FCC SAR REPORT

Report No.:	JYTSZ-R14-2500068
Applicant:	TECNO MOBILE LIMITED
Address of Applicant:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Equipment Under Test (EUT)	
Product Name:	Mobile Phone
Model No.:	KM4s
Trade mark	TECNO
FCC ID:	2ADYY-KM4S
Applicable standards:	FCC 47 CFR Part 2.1093
Date of Test:	05 Apr., 2025 ~ 27 Apr., 2025
Test Result:	Maximum Reported 1-g SAR (W/kg) Head: 1.195 Body: 0.920 Hotspot: 0.920

Project by:	Eric Wang ***Project Engineer***	***Date:***	*16 May, 2025*
Reviewed by:	Bella Zhang ***Senior Engineer***	***Date:***	*16 May, 2025*
Approved by:	Jason Wei ***Manager***	***Date:***	*16 May, 2025*

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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2 Version

Version No.	Date	Description
00	*16 May, 2025*	*Original*

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4 SAR Results Summary

The maximum results of Specific Absorption Rate (SAR) found during test as below:
<Highest Reported standalone SAR Summary>

Exposure Position	Frequency Band	Reported 1-g SAR (W/kg)	Equipment Class	Highest Reported 1-g SAR (W/kg)
Head	GSM 850	0.900	PCE	1.195
	PCS 1900	0.641		
	WCDMA Band II	0.290		
	WCDMA Band IV	0.560		
	WCDMA Band V	1.019		
	LTE Band 2	0.835		
	LTE Band 4	0.703		
	LTE Band 5	1.195		
	LTE Band 7	0.541		
	LTE Band 12	0.926		
	LTE Band 13	0.510		
	LTE Band 17	0.934		
	LTE Band 26	1.135		
	LTE Band 66	0.569		
	WLAN 2.4 GHz	0.330	DTS	
	WLAN 5.2 GHz	0.346	NII	
	WLAN 5.3 GHz	0.393		
	WLAN 5.6 GHz	0.192		
	WLAN 5.8 GHz	0.124		
Body (10 mm Gap)	GSM 850	0.385	PCE	0.920
	PCS 1900	0.410		
	WCDMA Band II	0.920		
	WCDMA Band IV	0.357		
	WCDMA Band V	0.376		
	LTE Band 2	0.490		
	LTE Band 4	0.217		
	LTE Band 5	0.444		
	LTE Band 7	0.302		
	LTE Band 12	0.258		
	LTE Band 13	0.209		
	LTE Band 17	0.274		
	LTE Band 26	0.406		
	LTE Band 66	0.214		
	WLAN 2.4GHz	0.116	DTS	
	WLAN 5.2 GHz	0.257	NII	
	WLAN 5.3 GHz	0.377		
	WLAN 5.6 GHz	0.345		
	WLAN 5.8 GHz	0.313		
Hotspot (10 mm Gap)	GSM 850	0.385	PCE	0.920
	PCS 1900	0.410		
	WCDMA Band II	0.920		
	WCDMA Band IV	0.774		
	WCDMA Band V	0.376		
	LTE Band 2	0.490		
	LTE Band 4	0.291		
	LTE Band 5	0.444		
	LTE Band 7	0.302		
	LTE Band 12	0.348		
	LTE Band 13	0.209		
	LTE Band 17	0.363		
	LTE Band 26	0.406		

	LTE Band 66	0.248		
	WLAN 2.4 GHz	0.116	DTS	
	WLAN 5.2 GHz	0.365	NII	
	WLAN 5.8 GHz	0.313		

<Highest Reported simultaneous SAR Summary>

Exposure Position	Frequency Band	Reported 1-g SAR (W/kg)	Equipment Class	Highest Reported Simultaneous Transmission 1-g SAR (W/kg)
Right Cheek	LTE Band 5	1.195	PCE	1.594
	WLAN 5.3 GHz	0.106	NII	
	Bluetooth	0.293	DSS	

Note:

1. The highest simultaneous transmission is scalar summation of Reported standalone SAR per FCC KDB 690783 D01 v01r03, and scalar SAR summation of all possible simultaneous transmission scenarios are < 1.6W/kg.
2. This device is compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-2005, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528: 2013.
3. For DFS operation type is slaver device without radar detection function, 5.3GHz WLAN and 5.6GHz WLAN does not support hotspot mode.

5 General Information

5.1 Client Information

Applicant:	TECNO MOBILE LIMITED
Address of Applicant:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Manufacturer:	TECNO MOBILE LIMITED
Address of Manufacturer:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Factory:	SHENZHEN TECNO TECHNOLOGY CO., LTD.
Address of Factory:	101, Building 24, Waijing Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen City, P.R.China

5.2 General Description of EUT

Product Name:	Mobile Phone			
Model No.:	KM4s			
Category of device	Portable device			
Operation Frequency:	GSM:	GSM850: 824.2~848.8 MHz	PCS 1900: 1850.2~1909.8 MHz	
	WCDMA:	Band II: 1852.4~1907.6 MHz	Band V: 826.4~846.6 MHz	
		Band IV: 1712.4~1752.6 MHz		
	LTE:	Band 2:1850MHz~1910MHz	Band 4:1710MHz~1755MHz	
		Band 5:824MHz~849MHz	Band 7: 2500MHz~2570MHz	
		Band 12: 699MHz~716MHz	Band 13: 777MHz~787MHz	
		Band 17: 704MHz~716MHz	Band 26:814MHz~849MHz	
		Band 66:1710MHz~1780MHz		
	Wi-Fi:	2412MHz~2462MHz	5150MHz-5250MHz	
		5250MHz-5350MHz	5470MHz-5725MHz	
		5725MHz-5850MHz		
	Bluetooth: 2402 MHz ~ 2480 MHz			
Modulation technology:	GSM:	☒Voice(GMSK)	☒GPRS(GMSK)	☐EGPRS(GMSK, 8PSK)
	WCDMA:	☒RMC(QPSK)	☒HSUPA(QPSK)	☒HSDPA(QPSK,16QAM)
	LTE:	☒QPSK	☒16QAM	☒64QAM
	Wi-Fi:	☒802.11b(DSSS)	☒802.11a/g/n/ac (OFDM)	
	Bluetooth:	☒BDR(GFSK)	☒EDR(π/4-DQPSK, 8DPSK)	☒LE(GFSK)
Antenna Type:	Internal Antenna			
Antenna Gain:	GSM 850:	ANT0:-6.01 dBi	PCS 1900:	ANT0:-2.43 dBi
		ANT1:-4.85 dBi		ANT1:-2.30 dBi
	WCDMA Band II:	ANT0:-2.43 dBi	WCDMA Band V	ANT0:-6.01 dBi
		ANT1:-2.30 dBi		ANT1:-4.85 dBi
	WCDMA Band IV:	ANT0:-2.43 dBi		
		ANT1:-2.86 dBi		
	LTE Band 2:	ANT0:-2.43 dBi	LTE Band 4	ANT0:-2.43 dBi

		ANT1:-2.30 dBi		ANT1:-2.86 dBi
	LTE Band 5:	ANT0:-6.01 dBi	LTE Band 7:	ANT0:-3.66 dBi
		ANT1:-4.85 dBi		ANT1:0.65 dBi
	LTE Band 12:	ANT0: -4.55dBi	LTE Band 13:	ANT0: -4.55dBi
		ANT1:-5.50 dBi		ANT1:-5.50 dBi
	LTE Band 13:	ANT0: -4.55dBi	LTE Band 26:	ANT0: -6.01 dBi
		ANT1:-5.50 dBi		ANT1:-4.85 dBi
	LTE Band 66:	ANT0:-2.43 dBi		
		ANT1:-2.86 dBi		
	Bluetooth:	0.21 dBi	2.4G Wi-Fi:	0.21 dBi
	5G Wi-Fi:	0.08 dBi		
GPRS Class:	GPRS Class: 12			
DFS Operation Type:	☐ Master Device ☐ Slaver Device with Radar detection function ☒ Slaver Device without Radar detection function			
Dimensions (L*W*H):	166 mm (L)× 77 mm (W)× 8 mm (H)			
Accessories information:	Adapter: Model: U100TSB Input: AC100-240V, 50/60Hz, 0.3A Output: DC 5.0V, 2.0A 10W		Battery: Rechargeable Li-ion Polymer Battery DC3.85V, 4900mAh Headset: Support headset (shipped without)	

5.3 Maximum RF Output Power

Mode	Average Power (dBm)	
	GSM 850	PCS 1900
GSM (Voice)	33.64	30.50
GPRS (1 TX Slot)	33.63	30.49
GPRS (2 TX Slots)	31.36	28.10
GPRS (3 TX Slots)	29.32	26.43
GPRS (4 TX Slots)	27.19	24.35

Mode	Average Power (dBm)		
	WCDMA Band II	WCDMA Band IV	WCDMA Band V
AMR 12.2 kbps	23.78	23.60	24.15
RMC 12.2 kbps	23.76	23.63	24.11
HSDPA Sub-test 1	23.06	22.65	22.85
HSDPA Sub-test 2	22.81	22.81	22.61
HSDPA Sub-test 3	22.71	22.80	22.16
HSDPA Sub-test 4	22.72	22.79	22.19
HSUPA Sub-test 1	18.86	19.84	14.19
HSUPA Sub-test 2	19.38	19.94	14.35
HSUPA Sub-test 3	19.10	19.69	14.58
HSUPA Sub-test 4	19.48	19.99	13.91
HSUPA Sub-test 5	20.89	20.03	16.23

Mode	Average Power (dBm)							
	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 13	LTE Band 17	LTE Band 66
BW/1.4 MHz	25.03	24.81	24.70	/	25.00	/	/	25.17
BW/3.0 MHz	25.03	24.61	24.65	/	24.98	/	/	24.93
BW/5.0 MHz	25.18	24.74	24.56	23.17	24.96	23.90	25.02	25.27
BW/10 MHz	25.08	24.62	24.59	23.14	24.96	23.80	24.86	25.12
BW/15 MHz	25.12	24.75	/	23.06	/	/	/	25.41
BW/20 MHz	25.48	24.14	/	23.29	/	/	/	25.40

WLAN 2.4 GHz Band Average Power (dBm)			
Mode/Band	b	g	n (HT-20)
WLAN 2.4GHz	19.22	16.70	15.73

WLAN 5.2 GHz Band Average Power (dBm)						
Mode/Band	a	ac 20	ac 40	ac 80	n 20	n 40
WLAN 5.2GHz	15.11	13.98	14.25	13.28	13.90	14.15

WLAN 5.3 GHz Band Average Power (dBm)						
Mode/Band	a	ac 20	ac 40	ac 80	n 20	n 40
WLAN 5.3GHz	14.74	14.77	15.11	13.92	14.75	15.15

WLAN 5.6 GHz Band Average Power (dBm)						
Mode/Band	a	ac 20	ac 40	ac 80	n 20	n 40
WLAN 5.6GHz	14.75	14.52	14.88	13.85	14.49	14.85

WLAN 5.8 GHz Band Average Power (dBm)						
Mode/Band	a	ac 20	ac 40	ac 80	n 20	n 40
WLAN 5.8GHz	15.41	15.40	1.61	13.10	15.40	15.29

Bluetooth Average Power (dBm)							
Mode/Band	1 Mbps (GFSK)	2 Mbps (π/4DQPSK)	3 Mbps (8DPSK)	BLE PHY 1M	BLE PHY 2M	BLE Coded PHY S=2	BLE Coded PHY S=8
Bluetooth	8.46	7.81	8.19	-1.35	-1.57	-1.62	-1.73

5.4 Environment of Test Site

Temperature:	18°C ~25 °C
Humidity:	35%~75% RH
Atmospheric Pressure:	1010 mbar

5.5 Test Sample Plan

Sample Number	Used for Test Items
SZR012500143-2	SAR
***Remark**: JianYan Testing Group Shenzhen Co., Ltd. is only responsible for the test project data of the above samples, and will keep the above samples for a month.*	

5.6 Laboratory Facility

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

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.7 Test Location

JianYan Testing Group Shenzhen Co., Ltd.
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6 Introduction

6.1 Introduction

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

6.2 SAR Definition

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

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

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

$$SAR = C\left(\frac{\delta T}{\delta t}\right)$$

Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength. However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

7 RF Exposure Limits

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

7.3 RF Exposure Limits

SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
SPATIAL PEAK SAR Brain	1.6	8.0
SPATIAL AVERAGE SAR Whole Body	0.08	0.4
SPATIAL PEAK SAR Hands, Feet, Ankles, Wrists	4.0	20

Note:

1. The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2. The Spatial Average value of the SAR averaged over the whole body.
3. The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

8 SAR Measurement System

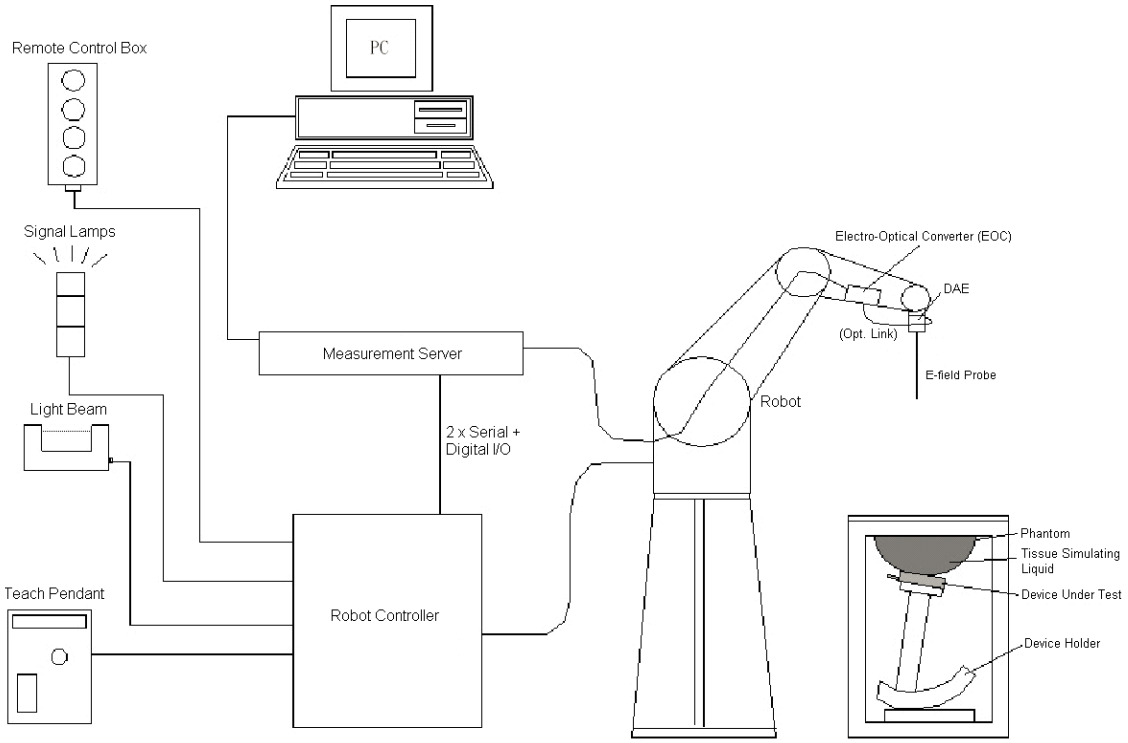

Fig. 8.1 SPEAG DASY System Configurations

The DASY system for performance compliance tests is illustrated above graphically. This system consists of the following items:

- A standard high precision 6-axis robot with controller, a teach pendant and software
- A data acquisition electronic (DAE) attached to the robot arm extension
- A dosimetric probe equipped with an optical surface detector system
- The electro-optical converter (EOC) performs the conversion between optical and electrical signals
- A measurement server performs the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the accuracy of the probe positioning
- A computer operating Windows XP
- DASY software
- Remove control with teach pendant and additional circuitry for robot safety such as warming lamps, etc.
- The SAM twin phantom
- A device holder
- Tissue simulating liquid
- Dipole for evaluating the proper functioning of the system

Component details are described in the following sub-sections.

8.1 E-Field Probe

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

- **E-Field Probe Specification**
  <EX3DV4 Probe>

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency Directivity	10 MHz to 6 GHz; Linearity: ± 0.2 dB ± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 μW/g to 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 μW/g)
Dimensions	Overall length: 330 mm (Tip: 20mm) Tip diameter: 2.5 mm (Body: 12mm) Typical distance from probe tip to dipole centers: 1 mm

Fig. 8.2 Photo of E-Field Probe

- **E-Field Probe Calibration**
  Each probe needs to be calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy shall be evaluated and within ± 0.25 dB. The sensitivity parameters (Norm X, Norm Y and Norm Z), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested. The calibration data can be referred to appendix E of this report.

8.2 Data Acquisition Electronics (DAE)

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

Fig. 8.3 Photo of DAE

8.3 Robot

The SPEAG DASY system uses the high precision robots (DASY5: TX60L) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version (DASY5: CS8c) from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; nobelt drives)
- Jerk-free straight movements
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)

Fig. 8.4 Photo of Robot

8.4 Measurement Server

The measurement server is based on a PC/104 CPU board with CPU (DASY 5: 400MHz, Intel Celeron), chip-disk (DASY5: 128 MB), RAM (DASY5: 128 MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY I/O board, which is directly connected to the PC/104 bus of the CPU board.
The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.

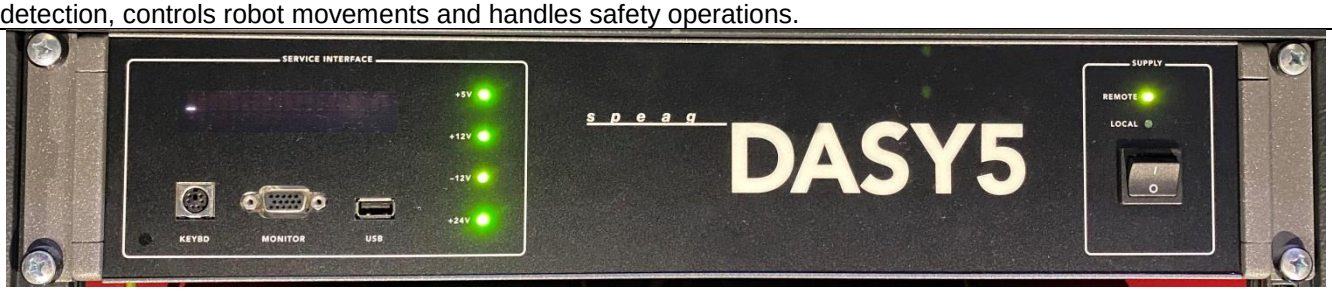

Fig. 8.5 Photo of Server for DASY5

8.5 Light Beam Unit

The light beam switch allows automatic "tooling" of the probe. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip.
The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

Fig. 8.6 Photo of Light Beam

8.6 Phantom

<SAM Twin Phantom>

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

Fig. 8.7 Photo of SAM Twin Phantom

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

<ELI4 Phantom >

The ELI4 phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30MHz to 6 GHz. ELI4 is fully compatible with the latest draft of the standard IEC 62209-2 and all known tissue simulating liquids.
ELI4 has been optimized regarding its performance and can be integrated into a SPEAG standard phantom table. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points
The phantom can be used with the following tissue simulating liquids:

- Water-sugar based liquids can be left permanently in the phantom. Always cover the liquid if the system is not in use; otherwise the parameters will change due to water evaporation.
- DGBE based liquids should be used with care. As DGBE is a softener for most plastics, the liquid should be taken out of the phantom and the phantom should be dried when the system is not in use (desirable at least once a week).
- Do not use other organic solvents without previously testing the phantom resistiveness

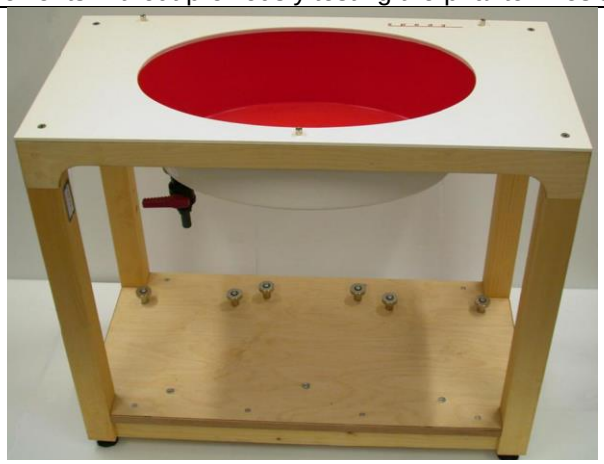

Fig.8.8 Photo of ELI4 Phantom

8.7 Device Holder

<Device Holder for SAM Twin Phantom>

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.
The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (ERP).
Thus the device needs no repositioning when changing the angles.
The DASY device holder is constructed of low-low POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 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.

Fig. 8.9 Photo of Device Holder

8.8 Data storage and Evaluation

- **Data Storage**

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

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

- **Data Evaluation**

  The DASY post-processing software (SEMCAD) 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	$ConvF_i$
	- Diode compression point	dcp_i
Device Parameters:	- Frequency	f
	- Crest	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 multi-meter 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:

$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

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: $E_i = \sqrt{\frac{v_i}{Norm_i \cdot ConvF}}$

H-Field Probes: $H_i = \sqrt{V_i} \cdot \frac{a_{i0} + a_{i1} f + a_{i2} f^2}{f}$

With V_i = compensated signal of channel i, (i = x, y, z)
$Norm_i$ = senor sensitivity of channel i, (i = x, y, z), μV/ $(V/m)^2$
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
Hi = magnetic field strength of channel i in A/m

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

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

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

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

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 = equipment tissue density in g/cm^3

Note that the density is set to 1, to account for actual head tissue density rather than the density of the tissue simulating liquid.

