FCC SAR TEST REPORT

FCC ID	:	**A4RGEC77**
Equipment	:	**Phone**
Model Name	:	**GEC77, GWVK6**
Applicant	:	**Google LLC** **1600 Amphitheatre Parkway,** **Mountain View, California, 94043 USA**
Standard	:	**FCC 47 CFR Part 2 (2.1093)**

The product was received on Dec. 28, 2023 and testing was started from Feb. 14, 2024 and completed on May 02, 2024. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.

Cona Huang

Approved by: Cona Huang / Deputy Manager

Testing Laboratory 3786

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History of this test report

Report No.	Version	Description	Issued Date
FA3N2325-01C	01	Initial issue of report	May 07, 2024
FA3N2325-01C	02	Update appendix D antenna location	May 13, 2024

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) for Google LLC, Phone, GEC77, GWVK6, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary				Highest Simultaneous Transmission 1g SAR (W/kg)	Highest Simultaneous Transmission 10g SAR (W/kg)
		Head (Separation 0mm)	Body-worn (Separation 10mm)	Hotspot (Separation 10mm)	Product Specific (Separation 0mm)		
		1g SAR (W/kg)			10g SAR (W/kg)		
Licensed	GSM850	0.92	0.72	0.60		1.59	2.51
	GSM1900	0.81	0.64	0.76	2.48		
	WCDMA B2	0.82	0.91	0.85	2.44		
	WCDMA B4	0.56	0.82	0.83			
	WCDMA B5	0.91	0.71	0.66			
	LTE B7	0.79	0.67	0.75			
	LTE B12/B17	0.91	0.46	0.53			
	LTE B13	0.88	0.55	0.72			
	LTE B14	0.90	0.62	0.62			
	LTE B25/B2	0.91	0.98	0.72			
	LTE B26/B5	0.91	0.79	0.75			
	LTE B30	0.71	0.80	0.85	2.44		
	LTE B41/B38	0.83	0.92	0.79			
	LTE B48	0.23	0.57	0.61			
	LTE B66/B4	0.87	0.99	0.84			
	LTE B71	0.92	0.48	0.48			
	FR1 n7	0.81	0.69	0.85			
	FR1 n12	0.92	0.39	0.56			
	FR1 n14	0.87	0.56	0.56			
	FR1 n25/n2	0.87	0.98	0.85			
	FR1 n26/n5	0.92	0.73	0.73			
	FR1 n30	0.69	0.71	0.85			
	FR1 n38	0.15					
	FR1 n41/n38	0.92	0.82	0.78			
	FR1 n66	0.86	0.88	0.82			
	FR1 n71	0.92	0.44	0.48			
	FR1 n77/n78	0.99	0.98	0.84	2.09		
	NTN B23		0.99		1.83		
	NTN B255		0.09		0.84		
DTS	2.4GHz WLAN	1.12	0.85	0.45		1.59	
NII	5GHz WLAN	1.13	0.49	0.46	1.97	1.59	2.51
6CD	6GHz WLAN	0.63	0.14		0.36	1.59	2.51
DSS	Bluetooth	0.19	0.27	0.22		1.58	
DTS	Thread	0.16	0.25	0.16		1.58	
DXX	NFC				0.08		2.51

Equipment Class	Frequency Band	Head	Body	Product Specific	Reported PD (mW/cm^2)
		Reported APD (mW/cm^2)	Reported APD (mW/cm^2)	Reported APD (mW/cm^2)	
6CD	6GHz WLAN	0.47	0.11	0.86	0.75
Date of Testing:		2024/2/14 ~ 2024/5/2			

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093), Human Exposure to RF Radiation Limits (1.0 mW/cm^2=10 W/m^2) specified in FCC 47 CFR part 1.1310 and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang

Report Producer: Wan Liu

2. Data Reuse Approach

FCC ID: A4RGR83Y (reference model) and FCC ID: A4RGEC77 (variant model)

- **PCB**: The PCB layout is identical with parent model.
- **Component Positions**: The position of the components on the PCB is not changed
- **Enclosure, Materials, and From Factor**: the Enclosure, Materials, and From Factor are exactly the same

Due to the same design are identical between parent model and variant model, SAR data reuse is requested and spot check data in this report is used to justify the SAR data reuse.

For variant model 1g SAR and 10g spot check SAR result does not exceed 3dB and 1g SAR < 1.2W/kg, 10g SAR < 3.0W/kg of the reference model, the max SAR summary are identical with parent model.

The applicant should take full responsibility that the test data as referenced in this report represent compliance for this FCC ID: A4RGEC77

3. Model Difference Information

A4RGR83Y and A4RGEC77 use the identical internal printed circuit board layout, and the major differences which may relate to RF are listed below:

- Populated module and transceiver for FR1 n79
- Depopulated mmWave Module

The details of similarity and difference can be found in the confidential documents.

4. Reference detail Section

Rule Part	Equipment Class	Wireless Technology	Frequency Band (MHz)	FCC ID (Reference)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)	Test on the variant
Part 2.1093 SAR	DXX	WPT	110KHz – 148KHz	A4RGR83Y	Original Grant	FA3N2325A	A4RGEC77	Full Test
	DXX	NFC	13.56	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check
	UWB	UWB	6489.6, 7987.2	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	1mW low power exclusion
	DSS	Bluetooth	2400~2483.5	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check
	DTS	BLE WiFi	2400~2483.5	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check
	DTS	Thread	2405~2480	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check
	NII	Wi-Fi	5150 ~ 5250 5250 ~ 5350 5470 ~ 5725 5725 ~ 5850 5850 ~ 5895	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check
	6CD	Wi-Fi	5925 ~ 6425 6425 ~ 6525 6525 ~ 6875 6875 ~ 7125	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check 6E SAR, Full Test on 6E PD, per KDB 484596.
	PCB CBE	GSM	850/1900	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check
		WCDMA	B2/4/5	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check
		LTE	B2/4/5/7/12/13/14/17/ 25/26/30/38/41/48/66/71	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check
		5G FR1	n2/5/7/12/14/25/26/30/ 38/41/66/71/77	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check
		NTN	B23/255	A4RGR83Y	Original Grant	FA3N2325D	A4RGEC77	Spot check

5. Equipment Under Test (EUT) Information

5.1 General Information

Product Feature & Specification	
Equipment Name	Phone
Model Name	GEC77, GWVK6
FCC ID	A4RGEC77
S / N	41131FDAP000D8, 41131FDAP000CP, 41131FDAP000CF, 41131FDAP000CN, 43021FDAP0003T
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n14 : 788 MHz ~ 798 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz 5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz NTN Band 23: 2000 MHz ~2020 MHz NTN Band 255: 1626.5 MHz ~ 1660.5 MHz WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 5.9 GHz Band: 5850 MHz ~ 5895 MHz WLAN 6E: 5925MHz~6425 MHz, 6425MHz~6525MHz, 6525 MHz~6875 MHz, 6875MHz~7125MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC: 13.56 MHz WPC: 110 kHz ~ 148.5 kHz UWB: 6489.6 MHz, 7987.2 MHz Thread: 2405 MHz ~ 2480 MHz
Mode	GSM/GPRS/EGPRS UMTS: RMC/AMR 12.2Kbps, HSDPA, HSUPA LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM NTN: BPSK,QPSK WLAN:802.11a/b/g/n/ac/ax/be HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160/EHT20/EHT40/EHT80/EHT160 Bluetooth BR/EDR/LE/CS NFC: ASK WPC: ASK UWB: BPM-BPSK/HPSK Thread: QPSK
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.

6. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- IEC/IEEE 62209-1528:2020
- SPEAG DASY6 System Handbook
- SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)

7. RF Exposure Limits

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4cm^2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

8. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- FCC KDB 941225 D07 UMPC Mini Tablet v01r02
- IEC/IEEE 62209-1528:2020
- SPEAG DASY6 System Handbook
- SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)

9. Specific Absorption Rate (SAR)

9.1 Introduction

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

9.2 SAR Definition

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

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

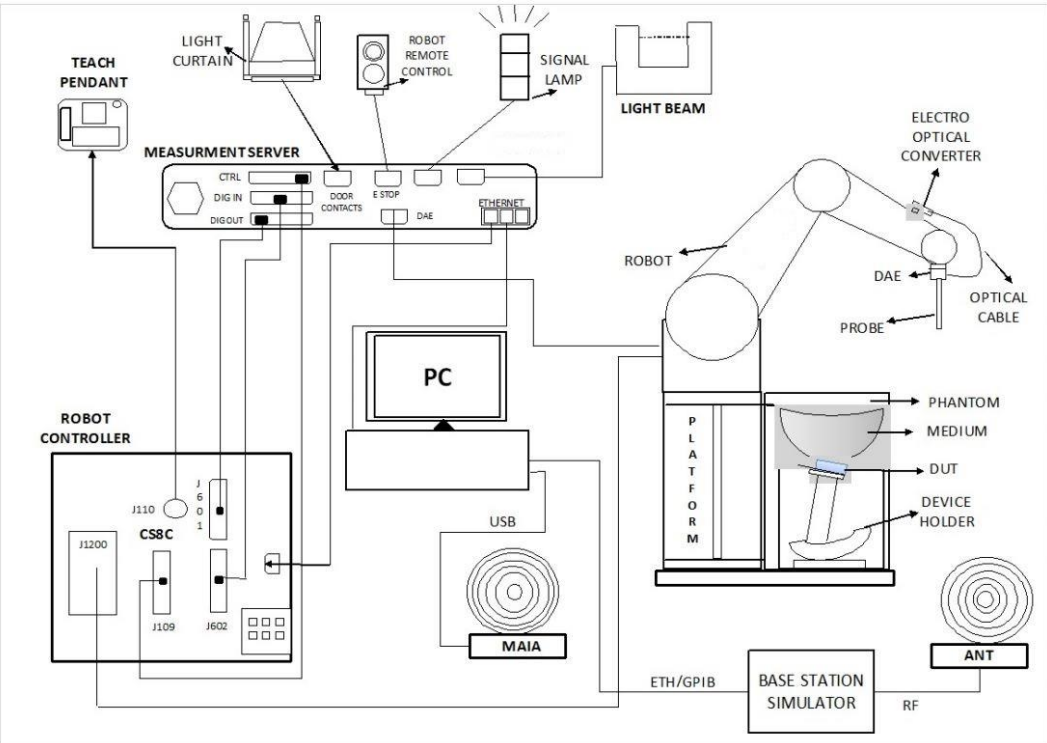
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

10. System Description and Setup

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



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

10.1 Test Site Location

The SAR measurement facilities used to collect data are within both Sporton Lab list below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 3786) and the FCC designation No. TW1190 and TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Test Site	EMC & Wireless Communications Laboratory		Wensan Laboratory		
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan		
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	SAR16-HY
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	SAR17-HY
			SAR18-HY	SAR-20HY	SAR-20HY
			SAR-22HY		

10.2 E-Field Probe

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

<ES3DV3 Probe>

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

<EX3DV4 Probe>

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

10.3 Data Acquisition Electronics (DAE)

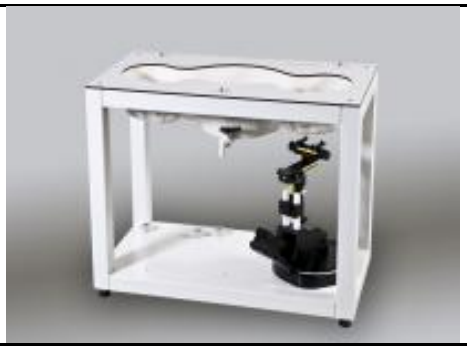
The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an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

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

Fig 5.1 Photo of DAE

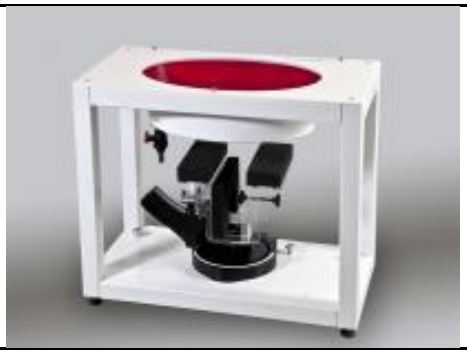
10.4 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

10.5 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

11. Measurement Procedures

The measurement procedures are as follows:

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

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

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

11.1 Spatial Peak SAR Evaluation

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

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

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

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

11.2 Power Reference Measurement

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

11.3 Area Scan

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

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

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

11.4 Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

11.5 Volume Scan Procedures

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

11.6 Power Drift Monitoring

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

12. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit(2)	D750V3	1107	Jun. 22, 2022	Jun. 20, 2024
SPEAG	835MHz System Validation Kit(2)	D835V2	4d060	Mar. 24, 2022	Mar. 21, 2025
SPEAG	835MHz System Validation Kit(2)	D835V2	4d167	Nov. 24, 2022	Nov. 22, 2024
SPEAG	1640MHz System Validation Kit(2)	D1640V2	346	Aug. 19, 2022	Aug. 17, 2024
SPEAG	1750MHz System Validation Kit(2)	D1750V2	1112	Jun. 22, 2022	Jun. 20, 2024
SPEAG	1900MHz System Validation Kit(2)	D1900V2	5d185	Jun. 17, 2022	Jun. 15, 2024
SPEAG	2000MHz System Validation Kit(2)	D2000V2	1010	Aug. 17, 2021	Aug. 14, 2024
SPEAG	2300MHz System Validation Kit(2)	D2300V2	1006	Jan. 18, 2022	Jan. 15, 2025
SPEAG	2450MHz System Validation Kit(2)	D2450V2	736	Aug. 17, 2021	Aug. 14, 2024
SPEAG	2450MHz System Validation Kit(2)	D2450V2	929	Nov. 21, 2022	Nov. 19, 2024
SPEAG	2600MHz System Validation Kit(2)	D2600V2	1078	Jun. 23, 2022	Jun. 21, 2024
SPEAG	3500MHz System Validation Kit(2)	D3500V2	1014	Jan. 17, 2022	Jan. 14, 2025
SPEAG	3500MHz System Validation Kit(2)	D3500V2	1036	Mar. 23, 2022	Mar. 20, 2025
SPEAG	3700MHz System Validation Kit(2)	D3700V2	1006	Jun. 20, 2022	Jun. 18, 2024
SPEAG	3900MHz System Validation Kit(2)	D3900V2	1017	Apr. 22, 2022	Apr. 20, 2024
SPEAG	3900MHz System Validation Kit	D3900V2	1092	May. 15, 2023	May. 14, 2024
SPEAG	5GHz System Validation Kit(2)	D5GHzV2	1128	Feb. 22, 2023	Feb. 20, 2025
SPEAG	5GHz System Validation Kit(2)	D5GHzV2	1171	Apr. 20, 2021	Apr. 17, 2024
SPEAG	6500MHz System Validation Kit	D6.5GHzV2	1083	Oct. 20, 2023	Oct. 19, 2024
SPEAG	13MHz System Validation Kit	CLA13	1011	Jul. 10, 2023	Jul. 09, 2024
SPEAG	5G Verification Source	10GHz	1052	Oct. 13, 2023	Oct. 12, 2024
SPEAG	EUmmWV Probe Tip Protection	EUmmWV4	9441	Nov. 17, 2023	Nov. 16, 2024
SPEAG	Data Acquisition Electronics	DAE4	656	Jan. 18, 2024	Jan. 17, 2025
SPEAG	Data Acquisition Electronics	DAE4	661	May. 23, 2023	May. 22, 2024
SPEAG	Data Acquisition Electronics	DAE4	699	Feb. 13, 2024	Feb. 12, 2025
SPEAG	Data Acquisition Electronics	DAE4	1647	Dec. 27, 2023	Dec. 26, 2024
SPEAG	Data Acquisition Electronics	DAE4	1694	Nov. 17, 2023	Nov. 16, 2024
SPEAG	Data Acquisition Electronics	DAE4	1707	Dec. 06, 2023	Dec. 05, 2024
SPEAG	Data Acquisition Electronics	DAE4	1805	May. 16, 2023	May. 15, 2024
SPEAG	Data Acquisition Electronics	DAE4	1776	Feb. 13, 2024	Feb. 12, 2025
SPEAG	Data Acquisition Electronics	DAE4ip	1800	May. 31, 2023	May. 30, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Oct. 24, 2023	Oct. 23, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7590	Mar. 19, 2024	Mar. 18, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7694	Oct. 26, 2023	Oct. 25, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7700	Feb. 01, 2024	Jan. 31, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7785	Nov. 23, 2023	Nov. 22, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7791	Feb. 21, 2024	Feb. 20, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7793	Mar. 01, 2024	Feb. 28, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7813	May. 24, 2023	May. 23, 2024
Testo	Hygro meter	608-H1	45196600	Nov. 02, 2023	Nov. 01, 2024
Testo	Hygro meter	608-H1	45207528	Nov. 02, 2023	Nov. 01, 2024
Testo	Hygro meter	608-H1	45256904	Dec. 07, 2023	Dec. 06, 2024
Testo	Hygro meter	608-H1	45142597	Jan. 03, 2024	Jan. 02, 2025
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Nov. 13, 2023	Nov. 12, 2024
Keysight	5G Wireless Test Platform	E7515B	MY59321826	Apr. 26, 2023	Apr. 25, 2024
R&S	BT Base Station	CBT	101136	Oct. 22, 2023	Oct. 21, 2024
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 27, 2023	Sep. 26, 2024
Keysight	ENA Network Analyzer	E5071C	MY46104758	Oct. 30, 2023	Oct. 29, 2024
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 19, 2023	Sep. 18, 2024
SPEAG	Dielectric Probe Kit	DAK-12	1156	Jul. 17, 2023	Jul. 16, 2024
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 09, 2023	Aug. 08, 2024

Anritsu	Power Meter	ML2495A	1419002	Aug. 17, 2023	Aug. 16, 2024
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2023	Aug. 17, 2024
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 10, 2023	Jul. 09, 2024
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 16, 2023	Oct. 15, 2024
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Warison	Directional Coupler	WCOU-10-50S-10	WR889BMC4B1	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

13. System Verification

13.1 Tissue Verification

The tissue dielectric parameters of tissue-equivalent media used for SAR measurements must be characterized within a temperature range of 18℃ to 25℃, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18℃ to 25℃ and within ± 2℃ of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements.
The liquid tissue depth was at least 15cm in the phantom for all SAR testing

<Tissue Dielectric Parameter Check Results>

<Full Test>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
2000	22.8	1.450	39.700	1.40	40.00	3.57	-0.75	±5	2024/3/25

<Spot Check>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	22.6	0.890	43.00	0.89	41.90	0.00	2.63	±5	2024/2/16
750	22.6	0.892	43.00	0.89	41.90	0.22	2.63	±5	2024/2/21
750	22.6	0.898	42.20	0.89	41.90	0.90	0.72	±5	2024/2/26
750	22.8	0.896	43.10	0.89	41.90	0.67	2.86	±5	2024/2/28
750	22.5	0.895	42.90	0.89	41.90	0.56	2.39	±5	2024/3/2
750	22.5	0.897	42.70	0.89	41.90	0.79	1.91	±5	2024/3/5
750	22.7	0.893	42.10	0.89	41.90	0.34	0.48	±5	2024/3/5
750	22.2	0.896	42.30	0.89	41.90	0.67	0.95	±5	2024/3/6
750	22.4	0.877	40.90	0.89	41.90	-1.46	-2.39	±5	2024/3/7
750	22.3	0.884	42.70	0.89	41.90	-0.67	1.91	±5	2024/3/10
750	22.5	0.886	43.30	0.89	41.90	-0.45	3.34	±5	2024/3/10
750	22.4	0.890	42.90	0.89	41.90	0.00	2.39	±5	2024/3/11
750	22.5	0.889	42.4	0.89	41.90	-0.11	1.19	±5	2024/3/17
835	22.4	0.924	42.50	0.90	41.50	2.67	2.41	±5	2024/2/14
835	22.7	0.923	41.40	0.90	41.50	2.56	-0.24	±5	2024/2/18
835	22.1	0.930	42.60	0.90	41.50	3.33	2.65	±5	2024/3/1
835	22.4	0.936	42.30	0.90	41.50	4.00	1.93	±5	2024/3/2
835	22.4	0.928	42.70	0.90	41.50	3.11	2.89	±5	2024/3/4
835	22.5	0.932	42.40	0.90	41.50	3.56	2.17	±5	2024/3/5
835	22.2	0.930	42.00	0.90	41.50	3.33	1.20	±5	2024/3/6
835	22.7	0.930	41.90	0.90	41.50	3.33	0.96	±5	2024/3/7
835	22.4	0.909	40.60	0.90	41.50	1.00	-2.17	±5	2024/3/7
835	22.6	0.926	41.70	0.90	41.50	2.89	0.48	±5	2024/3/8
835	22.5	0.919	43.00	0.90	41.50	2.11	3.61	±5	2024/3/10
835	22.3	0.918	42.40	0.90	41.50	2.00	2.17	±5	2024/3/10
835	22.5	0.932	42.10	0.90	41.50	3.56	1.45	±5	2024/3/15
835	22.5	0.932	42.10	0.90	41.50	3.56	1.45	±5	2024/3/15
1640	22.3	1.270	39.8	1.31	40.23	-3.05	-1.07	±5	2024/3/9
1750	22.3	1.370	40.60	1.37	40.10	0.00	1.25	±5	2024/2/15
1750	22.8	1.360	40.60	1.37	40.10	-0.73	1.25	±5	2024/2/18
1750	22.5	1.380	40.70	1.37	40.10	0.73	1.50	±5	2024/2/25
1750	22.8	1.360	40.40	1.37	40.10	-0.73	0.75	±5	2024/2/28
1750	22.8	1.360	40.50	1.37	40.10	-0.73	1.00	±5	2024/3/8
1750	22.6	1.380	40.60	1.37	40.10	0.73	1.25	±5	2024/3/8
1750	22.4	1.350	40.60	1.37	40.10	-1.46	1.25	±5	2024/3/9

1750	22.6	1.360	40.70	1.37	40.10	-0.73	1.50	±5	2024/3/9
1750	22.5	1.370	40.80	1.37	40.10	0.00	1.75	±5	2024/3/10
1750	22.4	1.390	40.80	1.37	40.10	1.46	1.75	±5	2024/3/11
1750	22.2	1.370	40.90	1.37	40.10	0.00	2.00	±5	2024/3/12
1750	22.8	1.350	40.70	1.37	40.10	-1.46	1.50	±5	2024/3/14
1750	22.6	1.370	41.2	1.37	40.10	0.00	2.74	±5	2024/3/16
1750	22.5	1.380	41.4	1.37	40.10	0.73	3.24	±5	2024/3/18
1900	22.5	1.390	40.40	1.40	40.00	-0.71	1.00	±5	2024/2/25
1900	22.8	1.380	40.20	1.40	40.00	-1.43	0.50	±5	2024/2/28
1900	22.1	1.450	38.90	1.40	40.00	3.57	-2.75	±5	2024/3/1
1900	22.7	1.430	38.80	1.40	40.00	2.14	-3.00	±5	2024/3/5
1900	22.4	1.420	40.60	1.40	40.00	1.43	1.50	±5	2024/3/7
1900	22.6	1.390	40.30	1.40	40.00	-0.71	0.75	±5	2024/3/8
1900	22.8	1.430	38.90	1.40	40.00	2.14	-2.75	±5	2024/3/8
1900	22.4	1.430	39.00	1.40	40.00	2.14	-2.50	±5	2024/3/9
1900	22.6	1.430	40.90	1.40	40.00	2.14	2.25	±5	2024/3/9
1900	22.5	1.420	39.40	1.40	40.00	1.43	-1.50	±5	2024/3/10
1900	22.4	1.400	40.50	1.40	40.00	0.00	1.25	±5	2024/3/11
1900	22.2	1.380	40.50	1.40	40.00	-1.43	1.25	±5	2024/3/12
1900	22.8	1.430	39.20	1.40	40.00	2.14	-2.00	±5	2024/3/14
1900	22.6	1.450	39.6	1.40	40.00	3.57	-1.00	±5	2024/3/16
1900	22.9	1.450	39.8	1.40	40.00	3.57	-0.50	±5	2024/3/17
2000	22.5	1.440	39.7	1.40	40.00	2.86	-0.75	±5	2024/3/13
2300	22.4	1.690	39.30	1.67	39.50	1.20	-0.51	±5	2024/3/14
2300	22.7	1.680	39.20	1.67	39.50	0.60	-0.76	±5	2024/3/16
2600	22.7	1.950	38.30	1.96	39.00	-0.51	-1.79	±5	2024/2/18
2600	22.8	1.990	38.20	1.96	39.00	1.53	-2.05	±5	2024/2/28
2600	22.9	1.980	37.60	1.96	39.00	1.02	-3.59	±5	2024/2/29
2600	22.1	1.970	38.20	1.96	39.00	0.51	-2.05	±5	2024/3/3
2600	22.4	1.970	38.00	1.96	39.00	0.51	-2.56	±5	2024/3/4
2600	22.2	1.950	38.50	1.96	39.00	-0.51	-1.28	±5	2024/3/6
2600	22.7	1.960	38.10	1.96	39.00	0.00	-2.31	±5	2024/3/7
2600	22.5	1.970	39.70	1.96	39.00	0.51	1.79	±5	2024/3/10
2600	22.4	1.960	37.90	1.96	39.00	0.00	-2.82	±5	2024/3/11
2600	22.6	1.990	37.90	1.96	39.00	1.53	-2.82	±5	2024/3/13
2600	22.5	1.960	39.4	1.96	39.00	0.00	1.03	±5	2024/3/16
3500	22.5	2.940	38.00	2.91	37.90	1.03	0.26	±5	2024/2/19
3500	22.4	3.000	37.90	2.91	37.90	3.09	0.00	±5	2024/3/11
3500	22.7	3.020	37.90	2.91	37.90	3.78	0.00	±5	2024/3/12
3500	22.1	3.010	37.80	2.91	37.90	3.44	-0.26	±5	2024/3/13
3500	22.4	2.910	36.90	2.91	37.90	0.00	-2.64	±5	2024/3/14
3500	22.5	2.900	36.80	2.91	37.90	-0.34	-2.90	±5	2024/3/15
3500	22.5	3.030	37.8	2.91	37.90	4.12	-0.26	±5	2024/3/17
3500	22.5	2.950	37.7	2.91	37.90	1.37	-0.53	±5	2024/3/18
3500	22.1	2.980	38.2	2.91	37.90	2.41	0.79	±5	2024/3/19
3500	22.3	2.980	37.7	2.91	37.90	2.41	-0.53	±5	2024/3/20
3700	22.5	3.110	37.80	3.12	37.70	-0.32	0.27	±5	2024/2/19
3700	22.4	3.190	37.60	3.12	37.70	2.24	-0.27	±5	2024/3/11
3700	22.7	3.180	37.70	3.12	37.70	1.92	0.00	±5	2024/3/12
3700	22.1	3.170	37.60	3.12	37.70	1.60	-0.27	±5	2024/3/13
3700	22.4	3.090	36.60	3.12	37.70	-0.96	-2.92	±5	2024/3/14
3700	22.5	3.080	36.50	3.12	37.70	-1.28	-3.18	±5	2024/3/15
3700	22.5	3.220	37.5	3.12	37.70	3.21	-0.53	±5	2024/3/17
3700	22.5	3.130	37.4	3.12	37.70	0.32	-0.80	±5	2024/3/18
3700	22.1	3.130	38	3.12	37.70	0.32	0.80	±5	2024/3/19
3700	22.3	3.170	37.4	3.12	37.70	1.60	-0.80	±5	2024/3/20

