Certificate #4312.01

FCC SAR TEST REPORT

Product Name:	Smartphone
Trade Mark:	inventus
Model No.:	CT1
Report Number:	2312288686SAR-1
Test Standards:	FCC 47 CFR Part 2 §2.1093 ANSI/IEEE C95.1-1992 IEEE Std 1528-2013
FCC ID:	2BDXXBDCT1
Test Result:	PASS
Date of Issue:	April 23, 2024

Prepared for:

INVENTUS GROUP LTD
C/O FLB ACCOUNTANTS LLP 1010 ESKDALE ROAD, WINNERSH TRIANGLE, WOKINGHAM, UNITED KINGDOM, RG41 5TS

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Version

Version No.	Date	Description
V1.0	April 23, 2024	Original Report

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1. GENERAL INFORMATION

1.1. STATEMENT OF COMPLIANCE

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

Equipment Class	Mode	Highest Reported Head SAR_{1g} (W/kg)	Highest Reported Body-worn SAR_{1g} (1.0 cm Gap) (W/kg)	Highest Reported Hotspot SAR_{1g} (1.0 cm Gap) (W/kg)	Highest Reported Extremity SAR_{10g} (0 cm Gap) (W/kg)
Limits		1.6 W/kg	1.6 W/kg	1.6 W/kg	4 W/kg
PCB	GSM 850	0.402	0.478	0.478	N/A
	PCS 1900	0.224	0.719	0.719	N/A
	WCDMA Band II	0.122	0.371	0.371	N/A
	WCDMA Band IV	1.016	0.545	0.561	N/A
	WCDMA Band V	0.175	0.195	0.226	N/A
	LTE Band 25(2)	0.183	0.494	0.494	N/A
	LTE Band 66(4)	1.047	0.660	0.660	N/A
	LTE Band 26(5)	0.269	0.287	0.330	N/A
	LTE Band 7	0.238	0.451	0.451	N/A
	LTE Band 12(17)	0.182	0.225	0.277	N/A
	LTE Band 13	0.317	0.400	0.400	N/A
	LTE Band 30	0.144	0.325	0.403	N/A
	LTE Band 40	0.106	0.282	0.300	N/A
	LTE Band 41(38)	0.318	0.532	0.532	N/A
	LTE Band 71	0.175	0.220	0.252	N/A
DTS	2.4G WLAN	0.495	0.077	0.077	N/A
NII-1	5G WLAN	0.955	0.171	0.216	N/A
NII-2A	5G WLAN	0.960	0.062	0.039	0.560
NII-2C	5G WLAN	0.971	0.055	N/A	0.465
NII-3	5G WLAN	0.783	0.145	N/A	N/A
DSS	Bluetooth	0.181	0.039	0.039	N/A
DXX	NFC	N/A	N/A	N/A	N/A
Max. SAR		**1.047**	**0.719**	**0.719**	**0.560**
Highest Simultaneous Transmission SAR		Head (W/kg)	Body-worn (W/kg)	Hotspot (W/kg)	Extremity (W/kg)
PCB + DSS		1.094	0.758	0.758	N/A
PCB + DTS		1.206	0.791	0.791	N/A
PCB + NII		1.584	0.842	0.842	N/A

1.2. CLIENT INFORMATION

Applicant:	INVENTUS GROUP LTD
Address of Applicant:	C/O FLB ACCOUNTANTS LLP 1010 ESKDALE ROAD, WINNERSH TRIANGLE, WOKINGHAM, UNITED KINGDOM, RG41 5TS
Manufacturer:	INVENTUS GROUP LTD
Address of Manufacturer:	C/O FLB ACCOUNTANTS LLP 1010 ESKDALE ROAD, WINNERSH TRIANGLE, WOKINGHAM, UNITED KINGDOM, RG41 5TS

1.3. EUT INFORMATION

1.3.1. General Description of EUT

Product Name:	Smartphone
Trade Mark:	inventus
Model No.:	CT1
FCC ID:	2BDXXBDCT1
DUT Stage:	Identical Prototype
Sample Number:	S202312282554-ZJD82/88, S202312282554-ZJB05/5
Software Version:	SW1_V7.0_SCT1INVS_ROW_A13_140324(Provided by the customer)
Hardware Version:	HW1 (Provided by the customer)
Sample Received Date:	January 10, 2024
Sample Tested Date:	February 26, 2024 to April 6, 2024

1.3.2. Description of Accessories

Adapter	
Model No.:	TPD-203A120167UF01
Input:	100-240V~50/60Hz 0.6A
Output:	5.0V⎓3.0A or 9.0V⎓2.22A or 12.0V⎓1.67A

Battery	
Model No.:	INV012
Battery Type:	Lithium-ion Rechargeable Battery
Rated Voltage:	3.85Vdc
Limited Charge Voltage:	4.4Vdc
Rated Capacity:	4850mAh

Cable	
Connector:	USB Type-C Plug Cable
Cable Type:	Shielded without ferrite
Length:	1.15Meter

1.3.3. EUT Tx Frequency Bands

RF Type	Band(s)	Tx Frequency Range (Unit: MHz)
GSM	**GSM 850:**	824.2 - 848.8
	PCS 1900:	1850.2 - 1909.8
WCDMA	**WCDMA Band II:**	1852.4 - 1907.6
	WCDMA Band IV:	1712.4 - 1752.6
	WCDMA Band V:	826.4 - 846.6
LTE	**LTE Band 2:**	1850.7 - 1909.3 (1.4M), 1851.5 - 1908.5 (3M), 1852.5 - 1907.5 (5M), 1855 - 1905 (10M), 1857.5 - 1902.5 (15M), 1860 - 1900 (20M)
	LTE Band 4:	1710.7 - 1754.3 (1.4M), 1711.5 - 1753.5 (3M), 1712.5 - 1752.5 (5M), 1715 - 1750 (10M), 1717.5 - 1747.5 (15M), 1720 - 1745 (20M)
	LTE Band 5:	824.7 - 848.3 (1.4M), 825.5 - 847.5 (3M), 826.5 - 846.5 (5M), 829 - 844 (10M)
	LTE Band 7:	2502.5 - 2567.5 (5M), 2505 - 2565 (10M), 2507.5 - 2562.5 (15M), 2510 - 2560 (20M)
	LTE Band 12:	699.7 - 715.3 (1.4M), 700.5 - 714.5 (3M), 701.5 - 713.5 (5M), 704 - 711 (10M)
	LTE Band 13:	779.5 - 784.5 (5M), 782 (10M)
	LTE Band 17:	706.5 - 713.5 (5M), 709 - 711 (10M)
	LTE Band 25:	1850.7 - 1914.3 (1.4M), 1851.5 - 1913.5 (3M), 1852.5 - 1912.5 (5M), 1855 - 1910 (10M), 1857.5 - 1907.5 (15M), 1860 - 1905 (20M)
	LTE Band 26:	814.7 - 848.3 (1.4M), 815.5 - 847.5 (3M), 816.5 - 846.5 (5M), 819 - 844 (10M), 821.5 - 841.5 (15M)
	LTE Band 30:	2307.5 - 2312.5 (5M), 2310 (10M)
	LTE Band 38:	2572.5 - 2617.5 (5M), 2575 - 2615 (10M), 2577.5 - 2612.5 (15M), 2580 - 2610 (20M)
	LTE Band 40:	2307.5 - 2312.5 (5M), 2310 (10M), 2352.5 - 2357.5 (5M), 2355 (10M),
	LTE Band 41:	2498.5 - 2687.5 (5M), 2501 - 2685 (10M), 2503.5 - 2682.5 (15M) 2506 - 2680 (20M)
	LTE Band 66:	1710.7 - 1779.3 (1.4M), 1711.5 - 1778.5 (3M), 1712.5 - 1777.5 (5M), 1715 - 1775 (10M), 1717.5 - 1772.5 (15M), 1720 - 1770 (20M)
	LTE Band 71:	665.5 - 695.5 (5M), 668 - 693 (10M), 670.5 - 690.5 (15M), 673 - 688 (20M)
WLAN	**2.4 GHz:**	2412 - 2472
	U-NII-1:	5180 - 5240
	U-NII-2A:	5260 - 5320
	U-NII-2C:	5500 - 5720
	U-NII-3:	5745 - 5825
Bluetooth	**2.4 GHz:**	2402 - 2480
NFC	**13.553-13.567 MHz**	13.56

Note 1:
According to 201504 FCC TCB workshop RF exposure slides, for overlapping bands, only larger band was tested.

1. The maximum output power, including tolerance, for the smaller band is = the larger band to qualify for the SAR test exclusion.
2. The channel bandwidth and other operating parameters for the smaller band is fully supported by the larger band.
   - Band 66 (1710 - 1780 MHz) SAR can support band 4 (1710 - 1755 MHz).
   - Band 25 (1850 - 1915 MHz) SAR can support band 2 (1850 - 1910 MHz).
   - Band 26 (814 - 849 MHz) SAR can support band 5 (824 – 849 MHz).
   - Band 12 (699 - 716 MHz) SAR can support band 17 (704 – 716 MHz).
   - Band 41 (2496 - 2690 MHz) SAR can support band 38 (2570 – 2620 MHz)
   - Band 40 (2305 - 2315 MHz, 2350 – 2360 MHz) SAR can support band 30 (2305 – 2315 MHz)

1.3.4. Wireless Technologies

GSM	Voice GPRS (Multi-Slot Class: 12-4UP) EDGE (Multi-Slot Class: 12-4UP)
WCDMA	RMC HSDPA HSUPA
LTE	QPSK 16QAM VoLTE
2.4G WLAN	802.11b 802.11g 802.11n (HT20/HT40)
5G WLAN	802.11a 802.11n (HT20/HT40) 802.11ac (VHT20/VHT40/VHT80)
Bluetooth	BR+EDR LE
Others	NFC
Device Class (GSM)	B
Antenna Type	WWAN: Antenna 0: LDS Antenna; Antenna 1&2: FPCB Antenna WLAN/ Bluetooth/ GNSS: FPCB Antenna FM: Internal Antenna NFC: FPCB Antenna
Power Reduction	Support The device utilizes two output power modes: Mode A(DSI-1) and Mode B(DSI-2). Power selection is determined by the device's positioning and use case as described in Section 4.5. Mode B(DSI-2) power is used when the device is used against the user's head, or away from the body. Mode A(DSI-1) is used when the device is used in a body-worn configuration by the user.
Dynamic Antenna	Not Support
Wireless Router (Hotspot)	2.4G WLAN: Support 5.2G WLAN: Support 5.3G WLAN: Not Support 5.6G WLAN: Not Support 5.8G WLAN: Support
VOIP	Support Note: Since this device supports VOIP capability through 3rd party apps software, we have evaluated data mode for head and body SAR.
Dual SIM	SIM 1: GSM + WCDMA + CDMA + LTE SIM 2: GSM + WCDMA + CDMA + LTE Note : This device support dual SIM but they share the same antenna. Since these two SIM are used for subscriber identification only and it is not related to RF identity, only SIM1 was used for SAR testing.

1.4. MAXIMUM CONDUCTED POWER

The maximum conducted average power including tune-up tolerance is shown as below.

➢ **GSM**

Mode	Maximum conducted average power (dBm)	
	GSM 850 (DSI-1& DSI-2)	DCS 1900 (DSI-1& DSI-2)
GSM (GMSK, 1Tx-slot)	33.0	30.0
GPRS (GMSK, 1Tx-slot)	33.0	30.0
GPRS (GMSK, 2Tx-slot)	32.5	29.0
GPRS (GMSK, 3Tx-slot)	30.5	27.0
GPRS (GMSK, 4Tx-slot)	29.5	26.0
EDGE (8PSK, 1Tx-slot)	28.0	26.0
EDGE (8PSK, 2Tx-slot)	26.5	25.5
EDGE (8PSK, 3Tx-slot)	24.5	23.5
EDGE (8PSK, 4Tx-slot)	23.5	22.5

➢ **WCDMA**

Mode	Maximum conducted average power (dBm)			
	WCDMA Band II (DSI-1& DSI-2)	WCDMA Band V (DSI-1& DSI-2)	WCDMA Band IV (DSI-1)	WCDMA Band IV (DSI-2)
RMC 12.2K	23.5	24.0	23.5	20.3
HSDPA Subtest-1	22.5	23.0	22.5	20.3
HSDPA Subtest-2	22.0	23.0	22.0	20.0
HSDPA Subtest-3	22.0	22.5	22.0	20.0
HSDPA Subtest-4	22.0	22.5	22.0	20.0
HSUPA Subtest-1	21.0	22.0	21.0	19.0
HSUPA Subtest-2	22.5	23.0	22.5	20.3
HSUPA Subtest-3	22.0	22.5	22.0	20.0
HSUPA Subtest-4	22.5	23.0	22.5	20.3
HSUPA Subtest-5	22.5	23.0	22.5	20.3

➢ **LTE**

Band	Mode	Maximum conducted average power (dBm)	
		(DSI-1)	(DSI-2)
LTE Band 7	QPSK/16QAM	23.5	23.5
LTE Band 12(17)	QPSK/16QAM	24.0	24.0
LTE Band 13	QPSK/16QAM	24.0	24.0
LTE Band 25(2)	QPSK/16QAM	24.0	24.0
LTE Band 26(5)	QPSK/16QAM	24.0	24.0
LTE Band 30	QPSK/16QAM	24.0	24.0
LTE Band 40	QPSK/16QAM	23.0	23.0
LTE Band 41(38)	QPSK/16QAM	24.5	24.5
LTE Band 66(4)	QPSK/16QAM	24.5	19.4
LTE Band 71	QPSK/16QAM	24.0	24.0

➢ **2.4GHz WLAN**

Mode	Maximum conducted average power (dBm) (DSI-1& DSI-2)
802.11b	15.5
802.11g	10.5
802.11n-HT20	10.5
802.11n-HT40	11.0

➢ **5GHz WLAN**

Mode	Maximum conducted average power (dBm) (DSI-1& DSI-2)			
	U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
802.11a	13.5	13.5	14.0	14.0
802.11n-HT20	12.0	12.0	12.5	12.5
802.11n-HT40	12.0	12.0	12.5	12.5
802.11ac-VHT20	12.0	12.0	12.5	12.5
802.11ac-VHT40	12.0	12.0	12.5	12.5
802.11ac-VHT80	11.0	11.0	11.5	11.5

➢ **Bluetooth**

Mode	Modulation	Maximum conducted average power (dBm) (DSI-1& DSI-2)
BR + EDR	GFSK	9.5
	π/4-DQPSK	7.5
	8-DPSK	7.0
LE	GFSK	5.5

1.5. OTHER INFORMATION

None.

1.6. TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Telephone: +86 (0) 755 2823 0888
Fax: +86 (0) 755 2823 0886

1.7. TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

Shenzhen UnionTrust Quality and Technology Co., Ltd.

CNAS-Lab Code: L9069
The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories
CAB identifier: CN0032

FCC Accredited Lab.
Designation Number: CN1194
Test Firm Registration Number: 259480

1.8. GUIDANCE STANDARD

The tests documented in this report were performed in accordance with FCC 47 CFR Part 2 §2.1093, IEEE Std 1528-2013, ANSI/IEEE C95.1-1992, the following FCC Published RF exposure KDB procedures:

KDB 865664 D01 v01r04
KDB 865664 D02 v01r02
KDB 248227 D01 v02r02
KDB 447498 D04 v01
KDB 648474 D04 v01r03
KDB 941225 D01 v03r01
KDB 941225 D05 v02r05
KDB 941225 D05A v01r02
KDB 941225 D06 v02r01

2. SPECIFIC ABSORPTION RATE (SAR)

2.1. 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, by appropriate techniques, to produce specific absorption rates (SARs) as averaged over the whole-body, any 1 g or any 10 g of tissue (defined as a tissue volume in the shape of a cube). All SAR values are to be averaged over any six-minute period. When portable device was used within 20 cm of the user's body, SAR evaluation of the device will be required. The SAR limit in chapter 2.3.

2.2. SAR DEFINITION

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

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

SAR is expressed in units of Watts per kilogram (W/kg)
SAR measurement can be related to the electrical field in the tissue by

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

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

2.3. SAR LIMITS

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

Note:

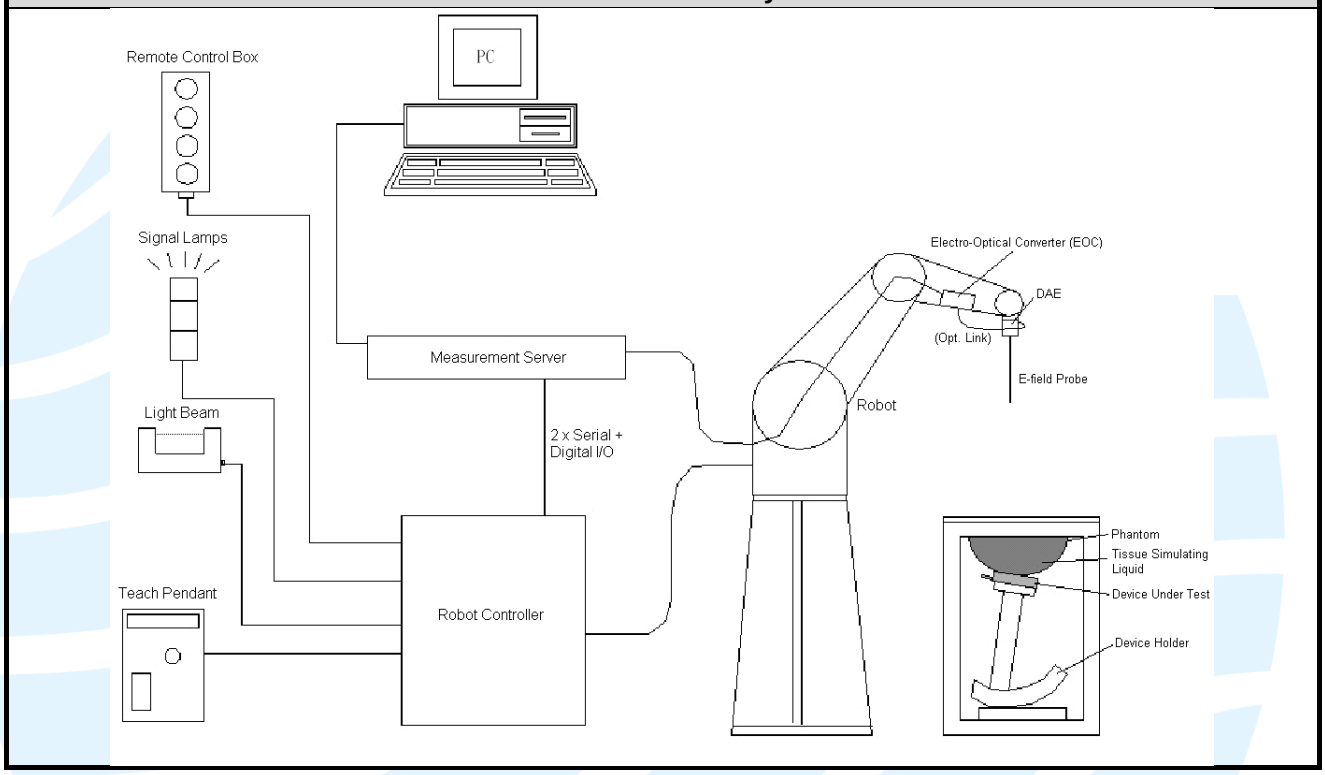
1) Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.
2) At frequencies above 6.0 GHz, SAR limits are not applicable and MPE limits for power density should be applied at 5 cm or more from the transmitting device.
3) The SAR limit is specified in FCC 47 CFR Part 2 §2.1093, ANSI/IEEE C95.1-1992.

3. SAR MEASUREMENT SYSTEM

3.1. SPEAG DASY SYSTEM

DASY system consists of high precision robot, probe alignment sensor, phantom, robot controller, controlled measurement server and near-field probe. The robot includes six axes that can move to the precision position of the DASY5 software defined. The DASY software can define the area that is detected by the probe. The robot is connected to controlled box. Controlled measurement server is connected to the controlled robot box. The DAE includes amplifier, signal multiplexing, AD converter, offset measurement and surface detection. It is connected to the Electro-optical coupler (ECO). The ECO performs the conversion form the optical into digital electric signal of the DAE and transfers data to the PC.

DASY Measurement System



3.1.1. Robot

The DASY system uses the high precision robots from Stäubli SA (France). For the 6-axis controller system, the robot controller version (DASY4: CS7MB) from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability ±0.02 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)

3.1.2. Probe

The SAR measurement is conducted with the dosimetric probe. 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.

Model	EX3DV4	
Construction	Symmetrical design with triangular core. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE).	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 µW/g to 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	

Model	ES3DV3	
Construction	Symmetrical 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 to 4 GHz Linearity: ± 0.2 dB	
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	5 µW/g to 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: 2.0 mm	

3.1.3. Data Acquisition Electronics (DAE)

Model	DAE3, DAE4	
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY embedded system (fully remote controlled). Two step probe touch detectors for mechanical surface detection and emergency robot stop.	
Measurement Range	-100 to +300 mV (16-bit resolution and two range settings: 4mV, 400mV)	
Input Offset Voltage	< 5µV (with auto zero)	
Input Bias Current	< 50 fA	
Dimensions	60 x 60 x 68 mm	

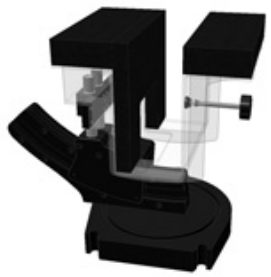
3.1.4. Phantom

Model	Twin SAM	
Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
Dimensions	Length: 1000 mm Width: 500 mm Height: adjustable feet	
Filling Volume	approx. 25 liters	

Model	ELI	
Construction	Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2.0 ± 0.2 mm (bottom plate)	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	
Filling Volume	approx. 30 liters	

3.1.5. Device Holder

Model	Mounting Device	
Construction	In combination with the Twin SAM Phantom or ELI4, the Mounting Device enables the rotation of the mounted transmitter device in spherical coordinates. Rotation point is the ear opening point. Transmitter devices can be easily and accurately positioned according to IEC, IEEE, FCC or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat).	
Material	POM	

Model	Laptop Extensions Kit	
Construction	Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc.). It is lightweight and fits easily on the upper part of the Mounting Device in place of the phone positioner.	
Material	POM, Acrylic glass, Foam	

3.1.6. System Validation Dipoles

Model	D-Serial	
Construction	Symmetrical dipole with l/4 balun. Enables measurement of feed point impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions.	
Frequency	750 MHz to 5800 MHz	
Return Loss	> 20 dB	
Power Capability	> 100 W (f < 1GHz), > 40 W (f > 1GHz)	

3.2. SAR SCAN PROCEDURE

3.2.1. SAR Reference Measurement (drift)

Prior to the SAR test, local SAR shall be measured at a stationary reference point where the SAR exceeds the lower detection limit of the measurement system.

3.2.2. Area Scan

Measurement procedures for evaluating the SAR of wireless device start with a coarse measurement grid to determine the approximate location of the local peak SAR values. This is known as the area-scan procedure. All antennas and radiating structures that may contribute to the measured SAR or influence the SAR distribution must be included in the area scan. The area scan measurement resolution must enable the extrapolation algorithms of the SAR system to correctly identify the peak SAR location(s) for subsequent zoom scan measurements to correctly determine the 1-g SAR. Area scans are performed at a constant distance from the phantom surface, determined by the measurement frequencies. When a measured peak is closer than ½ the zoom scan volume dimension (x, y) from the edge of the area scan region, unless the entire peak and gram-averaging volume are both captured within the zoom scan volume, the area scan must be repeated by shifting and expanding the area scan region to ensure all peaks are away from the area scan boundary. The area scan resolutions specified in the table below must be applied to the SAR measurements.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 mm ± 1 mm	½·δ·ln(2) mm ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scans 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.	

3.2.3. Zoom Scan

To evaluate the peak spatial-average SAR values with respect to 1 g or 10 g cubes, fine resolution volume scans, called zoom scans, are performed at the peak SAR locations identified during the area scan. If the cube volume within the zoom scan chosen to calculate the peak spatial-average SAR touches any boundary of the zoom-scan volume, the zoom scan shall be repeated with the center of the zoom-scan volume shifted to the new maximum SAR location. For any secondary peaks found in the area scan that are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan shall be performed for such peaks, unless the peak spatial-average SAR at the location of the maximum peak is more than 2 dB below the applicable SAR limit (i.e., 1 W/kg for a 1.6 W/kg 1 g limit, or 1.26 W/kg for a 2 W/kg 10 g limit). The zoom scan resolutions specified in the table below must be applied to the SAR measurements.

			≤ 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	≤ 1.5·$\Delta Z_{Zoom}(n-1)$ mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.

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

3.2.4. SAR Drift Measurement

The local SAR (or conducted power) shall be measured at exactly the same location as in 3.2.1 section. The absolute value of the measurement drift (the difference between the SAR measured in 3.2.1 and 3.2.4 section) shall be recorded. The SAR drift shall be kept within ± 5%.