8.9 Test Equipment List

Manufacturer	Equipment Description	Model	Management Number	Cal. Information	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	WXJ023	05.18.2023	05.17.2026
SPEAG	835MHz System Validation Kit	D835V2	WXJ023-1	06.08.2022	06.07.2025
SPEAG	1750MHz System Validation Kit	D1750V2	WXJ023-6	01.17.2024	01.16.2027
SPEAG	1900MHz System Validation Kit	D1900V2	WXJ023-2	06.07.2022	06.06.2025
SPEAG	2450MHz System Validation Kit	D2450V2	WXJ023-3	06.06.2022	06.05.2025
SPEAG	2600MHz System Validation Kit	D2600V2	WXJ023-4	10.23.2024	10.22.2027
SPEAG	5GHz System Validation Kit	D5GHzV2	WXJ023-14	01.16.2024	01.15.2027
SPEAG	Data Acquisition Electronics	DAE4	WXJ021	12.31.2024	12.30.2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	WXJ022-1	01.15.2025	01.14.2026
SPEAG	DASY 52 Measurement Software	DASY 52	Version 52.10.4.1527	N.C.R	N.C.R
SPEAG	DASY 52 File Conversion Software	SEMCAD X	Version 14.6.14 (7501)	N.C.R	N.C.R
SPEAG	Robot Controller	CS8Cspeag-TX60	WXG023-1	N.C.R	N.C.R
SPEAG	Phantom	Twin SAM V5.0	WXG023-4	N.C.R	N.C.R
SPEAG	Phantom	2mm Oval Phantom ELI5	WXG023-5	N.C.R	N.C.R
SPEAG	Phone Positioner	N/A	WXG023-6	N.C.R	N.C.R
St?ubli	Robot	TX60Lspeag	WXG023-3	N.C.R	N.C.R
Anritsu	Universal Radio Communication Analyzer	MT8820C	WXJ008-5	12.16.2024	12.15.2026
R&S	Universal Radio Communication Tester	CMU200	WXJ008-2	12.27.2023	12.26.2025
KEYSIGHT	Network Analyzer	E5071C	WXJ091	12.16.2024	12.15.2025
KEYSIGHT	EPM Series Power Meter	N1914A	WXJ075	06.11.2024	06.10.2025
KEYSIGHT	E-Series Power Sensor	E9300H	WXJ075-1	06.11.2024	06.10.2025
KEYSIGHT	E-Series Power Sensor	E9300H	WXJ075-2	06.11.2024	06.10.2025
KEYSIGHT	Signal Generator	N5173B	WXJ006-3	09.09.2024	09.08.2025
SPEAG	Dielectric Assessment Kit	3.5 Probe	WXJ022-2	02.17.2025	02.16.2026
Huber Suhner	RF Cable	SUCOFLEX	WXG008-13	See Note 3	
Huber Suhner	RF Cable	SUCOFLEX	WXG008-14	See Note 3	
Huber Suhner	RF Cable	SUCOFLEX	WXG008-15	See Note 3	
Weinschel	Attenuator	23-3-34	WXG008-16	See Note 3	
Anritsu	Directional Coupler	MP654A	WXG008-17	See Note 3	
SPEAG	DAK Measurement Software	DAK	Version: DAK 3.5	N.C.R	
TXC	Broadband Amplifier	BBA018000	WXG008-11	See Note 4	

Note:

1. The calibration certificate of DASY can be referred to appendix C of this report.
2. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The Insertion Loss calibration of Dual Directional Coupler and Attenuator were characterized via the network analyzer and compensated during system check.
4. In system check we need to monitor the level on the power meter, and adjust the power amplifier level to have precise power level to the dipole; the measured SAR will be normalized to 1 W input power according to the ratio of 1 W to the input power to the dipole. For system check, the calibration of the power amplifier is deemed not critically required for correct measurement; the power meter is critical and we do have calibration for it
5. Attenuator insertion loss is calibrated by the network Analyzer, which the calibration is valid, before system check.
6. N.C.R means No Calibration Requirement.

9 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 9.1, for body SAR testing, the liquid height from the center of the flat phantom to liquid top surface is larger than 15 cm, which is shown in Fig. 9.2.

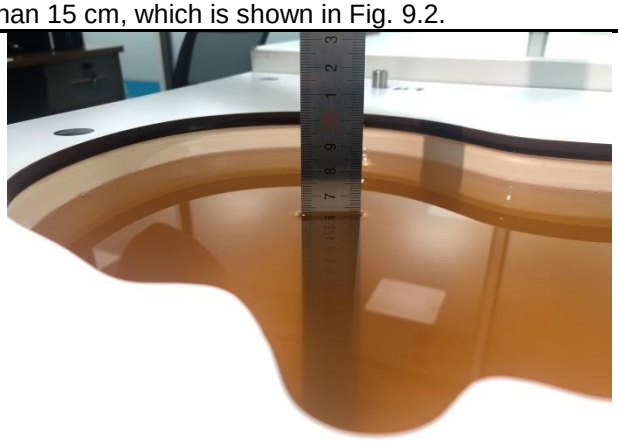

Fig. 9.1 Photo of Liquid Height for Head SAR

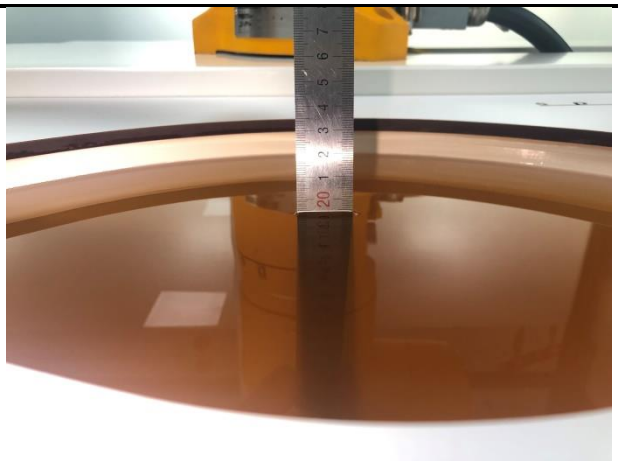

Fig. 9.2 Photo of Liquid Height for Body SAR

The relative permittivity and conductivity of the tissue material should be within ±5% of the values given in the table below recommended by the FCC OET 65 supplement C and RSS 102 Issue 5.

Target Frequency (MHz)	εr	σ(S/m)
150	52.3	0.76
300	45.3	0.87
450	43.5	0.87
835	41.5	0.90
900	41.5	0.97
915	41.5	0.98
1450	40.5	1.20
1610	40.3	1.29
1800-2000	40.0	1.40
2450	39.2	1.80
3000	38.5	2.40
5800	35.3	5.27

(εr = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

The dielectric parameters of liquids were verified prior to the SAR evaluation using a Speag Dielectric Probe Kit and an Agilent Network Analyzer.
The following table shows the measuring results for simulating liquid.

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (εr)	Conductivity Target(σ)	Permittivity Target(εr)	Delta (σ)%	Delta (εr)%	Limit (%)	Date (mm/dd/yy)
750	21.3	0.86	39.90	0.89	41.90	-3.37	-4.78	±5	4/27/2025
835	21.5	0.89	39.70	0.90	41.50	-1.11	-4.34	±5	4/5/2025
1750	21.1	1.33	39.18	1.37	40.10	-3.21	-2.29	±5	4/8/2025
1900	21.4	1.41	38.97	1.40	40.00	0.71	-2.58	±5	4/11/2025
2450	21.3	1.80	37.66	1.80	39.20	0.00	-3.93	±5	4/15/2025
2600	21.3	1.93	37.40	1.96	39.00	-1.53	-4.10	±5	4/15/2025
5200	21.2	4.47	36.25	4.66	36.00	-4.01	0.69	±5	4/20/2025
5300	21.2	4.58	36.09	4.76	35.90	-3.78	0.53	±5	4/20/2025
5600	21.4	4.89	35.56	5.07	35.50	-3.53	0.17	±5	4/23/2025
5800	21.4	5.10	35.21	5.27	35.30	-3.23	-0.25	±5	4/23/2025

10 SAR System Verification

Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix it underneath the flat phantom and a corresponding distance holder.

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

- **System Setup**

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

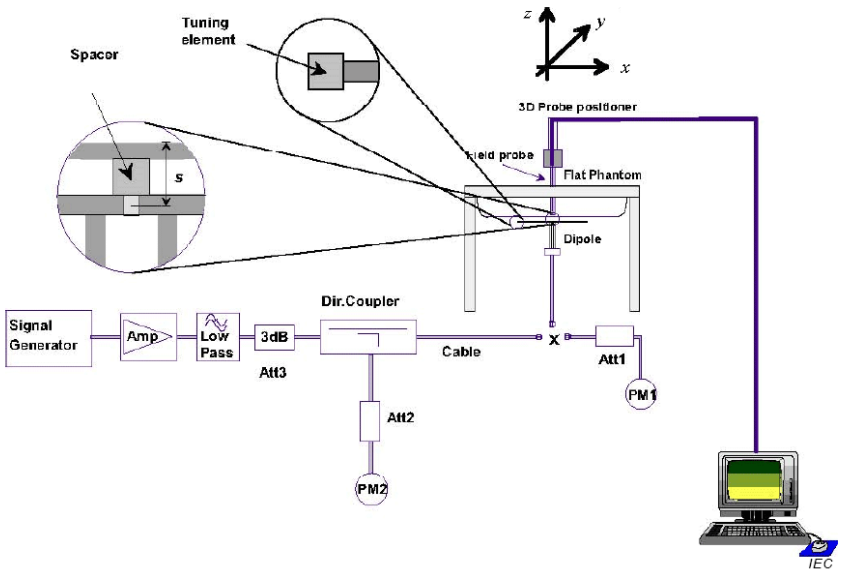

Fig.10.1 System Verification Setup Diagram

Fig.10.2 Photo of Dipole setup

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- **System Verification Results**
  Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10%. The table as below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix C of this report.

Date (mm/dd/yy)	Frequency (MHz)	Power fed onto dipole (mW)	Measured 1g SAR (W/kg)	Normalized to1W 1g SAR (W/kg)	1W Target 1g SAR (W/kg)	Deviation (%)
4/27/2025	750	80	0.712	8.90	8.55	4.09
4/5/2025	835	80	0.802	10.03	9.6	4.48
4/8/2025	1750	40	1.420	35.50	36.5	-2.74
4/11/2025	1900	40	1.590	39.75	39.9	-0.38
4/15/2025	2450	40	2.240	56.00	53.4	4.87
4/15/2025	2600	40	2.310	57.75	56.3	2.58
4/20/2025	5200	40	3.160	79.00	77.00	2.60
4/20/2025	5300	40	3.240	81.00	79.20	2.27
4/23/2025	5600	40	3.370	84.25	81.90	2.87
4/23/2025	5800	40	3.240	81.00	78.90	2.66

11 EUT Testing Position

This EUT was tested in ten different positions. They are right cheek/right tilted/left cheek/left tilted for head, Front/Back/Left Side/Right Side/Top Side/Bottom Side of the EUT with phantom 10 mm gap, as illustrated below, please refer to Appendix B for the test setup photos.

11.1 Handset Reference Points

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

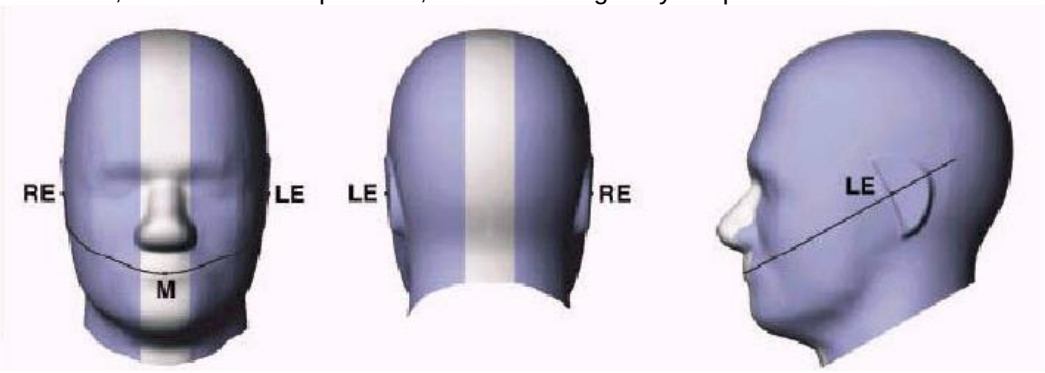

Fig.11.1 Illustration for Front, Back and Side of SAM Phantom

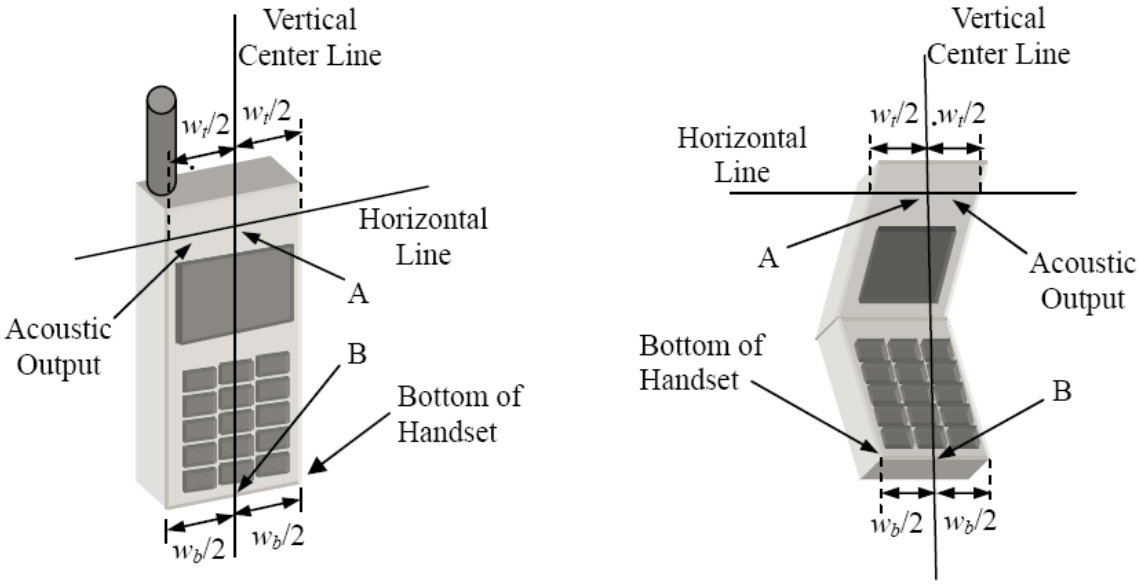

Fig. 11.2 Illustration for Handset Vertical and Horizontal Reference Lines

11.2 Positioning for Cheek / Touch

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

Fig. 11.3 Illustration for Cheek Position

11.3 Positioning for Ear / 15o Tilt

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

Fig.11.4 Illustration for Tilted Position

11.4 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document FCC KDB Publication 648474 D04v01r03. The SAR required in these regions of SAM should be measured using a flat phantom. The phone should be positioned with a separation distance of 4 mm between the ear reference point (ERP) and the outer surface of the flat phantom shell. While maintaining this distance at the ERP location, the low (bottom) edge of the phone should be lowered from the phantom to establish the same separation distance between the peak SAR locations identified by the truncated partial SAR distribution measured with the SAM phantom. The distance from the peak SAR location to the phone is determined by the straight line passing perpendicularly through the phantom surface. When it is not feasible to maintain 4 mm separation at the ERP while also establishing the required separation at the peak SAR location, the top edge of the phone will be allowed to touch the phantom with a separation < 4 mm at the ERP. The phone should not be tilted to the left or right while placed in this inclined position to the flat phantom.

11.5 Body Worn Accessory Configurations

- To position the device parallel to the phantom surface with either keypad up or down.
- To adjust the device parallel to the flat phantom.
- To adjust the distance between the device surface and the flat phantom to 10 mm or holster surface and the flat phantom to 0 mm.

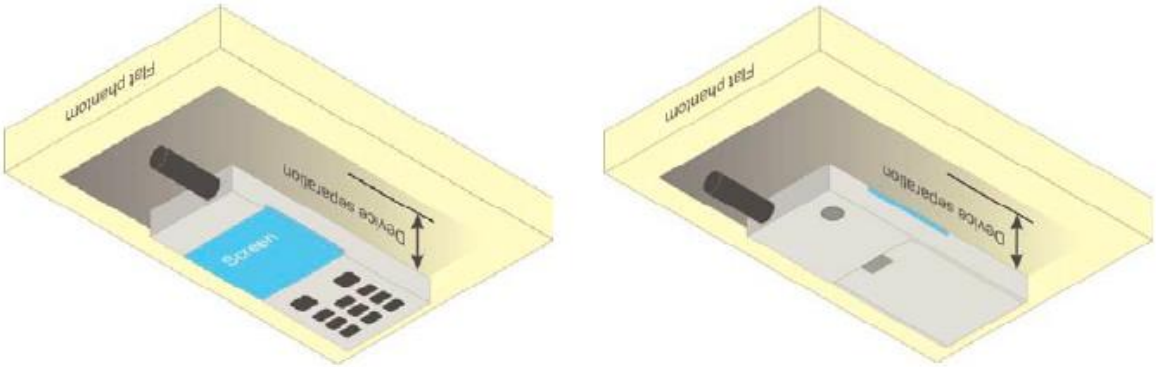

Fig.11.5 Illustration for Body Worn Position

11.6 Wireless Router (Hotspot) Configurations

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

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. Therefore, SAR must be evaluated for each frequency transmission and mode separately and summed with the WIFI transmitter according to KDB 648474 publication procedures. The “Portable Hotspot” feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

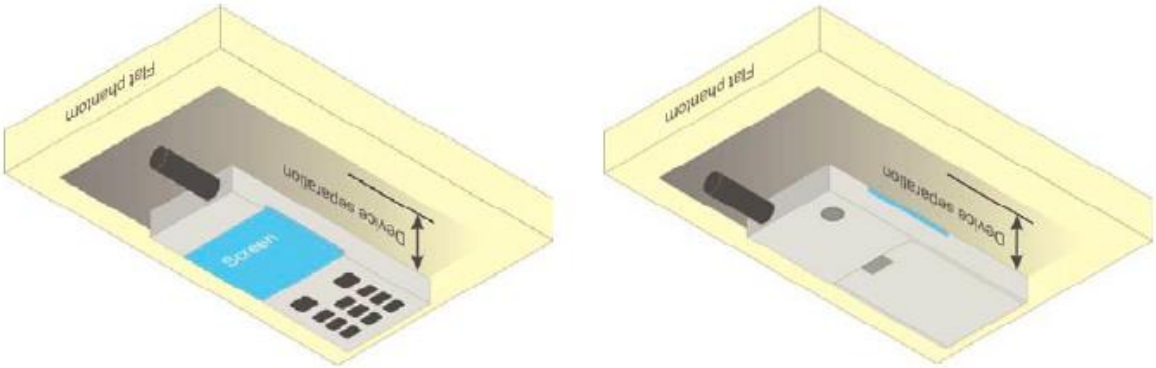

Fig.11.6 Illustration for Hotspot Position

12 Measurement Procedures

The measurement procedures are as below:

<Conducted power measurement>

- For WWAN power measurement, use base station simulator to configure EUT WWAN transition in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- Read the WWAN RF power level from the base station simulator.
- For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band.
- Connect EUT RF port through RF cable to the power meter or spectrum analyzer, and measure WLAN/BT output power.

<Conducted power measurement>

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

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

- Power reference measurement
- Area scan
- Zoom scan
- Power drift measurement

12.1 Spatial Peak SAR Evaluation

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

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

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

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

12.2 Power Reference Measurement

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

12.3 Area & Zoom Scan Procedures

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r04 quoted below.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	½·δ·ln(2) mm ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$ mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

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

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

12.4 Volume Scan Procedures

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

12.5 SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1g and 10g cubes, the extrapolation distance should not be larger than 5 mm.

12.6 Power Drift Monitoring

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

13 Conducted RF Output Power

13.1 GSM Conducted Power

Band: GSM 850	Burst Average Power (dBm)			Frame-Average Power(dBm)		
Channel	128	190	251	128	190	251
Frequency (MHz)	824.2	836.6	848.8	824.2	836.6	848.8
GSM (GMSK, Voice)	**33.64**	33.52	33.15	24.61	24.49	24.12
GPRS (GMSK, 1 TX slot)	33.63	33.49	33.14	24.60	24.46	24.11
GPRS (GMSK, 2 TX slots)	**31.36**	31.28	30.92	**25.34**	25.26	24.90
GPRS (GMSK, 3 TX slots)	29.12	29.32	29.10	24.86	25.06	24.84
GPRS (GMSK, 4 TX slots)	26.88	27.19	26.96	23.87	24.18	23.95

Remark:

1. The frame-averaged power is linearly reported the maximum burst averaged power over 8 time slots. The calculated method are shown as below:
   The duty cycle "x" of different time slots as below:
   1 TX slot is 1/8, 2 TX slots is 2/8, 3 TX slots is 3/8 and 4 TX slots is 4/8
   Based on the calculation formula:
   Frame-averaged power = Burst averaged power + 10 1og (x)
   So,
   Frame-averaged power (1 TX slot) = Burst averaged power (1 TX slot)– 9.03
   Frame-averaged power (2 TX slots) = Burst averaged power (2 TX slots)– 6.02
   Frame-averaged power (3 TX slots) = Burst averaged power (3 TX slots)– 4.26
   Frame-averaged power (4 TX slots) = Burst averaged power (4 TX slots) – 3.01
2. CS1 coding scheme was used in GPRS conducted power measurements and SAR testing, MCS5 coding scheme was used in EGPRS conducted power measurements and SAR testing (if necessary).

Note:

1. For Head SAR testing, GSM Voice mode should be evaluated, therefore the EUT was set in GSM 850 Voice mode.
2. For Body worn SAR testing and Hotspot mode SAR testing, GPRS mode should be evaluated, therefore the EUT was set in GPRS 2 TX slots mode due to the highest frame-averaged power.
3. Per KDB447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.

