.035	0.239	/	
	Level2			Back Side	10	21100	2535	1	Low	0.11	0.307	19.41	19.50	1.021	0.313	/	
	Level2				10	21100	2535	50	High	0.02	0.246	18.35	18.50	1.035	0.255	/	
	Level2			Right Edge	10	21100	2535	1	Low	0.14	0.704	19.41	19.50	1.021	0.719	/	
	Level2				10	21100	2535	50	High	0.11	0.563	18.35	18.50	1.035	0.583	/	
	Level2			Top Edge	10	21100	2535	1	Low	0.06	0.045	19.41	19.50	1.021	0.046	/	
	Level2				10	21100	2535	50	High	-0.04	0.036	18.35	18.50	1.035	0.037	/	
Ant.4	Level2	QPSK	NSA	Front Side	10	21100	2535	1	Low	0.09	0.182	17.38	17.50	1.028	0.187	/	
	Level2				10	21100	2535	50	Low	-0.03	0.186	17.40	17.50	1.023	0.190	/	
	Level2			Back Side	10	21100	2535	1	Low	0.01	0.193	17.38	17.50	1.028	0.198	/	
	Level2				10	21100	2535	50	Low	0.08	0.194	17.40	17.50	1.023	0.199	/	
	Level2			Right Edge	10	21100	2535	1	Low	-0.10	0.440	17.38	17.50	1.028	0.452	/	
	Level2				10	21100	2535	50	Low	-0.15	0.449	17.40	17.50	1.023	0.459	/	
	Level2			Top Edge	10	21100	2535	1	Low	-0.09	0.029	17.38	17.50	1.028	0.030	/	
	Level2				10	21100	2535	50	Low	0.01	0.028	17.40	17.50	1.023	0.029	/	

Note: Refer to ANNEX C for the detailed test data for each test configuration.

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
<b>Specific</b>																
Ant.4	Level2	QPSK	SA	Front Side	0	21100	2535	1	Low	0.07	0.980	19.41	19.50	1.021	1.001	/
	Level2				0	21100	2535	50	High	0.12	0.790	18.35	18.50	1.035	0.818	/
	Level2			Back Side	0	21100	2535	1	Low	0.16	0.860	19.41	19.50	1.021	0.878	/
	Level2				0	21100	2535	50	High	0.13	0.711	18.35	18.50	1.035	0.736	/
	Level2			Right Edge	0	21100	2535	1	Low	-0.03	1.430	19.41	19.50	1.021	<b>1.460</b>	31#
	Level2				0	21100	2535	50	High	0.04	1.180	18.35	18.50	1.035	1.221	/
	Level2			Top Edge	0	21100	2535	1	Low	0.17	0.124	19.41	19.50	1.021	0.127	/
	Level2				0	21100	2535	50	High	0.00	0.102	18.35	18.50	1.035	0.106	/
Ant.4	Level2	QPSK	NSA	Front Side	0	21100	2535	1	Low	-0.05	0.634	17.38	17.50	1.028	0.652	/
	Level2				0	21100	2535	50	Low	-0.11	0.638	17.40	17.50	1.023	0.653	/
	Level2			Back Side	0	21100	2535	1	Low	-0.17	0.546	17.38	17.50	1.028	0.561	/
	Level2				0	21100	2535	50	Low	-0.13	0.548	17.40	17.50	1.023	0.561	/
	Level2			Right Edge	0	21100	2535	1	Low	0.01	0.902	17.38	17.50	1.028	0.927	/
	Level2				0	21100	2535	50	Low	-0.09	0.963	17.40	17.50	1.023	0.985	/
	Level2			Top Edge	0	21100	2535	1	Low	-0.06	0.077	17.38	17.50	1.028	0.079	/
	Level2				0	21100	2535	50	Low	-0.04	0.083	17.40	17.50	1.023	0.085	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.11 LTE Band 7 Worse case for CA Test

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head-CA</b>																
Ant.2	Level1	QPSK	SA	Right Cheek	0	21100 +21298	2535 +2554.8	1+0	Low +Low	0.05	0.803	23.39	24.00	1.151	0.924	/
<b>Body-worn-CA</b>																
Ant.2	Level2	QPSK	SA	Front Side	15	21350 +21152	2560 +2540.2	1+0	Low +Low	0.09	0.155	23.44	24.00	1.138	0.176	/
<b>Hotspot-CA</b>																
Ant.2	Level2	QPSK	SA	Left Edge	10	21350 +21152	2560 +2540.2	1+0	Low +Low	-0.03	0.658	23.44	24.00	1.138	0.749	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
<b>Specific-CA</b>																
Ant.4	Level2	QPSK	SA	Left Edge	0	21100 +21298	2535 +2554.8	1+0	Low +Low	0.02	1.360	19.22	19.50	1.067	1.451	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.12 LTE Band 12 (10MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	23060	704	1	Low	0.12	0.069	23.84	24.00	1.038	0.072	/
	Level1				0	23060	704	25	Mid	-0.10	0.057	22.93	23.00	1.016	0.058	/
	Level1			Left Tilt	0	23060	704	1	Low	0.19	0.023	23.84	24.00	1.038	0.024	/
	Level1				0	23060	704	25	Mid	0.08	0.019	22.93	23.00	1.016	0.019	/
	Level1			Right Cheek	0	23060	704	1	Low	-0.17	0.232	23.84	24.00	1.038	<b>0.241</b>	32#
	Level1				0	23060	704	25	Mid	-0.11	0.190	22.93	23.00	1.016	0.193	/
	Level1			Right Tilt	0	23060	704	1	Low	-0.18	0.044	23.84	24.00	1.038	0.046	/
	Level1				0	23060	704	25	Mid	0.05	0.035	22.93	23.00	1.016	0.036	/
Ant.1上	Level1	QPSK	SA	Left Cheek	0	23060	704	1	Low	0.04	0.055	22.99	23.00	1.002	0.055	/
	Level1				0	23060	704	25	Mid	-0.19	0.043	21.82	22.00	1.042	0.045	/
	Level1			Left Tilt	0	23060	704	1	Low	-0.10	0.042	22.99	23.00	1.002	0.042	/



	Level1				0	23060	704	25	Mid	0.07	0.033	21.82	22.00	1.042	0.034	/	
	Level1				Right Cheek	0	23060	704	1	Low	-0.15	0.080	22.99	23.00	1.002	0.080	/
	Level1					0	23060	704	25	Mid	-0.01	0.063	21.82	22.00	1.042	0.066	/
	Level1				Right Tilt	0	23060	704	1	Low	0.10	0.069	22.99	23.00	1.002	0.069	/
	Level1					0	23060	704	25	Mid	-0.05	0.056	21.82	22.00	1.042	0.058	/
<b>Body-worn</b>																	
Ant.2	Level2	QPSK	SA	Front Side	15	23060	704	1	Low	-0.14	0.106	23.84	24.00	1.038	0.110	/	
	Level2				15	23060	704	25	Mid	-0.15	0.085	22.93	23.00	1.016	0.086	/	
	Level2			Back Side	15	23060	704	1	Low	-0.04	0.097	23.84	24.00	1.038	0.101	/	
	Level2				15	23060	704	25	Mid	-0.17	0.078	22.93	23.00	1.016	0.079	/	
Ant.1 上	Level2	QPSK	SA	Front Side	15	23060	704	1	Low	0.09	0.178	22.99	23.00	1.002	0.178	/	
	Level2				15	23060	704	25	Mid	-0.16	0.144	21.82	22.00	1.042	0.150	/	
	Level2			Back Side	15	23060	704	1	Low	-0.12	0.184	22.99	23.00	1.002	<b>0.184</b>	33#	
	Level2				15	23060	704	25	Mid	-0.13	0.151	21.82	22.00	1.042	0.157	/	
<b>Hotspot</b>																	
Ant.2	Level2	QPSK	SA	Front Side	10	23060	704	1	Low	-0.01	0.171	23.84	24.00	1.038	0.177	/	
	Level2				10	23060	704	25	Mid	0.18	0.135	22.93	23.00	1.016	0.137	/	
	Level2			Back Side	10	23060	704	1	Low	0.12	0.152	23.84	24.00	1.038	0.158	/	
	Level2				10	23060	704	25	Mid	-0.10	0.122	22.93	23.00	1.016	0.124	/	
	Level2			Left Edge	10	23060	704	1	Low	-0.16	0.404	23.84	24.00	1.038	<b>0.419</b>	34#	
	Level2				10	23060	704	25	Mid	-0.05	0.318	22.93	23.00	1.016	0.323	/	
Ant.1 上	Level2	QPSK	SA	Front Side	10	23060	704	1	Low	0.18	0.341	22.99	23.00	1.002	0.342	/	
	Level2				10	23060	704	25	Mid	-0.01	0.273	21.82	22.00	1.042	0.285	/	
	Level2			Back Side	10	23060	704	1	Low	0.17	0.347	22.99	23.00	1.002	0.348	/	
	Level2				10	23060	704	25	Mid	-0.09	0.280	21.82	22.00	1.042	0.292	/	
	Level2		Left Edge	10	23060	704	1	Low	0.06	0.173	22.99	23.00	1.002	0.173	/		
	Level2			10	23060	704	25	Mid	-0.05	0.138	21.82	22.00	1.042	0.144	/		
	Level2		/	Right Edge	10	23060	704	1	Low	0.14	0.068	22.99	23.00	1.002	0.068	/	
	Level2		/		10	23060	704	25	Mid	-0.16	0.054	21.82	22.00	1.042	0.056	/	
	Level2		/	Bottom Edge	10	23060	704	1	Low	-0.12	0.281	22.99	23.00	1.002	0.282	/	
	Level2		/		10	23060	704	25	Mid	-0.16	0.227	21.82	22.00	1.042	0.237	/	

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.13 LTE Band 17 (10MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	23780	709	1	Mid	0.15	0.043	23.83	24.00	1.040	0.045	/
	Level1				0	23780	709	25	Mid	-0.08	0.035	22.99	23.00	1.002	0.035	/
	Level1			Left Tilt	0	23780	709	1	Mid	0.19	0.019	23.83	24.00	1.040	0.020	/
	Level1				0	23780	709	25	Mid	0.07	0.015	22.99	23.00	1.002	0.015	/

