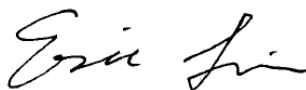


FCC SAR TEST REPORT

Application No.: KSCR2207001115AT
Applicant: Hangzhou Hikvision Digital Technology Co., Ltd.
Address of Applicant: No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China
Manufacturer: Hangzhou Hikvision Digital Technology Co., Ltd.
Address of Manufacturer: No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China
Factory: 1.Hangzhou Hikvision Technology Co., Ltd.
2.Hangzhou Hikvision Electronics Co., Ltd.
3.Hangzhou Hikvision Digital Technology Co., Ltd.
4.Chongqing Hikvision technology Co.,Ltd.
1.No.700,Dongliu Road, Binjiang District, Hangzhou City, Zhejiang, 310052, China;
2. No.299,Qiushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou,Zhejiang,310052,China
Address of Factory: 3. No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China
4. NO.118.Haikang Road,Area C,Jianqiao Industrial Park,Dadukou District,Chongqing,401325,China.
Product Name: Body Camera
Model No.(EUT): DS-MCW407, DS-MCW407/32G/GLE(C), DS-MCW407/64G/GLE(C), DS-MCW407/128G/GLE(C), DS-MCW407/256G/GLE(C)
FCC ID: 2ADTD-MCW407-CWG
Standard(s) : FCC 47CFR §2.1093
Date of Receipt: 2022-08-05
Date of Test: 2022-08-06 to 2022-08-11
Date of Issue: 2022-09-05

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Eric Lin
EMC Laboratory Manager



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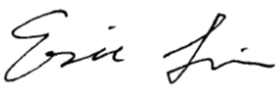
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REVISION HISTORY

Revision Record			
Version	Description	Date	Remark
00	Original	2022-09-05	/

Authorized for issue by:			
			
		<hr/>	
		Richard.Kong/ Project Engineer	
			
		<hr/>	
		Eric.Lin/Reviewer	

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TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)	
	Extremity	Body
LTE Band 2	2.20	0.53
LTE Band 4	2.66	0.66
LTE Band 5	0.30	0.19
LTE Band 7	3.67	1.08
LTE Band 38	3.03	0.93
LTE Band 40 a	0.86	0.25
LTE Band 40 b	0.90	0.27
LTE Band 41	2.76	0.81
WI-FI (2.4GHz)	0.23	0.21
BT	0.16	0.15
Sum SAR	3.81	1.30
SAR Limited(W/kg)	4.0	1.6

Note: There are series models mentioned in this report, and they are the Identical in electrical and electronic characters. Only the model DS-MCW407/32G/GLE(C) was tested since their differences were the model number and appearance.



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1 General Information

1.1 General Description of EUT

Product Phase:	Production unit		
Device Type:	Portable device		
Exposure Category:	Uncontrolled environment / general population		
SN:	J68951595		
Software Version:	V2.3.1		
Antenna Gain:	WIFI/BT: 3.27dBi LTE: Band 2: -0.39dBi Band 4: -3.12dBi Band 5: -1.19dBi Band 7: 1.20dBi Band 38: 1.92dBi Band 40A: 1.59dBi Band 40B: 1.67dBi Band 41: 2.04dBi (Provided by Manufacturer)		
Antenna Type:	LDS Antenna		
Device Operating Configurations:			
Modulation Mode:	LTE: QPSK,16QAM,64QAM; WIFI: CCK, DSSS, OFDM;BT: GFSK, π/4DQPSK, 8DPSK		
Power Class:	tested with power control Max Power (LTE Band 2/4/5/7/38/40a/40b/41)		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	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 38	2570~2620	2570~2620
	LTE Band 40	2305~2315	2305~2315
		2350~2360	2350~2360
	LTE Band 41	2496-2690	2496-2690
	WIFI2.4G	2412-2462	2412-2462
BT	2402-2480	2402-2480	
Battery Information:	Model:	614540	
	Normal Voltage:	3.8V	
	Rated capacity:	3220mA	
	Battery Type:	Rechargeable Li-ion Battery	
	Manufacturer:	LiFun Technology Co., Ltd	

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Compliance Certification Services (Kunshan) Inc.

Report No.: KSCR220700111501

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1.1.1 DUT Antenna Locations

Please see the Appendix D

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1.2 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radio frequency Radiation Exposure Evaluation: Portable Devices
IEEE Std C95.1 – 1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 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 447498 D04v01	Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies
KDB 865664 D01 v01r04	SAR Measurement Requirements for 100 MHz to 6 GHz
KDB 865664 D02 v01r02	RF Exposure Compliance Reporting and Documentation Considerations
KDB 248227 D01 v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
KDB 941225 D05 v02r05	SAR EVALUATION CONSIDERATIONS FOR LTE DEVICES



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1.3 RF exposure limits

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

Notes:

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

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

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



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1.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1.SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc) is provided by the applicant. (if applicable).

2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).

1.5 Test Facility

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

• **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 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. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• **FCC (Designation Number: CN1172)**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

• **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

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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.	



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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 $SAR = \sigma (|E|^2) / \rho$ 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.

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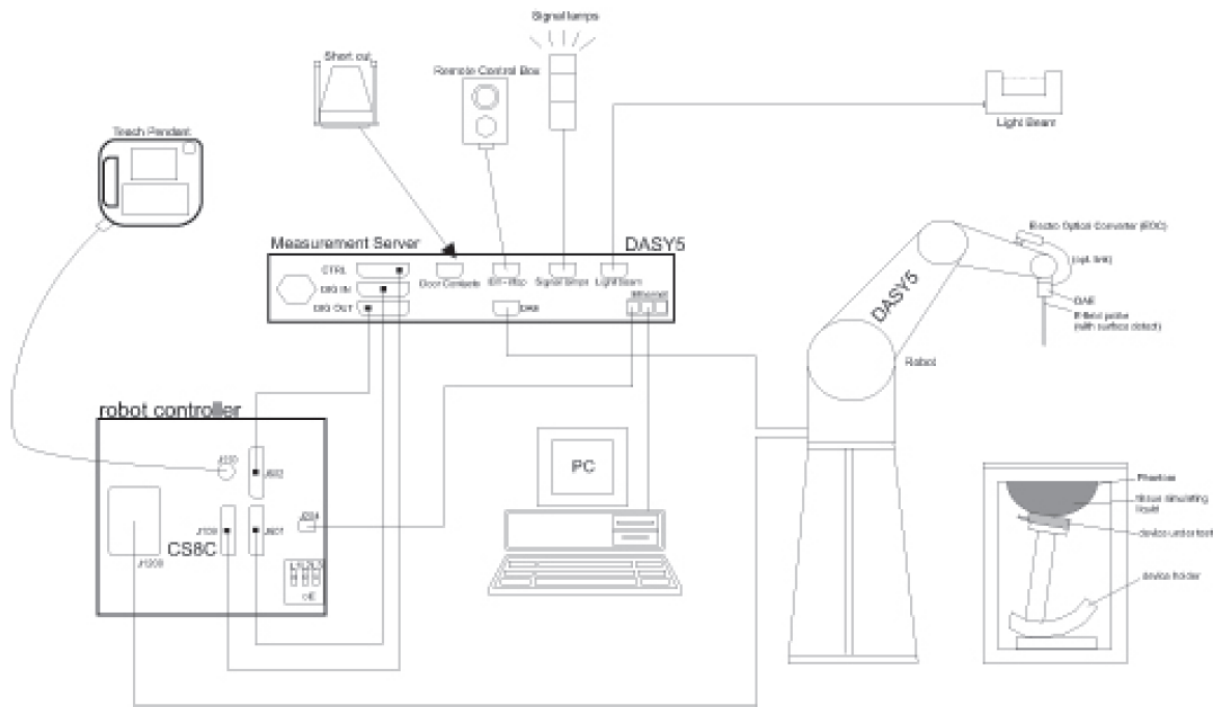
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F-1. SAR Measurement System Configuration

- 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 validate the proper functioning of the system.

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3.2 Isotropic E-field Probe EX3DV4

	<p>Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)</p>
<p>Calibration</p>	<p>ISO/IEC 17025 calibration service available.</p>
<p>Frequency</p>	<p>10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)</p>
<p>Directivity</p>	<p>± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)</p>
<p>Dynamic Range</p>	<p>10 μW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μW/g)</p>
<p>Dimensions</p>	<p>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</p>
<p>Application</p>	<p>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%.</p>
<p>Compatibility</p>	<p>DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI</p>

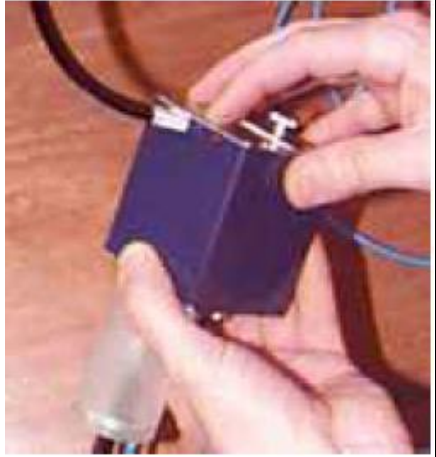


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3.3 Data Acquisition Electronics (DAE)

Model	DAE4	
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 $\epsilon=3$ and loss tangent $\delta=0.02$. 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 30mm*30mm*30mm (fine resolution volume scan, zoom scan) was assessed by measuring 5x5x7 points ($\leq 2\text{GHz}$) and 7x7x7 points ($\geq 2\text{GHz}$). 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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ 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 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5 · $\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm	
<p>Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.</p> <p>* When zoom scan is required and the <u>reported</u> SAR from the <u>area scan based 1-g SAR estimation</u> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</p>				

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 “.DAE3”. 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:

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

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



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

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

E-field probes:

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

H-field probes:

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

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

Norm_i = sensor sensitivity of channel I (i = x, y, z)

[mV/(V/m)²] for E-field Probes

ConvF = sensitivity enhancement in solution

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

f = carrier frequency [GHz]

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

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

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

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

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

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

With SAR = local specific absorption rate in mW/g

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

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

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.

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

with P_{pwe} = equivalent power density of a plane wave in mW/cm²

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

H_{tot} = 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 ($\sim 10\%$ 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 Extremity Test Position

Devices that are designed or intended for use on extremities, or mainly operated in extremity only exposure conditions, i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. The 1-g body and 10-g extremity SAR Test Exclusion Thresholds in 8.2 should be applied to determine SAR test requirements. When extremity SAR testing is required, a flat phantom must be used if the exposure condition is more conservative than the actual use conditions; otherwise, a KDB inquiry is required to determine the phantom and test requirements. Body SAR compliance is also tested with a flat phantom. For devices with irregular shapes or form factors that do not conform to a flat phantom, and/or unusual operating configurations and exposure conditions, a KDB inquiry is also required to determine the appropriate SAR measurement procedures. Unless it is specified differently in the published RF exposure KDB procedures, when simultaneous transmission applies to extremity exposure, the simultaneous transmission SAR test exclusion provisions should be applied. When simultaneous transmission SAR measurement is required, the enlarged zoom scan and volume scan post-processing procedures in KDB Publication 865664 D01 should be applied.

SAR can test the sides near the antenna, the surface of the device should be tested for SAR compliance with the device touching the phantom. The SAR Exclusion Threshold in KDB 447498 D04 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent device surface is used to determine if SAR testing is required for the adjacent surfaces, with the adjacent surface positioned against the phantom and the surface containing the antenna positioned perpendicular to the phantom.



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6 SAR System Verification Procedure

6.1 Tissue Simulate Liquid

6.1.1 Recipes for Tissue Simulate Liquid

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

Ingredients (% by weight)	Frequency (MHz)									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

HSL5GHz is composed of the following ingredients:

Water: 50-65%

Mineral oil: 10-30%

Emulsifiers: 8-25%

Sodium salt: 0-1.5%

MSL5GHz is composed of the following ingredients:

Water: 64-78%

Mineral oil: 11-18%

Emulsifiers: 9-15%

Sodium salt: 2-3%



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6.1.2 Test Liquids Confirmation

Simulated tissue liquid parameter confirmation

The dielectric parameters were checked prior to assessment using the SPEAG DAK3.5 dielectric probe kit. The dielectric parameters measured are reported in each correspondent section.

IEEE SCC-34/SC-2 P1528 recommended tissue dielectric parameters

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations and extrapolated according to the head parameters specified in P1528

Target Frequency (MHz)	Head		Body	
	ϵ_r	σ (S/m)	ϵ_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800-2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

(ϵ_r = relative permittivity, σ = conductivity and $\rho = 1000 \text{ kg/m}^3$)



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6.1.3 Measurement for Tissue Simulate Liquid

The dielectric properties for this Tissue Simulate Liquids were measured by using the SPEAG DAK3.5 dielectric probe kit in conjunction with Agilent E5071B 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 $22\pm 2^{\circ}\text{C}$.

Tissue Type	Measured Frequency (MHz)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Liquid Temp. ($^{\circ}\text{C}$)	Date
835 Head	835	0.91	42.67	0.90	41.50	1.00	2.81	± 5	22.1	2022/8/6
1800 Head	1800	1.41	38.95	1.40	40.00	0.71	-2.63	± 5	22.2	2022/8/7
1900 Head	1900	1.45	38.46	1.40	40.00	3.50	-3.86	± 5	22.3	2022/8/8
2300 Head	2300	1.69	39.07	1.67	39.50	1.14	-1.09	± 5	22	2022/8/9
2450 Head	2450	1.86	38.74	1.80	39.20	3.06	-1.16	± 5	22	2022/8/10
2600 Head	2600	2.03	38.19	1.96	39.00	3.47	-2.07	± 5	22.1	2022/8/11



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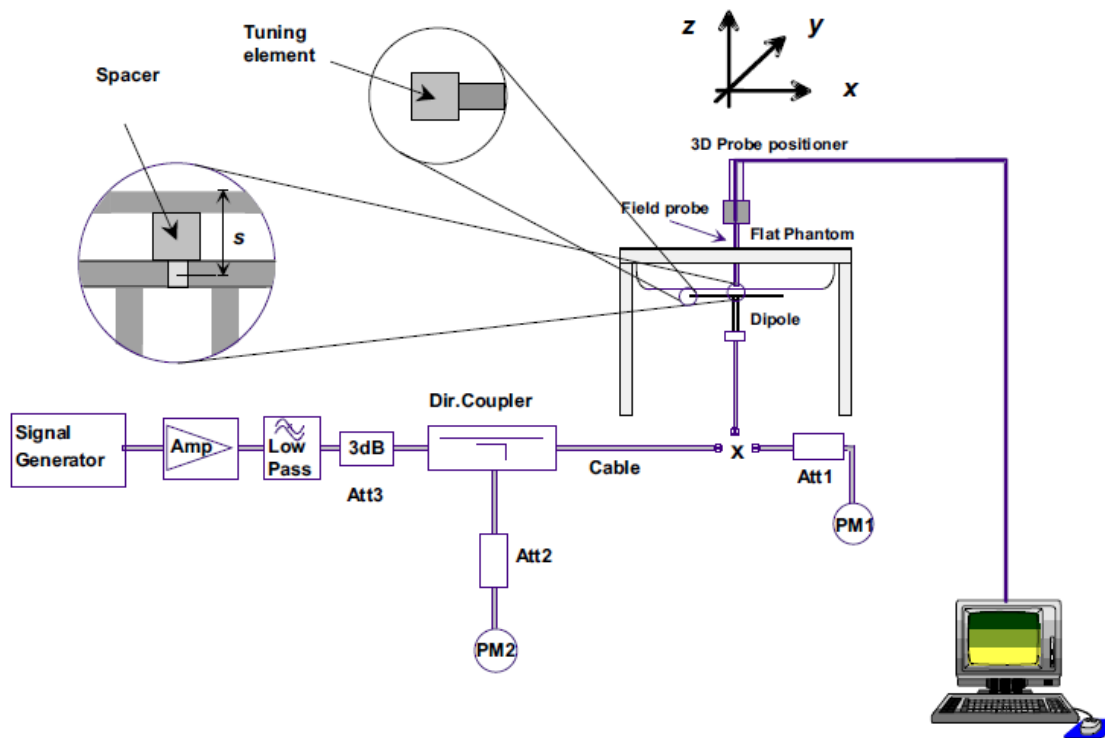
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6.2 SAR System Check

