No.10 Weiye Rd., Innovation park, Eco&Tec,
Development Zone, Kunshan City, Jiangsu, China
Telephone: 86-512-57355888
Fax: 86-512-57370818
Mail: sgs.china@sgs.com

FCC SAR TEST REPORT

Application No:	CKSEM1907000272CR
Applicant:	DT Research, Inc.
Manufacturer:	DT Research, Inc.
Factory:	DT Research, Inc. Taiwan Branch
Product Name(EUT):	Dual Band Wireless-AC 8265
Model No.(EUT):	600D
FCC ID:	YE3600D
Product Name(Host):	Mobile Tablet
Model No.(Host):	DT380CR
Series Model:	DT380XX (X=0~9 or A~Z or blank)
Trade Mark:	DT Research, Inc.
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2019-07-20
Date of Test:	2019-07-23 to 2019-08-03
Date of Issue:	2019-08-08
Test conclusion:	**PASS ***

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

Authorized Signature:

Eric Lin

Laboratory Manager

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

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

程智电子科技（昆山）有限公司
检验检测专用章
Inspection & Testing Services
Compliance Certification Services (Kunshan) Inc.
Compliance Certification Services (Kunshan) Inc.
EMC Laboratory

REVISION HISTORY

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-08-08		Original

TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)
	Body
WCDMA Band II	0.49
WCDMA Band V	0.51
LTE Band 2	0.81
LTE Band 4	0.78
LTE Band 5	0.49
LTE Band 12	0.54
LTE Band 13	0.63
WI-FI (2.4GHz)	0.45
WI-FI (5GHz)	1.17
SAR Limited(W/kg)	1.6
Maximum Simultaneous Transmission SAR (W/kg)	
Scenario	Body
Sum SAR	1.58
SPLSR	NA
SPLSR Limited	0.04

Approved & Released by

Eric Lin

Eric Lin

SAR Manager

Tested by

Richard. Kong

Richard Kong

SAR Engineer

CONTENTS

1 General Information

1.1 Details of Client

	DT380CR contains 2 certified modules: Bluetooth +WLAN Module FCC ID: YE3600D and WCDMA+LTE Module FCC ID: N7NEM7455.
Applicant:	DT Research, Inc.
Address:	2000 Concourse Drive, San Jose, CA 95131, U.S.A
Manufacturer:	DT Research, Inc.
Address:	2000 Concourse Drive, San Jose, CA 95131, U.S.A
Factory:	DT Research, Inc. Taiwan Branch
Address:	6F., No.36 Wuquan 7 th Rd., Wugu Dist. New Taipei City 248 Taiwan

1.2 Test Location

Company:	Compliance Certification Services Inc. Kun shan Laboratory
Address:	No.10 Weiye Rd., Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China
Post code:	215300
Telephone:	86-512-57355888
Fax:	86-512-57370818
E-mail:	sgs.china@sgs.com

1.3 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 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• A2LA (Certificate No. 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 Inc. has been recognized as an accredited testing laboratory.
Designation Number: CN1172. Test Firm Registration Number: 995260.

• Industry Canada (IC) – IC Assigned Code: 2324E CAB ID: CN0072

The 10m and 3m Semi-anechoic chamber of Compliance Certification Services (Kunshan) Inc. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 2324E-1 for 10m chamber, 2324E-2 for 3m chamber.

• 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-1600, C-1707, T-1499, G-216 respectively.

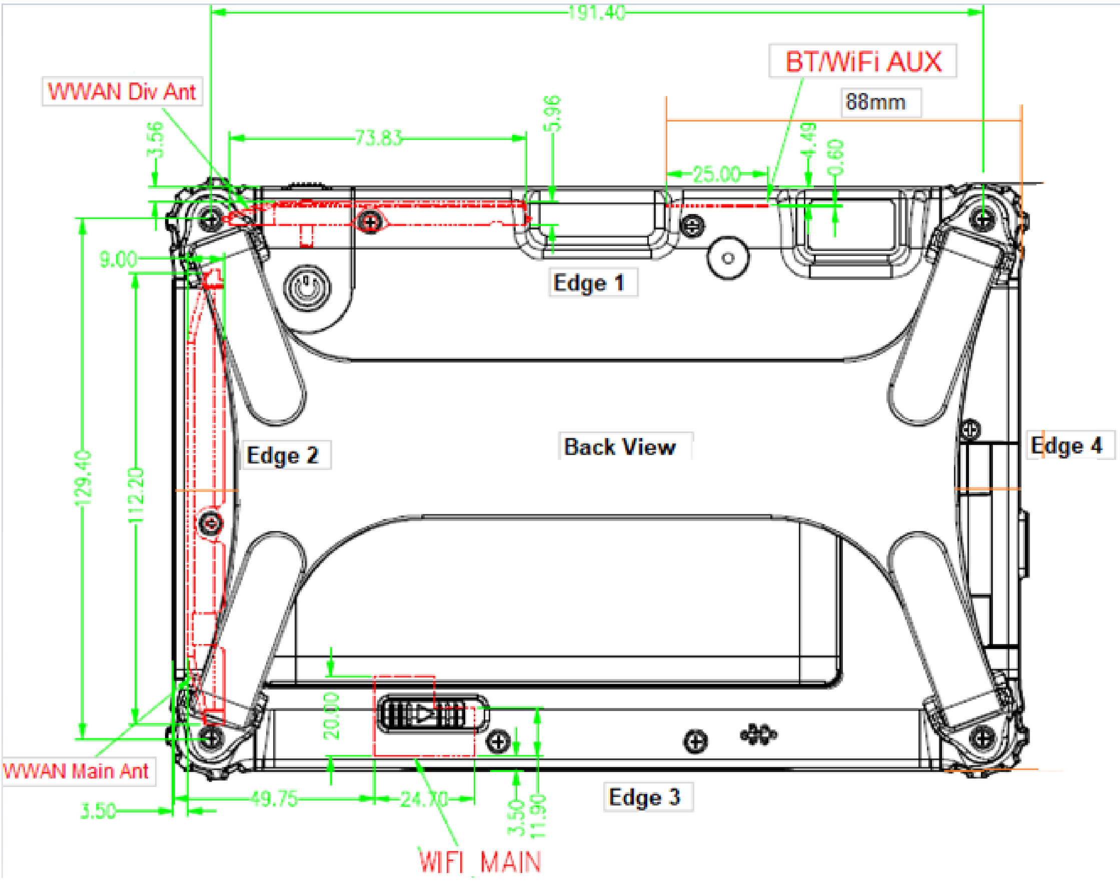
1.4 General Description of EUT

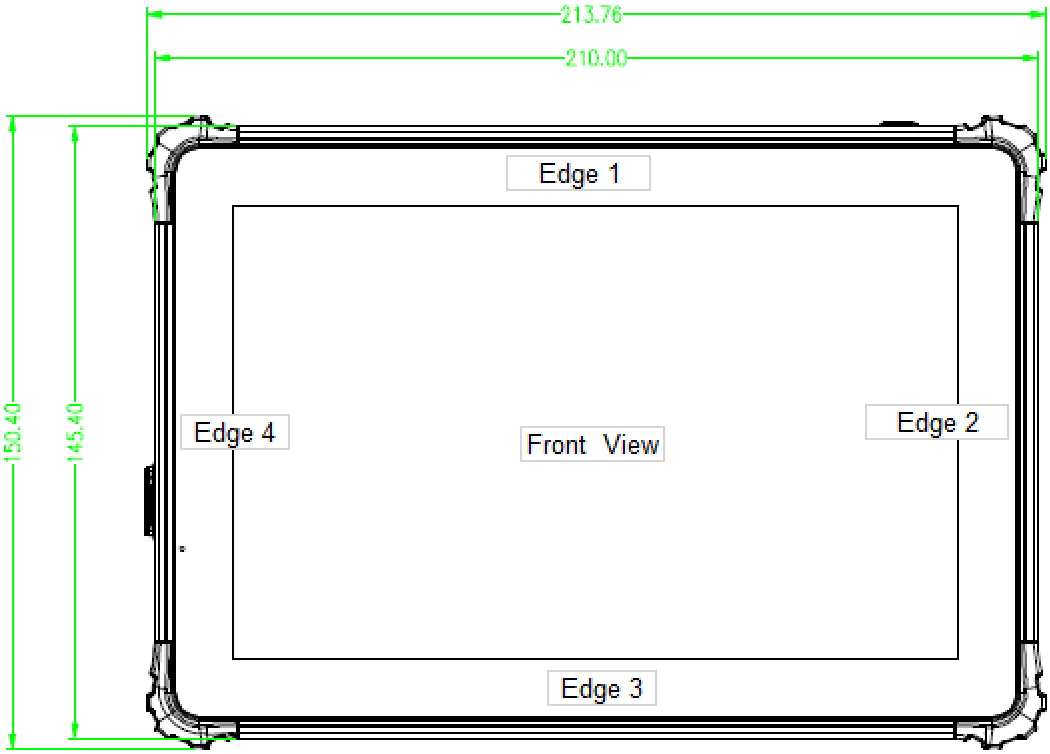
<table>
<tr><td>Device Type :</td><td colspan="3">portable device</td></tr>
<tr><td>Exposure Category:</td><td colspan="3">uncontrolled environment / general population</td></tr>
<tr><td>Product Name(Host):</td><td colspan="3">Mobile Tablet</td></tr>
<tr><td>Model No.(Host):</td><td colspan="3">DT380CR</td></tr>
<tr><td>Series Model:</td><td colspan="3">DT380XX (X=0~9 or A~Z or blank)</td></tr>
<tr><td>Model Discrepancy:</td><td colspan="3">Market segmentation</td></tr>
<tr><td>FCC ID:</td><td colspan="3">BT/WLAN: YE3600D; WCDMA/LTE: N7NEM7455</td></tr>
<tr><td>Trade Mark:</td><td colspan="3">DT Research, Inc</td></tr>
<tr><td>Product Phase:</td><td colspan="3">production unit</td></tr>
<tr><td>SN(Host):</td><td colspan="3">380W11917Y507</td></tr>
<tr><td>Hardware Version(Host):</td><td colspan="3">R1.2</td></tr>
<tr><td>Software Version(Host):</td><td colspan="3">win10 Lot</td></tr>
<tr><td>Antenna Type:</td><td colspan="3">Internal</td></tr>
<tr><td colspan="4">Device Operating Configurations :</td></tr>
<tr><td>Modulation Mode:</td><td colspan="3">WCDMA: QPSK,16QAM(HSPA+); LTE: QPSK,16QAM;
WIFI: DSSS; OFDM; BT: GFSK, π/4DQPSK,8DPSK</td></tr>
<tr><td>Device Class:</td><td colspan="3">B</td></tr>
<tr><td rowspan="11">Frequency Bands:</td><td>Band</td><td>Tx (MHz)</td><td>Rx (MHz)</td></tr>
<tr><td>WCDMA Band V</td><td>824~849</td><td>869~894</td></tr>
<tr><td>WCDMA Band II</td><td>1850~1910</td><td>1930~1990</td></tr>
<tr><td>LTE Band 2</td><td>1850~1910</td><td>1930~1990</td></tr>
<tr><td>LTE Band 4</td><td>1710~1755</td><td>2110~2155</td></tr>
<tr><td>LTE Band 5</td><td>824~849</td><td>869~894</td></tr>
<tr><td>LTE Band 12</td><td>699~716</td><td>729~746</td></tr>
<tr><td>LTE Band 13</td><td>777~787</td><td>746~756</td></tr>
<tr><td>WIFI 2.4G</td><td>2412~2462</td><td>2412~2462</td></tr>
<tr><td>Bluetooth</td><td>2402~2480</td><td>2402~2480</td></tr>
<tr><td>WIFI5G</td><td>5150~5250
5250~5350
5470~5725
5725~5850</td><td>5150~5250
5250~5350
5470~5725
5725~5850</td></tr>
<tr><td rowspan="3">Battery Information:</td><td colspan="3">Model: ACC-006-24 (1ICP5/50/130-2)</td></tr>
<tr><td colspan="3">Rated capacity: 3.7VDC, 8800mAh, 32.56Wh</td></tr>
<tr><td colspan="3">Manufacturer: Guangdong Power-Tech New Power Co.,Ltd</td></tr>
</table>

Note：
Model No.: DT380CR, DT380XX (X=0~9 or A~Z or blank).

Only the model DT380CR was tested, since the electrical circuit design, layout, component used, Internal Wiring and functions were identical for the above models, with only differences on model No.

1.4.1 DUT Antenna Locations





The test device is a Mobile tablet. The display diagonal dimension is 204mm and the overall diagonal dimension of this device is 250mm.

According to the distance between WWAN & WiFi & BT antennas and the sides of the EUT we can draw the conclusion that:

EUT Sides for SAR Testing					
Mode	Bottom Face	Edge 1	Edge 2	Edge 3	Edge 4
WWAN Main Ant Sensor Off	Yes	Yes	Yes	Yes	No
WWAN Main Ant Sensor On	Yes	No	Yes	No	No
2.4G WIFI Main Ant	Yes	No	No	Yes	No
2.4G WIFI AUX Ant	Yes	Yes	No	No	No
5G WIFI Main Ant	Yes	No	No	Yes	No
5G WIFI AUX Ant	Yes	Yes	No	No	No
BT Ant	No	No	No	No	No

Table 1：EUT Sides for SAR Testing

Note:

1) Please see section 8.2.

1.5 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
ANSI/IEEE Std C95.1 – 1992	Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 941225 D01 3G SAR Procedures v03r01	3G SAR Measurement Procedures
KDB 941225 D05 SAR for LTE Devices v02r05	SAR EVALUATION CONSIDERATIONS FOR LTE DEVICES
KDB 248227 D01 802.11 Wi-Fi SAR v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
KDB447498 D01 General RF Exposure Guidance v06	Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies
KDB447498 D03 Supplement C Cross-Reference v01	OET Bulletin 65, Supplement C Cross-Reference
KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04	SAR Measurement Requirements for 100 MHz to 6 GHz
KDB 865664 D02 RF Exposure Reporting v01r02	RF Exposure Compliance Reporting and Documentation Considerations
616217 D04 SAR for laptop and tablets v01r02	SAR evaluation consideration for laptop, notebook, notebook and tablet computers

RF exposure limituman 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.)

2 Laboratory Environment

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

Table 2 : The Ambient Conditions

3 SAR Measurements System Configuration

3.1 The SAR Measurement System

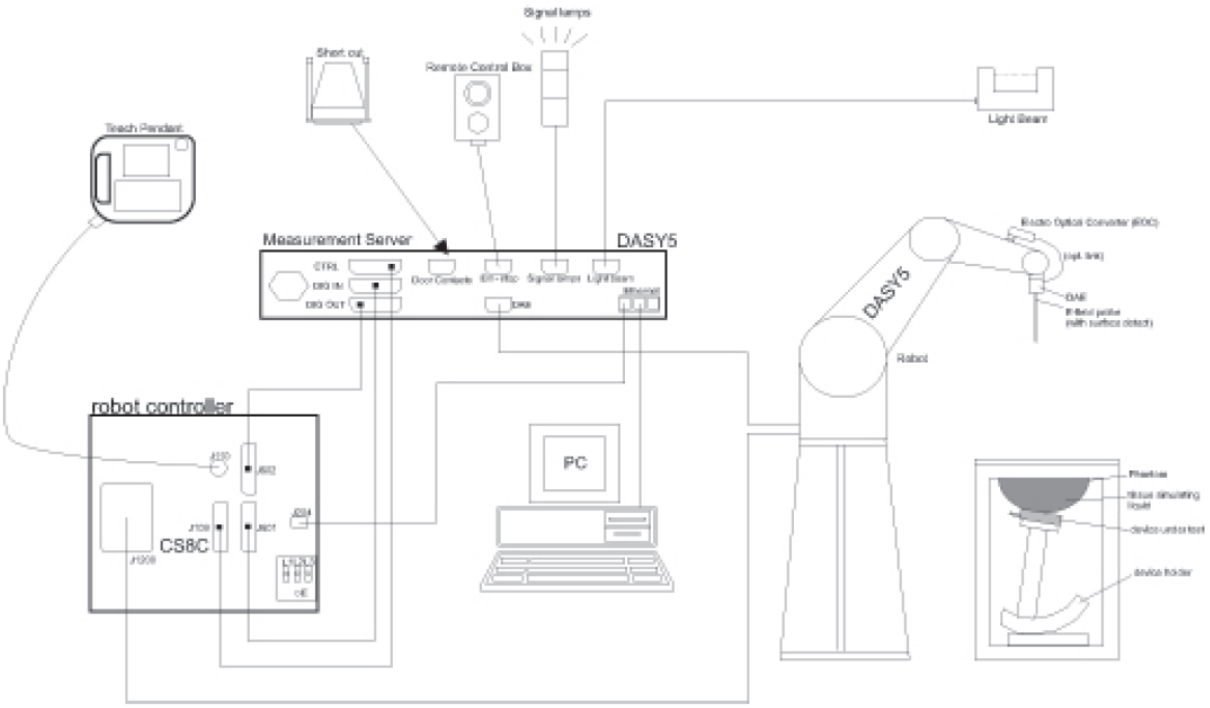
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY5 professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the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

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

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

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

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



F-1. SAR Measurement System Configuration

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

3.2 Isotropic E-field Probe EX3DV4

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

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.

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.

3.6 Device Holder for Transmitters

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

- The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centres for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.
- The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

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 (≤2GHz)and 7x7x7 points (≥2GHz). 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. 1528-2003.

<table>
<tr><td colspan="3"></td><td>$\leq$ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>$\leq$ 2 GHz: $\leq$ 15 mm
2 – 3 GHz: $\leq$ 12 mm</td><td>3 – 4 GHz: $\leq$ 12 mm
4 – 6 GHz: $\leq$ 10 mm</td></tr>
<tr><td colspan="2">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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>$\leq$ 2 GHz: $\leq$ 8 mm
2 – 3 GHz: $\leq$ 5 mm*</td><td>3 – 4 GHz: $\leq$ 5 mm*
4 – 6 GHz: $\leq$ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>$\leq$ 5 mm</td><td>3 – 4 GHz: $\leq$ 4 mm
4 – 5 GHz: $\leq$ 3 mm
5 – 6 GHz: $\leq$ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>$\leq$ 4 mm</td><td>3 – 4 GHz: $\leq$ 3 mm
4 – 5 GHz: $\leq$ 2.5 mm
5 – 6 GHz: $\leq$ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">$\leq 1.5\cdot\Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>$\geq$ 30 mm</td><td>3 – 4 GHz: $\geq$ 28 mm
4 – 5 GHz: $\geq$ 25 mm
5 – 6 GHz: $\geq$ 22 mm</td></tr>
<tr><td colspan="5">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.
* When zoom scan is required and the <u>reported</u> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is $\leq$ 1.4 W/kg, $\leq$ 8 mm, $\leq$ 7 mm and $\leq$ 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.</td></tr>
</table>

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 %

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:

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

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

Ui = input signal of channel i (i = x, y, z)

cf = crest factor of exciting field (DASY parameter)

dcp i = diode compression point (DASY parameter)

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

E-field probes:

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

H-field probes:

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

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

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

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

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

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

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

with SAR = local specific absorption rate in mW/g

Etot = total field strength in V/m

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

ε= equivalent tissue density in g/cm3

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

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

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

Htot = total magnetic field strength in A/m

4 SAR measurement variability and uncertainty

4.1 SAR measurement variability

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

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

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

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

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

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

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.

5 Description of Test Position

5.1 Body Exposure Condition

5.1.1 Body accessory exposure conditions

1) Proximity sensor triggering distances

This EUT was tested in five different positions. They are Bottom Face, Edge 1, Edge 2, Edge 3 and Edge 4 of tablet. In these positions, the surface of EUT is touching phantom with 0 mm.