	Level1			Right Cheek	0	23780	709	1	Mid	-0.07	0.183	23.83	24.00	1.040	<b>0.190</b>	35#	
	Level1				0	23780	709	25	Mid	-0.02	0.144	22.99	23.00	1.002	0.144	/	
	Level1				Right Tilt	0	23780	709	1	Mid	0.05	0.035	23.83	24.00	1.040	0.036	/
	Level1					0	23780	709	25	Mid	-0.01	0.028	22.99	23.00	1.002	0.028	/
Ant.1	Level1	QPSK	SA	Left Cheek	0	23780	709	1	Low	0.02	0.052	22.88	23.00	1.028	0.053	/	
	Level1				0	23780	709	25	Low	0.19	0.042	21.96	22.00	1.009	0.042	/	
	Level1			Left Tilt	0	23780	709	1	Low	-0.04	0.034	22.88	23.00	1.028	0.035	/	
	Level1				0	23780	709	25	Low	0.00	0.028	21.96	22.00	1.009	0.028	/	
	Level1			Right Cheek	0	23780	709	1	Low	-0.08	0.074	22.88	23.00	1.028	0.076	/	
	Level1				0	23780	709	25	Low	-0.02	0.058	21.96	22.00	1.009	0.059	/	
	Level1			Right Tilt	0	23780	709	1	Low	-0.18	0.049	22.88	23.00	1.028	0.050	/	
	Level1				0	23780	709	25	Low	0.07	0.039	21.96	22.00	1.009	0.039	/	
<b>Body-worn</b>																	
Ant.2	Level2	QPSK	SA	Front Side	15	23780	709	1	Mid	-0.03	0.084	23.83	24.00	1.040	0.087	/	
	Level2				15	23780	709	25	Mid	-0.02	0.068	22.99	23.00	1.002	0.068	/	
	Level2			Back Side	15	23780	709	1	Mid	-0.04	0.080	23.83	24.00	1.040	0.083	/	
	Level2				15	23780	709	25	Mid	0.00	0.066	22.99	23.00	1.002	0.066	/	
Ant.1 上	Level2	QPSK	SA	Front Side	15	23780	709	1	Low	-0.04	0.178	22.88	23.00	1.028	0.183	/	
	Level2				15	23780	709	25	Low	-0.19	0.144	21.96	22.00	1.009	0.145	/	
	Level2			Back Side	15	23780	709	1	Low	-0.01	0.184	22.88	23.00	1.028	<b>0.189</b>	36#	
	Level2				15	23780	709	25	Low	0.13	0.150	21.96	22.00	1.009	0.151	/	
<b>Hotspot</b>																	
Ant.2	Level2	QPSK	SA	Front Side	10	23780	709	1	Mid	0.13	0.165	23.83	24.00	1.040	0.172	/	
	Level2				10	23780	709	25	Mid	0.14	0.134	22.99	23.00	1.002	0.134	/	
	Level2			Back Side	10	23780	709	1	Mid	0.16	0.154	23.83	24.00	1.040	0.160	/	
	Level2				10	23780	709	25	Mid	-0.08	0.125	22.99	23.00	1.002	0.125	/	
	Level2			Left Edge	10	23780	709	1	Mid	-0.06	0.347	23.83	24.00	1.040	0.361	/	
	Level2				10	23780	709	25	Mid	0.15	0.282	22.99	23.00	1.002	0.283	/	
Ant.1 上	Level2	QPSK	SA	Front Side	10	23780	709	1	Low	0.01	0.342	22.88	23.00	1.028	0.352	/	
	Level2				10	23780	709	25	Low	-0.06	0.271	21.96	22.00	1.009	0.274	/	
	Level2			Back Side	10	23780	709	1	Low	-0.15	0.354	22.88	23.00	1.028	<b>0.364</b>	37#	
	Level2				10	23780	709	25	Low	0.03	0.281	21.96	22.00	1.009	0.284	/	
	Level2			Left Edge	10	23780	709	1	Low	0.10	0.183	22.88	23.00	1.028	0.188	/	
	Level2				10	23780	709	25	Low	0.07	0.145	21.96	22.00	1.009	0.146	/	
	Level2			Right Edge	10	23780	709	1	Low	0.08	0.079	22.88	23.00	1.028	0.081	/	
	Level2				10	23780	709	25	Low	0.11	0.064	21.96	22.00	1.009	0.065	/	
	Level2			Bottom Edge	10	23780	709	1	Low	-0.14	0.263	22.88	23.00	1.028	0.270	/	
	Level2				10	23780	709	25	Low	-0.18	0.216	21.96	22.00	1.009	0.218	/	
Note: Refer to ANNEX C for the detailed test data for each test configuration.																	

### 10.14 LTE Band 26 (15MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	26965	841.5	1	Mid	0.13	0.110	23.09	23.50	1.099	0.121	/
	Level1				0	26965	841.5	36	High	-0.02	0.087	22.20	22.50	1.072	0.093	/
	Level1			Left Tilt	0	26965	841.5	1	Mid	-0.17	0.039	23.09	23.50	1.099	0.043	/
	Level1				0	26965	841.5	36	High	0.16	0.031	22.20	22.50	1.072	0.033	/
	Level1			Right Cheek	0	26965	841.5	1	Mid	-0.19	0.389	23.09	23.50	1.099	<b>0.428</b>	38#
	Level1				0	26965	841.5	36	High	-0.13	0.321	22.20	22.50	1.072	0.344	/
	Level1			Right Tilt	0	26965	841.5	1	Mid	0.17	0.074	23.09	23.50	1.099	0.081	/
	Level1				0	26965	841.5	36	High	0.00	0.060	22.20	22.50	1.072	0.064	/
Ant.1 上	Level1	QPSK	SA	Left Cheek	0	26765	821.5	1	Low	0.00	0.035	23.85	24.00	1.035	0.036	/
	Level1				0	26765	821.5	36	Low	0.17	0.029	22.92	23.00	1.019	0.030	/
	Level1			Left Tilt	0	26765	821.5	1	Low	-0.07	0.027	23.85	24.00	1.035	0.028	/
	Level1				0	26765	821.5	36	Low	-0.08	0.021	22.92	23.00	1.019	0.021	/
	Level1			Right Cheek	0	26765	821.5	1	Low	0.15	0.064	23.85	24.00	1.035	0.066	/
	Level1				0	26765	821.5	36	Low	-0.02	0.053	22.92	23.00	1.019	0.054	/
	Level1			Right Tilt	0	26765	821.5	1	Low	-0.07	0.039	23.85	24.00	1.035	0.040	/
	Level1				0	26765	821.5	36	Low	-0.17	0.032	22.92	23.00	1.019	0.033	/
<b>Body-worn</b>																
Ant.2	Level2	QPSK	SA	Front Side	15	26965	841.5	1	Mid	-0.02	0.193	23.09	23.50	1.099	0.212	/
	Level2				15	26965	841.5	36	High	-0.18	0.153	22.20	22.50	1.072	0.164	/
	Level2			Back Side	15	26965	841.5	1	Mid	0.08	0.179	23.09	23.50	1.099	0.197	/
	Level2				15	26965	841.5	36	High	0.04	0.146	22.20	22.50	1.072	0.156	/
Ant.1	Level2	QPSK	SA	Front Side	15	26765	821.5	1	Low	0.11	0.173	23.85	24.00	1.035	0.179	/
	Level2				15	26765	821.5	36	Low	-0.18	0.143	22.92	23.00	1.019	0.146	/
	Level2			Back Side	15	26765	821.5	1	Low	0.02	0.221	23.85	24.00	1.035	<b>0.229</b>	39#
	Level2				15	26765	821.5	36	Low	0.03	0.178	22.92	23.00	1.019	0.181	/
<b>Hotspot</b>																
Ant.2	Level2	QPSK	SA	Front Side	10	26965	841.5	1	Mid	-0.16	0.306	23.09	23.50	1.099	0.336	/
	Level2				10	26965	841.5	36	High	0.13	0.245	22.20	22.50	1.072	0.263	/
	Level2			Back Side	10	26965	841.5	1	Mid	-0.04	0.283	23.09	23.50	1.099	0.311	/
	Level2				10	26965	841.5	36	High	-0.01	0.223	22.20	22.50	1.072	0.239	/
	Level2			Left Edge	10	26965	841.5	1	Mid	0.12	0.679	23.09	23.50	1.099	<b>0.746</b>	40#
	Level2				10	26965	841.5	36	High	-0.07	0.543	22.20	22.50	1.072	0.582	/
Ant.1 上	Level2	QPSK	SA	Front Side	10	26765	821.5	1	Low	-0.13	0.263	23.85	24.00	1.035	0.272	/
	Level2				10	26765	821.5	36	Low	-0.04	0.210	22.92	23.00	1.019	0.214	/
	Level2			Back Side	10	26765	821.5	1	Low	-0.16	0.277	23.85	24.00	1.035	0.287	/
	Level2				10	26765	821.5	36	Low	0.04	0.225	22.92	23.00	1.019	0.229	/
	Level2			Left Edge	10	26765	821.5	1	Low	-0.11	0.150	23.85	24.00	1.035	0.155	/

	Level2			Right Edge	10	26765	821.5	36	Low	0.16	0.120	22.92	23.00	1.019	0.122	/	
	Level2				10	26765	821.5	1	Low	-0.17	0.072	23.85	24.00	1.035	0.075	/	
	Level2				10	26765	821.5	36	Low	0.03	0.057	22.92	23.00	1.019	0.058	/	
	Level2				Bottom Edge	10	26765	821.5	1	Low	-0.03	0.266	23.85	24.00	1.035	0.275	/
	Level2					10	26765	821.5	36	Low	-0.13	0.209	22.92	23.00	1.019	0.213	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.15 LTE Band 38 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	37850	2580	1	Low	-0.08	0.088	24.72	25.00	1.067	0.094	/
	Level1				0	37850	2580	50	Low	-0.06	0.071	23.90	24.00	1.023	0.073	/
	Level1			Left Tilt	0	37850	2580	1	Low	-0.15	0.041	24.72	25.00	1.067	0.044	/
	Level1				0	37850	2580	50	Low	0.00	0.033	23.90	24.00	1.023	0.034	/
	Level1			Right Cheek	0	37850	2580	1	Low	0.02	0.248	24.72	25.00	1.067	0.265	/
	Level1				0	37850	2580	50	Low	0.04	0.207	23.90	24.00	1.023	0.212	/
	Level1			Right Tilt	0	37850	2580	1	Low	-0.17	0.032	24.72	25.00	1.067	0.034	/
	Level1				0	37850	2580	50	Low	-0.02	0.029	23.90	24.00	1.023	0.030	/
Ant.2	Level1	QPSK	NSA	Left Cheek	0	38150	2610	1	Low	0.14	0.044	21.60	22.00	1.096	0.048	/
	Level1				0	38150	2610	50	Low	0.14	0.037	21.52	22.00	1.117	0.041	/
	Level1			Left Tilt	0	38150	2610	1	Low	-0.19	0.021	21.60	22.00	1.096	0.023	/
	Level1				0	38150	2610	50	Low	0.18	0.016	21.52	22.00	1.117	0.018	/
	Level1			Right Cheek	0	38150	2610	1	Low	-0.08	0.124	21.60	22.00	1.096	0.136	/
	Level1				0	38150	2610	50	Low	-0.08	0.101	21.52	22.00	1.117	0.113	/
	Level1			Right Tilt	0	38150	2610	1	Low	0.17	0.015	21.60	22.00	1.096	0.016	/
	Level1				0	38150	2610	50	Low	-0.16	0.013	21.52	22.00	1.117	0.015	/
Ant.4	Level1	QPSK	SA	Left Cheek	0	38150	2610	1	High	-0.18	0.348	20.37	20.50	1.030	0.359	/
	Level1				0	38150	2610	50	High	0.15	0.274	19.37	19.50	1.030	0.282	/
	Level1			Left Tilt	0	38150	2610	1	High	-0.11	0.100	20.37	20.50	1.030	0.103	/
	Level1				0	38150	2610	50	High	0.03	0.083	19.37	19.50	1.030	0.086	/
	Level1			Right Cheek	0	38150	2610	1	High	-0.19	0.603	20.37	20.50	1.030	<b>0.621</b>	41#
	Level1				0	38150	2610	50	High	0.08	0.498	19.37	19.50	1.030	0.513	/
	Level1			Right Tilt	0	38150	2610	1	High	0.13	0.302	20.37	20.50	1.030	0.311	/
	Level1				0	38150	2610	50	High	-0.06	0.242	19.37	19.50	1.030	0.249	/
Ant.4	Level1	QPSK	NSA	Left Cheek	0	38000	2595	1	Low	0.10	0.173	17.24	17.50	1.062	0.184	/
	Level1				0	38000	2595	50	Low	-0.19	0.170	17.31	17.50	1.045	0.178	/
	Level1			Left Tilt	0	38000	2595	1	Low	-0.08	0.049	17.24	17.50	1.062	0.052	/
	Level1				0	38000	2595	50	Low	-0.17	0.053	17.31	17.50	1.045	0.055	/
	Level1			Right Cheek	0	38000	2595	1	Low	0.09	0.296	17.24	17.50	1.062	0.314	/
	Level1				0	38000	2595	50	Low	-0.06	0.313	17.31	17.50	1.045	0.327	/