3.3. EQUIPMENT LIST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval
System Validation Dipole	SPEAG	D750V3	1066	Jan. 02, 2024	3 Year
System Validation Dipole	SPEAG	D835V2	4d005	Apr. 13, 2021	3 Year
System Validation Dipole	SPEAG	D1750V2	1086	Apr. 14, 2021	3 Year
System Validation Dipole	SPEAG	D1900V2	509	Apr. 14, 2021	3 Year
System Validation Dipole	SPEAG	D2300V2	1087	May 19, 2021	3 Year
System Validation Dipole	SPEAG	D2450V2	883	Jan. 02, 2024	3 Year
System Validation Dipole	SPEAG	D2600V2	1082	Jan. 02, 2024	3 Year
System Validation Dipole	SPEAG	D5GHzV2	1115	Jan. 02, 2024	3 Year
Data Acquisition Electronics	SPEAG	DAE4	662	Mar. 08,2023	1 Year
Data Acquisition Electronics	SPEAG	DAE4	913	Jun. 26, 2023	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3578	Jun. 22, 2023	1 Year
Dosimetric E-Field Probe	SPEAG	ES3DV3	3090	Mar. 15,2023	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	7624	Sep. 06, 2023	1 Year
Data Acquisition Electronics	SPEAG	DAE4	549	Jan. 23, 2024	1 Year
Wideband Radio Communication Tester	R&S	CMW500	120932	Apr 14, 2023	1 Year
ENA Series Network Analyzer	Agilent	8753ES	US39170317	Oct. 31, 2023	1 Year
Dielectric Assessment Kit	SPEAG	DAK-3.5	1056	N/A	N/A
USB/GPIB Interface	Agilent	82357B	N10149	N/A	N/A
Signal Generator	R&S	SMB100A	103718	Apr. 14, 2023	1 Year
POWER METER	R&S	NRP	101293	Oct. 27, 2023	1 Year
Thermometer	Shanghai Gao Zhi Precision Instrument Co., Ltd.	HB6801	18022507	Oct. 29, 2023	1 Year
Dual Directional Coupler	Agilent	778D	MY52180234	Oct. 27, 2023	1 Year
Amplifier	Mini-Circuit	ZHL42	QA1252001	Apr. 15, 2023	1 Year
DC Source	Agilent	66319B	MY43000795	Oct. 31, 2023	1 Year

3.4. MEASUREMENT UNCERTAINTY

TABLE 1 EXPOSURE ASSESSMENT UNCERTAINTY FOR HANDSET SAR

Source of Uncertainty	Tolerance (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g) (± %)	Standard Uncertainty (10g) (± %)	Vi Veff
Measurement System								
Probe Calibration (< 3 GHz)	7.5	N (k=2)	2	1	1	3.75	3.75	∞
Probe Calibration (> 3 GHz)	6.3	N (k=2)	2	1	1	3.15	3.15	∞
Axial Isotropy	1.2	N (k=2)	2	0.7	0.7	0.42	0.42	∞
Hemispherical Isotropy	3.2	N (k=2)	2	0.7	0.7	1.12	1.12	∞
Boundary Effects	2	Rectangular	√3	1	1	1.15	1.15	∞
Linearity	0.9	N (k=2)	2	1	1	0.45	0.45	∞
Detection Limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Modulation Response	2.4	Rectangular	√3	1	1	1.39	1.39	∞
Readout Electronics	0.3	Normal	1	1	1	0.30	0.30	∞
Response Time	0	Rectangular	√3	1	1	0.00	0.00	∞
Integration Time	1.7	Rectangular	√3	1	1	0.98	0.98	∞
RF Ambient – Noise	3	Rectangular	√3	1	1	1.73	1.73	∞
RF Ambient – Reflections	3	Rectangular	√3	1	1	1.73	1.73	∞
Probe Positioner	0.4	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.87	3.87	∞
Max. SAR Evaluation	4	Rectangular	√3	1	1	2.31	2.31	∞
Test Sample Related								
Device Positioning	2.3 / 2.4	Normal	1	1	1	2.30	2.40	30
Device Holder	2.8 / 2.8	Normal	1	1	1	2.80	2.80	30
Power Drift	5	Rectangular	√3	1	1	2.89	2.89	∞
Power Scaling	0	Rectangular	√3	1	1	0.00	0.00	∞
Phantom and Setup								
Phantom Uncertainty	7.9	Rectangular	√3	1	1	4.56	4.56	∞
SAR correction	1.2 / 0.97	Rectangular	√3	1	0.84	0.69	0.47	∞
Liquid Conductivity (Meas.)	2.5	Rectangular	√3	0.78	0.71	1.13	1.02	∞
Liquid Permittivity (Meas.)	2.5	Rectangular	√3	0.26	0.26	0.38	0.38	∞
Temp. unc. - Conductivity	3.4	Rectangular	√3	0.78	0.71	1.53	1.39	∞
Temp. unc. - Permittivity	0.4	Rectangular	√3	0.23	0.26	0.05	0.06	∞
Combined Standard Uncertainty (k = 1) (≤ 3 GHz)						9.64	9.62	
Combined Standard Uncertainty (k = 1) (> 3 GHz)						9.42	9.40	
Max. Expanded Uncertainty (k = 2)						**19.27**	**19.23**	

TABLE 2SYSTEM VALIDATION Measurement uncertainty

Source of Uncertainty	Tolerance (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g) (± %)	Standard Uncertainty (10g) (± %)	Vi Veff
Measurement System								
Probe Calibration (< 3 GHz)	7.5	N (k=2)	2	1	1	3.75	3.75	∞
Probe Calibration (> 3 GHz)	6.3	N (k=2)	2	1	1	3.15	3.15	∞
Axial Isotropy	1.2	N (k=2)	2	0.7	0.7	0.42	0.42	∞
Hemispherical Isotropy	3.2	N (k=2)	2	0.7	0.7	1.12	1.12	∞
Boundary Effects	2	Rectangular	√3	1	1	1.15	1.15	∞
Linearity	0.9	N (k=2)	2	1	1	0.45	0.45	∞
Detection Limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Modulation Response	2.4	Rectangular	√3	1	1	1.39	1.39	∞
Readout Electronics	0.3	Normal	1	1	1	0.30	0.30	∞
Response Time	0	Rectangular	√3	1	1	0.00	0.00	∞
Integration Time	1.7	Rectangular	√3	1	1	0.98	0.98	∞
RF Ambient – Noise	3	Rectangular	√3	1	1	1.73	1.73	∞
RF Ambient – Reflections	3	Rectangular	√3	1	1	1.73	1.73	∞
Probe Positioner	0.4	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	6.7	Rectangular	√3	1	1	3.87	3.87	∞
Max. SAR Evaluation	4	Rectangular	√3	1	1	2.31	2.31	∞
Test Sample Related								
Device Positioning	2.3 / 2.4	Normal	1	1	1	2.30	2.40	30
Device Holder	2.8 / 2.8	Normal	1	1	1	2.80	2.80	30
Power Drift	5	Rectangular	√3	1	1	2.89	2.89	∞
Power Scaling	0	Rectangular	√3	1	1	0.00	0.00	∞
Phantom and Setup								
Phantom Uncertainty	7.9	Rectangular	√3	1	1	4.56	4.56	∞
SAR correction	1.2 / 0.97	Rectangular	√3	1	0.84	0.69	0.47	∞
Liquid Conductivity (Meas.)	2.5	Rectangular	√3	0.78	0.71	1.13	1.02	∞
Liquid Permittivity (Meas.)	2.5	Rectangular	√3	0.26	0.26	0.38	0.38	∞
Temp. unc. - Conductivity	3.4	Rectangular	√3	0.78	0.71	1.53	1.39	∞
Temp. unc. - Permittivity	0.4	Rectangular	√3	0.23	0.26	0.05	0.06	∞
Combined Standard Uncertainty (k = 1) (≤ 3 GHz)						9.64	9.62	
Combined Standard Uncertainty (k = 1) (> 3 GHz)						9.42	9.40	
Max. Expanded Uncertainty (k = 2)						**19.27**	**19.23**	

3.5. TISSUE DIELECTRIC PARAMETER MEASUREMENT & SYSTEM VERIFICATION

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

3.5.1. Tissue Simulating Liquids

The temperature of the tissue-equivalent medium used during measurement must also be within 18 °C to 25 °C and within ± 2 °C of the temperature when the tissue parameters are characterized. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 - 4 days of use; or earlier if the dielectric parameters can become out of tolerance.

The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm with ≤ ± 0.5 cm variation for SAR measurements ≤ 3 GHz and ≥ 10.0 cm with ≤ ± 0.5 cm variation for measurements > 3 GHz. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in Table-3.1.

Photo of Liquid Height

Tissue Dielectric Parameters for Head and Body				
Target Frequency	Head		Body	
(MHz)	ε_r	σ(S/m)	ε_r	σ(S/m)
750	*41.9*	*0.89*	*55.5*	*0.96*
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
1450	*40.5*	*1.20*	*54.0*	*1.30*
1640	*40.3*	*1.29*	*53.8*	*1.40*
1750	*40.1*	*1.37*	*53.4*	*1.49*
1800	40.0	1.40	53.3	1.52
1900	40.0	1.40	53.3	1.52
2000	40.0	1.40	53.3	1.52
2300	*39.5*	*1.67*	*52.9*	*1.81*
2450	39.2	1.80	52.7	1.95
2600	*39.0*	*1.96*	*52.5*	*2.16*
3500	*37.9*	*2.91*	*51.3*	*3.31*
5200	*36.0*	*4.66*	*49.0*	*5.30*
5300	*35.9*	*4.76*	*48.9*	*5.42*
5500	*35.6*	*4.96*	*48.6*	*5.65*
5600	*35.5*	*5.07*	*48.5*	*5.77*
5800	35.3	5.27	48.2	6.00
(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)				

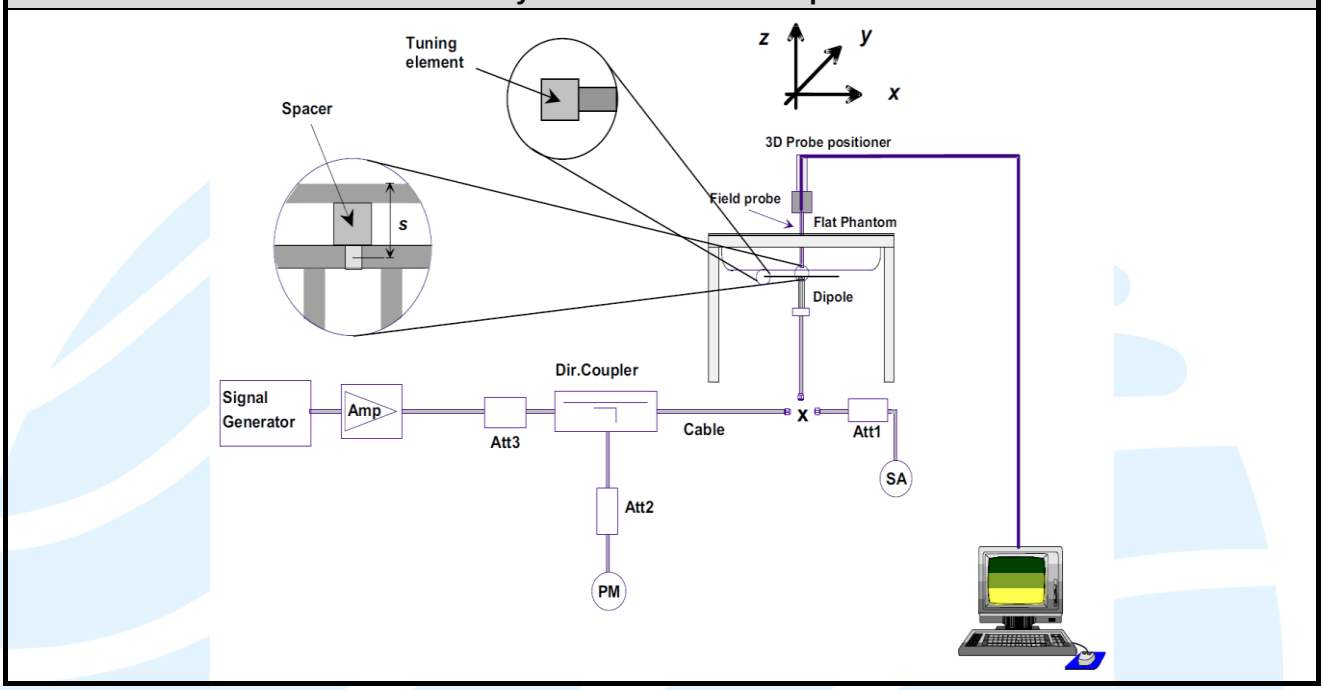
The following table gives the recipes for tissue simulating liquids.

Recipes of Tissue Simulating Liquid								
Tissue Type	Bactericide	DGBE	HEC	NaCl	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
H750	0.2	-	0.2	1.4	57.0	-	41.1	-
H835	0.1	-	1.0	1.4	57.0	-	40.5	-
H900	0.1	-	1.0	1.5	56.5	-	40.9	-
H1450	-	45.5	-	0.7	-	-	53.8	-
H1640	-	45.8	-	0.5	-	-	53.7	-
H1750	-	44.5	-	0.3	-	-	55.2	-
H1800	-	44.9	-	0.2	-	-	54.9	-
H1900	-	44.9	-	0.2	-	-	54.9	-
H2000	-	50	-	-	-	-	50	-
H2300	-	44.9	-	0.1	-	-	55.0	-
H2450	-	45.0	-	0.1	-	-	54.9	-
H2600	-	45.1	-	0.1	-	-	54.8	-
H3500	-	8.0	-	0.2	-	20.0	71.8	-
H5G	-	-	-	-	-	17.2	65.52	17.3
B750	0.2	-	0.2	0.8	48.8	-	50.0	-
B835	0.2	-	0.2	0.9	48.5	-	50.2	-
B900	0.2	-	0.2	0.9	48.2	-	50.5	-
B1450	-	34.0	-	0.3	-	-	65.7	-
B1640	-	32.5	-	0.3	-	-	67.2	-
B1750	-	29.4	-	0.4	-	-	70.2	-
B1800	-	29.5	-	0.4	-	-	70.1	-
B1900	-	29.5	-	0.3	-	-	70.2	-
B2000	-	30.0	-	0.2	-	-	69.8	-
B2300	-	31.0	-	0.1	-	-	68.9	-
B2450	-	31.4	-	0.1	-	-	68.5	-
B2600	-	31.8	-	0.1	-	-	68.1	-
B3500	-	28.8	-	0.1	-	-	71.1	-
B5G	-	-	-	-	-	10.7	78.6	10.7

3.5.2. System Check Description

The system check procedure provides a simple, fast, and reliable test method that can be performed daily or before every SAR measurement. The objective here is to ascertain that the measurement system has acceptable accuracy and repeatability. This test requires a flat phantom and a radiating source. The system verification setup is shown as below.

System Verification Setup



3.5.3. Tissue Verification

The measuring results for tissue simulating liquid are shown as below.

Test Date	Tissue Type	Frequency (MHz)	Liquid Temp. (℃)	Measured Conductivity (σ)	Measured Permittivity (ε_r)	Target Conductivity (σ)	Target Permittivity (ε_r)	Conductivity Deviation (%)	Permittivity Deviation (%)
Mar. 06, 2024	Head	750	20.6	0.888	42.990	0.90	42.00	-1.31	2.36
Mar. 05, 2024	Head	835	21.5	0.931	42.340	0.90	41.50	3.41	2.02
Mar. 20, 2024	Head	1750	19.6	1.324	40.330	1.37	40.10	-3.36	0.57
Mar. 08, 2024	Head	1900	20.4	1.356	41.520	1.40	40.00	-3.14	3.80
Mar. 15, 2024	Head	2300	20.4	1.653	40.830	1.67	39.50	-1.02	3.37
Feb. 26, 2024	Head	2450	21.2	1.805	40.400	1.80	39.20	0.28	3.06
Mar. 11, 2024	Head	2600	20.2	1.971	39.940	1.96	39.00	0.56	2.41
Apr. 05, 2024	Head	5250	21.9	4.735	36.296	4.71	35.90	0.53	1.10
Apr. 05, 2024	Head	5600	21.9	5.092	35.786	5.07	35.50	0.43	0.81
Apr. 05, 2024	Head	5800	21.9	5.305	35.501	5.27	35.30	0.66	0.57

Note:

The dielectric properties of the tissue simulating liquid must be measured within 24 hours before the SAR testing and within ± 5% of the target values. The variation of the liquid temperature must be within ± 2 °C during the test.

3.5.4. System Verification

The measuring result for system verification is tabulated as below.

Test Date	Tissue Type	Freq. (MHz)	1W Target SAR-1g (W/kg)	1W Target SAR-10g (W/kg)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Normalized to 1W SAR-1g (W/kg)	Normalized to 1W SAR-10g (W/kg)	Deviation 1g(%)	Deviation 10g(%)	Dipole S/N	Probe S/N	DAE S/N
Mar. 06, 2024	Head	750	8.60	5.64	2.17	1.45	8.68	5.80	0.93	2.84	1066	7624	549
Mar. 05, 2024	Head	835	9.49	6.25	2.33	1.53	9.32	6.12	-1.79	-2.08	4d005	7624	549
Mar. 20, 2024	Head	1750	36.40	19.10	8.75	4.48	35.00	17.92	-3.85	-6.18	1086	7624	549
Mar. 08, 2024	Head	1900	39.90	20.20	9.92	5.08	39.68	20.32	-0.55	0.59	509	7624	549
Mar. 15, 2024	Head	2300	47.20	22.30	12.10	5.61	48.40	22.44	2.54	0.63	1087	7624	549
Feb. 26, 2024	Head	2450	53.70	24.80	13.90	6.32	55.60	25.28	3.54	1.94	883	3090	662
Mar. 11, 2024	Head	2600	56.10	24.80	13.10	6.01	52.40	24.04	-6.60	-3.06	1082	7624	549
Apr. 05, 2024	Head	5250	78.60	22.30	8.25	2.34	82.50	23.40	4.96	4.93	1115	3578	913
Apr. 05, 2024	Head	5600	81.90	23.10	8.82	2.47	88.20	24.70	7.69	6.93	1115	3578	913
Apr. 05, 2024	Head	5800	78.60	22.00	8.43	2.36	84.30	23.60	7.25	7.27	1115	3578	913

Note:

Comparing to the reference SAR value, the validation data should be within its specification of 10%. The result indicates the system check can meet the variation criterion and the plots can be referred to Appendix A of this report.

4. SAR MEASUREMENT EVALUATION

4.1. EUT CONFIGURATION AND SETTING

Connections between EUT and System Simulator

For WWAN SAR testing, the EUT was linked and controlled by base station emulator. Communication between the EUT and the emulator was established by air link. The distance between the EUT and the communicating antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during SAR testing.

4.1.1. GSM Configuration and Testing

GSM (GMSK: CS1) voice mode transmits with 1 time slot. GPRS (GMSK: CS1) and EDGE (GMSK: MCS1, 8PSK: MCS9) may transmit up to 4 time slots in the 8 time-slot frame according to the multislot class implemented in a device.

4.1.2. WCDMA Configuration and Testing

WCDMA Handsets Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode.

WCDMA Handsets Body-worn SAR

SAR for body-worn configurations is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode.

Handsets with Release 5 HSDPA

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

Handsets with Release 6 HSUPA

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

Release 5 HSDPA Data Devices

The 3G SAR test reduction procedure is applied to body SAR with 12.2 kbps RMC as the primary mode. Otherwise, body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA. HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH / HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors (βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) are set according to values indicated in below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{hs} (1)	CM (dB)(2)	MPR
1	2 / 15	15 / 15	64	2 / 15	4 / 15	0.0	0

2	12 / 15 (3)	15 / 15 (3)	64	12 / 15 (3)	24 / 15	1.0	0
3	15 / 15	8 / 15	64	15 / 8	30 / 15	1.5	0.5
4	15 / 15	4 / 15	64	15 / 4	30 / 15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 8 ⇔ $A_{hs} = \beta_{hs} / \beta_c = 30 / 15 \Leftrightarrow \beta_{hs} = 30 / 15 * \beta_c$.

Note 2: CM = 1 for $\beta_c / \beta_d = 12 / 15$, $\beta_{hs} / \beta_c = 24 / 15$.

Note 3: For subtest 2 the β_c / β_d ratio of 12 / 15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11 / 15$ and $\beta_d = 15 / 15$.

Release 6 HSUPA Data Devices

The 3G SAR test reduction procedure is applied to body SAR with 12.2 kbps RMC as the primary mode. Otherwise, body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode. Otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing. Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the β values indicated in below.

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{hs} (1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (2) (dB)	MPR (dB)	AG (4) Index	E-TFCI
1	11 / 15 (3)	15 / 15 (3)	64	11 / 15 (3)	22 / 15	209 / 225	1039 / 225	4	1	1.0	0.0	20	75
2	6 / 15	15 / 15	64	6 / 15	12 / 15	12 / 15	94 / 75	4	1	3.0	2.0	12	67
3	15 / 15	9 / 15	64	15 / 9	30 / 15	30 / 15	β_{ed1}: 47/15 β_{ed2}: 47/15	4	2	2.0	1.0	15	92
4	2 / 15	15 / 15	64	2 / 15	4 / 15	2 / 15	56 / 75	4	1	3.0	2.0	17	71
5	15 / 15 (4)	15 / 15 (4)	64	15 / 15 (4)	30 / 15	24 / 15	134 / 15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 8 ⇔ $A_{hs} = \beta_{hs} / \beta_c = 30 / 15 \Leftrightarrow \beta_{hs} = 30 / 15 * \beta_c$.

Note 2: CM = 1 for $\beta_c / \beta_d = 12 / 15$, $\beta_{hs} / \beta_c = 24 / 15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c / β_d ratio of 11 / 15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10 / 15$ and $\beta_d = 15 / 15$.

Note 4: For subtest 5 the β_c / β_d ratio of 15 / 15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14 / 15$ and $\beta_d = 15 / 15$.

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

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

HSPA+ SAR Guidance

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

DC-HSDPA SAR Guidance

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

4.1.3. LTE Configuration and Testing

UE power class is category 3. The LTE maximum power reduction (MPR) in accordance with 3GPP TS 36.101 is active all times during LTE operation. The allowed MPR for the maximum output power please refer to the tune up procedure.

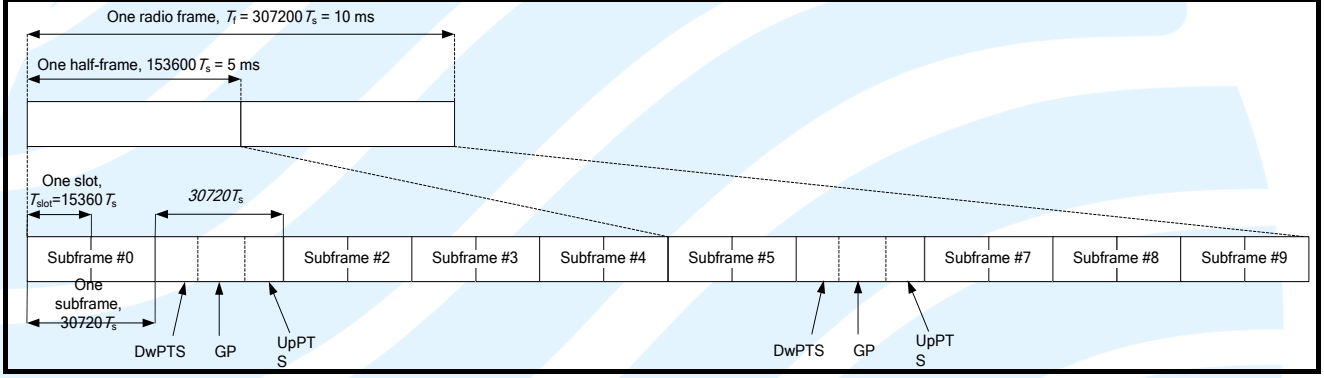
In addition, the device is compliant with additional maximum power reduction (A-MPR) requirements defined in 3GPP TS 36.101 section 6.2.4 that was disabled for all FCC compliance testing.

A properly configured base station simulator is used for the SAR and power measurements, so spectrum plots for each RB allocation and offset configuration are not included in the SAR report to demonstrate that the tested RB allocations have been correctly established at the maximum output power conditions.

TDD-LTE Setup Configurations

According to KDB 941225 D05, SAR testing for TDD-LTE device must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP TDD-LTE configurations. The TDD-LTE of this device supports frame structure type 2 defined in 3GPP TS 36.211 section 4.2, and the frame structure configuration can be referred to below.

3GPP TS 36.211 Figure 4.2-1: Frame Structure Type 2



3GPP TS 36.211 Table 4.2-1: Configuration of Special Subframe

Special Subframe Configuration	Normal Cyclic Prefix in Downlink			Extended Cyclic Prefix in Downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal Cyclic Prefix in Uplink	Extended Cyclic Prefix in Uplink		Normal Cyclic Prefix in Uplink	Extended Cyclic Prefix in Uplink
0	6592·Ts	2192·Ts	2560·Ts	7680·Ts	2192·Ts	2560·Ts
1	19760·Ts			20480·Ts		
2	21952·Ts			23040·Ts		
3	24144·Ts			25600·Ts		
4	26336·Ts			7680·Ts	4384·Ts	5120·Ts
5	6592·Ts	4384·Ts	5120·Ts	20480·Ts		
6	19760·Ts			23040·Ts		
7	21952·Ts			12800·Ts		
8	24144·Ts			-	-	-
9	13168·Ts			-	-	-

Uplink-Downlink Configurations and duty cycle												
Uplink-Downlink Configuration	Downlink-to-Uplink Switch-Point Periodicity	Subframe Number										Duty-Cycle
		0	1	2	3	4	5	6	7	8	9	
0	5 ms	D	S	U	U	U	D	S	U	U	U	63.33%
1	5 ms	D	S	U	U	D	D	S	U	U	D	43.33%
2	5 ms	D	S	U	D	D	D	S	U	D	D	23.33%
3	10 ms	D	S	U	U	U	D	D	D	D	D	31.67%
4	10 ms	D	S	U	U	D	D	D	D	D	D	21.67%
5	10 ms	D	S	U	D	D	D	D	D	D	D	11.67%
6	5 ms	D	S	U	U	U	D	S	U	U	D	53.33%

Considering the highest transmission duty cycle, TDD-LTE was tested using Uplink-Downlink Configuration 0 with 6 uplink subframe and 2 special subframe. The special subframe was set to special subframe configuration 7 using extended cyclic prefix uplink. Therefore, SAR testing for TDD-LTE was performed at the maximum output power with highest transmission duty cycle of 63.33%.

4.1.4. WLAN Configuration and Testing

In general, various vendor specific external test software and chipset based internal test modes are typically used for SAR measurement. These chipset-based test mode utilities are generally hardware and manufacturer dependent, and often include substantial flexibility to reconfigure or reprogram a device. A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement. The test frequencies established using test mode must correspond to the actual channel frequencies. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. In addition, a periodic transmission duty factor is required for current generation SAR systems to measure SAR correctly. The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

According to KDB 248227 D01, this device has installed WLAN engineering testing software which can provide continuous transmitting RF signal. During WLAN SAR testing, this device was operated to transmit continuously at the maximum transmission duty with specified transmission mode, operating frequency, lowest data rate, and maximum output power.

Initial Test Configuration

An initial test configuration is determined for OFDM transmission modes in 2.4 GHz and 5 GHz bands according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Subsequent Test Configuration

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. Additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. When the highest reported SAR for the initial test configuration according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output

power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.

SAR Test Configuration and Channel Selection

When multiple channel bandwidth configurations in a frequency band have the same specified maximum output power, the initial test configuration is using largest channel bandwidth, lowest order modulation, lowest data rate, and lowest order 802.11 mode (i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n). After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following.

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

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

Test Reduction for U-NII-1 (5.2 GHz) and U-NII-2A (5.3 GHz) Bands

For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following.

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

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

4.2. EUT TESTING POSITION

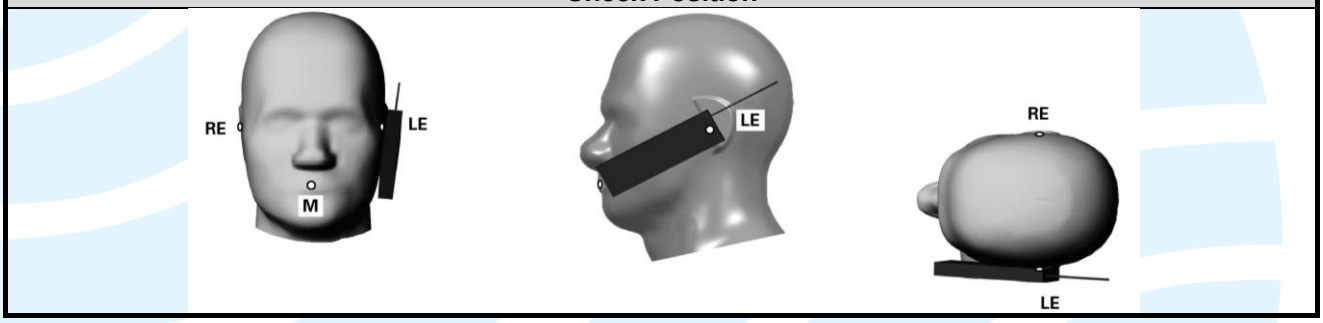
4.2.1. Head Exposure Conditions

RF Exposure Conditions	Test Position	Separation Distance	SAR test exclusion
Head	Right Cheek	0 cm	N/A
	Right Tilted		
	Left Cheek		
	Left Tilted		

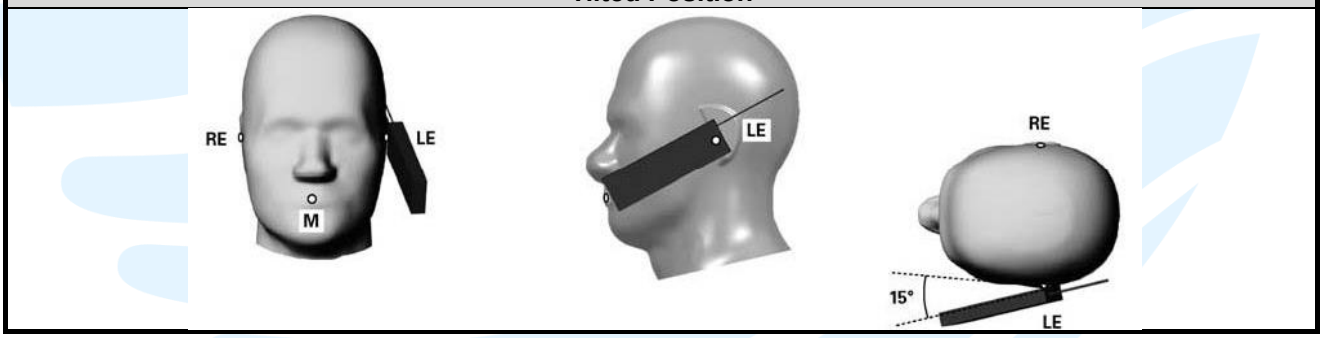
Note:

1) Head exposure for voice mode of handset is limited to next to the ear exposure conditions.
2) Devices that are designed to transmit next to the ear must be tested using the SAM phantom.
3) Other head exposure conditions, for example, in-front-of the face, should be tested using a flat phantom according to the required published RF exposure KDB procedures.
4) When data mode operates in next to the ear configurations, either data alone or in conjunction with voice transmissions, SAR evaluation is required for such use conditions.
5) When device supports VoIP, SAR evaluation for head Exposure Conditions using the most appropriate wireless data mode configurations is required.