The microwave circuit arrangement for system check is sketched in bellow figure. 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. 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 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-3. the microwave circuit arrangement used for SAR system verification



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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. (°C)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D835V2	Head	2.3	1.48	9.2	5.92	9.40 (8.46~10.34)	6.12 (5.51~6.73)	22.1	2022/8/6
D1800V2	Head	9.4	4.91	37.6	19.64	38.9 (35.01~42.79)	20.4 (18.36~22.44)	22.2	2022/8/7
D1900V2	Head	10.11	4.95	40.44	19.8	40.0 (36.00~44.00)	20.3 (18.72~22.88)	22.3	2022/8/8
D2300V2	Head	12.64	5.63	50.56	22.52	49.2 (44.28~54.12)	23.4 (21.06~25.74)	22	2022/8/9
D2450V2	Head	12.77	6.12	51.08	24.48	53 (47.70~58.30)	24.7 (22.23~27.17)	22	2022/8/10
D2600V2	Head	12.8	6.16	51.2	24.64	54.8 (49.32~60.28)	24.5 (22.05~26.95)	22.1	2022/8/11

6.2.3 Detailed System Check Results

Please see the Appendix A



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7 Test Configuration

7.1 Operation Configurations

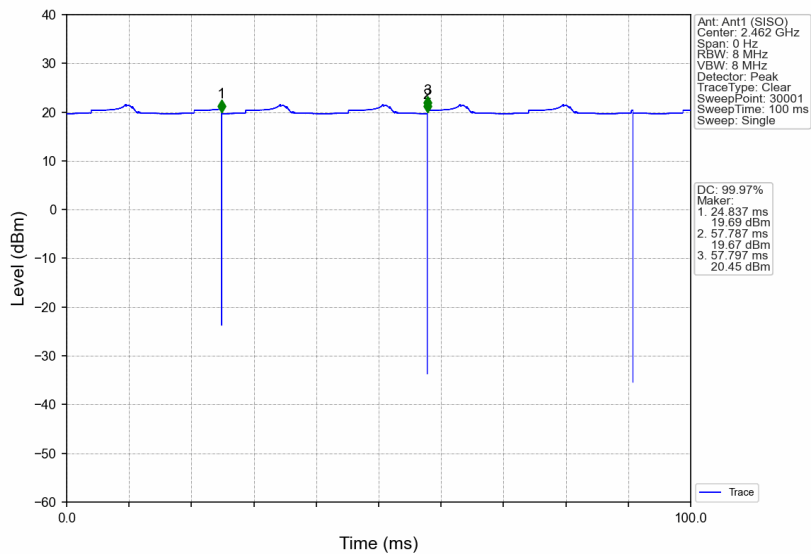
7.1.1 Wi-Fi Test Configuration

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.

7.1.1.1 Duty cycle

1) 2.4GHz Wi-Fi:

WI-FI 802.11b: Duty cycle= 99.97%



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7.1.1.2 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.

7.1.1.3 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.

7.1.1.4 Subsequent Test Configuration Procedures

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been

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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.
- 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”

7.1.1.5 2.4 GHz Wi-Fi 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**



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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.

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7.1.2 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 R&S CMW500 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 V13.5.0 (201609) 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

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



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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 $> \frac{1}{2}$ 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 $> \frac{1}{2}$ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.



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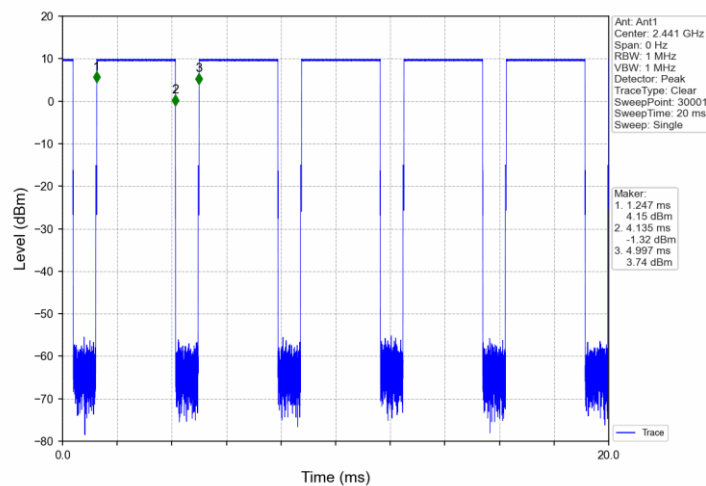
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7.1.3 BluetoothTest Configuration

For the Bluetooth SAR tests, a communication link is set up with the test mode software for BT mode test. Bluetooth USES frequency hopping technology to divide the transmitted data into packets and transmit the packets respectively through 79 designated Bluetooth channels, 1MHz Bandwidth, frequency hops at 1600 hops/second per the Bluetooth standard. The Radio Frequency Channel Number (RFCN) is allocated to 0, 39 and 78 respectively in the case of 2402~2480 MHz during the test at each test frequency channel, the EUT is operated at the RF continuous emission mode.

7.1.3.1 Duty cycle

Bluetooth duty cycle: 76.8%



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8 Test Result

8.1 Measurement of RF Conducted Power

8.1.1 Conducted Power Of LTE

LTE Band 2				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up	
				18607	18900	19193		
1.4MHz	QPSK	1	0	23.27	23.14	23.16	24	
		1	2	23.44	23.29	23.30	24	
		1	5	23.24	23.16	23.14	24	
		3	0	23.31	23.28	23.25	24	
		3	2	23.35	23.29	23.25	24	
		3	3	23.31	23.25	23.19	24	
		6	0	22.30	22.21	22.24	23	
	16QAM	1	0	22.30	22.38	22.48	24	
		1	2	22.45	22.56	22.64	24	
		1	5	22.30	22.39	22.49	24	
		3	0	22.31	22.34	22.40	23	
		3	2	22.33	22.38	22.36	23	
		3	3	22.30	22.34	22.32	23	
		6	0	21.35	21.17	21.23	22	
	64QAM	1	0	21.57	21.36	21.90	22.5	
		1	2	21.76	21.51	22.07	22.5	
		1	5	21.59	21.35	21.87	22.5	
		3	0	21.38	21.34	21.50	22	
		3	2	21.41	21.40	21.51	22	
		3	3	21.38	21.35	21.48	22	
		6	0	20.27	20.25	20.33	21	
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
					18615	18900	19185	
	3MHz	QPSK	1	0	23.31	23.28	23.27	24
1			7	23.29	23.34	23.33	24	
1			14	23.25	23.35	23.25	24	
8			0	22.37	22.28	22.32	23	
8			4	22.40	22.33	22.35	23	
8			7	22.35	22.30	22.27	23	
15			0	22.27	22.25	22.26	23	
16QAM		1	0	22.47	22.39	22.52	24	
		1	7	22.51	22.43	22.52	24	

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EMC Laboratory



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		1	14	22.48	22.35	22.44	24	
		8	0	21.50	21.48	21.35	22	
		8	4	21.53	21.50	21.34	22	
		8	7	21.49	21.48	21.29	22	
		15	0	21.31	21.32	21.28	22	
	64QAM	1	0	21.61	21.71	21.44	22.5	
		1	7	21.62	21.77	21.54	22.5	
		1	14	21.55	21.71	21.44	22.5	
		8	0	20.40	20.30	20.39	21	
		8	4	20.42	20.35	20.40	21	
		8	7	20.40	20.34	20.34	21	
		15	0	20.37	20.29	20.21	21	
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up	
				18625	18900	19175		
5MHz	QPSK	1	0	23.21	23.21	23.29	24	
		1	13	23.38	23.37	23.43	24	
		1	24	23.17	23.25	23.25	24	
		12	0	22.30	22.29	22.32	23	
		12	6	22.35	22.37	22.39	23	
		12	13	22.27	22.31	22.20	23	
		25	0	22.29	22.33	22.30	23	
	16QAM	1	0	22.45	22.40	22.55	24	
		1	13	22.59	22.58	22.68	24	
		1	24	22.32	22.46	22.51	24	
		12	0	21.34	21.26	21.28	22	
		12	6	21.40	21.33	21.32	22	
		12	13	21.26	21.27	21.12	22	
		25	0	21.30	21.30	21.31	22	
	64QAM	1	0	21.53	21.42	21.26	22.5	
		1	13	21.67	21.61	21.41	22.5	
		1	24	21.49	21.52	21.26	22.5	
		12	0	20.28	20.30	20.25	21	
		12	6	20.37	20.41	20.31	21	
		12	13	20.26	20.34	20.12	21	
		25	0	20.24	20.34	20.26	21	
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
					18650	18900	19150	
	10MHz	QPSK	1	0	23.29	23.27	23.34	24
1			25	23.41	23.45	23.49	24	
1			49	23.17	23.38	23.20	24	
25			0	22.33	22.30	22.36	23	

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Compliance Certification Services (Kunshan) Inc.
EMC Laboratory

	16QAM	25	13	22.33	22.34	22.37	23	
		25	25	22.20	22.28	22.23	23	
		50	0	22.25	22.26	22.29	23	
		1	0	22.46	22.33	22.55	24	
		1	25	22.60	22.52	22.66	24	
		1	49	22.38	22.26	22.47	24	
		25	0	21.36	21.31	21.36	22	
		25	13	21.36	21.42	21.38	22	
		25	25	21.22	21.30	21.24	22	
	64QAM	50	0	21.30	21.33	21.21	22	
		1	0	21.56	21.70	21.54	22.5	
		1	25	21.69	21.84	21.66	22.5	
		1	49	21.47	21.77	21.41	22.5	
		25	0	20.27	20.27	20.32	21	
		25	13	20.26	20.36	20.35	21	
		25	25	20.12	20.30	20.20	21	
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
					18675	18900	19125	
15MHz	QPSK	1	0	23.19	23.17	23.31	24	
		1	38	23.23	23.34	23.36	24	
		1	74	23.02	23.31	23.17	24	
		36	0	22.37	22.30	22.40	23	
		36	18	22.32	22.33	22.47	23	
		36	39	22.20	22.31	22.32	23	
		75	0	22.33	22.27	22.41	23	
	16QAM	1	0	22.41	22.25	22.85	24	
		1	38	22.47	22.41	22.88	24	
		1	74	22.25	22.38	22.69	24	
		36	0	21.38	21.23	21.35	22	
		36	18	21.30	21.29	21.39	22	
		36	39	21.19	21.27	21.28	22	
		75	0	21.29	21.26	21.33	22	
	64QAM	1	0	21.49	21.60	21.56	22.5	
		1	38	21.54	21.76	21.60	22.5	
		1	74	21.43	21.69	21.28	22.5	
		36	0	20.34	20.21	20.32	21	
		36	18	20.29	20.29	20.32	21	
		36	39	20.18	20.26	20.26	21	
		75	0	20.27	20.23	20.35	21	
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
					18700	18900	19100	

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Compliance Certification Services (Kunshan) Inc.
EMC Laboratory

20MHz	QPSK	1	0	23.11	22.92	23.20	24
		1	50	23.38	23.39	23.57	24
		1	99	22.90	23.04	23.05	24
		50	0	22.40	22.23	22.49	23
		50	25	22.22	22.33	22.39	23
		50	50	22.28	22.24	22.34	23
	16QAM	100	0	22.35	22.25	22.46	23
		1	0	22.30	22.40	22.42	24
		1	50	22.57	22.81	22.78	24
		1	99	22.16	22.54	22.28	24
		50	0	21.44	21.26	21.49	22
		50	25	21.26	21.37	21.43	22
	64QAM	50	50	21.28	21.21	21.34	22
		100	0	21.36	21.25	21.46	22
		1	0	21.25	21.09	21.34	22.5
		1	50	21.58	21.50	21.69	22.5
		1	99	21.17	21.21	21.18	22.5
		50	0	20.41	20.28	20.52	21
		50	25	20.26	20.35	20.44	21
		50	50	20.28	20.26	20.34	21
		100	0	20.36	20.27	20.45	21

LTE Band 4				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				19957	20175	20393	
1.4MHz	QPSK	1	0	22.67	22.88	22.95	24.00
		1	2	22.83	23.02	23.13	24.00
		1	5	22.64	22.90	22.93	24.00
		3	0	22.71	23.02	23.07	24.00
		3	2	22.75	23.03	23.06	24.00
		3	3	22.75	23.04	23.04	24.00
	16QAM	6	0	21.70	21.93	22.02	23.00
		1	0	21.71	22.13	22.31	23.00
		1	2	21.89	22.32	22.47	23.00
		1	5	21.74	22.11	22.30	23.00
		3	0	21.74	22.06	22.22	23.00
		3	2	21.76	22.12	22.18	23.00
	64QAM	3	3	21.73	22.09	22.16	23.00
		6	0	20.78	20.89	21.03	22.00
		1	0	21.00	21.08	21.74	22.50
		1	2	21.22	21.25	21.94	22.50

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Compliance Certification Services (Kunshan) Inc.
EMC Laboratory

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up	
				19965	20175	20385		
3MHz	QPSK	1	0	21.04	21.08	21.75	22.50	
		3	0	20.82	21.08	21.35	22.00	
		3	2	20.85	21.15	21.35	22.00	
		3	3	20.81	21.10	21.34	22.00	
		6	0	19.73	20.05	20.19	21.00	
		16QAM	1	0	21.88	22.09	22.28	23.00
			1	7	21.97	22.10	22.32	23.00
	1		14	21.95	22.02	22.24	23.00	
	8		0	20.92	21.10	21.05	22.00	
	8		4	20.98	21.18	21.08	22.00	
	8		7	20.94	21.14	21.05	22.00	
	15		0	20.74	20.97	21.05	22.00	
	64QAM	1	0	21.03	21.41	21.18	22.00	
		1	7	21.08	21.46	21.32	22.00	
		1	14	21.04	21.39	21.21	22.00	
		8	0	19.88	20.04	20.17	21.00	
		8	4	19.87	20.09	20.16	21.00	
		8	7	19.90	20.05	20.17	21.00	
		15	0	19.87	20.07	20.01	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
					19975	20175	20375	
5MHz	QPSK	1	0	22.62	22.90	23.02	24.00	
		1	13	22.77	23.02	23.14	24.00	
		1	24	22.68	22.92	22.98	24.00	
		12	0	21.71	21.93	22.04	23.00	
		12	6	21.77	22.04	22.11	23.00	
		12	13	21.71	21.94	22.03	23.00	
		25	0	21.75	21.95	22.03	23.00	
	16QAM	1	0	21.86	22.08	22.31	23.00	
		1	13	21.98	22.23	22.40	23.00	
		1	24	21.91	22.09	22.32	23.00	
		12	0	20.77	20.85	21.02	22.00	

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Compliance Certification Services (Kunshan) Inc.