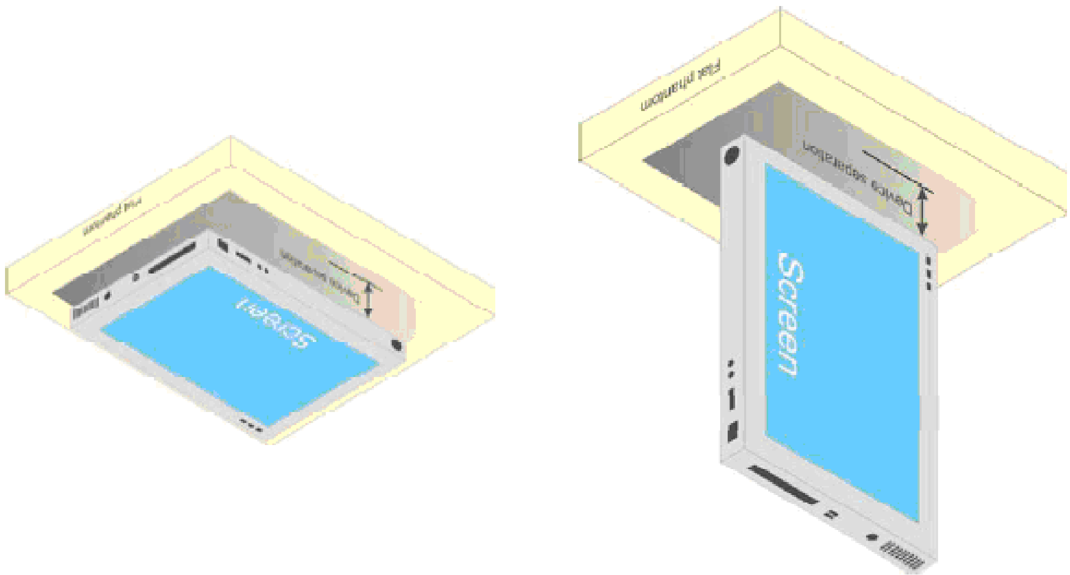


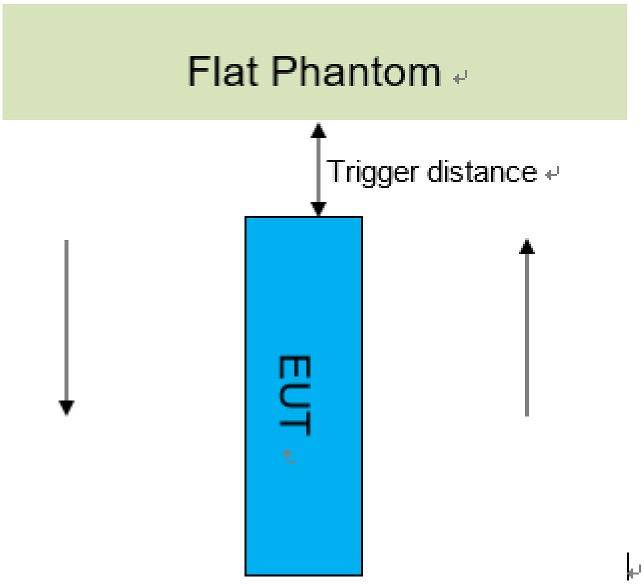
Fig Illustration for Lap-touching Position

5.2 Proximity Sensor Triggering Test

5.2.1 Proximity sensor triggering distances

1）. <u>Proximity sensor triggering distances</u>

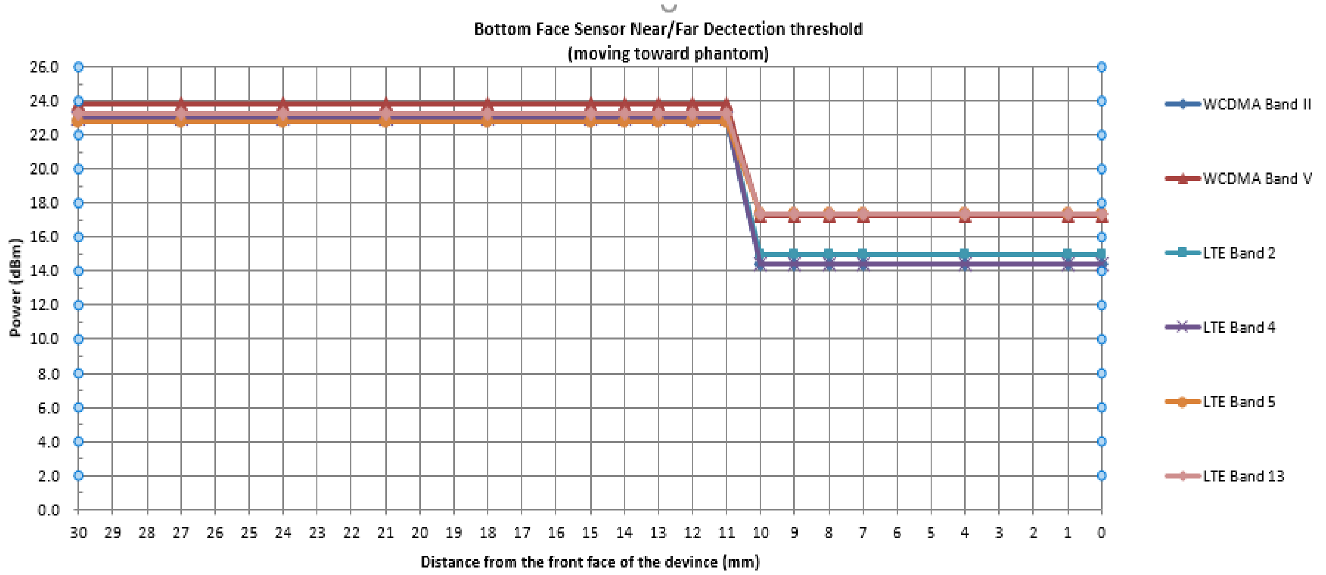
The Proximity sensor triggering was applied to WCDMA Band 2, 4; LTE Band 2, 4,5,12 Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.

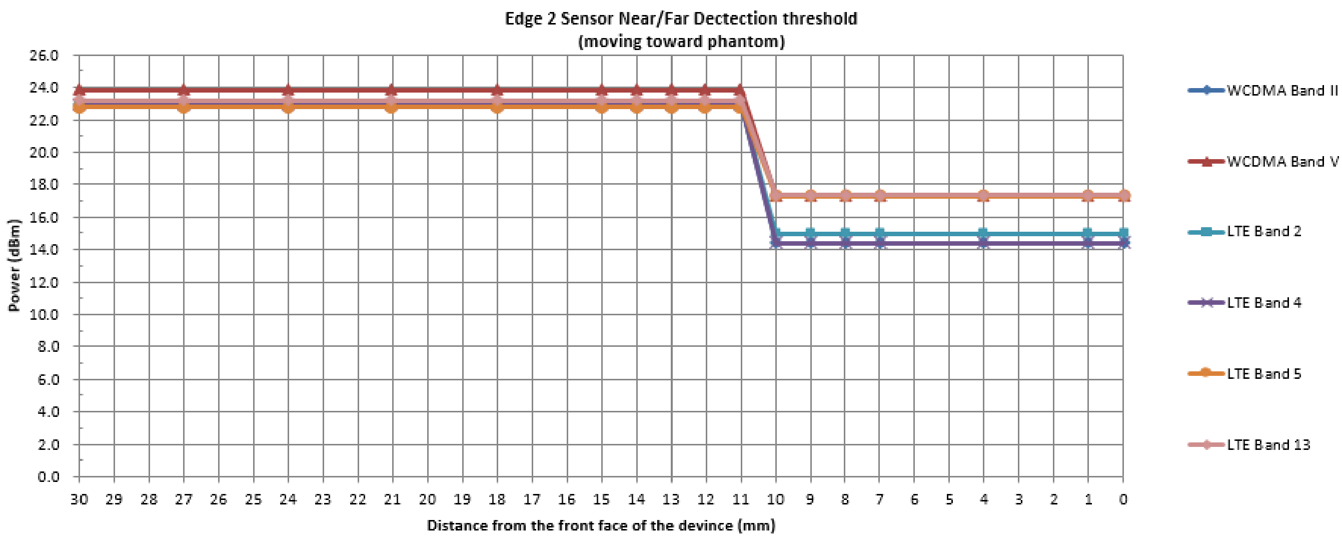


Position	Band	Ch	Measured Power(dBm)		Reduction levels(dB)
			Max. Power distance>10mm	Power back-off distance<=10mm	
Bottom Face and Edge 2	WCDMA V	4233	23.85	17.31	6.54
	WCDMA II	9400	22.92	14.4	8.52
	LTE Band 2	19100	22.88	14.97	7.91
	LTE Band 4	20050	22.93	14.42	8.51
	LTE Band 5	20525	22.78	17.01	5.77
	LTE Band 12	23060	23.83	17.46	6.37
	LTE Band 13	23230	23.21	17.35	5.86

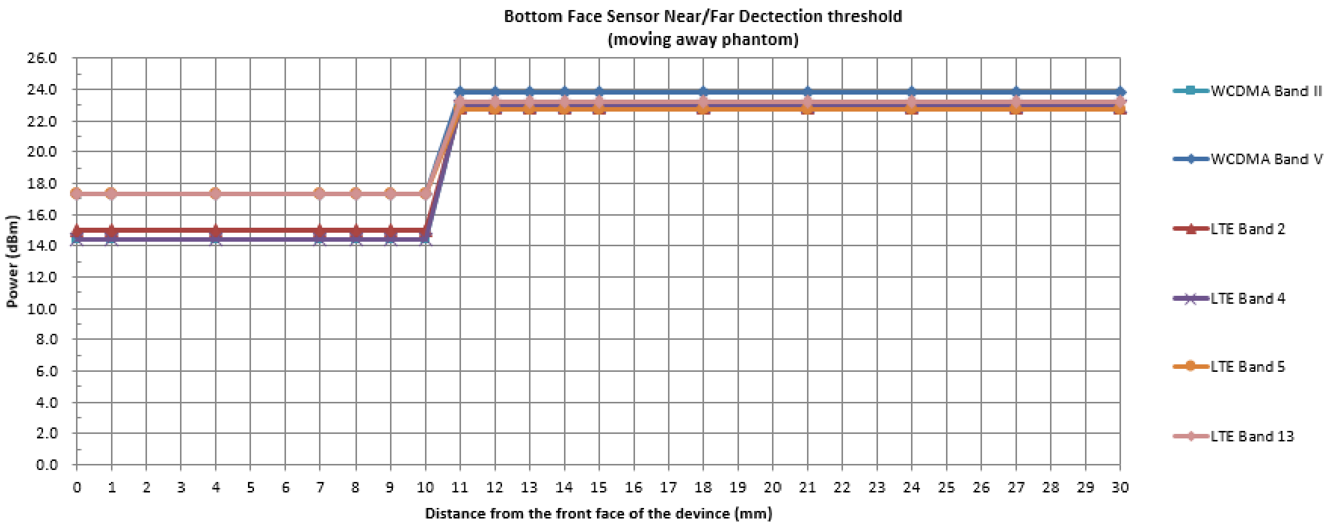
Note: SAR tests with proximity sensor power reduction are only required for the sides of frequency bands in the table above. For the other sides or other frequency bands of the device, SAR is still tested at the maximum power level with sensor off.

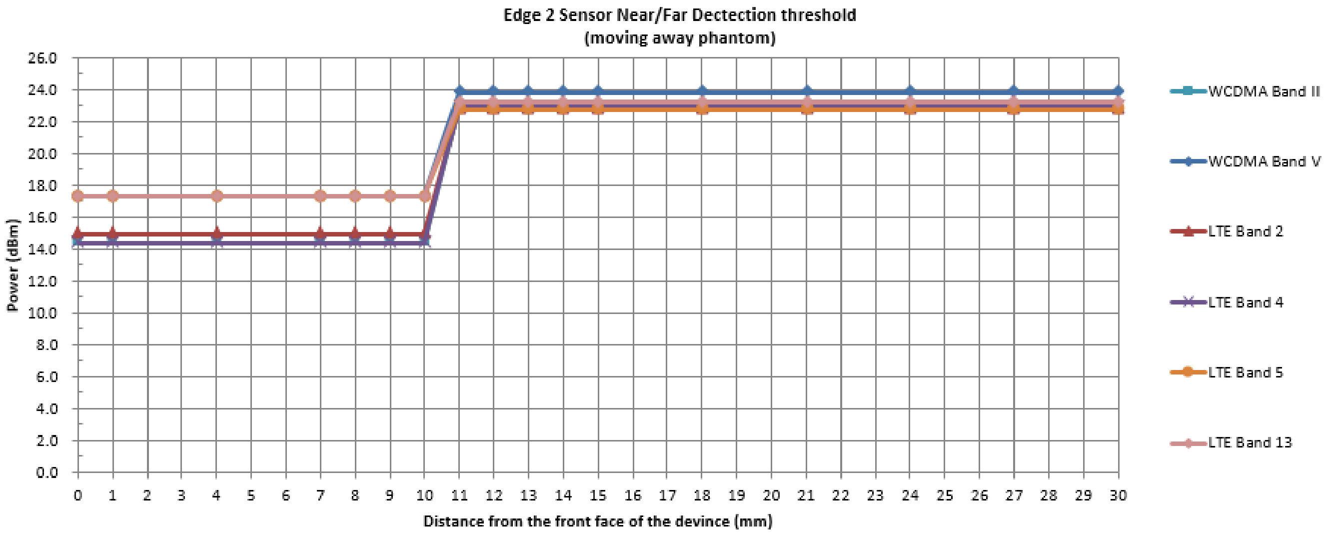
- DUT Moving Toward（Trigger）the Phantom





- DUT Moving Away（Release）from the Phantom





2）. Proximity sensor coverage

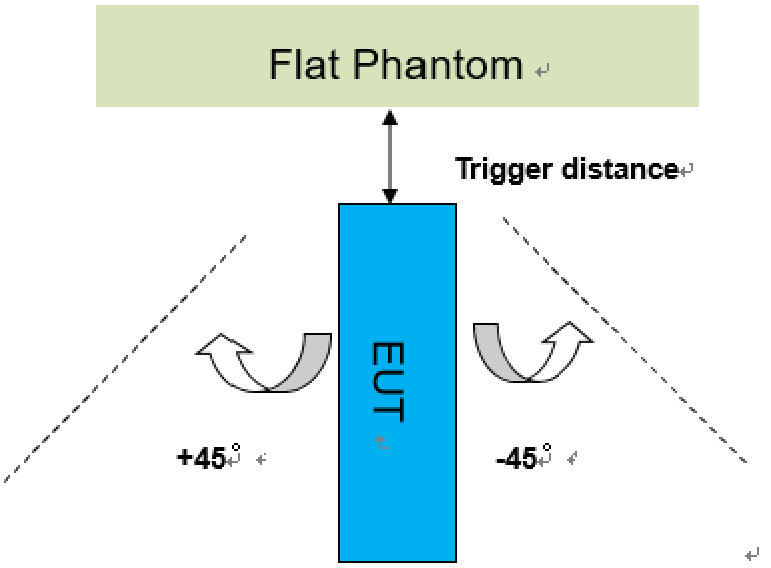
If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.

The proximity sensor and main antenna use same metallic electrode, so there is no spatial offset.

3）. Device tilt angle influences to proximity sensor triggering

The influence of device tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom.

Rotating the tablet around the edge next to the phantom in ≤ 10° increments until the tablet is ± 45° from the vertical position at 0°, and the maximum output power remains in the reduced mode. The model prototype only take effect on surface of the Edge2.



Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering for Edge2													
Band(MHz)	Minimum trigger distance Per KDB616217§6.2	Minimum trigger distance at which power reduction was maintained over ±45°	Power Reduction Status										
			-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°
WCDMA B2	10mm	10mm	on	on	on	on	on	on	on	on	on	on	on
WCDMA B4	10mm	10mm	on	on	on	on	on	on	on	on	on	on	on
LTE B2	10mm	10mm	on	on	on	on	on	on	on	on	on	on	on
LTE B4	10mm	10mm	on	on	on	on	on	on	on	on	on	on	on
LTE B5	10mm	10mm	on	on	on	on	on	on	on	on	on	on	on
LTE B12	10mm	10mm	on	on	on	on	on	on	on	on	on	on	on
LTE B13	10mm	10mm	on	on	on	on	on	on	on	on	on	on	on

6 SAR System Verification Procedure

6.1 Tissue Simulate Liquid

6.1.1 Recipes for Tissue Simulate Liquid

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

Ingredients (% by weight)	Frequency (MHz)									
	450		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%										

Table 3：Recipe of Tissue Simulate Liquid

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 ρ = 1000 kg/m^3)

6.1.3 Measurement for Tissue Simulate Liquid

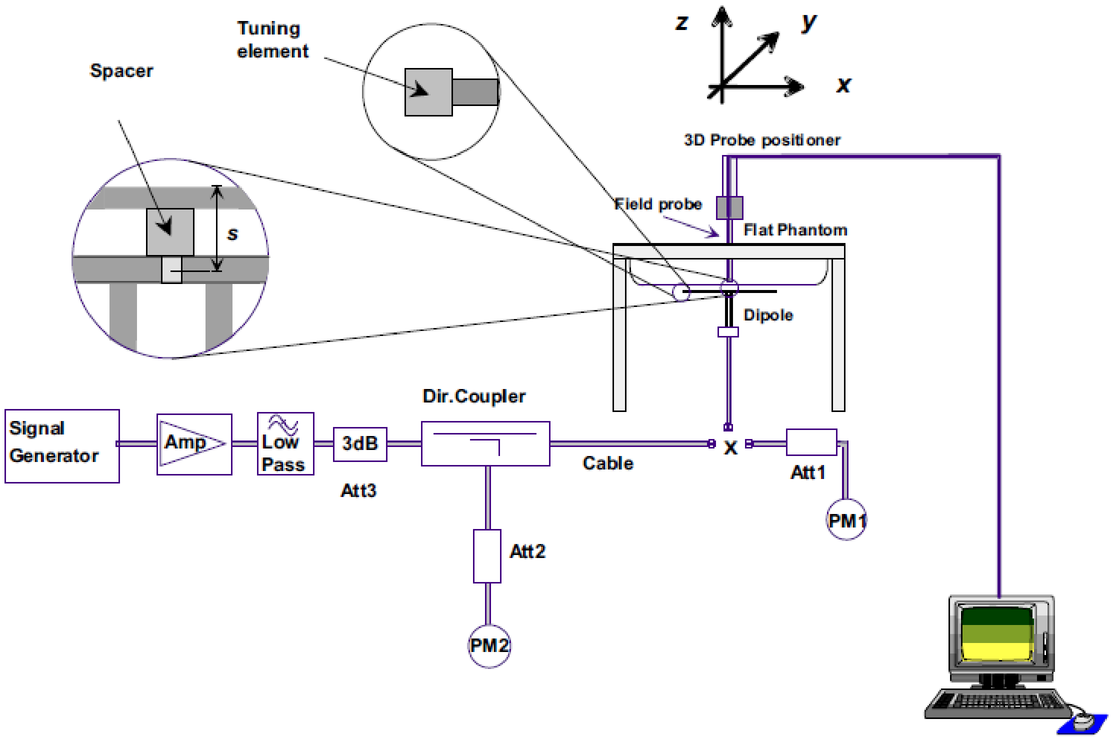
The dielectric properties for this Tissue Simulate Liquids were measured by using the Agilent Model 85070E Dielectric Probe in conjunction with Agilent E5071C Network Analyzer (300 KHz-8500 MHz). The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this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

Tissue Type	Measured Frequency (MHz)	Target Tissue (±5%)		Measured Tissue		Liquid Temp.	Measured Date
		ε_r	σ(S/m)	ε_r	σ(S/m)	(℃)	
750 Body	750	55.5 (52.73~58.28)	0.96 (0.91~1.00)	56.279	0.956	22.1	2019/7/29
835 Body	835	55.2 (52.44~57.96)	0.97 (0.92~1.02)	53.853	0.986	22.1	2019/7/30
1800 Body	1800	53.3 (50.64~55.97)	1.52 (1.44~1.60)	52.452	1.578	22.2	2019/7/24
1900 Body	1900	53.3 (50.64~55.97)	1.52 (1.44~1.60)	53.19	1.513	22.3	2019/7/27
2450 Body	2450	52.70 (50.07~55.34)	1.95 (1.85~2.05)	52.319	1.994	22	2019/7/23
5250 Body	5250	48.9 (46.46~51.35)	5.36 (5.09~5.63)	47.965	5.528	22.2	2019/8/1
5600 Body	5600	48.5 (46.08~50.93)	5.77 (5.48~6.06)	47.19	5.85	22.2	2019/8/2
5750 Body	5750	48.3 (45.89~50.72)	5.94 (5.64~6.24)	46.68	6.06	22.2	2019/8/3

Table 4： Measurement result of Tissue electric parameters

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

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.