	Level1			Right Tilt	0	38000	2595	1	Low	0.09	0.153	17.24	17.50	1.062	0.162	/	
	Level1			Right Tilt	0	38000	2595	50	Low	-0.03	0.148	17.31	17.50	1.045	0.155	/	
<b>Body-worn</b>																	
Ant.2	Level2	QPSK	SA&NSA	Front Side	15	37850	2580	1	Low	-0.08	0.107	24.72	25.00	1.067	0.114	/	
	15				37850	2580	50	Low	0.18	0.088	23.90	24.00	1.023	0.090	/		
	Level2			Back Side	15	37850	2580	1	Low	0.03	0.093	24.72	25.00	1.067	0.099	/	
	15				37850	2580	50	Low	0.02	0.076	23.90	24.00	1.023	0.078	/		
Ant.4	Level2	QPSK	SA	Front Side	15	38150	2610	1	High	-0.12	0.128	23.39	23.50	1.026	<b>0.131</b>	<b>42#</b>	
	15				38150	2610	50	High	0.10	0.104	22.38	22.50	1.028	0.107	/		
	Level2			Back Side	15	38150	2610	1	High	0.03	0.117	23.39	23.50	1.026	0.120	/	
	15				38150	2610	50	High	-0.12	0.094	22.38	22.50	1.028	0.097	/		
Ant.4	Level2	QPSK	NSA	Front Side	15	38000	2595	1	Low	-0.01	0.089	21.83	22.00	1.040	0.093	/	
	15				38000	2595	50	Mid	-0.10	0.093	21.89	22.00	1.026	0.095	/		
	Level2			Back Side	15	38000	2595	1	Low	0.04	0.085	21.83	22.00	1.040	0.088	/	
	15				38000	2595	50	Mid	0.02	0.086	21.89	22.00	1.026	0.088	/		
<b>Hotspot</b>																	
Ant.2	Level2	QPSK	SA&NSA	Front Side	10	37850	2580	1	Low	0.10	0.186	24.72	25.00	1.067	0.198	/	
	10				37850	2580	50	Low	0.15	0.150	23.90	24.00	1.023	0.153	/		
	Level2			Back Side	10	37850	2580	1	Low	-0.04	0.195	24.72	25.00	1.067	0.208	/	
	10				37850	2580	50	Low	0.00	0.160	23.90	24.00	1.023	0.164	/		
	Level2			Left Edge	10	37850	2580	1	Low	0.12	0.331	24.72	25.00	1.067	0.353	/	
	10				37850	2580	50	Low	0.15	0.263	23.90	24.00	1.023	0.269	/		
Ant.4	Level2	QPSK	SA	Front Side	10	38150	2610	1	High	0.18	0.225	23.39	23.50	1.026	0.231	/	
	10				38150	2610	50	High	0.01	0.183	22.38	22.50	1.028	0.188	/		
	Level2			Back Side	10	38150	2610	1	High	-0.12	0.266	23.39	23.50	1.026	0.273	/	
	10				38150	2610	50	High	-0.17	0.215	22.38	22.50	1.028	0.221	/		
	Level2			Right Edge	10	38150	2610	1	High	-0.02	0.685	23.39	23.50	1.026	<b>0.703</b>	<b>43#</b>	
	10				38150	2610	50	High	-0.15	0.561	22.38	22.50	1.028	0.577	/		
	Level2			Top Edge	10	38150	2610	1	High	-0.09	0.051	23.39	23.50	1.026	0.052	/	
	10				38150	2610	50	High	-0.17	0.040	22.38	22.50	1.028	0.041	/		
Ant.4	Level2	QPSK	NSA	Front Side	10	38000	2595	1	Low	-0.14	0.164	21.83	22.00	1.040	0.171	/	
	10				38000	2595	50	Mid	-0.08	0.159	21.89	22.00	1.026	0.163	/		
	Level2			Back Side	10	38000	2595	1	Low	-0.11	0.188	21.83	22.00	1.040	0.196	/	
	10				38000	2595	50	Mid	-0.06	0.194	21.89	22.00	1.026	0.199	/		
	Level2			Right Edge	10	38000	2595	1	Low	0.09	0.495	21.83	22.00	1.040	0.515	/	
	10				38000	2595	50	Mid	-0.02	0.486	21.89	22.00	1.026	0.498	/		
	Level2			Top Edge	10	38000	2595	1	Low	0.16	0.037	21.83	22.00	1.040	0.038	/	
	10				38000	2595	50	Mid	0.00	0.036	21.89	22.00	1.026	0.037	/		
Note: Refer to ANNEX C for the detailed test data for each test configuration.																	

### 10.16 LTE Band 41 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	39750	2506	1	High	0.14	0.084	24.53	25.00	1.114	0.094	/
	Level1				0	39750	2506	50	Mid	0.12	0.066	23.78	24.00	1.052	0.069	/
	Level1			Left Tilt	0	39750	2506	1	High	0.15	0.043	24.53	25.00	1.114	0.048	/
	Level1				0	39750	2506	50	Mid	-0.15	0.035	23.78	24.00	1.052	0.037	/
	Level1			Right Cheek	0	39750	2506	1	High	0.11	0.262	24.53	25.00	1.114	0.292	/
	Level1				0	39750	2506	50	Mid	0.10	0.209	24.39	25.00	1.151	0.241	/
	Level1			Right Tilt	0	40620	2593	1	Low	-0.04	0.037	24.53	25.00	1.114	0.041	/
	Level1				0	40620	2593	50	Low	0.01	0.030	23.78	24.00	1.052	0.032	/
Ant.4	Level1	QPSK	SA	Left Cheek	0	39750	2506	1	High	-0.06	0.224	21.25	21.50	1.059	0.237	/
	Level1				0	39750	2506	50	Mid	-0.14	0.184	20.35	20.50	1.035	0.190	/
	Level1			Left Tilt	0	39750	2506	1	High	-0.02	0.078	21.25	21.50	1.059	0.083	/
	Level1				0	39750	2506	50	Mid	0.11	0.062	20.35	20.50	1.035	0.064	/
	Level1			Right Cheek	0	39750	2506	1	High	0.11	0.869	21.25	21.50	1.059	<b>0.920</b>	44#
	Level1				0	40185	2549.5	1	High	-0.01	0.811	21.20	21.50	1.072	0.869	/
	Level1				0	40620	2593	1	High	0.11	0.846	21.18	21.50	1.076	0.911	/
	Level1				0	41055	2636.5	1	High	0.05	0.835	21.09	21.50	1.099	0.918	/
	Level1				0	41490	2680	1	High	0.02	0.842	21.12	21.50	1.091	0.919	/
	Level1				0	39750	2506	50	High	-0.14	0.712	20.35	20.50	1.035	0.737	/
	Level1			Right Tilt	0	39750	2506	100	Low	-0.14	0.693	20.33	20.50	1.040	0.721	/
	Level1				0	39750	2506	1	High	0.12	0.210	21.25	21.50	1.059	0.222	/
	Level1			0	39750	2506	50	Mid	0.02	0.174	20.35	20.50	1.035	0.180	/	
	<b>Body-worn</b>															
Ant.2	Level2	QPSK	SA	Front Side	15	40620	2593	1	Mid	0.13	0.109	24.53	25.00	1.114	0.121	/
	Level2				15	39750	2506	50	Mid	0.01	0.086	23.78	24.00	1.052	0.090	/
	Level2			Back Side	15	40620	2593	1	Mid	-0.08	0.097	24.53	25.00	1.114	0.108	/
	Level2				15	39750	2506	50	Mid	-0.06	0.078	23.78	24.00	1.052	0.082	/
Ant.4	Level2	QPSK	SA	Front Side	15	39750	2506	1	Mid	-0.11	0.142	24.33	24.50	1.040	<b>0.148</b>	45#
	Level2				15	39750	2506	50	Mid	-0.13	0.114	23.39	23.50	1.026	0.117	/
	Level2			Back Side	15	39750	2506	1	Mid	0.08	0.104	24.33	24.50	1.040	0.108	/
	Level2				15	39750	2506	50	Mid	-0.19	0.083	23.39	23.50	1.026	0.085	/
<b>Hotspot</b>																
Ant.2	Level2	QPSK	SA	Front Side	10	40620	2593	1	Low	-0.19	0.182	24.53	25.00	1.114	0.203	/
	Level2				10	39750	2506	50	Low	0.01	0.147	23.78	24.00	1.052	0.155	/
	Level2			Back Side	10	40620	2593	1	Low	0.11	0.160	24.53	25.00	1.114	0.178	/
	Level2				10	39750	2506	50	Low	-0.15	0.128	23.78	24.00	1.052	0.135	/
	Level2			Left Edge	10	40620	2593	1	Low	0.10	0.374	24.53	25.00	1.114	0.417	/
	Level2				10	40620	2593	50	Low	-0.04	0.299	23.78	24.00	1.052	0.315	/