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		12	6	20.80	20.97	21.06	22.00	
		12	13	20.70	20.94	20.96	22.00	
		25	0	20.75	20.96	21.09	22.00	
	64QAM	1	0	20.97	21.11	21.00	22.00	
		1	13	21.06	21.24	21.10	22.00	
		1	24	20.99	21.12	20.95	22.00	
		12	0	19.80	20.07	20.03	21.00	
		12	6	19.84	20.15	20.09	21.00	
		12	13	19.78	20.07	20.04	21.00	
		25	0	19.75	20.04	20.10	21.00	
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up	
				20000	20175	20350		
10MHz	QPSK	1	0	22.71	23.04	23.03	24.00	
		1	25	22.94	23.21	23.17	24.00	
		1	49	22.82	22.96	22.98	24.00	
		25	0	21.80	21.90	22.09	23.00	
		25	13	21.80	21.99	22.10	23.00	
		25	25	21.79	21.91	22.04	23.00	
		50	0	21.80	21.90	22.04	23.00	
	16QAM	1	0	21.88	22.04	22.27	23.00	
		1	25	22.14	22.24	22.42	23.00	
		1	49	22.02	22.05	22.23	23.00	
		25	0	20.88	20.97	21.12	22.00	
		25	13	20.82	21.06	21.09	22.00	
		25	25	20.84	20.98	21.05	22.00	
		50	0	20.81	20.93	21.01	22.00	
	64QAM	1	0	20.98	21.45	21.23	22.00	
		1	25	21.23	21.63	21.39	22.00	
		1	49	21.19	21.46	21.14	22.00	
		25	0	19.83	19.96	20.13	21.00	
		25	13	19.79	20.06	20.10	21.00	
		25	25	19.81	20.00	20.06	21.00	
		50	0	19.85	19.98	20.05	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
					20025	20175	20325	
15MHz	QPSK	1	0	22.61	22.92	22.90	24.00	
		1	38	22.84	23.05	23.07	24.00	
		1	74	23.08	22.96	22.95	24.00	
		36	0	21.82	21.94	22.19	23.00	
		36	18	21.85	22.03	22.16	23.00	
		36	39	21.89	22.00	22.02	23.00	

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		75	0	21.87	21.95	22.15	23.00
	16QAM	1	0	21.82	21.93	22.46	23.00
		1	38	22.07	22.12	22.63	23.00
		1	74	21.97	22.01	22.48	23.00
		36	0	20.77	20.88	21.15	22.00
		36	18	20.83	21.03	21.07	22.00
		36	39	20.90	20.97	21.00	22.00
		75	0	20.84	20.96	21.12	22.00
		64QAM	1	0	20.91	21.36	21.19
	1		38	21.15	21.50	21.34	22.00
	1		74	21.12	21.38	21.18	22.00
	36		0	19.87	19.98	20.15	21.00
	36		18	19.91	20.07	20.10	21.00
	36		39	19.93	20.02	20.04	21.00
	75		0	19.95	20.02	20.16	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20050	20175	20300	
20MHz	QPSK	1	0	22.50	22.59	22.73	24.00
		1	50	23.03	23.08	23.25	24.00
		1	99	22.73	22.76	22.77	24.00
		50	0	21.83	21.82	22.18	23.00
		50	25	21.87	22.04	22.09	23.00
		50	50	22.08	21.89	21.99	23.00
		100	0	22.02	21.87	22.12	23.00
	16QAM	1	0	21.70	22.04	21.95	23.00
		1	50	22.25	22.58	22.49	23.00
		1	99	21.93	22.21	22.00	23.00
		50	0	20.88	20.83	21.18	22.00
		50	25	20.91	21.04	21.12	22.00
		50	50	21.11	20.95	21.02	22.00
		100	0	21.01	20.86	21.15	22.00
	64QAM	1	0	20.68	20.69	20.84	22.00
		1	50	21.24	21.35	21.38	22.00
		1	99	20.91	20.86	20.87	22.00
		50	0	19.92	19.93	20.29	21.00
		50	25	19.95	20.10	20.22	21.00
		50	50	20.20	20.03	20.08	21.00
		100	0	20.05	19.95	20.15	21.00

LTE Band 5	Conducted Power(dBm)
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Compliance Certification Services (Kunshan) Inc.
EMC Laboratory

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up	
				20407	20525	20643		
1.4MHz	QPSK	1	0	23.14	23.15	23.06	24.00	
		1	2	23.25	23.27	23.20	24.00	
		1	5	23.15	23.15	23.11	24.00	
		3	0	23.23	23.29	23.23	24.00	
		3	2	23.27	23.32	23.24	24.00	
		3	3	23.24	23.26	23.20	24.00	
		6	0	22.22	22.30	22.22	23.00	
	16QAM	1	0	22.17	22.24	22.24	23.50	
		1	2	22.30	22.30	22.39	23.50	
		1	5	22.24	22.24	22.27	23.50	
		3	0	22.30	22.51	22.17	23.00	
		3	2	22.33	22.54	22.10	23.00	
		3	3	22.30	22.50	22.16	23.00	
		6	0	21.17	21.35	21.26	22.50	
	64QAM	1	0	21.04	21.60	21.18	23.00	
		1	2	21.11	21.77	21.36	23.00	
		1	5	21.10	21.62	21.16	23.00	
		3	0	21.21	21.52	21.44	23.00	
		3	2	21.24	21.54	21.45	23.00	
		3	3	21.31	21.51	21.41	23.00	
		6	0	20.32	20.31	20.45	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
					20415	20525	20635	
	3MHz	QPSK	1	0	23.15	23.22	23.22	24.00
1			7	23.30	23.38	23.34	24.00	
1			14	23.13	23.22	23.21	24.00	
8			0	22.22	22.29	22.18	23.00	
8			4	22.24	22.33	22.21	23.00	
8			7	22.21	22.27	22.14	23.00	
15			0	22.24	22.28	22.15	23.00	
16QAM		1	0	22.76	22.44	22.24	23.50	
		1	7	22.90	22.61	22.35	23.50	
		1	14	22.79	22.40	22.14	23.50	
		8	0	21.38	21.27	21.27	22.50	
		8	4	21.42	21.30	21.32	22.50	
		8	7	21.38	21.25	21.22	22.50	
		15	0	21.31	21.24	21.27	22.50	
64QAM		1	0	21.42	21.34	21.13	22.50	

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Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20425	20525	20625	
5MHz	QPSK	1	7	21.57	21.50	21.22	22.50
		1	14	21.42	21.35	20.99	22.50
		8	0	20.38	20.17	20.24	21.50
		8	4	20.38	20.20	20.26	21.50
		8	7	20.37	20.14	20.19	21.50
		15	0	20.23	20.39	20.25	21.50
		16QAM	1	0	23.06	23.19	23.14
	1		13	23.23	23.27	23.18	24.00
	1		24	23.15	23.11	23.04	24.00
	12		0	22.25	22.18	22.11	23.00
	12		6	22.27	22.31	22.21	23.00
	12		13	22.23	22.25	22.07	23.00
	25		0	22.25	22.24	22.09	23.00
	1		0	22.23	22.08	22.40	23.50
	1		13	22.38	22.18	22.48	23.50
	1		24	22.28	22.03	22.27	23.50
	12		0	21.25	21.23	21.18	22.50
	12		6	21.25	21.30	21.29	22.50
	12		13	21.22	21.25	21.14	22.50
	25		0	21.30	21.28	21.13	22.50
	64QAM	1	0	21.32	21.14	21.34	22.00
1		13	21.44	21.29	21.39	22.00	
1		24	21.33	21.11	21.21	22.00	
12		0	20.34	20.18	20.18	21.50	
12		6	20.37	20.22	20.24	21.50	
12		13	20.35	20.15	20.12	21.50	
25		0	20.25	20.28	20.20	21.50	
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				20450	20525	20600	
10MHz	QPSK	1	0	23.15	23.26	23.26	24.00
		1	25	23.34	23.39	23.34	24.00
		1	49	23.15	23.16	23.15	24.00
		25	0	22.32	22.22	22.42	23.00
		25	13	22.30	22.31	22.24	23.00
		25	25	22.43	22.28	22.20	23.00
		50	0	22.39	22.24	22.30	23.00
	16QAM	1	0	22.75	22.45	22.32	23.50
		1	25	23.02	22.62	22.44	23.50
		1	49	22.83	22.39	22.13	23.50

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Compliance Certification Services (Kunshan) Inc.

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		25	0	21.41	21.25	21.49	22.50	
		25	13	21.35	21.35	21.40	22.50	
		25	25	21.49	21.30	21.33	22.50	
		50	0	21.42	21.26	21.41	22.50	
	64QAM		1	0	21.47	21.39	21.12	22.50
			1	25	21.72	21.51	21.26	22.50
			1	49	21.45	21.27	20.99	22.50
			25	0	20.42	20.36	20.50	21.50
			25	13	20.36	20.42	20.39	21.50
			25	25	20.47	20.38	20.33	21.50
			50	0	20.43	20.28	20.41	21.50

LTE Band 7				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up	
				20775	21100	21425		
5MHz	QPSK	1	0	23.05	23.04	22.44	24.00	
		1	13	23.24	23.12	22.53	24.00	
		1	24	23.11	23.02	22.40	24.00	
		12	0	22.18	22.21	21.59	23.00	
		12	6	22.28	22.20	21.58	23.00	
		12	13	22.24	22.13	21.45	23.00	
	16QAM		25	0	22.26	22.19	21.54	23.00
			1	0	22.01	22.32	21.62	23.50
			1	13	22.10	22.46	21.68	23.50
			1	24	22.06	22.32	21.55	23.50
			12	0	21.22	21.22	20.60	22.50
			12	6	21.29	21.23	20.57	22.50
	64QAM		12	13	21.25	21.16	20.45	22.50
			25	0	21.29	21.16	20.56	22.50
			1	0	21.09	21.25	20.69	22.50
			1	13	21.17	21.35	20.74	22.50
			1	24	21.15	21.17	20.62	22.50
			12	0	20.19	20.20	19.71	21.00
	10MHz	QPSK	12	6	20.20	20.19	19.68	21.00
			12	13	20.14	20.12	19.56	21.00
			25	0	20.25	20.22	19.55	21.00
			20800	21100	21400			
	10MHz	QPSK	1	0	23.09	23.11	22.62	24.00
			1	25	23.30	23.21	22.66	24.00

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		1	49	23.22	23.03	22.43	24.00			
		25	0	22.29	22.24	21.67	23.00			
		25	13	22.33	22.21	21.58	23.00			
		25	25	22.36	22.14	21.46	23.00			
		50	0	22.36	22.19	21.62	23.00			
	16QAM	1	0	22.77	22.38	21.64	23.50			
		1	25	22.96	22.46	21.71	23.50			
		1	49	22.88	22.24	21.48	23.50			
		25	0	21.37	21.26	20.81	22.50			
		25	13	21.42	21.24	20.69	22.50			
	64QAM	25	25	21.45	21.20	20.56	22.50			
		50	0	21.38	21.21	20.65	22.50			
		1	0	21.41	21.25	20.53	22.50			
		1	25	21.64	21.30	20.56	22.50			
		1	49	21.53	21.12	20.35	22.50			
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up		
					20825	21100	21375			
			15MHz	QPSK	1	0	23.00	23.07	22.69	24.00
					1	38	23.24	23.12	22.57	24.00
					1	74	23.19	22.92	22.36	24.00
					36	0	22.27	22.26	21.74	23.00
36					18	22.35	22.21	21.64	23.00	
36	39	22.41			22.15	21.50	23.00			
75	0	22.36			22.14	21.61	23.00			
16QAM	1	0		22.68	22.29	22.10	23.50			
	1	38		22.91	22.32	22.01	23.50			
	1	74		22.83	22.17	21.78	23.50			
	36	0		21.29	21.21	20.73	22.50			
	36	18		21.39	21.19	20.63	22.50			
	36	39		21.41	21.11	20.49	22.50			
	75	0		21.35	21.19	20.57	22.50			
64QAM	1	0		21.33	21.19	21.06	22.50			
	1	38		21.56	21.22	20.89	22.50			
	1	74		21.42	21.04	20.70	22.50			
	36	0		20.27	20.24	19.63	21.00			
	36	18		20.36	20.20	19.58	21.00			
	36	39		20.38	20.11	19.36	21.00			

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Bandwidth	Modulation	75	0	20.30	20.09	19.53	21.00
		RB size	RB offset	Channel	Channel	Channel	Tune up
20MHz	QPSK	1	0	22.89	22.89	22.69	24.00
		1	50	23.45	23.28	22.77	24.00
		1	99	22.95	22.75	22.12	24.00
		50	0	22.34	22.23	21.75	23.00
		50	25	22.35	22.14	21.72	23.00
		50	50	22.44	22.05	21.48	23.00
		100	0	22.37	22.17	21.66	23.00
	16QAM	1	0	22.28	22.19	22.36	23.50
		1	50	22.83	22.48	22.34	23.50
		1	99	22.28	22.02	21.81	23.50
		50	0	21.36	21.26	20.78	22.50
		50	25	21.39	21.23	20.73	22.50
		50	50	21.49	21.06	20.49	22.50
		100	0	21.39	21.18	20.66	22.50
	64QAM	1	0	21.18	21.25	20.62	22.50
		1	50	21.70	21.69	20.76	22.50
		1	99	21.17	21.07	20.05	22.50
		50	0	20.40	20.28	19.82	21.00
		50	25	20.37	20.20	19.68	21.00
		50	50	20.48	20.08	19.42	21.00
		100	0	20.38	20.17	19.63	21.00

LTE Band 38				Conducted Power(dBm)			Tune up
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	
				5MHz	QPSK	1	0
1	13	22.38	22.87			22.84	24
1	24	22.28	22.8			22.69	24
12	0	21.35	21.94			22.01	23
12	6	21.51	21.89			22.05	23
12	13	21.4	21.99			22	23
25	0	21.49	21.99			22.03	23
16QAM	1	0	21.31		21.75	21.85	23
	1	13	21.19		21.66	22.01	23
	1	24	21.57		21.84	21.93	23
	12	0	20.36		20.85	20.87	22
	12	6	20.42		20.96	21.04	22

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Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up	
				37800	38000	38200		
10MHz	64QAM	12	13	20.39	20.91	20.86	22	
		25	0	20.37	20.99	20.93	22	
		1	0	20.06	20.47	20.76	22	
		1	13	20.16	21.34	20.72	22	
		1	24	20.71	21.2	21.03	22	
		12	0	19.36	19.82	19.98	21	
		12	6	19.4	19.94	20.03	21	
		12	13	19.45	19.86	19.9	21	
	10MHz	QPSK	1	0	22.43	22.85	23.06	24
			1	25	22.76	23.19	23.22	24
			1	49	22.49	23.06	22.92	24
			25	0	21.43	21.98	22.06	23
			25	13	21.59	22	22.16	23
			25	25	21.54	22	22.1	23
			50	0	21.59	21.97	22.02	23
		16QAM	1	0	21.66	21.6	21.94	23
			1	25	21.84	21.87	22.01	23
			1	49	21.35	21.75	21.71	23
			25	0	20.45	21.03	21.07	22
			25	13	20.61	21.08	21.13	22
			25	25	20.66	21.1	21.09	22
			50	0	20.49	20.96	21.09	22
		64QAM	1	0	20.76	20.43	20.77	22
			1	25	20.98	21.17	20.89	22
			1	49	20.23	21.42	20.52	22
			25	0	19.47	19.9	20.06	21
			25	13	19.54	19.89	19.97	21
			25	25	19.51	19.9	20.03	21
50	0		19.41	19.86	20.02	21		
15MHz	QPSK	1	0	22.27	22.7	22.91	24	
		1	38	22.54	23	23.22	24	
1		74	22.63	22.99	22.93	24		
36		0	21.51	21.9	22.16	23		
36		18	21.59	21.93	22.07	23		
36		39	21.67	21.99	22.11	23		
75		0	21.49	21.9	22.14	23		

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	16QAM	1	0	21.31	21.38	22.41	23
		1	38	21.69	21.69	21.85	23
		1	74	21.34	21.93	21.89	23
		36	0	20.38	20.76	21.02	22
		36	18	20.44	20.85	21.04	22
		36	39	20.66	21.04	21.03	22
		75	0	20.59	21	21.09	22
	64QAM	1	0	20.59	20.23	20.81	22
		1	38	20.19	21.02	21.17	22
		1	74	20.22	20.5	20.84	22
		36	0	19.34	19.83	20	21
		36	18	19.45	19.84	20.04	21
		36	39	19.59	19.97	19.94	21
		75	0	19.53	19.83	19.99	21
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				37850	38000	38150	
20MHz	QPSK	1	0	22.24	22.47	22.74	24
		1	50	22.8	23.09	23.2	24
		1	99	22.49	22.69	22.64	24
		50	0	21.43	21.85	22	23
		50	25	21.63	22.02	22.15	23
		50	50	21.77	21.95	22.04	23
		100	0	21.54	21.94	22.11	23
	16QAM	1	0	21.23	21.11	21.82	23
		1	50	21.7	22.31	22.42	23
		1	99	21.59	22.02	21.9	23
		50	0	20.53	20.79	21.13	22
		50	25	20.66	20.97	21.18	22
		50	50	20.77	21.04	21.04	22
		100	0	20.54	20.93	21.12	22
	64QAM	1	0	20.38	20.13	20.78	22
		1	50	20.49	20.64	21.01	22
		1	99	20.69	20.94	20.78	22
		50	0	19.49	19.81	20.15	21
		50	25	19.51	20.02	20.08	21
		50	50	19.62	19.91	20.01	21
		100	0	19.61	19.92	20.08	21

