FCC SAR Compliance Test Report

Product Name:	Smart Phone
Model:	NEN-LX3
Report No.:	SYBH(Z-SAR)20201128017001
FCC ID:	2ATEYNEN-LX3

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※※ Notice ※※

1. The laboratory has passed the accreditation by The American Association for Laboratory Accreditation (A2LA). The accreditation number is 2174.01 & 2174.02 & 2174.03.
2. The laboratory (Reliability Lab of Huawei Technologies Co., Ltd) is also named “Global Compliance and Testing Center of Huawei Technologies Co., Ltd”, the both names have coexisted since 2009.
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※※ Modified History ※※

REV.	DESCRIPTION	ISSUED DATE	REMARK
Rev.1.0	Initial Test Report Release	2021-02-26	Zheng Xuan

1 General Information

1.1 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during test are as below Table 1.

Band	Max Reported SAR(W/kg)			
	1-g Head	1-g Body-worn (15mm) *	1-g Hotspot (10mm)	Product Specific 10-g SAR (0mm)**
GSM850	0.13	0.25	0.19	/
GSM1900	0.88	0.26	0.63	/
UMTS Band II	0.69	0.31	0.47	/
UMTS Band IV	**1.09**	0.33	0.51	/
UMTS Band V	0.21	0.27	0.43	/
LTE Band 2	0.70	0.33	0.56	2.13
LTE Band 4	0.93	0.37	0.71	**2.51**
LTE Band 5	0.17	0.30	0.36	/
LTE Band 7	0.79	**0.46**	**1.09**	/
LTE Band 12	0.10	0.26	0.38	/
LTE Band 26	0.12	0.25	0.43	/
LTE Band 66	0.68	0.22	0.38	/
2.4G Wi-Fi	0.16	0.18	0.61	/
5G Wi-Fi	0.10	0.20	0.53	1.37
BT	0.17	/	/	/
The highest reported SAR for Head, Body Worn, Hotspot, Product Specific 10-g SAR and Simultaneous transmission exposure conditions are 1.09 W/kg, 0.46 W/kg, 1.09 W/kg, 2.51 W/kg, 1.18 W/kg per KDB690783 D01.				

Table 1: Summary of test result

Note:

1)* For body worn operation, this device has been tested and met FCC RF exposure guidelines when used with any accessory that contains no metal and that positions the handset a minimum of 15mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

2)** For Product Specific 10-g SAR operation, this device has been tested and meets the 10-g SAR limits of 4.0 W/kg for general population/ uncontrolled exposure according to IEEE C95.1:1991.

The device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits according to the FCC rule §2.1093, the IEEE C95.1:1991, the NCRP Report Number 86 for uncontrolled environment, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528-2013.

1.2 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain/Body/Arms/Legs)	**1.60 W/kg**	8.00 W/kg
Spatial Average SAR** (Whole Body)	0.08 W/kg	0.40 W/kg
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	**4.00** W/kg	20.00 W/kg

Table 2: RF exposure limits
The limit applied in this test report is shown in **bold** letters

Notes:

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

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

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

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation

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1.3 EUT Description

Device Information：			
Product Name:	Smart Phone		
Model:	NEN-LX3		
SN:	H5Q0120C10000151 H5Q0120C10000141 H5Q0120C10000146 H5Q0120C10000136 H5Q0120C10000137		
Device Type :	Portable device		
Device Phase:	Identical Prototype		
Exposure Category:	Uncontrolled environment / general population		
Hardware Version :	HL1NTNM		
Software Version :	11.0.1.103(C900E48R1P2)		
Antenna Type :	Internal antenna		
Other Accessories	Headset		
Device Operating Configurations:			
Test Modulation	GSM(GMSK/8PSK),UMTS(QPSK/16QAM) LTE(QPSK/16QAM), Wi-Fi (DSSS/OFDM),BT(GFSK)		
Device Class	B		
Supporting Mode(s) and Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	GSM850	824-849	869 - 894
	GSM1900	1850-1910	1930-1990
	UMTS Band II	1850-1910	1930-1990
	UMTS Band IV	1710-1755	2110-2155
	UMTS Band V	824-849	869 - 894
	LTE Band 2	1850-1910	1930-1990
	LTE Band 4	1710-1755	2110-2155
	LTE Band 5	824-849	869-894
	LTE Band 7	2500-2570	2620 -2690
	LTE Band 12	699-716	729-746
	LTE Band 26	814-849	859-894
	LTE Band 66	1710-1780	2110-2200
	BT	2400-2483.5	
	2.4G Wi-Fi	2400-2472	
	5G Wi-Fi	5150-5250 5250-5350 5470-5725 5725-5850	
GPRS Multislot Class(12)	Max Number of Timeslots in Uplink:		4
	Max Number of Timeslots in Downlink:		4
	Max Total Timeslot:		5
EGPRS Multislot Class(12)	Max Number of Timeslots in Uplink:		4
	Max Number of Timeslots in Downlink:		4
	Max Total Timeslot:		5
HSDPA UE Category	14		
HSUPA UE Category	6		
DC-HSDPA UE Category	24		
Power Class:	4,tested with power level 5(GSM850)		
	1,tested with power level 0(GSM1900)		

	3, tested with power control “all 1”(UMTS Bands)
	3, tested with power control all Max.(LTE Bands)
Test Channels (low-mid-high):	128-190-251(GSM850)
	512-661-810(GSM1900)
	9262-9400-9538(UMTS Band II)
	1312-1413-1513(UMTS Band IV)
	4132-4182-4233(UMTS Band V)
	18607-18900-19193(LTE Band 2 BW=1.4MHz)
	18615-18900-19185(LTE Band 2 BW=3MHz)
	18625-18900-19175(LTE Band 2 BW=5MHz)
	18650-18900-19150(LTE Band 2 BW=10MHz)
	18675-18900-19125(LTE Band 2 BW=15MHz)
	18700-18900-19100(LTE Band 2 BW=20MHz)
	19957-20175-20393(LTE Band 4 BW=1.4MHz)
	19965-20175-20385(LTE Band 4 BW=3MHz)
	19975-20175-20375(LTE Band 4 BW=5MHz)
	20000-20175-20350(LTE Band 4 BW=10MHz)
	20025-20175-20325(LTE Band 4 BW=15MHz)
	20050-20175-20300(LTE Band 4 BW=20MHz)
	20407-20525-20643(LTE Band 5 BW=1.4MHz)
	20415-20525-20635(LTE Band 5 BW=3MHz)
	20425-20525-20625(LTE Band 5 BW=5MHz)
	20450-20525-20600(LTE Band 5 BW=10MHz)
	20775-21100-21425(LTE Band 7 BW=5MHz)
	20800-21100-21400(LTE Band 7 BW=10MHz)
	20825-21100-21375(LTE Band 7 BW=15MHz)
	20850-21100-21350(LTE Band 7 BW=20MHz)
	23017-23095-23173(LTE Band 12 BW=1.4MHz)
	23025-23095-23165(LTE Band 12 BW=3MHz)
	23035-23095-23155(LTE Band 12 BW=5MHz)
	23060-23095-23130(LTE Band 12 BW=10MHz)
	26697-26865-27033(LTE Band 26 BW=1.4MHz)
	26705-26865-27025(LTE Band 26 BW=3MHz)
	26715-26865-27015(LTE Band 26 BW=5MHz)
	26740-26865-26990(LTE Band 26 BW=10MHz)
	26765-26865-26965(LTE Band 26 BW=15MHz)
	131979-132322-132665(LTE Band 66 BW=1.4MHz)
	131987-132322-132657(LTE Band 66 BW=3MHz)
	131997-132322-132647(LTE Band 66 BW=5MHz)
	132022-132322-132622(LTE Band 66 BW=10MHz)
	132047-132322-132597(LTE Band 66 BW=15MHz)
	132072-132322-132572(LTE Band 66 BW=20MHz)
	BT : 0-19-39-78
	802.11b/g/n 20M:1-2-3-4-5-6-7-8-9-10-11 40M:3-4-5-6-7-8-9 (2.4G Wi-Fi)
	802.11a/n/ac 20M: 36-40-44-48-52-56-60-64-100-104-108-112-116-120-124-128-132-136-140-149-153-157-161-165 802.11 n/ac 40M: 38-46-54-62-102-110-118-126-134-151-159 802.11ac 80M: 42-58-106-122-155 (5G Wi-Fi)

Table 3: Device information and operating configuration

Note:

1)*For 5G Wi-Fi ,the device does not support channel 144(20M), channel 142(40M) and channel 138(80M).

2)*For 5G Wi-Fi ,U-NII-2A and U-NII-2C does not support hotspot function.

1.3.1 General Description

NEN-LX3 is subscriber equipment in the GSM/WCDMA/LTE system.The GSM frequency bands include GSM850, GSM900, DCS1800 and PCS1900. The UMTS frequency band includes band I,band II,band IV,band V and band VIII. The LTE frequency bands include band 1,band 2,band 3,band 4,band 5,band 7,band 8,band 12,band 17,band 26,band 28 and band 66. But only GSM850 and GSM1900, UMTS frequency band II,band IV and band V, LTE frequency band 2,band 4,band 5,band 7,band 12,band 17,band 26 and band 66 bands test data included in this report. The Mobile Phone implements such functions as RF signal receiving/transmitting, LTE/UMTS and GSM/GPRS/EDGE protocol processing, voice, video MMS service, GPS, AGPS, Wi-Fi, NFC etc. Externally it provides earphone port (to provide voice service), and dual SIM/single SIM card interface. NEN-LX3 is dual/single SIM smart phone. It also provides Bluetooth module to synchronize data between a PC and the phone, or to use the built-in modem of the phone to access the Internet with a PC, or to exchange data with other Bluetooth devices.

Battery information:

Name	Manufacturer/trademark	Description
Rechargeable Li-ion	Huawei Device Co., Ltd. (Manufacturer: SCUD)	Model: HB446589EFW Rated capacity: 4200mAh Nominal Voltage: +3.87V Charging Voltage: +4.45V
	Huawei Device Co., Ltd. (Manufacturer: Sunwoda)	

1.4 Test specification(s)

IEEE C95.1:1991	Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE Std 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 941225 D01	3G SAR Procedures v03r01
KDB 941225 D05	SAR for LTE Devices v02r05
KDB 941225 D05A	LTE Rel.10 KDB Inquiry Sheet v01r02
KDB 941225 D06	Hotspot SAR v02r01
KDB 447498 D01	General RF Exposure Guidance v06
KDB 648474 D04	Handsets SAR v01r03
KDB 248227 D01	SAR Guidance for IEEE 802 11 Wi-Fi SAR v02r02
KDB 865664 D01	SAR measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02	RF Exposure Reporting v01r02
KDB 690783 D01	SAR Listings on Grants v01r03

1.5 Testing laboratory

Test Site	Reliability Laboratory of Huawei Technologies Co., Ltd.
Test Location	NO.2 New City Avenue Songshan Lake Sci. & Tech. Industry Park, Dongguan, Guangdong, P.R.C
Telephone	+86 769 23830808
Fax	+86 769 23837628
State of accreditation	The Test laboratory (area of testing) is accredited according to ISO/IEC 17025.

1.6 Applicant and Manufacturer

Company Name	Huawei Device Co., Ltd
Address	No.2 of Xincheng Road, Songshan Lake Zone, Dongguan, Guangdong 523808, People's Republic of China.

1.7 Application details

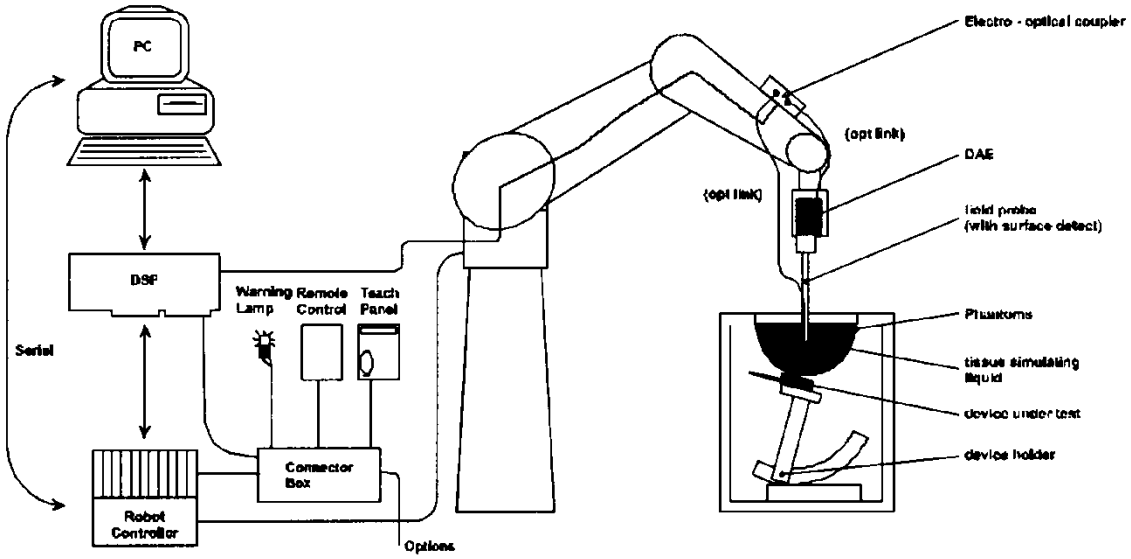
Start Date of test	2021-01-23
End Date of test	2021-02-04

1.8 Ambient Condition

Ambient temperature	18°C – 25°C
Relative Humidity	30% – 70%

2 SAR Measurement System

2.1 SAR Measurement Set-up



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

- A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).

- A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

- A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- A unit to operate the optical surface detector which is connected to the EOC.
- The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY measurement server.
- The DASY measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 7.
- DASY software and SEMCAD data evaluation software.
- Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
- The generic twin phantom enabling the testing of left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- System check dipoles allowing to validate the proper functioning of the system.

2.2 Test environment

The DASY measurement system is placed at the head end of a room with dimensions:
5 x 2.5 x 3 m³, the SAM phantom is placed in a distance of 75 cm from the side walls and 1.1m from the rear wall. Above the test system a 1.5 x 1.5 m² array of pyramid absorbers is installed to reduce reflections from the ceiling.
Picture 1 of the photo documentation shows a complete view of the test environment.
The system allows the measurement of SAR values larger than 0.005 mW/g.

2.3 Data Acquisition Electronics description

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

The mechanical probe mounting device includes two different sensor systems for frontal and sideways Probe contacts. They are used for mechanical surface detection and probe collision detection.

DAE

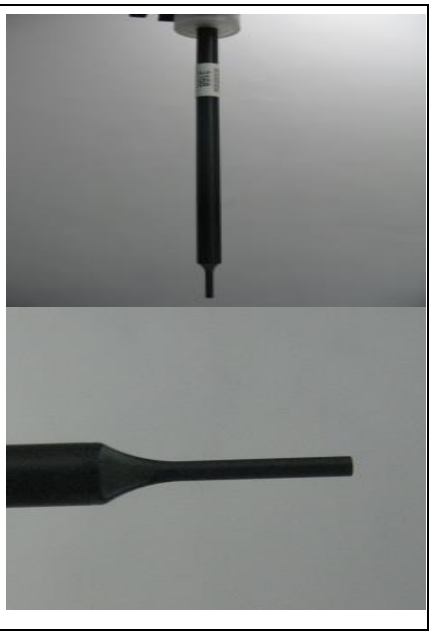
Input Impedance	200MOhm	
The Inputs	symmetrical and floating	
Common mode rejection	above 80 dB	

2.4 Probe description

These probes are specially designed and calibrated for use in liquids with high permittivities. They should not be used in air, since the spherical isotropy in air is poor (±2 dB). The dosimetric probes have special calibrations in various liquids at different frequencies.

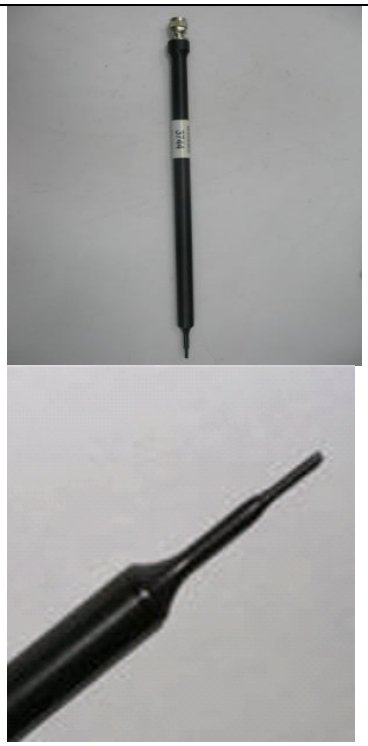
Isotropic E-Field Probe ES3DV3 for Dosimetric Measurements

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
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
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones



Isotropic E-Field Probe EX3DV4 for Dosimetric Measurements

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to >6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic range	10 µW/g to > 100 mW/g; Linearity: ± 0.2 dB(noise: typically<1µW/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: 1mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%

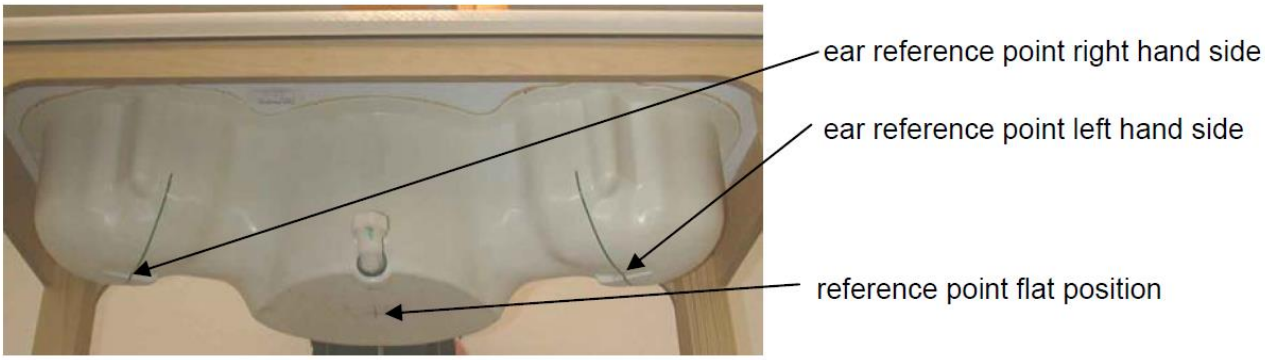


2.5 Phantom description

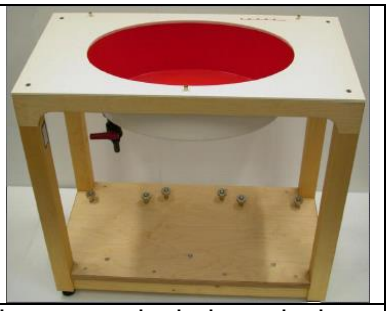
SAM Twin Phantom

Shell Thickness	2mm±0.2mm;The ear region:6.0±0.2mm	
Filling Volume	Approximately 25 liters	
Dimensions	Length:1000mm; Width:500mm; Height: adjustable feet	
Measurement Areas	Left hand Right hand Flat phantom	
The bottom plate contains three pairs of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to cover the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on top of this phantom cover are possible. Three reference marks are provided on the phantom counter. These reference marks are used to teach the absolute phantom position relative to the robot.		

The following figure shows the definition of reference point:



ELI4 Phantom

Shell Thickness	2mm±0.2mm	
Filling Volume	Approximately 30 liters	
Dimensions	Major axis:600mm; Minor axis:400mm;	
Measurement Areas	Flat phantom	
The ELI4 phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30MHz to 6GHz. ELI4 is fully compatible with the latest draft of the standard IEC 62209-2 and all known tissue simulating liquids.		

The phantom shell material is resistant to all ingredients used in the tissue-equivalent liquid recipes. The shell of the phantom including ear spacers is constructed from low permittivity and low loss material, with a relative permittivity $2 \leq \varepsilon r \leq 5$ at ≤3 GHz, $3 \leq \varepsilon r \leq 4$ at >3 GHz and a loss tangent $\leqslant 0.05$.

Modular Triple Flat Phantom

Shell Thickness (bottom plate)	2mm±0.2mm	
Filling Volume (Module)	approx. 8.1 liters (filling height: 155 mm)	
Dimensions	Length: 292 mm Width: 178 mm Height: 178 mm Useable area: 280 × 175 mm	
Measurement Areas	Flat phantom	
The Modular Flat Phantom consists of three identical modules that can be installed and removed separately without emptying the liquid. It is used for compliance testing of small wireless devices in body-worn configurations according to IEC 62209-2, etc.		

2.6 Device holder description

The DASY device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA's only. If necessary an additional support of polystyrene material is used.

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity ε =3 and loss tangent σ =0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.
The device holder permits the device to be positioned with a tolerance of ±1° in the tilt angle.

Larger DUT's (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values.
Therefore those devices are normally only tested at the flat part of the SAM.

2.7 Test Equipment List

This table gives a complete overview of the SAR measurement equipment.
Devices used during the test described are marked ☒

	Manufacturer	Device	Type	Serial number	Date of last calibration	Valid period*
☒	SPEAG	Dosimetric E-Field Probe	EX3DV4	7381	2020-11-30	One year
☒	SPEAG	Dosimetric E-Field Probe	EX3DV4	7505	2020-04-29	One year
☒	SPEAG	750 MHz Dipole	D750V3	1044	2019-08-30	Three years
☒	SPEAG	835 MHz Dipole	D835V2	4d126	2018-07-24	Three years
☒	SPEAG	1750 MHz Dipole	D1750V2	1123	2020-07-28	Three years
☒	SPEAG	1900 MHz Dipole	D1900V2	5d143	2020-07-28	Three years
☒	SPEAG	2450 MHz Dipole	D2450V2	860	2018-11-17	Three years
☒	SPEAG	2600 MHz Dipole	D2600V2	1032	2018-09-17	Three years
☒	SPEAG	5GHz Dipole	D5GHzV2	1155	2020-04-24	Three years
☒	SPEAG	Data acquisition electronics	DAE	1235	2020-11-27	One year
☒	SPEAG	Data acquisition electronics	DAE	1492	2020-07-29	One year
☒	SPEAG	Software	DASY52	N/A	NCR	NCR
☒	SPEAG	Twin Phantom	SAM	1475	NCR	NCR
☒	SPEAG	Twin Phantom	SAM	1594	NCR	NCR
☒	R & S	Universal Radio Communication Tester	CMW 500	116265	2020-07-02	One year
☒	R & S	Universal Radio Communication Tester	CMW 500	166456	2020-07-02	One year
☒	Anritsu	Signal Analyzer	MS2690A	6261767335	2020-03-17	One year
☒	Anritsu	Radio Communication Analyser	MT8821C	6201830585	2020-06-08	One year
☒	Agilent	Network Analyser	E5071C	MY46629448	2020-07-02	One year
☒	Agilent	Dielectric Probe Kit	DAK3.5	1143	NCR	NCR
☒	Keysight	Signal Generator	E8257D	MY56440071	2020-11-09	One year
☒	MINI-CIRCUITS	Amplifier	HBTE-PAF-0.6-6-SF	19113001	NCR	NCR
☒	SHHX	Dual Directional Coupler	DDTO-4-20	17121801	2020-11-09	One year
☒	Keysight	Dual Directional Coupler	772D	MY52180295	2020-03-18	One year
☒	R & S	Power Meter	NRP	100740	2020-07-03	One year
☒	R & S	Power Meter Sensor	NRP-Z11	106288	2020-07-03	One year
☒	Keysight	Power Meter	E4417A	MY57160005	2020-03-18	One year
☒	Keysight	Power Meter Sensor	E9321A	MY57150002	2020-03-18	One year

Note:
1) Per KDB865664 D01 requirements for dipole calibration, the test laboratory has adopted three-year extended calibration interval. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.
a) There is no physical damage on the dipole;
b) System check with specific dipole is within 10% of calibrated value;
c) The most recent return-loss result, measured at least annually, deviates by no more than 20% from the previous measurement.
d) The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5Ω from the previous measurement.
2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.
3) *All the equipment are within the valid period when the tests are performed.

3 SAR Measurement Procedure

3.1 Scanning procedure

The DASY installation includes predefined files with recommended procedures for measurements and system check. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

- The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. +/- 5 %.

- For power drift measurement, DASY software supports that the reference position can be either the selected section's grid reference point or a user point. If the E-field of power reference measurement in the default grid reference point is very small, the test lab may set the reference position to the user point near the hotspot location to avoid large measurement uncertainty.