6.2.2 Summary System Check Result(s)

Validation Kit		Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1w)	Measured SAR (normalized to 1w)	Target SAR (normalized to 1w) (±10%)	Target SAR (normalized to 1w) (±10%)	Liquid Temp. (℃)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V2	Body	2.07	1.34	8.28	5.36	8.48 (7.63~9.33)	5.6 (5.04~6.16)	22.1	2019/7/29
D835V2	Body	2.42	1.58	9.68	6.32	9.49 (8.54~10.44)	6.27 (5.64~6.90)	22.1	2019/7/30
D1800V2	Body	10.4	5.03	41.6	20.12	38.9 (35.01~42.79)	20.4 (18.36~22.44)	22.2	2019/7/24
D1900V2	Body	10.5	5.11	42	20.44	40.1 (36.09~44.11)	20.9 (18.81~22.99)	22.3	2019/7/27
D2450V2	Body	12.5	5.75	50	23	50.9 (45.81~55.99)	23.6 (21.24~25.96)	22	2019/7/23
Validation Kit		Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1w)	Measured SAR (normalized to 1w)	Target SAR (normalized to 1w) (±10%)	Target SAR (normalized to 1w) (±10%)	Liquid Temp. (℃)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D5GHzV2	Body (5.25GHz)	7.67	2.21	76.7	22.1	73.4 (66.06~80.74)	21.2 (19.08~23.32)	22.2	2019/8/1
	Body (5.6GHz)	7.4	2.18	74	21.8	78.5 (70.65~86.35)	22.7 (20.43~24.97)	22.2	2019/8/2
	Body (5.75GHz)	7.58	2.14	75.8	21.4	75.9 (68.31~83.49)	21.7 (19.53~23.87)	22.2	2019/8/3

Table 5： SAR System Check Result

6.2.3 Detailed System Check Results

Please see the Appendix A

7 Test Configuration

7.1 3G SAR Test Reduction Procedure

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

7.2 Operation Configurations

7.2.1 WCDMA Test Configuration

4）. Output Power Verification

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

5）. Head SAR

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

6）. Body SAR

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

7）. HSDPA / HSUPA / DC-HSDPA

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

a) HSDPA

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

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

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

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

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

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

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

Table 7： HSDPA UE category

b) HSUPA

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

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

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

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

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

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

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

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

Table 8 : Subtests for WCDMA Release 6 HSUPA

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

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

Table 9 : HSUPA UE category

c) DC-HSDPA

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

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0.

A summary of these settings are illustrated below:

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

Table E.5.0: Levels for HSDPA connection setup

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

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

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

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

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

Table 2： settings of required H-Set 12 QPSK acc. to 3GPP 34.121

Note:

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

d) HSPA+

Per KDB941225D01, SAR is required for Rel. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (uplink) HSPA+ with 12.2 kbps RMC as the primary mode. Power is measured for HSPA+ that supports uplink 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.

- **Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM**

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

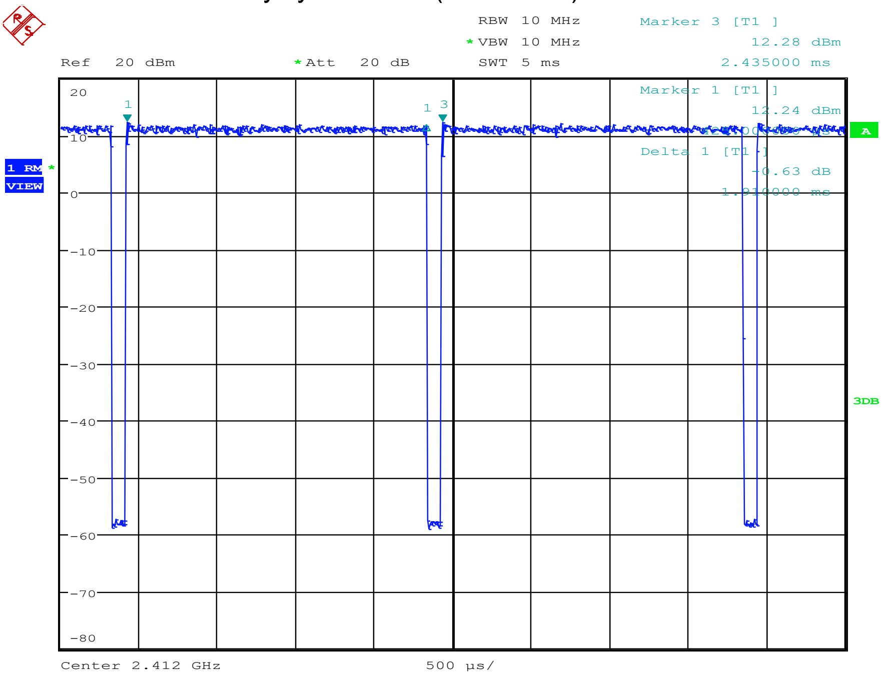
Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

7.2.2 WiFi Test Configuration

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

7.2.2.1 Duty cycle

1) 2.4GHz Wi-Fi 802.11b:
WIFI 802.11b 1M: Duty cycle=12.27/(18.33-5.73)=95.02%



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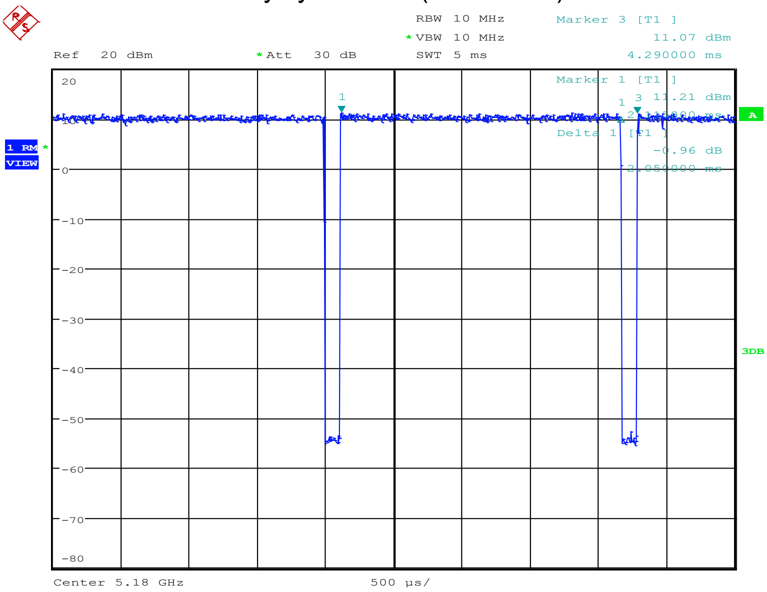
2) 5GHz Wi-Fi 802.11a:
WIFI 802.11a 6M: Duty cycle=2.05/(4.29-2.115)=94.25%



7.2.2.1 Initial Test Position SAR Test Reduction Procedure

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

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

7.2.2.1 Initial Test Configuration Procedures

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

7.2.2.1 Subsequent Test Configuration Procedures

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

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

7.2.2.1 2.4 GHz WiFi SAR Procedures

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

- **802.11b DSSS SAR Test Requirements**

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

1）. When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
2）. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

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

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

1）. When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
2）. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

7.2.2.1 5 GHz WiFi SAR Procedures

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

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

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

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

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

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

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

- **OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements**

The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

1) The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n. After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.
    a) The channel closest to mid-band frequency is selected for SAR measurement.
    b) For channels with equal separation from mid-band frequency; for example, high and low channels

or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

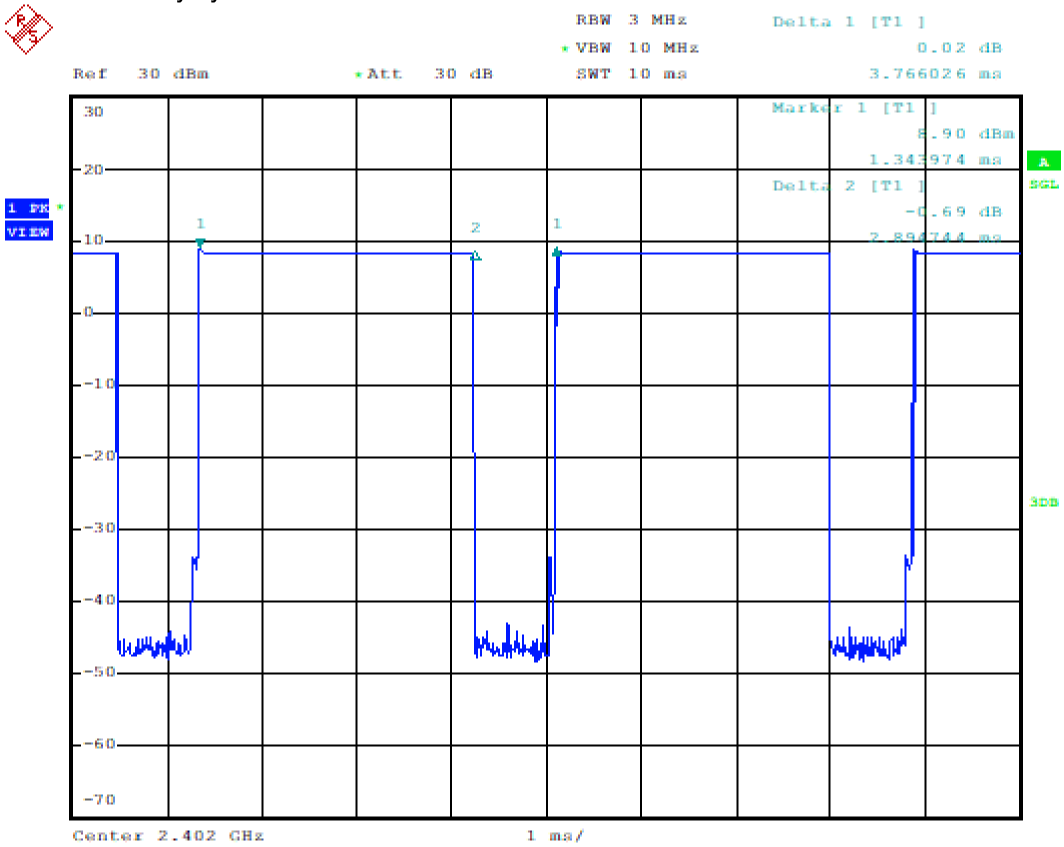
- **SAR Test Requirements for OFDM configurations**

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

7.2.3 BluetoothTest Configuration

7.2.3.1 Duty cycle

Bluetooth duty cycle: 2.894744/3.766026=76.86%



7.2.4 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The 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 tested.

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

E) Other channel bandwidth standalone SAR test requirements
For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR

testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg..

8 Test Result

8.1 Measurement of RF Conducted Power

8.1.1 Conducted Power WCDMA

WCDMA Band II_Sensor Off					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	22.85	**22.92**	22.84	23.5
	12.2kbps AMR	22.84	22.73	22.61	23.5
HSDPA	Subtest 1	22.86	22.72	22.64	23
	Subtest 2	22.75	22.68	22.73	23
	Subtest 3	22.71	22.75	22.77	23
	Subtest 4	22.75	22.91	22.81	23
HSUPA	Subtest 1	21.81	21.99	21.85	23
	Subtest 2	21.86	21.91	21.9	23
	Subtest 3	22.1	22.04	21.87	23
	Subtest 4	21.93	21.87	22.01	23
	Subtest 5	21.78	22	21.96	23
DC-HSDPA	Subtest 1	21.64	21.34	21.36	23
	Subtest 2	21.64	21.27	21.46	23
	Subtest 3	21.52	21.26	21.35	23
	Subtest 4	21.64	21.27	21.6	23
HSPA+	16QAM	21.57	21.33	21.5	23
WCDMA Band II_Sensor On					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	14.27	**14.4**	14.35	15.5
	12.2kbps AMR	14.26	14.28	14.11	15.5
HSDPA	Subtest 1	14.16	14.22	14.13	14.5
	Subtest 2	14.07	13.86	14.13	14.5
	Subtest 3	14.06	14.28	14.18	14.5
	Subtest 4	13.93	14.19	14.18	14.5
HSUPA	Subtest 1	13.54	13.27	13.58	14.5
	Subtest 2	13.36	13.18	13.58	14.5
	Subtest 3	13.62	13.4	13.15	14.5
	Subtest 4	13.27	13.1	13.44	14.5
	Subtest 5	13.22	13.21	13.45	14.5
DC-HSDPA	Subtest 1	13.05	12.81	12.49	14.5
	Subtest 2	13.19	12.71	12.69	14.5
	Subtest 3	12.89	12.62	12.94	14.5
	Subtest 4	13.08	12.68	12.88	14.5
HSPA+	16QAM	12.86	12.89	12.98	14.5

WCDMA Band V_Sensor Off					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	23.34	23.28	**23.45**	24
	12.2kbps AMR	23.32	23.24	23.26	24
HSDPA	Subtest 1	22.85	22.75	22.8	23
	Subtest 2	22.67	22.82	22.81	23

	Subtest 3	22.73	22.95	22.74	23
	Subtest 4	22.67	22.75	22.92	23
HSUPA	Subtest 1	21.88	22.13	21.89	23
	Subtest 2	21.84	21.82	21.97	23
	Subtest 3	22.09	22.05	22.04	23
	Subtest 4	21.95	22.04	22.03	23
	Subtest 5	21.95	21.91	21.94	23
DC-HSDPA	Subtest 1	21.59	21.31	21.46	23
	Subtest 2	21.77	21.37	21.43	23
	Subtest 3	21.5	21.14	21.66	23
	Subtest 4	21.47	21.32	21.42	23
HSPA+	16QAM	21.5	21.42	21.51	23
WCDMA Band V_Sensor On					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	17.25	16.91	**17.31**	17.5
	12.2kbps AMR	16.98	16.81	16.77	17.5
HSDPA	Subtest 1	16.28	16.29	16.04	16.5
	Subtest 2	16.33	16.28	16.15	16.5
	Subtest 3	16.37	16.37	15.96	16.5
	Subtest 4	16.19	16.49	16.35	16.5
HSUPA	Subtest 1	15.49	15.51	15.42	16.5
	Subtest 2	15.45	15.24	15.32	16.5
	Subtest 3	15.73	15.73	15.48	16.5
	Subtest 4	15.37	15.61	15.73	16.5
	Subtest 5	15.42	15.70	15.50	16.5
DC-HSDPA	Subtest 1	15.23	14.78	15.11	16.5
	Subtest 2	15.31	15.09	15.39	16.5
	Subtest 3	14.99	14.70	15.00	16.5
	Subtest 4	15.24	14.77	15.06	16.5
HSPA+	16QAM	15.25	15.14	15.42	16.5

Table 10： Conducted Power Of WCDMA

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

8.1.2 Conducted Power LTE

LTE Band 2_Sensor Off				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	22.18	21.64	21.61	23.5
		1	2	22.22	22.26	22.16	23.5
		1	5	22.22	22.22	22.17	23.5
		3	0	22.11	22.15	22.14	23.5
		3	2	22.13	22.14	22.1	23.5
		3	3	22.13	22.08	22.11	23.5
		6	0	21.31	21.55	21.56	22.5
	16QAM	1	0	20.97	20.85	20.99	22.5
		1	2	21.34	21.44	21.35	22.5
		1	5	21.27	21.4	21.41	22.5
		3	0	21.21	21.19	21.16	22.5
		3	2	21.22	21.18	21.08	22.5
		3	3	21.22	21.15	21.1	22.5
		6	0	20.71	20.4	20.38	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	22.65	22.69	22.58	23.5
		1	7	22.82	22.63	23.02	23.5
		1	14	22.85	22.69	22.86	23.5
		8	0	21.36	21.68	21.68	22.5
		8	4	21.81	21.77	21.72	22.5
		8	7	21.86	21.72	21.88	22.5
		15	0	21.39	21.65	21.68	22.5
	16QAM	1	0	21.86	22.05	22.08	22.5
		1	7	21.52	21.81	22.07	22.5
		1	14	22.19	22.06	22.22	22.5
		8	0	20.71	20.78	20.7	21.5
		8	4	20.55	20.74	20.65	21.5
		8	7	20.93	20.7	20.99	21.5
		15	0	20.74	20.61	20.66	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	22.81	23.12	22.67	23.5
		1	13	22.79	22.48	22.31	23.5
		1	24	23.06	23	23.35	23.5
		12	0	21.78	21.7	21.6	22.5
		12	6	21.53	21.67	21.74	22.5
		12	13	21.5	21.57	21.66	22.5
		25	0	21.49	21.67	21.7	22.5
	16QAM	1	0	21.67	22.23	22.12	22.5
		1	13	21.72	21.55	22.19	22.5

		1	24	22.08	21.77	22.09	22.5
		12	0	20.99	20.59	20.67	21.5
		12	6	20.69	20.84	20.72	21.5
		12	13	20.77	20.68	20.94	21.5
		25	0	20.71	20.71	20.71	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	23.02	22.7	22.95	23.5
		1	25	22.7	23.12	22.77	23.5
		1	49	22.81	22.76	22.9	23.5
		25	0	21.52	21.68	21.68	22.5
		25	13	21.69	21.69	21.76	22.5
		25	25	21.68	21.68	21.62	22.5
		50	0	21.61	21.64	21.59	22.5
	16QAM	1	0	21.69	22.16	21.83	22.5
		1	25	21.74	22.16	21.87	22.5
		1	49	22.1	21.62	21.83	22.5
		25	0	21.01	20.66	20.68	21.5
		25	13	20.71	20.71	20.69	21.5
		25	25	20.79	20.64	20.58	21.5
		50	0	20.73	20.64	20.6	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	22.87	22.87	22.77	23.5
		1	38	22.66	23.11	22.7	23.5
		1	74	22.52	22.76	22.62	23.5
		36	0	21.63	21.61	21.66	22.5
		36	18	21.6	21.6	21.66	22.5
		36	39	21.48	21.66	21.65	22.5
		75	0	21.59	21.65	21.7	22.5
	16QAM	1	0	22.23	22.05	21.52	22.5
		1	38	22.05	21.79	22.02	22.5
		1	74	22.01	21.83	21.63	22.5
		36	0	20.66	20.63	20.57	21.5
		36	18	20.57	20.63	20.68	21.5
		36	39	20.48	20.66	20.72	21.5
		75	0	20.72	20.57	20.7	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up
20MHz	QPSK	1	0	22.36	22.54	22.72	23.5
		1	50	**22.67**	**22.69**	**22.88**	23.5
		1	99	22.39	22.37	22.37	23.5
		50	0	21.68	21.68	**21.76**	22.5
		50	25	21.64	21.73	21.73	22.5
		50	50	21.58	21.61	21.7	22.5
		100	0	21.56	21.62	**21.64**	22.5