LTE Band 40 a	Conducted Power(dBm)	Tune up
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Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	
				38725	38750	38775	
5MHz	QPSK	1	0	21.94	22.1	22.06	23
		1	13	22.15	22.23	22.15	23
		1	24	22.05	22.11	22.08	23
		12	0	21.05	21.06	21.09	22
		12	6	21.26	21.22	21.3	22
		12	13	21.2	21.19	21.18	22
		25	0	21.11	21.15	21.12	22
	16QAM	1	0	20.81	21.2	21.08	22
		1	13	21.23	21.3	21.3	22
		1	24	21.06	21.15	21.08	22
		12	0	20.09	20.17	20.12	21
		12	6	20.11	20.12	20.14	21
		12	13	20.2	20.17	20.18	21
		25	0	20.12	20.15	20.1	21
	64QAM	1	0	20.26	20.25	20.1	21
		1	13	20.43	20.45	20.45	21
		1	24	20.44	19.78	20.44	21
		12	0	19.07	19.08	19.14	20
		12	6	19.29	19.15	19.18	20
		12	13	19.14	19.12	19.14	20
		25	0	19.19	19	19.15	20
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
10MHz	QPSK	1	0	/	22.13	/	23
		1	25	/	22.4	/	23
		1	49	/	22.21	/	23
		25	0	/	21.21	/	22
		25	13	/	21.25	/	22
		25	25	/	21.24	/	22
		50	0	/	21.16	/	22
	16QAM	1	0	/	21.4	/	22
		1	25	/	21.36	/	22
		1	49	/	21.34	/	22
		25	0	/	20.29	/	21
		25	13	/	20.36	/	21
		25	25	/	20.31	/	21
		50	0	/	20.16	/	21
	64QAM	1	0	/	20.29	/	21.5
		1	25	/	20.69	/	21.5

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		1	49	/	20.04	/	21.5
		25	0	/	19.18	/	20
		25	13	/	19.3	/	20
		25	25	/	19.17	/	20
		50	0	/	19.25	/	20

LTE Band 40 b				Conducted Power(dBm)			Tune up		
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel			
				39175	39200	39225			
5MHz	QPSK	1	0	22.06	21.86	22.04	23		
		1	13	22.02	21.95	21.85	23		
		1	24	22.07	21.96	21.68	23		
		12	0	21.11	21.17	21.3	22		
		12	6	21.16	21.24	21.38	22		
		12	13	21.27	21.28	21.29	22		
	16QAM	25	0	21.14	21.31	21.25	22		
		1	0	21.2	21.14	21.48	22		
		1	13	21.45	21.31	21.36	22		
		1	24	21.17	21.23	21.31	22		
		12	0	20.25	20.24	20.23	21		
		12	6	20.38	20.42	20.33	21		
	64QAM	12	13	20.26	20.29	20.35	21		
		25	0	20.13	20.35	20.38	21		
		1	0	19.79	19.86	20.56	21		
		1	13	20.26	20.48	20.45	21		
		1	24	20.05	19.95	20.1	21		
		12	0	19.22	19.11	19.18	20		
		12	6	19.24	19.37	19.2	20		
		12	13	19.2	19.23	19.3	20		
		25	0	19.12	19.13	19.17	20		
		Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
		10MHz	QPSK	1	0	/	22.01	/	23
				1	25	/	22.05	/	23
1	49			/	22.02	/	23		
25	0			/	21.21	/	22		
25	13			/	21.4	/	22		
25	25			/	21.44	/	22		
50	0		/	21.36	/	22			
16QAM	1		0	/	21.37	/	22		

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64QAM	1	25	/	21.66	/	22
	1	49	/	21.26	/	22
	25	0	/	20.4	/	21
	25	13	/	20.32	/	21
	25	25	/	20.49	/	21
	50	0	/	20.44	/	21
	1	0	/	20.06	/	21.5
	1	25	/	20.51	/	21.5
	1	49	/	20.58	/	21.5
	25	0	/	19.23	/	20
	25	13	/	19.26	/	20
	25	25	/	19.36	/	20
	50	0	/	19.27	/	20

LTE Band 41				Conducted Power(dBm)			Tune up	
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel		
				39675	40620	41565		
5MHz	QPSK	1	0	22.97	22.68	23.15	24	
		1	13	23.17	22.93	23.45	24	
		1	24	23.08	22.89	23.3	24	
		12	0	21.91	21.88	22.35	23	
		12	6	21.99	21.89	22.45	23	
		12	13	22.1	21.89	22.44	23	
		25	0	21.94	21.8	22.43	23	
	16QAM	1	0	22.24	21.78	22.47	23	
		1	13	22.43	22.12	22.62	23	
		1	24	22.05	21.89	22.48	23	
		12	0	20.85	20.73	21.27	22	
		12	6	21.06	20.76	21.51	22	
		12	13	21.11	20.79	21.39	22	
		25	0	20.91	20.84	21.44	22	
	64QAM	1	0	21.13	20.38	20.95	22.5	
		1	13	21.33	20.86	21.75	22.5	
		1	24	21.19	20.45	21.69	22.5	
		12	0	20.04	19.76	20.25	21	
		12	6	20.11	19.92	20.29	21	
		12	13	20.06	19.69	20.45	21	
		25	0	20.06	19.66	20.4	21	
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
					39700	40620	41540	

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10MHz	QPSK	1	0	23.02	22.83	23.14	24
		1	25	23.31	23.12	23.48	24
		1	49	23.32	22.97	23.44	24
		25	0	22.09	21.79	22.27	23
		25	13	22.18	21.94	22.31	23
		25	25	22.17	21.87	22.4	23
		50	0	22.18	21.89	22.36	23
	16QAM	1	0	21.84	21.68	22.03	23
		1	25	22.5	21.87	22.2	23
		1	49	22.2	21.96	22.26	23
		25	0	21.01	20.76	21.27	22
		25	13	21.13	20.94	21.34	22
		25	25	21.32	20.98	21.32	22
		50	0	21.12	20.77	21.23	22
	64QAM	1	0	20.76	21.14	21.01	22
		1	25	20.83	20.69	21.32	22
		1	49	21.57	20.4	21.16	22
		25	0	20.09	19.66	20.18	21
		25	13	20.17	19.94	20.24	21
		25	25	20.29	19.95	20.31	21
		50	0	20.23	19.85	20.28	21
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				39725	40620	41515	
15MHz	QPSK	1	0	22.95	22.59	22.83	24
		1	38	23.28	22.88	23.33	24
		1	74	23.26	22.86	23.28	24
		36	0	22.14	21.73	22.09	23
		36	18	22.17	21.84	22.27	23
		36	39	22.31	21.99	22.34	23
		75	0	22.21	21.94	22.3	23
	16QAM	1	0	22.14	21.59	22.4	23
		1	38	22.03	21.7	22.68	23
		1	74	22.35	21.68	22.07	23
		36	0	21.02	20.79	21.15	22
		36	18	21.14	20.8	21.24	22
		36	39	21.29	20.83	21.3	22
		75	0	21.09	20.92	21.2	22
	64QAM	1	0	20.74	20.98	20.77	22
		1	38	20.67	20.95	21.25	22
		1	74	20.67	21.29	21.57	22
		36	0	20.16	19.66	20.15	21
		36	0	20.16	19.66	20.15	21

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Bandwidth	Modulation	RB size	RB offset	36	18	20.18	19.78	20.17	21	
				36	39	20.25	19.96	20.36	21	
20MHz	QPSK	RB size	RB offset	75	0	20.26	19.88	20.26	21	
				Channel	Channel	Channel	Tune up			
20MHz	QPSK	RB size	RB offset	39750		40620		41490		
				1	0	22.89	22.33	22.66	24	
				1	50	23.44	23.04	23.22	24	
				1	99	22.98	22.7	23.15	24	
				50	0	22.1	21.68	22.01	23	
				50	25	22.3	21.81	22.11	23	
				50	50	22.28	21.91	22.21	23	
	16QAM	RB size	RB offset	100	0	22.17	21.88	22.12	23	
				1	0	21.83	21.05	21.65	23	
				1	50	22.37	21.74	22.51	23	
				1	99	22.24	21.54	21.81	23	
				50	0	21.12	20.77	21.13	22	
				50	25	21.34	20.8	21.19	22	
				50	50	21.25	21.01	21.19	22	
	64QAM	RB size	RB offset	100	0	21.21	20.87	21.1	22	
				1	0	20.82	20.48	20.44	22	
				1	50	21.43	20.95	21.3	22	
				1	99	21.08	20.25	21.24	22	
				50	0	19.99	19.75	19.99	21	
				50	25	20.32	19.81	20.09	21	
				50	50	20.21	19.89	20.23	21	
					100	0	20.29	19.89	20.11	21



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8.1.2 Conducted Power Of Wi-Fi

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)	Tune up
802.11b	1	2412	1	15.83	17.00
	6	2437		16.15	17.00
	11	2462		15.94	17.00
802.11g	1	2412	6	11.72	13.00
	6	2437		12.19	13.00
	11	2462		12.09	13.00
802.11n HT20 SISO	1	2412	6.5	12.13	13.00
	6	2437		12.34	13.00
	11	2462		12.08	13.00
802.11n HT40 SISO	3	2422	13.5	12.16	13.00
	6	2437		12.23	13.00
	9	2452		12.10	13.00

Note:

- a) Power must be measured at each transmit antenna port according to the DSSS and OFDM transmission configurations in each standalone and aggregated frequency band.
- b) Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.
 - 1) When the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration with the lowest order modulation and lowest data rate is measured.
 - 2) When the same highest maximum output power is specified for multiple largest channel bandwidth configurations with the same lowest order modulation or lowest order modulation and lowest data rate, power measurement is required for all equivalent 802.11 configurations with the same maximum output power.
- c) For each transmission mode configuration, power must be measured for the highest and lowest channels; and at the mid-band channel(s) when there are at least 3 channels. For configurations with multiple mid-band channels, due to an even number of channels, both channels should be measured.



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8.1.3 Conducted Power Of BT

BT			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency (MHz)		
GFSK	0	2402	7.73	9
	39	2441	8.25	9
	78	2480	7.29	9
π/4DQPSK	0	2402	7.61	9
	39	2441	8.31	9
	78	2480	7.15	9
8DPSK	0	2402	7.72	9
	39	2441	8.37	9
	78	2480	7.22	9

BLE			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency (MHz)		
GFSK	0	2402	-0.94	0
	19	2440	-0.43	0
	39	2480	-1.46	0

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8.2 Measurement of SAR Data

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph Results refer to Appendix B
- 2) Per FCC KDB Publication 447498 D04, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg (2.0W/kg for 10g) then testing at the other channels is not required for such test configuration(s).
- 3) “*” is repeated measured SAR

WiFi 2.4G:

- 1) When the highest reported SAR for the initial test configuration 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 test for the other 802.11 modes are not required.

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8.2.1 SAR Result Of LTE Band 2

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)												
Front side	20M_QPSK 1RB_50	19100/1900	1:1	0.477	0.229	-0.06	23.57	24	1.104	0.526	22.3	1.6
Front side	20M_QPSK 1RB_50	18700/1860	1:1	0.426	0.209	-0.15	23.38	24	1.153	0.491	22.3	1.6
Front side	20M_QPSK 1RB_50	18900/1880	1:1	0.420	0.207	-0.16	23.39	24	1.151	0.483	22.3	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate 0mm)												
Front side	20M_QPSK 1RB_50	19100/1900	1:1	1.43	0.684	0.16	23.57	24	1.104	0.755	22.3	4.0
Back side	20M_QPSK 1RB_50	19100/1900	1:1	0.062	0.037	0.15	23.57	24	1.104	0.040	22.3	4.0
Left side	20M_QPSK 1RB_50	19100/1900	1:1	0.939	0.505	-0.19	23.57	24	1.104	0.558	22.3	4.0
Right side	20M_QPSK 1RB_50	19100/1900	1:1	0.421	0.241	-0.05	23.57	24	1.104	0.266	22.3	4.0
Top side	20M_QPSK 1RB_50	19100/1900	1:1	0.215	0.123	0.14	23.57	24	1.104	0.136	22.3	4.0
Bottom side	20M_QPSK 1RB_50	19100/1900	1:1	4.06	1.99	-0.16	23.57	24	1.104	2.197	22.3	4.0
Front side	20M_QPSK 50RB_0	19100/1900	1:1	1.28	0.613	-0.11	22.49	23	1.125	0.690	22.3	4.0
Back side	20M_QPSK 50RB_0	19100/1900	1:1	0.057	0.033	-0.14	22.49	23	1.125	0.037	22.3	4.0
Left side	20M_QPSK 50RB_0	19100/1900	1:1	0.839	0.456	0.14	22.49	23	1.125	0.513	22.3	4.0
Right side	20M_QPSK 50RB_0	19100/1900	1:1	0.380	0.216	-0.1	22.49	23	1.125	0.243	22.3	4.0
Top side	20M_QPSK 50RB_0	19100/1900	1:1	0.196	0.114	0.09	22.49	23	1.125	0.128	22.3	4.0
Bottom side	20M_QPSK 50RB_0	19100/1900	1:1	3.56	1.75	-0.08	22.49	23	1.125	1.963	22.3	4.0
Bottom side	20M_QPSK 1RB_50	18700/1860	1:1	3.83	1.86	0.03	23.38	24	1.153	2.145	22.3	4.0
Bottom side	20M_QPSK 1RB_50	18900/1880	1:1	3.76	1.84	0.16	23.39	24	1.151	2.121	22.3	4.0



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8.2.2 SAR Result Of LTE Band 4

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)												
Front side	20M_QPSK 1RB_50	20300/1745	1:1	0.554	0.261	-0.1	23.25	24	1.189	0.658	22.2	1.6
Front side	20M_QPSK 1RB_50	20175/1732.5	1:1	0.497	0.235	-0.18	23.03	24	1.250	0.621	22.2	1.6
Front side	20M_QPSK 1RB_50	20050/1720	1:1	0.482	0.231	0.07	23.08	24	1.236	0.595	22.2	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate 0mm)												
Front side	20M_QPSK 1RB_50	20300/1745	1:1	1.65	0.779	-0.11	23.25	24	1.189	0.926	22.2	4.0
Back side	20M_QPSK 1RB_50	20300/1745	1:1	0.073	0.040	0.19	23.25	24	1.189	0.047	22.2	4.0
Left side	20M_QPSK 1RB_50	20300/1745	1:1	1.08	0.575	0.02	23.25	24	1.189	0.684	22.2	4.0
Right side	20M_QPSK 1RB_50	20300/1745	1:1	0.487	0.276	-0.16	23.25	24	1.189	0.328	22.2	4.0
Top side	20M_QPSK 1RB_50	20300/1745	1:1	0.247	0.141	0.06	23.25	24	1.189	0.167	22.2	4.0
Bottom side	20M_QPSK 1RB_50	20300/1745	1:1	4.67	2.24	0.06	23.25	24	1.189	2.662	22.2	4.0
Front side	20M_QPSK 50RB_0	20300/1745	1:1	1.48	0.697	0.14	22.18	23	1.208	0.842	22.2	4.0
Back side	20M_QPSK 50RB_0	20300/1745	1:1	0.065	0.037	0.08	22.18	23	1.208	0.045	22.2	4.0
Left side	20M_QPSK 50RB_0	20300/1745	1:1	0.969	0.520	-0.1	22.18	23	1.208	0.628	22.2	4.0
Right side	20M_QPSK 50RB_0	20300/1745	1:1	0.437	0.248	-0.08	22.18	23	1.208	0.299	22.2	4.0
Top side	20M_QPSK 50RB_0	20300/1745	1:1	0.222	0.126	-0.07	22.18	23	1.208	0.152	22.2	4.0
Bottom side	20M_QPSK 50RB_0	20300/1745	1:1	4.12	1.97	0.02	22.18	23	1.208	2.384	22.2	4.0
Bottom side	20M_QPSK 1RB_50	20175/1732.5	1:1	4.45	2.11	0.08	23.03	24	1.250	2.638	22.2	4.0
Bottom side	20M_QPSK 1RB_50	20050/1720	1:1	4.32	2.08	0.19	23.08	24	1.236	2.570	22.2	4.0
Bottom side *	20M_QPSK 1RB_50	20300/1745	1:1	4.62	2.20	0.01	23.25	24	1.189	2.615	22.2	4.0