Band: PCS 1900	Burst Average Power (dBm)			Frame-Average Power(dBm)		
Channel	512	661	810	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8	1850.2	1880.0	1909.8
GSM (GMSK, Voice)	30.30	**30.50**	30.40	21.27	21.47	21.37
GPRS (GMSK, 1 TX slot)	30.29	30.49	30.39	21.26	21.46	21.36
GPRS (GMSK, 2 TX slots)	27.84	**28.10**	27.97	21.82	**22.08**	21.95
GPRS (GMSK, 3 TX slots)	26.15	26.43	26.30	21.89	22.17	22.04
GPRS (GMSK, 4 TX slots)	24.08	24.35	24.18	21.07	21.34	21.17

Remark:

1. The frame-averaged power is linearly reported the maximum burst averaged power over 8 time slots. The calculated method are shown as below:
   The duty cycle "x" of different time slots as below:
   1 TX slot is 1/8, 2 TX slots is 2/8, 3 TX slots is 3/8 and 4 TX slots is 4/8
   Based on the calculation formula:
   Frame-averaged power = Burst averaged power + 10 1og (x)
   So,
   Frame-averaged power (1 TX slot) = Burst averaged power (1 TX slot)– 9.03
   Frame-averaged power (2 TX slots) = Burst averaged power (2 TX slots)– 6.02
   Frame-averaged power (3 TX slots) = Burst averaged power (3 TX slots)– 4.26
   Frame-averaged power (4 TX slots) = Burst averaged power (4 TX slots) – 3.01
2. CS1 coding scheme was used in GPRS conducted power measurements and SAR testing, MCS5 coding scheme was used in EGPRS conducted power measurements and SAR testing (if necessary).

Note:

1. For Head SAR testing, GSM Voice mode should be evaluated, therefore the EUT was set in PCS 1900 Voice mode.
2. For Body worn SAR testing and Hotspot mode SAR testing, GPRS mode should be evaluated, therefore the EUT was set in GPRS 2 TX slots mode due to the highest frame-averaged power.
3. Per KDB447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.

13.2 WCDMA Conducted Power

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station Rohde & Schwarz CMU200 referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table 1

Sub-test	β_c	β_d	β_d *(SF)*	β_c/β_d	β_{hs} (1)	CM (dB)(2)
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

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 β_c/β_d =12/15, β_{hs}/β_c=24/15.
Note 3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

HSDPA Sub-test setup configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station Rohde & Schwarz CMU200 referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table 2

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

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 8 ⇔ $A_{hs} = \beta_{hs}/\beta_c$ = 30/15 ⇔ β_{hs}= 30/15 *β_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, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.
Note 6: β_{ed} cannot be set directly; it is set by Absolute Grant Value.

HSUPA Sub-test setup configuration

WCDMA Conducted Power:

WCDMA Average power (dBm)			
Band	WCDMA Band II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
AMR 12.2 kbps	23.22	23.77	23.78
RMC 12.2 kbps	23.16	23.60	**23.76**
HSDPA Sub-test 1	23.06	23.00	23.06
HSDPA Sub-test 2	22.77	22.79	22.81
HSDPA Sub-test 3	22.62	22.58	22.71
HSDPA Sub-test 4	22.65	22.69	22.72
HSUPA Sub-test 1	18.49	18.83	18.86
HSUPA Sub-test 2	19.28	19.38	19.27
HSUPA Sub-test 3	19.00	19.08	19.10
HSUPA Sub-test 4	19.37	19.48	19.46
HSUPA Sub-test 5	20.89	20.86	20.84

WCDMA Average power (dBm)			
Band	WCDMA Band IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
AMR 12.2 kbps	23.20	23.16	23.60
RMC 12.2 kbps	23.26	23.24	**23.63**
HSDPA Sub-test 1	22.22	22.65	21.98
HSDPA Sub-test 2	22.46	22.81	22.15
HSDPA Sub-test 3	22.47	22.80	22.22
HSDPA Sub-test 4	22.51	22.79	22.26
HSUPA Sub-test 1	19.41	19.84	19.32
HSUPA Sub-test 2	19.62	19.94	19.59
HSUPA Sub-test 3	19.32	19.69	19.29
HSUPA Sub-test 4	19.71	19.99	19.74
HSUPA Sub-test 5	19.76	20.03	19.49

WCDMA Average power (dBm)			
Band	WCDMA Band V		
Channel	4132	4183	4233
Frequency (MHz)	826.4	836.6	846.6
AMR 12.2 kbps	23.54	23.88	24.15
RMC 12.2 kbps	23.51	23.86	**24.11**
HSDPA Sub-test 1	22.85	22.62	22.79
HSDPA Sub-test 2	22.61	22.42	22.53
HSDPA Sub-test 3	22.03	22.05	22.16
HSDPA Sub-test 4	22.07	22.02	22.19
HSUPA Sub-test 1	13.76	13.96	14.19
HSUPA Sub-test 2	13.97	14.14	14.35
HSUPA Sub-test 3	13.70	14.58	14.09
HSUPA Sub-test 4	13.53	13.69	13.91
HSUPA Sub-test 5	16.04	16.05	16.23

Note:

1. Applying the subtest setup in Table C.11.1.3 of 3GPP TS 34.121-1
2. Per KDB 941225 D01, RMC 12.2kbps mode is used to evaluate SAR due the highest output power. If AMR 12.2 kbps power is < 0.25dB higher than RMC 12.2kbps, SAR tests with AMR 12.2 kbps can be excluded.
3. AMR, HSDPA RF power will not be larger than RMC 12.2kbps, detailed information is included in Tune-up Procure exhibit.

13.3 LTE Conducted Power

13.3.1 Largest channel bandwidth standalone SAR test requirements

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 among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required 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.8 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.

QPSK with 50% RB allocation

The procedures required for 1 RB allocation in section 4.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.9

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 sections 4.2.1 and 4.2.2 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.

Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 4.2.1, 5.2.2 and 4.2.3 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 > ? dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

13.3.2 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 4.2 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 > ? 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. The equivalent channel configuration for the RB allocation, RB offset and modulation etc. is determined for the smaller channel bandwidth according to the same number of RB allocated in the largest channel bandwidth. For example, 50 RB in 10 MHz channel bandwidth does not apply to 5 MHz channel bandwidth; therefore, this cannot be tested in the smaller channel bandwidth. However, 50% RB allocation in 10 MHz channel bandwidth is equivalent to 100% RB allocation in 5 MHz channel bandwidth; therefore, these are the equivalent configurations to be compared to determine the specific channel and configuration in the smaller channel bandwidth that need SAR testing.

13.3.3 TDD LTE configuration setup for SAR measurement

According to KDB 941225 D05v02r03 and April 2013 TCB workshop slides, SAR must be tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- see 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- “special subframe S” contains both uplink and downlink transmissions and must be taken into consideration to determine the transmission duty factor
  - according to the worst case uplink and downlink cyclic prefix requirements for UpPTS to determine the highest SAR test duty factor

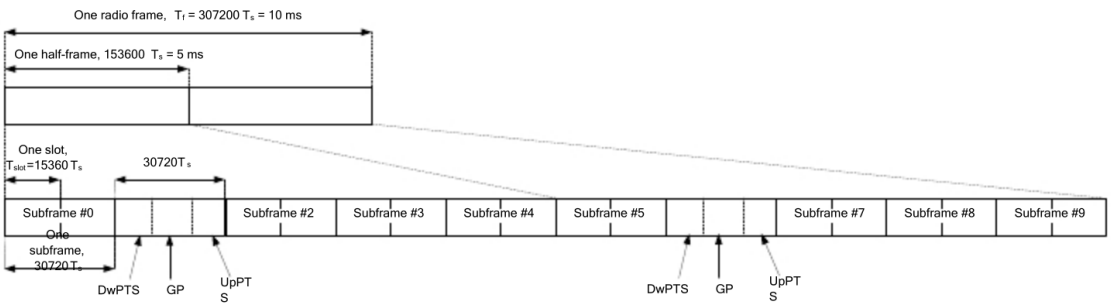

Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			-	-	-
8	$24144 \cdot T_s$			-	-	-

Per 3GPP 36.211 section 4.2, each radio frame of length T_f=37200?T_s = 10 ms consists of two half-frames of length 153600?Ts = 5ms each. Each half-frame consists of five subframes of length 30720 ?T_s = 1ms. So, the uplink duty factor in special subframe as below:

Special Subframe configuration	Normal cyclic prefix in downlink		Extended cyclic prefix in downlink	
	Duty factor of Uplink		Duty factor of Uplink	
	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	7.14%	8.33%	7.14%	8.33%
1	7.14%	8.33%	7.14%	8.33%
2	7.14%	8.33%	7.14%	8.33%
3	7.14%	8.33%	7.14%	8.33%
4	7.14%	8.33%	14.27%	16.67%
5	14.27%	16.67%	14.27%	16.67%
6	14.27%	16.67%	14.27%	16.67%
7	14.27%	16.67%	14.27%	16.67%
8	14.27%	16.67%	/	/
9	14.27%	16.67%	/	/

Table 4.2-2: Uplink-downlink configurations.

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

According to above table:

1. The highest duty factor is configuration 0;
2. The duty factor of uplink in one half-frame with normal cyclic prefix is: (3ms + 0.143ms)/5ms=62.86%;
3. The duty factor of uplink in one half-frame with extended cyclic prefix is: (3ms + 0.167ms)/5ms=63.34%;
4. For purpose to get the worst case SAR test duty factor, the duty factor of normal cyclic prefix in uplink scaled-up to the extended cyclic prefix in uplink, the scaling factor is 63.34%/62.86%=1.008, and the scaling factor will be taken into the final measured SAR.

LTE Band 2 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18607	18900	19193
					1850.7MHz	1880.0MHz	1909.3MHz
Band 2	1.4	QPSK	1	0	24.74	24.94	24.95
			1	2	24.79	24.94	24.94
			1	5	24.73	25.03	25.02
			3	0	23.93	24.26	24.39
			3	1	23.88	24.19	24.41
			3	2	23.97	24.24	24.40
			6	0	23.03	23.29	23.29
		16QAM	1	0	24.53	23.94	24.09
			1	2	23.72	23.87	24.07
			1	5	23.74	24.01	24.12
			3	0	22.72	23.12	23.30
			3	1	22.84	23.13	23.33
			3	2	22.74	23.13	23.33
			6	0	22.16	22.29	22.56
		64QAM	1	0	24.58	23.18	23.62
			1	2	22.53	23.13	23.64
			1	5	22.61	23.26	23.63
			3	0	23.22	23.36	23.24
			3	1	23.22	23.22	23.24
			3	2	23.22	23.38	23.22
			6	0	21.61	21.93	22.13

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18615	18900	19185
					1851.5MHz	1880.0MHz	1908.5MHz
Band 2	3	QPSK	1	0	24.70	24.89	25.02
			1	7	24.63	25.00	25.01
			1	14	24.69	25.03	24.96
			8	0	22.99	23.29	23.32
			8	4	22.90	23.34	23.26
			8	7	23.00	23.43	23.32
			15	0	23.02	23.24	23.39
		16QAM	1	0	23.71	23.89	24.17
			1	7	23.74	24.07	24.14
			1	14	23.78	23.94	24.16
			8	0	22.20	22.46	22.57
			8	4	22.24	22.47	22.59
			8	7	22.32	22.59	22.53
			15	0	22.06	22.45	22.40
		64QAM	1	0	23.36	23.25	23.73
			1	7	23.37	23.33	23.70
			1	14	23.34	23.37	23.66
			8	0	21.73	21.96	22.08
			8	4	21.70	21.97	22.07
			8	7	21.74	22.06	22.14
			15	0	21.82	22.28	22.23

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18625	18900	19175
					1852.5MHz	1880.0MHz	1907.5MHz
Band 2	5	QPSK	1	0	24.79	24.90	23.34
			1	12	24.82	25.16	25.18
			1	24	24.79	25.16	24.88
			12	0	23.11	23.35	23.34
			12	6	23.04	23.30	23.39
			12	11	23.05	23.31	23.40
			25	0	23.10	23.18	23.47
		16QAM	1	0	23.71	23.47	24.06
			1	12	23.75	23.57	24.09
			1	24	23.82	23.62	24.10
			12	0	22.14	22.41	22.41
			12	6	22.10	22.39	22.46
			12	11	22.06	22.39	22.46
			25	0	22.02	22.50	22.42
		64QAM	1	0	22.55	23.17	22.95
			1	12	22.70	23.25	22.95
			1	24	22.67	23.23	23.02
			12	0	21.77	22.09	22.18
			12	6	21.78	22.09	22.10
			12	11	21.79	22.09	22.10
			25	0	21.78	22.39	22.11

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18650	18900	19150
					1855.0MHz	1880.0MHz	1905.0MHz
Band 2	10	QPSK	1	0	24.71	24.97	25.05
			1	24	24.70	24.92	25.06
			1	49	24.84	25.06	25.08
			25	0	22.93	23.20	23.30
			25	12	23.03	23.26	23.43
			25	24	23.03	23.28	23.35
			50	0	23.05	23.33	23.43
		16QAM	1	0	23.76	24.21	23.65
			1	24	23.85	24.21	23.75
			1	49	23.87	24.29	23.76
			25	0	22.27	22.34	22.57
			25	12	22.27	22.38	22.57
			25	24	22.26	22.38	22.53
			50	0	22.18	22.44	22.41
		64QAM	1	0	22.58	23.52	23.16
			1	24	22.65	23.57	23.18
			1	49	22.74	23.62	23.15
			25	0	21.96	22.16	22.27
			25	12	21.99	22.16	22.18
			25	24	21.91	22.16	22.19
			50	0	21.93	22.20	22.30

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18675	18900	19125
					1857.5MHz	1880.0MHz	1902.5MHz
Band 2	15	QPSK	1	0	24.72	25.03	24.88
			1	37	24.79	25.08	24.96
			1	74	24.92	25.12	24.94
			36	0	22.91	23.38	23.32
			36	16	22.94	23.23	23.29
			36	35	22.94	23.36	23.40
			75	0	23.12	23.26	23.26
		16QAM	1	0	24.02	24.14	24.22
			1	37	24.16	24.27	24.23
			1	74	24.28	24.21	24.28
			36	0	22.23	22.41	22.53
			36	16	22.24	22.41	22.57
			36	35	22.22	22.38	22.58
			75	0	22.26	22.36	22.45
		64QAM	1	0	23.06	23.66	23.62
			1	37	23.11	23.71	23.52
			1	74	23.19	23.78	23.49
			36	0	21.86	22.17	22.28
			36	16	21.87	22.20	22.31
			36	35	21.89	22.21	22.31
			75	0	21.96	22.25	22.26

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18700	18900	19100
					1860.0MHz	1880.0MHz	1900.0MHz
Band 2	20	QPSK	1	0	24.96	23.02	25.41
			1	49	25.10	25.09	25.46
			1	99	25.18	25.35	25.48
			50	0	23.10	23.39	23.50
			50	24	23.01	23.34	23.34
			50	49	23.03	23.36	23.36
			100	0	23.12	23.20	23.43
		16QAM	1	0	24.15	24.06	24.62
			1	49	24.18	23.95	24.67
			1	99	24.30	24.21	24.59
			50	0	22.12	22.47	22.54
			50	24	22.13	22.47	22.50
			50	49	22.15	22.42	22.49
			100	0	22.16	22.36	22.56
		64QAM	1	0	23.69	23.49	24.14
			1	49	23.69	23.42	24.19
			1	99	23.80	23.61	24.10
			50	0	21.94	22.27	22.25
			50	24	21.96	22.30	22.28
			50	49	21.86	22.32	22.28
			100	0	21.98	22.14	22.34

LTE Band 4 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19957	20175	20393
					1710.7	1732.5	1754.3
Band 4	1.4	QPSK	1	0	24.17	24.11	24.70
			1	2	24.23	24.17	24.81
			1	5	24.18	24.19	24.81
			3	0	23.66	23.66	24.10
			3	1	23.76	23.62	24.20
			3	2	23.74	23.60	24.17
			6	0	22.72	22.68	23.21
		16QAM	1	0	23.36	23.24	24.05
			1	2	23.36	23.34	24.11
			1	5	23.36	23.33	24.11
			3	0	22.64	22.59	22.81
			3	1	22.64	22.56	22.77
			3	2	22.62	22.54	22.81
			6	0	21.79	21.71	22.38
		64QAM	1	0	22.88	22.70	23.80
			1	2	22.84	22.74	23.94
			1	5	22.86	22.78	23.83
			3	0	23.21	23.11	23.63
			3	1	23.24	23.15	23.62
			3	2	23.20	23.12	23.62
			6	0	21.75	21.53	22.39

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19965	20175	20385
					1711.5	1732.5	1753.5
Band 4	3	QPSK	1	0	24.11	22.80	23.26
			1	7	24.23	24.11	24.55
			1	14	24.07	24.15	24.61
			8	0	22.74	22.62	23.16
			8	4	22.69	22.66	23.25
			8	7	22.69	22.74	23.28
			15	0	22.81	22.72	23.20
		16QAM	1	0	23.88	24.15	23.92
			1	7	23.87	24.26	23.95
			1	14	23.72	24.27	23.97
			8	0	22.00	21.95	22.42
			8	4	22.03	21.93	22.40
			8	7	22.03	21.95	22.47
			15	0	21.82	21.81	22.38
		64QAM	1	0	23.50	23.07	23.97
			1	7	23.52	23.07	24.01
			1	14	23.44	23.09	24.00
			8	0	21.69	21.79	22.15
			8	4	21.69	21.76	22.21
			8	7	21.64	21.86	22.18
			15	0	21.87	21.76	22.32

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19975	20175	20375
					1712.5	1732.5	1752.5
Band 4	5	QPSK	1	0	24.29	22.69	24.54
			1	12	24.18	24.29	24.74
			1	24	24.20	24.46	24.71
			12	0	22.84	22.62	23.13
			12	6	22.77	22.69	23.08
			12	11	22.77	22.58	23.01
			25	0	22.61	22.67	23.23
		16QAM	1	0	23.74	23.73	23.61
			1	12	23.76	23.81	23.70
			1	24	23.76	23.92	23.75
			12	0	21.86	21.80	22.18
			12	6	21.89	21.72	22.16
			12	11	21.89	21.73	22.15
			25	0	21.70	21.84	22.40
		64QAM	1	0	22.56	23.52	23.26
			1	12	22.58	23.55	23.37
			1	24	22.55	23.64	23.28
			12	0	21.76	22.11	22.17
			12	6	21.78	22.05	22.21
			12	11	21.78	22.12	22.23
			25	0	21.71	21.82	22.51

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20000	20175	20350
					1715	1732.5	1750
Band 4	10	QPSK	1	0	24.18	24.42	24.33
			1	24	24.23	24.25	24.34
			1	49	24.17	24.44	24.62
			25	0	22.74	22.61	22.82
			25	12	22.61	22.60	22.81
			25	24	22.61	22.62	22.85
			50	0	22.77	22.74	22.96
		16QAM	1	0	23.40	23.71	23.96
			1	24	23.36	23.79	23.98
			1	49	23.31	23.95	24.24
			25	0	21.92	21.86	22.03
			25	12	21.88	21.88	21.97
			25	24	21.89	21.89	22.00
			50	0	21.78	21.85	22.11
		64QAM	1	0	22.78	22.51	23.47
			1	24	22.77	22.53	23.56
			1	49	22.79	22.75	23.73
			25	0	21.83	21.81	22.10
			25	12	21.83	21.83	22.07
			25	24	21.84	21.83	22.10
			50	0	21.89	21.84	22.13

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20025	20175	20325
					1717.5	1732.5	1747.5
Band 4	15	QPSK	1	0	24.14	23.97	24.71
			1	37	24.10	24.09	24.39
			1	74	24.14	24.36	24.75
			36	0	22.63	22.62	23.01
			36	16	22.65	22.68	23.05
			36	35	22.66	22.68	23.08
			75	0	22.56	22.64	22.92
		16QAM	1	0	24.05	24.12	23.94
			1	37	24.05	24.21	23.94
			1	74	24.00	24.50	24.29
			36	0	21.82	21.64	22.20
			36	16	21.83	21.67	22.21
			36	35	21.85	21.69	22.15
			75	0	21.84	21.79	22.11
		64QAM	1	0	23.07	23.08	23.48
			1	37	23.01	23.12	23.49
			1	74	22.97	23.32	23.81
			36	0	21.79	21.81	22.29
			36	16	21.81	21.81	22.30
			36	35	21.81	21.83	22.28
			75	0	21.82	21.80	22.12

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20050	20175	20300
					1720	1732.5	1745
Band 4	20	QPSK	1	0	23.30	23.76	25.04
			1	49	24.14	23.92	24.91
			1	99	24.20	24.24	25.14
			50	0	22.69	22.70	22.80
			50	24	22.59	22.53	22.82
			50	49	22.60	22.66	22.77
			100	0	22.66	22.69	23.01
		16QAM	1	0	24.07	23.66	23.23
			1	49	24.00	23.85	23.44
			1	99	24.07	24.15	23.57
			50	0	21.81	21.95	22.00
			50	24	21.81	21.85	22.07
			50	49	21.81	21.86	22.09
			100	0	21.79	21.71	22.14
		64QAM	1	0	23.82	23.35	23.22
			1	49	23.71	23.47	23.52
			1	99	23.68	23.78	23.69
			50	0	21.86	21.68	21.99
			50	24	21.88	21.83	22.03
			50	49	21.88	21.74	21.93
			100	0	21.75	21.74	22.10