	16QAM	1	0	22.34	21.78	21.96	22.5
		1	50	21.72	21.53	22.15	22.5
		1	99	21.44	21.49	21.56	22.5
		50	0	20.67	20.68	20.73	21.5
		50	25	20.65	20.75	20.73	21.5
		50	50	20.61	20.65	20.67	21.5
		100	0	20.55	20.66	20.67	21.5

LTE Band 2_Sensor On				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	14.14	13.64	13.57	15.5
		1	2	14.31	13.93	14.04	15.5
		1	5	14.22	13.93	14.19	15.5
		3	0	14.12	14.2	14.02	15.5
		3	2	14.15	14.21	14.12	15.5
		3	3	13.98	13.94	14	15.5
		6	0	13.08	13.4	13.67	14.5
	16QAM	1	0	13.02	12.74	12.9	14.5
		1	2	13.35	13.17	13.33	14.5
		1	5	13.23	13.36	13.42	14.5
		3	0	13.05	13.33	13.15	14.5
		3	2	13.2	13.21	13.2	14.5
		3	3	13.15	13.28	13.35	14.5
		6	0	12.74	12.21	12.46	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	14.42	14.81	14.45	15.5
		1	7	14.72	14.6	15.08	15.5
		1	14	14.82	14.65	14.88	15.5
		8	0	13.58	13.89	13.63	14.5
		8	4	13.55	13.59	13.82	14.5
		8	7	13.6	13.8	13.87	14.5
		15	0	13.35	13.59	13.58	14.5
	16QAM	1	0	13.75	13.72	13.89	14.5
		1	7	13.44	13.64	14.01	14.5
		1	14	14.28	14.15	14.24	14.5
		8	0	12.74	12.47	12.83	13.5
		8	4	12.58	12.54	12.55	13.5
		8	7	13.01	12.69	13.06	13.5
		15	0	12.67	12.47	12.59	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	14.79	14.91	14.82	15.5
		1	13	14.59	14.42	14.11	15.5

		1	24	14.75	14.84	15.05	15.5
		12	0	13.54	13.75	13.62	14.5
		12	6	13.39	13.59	13.7	14.5
		12	13	13.44	13.52	13.53	14.5
		25	0	13.6	13.72	13.45	14.5
	16QAM	1	0	13.38	14.03	14.02	14.5
		1	13	13.59	13.36	14.09	14.5
		1	24	13.99	13.52	13.79	14.5
		12	0	13.13	12.48	12.81	13.5
		12	6	12.7	12.69	12.67	13.5
		12	13	12.71	12.85	13.01	13.5
		25	0	12.8	12.9	12.49	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 18650	Channel 18900	Channel 19150	Tune up
10MHz	QPSK	1	0	14.74	14.39	15.04	15.5
		1	25	14.45	15.02	14.67	15.5
		1	49	14.6	14.89	14.99	15.5
		25	0	13.34	13.74	13.85	14.5
		25	13	13.78	13.36	13.52	14.5
		25	25	13.66	13.57	13.65	14.5
		50	0	13.81	13.77	13.37	14.5
	16QAM	1	0	13.62	14.22	13.79	14.5
		1	25	13.95	13.9	13.65	14.5
		1	49	13.99	13.69	13.77	14.5
		25	0	12.81	12.84	12.47	13.5
		25	13	12.6	12.59	12.44	13.5
		25	25	12.84	12.49	12.63	13.5
		50	0	12.83	12.5	12.64	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 18675	Channel 18900	Channel 19125	Tune up
15MHz	QPSK	1	0	14.8	14.61	14.79	15.5
		1	38	14.49	14.88	14.85	15.5
		1	74	14.34	14.82	14.7	15.5
		36	0	13.74	13.65	13.73	14.5
		36	18	13.47	13.76	13.48	14.5
		36	39	13.44	13.54	13.72	14.5
		75	0	13.43	13.65	13.64	14.5
	16QAM	1	0	14.22	14.23	13.7	14.5
		1	38	14.06	13.52	13.89	14.5
		1	74	13.98	13.58	13.45	14.5
		36	0	12.62	12.55	12.69	13.5
		36	18	12.66	12.6	12.71	13.5
		36	39	12.44	12.47	12.71	13.5
		75	0	12.88	12.44	12.4	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 18700	Channel 18900	Channel 19100	Tune up

20MHz	QPSK	1	0	14.55	14.32	14.94	15.5
		1	50	**14.76**	**14.65**	**14.97**	15.5
		1	99	14.24	14.04	14.22	15.5
		50	0	13.64	13.7	13.51	14.5
		50	25	13.55	13.79	13.5	14.5
		50	50	13.65	13.81	**13.85**	14.5
		100	0	13.58	**13.8**	13.27	14.5
	16QAM	1	0	14.18	13.48	13.94	14.5
		1	50	13.55	13.31	14.26	14.5
		1	99	13.51	13.48	13.42	14.5
		50	0	12.71	12.56	12.65	13.5
		50	25	12.55	12.61	12.73	13.5
		50	50	12.69	12.68	12.7	13.5
		100	0	12.46	12.51	12.67	13.5

LTE Band 4_Sensor Off				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	22.91	22.89	23.07	23.5
		1	3	22.78	22.69	22.69	23.5
		1	5	23.05	22.78	22.7	23.5
		3	0	22.49	22.57	22.66	23.5
		3	1	22.61	22.47	22.69	23.5
		3	3	22.58	22.38	22.6	23.5
		6	0	21.58	21.31	21.71	22.5
	16QAM	1	0	22.07	21.51	21.41	22.5
		1	3	22.19	21.66	21.89	22.5
		1	5	21.83	21.96	21.54	22.5
		3	0	21.61	21.4	21.63	22.5
		3	1	21.58	21.39	21.75	22.5
		3	3	21.68	21.52	21.69	22.5
		6	0	20.68	20.63	20.69	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	22.61	22.76	22.41	23.5
		1	8	22.61	22.6	23.16	23.5
		1	14	22.51	22.46	22.73	23.5
		8	0	22.63	22.63	22.54	22.5
		8	4	22.65	22.6	22.69	22.5
		8	7	22.66	22.54	22.72	22.5
		15	0	22.54	22.45	22.68	22.5
	16QAM	1	0	22.5	22.85	22.92	22.5
		1	8	22.85	22.49	23.17	22.5
		1	14	22.8	23.29	22.92	22.5

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
		8	0	22.63	22.7	22.64	21.5
		8	4	22.78	22.8	22.81	21.5
		8	7	22.65	22.68	22.7	21.5
		15	0	22.55	22.59	22.64	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	22.55	22.59	22.58	23.5
		1	12	22.25	22.34	22.56	23.5
		1	24	22.84	22.58	22.76	23.5
		12	0	22.63	22.53	22.66	22.5
		12	7	22.71	22.55	22.63	22.5
		12	13	22.64	22.62	22.72	22.5
		25	0	22.58	22.68	22.57	22.5
	16QAM	1	0	21.64	23.29	23.04	22.5
		1	1	21.85	22.49	22.38	22.5
		1	2	21.63	23.02	23.04	22.5
		12	3	20.59	22.65	22.74	21.5
		12	4	20.64	22.56	22.62	21.5
		12	5	20.6	22.79	22.72	21.5
		25	6	20.65	22.57	22.63	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	23.12	23	23.11	23.5
		1	25	22.72	22.64	22.69	23.5
		1	49	22.81	22.55	22.82	23.5
		25	0	21.84	21.64	21.64	22.5
		25	12	21.75	21.67	21.68	22.5
		25	25	21.68	21.59	21.63	22.5
		50	0	21.76	21.7	21.75	22.5
	16QAM	1	0	21.66	21.65	21.72	22.5
		1	25	21.87	21.82	21.99	22.5
		1	49	21.65	21.82	21.71	22.5
		25	0	20.61	20.64	20.65	21.5
		25	12	20.66	20.59	20.65	21.5
		25	25	20.62	20.55	20.55	21.5
		50	0	20.67	20.69	20.7	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	22.89	22.67	22.65	23.5
		1	37	22.93	22.61	23.39	23.5
		1	74	22.85	22.67	22.55	23.5
		36	0	21.77	21.78	21.67	22.5
		36	20	21.92	21.7	21.72	22.5
		36	39	21.67	21.58	21.67	22.5
		75	0	21.73	21.77	21.69	22.5
	16QAM	1	0	21.98	21.99	21.75	22.5

		1	37	21.72	21.58	22.48	22.5
		1	74	21.65	21.69	21.76	22.5
		36	0	20.75	20.7	20.68	21.5
		36	20	20.8	20.63	20.8	21.5
		36	39	20.59	20.64	20.61	21.5
		75	0	20.76	20.62	20.68	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	**22.93**	**22.7**	**22.83**	23.5
		1	49	22.74	22.57	22.49	23.5
		1	99	22.53	22.32	22.48	23.5
		50	0	**21.81**	21.76	21.7	22.5
		50	24	21.74	21.69	21.77	22.5
		50	50	21.72	21.62	21.72	22.5
		100	0	**21.76**	21.67	21.7	22.5
	16QAM	1	0	21.61	22.23	22.11	22.5
		1	49	21.76	21.94	22.17	22.5
		1	99	22.15	21.47	21.49	22.5
		50	0	20.76	20.67	20.69	21.5
		50	24	20.7	20.71	20.75	21.5
		50	50	20.68	20.69	20.59	21.5
		100	0	20.78	20.72	20.8	21.5

LTE Band 4_Sensor On				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	15.85	**15.94**	15.87	15.5
		1	3	15.77	15.63	15.62	15.5
		1	5	15.81	15.44	15.73	15.5
		3	0	15.30	15.47	15.72	15.5
		3	1	15.45	15.43	15.66	15.5
		3	3	15.58	15.34	15.69	15.5
		6	0	14.75	14.06	14.56	14.5
	16QAM	1	0	14.94	14.38	14.24	14.5
		1	3	15.23	14.36	14.90	14.5
		1	5	14.91	15.07	14.46	14.5
		3	0	14.49	14.13	14.42	14.5
		3	1	14.56	14.29	14.69	14.5
		3	3	14.82	14.29	14.56	14.5
		6	0	13.52	13.55	13.76	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	14.35	14.03	13.87	15.5
		1	8	14.26	13.99	**14.55**	15.5
		1	14	14.19	13.61	14.05	15.5

		8	0	14.08	14.35	13.68	14.5
		8	4	14.31	14.18	14.25	14.5
		8	7	14.26	13.86	14.10	14.5
		15	0	14.14	14.00	14.09	14.5
	16QAM	1	0	13.87	14.45	14.22	14.5
		1	8	14.20	14.11	14.14	14.5
		1	14	14.21	13.91	14.00	14.5
		8	0	13.17	12.98	13.09	13.5
		8	4	13.45	13.28	13.20	13.5
		8	7	13.01	13.27	13.00	13.5
		15	0	13.09	13.20	13.19	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	14.17	13.84	14.13	15.5
		1	12	13.51	13.84	14.05	15.5
		1	24	14.21	14.16	14.22	15.5
		12	0	14.15	14.05	13.90	14.5
		12	7	14.13	13.79	14.05	14.5
		12	13	13.95	14.13	14.21	14.5
		25	0	14.04	14.31	14.16	14.5
	16QAM	1	0	12.99	14.34	14.33	14.5
		1	1	13.26	13.98	**14.40**	14.5
		1	2	13.16	14.38	14.32	14.5
		12	3	12.11	12.09	12.11	13.5
		12	4	12.34	12.23	12.32	13.5
		12	5	12.01	12.47	11.96	13.5
		25	6	11.92	11.99	11.95	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	14.56	14.27	14.54	15.5
		1	25	14.19	14.04	14.08	15.5
		1	49	14.27	14.03	14.29	15.5
		25	0	13.54	13.36	13.32	14.5
		25	12	13.15	13.12	12.99	14.5
		25	25	13.21	13.03	12.78	14.5
		50	0	13.44	13.2	12.98	14.5
	16QAM	1	0	13.12	13.36	13.4	14.5
		1	25	13.4	13.15	13.48	14.5
		1	49	12.96	13.15	13.28	14.5
		25	0	11.85	11.93	12.24	13.5
		25	12	12.06	12.02	12.11	13.5
		25	25	12.08	11.95	11.71	13.5
		50	0	12.41	12	12.27	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	14.4	13.87	14.09	15.5

Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
		1	37	14.61	13.95	14.77	15.5
		1	74	14.27	13.93	13.76	15.5
		36	0	13.21	13.39	13.29	14.5
		36	20	13.27	13.18	13.41	14.5
		36	39	13.14	12.85	13.29	14.5
		75	0	13	12.97	13.09	14.5
	16QAM	1	0	13.25	13.7	13.05	14.5
		1	37	13.17	12.93	13.77	14.5
		1	74	13.42	13.04	13.38	14.5
		36	0	11.99	12.28	12.03	13.5
		36	20	12.16	11.9	12.51	13.5
		36	39	12.03	11.78	12.15	13.5
		75	0	12.24	12.27	12.37	13.5
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	**14.42**	**14.06**	**14.24**	15.5
		1	49	14.26	13.69	13.87	15.5
		1	99	13.82	13.76	13.88	15.5
		50	0	**13.37**	13.15	13.17	14.5
		50	24	13.17	13.32	13.32	14.5
		50	50	13.23	13.01	13.18	14.5
		100	0	**13.23**	13.15	12.94	14.5
	16QAM	1	0	12.91	13.65	13.63	14.5
		1	49	13.06	13.43	13.85	14.5
		1	99	13.44	13.2	12.71	14.5
		50	0	12.06	12.08	12.1	13.5
		50	24	12.18	11.96	12.46	13.5
		50	50	12.13	12.21	12.2	13.5
		100	0	11.94	12.34	12.01	13.5

LTE Band 5_Sensor Off				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	22.65	22.7	22.63	23
		1	3	22.65	22.68	22.61	23
		1	5	22.59	22.75	22.57	23
		3	0	22.65	22.58	22.38	23
		3	1	22.64	22.63	22.43	23
		3	3	22.55	22.61	22.44	23
		6	0	21.63	21.62	21.49	22
	16QAM	1	0	21.95	21.98	21.57	22
		1	3	21.78	21.83	21.67	22
		1	5	21.99	21.88	21.67	22
		3	0	21.77	21.85	21.65	22

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
		3	1	21.84	21.9	21.64	22
		3	3	21.68	21.83	21.63	22
		6	0	20.79	20.59	20.68	21
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	22.77	22.66	22.41	23
		1	8	22.81	22.64	22.53	23
		1	14	22.77	22.59	22.45	23
		8	0	21.72	21.75	21.59	22
		8	4	21.64	21.67	21.47	22
		8	7	21.55	21.6	21.5	22
		15	0	21.64	21.62	21.46	22
	16QAM	1	0	21.82	21.75	21.48	22
		1	8	21.81	21.78	21.5	22
		1	14	21.92	21.67	21.5	22
		8	0	20.87	20.8	20.67	21
		8	4	20.75	20.76	20.48	21
		8	7	20.68	20.7	20.57	21
		15	0	20.72	20.62	20.59	21
Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	22.66	22.62	22.48	23
		1	12	22.89	22.57	22.51	23
		1	24	22.64	21.96	22.54	23
		12	0	21.63	21.72	21.68	22
		12	7	21.6	21.69	21.55	22
		12	13	21.54	21.55	21.43	22
		25	0	21.59	21.6	21.36	22
	16QAM	1	0	21.81	21.61	21.56	22
		1	1	21.95	21.65	21.87	22
		1	2	21.83	21.63	21.93	22
		12	3	20.92	20.88	20.8	21
		12	4	20.59	20.76	20.6	21
		12	5	20.52	20.65	20.51	21
		25	6	20.57	20.61	20.4	21
Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	22.47	22.39	22.36	23
		1	25	**22.7**	**22.78**	**22.59**	23
		1	49	22.63	22.57	22.58	23
		25	0	21.82	**21.88**	21.84	22
		25	12	21.53	21.76	21.56	22
		25	25	21.46	21.6	21.49	22
		50	0	21.49	**21.56**	21.54	22
	16QAM	1	0	21.83	21.76	21.68	22
		1	25	21.97	21.77	21.56	22

		1	49	21.85	21.78	21.8	22
		25	0	20.94	20.98	20.95	21
		25	12	20.61	20.83	20.6	21
		25	25	20.54	20.69	20.57	21
		50	0	20.59	20.61	20.58	21

LTE Band 5_Sensor On				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	17.13	17.36	17	17.5
		1	3	16.94	17.07	17.08	17.5
		1	5	16.57	16.82	16.89	17.5
		3	0	17.01	16.93	16.87	17.5
		3	1	17.11	17.13	16.71	17.5
		3	3	16.89	17.14	16.85	17.5
		6	0	15.91	16.05	15.98	16.5
	16QAM	1	0	16.25	16	16.1	16.5
		1	3	16.46	15.79	15.91	16.5
		1	5	16.01	16.03	15.79	16.5
		3	0	16.17	16.13	16.12	16.5
		3	1	16.21	16.39	16.1	16.5
		3	3	15.97	16.21	16.01	16.5
		6	0	15.62	15.35	15.92	16.5
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	17.4	16.9	16.59	17.5
		1	8	16.97	17.25	17.16	17.5
		1	14	17.33	17.02	16.72	17.5
		8	0	16.03	16.4	16.09	16.5
		8	4	15.98	15.75	15.7	16.5
		8	7	15.87	15.89	15.99	16.5
		15	0	16.32	16.44	15.71	16.5
	16QAM	1	0	16.12	16.16	15.91	16.5
		1	8	16.21	16.2	15.71	16.5
		1	14	16.32	16.14	15.87	16.5
		8	0	15.4	15.19	15.35	15.5
		8	4	15.3	15.43	14.94	15.5
		8	7	15	14.88	15.31	15.5
		15	0	15.46	15.38	15.33	15.5
Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	16.63	16.7	16.74	17.5
		1	12	16.64	16.5	16.84	17.5
		1	24	15.75	15.82	16.09	17.5
		12	0	15.89	16.15	16.23	16.5

		12	7	16.04	15.97	15.75	16.5
		12	13	15.9	16.1	15.88	16.5
		25	0	15.67	15.71	15.55	16.5
	16QAM	1	0	15.98	16.29	15.82	16.5
		1	1	16.18	15.86	16.11	16.5
		1	2	16.3	15.95	16.25	16.5
		12	3	15.15	15.3	15.4	15.5
		12	4	14.91	15.17	15.04	15.5
		12	5	14.96	14.92	14.58	15.5
		25	6	15.46	15.29	15.29	15.5
Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	16.62	17	16.79	17.5
		1	25	**17.05**	**17.01**	**17.11**	17.5
		1	49	16.8	16.99	16.83	17.5
		25	0	16.13	15.96	**16.35**	16.5
		25	12	15.65	16.11	16.16	16.5
		25	25	15.82	16.17	15.49	16.5
		50	0	15.7	15.96	15.7	16.5
	16QAM	1	0	16.14	15.84	16.01	16.5
		1	25	15.97	16.44	16.08	16.5
		1	49	15.9	16.1	16.21	16.5
		25	0	15.2	15.31	14.88	15.5
		25	12	15.08	15.2	14.95	15.5
		25	25	15.12	14.75	14.82	15.5
		50	0	15.45	15.43	15.46	15.5

LTE FDD Band 12_Sensor Off				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	23.84	23.56	23.4	24
		1	3	23.91	23.46	23.53	24
		1	5	24.47	23.49	23.47	24
		3	0	23.5	23.3	23.44	23
		3	1	23.67	23.44	23.38	23
		3	3	23.54	23.33	23.21	23
		6	0	22.4	22.39	22.2	23
	16QAM	1	0	23.02	22.89	22.46	23
		1	3	22.91	22.34	22.88	23
		1	5	23.17	22.94	22.77	23
		3	0	22.9	22.52	22.48	22
		3	1	22.65	22.19	22.6	22
		3	3	22.55	22.49	22.46	22
		6	0	21.65	21.6	21.39	22

Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	23.52	23.54	23.44	24
		1	8	23.77	23.51	23.55	24
		1	14	23.42	23.41	23.45	24
		8	0	22.54	22.35	22.4	23
		8	4	22.57	22.38	22.4	23
		8	7	22.51	22.36	22.47	23
		15	0	22.45	22.35	22.39	23
	16QAM	1	0	22.82	22.54	22.31	23
		1	8	22.81	22.5	22.85	23
		1	14	22.61	22.65	22.85	23
		8	0	21.68	21.46	21.37	22
		8	4	21.62	21.54	21.56	22
		8	7	21.54	21.44	21.56	22
		15	0	21.72	21.29	21.33	22
Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	23.6	23.59	23.44	24
		1	12	23.47	23.42	23.11	24
		1	24	23.88	23.35	23.35	24
		12	0	22.45	22.39	22.48	23
		12	7	22.49	22.38	22.51	23
		12	13	22.37	22.41	22.55	23
		25	0	22.46	22.41	22.51	23
	16QAM	1	0	22.58	22.97	22.67	23
		1	1	22.89	22.65	22.96	23
		1	2	22.57	22.59	22.9	23
		12	3	21.41	21.32	21.47	22
		12	4	21.48	21.43	21.46	22
		12	5	21.4	21.33	21.57	22
		25	6	21.35	21.46	21.34	22
Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	**23.83**	**23.53**	**23.6**	24
		1	25	23.63	23.38	23.58	24
		1	49	23.47	23.53	23.24	24
		25	0	**22.56**	22.47	22.37	23
		25	12	22.49	22.41	22.35	23
		25	25	22.41	22.35	22.36	23
		50	0	**22.63**	22.47	22.5	23
	16QAM	1	0	22.6	22.55	22.41	23
		1	25	22.91	23.05	22.85	23
		1	49	22.59	22.74	22.71	23
		25	0	21.43	21.51	21.38	22
		25	12	21.5	21.42	21.35	22

		25	25	21.42	21.3	21.35	22
		50	0	21.37	21.34	21.28	22

LTE FDD Band 12_Sensor On				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	17.13	17.29	17.1	18
		1	3	17.02	17.07	17.31	18
		1	5	17.23	17.31	17.31	18
		3	0	17.27	16.72	17.16	18
		3	1	17.47	17.17	17.14	18
		3	3	17.4	17.02	16.68	18
		6	0	16.26	16.33	15.94	17
	16QAM	1	0	16.35	16.35	16.25	17
		1	3	16.19	16.09	16.36	17
		1	5	16.29	15.73	16.48	17
		3	0	16.39	16.17	16.21	17
		3	1	16.28	16.17	16.46	17
		3	3	16.39	16.37	16.09	17
		6	0	16.31	16.3	16.39	17
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	16.97	17.38	17.35	18
		1	8	17.38	17.36	17.47	18
		1	14	17.02	16.98	17.41	18
		8	0	16.3	16.23	16.18	17
		8	4	16.36	16.15	16.08	17
		8	7	16.32	16.09	16.46	17
		15	0	15.99	16.08	15.97	17
	16QAM	1	0	16.44	16.4	16.4	17
		1	8	16.29	16.11	16.23	17
		1	14	16.21	16.33	16.19	17
		8	0	14.95	15.06	14.99	16
		8	4	14.96	15.39	15.29	16
		8	7	14.78	15.02	15.23	16
		15	0	15.04	15.36	15.25	16
Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	17.3	17.32	17.24	18
		1	12	17.11	17.29	16.91	18
		1	24	17.47	17.36	16.99	18
		12	0	16.2	15.98	16.14	17
		12	7	15.85	15.98	16.13	17
		12	13	16.37	16.24	16.42	17

		25	0	16.28	16.11	16.05	17
	16QAM	1	0	16.22	16.26	16.22	17
		1	1	16.33	16.37	16.06	17
		1	2	16.17	16.43	16.27	17
		12	3	15.24	15.03	15.42	16
		12	4	15.39	14.86	15.34	16
		12	5	15.09	15	15.31	16
		25	6	15.37	15.37	15.44	16
Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	**17.46**	17.23	17.41	18
		1	25	17.04	17.34	17.05	18
		1	49	17.44	17.32	17.13	18
		25	0	**16.4**	16.23	16.22	17
		25	12	16.09	15.98	16.1	17
		25	25	16.32	16.39	16.32	17
		50	0	16.46	16.03	16.25	17
	16QAM	1	0	16.47	16.25	16.19	17
		1	25	16.27	16.39	16.22	17
		1	49	16.04	16.37	16.38	17
		25	0	15.31	15.06	15.34	16
		25	12	15.4	14.99	15.24	16
		25	25	15.13	14.97	15.56	16
		50	0	15.29	15.37	15.33	16

LTE FDD Band 13_Sensor Off				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 23205	Channel 23230	Channel 23255	Tune up
5MHz	QPSK	1	0	22.98	22.94	23.15	23.5
		1	12	22.92	23.02	23.04	23.5
		1	24	23.2	23.23	23.17	23.5
		12	0	22.22	22.08	22.17	23.5
		12	7	22.18	22.2	22.16	23.5
		12	13	22.07	22.14	21.98	23.5
		25	0	22.06	22.07	22.19	22.5
	16QAM	1	0	22.24	21.89	22.15	22.5
		1	12	22.27	22	22.26	22.5
		1	24	22.39	22.34	22.33	22.5
		12	0	21.36	21.14	21.13	22.5
		12	7	21.21	21.06	21.27	22.5
		12	13	21.18	21.15	21.02	22.5
		25	0	20.91	21.16	21.02	21.5
Bandwidth	Modulation	RB size	RB offset	Channel NA	Channel 23230	Channel NA	Tune up

10MHz	QPSK	1	0	NA	**23.21**	NA	23.5
		1	25	NA	23.01	NA	23.5
		1	49	NA	23.15	NA	23.5
		25	0	NA	**22.16**	NA	22.5
		25	12	NA	22.1	NA	22.5
		25	25	NA	22.04	NA	22.5
		50	0	NA	**22.12**	NA	22.5
	16QAM	1	0	NA	22.35	NA	22.5
		1	25	NA	22.25	NA	22.5
		1	49	NA	21.99	NA	22.5
		25	0	NA	21.06	NA	21.5
		25	12	NA	21.12	NA	21.5
		25	25	NA	21.19	NA	21.5
		50	0	NA	21.11	NA	21.5

LTE FDD Band 13_Sensor On				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				23205	23230	23255	
5MHz	QPSK	1	0	17.61	17.47	17.61	18
		1	12	17.16	17.2	17.06	18
		1	24	17.33	17.77	17.3	18
		12	0	16.3	16.44	16.38	17
		12	7	16.39	16.55	16.32	17
		12	13	16.16	16.26	16.04	17
		25	0	16.35	16.41	16.27	17
	16QAM	1	0	16.82	15.83	16.28	17
		1	12	16.71	16.3	16.61	17
		1	24	16.84	16.77	16.82	17
		12	0	15.84	15.13	15.23	16
		12	7	15.51	15.34	15.4	16
		12	13	15.45	15.37	15.19	16
		25	0	15.84	15.7	15.85	16
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				NA	23230	NA	
10MHz	QPSK	1	0	NA	**17.35**	NA	18
		1	25	NA	17.31	NA	18
		1	49	NA	17.19	NA	18
		25	0	NA	**16.57**	NA	17
		25	12	NA	16.39	NA	17
		25	25	NA	16.56	NA	17
		50	0	NA	16.64	NA	17
	16QAM	1	0	NA	16.81	NA	17
		1	25	NA	16.79	NA	17
		1	49	NA	16.46	NA	17

		25	0	NA	15.5	NA	16
		25	12	NA	15.52	NA	16
		25	25	NA	15.74	NA	16
		50	0	NA	15.86	NA	16

Table 11： Conducted Power Of LTE

8.1.3 Conducted Power Of WIFI and BT

Mode	Channel	Frequency (MHz)	Data Rate(Mbps)	Average Power (dBm) Main Ant	Average Power (dBm) Aux Ant	Tune up
802.11b	1	2412	1	12.4	12.3	14
	6	2437		12.4	13.5	14
	11	2462		12.8	13.3	14
802.11g	1	2412	6	18.4	17.9	18.5
	6	2437		18.3	18.3	18.5
	11	2462		18.1	18	18.5
802.11n HT20 SISO	1	2412	6.5	**18.6**	17.7	19
	6	2437		18.4	**18.2**	19
	11	2462		18.3	17.9	19
802.11n HT40 SISO	1	2412	6.5	17.8	17.3	18.5
	6	2437		18.4	18.1	18.5
	11	2462		16.9	16.8	18.5

5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm) Main Ant	Tune-up Main Ant	Average Power (dBm) Aux Ant	Tune-up Aux Ant
802.11a	U-NII-1	36	5180	6	13.4	14.5	10.6	11.5
		44	5220		13.69	14.5	10.94	11.5
		48	5240		13.67	14.5	10.89	11.5
	U-NII-2A	52	5260		13.63	15	**11.34**	12
		60	5300		13.68	15	11.32	12
		64	5320		**14.75**	15	11	12
	U-NII-2C	100	5500		14.28	15	10.26	11
		116	5580		13.27	15	10.77	11
		140	5700		**14.64**	15	**10.87**	11
	U-NII-3	149	5745		12.73	13.5	**11.22**	11.5
		157	5785		**12.86**	13.5	10.93	11.5
		165	5825		12.54	13.5	10.51	11.5

5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm) Main Ant	Tune-up Main Ant	Average Power (dBm) Aux Ant	Tune-up Aux Ant
802.11n-HT20	U-NII-1	36	5180	MCS0	13.34	14.5	10.5	11
		44	5220		13.4	14.5	10.82	11
		48	5240		13.45	14.5	10.83	11
	U-NII-2A	52	5260		13.48	15	11.44	11.5
		60	5300		13.38	15	11.29	11.5
		64	5320		13.51	15	10.9	11.5
	U-NII-2C	100	5500		13.4	15	10.16	11
		116	5580		13.14	15	10.62	11
		140	5700		14.33	15	10.77	11
	U-NII-3	149	5745		12.46	13	10.94	11
		157	5785		12.72	13	10.74	11
		165	5825		12.4	13	10.42	11

5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm) Main Ant	Tune-up Main Ant	Average Power (dBm) Aux Ant	Tune-up Aux Ant
802.11n-HT40	U-NII-1	38	5190	MCS0	13.92	14.5	10.76	11
		46	5230		14.1	14.5	10.86	11
	U-NII-2A	54	5270		14.58	14.8	11.13	11.5
		62	5310		11.9	14.8	8.79	9.5
	U-NII-2C	102	5510		13.4	14.8	10.2	10.8
		110	5550		14.33	14.8	10.22	10.8
		134	5670		14.4	14.8	10.15	10.8
	U-NII-3	151	5755		12.56	12.8	10.5	10.8
		159	5795		12.49	12.8	9.89	10.8

5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm) Main Ant	Tune-up Main Ant	Average Power (dBm) Aux Ant	Tune-up Aux Ant
802.11ac 20M	U-NII-1	36	5180	MCS0	13.49	14.5	10.51	11
		44	5220		13.59	14.5	10.75	11
		48	5240		13.57	14.5	10.84	11
	U-NII-2A	52	5260		13.58	14.5	10.77	11
		60	5300		13.56	14.5	10.85	11
		64	5320		13.59	14.5	10.86	11
	U-NII-2C	100	5500		13.58	15	10.09	11
		116	5580		13.26	15	10.6	11
		140	5700		14.62	15	10.65	11
	U-NII-3	149	5745		12.46	13	10.89	11
		157	5785		12.65	13	10.7	11
		165	5825		12.33	13	10.44	11

5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm) Main Ant	Tune-up Main Ant	Average Power (dBm) Aux Ant	Tune-up Aux Ant
802.11ac 40M	U-NII-1	38	5190	MCS0	13.95	14.5	10.99	11
		46	5230		14.13	14.5	10.85	11
	U-NII-2A	54	5270		14.68	14.8	11.19	11.5
		62	5310		12.11	13	8.47	9.5
	U-NII-2C	102	5510		13.48	14.8	10.45	10.8
		110	5550		14.4	14.8	10.59	10.8
		134	5670		14.48	14.8	10.49	10.8
	U-NII-3	151	5755		12.44	12.8	10.53	10.8
		159	5795		12.43	12.8	10.61	10.8

5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm) Main Ant	Tune-up Main Ant	Average Power (dBm) Aux Ant	Tune-up Aux Ant
802.11ac 80M	U-NII-1	42	5210	MCS0	10.91	12	8.28	8.5
	U-NII-2A	58	5290		9.84	11	6.76	7.5
	U-NII-2C	106	5530		13.4	13.5	7.69	9.5
		122	5610		14.24	14.8	10.69	10.8
	U-NII-3	155	5775		12.5	12.8	10.76	10.8

Table 12： Conducted Power Of WIFI

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.

BT			Tune up (dBm)	Average Conducted Power(dBm)
Modulation	Channel	Frequency(MHz)		
GFSK	0	2402	7.5	6.7
	39	2441	7.5	**6.8**
	78	2480	7.5	6.4
π/4DQPSK	0	2402	5	4.5
	39	2441	5	4.7
	78	2480	5	4.3
8DPSK	0	2402	4	3.7
	39	2441	4	3.8
	78	2480	4	3.6

BLE			Tune up (dBm)	Average Conducted Power(dBm)
Modulation	Channel	Frequency(MHz)		
GFSK	0	2402	3	2.3
	19	2440	3	2.4
	39	2480	3	2.6

Table 13： Conducted Power Of BT

8.2 Stand-alone SAR test evaluation

The following SAR test exclusion Thresholds based on KDB 447498 D01 General RF Exposure Guidance v06) 4.3.1)

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band II	LTE Band 12	LTE Band 13	LTE Band 5	LTE Band 4	LTE Band 2	BT	2.4GHz WLAN Main	2.4GHz WLAN AuX
	Calculated Frequency(MHz)	846	1907	715	784	848	1754	1909	2480	2462	2462
	Maximum power (dBm)	24.00	23.5	24	23.50	23.00	23.5	23.5	7.5	19	19
	Maximum rated power(mW)	251.0	224.0	251.0	224.0	200.0	224.0	224.0	6.0	79.0	79.0
Bottom Face	Separation distance(mm)	0.0							0.0	0.0	0.0
	exclusion threshold	46.2	61.9	42.5	39.7	36.8	59.3	61.9	1.9	24.8	24.8
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**
Edge 1	Separation distance(mm)	18.9							150.0	146.5	4.5
	exclusion threshold	12.2	16.4	11.2	10.5	9.7	15.7	16.4	1095mW	1061mW	24.8
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**	**Yes**
Edge 2	Separation distance(mm)	3.5							160.0	49.8	126.0
	exclusion threshold	46.2	61.9	42.5	39.7	36.8	59.3	61.9	1195mW	2.5	856mW
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**
Edge 3	Separation distance(mm)	18.9							0.0	3.5	145.5
	exclusion threshold	12.2	16.4	11.2	10.5	9.7	15.7	16.4	1.9	24.8	1051mW
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**No**
Edge 4	Separation distance(mm)	201.5							14.0	139.6	63.0
	exclusion threshold	1018mW	1624mW	900mW	961mW	1019mW	1628mW	1624mW	0.7	991mW	226mW
	Testing required?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band II	LTE Band 12	LTE Band 13	LTE Band 5	LTE Band 4	LTE Band 2	5GHz WLAN Main	5GHz WLAN AuX
	Calculated Frequency(MHz)	846	1907	715	784	848	1754	1909	5825	5825
	Maximum power (dBm)	17.50	15.5	18	18.00	17.50	15.5	15.5	15	12
	Maximum rated power(mW)	56.0	35.0	63.0	63.0	56.0	35.0	35.0	32.0	16.0
Bottom Face	Separation distance(mm)	0.0							0.0	0.0
	exclusion threshold	10.3	9.7	10.7	11.2	10.3	9.3	9.7	15.5	7.7
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Edge 1	Separation distance(mm)	18.9							146.5	4.5
	exclusion threshold	2.7	2.6	2.8	3.0	2.7	2.5	2.6	1027mW	7.7
	Testing required?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**Yes**
Edge 2	Separation distance(mm)	3.5							49.8	126.0
	exclusion threshold	10.3	9.7	10.7	11.2	10.3	9.3	9.7	1.6	822mW
	Testing required?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**
Edge 3	Separation distance(mm)	18.9							3.5	145.5
	exclusion threshold	2.7	2.6	2.8	3.0	2.7	2.5	2.6	15.5	1017mW

	Testing required?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**Yes**	**No**
Edge 4	Separation distance(mm)	201.5							139.6	63.0
	exclusion threshold(mW)	1018.0	1624.0	900.0	961.0	1019.0	1628.0	1624.0	958.0	192.0
	Testing required?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Note:

1. Maximum power is the source-based time-average power and represents the maximum RF output power among production units
2. Per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D01, standalone SAR test exclusion threshold is applied; If the distance of the antenna to the user is < 5mm, 5mm is used to determine SAR exclusion threshold

4. Per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for
1-g SAR and ≤ 7.5 for 10-g extremity SAR
f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation
The result is rounded to one decimal place for comparison
For < 50 mm distance, we just calculate mW of the exclusion threshold value (3.0) to do compare.
This formula is [3.0] / [√f(GHz)] ·[(min. test separation distance, mm)] = exclusion threshold of mW.
5. Per KDB 447498 D01, at 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following
a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz
b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz
6. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

8.3 Measurement of SAR Data

8.3.1 SAR Result Of WCDMA850

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	Scaled SAR (W/kg) 10-g	SAR limit (W/kg)
Body Test data Sensor On (Separate 0mm)												
Bottom Face	RMC	4182/836.4	1:1	0.091	0.059	0.09	16.91	17.5	1.146	0.104	0.068	1.6
Edge 2	RMC	4182/836.4	1:1	0.342	0.182	-0.04	16.91	17.5	1.146	0.392	0.208	1.6
Body worn Test data Sensor Off (Separate 9mm)												
Bottom Face	RMC	4233/846.6	1:1	0.35	0.231	-0.04	23.85	24	1.035	0.362	0.239	1.6
Edge 2	RMC	4233/846.6	1:1	0.494	0.309	-0.08	23.85	24	1.035	**0.511**	0.320	1.6
Body Test data Sensor Off (Separate 0mm)												
Edge 1	RMC	4233/846.6	1:1	0.044	0.027	-0.09	23.85	24	1.035	0.046	0.028	1.6
Edge 3	RMC	4233/846.6	1:1	0.068	0.047	-0.04	23.85	24	1.035	0.070	0.049	1.6

Table 1: SAR of WCDMA850 for Body

Note:

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

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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

8.3.2 SAR Result Of WCDMA1900

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	Scaled SAR (W/kg) 10-g	SAR limit (W/kg)
Body Test data Sensor On (Separate 0mm)												
Bottom Face	RMC	9400/1880	1:1	0.102	0.053	0.02	14.4	15.5	1.288	0.131	0.068	1.6
Edge 2	RMC	9400/1880	1:1	0.217	0.107	0.05	14.4	15.5	1.288	0.280	0.138	1.6
Body Test data Sensor Off (Separate 9mm)												
Bottom Face	RMC	9400/1880	1:1	0.426	0.232	0.11	22.92	23.5	1.143	**0.487**	0.265	1.6
Edge 2	RMC	9400/1880	1:1	0.272	0.155	0.18	22.92	23.5	1.143	0.311	0.177	1.6
Body Test data Sensor Off (Separate 0mm)												
Edge 1	RMC	9400/1880	1:1	0.032	0.02	0.04	22.92	23.5	1.143	0.037	0.023	1.6
Edge 3	RMC	9400/1880	1:1	0.155	0.083	0.02	22.92	23.5	1.143	0.177	0.095	1.6