3900	22.5	3.300	37.70	3.33	37.51	-0.90	0.51	±5	2024/2/19
3900	22.4	3.400	37.30	3.33	37.51	2.10	-0.56	±5	2024/3/11
3900	22.7	3.360	37.40	3.33	37.51	0.90	-0.29	±5	2024/3/12
3900	22.1	3.350	37.30	3.33	37.51	0.60	-0.56	±5	2024/3/13
3900	22.5	3.280	36.20	3.33	37.51	-1.50	-3.49	±5	2024/3/15
3900	22.5	3.390	37.3	3.33	37.51	1.80	-0.56	±5	2024/3/17
2600	22.5	1.970	38.7	1.96	39.00	0.51	-0.77	±5	2024/4/12
3500	22.5	2.950	37.1	2.91	37.90	1.37	-2.11	±5	2024/4/12
3700	22.5	3.120	36.8	3.12	37.70	0.00	-2.39	±5	2024/4/12

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
13	22.5	0.757	53.500	0.75	55.00	0.93	-2.73	±5	2024/3/27
2450	22.5	1.820	40.100	1.80	39.20	1.11	2.30	±5	2024/3/14
2450	22.5	1.820	40.100	1.80	39.20	1.11	2.30	±5	2024/3/14
2450	22.6	1.800	38.100	1.80	39.20	0.00	-2.81	±5	2024/3/18
2450	22.4	1.780	38.900	1.80	39.20	-1.11	-0.77	±5	2024/3/19
2450	22.5	1.780	39.100	1.80	39.20	-1.11	-0.26	±5	2024/3/20
2450	22.1	1.830	40.100	1.80	39.20	1.67	2.30	±5	2024/3/21
2450	22.7	1.830	40.100	1.80	39.20	1.67	2.30	±5	2024/3/22
5250	22.5	4.600	35.500	4.71	35.95	-2.34	-1.25	±5	2024/3/14
5250	22.5	4.590	36.100	4.71	35.95	-2.55	0.42	±5	2024/3/16
5250	22.5	4.810	37.100	4.71	35.95	2.12	3.20	±5	2024/3/18
5250	22.1	4.650	37.100	4.71	35.95	-1.27	3.20	±5	2024/3/19
5250	22.4	4.550	35.300	4.71	35.95	-3.40	-1.81	±5	2024/3/22
5250	22.8	4.640	36.900	4.71	35.95	-1.49	2.64	±5	2024/3/23
5600	22.5	5.000	34.900	5.07	35.50	-1.38	-1.69	±5	2024/3/14
5600	22.5	5.040	35.300	5.07	35.50	-0.59	-0.56	±5	2024/3/16
5600	22.5	5.220	36.600	5.07	35.50	2.96	3.10	±5	2024/3/18
5600	22.1	5.020	36.600	5.07	35.50	-0.99	3.10	±5	2024/3/19
5600	22.4	4.940	34.700	5.07	35.50	-2.56	-2.25	±5	2024/3/22
5600	22.8	4.990	36.400	5.07	35.50	-1.58	2.54	±5	2024/3/23
5800	22.5	5.180	35.400	5.27	35.30	-1.71	0.28	±5	2024/3/16
5800	22.5	5.430	36.300	5.27	35.30	3.04	2.83	±5	2024/3/18
5800	22.1	5.230	36.300	5.27	35.30	-0.76	2.83	±5	2024/3/19
5800	22.4	5.190	34.300	5.27	35.30	-1.52	-2.83	±5	2024/3/22
5800	22.8	5.200	36.200	5.27	35.30	-1.33	2.55	±5	2024/3/23
5800	22.5	5.270	34.400	5.27	35.30	0.00	-2.55	±5	2024/5/2
6500	22.5	6.090	34.700	6.07	34.50	0.33	0.58	±5	2024/3/19
6500	22.5	6.090	34.700	6.07	34.50	0.33	0.58	±5	2024/3/19
6500	22.5	6.150	34.600	6.07	34.50	1.32	0.29	±5	2024/3/21
6500	22.5	6.170	34.700	6.07	34.50	1.65	0.58	±5	2024/3/24
6500	22.5	6.160	35.100	6.07	34.50	1.48	1.74	±5	2024/3/26

13.2 System Performance Check Results

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

<Full Test>

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Test Site
2024/3/25	2000	50	D2000V2-1010	EX3DV4 - SN7700	DAE4 Sn656	1.960	41.900	39.2	-6.44	SAR-19

<Spot Check>

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)	Test Site
2024/2/16	750	50	D750V3-1107	EX3DV4 - SN7694	DAE4ip Sn1800	0.412	8.540	8.24	-3.51	0.270	0.260	5.4	0.18	SAR-18
2024/2/21	750	50	D750V3-1107	EX3DV4 - SN7694	DAE4ip Sn1800	0.407	8.540	8.14	-4.68	0.268	5.570	5.36	-3.77	SAR-18
2024/2/26	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn656	0.421	8.540	8.42	-1.41	0.284	5.570	5.68	1.97	SAR-19
2024/2/28	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn656	0.421	8.540	8.42	-1.41	0.280	5.570	5.6	0.54	SAR-19
2024/3/2	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn656	0.424	8.540	8.48	-0.70	0.287	5.570	5.74	0.13	SAR-19
2024/3/5	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn656	0.398	8.540	7.96	-6.79	0.265	5.570	5.3	-4.85	SAR-19
2024/3/5	750	50	D750V3-1107	EX3DV4 - SN7694	DAE4ip Sn1800	0.422	8.540	8.44	-1.17	0.274	5.570	5.48	-1.62	SAR-18
2024/3/6	750	50	D750V3-1107	EX3DV4 - SN7694	DAE4ip Sn1800	0.423	8.540	8.46	-0.94	0.277	5.570	5.54	-0.54	SAR-18
2024/3/7	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn656	0.401	8.540	8.02	-6.09	0.268	5.570	5.36	-3.77	SAR-19
2024/3/10	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn656	0.402	8.540	8.04	-5.85	0.269	5.570	5.38	-3.41	SAR-19
2024/3/10	750	50	D750V3-1107	EX3DV4 - SN7694	DAE4ip Sn1800	0.397	8.540	7.94	-7.03	0.260	5.570	5.2	-6.64	SAR-18
2024/3/11	750	50	D750V3-1107	EX3DV4 - SN7785	DAE4 Sn1707	0.404	8.540	8.08	-5.39	0.272	5.570	5.44	-2.33	SAR-19
2024/3/17	750	50	D750V3-1107	EX3DV4 - SN7700	DAE4 Sn656	0.413	8.540	8.26	-3.28	0.274	5.570	5.48	-1.62	SAR-19
2024/2/14	835	50	D835V2-4d167	EX3DV4 - SN7694	DAE4ip Sn1800	0.526	9.800	10.52	7.35	0.340	6.380	6.8	6.58	SAR-18
2024/2/18	835	50	D835V2-4d060	EX3DV4 - SN7694	DAE4ip Sn1800	0.521	9.730	10.42	7.09	0.337	6.390	6.74	5.48	SAR-18
2024/3/1	835	50	D835V2-4d167	EX3DV4 - SN7700	DAE4 Sn656	0.500	9.800	10	2.04	0.331	6.380	6.62	3.76	SAR-18
2024/3/2	835	50	D835V2-4d060	EX3DV4 - SN7694	DAE4ip Sn1800	0.513	9.730	10.26	5.45	0.333	6.390	6.66	4.23	SAR-18
2024/3/4	835	50	D835V2-4d167	EX3DV4 - SN7694	DAE4ip Sn1800	0.518	9.800	10.36	5.71	0.338	6.380	6.76	5.96	SAR-18
2024/3/5	835	50	D835V2-4d167	EX3DV4 - SN7700	DAE4 Sn656	0.480	9.800	9.6	-2.04	0.318	6.380	6.36	-0.31	SAR-19
2024/3/6	835	50	D835V2-4d060	EX3DV4 - SN7694	DAE4ip Sn1800	0.512	9.730	10.24	5.24	0.332	6.390	6.64	3.91	SAR-18
2024/3/7	835	50	D835V2-4d060	EX3DV4 - SN7694	DAE4ip Sn1800	0.515	9.730	10.3	5.86	0.335	6.390	6.7	4.85	SAR-18
2024/3/7	835	50	D835V2-4d167	EX3DV4 - SN7700	DAE4 Sn656	0.483	9.800	9.66	-1.43	0.320	6.380	6.4	0.31	SAR-19
2024/3/8	835	50	D835V2-4d060	EX3DV4 - SN7700	DAE4 Sn656	0.492	9.730	9.84	1.13	0.326	6.390	6.52	2.03	SAR-19
2024/3/10	835	50	D835V2-4d060	EX3DV4 - SN7694	DAE4ip Sn1800	0.519	9.730	10.38	6.68	0.339	6.390	6.78	6.10	SAR-18
2024/3/10	835	50	D835V2-4d167	EX3DV4 - SN7700	DAE4 Sn656	0.483	9.800	9.66	-1.43	0.320	6.380	6.4	0.31	SAR-19
2024/3/15	835	50	D835V2-4d060	EX3DV4 - SN7791	DAE4 Sn1647	0.497	9.730	9.94	2.16	0.330	6.390	6.6	3.29	SAR-17
2024/3/15	835	50	D835V2-4d060	EX3DV4 - SN7813	DAE4 Sn1647	0.492	9.730	9.84	1.13	0.327	6.390	6.54	2.35	SAR-17
2024/3/9	1640	50	D1640V2-346	EX3DV4 - SN7785	DAE4 Sn1707	1.630	34.600	32.6	-5.78	0.905	18.600	18.1	-2.69	SAR-20
2024/2/15	1750	50	D1750V2-1112	EX3DV4 - SN7694	DAE4ip Sn1800	1.670	36.900	33.4	-9.49	0.885	19.400	17.7	-8.76	SAR-18
2024/2/18	1750	50	D1750V2-1112	EX3DV4 - SN7694	DAE4ip Sn1800	1.830	36.900	36.6	-0.81	0.960	19.400	19.2	-1.03	SAR-18
2024/2/25	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn656	1.750	36.900	35	-5.15	0.948	19.400	18.96	-2.27	SAR-19
2024/2/28	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn656	1.810	36.900	36.2	-1.90	0.971	19.400	19.42	0.10	SAR-19
2024/3/8	1750	50	D1750V2-1112	EX3DV4 - SN7694	DAE4ip Sn1800	1.790	36.900	35.8	-2.98	0.932	19.400	18.64	-3.92	SAR-18
2024/3/8	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn656	1.690	36.900	33.8	-8.40	0.913	19.400	18.26	-5.88	SAR-19
2024/3/9	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn656	1.810	36.900	36.2	-1.90	0.960	19.400	19.2	-1.03	SAR-19
2024/3/9	1750	50	D1750V2-1112	EX3DV4 - SN7694	DAE4ip Sn1800	1.670	36.900	33.4	-9.49	0.884	19.400	17.68	-8.87	SAR-18
2024/3/10	1750	50	D1750V2-1112	EX3DV4 - SN7694	DAE4ip Sn1800	1.700	36.900	34	-7.86	0.895	19.400	17.9	-7.73	SAR-18
2024/3/11	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn656	1.720	36.900	34.4	-6.78	0.931	19.400	18.62	-4.02	SAR-19
2024/3/12	1750	50	D1750V2-1112	EX3DV4 - SN7700	DAE4 Sn656	1.790	36.900	35.8	-2.98	0.961	19.400	19.22	-0.93	SAR-19
2024/3/14	1750	50	D1750V2-1112	EX3DV4 - SN7791	DAE4 Sn1647	1.710	36.900	34.2	-7.32	0.917	19.400	18.34	-5.46	SAR-17
2024/3/16	1750	50	D1750V2-1112	EX3DV4 - SN7813	DAE4 Sn1647	1.760	36.900	35.2	-4.61	0.941	19.400	18.82	-2.99	SAR-17
2024/3/18	1750	50	D1750V2-1112	EX3DV4 - SN7813	DAE4 Sn1647	1.820	36.900	36.4	-1.36	0.977	19.400	19.54	0.72	SAR-17

2024/2/25	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn656	1.910	39.000	38.2	-2.05	1.000	20.400	20	-1.96	SAR-19
2024/2/28	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn656	1.900	39.000	38	-2.56	0.993	20.400	19.86	-2.65	SAR-19
2024/3/1	1900	50	D1900V2-5d185	EX3DV4 - SN7694	DAE4ip Sn1800	2.000	39.000	40	2.56	1.070	20.400	21.4	4.90	SAR-18
2024/3/5	1900	50	D1900V2-5d185	EX3DV4 - SN7694	DAE4ip Sn1800	2.050	39.000	41	5.13	1.060	20.400	21.2	3.92	SAR-18
2024/3/7	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn656	1.990	39.000	39.8	2.05	1.050	20.400	21	2.94	SAR-19
2024/3/8	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn656	1.780	39.000	35.6	-8.72	0.939	20.400	18.78	-7.94	SAR-19
2024/3/8	1900	50	D1900V2-5d185	EX3DV4 - SN7694	DAE4ip Sn1800	1.870	39.000	37.4	-4.10	0.980	20.400	19.6	-3.92	SAR-18
2024/3/9	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn656	1.830	39.000	36.6	-6.15	0.958	20.400	19.16	-6.08	SAR-19
2024/3/9	1900	50	D1900V2-5d185	EX3DV4 - SN7694	DAE4ip Sn1800	1.880	39.000	37.6	-3.59	0.975	20.400	19.5	-4.41	SAR-18
2024/3/10	1900	50	D1900V2-5d185	EX3DV4 - SN7694	DAE4ip Sn1800	1.830	39.000	36.6	-6.15	0.949	20.400	18.98	-6.96	SAR-18
2024/3/11	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn656	1.850	39.000	37	-5.13	0.972	20.400	19.44	-4.71	SAR-19
2024/3/12	1900	50	D1900V2-5d185	EX3DV4 - SN7700	DAE4 Sn656	1.930	39.000	38.6	-1.03	1.010	20.400	20.2	-0.98	SAR-19
2024/3/14	1900	50	D1900V2-5d185	EX3DV4 - SN7791	DAE4 Sn1647	1.760	39.000	35.2	-9.74	0.921	20.400	18.42	-9.71	SAR-17
2024/3/16	1900	50	D1900V2-5d185	EX3DV4 - SN7813	DAE4 Sn1647	2.000	39.000	40	2.56	1.040	20.400	20.8	1.96	SAR-17
2024/3/17	1900	50	D1900V2-5d185	EX3DV4 - SN7813	DAE4 Sn1647	1.960	39.000	39.2	0.51	1.030	20.400	20.6	0.98	SAR-17
2024/3/13	2000	50	D2000V2-1010	EX3DV4 - SN7791	DAE4ip Sn1800	2.070	41.900	41.4	-1.19	1.050	21.700	21	-3.23	SAR-18
2024/3/14	2300	50	D2300V2-1006	EX3DV4 - SN7700	DAE4 Sn656	2.380	48.300	47.6	-1.45	1.150	23.500	23	-2.13	SAR-19
2024/3/16	2300	50	D2300V2-1006	EX3DV4 - SN7700	DAE4 Sn656	2.260	48.300	45.2	-6.42	1.090	23.500	21.8	-7.23	SAR-19
2024/2/18	2600	50	D2600V2-1078	EX3DV4 - SN7694	DAE4ip Sn1800	2.670	55.400	53.4	-3.61	1.260	24.900	25.2	1.20	SAR-18
2024/2/28	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn656	2.650	55.400	53	-4.33	1.200	24.900	24	-3.61	SAR-19
2024/2/29	2600	50	D2600V2-1078	EX3DV4 - SN7694	DAE4ip Sn1800	2.980	55.400	59.6	7.58	1.300	24.900	26	4.42	SAR-18
2024/3/3	2600	50	D2600V2-1078	EX3DV4 - SN7694	DAE4ip Sn1800	2.640	55.400	52.8	-4.69	1.180	24.900	23.6	-5.22	SAR-18
2024/3/4	2600	50	D2600V2-1078	EX3DV4 - SN7694	DAE4ip Sn1800	2.710	55.400	54.2	-2.17	1.220	24.900	24.4	-2.01	SAR-18
2024/3/6	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn656	2.660	55.400	53.2	-3.97	1.200	24.900	24	-3.61	SAR-19
2024/3/7	2600	50	D2600V2-1078	EX3DV4 - SN7694	DAE4ip Sn1800	2.620	55.400	52.4	-5.42	1.180	24.900	23.6	-5.22	SAR-18
2024/3/10	2600	50	D2600V2-1078	EX3DV4 - SN7694	DAE4ip Sn1800	2.900	55.400	58	4.69	1.280	24.900	25.6	2.81	SAR-18
2024/3/11	2600	50	D2600V2-1078	EX3DV4 - SN7785	DAE4 Sn1707	2.710	55.400	54.2	-2.17	1.220	24.900	24.4	-2.01	SAR-21
2024/3/13	2600	50	D2600V2-1078	EX3DV4 - SN7700	DAE4 Sn656	2.580	55.400	51.6	-6.86	1.170	24.900	23.4	-6.02	SAR-19
2024/3/16	2600	50	D2600V2-1078	EX3DV4 - SN7694	DAE4ip Sn1800	2.540	55.400	50.8	-8.30	1.130	24.900	22.6	-9.24	SAR-18
2024/2/19	3500	50	D3500V2-1036	EX3DV4 - SN7694	DAE4ip Sn1800	3.530	67.400	70.6	4.75	1.350	25.100	27	7.57	SAR-18
2024/3/11	3500	50	D3500V2-1036	EX3DV4 - SN7785	DAE4 Sn1707	3.170	67.400	63.4	-5.93	1.170	25.100	23.4	-6.77	SAR-21
2024/3/12	3500	50	D3500V2-1014	EX3DV4 - SN7785	DAE4 Sn1707	3.170	67.200	63.4	-5.65	1.180	25.100	23.6	-5.98	SAR-21
2024/3/13	3500	50	D3500V2-1014	EX3DV4 - SN7785	DAE4 Sn1707	3.550	67.200	71	5.65	1.360	25.100	27.2	8.37	SAR-21
2024/3/14	3500	50	D3500V2-1014	EX3DV4 - SN7700	DAE4 Sn656	3.510	67.200	70.2	4.46	1.340	25.100	26.8	6.77	SAR-19
2024/3/15	3500	50	D3500V2-1014	EX3DV4 - SN7700	DAE4 Sn656	3.100	67.200	62	-7.74	1.200	25.100	24	-4.38	SAR-19
2024/3/17	3500	50	D3500V2-1036	EX3DV4 - SN7700	DAE4 Sn656	3.050	67.400	61	-9.50	1.180	25.100	23.6	-5.98	SAR-19
2024/3/18	3500	50	D3500V2-1036	EX3DV4 - SN7793	DAE4 Sn1707	3.130	67.400	62.6	-7.12	1.220	25.100	24.4	-2.79	SAR-21
2024/3/19	3500	50	D3500V2-1036	EX3DV4 - SN7793	DAE4 Sn1707	3.130	67.400	62.6	-7.12	1.210	25.100	24.2	-3.59	SAR-21
2024/3/20	3500	50	D3500V2-1036	EX3DV4 - SN7793	DAE4 Sn1707	3.350	67.400	67	-0.59	1.300	25.100	26	3.59	SAR-21
2024/2/19	3700	50	D3700V2-1006	EX3DV4 - SN7694	DAE4ip Sn1800	3.020	65.600	60.4	-7.93	1.140	23.700	22.8	-3.80	SAR-18
2024/3/11	3700	50	D3700V2-1006	EX3DV4 - SN7785	DAE4 Sn1707	3.340	65.600	66.8	1.83	1.240	23.700	24.8	4.64	SAR-21
2024/3/12	3700	50	D3700V2-1006	EX3DV4 - SN7785	DAE4 Sn1707	3.390	65.600	67.8	3.35	1.260	23.700	25.2	6.33	SAR-21
2024/3/13	3700	50	D3700V2-1006	EX3DV4 - SN7785	DAE4 Sn1707	3.130	65.600	62.6	-4.57	1.180	23.700	23.6	-0.42	SAR-21
2024/3/14	3700	50	D3700V2-1006	EX3DV4 - SN7700	DAE4 Sn656	3.000	65.600	60	-8.54	1.130	23.700	22.6	-4.64	SAR-19
2024/3/15	3700	50	D3700V2-1006	EX3DV4 - SN7700	DAE4 Sn656	3.000	65.600	60	-8.54	1.130	23.700	22.6	-4.64	SAR-19
2024/3/17	3700	50	D3700V2-1006	EX3DV4 - SN7700	DAE4 Sn656	3.130	65.600	62.6	-4.57	1.180	23.700	23.6	-0.42	SAR-19
2024/3/18	3700	50	D3700V2-1006	EX3DV4 - SN7793	DAE4 Sn1707	3.350	65.600	67	2.13	1.250	23.700	25	5.49	SAR-21
2024/3/19	3700	50	D3700V2-1006	EX3DV4 - SN7793	DAE4 Sn1707	3.340	65.600	66.8	1.83	1.240	23.700	24.8	4.64	SAR-21
2024/3/20	3700	50	D3700V2-1006	EX3DV4 - SN7793	DAE4 Sn1707	3.060	65.600	61.2	-6.71	1.160	23.700	23.2	-2.11	SAR-21
2024/2/19	3900	50	D3900V2-1017-3900	EX3DV4 - SN7694	DAE4ip Sn1800	3.750	68.700	75	9.17	1.290	23.900	25.8	7.95	SAR-18
2024/3/11	3900	50	D3900V2-1017-3900	EX3DV4 - SN7785	DAE4 Sn1707	3.600	68.700	72	4.80	1.280	23.900	25.6	7.11	SAR-21
2024/3/12	3900	50	D3900V2-1017-3900	EX3DV4 - SN7785	DAE4 Sn1707	3.190	68.700	63.8	-7.13	1.160	23.900	23.2	-2.93	SAR-21
2024/3/13	3900	50	D3900V2-1017-3900	EX3DV4 - SN7785	DAE4 Sn1707	3.320	68.700	66.4	-3.35	1.190	23.900	23.8	-0.42	SAR-21
2024/3/15	3900	50	D3900V2-1092	EX3DV4 - SN7700	DAE4 Sn656	3.300	67.000	66	-1.49	1.190	23.200	23.8	2.59	SAR-19
2024/3/17	3900	50	D3900V2-1017-3900	EX3DV4 - SN7700	DAE4 Sn656	3.340	68.700	66.8	-2.77	1.190	23.900	23.8	-0.42	SAR-19
2024/4/12	2600	50	D2600V2-1078	EX3DV4 - SN7590	DAE4 Sn699	2.750	55.400	55	-0.72	1.240	24.900	24.8	-0.40	SAR-22

2024/4/12	3500	50	D3500V2-1036	EX3DV4 - SN7590	DAE4 Sn699	3.540	67.400	70.8	5.04	1.360	25.100	27.2	8.37	SAR-22
2024/4/12	3700	50	D3700V2-1006	EX3DV4 - SN7590	DAE4 Sn699	3.410	65.600	68.2	3.96	1.270	23.700	25.4	7.17	SAR-22

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)	Test Site
2024/3/27	13	1000	CLA13-1011	EX3DV4 - SN3931	DAE4 Sn1805	0.514	0.544	0.514	-4.81	0.319	0.340	0.319	-6.18	SAR-08
2024/3/14	2450	50	D2450V2-736	EX3DV4 - SN7785	DAE4 Sn1707	2.920	54.200	58.4	7.75	1.350	25.300	27	6.72	SAR-18
2024/3/14	2450	50	D2450V2-736	EX3DV4 - SN7793	DAE4 Sn1707	2.640	54.200	52.8	-2.58	1.240	25.300	24.8	-1.98	SAR-21
2024/3/18	2450	50	D2450V2-736	EX3DV4 - SN7694	DAE4ip Sn1800	2.450	54.200	49	-9.59	1.170	25.300	23.4	-7.51	SAR-16
2024/3/19	2450	50	D2450V2-736	EX3DV4 - SN7813	DAE4 Sn1647	2.520	54.200	50.4	-7.01	1.180	25.300	23.6	-6.72	SAR-17
2024/3/20	2450	50	D2450V2-929	EX3DV4 - SN7700	DAE4 Sn656	2.360	52.400	47.2	-9.92	1.120	24.700	22.4	-9.31	SAR-19
2024/3/21	2450	50	D2450V2-736	EX3DV4 - SN7793	DAE4 Sn1707	2.500	54.200	50	-7.75	1.180	25.300	23.6	-6.72	SAR-21
2024/3/22	2450	50	D2450V2-736	EX3DV4 - SN7793	DAE4 Sn1707	2.480	54.200	49.6	-8.49	1.170	25.300	23.4	-7.51	SAR-21
2024/3/14	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7694	DAE4ip Sn1800	4.270	80.300	85.4	6.35	1.190	23.000	23.8	3.48	SAR-16
2024/3/16	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7793	DAE4 Sn1707	3.790	80.300	75.8	-5.60	1.050	23.000	21	-8.70	SAR-21
2024/3/18	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7793	DAE4 Sn1707	4.290	80.300	85.8	6.85	1.220	23.000	24.4	6.09	SAR-21
2024/3/19	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7793	DAE4 Sn1707	4.160	80.300	83.2	3.61	1.170	23.000	23.4	1.74	SAR-21
2024/3/22	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7700	DAE4 Sn656	4.280	80.300	85.6	6.60	1.180	23.000	23.6	2.61	SAR-19
2024/3/23	5250	50	D5GHzV2-1171-5250	EX3DV4 - SN7700	DAE4 Sn656	3.810	80.300	76.2	-5.11	1.090	23.000	21.8	-5.22	SAR-19
2024/3/14	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7694	DAE4ip Sn1800	3.880	83.400	77.6	-6.95	1.090	23.700	21.8	-8.02	SAR-16
2024/3/16	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7793	DAE4 Sn1707	4.300	83.400	86	3.12	1.120	23.700	22.4	-5.49	SAR-21
2024/3/18	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7793	DAE4 Sn1707	3.980	83.400	79.6	-4.56	1.160	23.700	23.2	-2.11	SAR-21
2024/3/19	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7793	DAE4 Sn1707	3.760	83.400	75.2	-9.83	1.070	23.700	21.4	-9.70	SAR-21
2024/3/22	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7700	DAE4 Sn656	4.560	83.400	91.2	9.35	1.270	23.700	25.4	7.17	SAR-19
2024/3/23	5600	50	D5GHzV2-1171-5600	EX3DV4 - SN7700	DAE4 Sn656	3.830	83.400	76.6	-8.15	1.090	23.700	21.8	-8.02	SAR-19
2024/3/16	5800	50	D5GHzV2-1128-5800	EX3DV4 - SN7793	DAE4 Sn1707	3.590	78.700	71.8	-8.77	1.010	22.200	20.2	-9.01	SAR-21
2024/3/18	5800	50	D5GHzV2-1128-5800	EX3DV4 - SN7793	DAE4 Sn1707	3.690	78.700	73.8	-6.23	1.050	22.200	21	-5.41	SAR-21
2024/3/19	5800	50	D5GHzV2-1128-5800	EX3DV4 - SN7793	DAE4 Sn1707	4.200	78.700	84	6.73	1.160	22.200	23.2	4.50	SAR-21
2024/3/22	5800	50	D5GHzV2-1128-5800	EX3DV4 - SN7700	DAE4 Sn656	3.940	78.700	78.8	0.13	1.110	22.200	22.2	0.00	SAR-19
2024/3/23	5800	50	D5GHzV2-1128-5800	EX3DV4 - SN7700	DAE4 Sn656	3.910	78.700	78.2	-0.64	1.110	22.200	22.2	0.00	SAR-19
2024/5/2	5800	50	D5GHzV2-1128-5800	EX3DV4 - SN7590	DAE4 Sn1776	3.560	78.700	71.2	-9.53	1.020	22.200	20.4	-8.11	SAR-20
2024/3/19	6500	100	D6.5GHzV2-1083	EX3DV4 - SN7785	DAE4ip Sn1800	27.000	292.000	270	-7.53	5.020	54.000	50.2	-7.04	SAR-18
2024/3/19	6500	100	D6.5GHzV2-1083	EX3DV4 - SN7694	DAE4ip Sn1800	26.800	292.000	268	-8.22	5.000	54.000	50	-7.41	SAR-16
2024/3/21	6500	100	D6.5GHzV2-1083	EX3DV4 - SN7785	DAE4ip Sn1800	27.200	292.000	272	-6.85	5.060	54.000	50.6	-6.30	SAR-18
2024/3/24	6500	100	D6.5GHzV2-1083	EX3DV4 - SN7785	DAE4ip Sn1800	28.700	292.000	287	-1.71	5.320	54.000	53.2	-1.48	SAR-18
2024/3/26	6500	100	D6.5GHzV2-1083	EX3DV4 - SN7785	DAE4ip Sn1800	27.300	292.000	273	-6.51	5.060	54.000	50.6	-6.30	SAR-18

