FCC SAR TEST REPORT

Report No:	ZR/2019/B0024
Applicant:	Hisense International Co., Ltd.
Manufacturer:	Hisense Communications Co., Ltd.
Factory:	Qingdao Intelligent & Precise Electronics Co., Ltd.
Product Name:	Smartphone
Model No.(EUT):	HLTE226E
FCC ID:	2ADOBHLTE226E
Trade Mark:	Hisense
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2019-12-10
Date of Test:	2019-12-11 to 2019-12-27
Date of Issue:	2020-01-03
Test conclusion:	**PASS ***

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:

Derek Yang

Wireless Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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REVISION HISTORY

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2020-01-03		Original

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TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)			
	Head	Body-worn	Hotspot	Product Specific 10-g SAR
GSM850	0.49	0.24	0.47	NA
GSM1900	0.53	0.30	0.96	NA
WCDMA Band II	1.18	**0.44**	0.99	NA
WCDMA Band IV	1.34	0.42	**1.35**	2.10
WCDMA Band V	0.36	0.29	0.40	NA
LTE Band 2	**1.36**	0.37	1.08	NA
LTE Band 4	0.68	0.42	1.31	2.18
LTE Band 5	0.27	0.25	0.31	NA
LTE Band 7	1.04	0.27	0.68	NA
LTE Band 12	0.14	0.22	0.23	NA
WI-FI (2.4GHz)	0.25	<0.10	0.12	NA
WI-FI (5GHz)	0.27	<0.10	0.10	0.18
SAR Limited(W/kg)	1.6			4.0
Maximum Simultaneous Transmission SAR (W/kg)				
Scenario	Head	Body-worn	Hotspot	Product Specific 10-g SAR
Sum SAR	1.57	0.51	1.35	NA
SPLSR	NA	NA	NA	NA
SPLSR Limited	0.04			0.1

Approved & Released by

Simon Ling

SAR Manager

Tested by

Jackson Li

SAR Engineer

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1 General Information

1.1 Details of Client

Applicant:	Hisense International Co., Ltd.
Address:	Floor 22, Hisense Tower, 17 Donghai Xi Road, Qingdao, 266071, China
Manufacturer:	Hisense Communications Co., Ltd.
Address:	No.218 Qianwangang Road, Economic & Technological Development Zone, Qingdao, China
Factory:	Qingdao Intelligent & Precise Electronics Co., Ltd.
Address:	No.218 Qianwangang Road, Economic & Technological Development Zone, Qingdao, China

1.2 Test Location

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
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1.3 Test Facility

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

• CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

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1.4 General Description of EUT

Device Type :	portable device		
Exposure Category:	uncontrolled environment / general population		
Product Name:	Smartphone		
Model No.(EUT):	HLTE226E		
FCC ID:	2ADOBHLTE226E		
Trade Mark:	Hisense		
Product Phase:	production unit		
SN:	6SCETKCYJF4DJV7H / Q4RKPZT8AEQSRKCU / V4VW5TKZB6DYGMS8 / UKPV4S4HJRNZIRRK / LRO7HMYHSO7TZHJF / 7T6HZSOBHUKZY9CE		
Hardware Version:	V1.00		
Software Version:	L1703.6.01.01.MX02		
Antenna Type:	Inner Antenna		
Device Operating Configurations :			
Modulation Mode:	**GSM:** GMSK, 8PSK; **WCDMA:** QPSK; **LTE:** QPSK,16QAM; **WIFI:** DSSS, OFDM; **BT:** GFSK, π/4DQPSK,8DPSK		
Device Class:	B		
GPRS Multi-slots Class:	12	EGPRS Multi-slots Class:	12
HSDPA UE Category:	14	HSUPA UE Category	6
Power Class	4,tested with power level 5(GSM850)		
	1,tested with power level 0(GSM1900)		
	3, tested with power control “all 1”(WCDMA Band II/IV/V)		
	3, tested with power control Max Power(LTE Band 2/4/5/7/12)		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	GSM850	824~849	869~894
	GSM1900	1850~1910	1930~1990
	WCDMA Band II	1850~1910	1930~1990
	WCDMA Band IV	1710~1755	2110~2155
	WCDMA Band V	824~849	869~894
	LTE Band 2	1850~1910	1930~1990
	LTE Band 4	1710~1755	2110~2155
	LTE Band 5	824~849	869~894
	LTE Band 7	2500~2570	2620~2690
	LTE Band 12	699~716	729~746
	Wi-Fi 2.4G	2412~2462	2412~2462
	Wi-Fi 5G(U-NII-1)	5150~5250	5150~5250
	Wi-Fi 5G(U-NII-2A)	5250~5350	5250~5350
	Wi-Fi 5G(U-NII-2C)	5470~5725	5470~5725
	Wi-Fi 5G(U-NII-3)	5725~5850	5725~5850
	Bluetooth	2402~2480	2402~2480
Battery Information:	Model:	LPN385536	
	Normal Voltage:	+3.85V	
	Rated capacity:	5360mAh	
	Manufacturer:	NINGBO VEKEN BATTERY CO., LTD.	

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1.4.1 DUT Antenna Locations

The test device is a smartphone. The overall diagonal dimension of this device is 175 mm.

According to the distance between LTE/WCDMA/GSM&WIFI antennas and the sides of the EUT we can draw the conclusion that:

EUT Sides for SAR Testing							
Mode	Exposure Condition	Front	Back	Left	Right	Top	Bottom
Ant.1(Main Ant.)	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	Yes	No	Yes
Ant.2(Second Ant.)	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	Yes	Yes	No
Ant.3(WIFI&BT Ant.)	Hotspot/Product specific 10g SAR	Yes	Yes	No	Yes	Yes	No

Table 1： EUT Sides for SAR Testing

Note:

1) When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
2) main antenna(Ant1) and Second antenna(Ant 2)can't transmit simultaneously which will be chosen based on the RSSI. Only one antenna can be used for 2G/3G/4G transmission at a time.

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1.4.2 Dynamic antenna switching specification

The device has two 2G/3G/4G Tx antennas (Main Antenna and Second Antenna). It can transmit from either Main Antenna or Second Antenna, but they cannot transmit simultaneously.

SAR test procedure for dynamic antenna switching is as below:

The Main Antenna and Second Antenna are set to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some commands or test scripts are supplied to fix the operation state and choose the antenna so that only one TX antenna is chosen and tested at a time. All independent antennas will be completely covered by the appropriate SAR measurements and all simultaneous transmission possibilities will be fully considered to ensure SAR compliance.

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1.4.3 Power reduction specification

This device uses a single fixed level of power reduction through static table look-up for SAR compliance and it is triggered by a single event or operation

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

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

The following tables summarize the key power reduction information. The detailed full power which is the Max. power the state can use and reduced tune-up specifications and conducted power measurement results are provided in Section 8 of this report.

Second antenna Power Reduction Level Amount (dBm)						
Power Reduction Scenario	GSM 1900	UMTS Band II	UMTS Band IV	LTE Band 2	LTE Band 4	LTE Band 7
Full power/Receiver off	0.0	0.0	0.0	0.0	0.0	0.0
Receiver on	7.0	6.0	4.0	5.5	5.0	5.5

Note: For Head SAR test of 2G/3G/4G Antenna and WiFi 2.4G Antenna, Standalone Head SAR should be evaluated at with audio receiver on. As the audio receiver only works in voice mode when the user is making a call in head scenario, and the lack of the third-party VoIP server and the unstandardized VOIP operating characteristics, so a test script is used to trigger the receiver on during the test. The test script function is only used to trigger audio receiver on and simulate voice and VOIP usage scene. It can be ensured that the unmodified settings in production units, including maximum output power, amplifier gain and other RF performance or tuning parameters, are used for SAR measurement.

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1.5 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
IEEE Std C95.1 – 1991	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 941225 D01	3G SAR Measurement Procedures v03r01
KDB 941225 D05	SAR for LTE Devices v02r05
KDB 941225 D06	Hotspot Mode SAR v02r01
KDB 248227 D01	SAR Guidance for IEEE 802 11 Wi-Fi SAR v02r02
KDB 648474 D04	Handset SAR v01r03
KDB 447498 D01	General RF Exposure Guidance v06
KDB 865664 D01	SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02	RF Exposure Reporting v01r02
KDB 690783 D01	SAR Listings on Grants v01r03

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1.6 RF exposure limits

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

Notes:

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

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

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

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

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

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2 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

Table 2： The Ambient Conditions

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3 SAR Measurements System Configuration

3.1 The SAR Measurement System

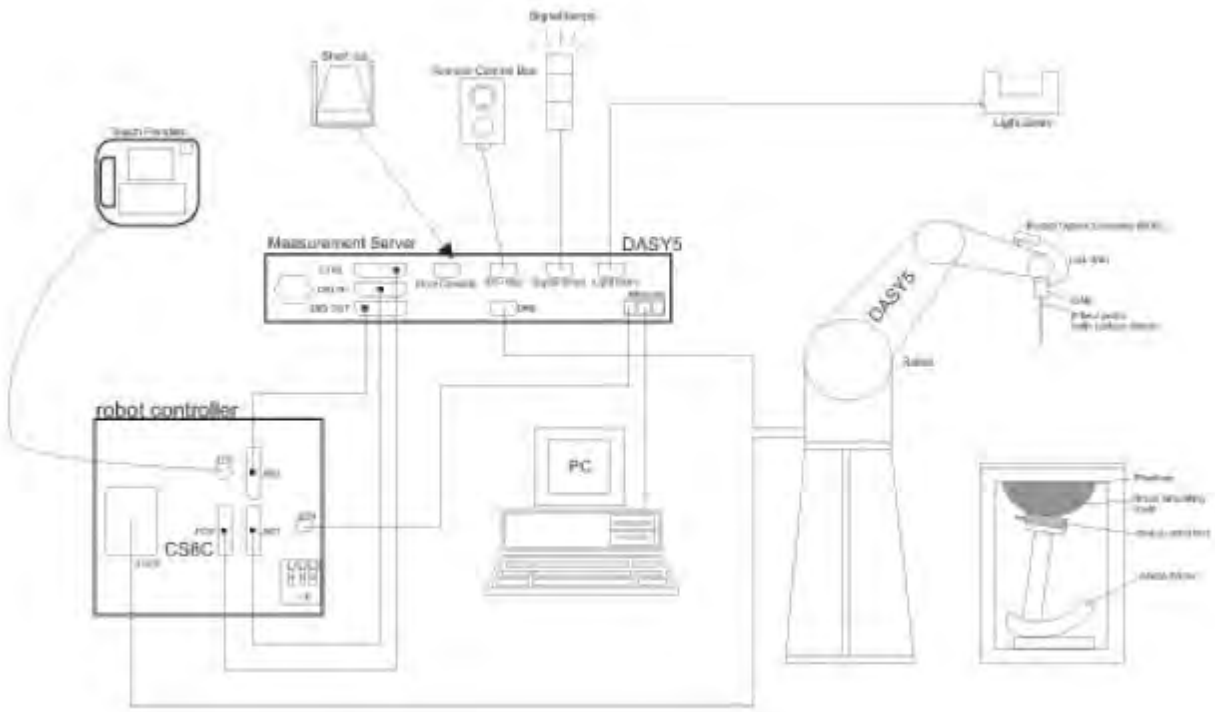
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY5 professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

The DASY5 system for performing compliance tests consists of the following items:
A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software .An arm extension for accommodation the data acquisition electronics (DAE).

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

A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.



F-1. SAR Measurement System Configuration

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- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 7.
- DASY5 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand, right-hand and Body Worn usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validating the proper functioning of the system.

3.2 Isotropic E-field Probe EX3DV4

	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

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3.3 Data Acquisition Electronics (DAE)

Model	DAE	
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.	
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV,400mV)	
Input Offset Voltage	< 5µV (with auto zero)	
Input Bias Current	< 50 f A	
Dimensions	60 x 60 x 68 mm	

3.4 SAM Twin Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)	
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)	
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet	
Filling Volume	approx. 25 liters	
Wooden Support	SPEAG standard phantom table	

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.

Twin SAM V5.0 has the same shell geometry and is manufactured from the same material as Twin SAM V4.0, but has reinforced top structure.

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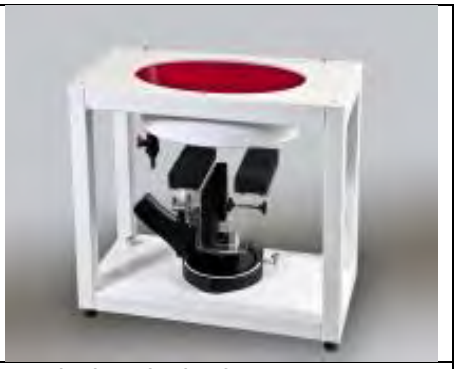
3.5 ELI Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)	
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)	
Shell Thickness	2.0 ± 0.2 mm (bottom plate)	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	
Filling Volume	approx. 30 liters	
Wooden Support	SPEAG standard phantom table	

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

ELI V5.0 has the same shell geometry and is manufactured from the same material as ELI4, but has reinforced top structure.

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3.6 Device Holder for Transmitters

F-2. **Device Holder for Transmitters**

- 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 centres for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.
- The DASY device holder has been made out of low-loss 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.

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3.7 Measurement procedure

3.7.1 Scanning procedure

Step 1: Power reference measurement

The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure.

Step 2: *Area scan*

The SAR distribution at the exposed side of the head was measured at a distance of 4mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15mm*15mm or 12mm*12mm or 10mm*10mm.Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

Step 3: *Zoom scan*

Around this point, a volume of 32mm*32mm*30mm (f≤2GHz), 30mm*30mm*30mm (f for 2-3GHz) and 24mm*24mm*22mm (f for 5-6GHz) was assessed by measuring 5x5x7 points (f≤2GHz), 7x7x7 points (f for 2-3GHz) and 7x7x12 points (f for 5-6GHz). On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

The data at the surface was extrapolated, since the centre of the dipoles is 2.0mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2mm. (This can be variable. Refer to the probe specification).The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The volume was integrated with the trapezoidal algorithm. One thousand points were interpolated to calculate the average. All neighbouring volumes were evaluated until no neighboring volume with a higher average value was found.

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

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

Step 4: Power reference measurement (drift)

The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The indicated drift is mainly the variation of the DUT's output power and should vary max. ± 5 %

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3.7.2 Data Storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension “DAE4”. The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated. The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [m W/g], [m W/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

3.7.3 Data Evaluation by SEMCAD

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

Probe parameters: - Sensitivity Normi, ai0, ai1, ai2
- Conversion factor ConvFi
- Diode compression point Dcpi
Device parameters: - Frequency f
- Crest factor cf
Media parameters: - Conductivity ε
- Density ρ

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

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

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

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

With Vi = compensated signal of channel i (i = x, y, z)
Ui = 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:

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E-field probes:

$$E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$$

H-field probes:

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

With Vi = compensated signal of channel i (i = x, y, z)
Normi = sensor sensitivity of channel I (i = x, y, z)
[mV/(V/m)2] for E-field Probes
ConvF = sensitivity enhancement in solution
aij = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
Ei = 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):

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

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

$$SAR = (Etot^2 \cdot \sigma) / (\varepsilon \cdot 1000)$$

with SAR = local specific absorption rate in mW/g
Etot = total field strength in V/m
σ= conductivity in [mho/m] or [Siemens/m]
ε= equivalent tissue density in g/cm3

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

$$P_{pwe} = E_{tot}^2{}_2 / 3770 \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with Ppwe = equivalent power density of a plane wave in mW/cm2
Etot = total electric field strength in V/m
Htot = total magnetic field strength in A/m

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4 SAR measurement variability and uncertainty

4.1 SAR measurement variability

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

2) When the original highest measured SAR is ⩾ 0.80 W/kg, repeat that measurement once.

3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ⩾ 1.45 W/kg (~ 10% from the 1-g SAR limit).

4) Perform a third repeated measurement only if the original, first or second repeated measurement is ⩾1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

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

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4.2 SAR measurement uncertainty

Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. The equivalent ratio (1.5/1.6) is applied to extremity and occupational exposure conditions.

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5 Description of Test Position

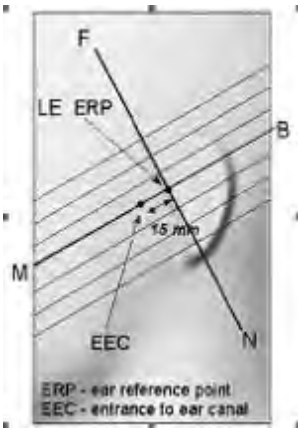
5.1 Head Exposure Condition

5.1.1 SAM Phantom Shape

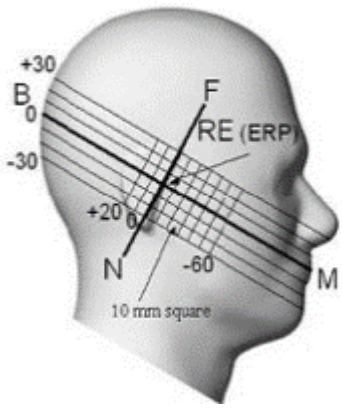
F-3. Front, back, and side views of SAM (model for the phantom shell). Full-head model is for illustration purposes only-procedures in this recommended practice are intended primarily for the phantom setup.

Note: The centre strip including the nose region has a different thickness tolerance.

F-4. Sagittally bisected phantom with extended perimeter (shown placed on its side as used for SAR measurements)



F-5. Close-up side view of phantom, showing the ear region, N-F and B-M lines, and seven cross-sectional plane locations



F-6. Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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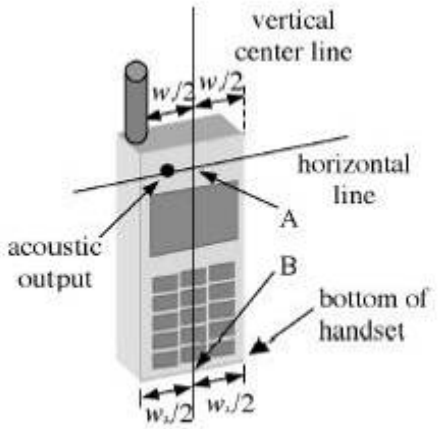
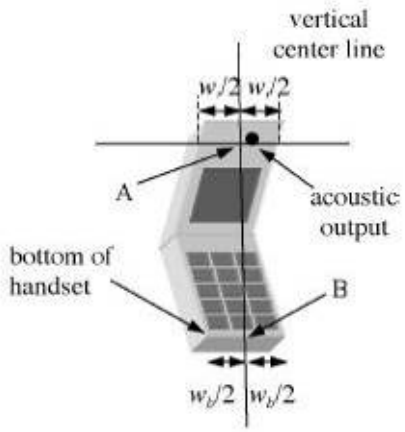
5.1.2 EUT constructions



F-7. Handset vertical and horizontal reference lines-“fixed case”



F-8. Handset vertical and horizontal reference lines-“clam-shell case”

5.1.3 Definition of the “cheek” position

a) Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom ("initial position"). While maintaining the device in this plane, align the vertical centre line with the reference plane containing the three ear and mouth reference points (M, RE and LE) and align the centre of the ear piece with the line RE-LE.
b) Translate the mobile phone box towards the phantom with the ear piece aligned with the line LE-RE until telephone touches the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the box until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.

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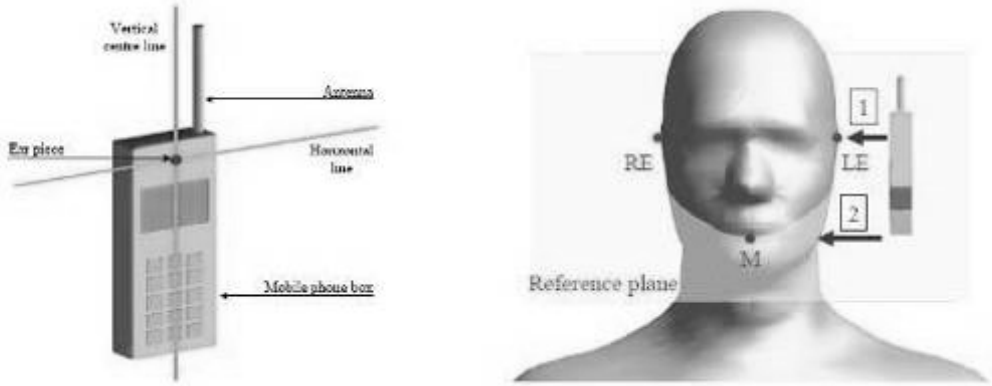
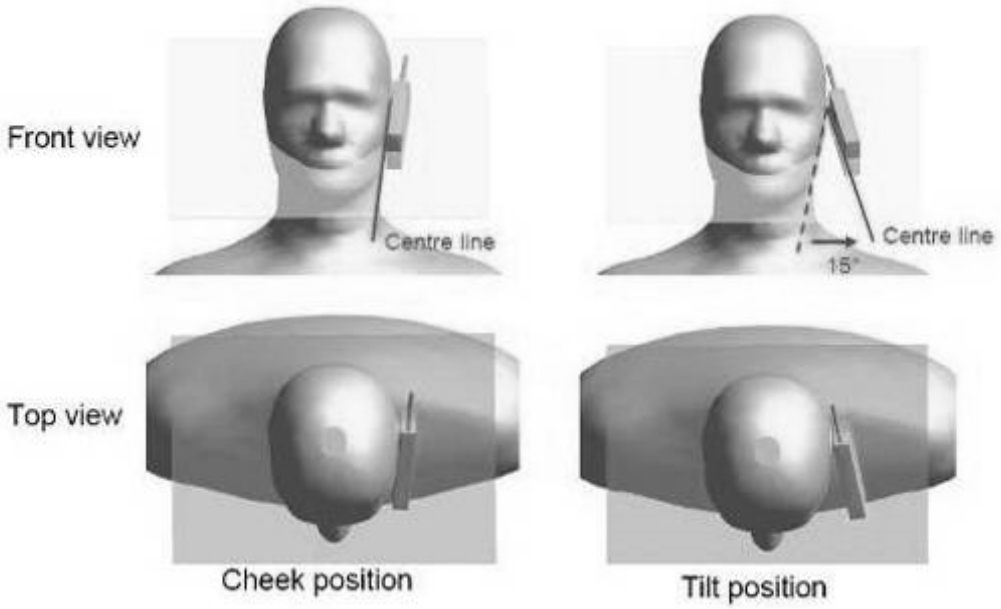
5.1.4 Definition of the "tilted" position

a) Position the device in the "cheek" position described above;
b) While maintaining the device in the reference plane described above and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.



F-9. **Definition of the reference lines and points, on the phone and on the phantom and initial position**



F-10. **"Cheek" and "tilt" positions of the mobile phone on the left side**

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5.2 Body Exposure Condition

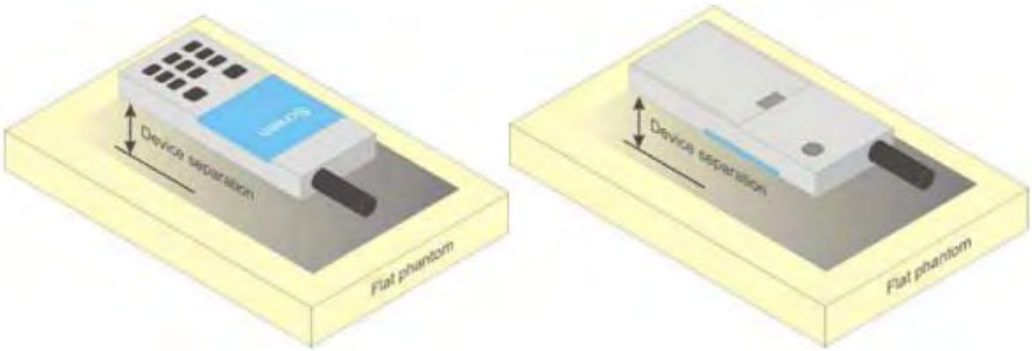
5.2.1 Body-worn accessory exposure conditions

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

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

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.



F-11. **Test positions for body-worn devices**

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5.2.2 Wireless Router exposure conditions

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC 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 containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. For devices with form factors smaller than 9 cm x 5 cm, a test separation distance of 5 mm is required.

5.3 Extremity exposure conditions

Per FCC KDB 648474D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the device is marketed as “Phablet”.
The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for Product Specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

Due to the SAR result, only WCDMA Band IV and LTE Band 4 are required to test with 0mm for the Product Specific 10-g SAR.

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6 SAR System Verification Procedure

6.1 Tissue Simulate Liquid

6.1.1 Recipes for Tissue Simulate Liquid

The bellowing tables give the recipes for tissue simulating liquids to be used in different frequency bands：

Ingredients (% by weight)	Frequency (MHz)				
	450	700-900	1800-2000	2300-2500	2500-4000
Water	38.56	40.30	55.24	55.00	54.92
Salt (NaCl)	3.95	1.38	0.31	0.2	0.23
Sucrose	56.32	57.90	0	0	0
HEC	0.98	0.24	0	0	0
Bactericide	0.19	0.18	0	0	0
Tween	0	0	44.45	44.80	44.85
Salt: 99+% Pure Sodium Chloride Water: De-ionized, 16 MΩ+ resistivity Tween: Polyoxyethylene (20) sorbitan monolaurate			Sucrose: 98+% Pure Sucrose HEC: Hydroxyethyl Cellulose		
HSL5GHz is composed of the following ingredients： Water：50-65% Mineral oil：10-30% Emulsifiers：8-25% Sodium salt：0-1.5%					

Table 3： Recipe of Tissue Simulate Liquid

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6.1.2 Measurement for Tissue Simulate Liquid

The dielectric properties for this Tissue Simulate Liquids were measured by using the Agilent Model 85070E Dielectric Probe in conjunction with Agilent E5071C Network Analyzer (300 KHz-8500 MHz). The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Tissue Type	Measured Frequency (MHz)	Target Tissue (±5%)		Measured Tissue		Liquid Temp.	Measured Date
		ε_r	σ(S/m)	ε_r	σ(S/m)	(℃)	
750 Head	750	41.9 (39.81~44)	0.89 (0.85~0.94)	41.806	0.868	22.1	2019/12/19
835 Head	835	41.5 (39.43~43.58)	0.90 (0.86~0.95)	40.972	0.873	22.1	2019/12/12
835 Head	835	41.5 (39.43~43.58)	0.90 (0.86~0.95)	42.233	0.896	22.1	2019/12/15
1750 Head	1750	40.1 (38.10~42.11)	1.37 (1.30~1.44)	40.794	1.37	22.2	2019/12/14
1750 Head	1750	40.1 (38.10~42.11)	1.37 (1.30~1.44)	40.751	1.358	22.2	2019/12/18
1900 Head	1900	40.0 (38.00~42.00)	1.40 (1.33~1.47)	40.58	1.396	22.3	2019/12/11
1900 Head	1900	40.0 (38.00~42.00)	1.40 (1.33~1.47)	40.321	1.368	22.3	2019/12/13
1900 Head	1900	40.0 (38.00~42.00)	1.40 (1.33~1.47)	40.64	1.394	22.3	2019/12/23
2450 Head	2450	39.20 (37.24~41.16)	1.80 (1.71~1.89)	37.999	1.855	22.0	2019/12/20
2600 Head	2600	39.0 (37.05~40.95)	1.96 (1.86~2.06)	38.833	1.934	22.1	2019/12/17
5250 Head	5250	35.9 (34.11~37.70)	4.71 (4.47~4.95)	35.566	4.629	22.2	2019/12/27
5600 Head	5600	35.5 (33.73~37.28)	5.07 (4.82~5.32)	34.894	5.096	22.2	2019/12/27
5750 Head	5750	35.4 (33.63~37.17)	5.22 (4.96~5.48)	34.522	5.277	22.2	2019/12/27

Table 4： Measurement result of Tissue electric parameters

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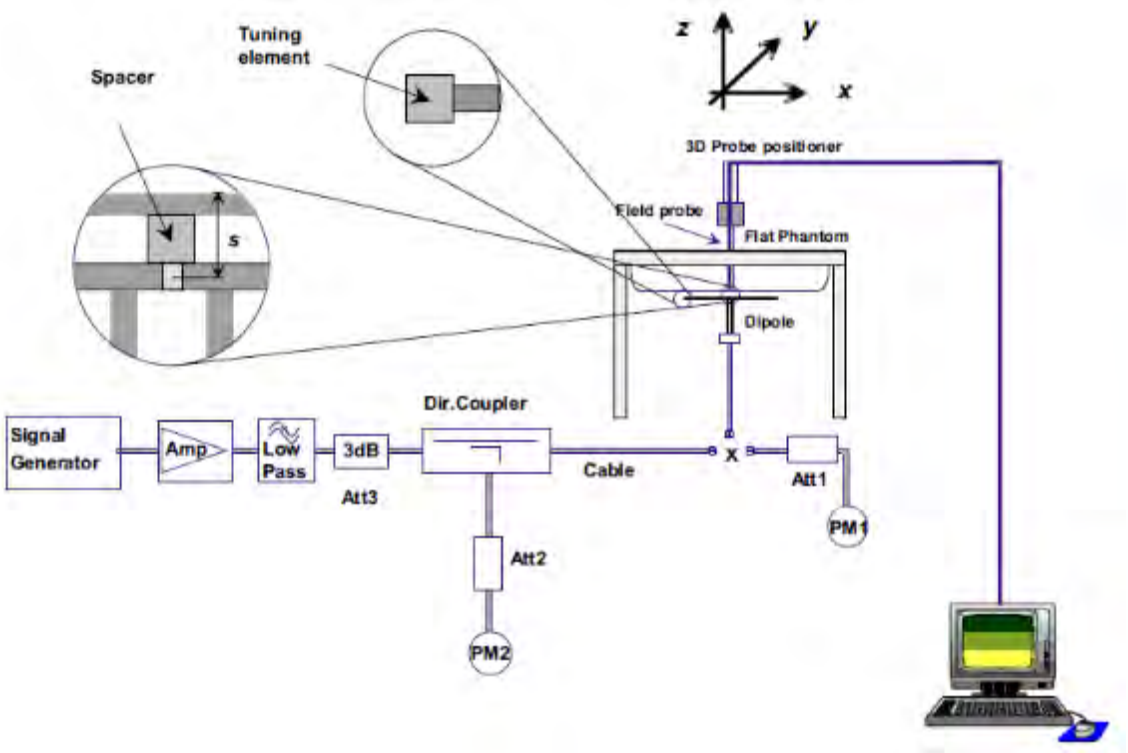
6.2 SAR System Check

The microwave circuit arrangement for system Check is sketched in F-12. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table (A power level of 250mW (below 3GHz) or 100mW (3-6GHz) was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range 22±2°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15±0.5 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-12. the microwave circuit arrangement used for SAR system check

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6.2.1 Justification for Extended SAR Dipole Calibrations

1) Referring to KDB865664 D01 requirements for dipole calibration, instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.
a) There is no physical damage on the dipole;
b) System check with specific dipole is within 10% of calibrated value;
c) Return-loss is within 10% of calibrated measurement;
d) Impedance is within 5Ω from the previous measurement.

2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

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6.2.2 Summary System Check Result(s)

Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	Liquid Temp. (℃)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V3	Head	2.27	1.49	9.08	5.96	8.39 (7.55~9.23)	5.63 (5.07~6.19)	22.1	2019/12/19
D835V2	Head	2.51	1.64	10.04	6.56	9.46 (8.51~10.41)	6.13 (5.52~6.74)	22.1	2019/12/12
D835V2	Head	2.49	1.62	9.96	6.48	9.46 (8.51~10.41)	6.13 (5.52~6.74)	22.1	2019/12/15
D1750V2	Head	9.81	5.22	39.24	20.88	36.3 (32.67~39.93)	19.2 (17.28~21.12)	22.2	2019/12/14
D1750V2	Head	9.78	5.2	39.12	20.8	36.3 (32.67~39.93)	19.2 (17.28~21.12)	22.2	2019/12/18
D1900V2	Head	10.81	5.6	43.24	22.4	40.6 (36.54~44.66)	21.2 (19.08~23.32)	22.3	2019/12/11
D1900V2	Head	10.6	5.51	42.4	22.04	40.6 (36.54~44.66)	21.2 (19.08~23.32)	22.3	2019/12/13
D1900V2	Head	10.7	5.55	42.8	22.2	40.6 (36.54~44.66)	21.2 (19.08~23.32)	22.3	2019/12/23
D2450V2	Head	13.7	6.36	54.8	25.44	53.5 (48.15~58.85)	25.1 (22.59~27.61)	22.0	2019/12/20
D2600V2	Head	13.3	5.96	53.2	23.84	56.8 (51.12~62.48)	24.9 (22.41~27.39)	22.1	2019/12/17
Validation Kit		**Measured SAR 100mW**	**Measured SAR 100mW**	**Measured SAR (normalized to 1W)**	**Measured SAR (normalized to 1W)**	**Target SAR (normalized to 1W) (±10%)**	**Target SAR (normalized to 1W) (±10%)**	**Liquid Temp. (℃)**	**Measured Date**
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D5GHzV2	Head(5.25GHz)	7.22	2.12	72.2	21.2	77.7 (69.93~85.47)	22.4 (20.16~24.64)	22.2	2019/12/27
	Head(5.6GHz)	7.85	2.26	78.5	22.6	84.8 (76.32~93.28)	24.2 (21.78~26.62)	22.2	2019/12/27
	Head(5.75GHz)	7.74	2.21	77.4	22.1	80 (72.00~88.00)	22.7 (20.43~24.97)	22.2	2019/12/27

Table 5： SAR System Check Result

6.2.3 Detailed System Check Results

Please see the Appendix A

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7 Test Configuration

7.1 3G SAR Test Reduction Procedure

According to KDB 941225D01, in the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

7.2 Operation Configurations

7.2.1 GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a base station by air link. Using CMW500 the power lever is set to “5”and “0” in SAR of GSM 850 and GSM 1900. The tests in the band of GSM 850 and GSM 1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 12 for this EUT, it has at most 4 timeslots in uplink, and at most 4 timeslots in downlink, the maximum total timeslot is 5.