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8.2.3 SAR Result Of LTE Band 5

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)												
Front side	10M_QPSK 1RB_25	20525/836.5	1:1	0.161	0.088	-0.13	23.39	24	1.151	0.186	22.1	1.6
Front side	10M_QPSK 1RB_25	20450/829	1:1	0.154	0.086	0.15	23.34	24	1.164	0.180	22.1	1.6
Front side	10M_QPSK 1RB_25	20600/844	1:1	0.151	0.081	-0.04	23.34	24	1.164	0.176	22.1	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate 0mm)												
Front side	10M_QPSK 1RB_25	20525/836.5	1:1	0.480	0.259	-0.12	23.39	24	1.151	0.298	22.1	4.0
Back side	10M_QPSK 1RB_25	20525/836.5	1:1	0.008	0.006	-0.17	23.39	24	1.151	0.006	22.1	4.0
Left side	10M_QPSK 1RB_25	20525/836.5	1:1	0.106	0.068	-0.12	23.39	24	1.151	0.078	22.1	4.0
Right side	10M_QPSK 1RB_25	20525/836.5	1:1	0.050	0.033	-0.13	23.39	24	1.151	0.039	22.1	4.0
Top side	10M_QPSK 1RB_25	20525/836.5	1:1	0.028	0.020	-0.18	23.39	24	1.151	0.023	22.1	4.0
Bottom side	10M_QPSK 1RB_25	20525/836.5	1:1	0.428	0.241	0.11	23.39	24	1.151	0.277	22.1	4.0
Front side	10M_QPSK 25RB_25	20450/829	1:1	0.431	0.233	0.19	22.43	23	1.140	0.266	22.1	4.0
Back side	10M_QPSK 25RB_25	20450/829	1:1	0.013	0.009	-0.12	22.43	23	1.140	0.011	22.1	4.0
Left side	10M_QPSK 25RB_25	20450/829	1:1	0.097	0.064	-0.13	22.43	23	1.140	0.073	22.1	4.0
Right side	10M_QPSK 25RB_25	20450/829	1:1	0.050	0.035	-0.19	22.43	23	1.140	0.040	22.1	4.0
Top side	10M_QPSK 25RB_25	20450/829	1:1	0.025	0.022	-0.15	22.43	23	1.140	0.025	22.1	4.0
Bottom side	10M_QPSK 25RB_25	20450/829	1:1	0.388	0.216	-0.03	22.43	23	1.140	0.246	22.1	4.0
Front side	10M_QPSK 1RB_25	20450/829	1:1	0.459	0.253	0.03	23.34	24	1.164	0.294	22.1	4.0
Front side	10M_QPSK 1RB_25	20600/844	1:1	0.449	0.243	0.04	23.34	24	1.164	0.283	22.1	4.0



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8.2.4 SAR Result Of LTE Band 7

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)												
Front side	20M_QPSK 1RB_50	20850/2510	1:1	0.952	0.381	-0.06	23.45	24	1.135	1.081	22.1	1.6
Front side	20M_QPSK 1RB_50	21100/2535.5	1:1	0.844	0.344	0.11	23.28	24	1.180	0.996	22.1	1.6
Front side	20M_QPSK 1RB_50	21350/2560	1:1	0.710	0.291	0.13	22.77	24	1.327	0.942	22.1	1.6
Front side *	20M_QPSK 1RB_50	20850/2510	1:1	0.944	0.372	0.14	23.45	24	1.135	1.071	22.1	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate 0mm)												
Front side	20M_QPSK 1RB_50	20850/2510	1:1	2.85	1.14	-0.03	23.45	24	1.135	1.291	22.1	4.0
Back side	20M_QPSK 1RB_50	20850/2510	1:1	0.124	0.061	0.18	23.45	24	1.135	0.069	22.1	4.0
Left side	20M_QPSK 1RB_50	20850/2510	1:1	1.87	0.839	0.14	23.45	24	1.135	0.953	22.1	4.0
Right side	20M_QPSK 1RB_50	20850/2510	1:1	0.838	0.399	0.09	23.45	24	1.135	0.453	22.1	4.0
Top side	20M_QPSK 1RB_50	20850/2510	1:1	0.429	0.200	0.18	23.45	24	1.135	0.227	22.1	4.0
Bottom side	20M_QPSK 1RB_50	20850/2510	1:1	7.95	3.23	-0.03	23.45	24	1.135	3.666	22.1	4.0
Front side	20M_QPSK 50RB_50	20850/2510	1:1	2.55	1.02	0.02	22.44	23	1.138	1.162	22.1	4.0
Back side	20M_QPSK 50RB_50	20850/2510	1:1	0.117	0.060	-0.09	22.44	23	1.138	0.068	22.1	4.0
Left side	20M_QPSK 50RB_50	20850/2510	1:1	1.68	0.750	0.04	22.44	23	1.138	0.854	22.1	4.0
Right side	20M_QPSK 50RB_50	20850/2510	1:1	0.750	0.360	-0.14	22.44	23	1.138	0.410	22.1	4.0
Top side	20M_QPSK 50RB_50	20850/2510	1:1	0.385	0.181	-0.06	22.44	23	1.138	0.205	22.1	4.0
Bottom side	20M_QPSK 50RB_50	20850/2510	1:1	7.10	2.88	0.05	22.44	23	1.138	3.282	22.1	4.0
Bottom side	20M_QPSK 1RB_50	21100/2535.5	1:1	7.58	3.08	-0.16	23.28	24	1.180	3.636	22.1	4.0
Bottom side	20M_QPSK 1RB_50	21350/2560	1:1	6.38	2.60	-0.11	22.77	24	1.327	3.454	22.1	4.0
Bottom side *	20M_QPSK 1RB_50	20850/2510	1:1	7.86	3.19	0.02	23.45	24	1.135	3.621	22.1	4.0



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8.2.5 SAR Result Of LTE Band 38

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)												
Front side	20M_QPSK 1RB_50	38150/2610	1:1	0.772	0.298	0.18	23.2	24	1.202	0.928	22.1	1.6
Front side	20M_QPSK 1RB_50	37850/2580	1:1	0.665	0.250	-0.13	22.8	24	1.318	0.877	22.1	1.6
Front side	20M_QPSK 1RB_50	38000/2595	1:1	0.684	0.270	0.14	23.09	24	1.233	0.844	22.1	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate 0mm)												
Front side	20M_QPSK 1RB_50	38150/2610	1:1	2.31	0.887	0.09	23.2	24	1.202	1.067	22.1	4.0
Back side	20M_QPSK 1RB_50	38150/2610	1:1	0.103	0.049	-0.09	23.2	24	1.202	0.058	22.1	4.0
Left side	20M_QPSK 1RB_50	38150/2610	1:1	1.52	0.655	-0.1	23.2	24	1.202	0.787	22.1	4.0
Right side	20M_QPSK 1RB_50	38150/2610	1:1	0.679	0.316	-0.12	23.2	24	1.202	0.380	22.1	4.0
Top side	20M_QPSK 1RB_50	38150/2610	1:1	0.348	0.160	-0.17	23.2	24	1.202	0.192	22.1	4.0
Bottom side	20M_QPSK 1RB_50	38150/2610	1:1	6.44	2.52	-0.17	23.2	24	1.202	3.030	22.1	4.0
Front side	20M_QPSK 50RB_25	38150/2610	1:1	2.06	0.795	0.05	22.15	23	1.216	0.967	22.1	4.0
Back side	20M_QPSK 50RB_25	38150/2610	1:1	0.094	0.046	0.06	22.15	23	1.216	0.056	22.1	4.0
Left side	20M_QPSK 50RB_25	38150/2610	1:1	1.36	0.588	-0.08	22.15	23	1.216	0.715	22.1	4.0
Right side	20M_QPSK 50RB_25	38150/2610	1:1	0.613	0.286	-0.15	22.15	23	1.216	0.348	22.1	4.0
Top side	20M_QPSK 50RB_25	38150/2610	1:1	0.311	0.146	0.06	22.15	23	1.216	0.178	22.1	4.0
Bottom side	20M_QPSK 50RB_25	38150/2610	1:1	5.75	2.25	-0.07	22.15	23	1.216	2.738	22.1	4.0
Bottom side	20M_QPSK 1RB_50	37850/2580	1:1	5.97	2.24	-0.05	22.8	24	1.318	2.953	22.1	4.0
Bottom side	20M_QPSK 1RB_50	38000/2595	1:1	6.14	2.40	-0.01	23.09	24	1.233	2.962	22.1	4.0
Bottom side *	20M_QPSK 1RB_50	38150/2610	1:1	6.31	2.41	-0.06	23.2	24	1.202	2.897	22.1	4.0



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8.2.6 SAR Result Of LTE Band 40a

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)												
Front side	10M_QPSK 1RB_25	38750/2310	1:1	0.220	0.089	0.13	22.4	23	1.148	0.252	22.1	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate 0mm)												
Front side	10M_QPSK 1RB_25	38750/2310	1:1	0.657	0.264	0.08	22.4	23	1.148	0.303	22.1	4.0
Back side	10M_QPSK 1RB_25	38750/2310	1:1	0.029	0.014	0.19	22.4	23	1.148	0.016	22.1	4.0
Left side	10M_QPSK 1RB_25	38750/2310	1:1	0.431	0.195	0.06	22.4	23	1.148	0.224	22.1	4.0
Right side	10M_QPSK 1RB_25	38750/2310	1:1	0.193	0.094	-0.05	22.4	23	1.148	0.108	22.1	4.0
Top side	10M_QPSK 1RB_25	38750/2310	1:1	0.098	0.046	-0.02	22.4	23	1.148	0.053	22.1	4.0
Bottom side	10M_QPSK 1RB_25	38750/2310	1:1	1.83	0.752	0.1	22.4	23	1.148	0.863	22.1	4.0
Front side	10M_QPSK 25RB_13	38750/2310	1:1	0.589	0.241	-0.05	21.25	22	1.189	0.287	22.1	4.0
Back side	10M_QPSK 25RB_13	38750/2310	1:1	0.026	0.013	-0.03	21.25	22	1.189	0.016	22.1	4.0
Left side	10M_QPSK 25RB_13	38750/2310	1:1	0.386	0.179	-0.16	21.25	22	1.189	0.213	22.1	4.0
Right side	10M_QPSK 25RB_13	38750/2310	1:1	0.175	0.088	0.14	21.25	22	1.189	0.104	22.1	4.0
Top side	10M_QPSK 25RB_13	38750/2310	1:1	0.088	0.047	0.04	21.25	22	1.189	0.056	22.1	4.0
Bottom side	10M_QPSK 25RB_13	38750/2310	1:1	1.64	0.675	0.13	21.25	22	1.189	0.802	22.1	4.0

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8.2.7 SAR Result Of LTE Band 40b

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)												
Front side	10M_QPSK 1RB_25	39200/2355	1:1	0.213	0.087	0.03	22.05	23	1.245	0.265	22.1	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate Omm)												
Front side	10M_QPSK 1RB_25	39200/2355	1:1	0.634	0.254	0.03	22.05	23	1.245	0.317	22.1	4.0
Back side	10M_QPSK 1RB_25	39200/2355	1:1	0.028	0.013	0.04	22.05	23	1.245	0.016	22.1	4.0
Left side	10M_QPSK 1RB_25	39200/2355	1:1	0.416	0.187	0.06	22.05	23	1.245	0.233	22.1	4.0
Right side	10M_QPSK 1RB_25	39200/2355	1:1	0.187	0.089	0.14	22.05	23	1.245	0.111	22.1	4.0
Top side	10M_QPSK 1RB_25	39200/2355	1:1	0.095	0.044	-0.15	22.05	23	1.245	0.055	22.1	4.0
Bottom side	10M_QPSK 1RB_25	39200/2355	1:1	1.77	0.721	0.05	22.05	23	1.245	0.897	22.1	4.0
Front side	10M_QPSK 25RB_25	39200/2355	1:1	0.567	0.233	-0.02	21.44	22	1.138	0.265	22.1	4.0
Back side	10M_QPSK 25RB_25	39200/2355	1:1	0.029	0.017	-0.1	21.44	22	1.138	0.020	22.1	4.0
Left side	10M_QPSK 25RB_25	39200/2355	1:1	0.374	0.172	0.02	21.44	22	1.138	0.195	22.1	4.0
Right side	10M_QPSK 25RB_25	39200/2355	1:1	0.168	0.081	-0.05	21.44	22	1.138	0.092	22.1	4.0
Top side	10M_QPSK 25RB_25	39200/2355	1:1	0.085	0.042	-0.16	21.44	22	1.138	0.047	22.1	4.0
Bottom side	10M_QPSK 25RB_25	39200/2355	1:1	1.58	0.648	-0.02	21.44	22	1.138	0.737	22.1	4.0



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8.2.8 SAR Result Of LTE Band 41

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)												
Front side	20M_QPSK 1RB_50	39750/2506	1:1	0.715	0.285	-0.15	23.44	24	1.138	0.814	22.1	1.6
Front side	20M_QPSK 1RB_50	40620/2593	1:1	0.618	0.239	0.11	23.04	24	1.247	0.771	22.1	1.6
Front side	20M_QPSK 1RB_50	41490/2680	1:1	0.635	0.240	0.17	23.22	24	1.197	0.760	22.1	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate 0mm)												
Front side	20M_QPSK 1RB_50	39750/2506	1:1	2.15	0.853	-0.19	23.44	24	1.138	0.971	22.1	4.0
Back side	20M_QPSK 1RB_50	39750/2506	1:1	0.092	0.047	-0.09	23.44	24	1.138	0.054	22.1	4.0
Left side	20M_QPSK 1RB_50	39750/2506	1:1	1.41	0.631	-0.14	23.44	24	1.138	0.718	22.1	4.0
Right side	20M_QPSK 1RB_50	39750/2506	1:1	0.628	0.302	-0.06	23.44	24	1.138	0.344	22.1	4.0
Top side	20M_QPSK 1RB_50	39750/2506	1:1	0.322	0.154	0.19	23.44	24	1.138	0.176	22.1	4.0
Bottom side	20M_QPSK 1RB_50	39750/2506	1:1	5.98	2.43	0.04	23.44	24	1.138	2.764	22.1	4.0
Front side	20M_QPSK 50RB_25	39750/2506	1:1	1.92	0.763	0.08	22.3	23	1.175	0.897	22.1	4.0
Back side	20M_QPSK 50RB_25	39750/2506	1:1	0.085	0.045	-0.12	22.3	23	1.175	0.053	22.1	4.0
Left side	20M_QPSK 50RB_25	39750/2506	1:1	1.26	0.565	0.04	22.3	23	1.175	0.664	22.1	4.0
Right side	20M_QPSK 50RB_25	39750/2506	1:1	0.565	0.274	-0.17	22.3	23	1.175	0.322	22.1	4.0
Top side	20M_QPSK 50RB_25	39750/2506	1:1	0.291	0.143	-0.15	22.3	23	1.175	0.168	22.1	4.0
Bottom side	20M_QPSK 50RB_25	39750/2506	1:1	5.34	2.17	0.13	22.3	23	1.175	2.551	22.1	4.0
Bottom side	20M_QPSK 1RB_50	40620/2593	1:1	5.54	2.13	-0.18	23.04	24	1.247	2.657	22.1	4.0
Bottom side	20M_QPSK 1RB_50	41490/2680	1:1	5.70	2.16	0.17	23.22	24	1.197	2.585	22.1	4.0
Bottom side *	20M_QPSK 1RB_50	39750/2506	1:1	5.89	2.35	-0.01	23.44	24	1.138	2.673	22.1	4.0

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8.2.9 SAR Result Of 2.4GHz Wi-Fi

Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Powe Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)													
Front side	802.11b	6/2437	99.98%	1.000	0.176	0.065	0.05	16.15	17.00	1.216	0.214	22.0	1.6
Front side	802.11b	1/2412	99.98%	1.000	0.170	0.056	0.15	16.15	17.00	1.216	0.207	22.0	1.6
Front side	802.11b	11/2462	99.97%	1.000	0.171	0.063	0.14	16.15	17.00	1.216	0.208	22.0	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Powe Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate 0mm)													
Front side	802.11b	6/2437	99.98%	1.000	0.526	0.189	0.09	16.15	17.00	1.216	0.230	22.0	4.0
Back side	802.11b	6/2437	99.98%	1.000	0.011	0.018	-0.01	16.15	17.00	1.216	0.022	22.0	4.0
Left side	802.11b	6/2437	99.98%	1.000	0.103	0.051	0.17	16.15	17.00	1.216	0.062	22.0	4.0
Right side	802.11b	6/2437	99.98%	1.000	0.045	0.029	-0.06	16.15	17.00	1.216	0.035	22.0	4.0
Top side	802.11b	6/2437	99.98%	1.000	0.029	0.018	0.03	16.15	17.00	1.216	0.021	22.0	4.0
Bottom side	802.11b	6/2437	99.98%	1.000	0.311	0.118	-0.06	16.15	17.00	1.216	0.143	22.0	4.0
Front side	802.11b	1/2412	99.98%	1.000	0.509	0.163	0.04	16.15	17.00	1.216	0.198	22.0	4.0
Front side	802.11b	11/2462	99.97%	1.000	0.526	0.182	-0.03	16.15	17.00	1.216	0.221	22.0	4.0

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8.2.10 SAR Result Of Bluetooth

Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 1-g	Liquid Temp.	SAR limit (W/kg) 1-g
Body Test data(With back clamp)													
Front side	GFSK	39/2441	76.80%	1.302	0.094	0.037	0.15	8.25	9.00	1.189	0.146	22.0	1.6
Front side	GFSK	0/2402	76.80%	1.302	0.077	0.034	-0.16	7.73	9.00	1.340	0.134	22.0	1.6
Front side	GFSK	78/2481	76.80%	1.302	0.062	0.029	0.09	7.29	9.00	1.483	0.120	22.0	1.6

Test position	Test mode	Test Ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power Drift (dB)	Conducted power (dBm)	Tune up Limit (dBm)	Scaled factor	Scaled SAR (W/kg) 10-g	Liquid Temp.	SAR limit (W/kg) 10-g
Extremity Test data(Separate 0mm)													
Front side	GFSK	39/2441	76.80%	1.302	0.279	0.105	0.01	8.25	9.00	1.189	0.163	22.0	4.0
Back side	GFSK	39/2441	76.80%	1.302	0.007	0.003	-0.02	8.25	9.00	1.189	0.005	22.0	4.0
Left side	GFSK	39/2441	76.80%	1.302	0.052	0.028	0.17	8.25	9.00	1.189	0.043	22.0	4.0
Right side	GFSK	39/2441	76.80%	1.302	0.025	0.010	0.07	8.25	9.00	1.189	0.015	22.0	4.0
Top side	GFSK	39/2441	76.80%	1.302	0.010	0.010	0.00	8.25	9.00	1.189	0.015	22.0	4.0
Bottom side	GFSK	39/2441	76.80%	1.302	0.164	0.065	0.11	8.25	9.00	1.189	0.100	22.0	4.0
Front side	GFSK	0/2402	76.80%	1.302	0.230	0.100	0.06	7.73	9.00	1.340	0.160	22.0	4.0
Front side	GFSK	78/2481	76.80%	1.302	0.181	0.084	0.08	7.29	9.00	1.483	0.162	22.0	4.0

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8.2.11 Repeated measurements

Wireless	Test position	First Measure SAR (W/kg)	Second Measure SAR (W/kg)	Radio
LTE Band 4	Bottom side	2.24	2.20	1.02
LTE Band 7	Front side	0.952	0.944	1.01
LTE Band 7	Bottom side	3.23	3.19	1.01
LTE Band 38	Bottom side	2.52	2.41	1.05
LTE Band 41	Bottom side	2.43	2.35	1.03

- 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.



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8.3 Multiple Transmitter Evaluation

8.3.1 Simultaneous SAR SAR test evaluation

Simultaneous Transmission

NO.	Simultaneous Transmission Configuration	Body	Extremity
1	WWAN + WIFI 2.4GHz	Yes	Yes
2	WWAN + BT	Yes	Yes
3	WIFI + BT (They share the same antenna and cannot transmit at the same time by design.)	No	No

Simultaneous Transmission SAR Summation Scenario for Extremity

WWAN Band	Exposure position	①MAX. WWAN SAR (W/kg)	②MAX. WLAN2.4G SAR (W/kg)	③MAX. BT SAR (W/kg)	Summed SAR ①+②	Summed SAR ①+③	Volume scan
LTE Band 2	Front	0.755	0.23	0.163	0.985	0.918	NO
	Back	0.04	0.022	0.005	0.062	0.045	NO
	Left	0.558	0.062	0.043	0.620	0.601	NO
	Right	0.266	0.035	0.015	0.301	0.281	NO
	Top	0.136	0.021	0.015	0.157	0.151	NO
	Bottom	2.19	0.143	0.100	2.333	2.290	NO
LTE Band 4	Front	0.926	0.23	0.163	1.156	1.089	NO
	Back	0.047	0.022	0.005	0.069	0.052	NO
	Left	0.684	0.062	0.043	0.746	0.727	NO
	Right	0.328	0.035	0.015	0.363	0.343	NO
	Top	0.167	0.021	0.015	0.188	0.182	NO
	Bottom	2.66	0.143	0.100	2.803	2.760	NO
LTE Band 5	Front	0.298	0.23	0.163	0.528	0.461	NO
	Back	0.006	0.022	0.005	0.028	0.011	NO
	Left	0.078	0.062	0.043	0.140	0.121	NO
	Right	0.039	0.035	0.015	0.074	0.054	NO
	Top	0.023	0.021	0.015	0.044	0.038	NO
	Bottom	0.277	0.143	0.100	0.420	0.377	NO
LTE Band 7	Front	1.29	0.23	0.163	1.520	1.453	NO
	Back	0.069	0.022	0.005	0.091	0.074	NO
	Left	0.953	0.062	0.043	1.015	0.996	NO
	Right	0.453	0.035	0.015	0.488	0.468	NO

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	Top	0.227	0.021	0.015	0.248	0.242	NO
	Bottom	3.67	0.143	0.100	3.813	3.770	NO
LTE Band 38	Front	1.067	0.23	0.163	1.297	1.230	NO
	Back	0.058	0.022	0.005	0.080	0.063	NO
	Left	0.787	0.062	0.043	0.849	0.830	NO
	Right	0.38	0.035	0.015	0.415	0.395	NO
	Top	0.192	0.021	0.015	0.213	0.207	NO
	Bottom	3.03	0.143	0.100	3.173	3.130	NO
LTE Band 40 a	Front	0.303	0.23	0.163	0.533	0.466	NO
	Back	0.016	0.022	0.005	0.038	0.021	NO
	Left	0.224	0.062	0.043	0.286	0.267	NO
	Right	0.108	0.035	0.015	0.143	0.123	NO
	Top	0.053	0.021	0.015	0.074	0.068	NO
	Bottom	0.863	0.143	0.100	1.006	0.963	NO
LTE Band 40 b	Front	0.317	0.23	0.163	0.547	0.480	NO
	Back	0.016	0.022	0.005	0.038	0.021	NO
	Left	0.233	0.062	0.043	0.295	0.276	NO
	Right	0.111	0.035	0.015	0.146	0.126	NO
	Top	0.055	0.021	0.015	0.076	0.070	NO
	Bottom	0.897	0.143	0.100	1.040	0.997	NO
LTE Band 41	Front	0.971	0.23	0.163	1.201	1.134	NO
	Back	0.054	0.022	0.005	0.076	0.059	NO
	Left	0.718	0.062	0.043	0.780	0.761	NO
	Right	0.344	0.035	0.015	0.379	0.359	NO
	Top	0.176	0.021	0.015	0.197	0.191	NO
	Bottom	2.76	0.143	0.100	2.903	2.860	NO

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Simultaneous Transmission SAR Summation Scenario for Body

WWAN Band	Exposure position	①MAX. WWAN SAR (W/kg)	②MAX. WLAN2.4G SAR (W/kg)	③MAX BT SAR (W/kg)	Summed SAR ①+②	Summed SAR ①+③	Volume scan
LTE Band 2	Front	0.526	0.214	0.146	0.740	0.672	NO
LTE Band 4	Front	0.658	0.214	0.146	0.872	0.804	NO
LTE Band 5	Front	0.186	0.214	0.146	0.400	0.332	NO
LTE Band 7	Front	1.081	0.214	0.146	1.295	1.227	NO
LTE Band 38	Front	0.928	0.214	0.146	1.142	1.074	NO
LTE Band 40 a	Front	0.252	0.214	0.146	0.466	0.398	NO
LTE Band 40 b	Front	0.265	0.214	0.146	0.479	0.411	NO
LTE Band 41	Front	0.814	0.214	0.146	1.028	0.960	NO



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9 Equipment list

Test Platform		SPEAG DASY5 Professional				
Location		Compliance Certification Services (Kunshan) Inc.				
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	
<input checked="" type="checkbox"/> P C	HP	Core(rm)3.16G	CZCO48171H	N/A	N/A	
<input checked="" type="checkbox"/> Signal Generator	Agilent	E5182A	MY50142015	2021/09/24	2022/09/23	
<input checked="" type="checkbox"/> S-Parameter Network Analyzer	Agilent	E5071B	MY42301382	2022/02/20	2023/02/19	
<input checked="" type="checkbox"/> DAK-3.5 probe	SPEAG	DAK-3.5	1102	N/A	N/A	
<input checked="" type="checkbox"/> Wireless Communication Test Set	R&S	CMW500	159275	2021/10/12	2022/10/11	
<input checked="" type="checkbox"/> DAE	SPEAG	DAE4	1245	2022/05/30	2023/05/29	
<input checked="" type="checkbox"/> E-field PROBE	SPEAG	EX3DV4	7346	2022/03/30	2023/03/29	
<input checked="" type="checkbox"/> Dipole	SPEAG	D835V2	4d114	2022/03/31	2025/03/30	
<input checked="" type="checkbox"/> Dipole	SPEAG	D1800V2	2d170	2022/03/31	2025/03/30	
<input checked="" type="checkbox"/> Dipole	SPEAG	D1900V2	5d136	2022/06/07	2025/06/06	
<input checked="" type="checkbox"/> Dipole	SPEAG	D2300V2	1096	2022/03/31	2025/03/30	
<input checked="" type="checkbox"/> Dipole	SPEAG	D2450V2	817	2022/04/01	2025/03/31	
<input checked="" type="checkbox"/> Dipole	SPEAG	D2600V2	1158	2022/03/31	2025/03/30	
<input checked="" type="checkbox"/> Electro Thermometer	DTM	DTM3000	3030	2021/10/17	2022/10/16	
<input checked="" type="checkbox"/> Amplifier	Mini-circuits	ZVE-8G	110405	N/A	N/A	
<input checked="" type="checkbox"/> Amplifier	Mini-circuits	ZHL-42	QA1331003	N/A	N/A	
<input checked="" type="checkbox"/> 3db ATTENUATOR	MINI	MCL BW-S3W5	0533	N/A	N/A	
<input checked="" type="checkbox"/> DUMMY PROBE	SPEAG	DP_2	SPDP2001AA	N/A	N/A	
<input checked="" type="checkbox"/> Dual Directional Coupler	Woken	20W couple	DOM2BHW1A1	N/A	N/A	
<input checked="" type="checkbox"/> SAM PHANTOM (ELI4 v4.0)	SPEAG	QDOVA001BB	1102	N/A	N/A	
<input checked="" type="checkbox"/> Twin SAM Phantom	SPEAG	QD000P40CD	1609	N/A	N/A	
<input checked="" type="checkbox"/> ROBOT	SPEAG	TX60	F10/5E6AA1/A101	N/A	N/A	
<input checked="" type="checkbox"/> ROBOT KRC	SPEAG	CS8C	F10/5E6AA1/C101	N/A	N/A	
<input checked="" type="checkbox"/> LIQUID	ANTENNESSA	41/05 OCP9	00425167	N/A	N/A	

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EMC Laboratory



Compliance Certification Services (Kunshan) Inc.

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

All measurement facilities used to collect the measurement data are located at

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10 Calibration certificate

Please see the Appendix C

11 Photographs

Please see the Appendix D



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Appendix A: Detailed System Check Results

The plots are showing as followings.

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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

System Performance Check- D835

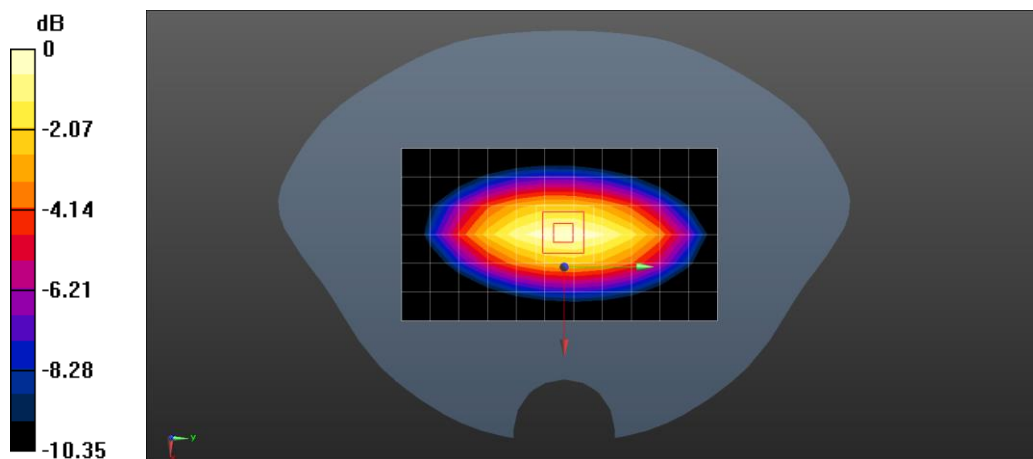
DUT: Dipole 835 MHz D835V2; Type: 4d114

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.909 \text{ S/m}$; $\epsilon_r = 42.668$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(10.12, 10.12, 10.12); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies Low 1 GHz/d=15mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 2.72 W/kg

System Performance Check at Frequencies Low 1 GHz/d=15mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 51.52 V/m; Power Drift = -0.07 dB
 Peak SAR (extrapolated) = 2.95 W/kg
SAR(1 g) = 2.3 W/kg; SAR(10 g) = 1.48 W/kg
 Maximum value of SAR (measured) = 2.67 W/kg



0 dB = 2.67 W/kg = 4.27 dBW/kg

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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

System Performance Check-D1800

DUT: Dipole 1800 MHz D1800V2; Type: 2d170

Communication System: UID 10000, CW; Frequency: 1800 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1800$ MHz; $\sigma = 1.41$ S/m; $\epsilon_r = 38.947$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(8.83, 8.83, 8.83); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=3.0mm (EX-Probe) (23.6 dBm)/Area Scan (7x7x1):

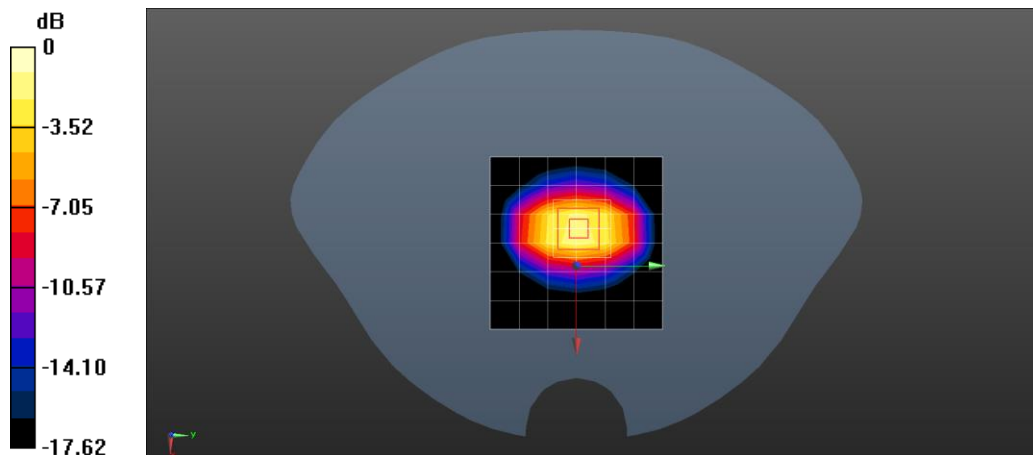
Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 9.55 W/kg