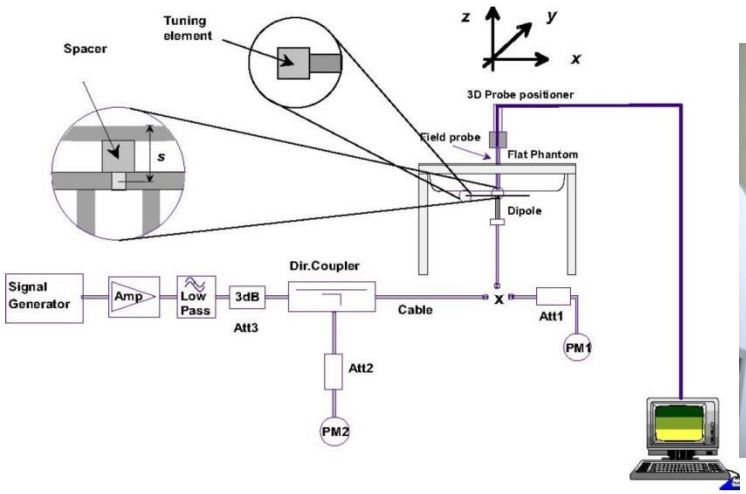


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

13.3 PD System Performance Check Results

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check. The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes

Frequency (GHz)	5G Verification Source	Probe S/N	DAE S/N	Distance (mm)	Measured 4 cm^2 (W/m^2)	Targeted 4 cm^2 (W/m^2)	Deviation (dB)	Test Site	Date
10G	10GHz_1052	9441	1694	10	54	56.8	-0.22	SAR13	2024/3/14
10G	10GHz_1052	9441	661	10	50	56.8	-0.55	SAR13	2024/3/28

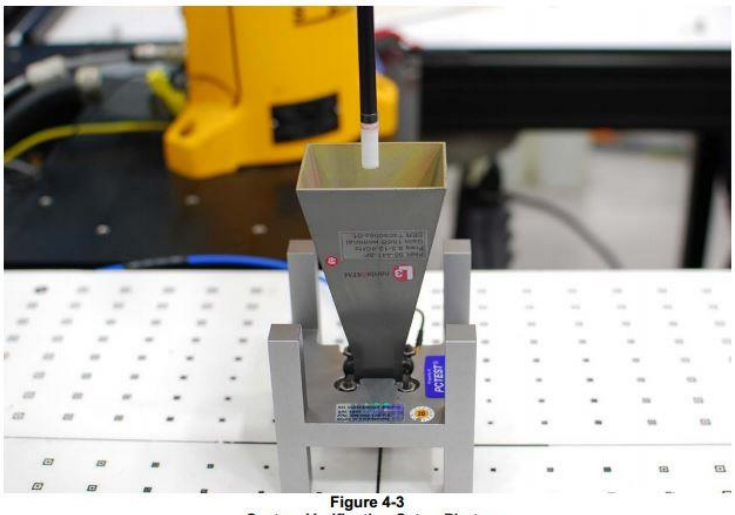


Figure 4-3
System Verification Setup Photo

System Performance Check Setup

14. RF Exposure Positions

14.1 Ear and handset reference point

Figure 9.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 9.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 9.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

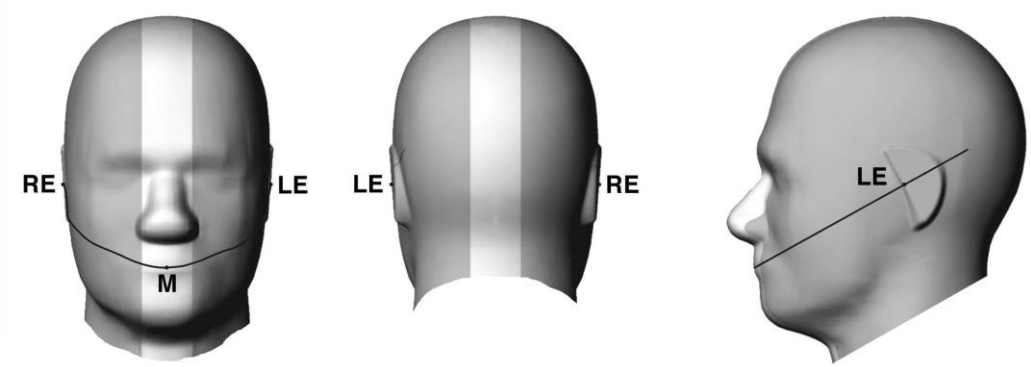


Fig 9.1.1 Front, back, and side views of SAM twin phantom

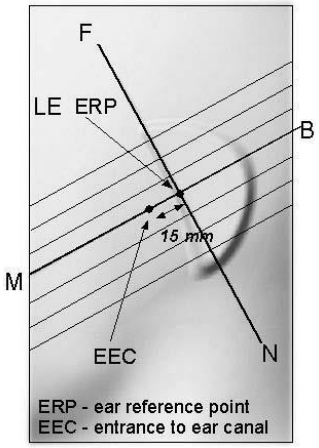


Fig 9.1.2 Close-up side view of phantom showing the ear region.

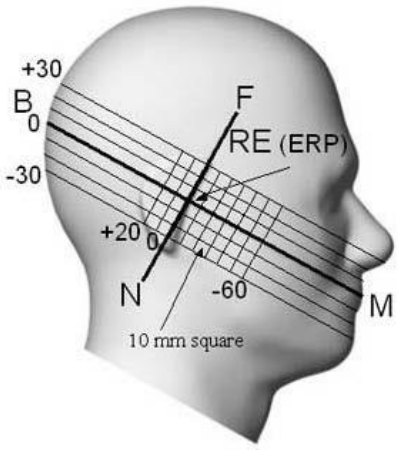


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

14.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width wt of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), and the midpoint of the width wb of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 9.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 9.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 9.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 9.2.3. The actual rotation angles should be documented in the test report.

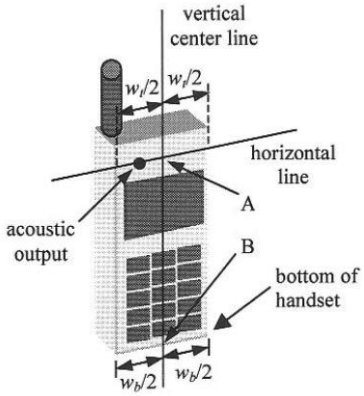


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case

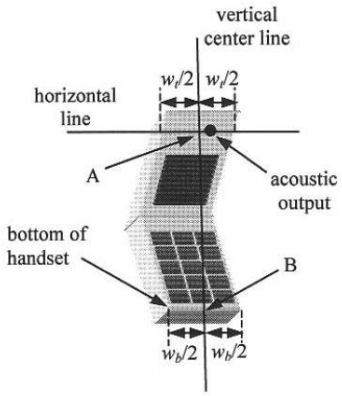


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

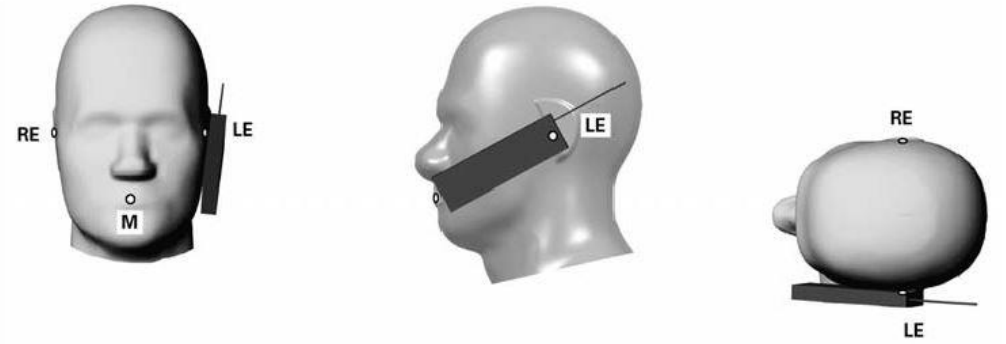


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

14.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

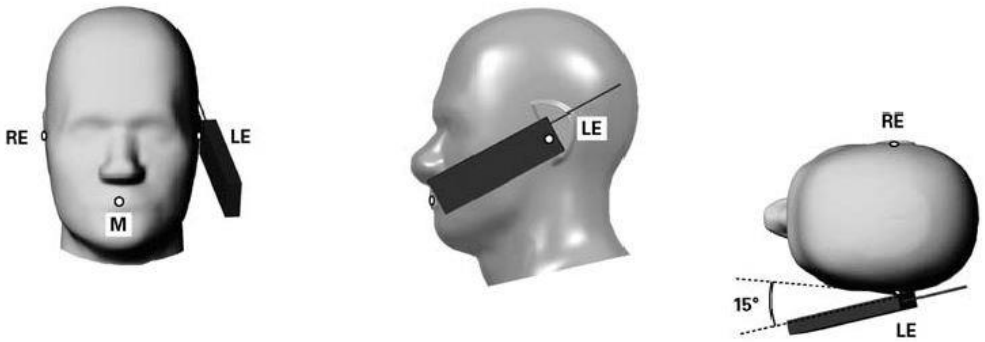


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

14.4 Body Worn Accessory

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

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

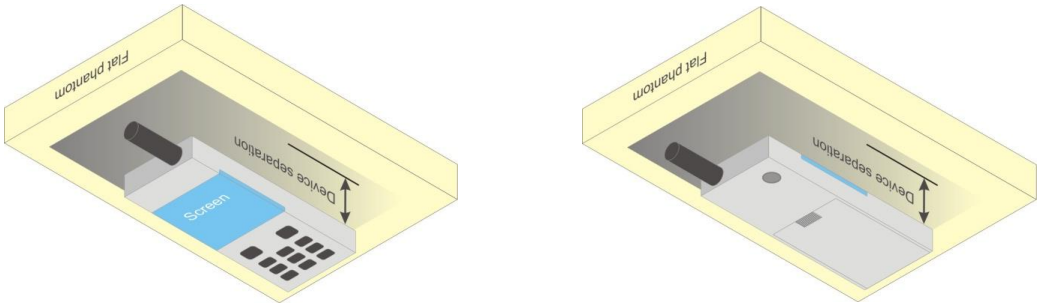


Fig 9.4 Body Worn Position

14.5 Product Specific Exposure

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

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

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

14.6 Wireless Router

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

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

15. NTN Output Power (Unit: dBm)

General Note:

1. Due to test setup limitations, SAR testing for Non-terrestrial Network was performed using Factory Test Mode software to establish the connection.

<NTN Band 23_Ant 1_Index 1/5>

Sub-carrier Speacing (KHz)	Modulation	SC Size	SC Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				25501	25600	25699	
Frequency (MHz)				2000.1	2010	2019.9	
3.75	BPSK	1	0	21.95	22.00	21.93	23.7
3.75	BPSK	1	46	22.19	22.10	22.15	
3.75	QPSK	1	0	22.00	21.88	22.02	
3.75	QPSK	1	46	22.22	22.03	22.18	
15	BPSK	1	0	22.37	22.25	22.30	
15	BPSK	1	10	22.33	22.21	22.24	
15	QPSK	1	0	22.36	22.23	22.29	
15	QPSK	1	10	22.35	22.19	22.21	
15	QPSK	12	0	20.58	20.56	20.55	21.7

16. Spot Check SAR Results

General Note:

1. SAR spot check verification on the worst cases from the original model was performed to demonstrate the test data from original model remains representative for the variant model.
2. If the 1-g SAR spot check result "does not exceed 30%, but larger than 1.2 W/kg", more spot check on the next-higher exposure position until the spot check result does not exceed 1.2 W/kg.
3. The spot check results don't show the SAR increase more than 30%, therefore referring to the guidance in the KDB inquiry, SAR data reuse is justified.

1st as parent model

2nd as variant model

16.1 Head SAR

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (dB)
	1st	GSM850_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	2	189	836.4	27.50	29.30	1.514			-0.11	0.282	0.427	-0.62
	2nd	GSM850_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	2	189	836.4	27.61	29.30	1.476			0.09	0.251	0.370	
	1st	GSM850_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	3	189	836.4	27.50	28.60	1.288			-0.11	0.282	0.363	-0.62
	2nd	GSM850_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	3	189	836.4	27.61	28.60	1.256			0.09	0.251	0.315	
	1st	GSM850_Ant 1	GPRS (4 Tx slots)	Right Cheek	0mm	2	189	836.4	24.61	26.10	1.409			0.05	0.654	0.922	-0.11
01	2nd	GSM850_Ant 1	GPRS (4 Tx slots)	Right Cheek	0mm	2	189	836.4	24.55	26.10	1.429			0	0.629	0.899	
	1st	GSM850_Ant 1	GPRS (4 Tx slots)	Right Cheek	0mm	3	189	836.4	24.61	25.40	1.199			0.05	0.654	0.784	-0.11
	2nd	GSM850_Ant 1	GPRS (4 Tx slots)	Right Cheek	0mm	3	189	836.4	24.55	25.40	1.216			0	0.629	0.765	
	1st	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	2	661	1880	26.65	27.50	1.216			0.03	0.669	0.814	-0.92
02	2nd	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	2	661	1880	26.75	27.50	1.189			0.06	0.554	0.658	
	1st	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	3	661	1880	26.65	26.90	1.059			0.03	0.669	0.709	-0.92
	2nd	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Cheek	0mm	3	661	1880	26.75	26.90	1.035			0.06	0.554	0.573	
	1st	GSM1900_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	2/3	661	1880	27.43	27.50	1.016			-0.18	0.058	0.059	-0.72
	2nd	GSM1900_Ant 0	GPRS (4 Tx slots)	Left Cheek	0mm	2/3	661	1880	27.38	27.50	1.028			0.11	0.049	0.050	
	1st	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	2	9400	1880	24.21	25.00	1.199			-0.1	0.687	0.824	-0.98
03	2nd	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	2	9400	1880	24.01	25.00	1.256			0.04	0.524	0.658	
	1st	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	3	9400	1880	24.21	24.40	1.045			-0.1	0.687	0.718	-0.98
	2nd	WCDMA II_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	3	9400	1880	24.01	24.40	1.094			0.04	0.524	0.573	
	1st	WCDMA II_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	2/3	9400	1880	24.69	25.00	1.074			0.19	0.060	0.064	-1.43
	2nd	WCDMA II_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	2/3	9400	1880	24.89	25.00	1.026			0.01	0.045	0.046	
	1st	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	2/3	1413	1732.6	24.46	25.00	1.132			-0.12	0.496	0.562	-0.94
04	2nd	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Cheek	0mm	2/3	1413	1732.6	24.13	25.00	1.222			-0.16	0.371	0.453	
	1st	WCDMA IV_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	2/3	1413	1732.6	24.75	25.00	1.059			-0.19	0.162	0.172	-1.46
	2nd	WCDMA IV_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	2/3	1413	1732.6	24.99	25.00	1.002			0.07	0.123	0.123	
	1st	WCDMA V_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	2/3	4182	836.4	24.66	25.00	1.081			0.01	0.336	0.363	0.00
	2nd	WCDMA V_Ant 0	RMC 12.2Kbps	Left Cheek	0mm	2/3	4182	836.4	24.57	25.00	1.104			-0.01	0.329	0.363	
	1st	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	2	4182	836.4	22.62	23.40	1.197			-0.03	0.759	0.908	-0.31
05	2nd	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	2	4182	836.4	22.60	23.40	1.202			0.02	0.704	0.846	
	1st	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	3	4182	836.4	22.62	22.70	1.019			-0.03	0.759	0.773	-0.31
	2nd	WCDMA V_Ant 1	RMC 12.2Kbps	Right Cheek	0mm	3	4182	836.4	22.60	22.70	1.023			0.02	0.704	0.720	
06	1st	LTE Band 7_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	2	21100	2535	21.85	23.40	1.429			0.01	0.554	0.792	-0.04
	2nd	LTE Band 7_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	2	21100	2535	21.78	23.40	1.452			0.02	0.540	0.784	
	1st	LTE Band 7_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	3	21100	2535	21.85	22.70	1.216			0.01	0.554	0.674	-0.05
	2nd	LTE Band 7_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	3	21100	2535	21.78	22.70	1.236			0.02	0.540	0.667	
	1st	LTE Band 7_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	21100	2535	23.75	25.00	1.334			-0.07	0.181	0.241	-0.38
	2nd	LTE Band 7_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	21100	2535	23.66	25.00	1.361			-0.13	0.162	0.221	
	1st	LTE Band 12_Ant 0	10M_QPSK_1_0	Left Cheek	0mm	2/3	23095	707.5	23.98	25.00	1.265			0	0.264	0.334	-0.03
	2nd	LTE Band 12_Ant 0	10M_QPSK_1_0	Left Cheek	0mm	2/3	23095	707.5	23.94	25.00	1.276			0.11	0.260	0.332	
	1st	LTE Band 12_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	2	23095	707.5	22.44	23.80	1.368			0.02	0.665	0.910	-0.16
07	2nd	LTE Band 12_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	2	23095	707.5	22.47	23.80	1.358			-0.02	0.646	0.877	

	1st	LTE Band 12_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	3	23095	707.5	22.44	23.10	1.164			0.02	0.665	0.774	-0.15
	2nd	LTE Band 12_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	3	23095	707.5	22.47	23.10	1.156			-0.02	0.646	0.747	
	1st	LTE Band 13_Ant 0	10M_QPSK_1_0	Left Cheek	0mm	2/3	23230	782	23.90	25.00	1.288			0.06	0.277	0.357	-0.04
	2nd	LTE Band 13_Ant 0	10M_QPSK_1_0	Left Cheek	0mm	2/3	23230	782	23.89	25.00	1.291			0.13	0.274	0.354	
	1st	LTE Band 13_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	2	23230	782	21.64	22.80	1.306			0	0.676	0.883	-0.88
08	2nd	LTE Band 13_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	2	23230	782	22.37	22.80	1.104			-0.02	0.653	0.721	
	1st	LTE Band 13_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	3	23230	782	21.64	22.10	1.112			0	0.676	0.752	-0.88
	2nd	LTE Band 13_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	3	23230	782	22.37	22.10	0.940			-0.02	0.653	0.614	
	1st	LTE Band 14_Ant 0	10M_QPSK_1_0	Left Cheek	0mm	2/3	23330	793	23.91	25.00	1.285			0.12	0.293	0.377	-0.09
	2nd	LTE Band 14_Ant 0	10M_QPSK_1_0	Left Cheek	0mm	2/3	23330	793	23.95	25.00	1.274			-0.03	0.290	0.369	
	1st	LTE Band 14_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	2	23330	793	21.82	23.10	1.343			-0.01	0.673	0.904	-0.03
09	2nd	LTE Band 14_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	2	23330	793	21.84	23.10	1.337			0	0.671	0.897	
	1st	LTE Band 14_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	3	23330	793	21.82	22.40	1.143			-0.01	0.673	0.769	-0.03
	2nd	LTE Band 14_Ant 1	10M_QPSK_1_0	Right Cheek	0mm	3	23330	793	21.84	22.40	1.138			0	0.671	0.763	
	1st	LTE Band 25_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	2/3	26340	1880	23.98	25.00	1.265			-0.14	0.531	0.672	-0.25
	2nd	LTE Band 25_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	2/3	26340	1880	24.00	25.00	1.259			-0.02	0.504	0.634	
	1st	LTE Band 25_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	26340	1880	23.75	25.00	1.334			0.01	0.034	0.045	-1.48
	2nd	LTE Band 25_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	26340	1880	23.79	25.00	1.321			0.11	0.024	0.032	
	1st	LTE Band 25_Ant 1	20M_QPSK_50_0	Right Cheek	0mm	2	26340	1880	15.5	16.6	1.288			0.03	0.703	0.906	-0.11
10	2nd	LTE Band 25_Ant 1	20M_QPSK_50_0	Right Cheek	0mm	2	26340	1880	15.44	16.6	1.306			0.03	0.677	0.884	
	1st	LTE Band 25_Ant 1	20M_QPSK_50_0	Right Cheek	0mm	3	26340	1880	15.5	15.9	1.096			0.03	0.703	0.771	-0.10
	2nd	LTE Band 25_Ant 1	20M_QPSK_50_0	Right Cheek	0mm	3	26340	1880	15.44	15.9	1.112			0.03	0.677	0.753	
	1st	LTE Band 25_Ant 5	20M_QPSK_1_0	Left Cheek	0mm	2	26590	1905	18.44	19.90	1.400			-0.04	0.610	0.854	-0.75
	2nd	LTE Band 25_Ant 5	20M_QPSK_1_0	Left Cheek	0mm	2	26590	1905	18.31	19.90	1.442			0.09	0.498	0.718	
	1st	LTE Band 25_Ant 5	20M_QPSK_1_0	Left Cheek	0mm	3	26340	1880	18.45	19.20	1.189			-0.09	0.604	0.718	-0.79
	2nd	LTE Band 25_Ant 5	20M_QPSK_1_0	Left Cheek	0mm	3	26340	1880	18.29	19.20	1.233			-0.19	0.486	0.599	
	1st	LTE Band 26_Ant 0	15M_QPSK_1_0	Left Cheek	0mm	2/3	26865	831.5	24.28	25.00	1.180			0.01	0.299	0.353	-0.19
	2nd	LTE Band 26_Ant 0	15M_QPSK_1_0	Left Cheek	0mm	2/3	26865	831.5	24.33	25.00	1.167			-0.02	0.290	0.338	
	1st	LTE Band 26_Ant 1	15M_QPSK_1_0	Right Cheek	0mm	2	26865	831.5	21.79	22.80	1.262			0.01	0.718	0.906	-0.20
11	2nd	LTE Band 26_Ant 1	15M_QPSK_1_0	Right Cheek	0mm	2	26865	831.5	21.80	22.80	1.259			-0.01	0.688	0.866	
	1st	LTE Band 26_Ant 1	15M_QPSK_1_0	Right Cheek	0mm	3	26865	831.5	21.79	22.10	1.074			0.01	0.718	0.771	-0.20
	2nd	LTE Band 26_Ant 1	15M_QPSK_1_0	Right Cheek	0mm	3	26865	831.5	21.80	22.10	1.072			-0.01	0.688	0.737	
	1st	LTE Band 30_Ant 2	10M_QPSK_1_0	Right Cheek	0mm	2/3	27710	2310	23.77	24.60	1.211			0.16	0.589	0.713	-1.04
12	2nd	LTE Band 30_Ant 2	10M_QPSK_1_0	Right Cheek	0mm	2/3	27710	2310	24.22	24.60	1.091			0.03	0.514	0.561	
	1st	LTE Band 30_Ant 0	10M_QPSK_1_0	Right Cheek	0mm	2/3	27710	2310	23.32	24.60	1.343			-0.12	0.094	0.126	-0.96
	2nd	LTE Band 30_Ant 0	10M_QPSK_1_0	Right Cheek	0mm	2/3	27710	2310	24.25	24.60	1.084			0.18	0.093	0.101	
	1st	LTE Band 41_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	2	40620	2593	23.94	25.00	1.276	62.9	1.006	-0.16	0.648	0.832	-0.42
13	2nd	LTE Band 41_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	2	40620	2593	24.08	25.00	1.236	62.9	1.006	-0.03	0.607	0.755	
	1st	LTE Band 41_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	3	40620	2593	23.94	24.30	1.086	62.9	1.006	-0.16	0.648	0.708	-0.42
	2nd	LTE Band 41_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	3	40620	2593	24.08	24.30	1.052	62.9	1.006	-0.03	0.607	0.642	
	1st	LTE Band 41_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	40620	2593	23.53	24.50	1.250	62.9	1.006	-0.11	0.126	0.158	-0.20
	2nd	LTE Band 41_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	40620	2593	23.46	24.50	1.271	62.9	1.006	0.05	0.118	0.151	
	1st	LTE Band 48_Ant 6	20M_QPSK_1_0	Left Cheek	0mm	2/3	55830	3609	22.72	23.50	1.197	62.9	1.006	-0.03	0.176	0.212	-0.78
	2nd	LTE Band 48_Ant 6	20M_QPSK_1_0	Left Cheek	0mm	2/3	55830	3609	22.66	23.50	1.213	62.9	1.006	0.06	0.145	0.177	
	1st	LTE Band 48_Ant 7	20M_QPSK_1_0	Right Cheek	0mm	2/3	55830	3609	23.27	24.00	1.183	62.9	1.006	-0.1	0.197	0.234	-1.09
14	2nd	LTE Band 48_Ant 7	20M_QPSK_1_0	Right Cheek	0mm	2/3	55830	3609	23.11	24.00	1.227	62.9	1.006	-0.13	0.147	0.182	
	1st	LTE Band 66_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	2/3	132322	1745	23.88	25.00	1.294			0.03	0.516	0.668	-0.14
	2nd	LTE Band 66_Ant 2	20M_QPSK_1_0	Right Cheek	0mm	2/3	132322	1745	23.82	25.00	1.312			-0.04	0.493	0.647	
	1st	LTE Band 66_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	132322	1745	23.77	25.00	1.327			-0.12	0.060	0.080	-0.17
	2nd	LTE Band 66_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	132322	1745	23.62	25.00	1.374			0.1	0.056	0.077	
	1st	LTE Band 66_Ant 1	20M_QPSK_1_0	Right Cheek	0mm	2	132572	1770	15.17	16.8	1.455			0	0.598	0.870	-0.21
15	2nd	LTE Band 66_Ant 1	20M_QPSK_1_0	Right Cheek	0mm	2	132572	1770	15.11	16.8	1.476			0.02	0.562	0.829	
	1st	LTE Band 66_Ant 1	20M_QPSK_1_0	Right Cheek	0mm	3	132322	1745	15.21	16.1	1.227			0.03	0.558	0.685	-1.26
	2nd	LTE Band 66_Ant 1	20M_QPSK_1_0	Right Cheek	0mm	3	132322	1745	15.08	16.1	1.265			0	0.406	0.513	
	1st	LTE Band 66_Ant 5	20M_QPSK_50_0	Left Cheek	0mm	2	132322	1745	18.16	19.20	1.271			0.06	0.678	0.861	-0.56
	2nd	LTE Band 66_Ant 5	20M_QPSK_50_0	Left Cheek	0mm	2	132322	1745	18.11	19.20	1.285			-0.02	0.589	0.757	