Ant.4	Level2	QPSK	SA	Front Side	10	39750	2506	1	Mid	-0.17	0.251	24.33	24.50	1.040	0.261	/
	Level2				10	39750	2506	50	Mid	0.01	0.199	23.39	23.50	1.026	0.204	/
	Level2			Back Side	10	39750	2506	1	Mid	-0.15	0.222	24.33	24.50	1.040	0.231	/
	Level2				10	39750	2506	50	Mid	0.12	0.183	23.39	23.50	1.026	0.188	/
	Level2			Right Edge	10	39750	2506	1	Mid	0.05	0.761	24.33	24.50	1.040	<b>0.791</b>	46#
	Level2				10	39750	2506	50	Mid	-0.13	0.609	23.39	23.50	1.026	0.625	/
	Level2			Top Edge	10	39750	2506	1	Mid	-0.03	0.060	24.33	24.50	1.040	0.062	/
	Level2				10	39750	2506	50	Mid	0.16	0.048	23.39	23.50	1.026	0.049	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.17 n5 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	VRB Length	VRB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	167300	836.5	1	53	-0.03	0.082	23.09	24.00	1.233	0.101	/
	Level1				0	167300	836.5	50	28	0.00	0.084	23.12	24.00	1.225	0.103	/
	Level1			Left Tilt	0	167300	836.5	1	53	-0.13	0.037	23.09	24.00	1.233	0.046	/
	Level1				0	167300	836.5	50	28	0.10	0.036	23.12	24.00	1.225	0.044	/
	Level1			Right Cheek	0	167300	836.5	1	53	0.03	0.320	23.09	24.00	1.233	<b>0.395</b>	47#
	Level1				0	167300	836.5	50	28	-0.13	0.320	23.12	24.00	1.225	0.392	/
	Level1			Right Tilt	0	167300	836.5	1	53	-0.01	0.050	23.09	24.00	1.233	0.062	/
	Level1				0	167300	836.5	50	28	0.15	0.049	23.12	24.00	1.225	0.060	/
<b>Body-worn</b>																
Ant.2	Level2	QPSK	SA	Front Side	15	167300	836.5	1	53	0.07	0.153	23.09	24.00	1.233	<b>0.189</b>	48#
	Level2				15	167300	836.5	50	28	-0.11	0.149	23.12	24.00	1.225	0.182	/
	Level2			Back Side	15	167300	836.5	1	53	0.09	0.144	23.09	24.00	1.233	0.178	/
	Level2				15	167300	836.5	50	28	0.13	0.142	23.12	24.00	1.225	0.174	/
<b>Hotspot</b>																
Ant.2	Level2	QPSK	SA	Front Side	10	167300	836.5	1	53	0.02	0.282	23.09	24.00	1.233	0.348	/
	Level2				10	167300	836.5	50	28	0.14	0.288	23.12	24.00	1.225	0.353	/
	Level2			Back Side	10	167300	836.5	1	53	-0.06	0.260	23.09	24.00	1.233	0.321	/
	Level2				10	167300	836.5	50	28	-0.09	0.271	23.12	24.00	1.225	0.332	/
	Level2			Left Edge	10	167300	836.5	1	53	-0.03	0.485	23.09	24.00	1.233	<b>0.598</b>	49#
	Level2				10	167300	836.5	50	28	0.04	0.477	23.12	24.00	1.225	0.584	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.																

### 10.18 n7 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	VRB Length	VRB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2	Level1	QPSK	SA	Left Cheek	0	507000	2535	1	53	-0.11	0.345	24.18	24.50	1.076	0.371	/
	Level1				0	507000	2535	50	28	-0.05	0.272	23.22	23.50	1.067	0.290	/
	Level1			Left Tilt	0	507000	2535	1	53	0.08	0.213	24.18	24.50	1.076	0.229	/
	Level1				0	507000	2535	50	28	0.00	0.169	23.22	23.50	1.067	0.180	/
	Level1			Right Cheek	0	507000	2535	1	53	0.06	0.825	24.18	24.50	1.076	<b>0.888</b>	50#
	Level1				0	502000	2510	1	53	-0.13	0.811	24.27	24.50	1.054	0.855	/
	Level1				0	512000	2560	1	53	-0.02	0.761	24.02	24.50	1.117	0.850	/
	Level1				0	507000	2535	50	28	-0.19	0.682	23.22	23.50	1.067	0.727	/
	Level1				0	507000	2535	100	0	0.16	0.664	23.48	23.50	1.005	0.667	/



	Level1			Right Tilt	0	507000	2535	1	53	0.02	0.128	24.18	24.50	1.076	0.138	/
	Level1			Right Tilt	0	507000	2535	50	28	0.01	0.101	23.22	23.50	1.067	0.108	/
<b>Body-worn</b>																
Ant.2	Level2	QPSK	SA	Front Side	15	507000	2535	1	53	0.03	0.147	24.18	24.50	1.076	<b>0.158</b>	51#
	Level2				15	507000	2535	50	28	0.10	0.117	23.22	23.50	1.067	0.125	/
	Level2			Back Side	15	507000	2535	1	53	0.00	0.135	24.18	24.50	1.076	0.145	/
	Level2				15	507000	2535	50	28	-0.01	0.112	23.22	23.50	1.067	0.119	/
<b>Hotspot</b>																
Ant.2	Level2	QPSK	SA	Front Side	10	507000	2535	1	53	0.19	0.358	24.18	24.50	1.076	0.385	/
	Level2				10	507000	2535	50	28	0.16	0.286	23.22	23.50	1.067	0.305	/
	Level2			Back Side	10	507000	2535	1	53	0.14	0.338	24.18	24.50	1.076	0.364	/
	Level2				10	507000	2535	50	28	0.12	0.277	23.22	23.50	1.067	0.295	/
	Level2			Left Edge	10	507000	2535	1	53	0.11	0.739	24.18	24.50	1.076	<b>0.796</b>	52#
	Level2				10	507000	2535	50	28	0.00	0.587	23.22	23.50	1.067	0.626	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.19 n41 (100MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	VRB Length	VRB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.2 PC2	Level1	QPSK	SA	Left Cheek	0	528000	2640	1	1	0.01	0.270	23.73	24.00	1.064	0.287	/
	Level1				0	528000	2640	135	67	0.10	0.277	23.67	24.00	1.079	0.299	/
	Level1			Left Tilt	0	528000	2640	1	1	0.11	0.182	23.73	24.00	1.064	0.194	/
	Level1				0	528000	2640	135	67	-0.19	0.178	23.67	24.00	1.079	0.192	/
	Level1			Right Cheek	0	528000	2640	1	1	-0.14	0.867	23.73	24.00	1.064	0.923	/
	Level1				0	509202	2546.01	1	1	-0.05	0.864	23.70	24.00	1.072	0.926	/
	Level1				0	513900	2569.5	1	1	0.09	0.843	23.72	24.00	1.067	0.899	/
	Level1				0	518598	2592.99	1	1	-0.02	0.826	23.64	24.00	1.086	0.897	/
	Level1				0	523302	2616.51	1	1	0.19	0.855	23.66	24.00	1.081	0.925	/
	Level1				0	528000	2640	135	67	-0.07	0.976	23.67	24.00	1.079	<b>1.053</b>	53#
	Level1				0	509202	2546.01	135	67	0.09	0.874	23.62	24.00	1.091	0.954	/
	Level1				0	513900	2569.5	135	0	0.15	0.884	23.59	24.00	1.099	0.972	/
	Level1			0	518598	2592.99	135	0	-0.08	0.862	23.64	24.00	1.086	0.936	/	
	Level1			0	523302	2616.51	135	0	0.09	0.864	23.57	24.00	1.104	0.954	/	
	Level1			0	528000	2640	270	0	0.16	0.907	23.63	24.00	1.089	0.988	/	
	Level1			Right Tilt	0	528000	2640	1	1	0.00	0.312	23.73	24.00	1.064	0.332	/
	Level1				0	528000	2640	135	67	0.07	0.311	23.67	24.00	1.079	0.336	/
	Ant.8 PC2			Level1	QPSK	SA	Left Cheek	0	528000	2640	1	1	-0.11	0.334	16.79	17.00
Level1		0	528000	2640				135	0	0.18	0.347	16.73	17.00	1.064	0.369	/
Level1		Left Tilt	0	528000			2640	1	1	0.18	0.389	16.79	17.00	1.050	0.408	/
Level1			0	528000			2640	135	0	-0.18	0.388	16.73	17.00	1.064	0.413	/

	Level1			Right Cheek	0	528000	2640	1	1	-0.13	0.621	16.79	17.00	1.050	0.652	/
	Level1				0	528000	2640	135	0	-0.08	0.642	16.73	17.00	1.064	0.683	/
	Level1			Right Tilt	0	528000	2640	1	1	0.14	0.729	16.79	17.00	1.050	0.765	/
	Level1				0	528000	2640	135	0	-0.03	0.736	16.73	17.00	1.064	0.783	/

**Body-worn**

Ant.2 PC2	Level2	QPSK	SA	Front Side	15	528000	2640	1	1	0.02	0.132	23.73	24.00	1.064	0.140	/
	Level2				15	528000	2640	135	67	0.14	0.130	23.67	24.00	1.079	0.140	/
	Level2			Back Side	15	528000	2640	1	1	0.04	0.149	23.73	24.00	1.064	0.159	/
	Level2				15	528000	2640	135	67	-0.05	0.149	23.67	24.00	1.079	0.161	/
Ant.8 PC2	Level2	QPSK	SA	Front Side	15	528000	2640	1	1	-0.06	0.128	17.66	19.00	1.361	0.174	/
	Level2				15	528000	2640	135	0	-0.03	0.133	17.72	19.00	1.343	0.179	/
	Level2			Back Side	15	528000	2640	1	1	0.14	0.137	17.66	19.00	1.361	<b>0.187</b>	54#
	Level2				15	528000	2640	135	0	-0.04	0.132	17.72	19.00	1.343	0.177	/

**Hotspot**

Ant.2 PC2	Level2	QPSK	SA	Front Side	10	528000	2640	1	1	0.18	0.560	23.73	24.00	1.064	0.596	/
	Level2				10	528000	2640	135	0	-0.12	0.569	23.67	24.00	1.079	0.614	/
	Level2			Back Side	10	528000	2640	1	1	0.16	0.447	23.73	24.00	1.064	0.476	/
	Level2				10	528000	2640	135	0	-0.06	0.445	23.67	24.00	1.079	0.480	/
	Level2			Left Edge	10	528000	2640	1	1	-0.09	0.620	23.73	24.00	1.064	0.660	/
	Level2				10	509202	2546.01	1	1	-0.04	0.649	23.67	24.00	1.079	0.700	/
Ant.8 PC2	Level2	QPSK	SA	Front Side	10	528000	2640	1	1	0.08	0.222	17.66	19.00	1.361	0.302	/
	Level2				10	528000	2640	135	0	0.12	0.216	17.72	19.00	1.343	0.290	/
	Level2			Back Side	10	528000	2640	1	1	0.17	0.203	17.66	19.00	1.361	0.276	/
	Level2				10	528000	2640	135	0	-0.16	0.204	17.72	19.00	1.343	0.274	/
	Level2			Right Edge	10	528000	2640	1	1	-0.07	0.090	17.66	19.00	1.361	0.123	/
	Level2				10	528000	2640	135	0	-0.17	0.089	17.72	19.00	1.343	0.120	/
	Level2			Top Edge	10	528000	2640	1	1	0.12	0.534	17.66	19.00	1.361	<b>0.727</b>	55#
	Level2				10	528000	2640	135	0	-0.14	0.535	17.72	19.00	1.343	0.718	/