LTE Band 5 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20407	20525	20643
					824.7MHz	836.5MHz	848.3MHz
Band 5	1.4	QPSK	1	0	23.68	24.32	24.70
			1	2	24.00	24.30	24.55
			1	5	24.08	24.30	24.58
			3	0	23.65	23.83	24.20
			3	1	23.66	23.81	24.11
			3	2	23.66	23.79	24.11
			6	0	22.70	22.84	23.10
		16QAM	1	0	23.58	23.46	23.83
			1	2	23.59	23.51	23.83
			1	5	23.57	23.45	23.74
			3	0	22.60	22.69	22.75
			3	1	22.61	22.61	22.74
			3	2	22.61	22.64	22.73
			6	0	21.81	21.84	22.13
		64QAM	1	0	23.12	22.67	23.19
			1	2	23.10	22.76	23.28
			1	5	23.18	22.76	23.18
			3	0	22.77	23.11	23.54
			3	1	22.77	23.09	23.60
			3	2	22.78	23.06	23.65
			6	0	21.51	21.63	21.99

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20415	20525	20635
					825.5MHz	836.5MHz	847.5MHz
Band 5	3	QPSK	1	0	24.07	24.45	24.65
			1	7	24.08	24.40	24.61
			1	14	24.21	24.35	24.55
			8	0	22.69	22.82	23.18
			8	4	22.66	22.80	23.20
			8	7	22.69	22.84	23.08
			15	0	22.68	22.87	23.17
		16QAM	1	0	23.27	24.34	24.00
			1	7	23.32	24.40	24.05
			1	14	23.25	24.45	23.95
			8	0	21.85	22.01	22.32
			8	4	21.75	21.92	22.30
			8	7	21.82	22.01	22.35
			15	0	21.54	21.94	22.11
		64QAM	1	0	22.55	23.21	23.45
			1	7	22.47	23.25	23.60
			1	14	22.48	23.21	23.54
			8	0	21.52	21.75	22.00
			8	4	21.51	21.76	22.02
			8	7	21.55	21.85	22.00
			15	0	21.60	21.90	22.33

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20425	20525	20625
					826.5MHz	836.5MHz	846.5MHz
Band 5	5	QPSK	1	0	24.14	24.45	24.43
			1	12	24.21	24.37	24.54
			1	24	24.29	24.56	24.51
			12	0	22.63	22.71	22.91
			12	6	22.66	22.84	22.98
			12	11	22.69	22.86	23.03
			25	0	22.71	22.82	23.11
		16QAM	1	0	23.57	23.80	23.45
			1	12	23.65	23.85	23.45
			1	24	23.75	23.92	23.43
			12	0	21.61	21.75	21.97
			12	6	21.63	21.77	22.03
			12	11	21.67	21.79	21.99
			25	0	21.49	21.99	22.25
		64QAM	1	0	22.46	23.55	22.56
			1	12	22.53	23.70	22.64
			1	24	22.51	23.69	22.56
			12	0	21.51	22.08	21.97
			12	6	21.55	22.04	21.98
			12	11	21.53	22.00	22.00
			25	0	21.58	21.92	22.24

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20450	20525	20600
					829MHz	836.5MHz	844MHz
Band 5	10	QPSK	1	0	24.07	24.46	24.49
			1	24	24.17	24.40	24.33
			1	49	24.27	24.58	24.59
			25	0	22.67	22.69	22.84
			25	12	22.71	22.73	22.99
			25	24	22.65	22.74	23.02
			50	0	22.70	22.79	22.88
		16QAM	1	0	23.14	23.65	23.71
			1	24	23.38	23.84	23.82
			1	49	23.38	23.91	23.92
			25	0	21.74	21.90	21.89
			25	12	21.77	21.93	21.82
			25	24	21.70	21.93	21.84
			50	0	21.75	21.96	22.01
		64QAM	1	0	22.54	22.58	23.31
			1	24	22.71	22.65	23.46
			1	49	22.67	22.79	23.59
			25	0	21.60	21.95	22.09
			25	12	21.62	21.87	22.08
			25	24	21.64	21.88	22.04
			50	0	21.74	21.83	22.08

LTE Band 7 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20775	21100	21425
					2502.5MHz	2535MHz	2567.5MHz
Band 7	5	QPSK	1	0	23.17	22.78	23.14
			1	12	23.10	22.74	23.04
			1	24	23.08	22.81	23.02
			12	0	22.44	22.01	22.19
			12	6	22.38	21.98	22.18
			12	11	22.38	22.09	22.21
			25	0	22.34	22.06	22.29
		16QAM	1	0	22.13	22.14	22.35
			1	12	22.12	22.08	22.42
			1	24	22.09	22.16	22.44
			12	0	21.45	21.19	21.24
			12	6	21.46	21.17	21.06
			12	11	21.46	21.17	21.17
			25	0	21.60	21.14	21.25
		64QAM	1	0	21.59	21.17	22.29
			1	12	21.57	21.14	22.29
			1	24	21.58	21.18	22.26
			12	0	20.18	19.74	19.90
			12	6	20.19	19.82	19.94
			12	11	20.20	19.77	19.95
			25	0	20.09	19.66	19.96

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20800	21100	21400
					2505MHz	2535MHz	2565MHz
Band 7	10	QPSK	1	0	23.14	22.80	22.95
			1	24	23.05	22.75	22.90
			1	49	23.08	22.85	22.88
			25	0	22.36	21.88	22.18
			25	12	22.43	21.90	22.15
			25	24	22.40	21.84	22.03
			50	0	22.47	21.91	22.13
		16QAM	1	0	22.32	22.09	22.18
			1	24	22.25	22.06	22.20
			1	49	22.25	22.06	22.19
			25	0	21.56	21.11	21.16
			25	12	21.58	21.18	21.11
			25	24	21.57	21.16	21.15
			50	0	21.50	21.05	21.26
		64QAM	1	0	21.57	21.10	21.98
			1	24	21.60	20.94	21.95
			1	49	21.60	21.08	21.92
			25	0	20.16	19.71	19.80
			25	12	20.18	19.58	19.86
			25	24	20.17	19.75	19.88
			50	0	20.17	19.55	19.95

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20825	21100	21375
					2507.5MHz	2535MHz	2562.5MHz
Band 7	15	QPSK	1	0	23.06	22.83	22.77
			1	37	23.04	22.82	22.84
			1	74	22.91	22.87	22.82
			36	0	22.30	22.03	22.04
			36	16	22.35	21.90	22.18
			36	35	22.35	21.92	22.21
			75	0	22.29	21.96	22.14
		16QAM	1	0	22.89	22.21	22.11
			1	37	22.85	22.11	22.24
			1	74	22.82	22.22	22.24
			36	0	21.57	21.04	21.33
			36	16	21.44	21.12	21.24
			36	35	21.45	21.04	21.26
			75	0	21.47	20.95	21.28
		64QAM	1	0	22.03	21.21	21.95
			1	37	22.01	21.03	21.90
			1	74	21.88	21.21	21.98
			36	0	20.09	19.63	20.00
			36	16	20.10	19.66	20.00
			36	35	20.11	19.67	19.94
			75	0	20.19	19.59	20.03

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20850	21100	21350
					2510MHz	2535MHz	2560MHz
Band 7	20	QPSK	1	0	23.29	22.92	22.97
			1	49	23.25	22.83	22.95
			1	99	23.02	22.95	22.99
			50	0	22.42	21.87	22.05
			50	24	22.30	21.98	22.09
			50	49	22.29	21.94	22.12
			100	0	22.34	21.87	22.10
		16QAM	1	0	23.04	22.23	22.16
			1	49	22.94	22.17	22.21
			1	99	22.79	22.22	22.31
			50	0	21.46	21.23	21.21
			50	24	21.46	21.28	21.23
			50	49	21.47	21.13	21.25
			100	0	21.53	20.98	21.25
		64QAM	1	0	23.03	22.08	22.02
			1	49	22.92	21.97	21.97
			1	99	22.74	22.00	22.15
			50	0	20.11	19.89	19.89
			50	24	20.11	19.72	19.81
			50	49	20.11	19.73	19.82
			100	0	20.19	19.61	19.86

LTE Band 12 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23017	23095	23175
					699.7MHz	707.5MHz	715.3MHz
Band 12	1.4	QPSK	1	0	24.95	24.78	24.89
			1	2	24.92	24.71	24.90
			1	5	25.00	24.67	24.86
			3	0	24.18	24.03	24.17
			3	1	24.18	24.02	24.15
			3	2	24.18	24.01	24.14
			6	0	23.03	23.04	23.13
		16QAM	1	0	23.73	23.37	23.52
			1	2	23.71	23.36	23.61
			1	5	23.74	23.30	23.56
			3	0	23.03	22.77	22.73
			3	1	23.02	22.77	22.71
			3	2	23.01	22.79	22.70
			6	0	22.18	21.99	22.21
		64QAM	1	0	23.31	22.55	22.79
			1	2	23.32	22.58	22.89
			1	5	23.29	22.55	22.88
			3	0	22.97	23.04	23.20
			3	1	22.96	23.01	23.19
			3	2	22.95	22.96	22.80
			6	0	22.25	21.62	21.79

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23025	23095	23165
					700.5MHz	707.5MHz	714.5MHz
Band 12	3	QPSK	1	0	24.95	24.72	24.79
			1	7	24.91	24.60	24.71
			1	14	24.98	24.65	24.76
			8	0	22.98	23.15	22.99
			8	4	23.02	23.05	23.04
			8	7	23.00	22.95	23.14
			15	0	23.03	22.99	22.97
		16QAM	1	0	23.72	24.25	23.68
			1	7	23.69	24.19	23.67
			1	14	23.76	24.09	23.71
			8	0	22.05	22.18	22.10
			8	4	22.08	22.18	22.13
			8	7	22.46	22.12	22.17
			15	0	21.88	22.04	22.01
		64QAM	1	0	23.33	23.06	23.17
			1	7	23.32	23.04	23.12
			1	14	23.35	23.03	23.06
			8	0	22.24	21.76	21.69
			8	4	22.25	21.76	21.72
			8	7	21.75	21.69	21.78
			15	0	22.30	21.73	21.96

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23035	23095	23155
					701.5MHz	707.5MHz	713.5MHz
Band 12	5	QPSK	1	0	24.85	24.96	24.88
			1	12	24.94	24.85	24.90
			1	24	24.87	24.87	24.81
			12	0	22.98	23.04	22.97
			12	6	23.02	23.09	23.00
			12	11	22.95	23.10	23.02
			25	0	23.19	23.02	23.05
		16QAM	1	0	23.66	23.72	23.20
			1	12	23.77	23.63	23.26
			1	24	23.74	23.67	23.35
			12	0	22.07	21.97	21.99
			12	6	21.94	21.99	22.01
			12	11	21.97	22.01	21.99
			25	0	21.97	22.09	22.16
		64QAM	1	0	22.53	23.46	22.69
			1	12	22.70	23.47	22.74
			1	24	22.64	23.56	22.84
			12	0	22.09	21.97	21.70
			12	6	22.09	21.99	21.71
			12	11	22.08	21.99	21.72
			25	0	21.70	21.67	21.86

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23060	23095	23130
					704MHz	707.5MHz	711MHz
Band 12	10	QPSK	1	0	24.77	24.78	24.70
			1	24	24.78	24.68	24.65
			1	49	24.73	24.96	24.81
			25	0	23.04	23.04	22.97
			25	12	23.03	23.09	23.03
			25	24	23.03	23.12	22.89
			50	0	22.99	23.08	22.93
		16QAM	1	0	23.34	23.69	23.52
			1	24	23.41	23.65	23.50
			1	49	23.36	23.71	23.70
			25	0	22.20	22.16	21.85
			25	12	22.17	22.11	21.88
			25	24	22.12	22.14	21.90
			50	0	22.18	22.10	22.14
		64QAM	1	0	22.47	22.54	23.15
			1	24	22.72	22.53	23.17
			1	49	22.67	22.64	23.26
			25	0	21.78	21.82	21.79
			25	12	21.90	21.85	21.81
			25	24	21.91	21.86	21.83
			50	0	21.92	21.82	21.90

LTE Band 13 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23205	23230	23255
					779.5	782	784.5
Band 13	5	QPSK	1	0	23.89	23.69	23.86
			1	12	23.70	23.74	23.83
			1	24	23.82	23.90	23.82
			12	0	23.40	23.27	23.30
			12	6	23.39	23.24	23.33
			12	11	23.39	23.28	23.33
			25	0	22.29	22.35	22.36
		16QAM	1	0	22.77	22.08	22.66
			1	12	22.57	22.17	22.76
			1	24	22.70	22.25	22.69
			12	0	22.45	22.56	22.42
			12	6	22.45	22.55	22.42
			12	11	22.45	22.55	22.42
			25	0	22.70	22.42	22.34
		64QAM	1	0	21.73	22.08	21.65
			1	12	21.93	21.64	21.61
			1	24	21.60	21.57	21.63
			12	0	20.93	21.18	20.85
			12	6	20.81	21.10	20.85
			12	11	20.93	21.08	20.85
			25	0	21.07	20.93	20.75

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
						23230	
						782	
Band 13	10	QPSK	1	0	/	23.73	/
			1	24	/	23.67	/
			1	49	/	23.80	/
			25	0	/	23.35	/
			25	12	/	23.20	/
			25	24	/	23.35	/
			50	0	/	23.42	/
		16QAM	1	0	/	22.77	/
			1	24	/	22.70	/
			1	49	/	22.67	/
			25	0	/	22.76	/
			25	12	/	22.72	/
			25	24	/	22.79	/
			50	0	/	22.26	/
		64QAM	1	0	/	22.47	/
			1	24	/	22.35	/
			1	49	/	22.43	/
			25	0	/	21.28	/
			25	12	/	21.29	/
			25	24	/	21.15	/
			50	0	/	20.68	/

LTE Band 17 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23755	23790	23825
					706.5MHz	710.0MHz	713.5MHz
Band 17	5	QPSK	1	0	24.83	24.80	24.94
			1	12	24.81	24.71	25.02
			1	24	24.76	24.90	25.00
			12	0	23.08	22.99	23.03
			12	6	23.13	22.99	23.08
			12	11	23.13	22.93	23.10
			25	0	23.11	22.92	23.07
		16QAM	1	0	23.36	23.58	23.82
			1	12	23.36	23.70	23.80
			1	24	23.32	23.71	23.95
			12	0	22.07	21.95	21.96
			12	6	22.12	21.89	21.98
			12	11	22.05	21.90	21.99
			25	0	22.09	21.91	22.06
		64QAM	1	0	22.81	22.49	23.56
			1	12	22.84	22.58	23.48
			1	24	22.79	22.52	23.57
			12	0	21.77	21.52	22.03
			12	6	21.73	21.54	21.88
			12	11	21.79	21.55	21.93
			25	0	21.92	21.67	21.79

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23780	23790	23800
					709.0MHz	710.0MHz	711.0MHz
Band 17	10	QPSK	1	0	24.74	24.86	24.77
			1	24	24.65	24.76	24.67
			1	49	24.83	24.83	24.74
			25	0	23.02	22.93	22.99
			25	12	23.09	22.99	22.90
			25	24	23.10	23.00	22.91
			50	0	22.93	23.01	22.98
		16QAM	1	0	23.68	23.70	23.54
			1	24	23.65	23.59	23.51
			1	49	23.80	23.75	23.73
			25	0	22.07	22.02	21.88
			25	12	22.10	22.05	21.91
			25	24	22.11	22.06	21.91
			50	0	22.08	22.06	22.09
		64QAM	1	0	23.27	22.57	23.18
			1	24	23.14	22.57	23.20
			1	49	23.39	22.62	23.26
			25	0	21.75	21.74	21.86
			25	12	21.82	21.75	21.87
			25	24	21.85	21.73	21.82
			50	0	21.85	21.81	21.86

LTE Band 66 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					131979	132322	132665
					1710.70MHz	1745.00MHz	1779.3MHz
Band 66	1.4	QPSK	1	0	24.60	25.17	24.56
			1	2	24.69	25.14	24.63
			1	5	24.63	25.16	24.63
			3	0	23.71	24.06	23.72
			3	1	23.68	24.05	23.71
			3	2	23.65	24.05	23.83
			6	0	22.63	22.95	22.71
		16QAM	1	0	23.28	24.95	23.70
			1	2	23.27	25.06	23.74
			1	5	23.25	24.96	23.75
			3	0	22.46	22.48	22.79
			3	1	22.45	22.47	22.76
			3	2	22.49	22.48	22.75
			6	0	21.62	22.20	22.02
		64QAM	1	0	22.71	23.63	23.43
			1	2	22.75	23.60	23.40
			1	5	22.66	23.55	23.44
			3	0	23.13	22.85	22.90
			3	1	23.11	22.85	22.88
			3	2	23.08	22.85	22.88
			6	0	21.66	22.03	21.78

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					131987	132322	132657
					1711.50MHz	1745.00MHz	1778.50MHz
Band 66	3	QPSK	1	0	24.61	24.84	24.60
			1	7	24.66	24.93	24.73
			1	14	24.60	24.78	24.70
			8	0	22.64	22.94	22.71
			8	4	22.57	22.88	22.69
			8	7	22.58	22.95	22.76
			15	0	22.68	22.98	22.79
		16QAM	1	0	23.30	24.44	23.82
			1	7	23.28	24.59	23.93
			1	14	23.25	24.52	23.94
			8	0	21.89	22.20	21.99
			8	4	21.91	22.22	21.99
			8	7	21.98	22.30	22.07
			15	0	21.59	22.23	21.93
		64QAM	1	0	22.61	23.01	23.14
			1	7	22.70	23.10	23.30
			1	14	22.78	22.99	23.32
			8	0	21.70	22.18	21.69
			8	4	21.66	22.20	21.64
			8	7	21.69	22.26	21.67
			15	0	21.76	22.07	21.96

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					131997	132322	132647
					1712.50MHz	1745.00MHz	1777.50MHz
Band 66	5	QPSK	1	0	24.81	25.27	24.71
			1	12	24.79	25.18	24.81
			1	24	24.82	25.17	24.83
			12	0	22.74	23.01	22.73
			12	6	22.62	22.99	22.67
			12	11	22.62	23.03	22.70
			25	0	22.64	22.99	22.70
		16QAM	1	0	23.68	24.12	23.09
			1	12	23.76	24.13	23.16
			1	24	23.85	24.08	23.20
			12	0	21.76	22.09	21.78
			12	6	21.78	22.11	21.78
			12	11	21.74	22.12	21.82
			25	0	21.73	22.20	21.94
		64QAM	1	0	22.53	23.84	22.75
			1	12	22.63	23.97	22.77
			1	24	22.70	23.81	22.87
			12	0	21.67	22.35	21.75
			12	6	21.68	22.31	21.78
			12	11	21.69	22.32	21.78
			25	0	21.73	22.21	21.99

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					132022	132322	132622
					1715.00MHz	1745.00MHz	1775.00MHz
Band 66	10	QPSK	1	0	24.63	25.02	24.58
			1	24	24.68	25.07	24.63
			1	49	24.71	25.12	24.74
			25	0	22.72	23.07	22.60
			25	12	22.76	22.95	22.77
			25	24	22.60	22.97	22.67
			50	0	22.76	23.07	22.58
		16QAM	1	0	23.32	24.14	23.63
			1	24	23.36	24.34	23.61
			1	49	23.37	24.34	23.74
			25	0	21.91	22.17	21.76
			25	12	21.86	22.13	21.79
			25	24	21.94	22.14	21.80
			50	0	21.89	22.12	21.77
		64QAM	1	0	22.72	22.68	23.41
			1	24	22.78	22.86	23.30
			1	49	22.80	22.85	23.49
			25	0	21.82	22.11	21.99
			25	12	21.84	22.16	22.00
			25	24	21.84	22.16	21.96
			50	0	21.89	22.24	21.90

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					132047	132322	132597
					1717.50MHz	1745.00MHz	1772.50MHz
Band 66	15	QPSK	1	0	24.73	21.22	25.04
			1	37	24.80	25.35	25.06
			1	74	24.80	25.41	25.14
			36	0	23.05	23.11	23.01
			36	16	22.96	23.15	22.98
			36	35	22.96	23.19	22.87
			75	0	22.80	23.23	22.86
		16QAM	1	0	23.84	24.57	24.03
			1	37	23.93	24.72	23.92
			1	74	23.96	24.74	24.08
			36	0	22.13	22.43	22.18
			36	16	22.14	22.38	22.10
			36	35	22.13	22.30	22.17
			75	0	22.09	22.38	22.20
		64QAM	1	0	23.46	23.54	23.06
			1	37	23.53	23.72	22.94
			1	74	23.56	23.78	23.02
			36	0	22.21	22.31	22.24
			36	16	22.22	22.24	22.22
			36	35	22.21	22.28	22.19
			75	0	22.08	22.40	22.14

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					132072	132322	132572
					1720.00MHz	1745.00MHz	1770.00MHz
Band 66	20	QPSK	1	0	25.00	24.84	25.40
			1	49	25.02	25.10	25.21
			1	99	25.11	25.30	25.20
			50	0	22.93	23.18	22.93
			50	24	22.90	23.13	22.94
			50	49	22.91	23.18	22.94
			100	0	22.88	23.23	22.87
		16QAM	1	0	24.28	24.28	24.11
			1	49	24.29	24.51	23.81
			1	99	24.38	24.63	23.83
			50	0	22.14	22.39	22.20
			50	24	22.16	22.36	22.22
			50	49	22.17	22.40	22.21
			100	0	22.10	22.27	22.05
		64QAM	1	0	23.99	23.47	23.79
			1	49	24.05	23.57	23.49
			1	99	24.14	23.78	23.50
			50	0	22.19	22.29	22.14
			50	24	22.21	22.23	22.15
			50	49	22.22	22.26	22.12
			100	0	22.16	22.35	22.03

13.4 WLAN 2.4 GHz Band Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 b	802.11 g	802.11n (HT20)
CH 01	2412	18.21	15.64	14.94
CH 06	2437	18.19	15.78	15.08
CH 11	2462	**19.22**	16.70	15.73

Note:

1. Per KDB 447498 D01v06, the 1-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 for1-g 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

Channel	Frequency (GHz)	Max. Tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
b/CH 11	2.462	19.5	89.13	5	27.99	3.0
g/CH 11	2.462	17.0	50.12	5	17.74	3.0

2. Base on the result of note1, RF exposure evaluation of 802.11 b mode is required.
3. Per KDB 248227 D01v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
4. Per KDB 248227 D01v02r02, In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements.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.
5. The output power of all data rate were pre-scan, just the worst case (the lowest data rate) of all mode were shown in report.
6. Per KDB 248227 D01V02r02 section 2.2, when the EUT in continuously transmitting mode, the actual duty cycle is 100%, so the duty cycle factor is 1.