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

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

The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode

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7.2.2 WCDMA Test Configuration

1）. Output Power Verification

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

2）. Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure

3）. Body SAR

SAR for body configurations is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreaing code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

4）. HSDPA / HSUPA

According to KDB 941225 D01v03, RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA.

a) HSDPA

HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) are set according to values indicated in the following table The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

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Sub-test	βc	Bd	βd(SF)	βc/βd	βhs	CM(dB)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0	0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: △ACK, △NACK and △CQI= 8 Ahs = βhs/βc=30/15 βhs=30/15*βc
Note2:For the HS-DPCCH power mask requirement test in clause 5.2C,5.7A,and the Error Vector Magnitude(EVM) with HS-DPCCH test in clause 5.13.1.A,and HSDPA EVM with phase discontinuity in clause 5.13.1AA, △ACK and △NACK= 8 (Ahs=30/15) with βhs=30/15*βc,and △CQI=
7 (Ahs=24/15) with βhs=24/15*βc.
Note3: CM=1 forβc/βd =12/15, βhs/βc=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

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

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

Table 6： settings of required H-Set 1 QPSK acc. to 3GPP 34.121

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HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	MaximumH S-DSCH Transport BlockBits/HS-DSCH TTI	Total Soft Channel Bits
1	5	3	7298	19200
2	5	3	7298	28800
3	5	2	7298	28800
4	5	2	7298	38400
5	5	1	7298	57600
6	5	1	7298	67200
7	10	1	14411	115200
8	10	1	14411	134400
9	15	1	25251	172800
10	15	1	27952	172800
11	5	2	3630	14400
12	5	1	3630	28800
13	15	1	34800	259200
14	15	1	42196	259200
15	15	1	23370	345600
16	15	1	27952	345600

Table 7： HSDPA UE category

b) <u>HSUPA</u>

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

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

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

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

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

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

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

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

Table 8： Subtests for UMTS Release 6 HSUPA

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum Speading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	10	2SF2&2SF4	11484	5.76
	4	4	2		20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF4	22996	?
	4	4	10		20000	?

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.UE categories 1 to 6 support QPSK only. UE category 7 supports QPSK and 16QAM.(TS25.306-7.3.0).

Table 9： HSUPA UE category

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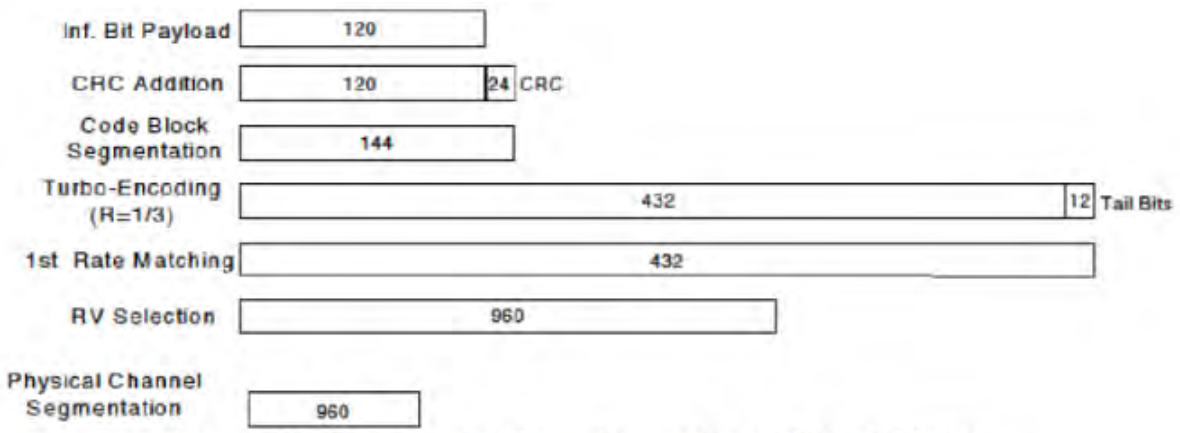

Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (1)	CM(dB)(2)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0	0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

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

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

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

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

Note:

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

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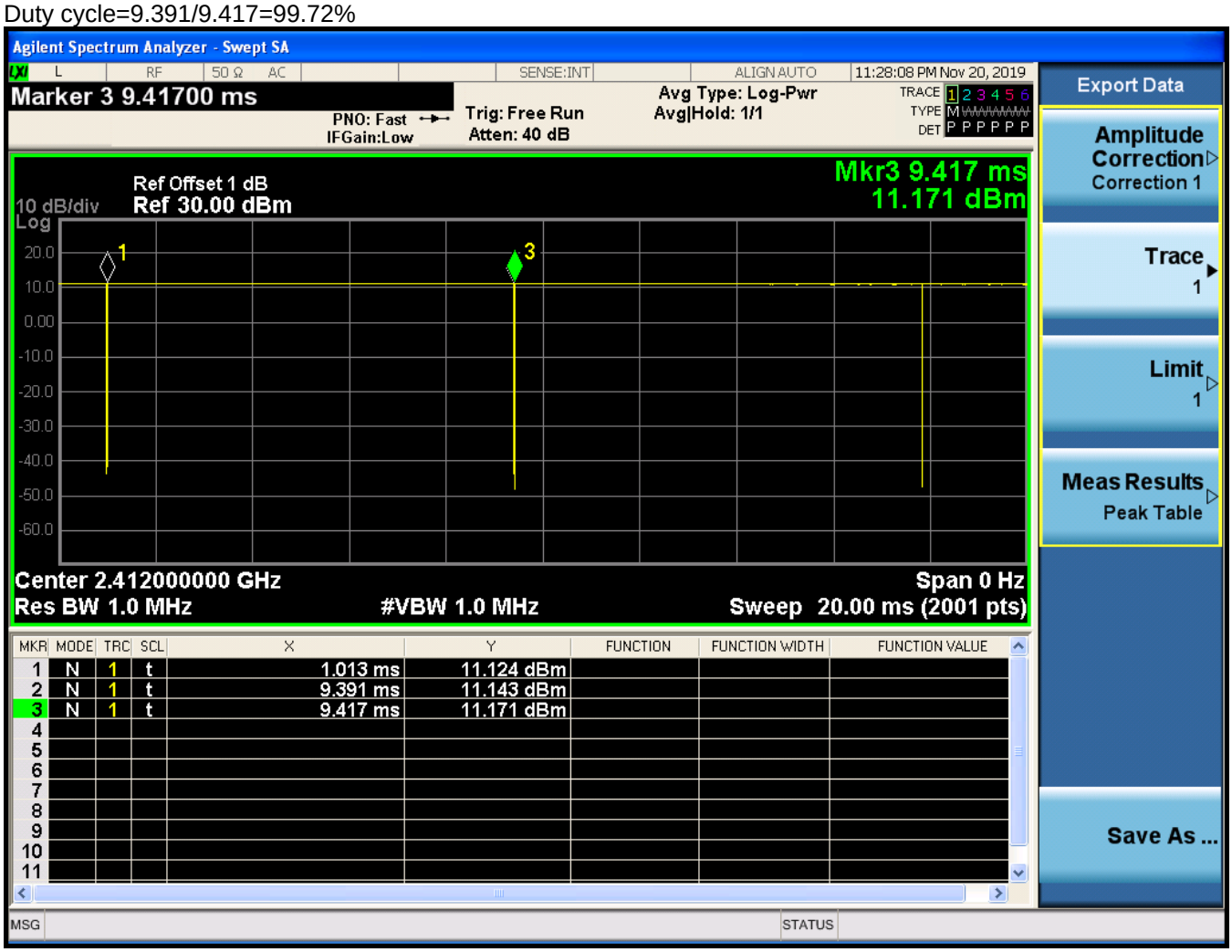
7.2.3 WiFi Test Configuration

A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

7.2.3.1 Duty cycle

2.4GHz Wi-Fi 802.11b:
Duty cycle=9.391/9.417=99.72%



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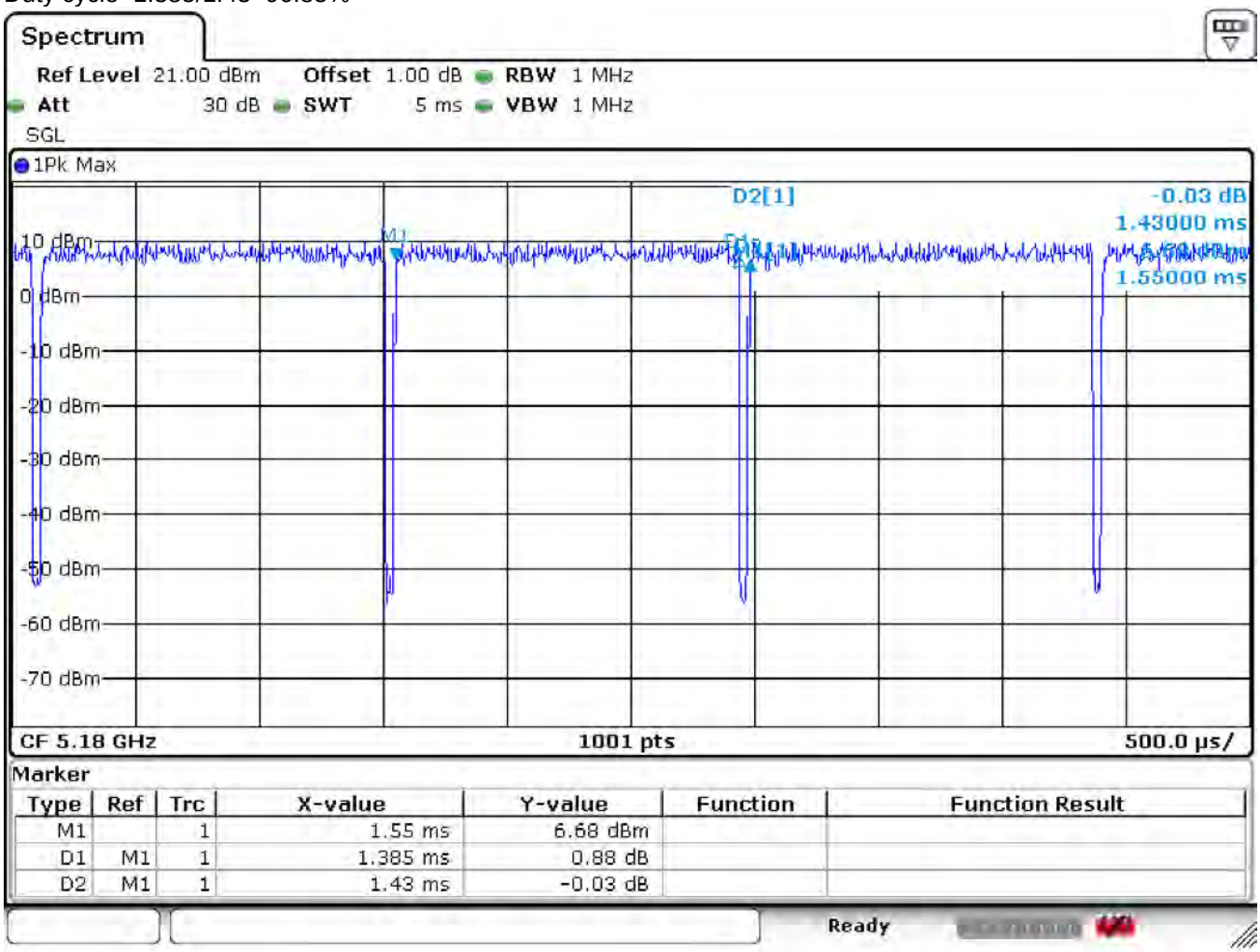
5GHz Wi-Fi 802.11a:
Duty cycle=1.385/1.43=96.85%



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7.2.3.2 Initial Test Position SAR Test Reduction Procedure

DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. The initial test position procedure is described in the following:

1）. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).
2）. When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.
3）. For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. a) Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

7.2.3.3 Initial Test Configuration Procedures

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required. SAR test reduction for subsequent highest output test channels is determined according to *reported* SAR of the initial test configuration.
For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.
When the *reported* SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until *reported* SAR is ≤ 1.2 W/kg or all required channels are tested.

7.2.3.4 Subsequent Test Configuration Procedures

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. The initial test position procedure is applied to next to the ear, UMPC mini-tablet and hotspot mode configurations. When the same maximum output power is specified for multiple transmission modes, additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. The subsequent test configuration and SAR measurement procedures are described in the following.

1）. When SAR test exclusion provisions of KDB Publication 447498 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated band and exposure configuration.

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2）. When the highest *reported* SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.

3）. The number of channels in the initial test configuration and subsequent test configuration can be different due to differences in channel bandwidth. When SAR measurement is required for a subsequent test configuration and the channel bandwidth is smaller than that in the initial test configuration, all channels in the subsequent test configuration that overlap with the larger bandwidth channel tested in the initial test configuration should be used to determine the highest maximum output power channel. This step requires additional power measurement to identify the highest maximum output power channel in the subsequent test configuration to determine SAR test reduction.

a) SAR should first be measured for the channel with highest measured output power in the subsequent test configuration.

b) SAR for subsequent highest measured maximum output power channels in the subsequent test configuration is required only when the *reported* SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is > 1.2 W/kg or until all required channels are tested. i) For channels with the same measured maximum output power, SAR should be measured using the channel closest to the center frequency of the larger channel bandwidth channel in the initial test configuration.

4）. SAR measurements for the remaining highest specified maximum output power OFDM transmission mode configurations that have not been tested in the initial test configuration (highest maximum output) or subsequent test configuration(s) (subsequent next highest maximum output power) is determined by recursively applying the subsequent test configuration procedures in this section to the remaining configurations according to the following:

a) replace “subsequent test configuration” with “next subsequent test configuration” (i.e., subsequent next highest specified maximum output power configuration)

b) replace “initial test configuration” with “all tested higher output power configurations”

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7.2.3.5 2.4 GHz WiFi SAR Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions. When SAR measurement is required for an OFDM configuration, the initial test configuration, subsequent test configuration and initial test position procedures are applied. The SAR test exclusion requirements for 802.11g/n OFDM configurations are described in following.

- **802.11b DSSS SAR Test Requirements**

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

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

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

- **2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements**

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3, including sub-sections). 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.

- **SAR Test Requirements for OFDM configurations**

When SAR measurement is required for 802.11 g/n OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

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7.2.3.6 5 GHz WiFi SAR Procedures

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

1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.
2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.
3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

- **U-NII-2C and U-NII-3 Bands**
  The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. when Terminal Doppler Weather Radar (TDWR) restriction applies, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

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

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- **OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements**
  The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.
  1) The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
  2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
  3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
  4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n.
     After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.
     a) The channel closest to mid-band frequency is selected for SAR measurement.
     b) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

- **SAR Test Requirements for OFDM configurations**

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

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7.2.4 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The Anritsu MT8821C was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

A) Spectrum Plots for RB Configurations

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

B) MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3

C) A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

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

2) QPSK with 50% RB allocation

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

3) 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 1) and 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.

4) Higher order modulations

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

E) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

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8 Test Result

8.1 Measurement of RF Conducted Power

8.1.1 Conducted Power of Main Antenna (ANT 1)

8.1.1.1 Conducted Power of GSM

GSM 850										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	32.67	32.77	32.81	33.00	-9.19	23.48	23.58	23.62	23.81
GPRS/EGPRS (GMSK)	1 TX Slot	32.66	32.76	32.80	33.00	-9.19	23.47	23.57	23.61	23.81
	2 TX Slots	31.65	31.76	31.86	32.00	-6.18	25.47	25.58	25.68	25.82
	3 TX Slots	29.47	29.61	29.72	30.00	-4.42	25.05	25.19	25.30	25.58
	4 TX Slots	28.27	28.37	28.51	29.00	-3.17	25.10	25.20	25.34	**25.83**
EGPRS(8PSK)	1 TX Slot	26.87	26.99	27.04	28.00	-9.19	17.68	17.80	17.85	18.81
	2 TX Slots	25.74	25.84	25.90	27.00	-6.18	19.56	19.66	19.72	20.82
	3 TX Slots	23.52	23.64	23.52	25.00	-4.42	19.10	19.22	19.10	20.58
	4 TX Slots	22.28	22.48	22.55	24.00	-3.17	19.11	19.31	19.38	20.83
GSM 1900										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	29.91	29.89	29.91	30.50	-9.19	20.72	20.70	20.72	21.31
GPRS/EGPRS (GMSK)	1 TX Slot	29.95	29.93	29.92	30.50	-9.19	20.76	20.74	20.73	21.31
	2 TX Slots	29.02	28.95	28.97	29.50	-6.18	22.84	22.77	22.79	23.32
	3 TX Slots	26.94	26.93	26.95	27.50	-4.42	22.52	22.51	22.53	23.08
	4 TX Slots	25.88	25.83	25.86	26.50	-3.17	22.71	22.66	22.69	**23.33**
EGPRS(8PSK)	1 TX Slot	28.85	26.28	28.93	29.00	-9.19	19.66	17.09	19.74	19.81
	2 TX Slots	28.05	25.34	28.15	28.50	-6.18	21.87	19.16	21.97	22.32
	3 TX Slots	26.50	23.49	26.61	27.00	-4.42	22.08	19.07	22.19	22.58
	4 TX Slots	25.62	22.41	25.67	26.00	-3.17	22.45	19.24	22.50	22.83

Table 10：Conducted Power of GSM

Note:

1）. CMW500 measures GSM peak and average output power for active timeslots. For SAR the time based average power is relevant. The difference in between depends on the duty cycle of the TDMA signal:

No. of timeslots	1	2	3	4
Duty Cycle	1:8.3	1:4.15	1:2.77	1:2.075
Time based avg. power compared to slotted avg. power	-9.19	-6.18	-4.42	-3.17

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

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

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8.1.1.2 Conducted Power of WCDMA

WCDMA Band II					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	22.94	23.01	22.95	23.50
	12.2kbps AMR	22.96	22.99	22.84	23.50
HSDPA	Subtest 1	22.03	22.05	22.00	22.50
	Subtest 2	21.99	22.01	21.94	22.50
	Subtest 3	21.57	21.49	21.51	22.00
	Subtest 4	21.54	21.43	21.44	22.00
HSUPA	Subtest 1	20.01	20.01	19.98	21.00
	Subtest 2	20.05	20.05	19.99	21.00
	Subtest 3	21.03	21.01	20.99	22.00
	Subtest 4	19.54	19.54	19.40	20.50
	Subtest 5	21.08	21.06	21.00	22.00
WCDMA Band IV					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	22.83	22.74	22.98	23.50
	12.2kbps AMR	22.82	22.73	22.76	23.50
HSDPA	Subtest 1	21.97	21.95	21.96	22.50
	Subtest 2	21.94	21.90	21.94	22.50
	Subtest 3	21.51	21.44	21.47	22.00
	Subtest 4	21.50	21.43	21.55	22.00
HSUPA	Subtest 1	19.95	20.00	19.99	21.00
	Subtest 2	19.90	19.96	20.00	21.00
	Subtest 3	20.97	20.99	20.99	22.00
	Subtest 4	19.48	19.47	19.48	20.50
	Subtest 5	21.06	21.02	21.01	22.00
WCDMA Band V					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	23.34	23.36	23.31	24.00
	12.2kbps AMR	23.32	23.33	23.29	24.00
HSDPA	Subtest 1	22.95	22.89	22.84	23.50
	Subtest 2	22.93	22.84	22.80	23.50
	Subtest 3	22.47	22.38	22.31	23.00
	Subtest 4	22.38	22.35	22.33	23.00
HSUPA	Subtest 1	20.91	20.84	20.88	22.00
	Subtest 2	20.90	20.85	20.88	22.00
	Subtest 3	21.92	21.82	21.87	23.00
	Subtest 4	20.41	20.31	20.31	21.50
	Subtest 5	21.98	21.89	21.99	23.00

Table 11：Conducted Power of WCDMA

Note:

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

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8.1.1.3 Conducted Power of LTE

LTE Band 2				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	22.31	22.39	22.31	23.50
		1	2	22.55	22.63	22.61	23.50
		1	5	22.47	22.47	22.36	23.50
		3	0	22.54	22.62	22.42	23.50
		3	2	22.61	22.51	22.53	23.50
		3	3	22.56	22.59	22.46	23.50
		6	0	21.58	21.40	21.52	22.50
	16QAM	1	0	21.47	21.86	21.50	22.50
		1	2	21.63	22.06	21.68	22.50
		1	5	21.67	21.85	21.58	22.50
		3	0	21.56	21.67	21.35	22.50
		3	2	21.62	21.38	21.37	22.50
		3	3	21.68	21.40	21.31	22.50
		6	0	20.58	20.69	20.62	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	22.48	22.52	23.50	23.50
		1	7	22.56	22.64	23.50	23.50
		1	14	22.46	22.41	22.44	23.50
		8	0	21.59	21.56	21.50	22.50
		8	4	21.60	21.53	21.49	22.50
		8	7	21.58	21.57	21.50	22.50
		15	0	21.60	21.56	21.47	22.50
	16QAM	1	0	21.84	21.73	21.39	22.50
		1	7	21.82	21.97	22.23	22.50
		1	14	21.61	21.92	21.64	22.50
		8	0	20.71	20.53	20.49	21.50
		8	4	20.61	20.59	20.51	21.50
		8	7	20.58	20.48	20.51	21.50
		15	0	20.47	20.52	20.32	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	22.49	22.36	22.30	23.50
		1	13	22.61	22.52	22.47	23.50
		1	24	22.57	22.37	22.36	23.50
		12	0	21.52	21.49	21.42	22.50
		12	6	21.61	21.54	21.51	22.50
		12	13	21.62	21.56	21.41	22.50
		25	0	21.67	21.47	21.42	22.50
	16QAM	1	0	21.76	21.78	21.70	22.50
		1	13	21.63	21.50	21.37	22.50
		1	24	21.29	21.77	21.17	22.50
		12	0	20.52	20.51	20.46	21.50
		12	6	20.60	20.66	20.53	21.50
		12	13	20.64	20.55	20.34	21.50
		25	0	20.63	20.36	20.42	21.50

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Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	22.56	22.54	22.42	23.50
		1	25	22.62	22.46	22.53	23.50
		1	49	22.44	22.48	22.36	23.50
		25	0	21.52	21.50	21.50	22.50
		25	13	21.64	21.50	21.49	22.50
		25	25	21.71	21.61	21.46	22.50
		50	0	21.61	21.51	21.41	22.50
	16QAM	1	0	21.51	21.62	21.72	22.50
		1	25	21.77	21.79	21.78	22.50
		1	49	21.64	21.82	21.69	22.50
		25	0	20.62	20.51	20.37	21.50
		25	13	20.55	20.60	20.46	21.50
		25	25	20.68	20.54	20.40	21.50
		50	0	20.66	20.59	20.54	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	22.53	22.50	22.43	23.50
		1	38	22.49	22.49	22.40	23.50
		1	74	22.42	22.48	22.27	23.50
		36	0	21.52	21.54	21.52	22.50
		36	18	21.68	21.62	21.48	22.50
		36	39	21.60	21.47	21.49	22.50
		75	0	21.58	21.49	21.49	22.50
	16QAM	1	0	22.00	22.05	21.92	22.50
		1	38	21.72	21.97	21.67	22.50
		1	74	22.23	21.16	21.54	22.50
		36	0	20.60	20.54	20.52	21.50
		36	18	20.59	20.60	20.54	21.50
		36	39	20.59	20.52	20.45	21.50
		75	0	20.69	20.41	20.38	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	22.49	22.48	22.47	23.50
		1	50	**22.59**	**22.59**	**22.51**	23.50
		1	99	22.46	22.46	22.17	23.50
		50	0	**21.63**	21.57	21.61	22.50
		50	25	21.60	21.58	21.47	22.50
		50	50	21.57	21.53	21.54	22.50
		100	0	21.52	**21.56**	21.56	22.50
	16QAM	1	0	21.73	21.56	21.78	22.50
		1	50	22.14	21.70	22.14	22.50
		1	99	21.71	21.51	21.39	22.50
		50	0	20.54	20.56	20.55	21.50
		50	25	20.66	20.56	20.51	21.50
		50	50	20.58	20.50	20.40	21.50
		100	0	20.66	20.50	20.53	21.50

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LTE Band 4				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	22.63	22.54	22.43	23.50
		1	2	22.73	22.71	22.68	23.50
		1	5	22.58	22.55	22.50	23.50
		3	0	22.70	22.68	22.53	23.50
		3	2	22.86	22.81	22.63	23.50
		3	3	22.76	22.66	22.54	23.50
		6	0	21.78	21.69	21.61	22.50
	16QAM	1	0	21.54	21.76	21.78	22.50
		1	2	22.11	21.92	21.66	22.50
		1	5	21.92	21.82	21.79	22.50
		3	0	21.75	21.68	21.61	22.50
		3	2	21.77	21.59	21.48	22.50
		3	3	21.60	21.61	21.62	22.50
		6	0	20.89	20.68	20.55	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	22.71	22.48	22.52	23.50
		1	7	22.75	22.82	22.79	23.50
		1	14	22.74	22.50	22.51	23.50
		8	0	21.57	21.53	21.50	22.50
		8	4	21.74	21.59	21.56	22.50
		8	7	21.76	21.61	21.59	22.50
		15	0	21.67	21.67	21.55	22.50
	16QAM	1	0	22.19	21.95	21.74	22.50
		1	7	22.23	22.10	22.14	22.50
		1	14	21.79	22.10	22.31	22.50
		8	0	20.65	20.62	20.61	21.50
		8	4	20.63	20.55	20.62	21.50
		8	7	20.81	20.78	20.75	21.50
		15	0	20.55	20.48	20.62	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	22.43	22.52	22.47	23.50
		1	13	22.65	22.55	22.48	23.50
		1	24	22.64	22.40	22.46	23.50
		12	0	21.64	21.57	21.62	22.50
		12	6	21.82	21.70	21.61	22.50
		12	13	21.73	21.62	21.57	22.50
		25	0	21.68	21.60	21.54	22.50
	16QAM	1	0	21.77	21.80	21.62	22.50
		1	13	22.22	21.82	22.14	22.50
		1	24	22.19	21.88	22.22	22.50
		12	0	20.68	20.61	20.60	21.50
		12	6	20.79	20.72	20.57	21.50
		12	13	20.66	20.59	20.50	21.50
		25	0	20.63	20.72	20.66	21.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up

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				20000	20175	20350	
10MHz	QPSK	1	0	22.56	22.52	22.50	23.50
		1	25	22.80	22.78	22.59	23.50
		1	49	22.59	22.61	22.62	23.50
		25	0	21.74	21.71	21.64	22.50
		25	13	21.74	21.68	21.63	22.50
		25	25	21.71	21.67	21.63	22.50
		50	0	21.71	21.67	21.64	22.50
	16QAM	1	0	22.20	22.25	22.29	22.50
		1	25	21.46	21.68	21.88	22.50
		1	49	21.65	21.61	21.59	22.50
		25	0	20.70	20.76	20.77	21.50
		25	13	20.72	20.67	20.62	21.50
		25	25	20.72	20.65	20.54	21.50
		50	0	20.71	20.68	20.58	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	22.57	22.59	22.49	23.50
		1	38	22.62	22.60	22.54	23.50
		1	74	22.69	22.46	22.56	23.50
		36	0	21.68	21.66	21.69	22.50
		36	18	21.72	21.69	21.64	22.50
		36	39	21.78	21.68	21.59	22.50
		75	0	21.71	21.63	21.59	22.50
	16QAM	1	0	21.86	21.65	21.64	22.50
		1	38	21.77	22.24	22.25	22.50
		1	74	21.93	22.15	22.14	22.50
		36	0	20.70	20.58	20.68	21.50
		36	18	20.81	20.63	20.67	21.50
		36	39	20.73	20.60	20.68	21.50
		75	0	20.84	20.68	20.58	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	22.68	22.45	22.34	23.50
		1	50	**22.77**	**22.75**	**22.71**	23.50
		1	99	22.50	22.46	22.35	23.50
		50	0	21.62	21.55	21.51	22.50
		50	25	21.69	21.60	**21.55**	22.50
		50	50	**21.75**	**21.66**	21.54	22.50
		100	0	**21.78**	21.63	21.57	22.50
	16QAM	1	0	21.62	21.45	21.41	22.50
		1	50	21.98	22.14	22.24	22.50
		1	99	22.25	21.83	21.82	22.50
		50	0	20.71	20.61	20.51	21.50
		50	25	20.79	20.69	20.68	21.50
		50	50	20.80	20.63	20.61	21.50
		100	0	20.80	20.68	20.65	21.50

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LTE Band 5				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	23.01	22.98	22.88	24.00
		1	2	23.05	23.06	22.93	24.00
		1	5	22.93	22.88	22.83	24.00
		3	0	23.08	23.07	22.96	24.00
		3	2	23.11	23.00	22.92	24.00
		3	3	23.12	23.03	23.04	24.00
		6	0	22.21	22.10	21.97	23.00
	16QAM	1	0	22.62	22.53	21.73	23.00
		1	2	22.39	22.17	22.25	23.00
		1	5	22.58	22.52	21.89	23.00
		3	0	22.03	21.97	22.02	23.00
		3	2	22.17	22.06	21.94	23.00
		3	3	22.24	22.10	21.91	23.00
		6	0	21.17	21.14	21.10	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	22.94	22.99	22.97	24.00
		1	7	22.92	23.04	23.04	24.00
		1	14	23.05	22.91	22.85	24.00
		8	0	21.96	22.04	21.89	23.00
		8	4	21.95	22.01	21.99	23.00
		8	7	21.92	22.04	21.96	23.00
		15	0	22.04	22.04	21.89	23.00
	16QAM	1	0	22.20	22.02	22.62	23.00
		1	7	22.62	22.34	22.31	23.00
		1	14	22.09	22.00	21.97	23.00
		8	0	21.12	21.16	21.08	22.00
		8	4	21.21	21.19	21.15	22.00
		8	7	20.99	20.98	21.05	22.00
		15	0	21.11	21.06	21.02	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	22.80	22.95	22.85	24.00
		1	13	23.05	22.97	23.01	24.00
		1	24	22.86	22.86	22.68	24.00
		12	0	21.98	22.05	22.02	23.00
		12	6	22.09	21.98	22.03	23.00
		12	13	22.07	21.89	21.90	23.00
		25	0	22.08	21.97	21.97	23.00
	16QAM	1	0	22.09	22.56	21.96	23.00
		1	13	22.23	22.86	22.02	23.00
		1	24	22.18	22.11	21.76	23.00

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		12	0	21.07	21.10	21.02	22.00
		12	6	21.07	21.01	20.97	22.00
		12	13	21.06	21.09	21.04	22.00
		25	0	21.04	21.08	21.09	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	23.00	23.03	22.91	24.00
		1	25	**23.04**	22.98	23.03	24.00
		1	49	22.85	22.80	22.91	24.00
		25	0	22.00	**22.12**	22.04	23.00
		25	13	22.01	21.97	21.97	23.00
		25	25	22.08	22.02	22.09	23.00
		50	0	22.15	22.03	22.09	23.00
	16QAM	1	0	22.37	22.10	22.18	23.00
		1	25	22.87	21.81	22.21	23.00
		1	49	21.81	22.04	22.13	23.00
		25	0	21.05	21.05	21.08	22.00
		25	13	21.04	21.10	21.14	22.00
		25	25	21.00	21.04	20.94	22.00
		50	0	21.01	21.08	21.07	22.00

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LTE Band 7				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425	Tune up
5MHz	QPSK	1	0	22.54	22.46	22.55	23.50
		1	13	22.58	22.59	22.61	23.50
		1	24	22.46	22.51	22.59	23.50
		12	0	21.66	21.62	21.66	22.50
		12	6	21.59	21.62	21.76	22.50
		12	13	21.57	21.54	21.70	22.50
		25	0	21.61	21.62	21.74	22.50
	16QAM	1	0	21.88	21.70	22.02	22.50
		1	13	21.61	21.54	21.74	22.50
		1	24	21.89	21.98	21.71	22.50
		12	0	20.56	20.59	20.56	21.50
		12	6	20.64	20.61	20.67	21.50
		12	13	20.61	20.60	20.56	21.50
		25	0	20.66	20.57	20.75	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	22.61	22.41	22.76	23.50
		1	25	22.64	22.64	22.55	23.50
		1	49	22.47	22.61	22.63	23.50
		25	0	21.65	21.70	21.68	22.50
		25	13	21.70	21.75	21.81	22.50
		25	25	21.66	21.70	21.66	22.50
		50	0	21.80	21.68	21.70	22.50
	16QAM	1	0	21.74	21.97	22.00	22.50
		1	25	21.99	22.07	21.81	22.50
		1	49	22.07	21.40	21.86	22.50
		25	0	20.66	20.70	20.83	21.50
		25	13	20.65	20.75	20.81	21.50
		25	25	20.62	20.59	20.55	21.50
		50	0	20.69	20.76	20.71	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	22.59	22.64	22.70	23.50
		1	38	22.74	22.71	22.63	23.50
		1	74	22.58	22.49	22.74	23.50
		36	0	21.75	21.78	21.73	22.50
		36	18	21.69	21.68	21.78	22.50
		36	39	21.61	21.59	21.71	22.50
		75	0	21.79	21.64	21.64	22.50
	16QAM	1	0	21.89	21.83	21.84	22.50
		1	38	21.39	21.69	21.81	22.50
		1	74	21.57	21.96	21.78	22.50