- The “surface check” measurement tests the optical surface detection system of the DASY system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

- The “area scan” measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The standard scan uses large grid spacing for faster measurement. Standard grid spacing for head measurements is 15 mm in x- and y- dimension (≤2GHz), 12 mm in x- and y-dimension (2-4 GHz) and 10mm in x- and y- dimension (4-6GHz). If a finer resolution is needed, the grid spacing can be reduced. Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation.
  Results of this coarse scan are shown in Appendix B.

- A “zoom scan” measures the field in a volume around the 2D peak SAR value acquired in the previous “coarse” scan. This is a fine grid with maximum scan spatial resolution: Δx_{zoom}, Δy_{zoom}≤ 2GHz - ≤8mm, 2-4GHz - ≤5 mm and 4-6 GHz-≤4mm; Δz_{zoom} ≤3GHz - ≤5 mm, 3-4 GHz- ≤4mm and 4-6GHz-≤2mm where the robot additionally moves the probe along the z-axis away from the bottom of the Phantom. DASY is also able to perform repeated zoom scans if more than 1 peak is found during area scan. In this document, the evaluated peak 1g and 10g averaged SAR values are shown in the 2D-graphics in Appendix B. Test results relevant for the specified standard (see chapter 1.4.)are shown in table form in chapter 7.2.

- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 2 mm steps. This measurement shows the continuity of the liquid and can - depending in the field strength – also show the liquid depth. A z-axis scan of the measurement with maximum SAR value is shown in Appendix B.

The following table summarizes the area scan and zoom scan resolutions per FCC KDB865664 D01:

Frequency	Maximum Area Scan resolution (Δx_{area}, Δy_{area})	Maximum Zoom Scan spatial resolution (Δx_{Zoom}, Δy_{Zoom})	Maximum Zoom Scan spatial resolution			Minimum zoom scan volume (x,y,z)
			Uniform Grid	Graded Grad		
			$\Delta z_{Zoom}(n)$	$\Delta z_{Zoom}(1)$*	$\Delta z_{Zoom}(n>1)$*	
≤2GHz	≤15mm	≤8mm	≤5mm	≤4mm	≤1.5*Δz_{Zoom}(n-1)	≥30mm
2-3GHz	≤12mm	≤5mm	≤5mm	≤4mm	≤1.5*Δz_{Zoom}(n-1)	≥30mm
3-4GHz	≤12mm	≤5mm	≤4mm	≤3mm	≤1.5*Δz_{Zoom}(n-1)	≥28mm
4-5GHz	≤10mm	≤4mm	≤3mm	≤2.5mm	≤1.5*Δz_{Zoom}(n-1)	≥25mm
5-6GHz	≤10mm	≤4mm	≤2mm	≤2mm	≤1.5*Δz_{Zoom}(n-1)	≥22mm

3.2 Spatial Peak SAR Evaluation

The spatial peak SAR - value for 1 and 10 g is evaluated after the Cube measurements have been done. The basis of the evaluation are the SAR values measured at the points of the fine cube grid consisting of 5 x 5 x 7 points (with 8mm horizontal resolution) or 7 x 7 x 7 points (with 5mm horizontal resolution) or 8 x 8 x 7 points (with 4mm horizontal resolution). The algorithm that finds the maximal averaged volume is separated into three different stages.

- The data between the dipole center of the probe and the surface of the phantom are extrapolated. This data cannot be measured since the center of the dipole is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is about 1 mm (see probe calibration sheet). The extrapolated data from a cube measurement can be visualized by selecting 'Graph Evaluated'.
- The maximum interpolated value is searched with a straight-forward algorithm. Around this maximum the SAR - values averaged over the spatial volumes (1g or 10 g) are computed using the 3d-spline interpolation algorithm. If the volume cannot be evaluated (i.e., if a part of the grid was cut off by the boundary of the measurement area) the evaluation will be started on the corners of the bottom plane of the cube.
- All neighboring volumes are evaluated until no neighboring volume with a higher average value is found.

Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, Computermathematik, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

Interpolation

The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot"-condition [W. Gander, Computermathematik, p.141-150] (x, y and z -direction) [Numerical Recipes in C, Second Edition, p.123ff].

Volume Averaging

At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal algorithm. 8000 points (20x20x20) are interpolated to calculate the average.

Advanced Extrapolation

DASY uses the advanced extrapolation option which is able to compensate boundary effects on E-field probes.

3.3 Data Storage and Evaluation

Data Storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension "DAE". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	$Norm_i$, a_{i0}, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	Dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	σ
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot cf/dcp_i$$

with V_i = compensated signal of channel i (i = x, y, z)
U_i = input signal of channel i (i = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcp_i = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes: $E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$

H-field probes: $H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1}f + a_{i2}f^2)/f$

with V_i = compensated signal of channel i (i = x, y, z)

$Norm_i$ = sensor sensitivity of channel i (i = x, y, z)
[mV/ (V/m) ^{2}] for E-field Probes

ConvF = sensitivity enhancement in solution

a_{ij} = sensor sensitivity factors for H-field probes

f = carrier frequency [GHz]

E_i = electric field strength of channel i in V/m

H_i = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = (E_x^2 + E_Y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$SAR = (E_{tot}^2 \cdot \sigma) / (\rho \cdot 1000)$$

with SAR = local specific absorption rate in mW/g

E_{tot} = total field strength in V/m

σ = conductivity in [mho/m] or [Siemens/m]

ρ = equivalent tissue density in g/cm^3

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$P_{pwe} = E_{tot}^2 / 3770$ or $P_{pwe} = H_{tot}^2 \cdot 37.7$

with P_{pwe} = equivalent power density of a plane wave in mW/cm^2

E_{tot} = total electric field strength in V/m

H_{tot} = total magnetic field strength in A/m

4 System Verification Procedure

4.1 Tissue Verification

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectic parameter are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within ± 5% of the target values.

The following materials are used for producing the tissue-equivalent materials.

Ingredients (% of weight)	Head Tissue					
Frequency Band (MHz)	750	835	1750	1900	2450	2600
Water	39.2	41.45	52.64	55.242	62.7	55.242
Salt (NaCl)	2.7	1.45	0.36	0.306	0.5	0.306
Sugar	57.0	56.0	0.0	0.0	0.0	0.0
HEC	0.0	1.0	0.0	0.0	0.0	0.0
Bactericide	0.0	0.1	0.0	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0
DGBE	0.0	0.0	47.0	44.542	36.8	44.452
Ingredients (% of weight)	Body Tissue					
Frequency Band (MHz)	750	835	1750	1900	2450	2600
Water	50.3	52.4	69.91	69.91	73.2	64.493
Salt (NaCl)	1.60	1.40	0.13	0.13	0.04	0.024
Sugar	47.0	45.0	0.0	0.0	0.0	0.0
HEC	0.0	1.0	0.0	0.0	0.0	0.0
Bactericide	0.0	0.1	0.0	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0
DGBE	0.0	0.0	29.96	29.96	26.7	32.252

Table 4: Tissue Dielectric Properties

Salt: 99+% Pure Sodium Chloride; Sugar: 98+% Pure Sucrose; Water: De-ionized, 16MΩ+ resistivity
HEC: Hydroxyethyl Cellulose; DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100(ultra pure): Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl)phenyl]ether

☒**Simulating Head Liquid (HBBL600-6000MHz),Manufactured by SPEAG:**

Ingredients	(% by weight)
Water	50-65%
Esters,Emulsifiers,Inhibitors	10-30%
Sodium salt	8-25%

☐**Simulating Body Liquid (MBBL600-6000MHz),Manufactured by SPEAG:**

Ingredients	(% by weight)
Water	60-80%
Esters,Emulsifiers,Inhibitors	20-40%
Sodium salt	0-1.5%

Note: According to 201904 FCC TCB workshop slides for RF Exposure Procedures, FCC has permitted the use of single head tissue simulating liquid specified in IEC 62209-1 for all SAR tests. So the single head tissue simulating liquid is used for all SAR tests in this test report. The conservative ±5% tolerance is used in tissue dielectric parameters measurments.

Tissue Type	Target Frequency	Target Tissue		Measured Tissue		Deviation (Within +/-5%)		Liquid Temp.	Test Date
		εr	σ (S/m)	εr	σ (S/m)	$\Delta\varepsilon_r$	Δσ		
750MHz Head	705	42.2	0.89	41.96	0.897	-0.57%	0.74%	22.5°C	2021-01-23
	710	42.1	0.89	41.94	0.898	-0.38%	0.91%		
	750	41.9	0.89	41.82	0.912	-0.19%	2.52%		
835MHz Head	825	41.6	0.90	41.57	0.938	-0.07%	4.27%	22.5°C	2021-01-24
	835	41.5	0.90	41.53	0.942	0.07%	4.66%		
	850	41.5	0.92	41.50	0.947	0.00%	2.95%		
835MHz Head	825	41.6	0.90	41.57	0.932	-0.07%	3.56%	22.5°C	2021-01-28
	835	41.5	0.90	41.53	0.935	0.07%	3.93%		
	850	41.5	0.92	41.50	0.940	0.00%	2.20%		
1750MHz Head	1710	40.1	1.35	38.60	1.346	-3.74%	-0.30%	21.0°C	2021-01-23
	1730	40.1	1.36	38.54	1.360	-3.89%	0.00%		
	1750	40.1	1.37	38.48	1.375	-4.04%	0.36%		
	1800	40.0	1.40	38.32	1.404	-4.20%	0.29%		
1900MHz Head	1850	40.0	1.40	38.20	1.431	-4.50%	2.21%	21.0°C	2021-01-27
	1880	40.0	1.40	38.14	1.449	-4.65%	3.50%		
	1900	40.0	1.40	38.11	1.462	-4.73%	4.43%		
	1910	40.0	1.40	38.10	1.469	-4.75%	4.93%		
2450MHz Head	2410	39.3	1.76	37.77	1.807	-3.89%	2.67%	20.5°C	2021-01-26
	2435	39.2	1.79	37.73	1.827	-3.75%	2.07%		
	2450	39.2	1.80	37.69	1.839	-3.85%	2.17%		
	2460	39.2	1.81	37.67	1.848	-3.90%	2.10%		
2600MHz Head	2510	39.1	1.87	37.98	1.929	-2.86%	3.16%	21.0°C	2021-01-30
	2535	39.1	1.89	37.90	1.950	-3.07%	3.17%		
	2560	39.1	1.92	37.84	1.973	-3.22%	2.76%		
	2600	39.0	1.96	37.76	2.006	-3.18%	2.35%		
	2610	39.0	1.97	37.73	2.015	-3.26%	2.28%		
	2645	39.0	2.01	37.64	2.048	-3.49%	1.89%		
5GHz Head	5250	35.9	4.71	34.78	4.885	-3.12%	3.72%	22.0°C	2021-02-03
	5600	35.5	5.07	34.04	5.264	-4.11%	3.83%		
	5750	35.4	5.22	33.71	5.434	-4.77%	4.10%		

Table 5: Measured Tissue Parameter

Note:

1) The dielectric parameters of the tissue-equivalent liquid should be measured under similar ambient conditions and within 2°C of the conditions expected during the SAR evaluation to satisfy protocol requirements.
2) KDB865664 was ensured to be applied for probe calibration frequencies greater than or equal to 50MHz of the EUT frequencies.
3) The above measured tissue parameters were used in the DASY software to perform interpolation via the DASY software to determine actual dielectric parameters at the test frequencies. The SAR test plots may slightly differ from the table above since the DASY rounds to three significant digits.

4.2 System Check

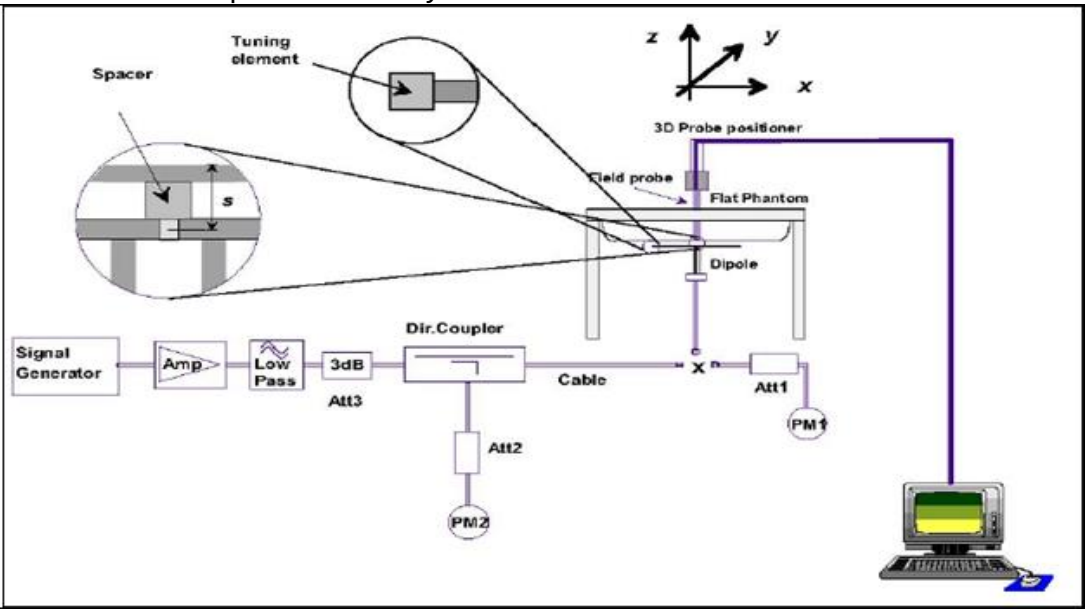
The system check is performed for verifying the accuracy of the complete measurement system and performance of the software. The system check is performed with tissue equivalent material according to IEEE 1528 (described above). The following table shows system check results for all frequency bands and tissue liquids used during the tests (Graphic Plot(s) see Appendix A).

Dipole Information	System Check	Target SAR (Normalized to 1W)		Measured SAR (Normalized to 1W)		Deviation (Within +/-10%)		Test Date
SN		1-g (mW/g)	10-g (mW/g)	1-g (mW/g)	10-g (mW/g)	Δ1-g	Δ10-g	
1044	750MHz	8.23	5.41	8.68	5.68	5.47%	4.99%	2021-01-23
4d126	835MHz	9.44	6.06	10.08	6.52	6.78%	7.59%	2021-01-24
4d126	835MHz	9.44	6.06	9.96	6.48	5.51%	6.93%	2021-01-28
1123	1750MHz	36.20	19.00	34.24	18.24	-5.41%	-4.00%	2021-01-23
5d143	1900MHz	39.40	20.60	39.96	21.00	1.42%	1.94%	2021-01-27
860	2450MHz	53.10	24.70	52.80	24.96	-0.56%	1.05%	2021-01-26
1032	2600MHz	56.40	25.20	58.00	26.44	2.84%	4.92%	2021-01-30
1155	5250MHz	79.60	22.90	77.70	22.90	-2.39%	0.00%	2021-02-03
1155	5600MHz	82.20	23.40	82.70	24.30	0.61%	3.85%	2021-02-03
1155	5750MHz	80.80	23.00	81.20	23.90	0.50%	3.91%	2021-02-03

Table 6: System Check Results

4.3 System check Procedure

The system check is performed by using a system check dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SAM. It is fed with a power of 250 mW (below 3GHz) or 100mW (3-6GHz). To adjust this power, a power meter is used. The power sensor is connected to the cable before the system check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the system check to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot). System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system.



5 SAR measurement variability and uncertainty

5.1 SAR measurement variability

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. The 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.

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

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

The detailed repeated measurement results are shown in the following section.

5.2 SAR measurement uncertainty

Per KDB865664 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. The equivalent ratio (1.5/1.6) is applied to extremity and occupational exposure conditions.

6 SAR Test Configuration

6.1 Test Positions Configuration

6.1.1 General considerations

Per IEEE 1528-2013,two imaginary lines on the handset were established: the vertical centerline and the horizontal line (See Figure 1).

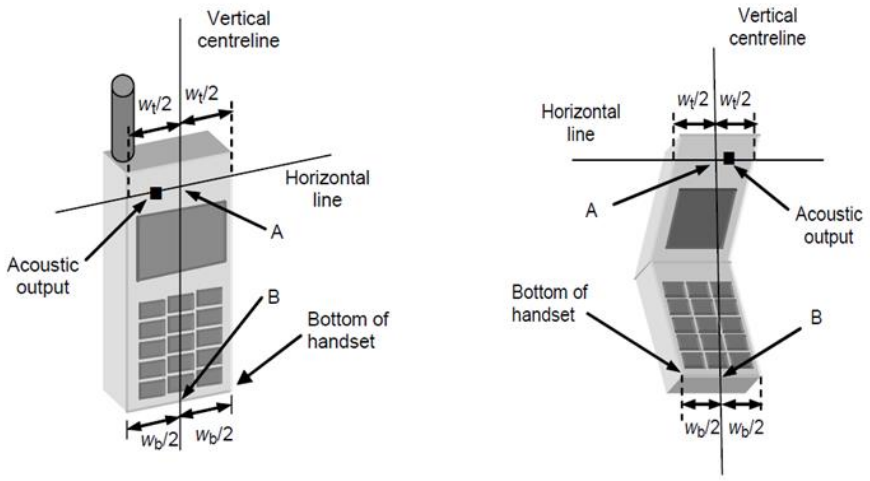


Figure 1 Hand Vertical Center & Horizontal Line Reference Points

6.1.2 Head Exposure Condition

Per IEEE 1528-2013, Head SAR measurements were made in the “cheek” position (See Figure 2) and the “tilt” position (See Figure 3). The device should be tested in both positions on left and right sides of the SAM phantom.

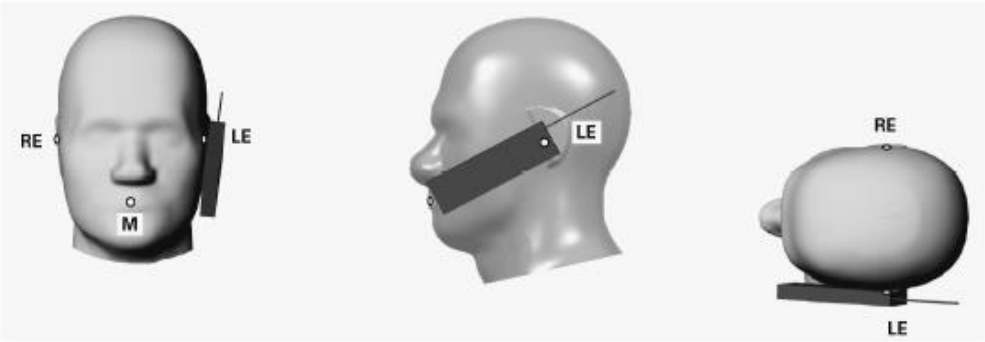


Figure 2 Front, Side and Top View of Cheek Position

Figure 3 Front, Side and Top View of Tilt 15° Position

Note:

M Mouth reference point

LE Left ear reference point (ERP)

RE Right ear reference point(ERP)

6.1.3 Body-worn Exposure Condition

Body-worn operating configurations are tested with the holder attached to the device and positioned against a flat phantom with test separation distance of 15mm in a normal use configuration (See Figure 4). Per FCC KDB648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB447498 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

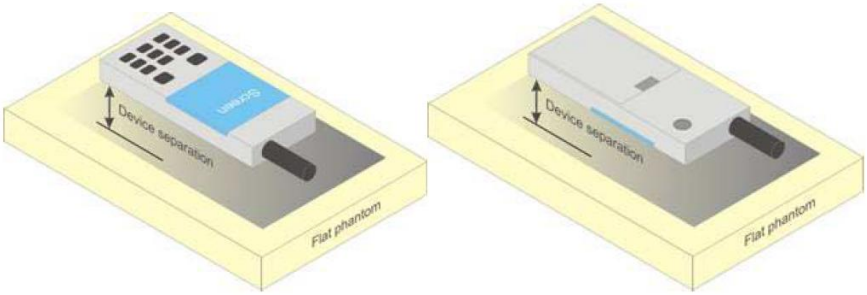


Figure 4 Test position for Body-Worn device

6.1.4 Hotspot Exposure Condition

Per FCC KDB941225 D06, 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, 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. 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; for the data modes, wireless technologies and frequency bands supporting hotspot mode. The SAR results are used to determine simultaneous transmission SAR test exclusion for hotspot mode; otherwise, simultaneous transmission SAR measurement is required.

6.1.5 Product Specific 10-g SAR Exposure Condition

Per FCC KDB648474 D04, for smart phones with a display diagonal dimension 15.0 cm or an overall diagonal dimension >16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the device is marketed as “Phablet”.

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

hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

6.2 3G SAR Test Reduction Procedure

Per KDB941225 D01, in the following procedures, 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 ≤ ¼ 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. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

6.3 GSM Test Configuration

SAR tests for GSM850 and GSM1900, a communication link is set up with a base station by air link. The power lever is set to “5”and “0” in SAR of GSM850 and GSM1900 using a Radio Communication Tester. The tests in the band of GSM850 and GSM1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 12 for this EUT, it has at most 4 timeslots in uplink, and at most 4 timeslots in downlink, the maximum total timeslot is 5.

When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8 PSK.

6.4 UMTS Test Configuration

1) Output Power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all “1’s” for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are requied in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

2) WCDMA

a. Head SAR Measurements

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.

b. Body SAR Measurements

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

3) HSDPA

SAR for body exposure configurations is measured according to the “Body SAR Measurements’’ procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ 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. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

Per KDB941225 D01, the 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures for the highest reported SAR body exposure configuration in 12.2 kbps RMC.

HSDPA should be configured according to UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HAPRQ 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 condition, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. The β_c and β_d gain factors for DPCCH and DPDCH were set according to the values in the below table, β_{hs} for HS-DPCCH is set automatically to the correct value when ΔACK, ΔNACK, ΔCQI = 8. The variation of the β_c /β_d ratio causes a power reduction at sub-tests 2 - 4.

Sub-test	β_c	β_d	β_d (SF)	β_c /β_d	β_{hs} (1)	CM(dB)(2)	MPR (dB)
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: △ACK, △NACK and △CQI = 8 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$

Note 2 : CM=1 for β_c/β_d= 12/15, β_{hs}/β_c = 24/15. For all other combinations of DPDCH,DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

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 signalled gain factors for the reference TFC (TF1,TF1) to β_c = 11/15 and β_d = 15/15

Table 7: Sub-tests for UMTS Release 5 HSDPA

The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK.

Parameter	Value
Nominal average inf. bit rate	534 kbit/s
Inter-TTI Distance	3 TTI's
Number of HARQ Processes	2 Processes
Information Bit Payload	3202 Bits
MAC-d PDU size	336 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	4800 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	9600 SMLs
Coding Rate	0.67
Number of Physical Channel Codes	5

Table 8: settings of required H-Set 1 QPSK acc. to 3GPP 34.121

HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	Maximum HS-DSCH Transport Block Bits/HS-DSCH TTI	Total Soft Channel Bits
1	5	3	7298	19200
2	5	3	7298	28800
3	5	2	7298	28800
4	5	2	7298	38400
5	5	1	7298	57600
6	5	1	7298	67200
7	10	1	14411	115200
8	10	1	14411	134400
9	15	1	25251	172800
10	15	1	27952	172800
11	5	2	3630	14400
12	5	1	3630	28800
13	15	1	34800	259200
14	15	1	42196	259200
15	15	1	23370	345600

16	15	1	27952	345600

Table 9: HSDPA UE category

4) HSUPA

SAR for body exposure configurations is measured according to the "Body SAR Measurements" procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ 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.

Per KDB941225 D01, the 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures for the highest reported body exposure SAR configuration in 12.2 kbps RMC.

Due to inner loop power control requirements in HSDPA, a commercial communication test set should be used for the output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSDPA should be configured according to the values indicated below as well as other applicable procedures described in the 'WCDMA Handset' and 'Release 5 HSDPA Data Device' sections of 3G device.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ec} (SF)	β_{ed} (code)	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 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$

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 signalled 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 signalled 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} can not be set directly; it is set by Absolute Grant Value.

Table 10: Subtests for UMTS Release 6 HSUPA

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum Speading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	10	2SF2&2SF4	11484	5.76
	4	4	2		20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF4	22996	?
	4	4	10		20000	?
NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.UE categories 1 to 6 support QPSK only. UE category 7 supports QPSK and 16QAM. (TS25.306-7.3.0).						