Cheek Position



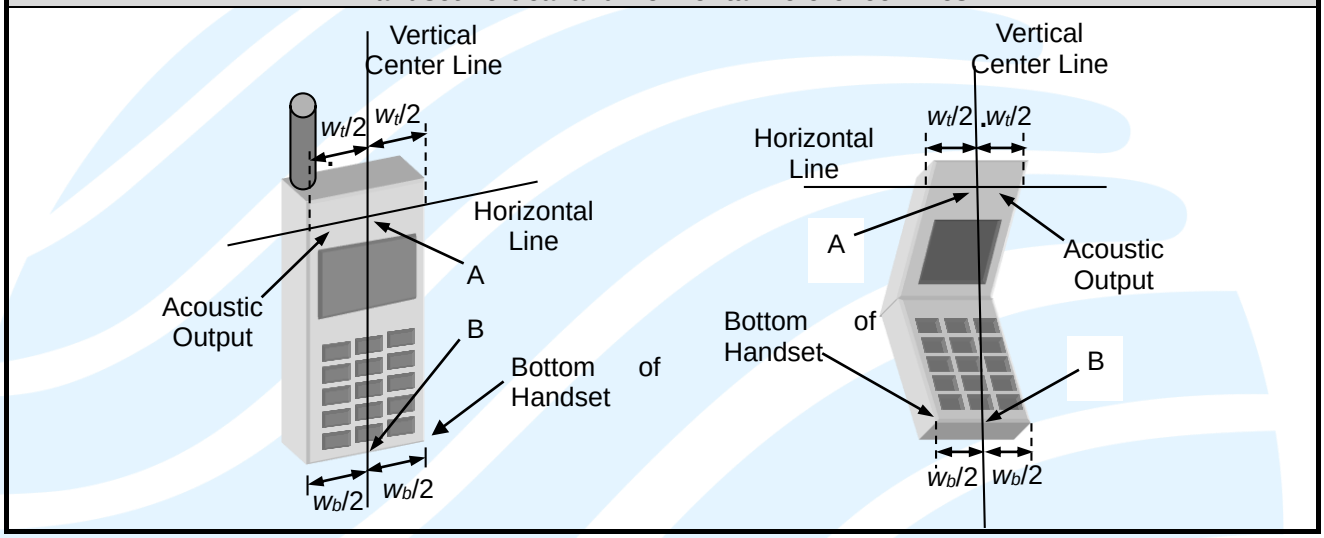
Tilted Position



Define two imaginary lines on the handset

1) 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, and the midpoint of the width wb of the bottom of the handset.
2) The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.
3) 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, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.

Handset Vertical and Horizontal Reference Lines

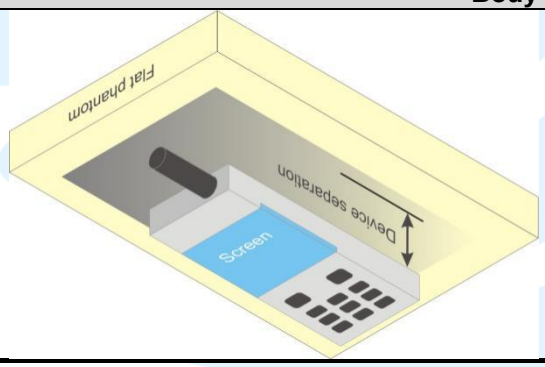
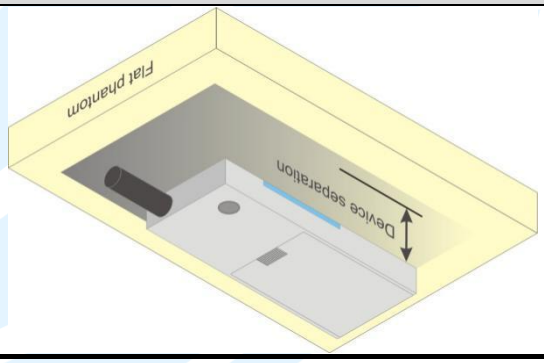


4.2.2. Body-worn Accessory Exposure Conditions

RF Exposure Conditions	Test Position	Separation Distance	SAR test exclusion
Body-worn	Front Face	0 ~ 2.5 cm	N/A
	Rear Face		

Note:

1) Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics. All body-worn accessories containing metallic components are tested in conjunction with the host device.
2) Body-worn accessory SAR compliance is based on a single minimum test separation distance for all wireless and operating modes applicable to each body-worn accessory used by the host, and according to the relevant voice and/or data mode transmissions and operations. If a body-worn accessory supports voice only operations in its normal and expected use conditions, testing of data mode for body-worn compliance is not required.
3) A conservative minimum test separation distance for supporting off-the-shelf body-worn accessories that may be acquired by users of consumer handsets should be used to test for body-worn accessory SAR compliance. This distance is determined by the handset manufacturer according to the typical body-worn accessories users may acquire at the time of equipment certification, but not more than 2.5 cm, to enable users to purchase aftermarket body-worn accessories with the required minimum separation.
4) Devices that are designed to operate on the body of users using lanyards and straps or without requiring additional body-worn accessories must be tested for SAR compliance using a conservative minimum test separation distance ≤ 5 mm to support compliance.
5) When device supports VoIP, SAR evaluation for body-worn accessory Exposure Conditions using the most appropriate wireless data mode configurations is required.
6) Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories.
7) When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.

Body Worn Position	
	

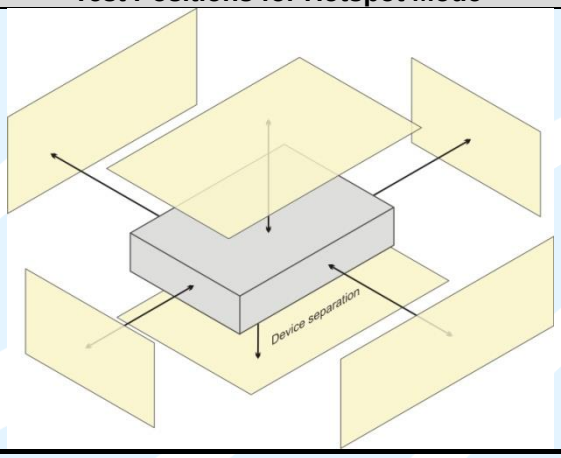
4.2.3. Hotspot Accessory Exposure Conditions

RF Exposure Conditions	Test Position	Separation Distance	SAR test exclusion
Hotspot	Front Face	1 cm	Note 2/3
	Rear Face		
	Left Side		
	Right Side		
	Top Side		
	Bottom Side		

Note:

1) The SAR test separation distance for hotspot mode is determined according to device form factor. When the overall length and width of a device is > 9 cm x 5 cm (~3.5” x 2”), a test separation distance of 10 mm is required for hotspot mode SAR measurements. A test separation distance of 5 mm or less is required for smaller devices. The SAR test separation distance for hotspot mode is determined according to device form factor.
2) Hotspot mode SAR is measured for all edges and surfaces of the device with a transmitting antenna located within 25 mm from that surface or edge.
3) Based on the antenna location shown on appendix D of this report, the SAR testing required for hotspot mode is listed on section 4.5.1.

Test Positions for Hotspot Mode



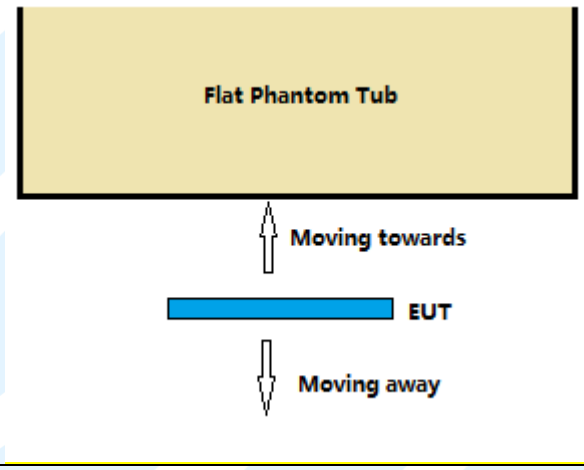
4.3. PROXIMITY SENSORS TRIGGERING DISTANCES

Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.

Proximity sensor triggering distance testing was performed according and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (2100MHz) and lowest (1700MHz) frequency was used for proximity sensor triggering testing.

4.3.1. Triggering distance for perpendicular DUT orientation

Both the proximity sensor and WWAN antenna 1 are located at the top of the smartphone and are only available for WCDMA band I/IV and LTE Band 1/4/66(WWAN antenna 1). The distance sensor is triggered when an object approaches the receiver while answering the phone, and is only effective on the front of the phone.



Sensor detection test set-up, front sides

The trigger distance shown in the sections below.

P-Sensor< Sensor for WWAN Antenna 1 >

Proximity Sensor Triggering Distance (mm)								
Position	Front		Rear		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Triggering Distance	55	70	N/A	N/A	N/A	N/A	N/A	N/A

4.3.2. Triggering distance for tilted DUT orientation

The proximity sensor is only applicable to the front of the product and does not need to evaluate the tilt Angle.

4.3.3. Procedure for determining proximity sensor coverage area

Proximity sensor is used only on the front of the device and triggers a power reduction when the user answers the call and is near the front of the device. Therefore, it is not necessary to confirm the coverage.

4.4. MEASURED CONDUCTED POWER RESULT

4.4.1. Conducted Power of GSM Bands

The measuring conducted average power (Unit: dBm) is shown as below.

Band	GSM 850(DSI-1& DSI-2)			PCS 1900(DSI-1& DSI-2)		
Channel	**128**	**190**	**251**	**512**	**661**	**810**
Frequency (MHz)	**824.2**	**836.6**	**848.8**	**1850.2**	**1880.0**	**1909.8**
Maximum Burst-Averaged Output Power						
GSM (GMSK, 1Tx-slot)	**32.70**	32.65	32.65	**29.20**	28.87	28.60
GPRS (GMSK, 1Tx-slot)	**32.70**	32.65	32.64	29.00	28.71	28.40
GPRS (GMSK, 2Tx-slot)	31.84	31.79	31.77	28.31	28.06	27.81
GPRS (GMSK, 3Tx-slot)	30.06	30.00	29.98	26.70	26.50	26.24
GPRS (GMSK, 4Tx-slot)	29.09	29.04	28.99	25.63	25.41	25.18
EDGE (8PSK, 1Tx-slot)	27.31	27.20	27.15	25.70	25.60	25.30
EDGE (8PSK, 2Tx-slot)	26.09	26.13	26.01	24.86	24.70	24.30
EDGE (8PSK, 3Tx-slot)	24.03	24.06	24.10	23.00	22.84	22.50
EDGE (8PSK, 4Tx-slot)	23.01	23.02	23.05	22.00	21.75	21.33
Maximum Frame-Averaged Output Power						
GSM (GMSK, 1Tx-slot)	23.70	23.65	23.65	20.20	19.87	19.60
GPRS (GMSK, 1Tx-slot)	23.70	23.65	23.64	20.00	19.71	19.40
GPRS (GMSK, 2Tx-slot)	25.84	25.79	25.77	22.31	22.06	21.81
GPRS (GMSK, 3Tx-slot)	25.80	25.74	25.72	22.44	22.24	21.98
GPRS (GMSK, 4Tx-slot)	**26.09**	26.04	25.99	**22.63**	22.41	22.18
EDGE (8PSK, 1Tx-slot)	18.31	18.20	18.15	16.70	16.60	16.30
EDGE (8PSK, 2Tx-slot)	20.09	20.13	20.01	18.86	18.70	18.30
EDGE (8PSK, 3Tx-slot)	19.77	19.80	19.84	18.74	18.58	18.24
EDGE (8PSK, 4Tx-slot)	20.01	20.02	20.05	19.00	18.75	18.33

Note:

1) SAR testing was performed on the maximum frame-averaged power mode.
2) The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:
3) Frame-averaged power = 10 x log (Burst-averaged power mW x Slot used / 8)

4.4.2. Conducted Power of WCDMA Bands

The measuring conducted average power (Unit: dBm) is shown as below.

Band	WCDMA Band II (DSI-1& DSI-2)			WCDMA Band V (DSI-1& DSI-2)			WCDMA Band IV (DSI-1)		
Channel	**9262**	**9400**	**9538**	**4132**	**4182**	**4233**	**1312**	**1413**	**1513**
Frequency (MHz)	**1852.4**	**1880.0**	**1907.6**	**826.4**	**836.4**	**846.6**	**1712.4**	**1732.6**	**1752.6**
RMC 12.2K	**23.09**	22.90	22.98	23.61	**23.71**	23.60	23.10	23.21	**23.24**
HSDPA Subtest-1	22.00	21.93	21.95	22.71	22.72	22.71	22.23	22.24	22.23
HSDPA Subtest-2	21.60	21.45	21.42	22.21	2.23	22.28	21.73	21.72	21.75
HSDPA Subtest-3	21.47	21.40	21.45	22.14	22.15	22.15	21.68	21.66	21.66
HSDPA Subtest-4	21.48	21.39	21.42	22.13	22.14	22.13	21.67	21.65	21.67
HSUPA Subtest-1	20.28	20.29	20.30	21.27	21.22	21.30	20.50	20.66	20.34
HSUPA Subtest-2	22.00	21.91	21.89	22.70	22.74	22.72	22.23	22.22	22.23
HSUPA Subtest-3	21.49	21.38	21.42	22.12	22.20	22.19	21.69	21.70	21.64
HSUPA Subtest-4	21.95	21.89	21.90	22.37	22.41	22.40	22.14	22.13	22.22
HSUPA Subtest-5	22.03	21.93	21.96	22.45	22.48	22.44	22.20	22.25	22.24

Power Reduction

Band	WCDMA Band IV (DSI-2)		
Channel	**1312**	**1413**	**1513**
Frequency (MHz)	**1712.4**	**1732.6**	**1752.6**
RMC 12.2K	**19.98**	19.95	19.93
HSDPA Subtest-1	19.97	19.96	19.94
HSDPA Subtest-2	19.54	19.58	19.48
HSDPA Subtest-3	19.49	19.47	19.47
HSDPA Subtest-4	19.45	19.48	19.50
HSUPA Subtest-1	18.33	18.49	18.17
HSUPA Subtest-2	19.91	19.93	19.90
HSUPA Subtest-3	19.50	19.51	19.45
HSUPA Subtest-4	19.97	19.96	19.95
HSUPA Subtest-5	19.96	19.91	19.89

4.4.3. Conducted Power of LTE Bands

The measuring conducted average power (Unit: dBm) is shown as below.

➢ **LTE Band 2 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	18607	18900	19193	18607	18900	19193
			1850.7 MHz	1880 MHz	1909.3 MHz	1850.7 MHz	1880 MHz	1909.3 MHz
2	1.4	1@0	23.10	23.09	23.10	21.96	21.88	22.04
		1@3	23.19	23.16	23.13	21.99	21.89	22.15
		1@5	23.13	23.04	23.01	21.89	21.84	22.03
		3@0	23.19	23.19	23.19	22.21	22.31	22.11
		3@1	23.22	23.20	23.19	22.41	22.23	22.35
		3@3	23.24	23.19	23.20	22.26	22.33	22.11
		6@0	22.26	22.28	22.25	21.18	21.28	21.28
Band	Bandwidth (MHz)	RB	18615	18900	19185	18615	18900	19185
			1851.5 MHz	1880 MHz	1908.5 MHz	1851.5 MHz	1880 MHz	1908.5 MHz
2	3	1@0	23.02	22.96	23.01	21.81	22.56	21.96
		1@8	23.14	23.08	23.10	21.96	22.59	22.11
		1@14	23.06	22.99	22.98	21.92	22.51	22.02
		8@0	22.27	22.20	22.25	21.29	21.36	21.18
		8@4	22.29	22.24	22.25	21.33	21.40	21.42
		8@7	22.22	22.22	22.20	21.27	21.36	21.15
		15@0	22.23	22.21	22.22	21.27	21.28	21.15
Band	Bandwidth (MHz)	RB	18625	18900	19175	18625	18900	19175
			1852.5 MHz	1880 MHz	1907.5 MHz	1852.5 MHz	1880 MHz	1907.5 MHz
2	5	1@0	23.24	23.27	23.30	22.15	22.05	22.45
		1@12	23.43	23.36	23.39	22.26	22.16	22.56
		1@24	23.33	23.24	23.29	22.19	22.07	22.44
		12@0	22.27	22.28	22.34	21.28	21.28	21.32
		12@7	22.37	22.37	22.36	21.43	21.43	21.49
		12@13	22.36	22.23	22.28	21.27	21.25	21.32
		25@0	22.28	22.26	22.30	21.34	21.40	21.33
Band	Bandwidth (MHz)	RB	18650	18900	19150	18650	18900	19150
			1855 MHz	1880 MHz	1905 MHz	1855 MHz	1880 MHz	1905 MHz
2	10	1@0	23.31	23.33	23.30	22.16	22.86	22.33
		1@25	23.43	23.31	23.36	22.22	22.94	22.40
		1@49	23.40	23.29	23.38	22.20	22.84	22.35
		25@0	22.30	22.28	22.38	21.40	21.35	21.42
		25@12	22.36	22.35	22.35	21.52	21.39	21.43
		25@25	22.36	22.26	22.30	21.49	21.34	21.32
		50@0	22.37	22.34	22.33	21.40	21.30	21.34
Band	Bandwidth (MHz)	RB	18675	18900	19125	18675	18900	19125
			1857.5 MHz	1880 MHz	1902.5 MHz	1857.5 MHz	1880 MHz	1902.5 MHz
2	15	1@0	23.23	23.27	23.27	22.44	22.81	22.32
		1@37	23.34	23.37	23.39	22.64	22.93	22.33
		1@74	23.24	23.24	23.26	22.48	22.82	22.30
		36@0	22.31	22.32	22.29	21.32	21.35	21.34
		36@20	22.34	22.31	22.33	21.39	21.35	21.41
		36@39	22.33	22.26	22.28	21.39	21.26	21.25
		75@0	22.37	22.31	22.38	21.38	21.36	21.33
Band	Bandwidth (MHz)	RB	18700	18900	19100	18700	18900	19100
			1860 MHz	1880 MHz	1900 MHz	1860 MHz	1880 MHz	1900 MHz
2	20	1@0	23.15	23.25	23.17	22.60	22.42	22.22
		1@49	23.39	23.43	23.40	22.82	22.57	22.49
		1@99	23.19	23.19	23.25	22.66	22.37	22.32
		50@0	22.39	22.36	22.26	21.34	21.31	21.23
		50@24	22.50	22.37	22.40	21.42	21.41	21.44
		50@50	22.44	22.28	22.21	21.43	21.31	21.22
		100@0	22.40	22.28	22.21	21.43	21.32	21.24

➢ **LTE Band 4 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	19957	20175	20393	19957	20175	20393
			1710.7 MHz	1732.5 MHz	1754.3 MHz	1710.7 MHz	1732.5 MHz	1754.3 MHz
4	1.4	1@0	23.48	23.43	23.36	22.17	22.33	22.10
		1@3	23.55	23.41	23.40	22.25	22.38	22.17
		1@5	23.49	23.44	23.34	22.19	22.33	22.11
		3@0	23.52	23.48	23.36	22.60	22.34	22.36
		3@1	23.58	23.50	23.38	22.50	22.62	22.52
		3@3	23.57	23.48	23.41	22.63	22.37	22.35
		6@0	22.64	22.57	22.53	21.58	21.54	21.35
Band	Bandwidth (MHz)	RB	19965	20175	20385	19965	20175	20385
			1711.5 MHz	1732.5 MHz	1753.5 MHz	1711.5 MHz	1732.5 MHz	1753.5 MHz
4	3	1@0	23.46	23.31	23.29	22.10	22.77	22.17
		1@8	23.50	23.40	23.40	22.24	22.85	22.30
		1@14	23.42	23.35	23.28	22.24	22.70	22.21
		8@0	22.59	22.48	22.44	21.62	21.64	21.40
		8@4	22.65	22.55	22.53	21.65	21.63	21.56
		8@7	22.59	22.47	22.44	21.57	21.62	21.36
		15@0	22.53	22.44	22.43	21.56	21.47	21.35
Band	Bandwidth (MHz)	RB	19975	20175	20375	19975	20175	20375
			1712.5 MHz	1732.5 MHz	1752.5 MHz	1712.5 MHz	1732.5 MHz	1752.5 MHz
4	5	1@0	23.65	23.59	23.54	22.45	22.35	22.57
		1@12	23.77	23.69	23.68	22.55	22.37	22.70
		1@24	23.63	23.58	23.55	22.47	22.27	22.58
		12@0	22.62	22.57	22.45	21.55	21.55	21.43
		12@7	22.69	22.63	22.53	21.73	21.68	21.62
		12@13	22.63	22.58	22.50	21.60	21.54	21.48
		25@0	22.64	22.56	22.49	21.65	21.63	21.50
Band	Bandwidth (MHz)	RB	20000	20175	20350	20000	20175	20350
			1715 MHz	1732.5 MHz	1750 MHz	1715 MHz	1732.5 MHz	1750 MHz
4	10	1@0	23.74	23.73	23.65	22.46	23.07	22.54
		1@25	23.74	23.68	23.62	22.50	23.07	22.57
		1@49	23.73	23.67	23.62	22.47	23.06	22.52
		25@0	22.59	22.53	22.50	21.72	21.61	21.53
		25@12	22.64	22.61	22.55	21.73	21.66	21.59
		25@25	22.60	22.54	22.53	21.73	21.61	21.50
		50@0	22.60	22.59	22.53	21.65	21.57	21.49
Band	Bandwidth (MHz)	RB	20025	20175	20325	20025	20175	20325
			1717.5 MHz	1732.5 MHz	1747.5 MHz	1717.5 MHz	1732.5 MHz	1747.5 MHz
4	15	1@0	23.67	23.59	23.61	22.77	23.06	22.51
		1@37	23.73	23.64	23.66	22.82	23.09	22.60
		1@74	23.60	23.53	23.54	22.74	22.98	22.47
		36@0	22.71	22.66	22.63	21.66	21.65	21.59
		36@20	22.75	22.69	22.69	21.69	21.67	21.71
		36@39	22.71	22.62	22.55	21.65	21.61	21.57
		75@0	22.75	22.63	22.63	21.67	21.61	21.58
Band	Bandwidth (MHz)	RB	20050	20175	20300	20050	20175	20300
			1720 MHz	1732.5 MHz	1745 MHz	1720 MHz	1732.5 MHz	1745 MHz
4	20	1@0	23.60	23.59	23.50	22.94	22.64	22.52
		1@49	23.77	23.72	23.70	23.12	22.83	22.72
		1@99	23.55	23.52	23.49	22.94	22.62	22.48
		50@0	22.63	22.63	22.51	21.59	21.61	21.54
		50@24	22.76	22.73	22.65	21.72	21.69	21.62
		50@50	22.63	22.59	22.52	21.63	21.54	21.53
		100@0	22.62	22.57	22.54	21.63	21.58	21.54

➢ **LTE Band 5 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	20407 824.7 MHz	20525 836.5 MHz	20643 848.3 MHz	20407 824.7 MHz	20525 836.5 MHz	20643 848.3 MHz
5	1.4	1@0	23.34	23.32	23.48	22.35	22.23	22.19
		1@3	23.35	23.42	23.51	22.39	22.25	22.18
		1@5	23.37	23.43	23.55	22.31	22.22	22.13
		3@0	23.44	23.47	23.49	22.38	22.50	22.50
		3@1	23.47	23.53	23.52	22.64	22.72	22.45
		3@3	23.43	23.49	23.49	22.39	22.50	22.56
		6@0	22.51	22.58	22.63	21.54	21.51	21.54
Band	Bandwidth (MHz)	RB	20415 825.5 MHz	20525 836.5 MHz	20635 847.5 MHz	20415 825.5 MHz	20525 836.5 MHz	20635 847.5 MHz
5	3	1@0	23.54	23.32	23.32	22.81	22.32	22.12
		1@8	23.36	23.42	23.46	22.85	22.36	22.24
		1@14	23.25	23.28	23.45	22.72	22.27	22.14
		8@0	22.47	22.57	22.52	21.61	21.52	21.59
		8@4	22.54	22.56	22.56	21.67	21.65	21.59
		8@7	22.50	22.50	22.46	21.64	21.45	21.50
		15@0	22.46	22.49	22.50	21.51	21.44	21.52
Band	Bandwidth (MHz)	RB	20425 826.5 MHz	20525 836.5 MHz	20625 846.5 MHz	20425 826.5 MHz	20525 836.5 MHz	20625 846.5 MHz
5	5	1@0	23.52	23.60	23.57	22.44	22.37	22.75
		1@12	23.63	23.71	23.69	22.54	22.53	22.81
		1@24	23.53	23.54	23.67	22.41	22.37	22.66
		12@0	22.53	22.59	22.63	21.50	21.59	21.59
		12@7	22.58	22.65	22.60	21.68	21.74	21.78
		12@13	22.53	22.55	22.40	21.48	21.56	21.42
		25@0	22.54	22.63	22.54	21.59	21.69	21.56
Band	Bandwidth (MHz)	RB	20450 829 MHz	20525 836.5 MHz	20600 844 MHz	20450 829 MHz	20525 836.5 MHz	20600 844 MHz
5	10	1@0	23.60	23.63	23.61	22.47	23.16	22.61
		1@25	23.65	23.63	23.65	22.42	23.25	22.61
		1@49	23.66	23.65	23.71	22.53	23.17	22.65
		25@0	22.61	22.63	22.56	21.68	21.71	21.70
		25@12	22.59	22.69	22.69	21.72	21.74	21.76
		25@25	22.56	22.65	22.57	21.64	21.71	21.58
		50@0	22.58	22.63	22.60	21.58	21.68	21.66