Table 2： SAR of WCDMA1900 for Body

Note:

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

2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

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

8.3.3 SAR Result Of LTE Band 2

Test position	BW.	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)
Body Test data Sensor On(Separate 0mm)													
Bottom Face	20	QPSK 1RB_50	19100/1900	1:1	0.115	0.057	0.01	14.97	15.5	1.130	0.130	22.3	1.6
Edge 2	20	QPSK 1RB_50	19100/1900	1:1	0.349	0.173	0.02	14.97	15.5	1.130	0.394	22.3	1.6
Body Test data Sensor On(Separate 0mm)													
Bottom Face	20	QPSK 50RB_50	19100/1900	1:1	0.117	0.058	0.01	13.85	14.5	1.161	0.136	22.3	1.6
Edge 2	20	QPSK 50RB_50	19100/1900	1:1	0.187	0.089	0.05	13.85	14.5	1.161	0.217	22.3	1.6
Body Test data Sensor Off(Separate 9mm)													
Bottom Face	20	QPSK 1RB_50	19100/1900	1:1	0.699	0.362	0.07	22.88	23.5	1.153	**0.806**	22.3	1.6
Bottom Face	20	QPSK 1RB_50	18700/1860	1:1	0.607	0.32	-0.08	22.67	23.5	1.211	0.735	22.3	1.6
Bottom Face	20	QPSK 1RB_50	18900/1880	1:1	0.451	0.239	-0.03	22.69	23.5	1.205	0.543	22.3	1.6
Edge 2	20	QPSK 1RB_50	19100/1900	1:1	0.229	0.13	0.11	22.88	23.5	1.153	0.264	22.3	1.6
Body Test data Sensor Off(Separate 9mm)													
Bottom Face	20	QPSK 50RB_0	19100/1900	1:1	0.357	0.189	0.05	21.76	22.5	1.186	0.423	22.3	1.6
Bottom Face	20	QPSK 100RB_0	19100/1900	1:1	0.334	0.169	0.03	21.64	22.5	1.219	0.407	22.3	1.6
Edge 2	20	QPSK 50RB_0	19100/1900	1:1	0.178	0.102	0.18	21.76	22.5	1.186	0.211	22.3	1.6
Body Test data Sensor Off(Separate 0mm)													
Edge 1	20	QPSK 1RB_50	19100/1900	1:1	0.146	0.07	0.09	22.88	23.5	1.153	0.168	22.3	1.6
Edge 3	20	QPSK 1RB_50	19100/1900	1:1	0.155	0.097	0.03	22.88	23.5	1.153	0.179	22.3	1.6
Body Test data Sensor Off(Separate 0mm)													
Edge 1	20	QPSK 50RB_0	19100/1900	1:1	0.048	0.024	0.01	21.76	22.5	1.186	0.057	22.3	1.6
Edge 3	20	QPSK 50RB_0	19100/1900	1:1	0.089	0.048	0.05	21.76	22.5	1.186	0.106	22.3	1.6

Table 3： SAR of WCDMA1900 for Body

Note:

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

5) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.4 SAR Result Of LTE Band 4

Test position	BW.	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)
Body Test data Sensor On(Separate 0mm)													
Bottom Face	20	QPSK 1RB_0	20050/1720	1:1	0.189	0.098	0.01	14.42	15.5	1.282	0.242	22.3	1.6
Edge 2	20	QPSK 1RB_0	20050/1720	1:1	0.285	0.154	0.03	14.42	15.5	1.282	0.365	22.3	1.6
Bottom Face	20	QPSK 50RB_0	20050/1720	1:1	0.199	0.103	-0.06	13.37	14.5	1.297	0.258	22.3	1.6
Edge 2	20	QPSK 50RB_0	20050/1720	1:1	0.315	0.172	-0.02	13.37	14.5	1.297	0.409	22.3	1.6
Body Test data Sensor Off(Separate 9mm)													
Bottom Face	20	QPSK 1RB_0	20050/1720	1:1	0.577	0.328	0.05	22.93	23.5	1.140	0.658	22.3	1.6
Edge 2	20	QPSK 1RB_0	20050/1720	1:1	0.687	0.417	0.05	22.93	23.5	1.140	**0.783**	22.3	1.6
Bottom Face	20	QPSK 50RB_0	20050/1720	1:1	0.464	0.263	0.09	21.81	22.5	1.172	0.544	22.3	1.6
Edge 2	20	QPSK 50RB_0	20050/1720	1:1	0.548	0.353	-0.17	21.81	22.5	1.172	0.642	22.3	1.6
Body Test data Sensor Off(Separate 0mm)													
Edge 1	20	QPSK 1RB_0	20050/1720	1:1	0.04	0.02	0.05	22.93	23.5	1.140	0.046	22.3	1.6
Edge 3	20	QPSK 1RB_0	20050/1720	1:1	0.149	0.159	0.01	22.93	23.5	1.140	0.170	22.3	1.6
Edge 1	20	QPSK 50RB_0	20050/1720	1:1	0.029	0.014	-0.06	21.81	22.5	1.172	0.034	22.3	1.6
Edge 3	20	QPSK 50RB_0	20050/1720	1:1	0.123	0.129	0.02	21.81	22.5	1.172	0.144	22.3	1.6

Table 4： SAR of WCDMA1900 for Body

Note:

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

7) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.5 SAR Result Of LTE Band 5

Test position	BW.	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)
Body Test data Sensor On (Separate 0mm)													
Bottom Face	10	QPSK 1RB_25	20600/844	1:1	0.088	0.058	0.07	17.11	17.5	1.094	0.096	22.3	1.6
Edge 2	10	QPSK 1RB_25	20600/844	1:1	0.374	0.199	-0.08	17.11	17.5	1.094	**0.409**	22.3	1.6
Body Test data Sensor On (Separate 0mm)													
Bottom Face	10	QPSK 25RB_0	20600/844	1:1	0.082	0.083	0.09	16.35	16.5	1.035	0.085	22.3	1.6
Edge 2	10	QPSK 25RB_0	20600/844	1:1	0.326	0.175	0.02	16.35	16.5	1.035	**0.337**	22.3	1.6
Body Test data Sensor Off (Separate 9mm)													
Bottom Face	10	QPSK 1RB_25	20525/836.5	1:1	0.344	0.228	-0.06	22.78	23	1.052	0.362	22.3	1.6
Edge 2	10	QPSK 1RB_25	20525/836.5	1:1	0.25	0.158	0.07	22.78	23	1.052	0.263	22.3	1.6
Body Test data Sensor Off (Separate 9mm)													
Bottom Face	10	QPSK 25RB_0	20525/836.5	1:1	0.266	0.176	0.09	21.88	22	1.028	0.273	22.3	1.6
Edge 2	10	QPSK 25RB_0	20525/836.5	1:1	0.191	0.12	-0.02	21.88	22	1.028	0.196	22.3	1.6
Body Test data Sensor Off (Separate 0mm)													
Edge 1	10	QPSK 1RB_25	20525/836.5	1:1	0.027	0.016	0.08	22.78	23	1.052	0.028	22.3	1.6
Edge 3	10	QPSK 1RB_25	20525/836.5	1:1	0.045	0.03	0.01	22.78	23	1.052	0.047	22.3	1.6
Body Test data Sensor Off (Separate 0mm)													
Edge 1	10	QPSK 25RB_0	20525/836.5	1:1	0.017	0.009	-0.01	21.88	22	1.028	0.017	22.3	1.6
Edge 3	10	QPSK 25RB_0	20525/836.5	1:1	0.037	0.025	-0.05	21.88	22	1.028	0.038	22.3	1.6

Table 5: SAR of WCDMA1900 for Body

Note:

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

9) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.6 SAR Result Of LTE Band 12

Test position	BW.	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)
Body Test data Sensor On(Separate 0mm)													
Bottom Face	10	QPSK 1RB_0	23060/704	1:1	0.16	0.108	-0.03	17.46	18	1.132	0.181	22.3	1.6
Edge 2	10	QPSK 1RB_0	23060/704	1:1	0.365	0.22	0.07	17.46	18	1.132	0.413	22.3	1.6
Body Test data Sensor On(Separate 0mm)													
Bottom Face	10	QPSK 25RB_0	23060/704	1:1	0.145	0.098	-0.1	16.4	17	1.148	0.166	22.3	1.6
Edge 2	10	QPSK 25RB_0	23060/704	1:1	0.326	0.184	0.02	16.4	17	1.148	0.374	22.3	1.6
Body Test data Sensor Off(Separate 9mm)													
Bottom Face	10	QPSK 1RB_0	23060/704	1:1	0.519	0.35	0.04	23.83	24	1.040	**0.540**	22.3	1.6
Edge 2	10	QPSK 1RB_0	23060/704	1:1	0.277	0.186	-0.03	23.83	24	1.040	0.288	22.3	1.6
Body Test data Sensor Off(Separate 9mm)													
Bottom Face	10	QPSK 25RB_0	23060/704	1:1	0.402	0.275	0.05	22.56	23	1.107	0.445	22.3	1.6
Edge 2	10	QPSK 25RB_0	23060/704	1:1	0.214	0.149	0.07	22.56	23	1.107	0.237	22.3	1.6
Body Test data Sensor Off(Separate 0mm)													
Edge 1	10	QPSK 1RB_0	23060/704	1:1	0.065	0.038	0.01	23.83	24	1.040	0.068	22.3	1.6
Edge 3	10	QPSK 1RB_0	23060/704	1:1	0.08	0.052	-0.02	23.83	24	1.040	0.083	22.3	1.6
Body Test data Sensor Off(Separate 0mm)													
Edge 1	10	QPSK 25RB_0	23060/704	1:1	0.047	0.027	0.08	22.56	23	1.107	0.052	22.3	1.6
Edge 3	10	QPSK 25RB_0	23060/704	1:1	0.059	0.038	-0.05	22.56	23	1.107	0.065	22.3	1.6

Table 6: SAR of WCDMA1900 for Body

Note:

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

11) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.7 SAR Result Of LTE Band 13

Test position	BW.	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)
Body Test data Sensor Off(Separate 9mm)													
Bottom Face	10	QPSK 1RB_0	23230/782	1:1	0.168	0.116	0.09	23.21	23.5	1.069	0.180	22.3	1.6
Edge 2	10	QPSK 1RB_0	23230/782	1:1	0.118	0.077	0.03	23.21	23.5	1.069	0.126	22.3	1.6
Body Test data Sensor Off(Separate 9mm)													
Bottom Face	10	QPSK 25RB_0	23230/782	1:1	0.133	0.091	-0.05	22.16	22.5	1.081	0.144	22.3	1.6
Edge 2	10	QPSK 25RB_0	23230/782	1:1	0.113	0.075	-0.02	22.16	22.5	1.081	0.122	22.3	1.6
Body Test data Sensor Off(Separate 0mm)													
Edge 1	10	QPSK 1RB_0	23230/782	1:1	0.016	0.008	0.01	23.21	23.5	1.069	0.017	22.3	1.6
Edge 3	10	QPSK 1RB_0	23230/782	1:1	0.052	0.038	0.05	23.21	23.5	1.069	0.056	22.3	1.6
Body Test data Sensor Off(Separate 0mm)													
Edge 1	10	QPSK 25RB_0	23230/782	1:1	0.012	0.01	0.04	22.16	22.5	1.081	0.013	22.3	1.6
Edge 3	10	QPSK 25RB_0	23230/782	1:1	0.041	0.028	-0.01	22.16	22.5	1.081	0.044	22.3	1.6
Body Test data Sensor Off(Separate 0mm)													
Bottom Face	10	QPSK 1RB_0	23230/782	1:1	0.252	0.08	0.01	23.21	23.5	1.069	0.269	22.3	1.6
Edge 2	10	QPSK 1RB_0	23230/782	1:1	0.591	0.321	-0.02	23.21	23.5	1.069	**0.632**	22.3	1.6
Body Test data Sensor Off(Separate 0mm)													
Bottom Face	10	QPSK 25RB_0	23230/782	1:1	0.13	0.089	0.02	22.16	22.5	1.081	0.141	22.3	1.6
Edge 2	10	QPSK 25RB_0	23230/782	1:1	0.484	0.264	-0.06	22.16	22.5	1.081	0.523	22.3	1.6

Table 7： SAR of WCDMA1900 for Body

Note:

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

13) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

8.3.8 SAR Result Of 2.4GHz WIFI

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 1-g (W/kg)	Liquid Temp.
Body Test data with Main Ant (Separate 0mm)												
Bottom Face	802.11n HT20	1/2412	95.02%	1.052	0.054	0.031	0.09	18.60	19.00	1.096	0.062	22.0
Edge 3	802.11n HT20	1/2412	95.02%	1.052	0.188	0.091	-0.01	18.60	19.00	1.096	**0.217**	22.0
Body Test data with AUX Ant (Separate 0mm)												
Bottom Face	802.11n HT20	6/2437	95.02%	1.052	0.120	0.061	0.08	18.20	19.00	1.202	0.152	22.0
Edge 1	802.11n HT20	6/2437	95.02%	1.052	0.352	0.132	-0.01	18.20	19.00	1.202	**0.445**	22.0

Table 14： SAR of 2.4GHz WIFI for Body

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B
2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).
3) Each channel was tested at the lowest data rate.
4) 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, 802.11g/n OFDM SAR Test is not required.
5) According to KDB 248227 D01, 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.

8.3.9 SAR Result Of 5GHz WIFI

Test position	Test mode	Test Ch./Freq.	Ant	Duty Cycle %	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 1-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)
Body Test data U-NII-2A(Separate 0mm)														
Bottom Face	802.11a	64/5320	Main	94.25	1.061	0.1	0.03	0.01	14.75	15	1.059	0.112	22.2	1.6
Edge 3	802.11a	64/5320	Main	94.25	1.061	0.674	0.213	0.04	14.75	15	1.059	**0.757**	22.2	1.6
Bottom Face	802.11a	52/5260	Aux	94.25	1.061	0.137	0.05	0.01	11.34	12	1.164	0.169	22.2	1.6
Edge 1	802.11a	52/5260	Aux	94.25	1.061	0.721	0.211	-0.08	11.34	12	1.164	**0.891**	22.2	1.6
Edge 1	802.11a	60/5300	Aux	94.25	1.061	0.609	0.179	-0.04	11.32	12	1.169	0.756	22.2	1.6
Body Test data U-NII-2C(Separate 0mm)														
Bottom Face	802.11a	140/5700	Main	94.25	1.061	0.211	0.083	0.02	14.64	15	1.086	0.243	22.2	1.6
Edge 3	802.11a	140/5700	Main	94.25	1.061	0.791	0.24	0.07	14.64	15	1.086	0.912	22.2	1.6
Edge 3	802.11a	100/5500	Main	94.25	1.061	0.929	0.29	0.01	14.28	15	1.180	**1.163**	22.2	1.6
Edge 3	802.11a	116/5580	Main	94.25	1.061	0.515	0.16	0.02	13.27	15	1.489	0.814	22.2	1.6
Bottom Face	802.11a	140/5700	Aux	94.25	1.061	0.151	0.058	0.01	10.87	11	1.030	0.165	22.2	1.6
Edge 1	802.11a	140/5700	Aux	94.25	1.061	0.916	0.27	0.04	10.87	11	1.030	**1.001**	22.2	1.6
Edge 1	802.11a	116/5580	Aux	94.25	1.061	0.767	0.223	0.01	10.77	11	1.054	0.858	22.2	1.6
Body Test data U-NII-3(Separate 0mm)														
Bottom Face	802.11a	157/5785	Main	94.25	1.061	0.144	0.057	-0.04	12.86	13.5	1.159	0.177	22.2	1.6
Edge 3	802.11a	157/5785	Main	94.25	1.061	0.554	0.159	0.08	12.86	13.5	1.159	**0.681**	22.2	1.6
Bottom Face	802.11a	149/5745	Aux	94.25	1.061	0.121	0.046	0.03	11.22	11.5	1.067	0.137	22.2	1.6
Edge 1	802.11a	149/5745	Aux	94.25	1.061	0.828	0.24	0.07	11.22	11.5	1.067	**0.937**	22.2	1.6
Edge 1	802.11a	157/5785	Aux	94.25	1.061	0.755	0.215	-0.06	10.93	11.5	1.140	0.913	22.2	1.6

Table 15： SAR of 5GHz WIFI for Body

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B
2) If the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).
3) Each channel was tested at the lowest data rate.
4) 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, 802.11g/n OFDM SAR Test is not required.
5) According to KDB 248227 D01, 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.

8.4 Multiple Transmitter Evaluation

8.4.1 Simultaneous SAR SAR test evaluation

Simultaneous Transmission

NO.	Simultaneous Transmission Configuration	Body
1	WWAN + Wifi2.4G Main + Wifi2.4G Aux（2.4G MIMO）	Yes
2	WWAN + Wifi2.4G Main	Yes
3	WWAN + Wifi2.4G Aux	Yes
4	WWAN + Wifi5G Main + Wifi5G Aux（5G MIMO）	Yes
5	WWAN + Wifi5G Main	Yes
6	WWAN + Wifi5G Aux	Yes
7	WWAN + Wifi2.4G Main + Wifi5G Aux	Yes
8	WWAN + Wifi5G Main + Wifi2.4G Aux	Yes
9	WWAN + Wifi2.4G Main + BT	Yes
10	WWAN + Wifi5G Main + BT	Yes
11	WWAN + BT	Yes
12	BT+ WiFi AUX (They share the same antenna and cannot transmit at the same time by design.)	No

8.4.2 Estimated SAR

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

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

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

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

Estimated SAR Result

	Frequency (GHz)	Test Position	max. power(dBm)	Max. power(mw)	Test Separation (mm)	Estimated 10g SAR (W/kg)
Bluetooth	2.48	Body	7.5	5.6	0	0.236