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=3.0mm (EX-Probe) (23.6 dBm)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 98.16 V/m; Power Drift = 0.07 dB
 Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 9.4 W/kg; SAR(10 g) = 4.91 W/kg

Maximum value of SAR (measured) = 13.5 W/kg



0 dB = 13.5 W/kg = 11.30 dBW/kg



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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

System Performance Check-D1900

DUT: Dipole 1900 MHz D1900V2; Type: 5d136

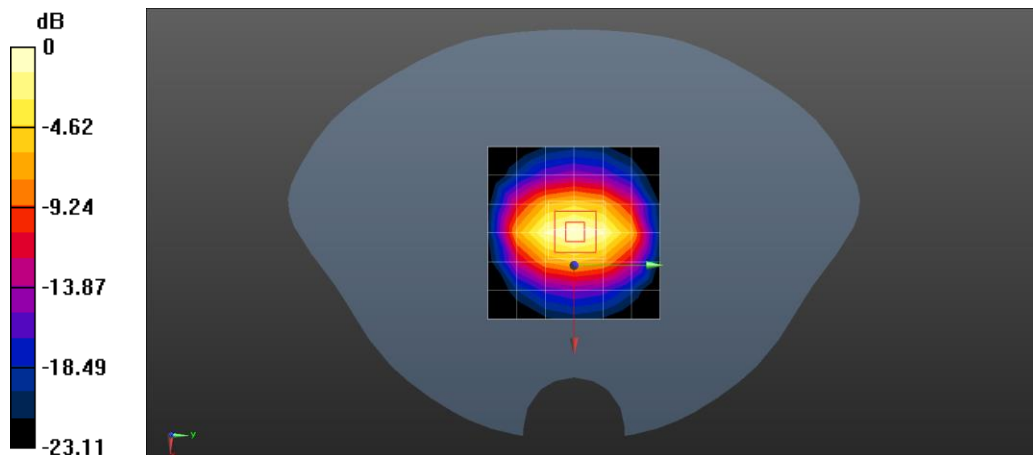
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.449$ S/m; $\epsilon_r = 38.457$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(8.48, 8.48, 8.48); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 13.4 W/kg

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 99.14 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 24.0 W/kg
SAR(1 g) = 10.11 W/kg; SAR(10 g) = 4.95 W/kg
 Maximum value of SAR (measured) = 12.8 W/kg



0 dB = 12.8 W/kg = 11.07 dBW/kg



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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

System Performance Check-D2300

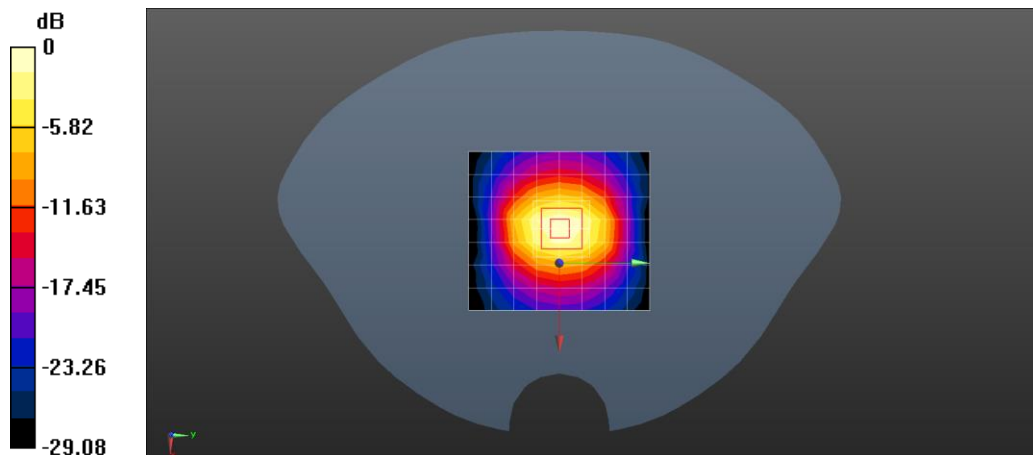
DUT: Dipole 2300 MHz D2300V2; Type: 1096

Communication System: UID 0, CW (0); Frequency: 2300 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 2300$ MHz; $\sigma = 1.689$ S/m; $\epsilon_r = 39.071$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.86, 7.86, 7.86); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 15.1 W/kg

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 104.7 V/m; Power Drift = -0.04 dB
 Peak SAR (extrapolated) = 24.4 W/kg
SAR(1 g) = 12.64 W/kg; SAR(10 g) = 5.63 W/kg
 Maximum value of SAR (measured) = 16.0 W/kg



0 dB = 16.0 W/kg = 12.04 dBW/kg



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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

System Performance Check-D2450

DUT: Dipole 2450 MHz D2450V2; Type: 817

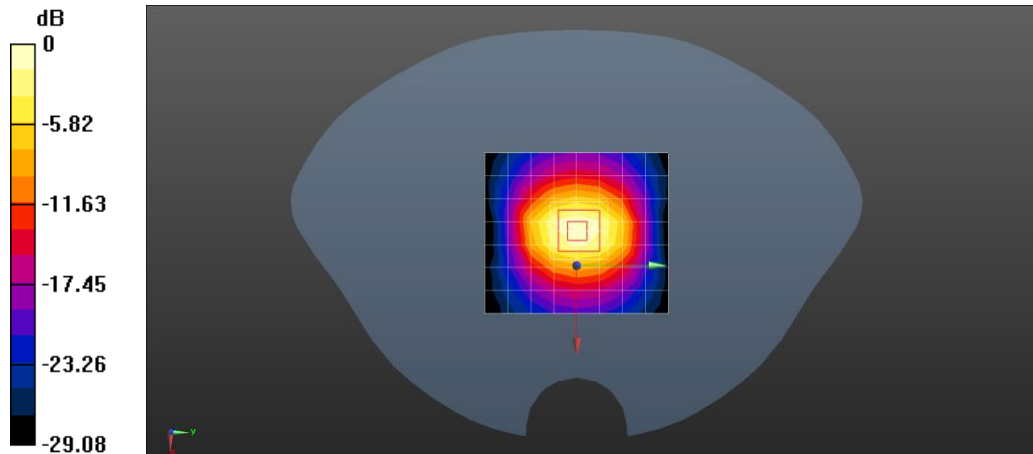
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.855$ S/m; $\epsilon_r = 38.744$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.63, 7.63, 7.63); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 17.1 W/kg

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 106.3 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 27.5 W/kg
SAR(1 g) = 12.77 W/kg; SAR(10 g) = 6.12 W/kg
 Maximum value of SAR (measured) = 18.1 W/kg



0 dB = 18.1 W/kg = 12.58 dBW/kg



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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

System Performance Check-D2600

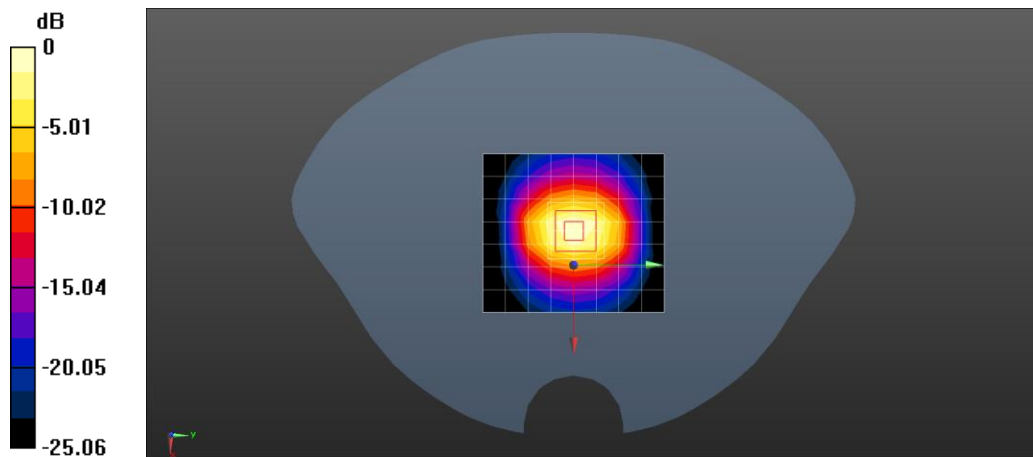
DUT: Dipole 2600 MHz D2600V2; Type: 1158

Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.028$ S/m; $\epsilon_r = 38.194$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007) DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.33, 7.33, 7.33); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 19.4 W/kg

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 108.4 V/m; Power Drift = -0.05 dB
 Peak SAR (extrapolated) = 31.0 W/kg
SAR(1 g) = 12.8 W/kg; SAR(10 g) = 6.16 W/kg
 Maximum value of SAR (measured) = 20.5 W/kg



0 dB = 20.5 W/kg = 13.12 dBW/kg



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Compliance Certification Services (Kunshan) Inc.

Report No.: KSCR220700111501

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Appendix B: Detailed Test Results

The plots of worse case are showing as followings.

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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

LTE Band 2 20M QPSK 1RB50 Bottom side Ch19100 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

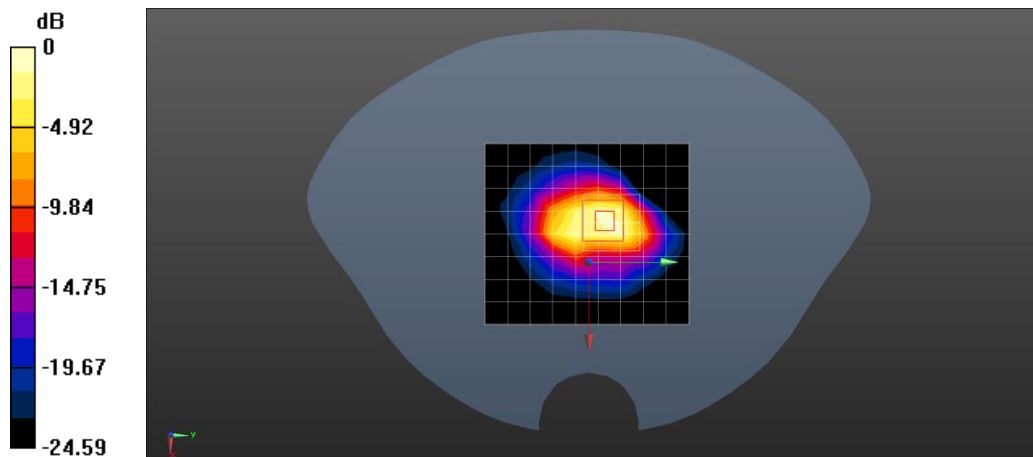
Communication System: UID 0, FDD_LTE (0); Frequency: 1900 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.449$ S/m; $\epsilon_r = 38.457$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(8.48, 8.48, 8.48); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (9x10x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 4.94 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 65.97 V/m; Power Drift = -0.16 dB
 Peak SAR (extrapolated) = 8.20 W/kg
SAR(1 g) = 4.06 W/kg; SAR(10 g) = 1.99 W/kg
 Maximum value of SAR (measured) = 6.68 W/kg



0 dB = 6.68 W/kg = 8.25 dBW/kg

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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

LTE Band 4 20M QPSK 1RB50 Bottom side Ch20300 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

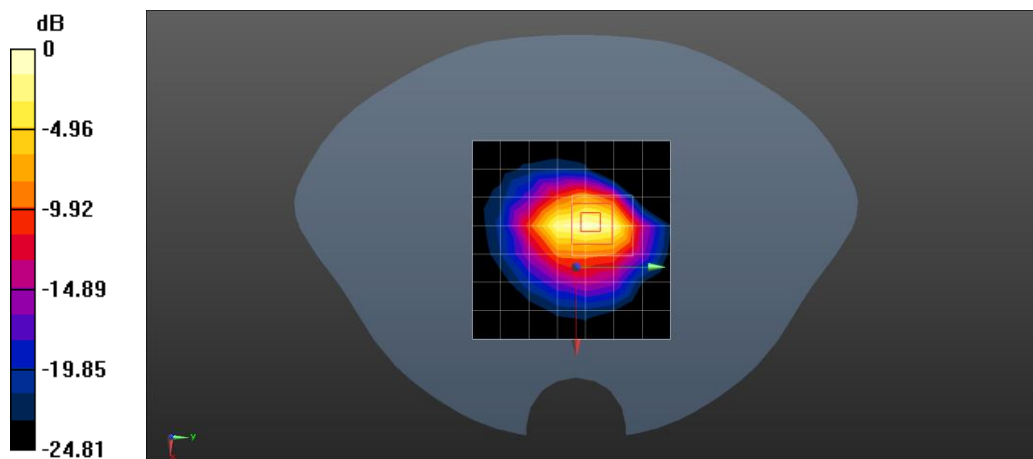
Communication System: UID 0, FDD_LTE (0); Frequency: 1745 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1745 \text{ MHz}$; $\sigma = 1.368 \text{ S/m}$; $\epsilon_r = 39.188$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(8.83, 8.83, 8.83); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASYS2, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (8x8x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 6.52 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
 Reference Value = 59.63 V/m; Power Drift = 0.06 dB
 Peak SAR (extrapolated) = 9.31 W/kg
SAR(1 g) = 4.67 W/kg; SAR(10 g) = 2.24 W/kg
 Maximum value of SAR (measured) = 7.33 W/kg



0 dB = 7.33 W/kg = 8.65 dBW/kg



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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

LTE Band 5 10M QPSK 1RB25 Front side Ch20525 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

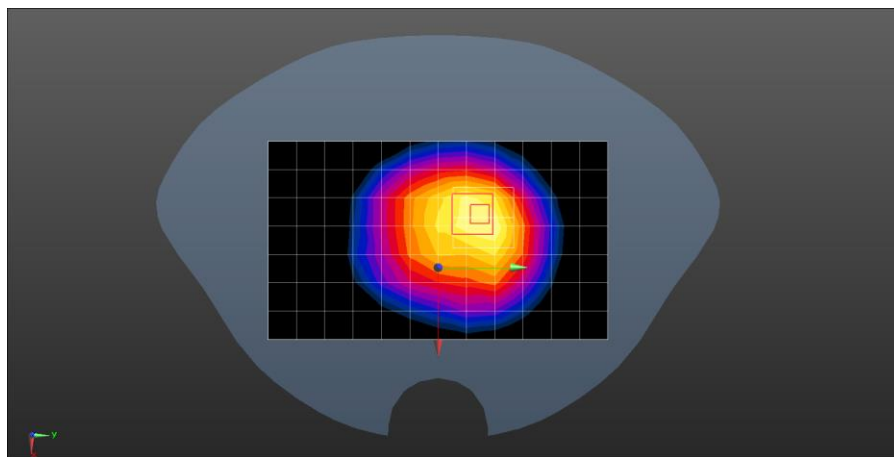
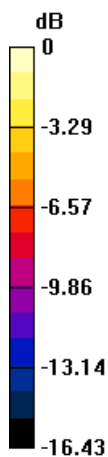
Communication System: UID 0, FDD_LTE (0); Frequency: 836.5 MHz; Duty Cycle: 1:1
 Medium parameters used (interpolated): $f = 836.5 \text{ MHz}$; $\sigma = 0.91 \text{ S/m}$; $\epsilon_r = 42.612$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(10.12, 10.12, 10.12); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASYS2, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 0.614 W/kg

Configuration/Head/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
 Reference Value = 21.81 V/m; Power Drift = -0.12 dB
 Peak SAR (extrapolated) = 0.995 W/kg
SAR(1 g) = 0.480 W/kg; SAR(10 g) = 0.259 W/kg
 Maximum value of SAR (measured) = 0.793 W/kg