	1st	LTE Band 66_Ant 5	20M_QPSK_50_0	Left Cheek	0mm	3	132322	1745	18.16	18.50	1.081			0.06	0.678	0.733	-0.56
	2nd	LTE Band 66_Ant 5	20M_QPSK_50_0	Left Cheek	0mm	3	132322	1745	18.11	18.50	1.094			-0.02	0.589	0.644	
	1st	LTE Band 71_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	133297	680.5	24.00	25.00	1.259			0.14	0.264	0.332	-0.05
	2nd	LTE Band 71_Ant 0	20M_QPSK_1_0	Left Cheek	0mm	2/3	133297	680.5	24.01	25.00	1.256			0.11	0.261	0.328	
	1st	LTE Band 71_Ant 1	20M_QPSK_1_0	Right Cheek	0mm	2	133297	680.5	22.64	23.80	1.306			-0.01	0.703	0.918	-0.64
16	2nd	LTE Band 71_Ant 1	20M_QPSK_1_0	Right Cheek	0mm	2	133297	680.5	22.51	23.80	1.346			0.09	0.589	0.793	
	1st	LTE Band 71_Ant 1	20M_QPSK_1_0	Right Cheek	0mm	3	133297	680.5	22.64	23.10	1.112			-0.01	0.703	0.782	-0.64
	2nd	LTE Band 71_Ant 1	20M_QPSK_1_0	Right Cheek	0mm	3	133297	680.5	22.51	23.10	1.146			0.09	0.589	0.675	
	1st	FR1 n7_Ant 2	50M_BPSK_135_68	Right Cheek	0mm	2	507000	2535	21.26	22.90	1.459			-0.16	0.554	0.808	-0.63
17	2nd	FR1 n7_Ant 2	50M_BPSK_135_68	Right Cheek	0mm	2	507000	2535	21.11	22.90	1.510			0.02	0.463	0.699	
	1st	FR1 n7_Ant 2	50M_BPSK_135_68	Right Cheek	0mm	3	507000	2535	21.26	22.20	1.242			-0.16	0.554	0.688	-0.63
	2nd	FR1 n7_Ant 2	50M_BPSK_135_68	Right Cheek	0mm	3	507000	2535	21.11	22.20	1.285			0.02	0.463	0.595	
	1st	FR1 n7_Ant 0	50M_BPSK_1_1	Left Cheek	0mm	2/3	507000	2535	23.39	25.00	1.449			0.02	0.169	0.245	-0.95
	2nd	FR1 n7_Ant 0	50M_BPSK_1_1	Left Cheek	0mm	2/3	507000	2535	23.42	25.00	1.439			-0.15	0.137	0.197	
	1st	FR1 n12_Ant 0	15M_BPSK_1_1	Left Cheek	0mm	2/3	141500	707.5	24.35	25.00	1.161			0.01	0.250	0.290	-0.02
	2nd	FR1 n12_Ant 0	15M_BPSK_1_1	Left Cheek	0mm	2/3	141500	707.5	24.36	25.00	1.159			0.04	0.249	0.289	
	1st	FR1 n12_Ant 1	15M_BPSK_36_22	Right Cheek	0mm	2	141500	707.5	21.92	23.10	1.312			-0.15	0.699	0.917	-0.09
18	2nd	FR1 n12_Ant 1	15M_BPSK_36_22	Right Cheek	0mm	2	141500	707.5	21.97	23.10	1.297			-0.02	0.693	0.899	
	1st	FR1 n12_Ant 1	15M_BPSK_36_22	Right Cheek	0mm	3	141500	707.5	21.92	22.40	1.117			-0.15	0.699	0.781	-0.09
	2nd	FR1 n12_Ant 1	15M_BPSK_36_22	Right Cheek	0mm	3	141500	707.5	21.97	22.40	1.104			-0.02	0.693	0.765	
	1st	FR1 n14_Ant 0	10M_BPSK_1_1	Left Cheek	0mm	2/3	158600	793	24.28	25.00	1.180			0.03	0.292	0.345	-0.01
	2nd	FR1 n14_Ant 0	10M_BPSK_1_1	Left Cheek	0mm	2/3	158600	793	24.29	25.00	1.178			-0.01	0.292	0.344	
	1st	FR1 n14_Ant 1	10M_BPSK_25_14	Right Cheek	0mm	2	158600	793	21.80	23.30	1.413			0	0.618	0.873	-0.08
19	2nd	FR1 n14_Ant 1	10M_BPSK_25_14	Right Cheek	0mm	2	158600	793	21.86	23.30	1.393			0.02	0.615	0.857	
	1st	FR1 n14_Ant 1	10M_BPSK_25_14	Right Cheek	0mm	3	158600	793	21.80	22.60	1.202			0	0.618	0.743	-0.08
	2nd	FR1 n14_Ant 1	10M_BPSK_25_14	Right Cheek	0mm	3	158600	793	21.86	22.60	1.186			0.02	0.615	0.729	
	1st	FR1 n25_Ant 2	40M_BPSK_1_1	Right Cheek	0mm	2/3	376500	1882.5	24.03	25.00	1.250			0.14	0.540	0.675	-0.01
	2nd	FR1 n25_Ant 2	40M_BPSK_1_1	Right Cheek	0mm	2/3	376500	1882.5	23.96	25.00	1.271			-0.09	0.530	0.673	
	1st	FR1 n25_Ant 0	40M_BPSK_1_1	Left Cheek	0mm	2/3	376500	1882.5	23.71	25.00	1.346			0.01	0.081	0.109	-1.51
	2nd	FR1 n25_Ant 0	40M_BPSK_1_1	Left Cheek	0mm	2/3	376500	1882.5	23.68	25.00	1.355			-0.1	0.057	0.077	
	1st	FR1 n25_Ant 1	40M_BPSK_108_54	Right Cheek	0mm	2	376500	1882.5	14.5	16.3	1.514			0.01	0.576	0.872	-0.13
20	2nd	FR1 n25_Ant 1	40M_BPSK_108_54	Right Cheek	0mm	2	376500	1882.5	14.56	16.3	1.493			0.04	0.567	0.846	
	1st	FR1 n25_Ant 1	40M_BPSK_108_54	Right Cheek	0mm	3	376500	1882.5	14.5	15.6	1.288			0.01	0.576	0.742	-0.13
	2nd	FR1 n25_Ant 1	40M_BPSK_108_54	Right Cheek	0mm	3	376500	1882.5	14.56	15.6	1.271			0.04	0.567	0.720	
	1st	FR1 n25_Ant 5	40M_BPSK_108_54	Left Cheek	0mm	2	376500	1882.5	18.30	20.00	1.479			0.09	0.492	0.728	-0.60
	2nd	FR1 n25_Ant 5	40M_BPSK_108_54	Left Cheek	0mm	2	376500	1882.5	18.22	20.00	1.507			0.06	0.421	0.634	
	1st	FR1 n25_Ant 5	40M_BPSK_108_54	Left Cheek	0mm	3	376500	1882.5	18.30	19.30	1.259			0.09	0.492	0.619	-0.59
	2nd	FR1 n25_Ant 5	40M_BPSK_108_54	Left Cheek	0mm	3	376500	1882.5	18.22	19.30	1.282			0.06	0.421	0.540	
	1st	FR1 n26_Ant 0	20M_BPSK_1_1	Left Cheek	0mm	2/3	166300	831.5	24.28	25.00	1.180			0.02	0.325	0.384	-0.52
	2nd	FR1 n26_Ant 0	20M_BPSK_1_1	Left Cheek	0mm	2/3	166300	831.5	24.35	25.00	1.161			0.17	0.294	0.341	
	1st	FR1 n26_Ant 1	20M_BPSK_50_28	Right Cheek	0mm	2	166300	831.5	21.09	22.50	1.384			-0.08	0.665	0.920	-0.18
21	2nd	FR1 n26_Ant 1	20M_BPSK_50_28	Right Cheek	0mm	2	166300	831.5	21.06	22.50	1.393			0.06	0.634	0.883	
	1st	FR1 n26_Ant 1	20M_BPSK_50_28	Right Cheek	0mm	3	166300	831.5	21.09	21.80	1.178			-0.08	0.665	0.783	-0.18
	2nd	FR1 n26_Ant 1	20M_BPSK_50_28	Right Cheek	0mm	3	166300	831.5	21.06	21.80	1.186			0.06	0.634	0.752	
	1st	FR1 n30_Ant 2	10M_BPSK_1_1	Right Cheek	0mm	2/3	462000	2310	23.79	24.60	1.205			-0.13	0.569	0.686	-0.03
22	2nd	FR1 n30_Ant 2	10M_BPSK_1_1	Right Cheek	0mm	2/3	462000	2310	23.76	24.60	1.213			-0.05	0.562	0.682	
	1st	FR1 n30_Ant 0	10M_BPSK_1_1	Right Cheek	0mm	2/3	462000	2310	23.35	24.60	1.334			-0.18	0.094	0.125	-0.21
	2nd	FR1 n30_Ant 0	10M_BPSK_1_1	Right Cheek	0mm	2/3	462000	2310	23.47	24.60	1.297			0.07	0.092	0.119	
	1st	FR1 n38_Ant 0	40M_BPSK_1_1	Left Cheek	0mm	2/3	519000	2595	23.38	25.00	1.452			0.02	0.101	0.147	-0.64
23	2nd	FR1 n38_Ant 0	40M_BPSK_1_1	Left Cheek	0mm	2/3	519000	2595	23.19	25.00	1.517			0.02	0.084	0.127	
	1st	FR1 n41_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	2	518598	2592.99	21.90	23.30	1.380			0.07	0.587	0.810	-0.65
	2nd	FR1 n41_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	2	518598	2592.99	21.84	23.30	1.400			0.08	0.499	0.698	
	1st	FR1 n41_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	3	518598	2592.99	21.90	22.60	1.175			0.07	0.587	0.690	-0.65
	2nd	FR1 n41_Ant 2	100M_BPSK_1_1	Right Cheek	0mm	3	518598	2592.99	21.84	22.60	1.191			0.08	0.499	0.594	
	1st	FR1 n41_Ant 0	100M_BPSK_1_1	Left Cheek	0mm	2/3	518598	2592.99	23.61	24.50	1.227			-0.03	0.197	0.242	-0.13
	2nd	FR1 n41_Ant 0	100M_BPSK_1_1	Left Cheek	0mm	2/3	518598	2592.99	23.65	24.50	1.216			-0.06	0.193	0.235	

	1st	FR1 n41_Ant 1	100M_BPSK_1_1	Right Cheek	0mm	2	518598	2592.99	17.22	18.2	1.253			-0.09	0.734	0.920	-0.31
24	2nd	FR1 n41_Ant 1	100M_BPSK_1_1	Right Cheek	0mm	2	518598	2592.99	17.17	18.2	1.268			-0.1	0.676	0.857	
	1st	FR1 n41_Ant 1	100M_BPSK_1_1	Right Cheek	0mm	3	518598	2592.99	17.22	17.5	1.067			-0.09	0.734	0.783	-0.31
	2nd	FR1 n41_Ant 1	100M_BPSK_1_1	Right Cheek	0mm	3	518598	2592.99	17.17	17.5	1.079			-0.1	0.676	0.729	
	1st	FR1 n41_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	2	518598	2592.99	17.00	18.50	1.413			-0.15	0.606	0.856	-0.26
	2nd	FR1 n41_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	2	518598	2592.99	16.98	18.50	1.419			0.11	0.569	0.807	
	1st	FR1 n41_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	3	518598	2592.99	17.00	17.80	1.202			-0.15	0.606	0.729	-0.26
	2nd	FR1 n41_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	3	518598	2592.99	16.98	17.80	1.208			0.11	0.569	0.687	
	1st	FR1 n66_Ant 2	40M_BPSK_108_54	Right Cheek	0mm	2/3	349000	1745	23.84	25.00	1.306			0.18	0.427	0.558	-0.15
	2nd	FR1 n66_Ant 2	40M_BPSK_108_54	Right Cheek	0mm	2/3	349000	1745	23.95	25.00	1.274			0.18	0.423	0.539	
	1st	FR1 n66_Ant 0	40M_BPSK_108_54	Left Cheek	0mm	2/3	349000	1745	23.57	25.00	1.390			0.1	0.105	0.146	-0.37
	2nd	FR1 n66_Ant 0	40M_BPSK_108_54	Left Cheek	0mm	2/3	349000	1745	23.46	25.00	1.426			-0.02	0.094	0.134	
	1st	FR1 n66_Ant 1	40M_BPSK_108_54	Right Cheek	0mm	2	349000	1745	15.67	17.3	1.455			0.01	0.581	0.846	-0.23
	2nd	FR1 n66_Ant 1	40M_BPSK_108_54	Right Cheek	0mm	2	349000	1745	15.55	17.3	1.496			0.01	0.537	0.803	
	1st	FR1 n66_Ant 1	40M_BPSK_108_54	Right Cheek	0mm	3	349000	1745	15.67	16.6	1.239			0.01	0.581	0.720	-0.22
	2nd	FR1 n66_Ant 1	40M_BPSK_108_54	Right Cheek	0mm	3	349000	1745	15.55	16.6	1.274			0.01	0.537	0.684	
	1st	FR1 n66_Ant 5	40M_BPSK_108_54	Left Cheek	0mm	2	349000	1745	18.95	19.80	1.216			0.06	0.710	0.863	-0.26
25	2nd	FR1 n66_Ant 5	40M_BPSK_108_54	Left Cheek	0mm	2	349000	1745	18.88	19.80	1.236			0.13	0.657	0.812	
	1st	FR1 n66_Ant 5	40M_BPSK_108_54	Left Cheek	0mm	3	349000	1745	18.95	19.10	1.035			0.06	0.710	0.735	-0.27
	2nd	FR1 n66_Ant 5	40M_BPSK_108_54	Left Cheek	0mm	3	349000	1745	18.88	19.10	1.052			0.13	0.657	0.691	
	1st	FR1 n71_Ant 0	20M_BPSK_50_28	Left Cheek	0mm	2/3	136100	680.5	24.46	25.00	1.132			0.01	0.241	0.273	-0.13
	2nd	FR1 n71_Ant 0	20M_BPSK_50_28	Left Cheek	0mm	2/3	136100	680.5	24.58	25.00	1.102			0.01	0.241	0.265	
	1st	FR1 n71_Ant 1	20M_BPSK_50_28	Right Cheek	0mm	2	136100	680.5	22.60	23.30	1.175			0.15	0.785	0.922	-0.17
26	2nd	FR1 n71_Ant 1	20M_BPSK_50_28	Right Cheek	0mm	2	136100	680.5	22.65	23.30	1.161			0.09	0.764	0.887	
	1st	FR1 n71_Ant 1	20M_BPSK_50_28	Right Cheek	0mm	3	136100	680.5	22.60	22.60	1.000			0.15	0.785	0.785	-0.17
	2nd	FR1 n71_Ant 1	20M_BPSK_50_28	Right Cheek	0mm	3	136100	680.5	22.65	22.60	0.989			0.09	0.764	0.755	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	2/3	656000	3840	24.25	25.00	1.189			0.09	0.457	0.543	-0.16
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	2/3	656000	3840	24.31	25.00	1.172			0.05	0.446	0.523	
	1st	FR1 n77_Ant 7	100M_BPSK_1_137	Right Cheek	0mm	2/3	656000	3840	23.62	24.40	1.197			-0.07	0.257	0.308	-0.92
	2nd	FR1 n77_Ant 7	100M_BPSK_1_137	Right Cheek	0mm	2/3	656000	3840	23.55	24.40	1.216			-0.08	0.205	0.249	
	1st	FR1 n77_Ant 1	100M_BPSK_135_69	Right Cheek	0mm	2	656000	3840	15.95	16.7	1.189			0.06	0.653	0.776	-0.46
	2nd	FR1 n77_Ant 1	100M_BPSK_135_69	Right Cheek	0mm	2	656000	3840	15.88	16.7	1.208			-0.03	0.578	0.698	
	1st	FR1 n77_Ant 1	100M_BPSK_135_69	Right Cheek	0mm	3	656000	3840	15.95	16	1.012			0.06	0.653	0.661	-0.46
	2nd	FR1 n77_Ant 1	100M_BPSK_135_69	Right Cheek	0mm	3	656000	3840	15.88	16	1.028			-0.03	0.578	0.594	
	1st	FR1 n77_Ant 5	100M_BPSK_135_69	Left Cheek	0mm	2	656000	3840	18.50	19.40	1.230			0.08	0.695	0.855	-0.31
	2nd	FR1 n77_Ant 5	100M_BPSK_135_69	Left Cheek	0mm	2	656000	3840	18.44	19.40	1.247			-0.09	0.638	0.796	
	1st	FR1 n77_Ant 5	100M_BPSK_135_69	Left Cheek	0mm	3	656000	3840	18.50	18.70	1.047			0.08	0.695	0.728	-0.32
	2nd	FR1 n77_Ant 5	100M_BPSK_135_69	Left Cheek	0mm	3	656000	3840	18.44	18.70	1.062			-0.09	0.638	0.677	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	2/3	633332	3499.98	24.20	25.00	1.202			-0.01	0.493	0.593	-0.62
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Left Cheek	0mm	2/3	633332	3499.98	24.11	25.00	1.227			-0.14	0.419	0.514	
	1st	FR1 n77_Ant 7	100M_BPSK_1_137	Right Cheek	0mm	2/3	633332	3499.98	23.62	24.40	1.197			-0.04	0.104	0.124	-1.34
	2nd	FR1 n77_Ant 7	100M_BPSK_1_137	Right Cheek	0mm	2/3	633332	3499.98	23.51	24.40	1.227			-0.12	0.074	0.091	
	1st	FR1 n77_Ant 1	100M_BPSK_1_1	Left Tilted	0mm	2	633332	3499.98	15.95	16.7	1.189			0.13	0.830	0.986	-0.23
27	2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Left Tilted	0mm	2	633332	3499.98	15.88	16.7	1.208			0.04	0.774	0.935	
	1st	FR1 n77_Ant 1	100M_BPSK_1_1	Left Tilted	0mm	3	633332	3499.98	15.95	16	1.012			0.13	0.830	0.840	-0.23
	2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Left Tilted	0mm	3	633332	3499.98	15.88	16	1.028			0.04	0.774	0.796	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	2	633332	3499.98	18.70	19.40	1.175			0.04	0.727	0.854	-0.66
	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	2	633332	3499.98	18.61	19.40	1.199			-0.16	0.612	0.734	
	1st	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	3	633332	3499.98	18.70	18.70	1.000			0.04	0.727	0.727	-0.66
	2nd	FR1 n77_Ant 5	100M_BPSK_1_1	Left Cheek	0mm	3	633332	3499.98	18.61	18.70	1.021			-0.16	0.612	0.625	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (dB)
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	1	11	2462	17.45	19.00	1.429	100.00	1.000	0.05	0.781	1.116	-0.89
	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	1	11	2462	17.45	19.00	1.429	100.00	1.000	-0.08	0.637	0.910	
	1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	1	11	2462	17.38	19.00	1.452	100.00	1.000	0.04	0.764	1.109	-0.79
28	2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	1	11	2462	17.38	19.00	1.452	100.00	1.000	0.09	0.637	0.925	
	1st	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 3+4(3)	1	6	2437	17.85	19.00	1.303	100.00	1.000	0.09	0.385	0.502	-0.32
		WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 3+4(4)	1	6	2437	18.08	19.00	1.236	100.00	1.000	0.09	0.769	0.950	
	2nd	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 3+4(3)	1	6	2437	17.95	19.00	1.274	100.00	1.000	-0.08	0.531	0.676	
		WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 3+4(4)	1	6	2437	18.08	19.00	1.236	100.00	1.000	-0.08	0.714	0.882	
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	2	11	2462	17.45	18.00	1.135	100.00	1.000	0.05	0.781	0.886	-0.88
	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	2	11	2462	17.45	18.00	1.135	100.00	1.000	-0.08	0.637	0.723	
	1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	2	11	2462	17.38	18.00	1.153	100.00	1.000	0.04	0.764	0.881	-0.79
	2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	2	11	2462	17.38	18.00	1.153	100.00	1.000	0.09	0.637	0.735	
	1st	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(3)	2	1	2412	16.95	18.00	1.274	100.00	1.000	-0.03	0.518	0.660	-0.49
		WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(4)	2	1	2412	17.38	18.00	1.153	100.00	1.000	-0.03	0.228	0.263	
	2nd	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(3)	2	1	2412	16.95	18.00	1.274	100.00	1.000	0.02	0.463	0.590	
		WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(4)	2	1	2412	17.38	18.00	1.153	100.00	1.000	0.02	0.304	0.351	
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	3	1	2412	12.95	14.50	1.429	100.00	1.000	-0.19	0.228	0.326	-1.44
	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	3	1	2412	12.95	14.50	1.429	100.00	1.000	-0.14	0.164	0.234	
	1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	3	12	2467	13.18	14.50	1.355	100.00	1.000	-0.13	0.211	0.286	-0.15
	2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	3	12	2467	13.18	14.50	1.355	100.00	1.000	-0.19	0.204	0.276	
	1st	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(3)	3	12	2467	12.97	14.50	1.422	100.00	1.000	0.12	0.269	0.383	-0.66
		WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(4)	3	12	2467	13.58	14.50	1.236	100.00	1.000	0.12	0.144	0.178	
	2nd	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(3)	3	12	2467	12.97	14.50	1.422	100.00	1.000	-0.17	0.231	0.329	
		WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(4)	3	12	2467	13.58	14.50	1.236	100.00	1.000	-0.17	0.169	0.209	
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	4	1	2412	12.05	12.50	1.109	100.00	1.000	-0.19	0.185	0.205	-1.41
	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	4	1	2412	12.05	12.50	1.109	100.00	1.000	-0.14	0.133	0.148	
	1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	4	12	2467	12.48	12.50	1.005	100.00	1.000	-0.13	0.179	0.180	-0.15
	2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	4	12	2467	12.48	12.50	1.005	100.00	1.000	-0.19	0.173	0.174	
	1st	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(3)	4	12	2467	12.25	12.50	1.059	100.00	1.000	0.12	0.212	0.225	-0.67
		WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(4)	4	12	2467	12.38	12.50	1.028	100.00	1.000	0.12	0.109	0.112	
	2nd	WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(3)	4	12	2467	12.25	12.50	1.059	100.00	1.000	-0.17	0.182	0.193	
		WLAN2.4GHz	802.11g 6Mbps	Right Cheek	0mm	Ant 3+4(4)	4	12	2467	12.38	12.50	1.028	100.00	1.000	-0.17	0.128	0.132	
	1st	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(3)	1	46	5230	15.85	17.00	1.303	99.13	1.009	0	0.721	0.948	-0.87
		WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	1	46	5230	15.28	17.00	1.486	99.13	1.009	0	0.001	0.001	
29	2nd	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(3)	1	46	5230	15.85	17.00	1.303	99.13	1.009	0.16	0.590	0.776	
		WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	1	46	5230	15.28	17.00	1.486	99.13	1.009	0.16	0.001	0.001	
	1st	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(3)	2	54	5270	14.05	14.50	1.109	99.13	1.009	-0.17	0.589	0.659	-1.10
		WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	2	54	5270	13.38	14.50	1.294	99.13	1.009	-0.17	0.001	0.001	
	2nd	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(3)	2	54	5270	14.05	14.50	1.109	99.13	1.009	-0.11	0.457	0.511	
		WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	2	54	5270	13.38	14.50	1.294	99.13	1.009	-0.11	0.001	0.001	
	1st	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(3)	3/4	54	5270	9.55	10.00	1.109	99.13	1.009	0.15	0.200	0.224	-1.41
		WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	3/4	54	5270	9.18	10.00	1.208	99.13	1.009	0.15	0.001	0.001	
	2nd	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(3)	3/4	54	5270	9.55	10.00	1.109	99.13	1.009	0.08	0.145	0.162	
		WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	3/4	54	5270	9.18	10.00	1.208	99.13	1.009	0.08	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	1	122	5610	13.55	14.50	1.245	97.77	1.023	0.02	0.776	0.988	-1.06
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	1	122	5610	13.88	14.50	1.153	97.77	1.023	0.02	0.001	0.001	
30	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	1	122	5610	13.55	14.50	1.245	97.77	1.023	-0.01	0.608	0.774	
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	1	122	5610	13.88	14.50	1.153	97.77	1.023	-0.01	0.306	0.361	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	2	138	5690	12.55	13.00	1.109	97.77	1.023	0.19	0.585	0.664	-1.18
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	2	138	5690	12.98	13.00	1.005	97.77	1.023	0.19	0.001	0.001	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	2	138	5690	12.55	13.00	1.109	97.77	1.023	0.18	0.446	0.506	
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	2	138	5690	12.98	13.00	1.005	97.77	1.023	0.18	0.001	0.001	