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		36	0	20.72	20.68	20.77	21.50
		36	18	20.74	20.59	20.67	21.50
		36	39	20.57	20.50	20.70	21.50
		75	0	20.75	20.75	20.72	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	22.56	22.58	22.71	23.50
		1	50	22.69	22.65	**22.75**	23.50
		1	99	22.37	22.45	22.54	23.50
		50	0	21.78	**21.85**	21.62	22.50
		50	25	21.75	21.66	21.66	22.50
		50	50	21.71	21.51	21.70	22.50
		100	0	21.81	21.65	21.70	22.50
	16QAM	1	0	21.79	21.81	21.97	22.50
		1	50	22.24	21.76	21.73	22.50
		1	99	21.17	21.64	22.13	22.50
		50	0	20.72	20.63	20.78	21.50
		50	25	20.68	20.62	20.75	21.50
		50	50	20.64	20.64	20.62	21.50
		100	0	20.70	20.66	20.68	21.50

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LTE Band 12				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	22.52	22.51	22.54	23.50
		1	2	22.65	22.66	22.61	23.50
		1	5	22.43	22.43	22.46	23.50
		3	0	22.59	22.58	22.63	23.50
		3	2	22.66	22.68	22.60	23.50
		3	3	22.54	22.55	22.44	23.50
		6	0	21.74	21.77	21.52	22.50
	16QAM	1	0	21.55	21.72	21.50	22.50
		1	2	21.72	21.76	22.03	22.50
		1	5	21.45	21.47	21.46	22.50
		3	0	21.58	21.60	21.63	22.50
		3	2	21.71	21.75	21.87	22.50
		3	3	21.39	21.48	21.63	22.50
		6	0	20.95	20.91	20.75	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	22.56	22.55	22.40	23.50
		1	7	22.58	22.66	22.81	23.50
		1	14	22.69	22.46	22.53	23.50
		8	0	21.57	21.63	21.69	22.50
		8	4	21.64	21.58	21.55	22.50
		8	7	21.63	21.61	21.58	22.50
		15	0	21.66	21.54	21.51	22.50
	16QAM	1	0	22.20	21.87	21.72	22.50
		1	7	21.91	22.24	22.25	22.50
		1	14	21.92	21.84	21.74	22.50
		8	0	20.56	20.72	20.78	21.50
		8	4	20.83	20.64	20.65	21.50
		8	7	20.85	20.81	20.78	21.50
		15	0	20.85	20.67	20.64	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	22.54	22.55	22.53	23.50
		1	13	22.70	22.62	22.45	23.50
		1	24	22.55	22.47	22.34	23.50
		12	0	21.63	21.62	21.52	22.50
		12	6	21.78	21.74	21.64	22.50
		12	13	21.66	21.65	21.60	22.50
		25	0	21.62	21.58	21.63	22.50
	16QAM	1	0	22.14	21.91	21.73	22.50
		1	13	22.20	22.06	21.91	22.50
		1	24	21.91	21.81	21.79	22.50

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		12	0	20.54	20.55	20.59	21.50
		12	6	20.67	20.69	20.70	21.50
		12	13	20.63	20.62	20.41	21.50
		25	0	20.67	20.62	20.60	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	22.67	22.49	22.54	23.50
		1	25	22.64	**22.78**	22.51	23.50
		1	49	22.53	22.48	22.47	23.50
		25	0	21.69	21.67	21.71	22.50
		25	13	**21.75**	21.62	21.65	22.50
		25	25	21.74	21.66	21.63	22.50
		50	0	21.74	21.63	21.69	22.50
	16QAM	1	0	21.71	21.91	21.85	22.50
		1	25	21.90	22.34	21.95	22.50
		1	49	21.74	21.87	22.02	22.50
		25	0	20.77	20.68	20.74	21.50
		25	13	20.67	20.75	20.70	21.50
		25	25	20.67	20.78	20.58	21.50
		50	0	20.62	20.64	20.60	21.50

Table 12：Conducted Power of LTE

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8.1.2 Conducted Power of Second Antenna (ANT 2)

8.1.2.1 Conducted Power of GSM

GSM 850										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	32.67	32.77	32.81	33.00	-9.19	23.48	23.58	23.62	23.81
GPRS/EGPRS (GMSK)	1 TX Slot	32.66	32.76	32.80	33.00	-9.19	23.47	23.57	23.61	23.81
	2 TX Slots	31.65	31.76	31.86	32.00	-6.18	25.47	25.58	25.68	25.82
	3 TX Slots	29.47	29.61	29.72	30.00	-4.42	25.05	25.19	25.30	25.58
	4 TX Slots	28.27	28.37	28.51	29.00	-3.17	25.10	25.20	25.34	**25.83**
EGPRS(8PSK)	1 TX Slot	26.87	26.99	27.04	28.00	-9.19	17.68	17.80	17.85	18.81
	2 TX Slots	25.74	25.84	25.90	27.00	-6.18	19.56	19.66	19.72	20.82
	3 TX Slots	23.52	23.64	23.52	25.00	-4.42	19.10	19.22	19.10	20.58
	4 TX Slots	22.28	22.48	22.55	24.00	-3.17	19.11	19.31	19.38	20.83
GSM 1900										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	23.18	23.24	23.4	23.5	-9.19	13.99	14.05	14.21	14.31
GPRS/EGPRS (GMSK)	1 TX Slot	23.2	23.26	23.38	23.5	-9.19	14.01	14.07	14.19	14.31
	2 TX Slots	20.25	20.39	20.48	21	-6.18	14.07	14.21	14.3	**14.82**
	3 TX Slots	18.45	18.18	18.66	19	-4.42	14.03	13.76	14.24	14.58
	4 TX Slots	17.14	16.84	17.36	17.5	-3.17	13.97	13.67	14.19	14.33
EGPRS(8PSK)	1 TX Slot	23.17	22.9	23.37	23.5	-9.19	13.98	13.71	14.18	14.31
	2 TX Slots	20.23	19.95	20.35	20.5	-6.18	14.05	13.77	14.17	14.32
	3 TX Slots	18.4	18.14	18.62	19	-4.42	13.98	13.72	14.2	14.58
	4 TX Slots	17.15	16.81	17.36	17.5	-3.17	13.98	13.64	14.19	14.33

Table 13：Conducted Power of GSM

Note:

1）. CMW500 measures GSM peak and average output power for active timeslots. For SAR the time based average power is relevant. The difference in between depends on the duty cycle of the TDMA signal:

No. of timeslots	1	2	3	4
Duty Cycle	1:8.3	1:4.15	1:2.77	1:2.075
Time based avg. power compared to slotted avg. power	-9.19	-6.18	-4.42	-3.17

2）. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:

Frame-averaged power = 10 x log (Burst-averaged power mW x Slot used / 8

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

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8.1.2.2 Conducted Power of WCDMA

WCDMA Band II					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	17.16	**17.18**	17.09	17.50
	12.2kbps AMR	17.14	17.17	17.04	17.50
HSDPA	Subtest 1	17.17	17.17	17.06	17.50
	Subtest 2	17.14	17.11	17.03	17.50
	Subtest 3	16.63	16.67	16.62	17.00
	Subtest 4	16.68	16.65	16.49	17.00
HSUPA	Subtest 1	15.24	15.11	15.16	16.00
	Subtest 2	15.22	15.09	15.10	16.00
	Subtest 3	16.21	16.03	16.06	17.00
	Subtest 4	14.68	14.53	14.53	15.50
	Subtest 5	16.20	16.15	16.10	17.00
WCDMA Band IV					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	**19.11**	19.08	18.96	19.50
	12.2kbps AMR	19.06	19.09	19.02	19.50
HSDPA	Subtest 1	19.12	19.07	19.10	19.50
	Subtest 2	19.05	18.94	19.06	19.50
	Subtest 3	18.66	18.65	18.55	19.00
	Subtest 4	18.63	18.55	18.61	19.00
HSUPA	Subtest 1	17.15	17.07	17.02	18.00
	Subtest 2	17.16	17.12	17.03	18.00
	Subtest 3	18.15	18.12	18.07	19.00
	Subtest 4	16.65	16.63	16.78	17.50
	Subtest 5	18.17	18.14	18.21	19.00
WCDMA Band V					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	23.34	**23.36**	23.31	24.00
	12.2kbps AMR	23.32	23.33	23.29	24.00
HSDPA	Subtest 1	22.95	22.89	22.84	23.50
	Subtest 2	22.93	22.84	22.80	23.50
	Subtest 3	22.47	22.38	22.31	23.00
	Subtest 4	22.38	22.35	22.33	23.00
HSUPA	Subtest 1	20.91	20.84	20.88	22.00
	Subtest 2	20.90	20.85	20.88	22.00
	Subtest 3	21.92	21.82	21.87	23.00
	Subtest 4	20.41	20.31	20.31	21.50
	Subtest 5	21.98	21.89	21.99	23.00

Table 14：Conducted Power of WCDMA

Note:

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

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8.1.2.3 Conducted Power of LTE

LTE Band 2				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	16.89	16.69	16.77	18.00
		1	2	16.96	16.68	16.86	18.00
		1	5	16.75	16.78	17.05	18.00
		3	0	16.81	16.63	16.77	18.00
		3	2	16.80	16.53	16.78	18.00
		3	3	16.72	16.73	16.77	18.00
		6	0	16.80	16.74	16.89	18.00
	16QAM	1	0	16.56	16.56	16.56	18.00
		1	2	16.85	16.69	16.59	18.00
		1	5	16.56	16.49	16.59	18.00
		3	0	16.75	16.61	16.61	18.00
		3	2	16.80	16.59	16.62	18.00
		3	3	16.65	16.55	16.65	18.00
		6	0	16.79	16.55	16.67	18.00
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	16.76	17.37	17.26	18.00
		1	7	17.04	16.99	16.83	18.00
		1	14	17.01	17.04	17.24	18.00
		8	0	16.58	16.75	16.71	18.00
		8	4	16.79	16.60	16.82	18.00
		8	7	16.91	16.74	16.76	18.00
		15	0	16.78	16.58	16.50	18.00
	16QAM	1	0	16.62	16.52	16.55	18.00
		1	7	16.93	16.58	16.93	18.00
		1	14	16.59	16.66	16.48	18.00
		8	0	16.73	16.51	16.58	18.00
		8	4	16.72	16.59	16.66	18.00
		8	7	16.69	16.56	16.62	18.00
		15	0	16.72	16.57	16.54	18.00
Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	17.54	16.82	16.46	18.00
		1	13	17.08	17.35	16.62	18.00
		1	24	16.32	16.58	16.80	18.00
		12	0	16.77	16.70	16.64	18.00
		12	6	16.89	16.76	16.64	18.00
		12	13	16.63	16.67	16.70	18.00
		25	0	16.77	16.62	16.69	18.00
	16QAM	1	0	16.45	16.36	16.34	18.00
		1	13	16.63	16.67	16.57	18.00
		1	24	16.50	16.48	16.50	18.00
		12	0	16.70	16.64	16.56	18.00
		12	6	16.73	16.69	16.64	18.00
		12	13	16.71	16.60	16.59	18.00
		25	0	16.64	16.55	16.58	18.00

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Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	17.00	17.19	16.92	18.00
		1	25	16.84	17.23	17.36	18.00
		1	49	17.26	16.71	16.69	18.00
		25	0	16.73	16.62	16.53	18.00
		25	13	16.74	16.71	16.65	18.00
		25	25	16.79	16.68	16.61	18.00
		50	0	16.80	16.66	16.58	18.00
	16QAM	1	0	16.50	16.45	16.37	18.00
		1	25	16.71	16.57	16.67	18.00
		1	49	16.61	16.47	16.54	18.00
		25	0	16.72	16.63	16.49	18.00
		25	13	16.70	16.54	16.57	18.00
		25	25	16.71	16.56	16.54	18.00
		50	0	16.68	16.60	16.54	18.00
Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	16.74	16.71	16.52	18.00
		1	38	16.78	16.95	16.75	18.00
		1	74	16.68	16.70	16.24	18.00
		36	0	16.71	16.69	16.70	18.00
		36	18	16.78	16.62	16.67	18.00
		36	39	16.69	16.58	16.71	18.00
		75	0	16.68	16.51	16.62	18.00
	16QAM	1	0	16.66	16.58	16.51	18.00
		1	38	16.65	16.54	16.66	18.00
		1	74	16.44	16.38	16.51	18.00
		36	0	16.65	16.61	16.52	18.00
		36	18	16.76	16.65	16.57	18.00
		36	39	16.60	16.59	16.63	18.00
		75	0	16.69	16.60	16.69	18.00
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	17.13	16.43	16.81	18.00
		1	50	**17.15**	**17.55**	**16.89**	18.00
		1	99	16.50	17.16	16.75	18.00
		50	0	**16.85**	**16.86**	**16.73**	18.00
		50	25	16.82	16.66	16.59	18.00
		50	50	16.75	16.61	16.71	18.00
		100	0	16.68	**16.70**	16.69	18.00
	16QAM	1	0	16.58	16.55	16.51	18.00
		1	50	16.64	16.54	16.40	18.00
		1	99	16.48	16.45	16.49	18.00
		50	0	16.65	16.63	16.62	18.00
		50	25	16.71	16.63	16.58	18.00
		50	50	16.78	16.54	16.54	18.00
		100	0	16.73	16.58	16.59	18.00

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LTE Band 4				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	18.20	17.95	18.05	18.50
		1	2	18.37	18.24	17.72	18.50
		1	5	18.00	18.03	17.98	18.50
		3	0	17.67	17.91	17.56	18.50
		3	2	18.01	17.83	17.88	18.50
		3	3	17.82	17.78	17.71	18.50
		6	0	17.84	17.99	17.75	18.50
	16QAM	1	0	17.84	17.80	17.60	18.50
		1	2	17.89	17.74	17.84	18.50
		1	5	17.70	17.60	17.46	18.50
		3	0	17.77	17.84	17.79	18.50
		3	2	17.88	17.94	17.67	18.50
		3	3	17.76	17.80	17.78	18.50
		6	0	17.89	17.86	17.75	18.50
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	18.39	18.41	17.89	18.50
		1	7	18.32	18.20	18.02	18.50
		1	14	17.97	18.35	18.30	18.50
		8	0	17.98	17.76	17.77	18.50
		8	4	18.00	17.93	17.91	18.50
		8	7	17.96	17.88	17.86	18.50
		15	0	17.85	17.67	17.83	18.50
	16QAM	1	0	17.72	17.75	17.68	18.50
		1	7	17.70	17.98	17.71	18.50
		1	14	17.71	17.69	17.72	18.50
		8	0	17.72	17.70	17.63	18.50
		8	4	17.80	17.81	17.70	18.50
		8	7	17.82	17.67	17.71	18.50
		15	0	17.72	17.73	17.67	18.50
Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	18.13	17.98	18.37	18.50
		1	13	17.69	17.82	18.05	18.50
		1	24	17.72	17.85	18.43	18.50
		12	0	17.75	17.85	17.7	18.50
		12	6	17.88	17.73	17.7	18.50
		12	13	17.86	17.79	17.53	18.50
		25	0	17.83	17.80	17.72	18.50
	16QAM	1	0	17.80	17.57	17.62	18.50
		1	13	17.82	17.84	17.73	18.50
		1	24	17.71	17.67	17.54	18.50
		12	0	17.79	17.70	17.7	18.50
		12	6	17.74	17.78	17.78	18.50
		12	13	17.77	17.79	17.68	18.50
		25	0	17.84	17.71	17.7	18.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up

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				20000	20175	20350	
10MHz	QPSK	1	0	18.36	18.26	17.86	18.50
		1	25	17.94	18.04	18.09	18.50
		1	49	18.35	17.84	18.16	18.50
		25	0	17.92	17.83	17.75	18.50
		25	13	17.68	17.85	17.81	18.50
		25	25	17.85	17.97	17.72	18.50
		50	0	17.89	17.92	17.85	18.50
	16QAM	1	0	17.74	17.86	17.82	18.50
		1	25	17.91	17.82	17.70	18.50
		1	49	17.66	17.68	17.60	18.50
		25	0	17.91	17.71	17.72	18.50
		25	13	17.86	17.80	17.69	18.50
		25	25	17.86	17.89	17.64	18.50
		50	0	17.80	17.76	17.72	18.50
Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	18.05	18.21	18.45	18.50
		1	38	18.14	17.92	18.41	18.50
		1	74	18.40	18.25	18.40	18.50
		36	0	17.87	17.80	17.83	18.50
		36	18	17.89	17.77	17.76	18.50
		36	39	17.92	17.83	17.77	18.50
		75	0	18.01	17.82	17.81	18.50
	16QAM	1	0	17.79	17.71	17.64	18.50
		1	38	17.78	17.71	17.72	18.50
		1	74	17.73	17.79	17.56	18.50
		36	0	17.85	17.82	17.80	18.50
		36	18	17.97	17.87	17.71	18.50
		36	39	17.86	17.83	17.74	18.50
		75	0	17.95	17.81	17.73	18.50
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	18.19	18.40	17.82	18.50
		1	50	18.20	**18.48**	18.33	18.50
		1	99	17.62	17.73	18.31	18.50
		50	0	17.88	17.68	17.94	18.50
		50	25	17.96	17.78	17.87	18.50
		50	50	**18.00**	17.79	17.69	18.50
		100	0	17.90	17.78	17.73	18.50
	16QAM	1	0	17.79	17.65	17.61	18.50
		1	50	17.74	17.99	17.68	18.50
		1	99	17.59	17.58	17.46	18.50
		50	0	17.86	17.68	17.78	18.50
		50	25	17.90	17.79	17.82	18.50
		50	50	17.97	17.82	17.62	18.50
		100	0	17.84	17.72	17.69	18.50

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LTE Band 5				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	23.01	22.98	22.88	24.00
		1	2	23.05	23.06	22.93	24.00
		1	5	22.93	22.88	22.83	24.00
		3	0	23.08	23.07	22.96	24.00
		3	2	23.11	23.00	22.92	24.00
		3	3	23.12	23.03	23.04	24.00
		6	0	22.21	22.10	21.97	23.00
	16QAM	1	0	22.62	22.53	21.73	23.00
		1	2	22.39	22.17	22.25	23.00
		1	5	22.58	22.52	21.89	23.00
		3	0	22.03	21.97	22.02	23.00
		3	2	22.17	22.06	21.94	23.00
		3	3	22.24	22.10	21.91	23.00
		6	0	21.17	21.14	21.10	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	22.94	22.99	22.97	24.00
		1	7	22.92	23.04	23.04	24.00
		1	14	23.05	22.91	22.85	24.00
		8	0	21.96	22.04	21.89	23.00
		8	4	21.95	22.01	21.99	23.00
		8	7	21.92	22.04	21.96	23.00
		15	0	22.04	22.04	21.89	23.00
	16QAM	1	0	22.20	22.02	22.62	23.00
		1	7	22.62	22.34	22.31	23.00
		1	14	22.09	22.00	21.97	23.00
		8	0	21.12	21.16	21.08	22.00
		8	4	21.21	21.19	21.15	22.00
		8	7	20.99	20.98	21.05	22.00
		15	0	21.11	21.06	21.02	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	22.80	22.95	22.85	24.00
		1	13	23.05	22.97	23.01	24.00
		1	24	22.86	22.86	22.68	24.00
		12	0	21.98	22.05	22.02	23.00
		12	6	22.09	21.98	22.03	23.00
		12	13	22.07	21.89	21.90	23.00
		25	0	22.08	21.97	21.97	23.00
	16QAM	1	0	22.09	22.56	21.96	23.00
		1	13	22.23	22.86	22.02	23.00

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		1	24	22.18	22.11	21.76	23.00
		12	0	21.07	21.10	21.02	22.00
		12	6	21.07	21.01	20.97	22.00
		12	13	21.06	21.09	21.04	22.00
		25	0	21.04	21.08	21.09	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	23.00	23.03	22.91	24.00
		1	25	**23.04**	22.98	23.03	24.00
		1	49	22.85	22.80	22.91	24.00
		25	0	22.00	**22.12**	22.04	23.00
		25	13	22.01	21.97	21.97	23.00
		25	25	22.08	22.02	22.09	23.00
		50	0	22.15	22.03	22.09	23.00
	16QAM	1	0	22.37	22.10	22.18	23.00
		1	25	22.87	21.81	22.21	23.00
		1	49	21.81	22.04	22.13	23.00
		25	0	21.05	21.05	21.08	22.00
		25	13	21.04	21.10	21.14	22.00
		25	25	21.00	21.04	20.94	22.00
		50	0	21.01	21.08	21.07	22.00

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LTE Band 7				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425	Tune up
5MHz	QPSK	1	0	16.98	16.84	16.54	18.00
		1	13	17.19	16.61	17.10	18.00
		1	24	17.30	17.25	16.76	18.00
		12	0	16.93	16.99	16.87	18.00
		12	6	17.19	16.77	16.96	18.00
		12	13	17.00	16.81	16.80	18.00
		25	0	16.97	16.86	16.87	18.00
	16QAM	1	0	16.76	16.8	16.65	18.00
		1	13	16.98	16.79	16.87	18.00
		1	24	16.79	16.52	16.68	18.00
		12	0	16.95	16.77	16.85	18.00
		12	6	17.03	16.82	16.82	18.00
		12	13	16.96	16.81	16.86	18.00
		25	0	16.98	16.75	16.78	18.00
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	17.53	16.85	17.02	18.00
		1	25	17.50	17.14	17.86	18.00
		1	49	17.10	16.88	16.92	18.00
		25	0	17.07	17.00	16.93	18.00
		25	13	17.11	16.92	16.81	18.00
		25	25	17.03	16.77	16.93	18.00
		50	0	17.07	16.90	16.93	18.00
	16QAM	1	0	17.06	16.88	16.67	18.00
		1	25	16.85	16.95	16.89	18.00
		1	49	17.02	16.72	16.90	18.00
		25	0	17.16	16.99	16.85	18.00
		25	13	16.99	16.87	17.00	18.00
		25	25	16.96	16.71	16.81	18.00
		50	0	17.08	16.88	16.88	18.00
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	17.20	17.09	17.02	18.00
		1	38	17.25	16.97	16.87	18.00
		1	74	17.44	17.44	17.00	18.00
		36	0	17.04	16.97	16.81	18.00
		36	18	16.95	16.82	16.91	18.00
		36	39	16.95	16.83	16.90	18.00
		75	0	17.06	16.83	16.95	18.00
	16QAM	1	0	16.90	16.74	16.91	18.00
		1	38	16.99	16.87	16.82	18.00
		1	74	16.75	16.83	16.86	18.00

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		36	0	17.04	17.02	16.91	18.00
		36	18	16.96	16.87	16.90	18.00
		36	39	16.93	16.71	16.83	18.00
		75	0	17.00	16.83	16.85	18.00
Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	**17.88**	**17.39**	**17.31**	18.00
		1	50	17.79	17.37	17.13	18.00
		1	99	17.01	16.70	16.96	18.00
		50	0	**17.15**	**17.05**	**16.93**	18.00
		50	25	17.07	16.94	16.88	18.00
		50	50	17.06	17.02	16.88	18.00
		100	0	**17.09**	16.98	16.84	18.00
	16QAM	1	0	16.91	16.76	16.83	18.00
		1	50	16.90	17.00	16.82	18.00
		1	99	16.66	16.54	16.65	18.00
		50	0	17.06	16.94	16.83	18.00
		50	25	17.01	16.90	16.89	18.00
		50	50	16.96	16.68	16.87	18.00
		100	0	17.09	16.75	16.73	18.00

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LTE Band 12				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	22.52	22.51	22.54	23.50
		1	2	22.65	22.66	22.61	23.50
		1	5	22.43	22.43	22.46	23.50
		3	0	22.59	22.58	22.63	23.50
		3	2	22.66	22.68	22.60	23.50
		3	3	22.54	22.55	22.44	23.50
		6	0	21.74	21.77	21.52	22.50
	16QAM	1	0	21.55	21.72	21.50	22.50
		1	2	21.72	21.76	22.03	22.50
		1	5	21.45	21.47	21.46	22.50
		3	0	21.58	21.60	21.63	22.50
		3	2	21.71	21.75	21.87	22.50
		3	3	21.39	21.48	21.63	22.50
		6	0	20.95	20.91	20.75	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	22.56	22.55	22.40	23.50
		1	7	22.58	22.66	22.81	23.50
		1	14	22.69	22.46	22.53	23.50
		8	0	21.57	21.63	21.69	22.50
		8	4	21.64	21.58	21.55	22.50
		8	7	21.63	21.61	21.58	22.50
		15	0	21.66	21.54	21.51	22.50
	16QAM	1	0	22.20	21.87	21.72	22.50
		1	7	21.91	22.24	22.25	22.50
		1	14	21.92	21.84	21.74	22.50
		8	0	20.56	20.72	20.78	21.50
		8	4	20.83	20.64	20.65	21.50
		8	7	20.85	20.81	20.78	21.50
		15	0	20.85	20.67	20.64	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	22.54	22.55	22.53	23.50
		1	13	22.70	22.62	22.45	23.50
		1	24	22.55	22.47	22.34	23.50
		12	0	21.63	21.62	21.52	22.50
		12	6	21.78	21.74	21.64	22.50
		12	13	21.66	21.65	21.60	22.50
		25	0	21.62	21.58	21.63	22.50
	16QAM	1	0	22.14	21.91	21.73	22.50
		1	13	22.20	22.06	21.91	22.50
		1	24	21.91	21.81	21.79	22.50

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		12	0	20.54	20.55	20.59	21.50
		12	6	20.67	20.69	20.70	21.50
		12	13	20.63	20.62	20.41	21.50
		25	0	20.67	20.62	20.60	21.50
Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	22.67	22.49	22.54	23.50
		1	25	22.64	**22.78**	22.51	23.50
		1	49	22.53	22.48	22.47	23.50
		25	0	21.69	21.67	21.71	22.50
		25	13	**21.75**	21.62	21.65	22.50
		25	25	21.74	21.66	21.63	22.50
		50	0	21.74	21.63	21.69	22.50
	16QAM	1	0	21.71	21.91	21.85	22.50
		1	25	21.90	22.34	21.95	22.50
		1	49	21.74	21.87	22.02	22.50
		25	0	20.77	20.68	20.74	21.50
		25	13	20.67	20.75	20.70	21.50
		25	25	20.67	20.78	20.58	21.50
		50	0	20.62	20.64	20.60	21.50

Table 15：Conducted Power of LTE

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8.1.3 Conducted Power of WIFI and BT

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11b	1	2412	1	16.00	**15.4**	Yes
	6	2437		16.00	15.16	NO
	11	2462		16.00	15.35	NO
802.11g	1	2412	6	15.00	14.16	NO
	6	2437		15.00	13.79	NO
	11	2462		15.00	14.18	NO
802.11n HT20	1	2412	6.5	14.00	12.92	NO
	6	2437		14.00	12.71	NO
	11	2462		14.00	13.05	NO

5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11a	U-NII-1	36	5180	6	11	10.34	NO
		40	5200		11	10.37	NO
		44	5220		11	10.38	NO
		48	5240		11	**10.44**	Yes
	U-NII-2A	52	5260		11	10.42	NO
		56	5280		11	10.35	NO
		60	5300		11	**10.55**	Yes
		64	5320		11	10.34	NO
	U-NII-2C	100	5500		11	10.77	NO
		104	5520		11	10.54	NO
		108	5540		11	10.62	NO
		112	5560		11	10.52	NO
		116	5580		11	10.61	NO
		120	5600		11	**10.87**	Yes
		124	5620		11	10.55	NO
		128	5640		11	10.75	NO
		132	5660		11	10.69	NO
		136	5680		11	10.64	NO
		140	5700		11	10.8	NO
	U-NII-3	149	5745		11	10.69	NO
		153	5765		11	10.61	NO
		157	5785		11	**10.7**	Yes
		161	5805		11	10.54	NO
		165	5825		11	10.54	NO
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11n-HT20	U-NII-1	36	5180	MCS0	10	8.96	NO
		40	5200		10	8.95	NO
		44	5220		10	9.01	NO
		48	5240		10	9.18	NO
	U-NII-2A	52	5260		10	9.27	NO
		56	5280		10	9.26	NO
		60	5300		10	9.43	NO
		64	5320		10	9.25	NO
	U-NII-2C	100	5500		10	9.62	NO
		104	5520		10	9.53	NO

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		108	5540		10	9.45	NO
		112	5560		10	9.57	NO
		116	5580		10	9.38	NO
		120	5600		10	9.35	NO
		124	5620		10	9.54	NO
		128	5640		10	9.52	NO
		132	5660		10	9.48	NO
		136	5680		10	9.45	NO
		140	5700		10	9.65	NO
	U-NII-3	149	5745		10	9.51	NO
		153	5765		10	9.42	NO
		157	5785		10	9.42	NO
		161	5805		10	9.39	NO
		165	5825		10	9.45	NO
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11n-HT40	U-NII-1	38	5190	MCS0	9	8.06	NO
		46	5230		9	8.17	NO
	U-NII-2A	54	5270		9	8.16	NO
		62	5310		9	8.31	NO
	U-NII-2C	102	5510		9	8.49	NO
		110	5550		9	8.58	NO
		118	5590		9	8.56	NO
		126	5630		9	8.47	NO
		134	5670		9	8.44	NO
	U-NII-3	151	5755		9	8.42	NO
		159	5795		9	8.45	NO
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11ac 20M	U-NII-1	36	5180	MCS0	10	9.01	NO
		40	5200		10	9.19	NO
		44	5220		10	9.18	NO
		48	5240		10	9.14	NO
	U-NII-2A	52	5260		10	9.23	NO
		56	5280		10	9.42	NO
		60	5300		10	9.36	NO
		64	5320		10	9.33	NO
	U-NII-2C	100	5500		10	9.58	NO
		104	5520		10	9.51	NO
		108	5540		10	9.42	NO
		112	5560		10	9.56	NO
		116	5580		10	9.36	NO
		120	5600		10	9.54	NO
		124	5620		10	9.51	NO
		128	5640		10	9.48	NO
		132	5660		10	9.43	NO
		136	5680		10	9.67	NO
		140	5700		10	9.58	NO
	U-NII-3	149	5745		10	9.46	NO
		153	5765		10	9.47	NO
		157	5785		10	9.52	NO
		161	5805		10	9.47	NO

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		165	5825		10	9.46	NO
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11ac 40M	U-NII-1	38	5190	MCS0	9	8.13	NO
		46	5230		9	8.15	NO
	U-NII-2A	54	5270		9	8.26	NO
		62	5310		9	8.27	NO
	U-NII-2C	102	5510		9	8.54	NO
		110	5550		9	8.34	NO
		118	5590		9	8.54	NO
		126	5630		9	8.46	NO
		134	5670		9	8.61	NO
	U-NII-3	151	5755		9	8.38	NO
		159	5795		9	8.43	NO
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Tune up	Average Power (dBm)	SAR Test
802.11ac 80M	U-NII-1	42	5210	MCS0	8	7.23	NO
	U-NII-2A	58	5290		8	7.47	NO
	U-NII-2C	106	5530		8	7.54	NO
		122	5610		8	7.59	NO
	U-NII-3	155	5775		8	7.66	NO

Table 16：Conducted Power of WiFi

BT			Tune up (dBm)	Average Conducted Power(dBm)
Modulation	Channel	Frequency(MHz)		
GFSK	0	2402	9.00	8.25
	39	2441	9.00	7.26
	78	2480	9.00	7.88
π/4DQPSK	0	2402	6.50	5.91
	39	2441	6.50	4.61
	78	2480	6.50	5.45
8DPSK	0	2402	6.50	5.98
	39	2441	6.50	4.62
	78	2480	6.50	5.51
BLE			Tune up (dBm)	Average Conducted Power(dBm)
Modulation	Channel	Frequency(MHz)		
GFSK	0	2402	8.00	5.51
	19	2440	8.00	6.78
	39	2480	8.00	6.05

Table 17：Conducted Power of BT

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8.1.4 Stand-alone SAR test evaluation

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and Product specific 10g SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

Freq. Band	Frequency (GHz)	Position	Average Power		Test Separation (mm)	Calculate Value	Exclusion Threshold	Exclusion (Y/N)
			dBm	mW				
Wi-Fi	2.45	Head	16	39.8	0	12.5	3	N
		Body-worn	16	39.8	15	4.2	3	N
		hotspot	16	39.8	10	6.2	3	N
Wi-Fi	5	Head	11	12.6	0	5.6	3	N
		Body-worn	11	12.6	15	1.9	3	Y
		hotspot	11	12.6	10	2.8	3	Y
Bluetooth	2.48	Head	9	7.9	0	2.5	3	Y
		Body-worn	9	7.9	15	0.8	3	Y
		hotspot	9	7.9	10	1.3	3	Y