13.5 WLAN 5.2GHz Band Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 n20
CH 36	5180	**15.11**	13.98	13.90
CH 40	5200	14.63	13.64	13.50
CH 48	5240	14.55	13.54	13.49

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac40	802.11 n40
CH 38	5190	14.25	14.15
CH 46	5230	13.97	13.95

Average Power (dBm)		
Channel	Frequency (MHz)	802.11 ac80
CH 42	5210	13.28

Note:

1. Per KDB 248227 D01v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
2. The output power of all data rate were pre-scan, just the worst case (the lowest data rate) of all mode were shown in report.
3. Per KDB 248227 D01V02r02 section 2.2, when the EUT in continuously transmitting mode, the actual duty cycle is 100%, so the duty cycle factor is 1.

13.6 WLAN 5.3GHz Band Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 n20
CH 52	5260	14.74	14.77	14.75
CH 56	5280	14.38	14.44	14.39
CH 64	5320	13.60	13.62	13.62

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac40	802.11 n40
CH 54	5270	15.11	15.15
CH 62	5310	14.52	14.51

Average Power (dBm)		
Channel	Frequency (MHz)	802.11 ac80
CH 58	5290	13.92

Note:
1. Per KDB 248227 D01v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
2. The output power of all data rate were pre-scan, just the worst case (the lowest data rate) of all mode were shown in report.
3. Per KDB 248227 D01V02r02 section 2.2, when the EUT in continuously transmitting mode, the actual duty cycle is 100%, so the duty cycle factor is 1.

13.7 WLAN 5.6GHz Band Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 n20
CH 100	5500	14.75	14.52	14.49
CH 120	5600	13.02	13.04	13.01
CH 140	5700	13.27	13.36	13.32

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac40	802.11 n40
CH 102	5510	14.88	14.85
CH 108	5590	13.90	13.89
CH 134	5670	14.12	14.16

Average Power (dBm)		
Channel	Frequency (MHz)	802.11 ac80
CH 106	5530	13.85
CH 122	5610	13.15

Note:
1. Per KDB 248227 D01v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
2. The output power of all data rate were pre-scan, just the worst case (the lowest data rate) of all mode were shown in report.
3. Per KDB 248227 D01V02r02 section 2.2, when the EUT in continuously transmitting mode, the actual duty cycle is 100%, so the duty cycle factor is 1.

13.8 WLAN 5.8GHz Band Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 n20
CH 149	5745	**15.41**	15.40	15.40
CH 157	5785	14.70	14.68	14.70
CH 165	5825	13.39	13.35	13.31

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac40	802.11 n40
CH 151	5755	14.61	15.29
CH 159	5795	13.91	14.62

Average Power (dBm)		
Channel	Frequency (MHz)	802.11 ac80
CH 155	5775	13.10

Note:

1. Per KDB 248227 D01v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
2. The output power of all data rate were pre-scan, just the worst case (the lowest data rate) of all mode were shown in report.
3. Per KDB 248227 D01V02r02 section 2.2, when the EUT in continuously transmitting mode, the actual duty cycle is 100%, so the duty cycle factor is 1.

13.9 Bluetooth Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	GFSK	π/4-DQPSK	8DPSK
CH 00	2402	**8.46**	7.81	8.19
CH 39	2441	7.85	7.18	7.46
CH 78	2480	8.12	7.58	7.32

Average Power (dBm)					
Channel	Frequency (MHz)	BLE PHY 1M	BLE PHY 2M	BLE Coded PHY S=2	BLE Coded PHY S=8
CH 00	2402	-1.51	-1.85	-1.70	-1.92
CH 20	2442	-1.46	-1.78	-1.68	-1.91
CH 39	2480	-1.35	-1.57	-1.62	-1.73

Note:

1. Per KDB 447498 D01v06, the 1-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 for1-g 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

Channel	Frequency (GHz)	Max. tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
CH 00	2.402	8.5	7.08	5	2.19	3.0

2. The max. tune-uppower wasprovided by manufacturer,base on the result of note 1, RF exposure evaluation is not required.
3. The output power of all data rate were pre-scan, just the worst case of all mode were shown in report.
4. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according is applied to determine SAR test exclusion.

14 Exposure Positions Consideration

14.1 EUT Antenna Locations

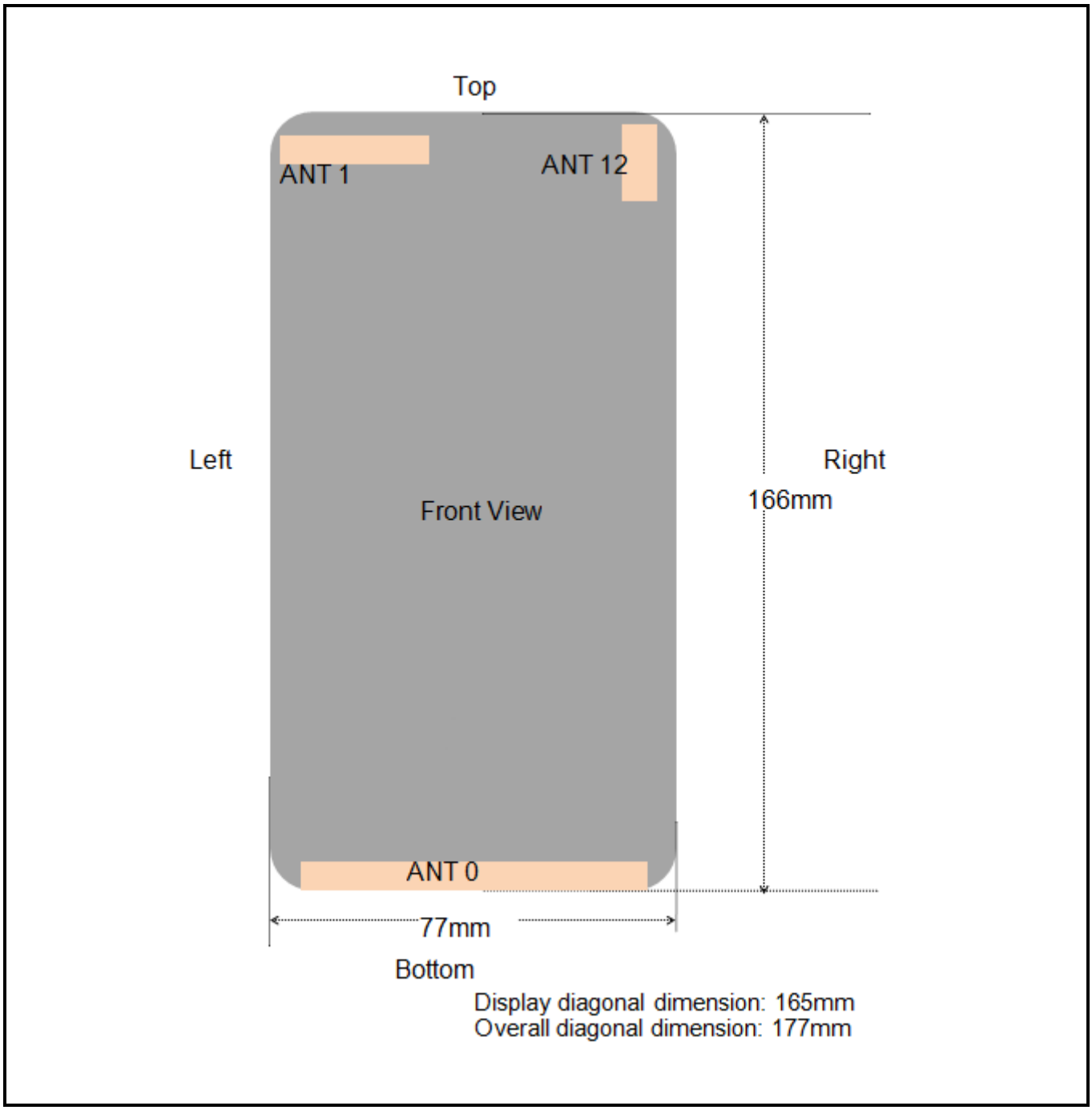

Fig.14.1 EUT Antenna Locations

Note: This antenna diagram is only used as a reference for the distance from the antenna to each edge. For the specific shape of the antenna, please refer to the physical photo.

14.2 Test Positions Consideration

Distance of Antennas to EUT edge/surface Test distance: 10mm						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
ANT 0 GSM&WCDMA&LTE DRX ANT	<25mm	<25mm	150mm	<25mm	<25mm	<25mm
ANT 1 GSM&WCDMA&LTE PRX ANT	<25mm	<25mm	<25mm	148mm	40mm	<25mm
ANT 12: 2.4G&5GWiFi&BT	<25mm	<25mm	<25mm	148mm	<25mm	65mm

Test Positions Test distance: 10mm						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
ANT 0 GSM&WCDMA&LTE DRX ANT	Yes	Yes	No	Yes	Yes	Yes
ANT 1 GSM&WCDMA&LTE PRX ANT	Yes	Yes	Yes	No	No	Yes
ANT 12: 2.4G&5GWiFi&BT	Yes	Yes	Yes	No	Yes	No

Note:

1. Head/Body-worn/Hotspot mode SAR assessments are required.
2. Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm * 5cm, the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.
3. Per KDB 447498 D01v06, for handsets the test separation distance is determined by the smallest distance between the outer surface of the device and the user, which is 0 mm for head SAR, 10 mm for hotspot SAR, and 10 mm for body-worn SAR.
4. Per KDB 648474 D04 v01r03, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg

15 SAR Test Results Summary

15.1 Standalone Head SAR Data

➢ GSM Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	GSM850/Voice	0	Right Cheek	128	824.2	33.64	0.18	34.0	0.104	1.086	0.113
	GSM850/Voice	0	Right Tilted	128	824.2	33.64	0.00	34.0	0.045	1.086	0.048
	GSM850/Voice	0	Left Cheek	128	824.2	33.64	0.06	34.0	0.106	1.086	0.115
	GSM850/Voice	0	Left Tilted	128	824.2	33.64	0.20	34.0	0.039	1.086	0.042
1	GSM850/Voice	1	Right Cheek	128	824.2	33.64	0.01	34.0	**0.820**	1.086	0.891
	GSM850/Voice	**1**	**Right Cheek**	**128**	**824.2**	**33.64**	**0.11**	**34.0**	**0.815**	**1.086**	**0.885**
	GSM850/Voice	1	Right Tilted	128	824.2	33.64	-0.09	34.0	0.604	1.086	0.656
	GSM850/Voice	1	Left Cheek	128	824.2	33.64	-0.05	34.0	0.480	1.086	0.521
	GSM850/Voice	1	Left Tilted	128	824.2	33.64	-0.17	34.0	0.455	1.086	0.494
	GSM850/Voice	1	Right Cheek	190	836.6	33.52	-0.17	34.0	0.806	1.117	0.900
	GSM850/Voice	1	Right Cheek	251	848.8	33.15	-0.01	34.0	0.726	1.216	0.883
	PCS1900/Voice	0	Right Cheek	661	1880	30.50	0.00	31.0	0.088	1.122	0.098
	PCS1900/Voice	0	Right Tilted	661	1880	30.50	0.08	31.0	0.064	1.122	0.072
	PCS1900/Voice	0	Left Cheek	661	1880	30.50	0.02	31.0	0.082	1.122	0.091
	PCS1900/Voice	0	Left Tilted	661	1880	30.50	0.14	31.0	0.059	1.122	0.066
	PCS1900/Voice	1	Right Cheek	661	1880	30.50	0.01	31.0	0.458	1.122	0.514
2	PCS1900/Voice	1	Right Tilted	661	1880	30.50	0.04	31.0	**0.571**	1.122	0.641
	PCS1900/Voice	1	Left Cheek	661	1880	30.50	-0.04	31.0	0.354	1.122	0.397
	PCS1900/Voice	1	Left Tilted	661	1880	30.50	-0.07	31.0	0.395	1.122	0.443
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WCDMA Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band II/RMC	0	Right Cheek	9538	1907.6	23.76	0.12	24.0	0.188	1.057	0.199
	Band II/RMC	0	Right Tilted	9538	1907.6	23.76	0.00	24.0	0.142	1.057	0.150
	Band II/RMC	0	Left Cheek	9538	1907.6	23.76	0.16	24.0	0.141	1.057	0.149
	Band II/RMC	0	Left Tilted	9538	1907.6	23.76	0.06	24.0	0.145	1.057	0.153
3	Band II/RMC	1	Right Cheek	9538	1907.6	23.76	-0.07	24.0	**0.274**	1.057	0.290
	Band II/RMC	1	Right Tilted	9538	1907.6	23.76	-0.18	24.0	0.258	1.057	0.273
	Band II/RMC	1	Left Cheek	9538	1907.6	23.76	-0.07	24.0	0.205	1.057	0.217
	Band II/RMC	1	Left Tilted	9538	1907.6	23.76	-0.05	24.0	0.216	1.057	0.228
	Band IV/RMC	0	Right Cheek	1513	1752.6	23.63	0.03	24.0	0.125	1.089	0.136
	Band IV/RMC	0	Right Tilted	1513	1752.6	23.63	0.04	24.0	0.050	1.089	0.055
	Band IV/RMC	0	Left Cheek	1513	1752.6	23.63	0.07	24.0	0.074	1.089	0.081
	Band IV/RMC	0	Left Tilted	1513	1752.6	23.63	0.09	24.0	0.071	1.089	0.078
	Band IV/RMC	1	Right Cheek	1513	1752.6	23.63	0.06	24.0	0.472	1.089	0.514
4	Band IV/RMC	1	Right Tilted	1513	1752.6	23.63	0.10	24.0	**0.514**	1.089	0.560
	Band IV/RMC	1	Left Cheek	1513	1752.6	23.63	0.14	24.0	0.324	1.089	0.353
	Band IV/RMC	1	Left Tilted	1513	1752.6	23.63	0.16	24.0	0.375	1.089	0.408
	Band V/RMC	0	Right Cheek	4233	846.6	24.11	0.02	24.5	0.134	1.094	0.147
	Band V/RMC	0	Right Tilted	4233	846.6	24.11	0.08	24.5	0.059	1.094	0.065
	Band V/RMC	0	Left Cheek	4233	846.6	24.11	-0.16	24.5	0.123	1.094	0.135
	Band V/RMC	0	Left Tilted	4233	846.6	24.11	0.13	24.5	0.060	1.094	0.065
5	Band V/RMC	1	Right Cheek	4233	846.6	24.11	0.00	24.5	**0.874**	1.094	0.956
	Band V/RMC	**1**	**Right Cheek**	**4233**	**846.6**	**24.11**	**-0.16**	**24.5**	**0.868**	**1.094**	**0.950**
	Band V/RMC	1	Right Tilted	4233	846.6	24.11	-0.09	24.5	0.809	1.094	0.885
	Band V/RMC	1	Left Cheek	4233	846.6	24.11	-0.06	24.5	0.643	1.094	0.703
	Band V/RMC	1	Left Tilted	4233	846.6	24.11	0.02	24.5	0.633	1.094	0.693
	Band V/RMC	1	Right Cheek	4132	826.4	23.51	0.05	24.5	0.811	1.256	1.019
	Band V/RMC	1	Right Cheek	4183	836.6	23.86	0.04	24.5	0.855	1.159	0.991
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 2(20MHz) QPSK Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band2/1RB#99	0	Right Cheek	19100	1900	25.48	0.07	25.5	0.091	1.005	0.092
	Band2/1RB#99	0	Right Tilted	19100	1900	25.48	-0.12	25.5	0.067	1.005	0.067
	Band2/1RB#99	0	Left Cheek	19100	1900	25.48	-0.01	25.5	0.083	1.005	0.084
	Band2/1RB#99	0	Left Tilted	19100	1900	25.48	-0.01	25.5	0.092	1.005	0.093
	Band2/1RB#99	1	Right Cheek	19100	1900	25.48	-0.04	25.5	0.407	1.005	0.409
	Band2/1RB#99	1	Right Tilted	19100	1900	25.48	0.03	25.5	0.413	1.005	0.415
	Band2/1RB#99	1	Left Cheek	19100	1900	25.48	0.00	25.5	0.279	1.005	0.280
	Band2/1RB#99	1	Left Tilted	19100	1900	25.48	0.03	25.5	0.364	1.005	0.366
	Band2/50%RB#0	0	Right Cheek	19100	1900	23.50	0.13	24.0	0.135	1.122	0.151
	Band2/50%RB#0	0	Right Tilted	19100	1900	23.50	-0.02	24.0	0.103	1.122	0.116
	Band2/50%RB#0	0	Left Cheek	19100	1900	23.50	0.07	24.0	0.112	1.122	0.126
	Band2/50%RB#0	0	Left Tilted	19100	1900	23.50	0.00	24.0	0.146	1.122	0.164
	Band2/50%RB#0	1	Right Cheek	19100	1900	23.50	0.09	24.0	0.579	1.122	0.650
6	Band2/50%RB#0	1	Right Tilted	19100	1900	23.50	0.13	24.0	**0.744**	1.122	0.835
	Band2/50%RB#0	1	Left Cheek	19100	1900	23.50	-0.10	24.0	0.365	1.122	0.410
	Band2/50%RB#0	1	Left Tilted	19100	1900	23.50	-0.12	24.0	0.408	1.122	0.458
	Band2/50%RB#0	1	Right Tilted	18700	1860	23.10	0.12	24.0	0.326	1.23	0.401
	Band2/50%RB#0	1	Right Tilted	18900	1880	23.39	0.09	24.0	0.439	1.151	0.505
	Band2/100%RB#0	1	Right Tilted	19100	1900	23.43	0.08	24.0	0.569	1.14	0.649
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 4(20MHz) QPSK Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band4/1RB#99	0	Right Cheek	20300	1745	25.14	0.04	25.5	0.048	1.086	0.052
	Band4/1RB#99	0	Right Tilted	20300	1745	25.14	-0.13	25.5	0.020	1.086	0.022
	Band4/1RB#99	0	Left Cheek	20300	1745	25.14	-0.11	25.5	0.017	1.086	0.018
	Band4/1RB#99	0	Left Tilted	20300	1745	25.14	0.00	25.5	0.022	1.086	0.024
	Band4/1RB#99	1	Right Cheek	20300	1745	25.14	0.03	25.5	0.543	1.086	0.590
7	Band4/1RB#99	1	Right Tilted	20300	1745	25.14	0.14	25.5	**0.647**	1.086	0.703
	Band4/1RB#99	1	Left Cheek	20300	1745	25.14	-0.02	25.5	0.258	1.086	0.280
	Band4/1RB#99	1	Left Tilted	20300	1745	25.14	0.16	25.5	0.314	1.086	0.341
	Band4/50%RB#24	0	Right Cheek	20300	1745	22.82	-0.13	23.0	0.033	1.042	0.034
	Band4/50%RB#24	0	Right Tilted	20300	1745	22.82	-0.08	23.0	0.014	1.042	0.015
	Band4/50%RB#24	0	Left Cheek	20300	1745	22.82	0.01	23.0	0.010	1.042	0.010
	Band4/50%RB#24	0	Left Tilted	20300	1745	22.82	0.16	23.0	0.015	1.042	0.016
	Band4/50%RB#24	1	Right Cheek	20300	1745	22.82	-0.07	23.0	0.296	1.042	0.308
	Band4/50%RB#24	1	Right Tilted	20300	1745	22.82	0.05	23.0	0.368	1.042	0.383
	Band4/50%RB#24	1	Left Cheek	20300	1745	22.82	-0.17	23.0	0.186	1.042	0.194
	Band4/50%RB#24	1	Left Tilted	20300	1745	22.82	0.11	23.0	0.201	1.042	0.209
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 5(10MHz) QPSK Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band5/1RB#49	0	Right Cheek	20600	844	24.59	-0.02	25.0	0.168	1.099	0.185
	Band5/1RB#49	0	Right Tilted	20600	844	24.59	0.16	25.0	0.065	1.099	0.071
	Band5/1RB#49	0	Left Cheek	20600	844	24.59	0.17	25.0	0.154	1.099	0.169
	Band5/1RB#49	0	Left Tilted	20600	844	24.59	-0.18	25.0	0.068	1.099	0.075
8	Band5/1RB#49	1	Right Cheek	20600	844	24.59	0.00	25.0	**1.020**	1.099	1.121
	Band5/1RB#49	**1**	**Right Cheek**	**20600**	**844**	**24.59**	**0.10**	**25.0**	**1.000**	**1.099**	**1.099**
	Band5/1RB#49	1	Right Tilted	20600	844	24.59	0.01	25.0	0.853	1.099	0.937
	Band5/1RB#49	1	Left Cheek	20600	844	24.59	0.06	25.0	0.675	1.099	0.742
	Band5/1RB#49	1	Left Tilted	20600	844	24.59	-0.01	25.0	0.634	1.099	0.697
	Band5/1RB#49	1	Right Cheek	20450	829	24.27	0.08	25.0	1.010	1.183	1.195
	Band5/1RB#49	1	Right Cheek	20525	836.5	24.58	-0.03	25.0	0.969	1.102	1.068
	Band5/1RB#49	1	Right Tilted	20450	829	24.27	-0.06	25.0	0.849	1.183	1.004
	Band5/1RB#49	1	Right Tilted	20525	836.5	24.58	0.00	25.0	0.911	1.102	1.004
	Band5/50%RB#24	0	Right Cheek	20600	844	23.02	-0.11	23.5	0.123	1.117	0.137
	Band5/50%RB#24	0	Right Tilted	20600	844	23.02	0.00	23.5	0.042	1.117	0.047
	Band5/50%RB#24	0	Left Cheek	20600	844	23.02	0.14	23.5	0.114	1.117	0.127
	Band5/50%RB#24	0	Left Tilted	20600	844	23.02	-0.07	23.5	0.043	1.117	0.048
	Band5/50%RB#24	1	Right Cheek	20600	844	23.02	0.01	23.5	0.683	1.117	0.763
	Band5/50%RB#24	1	Right Tilted	20600	844	23.02	0.11	23.5	0.635	1.117	0.709
	Band5/50%RB#24	1	Left Cheek	20600	844	23.02	0.03	23.5	0.413	1.117	0.461
	Band5/50%RB#24	1	Left Tilted	20600	844	23.02	-0.12	23.5	0.401	1.117	0.448
	Band5/100%RB#0	1	Right Cheek	20600	844	22.88	-0.04	23.0	0.705	1.028	0.725
	Band5/100%RB#0	1	Right Tilted	20600	844	22.88	0.06	23.0	0.620	1.028	0.637
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 7(20MHz) QPSK Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band7/1RB#0	0	Right Cheek	20850	2510	23.29	0.00	23.5	0.003	1.05	0.003
	Band7/1RB#0	0	Right Tilted	20850	2510	23.29	0.09	23.5	0.006	1.05	0.006
	Band7/1RB#0	0	Left Cheek	20850	2510	23.29	0.00	23.5	0.018	1.05	0.019
	Band7/1RB#0	0	Left Tilted	20850	2510	23.29	0.02	23.5	0.009	1.05	0.010
	Band7/1RB#0	1	Right Cheek	20850	2510	23.29	-0.09	23.5	0.185	1.05	0.194
9	Band7/1RB#0	1	Right Tilted	20850	2510	23.29	0.12	23.5	**0.515**	1.05	0.541
	Band7/1RB#0	1	Left Cheek	20850	2510	23.29	0.02	23.5	0.107	1.05	0.112
	Band7/1RB#0	1	Left Tilted	20850	2510	23.29	0.05	23.5	0.105	1.05	0.110
	Band7/50%RB#0	0	Right Cheek	20850	2510	22.42	0.15	22.5	0.001	1.019	0.001
	Band7/50%RB#0	0	Right Tilted	20850	2510	22.42	-0.09	22.5	0.002	1.019	0.002
	Band7/50%RB#0	0	Left Cheek	20850	2510	22.42	-0.19	22.5	0.009	1.019	0.009
	Band7/50%RB#0	0	Left Tilted	20850	2510	22.42	0.11	22.5	0.003	1.019	0.003
	Band7/50%RB#0	1	Right Cheek	20850	2510	22.42	-0.03	22.5	0.059	1.019	0.060
	Band7/50%RB#0	1	Right Tilted	20850	2510	22.42	0.08	22.5	0.184	1.019	0.187
	Band7/50%RB#0	1	Left Cheek	20850	2510	22.42	-0.17	22.5	0.038	1.019	0.039
	Band7/50%RB#0	1	Left Tilted	20850	2510	22.42	-0.13	22.5	0.035	1.019	0.036
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 12(10MHz) QPSK Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band12/1RB#49	0	Right Cheek	23095	707.5	24.96	-0.01	25.5	0.104	1.132	0.118
	Band12/1RB#49	0	Right Tilted	23095	707.5	24.96	0.18	25.5	0.042	1.132	0.047
	Band12/1RB#49	0	Left Cheek	23095	707.5	24.96	0.00	25.5	0.110	1.132	0.125
	Band12/1RB#49	0	Left Tilted	23095	707.5	24.96	0.18	25.5	0.052	1.132	0.059
	Band12/1RB#49	1	Right Cheek	23095	707.5	24.96	-0.05	25.5	0.771	1.132	0.873
	Band12/1RB#49	1	Right Tilted	23095	707.5	24.96	0.18	25.5	0.636	1.132	0.720
	Band12/1RB#49	1	Left Cheek	23095	707.5	24.96	0.08	25.5	0.411	1.132	0.465
	Band12/1RB#49	1	Left Tilted	23095	707.5	24.96	0.03	25.5	0.377	1.132	0.427
	Band12/1RB#24	1	Right Cheek	23060	704	24.78	0.04	25.5	0.777	1.18	0.917
10	Band12/1RB#49	1	Right Cheek	23130	711	24.81	0.08	25.5	**0.790**	1.172	0.926
	Band12/50%RB#24	0	Right Cheek	23095	707.5	23.12	-0.18	23.5	0.069	1.091	0.075
	Band12/50%RB#24	0	Right Tilted	23095	707.5	23.12	0.08	23.5	0.026	1.091	0.028
	Band12/50%RB#24	0	Left Cheek	23095	707.5	23.12	0.13	23.5	0.072	1.091	0.079
	Band12/50%RB#24	0	Left Tilted	23095	707.5	23.12	-0.16	23.5	0.029	1.091	0.032
	Band12/50%RB#24	1	Right Cheek	23095	707.5	23.12	-0.10	23.5	0.622	1.091	0.679
	Band12/50%RB#24	1	Right Tilted	23095	707.5	23.12	0.10	23.5	0.476	1.091	0.519
	Band12/50%RB#24	1	Left Cheek	23095	707.5	23.12	0.18	23.5	0.325	1.091	0.355
	Band12/50%RB#24	1	Left Tilted	23095	707.5	23.12	-0.16	23.5	0.284	1.091	0.310
	Band12/100%RB#0	1	Right Cheek	23095	707.5	23.08	-0.15	23.5	0.585	1.102	0.645
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 13(10MHz) QPSK Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band13/1RB#49	0	Right Cheek	23230	782	23.80	0.06	24.0	0.123	1.047	0.129
	Band13/1RB#49	0	Right Tilted	23230	782	23.80	0.07	24.0	0.048	1.047	0.051
	Band13/1RB#49	0	Left Cheek	23230	782	23.80	0.00	24.0	0.107	1.047	0.112
	Band13/1RB#49	0	Left Tilted	23230	782	23.80	0.20	24.0	0.055	1.047	0.058
11	Band13/1RB#49	1	Right Cheek	23230	782	23.80	0.00	24.0	0.487	1.047	0.510
	Band13/1RB#49	1	Right Tilted	23230	782	23.80	-0.09	24.0	0.370	1.047	0.387
	Band13/1RB#49	1	Left Cheek	23230	782	23.80	0.12	24.0	0.269	1.047	0.282
	Band13/1RB#49	1	Left Tilted	23230	782	23.80	0.03	24.0	0.258	1.047	0.270
	Band13/50%RB#0	0	Right Cheek	23230	782	23.35	0.18	23.5	0.102	1.035	0.106
	Band13/50%RB#0	0	Right Tilted	23230	782	23.35	-0.17	23.5	0.041	1.035	0.042
	Band13/50%RB#0	0	Left Cheek	23230	782	23.35	-0.13	23.5	0.086	1.035	0.089
	Band13/50%RB#0	0	Left Tilted	23230	782	23.35	0.09	23.5	0.052	1.035	0.054
	Band13/50%RB#0	1	Right Cheek	23230	782	23.35	0.00	23.5	0.404	1.035	0.418
	Band13/50%RB#0	1	Right Tilted	23230	782	23.35	0.02	23.5	0.322	1.035	0.333
	Band13/50%RB#0	1	Left Cheek	23230	782	23.35	0.02	23.5	0.208	1.035	0.215
	Band13/50%RB#0	1	Left Tilted	23230	782	23.35	-0.17	23.5	0.203	1.035	0.210
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 17(10MHz) QPSK Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band17/1RB#0	0	Right Cheek	23790	710	24.86	-0.16	25.5	0.105	1.159	0.122
	Band17/1RB#0	0	Right Tilted	23790	710	24.86	0.07	25.5	0.044	1.159	0.051
	Band17/1RB#0	0	Left Cheek	23790	710	24.86	-0.20	25.5	0.111	1.159	0.129
	Band17/1RB#0	0	Left Tilted	23790	710	24.86	-0.09	25.5	0.053	1.159	0.061
	Band17/1RB#0	1	Right Cheek	23790	710	24.86	0.06	25.5	0.781	1.159	0.905
	Band17/1RB#0	1	Right Tilted	23790	710	24.86	0.20	25.5	0.628	1.159	0.728
	Band17/1RB#0	1	Left Cheek	23790	710	24.86	-0.05	25.5	0.414	1.159	0.480
	Band17/1RB#0	1	Left Tilted	23790	710	24.86	-0.06	25.5	0.380	1.159	0.440
	Band17/1RB#49	1	Right Cheek	23780	709	24.83	0.03	25.5	0.784	1.167	0.915
12	Band17/1RB#0	1	Right Cheek	23800	711	24.77	0.06	25.5	**0.784**	1.183	0.927
	Band17/50%RB#24	0	Right Cheek	23780	709	23.10	-0.10	23.5	0.078	1.096	0.085
	Band17/50%RB#24	0	Right Tilted	23780	709	23.10	0.14	23.5	0.028	1.096	0.031
	Band17/50%RB#24	0	Left Cheek	23780	709	23.10	-0.12	23.5	0.082	1.096	0.090
	Band17/50%RB#24	0	Left Tilted	23780	709	23.10	0.09	23.5	0.036	1.096	0.039
	Band17/50%RB#24	1	Right Cheek	23780	709	23.10	0.14	23.5	0.617	1.096	0.676
	Band17/50%RB#24	1	Right Tilted	23780	709	23.10	0.11	23.5	0.464	1.096	0.509
	Band17/50%RB#24	1	Left Cheek	23780	709	23.10	-0.18	23.5	0.351	1.096	0.385
	Band17/50%RB#24	1	Left Tilted	23780	709	23.10	0.18	23.5	0.302	1.096	0.331
	Band17/100%RB#0	1	Right Cheek	23780	709	23.01	0.06	23.5	0.605	1.119	0.677
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 26(15MHz) QPSK Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band26/1RB#74	0	Right Cheek	26965	841.5	24.66	0.01	25.0	0.163	1.081	0.176
	Band26/1RB#74	0	Right Tilted	26965	841.5	24.66	0.16	25.0	0.063	1.081	0.068
	Band26/1RB#74	0	Left Cheek	26965	841.5	24.66	0.07	25.0	0.152	1.081	0.164
	Band26/1RB#74	0	Left Tilted	26965	841.5	24.66	0.09	25.0	0.066	1.081	0.072
13	Band26/1RB#74	1	Right Cheek	26965	841.5	24.66	-0.01	25.0	**0.994**	1.081	1.075
	Band26/1RB#74	**1**	**Right Cheek**	**26965**	**841.5**	**24.66**	**0.11**	**25.0**	**0.987**	**1.081**	**1.067**
	Band26/1RB#74	1	Right Tilted	26965	841.5	24.66	0.02	25.0	0.685	1.081	0.740
	Band26/1RB#74	1	Left Cheek	26965	841.5	24.66	-0.01	25.0	0.634	1.081	0.685
	Band26/1RB#74	1	Left Tilted	26965	841.5	24.66	-0.02	25.0	0.641	1.081	0.693
	Band26/1RB#74	1	Right Cheek	26765	821.5	24.55	-0.01	25.0	0.934	1.109	1.036
	Band26/1RB#74	1	Right Cheek	26865	831.5	24.37	0.07	25.0	0.982	1.156	1.135
	Band26/50%RB#35	0	Right Cheek	26965	841.5	23.62	0.00	24.0	0.155	1.091	0.169
	Band26/50%RB#35	0	Right Tilted	26965	841.5	23.62	0.01	24.0	0.052	1.091	0.057
	Band26/50%RB#35	0	Left Cheek	26965	841.5	23.62	-0.15	24.0	0.148	1.091	0.161
	Band26/50%RB#35	0	Left Tilted	26965	841.5	23.62	-0.03	24.0	0.056	1.091	0.061
	Band26/50%RB#35	1	Right Cheek	26965	841.5	23.62	-0.01	24.0	0.822	1.091	0.897
	Band26/50%RB#35	1	Right Tilted	26965	841.5	23.62	0.09	24.0	0.716	1.091	0.781
	Band26/50%RB#35	1	Left Cheek	26965	841.5	23.62	0.10	24.0	0.516	1.091	0.563
	Band26/50%RB#35	1	Left Tilted	26965	841.5	23.62	-0.05	24.0	0.522	1.091	0.570
	Band26/50%RB#35	1	Right Cheek	26765	821.5	23.55	0.08	24.0	0.737	1.109	0.817
	Band26/50%RB#35	1	Right Cheek	26865	831.5	23.12	0.07	24.0	0.775	1.225	0.949
	Band26/100%RB#0	1	Right Cheek	26965	841.5	23.40	-0.06	23.5	0.787	1.023	0.805
	Band26/100%RB#0	1	Right Cheek	26765	821.5	23.25	0.08	23.5	0.722	1.059	0.765
	Band26/100%RB#0	1	Right Cheek	26865	831.5	23.21	0.00	23.5	0.762	1.069	0.815
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 66(20MHz) QPSK Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band66/1RB#0	0	Right Cheek	132572	1770	25.40	0.05	25.5	0.044	1.023	0.045
	Band66/1RB#0	0	Right Tilted	132572	1770	25.40	0.05	25.5	0.019	1.023	0.019
	Band66/1RB#0	0	Left Cheek	132572	1770	25.40	0.00	25.5	0.016	1.023	0.016
	Band66/1RB#0	0	Left Tilted	132572	1770	25.40	0.05	25.5	0.020	1.023	0.021
	Band66/1RB#0	1	Right Cheek	132572	1770	25.40	0.04	25.5	0.402	1.023	0.411
14	Band66/1RB#0	1	Right Tilted	132572	1770	25.40	0.04	25.5	**0.556**	1.023	0.569
	Band66/1RB#0	1	Left Cheek	132572	1770	25.40	0.06	25.5	0.238	1.023	0.243
	Band66/1RB#0	1	Left Tilted	132572	1770	25.40	0.20	25.5	0.277	1.023	0.283
	Band66/50%RB#49	0	Right Cheek	132322	1745	23.18	-0.02	23.5	0.032	1.076	0.034
	Band66/50%RB#49	0	Right Tilted	132322	1745	23.18	-0.18	23.5	0.009	1.076	0.010
	Band66/50%RB#49	0	Left Cheek	132322	1745	23.18	0.06	23.5	0.007	1.076	0.008
	Band66/50%RB#49	0	Left Tilted	132322	1745	23.18	-0.10	23.5	0.010	1.076	0.011
	Band66/50%RB#49	1	Right Cheek	132322	1745	23.18	-0.13	23.5	0.214	1.076	0.230
	Band66/50%RB#49	1	Right Tilted	132322	1745	23.18	0.09	23.5	0.269	1.076	0.289
	Band66/50%RB#49	1	Left Cheek	132322	1745	23.18	-0.11	23.5	0.125	1.076	0.135
	Band66/50%RB#49	1	Left Tilted	132322	1745	23.18	0.05	23.5	0.162	1.076	0.174
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WLAN 2.4 GHz Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	2.4GHz/802.11b	12	Right Cheek	11	2462	19.22	0.16	19.5	0.127	1.067	1.000	0.136
	2.4GHz/802.11b	12	Right Tilted	11	2462	19.22	0.17	19.5	0.132	1.067	1.000	0.141
	2.4GHz/802.11b	12	Left Cheek	11	2462	19.22	-0.04	19.5	0.296	1.067	1.000	0.316
15	2.4GHz/802.11b	12	Left Tilted	11	2462	19.22	0.08	19.5	**0.309**	1.067	1.000	0.330
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.2 GHz Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.2GHz/802.11a	12	Right Cheek	36	5180	15.11	-0.06	15.5	0.095	1.094	1.000	0.104
	5.2GHz/802.11a	12	Right Tilted	36	5180	15.11	0.01	15.5	0.126	1.094	1.000	0.138
16	5.2GHz/802.11a	12	Left Cheek	36	5180	15.11	0.08	15.5	**0.316**	1.094	1.000	0.346
	5.2GHz/802.11a	12	Left Tilted	36	5180	15.11	0.02	15.5	0.265	1.094	1.000	0.290
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.3 GHz Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.3GHz/802.11n40	12	Right Cheek	54	5270	15.15	0.09	15.5	0.098	1.084	1.000	0.106
	5.3GHz/802.11n40	12	Right Tilted	54	5270	15.15	0.13	15.5	0.138	1.084	1.000	0.150
17	5.3GHz/802.11n40	12	Left Cheek	54	5270	15.15	-0.01	15.5	**0.363**	1.084	1.000	0.393
	5.3GHz/802.11n40	12	Left Tilted	54	5270	15.15	0.04	15.5	0.234	1.084	1.000	0.254
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.6 GHz Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.6GHz/802.11ac40	12	Right Cheek	102	5510	14.88	0.05	15.0	0.032	1.028	1.000	0.032
	5.6GHz/802.11ac40	12	Right Tilted	102	5510	14.88	0.08	15.0	0.061	1.028	1.000	0.063
18	5.6GHz/802.11ac40	12	Left Cheek	102	5510	14.88	-0.08	15.0	**0.187**	1.028	1.000	0.192
	5.6GHz/802.11ac40	12	Left Tilted	102	5510	14.88	0.02	15.0	0.117	1.028	1.000	0.120
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.8 GHz Head SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.8GHz/802.11a	12	Right Cheek	149	5745	15.41	0.08	15.5	0.018	1.021	1.000	0.018
	5.8GHz/802.11a	12	Right Tilted	149	5745	15.41	-0.02	15.5	0.039	1.021	1.000	0.040
19	5.8GHz/802.11a	12	Left Cheek	149	5745	15.41	0.01	15.5	**0.121**	1.021	1.000	0.124
	5.8GHz/802.11a	12	Left Tilted	149	5745	15.41	0.00	15.5	0.111	1.021	1.000	0.113
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

Note:

1. Per KDB 447498 D01v06, for each exposure position, if the highest output power channel Reported SAR ≤ 0.8W/kg,

other channels SAR testing is not necessary.

2. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg.
3. Per KDB 941225 D05v02r05, 100% RB allocation SAR measurement is not required when the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg.
4. Per KDB 248227 D01v02r02, for 802.11b DSSS , when the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required in that exposure configuration.
5. Per KDB 248227 D01v02r02, OFDM SAR is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. Cuz the maximum output power specified for OFDM and DSSS are 50.12mW(17.0dBm) and 89.13mW(19.5dBm), the scaled SAR would be 0.330×(50.12/89.13)=0.186W/Kg<1.2 W/kg, therefore, SAR is not required for OFDM.
6. According to KDB 865664 D02v01r02, SAR plot is required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination
7. Highlight part of test data means repeated test.
8. *: Due the antenna location and antenna performance results the SAR value lower than the lowest system limit, then we show “<0.001* W/Kg” in the report.