	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	3/4	138	5690	7.25	8.50	1.334	97.77	1.023	-0.19	0.162	0.221	-1.17
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	3/4	138	5690	8.50	8.50	1.000	97.77	1.023	-0.19	0.001	0.001	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	3/4	138	5690	7.25	8.50	1.334	97.77	1.023	0.13	0.124	0.169	
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	3/4	138	5690	8.50	8.50	1.000	97.77	1.023	0.13	0.001	0.001	
	1st	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(3)	1	159	5795	15.25	16.00	1.189	97.77	1.023	0.12	0.926	1.126	-0.92
		WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	1	159	5795	15.68	16.00	1.076	97.77	1.023	0.12	0.001	0.001	
31	2nd	WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(3)	1	159	5795	15.25	16.00	1.189	97.77	1.023	0.14	0.749	0.911	
		WLAN5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	1	159	5795	15.68	16.00	1.076	97.77	1.023	0.14	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	2	155	5775	13.75	14.00	1.059	97.77	1.023	0.17	0.563	0.610	-0.58
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	2	155	5775	13.78	14.00	1.052	97.77	1.023	0.17	0.001	0.001	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	2	155	5775	13.75	14.00	1.059	97.77	1.023	0.15	0.493	0.534	
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	2	155	5775	13.78	14.00	1.052	97.77	1.023	0.15	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	3/4	155	5775	8.65	9.50	1.216	97.77	1.023	0.1	0.188	0.234	-0.68
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	3/4	155	5775	9.28	9.50	1.052	97.77	1.023	0.1	0.001	0.001	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	3/4	155	5775	8.65	9.50	1.216	97.77	1.023	0.01	0.161	0.200	
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	3/4	155	5775	9.28	9.50	1.052	97.77	1.023	0.01	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	1	171	5855	14.85	15.50	1.161	97.75	1.023	0.16	0.866	1.029	-0.99
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	1	171	5855	15.08	15.50	1.102	97.75	1.023	0.16	0.001	0.001	
32	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(3)	1	171	5855	14.85	15.50	1.161	97.75	1.023	0.17	0.689	0.819	
		WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	1	171	5855	15.08	15.50	1.102	97.75	1.023	0.17	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 3+4(3)	2	163	5815	12.35	13.00	1.161	95.80	1.044	0.09	0.428	0.519	-0.59
		WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 3+4(4)	2	163	5815	12.48	13.00	1.127	95.80	1.044	0.09	0.001	0.001	
	2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 3+4(3)	2	163	5815	12.35	13.00	1.161	95.80	1.044	0.16	0.374	0.453	
		WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 3+4(4)	2	163	5815	12.48	13.00	1.127	95.80	1.044	0.16	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 3+4(3)	3/4	163	5815	9.35	9.50	1.035	95.80	1.044	0.14	0.223	0.241	-0.52
		WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 3+4(4)	3/4	163	5815	9.08	9.50	1.102	95.80	1.044	0.14	0.001	0.001	
	2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 3+4(3)	3/4	163	5815	9.35	9.50	1.035	95.80	1.044	0.08	0.198	0.214	
		WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 3+4(4)	3/4	163	5815	9.08	9.50	1.102	95.80	1.044	0.08	0.001	0.001	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Measured APD (W/m^2)	Reported APD (W/m^2)	Deviation (dB)
	1st	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 3+4(3)	1/2	207	6985	15.80	17.50	1.479	95.33	1.049	0.06	0.099	0.154	0.664	1.030	
		WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 3+4(4)	1/2	207	6985	17.07	17.50	1.104	95.33	1.049	0.06	0.546	0.632	4.090	4.737	-0.05
33	2nd	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 3+4(3)	1/2	207	6985	15.80	17.50	1.479	95.33	1.049	0.11	0.228	0.354	1.500	2.327	
		WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 3+4(4)	1/2	207	6985	17.07	17.50	1.104	95.33	1.049	0.11	0.540	0.625	3.680	4.262	
	1st	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 3+4(3)	3/4	207	6985	11.30	12.00	1.175	95.33	1.049	-0.1	0.001	0.001	0.001	0.001	
		WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 3+4(4)	3/4	207	6985	11.87	12.00	1.030	95.33	1.049	-0.1	0.197	0.213	1.438	1.554	-0.02
	2nd	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 3+4(3)	3/4	207	6985	11.30	12.00	1.175	95.33	1.049	0.18	0.063	0.078	1.389	1.712	
		WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 3+4(4)	3/4	207	6985	11.87	12.00	1.030	95.33	1.049	0.18	0.196	0.212	0.381	0.412	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (dB)
	1st	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3	1	0	2402	11.25	12.00	1.189	77.13	1.080	0.19	0.130	0.167	-0.44
	2nd	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3	1	0	2402	11.25	12.00	1.189	77.13	1.080	-0.04	0.118	0.151	
	1st	Bluetooth	1Mbps	Left Cheek	0mm	Ant 4	1	0	2402	11.98	12.00	1.005	77.13	1.080	-0.01	0.175	0.190	-0.36
34	2nd	Bluetooth	1Mbps	Left Cheek	0mm	Ant 4	1	0	2402	11.98	12.00	1.005	77.13	1.080	0.07	0.161	0.175	
	1st	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3+4(3)	1	0	2402	11.25	12.00	1.189	77.13	1.080	0.04	0.147	0.189	-0.38
		Bluetooth	1Mbps	Right Cheek	0mm	Ant 3+4(4)	1	0	2402	11.98	12.00	1.005	77.13	1.080	0.04	0.075	0.081	
	2nd	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3+4(3)	1	0	2402	11.25	12.00	1.189	77.13	1.080	-0.06	0.135	0.173	
		Bluetooth	1Mbps	Right Cheek	0mm	Ant 3+4(4)	1	0	2402	11.98	12.00	1.005	77.13	1.080	-0.06	0.058	0.063	
	1st	Thread		Right Cheek	0mm	Ant 3	1	25	2475	10.25	11.00	1.189	90	1.000	-0.01	0.133	0.158	-0.53
35	2nd	Thread		Right Cheek	0mm	Ant 3	1	25	2475	10.25	11.00	1.189	90	1.000	-0.01	0.118	0.140	

16.2 Hotspot SAR

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (dB)
	1st	GSM850_Ant 0	GPRS (4 Tx slots)	Back	10mm	4	189	836.4	26.84	27.80	1.247			0	0.479	0.597	-0.10
36	2nd	GSM850_Ant 0	GPRS (4 Tx slots)	Back	10mm	4	189	836.4	26.75	27.80	1.274			0.01	0.458	0.583	
	1st	GSM850_Ant 1	GPRS (4 Tx slots)	Back	10mm	4	189	836.4	28.60	29.50	1.230			-0.05	0.408	0.502	-0.22
	2nd	GSM850_Ant 1	GPRS (4 Tx slots)	Back	10mm	4	189	836.4	28.54	29.50	1.247			0.1	0.382	0.477	
	1st	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Side	10mm	4	661	1880	23.93	24.70	1.194			0.13	0.590	0.704	-0.19
37	2nd	GSM1900_Ant 2	GPRS (4 Tx slots)	Right Side	10mm	4	661	1880	23.96	24.70	1.186			0.07	0.568	0.674	
	1st	GSM1900_Ant 0	GPRS (4 Tx slots)	Bottom Side	10mm	4	661	1880	20.25	21.25	1.259			0.02	0.603	0.759	-0.86
	2nd	GSM1900_Ant 0	GPRS (4 Tx slots)	Bottom Side	10mm	4	661	1880	20.11	21.25	1.300			0.1	0.479	0.623	
	1st	WCDMA II_Ant 2	RMC 12.2Kbps	Right Side	10mm	4	9400	1880	20.49	21.60	1.291			0	0.476	0.615	-0.28
	2nd	WCDMA II_Ant 2	RMC 12.2Kbps	Right Side	10mm	4	9400	1880	20.38	21.60	1.324			0	0.436	0.577	
	1st	WCDMA II_Ant 0	RMC 12.2Kbps	Bottom Side	10mm	4	9400	1880	17.00	18.65	1.462			0.01	0.580	0.848	-0.95
38	2nd	WCDMA II_Ant 0	RMC 12.2Kbps	Bottom Side	10mm	4	9400	1880	16.88	18.65	1.503			-0.02	0.453	0.681	
	1st	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Side	10mm	4	1413	1732.6	21.21	22.20	1.256			-0.03	0.448	0.563	-0.22
	2nd	WCDMA IV_Ant 2	RMC 12.2Kbps	Right Side	10mm	4	1413	1732.6	21.16	22.20	1.271			-0.01	0.421	0.535	
	1st	WCDMA IV_Ant 0	RMC 12.2Kbps	Bottom Side	10mm	4	1413	1732.6	18.22	18.95	1.183			-0.04	0.702	0.830	-0.41
39	2nd	WCDMA IV_Ant 0	RMC 12.2Kbps	Bottom Side	10mm	4	1413	1732.6	18.17	18.95	1.197			-0.02	0.631	0.755	
	1st	WCDMA V_Ant 0	RMC 12.2Kbps	Back	10mm	4	4182	836.4	24.14	24.70	1.138			-0.02	0.584	0.664	-0.03
40	2nd	WCDMA V_Ant 0	RMC 12.2Kbps	Back	10mm	4	4182	836.4	24.17	24.70	1.130			-0.03	0.583	0.659	
	1st	WCDMA V_Ant 1	RMC 12.2Kbps	Back	10mm	4	4182	836.4	24.28	25.00	1.180			-0.02	0.392	0.463	-0.08
	2nd	WCDMA V_Ant 1	RMC 12.2Kbps	Back	10mm	4	4182	836.4	24.30	25.00	1.175			-0.04	0.387	0.455	
	1st	LTE Band 7_Ant 2	20M_QPSK_50_0	Right Side	10mm	4	21100	2535	19.71	20.60	1.227			-0.03	0.603	0.740	-0.25
	2nd	LTE Band 7_Ant 2	20M_QPSK_50_0	Right Side	10mm	4	21100	2535	19.73	20.60	1.222			-0.11	0.572	0.699	
	1st	LTE Band 7_Ant 0	20M_QPSK_1_0	Bottom Side	10mm	4	21100	2535	17.31	18.65	1.361			-0.09	0.553	0.753	-0.16
41	2nd	LTE Band 7_Ant 0	20M_QPSK_1_0	Bottom Side	10mm	4	21100	2535	17.44	18.65	1.321			-0.06	0.549	0.725	
	1st	LTE Band 12_Ant 0	10M_QPSK_1_0	Left Side	10mm	4	23095	707.5	23.98	25.00	1.265			0.03	0.422	0.534	-0.18
42	2nd	LTE Band 12_Ant 0	10M_QPSK_1_0	Left Side	10mm	4	23095	707.5	23.94	25.00	1.276			-0.02	0.401	0.512	
	1st	LTE Band 12_Ant 1	10M_QPSK_1_0	Left Side	10mm	4	23095	707.5	23.82	25.00	1.312			0.01	0.267	0.350	-0.31
	2nd	LTE Band 12_Ant 1	10M_QPSK_1_0	Left Side	10mm	4	23095	707.5	23.71	25.00	1.346			-0.01	0.242	0.326	
	1st	LTE Band 13_Ant 0	10M_QPSK_1_0	Left Side	10mm	4	23230	782	23.90	25.00	1.288			-0.01	0.555	0.715	-0.30
43	2nd	LTE Band 13_Ant 0	10M_QPSK_1_0	Left Side	10mm	4	23230	782	23.89	25.00	1.291			-0.04	0.517	0.668	
	1st	LTE Band 13_Ant 1	10M_QPSK_1_0	Back	10mm	4	23230	782	23.97	25.00	1.268			-0.06	0.307	0.389	-0.12
	2nd	LTE Band 13_Ant 1	10M_QPSK_1_0	Back	10mm	4	23230	782	23.95	25.00	1.274			-0.08	0.297	0.378	
	1st	LTE Band 14_Ant 0	10M_QPSK_1_0	Back	10mm	4	23330	793	23.91	25.00	1.285			0	0.482	0.620	-0.17
44	2nd	LTE Band 14_Ant 0	10M_QPSK_1_0	Back	10mm	4	23330	793	23.95	25.00	1.274			0.05	0.468	0.596	
	1st	LTE Band 14_Ant 1	10M_QPSK_1_0	Back	10mm	4	23330	793	23.82	25.00	1.312			0.01	0.310	0.407	-0.11
	2nd	LTE Band 14_Ant 1	10M_QPSK_1_0	Back	10mm	4	23330	793	23.85	25.00	1.303			0.04	0.305	0.397	
	1st	LTE Band 25_Ant 2	20M_QPSK_1_0	Right Side	10mm	4	26340	1880	19.70	20.80	1.288			0	0.421	0.542	-0.21
	2nd	LTE Band 25_Ant 2	20M_QPSK_1_0	Right Side	10mm	4	26340	1880	19.75	20.80	1.274			0	0.405	0.516	
	1st	LTE Band 25_Ant 0	20M_QPSK_1_0	Bottom Side	10mm	4	26340	1880	16.65	18.35	1.479			0.04	0.395	0.584	-0.94
	2nd	LTE Band 25_Ant 0	20M_QPSK_1_0	Bottom Side	10mm	4	26340	1880	16.58	18.35	1.503			0.06	0.313	0.470	
	1st	LTE Band 25_Ant 1	20M_QPSK_1_0	Top Side	10mm	4	26340	1880	20.45	21.5	1.274			0	0.566	0.721	-1.39
45	2nd	LTE Band 25_Ant 1	20M_QPSK_1_0	Top Side	10mm	4	26340	1880	20.33	21.5	1.309			0	0.400	0.524	
	1st	LTE Band 25_Ant 5	20M_QPSK_1_0	Right Side	10mm	4	26340	1880	22.97	24.30	1.358			-0.03	0.376	0.511	-0.43
	2nd	LTE Band 25_Ant 5	20M_QPSK_1_0	Right Side	10mm	4	26340	1880	23.12	24.30	1.312			0.03	0.353	0.463	
	1st	LTE Band 26_Ant 0	15M_QPSK_1_0	Back	10mm	4	26865	831.5	24.28	24.80	1.127			0	0.665	0.750	-0.16
46	2nd	LTE Band 26_Ant 0	15M_QPSK_1_0	Back	10mm	4	26865	831.5	24.30	24.80	1.122			0.01	0.644	0.723	
	1st	LTE Band 26_Ant 1	15M_QPSK_1_0	Back	10mm	4	26865	831.5	24.15	25.00	1.216			0	0.393	0.478	-0.34
	2nd	LTE Band 26_Ant 1	15M_QPSK_1_0	Back	10mm	4	26865	831.5	24.14	25.00	1.219			0.01	0.363	0.442	
	1st	LTE Band 30_Ant 2	10M_QPSK_1_0	Right Side	10mm	4	27710	2310	20.47	21.30	1.211			-0.04	0.513	0.621	-0.05
	2nd	LTE Band 30_Ant 2	10M_QPSK_1_0	Right Side	10mm	4	27710	2310	20.41	21.30	1.227			-0.05	0.500	0.614	
	1st	LTE Band 30_Ant 0	10M_QPSK_1_0	Bottom Side	10mm	4	27710	2310	17.55	19.25	1.479			-0.1	0.572	0.846	-0.04
47	2nd	LTE Band 30_Ant 0	10M_QPSK_1_0	Bottom Side	10mm	4	27710	2310	17.47	19.25	1.507			-0.01	0.557	0.839	

	1st	LTE Band 41_Ant 2	20M_QPSK_1_0	Right Side	10mm	4	40620	2593	23.51	23.60	1.021	62.9	1.006	-0.03	0.731	0.751	-0.25
	2nd	LTE Band 41_Ant 2	20M_QPSK_1_0	Right Side	10mm	4	40620	2593	23.47	23.60	1.030	62.9	1.006	-0.1	0.684	0.709	
	1st	LTE Band 41_Ant 0	20M_QPSK_1_0	Bottom Side	10mm	4	40620	2593	19.88	21.15	1.340	62.9	1.006	-0.01	0.587	0.791	-0.13
48	2nd	LTE Band 41_Ant 0	20M_QPSK_1_0	Bottom Side	10mm	4	40620	2593	19.76	21.15	1.377	62.9	1.006	0.03	0.554	0.768	
	1st	LTE Band 48_Ant 6	20M_QPSK_1_0	Left Side	10mm	4	55830	3609	21.16	21.90	1.186	62.9	1.006	0	0.507	0.605	-0.54
	2nd	LTE Band 48_Ant 6	20M_QPSK_1_0	Left Side	10mm	4	55830	3609	21.35	21.90	1.135	62.9	1.006	0.01	0.468	0.534	
	1st	LTE Band 48_Ant 7	20M_QPSK_1_0	Right Side	10mm	4	55830	3609	22.50	23.50	1.259	62.9	1.006	0	0.437	0.553	-0.04
49	2nd	LTE Band 48_Ant 7	20M_QPSK_1_0	Right Side	10mm	4	55830	3609	22.44	23.50	1.276	62.9	1.006	0.02	0.427	0.548	
	1st	LTE Band 66_Ant 2	20M_QPSK_1_0	Right Side	10mm	4	132322	1745	20.91	21.90	1.256			-0.02	0.311	0.391	-0.04
	2nd	LTE Band 66_Ant 2	20M_QPSK_1_0	Right Side	10mm	4	132322	1745	20.82	21.90	1.282			-0.02	0.302	0.387	
	1st	LTE Band 66_Ant 0	20M_QPSK_1_0	Bottom Side	10mm	4	132322	1745	18.67	19.15	1.117			0.15	0.748	0.835	-0.03
50	2nd	LTE Band 66_Ant 0	20M_QPSK_1_0	Bottom Side	10mm	4	132322	1745	18.68	19.15	1.114			0.05	0.744	0.829	
	1st	LTE Band 66_Ant 1	20M_QPSK_50_0	Back	10mm	4	132572	1770	21.58	22.4	1.208			0.01	0.699	0.844	-0.76
	2nd	LTE Band 66_Ant 1	20M_QPSK_50_0	Back	10mm	4	132572	1770	21.46	22.4	1.242			0	0.571	0.709	
	1st	LTE Band 66_Ant 5	20M_QPSK_1_0	Right Side	10mm	4	132322	1745	23.01	24.40	1.377			0	0.558	0.768	-0.38
	2nd	LTE Band 66_Ant 5	20M_QPSK_1_0	Right Side	10mm	4	132322	1745	23.12	24.40	1.343			0	0.524	0.704	
	1st	LTE Band 71_Ant 0	20M_QPSK_1_0	Left Side	10mm	4	133297	680.5	24.00	25.00	1.259			0.05	0.383	0.482	-0.07
51	2nd	LTE Band 71_Ant 0	20M_QPSK_1_0	Left Side	10mm	4	133297	680.5	24.01	25.00	1.256			-0.02	0.377	0.474	
	1st	LTE Band 71_Ant 1	20M_QPSK_1_0	Left Side	10mm	4	133297	680.5	24.45	25.00	1.135			-0.04	0.267	0.303	-0.07
	2nd	LTE Band 71_Ant 1	20M_QPSK_1_0	Left Side	10mm	4	133297	680.5	24.22	25.00	1.197			0.05	0.249	0.298	
	1st	FR1 n7_Ant 2	50M_BPSK_1_1	Right Side	10mm	4	507000	2535	21.36	21.40	1.009			-0.02	0.842	0.850	-0.13
52	2nd	FR1 n7_Ant 2	50M_BPSK_1_1	Right Side	10mm	4	507000	2535	21.39	21.40	1.002			0	0.822	0.824	
	1st	FR1 n7_Ant 0	50M_BPSK_1_1	Bottom Side	10mm	4	507000	2535	17.37	18.25	1.225			0	0.658	0.806	-0.51
	2nd	FR1 n7_Ant 0	50M_BPSK_1_1	Bottom Side	10mm	4	507000	2535	17.22	18.25	1.268			-0.01	0.565	0.716	
	1st	FR1 n12_Ant 0	15M_BPSK_1_1	Left Side	10mm	4	141500	707.5	24.35	25.00	1.161			0	0.481	0.559	-0.67
53	2nd	FR1 n12_Ant 0	15M_BPSK_1_1	Left Side	10mm	4	141500	707.5	24.36	25.00	1.159			-0.05	0.413	0.479	
	1st	FR1 n12_Ant 1	15M_BPSK_1_1	Left Side	10mm	4	141500	707.5	24.16	25.00	1.213			-0.02	0.260	0.315	-0.01
	2nd	FR1 n12_Ant 1	15M_BPSK_1_1	Left Side	10mm	4	141500	707.5	24.15	25.00	1.216			0.01	0.258	0.314	
	1st	FR1 n14_Ant 0	10M_BPSK_1_1	Back	10mm	4	158600	793	24.28	25.00	1.180			-0.02	0.475	0.561	-0.16
54	2nd	FR1 n14_Ant 0	10M_BPSK_1_1	Back	10mm	4	158600	793	24.29	25.00	1.178			-0.03	0.459	0.541	
	1st	FR1 n14_Ant 1	10M_BPSK_25_14	Back	10mm	4	158600	793	24.06	25.00	1.242			-0.01	0.306	0.380	-0.44
	2nd	FR1 n14_Ant 1	10M_BPSK_25_14	Back	10mm	4	158600	793	24.04	25.00	1.247			0.03	0.275	0.343	
	1st	FR1 n25_Ant 2	40M_BPSK_108_54	Right Side	10mm	4	376500	1882.5	20.04	21.20	1.306			-0.04	0.382	0.499	-0.23
	2nd	FR1 n25_Ant 2	40M_BPSK_108_54	Right Side	10mm	4	376500	1882.5	20.01	21.20	1.315			-0.01	0.360	0.473	
	1st	FR1 n25_Ant 0	40M_BPSK_108_54	Bottom Side	10mm	4	376500	1882.5	16.96	18.45	1.409			0	0.498	0.702	-0.14
	2nd	FR1 n25_Ant 0	40M_BPSK_108_54	Bottom Side	10mm	4	376500	1882.5	16.91	18.45	1.426			-0.03	0.477	0.680	
	1st	FR1 n25_Ant 1	40M_BPSK_1_1	Top Side	10mm	4	376500	1882.5	21.02	21.9	1.225			-0.01	0.693	0.849	-0.05
55	2nd	FR1 n25_Ant 1	40M_BPSK_1_1	Top Side	10mm	4	376500	1882.5	21.06	21.9	1.213			0.01	0.692	0.840	
	1st	FR1 n25_Ant 5	40M_BPSK_108_54	Right Side	10mm	4	376500	1882.5	23.28	24.80	1.419			-0.09	0.461	0.654	-0.62
	2nd	FR1 n25_Ant 5	40M_BPSK_108_54	Right Side	10mm	4	376500	1882.5	23.66	24.80	1.300			0	0.436	0.567	
	1st	FR1 n26_Ant 0	20M_BPSK_1_1	Back	10mm	4	166300	831.5	24.28	25.00	1.180			-0.06	0.620	0.732	-0.58
56	2nd	FR1 n26_Ant 0	20M_BPSK_1_1	Back	10mm	4	166300	831.5	24.35	25.00	1.161			-0.04	0.552	0.641	
	1st	FR1 n26_Ant 1	20M_BPSK_1_1	Back	10mm	4	166300	831.5	24.11	25.00	1.227			-0.01	0.354	0.435	-0.60
	2nd	FR1 n26_Ant 1	20M_BPSK_1_1	Back	10mm	4	166300	831.5	24.32	25.00	1.169			0	0.324	0.379	
	1st	FR1 n30_Ant 2	10M_BPSK_1_1	Right Side	10mm	4	462000	2310	20.67	21.10	1.104			0	0.544	0.601	-0.06
	2nd	FR1 n30_Ant 2	10M_BPSK_1_1	Right Side	10mm	4	462000	2310	20.59	21.10	1.125			-0.02	0.527	0.593	
	1st	FR1 n30_Ant 0	10M_BPSK_1_1	Bottom Side	10mm	4	462000	2310	17.53	19.15	1.452			-0.05	0.585	0.849	-0.37
57	2nd	FR1 n30_Ant 0	10M_BPSK_1_1	Bottom Side	10mm	4	462000	2310	17.44	19.15	1.483			-0.02	0.526	0.780	
	1st	FR1 n41_Ant 2	100M_BPSK_135_69	Right Side	10mm	4	518598	2592.99	19.84	20.70	1.219			0	0.512	0.624	0.00
	2nd	FR1 n41_Ant 2	100M_BPSK_135_69	Right Side	10mm	4	518598	2592.99	19.80	20.70	1.230			0.01	0.507	0.624	
	1st	FR1 n41_Ant 0	100M_BPSK_1_1	Bottom Side	10mm	4	518598	2592.99	16.33	18.05	1.486			-0.03	0.524	0.779	-0.21
58	2nd	FR1 n41_Ant 0	100M_BPSK_1_1	Bottom Side	10mm	4	518598	2592.99	16.26	18.05	1.510			0.05	0.492	0.743	
	1st	FR1 n41_Ant 1	100M_BPSK_1_1	Back	10mm	4	518598	2592.99	22.29	22.6	1.074			-0.04	0.646	0.694	-1.15
	2nd	FR1 n41_Ant 1	100M_BPSK_1_1	Back	10mm	4	518598	2592.99	22.11	22.6	1.119			0.01	0.476	0.533	
	1st	FR1 n41_Ant 5	100M_BPSK_1_1	Right Side	10mm	4	518598	2592.99	21.04	21.80	1.191			-0.03	0.465	0.554	-0.22
	2nd	FR1 n41_Ant 5	100M_BPSK_1_1	Right Side	10mm	4	518598	2592.99	20.96	21.80	1.213			-0.04	0.434	0.527	