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

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

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

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8.2 Measurement of SAR Data

8.2.1 SAR Result of GSM850

Ant 1 Test Record										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	GSM	190/836.6	1:8.3	0.189	-0.02	32.77	33.00	1.054	0.199	22.1
Left tilted	GSM	190/836.6	1:8.3	0.105	-0.03	32.77	33.00	1.054	0.111	22.1
Right cheek	GSM	190/836.6	1:8.3	0.266	-0.04	32.77	33.00	1.054	**0.280**	22.1
Right tilted	GSM	190/836.6	1:8.3	0.123	0.06	32.77	33.00	1.054	0.130	22.1
Head Test Data at the worst case with back cover										
Right cheek	GSM	190/836.6	1:8.3	0.138	0.06	32.77	33.00	1.054	0.146	22.1
Body worn Test data(Separate 15mm)										
Front side	GSM	190/836.6	1:8.3	0.211	-0.02	32.77	33.00	1.054	0.222	22.1
Back side	GSM	190/836.6	1:8.3	0.231	0.03	32.77	33.00	1.054	**0.244**	22.1
Body worn Test Data at the worst case with back cover										
Back side	GSM	190/836.6	1:8.3	0.0553	-0.05	32.77	33.00	1.054	0.058	22.1
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.341	-0.06	28.37	29.00	1.156	0.394	22.1
Back side	GPRS 4TS	190/836.6	1:2.075	0.410	0.03	28.37	29.00	1.156	**0.474**	22.1
Left side	GPRS 4TS	190/836.6	1:2.075	0.195	0.15	28.37	29.00	1.156	0.225	22.1
Right side	GPRS 4TS	190/836.6	1:2.075	0.398	0.18	28.37	29.00	1.156	0.460	22.1
Bottom side	GPRS 4TS	190/836.6	1:2.075	0.376	0.09	28.37	29.00	1.156	0.435	22.1
Hotspot Test Data at the worst case with back cover										
Back side	GPRS 4TS	190/836.6	1:2.075	0.117	-0.14	28.37	29.00	1.156	0.135	22.1
Ant 2 Test Record										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	GSM	190/836.6	1:8.3	0.189	0.01	32.77	33.00	1.054	0.199	22.1
Left tilted	GSM	190/836.6	1:8.3	0.131	0.01	32.77	33.00	1.054	0.138	22.1
Right cheek	GSM	190/836.6	1:8.3	0.244	0.00	32.77	33.00	1.054	0.257	22.1
Right tilted	GSM	190/836.6	1:8.3	0.324	0.07	32.77	33.00	1.054	0.342	22.1
Head Test Data at the worst case with back cover										
Right tilted	GSM	190/836.6	1:8.3	0.465	-0.06	32.77	33.00	1.054	**0.490**	22.1

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Body worn Test data(Separate 15mm)										
Front side	GSM	190/836.6	1:8.3	0.018	0.07	32.77	33.00	1.054	0.019	22.1
Back side	GSM	190/836.6	1:8.3	0.022	-0.04	32.77	33.00	1.054	0.024	22.1
Body worn Test Data at the worst case with back cover										
Back side	GSM	190/836.6	1:8.3	0.053	-0.06	32.77	33.00	1.054	**0.056**	22.1
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	190/836.6	1:2.075	0.0437	-0.07	28.37	29.00	1.156	0.051	22.1
Back side	GPRS 4TS	190/836.6	1:2.075	0.0682	0.08	28.37	29.00	1.156	0.079	22.1
Left side	GPRS 4TS	190/836.6	1:2.075	0.0301	0.09	28.37	29.00	1.156	0.035	22.1
Right side	GPRS 4TS	190/836.6	1:2.075	0.0259	0.04	28.37	29.00	1.156	0.030	22.1
Top side	GPRS 4TS	190/836.6	1:2.075	0.0505	-0.03	28.37	29.00	1.156	0.058	22.1
Body Test Data at the worst case with back cover										
Back side	GPRS 4TS	190/836.6	1:2.075	0.118	-0.04	28.37	29.00	1.156	**0.136**	22.1

Table 18：SAR of GSM850 for Head and Body

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.2.2 SAR Result of GSM1900

Ant 1 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp
Head Test data										
Left cheek	GSM	661/1880	1:8.3	0.013	0.14	29.89	30.50	1.151	0.015	22.3
Left tilted	GSM	661/1880	1:8.3	0.012	0.05	29.89	30.50	1.151	0.013	22.3
Right cheek	GSM	661/1880	1:8.3	0.032	0.09	29.89	30.50	1.151	0.036	22.3
Right tilted	GSM	661/1880	1:8.3	0.016	0.04	29.89	30.50	1.151	0.019	22.3
Head Test Data at the worst case with back cover										
Right cheek	GSM	661/1880	1:8.3	0.041	0.03	29.89	30.50	1.151	**0.047**	22.3
Body worn Test data(Separate 15mm)										
Front side	GSM	661/1880	1:8.3	0.131	-0.08	29.89	30.50	1.151	0.151	22.3
Back side	GSM	661/1880	1:8.3	0.264	0.04	29.89	30.50	1.151	**0.304**	22.3
Body worn Test data at the worst case with back cover										
Back side	GSM	661/1880	1:8.3	0.089	0.11	29.89	30.50	1.151	0.102	22.3
Hotspot Test data(Separate 10mm)										
Front side	GPRS 4TS	661/1880	1:2.075	0.377	-0.10	25.83	26.50	1.167	0.440	22.3
Back side	GPRS 4TS	661/1880	1:2.075	0.781	0.02	25.83	26.50	1.167	0.911	22.3
Left side	GPRS 4TS	661/1880	1:2.075	0.063	0.09	25.83	26.50	1.167	0.074	22.3
Right side	GPRS 4TS	661/1880	1:2.075	0.049	0.00	25.83	26.50	1.167	0.057	22.3
Bottom side	GPRS 4TS	661/1880	1:2.075	0.728	0.10	25.83	26.50	1.167	0.849	22.3
Back side	GPRS 4TS	512/1850.2	1:2.075	0.746	0.08	25.88	26.50	1.153	0.860	22.3
Back side	GPRS 4TS	810/1909.8	1:2.075	0.698	0.08	25.86	26.50	1.159	0.809	22.3
Bottom side	GPRS 4TS	512/1850.2	1:2.075	0.834	0.19	25.88	26.50	1.153	**0.962**	22.3
Bottom side-repeat	GPRS 4TS	512/1850.2	1:2.075	0.826	0.17	25.88	26.50	1.153	0.953	22.3
Bottom side	GPRS 4TS	810/1909.8	1:2.075	0.585	0.18	25.86	26.50	1.159	0.678	22.3
Hotspot Test data at the worst case with back cover										
Bottom side	GPRS 4TS	512/1850.2	1:2.075	0.472	-0.03	25.88	26.50	1.153	0.544	22.3
Ant 2 Test Record										
Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp
Head Test data										
Left cheek	GSM	661/1880	1:8.3	0.450	0.08	23.24	23.50	1.062	0.478	22.3
Left tilted	GSM	661/1880	1:8.3	0.487	0.00	23.24	23.50	1.062	0.517	22.3

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Right cheek	GSM	661/1880	1:8.3	0.502	0.12	23.24	23.50	1.062	**0.533**	22.3
Right tilted	GSM	661/1880	1:8.3	0.411	-0.01	23.24	23.50	1.062	0.436	22.3
Head Test Data at the worst case with back cover										
Right cheek	GSM	661/1880	1:8.3	0.445	0.00	23.24	23.50	1.062	0.472	22.3
Body worn Test data(Separate 15mm)										
Front side	GSM	661/1880	1:8.3	0.091	0.05	23.24	23.50	1.062	0.096	22.3
Back side	GSM	661/1880	1:8.3	0.104	0.01	23.24	23.50	1.062	**0.110**	22.3
Body worn Test data at the worst case with back cover										
Back side	GSM	661/1880	1:8.3	0.075	0.09	23.24	23.50	1.062	0.079	22.3
Hotspot Test data(Separate 10mm)										
Front side	GPRS 2TS	661/1880	1:4.15	0.158	-0.02	20.39	21.00	1.151	0.182	22.3
Back side	GPRS 2TS	661/1880	1:4.15	0.191	0.08	20.39	21.00	1.151	0.220	22.3
Left side	GPRS 2TS	661/1880	1:4.15	0.102	0.09	20.39	21.00	1.151	0.117	22.3
Right side	GPRS 2TS	661/1880	1:4.15	0.066	-0.06	20.39	21.00	1.151	0.076	22.3
Top side	GPRS 2TS	661/1880	1:4.15	0.208	-0.10	20.39	21.00	1.151	**0.239**	22.3
Hotspot Test data at the worst case with back cover										
Top side	GPRS 2TS	661/1880	1:4.15	0.203	-0.10	20.39	21.00	1.151	0.234	22.3

Test Position	**Channel/ Frequency (MHz)**	**Measured SAR (1g)**	**1st Repeated SAR (1g)**	**Ratio**	**2nd Repeated SAR (1g)**	**3rd Repeated SAR (1g)**
Bottom side	512/1850.2	0.834	0.826	1.01	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 19：SAR of GSM1900 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.2.3 SAR Result of WCDMA Band II

Ant 1 Test Record										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	9400/1880	1:1	0.024	0.02	23.01	23.50	1.119	0.027	22.3
Left tilted	RMC	9400/1880	1:1	0.039	0.03	23.01	23.50	1.119	0.043	22.3
Right cheek	RMC	9400/1880	1:1	0.059	0.05	23.01	23.50	1.119	**0.066**	22.3
Right tilted	RMC	9400/1880	1:1	0.047	0.02	23.01	23.50	1.119	0.052	22.3
Head Test Data at the worst case with back cover										
Right cheek	RMC	9400/1880	1:1	0.056	0.05	23.01	23.50	1.119	0.062	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	9400/1880	1:1	0.201	-0.19	23.01	23.50	1.119	0.225	22.3
Back side	RMC	9400/1880	1:1	0.395	0.06	23.01	23.50	1.119	**0.442**	22.3
Body worn Test Data at the worst case with back cover										
Back side	RMC	9400/1880	1:1	0.119	0.05	23.01	23.50	1.119	0.133	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.374	-0.01	23.01	23.50	1.119	0.419	22.3
Back side	RMC	9400/1880	1:1	0.826	0.00	23.01	23.50	1.119	0.925	22.3
Left side	RMC	9400/1880	1:1	0.070	0.15	23.01	23.50	1.119	0.079	22.3
Right side	RMC	9400/1880	1:1	0.044	0.05	23.01	23.50	1.119	0.050	22.3
Bottom side	RMC	9400/1880	1:1	0.803	0.14	23.01	23.50	1.119	0.899	22.3
Back side	RMC	9262/1852.4	1:1	0.872	0.03	22.94	23.50	1.138	**0.992**	22.3
Back side-repeat	RMC	9262/1852.4	1:1	0.817	0.01	22.94	23.50	1.138	0.929	22.3
Back side	RMC	9538/1907.6	1:1	0.665	0.06	22.95	23.50	1.135	0.755	22.3
Bottom side	RMC	9262/1852.4	1:1	0.862	-0.06	22.94	23.50	1.138	0.981	22.3
Bottom side	RMC	9538/1907.6	1:1	0.600	-0.09	22.95	23.50	1.135	0.681	22.3
Hotspot Test Data at the worst case with back cover										
Back side	RMC	9262/1852.4	1:1	0.203	-0.04	22.94	23.50	1.138	0.231	22.3
Ant 2 Test Record										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	9400/1880	1:1	0.804	0.04	17.18	17.50	1.076	0.865	22.3
Left tilted	RMC	9400/1880	1:1	0.907	0.19	17.18	17.50	1.076	0.976	22.3

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Right cheek	RMC	9400/1880	1:1	0.868	0.13	17.18	17.50	1.076	0.934	22.3
Right tilted	RMC	9400/1880	1:1	0.945	-0.11	17.18	17.50	1.076	1.017	22.3
Left cheek	RMC	9262/1852.4	1:1	0.767	-0.07	17.16	17.50	1.081	0.829	22.3
Left cheek	RMC	9538/1907.6	1:1	0.607	0.01	17.09	17.50	1.099	0.667	22.3
Left tilted	RMC	9262/1852.4	1:1	0.690	0.07	17.16	17.50	1.081	0.746	22.3
Left tilted	RMC	9538/1907.6	1:1	0.891	0.01	17.09	17.50	1.099	0.979	22.3
Right cheek	RMC	9262/1852.4	1:1	0.822	-0.17	17.16	17.50	1.081	0.889	22.3
Right cheek	RMC	9538/1907.6	1:1	0.848	-0.15	17.09	17.50	1.099	0.932	22.3
Right tilted	RMC	9262/1852.4	1:1	0.775	-0.05	17.16	17.50	1.081	0.838	22.3
Right tilted	RMC	9538/1907.6	1:1	1.070	-0.07	17.09	17.50	1.099	**1.176**	22.3
Right tilted-repeat	RMC	9538/1907.6	1:1	1.020	-0.03	17.09	17.50	1.099	1.121	22.3
Head Test Data at the worst case with back cover										
Right tilted	RMC	9538/1907.6	1:1	0.799	0.02	17.09	17.50	1.099	0.878	22.3
Body worn Test data(Separate 15mm)										
Front side	RMC	9400/1880	1:1	0.121	0.15	17.18	17.50	1.076	0.130	22.3
Back side	RMC	9400/1880	1:1	0.158	-0.13	17.18	17.50	1.076	**0.170**	22.3
Body worn Test Data at the worst case with back cover										
Back side	RMC	9400/1880	1:1	0.140	0.05	17.18	17.50	1.076	0.151	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.219	0.11	17.18	17.50	1.076	0.236	22.3
Back side	RMC	9400/1880	1:1	0.295	-0.01	17.18	17.50	1.076	**0.318**	22.3
Left side	RMC	9400/1880	1:1	0.115	0.08	17.18	17.50	1.076	0.124	22.3
Right side	RMC	9400/1880	1:1	0.059	0.08	17.18	17.50	1.076	0.064	22.3
Top side	RMC	9400/1880	1:1	0.290	0.07	17.18	17.50	1.076	0.312	22.3
Hotspot Test Data at the worst case with back cover										
Back side	RMC	9400/1880	1:1	0.212	-0.08	17.18	17.50	1.076	0.228	22.3

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Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Back side	9262/1852.4	0.872	0.817	1.067	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right tilted	9538/1907.6	1.070	1.020	1.049	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 20：SAR of WCDMA Band II for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.2.4 SAR Result of WCDMA Band IV

Ant 1 Test Record										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	1412/1732.4	1:1	0.020	0.00	22.74	23.50	1.191	0.024	22.2
Left tilted	RMC	1412/1732.4	1:1	0.020	0.04	22.74	23.50	1.191	0.024	22.2
Right cheek	RMC	1412/1732.4	1:1	0.019	0.06	22.74	23.50	1.191	0.022	22.2
Right tilted	RMC	1412/1732.4	1:1	0.027	0.01	22.74	23.50	1.191	0.032	22.2
Head Test Data at the worst case with back cover										
Right tilted	RMC	1412/1732.4	1:1	0.031	0.08	22.74	23.50	1.191	**0.037**	22.2
Body worn Test data(Separate 15mm)										
Front side	RMC	1412/1732.4	1:1	0.224	0.08	22.74	23.50	1.191	0.267	22.2
Back side	RMC	1412/1732.4	1:1	0.355	0.08	22.74	23.50	1.191	**0.423**	22.2
Body worn Test Data at the worst case with back cover										
Back side	RMC	1412/1732.4	1:1	0.210	-0.06	22.74	23.50	1.191	0.250	22.2
Hotspot Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.463	0.18	22.74	23.50	1.191	0.552	22.2
Back side	RMC	1412/1732.4	1:1	0.730	0.00	22.74	23.50	1.191	0.870	22.2
Left side	RMC	1412/1732.4	1:1	0.060	0.04	22.74	23.50	1.191	0.072	22.2
Right side	RMC	1412/1732.4	1:1	0.035	0.01	22.74	23.50	1.191	0.042	22.2
Bottom side	RMC	1412/1732.4	1:1	1.010	0.04	22.74	23.50	1.191	1.203	22.2
Back side	RMC	1312/1712.4	1:1	0.864	-0.02	22.83	23.50	1.167	1.008	22.2
Back side	RMC	1513/1752.6	1:1	1.060	0.04	22.98	23.50	1.127	1.195	22.2
Bottom side	RMC	1312/1712.4	1:1	0.928	0.18	22.83	23.50	1.167	1.083	22.2
Bottom side	RMC	1513/1752.6	1:1	1.200	0.19	22.98	23.50	1.127	**1.353**	22.2
Bottom side-repeat	RMC	1513/1752.6	1:1	1.180	0.11	22.98	23.50	1.127	1.330	22.2
Hotspot Test Data at the worst case with back cover										
Bottom side	RMC	1513/1752.6	1:1	0.908	-0.09	22.98	23.50	1.127	1.023	22.2
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)10-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Product Specific 10-g SAR Test data(Separate 0mm)										
Bottom side	RMC	1412/1732.4	1:1	1.700	0.03	22.74	23.50	1.191	2.025	22.2
Bottom side	RMC	1312/1712.4	1:1	1.800	0.12	22.83	23.50	1.167	**2.100**	22.2
Bottom side	RMC	1513/1752.6	1:1	1.610	0.07	22.98	23.50	1.127	1.815	22.2

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Product Specific 10-g SAR Test Data at the worst case with back cover										
Bottom side	RMC	1312/1712.4	1:1	1.460	-0.05	22.83	23.50	1.167	1.704	22.2
Ant 2 Test Record										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	1412/1732.4	1:1	0.576	0.05	19.08	19.50	1.102	0.634	22.2
Left tilted	RMC	1412/1732.4	1:1	0.611	0.13	19.08	19.50	1.102	0.673	22.2
Right cheek	RMC	1412/1732.4	1:1	1.060	0.04	19.08	19.50	1.102	1.168	22.2
Right tilted	RMC	1412/1732.4	1:1	0.846	0.07	19.08	19.50	1.102	0.932	22.2
Right cheek	RMC	1312/1712.4	1:1	1.010	0.05	19.11	19.50	1.094	1.105	22.2
Right cheek	RMC	1513/1752.6	1:1	1.180	-0.01	18.96	19.50	1.132	**1.336**	22.2
Right cheek-repeat	RMC	1513/1752.6	1:1	1.170	-0.03	18.96	19.50	1.132	1.325	22.2
Right tilted	RMC	1312/1712.4	1:1	0.673	0.01	19.11	19.50	1.094	0.736	22.2
Right tilted	RMC	1513/1752.6	1:1	0.851	0.08	18.96	19.50	1.132	0.964	22.2
Head Test Data at the worst case with back cover										
Right cheek	RMC	1513/1752.6	1:1	1.15	-0.03	18.96	19.50	1.132	1.302	22.2
Body worn Test data(Separate 15mm)										
Front side	RMC	1412/1732.4	1:1	0.143	0.10	19.08	19.50	1.102	0.158	22.2
Back side	RMC	1412/1732.4	1:1	0.132	0.08	19.08	19.50	1.102	0.145	22.2
Body worn Test Data at the worst case with back cover										
Front side	RMC	1412/1732.4	1:1	0.332	0.06	19.08	19.50	1.102	**0.366**	22.2
Hotspot Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.263	-0.05	19.08	19.50	1.102	0.290	22.2
Back side	RMC	1412/1732.4	1:1	0.306	0.02	19.08	19.50	1.102	0.337	22.2
Left side	RMC	1412/1732.4	1:1	0.199	0.03	19.08	19.50	1.102	0.219	22.2
Right side	RMC	1412/1732.4	1:1	0.086	0.14	19.08	19.50	1.102	0.094	22.2
Top side	RMC	1412/1732.4	1:1	0.271	0.01	19.08	19.50	1.102	0.299	22.2
Hotspot Test Data at the worst case with back cover										
Back side	RMC	1412/1732.4	1:1	0.347	0.08	19.08	19.50	1.102	**0.382**	22.2

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Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Bottom side	1513/1752.6	1.200	1.180	1.017	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right cheek	1513/1752.6	1.180	1.170	1.009	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 21：SAR of WCDMA Band IV for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.2.5 SAR Result of WCDMA Band V

Ant 1 Test Record										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	4182/836.4	1:1	0.230	0.14	23.36	24.00	1.159	0.267	22.1
Left tilted	RMC	4182/836.4	1:1	0.178	-0.05	23.36	24.00	1.159	0.206	22.1
Right cheek	RMC	4182/836.4	1:1	0.306	0.05	23.36	24.00	1.159	**0.355**	22.1
Right tilted	RMC	4182/836.4	1:1	0.164	-0.03	23.36	24.00	1.159	0.190	22.1
Head Test Data at the worst case with back cover										
Right cheek	RMC	4182/836.4	1:1	0.130	-0.08	23.36	24.00	1.159	0.151	22.1
Body worn Test data(Separate 15mm)										
Front side	RMC	4182/836.4	1:1	0.227	-0.01	23.36	24.00	1.159	0.263	22.1
Back side	RMC	4182/836.4	1:1	0.246	0.04	23.36	24.00	1.159	**0.285**	22.1
Body worn Test Data at the worst case with back cover										
Back side	RMC	4182/836.4	1:1	0.0889	-0.01	23.36	24.00	1.159	0.103	22.1
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.278	-0.03	23.36	24.00	1.159	0.322	22.1
Back side	RMC	4182/836.4	1:1	0.346	0.03	23.36	24.00	1.159	**0.401**	22.1
Left side	RMC	4182/836.4	1:1	0.168	0.18	23.36	24.00	1.159	0.195	22.1
Right side	RMC	4182/836.4	1:1	0.303	0.11	23.36	24.00	1.159	0.351	22.1
Bottom side	RMC	4182/836.4	1:1	0.294	0.04	23.36	24.00	1.159	0.341	22.1
Hotspot Test Data at the worst case with back cover										
Back side	RMC	4182/836.4	1:1	0.105	0.02	23.36	24.00	1.159	0.122	22.1
Ant 2 Test Record										
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp**
Head Test data										
Left cheek	RMC	4182/836.4	1:1	0.172	0.06	23.36	24.00	1.159	0.199	22.1
Left tilted	RMC	4182/836.4	1:1	0.123	0.07	23.36	24.00	1.159	0.143	22.1
Right cheek	RMC	4182/836.4	1:1	0.187	0.07	23.36	24.00	1.159	**0.217**	22.1
Right tilted	RMC	4182/836.4	1:1	0.175	0.10	23.36	24.00	1.159	0.203	22.1
Head Test Data at the worst case with back cover										
Right cheek	RMC	4182/836.4	1:1	0.113	-0.03	23.36	24.00	1.159	0.131	22.1
Body worn Test data(Separate 15mm)										

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Front side	RMC	4182/836.4	1:1	0.013	-0.12	23.36	24.00	1.159	0.014	22.1
Back side	RMC	4182/836.4	1:1	0.012	0.09	23.36	24.00	1.159	0.014	22.1
Body worn Test Data at the worst case with back cover										
Front side	RMC	4182/836.4	1:1	0.116	-0.07	23.36	24.00	1.159	**0.134**	22.1
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.0169	-0.18	23.36	24.00	1.159	0.020	22.1
Back side	RMC	4182/836.4	1:1	0.0295	0.08	23.36	24.00	1.159	0.034	22.1
Left side	RMC	4182/836.4	1:1	0.0143	0.01	23.36	24.00	1.159	0.017	22.1
Right side	RMC	4182/836.4	1:1	0.011	0.02	23.36	24.00	1.159	0.013	22.1
Top side	RMC	4182/836.4	1:1	0.0241	0.01	23.36	24.00	1.159	0.028	22.1
Hotspot Test Data at the worst case with back cover										
Back side	RMC	4182/836.4	1:1	0.243	0.05	23.36	24.00	1.159	**0.282**	22.1

Table 22：SAR of WCDMA Band V for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.2.6 SAR Result of LTE Band 2

Ant 1 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_50	18900/1880	1:1	0.039	0.17	22.59	23.50	1.233	0.048	22.3
Left tilted	20	QPSK 1RB_50	18900/1880	1:1	0.036	0.07	22.59	23.50	1.233	0.044	22.3
Right cheek	20	QPSK 1RB_50	18900/1880	1:1	0.049	0.05	22.59	23.50	1.233	0.060	22.3
Right tilted	20	QPSK 1RB_50	18900/1880	1:1	0.037	0.02	22.59	23.50	1.233	0.046	22.3
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	18700/1860	1:1	0.012	-0.09	21.63	22.50	1.222	0.015	22.3
Left tilted	20	QPSK 50RB_0	18700/1860	1:1	0.027	0.00	21.63	22.50	1.222	0.033	22.3
Right cheek	20	QPSK 50RB_0	18700/1860	1:1	0.032	0.01	21.63	22.50	1.222	0.039	22.3
Right tilted	20	QPSK 50RB_0	18700/1860	1:1	0.023	0.06	21.63	22.50	1.222	0.028	22.3
Head Test Data at the worst case with back cover											
Right cheek	20	QPSK 1RB_50	18900/1880	1:1	0.060	0.07	22.59	23.50	1.233	**0.074**	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_50	18900/1880	1:1	0.195	0.07	22.59	23.50	1.233	0.240	22.3
Back side	20	QPSK 1RB_50	18900/1880	1:1	0.303	0.03	22.59	23.50	1.233	**0.374**	22.3
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	18700/1860	1:1	0.150	0.07	21.63	22.50	1.222	0.183	22.3
Back side	20	QPSK 50RB_0	18700/1860	1:1	0.264	0.01	21.63	22.50	1.222	0.323	22.3
Body worn Test Data at the worst case with back cover											
Back side	20	QPSK 1RB_50	18900/1880	1:1	0.085	0.05	22.59	23.50	1.233	0.105	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_50	18900/1880	1:1	0.358	0.02	22.59	23.50	1.233	0.441	22.3
Back side	20	QPSK 1RB_50	18900/1880	1:1	0.542	0.05	22.59	23.50	1.233	0.668	22.3
Left side	20	QPSK 1RB_50	18900/1880	1:1	0.070	0.07	22.59	23.50	1.233	0.086	22.3
Right side	20	QPSK 1RB_50	18900/1880	1:1	0.208	0.05	22.59	23.50	1.233	0.256	22.3
Bottom side	20	QPSK 1RB_50	18900/1880	1:1	0.672	0.04	22.59	23.50	1.233	0.829	22.3
Bottom side	20	QPSK 1RB_50	18700/1860	1:1	0.830	0.07	22.59	23.50	1.233	1.023	22.3
Bottom side-repeat	20	QPSK 1RB_50	18700/1860	1:1	0.879	0.06	22.59	23.50	1.233	**1.084**	22.3
Bottom side	20	QPSK 1RB_50	19100/1900	1:1	0.566	0.04	22.51	23.50	1.256	0.711	22.3
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	18700/1860	1:1	0.282	0.08	21.63	22.50	1.222	0.345	22.3
Back side	20	QPSK 50RB_0	18700/1860	1:1	0.479	0.09	21.63	22.50	1.222	0.585	22.3
Left side	20	QPSK 50RB_0	18700/1860	1:1	0.054	-0.14	21.63	22.50	1.222	0.066	22.3

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Right side	20	QPSK 50RB_0	18700/1860	1:1	0.145	0.01	21.63	22.50	1.222	0.177	22.3
Bottom side	20	QPSK 50RB_0	18700/1860	1:1	0.640	-0.05	21.63	22.50	1.222	0.782	22.3
Hotspot Test data (Separate 10mm 100%RB)											
Bottom side	20	QPSK 100RB_0	18900/1880	1:1	0.547	0.07	21.56	22.50	1.242	0.679	22.3
Hotspot Test Data at the worst case with back cover											
Bottom side	20	QPSK 1RB_50	18700/1860	1:1	0.631	-0.05	22.59	23.50	1.233	0.778	22.3
Ant 2 Test Record											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_50	18900/1880	1:1	0.848	-0.10	17.55	18.00	1.109	0.941	22.3
Left tilted	20	QPSK 1RB_50	18900/1880	1:1	0.719	0.04	17.55	18.00	1.109	0.797	22.3
Right cheek	20	QPSK 1RB_50	18900/1880	1:1	0.925	0.02	17.55	18.00	1.109	1.026	22.3
Right tilted	20	QPSK 1RB_50	18900/1880	1:1	0.925	0.03	17.55	18.00	1.109	1.026	22.3
Left cheek	20	QPSK 1RB_50	18700/1860	1:1	0.690	0.03	17.15	18.00	1.216	0.839	22.3
Left cheek	20	QPSK 1RB_50	19100/1900	1:1	0.786	0.05	16.89	18.00	1.291	1.015	22.3
Right cheek	20	QPSK 1RB_50	18700/1860	1:1	0.878	0.08	17.15	18.00	1.216	1.068	22.3
Right cheek	20	QPSK 1RB_50	19100/1900	1:1	0.901	0.07	16.89	18.00	1.291	1.163	22.3
Right tilted	20	QPSK 1RB_50	18700/1860	1:1	0.764	-0.12	17.15	18.00	1.216	0.929	22.3
Right tilted	20	QPSK 1RB_50	19100/1900	1:1	0.819	0.01	16.89	18.00	1.291	1.058	22.3
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	18900/1880	1:1	0.763	0.04	16.86	18.00	1.300	0.992	22.3
Left tilted	20	QPSK 50RB_0	18900/1880	1:1	0.750	0.03	16.86	18.00	1.300	0.975	22.3
Right cheek	20	QPSK 50RB_0	18900/1880	1:1	0.994	-0.04	16.86	18.00	1.300	1.292	22.3
Right tilted	20	QPSK 50RB_0	18900/1880	1:1	0.885	0.06	16.86	18.00	1.300	1.151	22.3
Left cheek	20	QPSK 50RB_0	18700/1860	1:1	0.659	0.05	16.85	18.00	1.303	0.859	22.3
Left cheek	20	QPSK 50RB_0	19100/1900	1:1	0.770	0.02	16.73	18.00	1.340	1.032	22.3
Left tilted	20	QPSK 50RB_0	18700/1860	1:1	0.669	0.01	16.85	18.00	1.303	0.872	22.3
Left tilted	20	QPSK 50RB_0	19100/1900	1:1	0.827	0.01	16.73	18.00	1.340	1.108	22.3
Right cheek	20	QPSK 50RB_0	18700/1860	1:1	0.877	0.03	16.85	18.00	1.303	1.143	22.3
Right cheek	20	QPSK 50RB_0	19100/1900	1:1	0.847	0.01	16.73	18.00	1.340	1.135	22.3
Right tilted	20	QPSK 50RB_0	18700/1860	1:1	0.792	0.03	16.85	18.00	1.303	1.032	22.3
Right tilted	20	QPSK 50RB_0	19100/1900	1:1	0.803	0.02	16.73	18.00	1.340	1.076	22.3
Head Test data(100%RB)											
Left cheek	20	QPSK 100RB_0	18900/1880	1:1	0.799	-0.01	16.70	18.00	1.349	1.078	22.3
Left tilted	20	QPSK 100RB_0	18900/1880	1:1	0.831	0.10	16.70	18.00	1.349	1.121	22.3
Right cheek	20	QPSK 100RB_0	18900/1880	1:1	1.010	0.01	16.70	18.00	1.349	**1.362**	22.3

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Right cheek-repeat	20	QPSK 100RB_0	18900/1880	1:1	0.987	0.04	16.70	18.00	1.349	1.331	22.3
Right tilted	20	QPSK 100RB_0	18900/1880	1:1	0.938	0.06	16.70	18.00	1.349	1.265	22.3
Head Test Data at the worst case with back cover											
Right cheek	20	QPSK 100RB_0	18900/1880	1:1	0.80	-0.06	16.70	18.00	1.349	1.082	22.3
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_50	18900/1880	1:1	0.170	0.10	17.55	18.00	1.109	0.189	22.3
Back side	20	QPSK 1RB_50	18900/1880	1:1	0.179	0.11	17.55	18.00	1.109	0.199	22.3
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	18900/1880	1:1	0.166	0.08	16.86	18.00	1.300	0.216	22.3
Back side	20	QPSK 50RB_0	18900/1880	1:1	0.175	0.11	16.86	18.00	1.300	0.228	22.3
Body worn Test Data at the worst case with back cover											
Back side	20	QPSK 50RB_0	18900/1880	1:1	0.284	0.06	16.86	18.00	1.300	**0.369**	22.3
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_50	18900/1880	1:1	0.292	0.05	17.55	18.00	1.109	0.324	22.3
Back side	20	QPSK 1RB_50	18900/1880	1:1	0.319	0.01	17.55	18.00	1.109	0.354	22.3
Left side	20	QPSK 1RB_50	18900/1880	1:1	0.170	-0.02	17.55	18.00	1.109	0.189	22.3
Right side	20	QPSK 1RB_50	18900/1880	1:1	0.070	-0.09	17.55	18.00	1.109	0.078	22.3
Top side	20	QPSK 1RB_50	18900/1880	1:1	0.383	-0.09	17.55	18.00	1.109	0.425	22.3
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	18900/1880	1:1	0.285	0.09	16.86	18.00	1.300	0.371	22.3
Back side	20	QPSK 50RB_0	18900/1880	1:1	0.309	0.06	16.86	18.00	1.300	0.402	22.3
Left side	20	QPSK 50RB_0	18900/1880	1:1	0.167	-0.07	16.86	18.00	1.300	0.217	22.3
Right side	20	QPSK 50RB_0	18900/1880	1:1	0.068	-0.08	16.86	18.00	1.300	0.088	22.3
Top side	20	QPSK 50RB_0	18900/1880	1:1	0.358	-0.04	16.86	18.00	1.300	**0.465**	22.3
Hotspot Test Data at the worst case with back cover											
Top side	20	QPSK 50RB_0	18900/1880	1:1	0.328	0.04	16.86	18.00	1.300	0.426	22.3