1) Simultaneous Transmission SAR Summation Scenario for Body

WWAN Band	Exposure position	① MAX. WWAN SAR (W/kg)	② MAX. WLAN 2.4GHz SAR (W/kg) Main	③ MAX. WLAN 2.4GHz SAR (W/kg) AUX	④ MAX. WLAN 5GHz SAR (W/kg) Main	⑤ MAX. WLAN 5GHz SAR (W/kg) AUX	⑥ MAX. BT SAR (W/kg)	Summed SAR ①+②	Summed SAR ①+③	Summed SAR ①+④	Summed SAR ①+⑤	Summed SAR ①+⑥	Summed SAR ①+②+③	SPL SR
WCDMA Band II	Bottom Face	0.487	0.062	0.152	0.243	0.169	0.236	0.549	0.639	0.730	0.656	0.723	0.701	No
	Edge 1	0.037	0.000	0.445	0.000	1.001	0.236	0.037	0.482	0.037	1.038	0.273	0.482	No
	Edge 2	0.311	0.000	0.000	0.000	0.000	0.236	0.311	0.311	0.311	0.311	0.547	0.311	No
	Edge 3	0.177	0.217	0.000	1.163	0.000	0.236	0.394	0.177	1.340	0.177	0.413	0.394	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.000	0.236	0.000	No
WCDMA Band V	Bottom Face	0.362	0.062	0.152	0.243	0.169	0.236	0.424	0.514	0.605	0.531	0.598	0.576	No
	Edge 1	0.046	0.000	0.445	0.000	1.001	0.236	0.046	0.491	0.046	1.047	0.282	0.491	No
	Edge 2	0.511	0.000	0.000	0.000	0.000	0.236	0.511	0.511	0.511	0.511	0.747	0.511	No
	Edge 3	0.070	0.217	0.000	1.163	0.000	0.236	0.287	0.070	1.233	0.070	0.306	0.287	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.000	0.236	0.000	No
LTE Band 2	Bottom Face	0.806	0.062	0.152	0.243	0.169	0.236	0.868	0.958	1.049	0.975	1.042	1.020	No
	Edge 1	0.168	0.000	0.445	0.000	1.001	0.236	0.168	0.613	0.168	1.169	0.404	0.613	No
	Edge 2	0.394	0.000	0.000	0.000	0.000	0.236	0.394	0.394	0.394	0.394	0.630	0.394	No
	Edge 3	0.179	0.217	0.000	1.163	0.000	0.236	0.396	0.179	1.342	0.179	0.415	0.396	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.000	0.236	0.000	No
LTE Band 4	Bottom Face	0.658	0.062	0.152	0.243	0.169	0.236	0.720	0.810	0.901	0.827	0.894	0.872	No
	Edge 1	0.046	0.000	0.445	0.000	1.001	0.236	0.046	0.491	0.046	1.047	0.282	0.491	No
	Edge 2	0.783	0.000	0.000	0.000	0.000	0.236	0.783	0.783	0.783	0.783	1.019	0.783	No
	Edge 3	0.170	0.217	0.000	1.163	0.000	0.236	0.387	0.170	1.333	0.170	0.406	0.387	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.000	0.236	0.000	No
LTE Band 5	Bottom Face	0.362	0.062	0.152	0.243	0.169	0.236	0.424	0.514	0.605	0.531	0.598	0.576	No
	Edge 1	0.028	0.000	0.445	0.000	1.001	0.236	0.028	0.473	0.028	1.029	0.264	0.473	No
	Edge 2	0.409	0.000	0.000	0.000	0.000	0.236	0.409	0.409	0.409	0.409	0.645	0.409	No
	Edge 3	0.047	0.217	0.000	1.163	0.000	0.236	0.264	0.047	1.210	0.047	0.283	0.264	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.000	0.236	0.000	No
LTE Band 12	Bottom Face	0.540	0.062	0.152	0.243	0.169	0.236	0.602	0.692	0.783	0.709	0.776	0.754	No
	Edge 1	0.068	0.000	0.445	0.000	1.001	0.236	0.068	0.513	0.068	1.069	0.304	0.513	No
	Edge 2	0.413	0.000	0.000	0.000	0.000	0.236	0.413	0.413	0.413	0.413	0.649	0.413	No
	Edge 3	0.083	0.217	0.000	1.163	0.000	0.236	0.300	0.083	1.246	0.083	0.319	0.300	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.000	0.236	0.000	No
LTE Band 13	Bottom Face	0.269	0.062	0.152	0.243	0.169	0.236	0.331	0.421	0.512	0.438	0.505	0.483	No
	Edge 1	0.017	0.000	0.445	0.000	1.001	0.236	0.017	0.462	0.017	1.018	0.253	0.462	No
	Edge 2	0.632	0.000	0.000	0.000	0.000	0.236	0.632	0.632	0.632	0.632	0.868	0.632	No

	Edge 3	0.056	0.217	0.000	1.163	0.000	0.236	0.273	0.056	1.219	0.056	0.292	0.273	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.000	0.236	0.000	No

WWAN Band	Exposure position	① MAX. WWAN SAR (W/kg)	②MAX. WLAN 2.4GHz SAR (W/kg) Main	③MAX. WLAN 2.4GHz SAR (W/kg) AUX	④ MAX. WLAN 5GHz SAR (W/kg) Main	⑤ MAX. WLAN 5GHz SAR (W/kg) AUX	⑥ MAX. BT SAR (W/kg)	Summed SAR ①+④+⑤	Summed SAR ①+②+⑤	Summed SAR ①+③+④	Summed SAR ①+②+⑥	Summed SAR ①+④+⑥	SPLSR
WCDMA Band II	Bottom Face	0.487	0.062	0.152	0.243	0.169	0.236	0.899	0.718	0.882	0.785	0.966	No
	Edge 1	0.037	0.000	0.445	0.000	1.001	0.236	1.038	1.038	0.482	0.273	0.273	No
	Edge 2	0.311	0.000	0.000	0.000	0.000	0.236	0.311	0.311	0.311	0.547	0.547	No
	Edge 3	0.177	0.217	0.000	1.163	0.000	0.236	1.340	0.394	1.340	0.630	1.576	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.236	0.236	No
WCDMA Band V	Bottom Face	0.362	0.062	0.152	0.243	0.169	0.236	0.774	0.593	0.757	0.660	0.841	No
	Edge 1	0.046	0.000	0.445	0.000	1.001	0.236	1.047	1.047	0.491	0.282	0.282	No
	Edge 2	0.511	0.000	0.000	0.000	0.000	0.236	0.511	0.511	0.511	0.747	0.747	No
	Edge 3	0.070	0.217	0.000	1.163	0.000	0.236	1.233	0.287	1.233	0.523	1.469	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.236	0.236	No
LTE Band 2	Bottom Face	0.806	0.062	0.152	0.243	0.169	0.236	1.218	1.037	1.201	1.104	1.285	No
	Edge 1	0.168	0.000	0.445	0.000	1.001	0.236	1.169	1.169	0.613	0.404	0.404	No
	Edge 2	0.394	0.000	0.000	0.000	0.000	0.236	0.394	0.394	0.394	0.630	0.630	No
	Edge 3	0.179	0.217	0.000	1.163	0.000	0.236	1.342	0.396	1.342	0.632	**1.578**	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.236	0.236	No
LTE Band 4	Bottom Face	0.658	0.062	0.152	0.243	0.169	0.236	1.070	0.889	1.053	0.956	1.137	No
	Edge 1	0.046	0.000	0.445	0.000	1.001	0.236	1.047	1.047	0.491	0.282	0.282	No
	Edge 2	0.783	0.000	0.000	0.000	0.000	0.236	0.783	0.783	0.783	1.019	1.019	No
	Edge 3	0.170	0.217	0.000	1.163	0.000	0.236	1.333	0.387	1.333	0.623	**1.569**	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.236	0.236	No
LTE Band 5	Bottom Face	0.362	0.062	0.152	0.243	0.169	0.236	0.774	0.593	0.757	0.660	0.841	No
	Edge 1	0.028	0.000	0.445	0.000	1.001	0.236	1.029	1.029	0.473	0.264	0.264	No
	Edge 2	0.409	0.000	0.000	0.000	0.000	0.236	0.409	0.409	0.409	0.645	0.645	No
	Edge 3	0.047	0.217	0.000	1.163	0.000	0.236	1.210	0.264	1.210	0.500	1.446	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.236	0.236	No
LTE Band 12	Bottom Face	0.540	0.062	0.152	0.243	0.169	0.236	0.952	0.771	0.935	0.838	1.019	No
	Edge 1	0.068	0.000	0.445	0.000	1.001	0.236	1.069	1.069	0.513	0.304	0.304	No
	Edge 2	0.413	0.000	0.000	0.000	0.000	0.236	0.413	0.413	0.413	0.649	0.649	No
	Edge 3	0.083	0.217	0.000	1.163	0.000	0.236	1.246	0.300	1.246	0.536	1.482	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.236	0.236	No

LTE Band 13	Bottom Face	0.269	0.062	0.152	0.243	0.169	0.236	0.681	0.500	0.664	0.567	0.748	No
	Edge 1	0.017	0.000	0.445	0.000	1.001	0.236	1.018	1.018	0.462	0.253	0.253	No
	Edge 2	0.632	0.000	0.000	0.000	0.000	0.236	0.632	0.632	0.632	0.868	0.868	No
	Edge 3	0.056	0.217	0.000	1.163	0.000	0.236	1.219	0.273	1.219	0.509	1.455	No
	Edge 4	0.000	0.000	0.000	0.000	0.000	0.236	0.000	0.000	0.000	0.236	0.236	No

9 Equipment list

Test Platform	SPEAG DASY5 Professional					
Location	SGS-CCS Standards Technical Services Co., Ltd. Kunshan Branch					
Description	SAR Test System (Frequency range 300MHz-6GHz)					
Software Reference	DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)					
Hardware Reference						
	Equipment	Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	P C	HP	Core(rm)3.16 G	CZCO48171H	N/A	N/A
☒	Signal Generator	Agilent	E8257C	US37101915	2019/02/25	2020/02/24
☒	S-Parameter Network Analyzer	Agilent	E5071B	MY42301382	2019/02/25	2020/02/24
☒	Power sensor	Anritsu	E9327A	Us40441788	2019/02/25	2020/02/24
☒	Power meter	Anritsu	E4416A	GB41292714	2019/02/25	2020/02/24
☒	DAE	SPEAG	DAE4	1245	2019/05/21	2020/05/20
☒	E-field PROBE	SPEAG	EX3DV4	3798	2019/05/24	2020/05/23
☒	Dipole	SPEAG	D750V3	1188	2019/03/07	2022/03/06
☒	Dipole	SPEAG	D835V2	4d114	2019/06/11	2022/06/10
☒	Dipole	SPEAG	D1800V2	2d170	2019/06/11	2021/06/10
☒	Dipole	SPEAG	D1900V2	5d136	2019/06/11	2021/06/10
☒	Dipole	SPEAG	D2450V2	817	2019/06/10	2022/06/09
☒	Dipole	SPEAG	D5GHzV2	1095	2019/06/14	2022/06/13
☒	Electro Thermometer	DTM	DTM3000	3030	2018/12/8	2019/12/7
☒	Amplifier	Mini-circuits	ZVE-8G	110405	N/A	N/A
☒	Amplifier	Mini-circuits	ZHL-42	QA1331003	N/A	N/A
☒	3db ATTENUATOR	MINI	MCL BW-S3W5	0533	N/A	N/A
☒	DUMMY PROBE	SPEAG	DP_2	SPDP2001AA	N/A	N/A
☒	Dual Directional Coupler	Woken	20W couple	DOM2BHW1A1	N/A	N/A
☒	SAM PHANTOM (ELI4 v4.0)	SPEAG	QDOVA001BB	1102	N/A	N/A
☒	Twin SAM Phantom	SPEAG	QD000P40CD	1609	N/A	N/A
☒	ROBOT	SPEAG	TX60	F10/5E6AA1/A101	N/A	N/A
☒	ROBOT KRC	SPEAG	CS8C	F10/5E6AA1/C101	N/A	N/A
☒	LIQUID CALIBRATION KIT	ANTENNESSA	41/05 OCP9	00425167	N/A	N/A

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

☒ No.10, Weiye Rd., Innovation Park, Eco & Tec. Development Part, Kunshan City, Jiangsu Province, China.

10 Calibration certificate

Please see the Appendix C

11 Photographs

Please see the Appendix D

Appendix A: Detailed System Check Results

The plots are showing as followings.

Date: 2019/07/29

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Body 750MHz

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1188

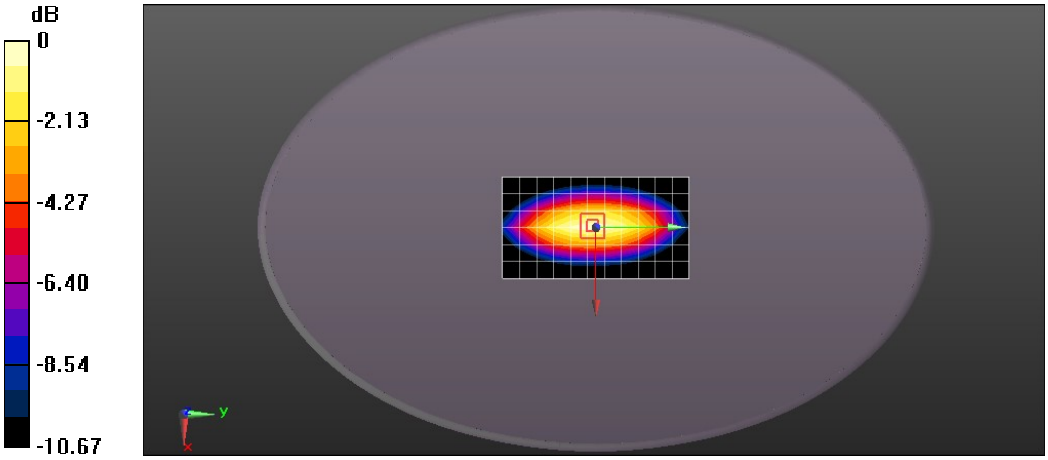
Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.956 S/m; ε_r = 56.279; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(9.59, 9.59, 9.59); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Pin=250 mW, dist=15 mm (EX-Probe)/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.73 W/kg

Body/Pin=250 mW, dist=15 mm (EX-Probe)/Zoom Scan (7x7x7) (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 53.16 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.19 W/kg
SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.34 W/kg
Maximum value of SAR (measured) = 2.82 W/kg



0 dB = 2.82 W/kg = 4.50 dBW/kg

Date: 2019/07/30

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Body 835MHz

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d114

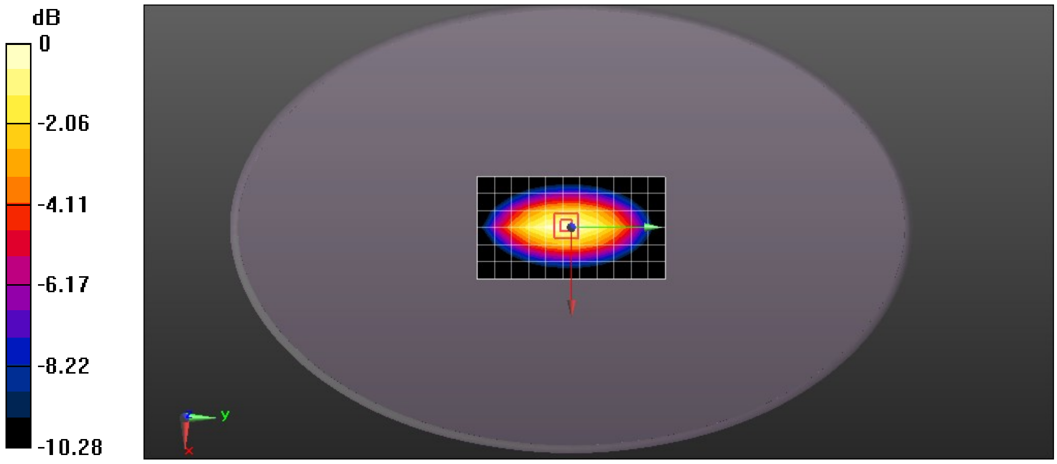
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.986 S/m; ε_r = 53.853; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(9.33, 9.33, 9.33); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/dist=15mm, Pin=250 mW(EX-Probe)/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.45 W/kg

Body/dist=15mm, Pin=250 mW(EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 60.91 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 4.09 W/kg
SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.58 W/kg
Maximum value of SAR (measured) = 3.47 W/kg



0 dB = 3.47 W/kg = 5.40 dBW/kg

Date: 2019/07/24

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Body 1800MHz

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d170

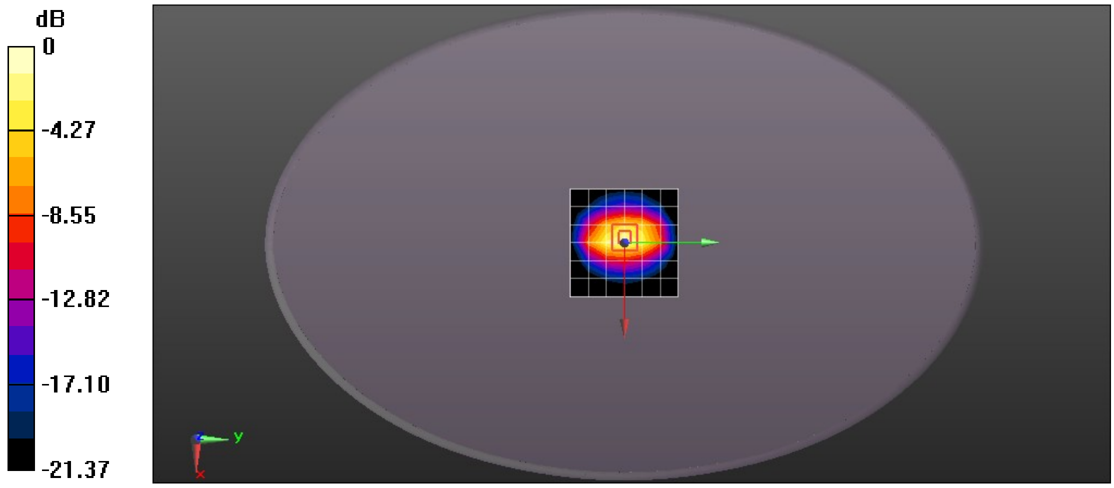
Communication System: UID 10000, CW; Frequency: 1800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.578 S/m; ε_r = 52.452; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.81, 7.81, 7.81); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe) (23.6 dBm)/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 13.3 W/kg

Body/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe) (23.6 dBm)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 100.6 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 21.6 W/kg
SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.03 W/kg
Maximum value of SAR (measured) = 17.3 W/kg



0 dB = 17.3 W/kg = 12.38 dBW/kg

Date: 2019/07/27

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Body 1900MHz

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d136

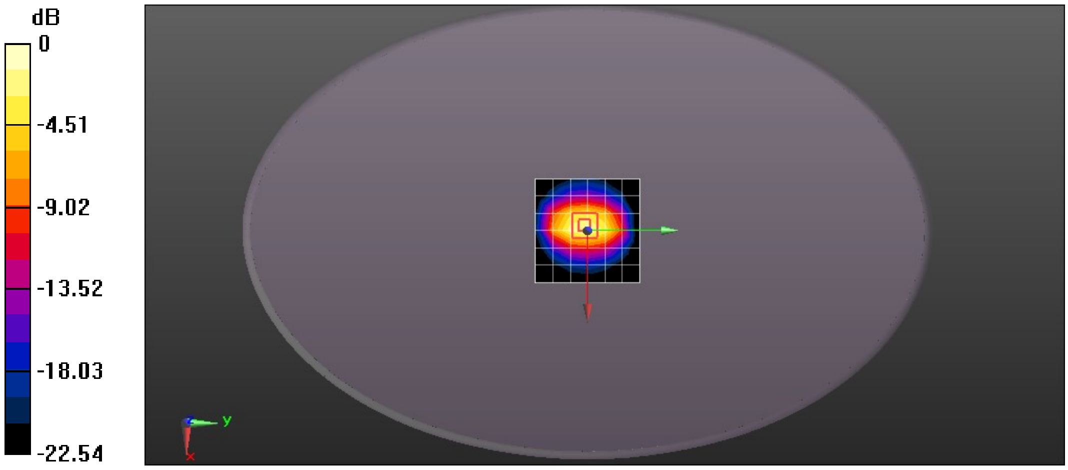
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.513 S/m; ε_r = 53.19; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.66, 7.66, 7.66); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/d=10mm, Pin=250 mW, dist=2.0mm (EX-Probe)/Area Scan (7x7x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 11.6 W/kg

Body/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 = 89.14 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 20.5 W/kg
SAR(1 g) = 10.5 W/kg; SAR(10 g) = 5.11 W/kg
Maximum value of SAR (measured) = 14.8 W/kg



0 dB = 14.8 W/kg = 11.70 dBW/kg

Date: 2019/07/23

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Body 2450MHz

DUT: Dipole 2450 MHz; Type: D24500V2; Serial: 817

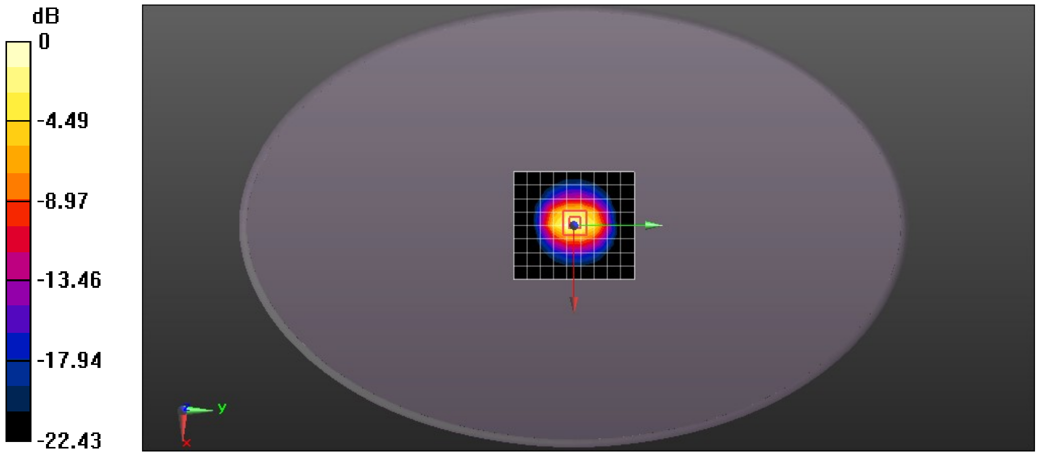
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.994 S/m; ε_r = 52.319; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.37, 7.37, 7.37); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Pin=250 mW, dist=10mm (EX-Probe)/Area Scan (9x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 16.9 W/kg