0 dB = 0.793 W/kg = -1.01 dBW/kg



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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

LTE Band 7 20M QPSK 1RB50 Bottom side Ch20850 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

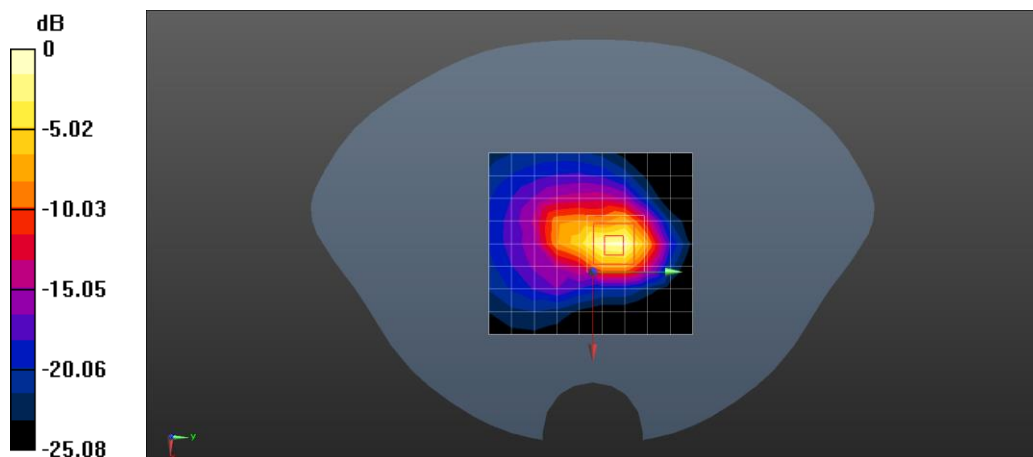
Communication System: UID 0, FDD_LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1
 Medium parameters used (interpolated): $f = 2510$ MHz; $\sigma = 1.926$ S/m; $\epsilon_r = 38.511$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.33, 7.33, 7.33); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASYS2, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (9x10x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 11.3 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 61.19 V/m; Power Drift = -0.03 dB
 Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 7.95 W/kg; SAR(10 g) = 3.23 W/kg
 Maximum value of SAR (measured) = 13.5 W/kg



0 dB = 13.5 W/kg = 11.30 dBW/kg



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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

LTE Band 38 20M QPSK 1RB50 Bottom side Ch38150 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

Communication System: UID 0, TDD_LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.57943

Medium parameters used: $f = 2610$ MHz; $\sigma = 2.04$ S/m; $\epsilon_r = 38.157$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.33, 7.33, 7.33); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASYS2, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (9x10x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 9.55 W/kg

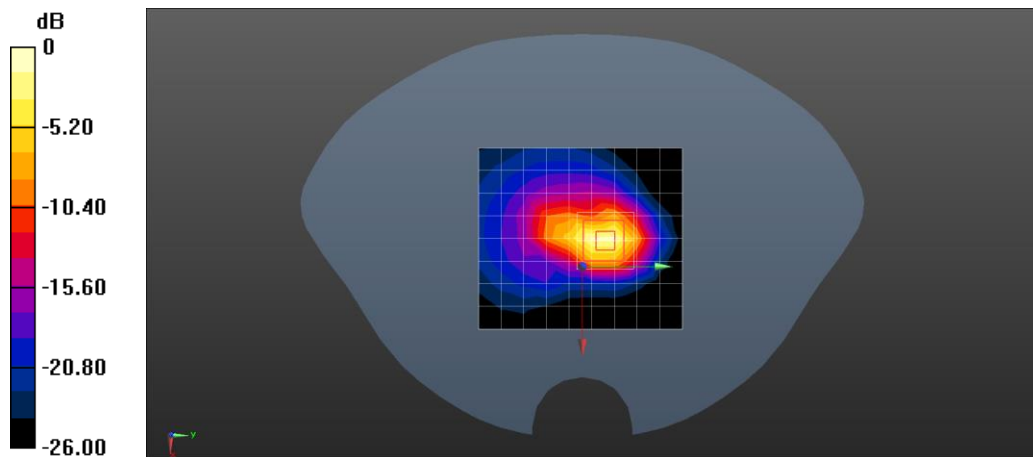
Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.33 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 14.6 W/kg

SAR(1 g) = 6.44 W/kg; SAR(10 g) = 2.52 W/kg

Maximum value of SAR (measured) = 11.9 W/kg



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

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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

LTE Band 40 10M QPSK 1RB25 Bottom side Ch38750 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

Communication System: UID 0, TDD_LTE (0); Frequency: 2310 MHz; Duty Cycle: 1:1.57943

Medium parameters used: $f = 2310$ MHz; $\sigma = 1.702$ S/m; $\epsilon_r = 39.055$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.86, 7.86, 7.86); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASYS2, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (9x10x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 2.93 W/kg

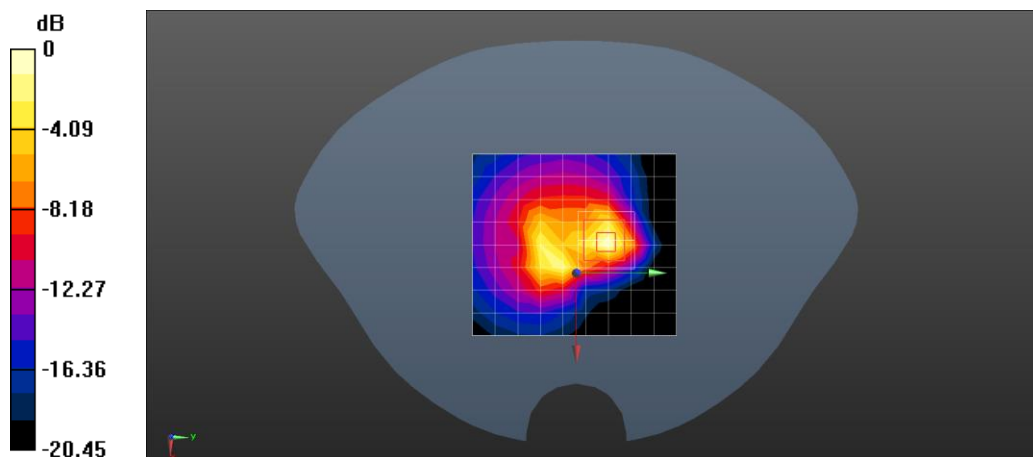
Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.06 V/m; Power Drift = 0.1 dB

Peak SAR (extrapolated) = 3.65 W/kg

SAR(1 g) = 1.83 W/kg; SAR(10 g) = 0.752 W/kg

Maximum value of SAR (measured) = 2.95 W/kg



0 dB = 2.95 W/kg = 4.70 dBW/kg

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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

LTE Band 40 10M QPSK 1RB25 Bottom side Ch39200 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

Communication System: UID 0, TDD_LTE (0); Frequency: 2355 MHz; Duty Cycle: 1:1.57943

Medium parameters used: $f = 2355$ MHz; $\sigma = 1.752$ S/m; $\epsilon_r = 38.916$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.86, 7.86, 7.86); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASYS2, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (9x10x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 3.06 W/kg

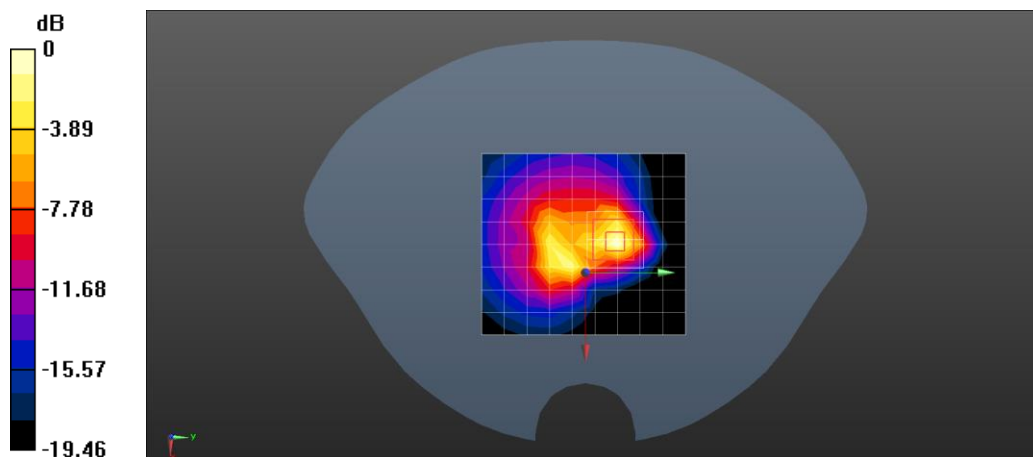
Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.22 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 3.81 W/kg

SAR(1 g) = 1.77 W/kg; SAR(10 g) = 0.721 W/kg

Maximum value of SAR (measured) = 3.09 W/kg



0 dB = 3.09 W/kg = 4.90 dBW/kg

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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

LTE Band 41 20M QPSK 1RB50 Bottom side Ch39750 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

Communication System: UID 0, TDD_LTE (0); Frequency: 2506 MHz; Duty Cycle: 1:1.57943

Medium parameters used: $f = 2506$ MHz; $\sigma = 1.918$ S/m; $\epsilon_r = 38.529$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.33, 7.33, 7.33); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASYS2, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (9x10x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 9.89 W/kg

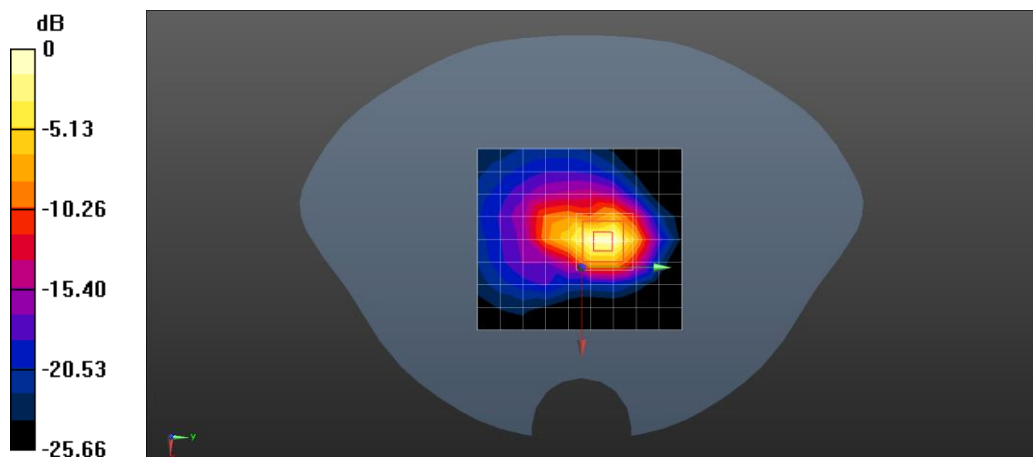
Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.76 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 12.3 W/kg

SAR(1 g) = 5.98 W/kg; SAR(10 g) = 2.43 W/kg

Maximum value of SAR (measured) = 10.2 W/kg



0 dB = 10.2 W/kg = 10.09 dBW/kg

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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

WLAN2.4GHz 802.11b 1Mbps Front side Ch6 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

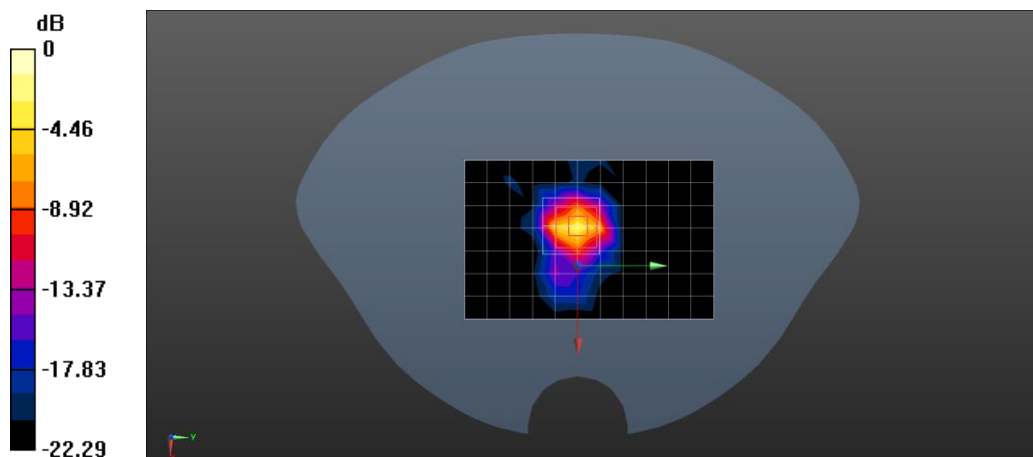
Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 2437 \text{ MHz}$; $\sigma = 1.839 \text{ S/m}$; $\epsilon_r = 38.791$; $\rho = 1000 \text{ kg/m}^3$
 Phantom section: Flat Section
 Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.63, 7.63, 7.63); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASYS2, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (8x12x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 0.776 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 20.08 V/m; Power Drift = 0.09 dB
 Peak SAR (extrapolated) = 2.53 W/kg
SAR(1 g) = 0.526 W/kg; SAR(10 g) = 0.189 W/kg
 Maximum value of SAR (measured) = 1.36 W/kg



0 dB = 1.36 W/kg = 1.34 dBW/kg



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Test Laboratory: Compliance Certification Services (Kunshan) Inc.

Bluetooth DH5 GFSK Front side Ch39 0mm

DUT: Body Camera ; Type: DS-MCW407/32G/GLE (C)

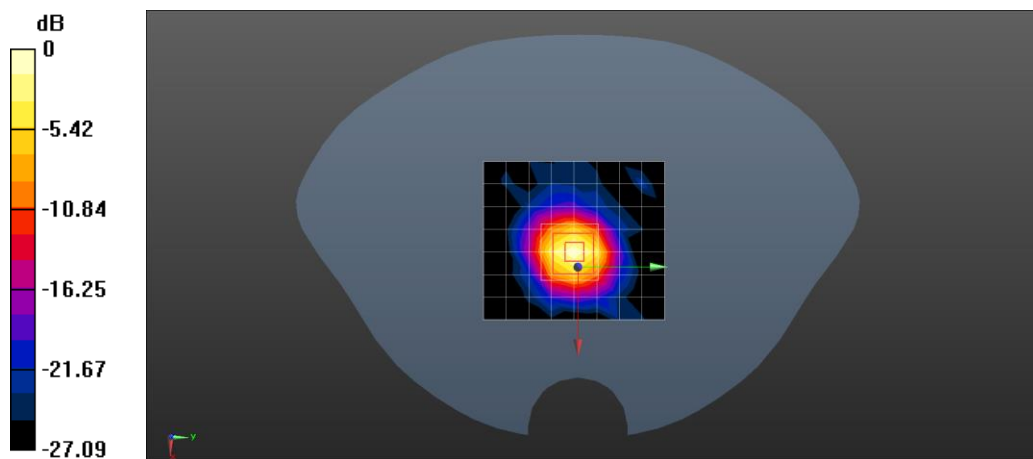
Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 2441$ MHz; $\sigma = 1.848$ S/m; $\epsilon_r = 38.764$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section
 Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7346; ConvF(7.63, 7.63, 7.63); Calibrated: 2022/03/30;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1245; Calibrated: 2022/05/30
- Phantom: Twin SAM Phantom; Type: QD 000 P40 CD; Serial: 1609
- Measurement SW: DASYS5, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/Head/Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
 Maximum value of SAR (measured) = 0.687 W/kg

Configuration/Head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 15.51 V/m; Power Drift = 0.01 dB
 Peak SAR (extrapolated) = 0.941 W/kg
SAR(1 g) = 0.279 W/kg; SAR(10 g) = 0.105 W/kg
 Maximum value of SAR (measured) = 0.718 W/kg



0 dB = 0.718 W/kg = -1.44 dBW/kg



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Compliance Certification Services (Kunshan) Inc.

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Appendix C: Calibration certificate

Appendix D: Photographs

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