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	VRB Length	VRB Start	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
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**Specific**

Ant.8 PC2	Level2	QPSK	SA	Front Side	0	528000	2640	1	1	0.06	0.394	17.66	19.00	1.361	0.536	/
	Level2				0	528000	2640	135	0	-0.03	0.385	17.72	19.00	1.343	0.517	/
	Level2			Back Side	0	528000	2640	1	1	-0.01	0.377	17.66	19.00	1.361	0.513	/
	Level2				0	528000	2640	135	0	0.14	0.362	17.72	19.00	1.343	0.486	/
	Level2			Right Edge	0	528000	2640	1	1	-0.07	0.111	17.66	19.00	1.361	0.151	/
	Level2				0	528000	2640	135	0	-0.10	0.102	17.72	19.00	1.343	0.137	/
	Level2			Top Edge	0	528000	2640	1	1	0.11	0.827	17.66	19.00	1.361	<b>1.126</b>	56#
	Level2				0	528000	2640	135	0	0.14	0.821	17.72	19.00	1.343	1.102	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.20 n77 (100MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	VRB Length	VRB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.		
<b>Head</b>																		
Ant.8 3700- 3980 PC2	Level1	QPSK	SA	Left Cheek	0	656000	3840	1	1	0.07	0.223	15.52	16.00	1.117	0.249	/		
	Level1				0	656000	3840	135	0	-0.17	0.221	15.40	16.00	1.148	0.254	/		
	Level1			Left Tilt	0	656000	3840	1	1	-0.07	0.322	15.52	16.00	1.117	0.360	/		
	Level1				0	656000	3840	135	0	0.10	0.325	15.40	16.00	1.148	0.373	/		
	Level1			Right Cheek	0	656000	3840	1	1	0.01	0.508	15.52	16.00	1.117	0.567	/		
	Level1				0	650000	3750	1	1	-0.19	0.521	15.40	16.00	1.148	0.598	/		
	Level1			Right Tilt	0	650000	3750	1	1	-0.18	0.788	15.52	16.00	1.117	<b>0.880</b>	57#		
	Level1				0	656000	3840	1	1	0.16	0.675	15.49	16.00	1.125	0.759	/		
	Level1				0	662000	3930	1	1	0.01	0.650	15.46	16.00	1.132	0.736	/		
	Level1				0	650000	3750	135	0	-0.07	0.754	15.40	16.00	1.148	0.866	/		
	Level1				0	656000	3840	135	0	0.16	0.738	15.34	16.00	1.164	0.859	/		
	Level1				0	662000	3930	135	0	-0.18	0.717	15.38	16.00	1.153	0.827	/		
	Level1				0	656000	3840	270	0	-0.17	0.730	15.66	16.00	1.081	0.789	/		
	Level1																	
Ant.8 3450- 3550 PC2	Level1	QPSK	SA	Left Cheek	0	650000	3750	1	137	0.03	0.216	15.96	16.00	1.009	0.218	/		
	Level1				0	650000	3750	135	0	0.11	0.215	15.88	16.00	1.028	0.221	/		
	Level1			Left Tilt	0	650000	3750	1	137	0.01	0.306	15.96	16.00	1.009	0.309	/		
	Level1				0	650000	3750	135	0	-0.18	0.304	15.88	16.00	1.028	0.313	/		
	Level1			Right Cheek	0	650000	3750	1	137	-0.08	0.535	15.96	16.00	1.009	0.540	/		
	Level1				0	650000	3750	135	0	0.05	0.516	15.88	16.00	1.028	0.530	/		
	Level1			Right Tilt	0	650000	3750	1	137	-0.09	0.681	15.96	16.00	1.009	0.687	/		
	Level1				0	650000	3750	135	0	0.09	0.672	15.88	16.00	1.028	0.691	/		
	Level1																	
	Level1																	
<b>Body-worn</b>																		
Ant.8 3700- 3980 PC2	Level2	QPSK	SA	Front Side	15	650000	3750	1	1	0.01	0.077	17.64	18.00	1.086	0.084	/		
	Level2				15	650000	3750	135	0	0.10	0.078	17.60	18.00	1.096	0.086	/		
	Level2			Back Side	15	650000	3750	1	1	-0.05	0.119	17.64	18.00	1.086	0.129	/		
	Level2				15	650000	3750	135	0	-0.09	0.119	17.60	18.00	1.096	0.130	/		
Ant.8 3450- 3550 PC2	Level2	QPSK	SA	Front Side	15	650000	3750	1	1	-0.06	0.130	17.77	18.00	1.054	0.137	/		
	Level2				15	650000	3750	135	0	0.15	0.130	17.79	18.00	1.050	0.136	/		
	Level2			Back Side	15	650000	3750	1	1	0.02	0.159	17.77	18.00	1.054	<b>0.168</b>	58#		
	Level2				15	650000	3750	135	0	-0.16	0.153	17.79	18.00	1.050	0.161	/		
<b>Hotspot</b>																		
Ant.8 3700- 3980 PC2	Level2	QPSK	SA	Front Side	10	656000	3840	1	1	-0.16	0.142	17.64	18.00	1.086	0.154	/		
	Level2				10	656000	3840	135	0	0.14	0.146	17.60	18.00	1.096	0.160	/		
	Level2			Back Side	10	656000	3840	1	1	-0.11	0.156	17.64	18.00	1.086	0.169	/		
	Level2				10	656000	3840	135	0	0.17	0.155	17.60	18.00	1.096	0.170	/		
	Level2			Right Edge	10	656000	3840	1	1	-0.05	0.173	17.64	18.00	1.086	0.188	/		
	Level2				10	656000	3840	135	0	-0.18	0.172	17.60	18.00	1.096	0.189	/		

	Level2			Top Edge	10	656000	3840	1	1	-0.12	0.529	17.64	18.00	1.086	0.575	/
	Level2				10	650000	3750	1	1	-0.12	0.513	17.60	18.00	1.096	0.562	/
Ant.8 3450- 3550 PC2	Level2	QPSK	SA	Front Side	10	650000	3750	1	1	-0.01	0.142	17.77	18.00	1.054	0.150	/
	Level2				10	650000	3750	135	0	0.16	0.138	17.79	18.00	1.050	0.145	/
	Level2			Back Side	10	650000	3750	1	1	-0.15	0.132	17.77	18.00	1.054	0.139	/
	Level2				10	650000	3750	135	0	-0.12	0.128	17.79	18.00	1.050	0.134	/
	Level2			Right Edge	10	650000	3750	1	1	-0.03	0.094	17.77	18.00	1.054	0.099	/
	Level2				10	650000	3750	135	0	-0.11	0.092	17.79	18.00	1.050	0.097	/
	Level2			Top Edge	10	650000	3750	1	1	0.06	0.564	17.77	18.00	1.054	<b>0.595</b>	59#
	Level2				10	650000	3750	135	0	-0.06	0.553	17.79	18.00	1.050	0.580	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.21 n78 (100MHz Bandwidth)

Antenna	Power Reduction	Mode	State	Position	Dist. (mm)	Ch.	Freq. (MHz)	VRB Length	VRB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.8 3700- 3800 PC2	Level1	QPSK	SA	Left Cheek	0	650000	3750	1	271	0.13	0.202	15.53	16.00	1.114	0.225	/
	Level1				0	650000	3750	135	138	-0.08	0.204	15.59	16.00	1.099	0.224	/
	Level1			Left Tilt	0	650000	3750	1	271	0.08	0.293	15.53	16.00	1.114	0.326	/
	Level1				0	650000	3750	135	138	-0.03	0.300	15.59	16.00	1.099	0.330	/
	Level1			Right Cheek	0	650000	3750	1	271	-0.10	0.472	15.53	16.00	1.114	0.526	/
	Level1				0	650000	3750	135	138	-0.02	0.489	15.59	16.00	1.099	0.537	/
	Level1			Right Tilt	0	650000	3750	1	271	-0.10	0.638	15.53	16.00	1.114	<b>0.711</b>	60#
	Level1				0	650000	3750	135	138	-0.15	0.623	15.59	16.00	1.099	0.685	/
Ant.8 3450- 3550	Level1	QPSK	SA	Left Cheek	0	633332	3499.98	1	137	-0.08	0.208	15.62	16.00	1.091	0.227	/
	Level1				0	633332	3499.98	135	138	-0.18	0.205	15.66	16.00	1.081	0.222	/
	Level1			Left Tilt	0	633332	3499.98	1	137	0.03	0.304	15.62	16.00	1.091	0.332	/
	Level1				0	633332	3499.98	135	138	0.08	0.305	15.66	16.00	1.081	0.330	/
	Level1			Right Cheek	0	633332	3499.98	1	137	-0.18	0.472	15.62	16.00	1.091	0.515	/
	Level1				0	633332	3499.98	135	138	-0.17	0.466	15.66	16.00	1.081	0.504	/
	Level1			Right Tilt	0	633332	3499.98	1	137	0.14	0.633	15.62	16.00	1.091	0.691	/
	Level1				0	633332	3499.98	135	138	0.00	0.623	15.66	16.00	1.081	0.674	/
Ant.8 3700- 3800 PC2	Level1	QPSK	NSA	Left Cheek	0	650000	3750	1	1	0.06	0.157	14.42	15.00	1.143	0.179	/
	Level1				0	650000	3750	135	69	-0.18	0.168	14.54	15.00	1.112	0.187	/
	Level1			Left Tilt	0	650000	3750	1	1	0.19	0.230	14.42	15.00	1.143	0.263	/
	Level1				0	650000	3750	135	69	0.17	0.233	14.54	15.00	1.112	0.259	/
	Level1			Right Cheek	0	650000	3750	1	1	0.05	0.387	14.42	15.00	1.143	0.442	/
	Level1				0	650000	3750	135	69	-0.04	0.399	14.54	15.00	1.112	0.444	/
	Level1			Right Tilt	0	650000	3750	1	1	-0.16	0.496	14.42	15.00	1.143	0.567	/
	Level1				0	650000	3750	135	69	0.01	0.501	14.54	15.00	1.112	0.557	/
	Level1	QPSK	NSA	Left Cheek	0	633332	3499.98	1	137	0.19	0.170	14.67	15.00	1.079	0.183	/