15.2 Standalone Body SAR

➢ GSM Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	GPRS850/2 slots	0	Front	128	824.2	31.36	-0.05	31.5	0.250	1.033	0.258
	GPRS850/2 slots	0	Back	128	824.2	31.36	0.02	31.5	0.190	1.033	0.196
	GPRS850/2 slots	1	Front	128	824.2	31.36	0.12	31.5	0.303	1.033	0.313
20	GPRS850/2 slots	1	Back	128	824.2	31.36	-0.07	31.5	**0.373**	1.033	0.385
	GPRS1900/3 slots	0	Front	661	1880	26.43	0.03	26.5	0.245	1.016	0.249
	GPRS1900/3 slots	0	Back	661	1880	26.43	0.09	26.5	0.392	1.016	0.398
	GPRS1900/3 slots	1	Front	661	1880	26.43	-0.02	26.5	0.285	1.016	0.290
21	GPRS1900/3 slots	1	Back	661	1880	26.43	0.02	26.5	**0.404**	1.016	0.410
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WCDMA Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band II/RMC	0	Front	9538	1907.6	23.76	0.04	24.0	0.406	1.057	0.429
22	Band II/RMC	0	Back	9538	1907.6	23.76	-0.04	24.0	**0.870**	1.057	0.920
	Band II/RMC	**0**	**Back**	**9538**	**1907.6**	**23.76**	**-0.09**	**24.0**	**0.862**	**1.057**	**0.911**
	Band II/RMC	0	Back	9262	1852.4	23.16	0.02	24.0	0.610	1.213	0.740
	Band II/RMC	0	Back	9400	1880	23.60	-0.01	24.0	0.817	1.096	0.895
	Band II/RMC	1	Front	9538	1907.6	23.76	-0.02	24.0	0.084	1.057	0.089
	Band II/RMC	1	Back	9538	1907.6	23.76	0.00	24.0	0.180	1.057	0.190
	Band IV/RMC	0	Front	1513	1752.6	23.63	0.04	24.0	0.252	1.089	0.274
23	Band IV/RMC	0	Back	1513	1752.6	23.63	-0.04	24.0	**0.328**	1.089	0.357
	Band IV/RMC	1	Front	1513	1752.6	23.63	0.07	24.0	0.142	1.089	0.155
	Band IV/RMC	1	Back	1513	1752.6	23.63	0.07	24.0	0.238	1.089	0.259
	Band V/RMC	0	Front	4233	846.6	24.11	-0.03	24.5	0.218	1.094	0.238
	Band V/RMC	0	Back	4233	846.6	24.11	0.06	24.5	0.212	1.094	0.232
	Band V/RMC	1	Front	4233	846.6	24.11	-0.02	24.5	0.249	1.094	0.272
24	Band V/RMC	1	Back	4233	846.6	24.11	0.16	24.5	**0.344**	1.094	0.376
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 2(20MHz) QPSK Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band2/1RB#99	0	Front	19100	1900	25.48	0.01	25.5	0.218	1.005	0.219
25	Band2/1RB#99	0	Back	19100	1900	25.48	0.01	25.5	**0.488**	1.005	0.490
	Band2/1RB#99	1	Front	19100	1900	25.48	-0.01	25.5	0.131	1.005	0.132
	Band2/1RB#99	1	Back	19100	1900	25.48	-0.05	25.5	0.286	1.005	0.287
	Band2/50%RB#0	0	Front	19100	1900	23.50	-0.06	24.0	0.217	1.122	0.243
	Band2/50%RB#0	0	Back	19100	1900	23.50	0.11	24.0	0.393	1.122	0.441
	Band2/50%RB#0	1	Front	19100	1900	23.50	-0.06	24.0	0.201	1.122	0.226
	Band2/50%RB#0	1	Back	19100	1900	23.50	0.06	24.0	0.353	1.122	0.396
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 4(20MHz) QPSK Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band4/1RB#99	0	Front	20300	1745	25.14	0.03	25.5	0.100	1.086	0.108
	Band4/1RB#99	0	Back	20300	1745	25.14	0.00	25.5	0.146	1.086	0.159
	Band4/1RB#99	1	Front	20300	1745	25.14	0.11	25.5	0.091	1.086	0.099
26	Band4/1RB#99	1	Back	20300	1745	25.14	0.06	25.5	**0.200**	1.086	0.217
	Band4/50%RB#24	0	Front	20300	1745	22.82	0.03	23.0	0.045	1.042	0.047
	Band4/50%RB#24	0	Back	20300	1745	22.82	0.02	23.0	0.072	1.042	0.075
	Band4/50%RB#24	1	Front	20300	1745	22.82	-0.14	23.0	0.073	1.042	0.076
	Band4/50%RB#24	1	Back	20300	1745	22.82	-0.06	23.0	0.149	1.042	0.155
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 5(10MHz) QPSK Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band5/1RB#49	0	Front	20600	844	24.59	-0.19	25.0	0.241	1.099	0.265
	Band5/1RB#49	0	Back	20600	844	24.59	-0.06	25.0	0.211	1.099	0.232
	Band5/1RB#49	1	Front	20600	844	24.59	-0.10	25.0	0.293	1.099	0.322
27	Band5/1RB#49	1	Back	20600	844	24.59	0.00	25.0	**0.404**	1.099	0.444
	Band5/50%RB#24	0	Front	20600	844	23.02	0.06	23.5	0.213	1.117	0.238
	Band5/50%RB#24	0	Back	20600	844	23.02	-0.18	23.5	0.186	1.117	0.208
	Band5/50%RB#24	1	Front	20600	844	23.02	0.18	23.5	0.231	1.117	0.258
	Band5/50%RB#24	1	Back	20600	844	23.02	0.09	23.5	0.322	1.117	0.360
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 7(20MHz) QPSK Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band7/1RB#0	0	Front	20850	2510	23.29	0.07	23.5	0.040	1.050	0.042
28	Band7/1RB#0	0	Back	20850	2510	23.29	0.07	23.5	**0.288**	1.050	0.302
	Band7/1RB#0	1	Front	20850	2510	23.29	0.16	23.5	0.067	1.050	0.070
	Band7/1RB#0	1	Back	20850	2510	23.29	0.04	23.5	0.241	1.050	0.253
	Band7/50%RB#0	0	Front	20850	2510	22.42	-0.03	22.5	0.029	1.019	0.030
	Band7/50%RB#0	0	Back	20850	2510	22.42	-0.07	22.5	0.203	1.019	0.207
	Band7/50%RB#0	1	Front	20850	2510	22.42	-0.02	22.5	0.048	1.019	0.049
	Band7/50%RB#0	1	Back	20850	2510	22.42	0.02	22.5	0.165	1.019	0.168
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 12(10MHz) QPSK Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band12/1RB#49	0	Front	23095	707.5	24.96	0.12	25.5	0.149	1.132	0.169
	Band12/1RB#49	0	Back	23095	707.5	24.96	-0.03	25.5	0.131	1.132	0.148
	Band12/1RB#49	1	Front	23095	707.5	24.96	-0.06	25.5	0.201	1.132	0.228
29	Band12/1RB#49	1	Back	23095	707.5	24.96	0.06	25.5	**0.228**	1.132	0.258
	Band12/50%RB#24	0	Front	23095	707.5	23.12	-0.09	23.5	0.101	1.091	0.110
	Band12/50%RB#24	0	Back	23095	707.5	23.12	0.14	23.5	0.097	1.091	0.106
	Band12/50%RB#24	1	Front	23095	707.5	23.12	0.20	23.5	0.162	1.091	0.177
	Band12/50%RB#24	1	Back	23095	707.5	23.12	0.04	23.5	0.188	1.091	0.205
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 13(10MHz) QPSK Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band13/1RB#49	0	Front	23230	782	23.80	0.03	24.0	0.126	1.047	0.132
	Band13/1RB#49	0	Back	23230	782	23.80	0.02	24.0	0.197	1.047	0.206
	Band13/1RB#49	1	Front	23230	782	23.80	0.00	24.0	0.120	1.047	0.126
30	Band13/1RB#49	1	Back	23230	782	23.80	-0.08	24.0	**0.200**	1.047	0.209
	Band13/50%RB#0	0	Front	23230	782	23.35	-0.05	23.5	0.103	1.035	0.107
	Band13/50%RB#0	0	Back	23230	782	23.35	-0.10	23.5	0.157	1.035	0.162
	Band13/50%RB#0	1	Front	23230	782	23.35	-0.08	23.5	0.085	1.035	0.088
	Band13/50%RB#0	1	Back	23230	782	23.35	-0.02	23.5	0.178	1.035	0.184
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 17(10MHz) QPSK Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band17/1RB#0	0	Front	23790	710	24.86	0.19	25.5	0.147	1.159	0.170
	Band17/1RB#0	0	Back	23790	710	24.86	0.00	25.5	0.129	1.159	0.150
	Band17/1RB#0	1	Front	23790	710	24.86	-0.17	25.5	0.203	1.159	0.235
31	Band17/1RB#0	1	Back	23790	710	24.86	-0.05	25.5	**0.235**	1.159	0.272
	Band17/50%RB#24	0	Front	23780	709	23.10	0.05	23.5	0.103	1.096	0.113
	Band17/50%RB#24	0	Back	23780	709	23.10	-0.15	23.5	0.099	1.096	0.109
	Band17/50%RB#24	1	Front	23780	709	23.10	0.00	23.5	0.168	1.096	0.184
	Band17/50%RB#24	1	Back	23780	709	23.10	-0.16	23.5	0.196	1.096	0.215
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 26(15MHz) QPSK Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band26/1RB#74	0	Front	26965	841.5	24.66	-0.07	25.0	0.238	1.081	0.257
	Band26/1RB#74	0	Back	26965	841.5	24.66	0.04	25.0	0.214	1.081	0.231
	Band26/1RB#74	1	Front	26965	841.5	24.66	0.02	25.0	0.287	1.081	0.310
32	Band26/1RB#74	1	Back	26965	841.5	24.66	0.03	25.0	**0.376**	1.081	0.406
	Band26/50%RB#35	0	Front	26965	841.5	23.62	0.15	24.0	0.211	1.091	0.230
	Band26/50%RB#35	0	Back	26965	841.5	23.62	-0.13	24.0	0.185	1.091	0.202
	Band26/50%RB#35	1	Front	26965	841.5	23.62	0.07	24.0	0.228	1.091	0.249
	Band26/50%RB#35	1	Back	26965	841.5	23.62	-0.08	24.0	0.317	1.091	0.346
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 66(20MHz) QPSK Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band66/1RB#0	0	Front	132572	1770	25.40	0.02	25.5	0.065	1.023	0.066
	Band66/1RB#0	0	Back	132572	1770	25.40	0.10	25.5	0.106	1.023	0.108
	Band66/1RB#0	1	Front	132572	1770	25.40	0.11	25.5	0.095	1.023	0.097
33	Band66/1RB#0	1	Back	132572	1770	25.40	0.10	25.5	**0.209**	1.023	0.214
	Band66/50%RB#49	0	Front	132322	1745	23.18	-0.15	23.5	0.043	1.076	0.046
	Band66/50%RB#49	0	Back	132322	1745	23.18	0.16	23.5	0.069	1.076	0.074
	Band66/50%RB#49	1	Front	132322	1745	23.18	-0.03	23.5	0.062	1.076	0.067
	Band66/50%RB#49	1	Back	132322	1745	23.18	0.03	23.5	0.133	1.076	0.143
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WLAN 2.4GHz Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	2.4GHz/802.11b	12	Front	11	2462	19.22	-0.04	19.5	0.090	1.067	1.000	0.096
34	2.4GHz/802.11b	12	Back	11	2462	19.22	0.10	19.5	**0.109**	1.067	1.000	0.116
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.2GHz Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.2GHz/802.11a	12	Front	36	5180	15.11	-0.13	15.5	0.106	1.094	1.000	0.116
35	5.2GHz/802.11a	12	Back	36	5180	15.11	-0.01	15.5	**0.235**	1.094	1.000	0.257
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.3GHz Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.3GHz/802.11n40	12	Front	54	5270	15.15	0.07	15.5	0.122	1.084	1.000	0.132
36	5.3GHz/802.11n40	12	Back	54	5270	15.15	0.17	15.5	**0.348**	1.084	1.000	0.377
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.6GHz Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.6GHz/802.11ac40	12	Front	102	5510	14.88	0.08	15.0	0.078	1.028	1.000	0.080
37	5.6GHz/802.11ac40	12	Back	102	5510	14.88	0.12	15.0	**0.336**	1.028	1.000	0.345
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.8GHz Wi-Fi Body SAR

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.8GHz/802.11a	12	Front	149	5745	15.41	0.00	15.5	0.056	1.021	1.000	0.057
38	5.8GHz/802.11a	12	Back	149	5745	15.41	0.00	15.5	**0.307**	1.021	1.000	0.313
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

Note:

1. Body-worn SAR testing was performed at 10mm separation, and this distance is determined by the handset manufacturer that there will be body-worn accessories that users may acquire at the time of equipment certification, to enable users to purchase aftermarket body-worn accessories with the required minimum separation.
2. Per KDB 941225 D06v02r01, when the same wireless modes and device transmission configurations are required for testing body-worn accessories and hotspot mode, it is not necessary to test body-worn accessory SAR for the same device orientation if the test separation distance for hotspot mode is more conservative than that used for body-worn accessories.
3. Body-worn exposure conditions are intended to voice call operations, therefore GSM voice call is selected to be tested.
4. Per KDB 648474 D04v01r03, when the *Reported* SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
5. The WLAN SAR perform the front and back position, due considered the simultaneous SAR for body-worn.
6. Per KDB 447498 D01v06, for each exposure position, if the highest output channel Reported SAR ≤0.8W/kg, other channels SAR testing is not necessary.
7. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥0.8W/kg.
8. Per KDB 941225 D05v02r05, 100% RB allocation SAR measurement is not required when the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg.
9. According to KDB 865664 D02v01r02, SAR plot is required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.
10. Highlight part of test data means repeated test.
11. *: Due the antenna location and antenna performance results the SAR value lower than the lowest system limit, then we show “<0.001* W/Kg” in the report.