Table 11: HSUPA UE category

5) DC-HSDPA

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

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0. A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

Table E.5.0: Levels for HSDPA connection setup

Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH _Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

The measurements were performed with a Fixed Reference Channel (FRC) H-Set 12 with QPSK

Parameter	Value
Nominal average inf. bit rate	60 kbit/s
Inter-TTI Distance	1 TTI's
Number of HARQ Processes	6 Processes
Information Bit Payload	120 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	960 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	3200 SMLs
Coding Rate	0.15
Number of Physical Channel Codes	1

Table 12: settings of required H-Set 12 QPSK acc. to 3GPP 34.121

Note:

1. The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table above.
2. Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.

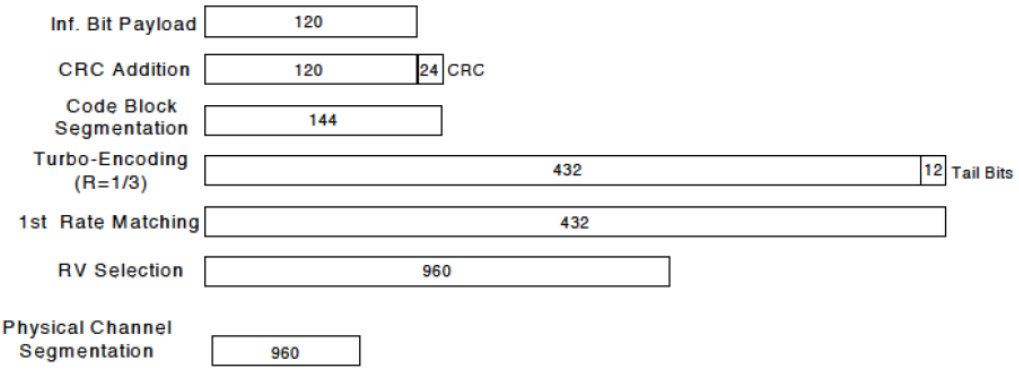


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 5 procedures. A summary of subtest settings are illustrated below:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (1)	CM(dB)(2)	MPR (dB)
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 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$

Note 2: CM=1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

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 signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$

Up commands are set continuously to set the UE to Max power.

Note:

1. The Dual Carriers transmission only applies to HSDPA physical channels
2. The Dual Carriers belong to the same Node and are on adjacent carriers.
3. The Dual Carriers do not support MIMO to serve UEs configured for dual cell operation
4. The Dual Carriers operate in the same frequency band.
5. The device doesn't support the modulation of 16QAM in uplink but 64QAM in downlink for DC-HSDPA mode.
6. The device doesn't support carrier aggregation for it just can operate in Release 8.

6.5 LTE Test Configuration

SAR for LTE band exposure configurations is measured according to the procedures of KDB941225 D05 SAR for LTE Devices. The Radio Communication Tester was used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR test were performed with the same number of RB and RB offsets transmitting on all TTI frames (Maximum TTI)

1) Spectrum Plots for RB configurations

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

2) MPR

When MPR is implemented permanently within the UE, regardless of network requirements, only those RB configurations allowed by 3GPP for the channel bandwidth and modulation combinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR.

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

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

3) A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by using Network Signaling Value of “NS_01”on the base station simulator.

4) LTE procedures for SAR testing

A) Largest channel bandwidth standalone SAR test requirements

i) QPSK with 1 RB allocation

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

ii) QPSK with 50% RB allocation

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

iii) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and

the highest reported SAR for 1 RB and 50% RB allocation in i) and ii) 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.

iv) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

B) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ 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.

6.6 Wi-Fi Test Configuration

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

6.6.1 Initial Test Position Procedure

For exposure condition with multiple test position, such as handsets operating next to the ear, devices with hotspot mode or UMPC mini-tablet , procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all position in an exposure condition. The test position with the highest extrapolated(peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4W/kg, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is ≤ 0.8W/kg or all test position are measured. For all positions/configurations tested using the initial test position and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required channels are tested.

6.6.2 Initial Test Configuration Procedure

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required (see section 5.3.2 of KDB248227 D01). SAR test reduction of subsequent highest output test channels is based on the *reported* SAR of the initial test configuration.

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

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

6.6.3 Sub Test Configuration Procedure

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.

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.

6.6.4 2.4G Wi-Fi SAR Test Procedures

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

A) 802.11b DSSS SAR Test Requirements

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

1) When the *reported* SAR of the highest measured maximum output power channel (section 3.1 of of KDB248227 D01) for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

2) When the *reported* SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any *reported* SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

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

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

1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.

2) When the highest *reported* SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

C) SAR Test Requirements for OFDM configurations

When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

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

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

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

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

3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest *reported* SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

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

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. when Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification to avoid SAR requirements.10 TDWR restriction does not apply under the new rules; all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels.11 When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

6.6.7 OFDM Transmission Mode SAR Test Channel Selection Requirements

For 2.4 GHz and 5 GHz bands, When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth,lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations(for example 802.11a, 802.11n and 802.11ac, or 802.11g and 802.11n, with the same channel bandwidth, modulation, and data rate, etc), the lower order 802.11 mode (i.e., 802.11a is chosen over 802.11n then 802.11ac, or 802.11g is chosen over 802.11n) is used for SAR measurement. When the maximum output power are the same for multiple test channel, either according to the default or additional power measurement requirement, SAR is measured using the channel closest to the middle of the frequency band or aggregted band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

6.7 Dynamic antenna switching specification

The device supports the dynamic antenna switching function to optimize transmission efficiency for wide range frequency operations.

1) For 2G/3G/4G, the device has three Tx antennas (Main Antenna and Secondary Antenna and Third Antenna). It can transmit from either Main Antenna or Secondary Antenna or Third Antenna. The Main Antenna and Second Antenna and Third Antenna cannot transmit simultaneously (Refer to the antenna location picture appendix for details).
   Note:
   a) The main and second ant support all 2G/3G/4G bands
   b) The third ant only supports 4G bands for LTE B7

SAR test procedure for dynamic antenna switching is as below:
Each antenna is set to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some commands or test scripts are supplied to fix the operation state so that only one TX antenna is chosen and tested at a time. All independent antennas are completely covered by the appropriate SAR measurements. The simultaneous transmission scenarios are also evaluated independently.

6.8 Power Reduction Specification

This device uses the following power reduction features to reduce the transmit power and ensure SAR compliance. These power reduction features are implemented using a single fixed level of reduction through static table look-up for some wireless operating modes or frequency bands and triggered by a single event or operation. The published RF exposure KDB procedures are applicable to the specific implementation and applied for testing. So PAG is not required for these features.

1) A fixed level power reduction is applied for some frequency bands when hotspot mode becomes active. When the hotspot is disabled, the power value will be recovered.

2) A fixed level power reduction is applied for some frequency bands when 2G/3G/4G and Wi-Fi transmit simultaneously.

3) This device uses the receiver to indicate whether the user is making a voice call in head scenario or not. The selection between head and body power levels is based on the receiver detection mechanism. A fixed level power reduction is applied for some frequency bands when the audio receiver is on.

4) This device uses the mobile country code (MCC) to indicate whether the users in CE countries or FCC countries. The selection between CE countries and FCC countries power levels is based on the country code detection mechanism. It can determine the countries where users are and set the relevant power level for each antennas accordingly.

Band	Antenna	MCC OF CE COUNTRY (CE standard)	MCC OF FCC COUNTRY (FCC standard)
LTE Band 7	Main Ant	power level A1	power level B1
LTE Band 7	Third Ant	power level A2	power level B2
2.4G Wi-Fi	Wi-Fi Ant	power level A3	power level B3
5G Wi-Fi	Wi-Fi Ant	power level A4	power level B4

6.8.1 Power Reduction Specification of 2G&3G&4G Antenna

The following tables summarize the key power reduction information of 2G/3G/4G antenna triggered by specific use conditions. The detailed full power and reduced conducted power measurement results are provided in the following section of this report:

Band	Antenna	Max Power Level (dBm)			
		2G&3G&4G Second Antenna			
		Receiver on	Receiver off		
		All conditions	Single Ant.	Wi-Fi station on	Hotspot on
		Reduced Power Level D1	Reduced Power Level D2	Reduced Power Level D3	Reduced Power Level D4
GSM850	Second Ant	33.5	33.5	33.5	33.5
GSM1900	Second Ant	30.5	30.5	30.5	30.5
UMTS Band II	Second Ant	20.3	20.8	20.8	19.8
UMTS Band IV	Second Ant	22.3	20.3	20.3	19.3
LTE Band 2	Second Ant	20.5	21.0	21.0	20.5
LTE Band 4	Second Ant	21.3	20.3	20.3	20.3
LTE Band 66	Second Ant	20.6	19.6	19.6	19.6
GSM850	Main Ant	33.5	33.5	33.5	30.5
GSM1900	Main Ant	30.5	30.5	30.5	26.5
UMTS Band II	Main Ant	24.8	24.8	24.8	21.8
UMTS Band IV	Main Ant	24.3	24.3	24.3	21.3
LTE Band 2	Main Ant	24.0	24.0	24.0	21.0
LTE Band 4	Main Ant	24.3	24.3	24.3	21.3
LTE Band 66	Main Ant	23.6	22.1	21.1	20.1
LTE Band 7	Third Ant	21.0	22.5	21.5	20.5

Note: For Head SAR test, standalone Head SAR should be evaluated with audio receiver on. The audio receiver only works in voice mode when the user is making a call in head scenario, lacking of the third-party VoIP server and the unstandardized VOIP operating characteristic, therefore, a test script tool is used to trigger the receiver on during the test. The test script is only used to trigger audio receiver on and simulate voice and VOIP usage scene. It can be ensured that the unmodified settings in production units, including maximum output power, amplifier gain and other RF performance or tuning parameters, are used for SAR measurement.

6.8.2 Power Reduction Specification of Wi-Fi Antenna

The following tables summarize the key power reduction information of Wi-Fi antennas. For FCC SAR test, Wi-Fi SAR test should be evaluated at the power level of FCC mobile country code for each exposure conditions of Wi-Fi.The detailed full power and reduced conducted power measurement results are provided in the following section of this report:

Configuration		Tune-up(dBm)			
Band	Mode	MCC of CE Countries		MCC of FCC Countries	
		Receiver ON	Receiver OFF	Receiver ON	Receiver OFF
2.4G Wi-Fi	802.11b	16.00	19.50	12.00	19.50
	802.11g	16.00	19.00	12.00	19.00
	802.11n(20M)	16.00	18.50	12.00	18.50
	802.11n(40M)	16.00	18.00	12.00	15.00
5G Wi-Fi	802.11a	16.00	19.00	12.00	19.00
	802.11n(20M)	16.00	18.50	12.00	18.50
	802.11n(40M)	16.00	18.00	12.00	18.00
	802.11ac(20M)	16.00	18.50	12.00	18.50
	802.11ac(40M)	16.00	18.00	12.00	18.00
	802.11ac(80M)	16.00	17.00	12.00	17.00

6.8.3 BT Test Configuration

For BT SAR testing, there is set to the DUT continuous transmitting with maximum output power using the WideBand Radio Communication Tester CMW500. Per TCB Worksop Notes, the BT SAR was scaled to the 100% transmission duty cycle to determine compliance. Refer to the following section for the time-domain plot and calculation for the duty cylce of the device.

7 SAR Measurement Results

7.1 Conducted power measurements

The conducted power measurement results and conducted power reduction mechanisms validation are provided in the report appendixs.

7.2 SAR measurement Results

General Notes:

1) Per KDB 447498 D01, all SAR measurement results are scaled to the maximum tune-up tolerance limit to demonstrate SAR compliance.

2) Per KDB 447498 D01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

● ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.

● ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.

● ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

3) Per KDB 865664 D01,for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg; if the deviation among the repeated measurement is ≤20%, and the measured SAR <1.45W/kg, only one repeated measurement is required.

4) Per KDB 941225 D06, the DUT Dimension is bigger than 9 cm x 5 cm, so 10mm is chosen as the test separation distance for Hotspot mode. When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.

5) Per KDB 648474 D04, SAR is evaluated without a headset connected to the device. When the standalone reported body-worn SAR is ≤1.2 W/kg, no additional SAR evaluations using a headset are required.

6) Per KDB 865664 D02, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; Plots are also required when the measured SAR is > 1.5 W/kg, or > 7.0 W/kg for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan post-processing (Refer to appendix B for details).

7) Per KDB 648474 D04, Body-worn accessories that do not contain metallic or conductive components is 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.

GSM Notes:

1) Per KDB941225 D01, 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.

2) Per KDB 648474 D04, the device does not support DTM function. Body-worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.

UMTS Notes:

1) Per KDB 941225 D01, When the maximum output power and tune-up tolerance specified for production units in a Second mode is ≤ ¼ 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 Second to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the Second mode.

LTE Notes:

1) The LTE test configurations are determined according to KDB 941225 D05 SAR for LTE Devices.The general test procedures used for SAR testing can be found in Section 6.5.

2) A-MPR was disabled for all SAR test by setting NS_01 on the base station simulator.SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames(maximum TTI)

Wi-Fi Notes:

Per KDB 248227D01:

1) When reported SAR for the initial test position is ≤ 0.4W/kg, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is ≤ 0.8W/kg or all test position are measured. For all positions/configurations tested using the initial test position and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required channels are tested..

2) When the DSSS *reported* SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

3) When the highest *reported* SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations

4) The highest SAR measured for the initial test position or initial test configuration should be used to determine SAR test exclusion according to the sum of 1-g SAR and SAR peak to location ratio provisions in KDB 447498. In addition, a test lab may also choose to perform standalone SAR measurements for test positions and 802.11 configurations that are not required by the initial test position or initial test configuration procedures and apply the results to determine simultaneous transmission SAR test exclusion, according to sum of 1-g and SAR peak to location ratio requirements to reduce the number of simultaneous transmission SAR measurements.

7.2.1 SAR measurement Results of GSM850

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	190/836.6	GSM	0.001	0.001	32.38	33.50	0.001	Battery 1#	/
Second	Left tilt	/	190/836.6	GSM	0.001	0.001	32.38	33.50	0.001	Battery 1#	/
Second	Right cheek	/	190/836.6	GSM	**0.094**	0.049	32.38	33.50	**0.122**	Battery 1#	Plot
Second	Right tilt	/	190/836.6	GSM	0.079	0.043	32.38	33.50	0.102	Battery 1#	/
Second	Right cheek	/	190/836.6	GSM	0.088	0.052	32.38	33.50	0.114	Battery 2#	/
Second	Right cheek	/	190/836.6	GSM	0.089	0.051	32.38	33.50	0.115	With SIM2	/
Main	Left cheek	/	190/836.6	GSM	**0.099**	0.074	32.29	33.50	**0.131**	Battery 1#	Plot
Main	Left tilt	/	190/836.6	GSM	0.059	0.043	32.29	33.50	0.078	Battery 1#	/
Main	Right cheek	/	190/836.6	GSM	0.097	0.072	32.29	33.50	0.128	Battery 1#	/
Main	Right tilt	/	190/836.6	GSM	0.069	0.050	32.29	33.50	0.091	Battery 1#	/
Main	Left cheek	/	190/836.6	GSM	0.096	0.067	32.29	33.50	0.127	Battery 2#	/
Main	Left cheek	/	190/836.6	GSM	0.098	0.069	32.29	33.50	0.129	With SIM2	/

Table 13: Head SAR test results of GSM850

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	190/836.6	GSM	0.001	0.001	32.38	33.50	0.001	Battery 1#	/
Second	Back side	15mm	190/836.6	GSM	**0.033**	0.019	32.38	33.50	**0.042**	Battery 1#	Plot
Second	Back side	15mm	190/836.6	GSM	0.001	0.001	32.38	33.50	0.001	Battery 2#	/
Second	Back side	15mm	190/836.6	GSM	0.001	0.001	32.38	33.50	0.001	With SIM2	/
Main	Front side	15mm	190/836.6	GSM	0.114	0.073	32.29	33.50	0.151	Battery 1#	/
Main	Back side	15mm	190/836.6	GSM	**0.192**	0.129	32.29	33.50	**0.254**	Battery 1#	Plot
Main	Back side	15mm	190/836.6	GSM	0.145	0.096	32.29	33.50	0.192	Battery 2#	/
Main	Back side	15mm	190/836.6	GSM	0.147	0.099	32.29	33.50	0.194	With SIM2	/

Table 14: Body Worn SAR test results of GSM850

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	190/836.6	GPRS 2TS	0.001	0.001	29.27	30.50	0.001	Battery 1#	/
Second	Back side	10mm	190/836.6	GPRS 2TS	**0.085**	0.045	29.27	30.50	**0.112**	Battery 1#	Plot
Second	Left side	10mm	190/836.6	GPRS 2TS	0.040	0.020	29.27	30.50	0.053	Battery 1#	/
Second	Top side	10mm	190/836.6	GPRS 2TS	0.001	0.001	29.27	30.50	0.001	Battery 1#	/
Second	Back side	10mm	190/836.6	GPRS 2TS	0.054	0.031	29.27	30.50	0.072	Battery 2#	/
Second	Back side	10mm	190/836.6	GPRS 2TS	0.054	0.030	29.27	30.50	0.072	With SIM2	/
Main	Front side	10mm	190/836.6	GPRS 2TS	0.115	0.072	26.74	27.50	0.137	Battery 1#	/
Main	Back side	10mm	190/836.6	GPRS 2TS	**0.158**	0.099	26.74	27.50	**0.188**	Battery 1#	Plot
Main	Right side	10mm	190/836.6	GPRS 2TS	0.001	0.001	26.74	27.50	0.001	Battery 1#	/
Main	Bottom side	10mm	190/836.6	GPRS 2TS	0.077	0.041	26.74	27.50	0.092	Battery 1#	/
Main	Back side	10mm	190/836.6	GPRS 2TS	0.135	0.086	26.74	27.50	0.161	Battery 2#	/
Main	Back side	10mm	190/836.6	GPRS 2TS	0.138	0.088	26.74	27.50	0.164	With SIM2	/

Table 15: Hotspot SAR test results of GSM850

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	190/836.6	GPRS 2TS	0.001	0.001	29.27	33.50	0.003	Yes
Second	Back side	10mm	190/836.6	GPRS 2TS	**0.085**	0.045	29.27	33.50	0.224	Yes
Second	Left side	10mm	190/836.6	GPRS 2TS	0.040	0.020	29.27	33.50	0.106	Yes
Second	Top side	10mm	190/836.6	GPRS 2TS	0.001	0.001	29.27	33.50	0.003	Yes
Second	Back side	10mm	190/836.6	GPRS 2TS	0.054	0.031	29.27	33.50	0.143	Yes
Second	Back side	10mm	190/836.6	GPRS 2TS	0.054	0.030	29.27	33.50	0.143	Yes
Main	Front side	10mm	190/836.6	GPRS 2TS	0.115	0.072	26.74	33.50	0.545	Yes
Main	Back side	10mm	190/836.6	GPRS 2TS	**0.158**	0.099	26.74	33.50	0.749	Yes
Main	Right side	10mm	190/836.6	GPRS 2TS	0.001	0.001	26.74	33.50	0.005	Yes
Main	Bottom side	10mm	190/836.6	GPRS 2TS	0.077	0.041	26.74	33.50	0.365	Yes
Main	Back side	10mm	190/836.6	GPRS 2TS	0.135	0.086	26.74	33.50	0.640	Yes
Main	Back side	10mm	190/836.6	GPRS 2TS	0.138	0.088	26.74	33.50	0.654	Yes

Table 16: Product Specific 10-g SAR test reduction evaluation of GSM850

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.2 SAR measurement Results of GSM1900

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	661/1880	GSM	0.393	0.204	28.95	30.50	0.562	Battery 1#	/
Second	Left tilt	/	661/1880	GSM	0.535	0.270	28.95	30.50	0.764	Battery 1#	/
Second	Right cheek	/	661/1880	GSM	0.323	0.166	28.95	30.50	0.462	Battery 1#	/
Second	Right tilt	/	661/1880	GSM	0.477	0.264	28.95	30.50	0.682	Battery 1#	/
Second	Left tilt	/	661/1880	GSM	**0.616**	0.305	28.95	30.50	**0.880**	Battery 2#	Plot
Second	Left tilt	/	512/1850.2	GSM	0.475	0.256	28.93	30.50	0.682	Battery 2#	/
Second	Left tilt	/	810/1909.8	GSM	0.545	0.274	29.08	30.50	0.756	Battery 2#	/
Second	Left tilt	/	661/1880	GSM	0.578	0.292	28.95	30.50	0.826	With SIM2	/
Main	Left cheek	/	661/1880	GSM	0.001	0.001	29.07	30.50	0.001	Battery 1#	/
Main	Left tilt	/	661/1880	GSM	0.001	0.001	29.07	30.50	0.001	Battery 1#	/
Main	Right cheek	/	661/1880	GSM	**0.034**	0.021	29.07	30.50	**0.047**	Battery 1#	Plot
Main	Right tilt	/	661/1880	GSM	0.019	0.008	29.07	30.50	0.027	Battery 1#	/
Main	Right cheek	/	661/1880	GSM	0.001	0.001	29.07	30.50	0.001	Battery 2#	/
Main	Right cheek	/	661/1880	GSM	0.001	0.001	29.07	30.50	0.001	With SIM2	/

Table 17: Head SAR test results of GSM1900

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	661/1880	GSM	0.059	0.035	28.95	30.50	0.084	Battery 1#	/
Second	Back side	15mm	661/1880	GSM	**0.185**	0.108	28.95	30.50	**0.264**	Battery 1#	Plot
Second	Back side	15mm	661/1880	GSM	0.144	0.082	28.95	30.50	0.206	Battery 2#	/
Second	Back side	15mm	661/1880	GSM	0.154	0.087	28.95	30.50	0.220	With SIM2	/
Main	Front side	15mm	661/1880	GSM	0.001	0.001	29.07	30.50	0.001	Battery 1#	/
Main	Back side	15mm	661/1880	GSM	0.067	0.040	29.07	30.50	0.093	Battery 1#	/
Main	Back side	15mm	661/1880	GSM	**0.083**	0.050	29.07	30.50	**0.115**	Battery 2#	Plot
Main	Back side	15mm	661/1880	GSM	0.075	0.044	29.07	30.50	0.104	With SIM2	/

Table 18: Body Worn SAR test results of GSM1900

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	661/1880	GPRS 2TS	0.073	0.041	26.26	28.20	0.114	Battery 1#	/
Second	Back side	10mm	661/1880	GPRS 2TS	0.219	0.117	26.26	28.20	0.342	Battery 1#	/
Second	Left side	10mm	661/1880	GPRS 2TS	0.053	0.013	26.26	28.20	0.083	Battery 1#	/
Second	Top side	10mm	661/1880	GPRS 2TS	0.308	0.150	26.26	28.20	0.481	Battery 1#	/
Second	Top side	10mm	661/1880	GPRS 2TS	**0.405**	0.211	26.26	28.20	**0.633**	Battery 2#	Plot
Second	Top side	10mm	661/1880	GPRS 2TS	0.386	0.195	26.26	28.20	0.603	With SIM2	/
Main	Front side	10mm	661/1880	GPRS 1TS	0.001	0.001	25.60	26.50	0.001	Battery 1#	/
Main	Back side	10mm	661/1880	GPRS 1TS	0.045	0.026	25.60	26.50	0.055	Battery 1#	/
Main	Left side	10mm	661/1880	GPRS 1TS	0.001	0.001	25.60	26.50	0.001	Battery 1#	/
Main	Bottom side	10mm	661/1880	GPRS 1TS	**0.066**	0.036	25.60	26.50	**0.081**	Battery 1#	Plot
Main	Bottom side	10mm	661/1880	GPRS 1TS	0.062	0.036	25.60	26.50	0.076	Battery 2#	/
Main	Bottom side	10mm	661/1880	GPRS 1TS	0.060	0.035	25.60	26.50	0.074	With SIM2	/