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Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Bottom side	18700/1860	0.830	0.879	1.059	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right cheek	18900/1880	1.010	0.987	1.023	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 23：SAR of LTE Band 2 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.2.7 SAR Result of LTE Band 4

Ant 1 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_50	20050/1720	1:1	0.026	0.00	22.77	23.50	1.183	0.030	22.2
Left tilted	20	QPSK 1RB_50	20050/1720	1:1	0.013	0.06	22.77	23.50	1.183	0.015	22.2
Right cheek	20	QPSK 1RB_50	20050/1720	1:1	0.015	0.00	22.77	23.50	1.183	0.017	22.2
Right tilted	20	QPSK 1RB_50	20050/1720	1:1	0.029	0.08	22.77	23.50	1.183	**0.034**	22.2
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_50	20050/1720	1:1	0.019	0.00	21.75	22.50	1.189	0.023	22.2
Left tilted	20	QPSK 50RB_50	20050/1720	1:1	0.016	0.02	21.75	22.50	1.189	0.019	22.2
Right cheek	20	QPSK 50RB_50	20050/1720	1:1	0.014	-0.03	21.75	22.50	1.189	0.016	22.2
Right tilted	20	QPSK 50RB_50	20050/1720	1:1	0.026	0.01	21.75	22.50	1.189	0.031	22.2
Head Test Data at the worst case with back cover											
Right tilted	20	QPSK 1RB_50	20050/1720	1:1	0.012	0.06	22.77	23.50	1.183	0.015	22.2
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_50	20050/1720	1:1	0.238	0.04	22.77	23.50	1.183	0.282	22.2
Back side	20	QPSK 1RB_50	20050/1720	1:1	0.356	-0.05	22.77	23.50	1.183	**0.421**	22.2
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_50	20050/1720	1:1	0.199	-0.02	21.75	22.50	1.189	0.237	22.2
Back side	20	QPSK 50RB_50	20050/1720	1:1	0.315	0.01	21.75	22.50	1.189	0.374	22.2
Body worn Test Data at the worst case with back cover											
Back side	20	QPSK 1RB_50	20050/1720	1:1	0.185	0.03	22.77	23.50	1.183	0.219	22.2
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_50	20050/1720	1:1	0.403	0.05	22.77	23.50	1.183	0.477	22.2
Back side	20	QPSK 1RB_50	20050/1720	1:1	0.581	0.07	22.77	23.50	1.183	0.687	22.2
Left side	20	QPSK 1RB_50	20050/1720	1:1	0.041	0.02	22.77	23.50	1.183	0.049	22.2
Right side	20	QPSK 1RB_50	20050/1720	1:1	0.021	0.00	22.77	23.50	1.183	0.025	22.2
Bottom side	20	QPSK 1RB_50	20050/1720	1:1	0.970	0.03	22.77	23.50	1.183	1.148	22.2
Bottom side	20	QPSK 1RB_50	20175/1732.5	1:1	1.080	0.05	22.75	23.50	1.189	1.284	22.2
Bottom side	20	QPSK 1RB_50	20300/1745	1:1	1.090	0.12	22.71	23.50	1.199	**1.307**	22.2
Bottom side-repeat	20	QPSK 1RB_50	20300/1745	1:1	1.080	-0.06	22.71	23.50	1.199	1.295	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_50	20050/1720	1:1	0.367	-0.04	21.75	22.50	1.189	0.436	22.2
Back side	20	QPSK 50RB_50	20050/1720	1:1	0.498	0.02	21.75	22.50	1.189	0.592	22.2
Left side	20	QPSK 50RB_50	20050/1720	1:1	0.028	0.01	21.75	22.50	1.189	0.034	22.2
Right side	20	QPSK 50RB_50	20050/1720	1:1	0.016	0.00	21.75	22.50	1.189	0.019	22.2

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Bottom side	20	QPSK 50RB_50	20050/1720	1:1	0.809	0.10	21.75	22.50	1.189	0.961	22.2
Bottom side	20	QPSK 50RB_50	20175/1732.5	1:1	0.826	0.05	21.66	22.50	1.213	1.002	22.2
Bottom side	20	QPSK 50RB_25	20300/1745	1:1	0.942	0.05	21.55	22.50	1.245	1.172	22.2
Hotspot Test data (Separate 10mm 100%RB)											
Bottom side	20	QPSK 100RB_0	20050/1720	1:1	0.761	0.03	21.78	22.50	1.180	0.898	22.2
Hotspot Test Data at the worst case with back cover											
Bottom side	20	QPSK 1RB_50	20300/1745	1:1	0.937	-0.01	22.71	23.50	1.199	1.124	22.2
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)10-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Product Specific 10-g SAR Test data(Separate 0mm)											
Bottom side	20	QPSK 1RB_50	20050/1720	1:1	1.840	-0.05	22.77	23.50	1.183	**2.177**	22.2
Bottom side	20	QPSK 1RB_50	20175/1732.5	1:1	1.770	0.02	22.75	23.50	1.189	2.104	22.2
Bottom side	20	QPSK 1RB_50	20300/1745	1:1	1.770	0.14	22.71	23.50	1.199	2.123	22.2
Product Specific 10-g SAR Test data(Separate 0mm 50%RB)											
Bottom side	20	QPSK 50RB_50	20050/1720	1:1	1.640	-0.03	21.75	22.50	1.189	1.949	22.2
Product Specific 10-g SAR Test data(Separate 0mm 100%RB)											
Bottom side	20	QPSK 100RB_0	20050/1720	1:1	1.600	0.17	21.78	22.50	1.180	1.889	22.2
Ant 2 Test Record											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_50	20175/1732.5	1:1	0.341	0.14	18.48	18.50	1.005	0.343	22.2
Left tilted	20	QPSK 1RB_50	20175/1732.5	1:1	0.397	0.03	18.48	18.50	1.005	0.399	22.2
Right cheek	20	QPSK 1RB_50	20175/1732.5	1:1	0.611	0.01	18.48	18.50	1.005	0.614	22.2
Right tilted	20	QPSK 1RB_50	20175/1732.5	1:1	0.491	0.01	18.48	18.50	1.005	0.493	22.2
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_50	20050/1720	1:1	0.315	0.02	18.00	18.50	1.122	0.353	22.2
Left tilted	20	QPSK 50RB_50	20050/1720	1:1	0.400	0.10	18.00	18.50	1.122	0.449	22.2
Right cheek	20	QPSK 50RB_50	20050/1720	1:1	0.606	-0.03	18.00	18.50	1.122	**0.680**	22.2
Right tilted	20	QPSK 50RB_50	20050/1720	1:1	0.423	0.04	18.00	18.50	1.122	0.475	22.2
Head Test Data at the worst case with back cover											
Right cheek	20	QPSK 50RB_50	20050/1720	1:1	0.567	-0.04	18.00	18.50	1.122	0.636	22.2
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_50	20175/1732.5	1:1	0.066	0.08	18.48	18.50	1.005	0.067	22.2
Back side	20	QPSK 1RB_50	20175/1732.5	1:1	0.077	0.06	18.48	18.50	1.005	0.078	22.2
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_50	20050/1720	1:1	0.063	-0.03	18.00	18.50	1.122	0.071	22.2
Back side	20	QPSK 50RB_50	20050/1720	1:1	0.073	0.15	18.00	18.50	1.122	**0.082**	22.2

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Body worn Test Data at the worst case with back cover											
Back side	20	QPSK 50RB_50	20050/1720	1:1	0.024	0.05	18.00	18.50	1.122	0.027	22.2
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_50	20175/1732.5	1:1	0.135	0.11	18.48	18.50	1.005	0.136	22.2
Back side	20	QPSK 1RB_50	20175/1732.5	1:1	0.148	0.01	18.48	18.50	1.005	0.149	22.2
Left side	20	QPSK 1RB_50	20175/1732.5	1:1	0.097	-0.08	18.48	18.50	1.005	0.097	22.2
Right side	20	QPSK 1RB_50	20175/1732.5	1:1	0.042	0.06	18.48	18.50	1.005	0.042	22.2
Top side	20	QPSK 1RB_50	20175/1732.5	1:1	0.121	0.00	18.48	18.50	1.005	0.122	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_50	20050/1720	1:1	0.132	0.18	18.00	18.50	1.122	0.148	22.2
Back side	20	QPSK 50RB_50	20050/1720	1:1	0.146	0.07	18.00	18.50	1.122	0.164	22.2
Left side	20	QPSK 50RB_50	20050/1720	1:1	0.094	0.20	18.00	18.50	1.122	0.105	22.2
Right side	20	QPSK 50RB_50	20050/1720	1:1	0.041	-0.02	18.00	18.50	1.122	0.046	22.2
Top side	20	QPSK 50RB_50	20050/1720	1:1	0.110	0.17	18.00	18.50	1.122	0.123	22.2
Hotspot Test Data at the worst case with back cover											
Back side	20	QPSK 50RB_50	20050/1720	1:1	0.172	0.03	18.00	18.50	1.122	**0.193**	22.2

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Bottom side	20300/1745	1.090	1.080	1.009	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

Table 24：SAR of LTE Band 4 for Head and Body.

Note:

1)The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2)Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.2.8 SAR Result of LTE Band 5

Ant 1 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_25	20450/829	1:1	0.200	0.03	23.04	24.00	1.247	0.249	22.1
Left tilted	10	QPSK 1RB_25	20450/829	1:1	0.140	0.01	23.04	24.00	1.247	0.175	22.1
Right cheek	10	QPSK 1RB_25	20450/829	1:1	0.218	-0.09	23.04	24.00	1.247	**0.272**	22.1
Right tilted	10	QPSK 1RB_25	20450/829	1:1	0.119	0.16	23.04	24.00	1.247	0.148	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_0	20525/836.5	1:1	0.174	0.04	22.12	23.00	1.225	0.213	22.1
Left tilted	10	QPSK 25RB_0	20525/836.5	1:1	0.087	0.11	22.12	23.00	1.225	0.107	22.1
Right cheek	10	QPSK 25RB_0	20525/836.5	1:1	0.186	0.05	22.12	23.00	1.225	0.228	22.1
Right tilted	10	QPSK 25RB_0	20525/836.5	1:1	0.101	0.02	22.12	23.00	1.225	0.124	22.1
Head Test Data at the worst case with back cover											
Right cheek	10	QPSK 1RB_25	20450/829	1:1	0.108	-0.01	23.04	24.00	1.247	0.135	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_25	20450/829	1:1	0.172	0.01	23.04	24.00	1.247	0.215	22.1
Back side	10	QPSK 1RB_25	20450/829	1:1	0.199	0.04	23.04	24.00	1.247	**0.248**	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_0	20525/836.5	1:1	0.141	-0.02	22.12	23.00	1.225	0.173	22.1
Back side	10	QPSK 25RB_0	20525/836.5	1:1	0.163	0.01	22.12	23.00	1.225	0.200	22.1
Body worn Test Data at the worst case with back cover											
Back side	10	QPSK 1RB_25	20450/829	1:1	0.095	-0.02	23.04	24.00	1.247	0.119	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_25	20450/829	1:1	0.248	0.03	23.04	24.00	1.247	**0.309**	22.1
Back side	10	QPSK 1RB_25	20450/829	1:1	0.234	0.07	23.04	24.00	1.247	0.292	22.1
Left side	10	QPSK 1RB_25	20450/829	1:1	0.137	0.01	23.04	24.00	1.247	0.171	22.1
Right side	10	QPSK 1RB_25	20450/829	1:1	0.009	0.04	23.04	24.00	1.247	0.011	22.1
Bottom side	10	QPSK 1RB_25	20450/829	1:1	0.214	0.01	23.04	24.00	1.247	0.267	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_0	20525/836.5	1:1	0.206	0.01	22.12	23.00	1.225	0.252	22.1
Back side	10	QPSK 25RB_0	20525/836.5	1:1	0.217	-0.08	22.12	23.00	1.225	0.266	22.1
Left side	10	QPSK 25RB_0	20525/836.5	1:1	0.105	0.16	22.12	23.00	1.225	0.129	22.1
Right side	10	QPSK 25RB_0	20525/836.5	1:1	0.012	0.01	22.12	23.00	1.225	0.015	22.1

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Bottom side	10	QPSK 25RB_0	20525/836.5	1:1	0.178	0.01	22.12	23.00	1.225	0.218	22.1
Hotspot Test Data at the worst case with back cover											
Front side	10	QPSK 1RB_25	20450/829	1:1	0.113	0.06	23.04	24.00	1.247	0.141	22.1
Ant 2 Test Record											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_25	20450/829	1:1	0.123	-0.01	23.04	24.00	1.247	0.153	22.1
Left tilted	10	QPSK 1RB_25	20450/829	1:1	0.112	0.08	23.04	24.00	1.247	0.140	22.1
Right cheek	10	QPSK 1RB_25	20450/829	1:1	0.154	0.03	23.04	24.00	1.247	**0.192**	22.1
Right tilted	10	QPSK 1RB_25	20450/829	1:1	0.116	0.01	23.04	24.00	1.247	0.145	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_0	20525/836.5	1:1	0.102	0.13	22.12	23.00	1.225	0.125	22.1
Left tilted	10	QPSK 25RB_0	20525/836.5	1:1	0.111	0.02	22.12	23.00	1.225	0.136	22.1
Right cheek	10	QPSK 25RB_0	20525/836.5	1:1	0.13	-0.04	22.12	23.00	1.225	0.159	22.1
Right tilted	10	QPSK 25RB_0	20525/836.5	1:1	0.109	0.14	22.12	23.00	1.225	0.133	22.1
Head Test Data at the worst case with back cover											
Right cheek	10	QPSK 1RB_25	20450/829	1:1	0.144	-0.01	23.04	24.00	1.247	0.180	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_25	20450/829	1:1	0.0116	0.04	23.04	24.00	1.247	0.014	22.1
Back side	10	QPSK 1RB_25	20450/829	1:1	0.0134	0.00	23.04	24.00	1.247	0.017	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_0	20525/836.5	1:1	0.00897	-0.03	22.12	23.00	1.225	0.011	22.1
Back side	10	QPSK 25RB_0	20525/836.5	1:1	0.00969	0.00	22.12	23.00	1.225	0.012	22.1
Body worn Test Data at the worst case with back cover											
Back side	10	QPSK 1RB_25	20450/829	1:1	0.148	0.00	23.04	24.00	1.247	**0.185**	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_25	20450/829	1:1	0.0144	-0.13	23.04	24.00	1.247	0.018	22.1
Back side	10	QPSK 1RB_25	20450/829	1:1	0.028	0.12	23.04	24.00	1.247	0.035	22.1
Left side	10	QPSK 1RB_25	20450/829	1:1	0.012	-0.08	23.04	24.00	1.247	0.015	22.1
Right side	10	QPSK 1RB_25	20450/829	1:1	0.0101	-0.04	23.04	24.00	1.247	0.013	22.1
Top side	10	QPSK 1RB_25	20450/829	1:1	0.0193	0.08	23.04	24.00	1.247	0.024	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_0	20525/836.5	1:1	0.0136	-0.03	22.12	23.00	1.225	0.017	22.1
Back side	10	QPSK 25RB_0	20525/836.5	1:1	0.024	0.06	22.12	23.00	1.225	0.029	22.1

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Left side	10	QPSK 25RB_0	20525/836.5	1:1	0.00928	0.11	22.12	23.00	1.225	0.011	22.1
Right side	10	QPSK 25RB_0	20525/836.5	1:1	0.00847	-0.04	22.12	23.00	1.225	0.010	22.1
Top side	10	QPSK 25RB_0	20525/836.5	1:1	0.0184	0.19	22.12	23.00	1.225	0.023	22.1
Hotspot Test Data at the worst case with back cover											
Back side	10	QPSK 1RB_25	20450/829	1:1	0.188	0.07	23.04	24.00	1.247	**0.235**	22.1

Table 25：SAR of LTE Band 5 for Head and Body.

Note:

1)The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2)Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.2.9 SAR Result of LTE Band 7

Ant 1 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_50	21350/2560	1:1	0.048	0.09	22.75	23.50	1.189	0.057	22.1
Left tilted	20	QPSK 1RB_50	21350/2560	1:1	0.091	0.01	22.75	23.50	1.189	**0.108**	22.1
Right cheek	20	QPSK 1RB_50	21350/2560	1:1	0.078	-0.04	22.75	23.50	1.189	0.093	22.1
Right tilted	20	QPSK 1RB_50	21350/2560	1:1	0.085	0.01	22.75	23.50	1.189	0.101	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	21100/2535.5	1:1	0.030	0.07	21.85	22.50	1.161	0.034	22.1
Left tilted	20	QPSK 50RB_0	21100/2535.5	1:1	0.056	0.02	21.85	22.50	1.161	0.065	22.1
Right cheek	20	QPSK 50RB_0	21100/2535.5	1:1	0.069	0.09	21.85	22.50	1.161	0.080	22.1
Right tilted	20	QPSK 50RB_0	21100/2535.5	1:1	0.056	0.07	21.85	22.50	1.161	0.065	22.1
Head Test Data at the worst case with back cover											
Left tilted	20	QPSK 1RB_50	21350/2560	1:1	0.089	-0.01	22.75	23.50	1.189	0.106	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_50	21350/2560	1:1	0.158	0.01	22.75	23.50	1.189	0.188	22.1
Back side	20	QPSK 1RB_50	21350/2560	1:1	0.230	0.00	22.75	23.50	1.189	**0.273**	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	21100/2535.5	1:1	0.111	0.07	21.85	22.50	1.161	0.129	22.1
Back side	20	QPSK 50RB_0	21100/2535.5	1:1	0.197	0.09	21.85	22.50	1.161	0.229	22.1
Body worn Test Data at the worst case with back cover											
Back side	20	QPSK 1RB_50	21350/2560	1:1	0.072	0.07	22.75	23.50	1.189	0.085	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_50	21350/2560	1:1	0.296	0.02	22.75	23.50	1.189	0.352	22.1
Back side	20	QPSK 1RB_50	21350/2560	1:1	0.492	0.04	22.75	23.50	1.189	**0.585**	22.1
Left side	20	QPSK 1RB_50	21350/2560	1:1	0.049	0.06	22.75	23.50	1.189	0.059	22.1
Right side	20	QPSK 1RB_50	21350/2560	1:1	0.201	0.06	22.75	23.50	1.189	0.239	22.1
Bottom side	20	QPSK 1RB_50	21350/2560	1:1	0.365	0.19	22.75	23.50	1.189	0.434	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	21100/2535.5	1:1	0.209	0.00	21.85	22.50	1.161	0.243	22.1
Back side	20	QPSK 50RB_0	21100/2535.5	1:1	0.432	0.04	21.85	22.50	1.161	0.502	22.1
Left side	20	QPSK 50RB_0	21100/2535.5	1:1	0.045	-0.07	21.85	22.50	1.161	0.053	22.1
Right side	20	QPSK 50RB_0	21100/2535.5	1:1	0.155	0.01	21.85	22.50	1.161	0.180	22.1
Bottom side	20	QPSK 50RB_0	21100/2535.5	1:1	0.014	-0.01	21.85	22.50	1.161	0.016	22.1
Hotspot Test Data at the worst case with back cover											
Back side	20	QPSK 1RB_50	21350/2560	1:1	0.127	-0.09	22.75	23.50	1.189	0.151	22.1

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Ant 2 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB)											
Left cheek	20	QPSK 1RB_0	20850/2510	1:1	0.512	-0.08	17.88	18.00	1.028	0.526	22.1
Left tilted	20	QPSK 1RB_0	20850/2510	1:1	0.649	-0.02	17.88	18.00	1.028	0.667	22.1
Right cheek	20	QPSK 1RB_0	20850/2510	1:1	0.654	0.03	17.88	18.00	1.028	0.672	22.1
Right tilted	20	QPSK 1RB_0	20850/2510	1:1	0.837	0.05	17.88	18.00	1.028	0.860	22.1
Right tilted	20	QPSK 1RB_0	21100/2535.5	1:1	0.724	-0.07	17.39	18.00	1.151	0.833	22.1
Right tilted	20	QPSK 1RB_0	21350/2560	1:1	0.719	-0.05	17.31	18.00	1.172	0.843	22.1
Head Test data(50%RB)											
Left cheek	20	QPSK 50RB_0	20850/2510	1:1	0.364	-0.19	17.15	18.00	1.216	0.443	22.1
Left tilted	20	QPSK 50RB_0	20850/2510	1:1	0.486	0.03	17.15	18.00	1.216	0.591	22.1
Right cheek	20	QPSK 50RB_0	20850/2510	1:1	0.586	-0.01	17.15	18.00	1.216	0.713	22.1
Right tilted	20	QPSK 50RB_0	20850/2510	1:1	0.858	-0.01	17.15	18.00	1.216	**1.043**	22.1
Right tilted-repeat	20	QPSK 50RB_0	20850/2510	1:1	0.852	-0.05	17.15	18.00	1.216	1.036	22.1
Right tilted	20	QPSK 50RB_0	21100/2535.5	1:1	0.793	0.08	17.05	18.00	1.245	0.987	22.1
Right tilted	20	QPSK 50RB_0	21350/2560	1:1	0.712	-0.06	16.93	18.00	1.279	0.911	22.1
Head Test data(100%RB)											
Right tilted	20	QPSK 100RB_0	20850/2510	1:1	0.762	-0.14	17.09	18.00	1.233	0.940	22.1
Head Test Data at the worst case with back cover											
Right tilted	20	QPSK 50RB_0	20850/2510	1:1	0.613	-0.08	17.15	18.00	1.216	0.746	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	20	QPSK 1RB_0	20850/2510	1:1	0.090	0.01	17.88	18.00	1.028	0.092	22.1
Back side	20	QPSK 1RB_0	20850/2510	1:1	0.145	0.10	17.88	18.00	1.028	0.149	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	20	QPSK 50RB_0	20850/2510	1:1	0.093	0.08	17.15	18.00	1.216	0.113	22.1
Back side	20	QPSK 50RB_0	20850/2510	1:1	0.145	-0.01	17.15	18.00	1.216	**0.176**	22.1
Body worn Test Data at the worst case with back cover											
Back side	20	QPSK 50RB_0	20850/2510	1:1	0.014	0.01	17.15	18.00	1.216	0.018	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	20	QPSK 1RB_0	20850/2510	1:1	0.166	0.14	17.88	18.00	1.028	0.171	22.1
Back side	20	QPSK 1RB_0	20850/2510	1:1	0.278	0.06	17.88	18.00	1.028	0.286	22.1
Left side	20	QPSK 1RB_0	20850/2510	1:1	0.083	0.02	17.88	18.00	1.028	0.085	22.1
Right side	20	QPSK 1RB_0	20850/2510	1:1	0.010	0.00	17.88	18.00	1.028	0.010	22.1
Top side	20	QPSK 1RB_0	20850/2510	1:1	0.555	0.05	17.88	18.00	1.028	0.571	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50RB_0	20850/2510	1:1	0.151	-0.03	17.15	18.00	1.216	0.184	22.1

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Back side	20	QPSK 50RB_0	20850/2510	1:1	0.274	0.09	17.15	18.00	1.216	0.333	22.1
Left side	20	QPSK 50RB_0	20850/2510	1:1	0.089	0.01	17.15	18.00	1.216	0.108	22.1
Right side	20	QPSK 50RB_0	20850/2510	1:1	0.009	0.00	17.15	18.00	1.216	0.011	22.1
Top side	20	QPSK 50RB_0	20850/2510	1:1	0.560	0.09	17.15	18.00	1.216	**0.681**	22.1
Hotspot Test Data at the worst case with back cover											
Top side	20	QPSK 50RB_0	20850/2510	1:1	0.471	0.05	17.15	18.00	1.216	0.573	22.1

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Right tilted	20850/2510	0.858	0.852	1.007	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

Table 26：SAR of LTE Band 7 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg(1g SAR) or ≤ 2.0 W/kg(10g SAR) then testing at the other channels is not required for such test configuration(s).

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8.2.10 SAR Result of LTE Band 12

Ant 1 Test Record											
Test position	BW.	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg)1-g	Power Drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_25	23095/707.5	1:1	0.120	0.08	22.78	23.50	1.180	**0.142**	22.1
Left tilted	10	QPSK 1RB_25	23095/707.5	1:1	0.090	0.03	22.78	23.50	1.180	0.106	22.1
Right cheek	10	QPSK 1RB_25	23095/707.5	1:1	0.116	0.08	22.78	23.50	1.180	0.137	22.1
Right tilted	10	QPSK 1RB_25	23095/707.5	1:1	0.070	0.03	22.78	23.50	1.180	0.082	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_13	23060/704	1:1	0.090	0.17	21.75	22.50	1.189	0.107	22.1
Left tilted	10	QPSK 25RB_13	23060/704	1:1	0.068	0.04	21.75	22.50	1.189	0.081	22.1
Right cheek	10	QPSK 25RB_13	23060/704	1:1	0.086	0.03	21.75	22.50	1.189	0.103	22.1
Right tilted	10	QPSK 25RB_13	23060/704	1:1	0.052	0.05	21.75	22.50	1.189	0.061	22.1
Head Test Data at the worst case with back cover											
Left cheek	10	QPSK 1RB_25	23095/707.5	1:1	0.083	-0.07	22.78	23.50	1.180	0.098	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_25	23095/707.5	1:1	0.160	0.02	22.78	23.50	1.180	0.189	22.1
Back side	10	QPSK 1RB_25	23095/707.5	1:1	0.188	-0.06	22.78	23.50	1.180	**0.222**	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_13	23060/704	1:1	0.117	-0.01	21.75	22.50	1.189	0.139	22.1
Back side	10	QPSK 25RB_13	23060/704	1:1	0.144	0.01	21.75	22.50	1.189	0.171	22.1
Body worn Test Data at the worst case with back cover											
Back side	10	QPSK 1RB_25	23095/707.5	1:1	0.123	0.03	22.78	23.50	1.180	0.145	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_25	23095/707.5	1:1	0.149	0.02	22.78	23.50	1.180	0.176	22.1
Back side	10	QPSK 1RB_25	23095/707.5	1:1	0.194	-0.05	22.78	23.50	1.180	**0.229**	22.1
Left side	10	QPSK 1RB_25	23095/707.5	1:1	0.146	0.05	22.78	23.50	1.180	0.172	22.1
Right side	10	QPSK 1RB_25	23095/707.5	1:1	0.191	0.06	22.78	23.50	1.180	0.225	22.1
Bottom side	10	QPSK 1RB_25	23095/707.5	1:1	0.059	0.11	22.78	23.50	1.180	0.070	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_13	23060/704	1:1	0.115	0.00	21.75	22.50	1.189	0.137	22.1
Back side	10	QPSK 25RB_13	23060/704	1:1	0.147	-0.09	21.75	22.50	1.189	0.175	22.1
Left side	10	QPSK 25RB_13	23060/704	1:1	0.111	0.12	21.75	22.50	1.189	0.132	22.1
Right side	10	QPSK 25RB_13	23060/704	1:1	0.154	0.07	21.75	22.50	1.189	0.183	22.1

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Bottom side	10	QPSK 25RB_13	23060/704	1:1	0.044	0.15	21.75	22.50	1.189	0.053	22.1
Hotspot Test Data at the worst case with back cover											
Right side	10	QPSK 1RB_25	23095/707.5	1:1	0.169	0.15	22.78	23.50	1.180	0.199	22.1
Ant 2 Test Record											
Test position	**BW.**	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**SAR (W/kg)1-g**	**Power Drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Head Test data(1RB)											
Left cheek	10	QPSK 1RB_25	23095/707.5	1:1	0.010	0.01	22.78	23.50	1.180	0.012	22.1
Left tilted	10	QPSK 1RB_25	23095/707.5	1:1	0.006	0.09	22.78	23.50	1.180	0.007	22.1
Right cheek	10	QPSK 1RB_25	23095/707.5	1:1	0.018	-0.15	22.78	23.50	1.180	0.021	22.1
Right tilted	10	QPSK 1RB_25	23095/707.5	1:1	0.014	0.00	22.78	23.50	1.180	0.017	22.1
Head Test data(50%RB)											
Left cheek	10	QPSK 25RB_13	23060/704	1:1	0.007	0.01	21.75	22.50	1.189	0.008	22.1
Left tilted	10	QPSK 25RB_13	23060/704	1:1	0.002	0.05	21.75	22.50	1.189	0.002	22.1
Right cheek	10	QPSK 25RB_13	23060/704	1:1	0.012	0.01	21.75	22.50	1.189	0.015	22.1
Right tilted	10	QPSK 25RB_13	23060/704	1:1	0.007	0.06	21.75	22.50	1.189	0.008	22.1
Head Test Data at the worst case with back cover											
Right cheek	10	QPSK 1RB_25	23095/707.5	1:1	0.106	0.09	22.78	23.50	1.180	**0.125**	22.1
Body worn Test data(Separate 15mm 1RB)											
Front side	10	QPSK 1RB_25	23095/707.5	1:1	0.005	0.16	22.78	23.50	1.180	0.006	22.1
Back side	10	QPSK 1RB_25	23095/707.5	1:1	0.007	0.03	22.78	23.50	1.180	0.008	22.1
Body worn Test data (Separate 15mm 50%RB)											
Front side	10	QPSK 25RB_13	23060/704	1:1	0.005	0.03	21.75	22.50	1.189	0.006	22.1
Back side	10	QPSK 25RB_13	23060/704	1:1	0.005	0.06	21.75	22.50	1.189	0.006	22.1
Body worn Test Data at the worst case with back cover											
Back side	10	QPSK 1RB_25	23095/707.5	1:1	0.134	-0.01	22.78	23.50	1.180	**0.158**	22.1
Hotspot Test data(Separate 10mm 1RB)											
Front side	10	QPSK 1RB_25	23095/707.5	1:1	0.005	0.07	22.78	23.50	1.180	0.006	22.1
Back side	10	QPSK 1RB_25	23095/707.5	1:1	0.005	0.03	22.78	23.50	1.180	0.006	22.1
Left side	10	QPSK 1RB_25	23095/707.5	1:1	0.008	-0.08	22.78	23.50	1.180	0.009	22.1
Right side	10	QPSK 1RB_25	23095/707.5	1:1	0.004	0.06	22.78	23.50	1.180	0.005	22.1
Top side	10	QPSK 1RB_25	23095/707.5	1:1	0.001	0.05	22.78	23.50	1.180	0.001	22.1
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25RB_13	23060/704	1:1	0.004	0.02	21.75	22.50	1.189	0.005	22.1
Back side	10	QPSK 25RB_13	23060/704	1:1	0.005	0.19	21.75	22.50	1.189	0.006	22.1

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Left side	10	QPSK 25RB_13	23060/704	1:1	0.006	0.07	21.75	22.50	1.189	0.007	22.1
Right side	10	QPSK 25RB_13	23060/704	1:1	0.003	0.00	21.75	22.50	1.189	0.004	22.1
Top side	10	QPSK 25RB_13	23060/704	1:1	0.0004	-0.05	21.75	22.50	1.189	0.000	22.1
Hotspot Test Data at the worst case with back cover											
Left side	10	QPSK 1RB_25	23095/707.5	1:1	0.097	-0.02	22.78	23.50	1.180	**0.114**	22.1

Table 27：SAR of LTE Band 12 for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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8.2.11 SAR Result of WIFI 2.4G

Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg)1-g	Power drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data											
Left cheek	802.11b	1/2412	99.72%	1.003	0.219	0.14	15.40	16.00	1.148	**0.252**	22
Left tilted	802.11b	1/2412	99.72%	1.003	0.178	-0.05	15.40	16.00	1.148	0.205	22
Right cheek	802.11b	1/2412	99.72%	1.003	0.0828	0.20	15.40	16.00	1.148	0.095	22
Right tilted	802.11b	1/2412	99.72%	1.003	0.0697	0.04	15.40	16.00	1.148	0.080	22
Head Test Data at the worst case with back cover											
Left cheek	802.11b	1/2412	99.72%	1.003	0.215	0.05	15.40	16.00	1.148	0.248	22
Body worn Test data(Separate 15mm)											
Front side	802.11b	1/2412	99.72%	1.003	0.02	0.09	15.40	16.00	1.148	0.023	22
Back side	802.11b	1/2412	99.72%	1.003	0.024	-0.02	15.40	16.00	1.148	0.027	22
Body worn Test Data at the worst case with back cover											
Back side	802.11b	1/2412	99.72%	1.003	0.031	-0.03	15.40	16.00	1.148	**0.035**	22
Hotspot Test data (Separate 10mm)											
Front side	802.11b	1/2412	99.72%	1.003	0.0544	0.04	15.40	16.00	1.148	0.063	22
Back side	802.11b	1/2412	99.72%	1.003	0.0757	-0.02	15.40	16.00	1.148	0.087	22
Right side	802.11b	1/2412	99.72%	1.003	0.104	0.02	15.40	16.00	1.148	**0.120**	22
Top side	802.11b	1/2412	99.72%	1.003	0.0285	0.04	15.40	16.00	1.148	0.033	22
Hotspot Test Data at the worst case with back cover											
Right side	802.11b	1/2412	99.72%	1.003	0.079	0.07	15.40	16.00	1.148	0.091	22

Table 28：BSAR of WIFI 2.4G for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

3) Each channel was tested at the lowest data rate.