➢ **LTE Band 7 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	20775	21100	21425	20775	21100	21425
			2502.5 MHz	2535 MHz	2567.5 MHz	2502.5 MHz	2535 MHz	2567.5 MHz
7	5	1@0	22.83	22.91	22.94	21.61	22.05	21.80
		1@12	23.02	23.07	23.10	21.72	22.17	21.90
		1@24	22.88	22.95	22.98	21.66	22.08	21.81
		12@0	21.89	21.93	22.01	20.83	20.94	20.93
		12@7	21.96	21.96	22.03	21.01	21.10	21.06
		12@13	21.94	21.95	21.98	20.87	20.94	20.92
		25@0	21.90	21.93	21.97	20.95	20.95	21.05
Band	Bandwidth (MHz)	RB	20800	21100	21400	20800	21100	21400
			2505 MHz	2535 MHz	2565 MHz	2505 MHz	2535 MHz	2565 MHz
7	10	1@0	22.97	23.00	23.02	22.47	21.97	21.76
		1@25	23.01	23.05	23.05	22.48	21.98	21.91
		1@49	23.00	23.02	23.03	22.48	21.99	21.87
		25@0	21.91	21.97	22.03	20.97	20.98	21.10
		25@12	21.93	21.99	22.01	21.00	21.06	21.14
		25@25	21.90	21.97	21.99	20.92	21.03	21.08
		50@0	21.94	21.97	22.03	20.92	20.95	21.05
Band	Bandwidth (MHz)	RB	20825	21100	21375	20825	21100	21375
			2507.5 MHz	2535 MHz	2562.5 MHz	2507.5 MHz	2535 MHz	2562.5 MHz
7	15	1@0	22.86	22.93	22.92	22.07	22.41	21.89
		1@37	22.98	23.00	23.08	22.12	22.54	22.06
		1@74	22.86	22.91	22.97	21.98	22.40	21.98
		36@0	21.92	21.92	22.00	20.87	20.93	21.01
		36@20	21.97	22.01	22.06	20.95	20.95	21.03
		36@39	21.91	21.97	21.96	20.88	20.95	20.99
		75@0	21.97	21.97	22.03	20.91	20.93	21.02
Band	Bandwidth (MHz)	RB	20850	21100	21350	20850	21100	21350
			2510 MHz	2535 MHz	2560 MHz	2510 MHz	2535 MHz	2560 MHz
7	20	1@0	22.81	22.86	22.83	21.92	21.85	22.22
		1@49	22.99	23.00	23.13	22.13	22.11	22.46
		1@99	22.79	22.80	22.89	21.90	21.91	22.31
		50@0	21.82	21.88	22.03	20.78	20.87	21.01
		50@24	21.96	22.00	22.03	20.97	21.02	20.98
		50@50	21.82	21.88	21.90	20.77	20.89	20.91
		100@0	21.79	21.87	22.00	20.82	20.88	20.95

➢ **LTE Band 13 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	23205	23230	23255	23205	23230	23255
			779.5 MHz	782 MHz	784.5 MHz	779.5 MHz	782 MHz	784.5 MHz
13	5	1@0	23.42	23.42	23.46	22.31	22.14	22.55
		1@12	23.49	23.54	23.56	22.40	22.25	22.65
		1@24	23.45	23.41	23.44	22.29	22.17	22.56
		12@0	22.40	22.43	22.51	21.35	21.41	21.45
		12@7	22.48	22.44	22.48	21.56	21.52	21.59
		12@13	22.41	22.44	22.41	21.34	21.42	21.49
		25@0	22.38	22.42	22.45	21.47	21.49	21.48
Band	Bandwidth (MHz)	RB	--	23230	--	--	23230	--
			--	782 MHz	--	--	782 MHz	--
13	10	1@0		23.50	--	--	22.30	--
		1@25		23.58	--	--	22.32	--
		1@49		23.53	--	--	22.34	--
		25@0		22.44	--	--	21.50	--
		25@12		22.51	--	--	21.61	--
		25@25		22.39	--	--	21.52	--
		50@0		22.46	--	--	21.47	--

➢ **LTE Band 12 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	23017 699.7 MHz	23095 707.5 MHz	23173 715.3 MHz	23017 699.7 MHz	23095 707.5 MHz	23173 715.3 MHz
12	1.4	1@0	23.29	23.27	23.23	22.17	22.01	22.20
		1@3	23.26	23.21	23.28	22.16	21.95	22.27
		1@5	23.18	23.16	23.22	22.07	21.96	22.22
		3@0	23.32	23.33	23.35	22.39	22.43	22.26
		3@1	23.34	23.34	23.39	22.57	22.37	22.55
		3@3	23.37	23.31	23.35	22.41	22.45	22.29
		6@0	22.45	22.39	22.43	21.39	21.50	21.51
Band	Bandwidth (MHz)	RB	23025 700.5 MHz	23095 707.5 MHz	23165 714.5 MHz	23025 700.5 MHz	23095 707.5 MHz	23165 714.5 MHz
12	3	1@0	23.19	23.09	23.10	22.04	22.69	22.10
		1@8	23.21	23.12	23.26	22.12	22.76	22.19
		1@14	23.17	23.13	23.20	22.01	22.61	22.16
		8@0	22.42	22.32	22.41	21.48	21.48	21.36
		8@4	22.47	22.38	22.43	21.52	21.55	21.57
		8@7	22.43	22.32	22.42	21.45	21.54	21.41
		15@0	22.36	22.32	22.40	21.42	21.39	21.32
Band	Bandwidth (MHz)	RB	23035 701.5 MHz	23095 707.5 MHz	23155 713.5 MHz	23035 701.5 MHz	23095 707.5 MHz	23155 713.5 MHz
12	5	1@0	23.47	23.42	23.42	22.37	22.20	22.53
		1@12	23.52	23.50	23.53	22.41	22.23	22.70
		1@24	23.41	23.38	23.47	22.31	22.17	22.59
		12@0	22.45	22.39	22.45	21.37	21.38	21.49
		12@7	22.56	22.45	22.48	21.58	21.58	21.67
		12@13	22.43	22.41	22.42	21.38	21.43	21.48
		25@0	22.45	22.44	22.43	21.52	21.50	21.53
Band	Bandwidth (MHz)	RB	23060 704 MHz	23095 707.5 MHz	23130 711 MHz	23060 704 MHz	23095 707.5 MHz	23130 711 MHz
12	10	1@0	23.48	23.41	23.46	22.33	23.05	22.45
		1@25	23.47	23.46	23.50	22.33	23.02	22.47
		1@49	23.48	23.52	23.63	22.31	23.02	22.50
		25@0	22.40	22.38	22.36	21.52	21.53	21.49
		25@12	22.46	22.49	22.48	21.63	21.61	21.63
		25@25	22.48	22.45	22.35	21.56	21.57	21.43
		50@0	22.37	22.46	22.38	21.50	21.51	21.45

➢ **LTE Band 17 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	23755 706.5 MHz	23790 710 MHz	23825 713.5 MHz	23755 706.5 MHz	23790 710 MHz	23825 713.5 MHz
17	5	1@0	23.38	23.45	23.42	22.28	22.22	22.54
		1@12	23.56	23.51	23.51	22.46	22.33	22.68
		1@24	23.44	23.42	23.41	22.28	22.21	22.61
		12@0	22.41	22.37	22.41	21.47	21.41	21.48
		12@7	22.53	22.48	22.48	21.60	21.58	21.69
		12@13	22.47	22.37	22.43	21.45	21.42	21.45
		25@0	22.46	22.41	22.43	21.55	21.55	21.51
Band	Bandwidth (MHz)	RB	23780 709 MHz	23790 710 MHz	23800 711 MHz	23780 709 MHz	23790 710 MHz	23800 711 MHz
17	10	1@0	23.45	23.48	23.50	22.27	23.07	22.51
		1@25	23.48	23.48	23.49	22.34	23.06	22.52
		1@49	23.59	23.52	23.51	22.38	23.02	22.48
		25@0	22.38	22.42	22.41	21.50	21.50	21.46
		25@12	22.52	22.44	22.46	21.67	21.57	21.60
		25@25	22.42	22.41	22.39	21.57	21.54	21.46
		50@0	22.44	22.47	22.40	21.48	21.48	21.48

➢ **LTE Band 25 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	26047	26365	266263	26047	26365	266263
			1850.7 MHz	1882.5 MHz	1914.3 MHz	1850.7 MHz	1882.5 MHz	1914.3 MHz
25	1.4	1@0	23.13	23.10	23.12	22.02	21.87	22.10
		1@3	23.21	23.11	23.16	22.06	21.88	22.16
		1@5	23.09	23.06	23.08	21.93	21.78	22.07
		3@0	23.24	23.21	23.21	22.26	22.35	22.08
		3@1	23.25	23.21	23.20	22.44	22.22	22.36
		3@3	23.28	23.17	23.18	22.29	22.32	22.08
		6@0	22.32	22.23	22.31	21.24	21.25	21.27
Band	Bandwidth (MHz)	RB	26055	26365	26675	26055	26365	26675
			1851.5 MHz	1882.5 MHz	1913.5 MHz	1851.5 MHz	1882.5 MHz	1913.5 MHz
25	3	1@0	23.06	23.00	23.00	21.87	22.53	21.96
		1@8	23.12	23.00	23.15	22.01	22.55	22.13
		1@14	23.09	22.98	23.06	21.91	22.50	22.03
		8@0	22.29	22.16	22.25	21.35	21.31	21.21
		8@4	22.33	22.24	22.28	21.34	21.38	21.35
		8@7	22.23	22.17	22.22	21.32	21.33	21.13
		15@0	22.25	22.19	22.26	21.30	21.21	21.14
Band	Bandwidth (MHz)	RB	26065	26365	26665	26065	26365	26665
			1852.5 MHz	1882.5 MHz	1912.5 MHz	1852.5 MHz	1882.5 MHz	1912.5 MHz
25	5	1@0	23.32	23.35	23.29	22.24	22.04	22.47
		1@12	23.43	23.40	23.41	22.29	22.21	22.53
		1@24	23.35	23.25	23.30	22.23	22.08	22.43
		12@0	22.32	22.24	22.30	21.28	21.24	21.31
		12@7	22.40	22.34	22.33	21.47	21.40	21.48
		12@13	22.35	22.28	22.17	21.33	21.27	21.24
		25@0	22.39	22.31	22.24	21.44	21.39	21.27
Band	Bandwidth (MHz)	RB	26090	26365	26640	26090	26365	26640
			1855 MHz	1882.5 MHz	1910 MHz	1855 MHz	1882.5 MHz	1910 MHz
25	10	1@0	23.39	23.40	23.38	22.20	22.89	22.35
		1@25	23.40	23.35	23.35	22.27	22.92	22.39
		1@49	23.40	23.31	23.35	22.24	22.81	22.31
		25@0	22.34	22.29	22.33	21.42	21.42	21.38
		25@12	22.44	22.38	22.39	21.52	21.45	21.46
		25@25	22.40	22.31	22.28	21.47	21.42	21.29
		50@0	22.38	22.30	22.35	21.41	21.31	21.38
Band	Bandwidth (MHz)	RB	26115	26365	26615	26115	26365	26615
			1857.5 MHz	1882.5 MHz	1907.5 MHz	1857.5 MHz	1882.5 MHz	1907.5 MHz
25	15	1@0	23.30	23.28	23.25	22.54	22.86	22.26
		1@37	23.36	23.28	23.44	22.64	22.86	22.45
		1@74	23.30	23.21	23.25	22.46	22.79	22.26
		36@0	22.36	22.29	22.34	21.38	21.31	21.36
		36@20	22.43	22.31	22.36	21.37	21.34	21.46
		36@39	22.43	22.29	22.31	21.35	21.31	21.30
		75@0	22.43	22.32	22.39	21.37	21.32	21.41
Band	Bandwidth (MHz)	RB	26140	26365	8590	26140	26365	8590
			1860 MHz	1882.5 MHz	1905 MHz	1860 MHz	1882.5 MHz	1905 MHz
25	20	1@0	23.21	23.26	23.21	22.66	22.38	22.28
		1@49	23.38	23.46	23.42	22.88	22.58	22.54
		1@99	23.20	23.22	23.17	22.68	22.36	22.27
		50@0	22.36	22.33	22.38	21.34	21.32	21.34
		50@24	22.44	22.41	22.38	21.42	21.39	21.44
		50@50	22.43	22.34	22.29	21.43	21.31	21.34
		100@0	22.38	22.32	22.36	21.43	21.32	21.35

➢ **LTE Band 26 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	26697	26915	27033	26697	26915	27033
			814.7 MHz	836.5 MHz	848.3 MHz	814.7 MHz	836.5 MHz	848.3 MHz
26	1.4	1@0	23.32	23.37	23.48	22.19	22.25	22.14
		1@3	23.40	23.43	23.54	22.19	22.31	22.18
		1@5	23.31	23.47	23.60	22.19	22.25	22.13
		3@0	23.41	23.48	23.53	22.51	22.55	22.57
		3@1	23.44	23.52	23.53	22.67	22.70	22.47
		3@3	23.43	23.53	23.50	22.53	22.59	22.56
		6@0	22.47	22.56	22.65	21.42	21.53	21.57
Band	Bandwidth (MHz)	RB	26705	26915	27025	26705	26915	27025
			815.5 MHz	836.5 MHz	847.5 MHz	815.5 MHz	836.5 MHz	847.5 MHz
26	3	1@0	23.27	23.29	23.37	22.07	22.90	22.26
		1@8	23.28	23.40	23.46	22.20	22.98	22.44
		1@14	23.28	23.30	23.46	22.10	22.77	22.36
		8@0	22.44	22.50	22.61	21.50	21.66	21.54
		8@4	22.51	22.54	22.61	21.58	21.71	21.65
		8@7	22.48	22.53	22.54	21.55	21.69	21.45
		15@0	22.47	22.51	22.52	21.48	21.56	21.44
Band	Bandwidth (MHz)	RB	26715	26915	27015	26715	26915	27015
			816.5 MHz	836.5 MHz	846.5 MHz	816.5 MHz	836.5 MHz	846.5 MHz
26	5	1@0	23.51	23.58	23.62	22.43	22.77	22.50
		1@12	23.68	23.77	23.66	22.54	22.94	22.52
		1@24	23.52	23.59	23.67	22.42	22.76	22.44
		12@0	22.51	22.62	22.64	21.42	21.65	21.56
		12@7	22.59	22.69	22.66	21.64	21.82	21.73
		12@13	22.55	22.67	22.45	21.51	21.70	21.42
		25@0	22.57	22.66	22.60	21.60	21.72	21.66
Band	Bandwidth (MHz)	RB	26740	26915	26990	26740	26915	26990
			819 MHz	836.5 MHz	844 MHz	819 MHz	836.5 MHz	844 MHz
26	10	1@0	23.51	23.63	23.63	23.14	22.64	22.47
		1@25	23.57	23.67	23.65	23.18	22.68	22.53
		1@49	23.66	23.63	23.76	23.14	22.63	22.53
		25@0	22.45	22.64	22.66	21.52	21.71	21.79
		25@12	22.57	22.72	22.67	21.63	21.74	21.79
		25@25	22.60	22.67	22.60	21.69	21.75	21.70
		50@0	22.56	22.66	22.63	21.57	21.69	21.69
Band	Bandwidth (MHz)	RB	26765	26915	26965	26765	26915	26965
			821.5 MHz	836.5 MHz	841.5 MHz	821.5 MHz	836.5 MHz	841.5 MHz
26	15	1@0	23.46	23.58	23.57	22.71	23.15	22.58
		1@37	23.72	23.78	23.66	22.88	23.31	22.70
		1@74	23.49	23.61	23.68	22.76	23.16	22.58
		36@0	22.53	22.63	22.55	21.49	21.62	21.64
		36@20	22.60	22.66	22.64	21.59	21.70	21.78
		36@39	22.62	22.58	22.57	21.62	21.64	21.64
		75@0	22.57	22.71	22.61	21.58	21.70	21.62

➢ **LTE Band 30 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	27685	27710	27735	27685	27710	27735
			2307.5 MHz	2310.0 MHz	2312.5 MHz	2307.5 MHz	2310.0 MHz	2312.5 MHz
30	5	1@0	23.23	23.37	23.46	22.12	22.04	22.43
		1@12	23.39	23.52	23.57	22.28	22.15	22.54
		1@24	23.33	23.40	23.48	22.21	22.12	22.51
		12@0	22.26	22.30	22.39	21.26	21.29	21.36
		12@7	22.39	22.42	22.40	21.45	21.40	21.49
		12@13	22.37	22.37	22.32	21.30	21.33	21.29
		25@0	22.32	22.32	22.35	21.43	21.38	21.33
Band	Bandwidth (MHz)	RB	--	27710	--	--	27710	--
			--	2310.0 MHz	--	--	2310.0 MHz	--
30	10	1@0	--	23.30	--	--	22.15	--
		1@25	--	23.48	--	--	22.22	--
		1@49	--	23.57	--	--	22.24	--
		25@0	--	22.30	--	--	21.40	--
		25@12	--	22.36	--	--	21.51	--
		25@25	--	22.37	--	--	21.45	--
		50@0	--	22.33	--	--	21.38	--

➢ **LTE Band 38 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	37775	38000	38225	37775	38000	38225
			2572.5 MHz	2595 MHz	2617.5 MHz	2572.5 MHz	2595 MHz	2617.5 MHz
38	5	1@0	23.15	23.27	23.33	22.09	22.15	22.36
		1@12	23.31	23.40	23.41	22.20	22.27	22.46
		1@24	23.19	23.27	23.33	22.12	22.15	22.41
		12@0	22.08	22.28	22.35	21.11	21.25	21.37
		12@7	22.22	22.30	22.35	21.24	21.31	21.51
		12@13	22.16	22.21	22.33	21.12	21.26	21.35
		25@0	22.16	22.26	22.34	21.15	21.30	21.37
Band	Bandwidth (MHz)	RB	37800	38000	38200	37800	38000	38200
			2575 MHz	2595 MHz	2615 MHz	2575 MHz	2595 MHz	2615 MHz
38	10	1@0	23.19	23.32	23.15	22.21	22.09	22.22
		1@25	23.27	23.36	23.36	22.30	22.10	22.25
		1@49	23.26	23.34	23.25	22.25	22.05	22.24
		25@0	22.20	22.31	22.32	21.16	21.36	21.37
		25@12	22.25	22.30	22.37	21.23	21.35	21.43
		25@25	22.23	22.28	22.37	21.19	21.35	21.39
		50@0	22.24	22.32	22.40	21.22	21.30	21.38
Band	Bandwidth (MHz)	RB	37825	38000	38175	37825	38000	38175
			2577.5 MHz	2595 MHz	2612.5 MHz	2577.5 MHz	2595 MHz	2612.5 MHz
38	15	1@0	23.25	23.28	23.26	22.17	22.01	22.37
		1@37	23.36	23.36	23.34	22.30	22.14	22.50
		1@74	23.23	23.27	23.28	22.27	22.00	22.41
		36@0	22.21	22.27	22.36	21.16	21.24	21.39
		36@20	22.25	22.31	22.38	21.24	21.32	21.39
		36@39	22.21	22.27	22.35	21.22	21.23	21.36
		75@0	22.23	22.30	22.34	21.15	21.31	21.36
Band	Bandwidth (MHz)	RB	37850	38000	38150	37850	38000	38150
			2580 MHz	2595 MHz	2610 MHz	2580 MHz	2595 MHz	2610 MHz
38	20	1@0	23.14	23.24	23.36	22.22	22.09	21.94
		1@49	23.33	23.38	23.47	22.41	22.29	22.17
		1@99	23.19	23.25	23.45	22.34	22.10	22.04
		50@0	22.17	22.31	22.31	21.24	21.29	21.34
		50@24	22.28	22.33	22.38	21.34	21.30	21.38
		50@50	22.22	22.25	22.29	21.26	21.21	21.30
		100@0	22.22	22.28	22.27	21.21	21.20	21.32

➢ **LTE Band 40 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	38725	38750	38775	38725	38750	38775
			2307.5 MHz	2310 MHz	2312.5 MHz	2307.5 MHz	2310 MHz	2312.5 MHz
40A	5	1@0	22.48	22.55	22.51	21.53	21.77	21.51
		1@12	22.61	22.67	22.61	21.68	21.90	21.59
		1@24	22.52	22.57	22.46	21.56	21.78	21.48
		12@0	21.54	21.56	21.51	20.55	20.57	20.48
		12@7	21.55	21.58	21.53	20.54	20.59	20.51
		12@13	21.50	21.54	21.50	20.57	20.56	20.49
		25@0	21.49	21.55	21.49	20.61	20.54	20.51
Band	Bandwidth (MHz)	RB	--	38750	--	--	38750	--
			--	2310 MHz	--	--	2310 MHz	--
40A	10	1@0	--	22.54	--	--	21.57	--
		1@25	--	22.68	--	--	21.63	--
		1@49	--	22.54	--	--	21.55	--
		25@0	--	21.53	--	--	20.51	--
		25@12	--	21.53	--	--	20.50	--
		25@25	--	21.49	--	--	20.49	--
		50@0	--	21.54	--	--	20.51	--

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	39175	39200	39225	39175	39200	39225
			2353.5 MHz	2355 MHz	2357.5 MHz	2353.5 MHz	2355 MHz	2357.5 MHz
40B	5	1@0	22.45	22.54	22.50	21.53	21.77	21.49
		1@12	22.58	22.66	22.63	21.67	21.89	21.63
		1@24	22.48	22.54	22.54	21.55	21.78	21.55
		12@0	21.53	21.53	21.56	20.52	20.55	20.55
		12@7	21.48	21.54	21.55	20.58	20.57	20.57
		12@13	21.51	21.55	21.58	20.55	20.57	20.56
		25@0	21.48	21.52	21.55	20.58	20.54	20.60
Band	Bandwidth (MHz)	RB	--	39200	--	--	39200	--
			--	2355 MHz	--	--	2355 MHz	--
40B	10	1@0	--	22.63	--	--	21.53	--
		1@25	--	22.66	--	--	21.57	--
		1@49	--	22.64	--	--	21.53	--
		25@0	--	21.53	--	--	20.59	--
		25@12	--	21.55	--	--	20.55	--
		25@25	--	21.55	--	--	20.58	--
		50@0	--	21.57	--	--	20.56	--

➢ **LTE Band 41 (DSI-1)**

Conducted Power(dBm)												
Modulation			QPSK					16QAM				
Band	Band width (MHz)	RB	39675	40148	40620	41093	41565	39675	40148	40620	41093	41565
			2498.5 MHz	2545.8 MHz	2593 MHz	2640.3 MHz	2687.5 MHz	2498.5 MHz	2545.8 MHz	2593 MHz	2640.3 MHz	2687.5 MHz
41	5	1@0	23.02	23.02	23.34	23.10	23.62	22.02	22.05	22.23	22.25	22.70
		1@12	23.26	23.14	23.41	23.20	23.76	22.14	22.16	22.32	22.41	22.82
		1@24	23.16	23.06	23.35	23.07	23.65	22.05	22.08	22.20	22.28	22.68
		12@0	22.10	22.02	22.31	22.02	22.65	21.06	20.98	21.31	21.04	21.72
		12@7	22.17	22.04	22.34	22.04	22.71	21.22	21.00	21.39	21.07	21.83
		12@13	22.11	22.00	22.33	22.03	22.64	21.06	20.99	21.30	21.00	21.68
		25@0	22.08	22.00	22.29	22.02	22.69	21.17	21.07	21.33	21.02	21.68
Band	Band width (MHz)	RB	39700	40160	40620	41080	41540	39700	40160	40620	41080	41540
			2501 MHz	2547 MHz	2593 MHz	2639 MHz	2685 MHz	2501 MHz	2547 MHz	2593 MHz	2639 MHz	2685 MHz
41	10	1@0	23.11	23.12	23.30	23.13	23.71	22.17	22.06	22.11	22.05	22.53
		1@25	23.17	23.14	23.41	23.16	23.76	22.14	22.05	22.18	22.07	22.58
		1@49	23.20	23.18	23.36	23.19	23.74	22.20	22.06	22.10	22.08	22.61
		25@0	22.08	22.04	22.30	22.09	22.69	21.12	21.07	21.33	21.12	21.75
		25@12	22.16	22.03	22.35	22.10	22.75	21.20	21.01	21.39	21.08	21.78
		25@25	22.15	22.02	22.31	22.07	22.70	21.12	21.02	21.39	21.09	21.74
		50@0	22.12	22.02	22.34	22.08	22.69	21.16	20.99	21.33	21.02	21.77
Band	Band width (MHz)	RB	39725	40173	40620	41068	41515	39725	40173	40620	41068	41515
			2503.5 MHz	2548.3 MHz	2593 MHz	2637.8 MHz	2682.5 MHz	2503.5 MHz	2548.3 MHz	2593 MHz	2637.8 MHz	2682.5 MHz
41	15	1@0	23.00	23.04	23.25	23.06	23.52	22.08	21.98	22.05	22.14	22.68
		1@37	23.21	23.13	23.40	23.21	23.63	22.21	22.25	22.13	22.38	22.78
		1@74	23.10	23.08	23.25	23.13	23.54	22.08	22.17	22.06	22.27	22.72
		36@0	22.13	22.04	22.25	22.11	22.65	21.09	21.01	21.23	21.19	21.69
		36@20	22.19	22.10	22.29	22.16	22.68	21.15	21.07	21.32	21.24	21.71
		36@39	22.18	22.00	22.23	22.05	22.60	21.13	20.98	21.22	21.16	21.71
		75@0	22.18	22.06	22.29	22.14	22.67	21.06	20.98	21.29	21.07	21.69
Band	Band width (MHz)	RB	39750	40185	40620	41055	41490	39750	40185	40620	41055	41490
			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz	2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
41	20	1@0	23.06	22.94	23.24	23.01	23.44	22.14	21.96	22.11	21.98	22.29
		1@49	23.44	23.17	23.63	23.15	23.78	22.36	22.18	22.33	22.17	22.48
		1@99	23.09	23.06	23.29	23.07	23.52	22.18	22.13	22.17	22.12	22.37
		50@0	22.05	22.00	22.27	22.07	22.64	21.06	20.97	21.28	20.91	21.68
		50@24	22.15	22.08	22.35	22.12	22.74	21.21	21.04	21.36	21.06	21.77
		50@50	22.11	22.02	22.30	22.02	22.58	21.15	20.98	21.29	20.97	21.62
		100@0	22.07	21.97	22.29	22.07	22.64	21.06	21.00	21.29	21.01	21.64

➢ **LTE Band 66 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	131979	132322	132665	131979	132322	132665
			1710.7 MHz	1745 MHz	1779.3 MHz	1710.7 MHz	1745 MHz	1779.3 MHz
66	1.4	1@0	23.02	23.46	23.39	22.21	22.34	22.14
		1@3	23.61	23.54	23.45	22.29	22.46	22.22
		1@5	23.54	23.47	23.44	22.22	22.38	22.14
		3@0	23.56	23.50	23.39	22.62	22.38	22.35
		3@1	23.59	23.54	23.40	22.55	22.60	22.48
		3@3	23.56	23.49	23.38	22.64	22.40	22.32
		6@0	22.68	22.62	22.56	21.59	21.60	21.43
Band	Bandwidth (MHz)	RB	131987	132322	132657	131987	132322	132657
			1711.5 MHz	1745 MHz	1778.5 MHz	1711.5 MHz	1745 MHz	1778.5 MHz
66	3	1@0	23.49	23.38	23.31	22.20	22.82	22.22
		1@8	23.56	23.47	23.41	22.29	22.86	22.34
		1@14	23.49	23.39	23.36	22.28	22.75	22.24
		8@0	22.64	22.57	22.52	21.66	21.61	21.37
		8@4	22.70	22.59	22.54	21.70	21.65	21.56
		8@7	22.65	22.57	22.48	21.63	21.63	21.35
		15@0	22.59	22.55	22.43	21.58	21.52	21.30
Band	Bandwidth (MHz)	RB	131997	132322	132647	131997	132322	132647
			1712.5 MHz	1745 MHz	1777.5 MHz	1712.5 MHz	1745 MHz	1777.5 MHz
66	5	1@0	23.70	23.61	23.52	22.54	22.32	22.54
		1@12	23.83	23.76	23.72	22.61	22.42	22.70
		1@24	23.66	23.62	23.55	22.52	22.36	22.65
		12@0	22.63	22.54	22.47	21.57	21.51	21.48
		12@7	22.74	22.65	22.52	21.73	21.70	21.62
		12@13	22.65	22.61	22.49	21.63	21.54	21.45
		25@0	22.68	22.57	22.47	21.69	21.62	21.44
Band	Bandwidth (MHz)	RB	132022	132322	132622	132022	132322	132622
			1715 MHz	1745 MHz	1775 MHz	1715 MHz	1745 MHz	1775 MHz
66	10	1@0	23.22	23.70	23.64	23.13	22.60	22.40
		1@25	23.81	23.73	23.60	23.14	22.68	22.37
		1@49	23.82	23.72	23.66	23.19	22.62	22.37
		25@0	22.62	22.52	22.49	21.67	21.55	21.55
		25@12	22.69	22.66	22.51	21.78	21.68	21.61
		25@25	22.70	22.62	22.52	21.75	21.62	21.53
		50@0	22.67	22.59	22.53	21.64	21.58	21.51
Band	Bandwidth (MHz)	RB	132047	132322	132597	132047	132322	132597
			1717.5 MHz	1745 MHz	1772.5 MHz	1717.5 MHz	1745 MHz	1772.5 MHz
66	15	1@0	23.12	23.67	23.54	23.08	22.59	22.66
		1@37	23.85	23.74	23.60	23.23	22.69	22.76
		1@74	23.73	23.62	23.55	23.09	22.52	22.61
		36@0	22.75	22.68	22.58	21.72	21.65	21.56
		36@20	22.78	22.73	22.68	21.74	21.70	21.59
		36@39	22.80	22.69	22.64	21.73	21.62	21.52
		75@0	22.78	22.71	22.65	21.71	21.65	21.54
Band	Bandwidth (MHz)	RB	132072	132322	132572	132072	132322	132572
			1720 MHz	1745 MHz	1770 MHz	1720 MHz	1745 MHz	1770 MHz
66	20	1@0	23.61	23.61	23.46	22.92	22.65	22.43
		1@49	23.88	23.77	23.71	23.16	22.86	22.69
		1@99	23.61	23.57	23.46	22.96	22.63	22.45
		50@0	22.63	22.59	22.55	21.59	21.50	21.52
		50@24	22.72	22.65	22.60	21.66	21.66	21.58
		50@50	22.72	22.60	22.48	21.65	21.56	21.43
		100@0	22.64	22.61	22.49	21.58	21.57	21.46