Table 19: Hotspot SAR test results of GSM1900

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	661/1880	GPRS 2TS	0.073	0.041	26.26	30.50	0.194	Yes
Second	Back side	10mm	661/1880	GPRS 2TS	0.219	0.117	26.26	30.50	0.581	Yes
Second	Left side	10mm	661/1880	GPRS 2TS	0.053	0.013	26.26	30.50	0.141	Yes
Second	Top side	10mm	661/1880	GPRS 2TS	0.308	0.150	26.26	30.50	0.818	Yes
Second	Top side	10mm	661/1880	GPRS 2TS	**0.405**	0.211	26.26	30.50	1.075	Yes
Second	Top side	10mm	661/1880	GPRS 2TS	0.386	0.195	26.26	30.50	1.025	Yes
Main	Front side	10mm	661/1880	GPRS 1TS	0.001	0.001	25.60	30.50	0.003	Yes
Main	Back side	10mm	661/1880	GPRS 1TS	0.045	0.026	25.60	30.50	0.139	Yes
Main	Left side	10mm	661/1880	GPRS 1TS	0.001	0.001	25.60	30.50	0.003	Yes
Main	Bottom side	10mm	661/1880	GPRS 1TS	**0.066**	0.036	25.60	30.50	0.204	Yes
Main	Bottom side	10mm	661/1880	GPRS 1TS	0.062	0.036	25.60	30.50	0.192	Yes
Main	Bottom side	10mm	661/1880	GPRS 1TS	0.060	0.035	25.60	30.50	0.185	Yes

Table 20: Product Specific 10-g SAR test reduction evaluation of GSM1900

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.3 SAR measurement Results of UMTS Band II

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	9400/1880	RMC	0.300	0.154	18.74	20.30	0.430	Battery 1#	/
Second	Left tilt	/	9400/1880	RMC	0.426	0.214	18.74	20.30	0.610	Battery 1#	/
Second	Right cheek	/	9400/1880	RMC	0.245	0.135	18.74	20.30	0.351	Battery 1#	/
Second	Right tilt	/	9400/1880	RMC	0.358	0.200	18.74	20.30	0.513	Battery 1#	/
Second	Left tilt	/	9400/1880	RMC	**0.478**	0.231	18.74	20.30	**0.685**	Battery 2#	Plot
Second	Left tilt	/	9400/1880	RMC	0.472	0.238	18.74	20.30	0.676	With SIM2	/
Main	Left cheek	/	9400/1880	RMC	0.081	0.049	22.81	24.80	0.128	Battery 1#	/
Main	Left tilt	/	9400/1880	RMC	0.057	0.033	22.81	24.80	0.090	Battery 1#	/
Main	Right cheek	/	9400/1880	RMC	0.051	0.033	22.81	24.80	0.081	Battery 1#	/
Main	Right tilt	/	9400/1880	RMC	0.055	0.033	22.81	24.80	0.087	Battery 1#	/
Main	Left cheek	/	9400/1880	RMC	**0.115**	0.072	22.81	24.80	**0.182**	Battery 2#	Plot
Main	Left cheek	/	9400/1880	RMC	0.086	0.053	22.81	24.80	0.136	With SIM2	/

Table 21: Head SAR test results of UMTS Band II

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	9400/1880	RMC	0.063	0.037	19.46	20.80	0.086	Battery 1#	/
Second	Back side	15mm	9400/1880	RMC	0.156	0.088	19.46	20.80	0.212	Battery 1#	/
Second	Back side	15mm	9400/1880	RMC	**0.203**	0.117	19.46	20.80	**0.276**	Battery 2#	Plot
Second	Back side	15mm	9400/1880	RMC	0.167	0.093	19.46	20.80	0.227	With SIM2	/
Main	Front side	15mm	9400/1880	RMC	0.108	0.065	22.81	24.80	0.171	Battery 1#	/
Main	Back side	15mm	9400/1880	RMC	0.172	0.103	22.81	24.80	0.272	Battery 1#	/
Main	Back side	15mm	9400/1880	RMC	**0.198**	0.120	22.81	24.80	**0.313**	Battery 2#	Plot
Main	Back side	15mm	9400/1880	RMC	0.184	0.109	22.81	24.80	0.291	With SIM2	/

Table 22: Body Worn SAR test results of UMTS Band II

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	9400/1880	RMC	0.074	0.042	18.26	19.80	0.105	Battery 1#	/
Second	Back side	10mm	9400/1880	RMC	0.207	0.110	18.26	19.80	0.295	Battery 1#	/
Second	Left side	10mm	9400/1880	RMC	0.038	0.018	18.26	19.80	0.054	Battery 1#	/
Second	Top side	10mm	9400/1880	RMC	0.292	0.145	18.26	19.80	0.416	Battery 1#	/
Second	Top side	10mm	9400/1880	RMC	**0.328**	0.166	18.26	19.80	**0.468**	Battery 2#	Plot
Second	Top side	10mm	9400/1880	RMC	0.324	0.157	18.26	19.80	0.462	With SIM2	/
Main	Front side	10mm	9400/1880	RMC	0.093	0.054	20.57	21.80	0.123	Battery 1#	/
Main	Back side	10mm	9400/1880	RMC	0.179	0.104	20.57	21.80	0.238	Battery 1#	/
Main	Left side	10mm	9400/1880	RMC	0.056	0.031	20.57	21.80	0.074	Battery 1#	/
Main	Bottom side	10mm	9400/1880	RMC	0.242	0.132	20.57	21.80	0.321	Battery 1#	/
Main	Bottom side	10mm	9400/1880	RMC	0.234	0.128	20.57	21.80	0.311	Battery 2#	/
Main	Bottom side	10mm	9400/1880	RMC	**0.246**	0.135	20.57	21.80	**0.327**	With SIM2	Plot

Table 23: Hotspot SAR test results of UMTS Band II

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	9400/1880	RMC	0.074	0.042	18.26	21.80	0.167	Yes
Second	Back side	10mm	9400/1880	RMC	0.207	0.110	18.26	21.80	0.468	Yes
Second	Left side	10mm	9400/1880	RMC	0.038	0.018	18.26	21.80	0.086	Yes
Second	Top side	10mm	9400/1880	RMC	0.292	0.145	18.26	21.80	0.660	Yes
Second	Top side	10mm	9400/1880	RMC	**0.328**	0.166	18.26	21.80	0.741	Yes
Second	Top side	10mm	9400/1880	RMC	0.324	0.157	18.26	21.80	0.732	Yes
Main	Front side	10mm	9400/1880	RMC	0.093	0.054	20.57	24.80	0.246	Yes
Main	Back side	10mm	9400/1880	RMC	0.179	0.104	20.57	24.80	0.474	Yes
Main	Left side	10mm	9400/1880	RMC	0.056	0.031	20.57	24.80	0.148	Yes
Main	Bottom side	10mm	9400/1880	RMC	0.242	0.132	20.57	24.80	0.641	Yes
Main	Bottom side	10mm	9400/1880	RMC	0.234	0.128	20.57	24.80	0.620	Yes
Main	Bottom side	10mm	9400/1880	RMC	**0.246**	0.135	20.57	24.80	0.652	Yes

Table 24: Product Specific 10-g SAR test reduction evaluation of UMTS Band II

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.4 SAR measurement Results of UMTS Band IV

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	1413/1732.6	RMC	0.427	0.221	20.46	22.30	0.652	Battery 1#	/
Second	Left tilt	/	1413/1732.6	RMC	0.625	0.317	20.46	22.30	0.955	Battery 1#	/
Second	Left tilt	/	1312/1712.4	RMC	0.600	0.304	20.42	22.30	0.925	Battery 1#	/
Second	Left tilt	/	1513/1752.6	RMC	0.604	0.304	20.53	22.30	0.908	Battery 1#	/
Second	Right cheek	/	1413/1732.6	RMC	0.356	0.199	20.46	22.30	0.544	Battery 1#	/
Second	Right tilt	/	1413/1732.6	RMC	0.539	0.310	20.46	22.30	0.823	Battery 1#	/
Second	Left tilt	/	1413/1732.6	RMC	**0.712**	0.355	20.46	22.30	**1.088**	Battery 2#	Plot
Second	Left tilt	/	1413/1732.6	RMC	0.672	0.351	20.46	22.30	1.027	With SIM2	/
Main	Left cheek	/	1413/1732.6	RMC	0.071	0.044	23.22	24.30	0.091	Battery 1#	/
Main	Left tilt	/	1413/1732.6	RMC	0.051	0.031	23.22	24.30	0.065	Battery 1#	/
Main	Right cheek	/	1413/1732.6	RMC	0.072	0.045	23.22	24.30	0.092	Battery 1#	/
Main	Right tilt	/	1413/1732.6	RMC	0.048	0.028	23.22	24.30	0.062	Battery 1#	/
Main	Right cheek	/	1413/1732.6	RMC	**0.118**	0.077	23.22	24.30	**0.151**	Battery 2#	Plot
Main	Right cheek	/	1413/1732.6	RMC	0.114	0.069	23.22	24.30	0.146	With SIM2	/

Table 25: Head SAR test results of UMTS Band IV

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	1413/1732.6	RMC	0.052	0.031	18.93	20.30	0.071	Battery 1#	/
Second	Back side	15mm	1413/1732.6	RMC	0.129	0.076	18.93	20.30	0.177	Battery 1#	/
Second	Back side	15mm	1413/1732.6	RMC	**0.149**	0.088	18.93	20.30	**0.204**	Battery 2#	Plot
Second	Back side	15mm	1413/1732.6	RMC	0.143	0.083	18.93	20.30	0.196	With SIM2	/
Main	Front side	15mm	1413/1732.6	RMC	0.121	0.079	23.22	24.30	0.155	Battery 1#	/
Main	Back side	15mm	1413/1732.6	RMC	0.197	0.127	23.22	24.30	0.253	Battery 1#	/
Main	Back side	15mm	1413/1732.6	RMC	**0.254**	0.156	23.22	24.30	**0.326**	Battery 2#	Plot
Main	Back side	15mm	1413/1732.6	RMC	0.225	0.114	23.22	24.30	0.289	With SIM2	/

Table 26: Body Worn SAR test results of UMTS Band IV

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	1413/1732.6	RMC	0.064	0.036	17.98	19.30	0.087	Battery 1#	/
Second	Back side	10mm	1413/1732.6	RMC	0.177	0.097	17.98	19.30	0.240	Battery 1#	/
Second	Left side	10mm	1413/1732.6	RMC	0.041	0.010	17.98	19.30	0.056	Battery 1#	/
Second	Top side	10mm	1413/1732.6	RMC	0.199	0.099	17.98	19.30	0.270	Battery 1#	/
Second	Top side	10mm	1413/1732.6	RMC	**0.245**	0.128	17.98	19.30	**0.332**	Battery 2#	Plot
Second	Top side	10mm	1413/1732.6	RMC	0.229	0.117	17.98	19.30	0.310	With SIM2	/
Main	Front side	10mm	1413/1732.6	RMC	0.157	0.100	20.38	21.30	0.194	Battery 1#	/
Main	Back side	10mm	1413/1732.6	RMC	0.250	0.149	20.38	21.30	0.309	Battery 1#	/
Main	Left side	10mm	1413/1732.6	RMC	0.090	0.049	20.38	21.30	0.111	Battery 1#	/
Main	Bottom side	10mm	1413/1732.6	RMC	0.404	0.221	20.38	21.30	0.499	Battery 1#	/
Main	Bottom side	10mm	1413/1732.6	RMC	**0.411**	0.230	20.38	21.30	**0.508**	Battery 2#	Plot
Main	Bottom side	10mm	1413/1732.6	RMC	0.394	0.219	20.38	21.30	0.487	With SIM2	/

Table 27: Hotspot SAR test results of UMTS Band IV

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	1413/1732.6	RMC	0.064	0.036	17.98	22.30	0.173	Yes
Second	Back side	10mm	1413/1732.6	RMC	0.177	0.097	17.98	22.30	0.479	Yes
Second	Left side	10mm	1413/1732.6	RMC	0.041	0.010	17.98	22.30	0.111	Yes
Second	Top side	10mm	1413/1732.6	RMC	0.199	0.099	17.98	22.30	0.538	Yes
Second	Top side	10mm	1413/1732.6	RMC	**0.245**	0.128	17.98	22.30	0.662	Yes
Second	Top side	10mm	1413/1732.6	RMC	0.229	0.117	17.98	22.30	0.619	Yes
Main	Front side	10mm	1413/1732.6	RMC	0.157	0.100	20.38	24.30	0.387	Yes
Main	Back side	10mm	1413/1732.6	RMC	0.250	0.149	20.38	24.30	0.617	Yes
Main	Left side	10mm	1413/1732.6	RMC	0.090	0.049	20.38	24.30	0.222	Yes
Main	Bottom side	10mm	1413/1732.6	RMC	0.404	0.221	20.38	24.30	0.996	Yes
Main	Bottom side	10mm	1413/1732.6	RMC	**0.411**	0.230	20.38	24.30	1.014	Yes
Main	Bottom side	10mm	1413/1732.6	RMC	0.394	0.219	20.38	24.30	0.972	Yes

Table 28: Product Specific 10-g SAR test reduction evaluation of UMTS Band IV

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.5 SAR measurement Results of UMTS Band V

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	4182/836.4	RMC	0.063	0.041	24.37	25.00	0.073	Battery 1#	/
Second	Left tilt	/	4182/836.4	RMC	0.053	0.032	24.37	25.00	0.061	Battery 1#	/
Second	Right cheek	/	4182/836.4	RMC	**0.180**	0.091	24.37	25.00	**0.208**	Battery 1#	Plot
Second	Right tilt	/	4182/836.4	RMC	0.130	0.071	24.37	25.00	0.150	Battery 1#	/
Second	Right cheek	/	4182/836.4	RMC	0.156	0.092	24.37	25.00	0.180	Battery 2#	/
Second	Right cheek	/	4182/836.4	RMC	0.152	0.088	24.37	25.00	0.176	With SIM2	/
Main	Left cheek	/	4182/836.4	RMC	**0.128**	0.095	24.25	25.00	**0.152**	Battery 1#	Plot
Main	Left tilt	/	4182/836.4	RMC	0.068	0.049	24.25	25.00	0.081	Battery 1#	/
Main	Right cheek	/	4182/836.4	RMC	0.115	0.084	24.25	25.00	0.137	Battery 1#	/
Main	Right tilt	/	4182/836.4	RMC	0.085	0.063	24.25	25.00	0.101	Battery 1#	/
Main	Left cheek	/	4182/836.4	RMC	0.125	0.096	24.25	25.00	0.149	Battery 2#	/
Main	Left cheek	/	4182/836.4	RMC	0.126	0.095	24.25	25.00	0.150	With SIM2	/

Table 29: Head SAR test results of UMTS Band V

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	4182/836.4	RMC	0.001	0.001	24.37	25.00	0.001	Battery 1#	/
Second	Back side	15mm	4182/836.4	RMC	**0.056**	0.032	24.37	25.00	**0.065**	Battery 1#	Plot
Second	Back side	15mm	4182/836.4	RMC	0.001	0.001	24.37	25.00	0.001	Battery 2#	/
Second	Back side	15mm	4182/836.4	RMC	0.001	0.001	24.37	25.00	0.001	With SIM2	/
Main	Front side	15mm	4182/836.4	RMC	0.155	0.102	24.25	25.00	0.184	Battery 1#	/
Main	Back side	15mm	4182/836.4	RMC	**0.226**	0.153	24.25	25.00	**0.269**	Battery 1#	Plot
Main	Back side	15mm	4182/836.4	RMC	0.201	0.134	24.25	25.00	0.239	Battery 2#	/
Main	Back side	15mm	4182/836.4	RMC	0.189	0.127	24.25	25.00	0.225	With SIM2	/

Table 30: Body Worn SAR test results of UMTS Band V

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	4182/836.4	RMC	0.042	0.024	24.37	25.00	0.049	Battery 1#	/
Second	Back side	10mm	4182/836.4	RMC	**0.114**	0.061	24.37	25.00	**0.132**	Battery 1#	Plot
Second	Left side	10mm	4182/836.4	RMC	0.058	0.030	24.37	25.00	0.067	Battery 1#	/
Second	Top side	10mm	4182/836.4	RMC	0.050	0.024	24.37	25.00	0.058	Battery 1#	/
Second	Back side	10mm	4182/836.4	RMC	0.084	0.047	24.37	25.00	0.097	Battery 2#	/
Second	Back side	10mm	4182/836.4	RMC	0.085	0.046	24.37	25.00	0.098	With SIM2	/
Main	Front side	10mm	4182/836.4	RMC	0.279	0.176	24.25	25.00	0.332	Battery 1#	/
Main	Back side	10mm	4182/836.4	RMC	**0.361**	0.229	24.25	25.00	**0.429**	Battery 1#	Plot
Main	Right side	10mm	4182/836.4	RMC	0.095	0.062	24.25	25.00	0.113	Battery 1#	/
Main	Bottom side	10mm	4182/836.4	RMC	0.195	0.109	24.25	25.00	0.232	Battery 1#	/
Main	Back side	10mm	4182/836.4	RMC	0.339	0.215	24.25	25.00	0.403	Battery 2#	/
Main	Back side	10mm	4182/836.4	RMC	0.342	0.217	24.25	25.00	0.406	With SIM2	/

Table 31: Hotspot SAR test results of UMTS Band V

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	4182/836.4	RMC	0.042	0.024	24.37	25.00	0.049	Yes
Second	Back side	10mm	4182/836.4	RMC	**0.114**	0.061	24.37	25.00	0.132	Yes
Second	Left side	10mm	4182/836.4	RMC	0.058	0.030	24.37	25.00	0.067	Yes
Second	Top side	10mm	4182/836.4	RMC	0.050	0.024	24.37	25.00	0.058	Yes
Second	Back side	10mm	4182/836.4	RMC	0.084	0.047	24.37	25.00	0.097	Yes
Second	Back side	10mm	4182/836.4	RMC	0.085	0.046	24.37	25.00	0.098	Yes
Main	Front side	10mm	4182/836.4	RMC	0.279	0.176	24.25	25.00	0.332	Yes
Main	Back side	10mm	4182/836.4	RMC	**0.361**	0.229	24.25	25.00	0.429	Yes
Main	Right side	10mm	4182/836.4	RMC	0.095	0.062	24.25	25.00	0.113	Yes
Main	Bottom side	10mm	4182/836.4	RMC	0.195	0.109	24.25	25.00	0.232	Yes
Main	Back side	10mm	4182/836.4	RMC	0.339	0.215	24.25	25.00	0.403	Yes
Main	Back side	10mm	4182/836.4	RMC	0.342	0.217	24.25	25.00	0.406	Yes

Table 32: Product Specific 10-g SAR test reduction evaluation of UMTS Band V

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.6 SAR measurement Results of LTE Band 2

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	18900/1880	20M QPSK 1RB@50	0.327	0.167	19.24	20.50	0.437	Battery 1#	/
Second	Left tilt	/	18900/1880	20M QPSK 1RB@50	0.452	0.229	19.24	20.50	0.604	Battery 1#	/
Second	Right cheek	/	18900/1880	20M QPSK 1RB@50	0.278	0.153	19.24	20.50	0.372	Battery 1#	/
Second	Right tilt	/	18900/1880	20M QPSK 1RB@50	0.410	0.226	19.24	20.50	0.548	Battery 1#	/
Second	Left cheek	/	18900/1880	20M QPSK 50%RB@0	0.315	0.163	19.13	20.50	0.432	Battery 1#	/
Second	Left tilt	/	18900/1880	20M QPSK 50%RB@0	0.445	0.225	19.13	20.50	0.610	Battery 1#	/
Second	Right cheek	/	18900/1880	20M QPSK 50%RB@0	0.274	0.153	19.13	20.50	0.376	Battery 1#	/
Second	Right tilt	/	18900/1880	20M QPSK 50%RB@0	0.405	0.225	19.13	20.50	0.555	Battery 1#	/
Second	Left tilt	/	18900/1880	20M QPSK 50%RB@0	**0.513**	0.248	19.13	20.50	**0.703**	Battery 2#	Plot
Second	Left tilt	/	18900/1880	20M QPSK 50%RB@0	0.504	0.254	19.13	20.50	0.691	With SIM2	/
Main	Left cheek	/	18900/1880	20M QPSK 1RB@0	0.086	0.053	22.89	24.80	0.134	Battery 1#	/
Main	Left tilt	/	18900/1880	20M QPSK 1RB@0	0.051	0.030	22.89	24.80	0.079	Battery 1#	/
Main	Right cheek	/	18900/1880	20M QPSK 1RB@0	0.050	0.012	22.89	24.80	0.078	Battery 1#	/
Main	Right tilt	/	18900/1880	20M QPSK 1RB@0	0.053	0.031	22.89	24.80	0.082	Battery 1#	/
Main	Left cheek	/	18900/1880	20M QPSK 50%RB@0	0.069	0.042	21.82	23.80	0.109	Battery 1#	/
Main	Left tilt	/	18900/1880	20M QPSK 50%RB@0	0.043	0.025	21.82	23.80	0.068	Battery 1#	/
Main	Right cheek	/	18900/1880	20M QPSK 50%RB@0	0.051	0.012	21.82	23.80	0.080	Battery 1#	/
Main	Right tilt	/	18900/1880	20M QPSK 50%RB@0	0.055	0.014	21.82	23.80	0.087	Battery 1#	/
Main	Left cheek	/	18900/1880	20M QPSK 1RB@0	**0.092**	0.057	22.89	24.80	0.142	Battery 2#	Plot
Main	Left cheek	/	18900/1880	20M QPSK 1RB@0	0.085	0.053	22.89	24.80	0.132	With SIM2	/

Table 33: Head SAR test results of LTE Band 2

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	19100/1900	20M QPSK 1RB@0	0.086	0.052	19.92	21.00	0.110	Battery 1#	/
Second	Back side	15mm	19100/1900	20M QPSK 1RB@0	0.204	0.116	19.92	21.00	0.262	Battery 1#	/
Second	Front side	15mm	18900/1880	20M QPSK 50%RB@0	0.078	0.047	19.73	21.00	0.104	Battery 1#	/
Second	Back side	15mm	18900/1880	20M QPSK 50%RB@0	0.195	0.111	19.73	21.00	0.261	Battery 1#	/
Second	Back side	15mm	19100/1900	20M QPSK 1RB@0	0.210	0.118	19.92	21.00	0.269	Battery 2#	/
Second	Back side	15mm	19100/1900	20M QPSK 1RB@0	**0.257**	0.147	19.92	21.00	**0.330**	With SIM2	Plot
Main	Front side	15mm	18900/1880	20M QPSK 1RB@0	0.099	0.060	22.89	24.80	0.154	Battery 1#	/
Main	Back side	15mm	18900/1880	20M QPSK 1RB@0	0.150	0.090	22.89	24.80	0.233	Battery 1#	/
Main	Front side	15mm	18900/1880	20M QPSK 50%RB@0	0.081	0.048	21.82	23.80	0.128	Battery 1#	/
Main	Back side	15mm	18900/1880	20M QPSK 50%RB@0	0.120	0.072	21.82	23.80	0.189	Battery 1#	/
Main	Back side	15mm	18900/1880	20M QPSK 1RB@0	**0.177**	0.108	22.89	24.80	**0.275**	Battery 2#	Plot
Main	Back side	15mm	18900/1880	20M QPSK 1RB@0	0.176	0.106	22.89	24.80	0.273	With SIM2	/

Table 34: Body Worn SAR test results of LTE Band 2

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	18900/1880	20M QPSK 1RB@50	0.094	0.053	19.24	20.50	0.126	Battery 1#	/
Second	Back side	10mm	18900/1880	20M QPSK 1RB@50	0.269	0.144	19.24	20.50	0.360	Battery 1#	/
Second	Left side	10mm	18900/1880	20M QPSK 1RB@50	0.073	0.034	19.24	20.50	0.098	Battery 1#	/
Second	Top side	10mm	18900/1880	20M QPSK 1RB@50	0.392	0.195	19.24	20.50	0.524	Battery 1#	/
Second	Front side	10mm	18900/1880	20M QPSK 50%RB@0	0.093	0.052	19.13	20.50	0.127	Battery 1#	/
Second	Back side	10mm	18900/1880	20M QPSK 50%RB@0	0.260	0.139	19.13	20.50	0.356	Battery 1#	/
Second	Left side	10mm	18900/1880	20M QPSK 50%RB@0	0.082	0.044	19.13	20.50	0.112	Battery 1#	/
Second	Top side	10mm	18900/1880	20M QPSK 50%RB@0	0.378	0.186	19.13	20.50	0.518	Battery 1#	/
Second	Top side	10mm	18900/1880	20M QPSK 1RB@50	**0.405**	0.208	19.24	20.50	**0.541**	Battery 2#	Plot
Second	Top side	10mm	18900/1880	20M QPSK 1RB@50	0.399	0.204	19.24	20.50	0.533	With SIM2	/
Main	Front side	10mm	18900/1880	20M QPSK 1RB@0	0.179	0.104	20.40	21.00	0.206	Battery 1#	/
Main	Back side	10mm	18900/1880	20M QPSK 1RB@0	0.283	0.165	20.40	21.00	0.325	Battery 1#	/
Main	Left side	10mm	18900/1880	20M QPSK 1RB@0	0.099	0.056	20.40	21.00	0.114	Battery 1#	/
Main	Bottom side	10mm	18900/1880	20M QPSK 1RB@0	**0.486**	0.267	20.40	21.00	**0.558**	Battery 1#	Plot
Main	Front side	10mm	18900/1880	20M QPSK 50%RB@0	0.145	0.085	20.28	21.00	0.171	Battery 1#	/
Main	Back side	10mm	18900/1880	20M QPSK 50%RB@0	0.227	0.133	20.28	21.00	0.268	Battery 1#	/
Main	Left side	10mm	18900/1880	20M QPSK 50%RB@0	0.080	0.045	20.28	21.00	0.094	Battery 1#	/
Main	Bottom side	10mm	18900/1880	20M QPSK 50%RB@0	0.381	0.204	20.28	21.00	0.450	Battery 1#	/
Main	Bottom side	10mm	18900/1880	20M QPSK 1RB@0	0.466	0.246	20.40	21.00	0.535	Battery 2#	/
Main	Bottom side	10mm	18900/1880	20M QPSK 1RB@0	0.471	0.253	20.40	21.00	0.541	With SIM2	/