Ant.8 3450- 3550	Level1			Left Tilt	0	633332	3499.98	135	0	-0.11	0.160	14.65	15.00	1.084	0.173	/		
	Level1				0	633332	3499.98	1	137	-0.07	0.241	14.67	15.00	1.079	0.260	/		
	Level1				0	633332	3499.98	135	0	-0.04	0.235	14.65	15.00	1.084	0.255	/		
	Level1					Right Cheek	0	633332	3499.98	1	137	-0.12	0.368	14.67	15.00	1.079	0.397	/
							0	633332	3499.98	135	0	-0.11	0.360	14.65	15.00	1.084	0.390	/
	Level1					Right Tilt	0	633332	3499.98	1	137	0.17	0.499	14.67	15.00	1.079	0.538	/
							0	633332	3499.98	135	0	0.03	0.501	14.65	15.00	1.084	0.543	/

**Body-worn**

Ant.8 3700- 3800 PC2	Level2	QPSK	SA&NSA	Front Side	15	650000	3750	1	1	-0.08	0.072	17.90	18.00	1.023	0.074	/		
	Level2				15	650000	3750	135	0	-0.10	0.075	17.92	18.00	1.019	0.076	/		
	Level2					Back Side	15	650000	3750	1	1	-0.18	0.079	17.90	18.00	1.023	0.081	/
							15	650000	3750	135	0	-0.14	0.078	17.92	18.00	1.019	0.079	/
Ant.8 3450- 3550	Level2	QPSK	SA&NSA	Front Side	15	633332	3499.98	1	137	0.19	0.070	17.86	18.00	1.033	0.072	/		
	Level2				15	633332	3499.98	135	0	0.02	0.073	17.84	18.00	1.038	0.076	/		
	Level2					Back Side	15	633332	3499.98	1	137	0.05	0.086	17.86	18.00	1.033	<b>0.089</b>	61#
							15	633332	3499.98	135	0	-0.16	0.085	17.84	18.00	1.038	0.088	/

**Hotspot**

Ant.8 3700- 3800 PC2	Level2	QPSK	SA&NSA	Front Side	10	650000	3750	1	1	0.14	0.110	17.90	18.00	1.023	0.113	/		
	Level2				10	650000	3750	135	0	0.14	0.114	17.92	18.00	1.019	0.116	/		
	Level2					Back Side	10	650000	3750	1	1	0.18	0.117	17.90	18.00	1.023	0.120	/
							10	650000	3750	135	0	0.14	0.117	17.92	18.00	1.019	0.119	/
	Level2					Right Edge	10	650000	3750	1	1	-0.15	0.134	17.90	18.00	1.023	0.137	/
							10	650000	3750	135	0	-0.06	0.129	17.92	18.00	1.019	0.131	/
	Level2					Top Edge	10	650000	3750	1	1	0.00	0.552	17.90	18.00	1.023	<b>0.565</b>	62#
							10	650000	3750	135	0	-0.10	0.536	17.92	18.00	1.019	0.546	/
Ant.8 3450- 3550	Level2	QPSK	SA&NSA	Front Side	10	633332	3499.98	1	137	0.00	0.154	17.86	18.00	1.033	0.159	/		
	Level2				10	633332	3499.98	135	0	0.15	0.157	17.84	18.00	1.038	0.163	/		
	Level2					Back Side	10	633332	3499.98	1	137	0.05	0.166	17.86	18.00	1.033	0.171	/
							10	633332	3499.98	135	0	-0.01	0.173	17.84	18.00	1.038	0.179	/
	Level2					Right Edge	10	633332	3499.98	1	137	-0.12	0.104	17.86	18.00	1.033	0.107	/
							10	633332	3499.98	135	0	-0.18	0.106	17.84	18.00	1.038	0.110	/
	Level2					Top Edge	10	633332	3499.98	1	137	-0.16	0.511	17.86	18.00	1.033	0.528	/
							10	633332	3499.98	135	0	-0.17	0.520	17.84	18.00	1.038	0.540	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

### 10.22 WIFI 2.4GHZ

Mode	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle Setting	Duty cycle Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>															
Ant.3 CH2	Level1	802.11 b	Left Cheek	0	1	2412	0.04	0.343	14.87	15.00	1.030	98.53	1.015	0.359	/
	Level1		Left Tilt	0	1	2412	0.16	0.068	14.87	15.00	1.030	98.53	1.015	0.071	/
	Level1		Right Cheek	0	1	2412	0.11	0.269	14.87	15.00	1.030	98.53	1.015	0.281	/
	Level1		Right Tilt	0	1	2412	0.09	0.098	14.87	15.00	1.030	98.53	1.015	0.102	/
Ant.3 CH2	Level2	802.11 b	Left Cheek	0	1	2412	0.14	0.251	13.92	14.00	1.019	98.53	1.015	0.259	/
	Level2		Left Tilt	0	1	2412	0.15	0.052	13.92	14.00	1.019	98.53	1.015	0.054	/
	Level2		Right Cheek	0	1	2412	0.05	0.193	13.92	14.00	1.019	98.53	1.015	0.200	/
	Level2		Right Tilt	0	1	2412	0.17	0.075	13.92	14.00	1.019	98.53	1.015	0.078	/
Ant.6 CH1	Level1	802.11 b	Left Cheek	0	1	2412	-0.15	0.508	14.64	15.00	1.086	98.53	1.015	0.560	/
	Level1		Left Tilt	0	1	2412	-0.07	0.522	14.64	15.00	1.086	98.53	1.015	<b>0.576</b>	63#
	Level1		Right Cheek	0	1	2412	0.17	0.185	14.64	15.00	1.086	98.53	1.015	0.204	/
	Level1		Right Tilt	0	1	2412	0.19	0.284	14.64	15.00	1.086	98.53	1.015	0.313	/
Ant.6 CH1	Level2	802.11 b	Left Cheek	0	1	2412	-0.01	0.389	13.83	14.00	1.040	98.53	1.015	0.411	/
	Level2		Left Tilt	0	1	2412	0.14	0.411	13.83	14.00	1.040	98.53	1.015	0.434	/
	Level2		Right Cheek	0	1	2412	-0.11	0.149	13.83	14.00	1.040	98.53	1.015	0.157	/
	Level2		Right Tilt	0	1	2412	-0.15	0.225	13.83	14.00	1.040	98.53	1.015	0.237	/
<b>Body-worn</b>															
Ant.3	Level3&4	802.11 b	Front Side	15	6	2437	0.02	0.071	17.81	18.00	1.045	98.53	1.015	0.075	/
	Level3&4		Back Side	15	6	2437	-0.19	0.070	17.81	18.00	1.045	98.53	1.015	0.074	/
Ant.6	Level3&4	802.11 b	Front Side	15	6	2437	-0.18	0.055	17.86	18.00	1.033	98.53	1.015	0.058	/
	Level3&4		Back Side	15	6	2437	0.15	0.081	17.86	18.00	1.033	98.53	1.015	<b>0.085</b>	64#
<b>Hotspot</b>															
Ant.3	Level3&4	802.11 b	Front Side	10	6	2437	0.17	0.141	17.81	18.00	1.045	98.53	1.015	0.150	/
	Level3&4		Back Side	10	6	2437	0.15	0.137	17.81	18.00	1.045	98.53	1.015	0.145	/
	Level3&4		Right Edge	10	6	2437	-0.11	0.329	17.81	18.00	1.045	98.53	1.015	0.349	/
Ant.6	Level3&4	802.11 b	Front Side	10	6	2437	-0.12	0.114	17.86	18.00	1.033	98.53	1.015	0.119	/
	Level3&4		Back Side	10	6	2437	0.09	0.152	17.86	18.00	1.033	98.53	1.015	0.159	/
	Level3&4		Left Edge	10	6	2437	0.15	0.117	17.86	18.00	1.033	98.53	1.015	0.123	/
	Level3&4		Top Edge	10	6	2437	0.02	0.339	17.86	18.00	1.033	98.53	1.015	<b>0.355</b>	65#
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

### 10.23 WIFI 5GHz

Fre. Band	Power Reduction	Fre. Band	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle Setting	Duty cycle Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>																
Ant.6	Level1	5.3G	802.11a	Left Cheek	0	52	5260	0.07	0.610	16.81	17.00	1.045	98.23	1.018	0.649	/
	Level1			Left Tilt	0	52	5260	-0.01	0.729	16.81	17.00	1.045	98.23	1.018	0.775	66#
	Level1			Right Cheek	0	52	5260	0.11	0.370	16.81	17.00	1.045	98.23	1.018	0.393	/
	Level1			Right Tilt	0	52	5260	-0.04	0.432	16.81	17.00	1.045	98.23	1.018	0.460	/
Ant.6	Level2	5.3G	802.11a	Left Cheek	0	52	5260	0.17	0.310	13.89	14.00	1.026	98.23	1.018	0.324	/
	Level2			Left Tilt	0	52	5260	0.04	0.354	13.89	14.00	1.026	98.23	1.018	0.370	/
	Level2			Right Cheek	0	52	5260	-0.09	0.185	13.89	14.00	1.026	98.23	1.018	0.193	/
	Level2			Right Tilt	0	52	5260	-0.16	0.222	13.89	14.00	1.026	98.23	1.018	0.232	/
Ant.7	Level1	5.3G	802.11a	Left Cheek	0	60	5300	-0.12	0.084	16.58	17.00	1.102	98.23	1.018	0.094	/
	Level1			Left Tilt	0	60	5300	0.19	0.049	16.58	17.00	1.102	98.23	1.018	0.055	/
	Level1			Right Cheek	0	60	5300	0.00	0.123	16.58	17.00	1.102	98.23	1.018	0.138	/
	Level1			Right Tilt	0	60	5300	-0.13	0.062	16.58	17.00	1.102	98.23	1.018	0.070	/
Ant.7	Level2	5.3G	802.11a	Left Cheek	0	60	5300	-0.02	0.043	13.85	14.00	1.035	98.23	1.018	0.045	/
	Level2			Left Tilt	0	60	5300	0.17	0.025	13.85	14.00	1.035	98.23	1.018	0.026	/
	Level2			Right Cheek	0	60	5300	0.07	0.048	13.85	14.00	1.035	98.23	1.018	0.051	/
	Level2			Right Tilt	0	60	5300	-0.08	0.031	13.85	14.00	1.035	98.23	1.018	0.033	/
Ant.6	Level1	5.6G	802.11a	Left Cheek	0	116	5580	-0.02	0.481	16.80	17.00	1.047	98.23	1.018	0.513	/
	Level1			Left Tilt	0	116	5580	-0.19	0.568	16.80	17.00	1.047	98.23	1.018	<b>0.605</b>	67#
	Level1			Right Cheek	0	116	5580	0.15	0.325	16.80	17.00	1.047	98.23	1.018	0.347	/
	Level1			Right Tilt	0	116	5580	0.06	0.467	16.80	17.00	1.047	98.23	1.018	0.498	/
Ant.6	Level2	5.6G	802.11a	Left Cheek	0	140	5700	-0.05	0.241	13.75	14.00	1.059	98.23	1.018	0.260	/
	Level2			Left Tilt	0	140	5700	0.18	0.273	13.75	14.00	1.059	98.23	1.018	0.294	/
	Level2			Right Cheek	0	140	5700	-0.15	0.163	13.75	14.00	1.059	98.23	1.018	0.176	/
	Level2			Right Tilt	0	140	5700	0.17	0.230	13.75	14.00	1.059	98.23	1.018	0.248	/
Ant.7	Level1	5.6G	802.11a	Left Cheek	0	140	5700	-0.09	0.066	16.74	17.00	1.062	98.23	1.018	0.072	/
	Level1			Left Tilt	0	140	5700	0.11	0.037	16.74	17.00	1.062	98.23	1.018	0.040	/
	Level1			Right Cheek	0	140	5700	0.14	0.085	16.74	17.00	1.062	98.23	1.018	0.092	/
	Level1			Right Tilt	0	140	5700	0.06	0.069	16.74	17.00	1.062	98.23	1.018	0.075	/
Ant.7	Level2	5.6G	802.11a	Left Cheek	0	140	5700	-0.17	0.032	13.55	14.00	1.109	98.23	1.018	0.036	/
	Level2			Left Tilt	0	140	5700	-0.09	0.018	13.55	14.00	1.109	98.23	1.018	0.020	/
	Level2			Right Cheek	0	140	5700	-0.18	0.044	13.55	14.00	1.109	98.23	1.018	0.050	/
	Level2			Right Tilt	0	140	5700	0.01	0.034	13.55	14.00	1.109	98.23	1.018	0.038	/
Ant.6	Level1	5.8G	802.11a	Left Cheek	0	165	5825	0.05	0.612	16.58	17.00	1.102	98.23	1.018	0.686	/
	Level1			Left Tilt	0	165	5825	-0.12	0.778	16.58	17.00	1.102	98.23	1.018	<b>0.872</b>	68#
	Level1				0	149	5745	0.19	0.745	16.42	17.00	1.143	98.23	1.018	0.867	/
	Level1				0	157	5785	-0.02	0.727	16.55	17.00	1.109	98.23	1.018	0.821	/
	Level1			Right Cheek	0	165	5825	0.10	0.419	16.58	17.00	1.102	98.23	1.018	0.470	/