➢ **LTE Band 71 (DSI-1)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	133147 665.5 MHz	133297 680.5 MHz	133447 695.5 MHz	133147 665.5 MHz	133297 680.5 MHz	133447 695.5 MHz
71	5	1@0	23.42	23.44	23.43	22.32	22.27	22.63
		1@12	23.47	23.58	23.57	22.44	22.39	22.74
		1@24	23.49	23.44	23.51	22.39	22.29	22.64
		12@0	22.52	22.56	22.52	21.42	21.45	21.54
		12@7	22.58	22.61	22.55	21.64	21.64	21.71
		12@13	22.56	22.57	22.46	21.49	21.48	21.53
		25@0	22.55	22.56	22.55	21.56	21.56	21.54
Band	Bandwidth (MHz)	RB	133172 668 MHz	133297 680.5 MHz	133422 693 MHz	133172 668 MHz	133297 680.5 MHz	133422 693 MHz
71	10	1@0	23.49	23.46	23.49	22.35	22.99	22.52
		1@25	23.54	23.54	23.51	22.41	23.15	22.50
		1@49	23.55	23.54	23.58	22.40	23.16	22.58
		25@0	22.49	22.59	22.67	21.56	21.61	21.68
		25@12	22.57	22.53	22.61	21.68	21.61	21.64
		25@25	22.70	22.63	22.49	21.78	21.67	21.50
		50@0	22.64	22.63	22.59	21.59	21.62	21.55
Band	Bandwidth (MHz)	RB	133197 670.5 MHz	133297 680.5 MHz	133397 690.5 MHz	133197 670.5 MHz	133297 680.5 MHz	133397 690.5 MHz
71	15	1@0	23.42	23.40	23.38	22.67	22.97	22.46
		1@37	23.51	23.55	23.52	22.81	23.17	22.57
		1@74	23.38	23.46	23.53	22.65	23.07	22.48
		36@0	22.43	22.56	22.50	21.43	21.61	21.49
		36@20	22.58	22.56	22.55	21.49	21.55	21.57
		36@39	22.47	22.68	22.47	21.39	21.68	21.53
		75@0	22.49	22.67	22.52	21.41	21.67	21.51
Band	Bandwidth (MHz)	RB	133222 673 MHz	133322 683 MHz	133372 688 MHz	133222 673 MHz	133322 683 MHz	133372 688 MHz
71	20	1@0	23.30	23.38	23.33	22.79	22.55	22.50
		1@49	23.50	23.53	23.62	23.01	22.78	22.69
		1@99	23.36	23.40	23.39	22.88	22.61	22.53
		50@0	22.24	22.62	22.41	21.18	21.58	21.38
		50@24	22.55	22.59	22.59	21.51	21.68	21.58
		50@50	22.37	22.61	22.35	21.38	21.58	21.42
		100@0	22.26	22.61	22.37	21.32	21.63	21.40

➢ **LTE Band 66 (DSI-2)**

Conducted Power(dBm)								
Modulation			QPSK			16QAM		
Band	Bandwidth (MHz)	RB	131979	132322	132665	131979	132322	132665
			1710.7 MHz	1745 MHz	1779.3 MHz	1710.7 MHz	1745 MHz	1779.3 MHz
66	1.4	1@0	18.69	18.62	18.57	18.49	18.35	18.52
		1@3	18.74	18.67	18.63	18.55	18.37	18.62
		1@5	18.69	18.62	18.57	18.50	18.31	18.54
		3@0	18.77	18.70	18.62	18.72	18.74	18.51
		3@1	18.77	18.68	18.66	18.89	18.68	18.77
		3@3	18.77	18.70	18.63	18.73	18.77	18.54
		6@0	18.86	18.81	18.79	18.79	18.75	18.75
Band	Bandwidth (MHz)	RB	131987	132322	132657	131987	132322	132657
			1711.5 MHz	1745 MHz	1778.5 MHz	1711.5 MHz	1745 MHz	1778.5 MHz
66	3	1@0	18.57	18.51	18.51	19.07	18.47	18.30
		1@8	18.67	18.62	18.60	19.04	18.56	18.40
		1@14	18.60	18.51	18.51	18.99	18.49	18.29
		8@0	18.78	18.77	18.68	18.85	18.62	18.73
		8@4	18.85	18.81	18.77	18.91	18.81	18.77
		8@7	18.82	18.73	18.70	18.91	18.63	18.67
		15@0	18.77	18.69	18.64	18.76	18.59	18.65
Band	Bandwidth (MHz)	RB	131997	132322	132647	131997	132322	132647
			1712.5 MHz	1745 MHz	1777.5 MHz	1712.5 MHz	1745 MHz	1777.5 MHz
66	5	1@0	18.83	18.79	18.77	18.69	18.49	18.83
		1@12	18.92	18.87	18.87	18.81	18.60	18.94
		1@24	18.82	18.74	18.76	18.70	18.50	18.88
		12@0	18.81	18.73	18.71	18.70	18.66	18.72
		12@7	18.91	18.80	18.82	18.89	18.83	18.86
		12@13	18.85	18.79	18.73	18.77	18.70	18.69
		25@0	18.82	18.75	18.72	18.82	18.76	18.69
Band	Bandwidth (MHz)	RB	132022	132322	132622	132022	132322	132622
			1715 MHz	1745 MHz	1775 MHz	1715 MHz	1745 MHz	1775 MHz
66	10	1@0	18.94	18.82	18.84	18.93	18.81	18.59
		1@25	18.93	18.81	18.81	18.99	18.81	18.61
		1@49	18.96	18.81	18.81	19.01	18.79	18.64
		25@0	18.80	18.74	18.74	18.83	18.71	18.78
		25@12	18.88	18.83	18.77	18.88	18.82	18.86
		25@25	18.88	18.81	18.71	18.87	18.76	18.74
		50@0	18.78	18.78	18.72	18.81	18.74	18.71
Band	Bandwidth (MHz)	RB	132047	132322	132597	132047	132322	132597
			1717.5 MHz	1745 MHz	1772.5 MHz	1717.5 MHz	1745 MHz	1772.5 MHz
66	15	1@0	18.85	18.81	18.79	18.99	18.96	18.74
		1@37	18.92	18.87	18.86	19.06	19.03	18.83
		1@74	18.85	18.80	18.79	19.00	19.04	18.69
		36@0	18.90	18.81	18.85	18.82	18.78	18.81
		36@20	18.99	18.83	18.87	18.87	18.84	18.86
		36@39	18.91	18.87	18.79	18.82	18.79	18.77
		75@0	18.89	18.86	18.86	18.89	18.81	18.82
Band	Bandwidth (MHz)	RB	132072	132322	132572	132072	132322	132572
			1720 MHz	1745 MHz	1770 MHz	1720 MHz	1745 MHz	1770 MHz
66	20	1@0	18.80	18.69	18.70	18.83	18.94	18.80
		1@49	19.14	18.96	18.88	18.98	19.06	19.02
		1@99	18.81	18.75	18.74	18.86	19.00	18.82
		50@0	18.80	18.75	18.81	18.75	18.73	18.71
		50@24	18.92	18.85	18.81	18.89	18.77	18.78
		50@50	18.83	18.79	18.69	18.78	18.71	18.65
		100@0	18.79	18.72	18.74	18.77	18.75	18.72

4.4.4. Conducted Power of WLAN

The measuring conducted average power is shown as below.

Band	Mode	Channel	Frequency (MHz)	Average Power (dBm)
2.4GHz	802.11b	1	2412	15.03
		6	2437	***15.24***
		11	2462	15.08
		12	2467	14.95
		13	2472	14.89
	802.11g	1	2412	9.93
		6	2437	***10.23***
		11	2462	9.92
		12	2467	9.87
		13	2472	9.83
	802.11n-HT20	1	2412	9.81
		6	2437	***10.13***
		11	2462	9.83
		12	2467	9.75
		13	2472	9.63
	802.11n-HT40	3	2422	10.04
		6	2437	10.30
		9	2452	***10.34***
		10	2457	10.14
		11	2462	10.03

Mode	Band	Channel	Freq. (MHz)	Average Power (dBm)
IEEE 802.11a	U-NII-1	36	5180	13.12
		44	5220	13.16
		48	5240	13.13
	U-NII-2A	52	5260	13.17
		60	5300	13.15
		64	5320	13.18
	U-NII-2C	100	5500	13.42
		116	5580	13.57
		120	5600	13.48
		140	5700	13.52
		144	5720	13.62
	U-NII-3	149	5745	13.66
		157	5785	13.63
		165	5825	13.72
IEEE 802.11n-HT20	U-NII-1	36	5180	11.40
		44	5220	11.43
		48	5240	11.37
	U-NII-2A	52	5260	11.41
		60	5300	11.39
		64	5320	11.34
	U-NII-2C	100	5500	11.63
		116	5580	11.84
		120	5600	11.68
		140	5700	11.74
		144	5720	11.77
	U-NII-3	149	5745	11.75
		157	5785	11.78
		165	5825	11.80

Mode	Band	Channel	Freq. (MHz)	Average Power (dBm)
IEEE 802.11n-HT40	U-NII-1	38	5190	11.52
		46	5230	11.47
	U-NII-2A	54	5270	11.39
		62	5310	11.57
	U-NII-2C	102	5510	11.73
		110	5550	11.98
		118	5590	11.82
		134	5670	11.76
		142	5710	12.01
	U-NII-3	151	5755	11.90
		159	5795	11.88
IEEE 802.11ac-VHT20	U-NII-1	36	5180	11.44
		44	5220	11.34
		48	5240	11.33
	U-NII-2A	52	5260	11.44
		60	5300	11.40
		64	5320	11.37
	U-NII-2C	100	5500	11.63
		116	5580	11.84
		120	5600	11.74
		140	5700	11.80
		144	5720	11.89
	U-NII-3	149	5745	11.76
		157	5785	11.83
		165	5825	11.78
IEEE 802.11ac-VHT40	U-NII-1	38	5190	11.55
		46	5230	11.41
	U-NII-2A	54	5270	11.44
		62	5310	11.49
	U-NII-2C	102	5510	11.71
		110	5550	11.88
		118	5590	11.77
		134	5670	11.84
		142	5710	12.04
	U-NII-3	151	5755	11.79
		159	5795	11.93
IEEE 802.11ac-VHT80	U-NII-1	42	5210	10.26
	U-NII-2A	58	5290	10.34
	U-NII-2C	106	5530	10.54
		122	5610	10.61
		138	5690	10.84
	U-NII-3	155	5775	10.72

4.4.5. Conducted Power of BT

Mode	Modulation	Channel	Frequency (MHz)	Average Power (dBm)
BR + EDR	GFSK	0	2402	8.17
		39	2441	**9.05**
		78	2480	7.38
	π/4-DQPSK	0	2402	6.01
		39	2441	6.91
		78	2480	4.24
	8-DPSK	0	2402	5.87
		39	2441	6.75
		78	2480	4.05

Mode	Modulation	Channel	Frequency (MHz)	Average Power (dBm)
LE	GFSK	0	2402	4.31
		19	2440	**5.01**
		39	2480	4.32

4.5. SAR TEST EXCLUSION EVALUATIONS

4.5.1. Standalone SAR Test Exclusion Considerations

According to KDB 447498 D04, SAR-based thresholds are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum time-averaged power or maximum time-averaged ERP, whichever is greater.

The separation distance is the smallest distance from any part of the antenna or radiating structure for all persons, during operation at the applicable ERP. In the case of mobile or portable devices, the separation distance is from the outer housing of the device where it is closest to the antenna.

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{\text{th}}\ (\text{mW}) = ERP_{20\ \text{cm}}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases} \qquad \text{(B.1)}$$

$$P_{\text{th}}\ (\text{mW}) = \begin{cases} ERP_{20\ \text{cm}}(d/20\ \text{cm})^x & d \le 20\ \text{cm} \\ ERP_{20\ \text{cm}} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases} \qquad \text{(B.2)}$$

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\ \text{cm}}\sqrt{f}}\right)$$

f is in GHz, d is the separation distance (cm), and ERP_{20cm} is per Formula (B.1).

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)									
	5	10	15	20	25	30	35	40	45	50
300	39	65	88	110	129	148	166	184	201	217
450	22	44	67	89	112	135	158	180	203	226
835	9	25	44	66	90	116	145	175	207	240
1900	3	12	26	44	66	92	122	157	195	236
2450	3	10	22	38	59	83	111	143	179	219
3600	2	8	18	32	49	71	96	125	158	195
5800	1	6	14	25	40	58	80	106	136	169

Mode	Max. time-averaged Power (dBm)	Gain (dBi)	ERP (dBm)	P_{ant} (mW)	Left Side			Right Side			Top Side			Bottom Side		
					Ant. to Surface (cm)	P_{th} (mW)	Require SAR Testing ?	Ant. to Surface (cm)	P_{th} (mW)	Require SAR Testing ?	Ant. to Surface (cm)	P_{th} (mW)	Require SAR Testing ?	Ant. to Surface (cm)	P_{th} (mW)	Require SAR Testing ?
GSM 850	26.50	-1.29	23.06	446.68	0	0.00	Yes	0	0.00	Yes	15.7	1226.47	No	0	0.00	Yes
PCS 1900	23.00	-0.90	22.10	199.53	0	0.00	Yes	0	0.00	Yes	15.7	1956.29	No	0	0.00	Yes
WCDMA Band II	23.50	-0.90	22.60	223.87	0	0.00	Yes	0	0.00	Yes	15.7	1956.41	No	0	0.00	Yes
WCDMA Band IV	23.50	-0.68	22.82	223.87	0	0.00	Yes	2.7	78.48	Yes	0	0.00	Yes	15.4	1897.00	No
WCDMA Band V	24.00	-1.29	20.56	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1223.79	No	0	0.00	Yes
LTE Band 2	24.00	-0.90	23.10	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1956.32	No	0	0.00	Yes
LTE Band 4	24.50	-0.68	23.82	281.84	0	0.00	Yes	2.7	78.44	Yes	0	0.00	Yes	15.4	1896.89	No
LTE Band 5	24.00	-1.29	20.56	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1225.86	No	0	0.00	Yes
LTE Band 7	23.50	0.07	23.57	227.51	0	0.00	Yes	0	0.00	Yes	15.7	1926.10	No	0	0.00	Yes
LTE Band 12	24.00	-3.07	18.78	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1061.84	No	0	0.00	Yes
LTE Band 13	24.00	-1.58	20.27	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1147.73	No	0	0.00	Yes
LTE Band 17	24.00	-3.67	18.18	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1059.59	No	0	0.00	Yes
LTE Band 25	24.00	-0.90	23.10	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1956.05	No	0	0.00	Yes
LTE Band 26	24.00	-1.40	20.45	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1225.86	No	0	0.00	Yes
LTE Band 30	24.00	-3.20	20.80	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1936.72	No	0	0.00	Yes
LTE Band 38	24.50	0.07	24.57	286.42	0	0.00	Yes	0	0.00	Yes	15.7	1924.14	No	0	0.00	Yes
LTE Band 40	23.00	-3.10	19.90	199.53	0	0.00	Yes	0	0.00	Yes	15.7	1934.76	No	0	0.00	Yes
LTE Band 41	24.50	0.07	24.57	286.42	0	0.00	Yes	0	0.00	Yes	15.7	1921.48	No	0	0.00	Yes
LTE Band 66	24.50	-0.68	23.82	281.84	0	0.00	Yes	2.7	77.96	Yes	0	0.00	Yes	15.4	1895.37	No
LTE Band 71	24.00	-3.89	17.96	251.19	0	0.00	Yes	0	0.00	Yes	15.7	1037.03	No	0	0.00	Yes
WLAN 2.4G	15.50	1.50	17.00	50.12	5.8	289.79	No	0	0.00	Yes	0	0.00	Yes	15.2	1814.59	No
WLAN 5.2G	13.50	-0.21	13.29	22.39	5.8	236.79	No	0	0.00	Yes	0	0.00	Yes	15.2	1735.14	No
WLAN 5.3G	13.50	-0.21	13.29	22.39	5.8	235.83	No	0	0.00	Yes	0	0.00	Yes	15.2	1733.58	No
WLAN 5.6G	14.00	-0.21	13.79	25.12	5.8	231.28	No	0	0.00	Yes	0	0.00	Yes	15.2	1726.10	No
WLAN 5.8G	14.00	-0.21	13.79	25.12	5.8	230.15	No	0	0.00	Yes	0	0.00	Yes	15.2	1724.23	No
Bluetooth	9.50	1.50	11.00	12.59	5.8	289.53	No	0	0.00	Yes	0	0.00	Yes	15.2	1814.24	No

Note:

1) Based on the antenna location shown on appendix D of this report for SAR test exclusion.
2) The 1 mW Blanket Exemption applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

4.5.2. Estimated SAR Calculation

According to KDB 447498 D04, when an antenna qualifies for test exemption in single transmitter/antenna mode, its actual SAR value may not be available, because it was not required to be measured. In this case, the SAR contribution of that antenna to simultaneous transmission must be estimated relative to the SAR or MPE based exemption criteria for the applicable terms in the equation of § 1.1307(b)(3(ii)(B) (see also Appendix C), by multiplying the corresponding ratio by the SAR limit of 1.6 W/kg for 1-g SAR. This is referred to as estimated SAR.

For instance, a given antenna may qualify for a SAR-based exemption according to Section B.4, with $P_{ant} < P_{th}$, where Pant is maximum time-averaged power or effective radiated power (ERP), whichever is greater, and P_{th} is defined in Formula (B.2). Then, per the preceding paragraph, the estimated SAR is computed as $SAR_{est} = 1.6\ P_{ant} / P_{th}$ [W/kg].

Mode / Band	Frequency (GHz)	P_{ant} (mW)	Ant. to Surface (cm)	P_{th} (mW)	Test Position	Estimated 1g SAR (W/kg)
GSM 850	848.8	446.68	15.7	1226.47	Top Side	0.583
PCS 1900	1909.8	199.53	15.7	1956.29	Top Side	0.163
WCDMA Band II	1907.6	223.87	15.7	1956.41	Top Side	0.183
WCDMA Band IV	1752.6	223.87	15.4	1897.00	Bottom Side	0.189
WCDMA Band V	846.6	251.19	15.7	1223.79	Top Side	0.328
LTE Band 2	1909.3	251.19	15.7	1956.32	Top Side	0.205
LTE Band 4	1754.3	281.84	15.4	1896.89	Bottom Side	0.238
LTE Band 5	848.3	251.19	15.7	1225.86	Top Side	0.328
LTE Band 7	2567.5	227.51	15.7	1926.10	Top Side	0.189
LTE Band 12	715.3	251.19	15.7	1061.84	Top Side	0.378
LTE Band 13	784.5	251.19	15.7	1147.73	Top Side	0.350
LTE Band 17	713.5	251.19	15.7	1059.59	Top Side	0.379
LTE Band 25	1914.3	251.19	15.7	1956.05	Top Side	0.205
LTE Band 26	848.3	251.19	15.7	1225.86	Top Side	0.328
LTE Band 30	2312.5	251.19	15.7	1936.72	Top Side	0.208
LTE Band 38	2617.5	286.42	15.7	1924.14	Top Side	0.238
LTE Band 40	2357.5	199.53	15.7	1934.76	Top Side	0.165
LTE Band 41	2687.5	286.42	15.7	1921.48	Top Side	0.238
LTE Band 66	1779.3	281.84	15.4	1895.37	Bottom Side	0.238
LTE Band 71	695.5	251.19	15.7	1037.03	Top Side	0.388
2.4G WLAN	2472	50.12	5.8	289.79	Left Side	0.277
5.2G WLAN	5240	22.39	5.8	236.79	Left Side	0.151
5.3G WLAN	5320	22.39	5.8	235.83	Left Side	0.152
5.6G WLAN	5720	25.12	5.8	231.28	Left Side	0.174
5.8G WLAN	5825	25.12	5.8	230.15	Left Side	0.175
Bluetooth	2480	12.59	5.8	289.53	Left Side	0.070
2.4G WLAN	2472	35.48	15.2	1814.59	Bottom Side	0.031
5.2G WLAN	5240	22.39	15.2	1735.14	Bottom Side	0.021
5.3G WLAN	5320	22.39	15.2	1733.58	Bottom Side	0.021
5.6G WLAN	5720	25.12	15.2	1726.10	Bottom Side	0.023
5.8G WLAN	5825	25.12	15.2	1724.23	Bottom Side	0.023
Bluetooth	2480	8.91	15.2	1814.24	Bottom Side	0.008

4.6. SAR TESTING RESULTS

4.6.1. SAR Test Reduction Considerations

KDB 447498 D01 General RF Exposure Guidance

Testing of other required channels within the operating mode of a frequency band is not required when the reported SAR for the mid-band or highest output power channel is:

a) ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
b) ≤ 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
c) ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

KDB 941225 D01 3G SAR Procedures

a) GSM SAR Test Reduction

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance. The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode.

b) 3G SAR Test Reduction Procedure

The mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ 1/4 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

KDB 941225 D05 SAR for LTE Devices

a) QPSK with 1 RB and 50% RB allocation

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

b) QPSK with 100% RB allocation

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

c) Higher order modulations

SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > 1/2 dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

d) Others channel bandwidth

SAR is required when the highest maximum output power of the smaller channel bandwidth is > 1/2 dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

KDB 941225 D06 Hot Spot SAR

Hotspot mode SAR is measured for all edges and surfaces of the device with a transmitting antenna located within 25 mm from that surface or edge.

Antenna	Front Face	Rear Face	Left Side	Right	Top Side	Bottom Side
WWAN Ant. 0	Yes	Yes	Yes	Yes	N/A	Yes
WWAN Ant. 1	Yes	Yes	Yes	Yes	Yes	N/A
WWAN Ant. 2	Yes	Yes	Yes	N/A	Yes	N/A
WLAN / BT	Yes	Yes	N/A	Yes	Yes	N/A

KDB 248227 D01 Wi-Fi SAR

a) For handsets operating next to ear, hotspot mode or mini-tablet configurations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When the reported SAR of initial test position is <= 0.4 W/kg, SAR testing for remaining test positions is not required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is <= 0.8 W/kg or all test positions are measured.

b) For WLAN 2.4 GHz, the highest measured maximum output power channel for DSSS was selected for SAR measurement. When the reported SAR is <= 0.8 W/kg, no further SAR testing is required. Otherwise, SAR is evaluated at the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel. For OFDM modes (802.11g/n), SAR is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and it is <= 1.2 W/kg.

c) For WLAN 5 GHz, the initial test configuration was selected according to the transmission mode with the highest maximum output power. When the reported SAR of initial test configuration is > 0.8 W/kg, SAR is required for the subsequent highest measured output power channel until the reported SAR result is <= 1.2 W/kg or all required channels are measured. For other transmission modes, SAR is not required when the highest reported SAR for initial test configuration is adjusted by the ratio of subsequent test configuration to initial test configuration specified maximum output power and it is <= 1.2 W/kg.

d) For WLAN MIMO mode, the power-based standalone SAR test exclusion or the sum of SAR provision in KDB 447498 to determine simultaneous transmission SAR test exclusion should be applied. Otherwise, SAR for MIMO mode will be measured with all applicable antennas transmitting simultaneously at the specified maximum output power of MIMO operation.