Table 35: Hotspot SAR test results of LTE Band 2

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	18900/1880	20M QPSK 1RB@50	0.094	0.053	19.24	22.80	0.213	Yes
Second	Back side	10mm	18900/1880	20M QPSK 1RB@50	0.269	0.144	19.24	22.80	0.611	Yes
Second	Left side	10mm	18900/1880	20M QPSK 1RB@50	0.073	0.034	19.24	22.80	0.166	Yes
Second	Top side	10mm	18900/1880	20M QPSK 1RB@50	0.392	0.195	19.24	22.80	0.890	Yes
Second	Front side	10mm	18900/1880	20M QPSK 50%RB@0	0.093	0.052	19.13	22.80	0.217	Yes
Second	Back side	10mm	18900/1880	20M QPSK 50%RB@0	0.260	0.139	19.13	22.80	0.605	Yes
Second	Left side	10mm	18900/1880	20M QPSK 50%RB@0	0.082	0.044	19.13	22.80	0.191	Yes
Second	Top side	10mm	18900/1880	20M QPSK 50%RB@0	0.378	0.186	19.13	22.80	0.880	Yes
Second	Top side	10mm	18900/1880	20M QPSK 1RB@50	**0.405**	0.208	19.24	22.80	0.919	Yes
Second	Top side	10mm	18900/1880	20M QPSK 1RB@50	0.399	0.204	19.24	22.80	0.906	Yes
Main	Front side	10mm	18900/1880	20M QPSK 1RB@0	0.179	0.104	20.40	24.80	0.493	Yes
Main	Back side	10mm	18900/1880	20M QPSK 1RB@0	0.283	0.165	20.40	24.80	0.779	Yes
Main	Left side	10mm	18900/1880	20M QPSK 1RB@0	0.099	0.056	20.40	24.80	0.273	Yes
Main	Bottom side	10mm	18900/1880	20M QPSK 1RB@0	**0.486**	0.267	20.40	24.80	1.339	No
Main	Front side	10mm	18900/1880	20M QPSK 50%RB@0	0.145	0.085	20.28	24.80	0.411	Yes
Main	Back side	10mm	18900/1880	20M QPSK 50%RB@0	0.227	0.133	20.28	24.80	0.643	Yes
Main	Left side	10mm	18900/1880	20M QPSK 50%RB@0	0.080	0.045	20.28	24.80	0.227	Yes
Main	Bottom side	10mm	18900/1880	20M QPSK 50%RB@0	0.381	0.204	20.28	24.80	1.079	Yes
Main	Bottom side	10mm	18900/1880	20M QPSK 1RB@0	0.466	0.246	20.40	24.80	1.283	No
Main	Bottom side	10mm	18900/1880	20M QPSK 1RB@0	0.471	0.253	20.40	24.80	1.297	No

Table 36: Product Specific 10-g SAR test reduction evaluation of LTE Band 2

Note: According to the table above, Product Specific 10-g SAR test is required for this frequency band.

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 10-g SAR (W/kg)	Accessory Information	Note
Main	Bottom side	0mm	18900/1880	20M QPSK 1RB@0	2.640	1.140	22.89	24.80	1.770	Battery 1#	/
Main	Bottom side	0mm	18900/1880	20M QPSK 50%RB@0	2.240	0.997	21.82	23.80	1.573	Battery 1#	/
Main	Bottom side	0mm	18900/1880	20M QPSK 1RB@0	3.200	**1.370**	22.89	24.80	**2.127**	Battery 2#	Plot
Main	Bottom side	0mm	18700/1860	20M QPSK 1RB@0	2.680	1.040	22.88	24.80	1.618	Battery 1#	/
Main	Bottom side	0mm	19100/1900	20M QPSK 1RB@0	3.080	1.340	22.83	24.80	2.109	Battery 1#	/
Main	Bottom side	0mm	18900/1880	20M QPSK 1RB@0	3.480	1.270	22.89	24.80	1.972	With SIM2	/
Main	Bottom side	0mm	18900/1880	20M QPSK 100%RB@0	2.840	1.150	21.81	23.80	1.818	Battery 2#	/

Table 37: Product Specific 10-g SAR test results of LTE Band 2

7.2.7 SAR measurement Results of LTE Band 4

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	20300/1745	20M QPSK 1RB@50	0.339	0.172	19.41	21.30	0.524	Battery 1#	/
Second	Left tilt	/	20300/1745	20M QPSK 1RB@50	0.478	0.240	19.41	21.30	0.739	Battery 1#	/
Second	Right cheek	/	20300/1745	20M QPSK 1RB@50	0.297	0.164	19.41	21.30	0.459	Battery 1#	/
Second	Right tilt	/	20300/1745	20M QPSK 1RB@50	0.451	0.252	19.41	21.30	0.697	Battery 1#	/
Second	Left cheek	/	20300/1745	20M QPSK 50%RB@25	0.339	0.175	19.45	21.30	0.519	Battery 1#	/
Second	Left tilt	/	20300/1745	20M QPSK 50%RB@25	0.474	0.224	19.45	21.30	0.726	Battery 1#	/
Second	Right cheek	/	20300/1745	20M QPSK 50%RB@25	0.289	0.162	19.45	21.30	0.442	Battery 1#	/
Second	Right tilt	/	20300/1745	20M QPSK 50%RB@25	0.454	0.252	19.45	21.30	0.695	Battery 1#	/
Second	Left tilt	/	20300/1745	20M QPSK 1RB@50	0.530	0.275	19.41	21.30	0.819	Battery 2#	/
Second	Left tilt	/	20050/1720	20M QPSK 1RB@0	0.475	0.242	19.31	21.30	0.751	Battery 2#	/
Second	Left tilt	/	20175/1732.5	20M QPSK 1RB@0	0.514	0.260	19.31	21.30	0.813	Battery 2#	/
Second	Left tilt	/	20300/1745	20M QPSK 1RB@50	**0.601**	0.298	19.41	21.30	**0.929**	With SIM2	Plot
Second	Left tilt	/	20300/1745	20M QPSK 100RB@0	0.538	0.281	19.31	21.30	0.851	Battery 2#	/
Main	Left cheek	/	20300/1745	20M QPSK 1RB@50	0.084	0.053	23.24	24.30	0.107	Battery 1#	/
Main	Left tilt	/	20300/1745	20M QPSK 1RB@50	0.070	0.042	23.24	24.30	0.089	Battery 1#	/
Main	Right cheek	/	20300/1745	20M QPSK 1RB@50	0.083	0.051	23.24	24.30	0.106	Battery 1#	/
Main	Right tilt	/	20300/1745	20M QPSK 1RB@50	0.069	0.042	23.24	24.30	0.088	Battery 1#	/
Main	Left cheek	/	20300/1745	20M QPSK 50%RB@0	0.063	0.040	21.88	23.30	0.087	Battery 1#	/
Main	Left tilt	/	20300/1745	20M QPSK 50%RB@0	0.056	0.034	21.88	23.30	0.078	Battery 1#	/
Main	Right cheek	/	20300/1745	20M QPSK 50%RB@0	0.064	0.039	21.88	23.30	0.089	Battery 1#	/
Main	Right tilt	/	20300/1745	20M QPSK 50%RB@0	0.052	0.031	21.88	23.30	0.072	Battery 1#	/
Main	Left cheek	/	20300/1745	20M QPSK 1RB@50	**0.109**	0.072	23.24	24.30	**0.139**	Battery 2#	Plot
Main	Left cheek	/	20300/1745	20M QPSK 1RB@50	0.099	0.064	23.24	24.30	0.126	With SIM2	/

Table 38: Head SAR test results of LTE Band 4

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	20300/1745	20M QPSK 1RB@50	0.065	0.039	18.88	20.30	0.090	Battery 1#	/
Second	Back side	15mm	20300/1745	20M QPSK 1RB@50	0.159	0.091	18.88	20.30	0.220	Battery 1#	/
Second	Front side	15mm	20300/1745	20M QPSK 50%RB@0	0.070	0.041	18.51	20.30	0.106	Battery 1#	/
Second	Back side	15mm	20300/1745	20M QPSK 50%RB@0	0.172	0.099	18.51	20.30	0.260	Battery 1#	/
Second	Back side	15mm	20300/1745	20M QPSK 50%RB@0	**0.218**	0.127	18.51	20.30	**0.329**	Battery 2#	Plot
Second	Back side	15mm	20300/1745	20M QPSK 50%RB@0	0.189	0.107	18.51	20.30	0.285	With SIM2	/
Main	Front side	15mm	20300/1745	20M QPSK 1RB@50	0.223	0.145	23.24	24.30	0.285	Battery 1#	/
Main	Back side	15mm	20300/1745	20M QPSK 1RB@50	0.242	0.141	23.24	24.30	0.309	Battery 1#	/
Main	Front side	15mm	20300/1745	20M QPSK 50%RB@0	0.174	0.112	21.88	23.30	0.241	Battery 1#	/
Main	Back side	15mm	20300/1745	20M QPSK 50%RB@0	0.221	0.140	21.88	23.30	0.306	Battery 1#	/
Main	Back side	15mm	20300/1745	20M QPSK 1RB@50	**0.290**	0.178	23.24	24.30	**0.370**	Battery 2#	Plot
Main	Back side	15mm	20300/1745	20M QPSK 1RB@50	0.242	0.149	23.24	24.30	0.309	With SIM2	/

Table 39: Body Worn SAR test results of LTE Band 4

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	20300/1745	20M QPSK 1RB@50	0.088	0.049	18.88	20.30	0.122	Battery 1#	/
Second	Back side	10mm	20300/1745	20M QPSK 1RB@50	0.240	0.130	18.88	20.30	0.333	Battery 1#	/
Second	Left side	10mm	20300/1745	20M QPSK 1RB@50	0.012	0.005	18.88	20.30	0.017	Battery 1#	/
Second	Top side	10mm	20300/1745	20M QPSK 1RB@50	0.290	0.144	18.88	20.30	0.402	Battery 1#	/
Second	Front side	10mm	20300/1745	20M QPSK 50%RB@0	0.077	0.043	18.51	20.30	0.116	Battery 1#	/
Second	Back side	10mm	20300/1745	20M QPSK 50%RB@0	0.215	0.117	18.51	20.30	0.325	Battery 1#	/
Second	Left side	10mm	20300/1745	20M QPSK 50%RB@0	0.018	0.091	18.51	20.30	0.027	Battery 1#	/
Second	Top side	10mm	20300/1745	20M QPSK 50%RB@0	0.286	0.142	18.51	20.30	0.432	Battery 1#	/
Second	Top side	10mm	20300/1745	20M QPSK 50%RB@0	0.319	0.169	18.51	20.30	0.482	Battery 2#	/
Second	Top side	10mm	20300/1745	20M QPSK 50%RB@0	**0.327**	0.172	18.51	20.30	**0.494**	With SIM2	Plot
Main	Front side	10mm	20300/1745	20M QPSK 1RB@50	0.185	0.114	19.59	21.30	0.274	Battery 1#	/
Main	Back side	10mm	20300/1745	20M QPSK 1RB@50	0.289	0.172	19.59	21.30	0.428	Battery 1#	/
Main	Left side	10mm	20300/1745	20M QPSK 1RB@50	0.111	0.060	19.59	21.30	0.165	Battery 1#	/
Main	Bottom side	10mm	20300/1745	20M QPSK 1RB@50	**0.480**	0.270	19.59	21.30	**0.712**	Battery 1#	Plot
Main	Front side	10mm	20300/1745	20M QPSK 50%RB@0	0.178	0.114	19.64	21.30	0.261	Battery 1#	/
Main	Back side	10mm	20300/1745	20M QPSK 50%RB@0	0.275	0.164	19.64	21.30	0.403	Battery 1#	/
Main	Left side	10mm	20300/1745	20M QPSK 50%RB@0	0.091	0.049	19.64	21.30	0.133	Battery 1#	/
Main	Bottom side	10mm	20300/1745	20M QPSK 50%RB@0	0.412	0.224	19.64	21.30	0.604	Battery 1#	/
Main	Bottom side	10mm	20300/1745	20M QPSK 1RB@50	0.449	0.242	19.59	21.30	0.666	Battery 2#	/
Main	Bottom side	10mm	20300/1745	20M QPSK 1RB@50	0.450	0.225	19.59	21.30	0.667	With SIM2	/

Table 40: Hotspot SAR test results of LTE Band 4

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	20300/1745	20M QPSK 1RB@50	0.088	0.049	18.88	21.8	0.172	Yes
Second	Back side	10mm	20300/1745	20M QPSK 1RB@50	0.240	0.130	18.88	21.8	0.470	Yes
Second	Left side	10mm	20300/1745	20M QPSK 1RB@50	0.012	0.005	18.88	21.8	0.024	Yes
Second	Top side	10mm	20300/1745	20M QPSK 1RB@50	0.290	0.144	18.88	21.8	0.568	Yes
Second	Front side	10mm	20300/1745	20M QPSK 50%RB@0	0.077	0.043	18.51	21.8	0.164	Yes
Second	Back side	10mm	20300/1745	20M QPSK 50%RB@0	0.215	0.117	18.51	21.8	0.459	Yes
Second	Left side	10mm	20300/1745	20M QPSK 50%RB@0	0.018	0.091	18.51	21.8	0.038	Yes
Second	Top side	10mm	20300/1745	20M QPSK 50%RB@0	0.286	0.142	18.51	21.8	0.610	Yes
Second	Top side	10mm	20300/1745	20M QPSK 50%RB@0	0.319	0.169	18.51	21.8	0.680	Yes
Second	Top side	10mm	20300/1745	20M QPSK 50%RB@0	**0.327**	0.172	18.51	21.8	0.698	Yes
Main	Front side	10mm	20300/1745	20M QPSK 1RB@50	0.185	0.114	19.59	24.80	0.614	Yes
Main	Back side	10mm	20300/1745	20M QPSK 1RB@50	0.289	0.172	19.59	24.80	0.959	Yes
Main	Left side	10mm	20300/1745	20M QPSK 1RB@50	0.111	0.060	19.59	24.80	0.368	Yes
Main	Bottom side	10mm	20300/1745	20M QPSK 1RB@50	**0.480**	0.270	19.59	24.80	1.593	No
Main	Front side	10mm	20300/1745	20M QPSK 50%RB@0	0.178	0.114	19.64	24.80	0.584	Yes
Main	Back side	10mm	20300/1745	20M QPSK 50%RB@0	0.275	0.164	19.64	24.80	0.902	Yes
Main	Left side	10mm	20300/1745	20M QPSK 50%RB@0	0.091	0.049	19.64	24.80	0.299	Yes
Main	Bottom side	10mm	20300/1745	20M QPSK 50%RB@0	0.412	0.224	19.64	24.80	1.352	No
Main	Bottom side	10mm	20300/1745	20M QPSK 1RB@50	0.449	0.242	19.59	24.80	1.490	No
Main	Bottom side	10mm	20300/1745	20M QPSK 1RB@50	0.450	0.225	19.59	24.80	1.494	No

Table 41: Product Specific 10-g SAR test reduction evaluation of LTE Band 4

Note: According to the table above, Product Specific 10-g SAR test is required for this frequency band.

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 10-g SAR (W/kg)	Accessory Information	Note
Main	Bottom side	0mm	20300/1745	20M QPSK 1RB@50	3.810	**1.660**	23.24	24.30	2.119	Battery 1#	Plot
Main	Bottom side	0mm	20050/1720	20M QPSK 1RB@0	3.350	1.560	22.31	24.30	2.467	Battery 1#	/
Main	Bottom side	0mm	20175/1732.5	20M QPSK 1RB@0	3.420	1.630	22.71	24.30	2.351	Battery 1#	/
Main	Bottom side	0mm	20300/1745	20M QPSK 50%RB@0	2.990	1.400	21.88	23.30	1.941	Battery 1#	/
Main	Bottom side	0mm	20050/1720	20M QPSK 1RB@0	3.570	1.590	22.31	24.30	**2.514**	Battery 2#	/
Main	Bottom side	0mm	20050/1720	20M QPSK 1RB@0	3.650	1.560	22.31	24.30	2.467	With SIM2	/
Main	Bottom side	0mm	20300/1745	20M QPSK 100RB@0	3.452	1.450	22.31	23.30	1.821	Battery 2#	/

Table 42: Product Specific 10-g SAR test results of LTE Band 4

7.2.8 SAR measurement Results of LTE Band 5

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	20450/829	10M QPSK 1RB@49	0.001	0.001	24.27	25.00	0.001	Battery 1#	/
Second	Left tilt	/	20450/829	10M QPSK 1RB@49	0.049	0.029	24.27	25.00	0.058	Battery 1#	/
Second	Right cheek	/	20450/829	10M QPSK 1RB@49	**0.144**	0.075	24.27	25.00	**0.170**	Battery 1#	Plot
Second	Right tilt	/	20450/829	10M QPSK 1RB@49	0.122	0.068	24.27	25.00	0.144	Battery 1#	/
Second	Left cheek	/	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	24.00	0.001	Battery 1#	/
Second	Left tilt	/	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	24.00	0.001	Battery 1#	/
Second	Right cheek	/	20450/829	10M QPSK 50%RB@25	0.098	0.056	22.92	24.00	0.126	Battery 1#	/
Second	Right tilt	/	20450/829	10M QPSK 50%RB@25	0.086	0.049	22.92	24.00	0.110	Battery 1#	/
Second	Right cheek	/	20450/829	10M QPSK 1RB@49	0.119	0.072	24.27	25.00	0.141	Battery 2#	/
Second	Right cheek	/	20450/829	10M QPSK 1RB@49	0.112	0.068	24.27	25.00	0.133	With SIM2	/
Main	Left cheek	/	20450/829	10M QPSK 1RB@49	**0.125**	0.094	24.15	25.00	**0.152**	Battery 1#	Plot
Main	Left tilt	/	20450/829	10M QPSK 1RB@49	0.069	0.050	24.15	25.00	0.084	Battery 1#	/
Main	Right cheek	/	20450/829	10M QPSK 1RB@49	0.114	0.085	24.15	25.00	0.139	Battery 1#	/
Main	Right tilt	/	20450/829	10M QPSK 1RB@49	0.084	0.062	24.15	25.00	0.102	Battery 1#	/
Main	Left cheek	/	20450/829	10M QPSK 50%RB@25	0.094	0.065	22.77	24.00	0.125	Battery 1#	/
Main	Left tilt	/	20450/829	10M QPSK 50%RB@25	0.048	0.035	22.77	24.00	0.064	Battery 1#	/
Main	Right cheek	/	20450/829	10M QPSK 50%RB@25	0.081	0.060	22.77	24.00	0.108	Battery 1#	/
Main	Right tilt	/	20450/829	10M QPSK 50%RB@25	0.059	0.044	22.77	24.00	0.078	Battery 1#	/
Main	Left cheek	/	20450/829	10M QPSK 1RB@49	0.124	0.086	24.15	25.00	0.151	Battery 2#	/
Main	Left cheek	/	20450/829	10M QPSK 1RB@49	0.122	0.085	24.15	25.00	0.148	With SIM2	/

Table 43: Head SAR test results of LTE Band 5

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	20450/829	10M QPSK 1RB@49	0.001	0.001	24.27	25.00	0.001	Battery 1#	/
Second	Back side	15mm	20450/829	10M QPSK 1RB@49	**0.044**	0.025	24.27	25.00	**0.051**	Battery 1#	Plot
Second	Front side	15mm	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	24.00	0.001	Battery 1#	/
Second	Back side	15mm	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	24.00	0.001	Battery 1#	/
Second	Back side	15mm	20450/829	10M QPSK 1RB@49	0.001	0.001	24.27	25.00	0.001	Battery 2#	/
Second	Back side	15mm	20450/829	10M QPSK 1RB@49	0.001	0.001	24.27	25.00	0.001	With SIM2	/
Main	Front side	15mm	20450/829	10M QPSK 1RB@49	0.153	0.101	24.15	25.00	0.186	Battery 1#	/
Main	Back side	15mm	20450/829	10M QPSK 1RB@49	0.191	0.128	24.15	25.00	0.232	Battery 1#	/
Main	Front side	15mm	20450/829	10M QPSK 50%RB@25	0.143	0.096	22.77	24.00	0.190	Battery 1#	/
Main	Back side	15mm	20450/829	10M QPSK 50%RB@25	**0.223**	0.152	22.77	24.00	**0.296**	Battery 1#	Plot
Main	Back side	15mm	20450/829	10M QPSK 50%RB@25	0.183	0.122	22.77	24.00	0.243	Battery 2#	/
Main	Back side	15mm	20450/829	10M QPSK 50%RB@25	0.182	0.098	22.77	24.00	0.242	With SIM2	/

Table 44: Body Worn SAR test results of LTE Band 5

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	20450/829	10M QPSK 1RB@49	0.043	0.026	24.27	25.00	0.051	Battery 1#	/
Second	Back side	10mm	20450/829	10M QPSK 1RB@49	**0.105**	0.055	24.27	25.00	**0.124**	Battery 1#	Plot
Second	Left side	10mm	20450/829	10M QPSK 1RB@49	0.056	0.027	24.27	25.00	0.066	Battery 1#	/
Second	Top side	10mm	20450/829	10M QPSK 1RB@49	0.049	0.024	24.27	25.00	0.058	Battery 1#	/
Second	Front side	10mm	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	24.00	0.001	Battery 1#	/
Second	Back side	10mm	20450/829	10M QPSK 50%RB@25	0.055	0.031	22.92	24.00	0.071	Battery 1#	/
Second	Left side	10mm	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	24.00	0.001	Battery 1#	/
Second	Top side	10mm	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	24.00	0.001	Battery 1#	/
Second	Back side	10mm	20450/829	10M QPSK 1RB@49	0.078	0.042	24.27	25.00	0.092	Battery 2#	/
Second	Back side	10mm	20450/829	10M QPSK 1RB@49	0.085	0.046	24.27	25.00	0.101	With SIM2	/
Main	Front side	10mm	20450/829	10M QPSK 1RB@49	0.236	0.143	23.27	24.00	0.279	Battery 1#	/
Main	Back side	10mm	20450/829	10M QPSK 1RB@49	**0.300**	0.190	23.27	24.00	**0.355**	Battery 1#	Plot
Main	Right side	10mm	20450/829	10M QPSK 1RB@49	0.080	0.052	23.27	24.00	0.095	Battery 1#	/
Main	Bottom side	10mm	20450/829	10M QPSK 1RB@49	0.189	0.106	23.27	24.00	0.224	Battery 1#	/
Main	Front side	10mm	20450/829	10M QPSK 50%RB@25	0.191	0.120	22.96	24.00	0.243	Battery 1#	/
Main	Back side	10mm	20450/829	10M QPSK 50%RB@25	0.230	0.149	22.96	24.00	0.292	Battery 1#	/
Main	Right side	10mm	20450/829	10M QPSK 50%RB@25	0.070	0.046	22.96	24.00	0.089	Battery 1#	/
Main	Bottom side	10mm	20450/829	10M QPSK 50%RB@25	0.120	0.072	22.96	24.00	0.152	Battery 1#	/
Main	Back side	10mm	20450/829	10M QPSK 1RB@49	0.280	0.178	23.27	24.00	0.331	Battery 2#	/
Main	Back side	10mm	20450/829	10M QPSK 1RB@49	0.282	0.184	23.27	24.00	0.334	With SIM2	/