	1st	FR1 n66_Ant 2	40M_BPSK_108_54	Back	10mm	4	349000	1745	21.75	22.60	1.216			0.01	0.436	0.530	-0.43
	2nd	FR1 n66_Ant 2	40M_BPSK_108_54	Back	10mm	4	349000	1745	21.81	22.60	1.199			0.01	0.400	0.480	
	1st	FR1 n66_Ant 0	40M_BPSK_1_1	Bottom Side	10mm	4	349000	1745	17.30	18.55	1.334			-0.03	0.618	0.824	-0.24
59	2nd	FR1 n66_Ant 0	40M_BPSK_1_1	Bottom Side	10mm	4	349000	1745	17.21	18.55	1.361			-0.03	0.572	0.779	
	1st	FR1 n66_Ant 1	40M_BPSK_108_54	Back	10mm	4	349000	1745	22.16	22.8	1.159			-0.1	0.542	0.628	-0.10
	2nd	FR1 n66_Ant 1	40M_BPSK_108_54	Back	10mm	4	349000	1745	22.25	22.8	1.135			0.17	0.541	0.614	
	1st	FR1 n66_Ant 5	40M_BPSK_108_54	Right Side	10mm	4	349000	1745	22.52	23.50	1.253			0.02	0.636	0.797	-0.31
	2nd	FR1 n66_Ant 5	40M_BPSK_108_54	Right Side	10mm	4	349000	1745	22.40	23.50	1.288			-0.02	0.576	0.742	
	1st	FR1 n71_Ant 0	20M_BPSK_50_28	Left Side	10mm	4	136100	680.5	24.46	25.00	1.132			-0.04	0.424	0.480	-0.15
60	2nd	FR1 n71_Ant 0	20M_BPSK_50_28	Left Side	10mm	4	136100	680.5	24.30	25.00	1.175			0.05	0.395	0.464	
	1st	FR1 n71_Ant 1	20M_BPSK_50_28	Back	10mm	4	136100	680.5	24.34	25.00	1.164			0.01	0.301	0.350	-0.32
	2nd	FR1 n71_Ant 1	20M_BPSK_50_28	Back	10mm	4	136100	680.5	24.41	25.00	1.146			0.04	0.284	0.325	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Left Side	10mm	4	656000	3840	19.10	19.40	1.072			-0.11	0.467	0.500	-0.10
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Left Side	10mm	4	656000	3840	19.20	19.40	1.047			0.02	0.467	0.489	
	1st	FR1 n77_Ant 7	100M_BPSK_1_1	Right Side	10mm	4	656000	3840	20.13	21.00	1.222			0.15	0.451	0.551	-0.26
	2nd	FR1 n77_Ant 7	100M_BPSK_1_1	Right Side	10mm	4	656000	3840	20.11	21.00	1.227			-0.03	0.423	0.519	
	1st	FR1 n77_Ant 1	100M_BPSK_135_69	Left Side	10mm	4	656000	3840	19.05	20.00	1.245			0.12	0.271	0.337	-0.32
	2nd	FR1 n77_Ant 1	100M_BPSK_135_69	Left Side	10mm	4	656000	3840	19.11	20.00	1.227			-0.03	0.255	0.313	
	1st	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	4	656000	3840	22.53	23.40	1.222			-0.01	0.357	0.436	-0.37
	2nd	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	4	656000	3840	22.74	23.40	1.164			0.08	0.344	0.400	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Left Side	10mm	4	633332	3499.98	18.93	19.40	1.114			0	0.487	0.543	-0.56
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Left Side	10mm	4	633332	3499.98	18.89	19.40	1.125			-0.04	0.424	0.477	
	1st	FR1 n77_Ant 7	100M_BPSK_135_69	Front	10mm	4	633332	3499.98	20.53	21.00	1.114			-0.08	0.418	0.466	-0.03
	2nd	FR1 n77_Ant 7	100M_BPSK_135_69	Front	10mm	4	633332	3499.98	20.40	21.00	1.148			0.19	0.403	0.463	
	1st	FR1 n77_Ant 1	100M_BPSK_1_1	Top Side	10mm	4	633332	3499.98	19.15	20.00	1.216			-0.01	0.501	0.609	-1.34
	2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Top Side	10mm	4	633332	3499.98	19.06	20.00	1.242			-0.01	0.360	0.447	
	1st	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	4	633332	3499.98	22.71	23.40	1.172			-0.04	0.477	0.559	-0.17
61	2nd	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	4	633332	3499.98	22.46	23.40	1.242			-0.08	0.433	0.538	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (dB)
	1st	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3	7	1	2412	18.85	19.50	1.161	100	1.000	-0.12	0.364	0.423	-0.47
	2nd	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3	7	1	2412	18.85	19.50	1.161	100	1.000	0.03	0.327	0.380	
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 4	7	1	2412	18.88	19.50	1.153	100	1.000	-0.03	0.277	0.320	-1.29
	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 4	7	1	2412	18.88	19.50	1.153	100	1.000	-0.01	0.206	0.238	
	1st	WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 3+4(3)	7	1	2412	18.45	19.50	1.274	100	1.000	-0.07	0.352	0.448	-0.54
		WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 3+4(4)	7	1	2412	19.18	19.50	1.076	100	1.000	-0.07	0.001	0.001	
62	2nd	WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 3+4(3)	7	1	2412	18.45	19.50	1.274	100	1.000	-0.01	0.311	0.396	
		WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 3+4(4)	7	1	2412	19.18	19.50	1.076	100	1.000	-0.01	0.001	0.001	
	1st	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3	8	11	2462	14.45	15.50	1.274	100	1.000	0.05	0.177	0.225	-1.19
	2nd	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 3	8	11	2462	14.45	15.50	1.274	100	1.000	-0.07	0.134	0.171	
	1st	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 4	8	6	2437	14.38	15.50	1.294	100	1.000	-0.09	0.115	0.149	-1.12
	2nd	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 4	8	6	2437	14.38	15.50	1.294	100	1.000	-0.04	0.089	0.115	
	1st	WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 3+4(3)	8	11	2462	14.05	15.50	1.396	100	1.000	-0.09	0.154	0.215	-0.08
		WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 3+4(4)	8	11	2462	14.98	15.50	1.127	100	1.000	-0.09	0.001	0.001	
	2nd	WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 3+4(3)	8	11	2462	14.05	15.50	1.396	100	1.000	-0.03	0.151	0.211	
		WLAN2.4GHz	802.11g 6Mbps	Left Side	10mm	Ant 3+4(4)	8	11	2462	14.98	15.50	1.127	100	1.000	-0.03	0.001	0.001	
	1st	WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 3+4(3)	7	46	5230	18.25	19.00	1.189	99.13	1.009	-0.1	0.382	0.458	-2.28
		WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 3+4(4)	7	46	5230	18.28	19.00	1.180	99.13	1.009	-0.1	0.001	0.001	
63	2nd	WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 3+4(3)	7	46	5230	18.25	19.00	1.189	99.13	1.009	-0.15	0.226	0.271	
		WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 3+4(4)	7	46	5230	18.28	19.00	1.180	99.13	1.009	-0.15	0.001	0.001	
	1st	WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 3+4(3)	8/9	46	5230	15.85	17.00	1.303	99.13	1.009	-0.09	0.198	0.260	-1.79
		WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 3+4(4)	8/9	46	5230	15.28	17.00	1.486	99.13	1.009	-0.09	0.001	0.001	
	2nd	WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 3+4(3)	8/9	46	5230	15.85	17.00	1.303	99.13	1.009	0.15	0.131	0.172	
		WLAN5GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 3+4(4)	8/9	46	5230	15.28	17.00	1.486	99.13	1.009	0.15	0.001	0.001	

	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(3)	7	155	5775	16.65	18.00	1.365	97.77	1.023	-0.02	0.332	0.463	-1.39
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(4)	7	155	5775	17.48	18.00	1.127	97.77	1.023	-0.02	0.001	0.001	
64	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(3)	7	155	5775	16.65	18.00	1.365	97.77	1.023	-0.07	0.241	0.336	
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(4)	7	155	5775	17.48	18.00	1.127	97.77	1.023	-0.07	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(3)	8	155	5775	14.25	15.50	1.334	97.77	1.023	-0.16	0.198	0.270	-0.97
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(4)	8	155	5775	14.78	15.50	1.180	97.77	1.023	-0.16	0.001	0.001	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(3)	8	155	5775	14.25	15.50	1.334	97.77	1.023	-0.02	0.158	0.216	
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(4)	8	155	5775	14.78	15.50	1.180	97.77	1.023	-0.02	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(3)	9	155	5775	14.25	16.00	1.496	97.77	1.023	-0.16	0.198	0.303	-0.98
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(4)	9	155	5775	14.78	16.00	1.324	97.77	1.023	-0.16	0.001	0.001	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(3)	9	155	5775	14.25	16.00	1.496	97.77	1.023	-0.02	0.158	0.242	
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 3+4(4)	9	155	5775	14.78	16.00	1.324	97.77	1.023	-0.02	0.001	0.001	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Measured APD (W/m^2)	Reported APD (W/m^2)	Deviation (dB)
	1st	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	10mm	Ant 3+4(3)	7/8/9	15	6025	11.00	11.50	1.122	95.33	1.049	-0.16	0.107	0.126	0.952	1.121	-0.79
		WLAN6GHz	802.11ax-HE160 MCS0	Left Side	10mm	Ant 3+4(4)	7/8/9	15	6025	10.37	11.50	1.297	95.33	1.049	-0.16	0.001	0.001	0.001	0.001	
65	2nd	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	10mm	Ant 3+4(3)	7/8/9	15	6025	11.00	11.50	1.122	95.33	1.049	-0.16	0.089	0.105	0.716	0.843	
		WLAN6GHz	802.11ax-HE160 MCS0	Left Side	10mm	Ant 3+4(4)	7/8/9	15	6025	10.37	11.50	1.297	95.33	1.049	-0.16	0.001	0.001	0.001	0.001	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (dB)
	1st	Bluetooth	1Mbps	Left Side	10mm	Ant 3	4	39	2441	13.95	15.00	1.274	77.13	1.080	0.13	0.127	0.175	-1.09
	2nd	Bluetooth	1Mbps	Left Side	10mm	Ant 3	4	39	2441	13.95	15.00	1.274	77.13	1.080	0.06	0.099	0.136	
	1st	Bluetooth	1Mbps	Right Side	10mm	Ant 4	4	0	2402	14.68	15.00	1.076	77.13	1.080	0.02	0.085	0.099	-0.51
	2nd	Bluetooth	1Mbps	Right Side	10mm	Ant 4	4	0	2402	14.68	15.00	1.076	77.13	1.080	0.03	0.076	0.088	
	1st	Bluetooth	1Mbps	Left Side	10mm	Ant 3+4(3)	4	39	2441	13.95	15.00	1.274	77.13	1.080	0.01	0.162	0.223	-0.61
		Bluetooth	1Mbps	Left Side	10mm	Ant 3+4(4)	4	39	2441	14.58	15.00	1.102	77.13	1.080	0.01	0.001	0.001	
66	2nd	Bluetooth	1Mbps	Left Side	10mm	Ant 3+4(3)	4	39	2441	13.95	15.00	1.274	77.13	1.080	-0.03	0.141	0.194	
		Bluetooth	1Mbps	Left Side	10mm	Ant 3+4(4)	4	39	2441	14.58	15.00	1.102	77.13	1.080	-0.03	0.001	0.001	
	1st	Thread		Left Side	10mm	Ant 3	4	25	2475	14.45	14.50	1.012	90	1.000	0.07	0.154	0.156	-0.63
67	2nd	Thread		Left Side	10mm	Ant 3	4	25	2475	14.45	14.50	1.012	90	1.000	-0.01	0.133	0.135	

16.3 Body-Worn SAR

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (dB)
	1st	GSM850_Ant 0	GPRS (4 Tx slots)	Back	10mm	5	189	836.4	26.84	28.60	1.500			0	0.479	0.718	-0.10
68	2nd	GSM850_Ant 0	GPRS (4 Tx slots)	Back	10mm	5	189	836.4	26.75	28.60	1.531			0.01	0.458	0.701	
	1st	GSM850_Ant 0	GPRS (4 Tx slots)	Back	10mm	6	189	836.4	26.84	27.90	1.276			0	0.479	0.611	-0.10
	2nd	GSM850_Ant 0	GPRS (4 Tx slots)	Back	10mm	6	189	836.4	26.75	27.90	1.303			0.01	0.458	0.597	
	1st	GSM850_Ant 1	GPRS (4 Tx slots)	Back	10mm	5	189	836.4	28.60	30.20	1.445			-0.05	0.408	0.590	-0.23
	2nd	GSM850_Ant 1	GPRS (4 Tx slots)	Back	10mm	5	189	836.4	28.54	30.20	1.466			0.1	0.382	0.560	
	1st	GSM850_Ant 1	GPRS (4 Tx slots)	Back	10mm	6	189	836.4	28.60	29.50	1.230			-0.05	0.408	0.502	-0.22
	2nd	GSM850_Ant 1	GPRS (4 Tx slots)	Back	10mm	6	189	836.4	28.54	29.50	1.247			0.1	0.382	0.477	
	1st	GSM1900_Ant 2	GPRS (4 Tx slots)	Back	10mm	5	661	1880	23.93	25.40	1.403			0.12	0.446	0.626	-0.04
69	2nd	GSM1900_Ant 2	GPRS (4 Tx slots)	Back	10mm	5	661	1880	23.96	25.40	1.393			-0.06	0.445	0.620	
	1st	GSM1900_Ant 2	GPRS (4 Tx slots)	Back	10mm	6	661	1880	23.93	24.70	1.194			0.12	0.446	0.533	-0.04
	2nd	GSM1900_Ant 2	GPRS (4 Tx slots)	Back	10mm	6	661	1880	23.96	24.70	1.186			-0.06	0.445	0.528	
	1st	GSM1900_Ant 0	GPRS (4 Tx slots)	Back	10mm	5	661	1880	22.34	23.25	1.233			-0.11	0.522	0.644	-0.16
	2nd	GSM1900_Ant 0	GPRS (4 Tx slots)	Back	10mm	5	661	1880	22.19	23.25	1.276			0.02	0.486	0.620	
	1st	GSM1900_Ant 0	GPRS (4 Tx slots)	Back	10mm	6	661	1880	22.34	22.55	1.050			-0.11	0.522	0.548	-0.16
	2nd	GSM1900_Ant 0	GPRS (4 Tx slots)	Back	10mm	6	661	1880	22.19	22.55	1.086			0.02	0.486	0.528	

	1st	WCDMA II_Ant 2	RMC 12.2Kbps	Back	10mm	5	9400	1880	20.49	22.30	1.517			-0.01	0.410	0.622	-0.59
	2nd	WCDMA II_Ant 2	RMC 12.2Kbps	Back	10mm	5	9400	1880	20.38	22.30	1.556			-0.01	0.349	0.543	
	1st	WCDMA II_Ant 2	RMC 12.2Kbps	Back	10mm	6	9400	1880	20.49	21.60	1.291			-0.01	0.410	0.529	-0.59
	2nd	WCDMA II_Ant 2	RMC 12.2Kbps	Back	10mm	6	9400	1880	20.38	21.60	1.324			-0.01	0.349	0.462	
	1st	WCDMA II_Ant 0	RMC 12.2Kbps	Back	10mm	5	9400	1880	19.49	20.35	1.219			-0.05	0.750	0.914	-0.70
70	2nd	WCDMA II_Ant 0	RMC 12.2Kbps	Back	10mm	5	9400	1880	19.33	20.35	1.265			-0.19	0.615	0.778	
	1st	WCDMA II_Ant 0	RMC 12.2Kbps	Back	10mm	6	9400	1880	19.49	19.65	1.038			-0.05	0.750	0.778	-0.70
	2nd	WCDMA II_Ant 0	RMC 12.2Kbps	Back	10mm	6	9400	1880	19.33	19.65	1.076			-0.19	0.615	0.662	
	1st	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	10mm	5	1413	1732.6	21.21	22.90	1.476			0	0.391	0.577	-0.70
	2nd	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	10mm	5	1413	1732.6	21.16	22.90	1.493			-0.11	0.329	0.491	
	1st	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	10mm	6	1413	1732.6	21.21	22.20	1.256			0	0.391	0.491	-0.70
	2nd	WCDMA IV_Ant 2	RMC 12.2Kbps	Back	10mm	6	1413	1732.6	21.16	22.20	1.271			-0.11	0.329	0.418	
	1st	WCDMA IV_Ant 0	RMC 12.2Kbps	Back	10mm	5	1413	1732.6	18.22	20.05	1.524			0.07	0.537	0.818	-0.59
71	2nd	WCDMA IV_Ant 0	RMC 12.2Kbps	Back	10mm	5	1413	1732.6	18.17	20.05	1.542			0.15	0.463	0.714	
	1st	WCDMA IV_Ant 0	RMC 12.2Kbps	Back	10mm	6	1413	1732.6	18.22	19.35	1.297			0.07	0.537	0.697	-0.59
	2nd	WCDMA IV_Ant 0	RMC 12.2Kbps	Back	10mm	6	1413	1732.6	18.17	19.35	1.312			0.15	0.463	0.608	
	1st	WCDMA V_Ant 0	RMC 12.2Kbps	Back	10mm	5	4182	836.4	24.14	25.00	1.219			-0.02	0.584	0.712	-0.04
72	2nd	WCDMA V_Ant 0	RMC 12.2Kbps	Back	10mm	5	4182	836.4	24.17	25.00	1.211			-0.03	0.583	0.706	
	1st	WCDMA V_Ant 0	RMC 12.2Kbps	Back	10mm	6	4182	836.4	24.14	24.80	1.164			-0.02	0.584	0.680	-0.04
	2nd	WCDMA V_Ant 0	RMC 12.2Kbps	Back	10mm	6	4182	836.4	24.17	24.80	1.156			-0.03	0.583	0.674	
	1st	WCDMA V_Ant 1	RMC 12.2Kbps	Back	10mm	5/6	4182	836.4	24.28	25.00	1.180			-0.02	0.392	0.463	-0.08
	2nd	WCDMA V_Ant 1	RMC 12.2Kbps	Back	10mm	5/6	4182	836.4	24.30	25.00	1.175			-0.04	0.387	0.455	
	1st	LTE Band 7_Ant 2	20M_QPSK_50_0	Back	10mm	5	21100	2535	19.71	21.30	1.442			-0.01	0.396	0.571	-0.60
	2nd	LTE Band 7_Ant 2	20M_QPSK_50_0	Back	10mm	5	21100	2535	19.73	21.30	1.435			0	0.346	0.497	
	1st	LTE Band 7_Ant 2	20M_QPSK_50_0	Back	10mm	6	21100	2535	19.71	20.60	1.227			-0.01	0.396	0.486	-0.60
	2nd	LTE Band 7_Ant 2	20M_QPSK_50_0	Back	10mm	6	21100	2535	19.73	20.60	1.222			0	0.346	0.423	
	1st	LTE Band 7_Ant 0	20M_QPSK_1_0	Back	10mm	5	21100	2535	18.13	19.95	1.521			0.02	0.438	0.666	-1.13
73	2nd	LTE Band 7_Ant 0	20M_QPSK_1_0	Back	10mm	5	21100	2535	18.01	19.95	1.563			0.02	0.328	0.513	
	1st	LTE Band 7_Ant 0	20M_QPSK_1_0	Back	10mm	6	21100	2535	18.13	19.25	1.294			0.02	0.438	0.567	-1.14
	2nd	LTE Band 7_Ant 0	20M_QPSK_1_0	Back	10mm	6	21100	2535	18.01	19.25	1.330			0.02	0.328	0.436	
	1st	LTE Band 12_Ant 0	10M_QPSK_1_0	Back	10mm	5/6	23095	707.5	23.98	25.00	1.265			0.02	0.361	0.457	-0.31
74	2nd	LTE Band 12_Ant 0	10M_QPSK_1_0	Back	10mm	5/6	23095	707.5	23.94	25.00	1.276			-0.05	0.334	0.426	
	1st	LTE Band 12_Ant 1	10M_QPSK_1_0	Back	10mm	5/6	23095	707.5	23.82	25.00	1.312			-0.01	0.247	0.324	-0.28
	2nd	LTE Band 12_Ant 1	10M_QPSK_1_0	Back	10mm	5/6	23095	707.5	23.71	25.00	1.346			-0.01	0.226	0.304	
	1st	LTE Band 13_Ant 0	10M_QPSK_1_0	Back	10mm	5/6	23230	782	23.90	25.00	1.288			-0.01	0.424	0.546	-0.50
75	2nd	LTE Band 13_Ant 0	10M_QPSK_1_0	Back	10mm	5/6	23230	782	23.89	25.00	1.291			0.02	0.377	0.487	
	1st	LTE Band 13_Ant 1	10M_QPSK_1_0	Back	10mm	5/6	23230	782	23.97	25.00	1.268			-0.06	0.307	0.389	-0.12
	2nd	LTE Band 13_Ant 1	10M_QPSK_1_0	Back	10mm	5/6	23230	782	23.95	25.00	1.274			-0.08	0.297	0.378	
	1st	LTE Band 14_Ant 0	10M_QPSK_1_0	Back	10mm	5/6	23330	793	23.91	25.00	1.285			0	0.482	0.620	-0.17
76	2nd	LTE Band 14_Ant 0	10M_QPSK_1_0	Back	10mm	5/6	23330	793	23.95	25.00	1.274			0.05	0.468	0.596	
	1st	LTE Band 14_Ant 1	10M_QPSK_1_0	Back	10mm	5/6	23330	793	23.82	25.00	1.312			0.01	0.310	0.407	-0.11
	2nd	LTE Band 14_Ant 1	10M_QPSK_1_0	Back	10mm	5/6	23330	793	23.85	25.00	1.303			0.04	0.305	0.397	
	1st	LTE Band 25_Ant 2	20M_QPSK_1_0	Back	10mm	5	26340	1880	19.70	21.50	1.514			0.01	0.275	0.416	-0.18
	2nd	LTE Band 25_Ant 2	20M_QPSK_1_0	Back	10mm	5	26340	1880	19.75	21.50	1.496			0.01	0.267	0.399	
	1st	LTE Band 25_Ant 2	20M_QPSK_1_0	Back	10mm	6	26340	1880	19.70	20.80	1.288			0.01	0.275	0.354	-0.18
	2nd	LTE Band 25_Ant 2	20M_QPSK_1_0	Back	10mm	6	26340	1880	19.75	20.80	1.274			0.01	0.267	0.340	
	1st	LTE Band 25_Ant 0	20M_QPSK_1_0	Back	10mm	5	26340	1880	18.46	20.25	1.510			-0.13	0.622	0.939	-0.77
	2nd	LTE Band 25_Ant 0	20M_QPSK_1_0	Back	10mm	5	26340	1880	18.31	20.25	1.563			-0.09	0.503	0.786	
	1st	LTE Band 25_Ant 0	20M_QPSK_1_0	Back	10mm	6	26340	1880	18.46	19.55	1.285			-0.13	0.622	0.799	-0.77
	2nd	LTE Band 25_Ant 0	20M_QPSK_1_0	Back	10mm	6	26340	1880	18.31	19.55	1.330			-0.09	0.503	0.669	
	1st	LTE Band 25_Ant 1	20M_QPSK_1_0	Back	10mm	5	26590	1905	20.36	22.2	1.528			0.07	0.640	0.978	-0.12
77	2nd	LTE Band 25_Ant 1	20M_QPSK_1_0	Back	10mm	5	26590	1905	20.32	22.2	1.542			-0.03	0.617	0.951	
	1st	LTE Band 25_Ant 1	20M_QPSK_1_0	Back	10mm	6	26340	1880	20.45	21.5	1.274			-0.16	0.537	0.684	-0.01
	2nd	LTE Band 25_Ant 1	20M_QPSK_1_0	Back	10mm	6	26340	1880	20.33	21.5	1.309			-0.03	0.521	0.682	
	1st	LTE Band 25_Ant 5	20M_QPSK_1_0	Back	10mm	5	26340	1880	22.97	24.80	1.524			-0.03	0.276	0.421	-0.78
	2nd	LTE Band 25_Ant 5	20M_QPSK_1_0	Back	10mm	5	26340	1880	23.12	24.80	1.472			-0.05	0.239	0.352	

	1st	LTE Band 25_Ant 5	20M_QPSK_1_0	Back	10mm	6	26340	1880	22.97	24.30	1.358			-0.03	0.276	0.375	-0.77
	2nd	LTE Band 25_Ant 5	20M_QPSK_1_0	Back	10mm	6	26340	1880	23.12	24.30	1.312			-0.05	0.239	0.314	
	1st	LTE Band 26_Ant 0	15M_QPSK_1_0	Back	10mm	5	26865	831.5	24.28	25.00	1.180			0	0.665	0.785	-0.16
78	2nd	LTE Band 26_Ant 0	15M_QPSK_1_0	Back	10mm	5	26865	831.5	24.30	25.00	1.175			0.01	0.644	0.757	
	1st	LTE Band 26_Ant 0	15M_QPSK_1_0	Back	10mm	6	26865	831.5	24.28	24.80	1.127			0	0.665	0.750	-0.16
	2nd	LTE Band 26_Ant 0	15M_QPSK_1_0	Back	10mm	6	26865	831.5	24.30	24.80	1.122			0.01	0.644	0.723	
	1st	LTE Band 26_Ant 1	15M_QPSK_1_0	Back	10mm	5/6	26865	831.5	24.15	25.00	1.216			0	0.393	0.478	-0.34
	2nd	LTE Band 26_Ant 1	15M_QPSK_1_0	Back	10mm	5/6	26865	831.5	24.14	25.00	1.219			0.01	0.363	0.442	
	1st	LTE Band 30_Ant 2	10M_QPSK_1_0	Back	10mm	5	27710	2310	20.47	22.00	1.422			-0.01	0.431	0.613	-0.14
	2nd	LTE Band 30_Ant 2	10M_QPSK_1_0	Back	10mm	5	27710	2310	20.41	22.00	1.442			-0.01	0.411	0.593	
	1st	LTE Band 30_Ant 2	10M_QPSK_1_0	Back	10mm	6	27710	2310	20.47	21.30	1.211			-0.01	0.431	0.522	-0.15
	2nd	LTE Band 30_Ant 2	10M_QPSK_1_0	Back	10mm	6	27710	2310	20.41	21.30	1.227			-0.01	0.411	0.504	
	1st	LTE Band 30_Ant 0	10M_QPSK_1_0	Back	10mm	5	27710	2310	19.37	20.65	1.343			0	0.593	0.796	-0.48
79	2nd	LTE Band 30_Ant 0	10M_QPSK_1_0	Back	10mm	5	27710	2310	19.44	20.65	1.321			-0.02	0.540	0.713	
	1st	LTE Band 30_Ant 0	10M_QPSK_1_0	Back	10mm	6	27710	2310	19.37	19.95	1.143			0	0.593	0.678	-0.48
	2nd	LTE Band 30_Ant 0	10M_QPSK_1_0	Back	10mm	6	27710	2310	19.44	19.95	1.125			-0.02	0.540	0.607	
	1st	LTE Band 41_Ant 2	20M_QPSK_1_0	Back	10mm	5	40620	2593	23.51	24.30	1.199	62.9	1.006	-0.02	0.516	0.623	-0.13
	2nd	LTE Band 41_Ant 2	20M_QPSK_1_0	Back	10mm	5	40620	2593	23.47	24.30	1.211	62.9	1.006	-0.02	0.496	0.604	
	1st	LTE Band 41_Ant 2	20M_QPSK_1_0	Back	10mm	6	40620	2593	23.51	23.60	1.021	62.9	1.006	-0.02	0.516	0.530	-0.13
	2nd	LTE Band 41_Ant 2	20M_QPSK_1_0	Back	10mm	6	40620	2593	23.47	23.60	1.030	62.9	1.006	-0.02	0.496	0.514	
	1st	LTE Band 41_Ant 0	20M_QPSK_1_0	Back	10mm	5	40620	2593	21.01	22.65	1.459	62.9	1.006	0.14	0.629	0.923	-1.30
80	2nd	LTE Band 41_Ant 0	20M_QPSK_1_0	Back	10mm	5	40620	2593	21.03	22.65	1.452	62.9	1.006	-0.08	0.468	0.684	
	1st	LTE Band 41_Ant 0	20M_QPSK_1_0	Back	10mm	6	40620	2593	21.01	21.95	1.242	62.9	1.006	0.14	0.629	0.786	-1.30
	2nd	LTE Band 41_Ant 0	20M_QPSK_1_0	Back	10mm	6	40620	2593	21.03	21.95	1.236	62.9	1.006	-0.08	0.468	0.582	
	1st	LTE Band 48_Ant 6	20M_QPSK_1_0	Back	10mm	5	55830	3609	21.16	22.60	1.393	62.9	1.006	-0.11	0.431	0.604	-0.19
81	2nd	LTE Band 48_Ant 6	20M_QPSK_1_0	Back	10mm	5	55830	3609	21.35	22.60	1.334	62.9	1.006	0.18	0.431	0.578	
	1st	LTE Band 48_Ant 6	20M_QPSK_1_0	Back	10mm	6	55830	3609	21.16	21.90	1.186	62.9	1.006	-0.11	0.431	0.514	-0.19
	2nd	LTE Band 48_Ant 6	20M_QPSK_1_0	Back	10mm	6	55830	3609	21.35	21.90	1.135	62.9	1.006	0.18	0.431	0.492	
	1st	LTE Band 48_Ant 7	20M_QPSK_1_0	Back	10mm	5	55830	3609	22.50	24.00	1.413	62.9	1.006	-0.17	0.254	0.361	-0.31
	2nd	LTE Band 48_Ant 7	20M_QPSK_1_0	Back	10mm	5	55830	3609	22.44	24.00	1.432	62.9	1.006	-0.19	0.233	0.336	
	1st	LTE Band 48_Ant 7	20M_QPSK_1_0	Back	10mm	6	55830	3609	22.50	23.50	1.259	62.9	1.006	-0.17	0.254	0.322	-0.32
	2nd	LTE Band 48_Ant 7	20M_QPSK_1_0	Back	10mm	6	55830	3609	22.44	23.50	1.276	62.9	1.006	-0.19	0.233	0.299	
	1st	LTE Band 66_Ant 2	20M_QPSK_1_0	Back	10mm	5	132322	1745	20.91	22.60	1.476			0.03	0.299	0.441	-0.65
	2nd	LTE Band 66_Ant 2	20M_QPSK_1_0	Back	10mm	5	132322	1745	20.82	22.60	1.507			-0.1	0.252	0.380	
	1st	LTE Band 66_Ant 2	20M_QPSK_1_0	Back	10mm	6	132322	1745	20.91	21.90	1.256			0.03	0.299	0.376	-0.66
	2nd	LTE Band 66_Ant 2	20M_QPSK_1_0	Back	10mm	6	132322	1745	20.82	21.90	1.282			-0.1	0.252	0.323	
	1st	LTE Band 66_Ant 0	20M_QPSK_1_0	Back	10mm	5	132322	1745	19.45	20.75	1.349			0.07	0.712	0.960	-0.07
82	2nd	LTE Band 66_Ant 0	20M_QPSK_1_0	Back	10mm	5	132322	1745	19.50	20.75	1.334			-0.08	0.708	0.944	
	1st	LTE Band 66_Ant 0	20M_QPSK_1_0	Back	10mm	6	132322	1745	19.45	20.05	1.148			0.07	0.712	0.817	-0.07
	2nd	LTE Band 66_Ant 0	20M_QPSK_1_0	Back	10mm	6	132322	1745	19.50	20.05	1.135			-0.08	0.708	0.804	
	1st	LTE Band 66_Ant 1	20M_QPSK_50_0	Back	10mm	5	132572	1770	21.58	23.10	1.419			0.01	0.699	0.992	-0.76
	2nd	LTE Band 66_Ant 1	20M_QPSK_50_0	Back	10mm	5	132572	1770	21.46	23.10	1.459			0	0.571	0.833	
	1st	LTE Band 66_Ant 1	20M_QPSK_50_0	Back	10mm	6	132572	1770	21.58	22.4	1.208			0.01	0.699	0.844	-0.76
	2nd	LTE Band 66_Ant 1	20M_QPSK_50_0	Back	10mm	6	132572	1770	21.46	22.4	1.242			0	0.571	0.709	
	1st	LTE Band 66_Ant 5	20M_QPSK_1_0	Back	10mm	5/6	132322	1745	23.01	24.80	1.510			-0.01	0.440	0.664	-0.66
	2nd	LTE Band 66_Ant 5	20M_QPSK_1_0	Back	10mm	5/6	132322	1745	23.12	24.80	1.472			-0.01	0.387	0.570	
	1st	LTE Band 71_Ant 0	20M_QPSK_1_0	Back	10mm	5/6	133297	680.5	24.00	25.00	1.259			-0.04	0.377	0.475	-0.14
83	2nd	LTE Band 71_Ant 0	20M_QPSK_1_0	Back	10mm	5/6	133297	680.5	24.01	25.00	1.256			-0.12	0.366	0.460	
	1st	LTE Band 71_Ant 1	20M_QPSK_1_0	Back	10mm	5/6	133297	680.5	24.45	25.00	1.135			0.04	0.268	0.304	-0.06
	2nd	LTE Band 71_Ant 1	20M_QPSK_1_0	Back	10mm	5/6	133297	680.5	24.22	25.00	1.197			0	0.251	0.300	
	1st	FR1 n7_Ant 2	50M_BPSK_1_1	Back	10mm	5	507000	2535	21.36	22.10	1.186			-0.02	0.531	0.630	-0.18
84	2nd	FR1 n7_Ant 2	50M_BPSK_1_1	Back	10mm	5	507000	2535	21.44	22.10	1.164			-0.05	0.520	0.605	
	1st	FR1 n7_Ant 2	50M_BPSK_1_1	Back	10mm	6	507000	2535	21.36	21.40	1.009			-0.02	0.531	0.536	-0.12
	2nd	FR1 n7_Ant 2	50M_BPSK_1_1	Back	10mm	6	507000	2535	21.39	21.40	1.002			-0.05	0.520	0.521	
	1st	FR1 n7_Ant 0	50M_BPSK_1_1	Back	10mm	5	507000	2535	18.34	19.95	1.449			-0.08	0.479	0.694	-0.64
	2nd	FR1 n7_Ant 0	50M_BPSK_1_1	Back	10mm	5	507000	2535	18.27	19.95	1.472			-0.06	0.407	0.599	