4.6.2. SAR Results for Head Exposure Condition

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	GSM 850	GPRS12	Right Cheek	128	-	-	DSI-2	-	29.5	29.09	0.19	0.352	0.278	1.10	0.387
	GSM 850	GPRS12	Right Tilted	128	-	-	DSI-2	-	29.5	29.09	0.12	0.233	0.176	1.10	0.256
1	GSM 850	GPRS12	Left Cheek	128	-	-	DSI-2	-	29.5	29.09	0.14	0.366	0.286	1.10	**0.402**
	GSM 850	GPRS12	Left Tilted	128	-	-	DSI-2	-	29.5	29.09	0.09	0.198	0.153	1.10	0.218
	GSM 850	GPRS12	Left Cheek	190	-	-	DSI-2	-	29.5	29.04	0.02	0.349	0.269	1.11	0.388
	GSM 850	GPRS12	Left Cheek	251	-	-	DSI-2	-	29.5	28.99	0.07	0.297	0.228	1.12	0.334
	PCS 1900	GPRS12	Right Cheek	512	-	-	DSI-2	-	26.0	25.63	-0.15	0.162	0.103	1.09	0.176
	PCS 1900	GPRS12	Right Tilted	512	-	-	DSI-2	-	26.0	25.63	0.02	0.139	0.0865	1.09	0.151
2	PCS 1900	GPRS12	Left Cheek	512	-	-	DSI-2	-	26.0	25.63	0.02	0.206	0.128	1.09	**0.224**
	PCS 1900	GPRS12	Left Tilted	512	-	-	DSI-2	-	26.0	25.63	0.13	0.183	0.111	1.09	0.199
	PCS 1900	GPRS12	Left Cheek	661	-	-	DSI-2	-	26.0	25.41	0.04	0.193	0.119	1.15	0.221
	PCS 1900	GPRS12	Left Cheek	810	-	-	DSI-2	-	26.0	25.18	0.09	0.146	0.0887	1.21	0.176
	WCDMA Band II	RMC12.2K	Right Cheek	9262	-	-	DSI-2	-	23.5	23.09	0.02	0.0917	0.0586	1.10	0.101
	WCDMA Band II	RMC12.2K	Right Tilted	9262	-	-	DSI-2	-	23.5	23.09	0.04	0.0744	0.0464	1.10	0.082
3	WCDMA Band II	RMC12.2K	Left Cheek	9262	-	-	DSI-2	-	23.5	23.09	0.04	0.111	0.0686	1.10	**0.122**
	WCDMA Band II	RMC12.2K	Left Tilted	9262	-	-	DSI-2	-	23.5	23.09	0.05	0.0978	0.059	1.10	0.107
	WCDMA Band II	RMC12.2K	Left Cheek	9400	-	-	DSI-2	-	23.5	22.90	0.14	0.0942	0.0583	1.15	0.108
	WCDMA Band II	RMC12.2K	Left Cheek	9538	-	-	DSI-2	-	23.5	22.98	0.13	0.0955	0.0586	1.13	0.108
	WCDMA Band IV	RMC12.2K	Right Cheek	1312	-	-	DSI-2	-	20.3	19.98	0.15	0.808	0.444	1.08	0.870
	WCDMA Band IV	RMC12.2K	Right Tilted	1312	-	-	DSI-2	-	20.3	19.98	0.07	0.59	0.306	1.08	0.635
	WCDMA Band IV	RMC12.2K	Left Cheek	1312	-	-	DSI-2	-	20.3	19.98	0.12	0.392	0.241	1.08	0.422
	WCDMA Band IV	RMC12.2K	Left Tilted	1312	-	-	DSI-2	-	20.3	19.98	0.04	0.303	0.178	1.08	0.326
	WCDMA Band IV	RMC12.2K	Right Cheek	1413	-	-	DSI-2	-	20.3	19.95	-0.08	0.83	0.451	1.08	0.900
4	WCDMA Band IV	RMC12.2K	Right Cheek	1513	-	-	DSI-2	-	20.3	19.93	-0.08	0.933	0.504	1.09	**1.016**
*	WCDMA Band IV	RMC12.2K	Right Cheek	1513	-	-	DSI-2	-	20.3	19.93	0.05	0.901	0.488	1.09	0.981
	WCDMA Band V	RMC12.2K	Right Cheek	4182	-	-	DSI-2	-	24.0	23.71	0.03	0.139	0.107	1.07	0.149
	WCDMA Band V	RMC12.2K	Right Tilted	4182	-	-	DSI-2	-	24.0	23.71	0.04	0.0732	0.057	1.07	0.078
	WCDMA Band V	RMC12.2K	Left Cheek	4182	-	-	DSI-2	-	24.0	23.71	0.05	0.128	0.099	1.07	0.137
	WCDMA Band V	RMC12.2K	Left Tilted	4182	-	-	DSI-2	-	24.0	23.71	0.03	0.0671	0.0529	1.07	0.072
5	WCDMA Band V	RMC12.2K	Right Cheek	4132	-	-	DSI-2	-	24.0	23.61	0.07	0.16	0.123	1.09	**0.175**
	WCDMA Band V	RMC12.2K	Right Cheek	4233	-	-	DSI-2	-	24.0	23.60	0.15	0.122	0.0932	1.10	0.134
	LTE Band 7	QPSK20M	Right Cheek	21350	1	50	DSI-2	-	23.5	23.13	0.16	0.15	0.0798	1.09	0.163
	LTE Band 7	QPSK20M	Right Tilted	21350	1	50	DSI-2	-	23.5	23.13	0.06	0.0963	0.0481	1.09	0.105
	LTE Band 7	QPSK20M	Left Cheek	21350	1	50	DSI-2	-	23.5	23.13	0.04	0.193	0.101	1.09	0.210

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	LTE Band 7	QPSK20M	Left Tilted	21350	1	50	DSI-2	-	23.5	23.13	0.05	0.111	0.0551	1.09	0.121
	LTE Band 7	QPSK20M	Right Cheek	21350	50	0	DSI-2	-	22.5	22.03	0.04	0.123	0.0658	1.11	0.137
	LTE Band 7	QPSK20M	Right Tilted	21350	50	0	DSI-2	-	22.5	22.03	0.04	0.0751	0.0375	1.11	0.084
	LTE Band 7	QPSK20M	Left Cheek	21350	50	0	DSI-2	-	22.5	22.03	0.03	0.149	0.0775	1.11	0.166
	LTE Band 7	QPSK20M	Left Tilted	21350	50	0	DSI-2	-	22.5	22.03	0.05	0.0897	0.0443	1.11	0.100
	LTE Band 7	QPSK20M	Left Cheek	20850	1	50	DSI-2	-	23.5	22.99	0.19	0.203	0.108	1.12	0.228
6	LTE Band 7	QPSK20M	Left Cheek	21100	1	50	DSI-2	-	23.5	23.00	0.13	0.212	0.112	1.12	**0.238**
	LTE Band 12(17)	QPSK10M	Right Cheek	23130	1	49	DSI-2	-	24.0	23.63	0.04	0.145	0.116	1.09	0.158
	LTE Band 12(17)	QPSK10M	Right Tilted	23130	1	49	DSI-2	-	24.0	23.63	0.06	0.0761	0.063	1.09	0.083
	LTE Band 12(17)	QPSK10M	Left Cheek	23130	1	49	DSI-2	-	24.0	23.63	0.03	0.125	0.103	1.09	0.136
	LTE Band 12(17)	QPSK10M	Left Tilted	23130	1	49	DSI-2	-	24.0	23.63	0.03	0.0873	0.0701	1.09	0.095
	LTE Band 12(17)	QPSK10M	Right Cheek	23095	25	12	DSI-2	-	23.0	22.49	0.16	0.126	0.102	1.12	0.142
	LTE Band 12(17)	QPSK10M	Right Tilted	23095	25	12	DSI-2	-	23.0	22.49	-0.02	0.0699	0.058	1.12	0.079
	LTE Band 12(17)	QPSK10M	Left Cheek	23095	25	12	DSI-2	-	23.0	22.49	0.08	0.126	0.103	1.12	0.142
	LTE Band 12(17)	QPSK10M	Left Tilted	23095	25	12	DSI-2	-	23.0	22.49	0.10	0.084	0.0678	1.12	0.094
7	LTE Band 12(17)	QPSK10M	Right Cheek	23060	1	49	DSI-2	-	24.0	23.63	0.06	0.167	0.134	1.09	**0.182**
	LTE Band 12(17)	QPSK10M	Right Cheek	23095	1	49	DSI-2	-	24.0	23.63	0.10	0.155	0.124	1.09	0.169
8	LTE Band 13	QPSK10M	Right Cheek	23230	1	25	DSI-2	-	24.0	23.58	0.06	0.288	0.226	1.10	**0.317**
	LTE Band 13	QPSK10M	Right Tilted	23230	1	25	DSI-2	-	24.0	23.58	0.07	0.166	0.13	1.10	0.183
	LTE Band 13	QPSK10M	Left Cheek	23230	1	25	DSI-2	-	24.0	23.58	0.06	0.255	0.204	1.10	0.281
	LTE Band 13	QPSK10M	Left Tilted	23230	1	25	DSI-2	-	24.0	23.58	-0.03	0.157	0.125	1.10	0.173
	LTE Band 13	QPSK10M	Right Cheek	23230	25	12	DSI-2	-	23.0	22.51	0.10	0.223	0.175	1.12	0.250
	LTE Band 13	QPSK10M	Right Tilted	23230	25	12	DSI-2	-	23.0	22.51	0.14	0.123	0.0974	1.12	0.138
	LTE Band 13	QPSK10M	Left Cheek	23230	25	12	DSI-2	-	23.0	22.51	0.07	0.2	0.16	1.12	0.224
	LTE Band 13	QPSK10M	Left Tilted	23230	25	12	DSI-2	-	23.0	22.51	0.16	0.121	0.0956	1.12	0.135
	LTE Band 25(2)	QPSK20M	Right Cheek	26365	1	50	DSI-2	-	24.0	23.46	0.08	0.0951	0.0614	1.13	0.108
	LTE Band 25(2)	QPSK20M	Right Tilted	26365	1	50	DSI-2	-	24.0	23.46	0.05	0.0754	0.0462	1.13	0.085
	LTE Band 25(2)	QPSK20M	Left Cheek	26365	1	50	DSI-2	-	24.0	23.46	-0.12	0.106	0.0654	1.13	0.120
	LTE Band 25(2)	QPSK20M	Left Tilted	26365	1	50	DSI-2	-	24.0	23.46	0.20	0.117	0.0701	1.13	0.132
	LTE Band 25(2)	QPSK20M	Right Cheek	26140	50	25	DSI-2	-	23.0	22.44	0.10	0.0788	0.0517	1.14	0.090
	LTE Band 25(2)	QPSK20M	Right Tilted	26140	50	25	DSI-2	-	23.0	22.44	0.06	0.0788	0.0486	1.14	0.090
	LTE Band 25(2)	QPSK20M	Left Cheek	26140	50	25	DSI-2	-	23.0	22.44	0.09	0.125	0.0755	1.14	0.142
	LTE Band 25(2)	QPSK20M	Left Tilted	26140	50	25	DSI-2	-	23.0	22.44	0.02	0.0999	0.0602	1.14	0.114
9	LTE Band 25(2)	QPSK20M	Left Cheek	26140	1	50	DSI-2	-	24.0	23.38	0.13	0.159	0.0967	1.15	**0.183**
	LTE Band 25(2)	QPSK20M	Left Cheek	26590	1	50	DSI-2	-	24.0	23.42	0.09	0.148	0.0882	1.14	0.169
	LTE Band 26(5)	QPSK15M	Right Cheek	26865	1	38	DSI-2	-	24.5	23.78	0.06	0.186	0.143	1.18	0.220

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	LTE Band 26(5)	QPSK15M	Right Tilted	26865	1	38	DSI-2	-	24.5	23.78	0.04	0.087	0.0686	1.18	0.103
	LTE Band 26(5)	QPSK15M	Left Cheek	26865	1	38	DSI-2	-	24.5	23.78	0.07	0.169	0.128	1.18	0.199
	LTE Band 26(5)	QPSK15M	Left Tilted	26865	1	38	DSI-2	-	24.5	23.78	0.03	0.0843	0.0669	1.18	0.100
	LTE Band 26(5)	QPSK15M	Right Cheek	26865	36	20	DSI-2	-	23.0	22.66	0.09	0.147	0.113	1.08	0.159
	LTE Band 26(5)	QPSK15M	Right Tilted	26865	36	20	DSI-2	-	23.0	22.66	0.05	0.0684	0.0542	1.08	0.074
	LTE Band 26(5)	QPSK15M	Left Cheek	26865	36	20	DSI-2	-	23.0	22.66	0.13	0.134	0.102	1.08	0.145
	LTE Band 26(5)	QPSK15M	Left Tilted	26865	36	20	DSI-2	-	23.0	22.66	0.05	0.0664	0.0527	1.08	0.072
10	LTE Band 26(5)	QPSK15M	Right Cheek	26765	1	38	DSI-2	-	24.5	23.72	0.05	0.225	0.174	1.20	**0.269**
	LTE Band 26(5)	QPSK15M	Right Cheek	26965	1	38	DSI-2	-	24.5	23.66	0.19	0.16	0.124	1.21	0.194
11	LTE Band 30	QPSK10M	Right Cheek	27710	1	49	DSI-2	-	24.0	23.57	0.04	0.13	0.0736	1.10	**0.144**
	LTE Band 30	QPSK10M	Right Tilted	27710	1	49	DSI-2	-	24.0	23.57	-0.04	0.0549	0.294	1.10	0.061
	LTE Band 30	QPSK10M	Left Cheek	27710	1	49	DSI-2	-	24.0	23.57	0.04	0.0987	0.0568	1.10	0.109
	LTE Band 30	QPSK10M	Left Tilted	27710	1	49	DSI-2	-	24.0	23.57	0.05	0.0743	0.0402	1.10	0.082
	LTE Band 30	QPSK10M	Right Cheek	27710	25	25	DSI-2	-	23.0	22.37	0.03	0.0973	0.0554	1.16	0.112
	LTE Band 30	QPSK10M	Right Tilted	27710	25	25	DSI-2	-	23.0	22.37	0.09	0.0411	0.0219	1.16	0.048
	LTE Band 30	QPSK10M	Left Cheek	27710	25	25	DSI-2	-	23.0	22.37	-0.08	0.0749	0.0426	1.16	0.087
	LTE Band 30	QPSK10M	Left Tilted	27710	25	25	DSI-2	-	23.0	22.37	0.12	0.0622	0.0336	1.16	0.072
12	LTE Band 40	QPSK10M	Right Cheek	38750	1	25	DSI-2	-	23.0	22.68	0.02	0.0988	0.0545	1.08	**0.106**
	LTE Band 40	QPSK10M	Right Tilted	38750	1	25	DSI-2	-	23.0	22.68	0.02	0.0222	0.011	1.08	0.024
	LTE Band 40	QPSK10M	Left Cheek	38750	1	25	DSI-2	-	23.0	22.68	0.02	0.0721	0.0408	1.08	0.078
	LTE Band 40	QPSK10M	Left Tilted	38750	1	25	DSI-2	-	23.0	22.68	0.08	0.0393	0.021	1.08	0.042
	LTE Band 40	QPSK10M	Right Cheek	39200	25	25	DSI-2	-	22.0	21.55	0.05	0.0744	0.0398	1.11	0.083
	LTE Band 40	QPSK10M	Right Tilted	39200	25	25	DSI-2	-	22.0	21.55	0.14	0.0273	0.0144	1.11	0.030
	LTE Band 40	QPSK10M	Left Cheek	39200	25	25	DSI-2	-	22.0	21.55	0.12	0.0633	0.0347	1.11	0.070
	LTE Band 40	QPSK10M	Left Tilted	39200	25	25	DSI-2	-	22.0	21.55	0.14	0.0334	0.0174	1.11	0.037
	LTE Band 40	QPSK10M	Right Cheek	39200	1	25	DSI-2	-	23.0	22.66	0.03	0.0815	0.0443	1.08	0.088
	LTE Band 41(38)	QPSK20M	Right Cheek	41490	1	50	DSI-2	-	24.5	23.78	0.02	0.198	0.102	1.18	0.234
	LTE Band 41(38)	QPSK20M	Right Tilted	41490	1	50	DSI-2	-	24.5	23.78	0.07	0.152	0.0711	1.18	0.179
13	LTE Band 41(38)	QPSK20M	Left Cheek	41490	1	50	DSI-2	-	24.5	23.78	0.07	0.269	0.134	1.18	**0.318**
	LTE Band 41(38)	QPSK20M	Left Tilted	41490	1	50	DSI-2	-	24.5	23.78	0.06	0.0923	0.0435	1.18	0.109
	LTE Band 41(38)	QPSK20M	Right Cheek	41490	50	25	DSI-2	-	23.0	22.74	0.03	0.154	0.0787	1.06	0.164
	LTE Band 41(38)	QPSK20M	Right Tilted	41490	50	25	DSI-2	-	23.0	22.74	0.12	0.118	0.0551	1.06	0.125
	LTE Band 41(38)	QPSK20M	Left Cheek	41490	50	25	DSI-2	-	23.0	22.74	0.17	0.212	0.105	1.06	0.225
	LTE Band 41(38)	QPSK20M	Left Tilted	41490	50	25	DSI-2	-	23.0	22.74	0.10	0.0708	0.0336	1.06	0.075
	LTE Band 41(38)	QPSK20M	Left Cheek	39750	1	50	DSI-2	-	24.5	23.44	0.14	0.223	0.12	1.28	0.285
	LTE Band 41(38)	QPSK20M	Left Cheek	40620	1	50	DSI-2	-	24.5	23.63	0.02	0.205	0.106	1.22	0.250

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	LTE Band 66(4)	QPSK20M	Right Cheek	132072	1	50	DSI-2	-	19.4	19.14	0.09	0.759	0.417	1.06	0.806
	LTE Band 66(4)	QPSK20M	Right Tilted	132072	1	50	DSI-2	-	19.4	19.14	0.17	0.545	0.285	1.06	0.579
	LTE Band 66(4)	QPSK20M	Left Cheek	132072	1	50	DSI-2	-	19.4	19.14	-0.06	0.414	0.247	1.06	0.440
	LTE Band 66(4)	QPSK20M	Left Tilted	132072	1	50	DSI-2	-	19.4	19.14	0.08	0.322	0.186	1.06	0.342
	LTE Band 66(4)	QPSK20M	Right Cheek	132072	50	25	DSI-2	-	19.4	18.92	0.13	0.757	0.415	1.12	0.845
	LTE Band 66(4)	QPSK20M	Right Tilted	132072	50	25	DSI-2	-	19.4	18.92	0.02	0.551	0.287	1.12	0.615
	LTE Band 66(4)	QPSK20M	Left Cheek	132072	50	25	DSI-2	-	19.4	18.92	0.00	0.407	0.243	1.12	0.455
	LTE Band 66(4)	QPSK20M	Left Tilted	132072	50	25	DSI-2	-	19.4	18.92	0.09	0.319	0.184	1.12	0.356
	LTE Band 66(4)	QPSK20M	Right Cheek	132322	1	50	DSI-2	-	19.4	18.96	0.11	0.839	0.457	1.11	0.928
14	LTE Band 66(4)	QPSK20M	Right Cheek	132572	1	50	DSI-2	-	19.4	18.88	0.04	0.929	0.503	1.13	**1.047**
*	LTE Band 66(4)	QPSK20M	Right Cheek	132572	1	50	DSI-2	-	19.4	18.88	0.09	0.912	0.497	1.13	1.028
	LTE Band 66(4)	QPSK20M	Right Cheek	132072	100	0	DSI-2	-	19.4	18.79	0.11	0.766	0.416	1.15	0.882
	LTE Band 71	QPSK20M	Right Cheek	133372	1	50	DSI-2	-	24.0	23.62	0.07	0.115	0.0914	1.09	0.126
	LTE Band 71	QPSK20M	Right Tilted	133372	1	50	DSI-2	-	24.0	23.62	0.04	0.0616	0.051	1.09	0.067
	LTE Band 71	QPSK20M	Left Cheek	133372	1	50	DSI-2	-	24.0	23.62	0.02	0.106	0.0854	1.09	0.116
	LTE Band 71	QPSK20M	Left Tilted	133372	1	50	DSI-2	-	24.0	23.62	0.12	0.0576	0.0475	1.09	0.063
	LTE Band 71	QPSK20M	Right Cheek	133322	50	0	DSI-2	-	23.0	22.62	0.09	0.111	0.0891	1.09	0.121
	LTE Band 71	QPSK20M	Right Tilted	133322	50	0	DSI-2	-	23.0	22.62	0.08	0.0583	0.0481	1.09	0.064
	LTE Band 71	QPSK20M	Left Cheek	133322	50	0	DSI-2	-	23.0	22.62	0.15	0.0996	0.0808	1.09	0.109
	LTE Band 71	QPSK20M	Left Tilted	133322	50	0	DSI-2	-	23.0	22.62	0.06	0.0532	0.0437	1.09	0.058
15	LTE Band 71	QPSK20M	Right Cheek	133222	1	50	DSI-2	-	24.0	23.50	0.06	0.156	0.126	1.12	**0.175**
	LTE Band 71	QPSK20M	Right Cheek	133322	1	50	DSI-2	-	24.0	23.53	0.09	0.13	0.105	1.11	0.145
	2.4GHz	IEEE 802.11b	Right Cheek	6	-	-	DSI-2	99.52%	15.5	15.24	0.10	0.149	0.0849	1.06	0.159
	2.4GHz	IEEE 802.11b	Right Tilted	6	-	-	DSI-2	99.52%	15.5	15.24	0.04	0.144	0.071	1.06	0.154
16	2.4GHz	IEEE 802.11b	Left Cheek	6	-	-	DSI-2	99.52%	15.5	15.24	-0.03	0.464	0.229	1.06	**0.495**
	2.4GHz	IEEE 802.11b	Left Tilted	6	-	-	DSI-2	99.52%	15.5	15.24	0.20	0.406	0.167	1.06	0.433
	2.4GHz	IEEE 802.11b	Left Cheek	1	-	-	DSI-2	99.52%	15.5	15.03	-0.03	0.326	0.156	1.11	0.365
	2.4GHz	IEEE 802.11b	Left Cheek	11	-	-	DSI-2	99.52%	15.5	15.08	0.08	0.351	0.172	1.10	0.389
	2.4GHz	Bluetooth DH5	Right Cheek	39	-	-	DSI-2	76.60%	9.5	9.05	0.03	0.0328	0.0178	1.11	0.047
	2.4GHz	Bluetooth DH5	Right Tilted	39	-	-	DSI-2	76.60%	9.5	9.05	0.06	0.0259	0.0128	1.11	0.038
17	2.4GHz	Bluetooth DH5	Left Cheek	39	-	-	DSI-2	76.60%	9.5	9.05	-0.03	0.125	0.0594	1.11	**0.181**
	2.4GHz	Bluetooth DH5	Left Tilted	39	-	-	DSI-2	76.60%	9.5	9.05	-0.04	0.0692	0.0286	1.11	0.100
	2.4GHz	Bluetooth DH5	Left Cheek	0	-	-	DSI-2	76.60%	9.5	8.17	0.05	0.0472	0.0232	1.36	0.084
	2.4GHz	Bluetooth DH5	Left Cheek	78	-	-	DSI-2	76.60%	9.5	7.38	0.06	0.0734	0.0364	1.63	0.156
	U-NII-1	IEEE 802.11a	Right Cheek	44	-	-	DSI-2	97.41%	13.5	13.16	-0.01	0.484	0.165	1.08	0.537
	U-NII-1	IEEE 802.11a	Right Tilted	44	-	-	DSI-2	97.41%	13.5	13.16	0.07	0.574	0.188	1.08	0.637

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	U-NII-1	IEEE 802.11a	Left Cheek	44	-	-	DSI-2	97.41%	13.5	13.16	0.07	0.791	0.249	1.08	0.878
	U-NII-1	IEEE 802.11a	Left Tilted	44	-	-	DSI-2	97.41%	13.5	13.16	0.13	0.818	0.252	1.08	0.908
	U-NII-1	IEEE 802.11a	Left Cheek	48	-	-	DSI-2	97.41%	13.5	13.13	-0.03	0.8	0.252	1.09	0.894
18	U-NII-1	IEEE 802.11a	Left Tilted	48	-	-	DSI-2	97.41%	13.5	13.13	0.16	0.854	0.265	1.09	**0.955**
*	U-NII-1	IEEE 802.11a	Left Tilted	48	-	-	DSI-2	97.41%	13.5	13.13	0.09	0.846	0.263	1.09	0.946
	U-NII-2A	IEEE 802.11a	Right Cheek	64	-	-	DSI-2	97.41%	13.5	13.18	-0.03	0.456	0.157	1.08	0.504
	U-NII-2A	IEEE 802.11a	Right Tilted	64	-	-	DSI-2	97.41%	13.5	13.18	-0.15	0.521	0.176	1.08	0.576
	U-NII-2A	IEEE 802.11a	Left Cheek	64	-	-	DSI-2	97.41%	13.5	13.18	0.04	0.818	0.263	1.08	0.904
19	U-NII-2A	IEEE 802.11a	Left Tilted	64	-	-	DSI-2	97.41%	13.5	13.18	0.09	0.869	0.269	1.08	**0.960**
	U-NII-2A	IEEE 802.11a	Left Cheek	52	-	-	DSI-2	97.41%	13.5	13.17	0.05	0.791	0.254	1.08	0.876
	U-NII-2A	IEEE 802.11a	Left Tilted	52	-	-	DSI-2	97.41%	13.5	13.17	-0.08	0.84	0.261	1.08	0.930
*	U-NII-2A	IEEE 802.11a	Left Tilted	64	-	-	DSI-2	97.41%	13.5	13.18	0.02	0.861	0.267	1.08	0.951
	U-NII-2C	IEEE 802.11a	Right Cheek	144	-	-	DSI-2	97.41%	14.0	13.62	-0.01	0.415	0.14	1.09	0.465
	U-NII-2C	IEEE 802.11a	Right Tilted	144	-	-	DSI-2	97.41%	14.0	13.62	-0.02	0.451	0.154	1.09	0.505
	U-NII-2C	IEEE 802.11a	Left Cheek	144	-	-	DSI-2	97.41%	14.0	13.62	-0.17	0.742	0.225	1.09	0.831
	U-NII-2C	IEEE 802.11a	Left Tilted	144	-	-	DSI-2	97.41%	14.0	13.62	-0.01	0.718	0.217	1.09	0.804
20	U-NII-2C	IEEE 802.11a	Left Cheek	116	-	-	DSI-2	97.41%	14.0	13.57	0.00	0.857	0.26	1.10	**0.971**
	U-NII-2C	IEEE 802.11a	Left Tilted	116	-	-	DSI-2	97.41%	14.0	13.57	0.08	0.829	0.251	1.10	0.940
*	U-NII-2C	IEEE 802.11a	Left Cheek	116	-	-	DSI-2	97.41%	14.0	13.57	0.00	0.851	0.257	1.10	0.965
	U-NII-3	IEEE 802.11a	Right Cheek	165	-	-	DSI-2	97.41%	14.0	13.72	0.08	0.417	0.139	1.07	0.457
	U-NII-3	IEEE 802.11a	Right Tilted	165	-	-	DSI-2	97.41%	14.0	13.72	0.04	0.476	0.159	1.07	0.521
21	U-NII-3	IEEE 802.11a	Left Cheek	165	-	-	DSI-2	97.41%	14.0	13.72	0.12	0.715	0.22	1.07	**0.783**
	U-NII-3	IEEE 802.11a	Left Tilted	165	-	-	DSI-2	97.41%	14.0	13.72	0.13	0.682	0.207	1.07	0.747
	U-NII-3	IEEE 802.11a	Left Cheek	149	-	-	DSI-2	97.41%	14.0	13.66	0.05	0.701	0.216	1.08	0.778

Note: "*" indicates that the data is repeated.