Table 45: Hotspot SAR test results of LTE Band 5

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	20450/829	10M QPSK 1RB@49	0.043	0.026	24.27	25.00	0.051	Yes
Second	Back side	10mm	20450/829	10M QPSK 1RB@49	**0.105**	0.055	24.27	25.00	0.124	Yes
Second	Left side	10mm	20450/829	10M QPSK 1RB@49	0.056	0.027	24.27	25.00	0.066	Yes
Second	Top side	10mm	20450/829	10M QPSK 1RB@49	0.049	0.024	24.27	25.00	0.058	Yes
Second	Front side	10mm	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	25.00	0.002	Yes
Second	Back side	10mm	20450/829	10M QPSK 50%RB@25	0.055	0.031	22.92	25.00	0.089	Yes
Second	Left side	10mm	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	25.00	0.002	Yes
Second	Top side	10mm	20450/829	10M QPSK 50%RB@25	0.001	0.001	22.92	25.00	0.002	Yes
Second	Back side	10mm	20450/829	10M QPSK 1RB@49	0.078	0.042	24.27	25.00	0.092	Yes
Second	Back side	10mm	20450/829	10M QPSK 1RB@49	0.085	0.046	24.27	25.00	0.101	Yes
Main	Front side	10mm	20450/829	10M QPSK 1RB@49	0.236	0.143	23.27	25.00	0.351	Yes
Main	Back side	10mm	20450/829	10M QPSK 1RB@49	**0.300**	0.190	23.27	25.00	0.447	Yes
Main	Right side	10mm	20450/829	10M QPSK 1RB@49	0.080	0.052	23.27	25.00	0.119	Yes
Main	Bottom side	10mm	20450/829	10M QPSK 1RB@49	0.189	0.106	23.27	25.00	0.281	Yes
Main	Front side	10mm	20450/829	10M QPSK 50%RB@25	0.191	0.120	22.96	25.00	0.306	Yes
Main	Back side	10mm	20450/829	10M QPSK 50%RB@25	0.230	0.149	22.96	25.00	0.368	Yes
Main	Right side	10mm	20450/829	10M QPSK 50%RB@25	0.070	0.046	22.96	25.00	0.112	Yes
Main	Bottom side	10mm	20450/829	10M QPSK 50%RB@25	0.120	0.072	22.96	25.00	0.192	Yes
Main	Back side	10mm	20450/829	10M QPSK 1RB@49	0.280	0.178	23.27	25.00	0.417	Yes
Main	Back side	10mm	20450/829	10M QPSK 1RB@49	0.282	0.184	23.27	25.00	0.420	Yes

Table 46: Product Specific 10-g SAR test reduction evaluation of LTE Band 5

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.9 SAR measurement Results of LTE Band 7

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Main	Left cheek	/	21350/2560	20M QPSK 1RB@99	**0.225**	0.124	22.80	24.00	**0.297**	Battery 1#	Plot
Main	Left tilt	/	21350/2560	20M QPSK 1RB@99	0.092	0.044	22.80	24.00	0.121	Battery 1#	/
Main	Right cheek	/	21350/2560	20M QPSK 1RB@99	0.079	0.041	22.80	24.00	0.104	Battery 1#	/
Main	Right tilt	/	21350/2560	20M QPSK 1RB@99	0.147	0.075	22.80	24.00	0.194	Battery 1#	/
Main	Left cheek	/	21350/2560	20M QPSK 50%RB@50	0.108	0.061	22.70	23.00	0.116	Battery 1#	/
Main	Left tilt	/	21350/2560	20M QPSK 50%RB@50	0.065	0.033	22.70	23.00	0.070	Battery 1#	/
Main	Right cheek	/	21350/2560	20M QPSK 50%RB@50	0.159	0.085	22.70	23.00	0.170	Battery 1#	/
Main	Right tilt	/	21350/2560	20M QPSK 50%RB@50	0.060	0.029	22.70	23.00	0.064	Battery 1#	/
Main	Left cheek	/	21350/2560	20M QPSK 1RB@99	0.195	0.104	22.80	24.00	0.257	Battery 2#	/
Main	Left cheek	/	21350/2560	20M QPSK 1RB@99	0.210	0.113	22.80	24.00	0.277	With SIM2	/
Third	Left cheek	/	21100/2535	20M QPSK 1RB@50	0.191	0.101	20.52	21.00	0.213	Battery 1#	/
Third	Left tilt	/	21100/2535	20M QPSK 1RB@50	0.094	0.048	20.52	21.00	0.105	Battery 1#	/
Third	Right cheek	/	21100/2535	20M QPSK 1RB@50	0.520	0.247	20.52	21.00	0.581	Battery 1#	/
Third	Right tilt	/	21100/2535	20M QPSK 1RB@50	0.190	0.098	20.52	21.00	0.212	Battery 1#	/
Third	Left cheek	/	21100/2535	20M QPSK 50%RB@50	0.203	0.109	20.30	21.00	0.239	Battery 1#	/
Third	Left tilt	/	21100/2535	20M QPSK 50%RB@50	0.100	0.050	20.30	21.00	0.117	Battery 1#	/
Third	Right cheek	/	21100/2535	20M QPSK 50%RB@50	**0.676**	0.318	20.30	21.00	**0.794**	Battery 1#	Plot
Third	Right tilt	/	21100/2535	20M QPSK 50%RB@50	0.193	0.100	20.30	21.00	0.227	Battery 1#	/
Third	Right cheek	/	21100/2535	20M QPSK 50%RB@50	0.511	0.243	20.30	21.00	0.600	Battery 2#	/
Third	Right cheek	/	21100/2535	20M QPSK 50%RB@50	0.534	0.256	20.30	21.00	0.627	With SIM2	/

Table 47: Head SAR test results of LTE Band 7

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Main	Front side	15mm	21350/2560	20M QPSK 1RB@99	0.285	0.155	22.80	24.00	0.376	Battery 1#	/
Main	Back side	15mm	21350/2560	20M QPSK 1RB@99	**0.314**	0.173	22.80	24.00	**0.414**	Battery 1#	Plot
Main	Front side	15mm	21350/2560	20M QPSK 50%RB@50	0.205	0.112	22.70	23.00	0.220	Battery 1#	/
Main	Back side	15mm	21350/2560	20M QPSK 50%RB@50	0.227	0.121	22.70	23.00	0.243	Battery 1#	/
Main	Back side	15mm	21350/2560	20M QPSK 1RB@99	0.314	0.166	22.80	24.00	0.414	Battery 2#	/
Main	Back side	15mm	21350/2560	20M QPSK 1RB@99	0.312	0.165	22.80	24.00	0.411	With SIM2	/
Third	Front side	15mm	21350/2560	20M QPSK 1RB@99	0.169	0.090	21.51	22.50	0.212	Battery 1#	/
Third	Back side	15mm	21350/2560	20M QPSK 1RB@99	0.280	0.147	21.51	22.50	0.352	Battery 1#	/
Third	Front side	15mm	21350/2560	20M QPSK 50%RB@50	0.201	0.107	21.77	22.50	0.238	Battery 1#	/
Third	Back side	15mm	21350/2560	20M QPSK 50%RB@50	0.265	0.140	21.77	22.50	0.314	Battery 1#	/
Third	Back side	15mm	21350/2560	20M QPSK 1RB@99	**0.363**	0.189	21.51	22.50	**0.456**	Battery 2#	Plot
Third	Back side	15mm	21350/2560	20M QPSK 1RB@99	0.313	0.162	21.51	22.50	0.393	With SIM2	/

Table 48: Body Worn SAR test results of LTE Band 7

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Main	Front side	10mm	21350/2560	20M QPSK 1RB@99	0.456	0.248	22.80	24.00	0.601	Battery 1#	/
Main	Back side	10mm	21350/2560	20M QPSK 1RB@99	0.559	0.283	22.80	24.00	0.737	Battery 1#	/
Main	Left side	10mm	21350/2560	20M QPSK 1RB@99	0.269	0.142	22.80	24.00	0.355	Battery 1#	/
Main	Right side	10mm	21350/2560	20M QPSK 1RB@99	0.132	0.070	22.80	24.00	0.174	Battery 1#	/
Main	Bottom side	10mm	21350/2560	20M QPSK 1RB@99	0.800	0.393	22.80	24.00	1.055	Battery 1#	/
Main	Bottom side	10mm	20850/2510	20M QPSK 1RB@0	0.624	0.309	22.69	24.00	0.844	Battery 1#	/
Main	Bottom side	10mm	21100/2535	20M QPSK 1RB@50	0.778	0.380	22.75	24.00	1.037	Battery 1#	/
Main	Front side	10mm	21350/2560	20M QPSK 50%RB@50	0.359	0.192	22.70	23.00	0.385	Battery 1#	/
Main	Back side	10mm	21350/2560	20M QPSK 50%RB@50	0.409	0.211	22.70	23.00	0.438	Battery 1#	/
Main	Left side	10mm	21350/2560	20M QPSK 50%RB@50	0.203	0.106	22.70	23.00	0.218	Battery 1#	/
Main	Right side	10mm	21350/2560	20M QPSK 50%RB@50	0.090	0.050	22.70	23.00	0.096	Battery 1#	/
Main	Bottom side	10mm	21350/2560	20M QPSK 50%RB@50	0.674	0.330	22.70	23.00	0.722	Battery 1#	/
Main	Bottom side	10mm	21350/2560	20M QPSK 1RB@99	**0.827**	0.417	22.80	24.00	**1.090**	Battery 2#	Plot
Main	Bottom side	10mm	21350/2560	20M QPSK 1RB@99	0.805	0.392	22.80	24.00	1.061	With SIM2	/
Main	Bottom side	10mm	21350/2560	20M QPSK 100RB@0	0.694	0.338	22.66	23.00	0.751	Battery 2#	/
Main	Bottom side-repeated	10mm	21350/2560	20M QPSK 1RB@99	0.823	0.401	22.80	24.00	1.085	Battery 2#	/
Third	Front side	10mm	21100/2535	20M QPSK 1RB@99	0.148	0.077	20.08	20.50	0.163	Battery 1#	/
Third	Back side	10mm	21100/2535	20M QPSK 1RB@99	0.346	0.160	20.08	20.50	0.381	Battery 1#	/
Third	Left side	10mm	21100/2535	20M QPSK 1RB@99	0.360	0.172	20.08	20.50	0.397	Battery 1#	/
Third	Top side	10mm	21100/2535	20M QPSK 1RB@99	0.042	0.023	20.08	20.50	0.046	Battery 1#	/
Third	Front side	10mm	20850/2510	20M QPSK 50%RB@50	0.141	0.073	19.78	20.50	0.166	Battery 1#	/
Third	Back side	10mm	20850/2510	20M QPSK 50%RB@50	0.273	0.127	19.78	20.50	0.322	Battery 1#	/
Third	Left side	10mm	20850/2510	20M QPSK 50%RB@50	0.290	0.134	19.78	20.50	0.342	Battery 1#	/
Third	Top side	10mm	20850/2510	20M QPSK 50%RB@50	0.001	0.001	19.78	20.50	0.001	Battery 1#	/
Third	Left side	10mm	21100/2535	20M QPSK 1RB@99	**0.440**	0.188	20.08	20.50	**0.485**	Battery 2#	Plot
Third	Left side	10mm	21100/2535	20M QPSK 1RB@99	0.399	0.182	20.08	20.50	0.440	With SIM2	/

Table 49: Hotspot SAR test results of LTE Band 7

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Main	Front side	10mm	21350/2560	20M QPSK 1RB@99	0.456	0.248	22.80	24.00	0.601	Yes
Main	Back side	10mm	21350/2560	20M QPSK 1RB@99	0.559	0.283	22.80	24.00	0.737	Yes
Main	Left side	10mm	21350/2560	20M QPSK 1RB@99	0.269	0.142	22.80	24.00	0.355	Yes
Main	Right side	10mm	21350/2560	20M QPSK 1RB@99	0.132	0.070	22.80	24.00	0.174	Yes
Main	Bottom side	10mm	21350/2560	20M QPSK 1RB@99	0.800	0.393	22.80	24.00	1.055	Yes
Main	Bottom side	10mm	20850/2510	20M QPSK 1RB@0	0.624	0.309	22.69	24.00	0.844	Yes
Main	Bottom side	10mm	21100/2535	20M QPSK 1RB@50	0.778	0.380	22.75	24.00	1.037	Yes
Main	Front side	10mm	21350/2560	20M QPSK 50%RB@50	0.359	0.192	22.70	24.00	0.484	Yes
Main	Back side	10mm	21350/2560	20M QPSK 50%RB@50	0.409	0.211	22.70	24.00	0.552	Yes
Main	Left side	10mm	21350/2560	20M QPSK 50%RB@50	0.203	0.106	22.70	24.00	0.274	Yes
Main	Right side	10mm	21350/2560	20M QPSK 50%RB@50	0.090	0.050	22.70	24.00	0.121	Yes
Main	Bottom side	10mm	21350/2560	20M QPSK 50%RB@50	0.674	0.330	22.70	24.00	0.909	Yes
Main	Bottom side	10mm	21350/2560	20M QPSK 1RB@99	**0.827**	0.417	22.80	24.00	1.090	Yes
Main	Bottom side	10mm	21350/2560	20M QPSK 1RB@99	0.805	0.392	22.80	24.00	1.061	Yes
Main	Bottom side	10mm	21350/2560	20M QPSK 100RB@0	0.694	0.338	22.66	24.00	0.945	Yes
Main	Bottom side -repeated	10mm	21350/2560	20M QPSK 1RB@99	0.823	0.401	22.80	24.00	1.085	Yes
Third	Front side	10mm	21100/2535	20M QPSK 1RB@99	0.148	0.077	20.08	22.50	0.258	Yes
Third	Back side	10mm	21100/2535	20M QPSK 1RB@99	0.346	0.160	20.08	22.50	0.604	Yes
Third	Left side	10mm	21100/2535	20M QPSK 1RB@99	0.360	0.172	20.08	22.50	0.628	Yes
Third	Top side	10mm	21100/2535	20M QPSK 1RB@99	0.042	0.023	20.08	22.50	0.073	Yes
Third	Front side	10mm	20850/2510	20M QPSK 50%RB@50	0.141	0.073	19.78	22.50	0.264	Yes
Third	Back side	10mm	20850/2510	20M QPSK 50%RB@50	0.273	0.127	19.78	22.50	0.511	Yes
Third	Left side	10mm	20850/2510	20M QPSK 50%RB@50	0.290	0.134	19.78	22.50	0.542	Yes
Third	Top side	10mm	20850/2510	20M QPSK 50%RB@50	0.001	0.001	19.78	22.50	0.002	Yes
Third	Left side	10mm	21100/2535	20M QPSK 1RB@99	**0.440**	0.188	20.08	22.50	0.768	Yes
Third	Left side	10mm	21100/2535	20M QPSK 1RB@99	0.399	0.182	20.08	22.50	0.697	Yes

Table 50: Product Specific 10-g SAR test reduction evaluation of LTE Band 7

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.10 SAR measurement Results of LTE Band 12

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	23130/711	10M QPSK 1RB@0	0.001	0.001	24.24	25.00	0.001	Battery 1#	/
Second	Left tilt	/	23130/711	10M QPSK 1RB@0	0.001	0.001	24.24	25.00	0.001	Battery 1#	/
Second	Right cheek	/	23130/711	10M QPSK 1RB@0	**0.078**	0.041	24.24	25.00	0.092	Battery 1#	Plot
Second	Right tilt	/	23130/711	10M QPSK 1RB@0	0.077	0.044	24.24	25.00	0.092	Battery 1#	/
Second	Left cheek	/	23130/711	10M QPSK 50%RB@13	0.001	0.001	22.94	24.00	0.001	Battery 1#	/
Second	Left tilt	/	23130/711	10M QPSK 50%RB@13	0.001	0.001	22.94	24.00	0.001	Battery 1#	/
Second	Right cheek	/	23130/711	10M QPSK 50%RB@13	0.075	0.040	22.94	24.00	**0.096**	Battery 1#	/
Second	Right tilt	/	23130/711	10M QPSK 50%RB@13	0.068	0.038	22.94	24.00	0.087	Battery 1#	/
Second	Right cheek	/	23130/711	10M QPSK 50%RB@13	0.066	0.039	22.94	24.00	0.084	Battery 2#	/
Second	Right cheek	/	23130/711	10M QPSK 50%RB@13	0.073	0.043	22.94	24.00	0.093	With SIM2	/
Main	Left cheek	/	23095/707.5	10M QPSK 1RB@0	**0.074**	0.056	24.01	25.00	**0.092**	Battery 1#	Plot
Main	Left tilt	/	23095/707.5	10M QPSK 1RB@0	0.001	0.001	24.01	25.00	0.001	Battery 1#	/
Main	Right cheek	/	23095/707.5	10M QPSK 1RB@0	0.050	0.038	24.01	25.00	0.063	Battery 1#	/
Main	Right tilt	/	23095/707.5	10M QPSK 1RB@0	0.001	0.001	24.01	25.00	0.001	Battery 1#	/
Main	Left cheek	/	23095/707.5	10M QPSK 25RB@13	0.053	0.037	22.81	24.00	0.070	Battery 1#	/
Main	Left tilt	/	23095/707.5	10M QPSK 25RB@13	0.001	0.001	22.81	24.00	0.001	Battery 1#	/
Main	Right cheek	/	23095/707.5	10M QPSK 25RB@13	0.001	0.001	22.81	24.00	0.001	Battery 1#	/
Main	Right tilt	/	23095/707.5	10M QPSK 25RB@13	0.001	0.001	22.81	24.00	0.001	Battery 1#	/
Main	Left cheek	/	23095/707.5	10M QPSK 1RB@0	0.064	0.045	24.01	25.00	0.080	Battery 2#	/
Main	Left cheek	/	23095/707.5	10M QPSK 1RB@0	0.063	0.045	24.01	25.00	0.079	With SIM2	/

Table 51: Head SAR test results of LTE Band 12

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	23130/711	10M QPSK 1RB@0	0.001	0.001	24.24	25.00	0.001	Battery 1#	/
Second	Back side	15mm	23130/711	10M QPSK 1RB@0	**0.029**	0.018	24.24	25.00	**0.035**	Battery 1#	Plot
Second	Front side	15mm	23130/711	10M QPSK 50%RB@13	0.001	0.001	22.94	24.00	0.001	Battery 1#	/
Second	Back side	15mm	23130/711	10M QPSK 50%RB@13	0.001	0.001	22.94	24.00	0.001	Battery 1#	/
Second	Back side	15mm	23130/711	10M QPSK 1RB@0	0.001	0.001	24.24	25.00	0.001	Battery 2#	/
Second	Back side	15mm	23130/711	10M QPSK 1RB@0	0.001	0.001	24.24	25.00	0.001	With SIM2	/
Main	Front side	15mm	23095/707.5	10M QPSK 1RB@0	0.144	0.098	24.01	25.00	0.181	Battery 1#	/
Main	Back side	15mm	23095/707.5	10M QPSK 1RB@0	**0.209**	0.143	24.01	25.00	**0.263**	Battery 1#	Plot
Main	Front side	15mm	23095/707.5	10M QPSK 50%RB@13	0.117	0.080	22.81	24.00	0.154	Battery 1#	/
Main	Back side	15mm	23095/707.5	10M QPSK 50%RB@13	0.158	0.108	22.81	24.00	0.208	Battery 1#	/
Main	Back side	15mm	23095/707.5	10M QPSK 1RB@0	0.201	0.135	24.01	25.00	0.252	Battery 2#	/
Main	Back side	15mm	23095/707.5	10M QPSK 1RB@0	0.193	0.133	24.01	25.00	0.242	With SIM2	/

Table 52: Body Worn SAR test results of LTE Band 12

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	23130/711	10M QPSK 1RB@0	0.001	0.001	24.24	25.00	0.001	Battery 1#	/
Second	Back side	10mm	23130/711	10M QPSK 1RB@0	**0.063**	0.034	24.24	25.00	**0.075**	Battery 1#	Plot
Second	Left side	10mm	23130/711	10M QPSK 1RB@0	0.062	0.037	24.24	25.00	0.074	Battery 1#	/
Second	Top side	10mm	23130/711	10M QPSK 1RB@0	0.001	0.001	24.24	25.00	0.001	Battery 1#	/
Second	Front side	10mm	23130/711	10M QPSK 50%RB@13	0.001	0.001	22.94	24.00	0.001	Battery 1#	/
Second	Back side	10mm	23130/711	10M QPSK 50%RB@13	0.052	0.028	22.94	24.00	0.066	Battery 1#	/
Second	Left side	10mm	23130/711	10M QPSK 50%RB@13	0.050	0.029	22.94	24.00	0.064	Battery 1#	/
Second	Top side	10mm	23130/711	10M QPSK 50%RB@13	0.032	0.008	22.94	24.00	0.041	Battery 1#	/
Second	Back side	10mm	23130/711	10M QPSK 1RB@0	0.058	0.032	24.24	25.00	0.069	Battery 2#	/
Second	Back side	10mm	23130/711	10M QPSK 1RB@0	0.062	0.034	24.24	25.00	0.074	With SIM2	/
Main	Front side	10mm	23095/707.5	10M QPSK 1RB@0	0.218	0.139	24.01	25.00	0.274	Battery 1#	/
Main	Back side	10mm	23095/707.5	10M QPSK 1RB@0	**0.301**	0.191	24.01	25.00	**0.378**	Battery 1#	Plot
Main	Right side	10mm	23095/707.5	10M QPSK 1RB@0	0.114	0.077	24.01	25.00	0.143	Battery 1#	/
Main	Bottom side	10mm	23095/707.5	10M QPSK 1RB@0	0.125	0.064	24.01	25.00	0.157	Battery 1#	/
Main	Front side	10mm	23095/707.5	10M QPSK 50%RB@13	0.177	0.113	22.81	24.00	0.233	Battery 1#	/
Main	Back side	10mm	23095/707.5	10M QPSK 50%RB@13	0.233	0.154	22.81	24.00	0.306	Battery 1#	/
Main	Right side	10mm	23095/707.5	10M QPSK 50%RB@13	0.093	0.061	22.81	24.00	0.122	Battery 1#	/
Main	Bottom side	10mm	23095/707.5	10M QPSK 50%RB@13	0.101	0.052	22.81	24.00	0.133	Battery 1#	/
Main	Back side	10mm	23095/707.5	10M QPSK 1RB@0	0.286	0.186	24.01	25.00	0.359	Battery 2#	/
Main	Back side	10mm	23095/707.5	10M QPSK 1RB@0	0.285	0.189	24.01	25.00	0.358	With SIM2	/

Table 53: Hotspot SAR test results of LTE Band 12

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	23130/711	10M QPSK 1RB@0	0.001	0.001	24.24	25.00	0.001	Yes
Second	Back side	10mm	23130/711	10M QPSK 1RB@0	**0.063**	0.034	24.24	25.00	0.075	Yes
Second	Left side	10mm	23130/711	10M QPSK 1RB@0	0.062	0.037	24.24	25.00	0.074	Yes
Second	Top side	10mm	23130/711	10M QPSK 1RB@0	0.001	0.001	24.24	25.00	0.001	Yes
Second	Front side	10mm	23130/711	10M QPSK 50%RB@13	0.001	0.001	22.94	25.00	0.002	Yes
Second	Back side	10mm	23130/711	10M QPSK 50%RB@13	0.052	0.028	22.94	25.00	0.084	Yes
Second	Left side	10mm	23130/711	10M QPSK 50%RB@13	0.050	0.029	22.94	25.00	0.080	Yes
Second	Top side	10mm	23130/711	10M QPSK 50%RB@13	0.032	0.008	22.94	25.00	0.051	Yes
Second	Back side	10mm	23130/711	10M QPSK 1RB@0	0.058	0.032	24.24	25.00	0.069	Yes
Second	Back side	10mm	23130/711	10M QPSK 1RB@0	0.062	0.034	24.24	25.00	0.074	Yes
Main	Front side	10mm	23095/707.5	10M QPSK 1RB@0	0.218	0.139	24.01	25.00	0.274	Yes
Main	Back side	10mm	23095/707.5	10M QPSK 1RB@0	**0.301**	0.191	24.01	25.00	0.378	Yes
Main	Right side	10mm	23095/707.5	10M QPSK 1RB@0	0.114	0.077	24.01	25.00	0.143	Yes
Main	Bottom side	10mm	23095/707.5	10M QPSK 1RB@0	0.125	0.064	24.01	25.00	0.157	Yes
Main	Front side	10mm	23095/707.5	10M QPSK 50%RB@13	0.177	0.113	22.81	25.00	0.293	Yes
Main	Back side	10mm	23095/707.5	10M QPSK 50%RB@13	0.233	0.154	22.81	25.00	0.386	Yes
Main	Right side	10mm	23095/707.5	10M QPSK 50%RB@13	0.093	0.061	22.81	25.00	0.154	Yes
Main	Bottom side	10mm	23095/707.5	10M QPSK 50%RB@13	0.101	0.052	22.81	25.00	0.167	Yes
Main	Back side	10mm	23095/707.5	10M QPSK 1RB@0	0.286	0.186	24.01	25.00	0.359	Yes
Main	Back side	10mm	23095/707.5	10M QPSK 1RB@0	0.285	0.189	24.01	25.00	0.358	Yes