	Level1			Right Tilt	0	165	5825	0.03	0.560	16.58	17.00	1.102	98.23	1.018	0.627	/
Ant.6	Level2	5.8G	802.11a	Left Cheek	0	165	5825	-0.14	0.298	13.87	14.00	1.030	98.23	1.018	0.313	/
	Level2			Left Tilt	0	165	5825	0.11	0.389	13.87	14.00	1.030	98.23	1.018	0.408	/
	Level2			Right Cheek	0	165	5825	-0.06	0.203	13.87	14.00	1.030	98.23	1.018	0.213	/
	Level2			Right Tilt	0	165	5825	0.05	0.264	13.87	14.00	1.030	98.23	1.018	0.277	/
Ant.7	Level1	5.8G	802.11a	Left Cheek	0	157	5785	-0.15	0.089	16.85	17.00	1.035	98.23	1.018	0.094	/
	Level1			Left Tilt	0	157	5785	0.17	0.057	16.85	17.00	1.035	98.23	1.018	0.060	/
	Level1			Right Cheek	0	157	5785	-0.12	0.102	16.85	17.00	1.035	98.23	1.018	0.107	/
	Level1			Right Tilt	0	157	5785	0.08	0.078	16.85	17.00	1.035	98.23	1.018	0.082	/
Ant.7	Level2	5.8G	802.11a	Left Cheek	0	149	5745	0.07	0.041	13.72	14.00	1.067	98.23	1.018	0.045	/
	Level2			Left Tilt	0	149	5745	0.01	0.027	13.72	14.00	1.067	98.23	1.018	0.029	/
	Level2			Right Cheek	0	149	5745	-0.05	0.047	13.72	14.00	1.067	98.23	1.018	0.051	/
	Level2			Right Tilt	0	149	5745	0.06	0.036	13.72	14.00	1.067	98.23	1.018	0.039	/
<b>Body-worn</b>																
Ant.6	Level3&4	5.3G	802.11a	Front Side	15	52	5260	0.04	0.067	16.81	17.00	1.045	98.23	1.018	0.071	/
	Level3&4			Back Side	15	52	5260	-0.03	0.102	16.81	17.00	1.045	98.23	1.018	0.108	/
Ant.7	Level3&4	5.3G	802.11a	Front Side	15	60	5300	0.15	0.035	16.58	17.00	1.102	98.23	1.018	0.039	/
	Level3&4			Back Side	15	60	5300	0.05	0.177	16.58	17.00	1.102	98.23	1.018	<b>0.198</b>	69#
Ant.6	Level3&4	5.6G	802.11a	Front Side	15	116	5580	0.00	0.039	16.80	17.00	1.047	98.23	1.018	0.042	/
	Level3&4			Back Side	15	116	5580	0.17	0.091	16.80	17.00	1.047	98.23	1.018	0.097	/
Ant.7	Level3&4	5.6G	802.11a	Front Side	15	140	5700	-0.18	0.046	16.74	17.00	1.062	98.23	1.018	0.050	/
	Level3&4			Back Side	15	140	5700	0.11	0.189	16.74	17.00	1.062	98.23	1.018	<b>0.204</b>	70#
Ant.6	Level3&4	5.8G	802.11a	Front Side	15	165	5825	-0.18	0.067	16.58	17.00	1.102	98.23	1.018	0.075	/
	Level3&4			Back Side	15	165	5825	0.16	0.148	16.58	17.00	1.102	98.23	1.018	<b>0.166</b>	71#
Ant.7	Level3&4	5.8G	802.11a	Front Side	15	157	5785	0.02	0.033	16.85	17.00	1.035	98.23	1.018	0.035	/
	Level3&4			Back Side	15	157	5785	-0.14	0.139	16.85	17.00	1.035	98.23	1.018	0.146	/
<b>Hotspot</b>																
Ant.6	Level3&4	5.2G	802.11a	Front Side	10	48	5240	0.12	0.110	16.84	17.00	1.038	98.23	1.018	0.116	/
	Level3&4			Back Side	10	48	5240	0.14	0.148	16.84	17.00	1.038	98.23	1.018	0.156	/
	Level3&4			Left Edge	10	48	5240	-0.02	0.060	16.84	17.00	1.038	98.23	1.018	0.063	/
	Level3&4			Top Edge	10	48	5240	0.00	0.205	16.84	17.00	1.038	98.23	1.018	0.217	/
Ant.7	Level3&4	5.2G	802.11a	Front Side	10	48	5240	0.16	0.074	16.53	17.00	1.114	98.23	1.018	0.084	/
	Level3&4			Back Side	10	48	5240	-0.14	0.256	16.53	17.00	1.114	98.23	1.018	<b>0.290</b>	72#
	Level3&4			Left Edge	10	48	5240	0.18	0.117	16.53	17.00	1.114	98.23	1.018	0.133	/
Ant.6	Level3&4	5.8G	802.11a	Front Side	10	165	5825	0.12	0.107	16.58	17.00	1.102	98.23	1.018	0.120	/
	Level3&4			Back Side	10	165	5825	0.00	0.205	16.58	17.00	1.102	98.23	1.018	0.230	/
	Level3&4			Left Edge	10	165	5825	0.15	0.059	16.58	17.00	1.102	98.23	1.018	0.066	/
	Level3&4			Top Edge	10	165	5825	0.00	0.337	16.58	17.00	1.102	98.23	1.018	<b>0.378</b>	73#
Ant.7	Level3&4	5.8G	802.11a	Front Side	10	157	5785	0.01	0.089	16.85	17.00	1.035	98.23	1.018	0.094	/
	Level3&4			Back Side	10	157	5785	0.07	0.208	16.85	17.00	1.035	98.23	1.018	0.219	/
	Level3&4			Left Edge	10	157	5785	0.01	0.073	16.85	17.00	1.035	98.23	1.018	0.077	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.																



Fre. Band	Power Reduction	Fre. Band	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle Setting	Duty cycle Factor	10g Scaled SAR (W/kg)	Meas. No.
<b>Specific</b>																
Ant.6	Level3&4	5.3G	802.11a	Front Side	0	52	5260	0.06	0.467	16.81	17.00	1.045	98.23	1.018	0.497	/
	Level3&4			Back Side	0	52	5260	0.01	0.228	16.81	17.00	1.045	98.23	1.018	0.242	/
	Level3&4			Left Edge	0	52	5260	0.04	0.249	16.81	17.00	1.045	98.23	1.018	0.265	/
	Level3&4			Top Edge	0	52	5260	0.00	1.560	16.81	17.00	1.045	98.23	1.018	<b>1.659</b>	<b>74#</b>
Ant.7	Level3&4	5.3G	802.11a	Front Side	0	60	5300	-0.05	0.160	16.58	17.00	1.102	98.23	1.018	0.179	/
	Level3&4			Back Side	0	60	5300	-0.15	0.631	16.58	17.00	1.102	98.23	1.018	0.708	/
	Level3&4			Left Edge	0	60	5300	-0.06	0.347	16.58	17.00	1.102	98.23	1.018	0.389	/
Ant.6	Level3&4	5.6G	802.11a	Front Side	0	116	5580	0.12	0.324	16.80	17.00	1.047	98.23	1.018	0.345	/
	Level3&4			Back Side	0	116	5580	0.05	0.169	16.80	17.00	1.047	98.23	1.018	0.180	/
	Level3&4			Left Edge	0	116	5580	0.05	0.175	16.80	17.00	1.047	98.23	1.018	0.187	/
	Level3&4			Top Edge	0	116	5580	-0.08	1.510	16.80	17.00	1.047	98.23	1.018	<b>1.610</b>	<b>75#</b>
Ant.7	Level3&4	5.6G	802.11a	Front Side	0	140	5700	-0.15	0.150	16.74	17.00	1.062	98.23	1.018	0.162	/
	Level3&4			Back Side	0	140	5700	0.06	0.738	16.74	17.00	1.062	98.23	1.018	0.798	/
	Level3&4			Left Edge	0	140	5700	0.13	0.246	16.74	17.00	1.062	98.23	1.018	0.266	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.																