	1st	FR1 n7_Ant 0	50M_BPSK_1_1	Back	10mm	6	507000	2535	18.34	19.25	1.233			-0.08	0.479	0.591	-0.64
	2nd	FR1 n7_Ant 0	50M_BPSK_1_1	Back	10mm	6	507000	2535	18.27	19.25	1.253			-0.06	0.407	0.510	
	1st	FR1 n12_Ant 0	15M_BPSK_1_1	Front	10mm	5/6	141500	707.5	24.35	25.00	1.161			-0.15	0.338	0.393	-0.18
85	2nd	FR1 n12_Ant 0	15M_BPSK_1_1	Front	10mm	5/6	141500	707.5	24.36	25.00	1.159			-0.07	0.325	0.377	
	1st	FR1 n12_Ant 1	15M_BPSK_1_1	Front	10mm	5/6	141500	707.5	24.16	25.00	1.213			-0.02	0.226	0.274	-0.05
	2nd	FR1 n12_Ant 1	15M_BPSK_1_1	Front	10mm	5/6	141500	707.5	24.15	25.00	1.216			0.02	0.223	0.271	
	1st	FR1 n14_Ant 0	10M_BPSK_1_1	Back	10mm	5/6	158600	793	24.28	25.00	1.180			-0.02	0.475	0.561	-0.16
86	2nd	FR1 n14_Ant 0	10M_BPSK_1_1	Back	10mm	5/6	158600	793	24.29	25.00	1.178			-0.03	0.459	0.541	
	1st	FR1 n14_Ant 1	10M_BPSK_25_14	Back	10mm	5/6	158600	793	24.06	25.00	1.242			-0.01	0.306	0.380	-0.44
	2nd	FR1 n14_Ant 1	10M_BPSK_25_14	Back	10mm	5/6	158600	793	24.04	25.00	1.247			0.03	0.275	0.343	
	1st	FR1 n25_Ant 2	40M_BPSK_1_1	Back	10mm	5	376500	1882.5	20.05	21.90	1.531			-0.04	0.313	0.479	-0.14
	2nd	FR1 n25_Ant 2	40M_BPSK_1_1	Back	10mm	5	376500	1882.5	20.02	21.90	1.542			-0.02	0.301	0.464	
	1st	FR1 n25_Ant 2	40M_BPSK_1_1	Back	10mm	6	376500	1882.5	20.05	21.20	1.303			-0.04	0.313	0.408	-0.14
	2nd	FR1 n25_Ant 2	40M_BPSK_1_1	Back	10mm	6	376500	1882.5	20.02	21.20	1.312			-0.02	0.301	0.395	
	1st	FR1 n25_Ant 0	40M_BPSK_108_54	Back	10mm	5	376500	1882.5	19.12	20.75	1.455			0.02	0.621	0.904	-1.32
	2nd	FR1 n25_Ant 0	40M_BPSK_108_54	Back	10mm	5	376500	1882.5	19.01	20.75	1.493			-0.01	0.447	0.667	
	1st	FR1 n25_Ant 0	40M_BPSK_108_54	Back	10mm	6	376500	1882.5	19.12	20.05	1.239			0.02	0.621	0.769	-1.32
	2nd	FR1 n25_Ant 0	40M_BPSK_108_54	Back	10mm	6	376500	1882.5	19.01	20.05	1.271			-0.01	0.447	0.568	
	1st	FR1 n25_Ant 1	40M_BPSK_108_54	Back	10mm	5	376500	1882.5	21.01	22.6	1.442			-0.17	0.681	0.982	-0.67
87	2nd	FR1 n25_Ant 1	40M_BPSK_108_54	Back	10mm	5	376500	1882.5	20.98	22.6	1.452			0.03	0.579	0.841	
	1st	FR1 n25_Ant 1	40M_BPSK_108_54	Back	10mm	6	376500	1882.5	21.01	21.9	1.227			-0.17	0.681	0.836	-0.67
	2nd	FR1 n25_Ant 1	40M_BPSK_108_54	Back	10mm	6	376500	1882.5	20.98	21.9	1.236			0.03	0.579	0.716	
	1st	FR1 n25_Ant 5	40M_BPSK_108_54	Back	10mm	5/6	376500	1882.5	23.28	24.80	1.419			0.18	0.343	0.487	-0.67
	2nd	FR1 n25_Ant 5	40M_BPSK_108_54	Back	10mm	5/6	376500	1882.5	23.66	24.80	1.300			0.13	0.321	0.417	
	1st	FR1 n26_Ant 0	20M_BPSK_1_1	Back	10mm	5/6	166300	831.5	24.28	25.00	1.180			-0.06	0.620	0.732	-0.58
88	2nd	FR1 n26_Ant 0	20M_BPSK_1_1	Back	10mm	5/6	166300	831.5	24.35	25.00	1.161			-0.04	0.552	0.641	
	1st	FR1 n26_Ant 1	20M_BPSK_1_1	Back	10mm	5/6	166300	831.5	24.11	25.00	1.227			-0.01	0.354	0.435	-0.60
	2nd	FR1 n26_Ant 1	20M_BPSK_1_1	Back	10mm	5/6	166300	831.5	24.32	25.00	1.169			0	0.324	0.379	
	1st	FR1 n30_Ant 2	10M_BPSK_1_1	Back	10mm	5	462000	2310	20.67	21.80	1.297			-0.02	0.483	0.627	-0.22
	2nd	FR1 n30_Ant 2	10M_BPSK_1_1	Back	10mm	5	462000	2310	20.59	21.80	1.321			-0.01	0.451	0.596	
	1st	FR1 n30_Ant 2	10M_BPSK_1_1	Back	10mm	6	462000	2310	20.67	21.10	1.104			-0.02	0.483	0.533	-0.22
	2nd	FR1 n30_Ant 2	10M_BPSK_1_1	Back	10mm	6	462000	2310	20.59	21.10	1.125			-0.01	0.451	0.507	
	1st	FR1 n30_Ant 0	10M_BPSK_1_1	Back	10mm	5	462000	2310	19.80	20.55	1.189			0.03	0.597	0.710	-0.14
89	2nd	FR1 n30_Ant 0	10M_BPSK_1_1	Back	10mm	5	462000	2310	19.71	20.55	1.213			-0.01	0.567	0.688	
	1st	FR1 n30_Ant 0	10M_BPSK_1_1	Back	10mm	6	462000	2310	19.80	19.85	1.012			0.03	0.597	0.604	-0.13
	2nd	FR1 n30_Ant 0	10M_BPSK_1_1	Back	10mm	6	462000	2310	19.71	19.85	1.033			-0.01	0.567	0.586	
	1st	FR1 n41_Ant 2	100M_BPSK_1_1	Back	10mm	5	518598	2592.99	20.10	21.40	1.349			0.04	0.418	0.564	-0.54
	2nd	FR1 n41_Ant 2	100M_BPSK_1_1	Back	10mm	5	518598	2592.99	20.00	21.40	1.380			-0.02	0.361	0.498	
	1st	FR1 n41_Ant 2	100M_BPSK_1_1	Back	10mm	6	518598	2592.99	20.10	20.70	1.148			0.04	0.418	0.480	-0.54
	2nd	FR1 n41_Ant 2	100M_BPSK_1_1	Back	10mm	6	518598	2592.99	20.00	20.70	1.175			-0.02	0.361	0.424	
	1st	FR1 n41_Ant 0	100M_BPSK_1_1	Back	10mm	5	518598	2592.99	18.29	19.55	1.337			-0.02	0.522	0.698	-0.09
90	2nd	FR1 n41_Ant 0	100M_BPSK_1_1	Back	10mm	5	518598	2592.99	18.36	19.55	1.315			-0.01	0.520	0.684	
	1st	FR1 n41_Ant 0	100M_BPSK_1_1	Back	10mm	6	518598	2592.99	18.29	18.85	1.138			-0.02	0.522	0.594	-0.09
	2nd	FR1 n41_Ant 0	100M_BPSK_1_1	Back	10mm	6	518598	2592.99	18.36	18.85	1.119			-0.01	0.520	0.582	
	1st	FR1 n41_Ant 1	100M_BPSK_1_1	Back	10mm	5	518598	2592.99	22.29	23.3	1.262			-0.04	0.646	0.815	-1.15
	2nd	FR1 n41_Ant 1	100M_BPSK_1_1	Back	10mm	5	518598	2592.99	22.11	23.3	1.315			0.01	0.476	0.626	
	1st	FR1 n41_Ant 1	100M_BPSK_1_1	Back	10mm	6	518598	2592.99	22.29	22.6	1.074			-0.04	0.646	0.694	-1.15
	2nd	FR1 n41_Ant 1	100M_BPSK_1_1	Back	10mm	6	518598	2592.99	22.11	22.6	1.119			0.01	0.476	0.533	
	1st	FR1 n41_Ant 5	100M_BPSK_1_1	Back	10mm	5	518598	2592.99	21.04	22.50	1.400			-0.07	0.341	0.477	-0.05
	2nd	FR1 n41_Ant 5	100M_BPSK_1_1	Back	10mm	5	518598	2592.99	20.96	22.50	1.426			-0.07	0.331	0.472	
	1st	FR1 n41_Ant 5	100M_BPSK_1_1	Back	10mm	6	518598	2592.99	21.04	21.80	1.191			-0.07	0.341	0.406	-0.04
	2nd	FR1 n41_Ant 5	100M_BPSK_1_1	Back	10mm	6	518598	2592.99	20.96	21.80	1.213			-0.07	0.331	0.402	
	1st	FR1 n66_Ant 2	40M_BPSK_108_54	Back	10mm	5	349000	1745	21.75	23.30	1.429			0.01	0.436	0.623	-0.43
	2nd	FR1 n66_Ant 2	40M_BPSK_108_54	Back	10mm	5	349000	1745	21.81	23.30	1.409			0.01	0.400	0.564	
	1st	FR1 n66_Ant 2	40M_BPSK_108_54	Back	10mm	6	349000	1745	21.75	22.60	1.216			0.01	0.436	0.530	-0.43
	2nd	FR1 n66_Ant 2	40M_BPSK_108_54	Back	10mm	6	349000	1745	21.81	22.60	1.199			0.01	0.400	0.480	

	1st	FR1 n66_Ant 0	40M_BPSK_108_54	Back	10mm	5	349000	1745	18.40	20.15	1.496			0	0.588	0.880	-0.57
91	2nd	FR1 n66_Ant 0	40M_BPSK_108_54	Back	10mm	5	349000	1745	18.33	20.15	1.521			0	0.507	0.771	
	1st	FR1 n66_Ant 0	40M_BPSK_108_54	Back	10mm	6	349000	1745	18.40	19.45	1.274			0	0.588	0.749	-0.58
	2nd	FR1 n66_Ant 0	40M_BPSK_108_54	Back	10mm	6	349000	1745	18.33	19.45	1.294			0	0.507	0.656	
	1st	FR1 n66_Ant 1	40M_BPSK_108_54	Back	10mm	5	349000	1745	22.16	23.5	1.361			-0.1	0.542	0.738	-0.10
	2nd	FR1 n66_Ant 1	40M_BPSK_108_54	Back	10mm	5	349000	1745	22.25	23.5	1.334			0.17	0.541	0.721	
	1st	FR1 n66_Ant 1	40M_BPSK_108_54	Back	10mm	6	349000	1745	22.16	22.8	1.159			-0.1	0.542	0.628	-0.10
	2nd	FR1 n66_Ant 1	40M_BPSK_108_54	Back	10mm	6	349000	1745	22.25	22.8	1.135			0.17	0.541	0.614	
	1st	FR1 n66_Ant 5	40M_BPSK_1_1	Back	10mm	5	349000	1745	22.51	24.30	1.510			-0.08	0.517	0.781	-1.59
	2nd	FR1 n66_Ant 5	40M_BPSK_1_1	Back	10mm	5	349000	1745	22.40	24.30	1.549			0.05	0.350	0.542	
	1st	FR1 n66_Ant 5	40M_BPSK_1_1	Back	10mm	6	349000	1745	22.51	23.60	1.285			-0.08	0.517	0.664	-1.58
	2nd	FR1 n66_Ant 5	40M_BPSK_1_1	Back	10mm	6	349000	1745	22.40	23.60	1.318			0.05	0.350	0.461	
	1st	FR1 n71_Ant 0	20M_BPSK_1_1	Back	10mm	5/6	136100	680.5	24.51	25.00	1.119			0.01	0.393	0.440	-0.08
92	2nd	FR1 n71_Ant 0	20M_BPSK_1_1	Back	10mm	5/6	136100	680.5	24.33	25.00	1.167			0	0.370	0.432	
	1st	FR1 n71_Ant 1	20M_BPSK_50_28	Back	10mm	5/6	136100	680.5	24.34	25.00	1.164			0.01	0.301	0.350	-0.20
	2nd	FR1 n71_Ant 1	20M_BPSK_50_28	Back	10mm	5/6	136100	680.5	24.30	25.00	1.175			0.04	0.284	0.334	
	1st	FR1 n77_Ant 6	100M_BPSK_135_69	Back	10mm	5	656000	3840	19.27	20.10	1.211			0.01	0.447	0.541	-0.21
	2nd	FR1 n77_Ant 6	100M_BPSK_135_69	Back	10mm	5	656000	3840	19.33	20.10	1.194			-0.01	0.432	0.516	
	1st	FR1 n77_Ant 6	100M_BPSK_135_69	Back	10mm	6	656000	3840	19.27	19.40	1.030			0.01	0.447	0.461	-0.21
	2nd	FR1 n77_Ant 6	100M_BPSK_135_69	Back	10mm	6	656000	3840	19.33	19.40	1.016			-0.01	0.432	0.439	
	1st	FR1 n77_Ant 7	100M_BPSK_1_1	Front	10mm	5	656000	3840	20.13	21.70	1.435			-0.05	0.277	0.398	-0.11
	2nd	FR1 n77_Ant 7	100M_BPSK_1_1	Front	10mm	5	656000	3840	20.11	21.70	1.442			-0.03	0.269	0.388	
	1st	FR1 n77_Ant 7	100M_BPSK_1_1	Front	10mm	6	656000	3840	20.13	21.00	1.222			-0.05	0.277	0.338	-0.10
	2nd	FR1 n77_Ant 7	100M_BPSK_1_1	Front	10mm	6	656000	3840	20.11	21.00	1.227			-0.03	0.269	0.330	
	1st	FR1 n77_Ant 1	100M_BPSK_135_69	Back	10mm	5	656000	3840	19.05	20.70	1.462			0.03	0.252	0.368	-0.23
	2nd	FR1 n77_Ant 1	100M_BPSK_135_69	Back	10mm	5	656000	3840	19.11	20.70	1.442			0.01	0.242	0.349	
	1st	FR1 n77_Ant 1	100M_BPSK_135_69	Back	10mm	6	656000	3840	19.05	20.00	1.245			0.03	0.252	0.314	-0.24
	2nd	FR1 n77_Ant 1	100M_BPSK_135_69	Back	10mm	6	656000	3840	19.11	20.00	1.227			0.01	0.242	0.297	
	1st	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	5	656000	3840	22.53	24.10	1.435			-0.01	0.357	0.512	-0.37
	2nd	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	5	656000	3840	22.74	24.10	1.368			0.08	0.344	0.470	
	1st	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	6	656000	3840	22.53	23.40	1.222			-0.01	0.357	0.436	-0.37
	2nd	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	6	656000	3840	22.74	23.40	1.164			0.08	0.344	0.400	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Back	10mm	5	633332	3499.98	18.93	20.10	1.309			-0.03	0.442	0.579	-0.25
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Back	10mm	5	633332	3499.98	18.89	20.10	1.321			0.08	0.414	0.547	
	1st	FR1 n77_Ant 6	100M_BPSK_1_1	Back	10mm	6	633332	3499.98	18.93	19.40	1.114			-0.03	0.442	0.493	-0.24
	2nd	FR1 n77_Ant 6	100M_BPSK_1_1	Back	10mm	6	633332	3499.98	18.89	19.40	1.125			0.08	0.414	0.466	
	1st	FR1 n77_Ant 7	100M_BPSK_135_69	Front	10mm	5	633332	3499.98	20.53	21.70	1.309			-0.08	0.418	0.547	-1.15
	2nd	FR1 n77_Ant 7	100M_BPSK_135_69	Front	10mm	5	633332	3499.98	20.40	21.70	1.349			-0.03	0.311	0.420	
	1st	FR1 n77_Ant 7	100M_BPSK_135_69	Front	10mm	6	633332	3499.98	20.53	21.00	1.114			-0.08	0.418	0.466	-1.16
	2nd	FR1 n77_Ant 7	100M_BPSK_135_69	Front	10mm	6	633332	3499.98	20.40	21.00	1.148			-0.03	0.311	0.357	
	1st	FR1 n77_Ant 1	100M_BPSK_1_1	Back	10mm	5	633332	3499.98	19.15	20.70	1.429			0.13	0.329	0.470	-0.83
	2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Back	10mm	5	633332	3499.98	19.06	20.70	1.459			0.17	0.266	0.388	
	1st	FR1 n77_Ant 1	100M_BPSK_1_1	Back	10mm	6	633332	3499.98	19.15	20.00	1.216			0.13	0.329	0.400	-0.84
	2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Back	10mm	6	633332	3499.98	19.06	20.00	1.242			0.17	0.266	0.330	
	1st	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	5	633332	3499.98	22.71	24.10	1.377			-0.04	0.477	0.657	-0.17
93	2nd	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	5	633332	3499.98	22.46	24.10	1.459			-0.08	0.433	0.632	
	1st	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	6	633332	3499.98	22.71	23.40	1.172			-0.04	0.477	0.559	-0.17
	2nd	FR1 n77_Ant 5	100M_BPSK_135_69	Back	10mm	6	633332	3499.98	22.46	23.40	1.242			-0.08	0.433	0.538	
	1st	NTN B255_Ant 5	15K_BPSK_1_0	Back	10mm	5	261505	1626.6	22.41	23.50	1.285	79	1.051	0.07	0.064	0.086	-0.31
94	2nd	NTN B255_Ant 5	15K_BPSK_1_0	Back	10mm	5	261505	1626.6	22.07	23.50	1.390	79	1.051	-0.08	0.055	0.080	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (dB)
	1st	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	5/6	1	2412	20.85	22.50	1.462	100	1.000	0.06	0.498	0.728	-1.06
	2nd	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	5/6	1	2412	20.85	22.50	1.462	100	1.000	-0.03	0.390	0.570	
	1st	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	5/6	1	2412	20.88	22.50	1.452	100	1.000	0.02	0.379	0.550	-1.37
	2nd	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	5/6	1	2412	20.88	22.50	1.452	100	1.000	-0.18	0.276	0.401	
	1st	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(3)	5/6	6	2437	20.95	22.00	1.274	100	1.000	0.01	0.666	0.848	-0.93
		WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(4)	5/6	6	2437	21.98	22.00	1.005	100	1.000	0.01	0.382	0.384	
95	2nd	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(3)	5/6	6	2437	20.95	22.00	1.274	100	1.000	0	0.537	0.684	
		WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(4)	5/6	6	2437	21.98	22.00	1.005	100	1.000	0	0.621	0.624	
	1st	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	7	1	2412	18.85	19.50	1.161	100	1.000	-0.01	0.302	0.351	
	2nd	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	7	1	2412	18.85	19.50	1.161	100	1.000	-0.12	0.210	0.244	-1.58
	1st	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	7	1	2412	18.88	19.50	1.153	100	1.000	0.06	0.234	0.270	-1.22
	2nd	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	7	1	2412	18.88	19.50	1.153	100	1.000	0.07	0.177	0.204	
	1st	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(3)	7	1	2412	18.45	19.50	1.274	100	1.000	0.07	0.284	0.362	-1.27
		WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(4)	7	1	2412	19.18	19.50	1.076	100	1.000	0.07	0.278	0.299	
	2nd	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(3)	7	1	2412	18.45	19.50	1.274	100	1.000	-0.11	0.212	0.270	
		WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(4)	7	1	2412	19.18	19.50	1.076	100	1.000	-0.11	0.260	0.280	
	1st	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	8	11	2462	14.45	15.50	1.274	100	1.000	-0.05	0.141	0.180	-0.30
	2nd	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 3	8	11	2462	14.45	15.50	1.274	100	1.000	-0.07	0.132	0.168	
	1st	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	8	6	2437	14.38	15.50	1.294	100	1.000	0.16	0.101	0.131	-1.30
	2nd	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	8	6	2437	14.38	15.50	1.294	100	1.000	-0.13	0.075	0.097	
	1st	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(3)	8	11	2462	14.05	15.50	1.396	100	1.000	-0.03	0.130	0.182	-0.22
		WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(4)	8	11	2462	14.98	15.50	1.127	100	1.000	-0.03	0.101	0.114	
	2nd	WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(3)	8	11	2462	14.05	15.50	1.396	100	1.000	-0.13	0.124	0.173	
		WLAN2.4GHz	802.11g 6Mbps	Back	10mm	Ant 3+4(4)	8	11	2462	14.98	15.50	1.127	100	1.000	-0.13	0.118	0.133	
	1st	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+4(3)	5/6/7	46	5230	18.25	19.00	1.189	99.13	1.009	-0.14	0.327	0.392	-2.30
		WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+4(4)	5/6/7	46	5230	18.28	19.00	1.180	99.13	1.009	-0.14	0.160	0.191	
96	2nd	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+4(3)	5/6/7	46	5230	18.25	19.00	1.189	99.13	1.009	0.01	0.193	0.231	
		WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant 3+4(4)	5/6/7	46	5230	18.28	19.00	1.180	99.13	1.009	0.01	0.060	0.071	
	1st	WLAN5GHz	802.11n-HT40 MCS0	Front	10mm	Ant 3+4(3)	8/9	46	5230	15.85	17.00	1.303	99.13	1.009	-0.14	0.128	0.168	-1.01
		WLAN5GHz	802.11n-HT40 MCS0	Front	10mm	Ant 3+4(4)	8/9	46	5230	15.28	17.00	1.486	99.13	1.009	-0.14	0.034	0.051	
	2nd	WLAN5GHz	802.11n-HT40 MCS0	Front	10mm	Ant 3+4(3)	8/9	46	5230	15.85	17.00	1.303	99.13	1.009	0.17	0.101	0.133	
		WLAN5GHz	802.11n-HT40 MCS0	Front	10mm	Ant 3+4(4)	8/9	46	5230	15.28	17.00	1.486	99.13	1.009	0.17	0.033	0.049	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	5/6/7/9	138	5690	18.05	19.00	1.245	97.77	1.023	-0.18	0.276	0.351	-0.31
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	5/6/7/9	138	5690	18.48	19.00	1.127	97.77	1.023	-0.18	0.108	0.125	
97	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	5/6/7/9	138	5690	18.05	19.00	1.245	97.77	1.023	-0.14	0.257	0.327	
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	5/6/7/9	138	5690	18.48	19.00	1.127	97.77	1.023	-0.14	0.113	0.130	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	8	138	5690	18.05	18.50	1.109	97.77	1.023	-0.18	0.276	0.313	-0.30
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	8	138	5690	18.48	18.50	1.005	97.77	1.023	-0.18	0.108	0.111	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	8	138	5690	18.05	18.50	1.109	97.77	1.023	-0.14	0.257	0.292	
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	8	138	5690	18.48	18.50	1.005	97.77	1.023	-0.14	0.113	0.116	
	1st	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 3+4(3)	5/6	165	5825	20.55	21.00	1.109	100	1.000	-0.13	0.437	0.485	-0.29
		WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 3+4(4)	5/6	165	5825	20.98	21.00	1.005	100	1.000	-0.13	0.150	0.151	
98	2nd	WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 3+4(3)	5/6	165	5825	20.55	21.00	1.109	100	1.000	-0.13	0.409	0.454	
		WLAN5GHz	802.11a 6Mbps	Back	10mm	Ant 3+4(4)	5/6	165	5825	20.98	21.00	1.005	100	1.000	-0.13	0.199	0.200	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	7	155	5775	16.65	18.00	1.365	97.77	1.023	-0.15	0.194	0.271	-0.21
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	7	155	5775	17.48	18.00	1.127	97.77	1.023	-0.15	0.063	0.073	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	7	155	5775	16.65	18.00	1.365	97.77	1.023	-0.01	0.185	0.258	
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	7	155	5775	17.48	18.00	1.127	97.77	1.023	-0.01	0.064	0.074	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	8	155	5775	14.25	15.50	1.334	97.77	1.023	-0.18	0.095	0.130	-0.49
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	8	155	5775	14.78	15.50	1.180	97.77	1.023	-0.18	0.032	0.039	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	8	155	5775	14.25	15.50	1.334	97.77	1.023	-0.14	0.085	0.116	
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	8	155	5775	14.78	15.50	1.180	97.77	1.023	-0.14	0.035	0.042	