Table 54: Product Specific 10-g SAR test reduction evaluation of LTE Band 12

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.11 SAR measurement Results of LTE Band 26

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Battery 1#	/
Second	Left tilt	/	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Battery 1#	/
Second	Right cheek	/	26865/831.5	15M QPSK 1RB@0	0.072	0.042	23.49	25.00	0.102	Battery 1#	/
Second	Right tilt	/	26865/831.5	15M QPSK 1RB@0	**0.078**	0.039	23.49	25.00	**0.111**	Battery 1#	Plot
Second	Left cheek	/	26865/831.5	15M QPSK 50%RB@0	0.043	0.028	23.37	24.00	0.050	Battery 1#	/
Second	Left tilt	/	26865/831.5	15M QPSK 50%RB@0	0.001	0.001	23.37	24.00	0.001	Battery 1#	/
Second	Right cheek	/	26865/831.5	15M QPSK 50%RB@0	0.071	0.040	23.37	24.00	0.082	Battery 1#	/
Second	Right tilt	/	26865/831.5	15M QPSK 50%RB@0	0.073	0.041	23.37	24.00	0.084	Battery 1#	/
Second	Right tilt	/	26865/831.5	15M QPSK 1RB@0	0.076	0.039	23.49	25.00	0.108	Battery 2#	/
Second	Right tilt	/	26865/831.5	15M QPSK 1RB@0	0.077	0.038	23.49	25.00	0.109	With SIM2	/
Main	Left cheek	/	26865/831.5	15M QPSK 1RB@0	**0.085**	0.064	23.43	25.00	**0.122**	Battery 1#	Plot
Main	Left tilt	/	26865/831.5	15M QPSK 1RB@0	0.045	0.033	23.43	25.00	0.065	Battery 1#	/
Main	Right cheek	/	26865/831.5	15M QPSK 1RB@0	0.057	0.041	23.43	25.00	0.082	Battery 1#	/
Main	Right tilt	/	26865/831.5	15M QPSK 1RB@0	0.065	0.048	23.43	25.00	0.093	Battery 1#	/
Main	Left cheek	/	26865/831.5	15M QPSK 50%RB@0	0.075	0.057	23.26	24.00	0.089	Battery 1#	/
Main	Left tilt	/	26865/831.5	15M QPSK 50%RB@0	0.049	0.035	23.26	24.00	0.058	Battery 1#	/
Main	Right cheek	/	26865/831.5	15M QPSK 50%RB@0	0.058	0.042	23.26	24.00	0.069	Battery 1#	/
Main	Right tilt	/	26865/831.5	15M QPSK 50%RB@0	0.065	0.048	23.26	24.00	0.077	Battery 1#	/
Main	Left cheek	/	26865/831.5	15M QPSK 1RB@0	0.083	0.066	23.43	25.00	0.119	Battery 2#	/
Main	Left cheek	/	26865/831.5	15M QPSK 1RB@0	0.077	0.060	23.43	25.00	0.111	With SIM2	/

Table 55: Head SAR test results of LTE Band 26

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Battery 1#	/
Second	Back side	15mm	26865/831.5	15M QPSK 1RB@0	**0.028**	0.016	23.49	25.00	**0.040**	Battery 1#	Plot
Second	Front side	15mm	26865/831.5	15M QPSK 50%RB@0	0.001	0.001	23.37	24.00	0.001	Battery 1#	/
Second	Back side	15mm	26865/831.5	15M QPSK 50%RB@0	0.001	0.001	23.37	24.00	0.001	Battery 1#	/
Second	Back side	15mm	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Battery 2#	/
Second	Back side	15mm	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	With SIM2	/
Main	Front side	15mm	26865/831.5	15M QPSK 1RB@0	0.081	0.054	23.43	25.00	0.116	Battery 1#	/
Main	Back side	15mm	26865/831.5	15M QPSK 1RB@0	**0.172**	0.117	23.43	25.00	**0.247**	Battery 1#	Plot
Main	Front side	15mm	26865/831.5	15M QPSK 50%RB@0	0.090	0.059	23.26	24.00	0.107	Battery 1#	/
Main	Back side	15mm	26865/831.5	15M QPSK 50%RB@0	0.111	0.075	23.26	24.00	0.132	Battery 1#	/
Main	Back side	15mm	26865/831.5	15M QPSK 1RB@0	0.153	0.102	23.43	25.00	0.220	Battery 2#	/
Main	Back side	15mm	26865/831.5	15M QPSK 1RB@0	0.136	0.092	23.43	25.00	0.195	With SIM2	/

Table 56: Body Worn SAR test results of LTE Band 26

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Battery 1#	/
Second	Back side	10mm	26865/831.5	15M QPSK 1RB@0	**0.066**	0.036	23.49	25.00	**0.094**	Battery 1#	Plot
Second	Left side	10mm	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Battery 1#	/
Second	Top side	10mm	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Battery 1#	/
Second	Front side	10mm	26865/831.5	15M QPSK 50%RB@0	0.001	0.001	23.37	24.00	0.001	Battery 1#	/
Second	Back side	10mm	26865/831.5	15M QPSK 50%RB@0	0.060	0.033	23.37	24.00	0.069	Battery 1#	/
Second	Left side	10mm	26865/831.5	15M QPSK 50%RB@0	0.001	0.001	23.37	24.00	0.001	Battery 1#	/
Second	Top side	10mm	26865/831.5	15M QPSK 50%RB@0	0.001	0.001	23.37	24.00	0.001	Battery 1#	/
Second	Back side	10mm	26865/831.5	15M QPSK 1RB@0	0.052	0.030	23.49	25.00	0.074	Battery 2#	/
Second	Back side	10mm	26865/831.5	15M QPSK 1RB@0	0.050	0.029	23.49	25.00	0.071	With SIM2	/
Main	Front side	10mm	26865/831.5	15M QPSK 1RB@0	0.143	0.091	23.43	25.00	0.205	Battery 1#	/
Main	Back side	10mm	26865/831.5	15M QPSK 1RB@0	**0.296**	0.186	23.43	25.00	**0.425**	Battery 1#	Plot
Main	Right side	10mm	26865/831.5	15M QPSK 1RB@0	0.047	0.032	23.43	25.00	0.067	Battery 1#	/
Main	Bottom side	10mm	26865/831.5	15M QPSK 1RB@0	0.095	0.057	23.43	25.00	0.136	Battery 1#	/
Main	Front side	10mm	26865/831.5	15M QPSK 50%RB@0	0.158	0.100	23.26	24.00	0.187	Battery 1#	/
Main	Back side	10mm	26865/831.5	15M QPSK 50%RB@0	0.197	0.128	23.26	24.00	0.234	Battery 1#	/
Main	Right side	10mm	26865/831.5	15M QPSK 50%RB@0	0.054	0.036	23.26	24.00	0.064	Battery 1#	/
Main	Bottom side	10mm	26865/831.5	15M QPSK 50%RB@0	0.101	0.060	23.26	24.00	0.120	Battery 1#	/
Main	Back side	10mm	26865/831.5	15M QPSK 1RB@0	0.260	0.167	23.43	25.00	0.373	Battery 2#	/
Main	Back side	10mm	26865/831.5	15M QPSK 1RB@0	0.234	0.153	23.43	25.00	0.336	With SIM2	/

Table 57: Hotspot SAR test results of LTE Band 26

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Yes
Second	Back side	10mm	26865/831.5	15M QPSK 1RB@0	**0.066**	0.036	23.49	25.00	0.094	Yes
Second	Left side	10mm	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Yes
Second	Top side	10mm	26865/831.5	15M QPSK 1RB@0	0.001	0.001	23.49	25.00	0.001	Yes
Second	Front side	10mm	26865/831.5	15M QPSK 50%RB@0	0.001	0.001	23.37	25.00	0.001	Yes
Second	Back side	10mm	26865/831.5	15M QPSK 50%RB@0	0.060	0.033	23.37	25.00	0.087	Yes
Second	Left side	10mm	26865/831.5	15M QPSK 50%RB@0	0.001	0.001	23.37	25.00	0.001	Yes
Second	Top side	10mm	26865/831.5	15M QPSK 50%RB@0	0.001	0.001	23.37	25.00	0.001	Yes
Second	Back side	10mm	26865/831.5	15M QPSK 1RB@0	0.052	0.030	23.49	25.00	0.074	Yes
Second	Back side	10mm	26865/831.5	15M QPSK 1RB@0	0.050	0.029	23.49	25.00	0.071	Yes
Main	Front side	10mm	26865/831.5	15M QPSK 1RB@0	0.143	0.091	23.43	25.00	0.205	Yes
Main	Back side	10mm	26865/831.5	15M QPSK 1RB@0	**0.296**	0.186	23.43	25.00	0.425	Yes
Main	Right side	10mm	26865/831.5	15M QPSK 1RB@0	0.047	0.032	23.43	25.00	0.067	Yes
Main	Bottom side	10mm	26865/831.5	15M QPSK 1RB@0	0.095	0.057	23.43	25.00	0.136	Yes
Main	Front side	10mm	26865/831.5	15M QPSK 50%RB@0	0.158	0.100	23.26	25.00	0.236	Yes
Main	Back side	10mm	26865/831.5	15M QPSK 50%RB@0	0.197	0.128	23.26	25.00	0.294	Yes
Main	Right side	10mm	26865/831.5	15M QPSK 50%RB@0	0.054	0.036	23.26	25.00	0.081	Yes
Main	Bottom side	10mm	26865/831.5	15M QPSK 50%RB@0	0.101	0.060	23.26	25.00	0.151	Yes
Main	Back side	10mm	26865/831.5	15M QPSK 1RB@0	0.260	0.167	23.43	25.00	0.373	Yes
Main	Back side	10mm	26865/831.5	15M QPSK 1RB@0	0.234	0.153	23.43	25.00	0.336	Yes

Table 58: Product Specific 10-g SAR test reduction evaluation of LTE Band 26

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.12 SAR measurement Results of LTE Band 66

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Left cheek	/	132322/1745	20M QPSK 1RB@50	0.345	0.178	19.92	20.60	0.403	Battery 1#	/
Second	Left tilt	/	132322/1745	20M QPSK 1RB@50	0.423	0.217	19.92	20.60	0.495	Battery 1#	/
Second	Right cheek	/	132322/1745	20M QPSK 1RB@50	0.305	0.174	19.92	20.60	0.357	Battery 1#	/
Second	Right tilt	/	132322/1745	20M QPSK 1RB@50	0.458	0.259	19.92	20.60	0.536	Battery 1#	/
Second	Left cheek	/	132572/1770	20M QPSK 50%RB@0	0.308	0.159	19.80	20.60	0.370	Battery 1#	/
Second	Left tilt	/	132572/1770	20M QPSK 50%RB@0	0.434	0.222	19.80	20.60	0.522	Battery 1#	/
Second	Right cheek	/	132572/1770	20M QPSK 50%RB@0	0.266	0.150	19.80	20.60	0.320	Battery 1#	/
Second	Right tilt	/	132572/1770	20M QPSK 50%RB@0	0.411	0.231	19.80	20.60	0.494	Battery 1#	/
Second	Right tilt	/	132322/1745	20M QPSK 1RB@50	**0.578**	0.300	19.92	20.60	**0.676**	Battery 2#	Plot
Second	Right tilt	/	132322/1745	20M QPSK 1RB@50	0.479	0.254	19.92	20.60	0.560	With SIM2	/
Main	Left cheek	/	132322/1745	20M QPSK 1RB@50	0.070	0.045	22.32	23.60	0.094	Battery 1#	/
Main	Left tilt	/	132322/1745	20M QPSK 1RB@50	0.053	0.032	22.32	23.60	0.071	Battery 1#	/
Main	Right cheek	/	132322/1745	20M QPSK 1RB@50	0.062	0.038	22.32	23.60	0.083	Battery 1#	/
Main	Right tilt	/	132322/1745	20M QPSK 1RB@50	0.054	0.032	22.32	23.60	0.073	Battery 1#	/
Main	Left cheek	/	132322/1745	20M QPSK 50%RB@0	0.066	0.041	21.33	22.60	0.088	Battery 1#	/
Main	Left tilt	/	132322/1745	20M QPSK 50%RB@0	0.051	0.030	21.33	22.60	0.068	Battery 1#	/
Main	Right cheek	/	132322/1745	20M QPSK 50%RB@0	0.063	0.039	21.33	22.60	0.084	Battery 1#	/
Main	Right tilt	/	132322/1745	20M QPSK 50%RB@0	0.049	0.029	21.33	22.60	0.066	Battery 1#	/
Main	Left cheek	/	132322/1745	20M QPSK 1RB@50	**0.074**	0.051	22.32	23.60	**0.100**	Battery 2#	Plot
Main	Left cheek	/	132322/1745	20M QPSK 1RB@50	0.073	0.053	22.32	23.60	0.098	With SIM2	/

Table 59: Head SAR test results of LTE Band 66

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	15mm	132322/1745	20M QPSK 1RB@0	0.057	0.034	19.21	19.60	0.062	Battery 1#	/
Second	Back side	15mm	132322/1745	20M QPSK 1RB@0	0.146	0.083	19.21	19.60	0.160	Battery 1#	/
Second	Front side	15mm	132322/1745	20M QPSK 50%RB@25	0.058	0.035	19.05	19.60	0.066	Battery 1#	/
Second	Back side	15mm	132322/1745	20M QPSK 50%RB@25	0.146	0.083	19.05	19.60	0.166	Battery 1#	/
Second	Back side	15mm	132322/1745	20M QPSK 50%RB@25	**0.189**	0.112	19.05	19.60	**0.215**	Battery 2#	Plot
Second	Back side	15mm	132322/1745	20M QPSK 50%RB@25	0.111	0.062	19.05	19.60	0.126	With SIM2	/
Main	Front side	15mm	132322/1745	20M QPSK 1RB@0	0.115	0.072	21.67	22.10	0.127	Battery 1#	/
Main	Back side	15mm	132322/1745	20M QPSK 1RB@0	0.176	0.113	21.67	22.10	0.194	Battery 1#	/
Main	Front side	15mm	132322/1745	20M QPSK 50%RB@0	0.094	0.061	21.26	22.10	0.114	Battery 1#	/
Main	Back side	15mm	132322/1745	20M QPSK 50%RB@0	0.146	0.094	21.26	22.10	0.177	Battery 1#	/
Main	Back side	15mm	132322/1745	20M QPSK 1RB@0	**0.195**	0.119	21.67	22.10	**0.215**	Battery 2#	Plot
Main	Back side	15mm	132322/1745	20M QPSK 1RB@0	0.186	0.115	21.67	22.10	0.205	With SIM2	/

Table 60: Body Worn SAR test results of LTE Band 66

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Second	Front side	10mm	132322/1745	20M QPSK 1RB@0	0.071	0.040	19.21	19.60	0.078	Battery 1#	/
Second	Back side	10mm	132322/1745	20M QPSK 1RB@0	0.205	0.112	19.21	19.60	0.224	Battery 1#	/
Second	Left side	10mm	132322/1745	20M QPSK 1RB@0	0.040	0.009	19.21	19.60	0.044	Battery 1#	/
Second	Top side	10mm	132322/1745	20M QPSK 1RB@0	0.260	0.126	19.21	19.60	0.284	Battery 1#	/
Second	Front side	10mm	132322/1745	20M QPSK 50%RB@25	0.070	0.040	19.05	19.60	0.079	Battery 1#	/
Second	Back side	10mm	132322/1745	20M QPSK 50%RB@25	0.193	0.105	19.05	19.60	0.219	Battery 1#	/
Second	Left side	10mm	132322/1745	20M QPSK 50%RB@25	0.042	0.010	19.05	19.60	0.048	Battery 1#	/
Second	Top side	10mm	132322/1745	20M QPSK 50%RB@25	0.249	0.123	19.05	19.60	0.283	Battery 1#	/
Second	Top side	10mm	132322/1745	20M QPSK 1RB@0	**0.297**	0.155	19.21	19.60	**0.325**	Battery 2#	Plot
Second	Top side	10mm	132322/1745	20M QPSK 1RB@0	0.263	0.130	19.21	19.60	0.288	With SIM2	/
Main	Front side	10mm	132322/1745	20M QPSK 1RB@0	0.129	0.077	19.77	20.10	0.139	Battery 1#	/
Main	Back side	10mm	132322/1745	20M QPSK 1RB@0	0.212	0.126	19.77	20.10	0.229	Battery 1#	/
Main	Left side	10mm	132322/1745	20M QPSK 1RB@0	0.077	0.042	19.77	20.10	0.083	Battery 1#	/
Main	Bottom side	10mm	132322/1745	20M QPSK 1RB@0	0.298	0.162	19.77	20.10	0.322	Battery 1#	/
Main	Front side	10mm	132322/1745	20M QPSK 50%RB@0	0.114	0.068	19.69	20.10	0.125	Battery 1#	/
Main	Back side	10mm	132322/1745	20M QPSK 50%RB@0	0.205	0.122	19.69	20.10	0.225	Battery 1#	/
Main	Left side	10mm	132322/1745	20M QPSK 50%RB@0	0.081	0.044	19.69	20.10	0.089	Battery 1#	/
Main	Bottom side	10mm	132322/1745	20M QPSK 50%RB@0	0.291	0.159	19.69	20.10	0.320	Battery 1#	/
Main	Bottom side	10mm	132322/1745	20M QPSK 1RB@0	**0.352**	0.199	19.77	20.10	**0.380**	Battery 2#	Plot
Main	Bottom side	10mm	132322/1745	20M QPSK 1RB@0	0.350	0.194	19.77	20.10	0.378	With SIM2	/

Table 61: Hotspot SAR test results of LTE Band 66

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Antenna	Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Second	Front side	10mm	132322/1745	20M QPSK 1RB@0	0.071	0.040	19.21	20.60	0.098	Yes
Second	Back side	10mm	132322/1745	20M QPSK 1RB@0	0.205	0.112	19.21	20.60	0.282	Yes
Second	Left side	10mm	132322/1745	20M QPSK 1RB@0	0.040	0.009	19.21	20.60	0.055	Yes
Second	Top side	10mm	132322/1745	20M QPSK 1RB@0	0.258	0.126	19.21	20.60	0.355	Yes
Second	Front side	10mm	132322/1745	20M QPSK 50%RB@25	0.070	0.040	19.05	20.60	0.100	Yes
Second	Back side	10mm	132322/1745	20M QPSK 50%RB@25	0.193	0.105	19.05	20.60	0.276	Yes
Second	Left side	10mm	132322/1745	20M QPSK 50%RB@25	0.042	0.010	19.05	20.60	0.060	Yes
Second	Top side	10mm	132322/1745	20M QPSK 50%RB@25	0.249	0.123	19.05	20.60	0.356	Yes
Second	Top side	10mm	132322/1745	20M QPSK 1RB@0	**0.297**	0.155	19.21	20.60	0.409	Yes
Second	Top side	10mm	132322/1745	20M QPSK 1RB@0	0.263	0.130	19.21	20.60	0.362	Yes
Main	Front side	10mm	132322/1745	20M QPSK 1RB@0	0.129	0.077	19.77	23.60	0.312	Yes
Main	Back side	10mm	132322/1745	20M QPSK 1RB@0	0.212	0.126	19.77	23.60	0.512	Yes
Main	Left side	10mm	132322/1745	20M QPSK 1RB@0	0.077	0.042	19.77	23.60	0.186	Yes
Main	Bottom side	10mm	132322/1745	20M QPSK 1RB@0	0.298	0.162	19.77	23.60	0.720	Yes
Main	Front side	10mm	132322/1745	20M QPSK 50%RB@0	0.114	0.068	19.69	23.60	0.280	Yes
Main	Back side	10mm	132322/1745	20M QPSK 50%RB@0	0.205	0.122	19.69	23.60	0.504	Yes
Main	Left side	10mm	132322/1745	20M QPSK 50%RB@0	0.081	0.044	19.69	23.60	0.199	Yes
Main	Bottom side	10mm	132322/1745	20M QPSK 50%RB@0	0.291	0.159	19.69	23.60	0.716	Yes
Main	Bottom side	10mm	132322/1745	20M QPSK 1RB@0	**0.352**	0.199	19.77	23.60	0.850	Yes
Main	Bottom side	10mm	132322/1745	20M QPSK 1RB@0	0.350	0.194	19.77	23.60	0.845	Yes

Table 62: Product Specific 10-g SAR test reduction evaluation of LTE Band 66

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.13 SAR measurement Results of 2.4G Wi-Fi

Test Position	Dist.	Test Channel/ Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Left cheek	/	6/2437	802.11b	**0.101**	0.042	99%	10.08	12.00	**0.159**	Battery 1#	Plot
Left tilt	/	6/2437	802.11b	0.001	0.001	99%	10.08	12.00	0.002	Battery 1#	/
Right cheek	/	6/2437	802.11b	0.001	0.001	99%	10.08	12.00	0.002	Battery 1#	/
Right tilt	/	6/2437	802.11b	0.001	0.001	99%	10.08	12.00	0.002	Battery 1#	/
Left cheek	/	6/2437	802.11b	0.085	0.041	99%	10.08	12.00	0.134	Battery 2#	/

Table 63: Head SAR test results of 2.4G Wi-Fi

Note: Per KDB248227D01, for Head SAR test of 2.4G Wi-Fi, SAR is measured for 2.4 GHz 802.11b DSSS using the initial test position procedure. The highest reported SAR for DSSS is adjusted by the ratio of OFDM 802.11g/n to DSSS specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for 802.11g/n is not required.

Test Position	Dist.	Test Channel/ Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Front side	15mm	6/2437	802.11b	0.060	0.031	99%	17.86	19.50	0.088	Battery 1#	/
Back side	15mm	6/2437	802.11b	**0.125**	0.064	99%	17.86	19.50	**0.184**	Battery 1#	Plot
Back side	15mm	6/2437	802.11b	0.111	0.057	99%	17.86	19.50	0.164	Battery 2#	/

Table 64: Body Worn SAR test results of 2.4G Wi-Fi

Note: Per KDB248227D01, for Head SAR test of 2.4G Wi-Fi, SAR is measured for 2.4 GHz 802.11b DSSS using the initial test position procedure. The highest reported SAR for DSSS is adjusted by the ratio of OFDM 802.11g/n to DSSS specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for 802.11g/n is not required.

Test Position	Dist.	Test Channel/ Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Front side	10mm	6/2437	802.11b	0.122	0.060	99%	17.86	19.50	0.180	Battery 1#	/
Back side	10mm	6/2437	802.11b	0.257	0.123	99%	17.86	19.50	0.379	Battery 1#	/
Right side	10mm	6/2437	802.11b	**0.411**	0.177	99%	17.86	19.50	**0.606**	Battery 1#	Plot
Top side	10mm	6/2437	802.11b	0.001	0.001	99%	17.86	19.50	0.001	Battery 1#	/
Right side	10mm	6/2437	802.11b	0.389	0.174	99%	17.86	19.50	0.573	Battery 2#	/

Table 65: Hotspot SAR test results of 2.4G Wi-Fi

Note: Per KDB248227D01, for Head SAR test of 2.4G Wi-Fi, SAR is measured for 2.4 GHz 802.11b DSSS using the initial test position procedure. The highest reported SAR for DSSS is adjusted by the ratio of OFDM 802.11g/n to DSSS specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for 802.11g/n is not required.