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Mode	Tune-up (dBm)	Tune-up (mw)	Hightest Reported SAR1-g(W/kg)	Adjusted SAR1-g(W/kg)	SAR test
Head					
802.11b	16.00	39.81	0.252	/	Yes
802.11g	15.00	31.62	/	0.200	No
802.1n 20M	14.00	25.12	/	0.159	No
Body worn					
802.11b	16.00	39.81	0.035	/	Yes
802.11g	15.00	31.62	/	0.028	No
802.1n 20M	14.00	25.12	/	0.022	No
Hotspot					
802.11b	16.00	39.81	0.120	/	Yes
802.11g	15.00	31.62	/	0.095	No
802.1n 20M	14.00	25.12	/	0.076	No

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

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8.2.12 SAR Result of WIFI 5G

Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg)1-g	Power drift(dB)	Conducted power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR(W/kg)	Liquid Temp.
Head Test data of U-NII-2A											
Left cheek	802.11a	60/5300	96.85%	1.032	0.208	0.09	10.55	11.00	1.109	0.238	22.2
Left tilted	802.11a	60/5300	96.85%	1.032	0.199	0.01	10.55	11.00	1.109	0.228	22.2
Right cheek	802.11a	60/5300	96.85%	1.032	0.158	-0.05	10.55	11.00	1.109	0.181	22.2
Right tilted	802.11a	60/5300	96.85%	1.032	0.112	-0.09	10.55	11.00	1.109	0.128	22.2
Head Test data of U-NII-2C											
Left cheek	802.11a	120/5600	96.85%	1.032	0.188	0.05	10.87	11.00	1.030	0.200	22.2
Left tilted	802.11a	120/5600	96.85%	1.032	0.253	0.08	10.87	11.00	1.030	**0.269**	22.2
Right cheek	802.11a	120/5600	96.85%	1.032	0.164	0.09	10.87	11.00	1.030	0.174	22.2
Right tilted	802.11a	120/5600	96.85%	1.032	0.166	-0.01	10.87	11.00	1.030	0.177	22.2
Head Test data of U-NII-3											
Left cheek	802.11a	157/5785	96.85%	1.032	0.191	-0.08	10.70	11.00	1.072	0.211	22.2
Left tilted	802.11a	157/5785	96.85%	1.032	0.044	0.06	10.70	11.00	1.072	0.049	22.2
Right cheek	802.11a	157/5785	96.85%	1.032	0.187	0.09	10.70	11.00	1.072	0.207	22.2
Right tilted	802.11a	157/5785	96.85%	1.032	0.177	-0.06	10.70	11.00	1.072	0.196	22.2
Head Test Data at the worst case with back cover											
Left tilted	802.11a	120/5600	96.85%	1.032	0.148	0.09	10.87	11.00	1.030	0.157	22.2
Body worn Test data of U-NII-2A (Separate 15mm)											
Front side	802.11a	60/5300	96.85%	1.032	0.018	0.00	10.55	11.00	1.109	0.021	22.2
Back side	802.11a	60/5300	96.85%	1.032	0.029	0.01	10.55	11.00	1.109	0.033	22.2
Body worn Test data of U-NII-2C(Separate 15mm)											
Front side	802.11a	120/5600	96.85%	1.032	0.049	-0.06	10.87	11.00	1.030	0.052	22.2
Back side	802.11a	120/5600	96.85%	1.032	0.067	0.05	10.87	11.00	1.030	**0.071**	22.2
Body worn Test data of U-NII-3(Separate 15mm)											
Front side	802.11a	157/5785	96.85%	1.032	0.036	0.10	10.70	11.00	1.072	0.040	22.2
Back side	802.11a	157/5785	96.85%	1.032	0.040	-0.05	10.70	11.00	1.072	0.045	22.2
Body worn Test Data at the worst case with back cover											
Back side	802.11a	120/5600	96.85%	1.032	0.035	0.00	10.87	11.00	1.030	0.038	22.2
Hotspot Test data of U-NII-1(Separate 10mm)											
Front side	802.11a	48/5240	96.85%	1.032	0.042	-0.01	10.44	11.00	1.138	0.049	22.2
Back side	802.11a	48/5240	96.85%	1.032	0.054	-0.01	10.44	11.00	1.138	0.064	22.2
Right side	802.11a	48/5240	96.85%	1.032	0.014	0.02	10.44	11.00	1.138	0.016	22.2
Top side	802.11a	48/5240	96.85%	1.032	0.067	0.10	10.44	11.00	1.138	0.078	22.2
Hotspot Test data of U-NII-3 (Separate 10mm)											

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Front side	802.11a	157/5785	96.85%	1.032	0.036	-0.02	10.70	11.00	1.072	0.039	22.2
Back side	802.11a	157/5785	96.85%	1.032	0.074	0.01	10.70	11.00	1.072	0.082	22.2
Right side	802.11a	157/5785	96.85%	1.032	0.011	-0.07	10.70	11.00	1.072	0.012	22.2
Top side	802.11a	157/5785	96.85%	1.032	0.090	0.04	10.70	11.00	1.072	**0.100**	22.2
Hotspot Test Data at the worst case with back cover											
Top side	802.11a	157/5785	96.85%	1.032	0.066	0.08	10.70	11.00	1.072	0.073	22.2
Test position	**Test mode**	**Test Ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg)10-g**	**Power drift(dB)**	**Conducted power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR(W/kg)**	**Liquid Temp.**
Product specific 10g SAR Test data of U-NII-2A(Separate 0mm)											
Front side	802.11a	60/5300	96.85%	1.032	0.093	0.02	10.55	11.00	1.109	0.107	22.2
Back side	802.11a	60/5300	96.85%	1.032	0.119	0.02	10.55	11.00	1.109	0.136	22.2
Right side	802.11a	60/5300	96.85%	1.032	0.074	-0.05	10.55	11.00	1.109	0.084	22.2
Top side	802.11a	60/5300	96.85%	1.032	0.131	-0.18	10.55	11.00	1.109	0.150	22.2
Product specific 10gSAR Test data of U-NII-2C(Separate 0mm)											
Front side	802.11a	120/5600	96.85%	1.032	0.085	0.01	10.87	11.00	1.030	0.090	22.2
Back side	802.11a	120/5600	96.85%	1.032	0.169	0.10	10.87	11.00	1.030	0.180	22.2
Right side	802.11a	120/5600	96.85%	1.032	0.007	0.01	10.87	11.00	1.030	0.008	22.2
Top side	802.11a	120/5600	96.85%	1.032	0.171	0.13	10.87	11.00	1.030	**0.182**	22.2
Body Test Data at the worst case with back cover											
Top side	802.11a	60/5300	96.85%	1.032	0.108	-0.02	10.55	11.00	1.109	0.124	22.2

Table 29：SAR of WIFI 5G for Head and Body.

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

3) Each channel was tested at the lowest data rate.

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8.3 Multiple Transmitter Evaluation

8.3.1 Simultaneous SAR test evaluation

1) Simultaneous Transmission Possibilities

NO.	Simultaneous Tx Combination	Head	Body-worn	Hotspot	Product Specific 10-g (0mm)
1	GSM Voice(Ant 1) + BT	Yes	Yes	N/A	Yes
2	GSM DATA(Ant 1) + BT	N/A	Yes	N/A	Yes
3	GSM Voice(Ant 2) + BT	Yes	Yes	N/A	Yes
4	GSM DATA (Ant 2)+ BT	N/A	Yes	N/A	Yes
5	GSM Voice(Ant 1) + WiFi 2.4G/5G	Yes	Yes	N/A	Yes
6	GSM DATA(Ant 1) + WiFi 2.4G/5G	N/A	Yes	Yes	Yes
7	GSM Voice(Ant 2) + WiFi 2.4G/5G	Yes	Yes	N/A	Yes
8	GSM DATA(Ant 2) + WiFi 2.4G/5G	N/A	Yes	Yes	Yes
9	UMTS (Ant 1) + BT	Yes	Yes	N/A	Yes
10	UMTS (Ant 2) + BT	Yes	Yes	N/A	Yes
11	UMTS (Ant 1) + WiFi 2.4G/5G	Yes	Yes	Yes	Yes
12	UMTS (Ant 2) + WiFi 2.4G/5G	Yes	Yes	Yes	Yes
13	LTE (Ant 1) + WiFi 2.4G/5G	Yes	Yes	Yes	Yes
14	LTE(Ant 1) + BT	Yes	Yes	N/A	Yes
15	LTE (Ant 2) + WiFi 2.4G/5G	Yes	Yes	Yes	Yes
16	LTE (Ant 2) + BT	Yes	Yes	N/A	Yes

Note:
1) WiFi 2.4G/5G and Bluetooth can't transmit simultaneously.
2) 2G&3G&4G main antenna(Ant1) and second antenna(Ant 2) can't transmit simultaneously.

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8.3.2 Estimated SAR

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

• (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm;

Where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.

• 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm.

Estimated SAR Result

Freq. Band	Frequency (GHz)	Test Position	max. power(dBm)	Test Separation (mm)	Estimated 1g SAR (W/kg)
Bluetooth	2.48	Head	9	0	0.334
		Body-worn	9	15	0.111
		hotspot	9	10	0.167

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8.3.3 Simultaneous Transmission SAR Summation Scenario

Test position		Main Antenna SARmax (W/kg)										WiFi Antenna SARmax			Summed 1g SARmax
		GSM850	GSM1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	WLAN 2.4G	WLAN 5G	BT	
Head	Left Touch	0.199	0.015	0.027	0.024	0.267	0.048	0.03	0.249	0.057	0.142	0.252	0.238	0.334	0.519
	Left Tilt	0.111	0.013	0.043	0.024	0.206	0.044	0.015	0.175	0.108	0.106	0.205	0.269	0.334	0.475
	Right Touch	0.28	0.047	0.066	0.022	0.355	0.082	0.017	0.272	0.093	0.137	0.095	0.207	0.334	**0.562**
	Right Tilt	0.13	0.019	0.052	0.037	0.19	0.046	0.032	0.148	0.101	0.082	0.08	0.196	0.334	0.386
Body 15mm	Front	0.222	0.151	0.225	0.267	0.263	0.24	0.282	0.215	0.188	0.189	0.023	0.052	0.111	0.334
	Back	0.244	0.304	0.442	0.423	0.285	0.374	0.421	0.248	0.273	0.222	0.035	0.071	0.111	**0.513**
Hotspot	Front	0.394	0.44	0.419	0.552	0.322	0.441	0.477	0.309	0.352	0.176	0.063	0.049	0.167	0.615
	Back	0.474	0.911	0.992	1.195	0.401	0.668	0.687	0.292	0.585	0.229	0.087	0.082	0.167	1.282
	Left	0.225	0.074	0.079	0.072	0.195	0.086	0.049	0.171	0.059	0.172	/	/	/	0.225
	Right	0.46	0.057	0.05	0.042	0.351	0.256	0.025	0.011	0.239	0.236	0.12	0.016	0.167	0.58
	Top	/	/	/	/	/	/	/	/	/	/	0.033	0.1	0.167	0.1
	Bottom	0.435	0.962	0.981	1.353	0.341	1.084	1.307	0.267	0.434	0.07	/	/	/	**1.353**
Test position		Main Antenna SARmax (W/kg)										WiFi Antenna SARmax			Summed 10g SARmax
		GSM850	GSM1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	WLAN 2.4G	WLAN 5G	BT	
Limb	Front	/	/	/	/	/	/	/	/	/	/	/	0.107	/	0.107
	Back	/	/	/	/	/	/	/	/	/	/	/	0.18	/	0.18
	Left	/	/	/	/	/	/	/	/	/	/	/	/	/	0
	Right	/	/	/	/	/	/	/	/	/	/	/	0.084	/	0.084
	Top	/	/	/	/	/	/	/	/	/	/	/	0.182	/	0.182
	Bottom	/	/	/	2.1	/	/	2.177	/	/	/	/	/	/	2.177

Test position		Second Antenna SARmax (W/kg)										WiFi Antenna SARmax			Summed 1g SARmax
		GSM850	GSM1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	WLAN 2.4G	WLAN 5G	BT	
Head	Left Touch	0.199	0.478	0.865	0.634	0.199	1.078	0.353	0.153	0.526	0.012	0.252	0.238	0.334	1.33
	Left Tilt	0.138	0.517	0.979	0.673	0.143	1.121	0.449	0.14	0.667	0.007	0.205	0.269	0.334	1.39
	Right Touch	0.257	0.533	0.934	1.336	0.217	1.362	0.68	0.192	0.713	0.125	0.095	0.207	0.334	**1.569**
	Right Tilt	0.49	0.436	1.176	0.964	0.203	1.265	0.475	0.145	1.043	0.017	0.08	0.196	0.334	1.461
Body 15mm	Front	0.019	0.096	0.13	0.366	0.134	0.216	0.071	0.014	0.113	0.006	0.023	0.052	0.111	0.418
	Back	0.056	0.11	0.17	0.145	0.014	0.369	0.082	0.185	0.176	0.158	0.035	0.071	0.111	**0.44**
Hotspot	Front	0.051	0.182	0.236	0.29	0.02	0.371	0.148	0.018	0.184	0.006	0.063	0.049	0.167	0.434
	Back	0.136	0.22	0.318	0.382	0.282	0.402	0.193	0.235	0.333	0.006	0.087	0.082	0.167	0.489
	Left	0.035	0.117	0.124	0.219	0.017	0.217	0.105	0.015	0.108	0.114	/	/	/	0.219
	Right	0.03	0.076	0.064	0.094	0.013	0.088	0.046	0.013	0.011	0.005	0.12	0.016	0.167	0.214
	Top	0.058	0.239	0.312	0.299	0.028	0.465	0.123	0.024	0.681	0.001	0.033	0.1	0.167	**0.781**
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/	/	0
Test position		Second Antenna SARmax (W/kg)										WiFi Antenna SARmax			Summed 10g SARmax
		GSM850	GSM1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	WLAN 2.4G	WLAN 5G	BT	
Limb	Front	/	/	/	/	/	/	/	/	/	/	/	0.107	/	0.107
	Back	/	/	/	/	/	/	/	/	/	/	/	0.18	/	0.18
	Left	/	/	/	/	/	/	/	/	/	/	/	/	/	0
	Right	/	/	/	/	/	/	/	/	/	/	/	0.084	/	0.084
	Top	/	/	/	/	/	/	/	/	/	/	/	0.182	/	0.182
	Bottom	/	/	/	/	/	/	/	/	/	/	/	/	/	0

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9 Equipment list

Test Platform	SPEAG DASY5 Professional
Description	SAR Test System (Frequency range 300MHz-6GHz)
Software Reference	DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Hardware Reference

	Equipment	Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	Twin Phantom	SPEAG	SAM 5	1481	NCR	NCR
☒	DAE	SPEAG	DAE4	1374	2019-09-24	2020-09-23
☒	E-Field Probe	SPEAG	EX3DV4	3789	2019-05-25	2020-05-24
☒	E-Field Probe	SPEAG	EX3DV4	3962	2019-02-25	2020-02-24
☒	Validation Kits	SPEAG	D750V3	1160	2019-05-22	2022-05-21
☒	Validation Kits	SPEAG	D835V2	4d120	2019-06-20	2022-06-19
☒	Validation Kits	SPEAG	D1750V2	1149	2019-05-21	2022-05-20
☒	Validation Kits	SPEAG	D1900V2	5d142	2019-07-26	2022-07-25
☒	Validation Kits	SPEAG	D2450V2	869	2019-06-27	2022-06-26
☒	Validation Kits	SPEAG	D2600V2	1125	2019-05-20	2022-05-19
☒	Validation Kits	SPEAG	D5GHzV2	1040	2019-06-24	2022-06-23
☒	Agilent Network Analyzer	Agilent	E5071C	MY46523590	2019-04-12	2020-04-11
☒	Dielectric Probe Kit	Agilent	85070E	US01440210	NCR	NCR
☒	Universal Radio Communication Tester	R&S	CMU500	124587	2019-04-09	2020-04-08
☒	Radio Communication Analyzer	Anritsu	MT8820C	6201010267	2019-06-27	2020-06-26
☒	RF Bi-Directional Coupler	Agilent	86205-60001	MY31400031	NCR	NCR
☒	Signal Generator	Agilent	N5171B	MY53050736	2019-04-12	2020-04-11
☒	Preamplifier	Mini-Circuits	ZHL-42W	15542	NCR	NCR
☒	Preamplifier	Compliance Directions Systems Inc.	AMP28-3W	073501433	NCR	NCR
☒	Power Meter	Agilent	E4416A	GB41292095	2019-04-12	2020-04-11

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☒	Power Sensor	Agilent	8481H	MY41091234	2019-04-12	2020-04-11
☒	Power Sensor	R&S	NRP-Z92	100025	2019-04-12	2020-04-11
☒	Attenuator	SHX	TS2-3dB	30704	NCR	NCR
☒	Coaxial low pass filter	Mini-Circuits	VLF-2500(+)	NA	NCR	NCR
☒	Coaxial low pass filter	Microlab Fxr	LA-F13	NA	NCR	NCR
☒	DC POWER SUPPLY	SAKO	SK1730SL5A	NA	NCR	NCR
☒	Speed reading thermometer	MingGao	T809	NA	2019-04-15	2020-04-14

Note: All the equipments are within the valid period when the tests are performed.

10 Calibration certificate

Please see the Appendix C

11 Photographs

Please see the Appendix D

Appendix A: Detailed System Check Results

Appendix B: Detailed Test Results

Appendix C: Calibration certificate

Appendix D: Photographs

---END---

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Appendix A

Detailed System Check Results

1. System Performance Check
System Performance Check 750 MHz Head
System Performance Check 835 MHz Head
System Performance Check 1750 MHz Head
System Performance Check 1900 MHz Head
System Performance Check 2450 MHz Head
System Performance Check 2600 MHz Head
System Performance Check 5250 MHz Head
System Performance Check 5600 MHz Head
System Performance Check 5750 MHz Head

Date: 2019/12/19

Test Laboratory: SGS-SAR Lab

System Performance Check 750 MHz Head

DUT: D750V3; Type: D750V3; Serial: 1160

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1

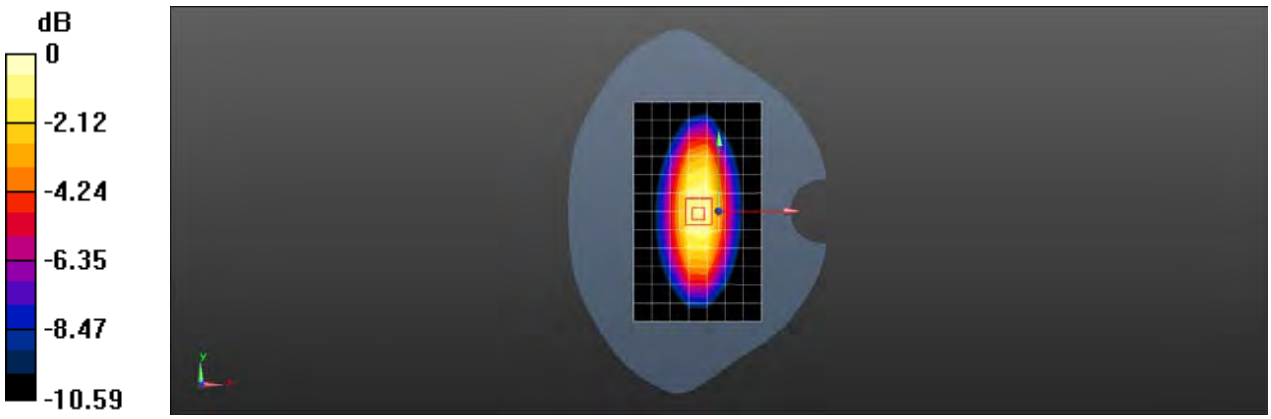
Medium: HSL750;Medium parameters used: f = 750 MHz; σ = 0.868 S/m; ε_r = 41.806; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.52, 8.52, 8.52); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=15mm, Pin=250mW/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.75 W/kg

Body/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.38 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.66 W/kg
SAR(1 g) = 2.27 W/kg; SAR(10 g) = 1.49 W/kg
Maximum value of SAR (measured) = 3.14 W/kg



0 dB = 3.14 W/kg = 4.97 dBW/kg

Date: 2019/12/12

Test Laboratory: SGS-SAR Lab

System Performance Check 835 MHz Head

DUT: D835V2; Type: D835V2; Serial: 4d120

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1

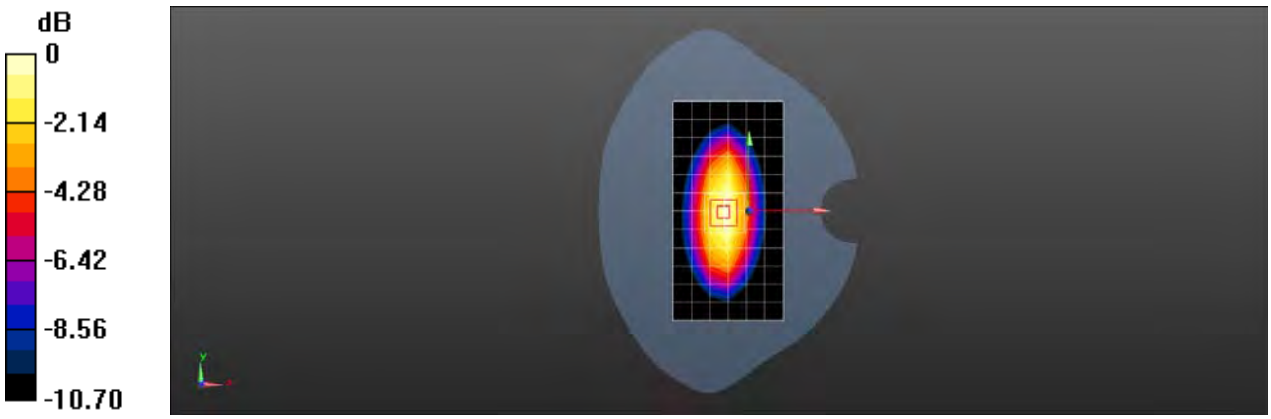
Medium: HSL835;Medium parameters used: f = 835 MHz; σ = 0.873 S/m; ε_r = 40.972; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.52, 8.52, 8.52); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=15mm, Pin=250mW/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.09 W/kg

Body/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 55.58 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.84 W/kg
SAR(1 g) = 2.51 W/kg; SAR(10 g) = 1.64 W/kg
Maximum value of SAR (measured) = 3.21 W/kg



0 dB = 3.21 W/kg = 5.15 dBW/kg

Date: 2019/12/15

Test Laboratory: SGS-SAR Lab

System Performance Check 835 MHz Head

DUT: D835V2; Type: D835V2; Serial: 4d120

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1

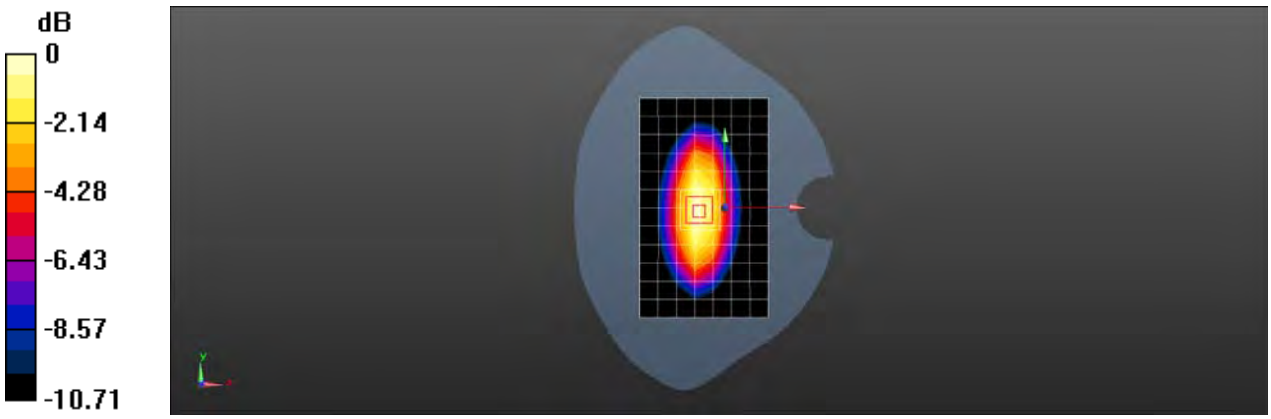
Medium: HSL835;Medium parameters used: f = 835 MHz; σ = 0.896 S/m; ε_r = 42.233; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.52, 8.52, 8.52); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=15mm, Pin=250mW/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.01 W/kg

Body/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 55.51 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.85 W/kg
SAR(1 g) = 2.49 W/kg; SAR(10 g) = 1.62 W/kg
Maximum value of SAR (measured) = 3.23 W/kg



0 dB = 3.23 W/kg = 5.19 dBW/kg

Date: 2019/12/14

Test Laboratory: SGS-SAR Lab

System Performance Check 1750 MHz Head

DUT: D1750V2; Type: D1750V2; Serial: 1149

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1

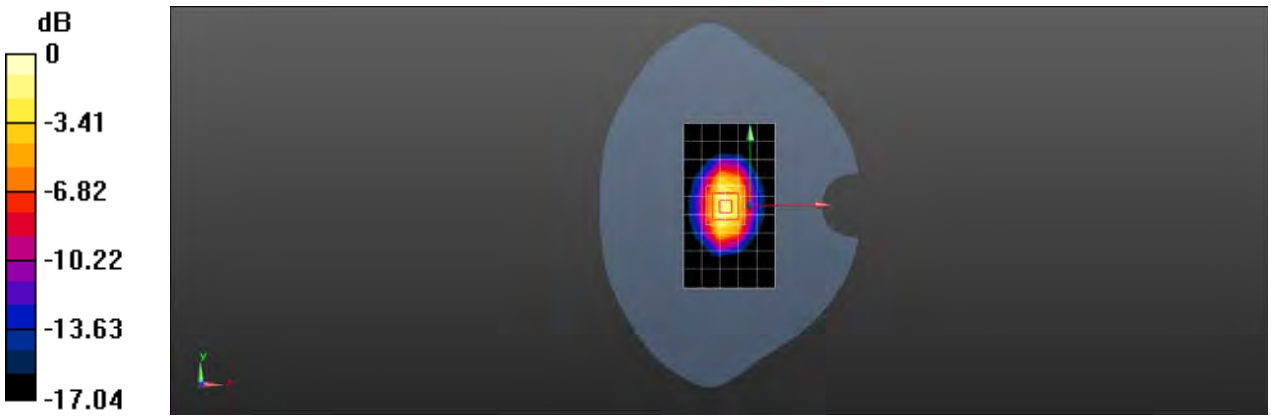
Medium: HSL1750;Medium parameters used: f = 1750 MHz; σ = 1.37 S/m; ε_r = 40.794; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.6, 7.6, 7.6); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=250mW/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 11.8 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 89.88 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 17.8 W/kg
SAR(1 g) = 9.81 W/kg; SAR(10 g) = 5.22 W/kg
Maximum value of SAR (measured) = 15.1 W/kg



0 dB = 15.1 W/kg = 11.79 dBW/kg

Date: 2019/12/18

Test Laboratory: SGS-SAR Lab

System Performance Check 1750 MHz Head

DUT: D1750V2; Type: D1750V2; Serial: 1149

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1

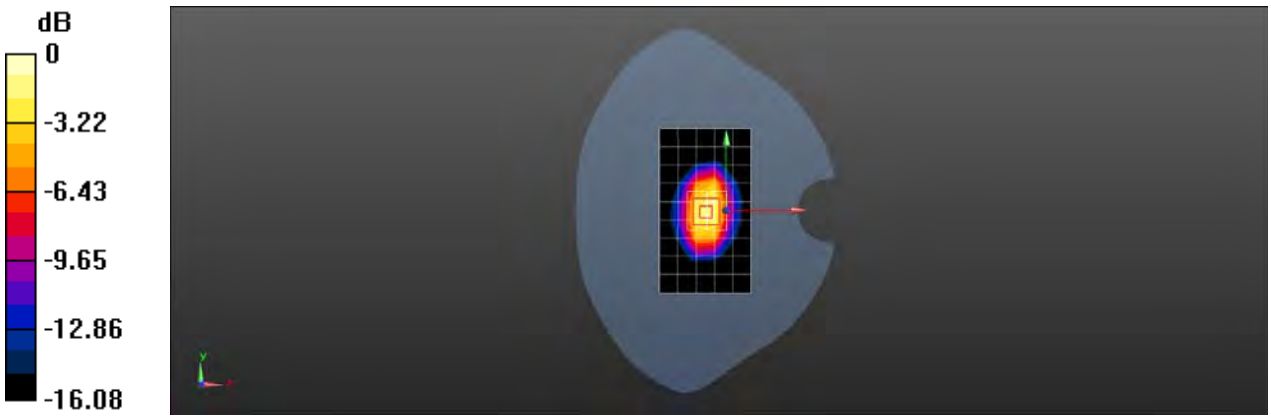
Medium: HSL1750;Medium parameters used: f = 1750 MHz; σ = 1.358 S/m; ε_r = 40.751; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.6, 7.6, 7.6); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=250mW/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 10.5 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 89.61 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 9.78 W/kg; SAR(10 g) = 5.2 W/kg
Maximum value of SAR (measured) = 14.7 W/kg



0 dB = 14.7 W/kg = 11.67 dBW/kg

Date: 2019/12/11

Test Laboratory: SGS-SAR Lab

System Performance Check 1900 MHz Head

DUT: D1900V2; Type: D1900V2; Serial: 5d142

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1

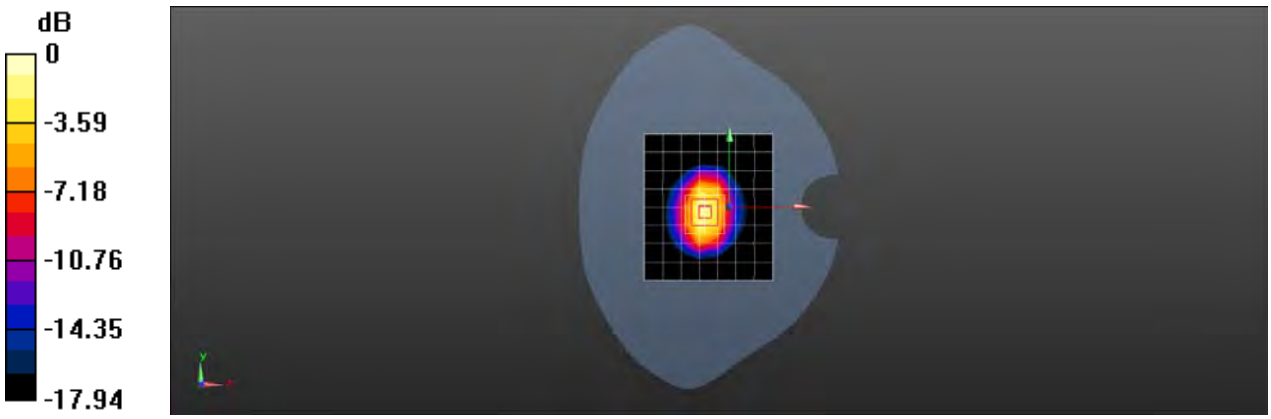
Medium: HSL1900;Medium parameters used: f = 1900 MHz; σ = 1.396 S/m; ε_r = 40.58; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(8.14, 8.14, 8.14); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=250mW/Area Scan (8x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 10.1 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 90.51 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 20.0 W/kg
SAR(1 g) = 10.81 W/kg; SAR(10 g) = 5.6 W/kg
Maximum value of SAR (measured) = 12.1 W/kg



0 dB = 12.1 W/kg = 10.83 dBW/kg

Date: 2019/12/13

Test Laboratory: SGS-SAR Lab

System Performance Check 1900 MHz Head

DUT: D1900V2; Type: D1900V2; Serial: 5d142

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1

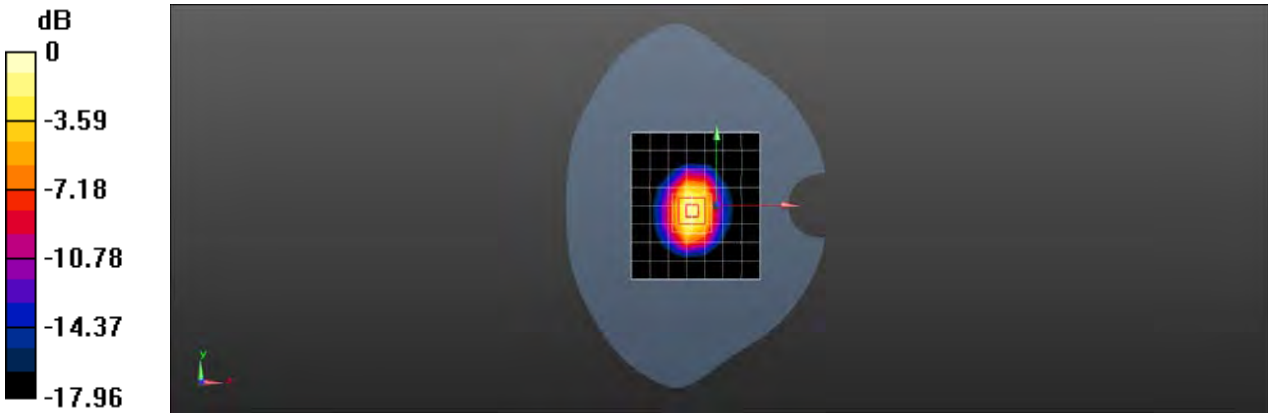
Medium: HSL1900;Medium parameters used: f = 1900 MHz; σ = 1.368 S/m; ε_r = 40.321; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.3, 7.3, 7.3); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=250mW/Area Scan (8x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 9.92 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 90.51 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 19.6 W/kg
SAR(1 g) = 10.6 W/kg; SAR(10 g) = 5.51 W/kg
Maximum value of SAR (measured) = 11.9 W/kg