4.6.3. SAR Results for Body-Worn Exposure Condition (Separation Distance is 1.0 cm)

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	GSM 850	GPRS12	Front Face	128	-	-	DSI-1	-	29.5	29.09	0.04	0.389	0.299	1.10	0.428
22	GSM 850	GPRS12	Rear Face	128	-	-	DSI-1	-	29.5	29.09	-0.04	0.435	0.331	1.10	**0.478**
	GSM 850	GPRS12	Rear Face	190	-	-	DSI-1	-	29.5	29.04	-0.03	0.357	0.273	1.11	0.397
	GSM 850	GPRS12	Rear Face	251	-	-	DSI-1	-	29.5	28.99	-0.01	0.268	0.203	1.12	0.301
	PCS 1900	GPRS12	Front Face	512	-	-	DSI-1	-	26.0	25.63	0.04	0.388	0.226	1.09	0.423
	PCS 1900	GPRS12	Rear Face	512	-	-	DSI-1	-	26.0	25.63	0.05	0.56	0.31	1.09	0.610
23	PCS 1900	GPRS12	Rear Face	661	-	-	DSI-1	-	26.0	25.41	-0.06	0.628	0.347	1.15	**0.719**
	PCS 1900	GPRS12	Rear Face	810	-	-	DSI-1	-	26.0	25.18	0.00	0.458	0.254	1.21	0.553
	WCDMA Band II	RMC12.2K	Front Face	9262	-	-	DSI-1	-	23.5	23.09	0.04	0.188	0.108	1.10	0.207
24	WCDMA Band II	RMC12.2K	Rear Face	9262	-	-	DSI-1	-	23.5	23.09	0.08	0.338	0.186	1.10	**0.371**
	WCDMA Band II	RMC12.2K	Rear Face	9400	-	-	DSI-1	-	23.5	22.90	0.11	0.296	0.164	1.15	0.340
	WCDMA Band II	RMC12.2K	Rear Face	9538	-	-	DSI-1	-	23.5	22.98	0.07	0.298	0.165	1.13	0.336
	WCDMA Band IV	RMC12.2K	Front Face	1513	-	-	DSI-1	-	23.5	23.24	-0.01	0.378	0.22	1.06	0.401
25	WCDMA Band IV	RMC12.2K	Rear Face	1513	-	-	DSI-1	-	23.5	23.24	-0.04	0.513	0.292	1.06	**0.545**
	WCDMA Band IV	RMC12.2K	Rear Face	1312	-	-	DSI-1	-	23.5	23.10	-0.04	0.361	0.179	1.10	0.396
	WCDMA Band IV	RMC12.2K	Rear Face	1413	-	-	DSI-1	-	23.5	23.21	-0.08	0.341	0.194	1.07	0.365
	WCDMA Band V	RMC12.2K	Front Face	4182	-	-	DSI-1	-	24.0	23.71	-0.02	0.115	0.0884	1.07	0.123
	WCDMA Band V	RMC12.2K	Rear Face	4182	-	-	DSI-1	-	24.0	23.71	0.05	0.138	0.105	1.07	0.148
26	WCDMA Band V	RMC12.2K	Rear Face	4132	-	-	DSI-1	-	24.0	23.61	0.11	0.178	0.136	1.09	**0.195**
	WCDMA Band V	RMC12.2K	Rear Face	4233	-	-	DSI-1	-	24.0	23.60	0.08	0.109	0.0832	1.10	0.120
	LTE Band 7	QPSK20M	Front Face	21350	1	50	DSI-1	-	23.5	23.13	0.02	0.331	0.165	1.09	0.360
	LTE Band 7	QPSK20M	Rear Face	21350	1	50	DSI-1	-	23.5	23.13	0.03	0.375	0.175	1.09	0.408
	LTE Band 7	QPSK20M	Front Face	21350	50	0	DSI-1	-	22.5	22.03	0.12	0.266	0.133	1.11	0.296
	LTE Band 7	QPSK20M	Rear Face	21350	50	0	DSI-1	-	22.5	22.03	-0.19	0.297	0.138	1.11	0.331
	LTE Band 7	QPSK20M	Rear Face	20850	1	50	DSI-1	-	23.5	22.99	0.07	0.388	0.179	1.12	0.436
27	LTE Band 7	QPSK20M	Rear Face	21100	1	50	DSI-1	-	23.5	23.00	-0.02	0.402	0.185	1.12	**0.451**
	LTE Band 12(17)	QPSK10M	Front Face	23130	1	49	DSI-1	-	24.0	23.63	-0.02	0.154	0.121	1.09	0.168
	LTE Band 12(17)	QPSK10M	Rear Face	23130	1	49	DSI-1	-	24.0	23.63	0.03	0.171	0.133	1.09	0.186
	LTE Band 12(17)	QPSK10M	Front Face	23095	25	12	DSI-1	-	23.0	22.49	-0.02	0.15	0.119	1.12	0.169
	LTE Band 12(17)	QPSK10M	Rear Face	23095	25	12	DSI-1	-	23.0	22.49	0.03	0.165	0.129	1.12	0.186
28	LTE Band 12(17)	QPSK10M	Rear Face	23060	1	49	DSI-1	-	24.0	23.48	0.00	0.2	0.156	1.13	**0.225**

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	LTE Band 12(17)	QPSK10M	Rear Face	23095	1	49	DSI-1	-	24.0	23.52	0.05	0.185	0.145	1.12	0.207
	LTE Band 13	QPSK10M	Front Face	23230	1	25	DSI-1	-	24.0	23.58	-0.01	0.327	0.255	1.10	0.360
29	LTE Band 13	QPSK10M	Rear Face	23230	1	25	DSI-1	-	24.0	23.58	0.03	0.363	0.281	1.10	**0.400**
	LTE Band 13	QPSK10M	Front Face	23230	25	12	DSI-1	-	23.0	22.51	-0.02	0.259	0.202	1.12	0.290
	LTE Band 13	QPSK10M	Rear Face	23230	25	12	DSI-1	-	23.0	22.51	0.01	0.286	0.221	1.12	0.320
	LTE Band 25(2)	QPSK20M	Front Face	26365	1	50	DSI-1	-	24.0	23.46	0.03	0.247	0.141	1.13	0.280
	LTE Band 25(2)	QPSK20M	Rear Face	26365	1	50	DSI-1	-	24.0	23.46	0.10	0.393	0.217	1.13	0.445
	LTE Band 25(2)	QPSK20M	Front Face	26140	50	25	DSI-1	-	23.0	22.44	0.03	0.202	0.115	1.14	0.230
	LTE Band 25(2)	QPSK20M	Rear Face	26140	50	25	DSI-1	-	23.0	22.44	0.12	0.34	0.188	1.14	0.387
30	LTE Band 25(2)	QPSK20M	Rear Face	26140	1	50	DSI-1	-	24.0	23.38	-0.02	0.428	0.237	1.15	**0.494**
	LTE Band 25(2)	QPSK20M	Rear Face	26590	1	50	DSI-1	-	24.0	23.42	0.11	0.405	0.224	1.14	0.463
	LTE Band 26(5)	QPSK15M	Front Face	26865	1	38	DSI-1	-	24.5	23.78	0.01	0.164	0.126	1.18	0.194
	LTE Band 26(5)	QPSK15M	Rear Face	26865	1	38	DSI-1	-	24.5	23.78	-0.06	0.189	0.144	1.18	0.223
	LTE Band 26(5)	QPSK15M	Front Face	26865	36	20	DSI-1	-	23.0	22.66	0.11	0.13	0.1	1.08	0.141
	LTE Band 26(5)	QPSK15M	Rear Face	26865	36	20	DSI-1	-	23.0	22.66	0.07	0.148	0.113	1.08	0.160
31	LTE Band 26(5)	QPSK15M	Rear Face	26765	1	38	DSI-1	-	24.5	23.72	0.06	0.24	0.184	1.20	**0.287**
	LTE Band 26(5)	QPSK15M	Rear Face	26965	1	38	DSI-1	-	24.5	23.66	-0.01	0.146	0.112	1.21	0.177
32	LTE Band 30	QPSK10M	Front Face	27710	1	49	DSI-1	-	24.0	23.57	-0.03	0.294	0.165	1.10	**0.325**
	LTE Band 30	QPSK10M	Rear Face	27710	1	49	DSI-1	-	24.0	23.57	0.02	0.28	0.135	1.10	0.309
	LTE Band 30	QPSK10M	Front Face	27710	25	25	DSI-1	-	23.0	22.37	0.01	0.254	0.143	1.16	0.294
	LTE Band 30	QPSK10M	Rear Face	27710	25	25	DSI-1	-	23.0	22.37	0.06	0.239	0.115	1.16	0.276
33	LTE Band 40	QPSK10M	Front Face	38750	1	25	DSI-1	-	23.0	22.68	0.14	0.262	0.139	1.08	**0.282**
	LTE Band 40	QPSK10M	Rear Face	38750	1	25	DSI-1	-	23.0	22.68	0.08	0.232	0.112	1.08	0.250
	LTE Band 40	QPSK10M	Front Face	39200	25	25	DSI-1	-	22.0	21.55	0.00	0.192	0.108	1.11	0.213
	LTE Band 40	QPSK10M	Rear Face	39200	25	25	DSI-1	-	22.0	21.55	0.05	0.196	0.0946	1.11	0.217
	LTE Band 40	QPSK10M	Front Face	39200	1	25	DSI-1	-	23.0	22.66	-0.08	0.252	0.141	1.08	0.273
	LTE Band 41(38)	QPSK20M	Front Face	41490	1	50	DSI-1	-	24.5	23.78	0.02	0.361	0.179	1.18	0.426
	LTE Band 41(38)	QPSK20M	Rear Face	41490	1	50	DSI-1	-	24.5	23.78	-0.02	0.41	0.189	1.18	0.484
	LTE Band 41(38)	QPSK20M	Front Face	41490	50	25	DSI-1	-	23.0	22.74	0.03	0.286	0.141	1.06	0.304
	LTE Band 41(38)	QPSK20M	Rear Face	41490	50	25	DSI-1	-	23.0	22.74	0.17	0.324	0.148	1.06	0.344
34	LTE Band 41(38)	QPSK20M	Rear Face	39750	1	50	DSI-1	-	24.5	23.44	0.00	0.417	0.189	1.28	**0.532**
	LTE Band 41(38)	QPSK20M	Rear Face	40620	1	50	DSI-1	-	24.5	23.63	0.17	0.366	0.168	1.22	0.447
	LTE Band 66(4)	QPSK20M	Front Face	132072	1	50	DSI-1	-	24.5	23.88	0.00	0.381	0.223	1.15	0.439

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	LTE Band 66(4)	QPSK20M	Rear Face	132072	1	50	DSI-1	-	24.5	23.88	-0.03	0.474	0.269	1.15	0.547
	LTE Band 66(4)	QPSK20M	Front Face	132072	50	50	DSI-1	-	23.0	22.72	0.06	0.298	0.174	1.07	0.318
	LTE Band 66(4)	QPSK20M	Rear Face	132072	50	50	DSI-1	-	23.0	22.72	-0.02	0.362	0.206	1.07	0.386
	LTE Band 66(4)	QPSK20M	Rear Face	132322	1	50	DSI-1	-	24.5	23.77	-0.02	0.531	0.302	1.18	0.628
35	LTE Band 66(4)	QPSK20M	Rear Face	132572	1	50	DSI-1	-	24.5	23.71	-0.03	0.55	0.313	1.20	**0.660**
	LTE Band 71	QPSK20M	Front Face	133372	1	50	DSI-1	-	24.0	23.62	0.08	0.135	0.107	1.09	0.147
	LTE Band 71	QPSK20M	Rear Face	133372	1	50	DSI-1	-	24.0	23.62	0.09	0.148	0.116	1.09	0.162
	LTE Band 71	QPSK20M	Front Face	133322	50	0	DSI-1	-	23.0	22.62	0.06	0.126	0.1	1.09	0.138
	LTE Band 71	QPSK20M	Rear Face	133322	50	0	DSI-1	-	23.0	22.62	-0.02	0.139	0.109	1.09	0.152
36	LTE Band 71	QPSK20M	Rear Face	133222	1	50	DSI-1	-	24.0	23.50	0.02	0.196	0.156	1.12	**0.220**
	LTE Band 71	QPSK20M	Rear Face	133322	1	50	DSI-1	-	24.0	23.53	0.01	0.162	0.128	1.11	0.181
	2.4GHz	IEEE 802.11b	Front Face	6	-	-	DSI-1	99.52%	15.5	15.24	0.05	0.0686	0.0391	1.06	0.073
	2.4GHz	IEEE 802.11b	Rear Face	6	-	-	DSI-1	99.52%	15.5	15.24	0.09	0.0674	0.0338	1.06	0.072
	2.4GHz	IEEE 802.11b	Front Face	1	-	-	DSI-1	99.52%	15.5	15.03	0.09	0.0571	0.0293	1.11	0.064
37	2.4GHz	IEEE 802.11b	Front Face	11	-	-	DSI-1	99.52%	15.5	15.08	-0.08	0.0699	0.0336	1.10	**0.077**
	2.4GHz	Bluetooth DH5	Front Face	39	-	-	DSI-1	76.60%	9.5	9.05	0.16	0.00942	0.00452	1.11	0.014
	2.4GHz	Bluetooth DH5	Rear Face	39	-	-	DSI-1	76.60%	9.5	9.05	0.02	0.0115	0.00555	1.11	0.017
	2.4GHz	Bluetooth DH5	Rear Face	0	-	-	DSI-1	76.60%	9.5	8.17	0.09	0.00856	0.00368	1.36	0.015
38	2.4GHz	Bluetooth DH5	Rear Face	78	-	-	DSI-1	76.60%	9.5	7.38	-0.09	0.0185	0.00851	1.63	**0.039**
39	U-NII-1	IEEE 802.11a	Front Face	44	-	-	DSI-1	97.41%	13.5	13.16	-0.05	0.154	0.053	1.08	**0.171**
	U-NII-1	IEEE 802.11a	Rear Face	44	-	-	DSI-1	97.41%	13.5	13.16	-0.06	0.083	0.03	1.08	0.092
40	U-NII-2A	IEEE 802.11a	Front Face	64	-	-	DSI-1	97.41%	13.5	13.18	-0.09	0.161	0.056	1.08	**0.062**
	U-NII-2A	IEEE 802.11a	Rear Face	64	-	-	DSI-1	97.41%	13.5	13.18	-0.05	0.114	0.041	1.08	0.045
	U-NII-2C	IEEE 802.11a	Front Face	144	-	-	DSI-1	97.41%	14.0	13.62	-0.01	0.14	0.047	1.09	0.053
41	U-NII-2C	IEEE 802.11a	Rear Face	144	-	-	DSI-1	97.41%	14.0	13.62	-0.14	0.147	0.049	1.09	**0.055**
42	U-NII-3	IEEE 802.11a	Front Face	165			DSI-1	97.41%	14.0	13.72	-0.04	0.132	0.044	1.07	**0.145**
	U-NII-3	IEEE 802.11a	Rear Face	165			DSI-1	97.41%	14.0	13.72	-0.01	0.112	0.038	1.07	0.123

4.6.4. SAR Results for Hotspot Exposure Condition (Separation Distance is 1.0 cm)

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	GSM 850	GPRS12	Front Face	128	-	-	DSI-1	-	29.5	29.09	0.04	0.389	0.299	1.10	0.428
22	GSM 850	GPRS12	Rear Face	128	-	-	DSI-1	-	29.5	29.09	-0.04	0.435	0.331	1.10	**0.478**
	GSM 850	GPRS12	Left Side	128	-	-	DSI-1	-	29.5	29.09	0.05	0.251	0.154	1.10	0.276
	GSM 850	GPRS12	Right Side	128	-	-	DSI-1	-	29.5	29.09	0.04	0.371	0.24	1.10	0.408
	GSM 850	GPRS12	Bottom Side	128	-	-	DSI-1	-	29.5	29.09	-0.03	0.11	0.0574	1.10	0.121
	GSM 850	GPRS12	Rear Face	190	-	-	DSI-1	-	29.5	29.04	-0.03	0.357	0.273	1.11	0.397
	GSM 850	GPRS12	Rear Face	251	-	-	DSI-1	-	29.5	28.99	-0.01	0.268	0.203	1.12	0.301
	PCS 1900	GPRS12	Front Face	512	-	-	DSI-1	-	26.0	25.63	0.04	0.388	0.226	1.09	0.423
	PCS 1900	GPRS12	Rear Face	512	-	-	DSI-1	-	26.0	25.63	0.05	0.56	0.31	1.09	0.610
	PCS 1900	GPRS12	Left Side	512	-	-	DSI-1	-	26.0	25.63	0.03	0.384	0.224	1.09	0.418
	PCS 1900	GPRS12	Right Side	512	-	-	DSI-1	-	26.0	25.63	0.02	0.106	0.0601	1.09	0.115
	PCS 1900	GPRS12	Bottom Side	512	-	-	DSI-1	-	26.0	25.63	0.13	0.517	0.26	1.09	0.563
23	PCS 1900	GPRS12	Rear Face	661	-	-	DSI-1	-	26.0	25.41	-0.06	0.628	0.347	1.15	**0.719**
	PCS 1900	GPRS12	Rear Face	810	-	-	DSI-1	-	26.0	25.18	0.00	0.458	0.254	1.21	0.553
	WCDMA Band II	RMC12.2K	Front Face	9262	-	-	DSI-1	-	23.5	23.09	0.04	0.188	0.108	1.10	0.207
24	WCDMA Band II	RMC12.2K	Rear Face	9262	-	-	DSI-1	-	23.5	23.09	0.08	0.338	0.186	1.10	**0.371**
	WCDMA Band II	RMC12.2K	Left Side	9262	-	-	DSI-1	-	23.5	23.09	0.03	0.171	0.0956	1.10	0.188
	WCDMA Band II	RMC12.2K	Right Side	9262	-	-	DSI-1	-	23.5	23.09	0.04	0.0426	0.0245	1.10	0.047
	WCDMA Band II	RMC12.2K	Bottom Side	9262	-	-	DSI-1	-	23.5	23.09	0.03	0.301	0.152	1.10	0.331
	WCDMA Band II	RMC12.2K	Rear Face	9400	-	-	DSI-1	-	23.5	22.90	0.11	0.296	0.164	1.15	0.340
	WCDMA Band II	RMC12.2K	Rear Face	9538	-	-	DSI-1	-	23.5	22.98	0.07	0.298	0.165	1.13	0.336
	WCDMA Band IV	RMC12.2K	Front Face	1513	-	-	DSI-1	-	23.5	23.24	-0.01	0.378	0.22	1.06	0.401
	WCDMA Band IV	RMC12.2K	Rear Face	1513	-	-	DSI-1	-	23.5	23.24	-0.04	0.513	0.292	1.06	0.545
	WCDMA Band IV	RMC12.2K	Left Side	1513	-	-	DSI-1	-	23.5	23.24	-0.02	0.309	0.171	1.06	0.328
	WCDMA Band IV	RMC12.2K	Right Side	1513	-	-	DSI-1	-	23.5	23.24	0.04	0.0993	0.0586	1.06	0.105
43	WCDMA Band IV	RMC12.2K	Top Side	1513	-	-	DSI-1	-	23.5	23.24	0.04	0.528	0.275	1.06	**0.561**
	WCDMA Band IV	RMC12.2K	Top Side	1312	-	-	DSI-1	-	23.5	23.10	0.03	0.342	0.183	1.10	0.375
	WCDMA Band IV	RMC12.2K	Top Side	1413	-	-	DSI-1	-	23.5	23.21	0.04	0.403	0.214	1.07	0.431
	WCDMA Band V	RMC12.2K	Front Face	4182	-	-	DSI-1	-	24.0	23.71	-0.02	0.115	0.0884	1.07	0.123
	WCDMA Band V	RMC12.2K	Rear Face	4182	-	-	DSI-1	-	24.0	23.71	0.05	0.138	0.105	1.07	0.148

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	WCDMA Band V	RMC12.2K	Left Side	4182	-	-	DSI-1	-	24.0	23.71	0.04	0.0674	0.0405	1.07	0.072
	WCDMA Band V	RMC12.2K	Right Side	4182	-	-	DSI-1	-	24.0	23.71	-0.04	0.141	0.0907	1.07	0.151
	WCDMA Band V	RMC12.2K	Bottom Side	4182	-	-	DSI-1	-	24.0	23.71	-0.04	0.0596	0.0295	1.07	0.064
	WCDMA Band V	RMC12.2K	Right Side	4132	-	-	DSI-1	-	24.0	23.61	0.01	0.112	0.0729	1.09	0.123
44	WCDMA Band V	RMC12.2K	Right Side	4233	-	-	DSI-1	-	24.0	23.60	0.07	0.206	0.143	1.10	**0.226**
	LTE Band 7	QPSK20M	Front Face	21350	1	50	DSI-1	-	23.5	23.13	0.02	0.331	0.165	1.09	0.360
	LTE Band 7	QPSK20M	Rear Face	21350	1	50	DSI-1	-	23.5	23.13	0.03	0.375	0.175	1.09	0.408
	LTE Band 7	QPSK20M	Left Side	21350	1	50	DSI-1	-	23.5	23.13	0.09	0.269	0.14	1.09	0.293
	LTE Band 7	QPSK20M	Right Side	21350	1	50	DSI-1	-	23.5	23.13	0.17	0.0642	0.034	1.09	0.070
	LTE Band 7	QPSK20M	Bottom Side	21350	1	50	DSI-1	-	23.5	23.13	0.03	0.279	0.138	1.09	0.304
	LTE Band 7	QPSK20M	Front Face	21350	50	0	DSI-1	-	22.5	22.03	0.12	0.266	0.133	1.11	0.296
	LTE Band 7	QPSK20M	Rear Face	21350	50	0	DSI-1	-	22.5	22.03	-0.19	0.297	0.138	1.11	0.331
	LTE Band 7	QPSK20M	Left Side	21350	50	0	DSI-1	-	22.5	22.03	0.11	0.214	0.112	1.11	0.238
	LTE Band 7	QPSK20M	Right Side	21350	50	0	DSI-1	-	22.5	22.03	0.05	0.051	0.0272	1.11	0.057
	LTE Band 7	QPSK20M	Bottom Side	21350	50	0	DSI-1	-	22.5	22.03	0.03	0.222	0.111	1.11	0.247
	LTE Band 7	QPSK20M	Rear Face	20850	1	50	DSI-1	-	23.5	22.99	0.07	0.388	0.179	1.12	0.436
27	LTE Band 7	QPSK20M	Rear Face	21100	1	50	DSI-1	-	23.5	23.00	-0.02	0.402	0.185	1.12	**0.451**
	LTE Band 12(17)	QPSK10M	Front Face	23130	1	49	DSI-1	-	24.0	23.63	-0.02	0.154	0.121	1.09	0.168
	LTE Band 12(17)	QPSK10M	Rear Face	23130	1	49	DSI-1	-	24.0	23.63	0.03	0.171	0.133	1.09	0.186
	LTE Band 12(17)	QPSK10M	Left Side	23130	1	49	DSI-1	-	24.0	23.63	0.01	0.142	0.101	1.09	0.155
	LTE Band 12(17)	QPSK10M	Right Side	23130	1	49	DSI-1	-	24.0	23.63	0.03	0.209	0.148	1.09	0.228
	LTE Band 12(17)	QPSK10M	Bottom Side	23130	1	49	DSI-1	-	24.0	23.63	0.10	0.0447	0.0244	1.09	0.049
	LTE Band 12(17)	QPSK10M	Front Face	23095	25	12	DSI-1	-	23.0	22.49	-0.02	0.15	0.119	1.12	0.169
	LTE Band 12(17)	QPSK10M	Rear Face	23095	25	12	DSI-1	-	23.0	22.49	0.03	0.165	0.129	1.12	0.186
	LTE Band 12(17)	QPSK10M	Left Side	23095	25	12	DSI-1	-	23.0	22.49	-0.04	0.139	0.0984	1.12	0.156
	LTE Band 12(17)	QPSK10M	Right Side	23095	25	12	DSI-1	-	23.0	22.49	-0.02	0.193	0.137	1.12	0.217
	LTE Band 12(17)	QPSK10M	Bottom Side	23095	25	12	DSI-1	-	23.0	22.49	0.03	0.038	0.0206	1.12	0.043
45	LTE Band 12(17)	QPSK10M	Right Side	23060	1	49	DSI-1	-	24.0	23.48	0.06	0.246	0.175	1.13	**0.277**
	LTE Band 12(17)	QPSK10M	Right Side	23095	1	49	DSI-1	-	24.0	23.52	0.05	0.232	0.165	1.12	0.259
	LTE Band 13	QPSK10M	Front Face	23230	1	25	DSI-1	-	24.0	23.58	-0.01	0.327	0.255	1.10	0.360
29	LTE Band 13	QPSK10M	Rear Face	23230	1	25	DSI-1	-	24.0	23.58	0.03	0.363	0.281	1.10	**0.400**
	LTE Band 13	QPSK10M	Left Side	23230	1	25	DSI-1	-	24.0	23.58	-0.03	0.269	0.189	1.10	0.296
	LTE Band 13	QPSK10M	Right Side	23230	1	25	DSI-1	-	24.0	23.58	0.05	0.348	0.243	1.10	0.383

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	LTE Band 13	QPSK10M	Bottom Side	23230	1	25	DSI-1	-	24.0	23.58	-0.03	0.0541	0.0275	1.10	0.060
	LTE Band 13	QPSK10M	Front Face	23230	25	12	DSI-1	-	23.0	22.51	-0.02	0.259	0.202	1.12	0.290
	LTE Band 13	QPSK10M	Rear Face	23230	25	12	DSI-1	-	23.0	22.51	0.01	0.286	0.221	1.12	0.320
	LTE Band 13	QPSK10M	Left Side	23230	25	12	DSI-1	-	23.0	22.51	0.04	0.213	0.15	1.12	0.238
	LTE Band 13	QPSK10M	Right Side	23230	25	12	DSI-1	-	23.0	22.51	0.02	0.277	0.193	1.12	0.310
	LTE Band 13	QPSK10M	Bottom Side	23230	25	12	DSI-1	-	23.0	22.51	-0.12	0.043	0.0218	1.12	0.048
	LTE Band 25(2)	QPSK20M	Front Face	26365	1	50	DSI-1	-	24.0	23.46	0.03	0.247	0.141	1.13	0.280
	LTE Band 25(2)	QPSK20M	Rear Face	26365	1	50	DSI-1	-	24.0	23.46	0.10	0.393	0.217	1.13	0.445
	LTE Band 25(2)	QPSK20M	Left Side	26365	1	50	DSI-1	-	24.0	23.46	0.20	0.216	0.119	1.13	0.245
	LTE Band 25(2)	QPSK20M	Right Side	26365	1	50	DSI-1	-	24.0	23.46	0.02	0.0495	0.0282	1.13	0.056
	LTE Band 25(2)	QPSK20M	Bottom Side	26365	1	50	DSI-1	-	24.0	23.46	0.02	0.27	0.136	1.13	0.306
	LTE Band 25(2)	QPSK20M	Front Face	26140	50	25	DSI-1	-	23.0	22.44	0.03	0.202	0.115	1.14	0.230
	LTE Band 25(2)	QPSK20M	Rear Face	26140	50	25	DSI-1	-	23.0	22.44	0.12	0.34	0.188	1.14	0.387
	LTE Band 25(2)	QPSK20M	Left Side	26140	50	25	DSI-1	-	23.0	22.44	0.10	0.184	0.104	1.14	0.209
	LTE Band 25(2)	QPSK20M	Right Side	26140	50	25	DSI-1	-	23.0	22.44	0.09	0.0432	0.0247	1.14	0.049
	LTE Band 25(2)	QPSK20M	Bottom Side	26140	50	25	DSI-1	-	23.0	22.44	0.09	0.259	0.13	1.14	0.295
30	LTE Band 25(2)	QPSK20M	Rear Face	26140	1	50	DSI-1	-	24.0	23.38	-0.02	0.428	0.237	1.15	**0.494**
	LTE Band 25(2)	QPSK20M	Rear Face	26590	1	50	DSI-1	-	24.0	23.42	0.11	0.405	0.224	1.14	0.463
	LTE Band 26(5)	QPSK15M	Front Face	26865	1	38	DSI-1	-	24.5	23.78	0.01	0.164	0.126	1.18	0.194
	LTE Band 26(5)	QPSK15M	Rear Face	26865	1	38	DSI-1	-	24.5	23.78	-0.06	0.189	0.144	1.18	0.223
	LTE Band 26(5)	QPSK15M	Left Side	26865	1	38	DSI-1	-	24.5	23.78	-0.01	0.129	0.0903	1.18	0.152
	LTE Band 26(5)	QPSK15M	Right Side	26865	1	38	DSI-1	-	24.5	23.78	0.02	0.217	0.15	1.18	0.256
	LTE Band 26(5)	QPSK15M	Bottom Side	26865	1	38	DSI-1	-	24.5	23.78	0.04	0.0501	0.0262	1.18	0.059
	LTE Band 26(5)	QPSK15M	Front Face	26865	36	20	DSI-1	-	23.0	22.66	0.11	0.13	0.1	1.08	0.141
	LTE Band 26(5)	QPSK15M	Rear Face	26865	36	20	DSI-1	-	23.0	22.66	0.07	0.148	0.113	1.08	0.160
	LTE Band 26(5)	QPSK15M	Left Side	26865	36	20	DSI-1	-	23.0	22.66	0.10	0.103	0.0726	1.08	0.111
	LTE Band 26(5)	QPSK15M	Right Side	26865	36	20	DSI-1	-	23.0	22.66	0.01	0.173	0.12	1.08	0.187
	LTE Band 26(5)	QPSK15M	Bottom Side	26865	36	20	DSI-1	-	23.0	22.66	0.03	0.0396	0.0208	1.08	0.043
46	LTE Band 26(5)	QPSK15M	Right Side	26765	1	38	DSI-1	-	24.5	23.72	0.04	0.276	0.193	1.20	**0.330**
	LTE Band 26(5)	QPSK15M	Right Side	26965	1	38	DSI-1	-	24.5	23.66	0.00	0.163	0.113	1.21	0.198
	LTE Band 30	QPSK10M	Front Face	27710	1	49	DSI-1	-	24.0	23.57	-0.03	0.294	0.165	1.10	0.325
	LTE Band 30	QPSK10M	Rear Face	27710	1	49	DSI-1	-	24.0	23.57	0.02	0.28	0.135	1.10	0.309
	LTE Band 30	QPSK10M	Left Side	27710	1	49	DSI-1	-	24.0	23.57	0.03	0.128	0.0683	1.10	0.141