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Front side	10mm	6/2437	802.11b	0.122	0.060	99%	17.86	19.5	0.178	Yes
Back side	10mm	6/2437	802.11b	0.257	0.123	99%	17.86	19.5	0.375	Yes
Right side	10mm	6/2437	802.11b	**0.411**	0.177	99%	17.86	19.5	0.600	Yes
Top side	10mm	6/2437	802.11b	0.001	0.001	99%	17.86	19.5	0.001	Yes
Right side	10mm	6/2437	802.11b	0.389	0.174	99%	17.86	19.5	0.567	Yes
Front side	10mm	6/2437	802.11b	0.122	0.060	99%	17.86	19.5	0.178	Yes

Table 66: Product Specific 10-g SAR test reduction evaluation of 2.4G Wi-Fi

Note: According to the table above, Product Specific 10-g SAR test is not required for this frequency band.

7.2.14 SAR measurement Results of 5G Wi-Fi

Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Left cheek	/	54/5270	802.11n(40M)	0.046	0.016	98%	10.51	12.00	0.066	Battery 1#	/
Left tilt	/	54/5270	802.11n(40M)	0.066	0.014	98%	10.51	12.00	0.095	Battery 1#	/
Right cheek	/	54/5270	802.11n(40M)	0.063	0.020	98%	10.51	12.00	0.091	Battery 1#	/
Right tilt	/	54/5270	802.11n(40M)	0.036	0.009	98%	10.51	12.00	0.052	Battery 1#	/
Left tilt	/	54/5270	802.11n(40M)	0.052	0.010	98%	10.51	12.00	0.075	Battery 2#	/
Left cheek	/	122/5610	802.11ac(80M)	0.044	0.013	98%	11.23	12.00	0.054	Battery 1#	/
Left tilt	/	122/5610	802.11ac(80M)	0.059	0.011	98%	11.23	12.00	0.072	Battery 1#	/
Right cheek	/	122/5610	802.11ac(80M)	0.054	0.017	98%	11.23	12.00	0.066	Battery 1#	/
Right tilt	/	122/5610	802.11ac(80M)	0.035	0.009	98%	11.23	12.00	0.043	Battery 1#	/
Left tilt	/	122/5610	802.11ac(80M)	0.053	0.100	98%	11.23	12.00	0.065	Battery 2#	/
Left cheek	/	155/5775	802.11ac(80M)	**0.083**	0.023	98%	11.42	12.00	**0.096**	Battery 1#	Plot
Left tilt	/	155/5775	802.11ac(80M)	0.037	0.008	98%	11.42	12.00	0.043	Battery 1#	/
Right cheek	/	155/5775	802.11ac(80M)	0.043	0.010	98%	11.42	12.00	0.050	Battery 1#	/
Right tilt	/	155/5775	802.11ac(80M)	0.066	0.023	98%	11.42	12.00	0.077	Battery 1#	/
Left cheek	/	155/5775	802.11ac(80M)	0.068	0.020	98%	11.42	12.00	0.079	Battery 2#	/

Table 67: Head SAR test results of 5G Wi-Fi

Note:

1) Per KDB248227D01, for Head SAR test of 5G Wi-Fi U-NII-2A, SAR is measured for 802.11n (40M) OFDM using the initial test position procedure. The highest reported SAR is adjusted by the ratio of other 5G Wi-Fi modes to 802.11n (40M) specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for other 5G Wi-Fi mode is not required.

2) Per KDB248227D01, for Head SAR test of 5G Wi-Fi U-NII-2C, SAR is measured for 802.11ac(80M) OFDM using the initial test position procedure. The highest reported SAR is adjusted by the ratio of other 5G Wi-Fi modes to 802.11ac (80M)specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for other 5G Wi-Fi mode is not required.

3) Per KDB248227D01, for Head SAR test of 5G Wi-Fi U-NII-3, SAR is measured for 802.11ac (80M) OFDM using the initial test position procedure. The highest reported SAR is adjusted by the ratio of other 5G Wi-Fi modes to 802.11ac (80M) specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for other 5G Wi-Fi mode is not required.

4) 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. As 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).

Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Front side	15mm	60/5300	802.11a	0.054	0.023	98%	17.35	19.00	0.081	Battery 1#	/
Back side	15mm	60/5300	802.11a	0.098	0.030	98%	17.35	19.00	0.146	Battery 1#	/
Back side	15mm	60/5300	802.11a	0.090	0.039	98%	17.35	19.00	0.134	Battery 2#	/
Front side	15mm	132/5660	802.11a	0.048	0.020	98%	17.54	19.00	0.069	Battery 1#	/
Back side	15mm	132/5660	802.11a	0.116	0.041	98%	17.54	19.00	0.166	Battery 1#	/
Back side	15mm	132/5660	802.11a	0.119	0.049	98%	17.54	19.00	0.170	Battery 2#	/
Front side	15mm	153/5765	802.11a	0.119	0.030	98%	17.49	19.00	0.172	Battery 1#	/
Back side	15mm	153/5765	802.11a	**0.135**	0.049	98%	17.49	19.00	**0.195**	Battery 1#	Plot
Back side	15mm	153/5765	802.11a	0.129	0.051	98%	17.49	19.00	0.186	Battery 2#	/

Table 68: Body Worn SAR test results of 5G Wi-Fi

Note:

1) Per KDB248227D01, for Body-Worn SAR test of 5G Wi-Fi , SAR is measured for 5GHz 802.11a using the initial test position procedure.The highest reported SAR for 802.11a is adjusted by the ratio of other 5G Wi-Fi modes to 802.11a specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for other 5G Wi-Fi modes are not required.

2) 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. As 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).

Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Front side	10mm	44/5220	802.11a	0.055	0.023	98%	17.15	19.00	0.086	Battery 1#	/
Back side	10mm	44/5220	802.11a	0.199	0.074	98%	17.15	19.00	0.311	Battery 1#	/
Right side	10mm	44/5220	802.11a	0.229	0.081	98%	17.15	19.00	0.358	Battery 1#	/
Top side	10mm	44/5220	802.11a	0.031	0.006	98%	17.15	19.00	0.048	Battery 1#	/
Right side	10mm	44/5220	802.11a	0.261	0.097	98%	17.15	19.00	0.408	Battery 2#	/
Front side	10mm	153/5765	802.11a	0.184	0.034	98%	17.49	19.00	0.266	Battery 1#	/
Back side	10mm	153/5765	802.11a	0.260	0.082	98%	17.49	19.00	0.376	Battery 1#	/
Right side	10mm	153/5765	802.11a	**0.365**	0.120	98%	17.49	19.00	**0.527**	Battery 1#	Plot
Top side	10mm	153/5765	802.11a	0.040	0.017	98%	17.49	19.00	0.058	Battery 1#	/
Right side	10mm	153/5765	802.11a	0.340	0.121	98%	17.49	19.00	0.491	Battery 2#	/

Table 69: Hotspot SAR test results of 5G Wi-Fi

Note:

1) Per KDB248227D01, for Body-Worn SAR test of 5G Wi-Fi, SAR is measured for 5GHz 802.11a using the initial test position procedure.The highest reported SAR for 802.11a is adjusted by the ratio of other 5G Wi-Fi modes to 802.11a specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for other 5G Wi-Fi modes are not required.

2) The device do not support hotspot function at U-NII-2A & U-NII-2C band.

Per KDB648474 D04, when hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; However, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold:

Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Max Power Without Reduction	Scaled-up 1-g SAR (W/kg)	Product Specific 10-g SAR Exclusion
Front side	10mm	44/5220	802.11a	0.055	0.023	98%	17.15	19.00	0.086	Yes
Back side	10mm	44/5220	802.11a	0.199	0.074	98%	17.15	19.00	0.311	Yes
Right side	10mm	44/5220	802.11a	0.229	0.081	98%	17.15	19.00	0.358	Yes
Top side	10mm	44/5220	802.11a	0.031	0.006	98%	17.15	19.00	0.048	Yes
Right side	10mm	44/5220	802.11a	0.261	0.097	98%	17.15	19.00	0.408	Yes
Front side	10mm	153/5765	802.11a	0.184	0.034	98%	17.49	19.00	0.266	Yes
Back side	10mm	153/5765	802.11a	0.260	0.082	98%	17.49	19.00	0.376	Yes
Right side	10mm	153/5765	802.11a	**0.365**	0.120	98%	17.49	19.00	0.527	Yes
Top side	10mm	153/5765	802.11a	0.040	0.017	98%	17.49	19.00	0.058	Yes
Right side	10mm	153/5765	802.11a	0.340	0.121	98%	17.49	19.00	0.491	Yes

Table 70: Product Specific 10-g SAR test reduction evaluation of 5G Wi-Fi

Note: According to the table above, Product Specific 10-g SAR test is not required for 5G Wi-Fi U-NII-1 & U-NII-3.

Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 10-g SAR (W/kg)	Accessory Information	Note
Front side	0mm	60/5300	802.11a	0.605	0.216	98%	17.35	19.00	0.322	Battery 1#	/
Back side	0mm	60/5300	802.11a	0.982	0.305	98%	17.35	19.00	0.455	Battery 1#	/
Right side	0mm	60/5300	802.11a	3.610	0.845	98%	17.35	19.00	1.261	Battery 1#	/
Top side	0mm	60/5300	802.11a	0.275	0.074	98%	17.35	19.00	0.110	Battery 1#	/
Right side	0mm	60/5300	802.11a	3.780	0.837	98%	17.35	19.00	1.249	Battery 2#	/
Front side	0mm	132/5660	802.11a	0.542	0.187	98%	17.54	19.00	0.267	Battery 1#	/
Back side	0mm	132/5660	802.11a	1.170	0.341	98%	17.54	19.00	0.487	Battery 1#	/
Right side	0mm	132/5660	802.11a	4.500	**0.958**	98%	17.54	19.00	**1.368**	Battery 1#	Plot
Top side	0mm	132/5660	802.11a	0.205	0.059	98%	17.54	19.00	0.084	Battery 1#	/
Right side	0mm	132/5660	802.11a	4.220	0.908	98%	17.54	19.00	1.297	Battery 2#	/

Table 71: Product Specific 10-g SAR test results of 5G Wi-Fi U-NII-2A & U-NII-2C.

Note:

1) Per KDB248227D01, for Product Specific 10-g SAR test of 5G Wi-Fi, SAR is measured for 5GHz 802.11a using the initial test position procedure.The highest reported SAR for 802.11a is adjusted by the ratio of other 5G Wi-Fi modes to 802.11a specified maximum output power and the adjusted SAR is < 75% limit, so SAR for other 5G Wi-Fi modes are not required.

7.2.15 SAR measurement Results of BT

Test Position	Dist.	Test Channel /Freq.(MHz)	Test Mode	Measured 1-g SAR (W/kg)	Measured 10-g SAR (W/kg)	Duty Cycle	Conducted Power (dBm)	Tune-up Power (dBm)	Reported 1-g SAR (W/kg)	Accessory Information	Note
Left cheek	/	39/2441	DH5	**0.124**	0.052	76.9%	11.84	12.00	**0.167**	Battery 1#	Plot
Left tilt	/	39/2441	DH5	0.037	0.018	76.9%	11.84	12.00	0.050	Battery 1#	/
Right cheek	/	39/2441	DH5	0.048	0.025	76.9%	11.84	12.00	0.065	Battery 1#	/
Right tilt	/	39/2441	DH5	0.001	0.001	76.9%	11.84	12.00	0.001	Battery 1#	/
Left cheek	/	39/2441	DH5	0.099	0.044	76.9%	11.84	12.00	0.134	Battery 2#	/

Table 72: Head SAR test results of BT

7.3 Multiple Transmitter Evaluation

The detailed location of the Tx antennas inside the device refers to Appendix.

The list information of following tables which is relevant for the decision if a simultaneous transmit evaluation is necessary according to FCC KDB 447498 D01 General RF Exposure Guidance.

Mode	Exposure Condition	Front Side	Back Side	Left Side	Right Side	Top Side	Bottom Side
Ant0:Main ant-MHB	Hotspot/ Product specific 10g SAR	Yes	Yes	Yes	No	No	Yes
Ant1:Main ant-LB	Hotspot/ Product specific 10g SAR	Yes	Yes	No	Yes	No	Yes
Ant2:Second ant-MHB	Hotspot/ Product specific 10g SAR	Yes	Yes	Yes	No	Yes	No
Ant3:Second ant-LB	Hotspot/ Product specific 10g SAR	Yes	Yes	Yes	No	Yes	No
Ant4:Third ant	Hotspot/ Product specific 10g SAR	Yes	Yes	Yes	No	No	No
Ant5:Wi-Fi ant	Hotspot/ Product specific 10g SAR	Yes	Yes	No	Yes	Yes	No

Table 73: Sides for Hotspot/ Product specific 10g SAR testing

Note:

1) Per KDB 648474 D04, because the diagonal distance of this device is ≥160mm,so it is a phablet.

2) Per KDB 941225 D06 and KDB 648474 D04, particular DUT edges were not required to be evaluated for Hotspot/ Product specific 10g SAR SAR if the antenna-to-edge distance is greater than 2.5cm.

7.3.1 Stand-alone SAR test exclusion

Per FCC KDB 447498 D01, the 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Mode	Position	P_{max} (dBm)*	P_{max} (mW)	Distance (mm)	f (GHz)	Calculation Result	SAR Exclusion threshold	SAR test exclusion
BT	Head	12.00	15.85	5	2.4835	5.00	3.00	No
BT	Body-Worn	12.00	15.85	15	2.4835	1.67	3.00	Yes
BT	Product specific 10g SAR	12.00	15.85	5	2.4835	5.00	7.50	Yes

Table 74: Standalone SAR test exclusion for BT

Note:

1)* - maximum possible output power declared by manufacturer

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√ f(GHz)/x] W/kg for test separation distances ≤ 50 mm,where x = 7.5 for 1-g SAR and x = 18.75 for 10-g SAR.

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Mode	Position	P_{max} (dBm)*	P_{max} (mW)	Distance (mm)	f (GHz)	X	Estimated SAR (W/kg)*
BT	Body-worn	12.00	15.85	15	2.4835	7.50	0.222
BT	Product specific 10g SAR	12.00	15.85	5	2.4835	18.75	0.266

Table 75: Estimated SAR calculation for BT

Note:

1) * - maximum possible output power declared by manufacturer

7.3.2 Simultaneous Transmission Possibilities

The Simultaneous Transmission Possibilities of this device are as below:

NO.	Simultaneous Tx Combination	Head	Body-worn	Hotspot	Product Specific 10g (0mm)
1	GSM Voice(main ant) + BT	Yes	Yes	NA	Yes
2	GSM DATA(main ant) + BT	N/A	Yes	NA	Yes
3	GSM Voice(second ant) + BT	Yes	Yes	NA	Yes
4	GSM DATA (second ant)+ BT	N/A	Yes	NA	Yes
5	GSM Voice(main ant) + 2.4G Wi-Fi	Yes	Yes	NA	Yes
6	GSM Voice(main ant) + 5G Wi-Fi	Yes	Yes	NA	Yes
7	GSM DATA(main ant) + 2.4G Wi-Fi	N/A	Yes	Yes	Yes
8	GSM DATA(main ant) + 5G Wi-Fi	N/A	Yes	Yes	Yes
9	GSM Voice(second ant) + 2.4G Wi-Fi	Yes	Yes	NA	Yes
10	GSM Voice(second ant) + 5G Wi-Fi	Yes	Yes	NA	Yes
11	GSM DATA(second ant) + 2.4G Wi-Fi	N/A	Yes	Yes	Yes
12	GSM DATA(second ant) + 5G Wi-Fi	N/A	Yes	Yes	Yes
13	UMTS(main ant) + BT	Yes	Yes	NA	Yes
14	UMTS (second ant) + BT	Yes	Yes	NA	Yes
15	UMTS (main ant) + 2.4G Wi-Fi	Yes	Yes	Yes	Yes
16	UMTS (main ant) + 5G Wi-Fi	Yes	Yes	Yes	Yes
17	UMTS (second ant) + 2.4G Wi-Fi	Yes	Yes	Yes	Yes
18	UMTS (second ant) + 5G Wi-Fi	Yes	Yes	Yes	Yes
19	LTE (main ant) + 2.4G Wi-Fi	Yes*	Yes*	Yes	Yes
20	LTE (main ant) + 5G Wi-Fi	Yes	Yes	Yes	Yes
21	LTE (main ant) + BT	Yes	Yes*	NA	Yes
22	LTE (second ant) + 2.4G Wi-Fi	Yes*	Yes*	Yes	Yes
23	LTE (second ant) + 5G Wi-Fi	Yes	Yes	Yes	Yes
24	LTE (second ant) + BT	Yes	Yes*	NA	Yes
25	LTE (third) + 2.4G Wi-Fi	Yes*	Yes*	Yes	Yes
26	LTE (third) + 5G Wi-Fi	Yes	Yes	Yes	Yes
27	LTE (third) + BT	Yes	Yes*	NA	Yes

Table 76: Simultaneous Transmission Possibilities

Note:

1) 2.4G Wi-Fi/5G Wi-Fi/Bluetooth can't transmit simultaneously.

2) 2G&3G&4G main antenna, second antenna and third antenna can't transmit simultaneously.

3) For Wi-Fi 5G, U-NII-2A(5250-5350 MHz) and U-NII-2C(5470-5725 MHz) bands does not support hotspot function.

4) * VoLTE or pre-installed VOIP applications are considered

5) The device does not support DTM function.

7.3.3 SAR Summation Scenario

Test position	Head				Body		Hotspot						Product Specific 10-g					
	Left cheek	Left tilt	Right cheek	Right tilt	Front side	Back side	Front side	Back side	Left side	Right side	Top side	Bottom side	Front side	Back side	Left side	Right side	Top side	Bottom side
GSM 850	0.001	0.001	0.122	0.102	0.001	0.042	0.001	0.112	0.053	/	0.001	/	/	/	/	/	/	/
GSM 1900	0.562	0.880	0.462	0.682	0.084	0.264	0.114	0.342	0.083	/	0.633	/	/	/	/	/	/	/
UMTS Band II	0.430	0.685	0.351	0.513	0.086	0.276	0.105	0.295	0.054	/	0.468	/	/	/	/	/	/	/
UMTS Band IV	0.652	1.088	0.544	0.823	0.071	0.204	0.087	0.240	0.056	/	0.332	/	/	/	/	/	/	/
UMTS Band V	0.073	0.061	0.208	0.150	0.001	0.065	0.049	0.132	0.067	/	0.058	/	/	/	/	/	/	/
LTE B2	0.437	0.703	0.376	0.555	0.110	0.330	0.127	0.360	0.112	/	0.541	/	/	/	/	/	/	/
LTE B4	0.524	0.929	0.459	0.697	0.106	0.329	0.122	0.333	0.027	/	0.494	/	/	/	/	/	/	/
LTE B5	0.001	0.058	0.170	0.144	0.001	0.051	0.051	0.124	0.066	/	0.058	/	/	/	/	/	/	/
LTE B12	0.001	0.001	0.096	0.092	0.001	0.035	0.001	0.075	0.074	/	0.041	/	/	/	/	/	/	/
LTE B26	0.050	0.001	0.102	0.111	0.001	0.040	0.001	0.094	0.001	/	0.001	/	/	/	/	/	/	/
LTE B66	0.403	0.522	0.357	0.676	0.066	0.215	0.079	0.224	0.048	/	0.325	/	/	/	/	/	/	/

Table 77: Maximum SAR of 2/3/4G of Second antenna

Test position	Head				Body		Hotspot						Product Specific 10-g					
	Left cheek	Left tilt	Right cheek	Right tilt	Front side	Back side	Front side	Back side	Left side	Right side	Top side	Bottom side	Front side	Back side	Left side	Right side	Top side	Bottom side
GSM 850	0.131	0.078	0.128	0.091	0.151	0.254	0.137	0.188	/	0.001	/	/	/	/	/	/	/	/
GSM 1900	0.001	0.001	0.047	0.027	0.001	0.115	0.001	0.055	0.001	/	/	/	/	/	/	/	/	/
UMTS Band II	0.182	0.090	0.081	0.087	0.171	0.313	0.123	0.238	0.074	/	/	/	/	/	/	/	/	/
UMTS Band IV	0.091	0.065	0.151	0.062	0.155	0.326	0.194	0.309	0.111	/	/	/	/	/	/	/	/	/
UMTS Band V	0.152	0.081	0.137	0.101	0.184	0.269	0.332	0.429	/	0.113	/	/	/	/	/	/	/	/
LTE B2	0.142	0.079	0.080	0.087	0.154	0.275	0.206	0.325	0.114	/	/	/	/	/	/	/	/	2.127
LTE B4	0.139	0.089	0.106	0.088	0.285	0.370	0.274	0.428	0.165	/	/	/	/	/	/	/	/	2.514
LTE B5	0.152	0.084	0.139	0.102	0.190	0.296	0.279	0.355	/	0.095	/	/	/	/	/	/	/	/
LTE B7	0.297	0.121	0.170	0.194	0.376	0.414	0.601	0.737	0.355	0.174	/	/	/	/	/	/	/	/
LTE B12	0.092	0.001	0.063	0.001	0.181	0.264	0.274	0.378	/	0.143	/	/	/	/	/	/	/	/
LTE B26	0.122	0.065	0.082	0.093	0.116	0.247	0.205	0.425	/	0.067	/	/	/	/	/	/	/	/
LTE B66	0.100	0.071	0.084	0.073	0.127	0.215	0.139	0.229	0.089	/	/	/	/	/	/	/	/	/

Table 78: Maximum SAR of 2/3/4G of Main antenna

Test position	Head				Body		Hotspot						Product Specific 10-g					
	Left cheek	Left tilt	Right cheek	Right tilt	Front side	Back side	Front side	Back side	Left side	Right side	Top side	Bottom side	Front side	Back side	Left side	Right side	Top side	Bottom side
LTE B7	0.239	0.117	0.794	0.227	0.238	0.456	0.166	0.381	0.485	/	0.046	/	/	/	/	/	/	/

Table 79: Maximum SAR of 4G of Third antenna

Test position	Head				Body		Hotspot						Product Specific 10-g					
	Left cheek	Left tilt	Right cheek	Right tilt	Front side	Back side	Front side	Back side	Left side	Right side	Top side	Bottom side	Front side	Back side	Left side	Right side	Top side	Bottom side
2.4G Wi-Fi	0.159	0.002	0.002	0.002	0.088	0.184	0.18	0.379	/	0.606	0.001	/	/	/	/	/	/	/
5G Wi-Fi	0.096	0.095	0.091	0.077	0.168	0.191	0.261	0.377	/	0.517	0.057	/	0.322	0.487	/	1.341	0.110	/
BT	0.186	0.055	0.072	0.001	0.176	0.176	0.222	0.222	/	/	/	/	0.266	0.266	/	0.266	0.266	/

Table 80: Maximum SAR of Wi-Fi/BT

Test position	Head				Body		Hotspot						Product Specific 10-g					
	Left cheek	Left tilt	Right cheek	Right tilt	Front side	Back side	Front side	Back side	Left side	Right side	Top side	Bottom side	Front side	Back side	Left side	Right side	Top side	Bottom side
max(2/3/4G)	0.652	1.088	0.794	0.823	0.376	0.456	0.601	0.737	0.485	0.174	0.633	1.09	/	/	/	/	/	2.514
max(WiFi/BT)	0.167	0.095	0.091	0.077	0.222	0.222	0.261	0.379	/	0.606	0.057	/	0.322	0.487	/	1.341	0.266	/
Simultaneous Transmission SAR	0.819	**1.183**	0.885	0.900	0.578	0.678	0.862	1.116	0.485	0.780	0.690	1.09	0.322	0.487	/	1.341	0.266	2.514

Table 81: SAR Simultaneous Tx Combination of 2/3/4G antenna and Wi-Fi /BT antenna.

7.3.4 Simultaneous Transmission Conclusion

The above numeral summed SAR results is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore simultaneous transmission SAR with Volume Scans is not required per KDB 447498 D01.

Appendix A. System Check Plots
(Please See Appendix No.:SYBH(Z-SAR)20201128017001-A, total: 15 pages)

Appendix B. SAR Measurement Plots
(Please See Appendix No.:SYBH(Z-SAR)20201128017001-B, total: 91 pages)

Appendix C. Conducted Power Test Results and Power Reduction Mechanisms Validation
(Please See Appendix No.:SYBH(Z-SAR)20201128017001-C, total: 93 pages)

Appendix D. Calibration Certificate
(Please See Appendix No.:SYBH(Z-SAR)20201128017001-D, total: 94 pages)

Appendix E. Photo documentation
(Please See Appendix No.:SYBH(Z-SAR)20201128017001- E, total: 8 pages)

Appendix F. Antenna Location
(Please See Appendix No.:SYBH(Z-SAR)20201128017001-F, total: 1 page)

End