0 dB = 11.9 W/kg = 10.76 dBW/kg

Date: 2019/12/23

Test Laboratory: SGS-SAR Lab

System Performance Check 1900 MHz Head

DUT: D1900V2; Type: D1900V2; Serial: 5d142

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1

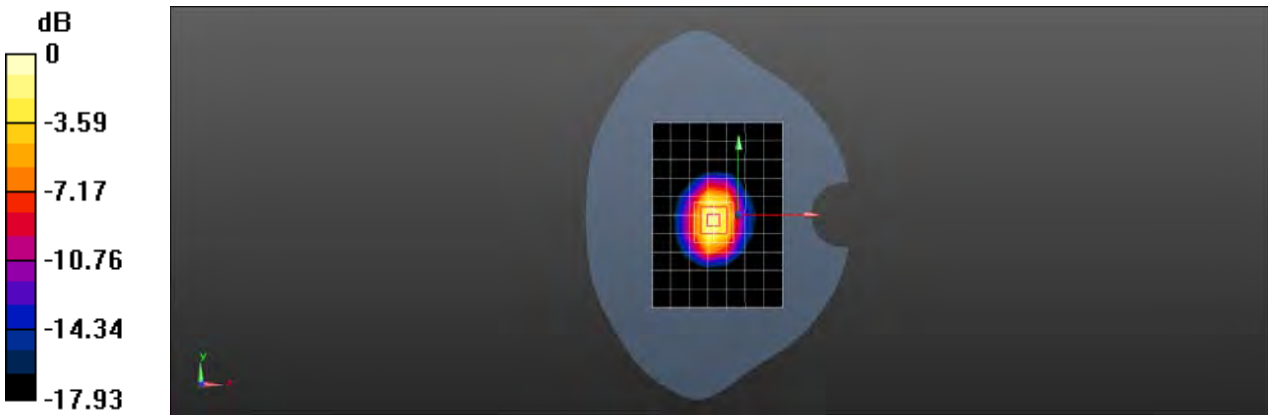
Medium: HSL1900;Medium parameters used: f = 1900 MHz; σ = 1.394 S/m; ε_r = 40.64; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.3, 7.3, 7.3); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=250mW/Area Scan (8x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 10.1 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 90.22 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 19.8 W/kg
SAR(1 g) = 10.7 W/kg; SAR(10 g) = 5.55 W/kg
Maximum value of SAR (measured) = 12.0 W/kg



0 dB = 12.0 W/kg = 10.79 dBW/kg

Date: 2019/12/20

Test Laboratory: SGS-SAR Lab

System Performance Check 2450MHz Head

DUT: D2450V2; Type: D2450V2; Serial: 869

Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1

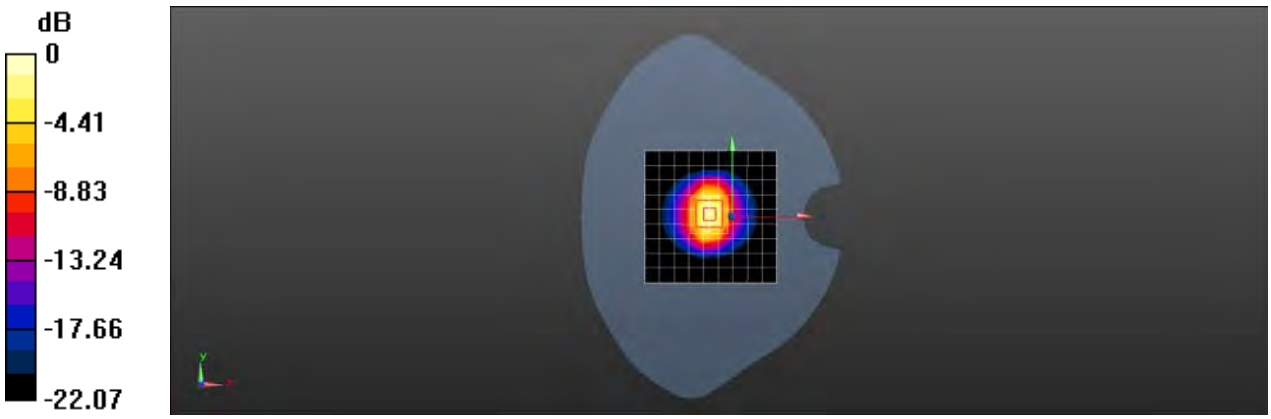
Medium: HSL2450;Medium parameters used: f = 2450 MHz; σ = 1.855 S/m; ε_r = 37.999; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(6.85, 6.85, 6.85); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=250mW/Area Scan (10x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 17.6 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.65 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 28.1 W/kg
SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.36 W/kg
Maximum value of SAR (measured) = 22.9 W/kg



0 dB = 22.9 W/kg = 13.60 dBW/kg

Date: 2019/12/17

Test Laboratory: SGS-SAR Lab

System Performance Check 2600MHz Head

DUT: D2600V2; Type: D2600V2; Serial: 1125

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1

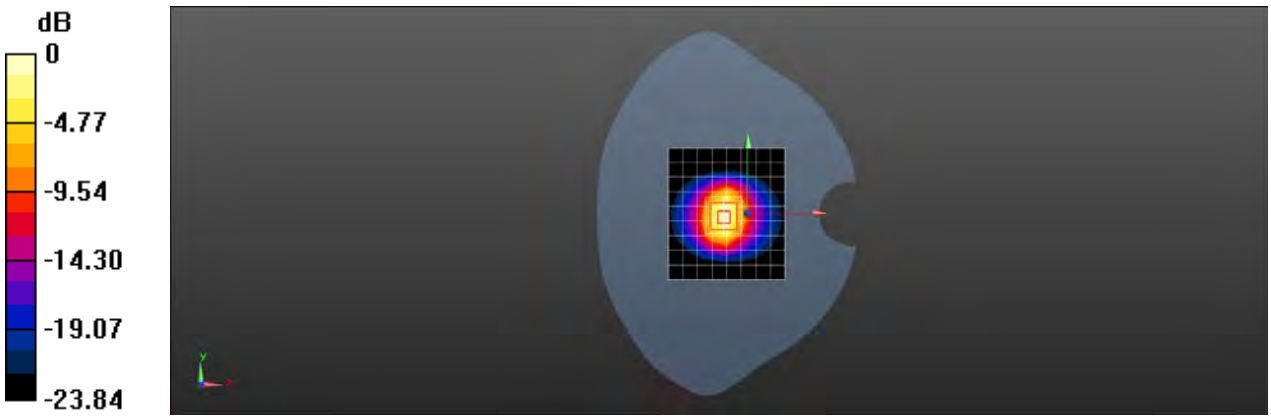
Medium: HSL2600;Medium parameters used: f = 2600 MHz; σ = 1.934 S/m; ε_r = 38.833; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(6.8, 6.8, 6.8); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=250mW/Area Scan (9x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 20.8 W/kg

Body/d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 86.93 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 28.5 W/kg
SAR(1 g) = 13.3 W/kg; SAR(10 g) = 5.96 W/kg
Maximum value of SAR (measured) = 22.8 W/kg



0 dB = 22.8 W/kg = 13.58 dBW/kg

Date: 2019/12/27

Test Laboratory: SGS-SAR Lab

System Performance Check D5.25GHz Head

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1040

Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1

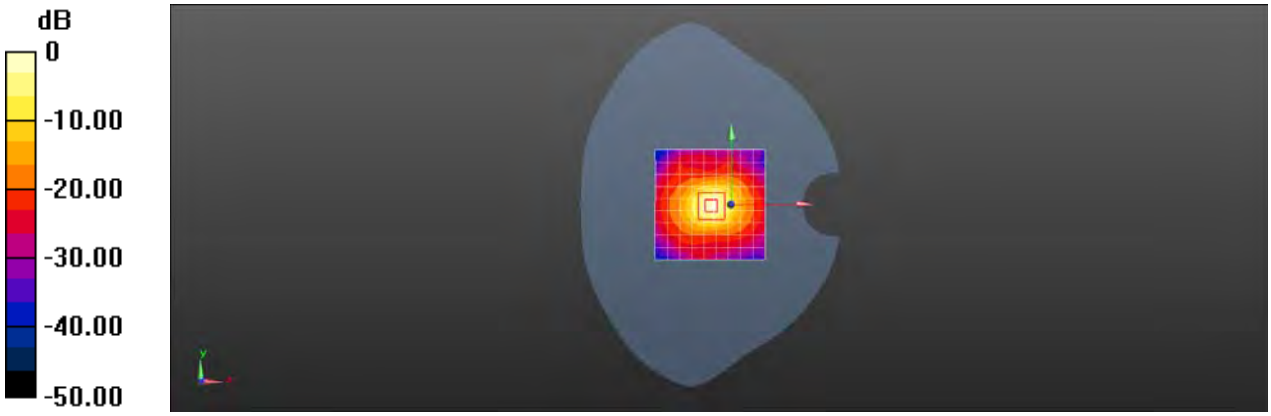
Medium: HSL5GHz;Medium parameters used: f = 5250 MHz; σ = 4.629 S/m; ε_r = 35.566; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(5.55, 5.55, 5.55); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=100mW, f=5250 MHz/Area Scan (10x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 12.0 W/kg

Body/d=10mm, Pin=100mW, f=5250 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 66.68 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 29.03 W/kg
SAR(1 g) = 7.22 W/kg; SAR(10 g) = 2.12 W/kg
Maximum value of SAR (measured) = 16.62 W/kg



0 dB = 16.62 W/kg = 12.15 dBW/kg

Date: 2019/12/27

Test Laboratory: SGS-SAR Lab

System Performance Check D5.6GHz Head

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1040

Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1

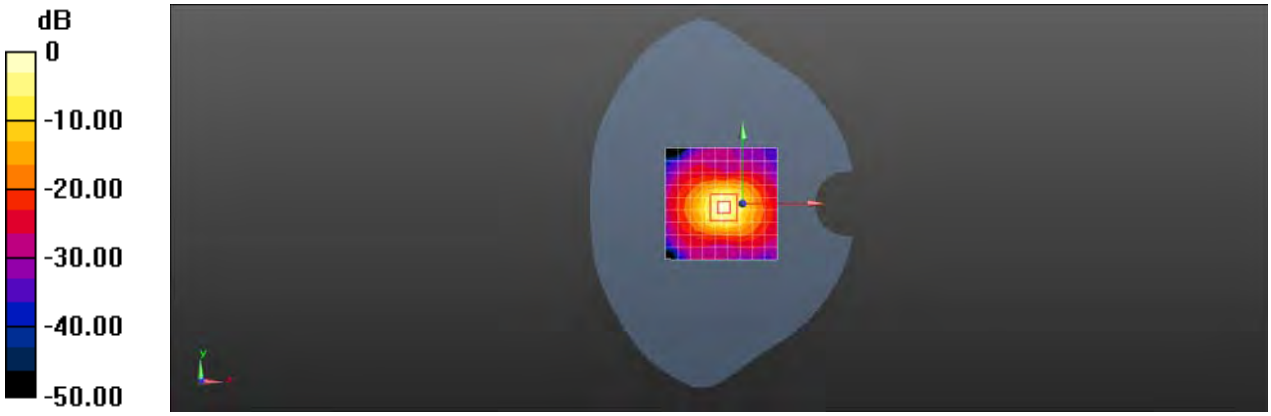
Medium: HSL5GHz;Medium parameters used: f = 5600 MHz; σ = 5.096 S/m; ε_r = 34.894; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(4.8, 4.8, 4.8); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=100mW, f=5600 MHz/Area Scan (10x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 16.6 W/kg

Body/d=10mm, Pin=100mW, f=5600 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.36 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 34.9 W/kg
SAR(1 g) = 7.85 W/kg; SAR(10 g) = 2.26 W/kg
Maximum value of SAR (measured) = 19.4 W/kg



0 dB = 19.4 W/kg = 12.83 dBW/kg

Date: 2019/12/27

Test Laboratory: SGS-SAR Lab

System Performance Check D5.75GHz Head

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1040

Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1

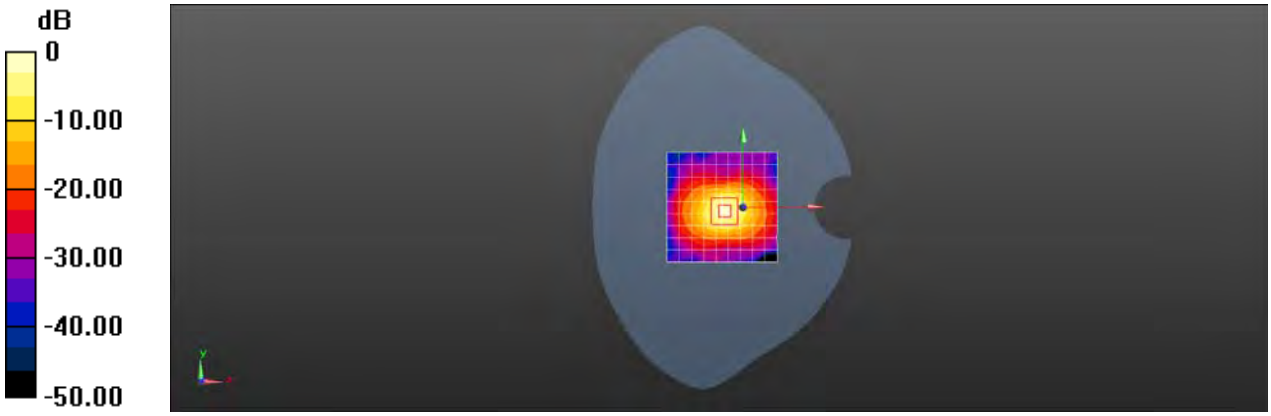
Medium: HSL5GHz;Medium parameters used: f = 5750 MHz; σ = 5.277 S/m; ε_r = 34.522; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(4.9, 4.9, 4.9); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body/d=10mm, Pin=100mW, f=5750 MHz/Area Scan (10x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 17.7 W/kg

Body/d=10mm, Pin=100mW, f=5750 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 62.31 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 35.2 W/kg
SAR(1 g) = 7.74 W/kg; SAR(10 g) = 2.21 W/kg
Maximum value of SAR (measured) = 18.9 W/kg



0 dB = 18.9 W/kg = 12.76 dBW/kg

Appendix B

Detailed Test Results

1. GSM
GSM850 for Head &Body
GSM1900 for Head &Body
2. WCDMA
WCDMA Band II for Head &Body
WCDMA Band IV for Head &Body
WCDMA Band V for Head &Body
3. LTE
LTE Band 2 for Head &Body
LTE Band 4 for Head &Body
LTE Band 5 for Head &Body
LTE Band 7 for Head &Body
LTE Band 12 for Head &Body
4. WIFI
WIFI 2.4G for Head &Body
WIFI 5G for Head &Body

Date: 2019/12/12

Test Laboratory: SGS-SAR Lab

HLTE226E GSM850 GSM 190CH Right cheek ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GSM Only Communication System (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042

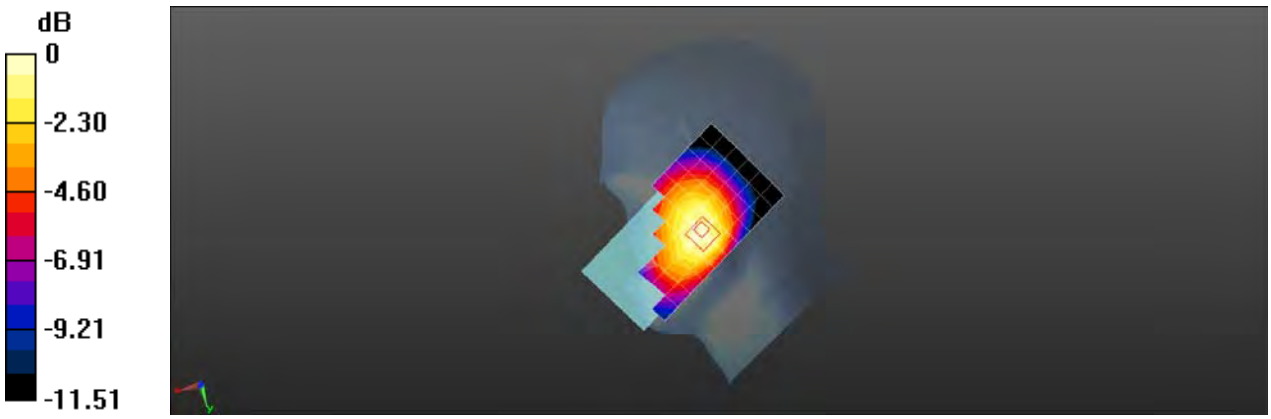
Medium: HSL835;Medium parameters used: f = 837 MHz; σ = 0.904 S/m; ε_r = 42.314; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.52, 8.52, 8.52); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.328 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.792 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.369 W/kg
SAR(1 g) = 0.266 W/kg; SAR(10 g) = 0.191 W/kg
Maximum value of SAR (measured) = 0.326 W/kg



0 dB = 0.326 W/kg = -4.87 dBW/kg

Date: 2019/12/12

Test Laboratory: SGS-SAR Lab

HLTE226E GSM850 GSM 190CH Back side 15mm ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GSM Only Communication System (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042

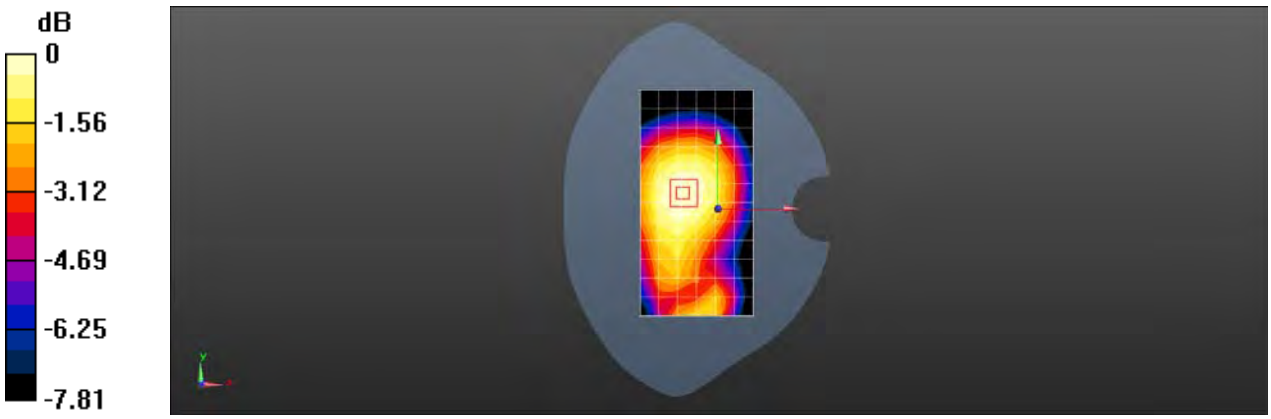
Medium: HSL835;Medium parameters used: f = 837 MHz; σ = 0.904 S/m; ε_r = 42.314; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.52, 8.52, 8.52); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.278 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.34 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.309 W/kg
SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.176 W/kg
Maximum value of SAR (measured) = 0.281 W/kg



0 dB = 0.281 W/kg = -5.51 dBW/kg

Date: 2019/12/12

Test Laboratory: SGS-SAR Lab

HLTE226E GSM850 GPRS 4TS 190CH Back side 10mm ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GPRS/EGPRS Mode(4up) Communication System (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.0797

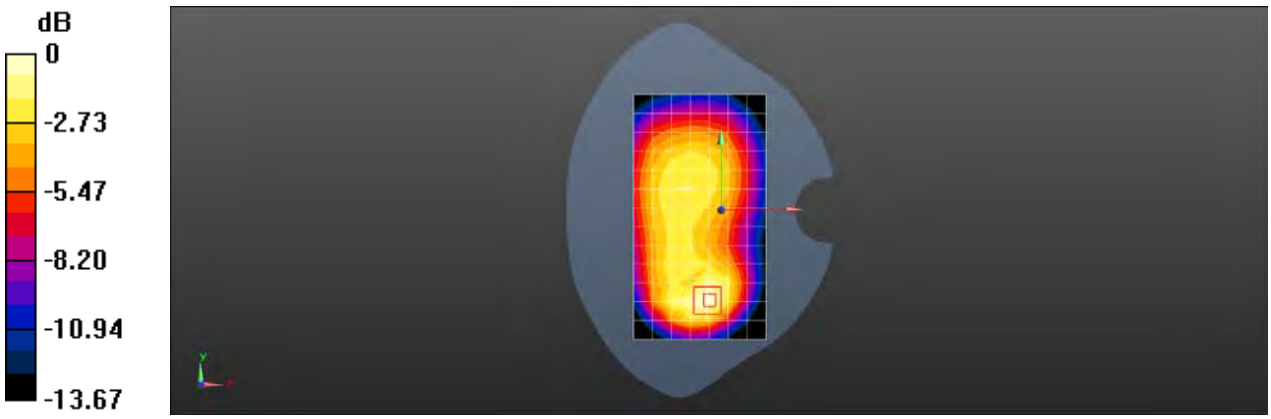
Medium: HSL835;Medium parameters used: f = 837 MHz; σ = 0.904 S/m; ε_r = 42.314; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.52, 8.52, 8.52); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.622 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.87 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.750 W/kg
SAR(1 g) = 0.410 W/kg; SAR(10 g) = 0.239 W/kg
Maximum value of SAR (measured) = 0.604 W/kg



0 dB = 0.604 W/kg = -2.19 dBW/kg

Date: 2019/12/12

Test Laboratory: SGS-SAR Lab

HLTE226E GSM850 GSM 190CH Right tilted with back cover ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GSM Only Communication System (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042

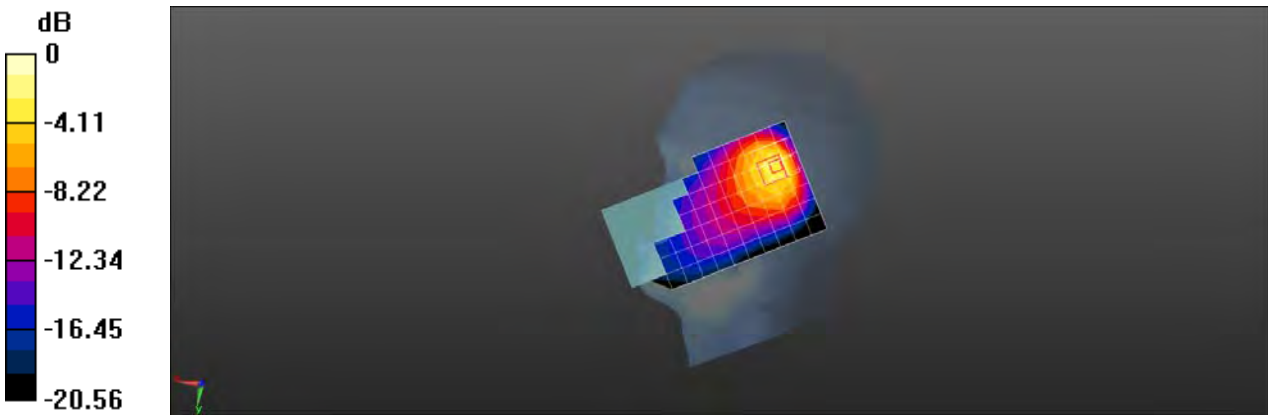
Medium: HSL835;Medium parameters used: f = 837 MHz; σ = 0.904 S/m; ε_r = 42.314; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.52, 8.52, 8.52); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.545 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.18 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.465 W/kg; SAR(10 g) = 0.238 W/kg
Maximum value of SAR (measured) = 0.959 W/kg



0 dB = 0.959 W/kg = -0.18 dBW/kg

Date: 2019/12/12

Test Laboratory: SGS-SAR Lab

HLTE226E GSM850 GSM 190CH Back side 15mm with back cover ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GSM Only Communication System (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042

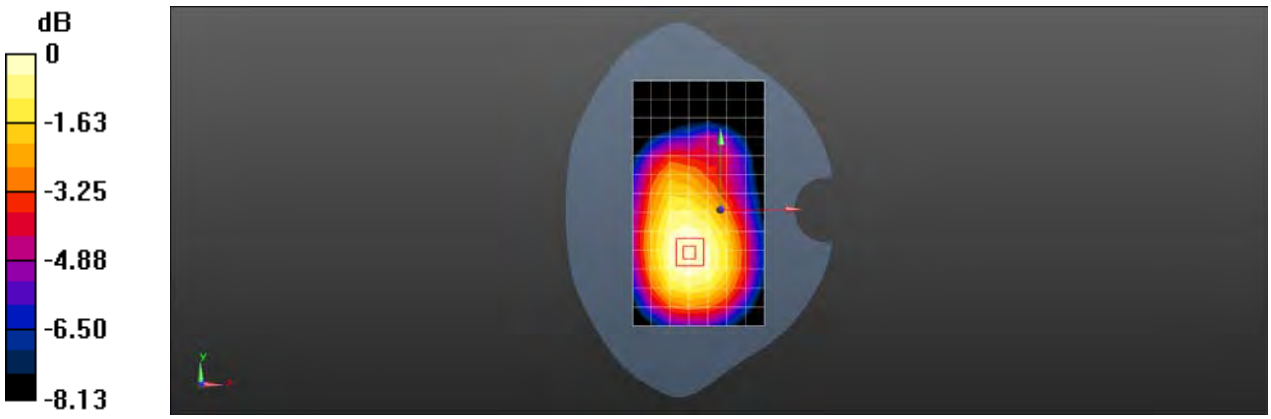
Medium: HSL835;Medium parameters used: f = 837 MHz; σ = 0.904 S/m; ε_r = 42.314; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.52, 8.52, 8.52); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0653 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.797 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.0710 W/kg
SAR(1 g) = 0.053 W/kg; SAR(10 g) = 0.040 W/kg
Maximum value of SAR (measured) = 0.0645 W/kg



0 dB = 0.0645 W/kg = -11.90 dBW/kg

Date: 2019/12/12

Test Laboratory: SGS-SAR Lab

HLTE226E GSM850 GPRS 4TS 190CH Back side 10mm with back cover ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GPRS/EGPRS Mode(4up) Communication System (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.0797

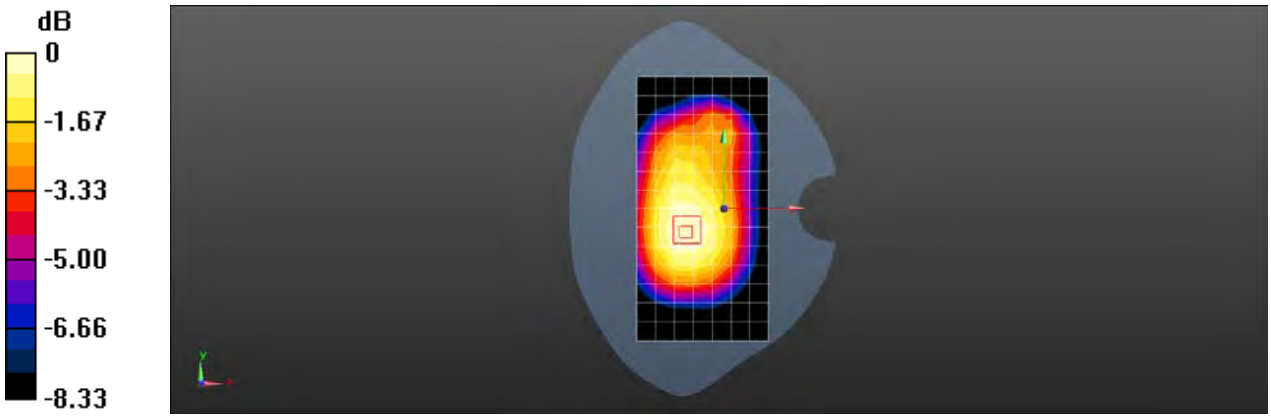
Medium: HSL835;Medium parameters used: f = 837 MHz; σ = 0.904 S/m; ε_r = 42.314; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(8.52, 8.52, 8.52); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (8x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.143 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.79 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.159 W/kg
SAR(1 g) = 0.118 W/kg; SAR(10 g) = 0.089 W/kg
Maximum value of SAR (measured) = 0.143 W/kg



0 dB = 0.143 W/kg = -8.45 dBW/kg

Date: 2019/12/23

Test Laboratory: SGS-SAR Lab

HLTE226E GSM1900 GSM 661CH Right cheek ANT1 with back cover

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GSM Only Communication System (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042

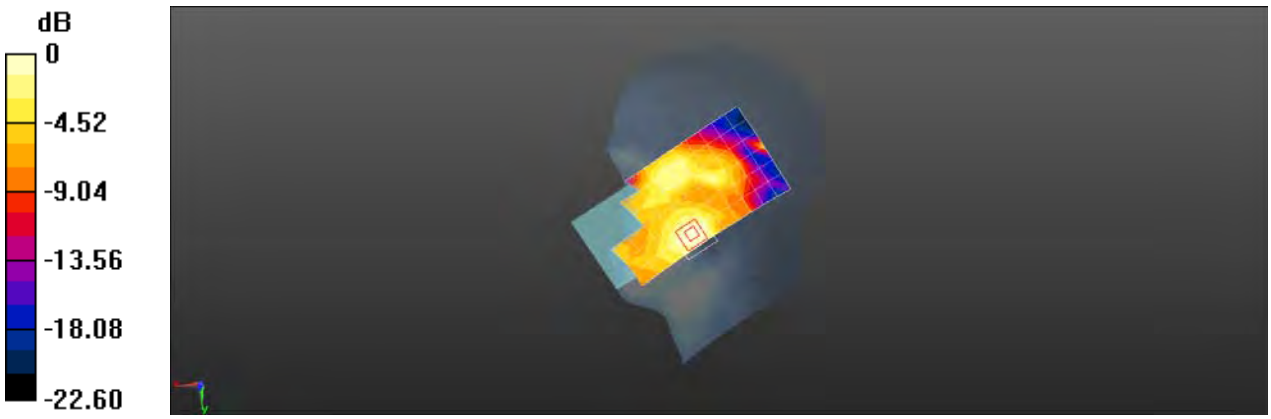
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.368 S/m; ε_r = 40.662; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.3, 7.3, 7.3); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0575 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.580 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.0670 W/kg
SAR(1 g) = 0.041 W/kg; SAR(10 g) = 0.024 W/kg
Maximum value of SAR (measured) = 0.0567 W/kg



0 dB = 0.0567 W/kg = -12.46 dBW/kg

Date: 2019/12/23

Test Laboratory: SGS-SAR Lab

HLTE226E GSM 1900 GSM 661CH Back side 15mm ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GSM Only Communication System (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042

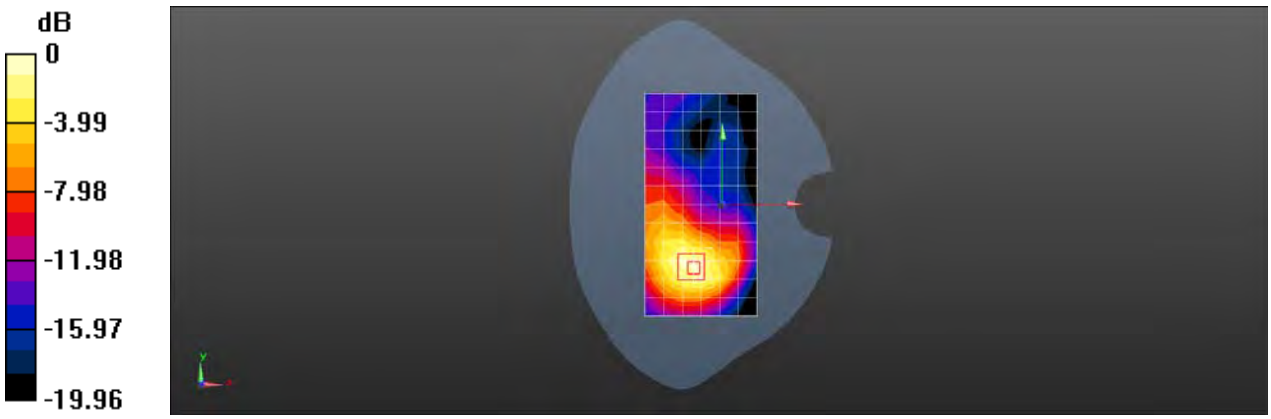
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.38 S/m; ε_r = 40.072; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.3, 7.3, 7.3); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.328 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.294 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.458 W/kg
SAR(1 g) = 0.264 W/kg; SAR(10 g) = 0.151 W/kg
Maximum value of SAR (measured) = 0.387 W/kg



0 dB = 0.387 W/kg = -4.12 dBW/kg

Date: 2019/12/23

Test Laboratory: SGS-SAR Lab

HLTE226E GSM 1900 GPRS 4TS 512CH Bottom side 10mm ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GPRS/EGPRS Mode(4up) Communication System (0); Frequency: 1850.2 MHz;Duty Cycle: 1:2.0797