## 10.24 Bluetooth

Mode	Fre. Band	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle Setting	Duty cycle Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.6 CH0	DH5	Left Cheek	0	39	2441	0.14	0.012	2.04	2.50	1.112	76.80	1.302	0.017	/
		Left Tilt	0	39	2441	-0.14	0.015	2.04	2.50	1.112	76.80	1.302	<b>0.022</b>	76#
		Right Cheek	0	39	2441	-0.03	0.011	2.04	2.50	1.112	76.80	1.302	0.016	/
		Right Tilt	0	39	2441	-0.01	0.008	2.04	2.50	1.112	76.80	1.302	0.012	/
Ant.3 CH1	DH5	Left Cheek	0	39	2441	-0.07	0.006	-0.44	0.00	1.107	76.80	1.302	0.009	/
		Left Tilt	0	39	2441	0.08	0.008	-0.44	0.00	1.107	76.80	1.302	0.012	/
		Right Cheek	0	39	2441	-0.04	0.005	-0.44	0.00	1.107	76.80	1.302	0.007	/
		Right Tilt	0	39	2441	-0.10	0.003	-0.44	0.00	1.107	76.80	1.302	0.004	/
<b>Body</b>														
Ant.6 CH0	DH5	Front Side	15	39	2441	0.00	0.009	2.04	2.50	1.112	76.80	1.302	0.013	/
		Back Side	15	39	2441	0.09	0.011	2.04	2.50	1.112	76.80	1.302	<b>0.016</b>	77#
Ant.3 CH1	DH5	Front Side	15	39	2441	0.16	0.007	-0.44	0.00	1.107	76.80	1.302	0.010	/
		Back Side	15	39	2441	-0.02	0.003	-0.44	0.00	1.107	76.80	1.302	0.004	/
<b>Hotspot</b>														
Ant.6 CH0	DH5	Front Side	10	39	2441	0.01	0.005	2.04	2.50	1.112	76.80	1.302	0.007	/
		Back Side	10	39	2441	-0.07	0.006	2.04	2.50	1.112	76.80	1.302	0.009	/
		Left Edge	10	39	2441	0.18	0.005	2.04	2.50	1.112	76.80	1.302	0.007	/
		Top Edge	10	39	2441	0.18	0.008	2.04	2.50	1.112	76.80	1.302	<b>0.012</b>	78#
Ant.3 CH1	DH5	Front Side	10	39	2441	0.11	0.003	-0.44	0.00	1.107	76.80	1.302	0.004	/
		Back Side	10	39	2441	-0.12	0.004	-0.44	0.00	1.107	76.80	1.302	0.006	/
		Right Edge	10	39	2441	-0.10	0.006	-0.44	0.00	1.107	76.80	1.302	0.009	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

## 11 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was 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. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are  $\leq 1.45$  W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is  $\leq 1.10$ , the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR repeated measurement procedure:

1. When the highest measured SAR is  $< 0.80$  W/kg, repeated measurement is not required.
2. When the highest measured SAR is  $\geq 0.80$  W/kg, repeat that measurement once.
3. 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  $\geq 1.45$  W/kg, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ , and the original, first or second repeated measurement is  $\geq 1.5$  W/kg, perform a third repeated measurement.

Frequency Band (MHz)	Wireless Band	RF Exposure Conditions	Test Position	Highest Measured SAR (W/kg)	Repeated SAR (Yes/No)	Repeated <sup>1st</sup> Measured SAR (W/kg)	Largest to Smallest SAR Ratio
1900	GSM	Head	Right Cheek	1.080	Yes	1.070	1.01
1900	LTE band 2	Head	Right Cheek	0.814	Yes	0.808	1.01
2600	LTE band 7	Head	Right Cheek	0.848	Yes	0.837	1.01
2600	LTE band 41	Head	Right Cheek	0.869	Yes	0.864	1.01
2600	n7	Head	Right Cheek	0.825	Yes	0.820	1.01
2600	n41	Head	Right Cheek	0.976	Yes	0.973	1.00

Note: The ratio of largest to smallest SAR for the original and first repeated measurements is  $< 1.20$ , the second repeated measurement. is not required.

## 12 SIMULTANEOUS TRANSMISSION

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR 1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR 1g 1.6 W/kg), SAR test exclusion is determined by the SAR to Peak Location Ratio (SPLSR).

### 12.1 Simultaneous Transmission Mode Consider

No.	Simultaneous Tx Combination	Head	Body-worn	Hotspot
1	WWAN + WLAN 2.4GHz MIMO	Yes	Yes	Yes
2	WWAN + WLAN 5GHz MIMO	Yes	Yes	Yes
3	WWAN + BT MIMO	Yes	Yes	Yes
4	WWAN + WLAN 2.4GHz(ANT6) + BT(ANT3)	Yes	Yes	Yes
5	WWAN + WLAN 2.4GHz(ANT3) + BT(ANT6)	Yes	Yes	Yes
6	WWAN + WLAN 5GHz(ANT6) + BT(ANT6)	Yes	Yes	Yes
7	WWAN + WLAN 5GHz(ANT7) + BT(ANT6)	Yes	Yes	Yes
8	WWAN + WLAN 5GHz MIMO + BT(ANT6)	Yes	Yes	Yes
9	WWAN + WLAN 5GHz(ANT6) + BT(ANT3)	Yes	Yes	Yes
10	WWAN + WLAN 5GHz(ANT7) + BT(ANT3)	Yes	Yes	Yes
11	WWAN + WLAN 5GHz MIMO + BT(ANT3)	Yes	Yes	Yes
12	WWAN + WLAN 2.4GHz (ANT6) + WLAN 5GHz (ANT6) + BT(ANT3)	Yes	Yes	Yes
13	WWAN + WLAN 2.4GHz (ANT6) + WLAN 5GHz (ANT7) + BT(ANT3)	Yes	Yes	Yes
14	WWAN + WLAN 2.4GHz (ANT6) + WLAN 5GHz MIMO + BT(ANT3)	Yes	Yes	Yes
15	WWAN + WLAN 2.4GHz (ANT3) + WLAN 5GHz (ANT6) + BT(ANT6)	Yes	Yes	Yes
16	WWAN + WLAN 2.4GHz (ANT3) + WLAN 5GHz (ANT7) + BT(ANT6)	Yes	Yes	Yes
17	WWAN + WLAN 2.4GHz (ANT3) + WLAN 5GHz MIMO + BT(ANT6)	Yes	Yes	Yes

Note:

- 2G&3G&4G&5G share the same antenna and can't transmit simultaneously.
- Two WWAN antennas can switch automatically, but up and down antenna can't transmit simultaneously.
- The maximum SAR summation is calculated based on the same configuration and test position.
- This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
- This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz WLAN/5.5GHz WLAN supports WiFi Direct (GC only)

## 12.2 Sum SAR of Simultaneous Transmission

### 12.2.1 Head Simultaneous Transmission SAR Evaluation for EN-DC with WLAN and Bluetooth

Band	Antenna	Position	Stand alone SAR								SUM SAR		
			1	2	3	4	5	6	7	8	Sum SAR	Sum SAR	Sum SAR
			WWAN	N78 (ANT8)	2.4GWIFI (ANT3)	2.4GWIFI (ANT6)	Max.5GWIFI (ANT6)	Max.5GWIFI (ANT7)	Bluetooth ANT3	Bluetooth ANT6	(1+2+3+4)	(1+2+3+5+6+8)	(1+2+4+5+6+7)
LTE B5	Ant.2	Left Cheek	0.116	0.187	0.259	0.411	0.313	0.045	0.009	0.017	0.973	0.937	1.080
	Ant.2	Left Tilt	0.045	0.263	0.054	0.434	0.408	0.029	0.012	0.022	0.796	0.821	1.191
	Ant.2	Right Cheek	0.388	0.444	0.200	0.157	0.213	0.051	0.007	0.016	1.189	1.311	1.260
	Ant.2	Right Tilt	0.073	0.567	0.078	0.237	0.277	0.039	0.004	0.012	0.955	1.046	1.197
LTE B5	Ant.1	Left Cheek	0.048	0.187	0.259	0.411	0.313	0.045	0.009	0.017	0.905	0.869	1.012
	Ant.1	Left Tilt	0.032	0.263	0.054	0.434	0.408	0.029	0.012	0.022	0.783	0.808	1.178
	Ant.1	Right Cheek	0.086	0.444	0.200	0.157	0.213	0.051	0.007	0.016	0.887	1.009	0.958
	Ant.1	Right Tilt	0.029	0.567	0.078	0.237	0.277	0.039	0.004	0.012	0.911	1.002	1.153
LTE B7	Ant.2	Left Cheek	0.119	0.187	0.259	0.411	0.313	0.045	0.009	0.017	0.976	0.940	1.083
	Ant.2	Left Tilt	0.072	0.263	0.054	0.434	0.408	0.029	0.012	0.022	0.823	0.848	1.218
	Ant.2	Right Cheek	0.381	0.444	0.200	0.157	0.213	0.051	0.007	0.016	1.182	1.304	1.253
	Ant.2	Right Tilt	0.050	0.567	0.078	0.237	0.277	0.039	0.004	0.012	0.932	1.023	1.174
LTE B7	Ant.4	Left Cheek	0.115	0.187	0.259	0.411	0.313	0.045	0.009	0.017	0.972	0.936	1.079
	Ant.4	Left Tilt	0.070	0.263	0.054	0.434	0.408	0.029	0.012	0.022	0.821	0.846	1.216
	Ant.4	Right Cheek	0.292	0.444	0.200	0.157	0.213	0.051	0.007	0.016	1.093	1.215	1.164
	Ant.4	Right Tilt	0.206	0.567	0.078	0.237	0.277	0.039	0.004	0.012	1.088	1.179	1.330
LTE B38	Ant.2	Left Cheek	0.089	0.187	0.259	0.411	0.313	0.045	0.009	0.017	0.946	0.910	1.053
	Ant.2	Left Tilt	0.044	0.263	0.054	0.434	0.408	0.029	0.012	0.022	0.795	0.820	1.190
	Ant.2	Right Cheek	0.414	0.444	0.200	0.157	0.213	0.051	0.007	0.016	1.215	<b>1.337</b>	1.286
	Ant.2	Right Tilt	0.039	0.567	0.078	0.237	0.277	0.039	0.004	0.012	0.921	1.012	1.163
LTE B38	Ant.4	Left Cheek	0.184	0.187	0.259	0.411	0.313	0.045	0.009	0.017	1.041	1.005	1.148
	Ant.4	Left Tilt	0.055	0.263	0.054	0.434	0.408	0.029	0.012	0.022	0.806	0.831	1.201
	Ant.4	Right Cheek	0.327	0.444	0.200	0.157	0.213	0.051	0.007	0.016	1.128	1.250	1.199
	Ant.4	Right Tilt	0.162	0.567	0.078	0.237	0.277	0.039	0.004	0.012	1.044	1.135	1.286

Note:

1: The simultaneous transmission combinations of the three antennas contain combinations of two antennas, so only the worst simultaneous transmission combinations was shown in this table.

2: The highest Summed 1g SAR is 1.337 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

### 12.2.2 Head Simultaneous Transmission SAR Evaluation for WLAN and Bluetooth

Position	Stand alone SAR						SUM SAR		
	1	2	3	4	5	6	Sum SAR	Sum SAR	Sum SAR
	2.4GWIFI ANT3	2.4GWIFI ANT6	MAX.5G WIFI ANT6	MAX.5G WIFI ANT7	Bluetooth ANT3	Bluetooth ANT6	(1+2)	(1+3+4+6)	(2+3+4+5)
Left Cheek	0.359	0.560	0.686	0.094	0.009	0.017	0.919	1.156	1.349