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	LTE Band 30	QPSK10M	Right Side	27710	1	49	DSI-1	-	24.0	23.57	-0.08	0.0422	0.0227	1.10	0.047
47	LTE Band 30	QPSK10M	Bottom Side	27710	1	49	DSI-1	-	24.0	23.57	-0.04	0.365	0.179	1.10	**0.403**
	LTE Band 30	QPSK10M	Front Face	27710	25	25	DSI-1	-	23.0	22.37	0.01	0.254	0.143	1.16	0.294
	LTE Band 30	QPSK10M	Rear Face	27710	25	25	DSI-1	-	23.0	22.37	0.06	0.239	0.115	1.16	0.276
	LTE Band 30	QPSK10M	Left Side	27710	25	25	DSI-1	-	23.0	22.37	0.09	0.0966	0.052	1.16	0.112
	LTE Band 30	QPSK10M	Right Side	27710	25	25	DSI-1	-	23.0	22.37	0.19	0.0317	0.017	1.16	0.037
	LTE Band 30	QPSK10M	Bottom Side	27710	25	25	DSI-1	-	23.0	22.37	0.19	0.319	0.155	1.16	0.369
	LTE Band 40	QPSK10M	Front Face	38750	1	25	DSI-1	-	23.0	22.68	0.14	0.262	0.139	1.08	0.282
	LTE Band 40	QPSK10M	Rear Face	38750	1	25	DSI-1	-	23.0	22.68	0.08	0.232	0.112	1.08	0.250
	LTE Band 40	QPSK10M	Left Side	38750	1	25	DSI-1	-	23.0	22.68	0.02	0.0721	0.0387	1.08	0.078
	LTE Band 40	QPSK10M	Right Side	38750	1	25	DSI-1	-	23.0	22.68	0.08	0.0148	0.00777	1.08	0.016
48	LTE Band 40	QPSK10M	Bottom Side	38750	1	25	DSI-1	-	23.0	22.68	-0.02	0.279	0.138	1.08	**0.300**
	LTE Band 40	QPSK10M	Front Face	39200	25	25	DSI-1	-	22.0	21.55	0.00	0.192	0.108	1.11	0.213
	LTE Band 40	QPSK10M	Rear Face	39200	25	25	DSI-1	-	22.0	21.55	0.05	0.196	0.0946	1.11	0.217
	LTE Band 40	QPSK10M	Left Side	39200	25	25	DSI-1	-	22.0	21.55	0.17	0.0566	0.0304	1.11	0.063
	LTE Band 40	QPSK10M	Right Side	39200	25	25	DSI-1	-	22.0	21.55	0.03	0.0137	0.00725	1.11	0.015
	LTE Band 40	QPSK10M	Bottom Side	39200	25	25	DSI-1	-	22.0	21.55	-0.10	0.192	0.097	1.11	0.213
	LTE Band 40	QPSK10M	Bottom Side	39200	1	25	DSI-1	-	23.0	22.66	-0.15	0.25	0.127	1.08	0.270
	LTE Band 41(38)	QPSK20M	Front Face	41490	1	50	DSI-1	-	24.5	23.78	0.02	0.361	0.179	1.18	0.426
	LTE Band 41(38)	QPSK20M	Rear Face	41490	1	50	DSI-1	-	24.5	23.78	-0.02	0.41	0.189	1.18	0.484
	LTE Band 41(38)	QPSK20M	Left Side	41490	1	50	DSI-1	-	24.5	23.78	-0.09	0.335	0.171	1.18	0.395
	LTE Band 41(38)	QPSK20M	Right Side	41490	1	50	DSI-1	-	24.5	23.78	-0.07	0.0484	0.0244	1.18	0.057
	LTE Band 41(38)	QPSK20M	Bottom Side	41490	1	50	DSI-1	-	24.5	23.78	0.03	0.303	0.143	1.18	0.358
	LTE Band 41(38)	QPSK20M	Front Face	41490	50	25	DSI-1	-	23.0	22.74	0.03	0.286	0.141	1.06	0.304
	LTE Band 41(38)	QPSK20M	Rear Face	41490	50	25	DSI-1	-	23.0	22.74	0.17	0.324	0.148	1.06	0.344
	LTE Band 41(38)	QPSK20M	Left Side	41490	50	25	DSI-1	-	23.0	22.74	0.12	0.268	0.136	1.06	0.285
	LTE Band 41(38)	QPSK20M	Right Side	41490	50	25	DSI-1	-	23.0	22.74	0.06	0.0369	0.0186	1.06	0.039
	LTE Band 41(38)	QPSK20M	Bottom Side	41490	50	25	DSI-1	-	23.0	22.74	0.07	0.238	0.112	1.06	0.253
34	LTE Band 41(38)	QPSK20M	Rear Face	39750	1	50	DSI-1	-	24.5	23.44	0.00	0.417	0.189	1.28	**0.532**
	LTE Band 41(38)	QPSK20M	Rear Face	40620	1	50	DSI-1	-	24.5	23.63	0.17	0.366	0.168	1.22	0.447
	LTE Band 66(4)	QPSK20M	Front Face	132072	1	50	DSI-1	-	24.5	23.88	0.00	0.381	0.223	1.15	0.439
	LTE Band 66(4)	QPSK20M	Rear Face	132072	1	50	DSI-1	-	24.5	23.88	-0.03	0.474	0.269	1.15	0.547
	LTE Band 66(4)	QPSK20M	Left Side	132072	1	50	DSI-1	-	24.5	23.88	0.13	0.259	0.147	1.15	0.299

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
	LTE Band 66(4)	QPSK20M	Right Side	132072	1	50	DSI-1	-	24.5	23.88	0.04	0.0656	0.039	1.15	0.076
	LTE Band 66(4)	QPSK20M	Top Side	132072	1	50	DSI-1	-	24.5	23.88	0.03	0.296	0.158	1.15	0.341
	LTE Band 66(4)	QPSK20M	Front Face	132072	50	50	DSI-1	-	23.0	22.72	0.06	0.298	0.174	1.07	0.318
	LTE Band 66(4)	QPSK20M	Rear Face	132072	50	50	DSI-1	-	23.0	22.72	-0.02	0.362	0.206	1.07	0.386
	LTE Band 66(4)	QPSK20M	Left Side	132072	50	50	DSI-1	-	23.0	22.72	0.05	0.203	0.115	1.07	0.217
	LTE Band 66(4)	QPSK20M	Right Side	132072	50	50	DSI-1	-	23.0	22.72	0.02	0.0515	0.0302	1.07	0.055
	LTE Band 66(4)	QPSK20M	Top Side	132072	50	50	DSI-1	-	23.0	22.72	0.03	0.322	0.172	1.07	0.343
	LTE Band 66(4)	QPSK20M	Rear Face	132322	1	50	DSI-1	-	24.5	23.77	-0.02	0.531	0.302	1.18	0.628
35	LTE Band 66(4)	QPSK20M	Rear Face	132572	1	50	DSI-1	-	24.5	23.71	-0.03	0.55	0.313	1.20	**0.660**
	LTE Band 71	QPSK20M	Front Face	133372	1	50	DSI-1	-	24.0	23.62	0.08	0.135	0.107	1.09	0.147
	LTE Band 71	QPSK20M	Rear Face	133372	1	50	DSI-1	-	24.0	23.62	0.09	0.148	0.116	1.09	0.162
	LTE Band 71	QPSK20M	Left Side	133372	1	50	DSI-1	-	24.0	23.62	0.02	0.124	0.0892	1.09	0.135
	LTE Band 71	QPSK20M	Right Side	133372	1	50	DSI-1	-	24.0	23.62	0.04	0.192	0.137	1.09	0.210
	LTE Band 71	QPSK20M	Bottom Side	133372	1	50	DSI-1	-	24.0	23.62	0.20	0.0443	0.0246	1.09	0.048
	LTE Band 71	QPSK20M	Front Face	133322	50	0	DSI-1	-	23.0	22.62	0.06	0.126	0.1	1.09	0.138
	LTE Band 71	QPSK20M	Rear Face	133322	50	0	DSI-1	-	23.0	22.62	-0.02	0.139	0.109	1.09	0.152
	LTE Band 71	QPSK20M	Left Side	133322	50	0	DSI-1	-	23.0	22.62	-0.03	0.114	0.0818	1.09	0.124
	LTE Band 71	QPSK20M	Right Side	133322	50	0	DSI-1	-	23.0	22.62	0.03	0.163	0.117	1.09	0.178
	LTE Band 71	QPSK20M	Bottom Side	133322	50	0	DSI-1	-	23.0	22.62	0.04	0.0357	0.0196	1.09	0.039
49	LTE Band 71	QPSK20M	Right Side	133222	1	50	DSI-1	-	24.0	23.50	0.10	0.225	0.162	1.12	**0.252**
	LTE Band 71	QPSK20M	Right Side	133322	1	50	DSI-1	-	24.0	23.53	0.06	0.202	0.144	1.11	0.225
	2.4GHz	IEEE 802.11b	Front Face	6	-	-	DSI-1	99.52%	15.5	15.24	0.05	0.0686	0.0391	1.06	0.073
	2.4GHz	IEEE 802.11b	Rear Face	6	-	-	DSI-1	99.52%	15.5	15.24	0.09	0.0674	0.0338	1.06	0.072
	2.4GHz	IEEE 802.11b	Right Side	6	-	-	DSI-1	99.52%	15.5	15.24	-0.02	0.031	0.0168	1.06	0.033
	2.4GHz	IEEE 802.11b	Top Side	6	-	-	DSI-1	99.52%	15.5	15.24	-0.14	0.0449	0.0213	1.06	0.048
	2.4GHz	IEEE 802.11b	Front Face	1	-	-	DSI-1	99.52%	15.5	15.03	0.09	0.0571	0.0293	1.11	0.064
37	2.4GHz	IEEE 802.11b	Front Face	11	-	-	DSI-1	99.52%	15.5	15.08	-0.08	0.0699	0.0336	1.10	**0.077**
	2.4GHz	Bluetooth DH5	Front Face	39	-	-	DSI-1	76.60%	9.5	9.05	0.16	0.00942	0.00452	1.11	0.014
	2.4GHz	Bluetooth DH5	Rear Face	39	-	-	DSI-1	76.60%	9.5	9.05	0.02	0.0115	0.00555	1.11	0.017
	2.4GHz	Bluetooth DH5	Right Side	39	-	-	DSI-1	76.60%	9.5	9.05	-0.04	0.00637	0.00314	1.11	0.009
	2.4GHz	Bluetooth DH5	Top Side	39	-	-	DSI-1	76.60%	9.5	9.05	-0.02	0.00895	0.00375	1.11	0.013
	2.4GHz	Bluetooth DH5	Rear Face	0	-	-	DSI-1	76.60%	9.5	8.17	0.09	0.00856	0.00368	1.36	0.015
38	2.4GHz	Bluetooth DH5	Rear Face	78	-	-	DSI-1	76.60%	9.5	7.38	-0.09	0.0185	0.00851	1.63	**0.039**

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-1g (W/kg)
39	U-NII-1	IEEE 802.11a	Front Face	44	-	-	DSI-1	97.41%	13.5	13.16	-0.05	0.154	0.053	1.08	**0.171**
	U-NII-1	IEEE 802.11a	Rear Face	44	-	-	DSI-1	97.41%	13.5	13.16	-0.06	0.083	0.03	1.08	0.092
	U-NII-1	IEEE 802.11a	Right Side	44	-	-	DSI-1	97.41%	13.5	13.16	-0.08	0.112	0.039	1.08	0.124
	U-NII-1	IEEE 802.11a	Top Side	44	-	-	DSI-1	97.41%	13.5	13.16	-0.02	0.148	0.054	1.08	0.164
	U-NII-3	IEEE 802.11a	Front Face	165			DSI-1	97.41%	14.0	13.72	-0.04	0.132	0.044	1.07	0.145
	U-NII-3	IEEE 802.11a	Rear Face	165			DSI-1	97.41%	14.0	13.72	-0.01	0.112	0.038	1.07	0.123
	U-NII-3	IEEE 802.11a	Right Side	165			DSI-1	97.41%	14.0	13.72	0.03	0.121	0.048	1.07	0.132
50	U-NII-3	IEEE 802.11a	Top Side	165			DSI-1	97.41%	14.0	13.72	-0.08	0.197	0.069	1.07	**0.216**

Note: "*" indicates that the data is repeated.

4.6.5. SAR Results for Extremity Exposure Condition (Separation Distance is 0 cm)

Plot No.	Band	Mode	Test Position	Channel	RB#	RB Offset	DSI	Duty Cycle	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Power Drift (dB)	Measured SAR-1g (W/kg)	Measured SAR-10g (W/kg)	Scaling Factor	Scaled SAR-10g (W/kg)
	U-NII-2A	IEEE 802.11a	Front Face	64	-		DSI-1	97.41%	13.5	13.18	0.00	1.47	0.417	1.08	0.461
	U-NII-2A	IEEE 802.11a	Rear Face	64	-		DSI-1	97.41%	13.5	13.18	-0.01	0.533	0.157	1.08	0.173
	U-NII-2A	IEEE 802.11a	Right Side	64	-		DSI-1	97.41%	13.5	13.18	-0.06	1.02	0.234	1.08	0.259
51	U-NII-2A	IEEE 802.11a	Top Side	64	-		DSI-1	97.41%	13.5	13.18	-0.09	1.84	0.507	1.08	**0.560**
	U-NII-2C	IEEE 802.11a	Front Face	144	-		DSI-1	97.41%	14.0	13.62	0.00	1.37	0.378	1.09	0.424
	U-NII-2C	IEEE 802.11a	Rear Face	144	-		DSI-1	97.41%	14.0	13.62	-0.04	0.549	0.167	1.09	0.187
	U-NII-2C	IEEE 802.11a	Right Side	144	-		DSI-1	97.41%	14.0	13.62	-0.06	0.974	0.218	1.09	0.244
52	U-NII-2C	IEEE 802.11a	Top Side	144	-		DSI-1	97.41%	14.0	13.62	0.04	1.4	0.415	1.09	**0.465**

4.7. SAR MEASUREMENT VARIABILITY

4.7.1. Repeated Measurement

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

SAR repeated measurement procedure:

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

Band	Mode	Test Position	Separation Distance (cm)	Channel	Original Measured SAR-1g (W/kg)	1st Repeated SAR-1g (W/kg)	L/S Ratio	2nd Repeated SAR-1g (W/kg)	L/S Ratio	3rd Repeated SAR-1g (W/kg)	L/S Ratio
Body Exposure Condition											
WCDMA Band IV	RMC12.2K	Right Cheek	0	1513	0.933	0.901	1.0355	N/A	N/A	N/A	N/A
LTE Band 66(4)	QPSK20M	Right Cheek	0	132572	0.929	0.912	1.0186	N/A	N/A	N/A	N/A
U-NII-1	IEEE 802.11a	Left Tilted	0	48	0.854	0.846	1.0095	N/A	N/A	N/A	N/A
U-NII-2A	IEEE 802.11a	Left Tilted	0	64	0.869	0.861	1.0093	N/A	N/A	N/A	N/A
U-NII-2C	IEEE 802.11a	Left Cheek	0	116	0.857	0.851	1.0071	N/A	N/A	N/A	N/A

4.8. SIMULTANEOUS MULTI-BAND TRANSMISSION EVALUATION

4.8.1. Simultaneous Transmission SAR Test Exclusion Considerations

a) Sum of SAR

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR1g is greater than the SAR limit (SAR1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

b) SAR to Peak Location Separation Ratio

The simultaneous transmitting antennas in each operating mode and exposure condition combination are considered one pair at a time to determine the SPLSR.

$$SPLSR = (SAR_1 + SAR_2)^{1.5}/R_i$$

The ratio is rounded to two decimal digits, and must be ≤ 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion. When 10-g SAR applies, the ratio must be ≤ 0.10.
SAR_1 and SAR_2 are the highest reported or estimated SAR values for each antenna in the pair, and R_i is the separation distance in mm between the peak SAR locations for the antenna pair

$$peak\ location\ separation\ distance = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2}$$

Where $(x_1,\ y_1,\ z_1)$ and $(x_2,\ y_2,\ z_2)$ are the coordinates of the extrapolated peak SAR locations in the area or zoom scans.
When standalone test exclusion applies, SAR is estimated; the peak location is assumed to be at the feed-point or geometric center of the antenna. Due to curvatures on the SAM phantom, when SAR is estimated for one of the antennas in an antenna pair, the measured peak SAR location will be translated onto the test device to determine the peak location separation for the antenna pair.
When SAR is estimated for both antennas, the peak location separation should be determined by the closest physical separation of the antennas, according to the feed-point or geometric center of the antennas.

c) Volume Scan

When the SPLSR is <= 0.04 for 1-g SAR and <= 0.10 for 10-g SAR, the simultaneous transmission SAR is not required. Otherwise, the enlarged zoom scan and volume scan post-processing procedures will be performed.

4.8.2. Simultaneous Transmission Possibilities

The simultaneous transmission possibilities for this device are listed as below.

Simultaneous Transmission Configurations	Head Exposure Condition	Body-worn Exposure Condition	Hotspot Exposure Condition	Extremity Exposure Condition
GSM (Voice / Data) + WLAN (Data)	Yes	Yes	Yes	No
WCDMA (Voice / Data) + WLAN (Data)	Yes	Yes	Yes	No
LTE (Data) + WLAN (Data)	Yes	Yes	Yes	No
GSM (Voice / Data) + BT (Data)	Yes	Yes	Yes	No
WCDMA (Voice / Data) + BT (Data)	Yes	Yes	Yes	No
LTE (Data) + BT (Data)	Yes	Yes	Yes	No
GSM (Voice / Data) + WLAN (Data) + BT (Data)	Yes	Yes	Yes	No
WCDMA (Voice / Data) + WLAN (Data) + BT (Data)	Yes	Yes	Yes	No
CDMA (Voice / Data) + WLAN (Data) + BT (Data)	Yes	Yes	Yes	No
LTE (Data) + WLAN (Data) + BT (Data)	Yes	Yes	Yes	No

Note:

1) The 2.4G WLAN and 5G WLAN cannot transmit simultaneously.
2) The WLAN and Bluetooth cannot transmit simultaneously, so there is no co-location test requirement for WLAN and Bluetooth.
3) Both GSM/WCDMA and LTE can transmit through either WWAN Ant. 0 or WWAN Ant. 1 or WWAN Ant. 2. However, only one technology (GSM or WCDMA or LTE) can transmit from an antenna at a time, and the other technology transmits through the other antenna.

4.8.3. Max. Standalone SAR

Position		GSM Band		WCDMA Band			LTE Band										2.4G		5G
		850	1900	II	IV	V	7	12(17)	13	25(2)	26(5)	30	40	41(38)	66(4)	71	BT	Wi-Fi	Wi-Fi
Head	Right Cheek	0.387	0.176	0.101	1.016	0.175	0.163	0.182	0.317	0.108	0.269	0.144	0.106	0.234	1.047	0.175	0.047	0.159	0.537
	Right Tilted	0.256	0.151	0.082	0.635	0.078	0.105	0.083	0.183	0.090	0.103	0.061	0.030	0.179	0.615	0.067	0.038	0.154	0.637
	Left Cheek	0.402	0.224	0.122	0.422	0.137	0.238	0.142	0.281	0.183	0.199	0.109	0.078	0.318	0.455	0.116	0.181	0.495	0.971
	Left Tilted	0.218	0.199	0.107	0.326	0.072	0.121	0.095	0.173	0.132	0.100	0.082	0.042	0.109	0.356	0.063	0.100	0.433	0.960
Body-Worn	Front Face	0.428	0.423	0.207	0.401	0.123	0.360	0.168	0.360	0.280	0.194	0.325	0.282	0.426	0.439	0.147	0.014	0.077	0.171
	Rear Face	0.478	0.719	0.371	0.545	0.195	0.451	0.225	0.400	0.494	0.287	0.309	0.250	0.532	0.660	0.220	0.039	0.072	0.123
Hotspot	Front Face	0.428	0.423	0.207	0.401	0.123	0.360	0.169	0.360	0.280	0.194	0.325	0.282	0.426	0.439	0.147	0.014	0.077	0.171
	Rear Face	0.478	0.719	0.371	0.545	0.148	0.451	0.186	0.400	0.494	0.223	0.309	0.250	0.532	0.660	0.162	0.039	0.072	0.123
	Left Side	0.276	0.418	0.188	0.328	0.072	0.293	0.156	0.296	0.245	0.152	0.141	0.078	0.395	0.299	0.135	0.070	0.277	0.175
	Right Side	0.408	0.115	0.047	0.105	0.226	0.070	0.277	0.383	0.056	0.330	0.047	0.016	0.057	0.076	0.252	0.009	0.033	0.132
	Top Side	0.583	0.163	0.183	0.561	0.328	0.189	0.379	0.350	0.205	0.328	0.208	0.165	0.238	0.343	0.388	0.013	0.048	0.216
	Bottom Side	0.121	0.563	0.331	0.189	0.064	0.304	0.049	0.060	0.306	0.059	0.403	0.300	0.358	0.238	0.048	0.008	0.031	0.023

4.8.4. Sum of SAR

WWAN + BT (DSS)

Position		Highest Simultaneous Transmission SAR (W/kg)	GSM Band		WCDMA Band			LTE Band									
			850	1900	II	IV	V	7	12(17)	13	25(2)	26(5)	30	40	41(38)	66(4)	71
Head	Right Cheek	1.094	0.434	0.223	0.148	1.063	0.222	0.21	0.229	0.364	0.155	0.316	0.191	0.153	0.281	1.094	0.222
	Right Tilted		0.294	0.189	0.12	0.673	0.116	0.143	0.121	0.221	0.128	0.141	0.099	0.068	0.217	0.653	0.105
	Left Cheek		0.583	0.405	0.303	0.603	0.318	0.419	0.323	0.462	0.364	0.38	0.29	0.259	0.499	0.636	0.297
	Left Tilted		0.318	0.299	0.207	0.426	0.172	0.221	0.195	0.273	0.232	0.2	0.182	0.142	0.209	0.456	0.163
Body-Worn	Front Face	0.758	0.442	0.437	0.221	0.415	0.137	0.374	0.182	0.374	0.294	0.208	0.339	0.296	0.44	0.453	0.161
	Rear Face		0.517	0.758	0.41	0.584	0.234	0.49	0.264	0.439	0.533	0.326	0.348	0.289	0.571	0.699	0.259
Hotspot	Front Face	0.758	0.442	0.437	0.221	0.415	0.137	0.374	0.183	0.374	0.294	0.208	0.339	0.296	0.44	0.453	0.161
	Rear Face		0.517	0.758	0.41	0.584	0.187	0.49	0.225	0.439	0.533	0.262	0.348	0.289	0.571	0.699	0.201
	Left Side		0.346	0.488	0.258	0.398	0.142	0.363	0.226	0.366	0.315	0.222	0.211	0.148	0.465	0.369	0.205
	Right Side		0.417	0.124	0.056	0.114	0.235	0.079	0.286	0.392	0.065	0.339	0.056	0.025	0.066	0.085	0.261
	Top Side		0.596	0.176	0.196	0.574	0.341	0.202	0.392	0.363	0.218	0.341	0.221	0.178	0.251	0.356	0.401
	Bottom Side		0.129	0.571	0.339	0.197	0.072	0.312	0.057	0.068	0.314	0.067	0.411	0.308	0.366	0.246	0.056

WWAN + WLAN (DTS)

Position		Highest Simultaneous Transmission SAR (W/kg)	GSM Band		WCDMA Band			LTE Band									
			850	1900	II	IV	V	7	12(17)	13	25(2)	26(5)	30	40	41(38)	66(4)	71
Head	Right Cheek	1.206	0.546	0.335	0.26	1.175	0.334	0.322	0.341	0.476	0.267	0.428	0.303	0.265	0.393	1.206	0.334
	Right Tilted		0.41	0.305	0.236	0.789	0.232	0.259	0.237	0.337	0.244	0.257	0.215	0.184	0.333	0.769	0.221
	Left Cheek		0.897	0.719	0.617	0.917	0.632	0.733	0.637	0.776	0.678	0.694	0.604	0.573	0.813	0.95	0.611
	Left Tilted		0.651	0.632	0.54	0.759	0.505	0.554	0.528	0.606	0.565	0.533	0.515	0.475	0.542	0.789	0.496
Body-Worn	Front Face	0.791	0.505	0.5	0.284	0.478	0.2	0.437	0.245	0.437	0.357	0.271	0.402	0.359	0.503	0.516	0.224
	Rear Face		0.55	0.791	0.443	0.617	0.267	0.523	0.297	0.472	0.566	0.359	0.381	0.322	0.604	0.732	0.292
Hotspot	Front Face	0.791	0.505	0.5	0.284	0.478	0.2	0.437	0.246	0.437	0.357	0.271	0.402	0.359	0.503	0.516	0.224
	Rear Face		0.55	0.791	0.443	0.617	0.22	0.523	0.258	0.472	0.566	0.295	0.381	0.322	0.604	0.732	0.234
	Left Side		0.553	0.695	0.465	0.605	0.349	0.57	0.433	0.573	0.522	0.429	0.418	0.355	0.672	0.576	0.412
	Right Side		0.441	0.148	0.08	0.138	0.259	0.103	0.31	0.416	0.089	0.363	0.08	0.049	0.09	0.109	0.285
	Top Side		0.631	0.211	0.231	0.609	0.376	0.237	0.427	0.398	0.253	0.376	0.256	0.213	0.286	0.391	0.436
	Bottom Side		0.152	0.594	0.362	0.22	0.095	0.335	0.08	0.091	0.337	0.09	0.434	0.331	0.389	0.269	0.079

WWAN + WLAN (NII)

Position		Highest Simultaneous Transmission SAR (W/kg)	GSM Band		WCDMA Band			LTE Band									
			850	1900	II	IV	V	7	12(17)	13	25(2)	26(5)	30	40	41(38)	66(4)	71
Head	Right Cheek	1.584	0.924	0.713	0.638	1.553	0.712	0.7	0.719	0.854	0.645	0.806	0.681	0.643	0.771	1.584	0.712
	Right Tilted		0.893	0.788	0.719	1.272	0.715	0.742	0.72	0.82	0.727	0.74	0.698	0.667	0.816	1.252	0.704
	Left Cheek		1.373	1.195	1.093	1.393	1.108	1.209	1.113	1.252	1.154	1.17	1.08	1.049	1.289	1.426	1.087
	Left Tilted		1.178	1.159	1.067	1.286	1.032	1.081	1.055	1.133	1.092	1.06	1.042	1.002	1.069	1.316	1.023
Body-Worn	Front Face	0.842	0.599	0.594	0.378	0.572	0.294	0.531	0.339	0.531	0.451	0.365	0.496	0.453	0.597	0.61	0.318
	Rear Face		0.601	0.842	0.494	0.668	0.318	0.574	0.348	0.523	0.617	0.41	0.432	0.373	0.655	0.783	0.343
Hotspot	Front Face	0.842	0.599	0.594	0.378	0.572	0.294	0.531	0.34	0.531	0.451	0.365	0.496	0.453	0.597	0.61	0.318
	Rear Face		0.601	0.842	0.494	0.668	0.271	0.574	0.309	0.523	0.617	0.346	0.432	0.373	0.655	0.783	0.285
	Left Side		0.451	0.593	0.363	0.503	0.247	0.468	0.331	0.471	0.42	0.327	0.316	0.253	0.57	0.474	0.31
	Right Side		0.54	0.247	0.179	0.237	0.358	0.202	0.409	0.515	0.188	0.462	0.179	0.148	0.189	0.208	0.384
	Top Side		0.799	0.379	0.399	0.777	0.544	0.405	0.595	0.566	0.421	0.544	0.424	0.381	0.454	0.559	0.604
	Bottom Side		0.144	0.586	0.354	0.212	0.087	0.327	0.072	0.083	0.329	0.082	0.426	0.323	0.381	0.261	0.071

*** End of Report ***

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APPENDIX A. SAR PLOTS OF SYSTEM VERIFICATION

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

APPENDIX B. SAR PLOTS OF SAR MEASUREMENT

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination, and measured SAR > 1.5 W/kg are shown as follows.

APPENDIX C. CALIBRATION CERTIFICATE FOR PROBE AND DIPOLE

The calibration certificates are shown as follows.

APPENDIX D. PHOTOGRAPHS OF EUT AND SETUP

The photographs of EUT and setup are shown as follows.