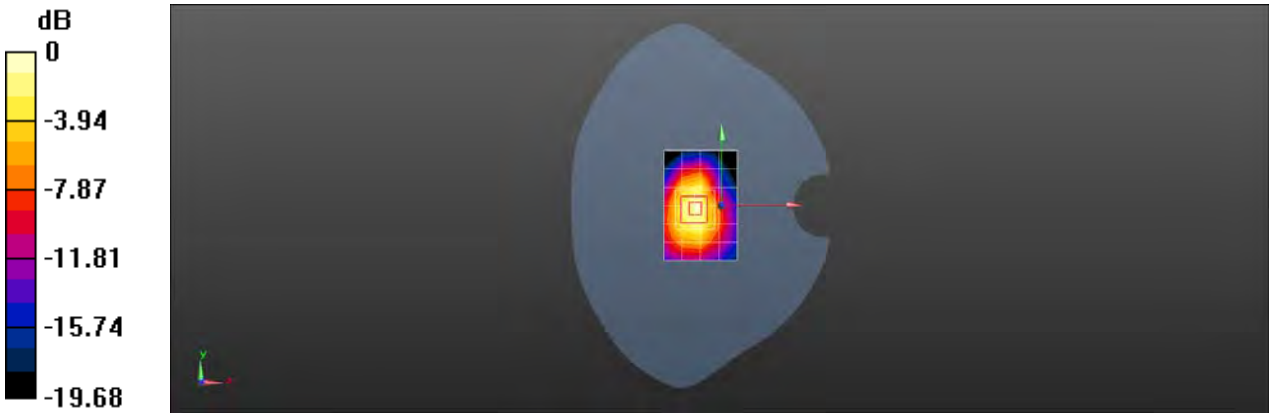
Medium: HSL1900;Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.355 S/m; ε_r = 40.156; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.3, 7.3, 7.3); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.12 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.39 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.834 W/kg; SAR(10 g) = 0.454 W/kg
Maximum value of SAR (measured) = 1.28 W/kg



0 dB = 1.28 W/kg = 1.07 dBW/kg

Date: 2019/12/23

Test Laboratory: SGS-SAR Lab

HLTE226E GSM1900 GSM 661CH Right cheek ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GSM Only Communication System (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042

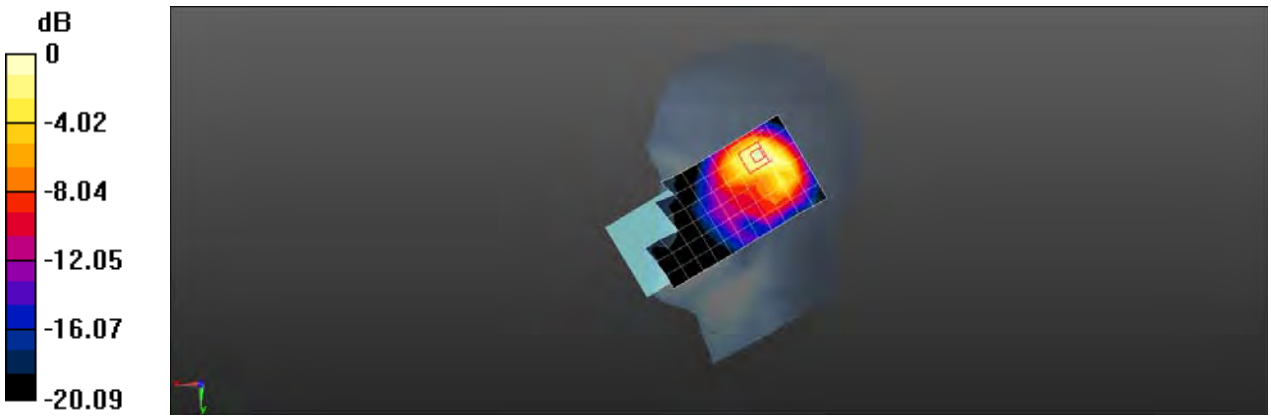
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.368 S/m; ε_r = 40.662; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.3, 7.3, 7.3); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.696 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.31 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.502 W/kg; SAR(10 g) = 0.257 W/kg
Maximum value of SAR (measured) = 0.785 W/kg



0 dB = 0.785 W/kg = -1.05 dBW/kg

Date: 2019/12/23

Test Laboratory: SGS-SAR Lab

HLTE226E GSM1900 GSM 661CH Back side 15mm ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GSM Only Communication System (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042

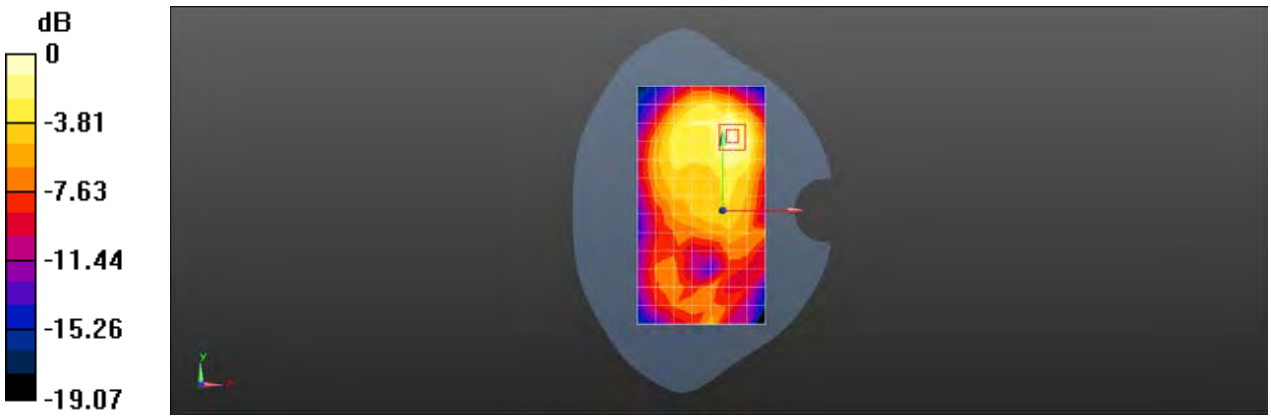
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.368 S/m; ε_r = 40.662; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.3, 7.3, 7.3); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.149 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.617 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.194 W/kg
SAR(1 g) = 0.104 W/kg; SAR(10 g) = 0.058 W/kg
Maximum value of SAR (measured) = 0.159 W/kg



0 dB = 0.159 W/kg = -7.99 dBW/kg

Date: 2019/12/23

Test Laboratory: SGS-SAR Lab

HLTE226E GSM1900 GPRS 2TS 661CH Top side 10mm ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: Q4RKPZT8AEQSRKCU

Communication System: UID 0, GPRS/EGPRS Mode(2up) Communication System (0); Frequency: 1880 MHz;Duty Cycle: 1:4.14954

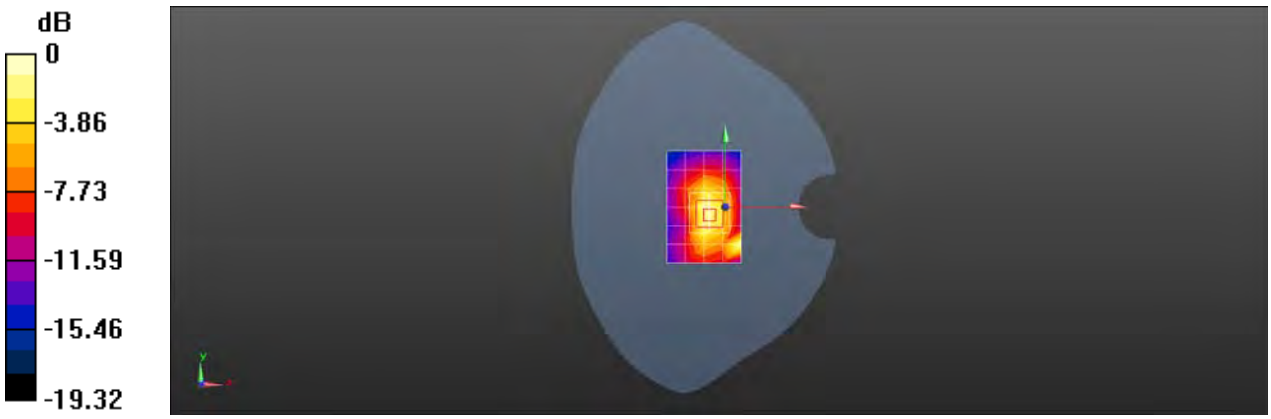
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.368 S/m; ε_r = 40.662; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.3, 7.3, 7.3); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.293 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.93 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.408 W/kg
SAR(1 g) = 0.208 W/kg; SAR(10 g) = 0.102 W/kg
Maximum value of SAR (measured) = 0.337 W/kg



0 dB = 0.337 W/kg = -4.72 dBW/kg

Date: 2019/12/11

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band II 9400CH Right cheek ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1

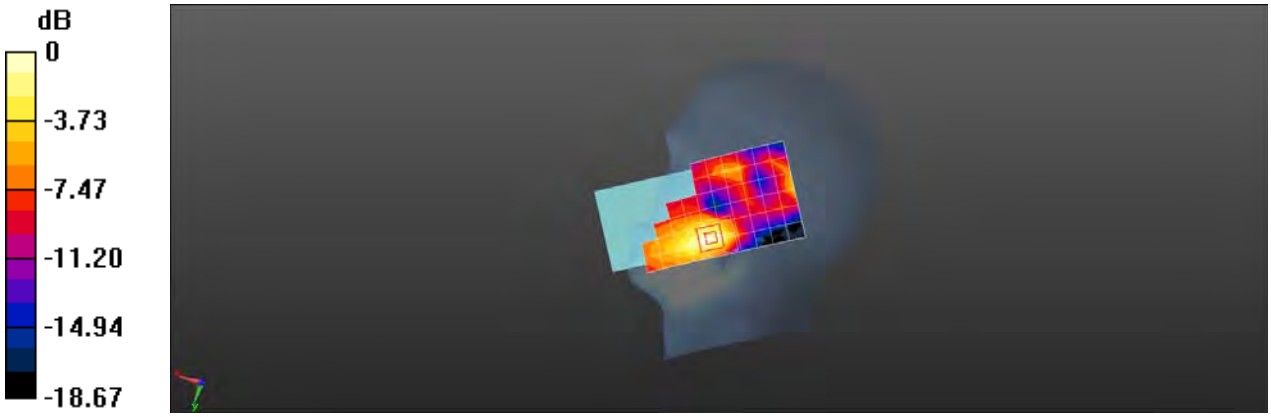
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.38 S/m; ε_r = 40.072; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(8.14, 8.14, 8.14); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0890 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.526 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.102 W/kg
SAR(1 g) = 0.059 W/kg; SAR(10 g) = 0.034 W/kg
Maximum value of SAR (measured) = 0.0833 W/kg



0 dB = 0.0833 W/kg = -10.79 dBW/kg

Date: 2019/12/11

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band II 9400CH Back side 15mm ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1

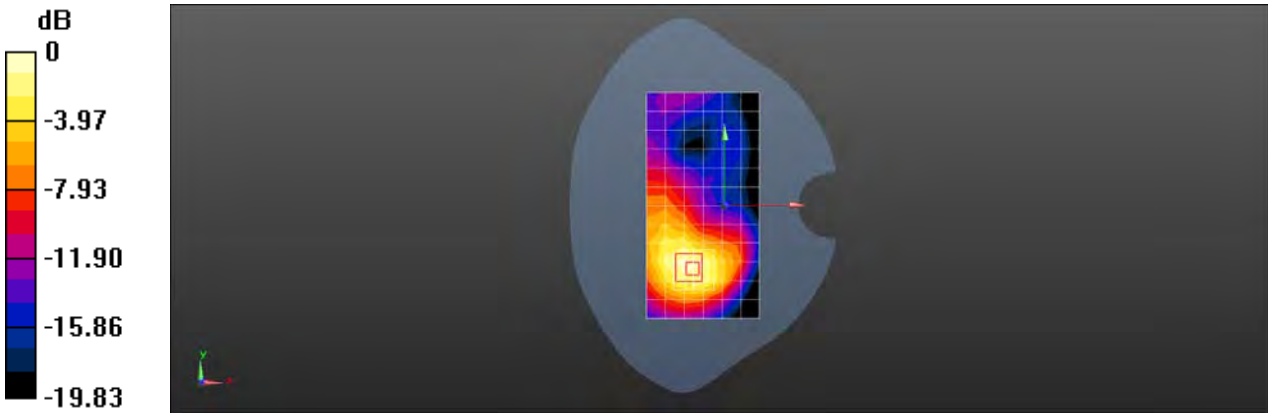
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.38 S/m; ε_r = 40.072; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(8.14, 8.14, 8.14); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.511 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.078 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.654 W/kg
SAR(1 g) = 0.395 W/kg; SAR(10 g) = 0.230 W/kg
Maximum value of SAR (measured) = 0.560 W/kg



0 dB = 0.560 W/kg = -2.52 dBW/kg

Date: 2019/12/11

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band II 9262CH Back side 10mm ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1852.4 MHz;Duty Cycle: 1:1

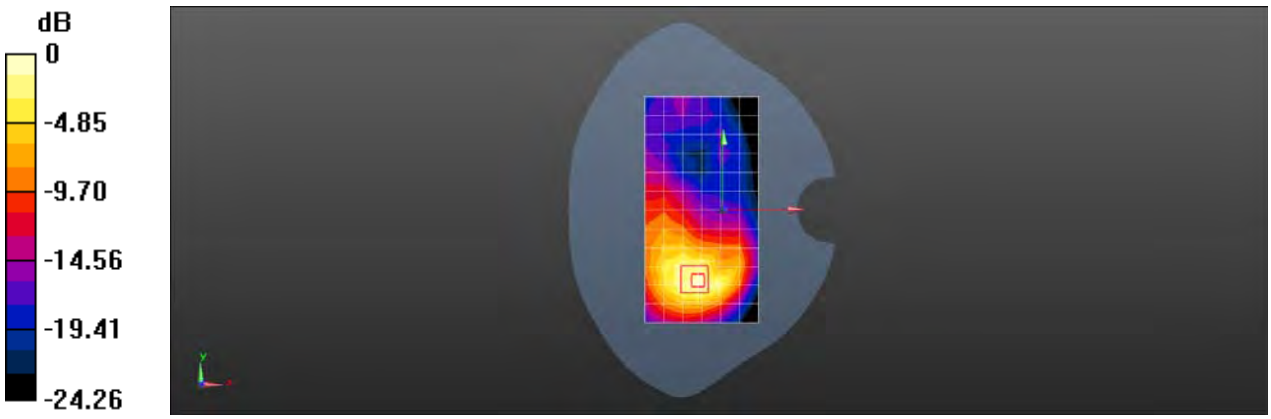
Medium: HSL1900;Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.357 S/m; ε_r = 40.148; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(8.14, 8.14, 8.14); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.22 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.410 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.872 W/kg; SAR(10 g) = 0.476 W/kg
Maximum value of SAR (measured) = 1.29 W/kg



0 dB = 1.29 W/kg = 1.11 dBW/kg

Date: 2019/12/11

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band II 9538CH Right tilted ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz;Duty Cycle: 1:1

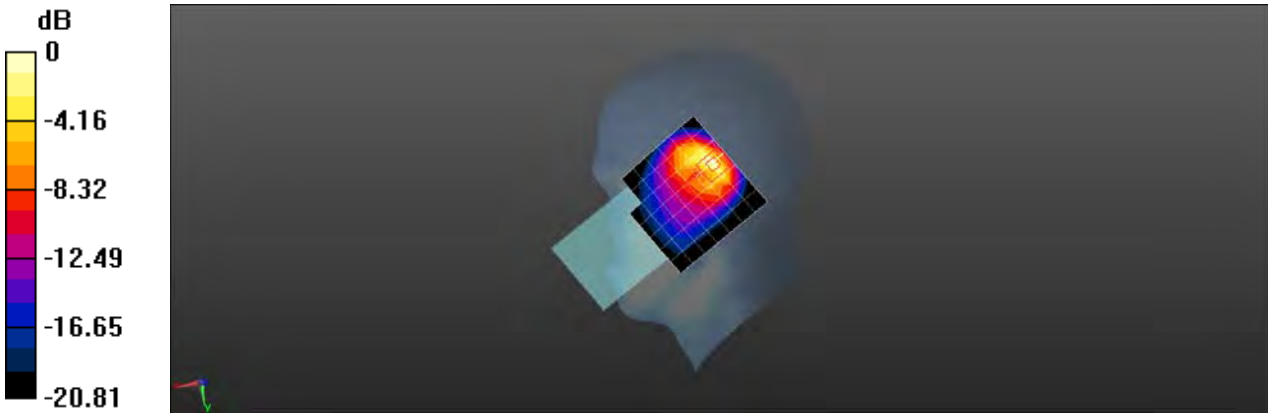
Medium: HSL1900;Medium parameters used: f = 1908 MHz; σ = 1.4 S/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(8.14, 8.14, 8.14); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (8x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.81 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.13 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.21 W/kg
SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.481 W/kg
Maximum value of SAR (measured) = 1.88 W/kg



0 dB = 1.88 W/kg = 2.74 dBW/kg

Date: 2019/12/11

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band II 9400CH Back side 15mm ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1

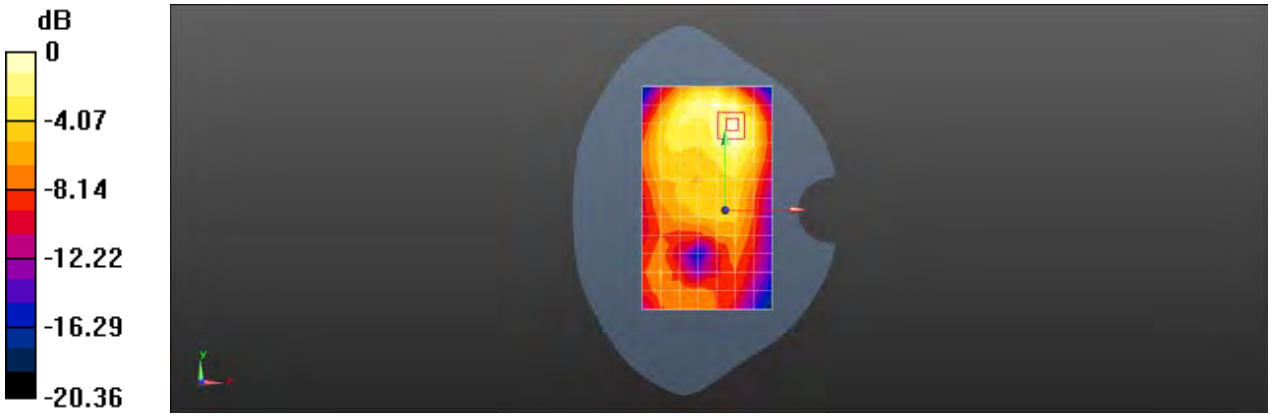
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.368 S/m; ε_r = 40.278; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(8.14, 8.14, 8.14); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.231 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.991 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.278 W/kg
SAR(1 g) = 0.158 W/kg; SAR(10 g) = 0.089 W/kg
Maximum value of SAR (measured) = 0.234 W/kg



0 dB = 0.234 W/kg = -6.31 dBW/kg

Date: 2019/12/11

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band II 9400CH Back side 10mm ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1

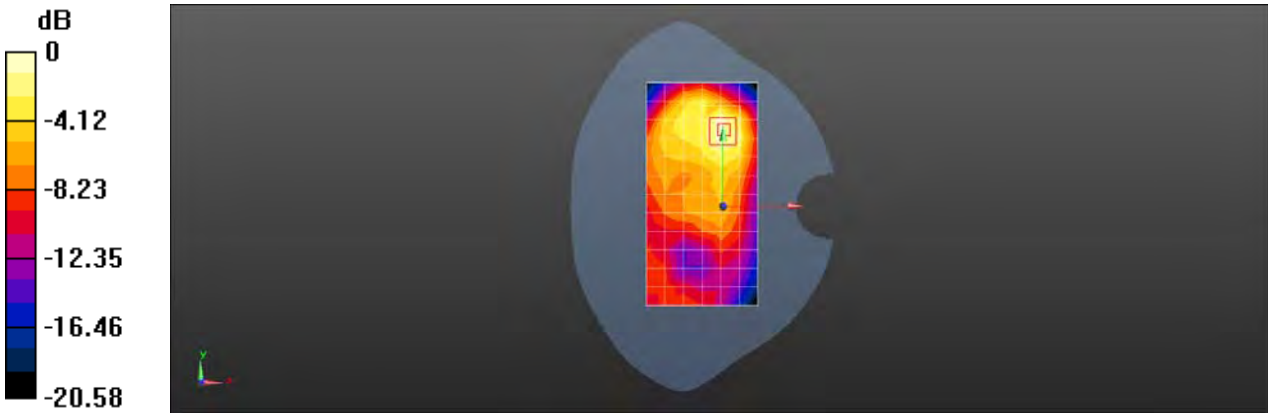
Medium: HSL1900;Medium parameters used: f = 1880 MHz; σ = 1.368 S/m; ε_r = 40.278; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3962; ConvF(8.14, 8.14, 8.14); Calibrated: 2019/2/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.409 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.587 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.549 W/kg
SAR(1 g) = 0.295 W/kg; SAR(10 g) = 0.157 W/kg
Maximum value of SAR (measured) = 0.447 W/kg



0 dB = 0.447 W/kg = -3.50 dBW/kg

Date: 2019/12/14

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band IV 1412CH Right tilted with back cover ANT1

DUT: HLTE226E; Type: mobile phone; Serial: 6SCETKCYJF4DJV7H

Communication System: UID 0, WCDMA (0); Frequency: 1732.4 MHz;Duty Cycle: 1:1

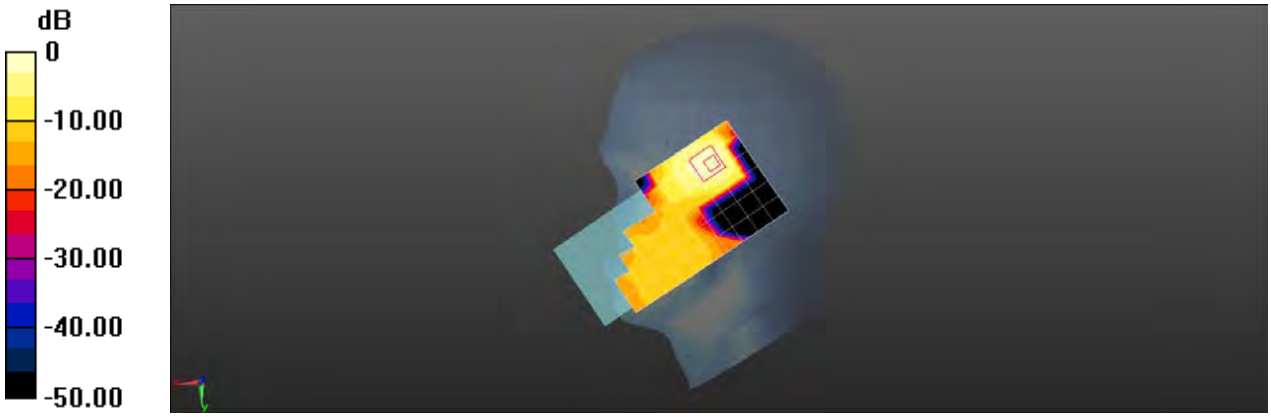
Medium: HSL1750;Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.387 S/m; ε_r = 40.85; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.6, 7.6, 7.6); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.0338 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.527 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.0560 W/kg
SAR(1 g) = 0.031 W/kg; SAR(10 g) = 0.018 W/kg
Maximum value of SAR (measured) = 0.0419 W/kg



0 dB = 0.0419 W/kg = -13.78 dBW/kg

Date: 2019/12/14

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band IV 1412CH Back side 15mm ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1732.4 MHz;Duty Cycle: 1:1

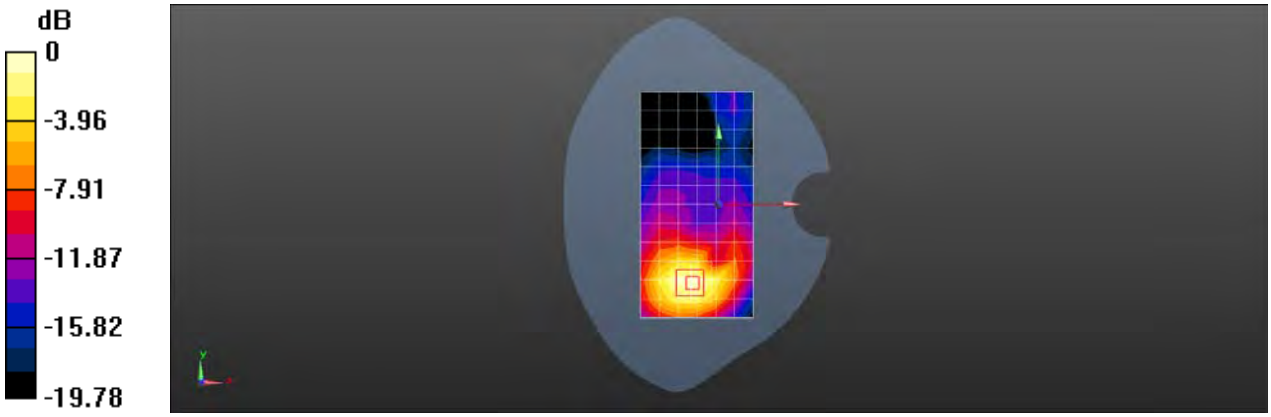
Medium: HSL1750;Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.313 S/m; ε_r = 40.85; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.6, 7.6, 7.6); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.477 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.386 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.571 W/kg
SAR(1 g) = 0.355 W/kg; SAR(10 g) = 0.211 W/kg
Maximum value of SAR (measured) = 0.494 W/kg



0 dB = 0.494 W/kg = -3.06 dBW/kg

Date: 2019/12/14

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band IV 1513CH Bottom side 10mm Ant1

DUT: HLTE226E; Type: mobile phone; Serial: 6SCETKCYJF4DJV7H

Communication System: UID 0, WCDMA (0); Frequency: 1752.6 MHz;Duty Cycle: 1:1

Medium: HSL1750;Medium parameters used: f = 1753 MHz; σ = 1.333 S/m; ε_r = 40.783; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.6, 7.6, 7.6); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.32 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.97 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 2.10 W/kg
SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.647 W/kg
Maximum value of SAR (measured) = 1.80 W/kg

0 dB = 1.80 W/kg = 2.55 dBW/kg

Date: 2019/12/14

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band VI 1312CH Bottom side 0mm ANT1

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1712.4 MHz;Duty Cycle: 1:1

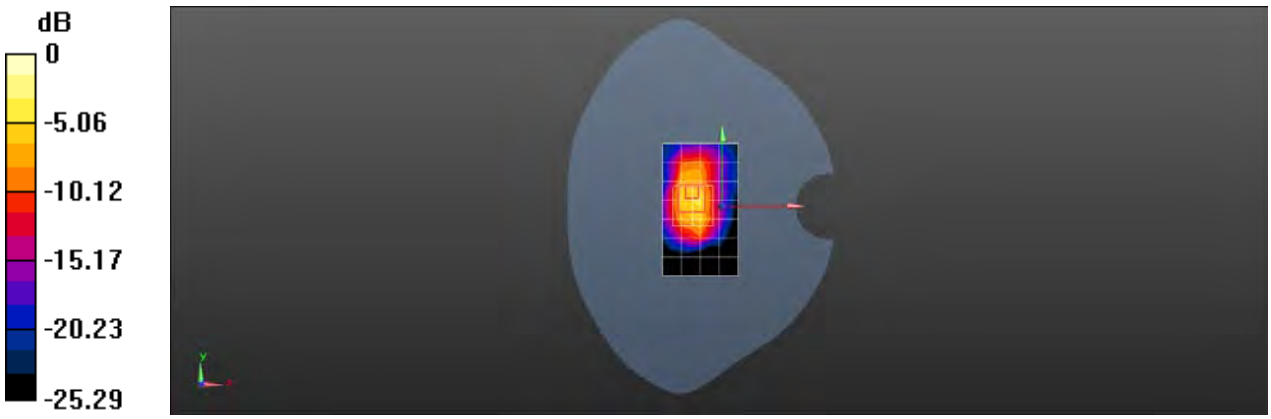
Medium: HSL1750;Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.304 S/m; ε_r = 40.641; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.6, 7.6, 7.6); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.94 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 46.89 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 14.8 W/kg
SAR(1 g) = 4.2 W/kg; SAR(10 g) = 1.8 W/kg
Maximum value of SAR (measured) = 10.8 W/kg



0 dB = 10.8 W/kg = 10.33 dBW/kg

Date: 2019/12/14

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band VI 1513CH Right cheek ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1752.6 MHz;Duty Cycle: 1:1

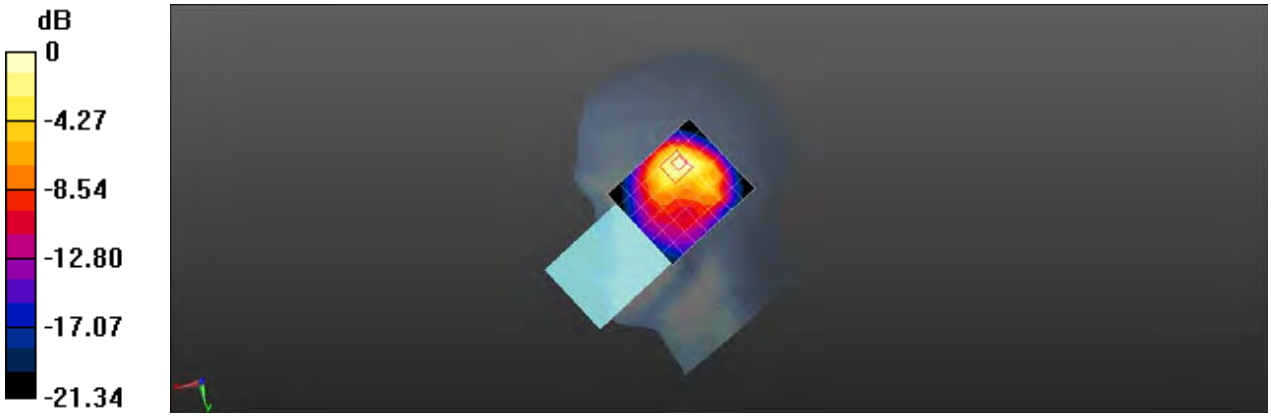
Medium: HSL1750;Medium parameters used: f = 1753 MHz; σ = 1.349 S/m; ε_r = 40.484; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.6, 7.6, 7.6); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Head/Area Scan (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.70 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.81 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.48 W/kg
SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.607 W/kg
Maximum value of SAR (measured) = 1.79 W/kg



0 dB = 1.79 W/kg = 2.53 dBW/kg

Date: 2019/12/14

Test Laboratory: SGS-SAR Lab

HLTE226E WCDMA Band VI 1412CH Front side 15mm with back cover ANT2

DUT: HLTE226E ; Type: Smart Phone; Serial: V4VW5TKZB6DYGMS8

Communication System: UID 0, WCDMA (0); Frequency: 1732.4 MHz;Duty Cycle: 1:1

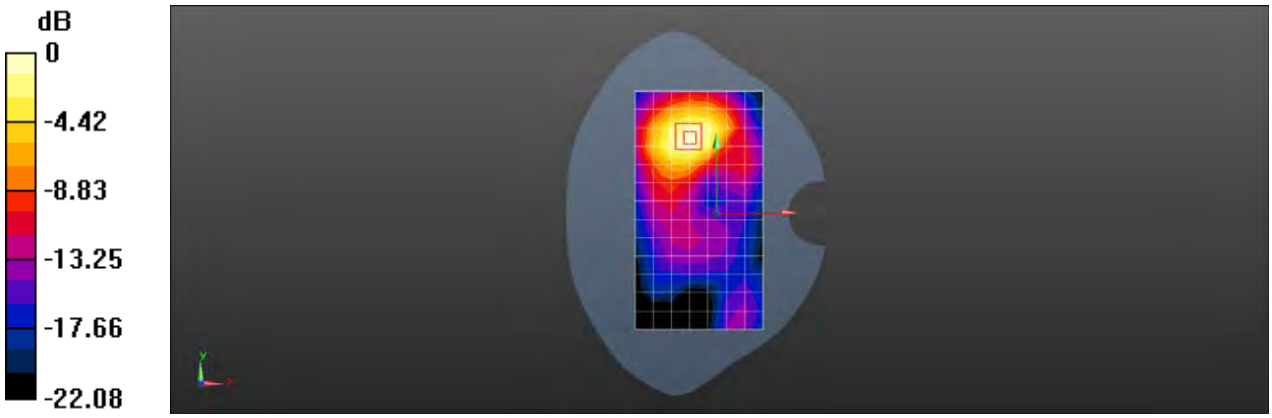
Medium: HSL1750;Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.322 S/m; ε_r = 40.596; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY 5 Configuration:

- Probe: EX3DV4 - SN3789; ConvF(7.6, 7.6, 7.6); Calibrated: 2019/5/25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1374; Calibrated: 2019/9/24
- Phantom: SAM5; Type: SAM; Serial: 1481
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.406 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.306 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.549 W/kg
SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.190 W/kg
Maximum value of SAR (measured) = 0.475 W/kg



0 dB = 0.475 W/kg = -3.23 dBW/kg