15.3 Body SAR in Hotspot Mode

➢ GSM Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	GPRS850/2 slots	0	Front	128	824.2	31.36	-0.05	31.5	0.250	1.033	0.258
	GPRS850/2 slots	0	Back	128	824.2	31.36	0.02	31.5	0.190	1.033	0.196
	GPRS850/2 slots	0	Left	128	824.2	31.36	-0.18	31.5	0.055	1.033	0.057
	GPRS850/2 slots	0	Right	128	824.2	31.36	-0.16	31.5	0.131	1.033	0.135
	GPRS850/2 slots	0	Bottom	128	824.2	31.36	-0.11	31.5	0.126	1.033	0.130
	GPRS850/2 slots	1	Front	128	824.2	31.36	0.12	31.5	0.303	1.033	0.313
20	GPRS850/2 slots	1	Back	128	824.2	31.36	-0.07	31.5	**0.373**	1.033	0.385
	GPRS850/2 slots	1	Left	128	824.2	31.36	-0.08	31.5	0.207	1.033	0.214
	GPRS850/2 slots	1	Top	128	824.2	31.36	-0.13	31.5	0.304	1.033	0.314
	GPRS1900/3 slots	0	Front	661	1880	26.43	0.03	26.5	0.245	1.016	0.249
	GPRS1900/3 slots	0	Back	661	1880	26.43	0.09	26.5	0.392	1.016	0.398
	GPRS1900/3 slots	0	Left	661	1880	26.43	0.00	26.5	0.122	1.016	0.124
	GPRS1900/3 slots	0	Right	661	1880	26.43	-0.12	26.5	0.096	1.016	0.098
	GPRS1900/3 slots	0	Bottom	661	1880	26.43	-0.17	26.5	0.299	1.016	0.304
	GPRS1900/3 slots	1	Front	661	1880	26.43	-0.02	26.5	0.285	1.016	0.290
21	GPRS1900/3 slots	1	Back	661	1880	26.43	0.02	26.5	**0.404**	1.016	0.410
	GPRS1900/3 slots	1	Left	661	1880	26.43	-0.01	26.5	0.102	1.016	0.104
	GPRS1900/3 slots	1	Top	661	1880	26.43	-0.19	26.5	0.340	1.016	0.345
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WCDMA Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band II/RMC	0	Front	9538	1907.6	23.76	0.04	24.0	0.406	1.057	0.429
22	Band II/RMC	0	Back	9538	1907.6	23.76	-0.04	24.0	**0.870**	1.057	0.920
	Band II/RMC	**0**	**Back**	**9538**	**1907.6**	**23.76**	**-0.09**	**24.0**	**0.862**	**1.057**	**0.911**
	Band II/RMC	0	Left	9538	1907.6	23.76	-0.10	24.0	0.209	1.057	0.221
	Band II/RMC	0	Right	9538	1907.6	23.76	-0.05	24.0	0.128	1.057	0.135
	Band II/RMC	0	Bottom	9538	1907.6	23.76	-0.03	24.0	0.633	1.057	0.669
	Band II/RMC	0	Back	9262	1852.4	23.16	0.02	24.0	0.610	1.213	0.740
	Band II/RMC	0	Back	9400	1880	23.60	-0.01	24.0	0.817	1.096	0.895
	Band II/RMC	1	Front	9538	1907.6	23.76	-0.02	24.0	0.084	1.057	0.089
	Band II/RMC	1	Back	9538	1907.6	23.76	0.00	24.0	0.180	1.057	0.190
	Band II/RMC	1	Left	9538	1907.6	23.76	0.00	24.0	0.030	1.057	0.032
	Band II/RMC	1	Top	9538	1907.6	23.76	0.06	24.0	0.131	1.057	0.138
	Band IV/RMC	0	Front	1513	1752.6	23.63	0.04	24.0	0.252	1.089	0.274
	Band IV/RMC	0	Back	1513	1752.6	23.63	-0.04	24.0	0.328	1.089	0.357
	Band IV/RMC	0	Left	1513	1752.6	23.63	0.02	24.0	0.045	1.089	0.049
	Band IV/RMC	0	Right	1513	1752.6	23.63	-0.14	24.0	0.176	1.089	0.192
39	Band IV/RMC	0	Bottom	1513	1752.6	23.63	-0.04	24.0	**0.711**	1.089	0.774
	Band IV/RMC	1	Front	1513	1752.6	23.63	0.07	24.0	0.142	1.089	0.155
	Band IV/RMC	1	Back	1513	1752.6	23.63	0.07	24.0	0.238	1.089	0.259
	Band IV/RMC	1	Left	1513	1752.6	23.63	0.00	24.0	0.032	1.089	0.034
	Band IV/RMC	1	Top	1513	1752.6	23.63	-0.04	24.0	0.237	1.089	0.258
	Band V/RMC	0	Front	4233	846.6	24.11	-0.03	24.5	0.218	1.094	0.238
	Band V/RMC	0	Back	4233	846.6	24.11	0.06	24.5	0.212	1.094	0.232
	Band V/RMC	0	Left	4233	846.6	24.11	-0.02	24.5	0.067	1.094	0.073
	Band V/RMC	0	Right	4233	846.6	24.11	-0.14	24.5	0.139	1.094	0.152
	Band V/RMC	0	Bottom	4233	846.6	24.11	-0.02	24.5	0.158	1.094	0.173
	Band V/RMC	1	Front	4233	846.6	24.11	-0.02	24.5	0.249	1.094	0.272
24	Band V/RMC	1	Back	4233	846.6	24.11	0.16	24.5	**0.344**	1.094	0.376
	Band V/RMC	1	Left	4233	846.6	24.11	-0.10	24.5	0.219	1.094	0.240
	Band V/RMC	1	Top	4233	846.6	24.11	-0.11	24.5	0.281	1.094	0.307
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 2(20MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band2/1RB#99	0	Front	19100	1900	25.48	0.01	25.5	0.218	1.005	0.219
25	Band2/1RB#99	0	Back	19100	1900	25.48	0.01	25.5	**0.488**	1.005	0.490
	Band2/1RB#99	0	Left	19100	1900	25.48	-0.12	25.5	0.109	1.005	0.110
	Band2/1RB#99	0	Right	19100	1900	25.48	-0.17	25.5	0.103	1.005	0.104
	Band2/1RB#99	0	Bottom	19100	1900	25.48	-0.15	25.5	0.444	1.005	0.446
	Band2/1RB#99	1	Front	19100	1900	25.48	-0.01	25.5	0.131	1.005	0.132
	Band2/1RB#99	1	Back	19100	1900	25.48	-0.05	25.5	0.286	1.005	0.287
	Band2/1RB#99	1	Left	19100	1900	25.48	-0.07	25.5	0.042	1.005	0.043
	Band2/1RB#99	1	Top	19100	1900	25.48	0.03	25.5	0.244	1.005	0.245
	Band2/50%RB#0	0	Front	19100	1900	23.50	-0.06	24.0	0.217	1.122	0.243
	Band2/50%RB#0	0	Back	19100	1900	23.50	0.11	24.0	0.393	1.122	0.441
	Band2/50%RB#0	0	Left	19100	1900	23.50	0.03	24.0	0.101	1.122	0.113
	Band2/50%RB#0	0	Right	19100	1900	23.50	-0.07	24.0	0.080	1.122	0.090
	Band2/50%RB#0	0	Bottom	19100	1900	23.50	-0.12	24.0	0.311	1.122	0.349
	Band2/50%RB#0	1	Front	19100	1900	23.50	-0.06	24.0	0.201	1.122	0.226
	Band2/50%RB#0	1	Back	19100	1900	23.50	0.06	24.0	0.353	1.122	0.396
	Band2/50%RB#0	1	Left	19100	1900	23.50	-0.15	24.0	0.091	1.122	0.102
	Band2/50%RB#0	1	Top	19100	1900	23.50	-0.05	24.0	0.336	1.122	0.377
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 4(20MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band4/1RB#99	0	Front	20300	1745	25.14	0.03	25.5	0.100	1.086	0.108
	Band4/1RB#99	0	Back	20300	1745	25.14	0.00	25.5	0.146	1.086	0.159
	Band4/1RB#99	0	Left	20300	1745	25.14	0.05	25.5	0.016	1.086	0.017
	Band4/1RB#99	0	Right	20300	1745	25.14	0.20	25.5	0.061	1.086	0.066
40	Band4/1RB#99	0	Bottom	20300	1745	25.14	-0.02	25.5	**0.268**	1.086	0.291
	Band4/1RB#99	1	Front	20300	1745	25.14	0.11	25.5	0.091	1.086	0.099
	Band4/1RB#99	1	Back	20300	1745	25.14	0.06	25.5	0.200	1.086	0.217
	Band4/1RB#99	1	Left	20300	1745	25.14	0.10	25.5	0.024	1.086	0.026
	Band4/1RB#99	1	Top	20300	1745	25.14	-0.18	25.5	0.221	1.086	0.240
	Band4/50%RB#24	0	Front	20300	1745	22.82	0.03	23.0	0.045	1.042	0.047
	Band4/50%RB#24	0	Back	20300	1745	22.82	0.02	23.0	0.072	1.042	0.075
	Band4/50%RB#24	0	Left	20300	1745	22.82	0.02	23.0	0.009	1.042	0.009
	Band4/50%RB#24	0	Right	20300	1745	22.82	-0.09	23.0	0.038	1.042	0.040
	Band4/50%RB#24	0	Bottom	20300	1745	22.82	0.20	23.0	0.174	1.042	0.181
	Band4/50%RB#24	1	Front	20300	1745	22.82	-0.14	23.0	0.073	1.042	0.076
	Band4/50%RB#24	1	Back	20300	1745	22.82	-0.06	23.0	0.149	1.042	0.155
	Band4/50%RB#24	1	Left	20300	1745	22.82	-0.15	23.0	0.029	1.042	0.030
	Band4/50%RB#24	1	Top	20300	1745	22.82	-0.20	23.0	0.162	1.042	0.169
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 5(10MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band5/1RB#49	0	Front	20600	844	24.59	-0.19	25.0	0.241	1.099	0.265
	Band5/1RB#49	0	Back	20600	844	24.59	-0.06	25.0	0.211	1.099	0.232
	Band5/1RB#49	0	Left	20600	844	24.59	0.19	25.0	0.069	1.099	0.076
	Band5/1RB#49	0	Right	20600	844	24.59	0.03	25.0	0.131	1.099	0.144
	Band5/1RB#49	0	Bottom	20600	844	24.59	-0.04	25.0	0.185	1.099	0.203
	Band5/1RB#49	1	Front	20600	844	24.59	-0.10	25.0	0.293	1.099	0.322
27	Band5/1RB#49	1	Back	20600	844	24.59	0.00	25.0	**0.404**	1.099	0.444
	Band5/1RB#49	1	Left	20600	844	24.59	-0.09	25.0	0.231	1.099	0.254
	Band5/1RB#49	1	Top	20600	844	24.59	-0.12	25.0	0.310	1.099	0.341
	Band5/50%RB#24	0	Front	20600	844	23.02	0.06	23.5	0.213	1.117	0.238
	Band5/50%RB#24	0	Back	20600	844	23.02	-0.18	23.5	0.186	1.117	0.208
	Band5/50%RB#24	0	Left	20600	844	23.02	-0.06	23.5	0.049	1.117	0.055
	Band5/50%RB#24	0	Right	20600	844	23.02	0.02	23.5	0.108	1.117	0.121
	Band5/50%RB#24	0	Bottom	20600	844	23.02	-0.10	23.5	0.132	1.117	0.147
	Band5/50%RB#24	1	Front	20600	844	23.02	0.18	23.5	0.231	1.117	0.258
	Band5/50%RB#24	1	Back	20600	844	23.02	0.09	23.5	0.322	1.117	0.360
	Band5/50%RB#24	1	Left	20600	844	23.02	-0.03	23.5	0.208	1.117	0.232
	Band5/50%RB#24	1	Top	20600	844	23.02	0.16	23.5	0.227	1.117	0.254
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 7(20MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band7/1RB#0	0	Front	20850	2510	23.29	0.07	23.5	0.040	1.050	0.042
28	Band7/1RB#0	0	Back	20850	2510	23.29	0.07	23.5	**0.288**	1.050	0.302
	Band7/1RB#0	0	Left	20850	2510	23.29	0.09	23.5	0.031	1.050	0.032
	Band7/1RB#0	0	Right	20850	2510	23.29	0.00	23.5	0.007	1.050	0.007
	Band7/1RB#0	0	Bottom	20850	2510	23.29	-0.06	23.5	0.054	1.050	0.056
	Band7/1RB#0	1	Front	20850	2510	23.29	0.16	23.5	0.067	1.050	0.070
	Band7/1RB#0	1	Back	20850	2510	23.29	0.04	23.5	0.241	1.050	0.253
	Band7/1RB#0	1	Left	20850	2510	23.29	-0.14	23.5	0.047	1.050	0.050
	Band7/1RB#0	1	Top	20850	2510	23.29	-0.01	23.5	0.284	1.050	0.298
	Band7/50%RB#0	0	Front	20850	2510	22.42	-0.03	22.5	0.029	1.019	0.030
	Band7/50%RB#0	0	Back	20850	2510	22.42	-0.07	22.5	0.203	1.019	0.207
	Band7/50%RB#0	0	Left	20850	2510	22.42	0.02	22.5	0.024	1.019	0.024
	Band7/50%RB#0	0	Right	20850	2510	22.42	-0.17	22.5	0.004	1.019	0.004
	Band7/50%RB#0	0	Bottom	20850	2510	22.42	0.09	22.5	0.042	1.019	0.043
	Band7/50%RB#0	1	Front	20850	2510	22.42	-0.02	22.5	0.048	1.019	0.049
	Band7/50%RB#0	1	Back	20850	2510	22.42	0.02	22.5	0.165	1.019	0.168
	Band7/50%RB#0	1	Left	20850	2510	22.42	-0.07	22.5	0.031	1.019	0.032
	Band7/50%RB#0	1	Top	20850	2510	22.42	-0.16	22.5	0.178	1.019	0.181
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 12(10MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band12/1RB#49	0	Front	23095	707.5	24.96	0.12	25.5	0.149	1.132	0.169
	Band12/1RB#49	0	Back	23095	707.5	24.96	-0.03	25.5	0.131	1.132	0.148
	Band12/1RB#49	0	Left	23095	707.5	24.96	-0.03	25.5	0.083	1.132	0.094
	Band12/1RB#49	0	Right	23095	707.5	24.96	-0.09	25.5	0.157	1.132	0.178
	Band12/1RB#49	0	Bottom	23095	707.5	24.96	-0.14	25.5	0.110	1.132	0.125
	Band12/1RB#49	1	Front	23095	707.5	24.96	-0.06	25.5	0.201	1.132	0.228
	Band12/1RB#49	1	Back	23095	707.5	24.96	0.06	25.5	0.228	1.132	0.258
41	Band12/1RB#49	1	Left	23095	707.5	24.96	-0.07	25.5	**0.307**	1.132	0.348
	Band12/1RB#49	1	Top	23095	707.5	24.96	-0.02	25.5	0.167	1.132	0.189
	Band12/50%RB#24	0	Front	23095	707.5	23.12	-0.09	23.5	0.101	1.091	0.110
	Band12/50%RB#24	0	Back	23095	707.5	23.12	0.14	23.5	0.097	1.091	0.106
	Band12/50%RB#24	0	Left	23095	707.5	23.12	-0.01	23.5	0.064	1.091	0.070
	Band12/50%RB#24	0	Right	23095	707.5	23.12	0.18	23.5	0.105	1.091	0.115
	Band12/50%RB#24	0	Bottom	23095	707.5	23.12	0.16	23.5	0.075	1.091	0.082
	Band12/50%RB#24	1	Front	23095	707.5	23.12	0.20	23.5	0.162	1.091	0.177
	Band12/50%RB#24	1	Back	23095	707.5	23.12	0.04	23.5	0.188	1.091	0.205
	Band12/50%RB#24	1	Left	23095	707.5	23.12	-0.10	23.5	0.227	1.091	0.248
	Band12/50%RB#24	1	Top	23095	707.5	23.12	0.03	23.5	0.109	1.091	0.119
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 13(10MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band13/1RB#49	0	Front	23230	782	23.80	0.03	24.0	0.126	1.047	0.132
	Band13/1RB#49	0	Back	23230	782	23.80	0.02	24.0	0.197	1.047	0.206
	Band13/1RB#49	0	Left	23230	782	23.80	-0.09	24.0	0.076	1.047	0.079
	Band13/1RB#49	0	Right	23230	782	23.80	-0.02	24.0	0.158	1.047	0.165
	Band13/1RB#49	0	Bottom	23230	782	23.80	-0.16	24.0	0.191	1.047	0.200
	Band13/1RB#49	1	Front	23230	782	23.80	0.00	24.0	0.120	1.047	0.126
30	Band13/1RB#49	1	Back	23230	782	23.80	-0.08	24.0	**0.200**	1.047	0.209
	Band13/1RB#49	1	Left	23230	782	23.80	-0.08	24.0	0.179	1.047	0.187
	Band13/1RB#49	1	Top	23230	782	23.80	-0.18	24.0	0.172	1.047	0.180
	Band13/50%RB#0	0	Front	23230	782	23.35	-0.05	23.5	0.103	1.035	0.107
	Band13/50%RB#0	0	Back	23230	782	23.35	-0.10	23.5	0.157	1.035	0.162
	Band13/50%RB#0	0	Left	23230	782	23.35	0.18	23.5	0.062	1.035	0.064
	Band13/50%RB#0	0	Right	23230	782	23.35	0.19	23.5	0.123	1.035	0.127
	Band13/50%RB#0	0	Bottom	23230	782	23.35	-0.07	23.5	0.152	1.035	0.157
	Band13/50%RB#0	1	Front	23230	782	23.35	-0.08	23.5	0.085	1.035	0.088
	Band13/50%RB#0	1	Back	23230	782	23.35	-0.02	23.5	0.178	1.035	0.184
	Band13/50%RB#0	1	Left	23230	782	23.35	-0.19	23.5	0.142	1.035	0.147
	Band13/50%RB#0	1	Top	23230	782	23.35	0.16	23.5	0.138	1.035	0.143
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 17(10MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band17/1RB#0	0	Front	23790	710	24.86	0.19	25.5	0.147	1.159	0.170
	Band17/1RB#0	0	Back	23790	710	24.86	0.00	25.5	0.129	1.159	0.150
	Band17/1RB#0	0	Left	23790	710	24.86	-0.04	25.5	0.081	1.159	0.094
	Band17/1RB#0	0	Right	23790	710	24.86	0.13	25.5	0.154	1.159	0.178
	Band17/1RB#0	0	Bottom	23790	710	24.86	-0.04	25.5	0.115	1.159	0.133
	Band17/1RB#0	1	Front	23790	710	24.86	-0.17	25.5	0.203	1.159	0.235
	Band17/1RB#0	1	Back	23790	710	24.86	-0.05	25.5	0.235	1.159	0.272
42	Band17/1RB#0	1	Left	23790	710	24.86	-0.07	25.5	**0.311**	1.159	0.360
	Band17/1RB#0	1	Top	23790	710	24.86	-0.18	25.5	0.170	1.159	0.197
	Band17/50%RB#24	0	Front	23780	709	23.10	0.05	23.5	0.103	1.096	0.113
	Band17/50%RB#24	0	Back	23780	709	23.10	-0.15	23.5	0.099	1.096	0.109
	Band17/50%RB#24	0	Left	23780	709	23.10	0.06	23.5	0.068	1.096	0.075
	Band17/50%RB#24	0	Right	23780	709	23.10	0.11	23.5	0.106	1.096	0.116
	Band17/50%RB#24	0	Bottom	23780	709	23.10	-0.02	23.5	0.077	1.096	0.084
	Band17/50%RB#24	1	Front	23780	709	23.10	0.00	23.5	0.168	1.096	0.184
	Band17/50%RB#24	1	Back	23780	709	23.10	-0.16	23.5	0.196	1.096	0.215
	Band17/50%RB#24	1	Left	23780	709	23.10	0.13	23.5	0.232	1.096	0.254
	Band17/50%RB#24	1	Top	23780	709	23.10	0.02	23.5	0.110	1.096	0.121
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 26(15MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band26/1RB#74	0	Front	26965	841.5	24.66	-0.07	25.0	0.238	1.081	0.257
	Band26/1RB#74	0	Back	26965	841.5	24.66	0.04	25.0	0.214	1.081	0.231
	Band26/1RB#74	0	Left	26965	841.5	24.66	0.17	25.0	0.067	1.081	0.073
	Band26/1RB#74	0	Right	26965	841.5	24.66	-0.11	25.0	0.128	1.081	0.138
	Band26/1RB#74	0	Bottom	26965	841.5	24.66	-0.12	25.0	0.150	1.081	0.162
	Band26/1RB#74	1	Front	26965	841.5	24.66	0.02	25.0	0.287	1.081	0.310
32	Band26/1RB#74	1	Back	26965	841.5	24.66	0.03	25.0	**0.376**	1.081	0.406
	Band26/1RB#74	1	Left	26965	841.5	24.66	0.00	25.0	0.228	1.081	0.246
	Band26/1RB#74	1	Top	26965	841.5	24.66	-0.13	25.0	0.250	1.081	0.270
	Band26/50%RB#35	0	Front	26965	841.5	23.62	0.15	24.0	0.211	1.091	0.230
	Band26/50%RB#35	0	Back	26965	841.5	23.62	-0.13	24.0	0.185	1.091	0.202
	Band26/50%RB#35	0	Left	26965	841.5	23.62	-0.15	24.0	0.047	1.091	0.051
	Band26/50%RB#35	0	Right	26965	841.5	23.62	0.14	24.0	0.103	1.091	0.112
	Band26/50%RB#35	0	Bottom	26965	841.5	23.62	0.05	24.0	0.128	1.091	0.140
	Band26/50%RB#35	1	Front	26965	841.5	23.62	0.07	24.0	0.228	1.091	0.249
	Band26/50%RB#35	1	Back	26965	841.5	23.62	-0.08	24.0	0.317	1.091	0.346
	Band26/50%RB#35	1	Left	26965	841.5	23.62	0.19	24.0	0.203	1.091	0.221
	Band26/50%RB#35	1	Top	26965	841.5	23.62	0.04	24.0	0.215	1.091	0.235
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 66(20MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band66/1RB#0	0	Front	132572	1770	25.40	0.02	25.5	0.065	1.023	0.066
	Band66/1RB#0	0	Back	132572	1770	25.40	0.10	25.5	0.106	1.023	0.108
	Band66/1RB#0	0	Left	132572	1770	25.40	-0.01	25.5	0.010	1.023	0.011
	Band66/1RB#0	0	Right	132572	1770	25.40	-0.18	25.5	0.056	1.023	0.057
43	Band66/1RB#0	0	Bottom	132572	1770	25.40	-0.15	25.5	**0.242**	1.023	0.248
	Band66/1RB#0	1	Front	132572	1770	25.40	0.11	25.5	0.095	1.023	0.097
	Band66/1RB#0	1	Back	132572	1770	25.40	0.10	25.5	0.209	1.023	0.214
	Band66/1RB#0	1	Left	132572	1770	25.40	-0.14	25.5	0.022	1.023	0.023
	Band66/1RB#0	1	Top	132572	1770	25.40	-0.08	25.5	0.220	1.023	0.225
	Band66/50%RB#49	0	Front	132322	1745	23.18	-0.15	23.5	0.043	1.076	0.046
	Band66/50%RB#49	0	Back	132322	1745	23.18	0.16	23.5	0.069	1.076	0.074
	Band66/50%RB#49	0	Left	132322	1745	23.18	0.19	23.5	0.006	1.076	0.006
	Band66/50%RB#49	0	Right	132322	1745	23.18	-0.13	23.5	0.031	1.076	0.033
	Band66/50%RB#49	0	Bottom	132322	1745	23.18	0.08	23.5	0.168	1.076	0.181
	Band66/50%RB#49	1	Front	132322	1745	23.18	-0.03	23.5	0.062	1.076	0.067
	Band66/50%RB#49	1	Back	132322	1745	23.18	0.03	23.5	0.133	1.076	0.143
	Band66/50%RB#49	1	Left	132322	1745	23.18	0.08	23.5	0.013	1.076	0.014
	Band66/50%RB#49	1	Top	132322	1745	23.18	-0.13	23.5	0.145	1.076	0.156
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WLAN 2.4GHz Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	2.4GHz/802.11b	12	Front	11	2462	19.22	-0.04	19.5	0.090	1.067	1.000	0.096
34	2.4GHz/802.11b	12	Back	11	2462	19.22	0.10	19.5	**0.109**	1.067	1.000	0.116
	2.4GHz/802.11b	12	Right	11	2462	19.22	-0.12	19.5	0.104	1.067	1.000	0.111
	2.4GHz/802.11b	12	Top	11	2462	19.22	-0.06	19.5	0.081	1.067	1.000	0.086
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.2GHz Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.2GHz/802.11a	12	Front	36	5180	15.11	-0.13	15.5	0.106	1.094	1.000	0.116
	5.2GHz/802.11a	12	Back	36	5180	15.11	-0.01	15.5	0.235	1.094	1.000	0.257
44	5.2GHz/802.11a	12	Right	36	5180	15.11	-0.20	15.5	**0.334**	1.094	1.000	0.365
	5.2GHz/802.11a	12	Top	36	5180	15.11	-0.11	15.5	0.145	1.094	1.000	0.159
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.8GHz Body SAR in Hotspot mode

Plot No.	Band/Mode	ANT	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Power Drift (dB)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.8GHz/802.11a	12	Front	149	5745	15.41	0.00	15.5	0.056	1.021	1.000	0.057
38	5.8GHz/802.11a	12	Back	149	5745	15.41	0.00	15.5	**0.307**	1.021	1.000	0.313
	5.8GHz/802.11a	12	Right	149	5745	15.41	0.10	15.5	0.181	1.021	1.000	0.185
	5.8GHz/802.11a	12	Top	149	5745	15.41	0.02	15.5	0.105	1.021	1.000	0.107
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**						

Note:

1. Per KDB 447498 D01v06, for each exposure position, if the highest output channel Reported SAR ≤0.8W/kg, other channels SAR testing is not necessary.
2. Additional WLAN SAR testing was performed for simultaneous transmission analysis.
3. For Hotspot SAR testing, per KDB 941225 D06v02r01, for EUT dimension ≥ 9cm*5cm, the test distance is 10mm. SAR must be measured for all surfaces and sides with a transmitting antenna located within 2.5cm from that surface or edge.
4. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA output power is < 0.25dB higher than RMC 12.2kbps, or Reported SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA SAR evaluation can be excluded.
5. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥0.8W/kg.
6. Per KDB 648474 D04v01r03, when the Reported SAR for a body-worn accessory measured without a headset connected to the handset is > 1.2 W/kg, SAR testing with a headset connected to the handset is required.
7. Per KDB 941225 D05v02r05, 100% RB allocation SAR measurement is not required when the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel.
8. According to KDB 865664 D02v01r02, SAR plot is required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.
9. Highlight part of test data means repeated test.
10. *: Due the antenna location and antenna performance results the SAR value lower than the lowest system limit, then we show “<0.001* W/Kg” in the report.

15.4 Repeated SAR measurement

Band/ Mode	Test Position	CH.	Freq. (MHz)	Measured SAR (W/kg)				
				Original	1st Repeated		2nd Repeated	
					Value	Ratio	Value	Ratio
GSM850/Voice	Right Cheek	128	824.2	0.820	0.815	1.01	/	/
Band V/RMC	Right Cheek	4233	846.6	0.874	0.868	1.01	/	/
Band5/1RB#49	Right Cheek	20600	844	1.020	1.000	1.02	/	/
Band26/1RB#74	Right Cheek	26965	841.5	0.994	0.987	1.01		
Band II/RMC	Back	9538	1907.6	0.870	0.862	1.01		
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population				**1.6 W/kg (mW/g) Averaged over 1g**				

Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8 W/kg
2. Per KDB 865664 D01v01r04, if the ratio of *original* and *repeated* is ≤ 1.2 and the measured SAR <1.45 W/kg, only one repeated measurement is required.

15.5 Multi-Band Simultaneous Transmission Considerations

➢ **Simultaneous Transmission Capabilities**

According to FCC KDB Publication 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds. Possible transmission paths for the EUT are shown in below Figure and are color-coded to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

Fig.15.1 Simultaneous Transmission Paths

➢ **Simultaneous Transmission Procedures**

This device contains transmitters that may operate simultaneously. Therefore simultaneous transmission analysis is required. Per FCC KDB 447498 D01v06, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤ 1.6 W/kg. When standalone SAR is not required to be measured, per FCC KDB 447498 D01v06 4.3.2), the following equation must be used to estimate the standalone 1g SAR for simultaneous transmission assessment involving that transmitter.

$$\text{Estimated SAR} = \frac{\sqrt{f(GHz)}}{7.5} \cdot \frac{\text{Max. power of channel, mW}}{\text{Min. Separation Distance, mm}}$$

Mode	Max. tune-up Power (dBm)	Exposure Position	Head	Body	Hotspot
		Test Distance (mm)	0	10	10
Bluetooth	8.5	Estimated SAR (W/kg)	0.293	0.146	0.146

Note:

1. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according is applied to determine estimated SAR.

➢ **Multi-Band simultaneous Transmission Consideration**

	Position	Applicable Combination
Simultaneous Transmission Consideration	Head	WWAN (Voice) + WLAN 2.4 GHz
		WWAN (Voice) + Bluetooth+ WLAN 5.2GHz/5.3GHz/5.6GHz/5.8GHz
	Body	WWAN (Data) + WLAN 2.4 GHz
		WWAN (Data) + Bluetooth+ WLAN 5.2GHz/5.3GHz/5.6GHz/5.8GHz
	Hotspot	WWAN (Data) + WLAN 2.4 GHz
		WWAN (Data) + Bluetooth+ WLAN 5.2GHz/5.8GHz

Note:

1. WLAN 2.4GHz Band and Bluetooth share the same antenna, and cannot transmit simultaneously.
2. WLAN 2.4GHz Band, WLAN 5.2GHz Band, WLAN 5.3GHz Band, WLAN 5.6GHz Band, WLAN 5.8GHz Band share the same antenna, and cannot transmit simultaneously.
3. GSM/WCDMA/LTE shares the same antenna, and cannot transmit simultaneously.
4. The Report SAR summation is calculated based on the same configuration and test position.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i. Scalar SAR summation < 1.6 W/kg.
   ii. SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*), and the peak separation distance is determined from the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR locations in the zoom scan If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary
   iii. Simultaneously transmission SAR measurement, and the Reported multi-band SAR < 1.6 W/kg

15.6 SAR Simultaneous Transmission Analysis

➢ **Simultaneous Transmission**

Position		Standalone SAR(W/kg)				Σ SAR_{1g} (W/kg)	
		1	2	3	4	1+2	1+3+4
		WWAN	2.4G WLAN	5G WLAN	BT		
Head	Right Cheek	1.195	0.136	0.106	0.293	1.331	**1.594**
	Right Tilted	1.004	0.141	0.150	0.293	1.145	1.447
	Left Cheek	0.742	0.316	0.393	0.293	1.058	1.428
	Left Tilted	0.697	0.330	0.290	0.293	1.027	1.280
Body-worn	Front	0.429	0.096	0.132	0.146	0.525	0.707
	Back	0.920	0.116	0.377	0.146	1.036	1.443
Hotspot	Front	0.429	0.096	0.116	0.146	0.525	0.691
	Back	0.920	0.116	0.313	0.146	1.036	1.379
	Left	0.360	0.000	0.000	0.146	0.360	0.506
	Right	0.192	0.111	0.365	0.146	0.303	0.703
	Top	0.377	0.086	0.159	0.146	0.463	0.682
	Bottom	0.774	0.000	0.000	0.146	0.774	0.920

➢ **Simultaneous Transmission Conclusion**

The above numerical summed SAR results for all the case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06.

15.7 Measurement Uncertainty

Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04, 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.

15.8 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Industry Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested. Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables.

16 Reference

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[11]. FCC KDB 865664 D01 v01r04, “SAR MEASUREMENT REQUIREMENTS FOR 100 MHz TO 6 GHz”, August 2015