	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	9	155	5775	14.25	16.00	1.496	97.77	1.023	-0.18	0.095	0.145	-0.47
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	9	155	5775	14.78	16.00	1.324	97.77	1.023	-0.18	0.032	0.043	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	9	155	5775	14.25	16.00	1.496	97.77	1.023	-0.14	0.085	0.130	
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	9	155	5775	14.78	16.00	1.324	97.77	1.023	-0.14	0.035	0.047	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	5	171	5855	16.45	18.00	1.429	97.75	1.023	-0.16	0.187	0.273	-1.37
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	5	171	5855	16.88	18.00	1.294	97.75	1.023	-0.16	0.069	0.091	
99	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(3)	5	171	5855	16.45	18.00	1.429	97.75	1.023	0.14	0.136	0.199	
		WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 3+4(4)	5	171	5855	16.88	18.00	1.294	97.75	1.023	0.14	0.044	0.058	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Measured APD (W/m^2)	Reported APD (W/m^2)	Deviation (dB)
	1st	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 3+4(3)	5/6/7/8/9	47	6185	10.30	11.50	1.318	95.33	1.049	-0.12	0.104	0.144	0.803	1.110	-1.50
		WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 3+4(4)	5/6/7/8/9	47	6185	10.17	11.50	1.358	95.33	1.049	-0.12	0.001	0.001	0.001	0.001	
100	2nd	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 3+4(3)	5/6/7/8/9	47	6185	10.30	11.50	1.318	95.33	1.049	0.1	0.074	0.102	0.436	0.603	
		WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 3+4(4)	5/6/7/8/9	47	6185	10.17	11.50	1.358	95.33	1.049	0.1	0.011	0.016	0.066	0.094	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Deviation (dB)
	1st	Bluetooth	1Mbps	Back	10mm	Ant 3	2	0	2402	19.09	20.00	1.232	77.13	1.080	0.17	0.192	0.255	-0.02
101	2nd	Bluetooth	1Mbps	Back	10mm	Ant 3	2	0	2402	19.09	20.00	1.232	77.13	1.080	0.01	0.191	0.254	
	1st	Bluetooth	1Mbps	Back	10mm	Ant 4	2	0	2402	19.79	20.00	1.049	77.13	1.080	-0.09	0.234	0.265	-0.45
	2nd	Bluetooth	1Mbps	Back	10mm	Ant 4	2	0	2402	19.79	20.00	1.049	77.13	1.080	0.06	0.211	0.239	
	1st	Bluetooth	1Mbps	Back	10mm	Ant 3+4(3)	2	0	2402	19.09	20.00	1.232	77.13	1.080	-0.04	0.158	0.210	-0.18
		Bluetooth	1Mbps	Back	10mm	Ant 3+4(4)	2	0	2402	19.79	20.00	1.049	77.13	1.080	-0.04	0.212	0.240	
	2nd	Bluetooth	1Mbps	Back	10mm	Ant 3+4(3)	2	0	2402	19.09	20.00	1.232	77.13	1.080	-0.02	0.164	0.218	
		Bluetooth	1Mbps	Back	10mm	Ant 3+4(4)	2	0	2402	19.79	20.00	1.049	77.13	1.080	-0.02	0.203	0.230	
	1st	Bluetooth	1Mbps	Back	10mm	Ant 3	3/4	39	2441	13.95	15.00	1.274	77.13	1.080	-0.03	0.109	0.150	-1.12
	2nd	Bluetooth	1Mbps	Back	10mm	Ant 3	3/4	39	2441	13.95	15.00	1.274	77.13	1.080	0.01	0.084	0.116	
	1st	Bluetooth	1Mbps	Back	10mm	Ant 4	3/4	0	2402	14.68	15.00	1.076	77.13	1.080	0.12	0.082	0.095	-0.23
	2nd	Bluetooth	1Mbps	Back	10mm	Ant 4	3/4	0	2402	14.68	15.00	1.076	77.13	1.080	-0.1	0.077	0.090	
	1st	Bluetooth	1Mbps	Back	10mm	Ant 3+4(3)	3/4	39	2441	13.95	15.00	1.274	77.13	1.080	-0.09	0.110	0.151	-0.49
		Bluetooth	1Mbps	Back	10mm	Ant 3+4(4)	3/4	39	2441	14.58	15.00	1.102	77.13	1.080	-0.09	0.076	0.090	
	2nd	Bluetooth	1Mbps	Back	10mm	Ant 3+4(3)	3/4	39	2441	13.95	15.00	1.274	77.13	1.080	0.08	0.098	0.135	
		Bluetooth	1Mbps	Back	10mm	Ant 3+4(4)	3/4	39	2441	14.58	15.00	1.102	77.13	1.080	0.08	0.059	0.070	
	1st	Thread		Back	10mm	Ant 3	2	25	2475	18.74	19.00	1.062	90	1.000	-0.02	0.234	0.248	-0.35
102	2nd	Thread		Back	10mm	Ant 3	2	25	2475	18.74	19.00	1.062	90	1.000	0.04	0.216	0.229	
	1st	Thread		Back	10mm	Ant 3	3/4	25	2475	14.45	14.50	1.012	90	1.000	0.03	0.140	0.142	-0.66
	2nd	Thread		Back	10mm	Ant 3	3/4	25	2475	14.45	14.50	1.012	90	1.000	-0.03	0.121	0.122	

16.4 Product Specific SAR

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Deviation (dB)
	1st	GSM1900_Ant 0	GPRS (4 Tx slots)	Bottom Side	0mm	5	512	1850.2	22.17	23.25	1.282			0.05	1.930	2.475	-0.38
103	2nd	GSM1900_Ant 0	GPRS (4 Tx slots)	Bottom Side	0mm	5	512	1850.2	22.07	23.25	1.312			-0.06	1.730	2.270	
	1st	WCDMA II_Ant 0	RMC 12.2Kbps	Bottom Side	0mm	5	9262	1852.4	19.48	20.35	1.222			0	2.000	2.444	-0.36
104	2nd	WCDMA II_Ant 0	RMC 12.2Kbps	Bottom Side	0mm	5	9262	1852.4	19.41	20.35	1.242			0	1.810	2.247	
	1st	LTE Band 30_Ant 0	10M_QPSK_1_0	Bottom Side	0mm	5	27710	2310	19.37	20.65	1.343			-0.02	1.820	2.444	-0.07
105	2nd	LTE Band 30_Ant 0	10M_QPSK_1_0	Bottom Side	0mm	5	27710	2310	19.44	20.65	1.321			-0.01	1.820	2.405	
	1st	NTN B23_Ant 1	15K_BPSK_1_0	Front	0mm	5	25600	2010	22.25	23.70	1.396	79	1.051	0.15	1.250	1.834	1.23
106	2nd	NTN B23_Ant 1	15K_BPSK_1_0	Front	0mm	5	25600	2010	22.30	23.70	1.380	79	1.051	0.1	1.680	2.437	
	1st	NTN B255_Ant 5	15K_BPSK_1_0	Right Side	0mm	5	261505	1626.6	22.41	23.50	1.285	79	1.051	0.06	0.622	0.840	-0.50
107	2nd	NTN B255_Ant 5	15K_BPSK_1_0	Right Side	0mm	5	261505	1626.6	22.07	23.50	1.390	79	1.051	0	0.513	0.749	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Deviation (dB)
	1st	WLAN5GHz	802.11a 6Mbps	Left Side	0mm	Ant 3+4(3)	5/6/7	60	5300	18.95	19.00	1.012	100	1.000	-0.04	1.190	1.204	1.75
		WLAN5GHz	802.11a 6Mbps	Left Side	0mm	Ant 3+4(4)	5/6/7	60	5300	18.58	19.00	1.102	100	1.000	-0.04	0.001	0.001	
108	2nd	WLAN5GHz	802.11a 6Mbps	Left Side	0mm	Ant 3+4(3)	5/6/7	60	5300	18.95	19.00	1.012	100	1.000	0.01	1.780	1.801	
		WLAN5GHz	802.11a 6Mbps	Left Side	0mm	Ant 3+4(4)	5/6/7	60	5300	18.58	19.00	1.102	100	1.000	0.01	0.001	0.001	
	1st	WLAN5GHz	802.11a 6Mbps	Left Side	0mm	Ant 3+4(3)	8/9	56	5280	16.05	17.00	1.245	100	1.000	0	0.552	0.687	1.46
		WLAN5GHz	802.11a 6Mbps	Left Side	0mm	Ant 3+4(4)	8/9	56	5280	15.18	17.00	1.521	100	1.000	0	0.001	0.002	
	2nd	WLAN5GHz	802.11a 6Mbps	Left Side	0mm	Ant 3+4(3)	8/9	56	5280	16.05	17.00	1.245	100	1.000	-0.03	0.772	0.961	
		WLAN5GHz	802.11a 6Mbps	Left Side	0mm	Ant 3+4(4)	8/9	56	5280	15.18	17.00	1.521	100	1.000	-0.03	0.001	0.002	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(3)	5/6/7/9	138	5690	18.05	19.00	1.245	97.77	1.023	-0.05	1.550	1.973	1.04
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(4)	5/6/7/9	138	5690	18.48	19.00	1.127	97.77	1.023	-0.05	0.001	0.001	
109	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(3)	5/6/7/9	138	5690	18.05	19.00	1.245	97.77	1.023	-0.19	1.970	2.508	
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(4)	5/6/7/9	138	5690	18.48	19.00	1.127	97.77	1.023	-0.19	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(3)	8	138	5690	18.05	18.50	1.109	97.77	1.023	-0.05	1.550	1.759	1.04
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(4)	8	138	5690	18.48	18.50	1.005	97.77	1.023	-0.05	0.001	0.001	
	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(3)	8	138	5690	18.05	18.50	1.109	97.77	1.023	-0.19	1.970	2.235	
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(4)	8	138	5690	18.48	18.50	1.005	97.77	1.023	-0.19	0.001	0.001	
	1st	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(3)	5	171	5855	16.45	18.00	1.429	97.75	1.023	-0.16	1.130	1.652	0.44
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(4)	5	171	5855	16.88	18.00	1.294	97.75	1.023	-0.16	0.001	0.001	
110	2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(3)	5	171	5855	16.45	18.00	1.429	97.75	1.023	-0.11	1.250	1.827	
		WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+4(4)	5	171	5855	16.88	18.00	1.294	97.75	1.023	-0.11	0.001	0.001	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Measured APD (W/m^2)	Reported APD (W/m^2)	Deviation (dB)
	1st	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	0mm	Ant 3+4(3)	5/6/7/8/9	47	6185	10.30	11.50	1.318	95.33	1.049	0.01	0.259	0.358	6.190	8.560	1.53
		WLAN6GHz	802.11ax-HE160 MCS0	Left Side	0mm	Ant 3+4(4)	5/6/7/8/9	47	6185	10.17	11.50	1.358	95.33	1.049	0.01	0.001	0.001	0.001	0.001	
111	2nd	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	0mm	Ant 3+4(3)	5/6/7/8/9	47	6185	10.30	11.50	1.318	95.33	1.049	0.17	0.368	0.509	8.720	12.058	
		WLAN6GHz	802.11ax-HE160 MCS0	Left Side	0mm	Ant 3+4(4)	5/6/7/8/9	47	6185	10.17	11.50	1.358	95.33	1.049	0.17	0.001	0.001	0.001	0.001	

Plot No.	No.	Band	Mode	Test Position	Gap (mm)	Freq. (MHz)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Deviation (dB)
	1st	NFC	ASK	Back	0mm	13.56	1.000	0	0.094	-0.98
112	2nd	NFC	ASK	Back	0mm	13.56	1.000	0	0.075	

Conclusion:

The spot check results don't show the SAR increase more than 3dB, and all below 1.2W/kg for 1-g SAR, below 3W/kg for 10-g SAR. Referring to the guidance in the KDB inquiry, SAR data reuse is justified.

17. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
4. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
5. Since NTN B23 body-worn spot check result was higher than 3dB between reference model, therefore, full test body-worn condition is required.

WLAN PD Note:

1. The WiFi 6E PD was performed according 2020 TCB workshop RF Exposure 5G RFX Policies Interim Procedures.
2. First, evaluate SAR using 6-7 GHz parameters per IEC/IEEE 62209-1528:2020 and using highest SAR test configurations evaluate incident PD using the mmw near-field probe and total-field/power-density reconstruction method (2 mm closest meas. plane).
3. Per Interim Procedures. The power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.68 dB (85.4%) was used to determine the psPD measurement scaling factor
4. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. The WiFi 6E RF Exposure results are used for simultaneous transmission analysis with the other transmitters and total exposure ratio, the analysis can be found in this report appendix F and part1 PD report section12
6. Absorbed power density (APD) using a 4cm2 averaging area is reported based on SAR measurements.
7. Power density was calculated by repeated E-field measurements on two measurement planes separated by λ/4.
8. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools.
9. The measurement procedure consists of measuring the PDinc at two different distances: 2 mm (compliance distance) and λ/5. The grid extents should be large enough to fully capture the transmitted energy. The grid step should be fine enough to demonstrate that the integrated Power Density iPDn fulfill the criterion described below. Since iPD ratio between the two distances is ≥ -1dB, the grid step (0.0625) was sufficient for determining compliance at d=2mm.

$$10 \cdot log_{10} \frac{iPD_n(2mm)}{iPD_n(\lambda/5)} \geq -1$$

17.1 Body-Worn SAR

Plot No.	Band	Sub-carrier Speacing (KHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	NTN B23_Ant 1	15	BPSK	1	0	Front	10mm	5	25501	2000.1	22.37	23.70	1.358	79	1.051	-0.06	0.688	0.982
113	NTN B23_Ant 1	15	BPSK	1	0	Back	10mm	5	25501	2000.1	22.37	23.70	1.358	79	1.051	-0.02	0.691	0.986
	NTN B23_Ant 1	15	BPSK	1	0	Back	10mm	5	25600	2010	22.25	23.70	1.396	79	1.051	0.01	0.556	0.816
	NTN B23_Ant 1	15	BPSK	1	0	Back	10mm	5	25699	2019.9	22.30	23.70	1.380	79	1.051	-0.1	0.620	0.899

17.2 6GHz PD Test Result

Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Grid Step (λ)	iPDn	iPD ratio (≥ -1)	Normal psPD (W/m^2)	Total psPD (W/m^2)
WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+4(3)	15	6025	11.90	0.0625	2.8	0.141887405	2.21	3.03
WLAN6GHz	802.11ax-HE160 MCS0	Front	10mm	Ant 3+4(3)	15	6025	11.90	0.25	2.71		1.05	1.11
WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+4(3)	207	6985	15.80	0.0625	2.97	-0.32393529	2.3	2.98
WLAN6GHz	802.11ax-HE160 MCS0	Front	8.59mm	Ant 3+4(3)	207	6985	15.80	0.25	3.2		1.15	1.23

<Head>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Grid Step (λ)	Scaling Factor for Measurement Uncertainty	Power Drift (dB)	Normal psPD (W/m^2)	Scaled Normal psPD (W/m^2)	Total psPD (W/m^2)	Scaled Total psPD (W/m^2)
	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+4(3)	207	6985	15.80	17.50	1.479	95.33	1.049	0.0625	1.5535	0.12	2.30	5.54	2.98	7.18
	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+4(3)	15	6025	11.90	12.50	1.148	95.33	1.049	0.0625	1.5535	-0.11	2.21	4.14	3.03	5.67
	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+4(4)	47	6185	11.87	12.50	1.156	95.33	1.049	0.0625	1.5535	0.09	3.00	5.65	3.90	7.35
	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+4(3)	111	6505	13.40	14.00	1.148	95.33	1.049	0.0625	1.5535	-0.06	2.27	4.25	3.00	5.61
114	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+4(3)	143	6665	14.20	15.00	1.202	95.33	1.049	0.0625	1.5535	-0.16	3.29	6.45	3.82	7.48

<Hotspot>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Grid Step (λ)	Scaling Factor for Measurement Uncertainty	Power Drift (dB)	Normal psPD (W/m^2)	Scaled Normal psPD (W/m^2)	Total psPD (W/m^2)	Scaled Total psPD (W/m^2)
	WLAN6GHz	802.11ax-HE160 MCS0	Front	10mm	Ant 3+4(3)	143	6665	11.00	12.00	1.259	95.33	1.049	0.0625	1.5535	-0.15	0.241	0.494	0.282	0.579
	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 3+4(3)	143	6665	11.00	12.00	1.259	95.33	1.049	0.0625	1.5535	-0.18	0.433	0.888	0.513	1.05
	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	10mm	Ant 3+4(3)	143	6665	11.00	12.00	1.259	95.33	1.049	0.0625	1.5535	-0.13	0.678	1.39	0.871	1.79
	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	10mm	Ant 3+4(3)	15	6025	11.00	11.50	1.122	95.33	1.049	0.0625	1.5535	0.14	1.54	2.82	1.61	2.94
115	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	10mm	Ant 3+4(3)	47	6185	10.30	11.50	1.318	95.33	1.049	0.0625	1.5535	-0.16	1.35	2.90	1.54	3.31
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	10mm	Ant 3+4(4)	143	6665	11.07	12.00	1.239	95.33	1.049	0.0625	1.5535	0.17	0.185	0.373	0.271	0.547
	WLAN6GHz	802.11ax-HE160 MCS0	Top Side	10mm	Ant 3+4(3)	143	6665	11.00	12.00	1.259	95.33	1.049	0.0625	1.5535	-0.13	0.236	0.484	0.254	0.521

<Product Specific>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Grid Step (λ)	Scaling Factor for Measurement Uncertainty	Power Drift (dB)	Normal psPD (W/m^2)	Scaled Normal psPD (W/m^2)	Total psPD (W/m^2)	Scaled Total psPD (W/m^2)
	WLAN6GHz	802.11ax-HE160 MCS0	Front	2mm	Ant 3+4(3)	207	6985	12.40	13.50	1.288	95.33	1.049	0.0625	1.5535	0.1	1.61	3.38	1.71	3.59
	WLAN6GHz	802.11ax-HE160 MCS0	Back	2mm	Ant 3+4(3)	207	6985	12.40	13.50	1.288	95.33	1.049	0.0625	1.5535	0.13	1.22	2.56	1.38	2.90
116	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	2mm	Ant 3+4(3)	207	6985	12.40	13.50	1.288	95.33	1.049	0.0625	1.5535	0	2.69	5.65	3.23	6.78
	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	2mm	Ant 3+4(3)	15	6025	11.00	11.50	1.122	95.33	1.049	0.0625	1.5535	-0.16	1.96	3.58	3.14	5.74
	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	2mm	Ant 3+4(3)	47	6185	10.30	11.50	1.318	95.33	1.049	0.0625	1.5535	-0.05	1.44	3.09	2.21	4.75
	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	2mm	Ant 3+4(3)	111	6505	8.20	10.00	1.514	95.33	1.049	0.0625	1.5535	0.03	1.62	4.00	2.06	5.08
	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	2mm	Ant 3+4(3)	143	6665	11.00	12.00	1.259	95.33	1.049	0.0625	1.5535	0.04	2.13	4.37	2.71	5.56
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 3+4(4)	207	6985	12.97	13.50	1.130	95.33	1.049	0.0625	1.5535	-0.14	1.31	2.41	1.69	3.11
	WLAN6GHz	802.11ax-HE160 MCS0	Top Side	2mm	Ant 3+4(3)	207	6985	12.40	13.50	1.288	95.33	1.049	0.0625	1.5535	0.18	1.06	2.23	1.16	2.44

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18. Uncertainty Assessment

Declaration of Conformity:
The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

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

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

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

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

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

(b) κ is the coverage factor

Standard Uncertainty for Assumed Distribution

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

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

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Applicable for SAR Measurements:

Uncertainty Budget (4 MHz - 10 GHz range)							
Error Description	**Uncertainty Value (±%)**	**Probability**	**Divisor**	**(Ci) 1g**	**(Ci) 10g**	**Standard Uncertainty (1g) (±%)**	**Standard Uncertainty (10g) (±%)**
Measurement System							
Probe Calibration	18.60	N	2	1	1	9.3	9.3
Axial Isotropy	4.70	R	1.732	0.7	0.7	1.9	1.9
Hemispherical Isotropy	9.60	R	1.732	0.7	0.7	3.9	3.9
Linearity	4.70	R	1.732	1	1	2.7	2.7
Modulation Response	4.68	R	1.732	1	1	2.7	2.7
System Detection Limits	1.00	R	1.732	1	1	0.6	0.6
Boundary Effects	2.00	R	1.732	1	1	1.2	1.2
Readout Electronics	0.30	N	1	1	1	0.3	0.3
Response Time	0.00	R	1.732	1	1	0.0	0.0
Integration Time	2.60	R	1.732	1	1	1.5	1.5
RF Ambient Noise	3.00	R	1.732	1	1	1.7	1.7
RF Ambient Reflections	3.00	R	1.732	1	1	1.7	1.7
Probe Positioner	0.40	R	1.732	1	1	0.2	0.2
Probe Positioning	6.70	R	1.732	1	1	3.9	3.9
Post-processing	4.00	R	1.732	1	1	2.3	2.3
Test Sample Related							
Device Holder	3.60	N	1	1	1	3.6	3.6
Test sample Positioning	3.03	N	1	1	1	3.0	3.0
Power Scaling	0.00	R	1.732	1	1	0.0	0.0
Power Drift	5.00	R	1.732	1	1	2.9	2.9
Phantom and Setup							
Phantom Uncertainty	7.60	R	1.732	1	1	4.4	4.4
SAR correction	0.00	R	1.732	1	0.84	0.0	0.0
Liquid Conductivity Repeatability	0.03	N	1	0.78	0.77	0.0	0.0
Liquid Conductivity (target)	5.00	R	1.732	0.78	0.77	2.3	2.2
Liquid Conductivity (mea.)	2.50	R	1.732	0.78	0.77	1.1	1.1
Temp. unc. - Conductivity	3.68	R	1.732	0.78	0.77	1.7	1.6
Liquid Permittivity Repeatability	0.02	N	1	0.23	0.26	0.0	0.0
Liquid Permittivity (target)	5.00	R	1.732	0.23	0.26	0.7	0.8
Liquid Permittivity (mea.)	2.50	R	1.732	0.23	0.26	0.3	0.4
Temp. unc. - Permittivity	0.84	R	1.732	0.23	0.26	0.1	0.1
Combined Std. Uncertainty						14.5%	14.2%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						29.0%	28.4%

Applicable for Power Density Measurements:

Error Description	Uncertainty Value (±dB)	Probability	Divisor	(Ci)	Standard Uncertainty (±dB)
Probe Calibration	0.49	N	1	1	0.49
Probe correction	0.00	R	1.732	1	0.00
Frequency response (BW ≤ 1 GHz)	0.20	R	1.732	1	0.12
Sensor cross coupling	0.00	R	1.732	1	0.00
Isotropy	0.50	R	1.732	1	0.29
Linearity	0.20	R	1.732	1	0.12
Probe scattering	0.00	R	1.732	1	0.00
Probe positioning offset	0.30	R	1.732	1	0.17
Probe positioning repeatability	0.04	R	1.732	1	0.02
Sensor mechanical offset	0.00	R	1.732	1	0.00
Probe spatial resolution	0.00	R	1.732	1	0.00
Field impedance dependance	0.00	R	1.732	1	0.00
Amplitude and phase drift	0.00	R	1.732	1	0.00
Amplitude and phase noise	0.04	R	1.732	1	0.02
Measurement area truncation	0.00	R	1.732	1	0.00
Data acquisition	0.03	N	1	1	0.03
Sampling	0.00	R	1.732	1	0.00
Field reconstruction	2.00	R	1.732	1	1.15
Forward transformation	0.00	R	1.732	1	0.00
Power density scaling	0.00	R	1.732	1	0.00
Spatial averaging	0.10	R	1.732	1	0.06
System detection limit	0.04	R	1.732	1	0.02
Uncertainty terms dep endent on the DUT and environmental factors					
Probe coupling with DUT	0.00	R	1.732	1	0.0
Modulation response	0.40	R	1.732	1	0.2
Integration time	0.00	R	1.732	1	0.0
Response time	0.00	R	1.732	1	0.0
Device holder influence	0.10	R	1.732	1	0.1
DUT alignment	0.00	R	1.732	1	0.0
RF ambient conditions	0.04	R	1.732	1	0.0
Ambient reflections	0.04	R	1.732	1	0.0
Immunity / secondary reception	0.00	R	1.732	1	0.0
Drift of the DUT		R	1.732	1	
Combined Std. Uncertainty					1.34
Expanded STD Uncertainty (95%)					**2.68**

19. References

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

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

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

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

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

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

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[15] IEC/IEEE 62209-1528:2020, “Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)”, Oct. 2020

[16] SPEAG DASY6 System Handbook

[17] SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)