Body/Pin=250 mW, dist=10mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.33 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 25.9 W/kg
SAR(1 g) = 12.5 W/kg; SAR(10 g) = 5.75 W/kg
Maximum value of SAR (measured) = 19.2 W/kg



0 dB = 19.2 W/kg = 12.83 dBW/kg

Date: 2019/08/01

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Body 5250MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: 1095

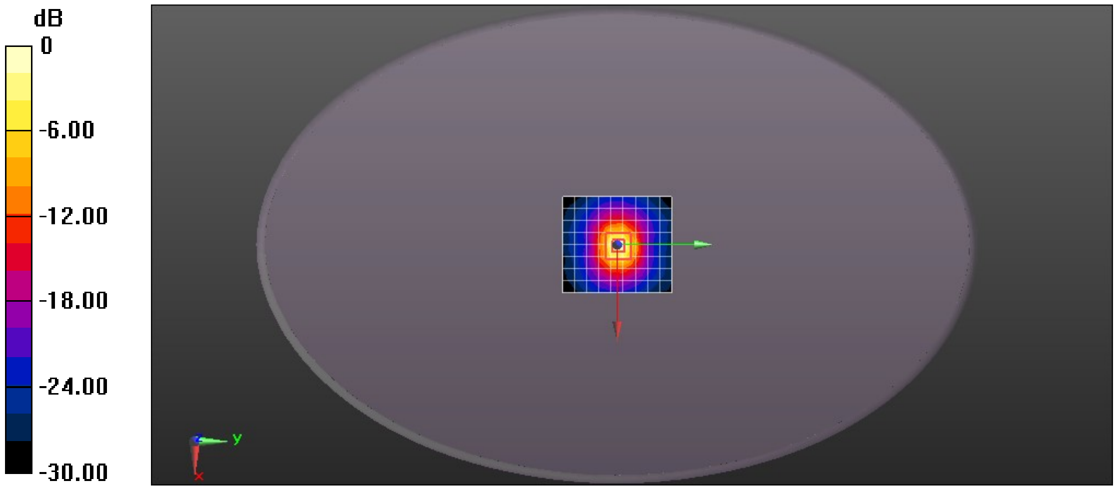
Communication System: UID 0, CW (0); Frequency: 5300 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5300 MHz; σ = 5.528 S/m; ε_r = 47.965; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.5, 4.5, 4.5); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 25.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/d=10mm, Pin=100mW, f=5300 MHz/Area Scan (9x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 16.6 W/kg

Body/d=10mm, Pin=100mW, f=5300 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.60 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 32.6 W/kg
SAR(1 g) = 7.67 W/kg; SAR(10 g) = 2.21 W/kg
Maximum value of SAR (measured) = 18.6 W/kg



0 dB = 18.6 W/kg = 12.70 dBW/kg

Date: 2019/08/02

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Body 5600MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: 1095

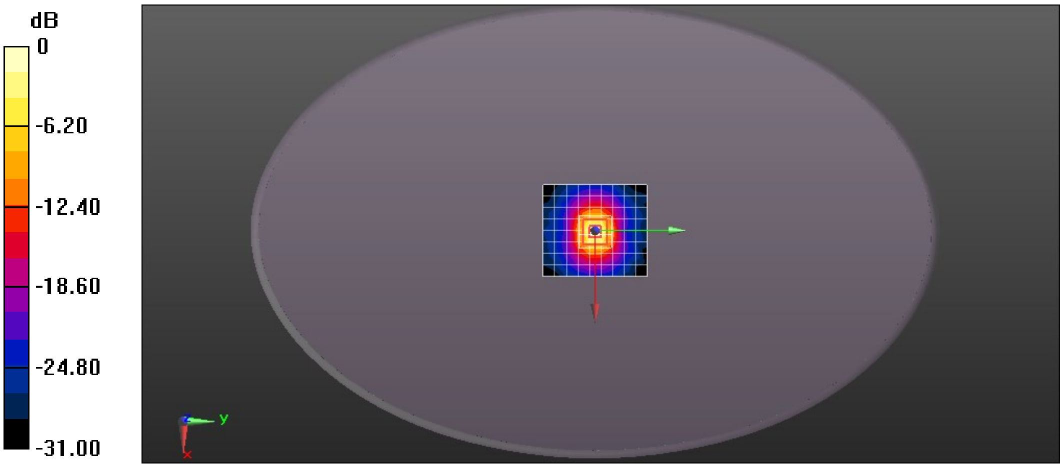
Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.85 S/m; ε_r = 47.19; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(3.96, 3.96, 3.96); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 25.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/d=10mm, Pin=100mW, f=5600 MHz/Area Scan (9x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 14.8 W/kg

Body/d=10mm, Pin=100mW, f=5600 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 67.50 V/m; Power Drift = -0.33 dB
Peak SAR (extrapolated) = 31.8 W/kg
SAR(1 g) = 7.4 W/kg; SAR(10 g) = 2.18 W/kg
Maximum value of SAR (measured) = 17.5 W/kg



0 dB = 17.5 W/kg = 12.43 dBW/kg

Date: 2019/08/03

Test Laboratory: Compliance Certification Services Inc.

System Performance Check-Body 5750MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: 1095

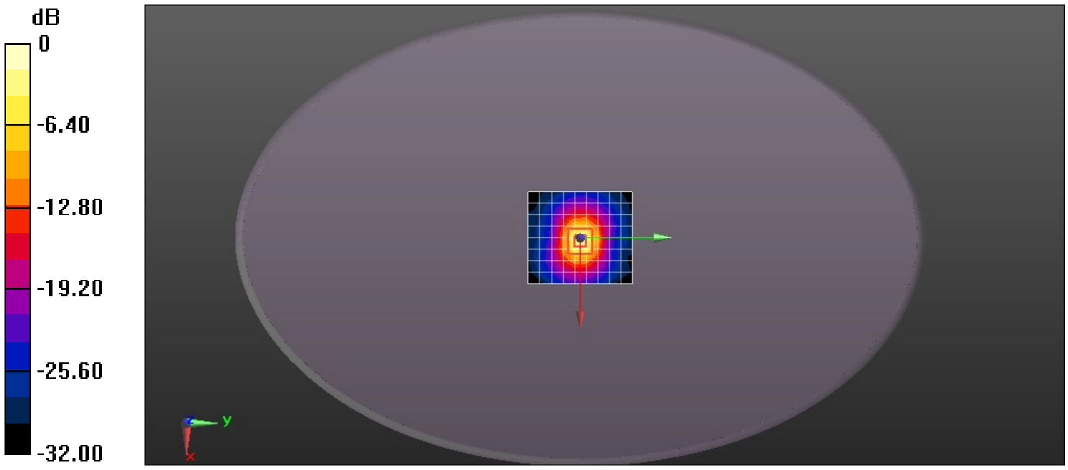
Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 6.06 S/m; ε_r = 46.68; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.2, 4.2, 4.2); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 25.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/d=10mm, Pin=100mW, f=5800 MHz/Area Scan (9x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 14.9 W/kg

Body/d=10mm, Pin=100mW, f=5800 MHz/Zoom Scan (4x4x1.4mm, graded), dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.20 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 34.8 W/kg
SAR(1 g) = 7.58 W/kg; SAR(10 g) = 2.14 W/kg
Maximum value of SAR (measured) = 19.4 W/kg



0 dB = 19.4 W/kg = 12.88 dBW/kg

Appendix B: Detailed Test Results

The plots of worse case are showing as followings.

Date: 2019/07/30

Test Laboratory: Compliance Certification Services Inc.

WCDMA Band V RMC Ch4233 Edge 2 9mm Sensor Off

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

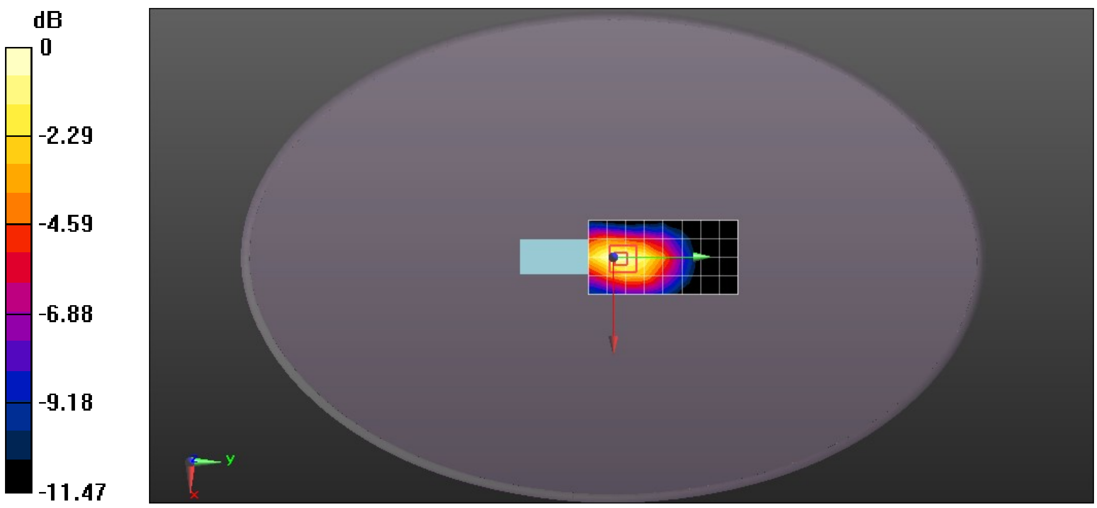
Communication System: UID 0, WCDMA / UMTS (0); Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.988 S/m; ε_r = 53.665; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(9.33, 9.33, 9.33); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.671 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.09 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.818 W/kg
SAR(1 g) = 0.494 W/kg; SAR(10 g) = 0.309 W/kg
Maximum value of SAR (measured) = 0.690 W/kg



0 dB = 0.690 W/kg = -1.61 dBW/kg

Date: 2019/07/27

Test Laboratory: Compliance Certification Services Inc.

WCDMA Band II RMC Ch9400 Bottom Face 9mm Sensor Off

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

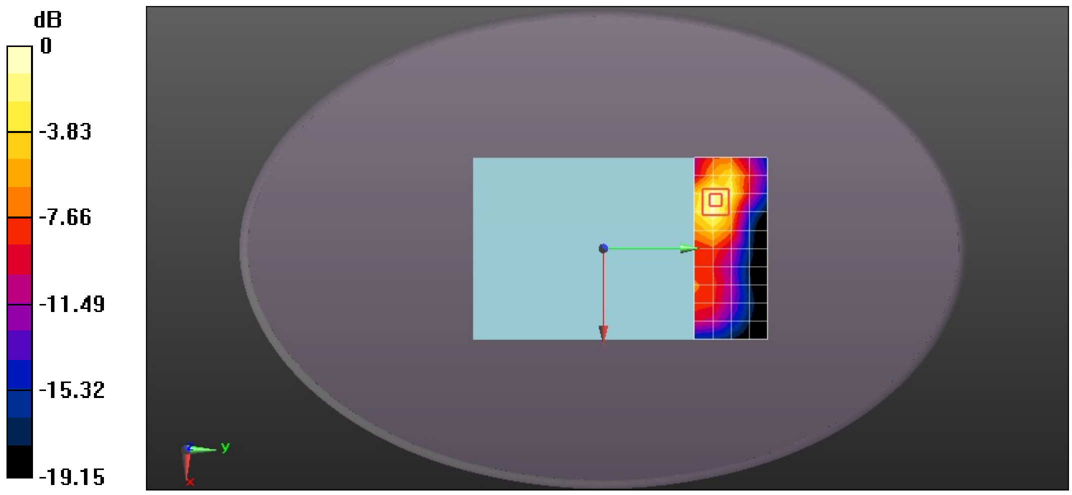
Communication System: UID 0, WCDMA / UMTS (0); Frequency: 1880 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.503 S/m; ε_r = 53.465; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.66, 7.66, 7.66); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (11x5x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.537 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.008 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.741 W/kg
SAR(1 g) = 0.426 W/kg; SAR(10 g) = 0.232 W/kg
Maximum value of SAR (measured) = 0.629 W/kg



0 dB = 0.629 W/kg = -2.01 dBW/kg

Date: 2019/07/27

Test Laboratory: Compliance Certification Services Inc.

LTE Band 2_20M QPSK 1RB 50Offset Ch19100 Bottom Face 9mm Sensor Off

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

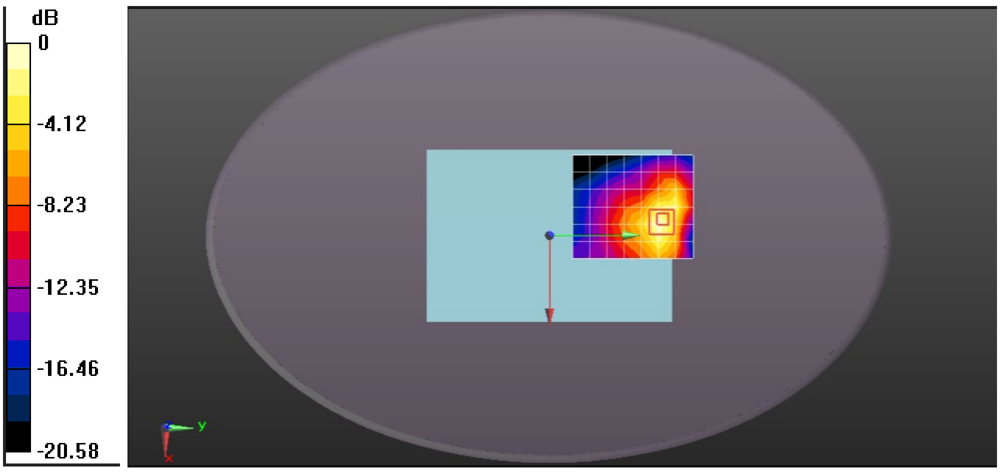
Communication System: UID 0, FDD_LTE (0); Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.513 S/m; ε_r = 53.19; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.66, 7.66, 7.66); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.987 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.019 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.699 W/kg; SAR(10 g) = 0.362 W/kg
Maximum value of SAR (measured) = 0.977 W/kg



0 dB = 0.977 W/kg = -0.10 dBW/kg

Date: 2019/07/24

Test Laboratory: Compliance Certification Services Inc.

LTE Band 4_20M QPSK 1RB 0Offset Ch20050 Edge 2 9mm Sensor Off

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

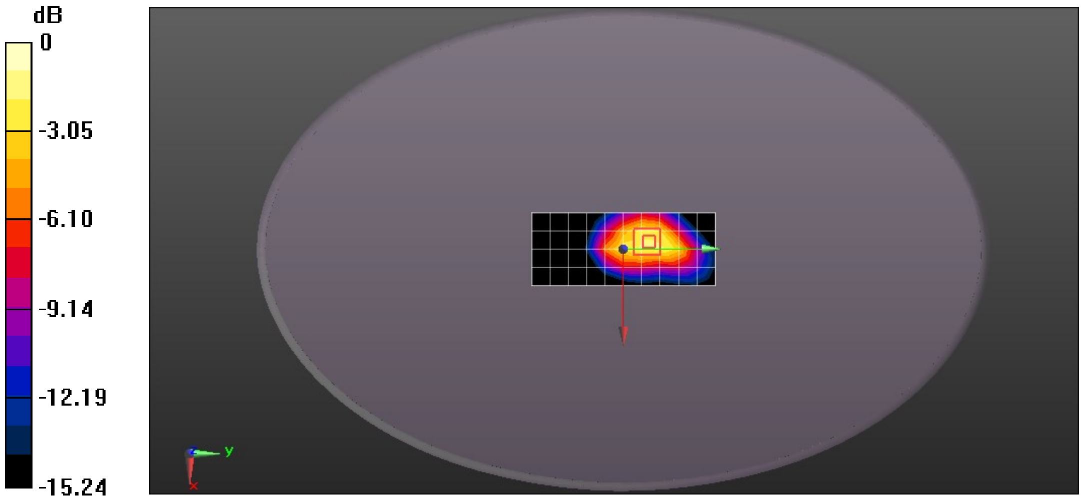
Communication System: UID 0, FDD_LTE (0); Frequency: 1720 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1720 MHz; σ = 1.514 S/m; ε_r = 52.812; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.81, 7.81, 7.81); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.655 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.54 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.687 W/kg; SAR(10 g) = 0.417 W/kg
Maximum value of SAR (measured) = 0.953 W/kg



0 dB = 0.953 W/kg = -0.21 dBW/kg

Date: 2019/07/30

Test Laboratory: Compliance Certification Services Inc.

LTE Band 5_10M QPSK 1RB 0Offset Ch20525 Edge 2 0mm Sensor On

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

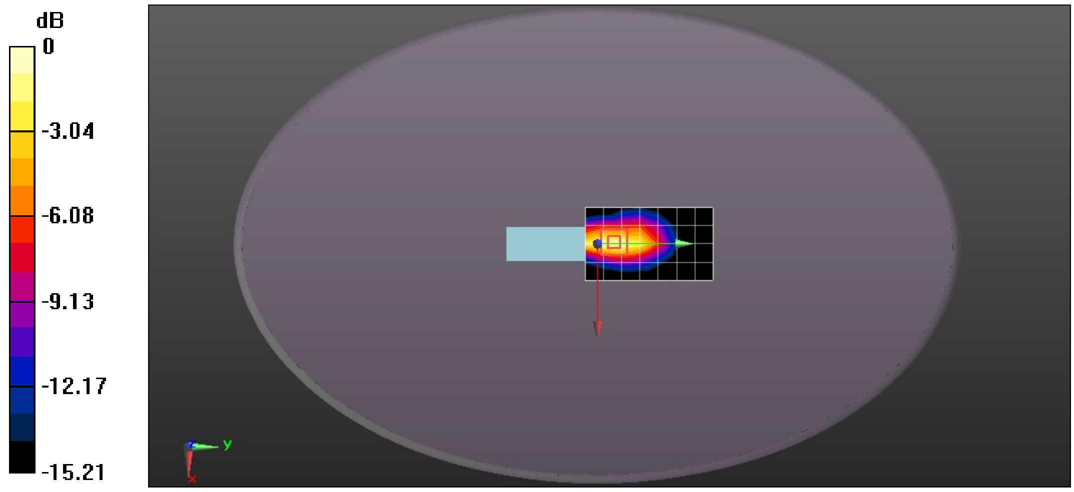
Communication System: UID 0, FDD_LTE (0); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.984 S/m; ε_r = 53.778; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(9.33, 9.33, 9.33); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.564 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.77 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.748 W/kg
SAR(1 g) = 0.374 W/kg; SAR(10 g) = 0.199 W/kg
Maximum value of SAR (measured) = 0.598 W/kg



0 dB = 0.598 W/kg = -2.23 dBW/kg

Date: 2019/07/29

Test Laboratory: Compliance Certification Services Inc.

LTE Band 12_10M QPSK 1RB 0Offset Ch20060 Bottom Face 9mm Sensor Off

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

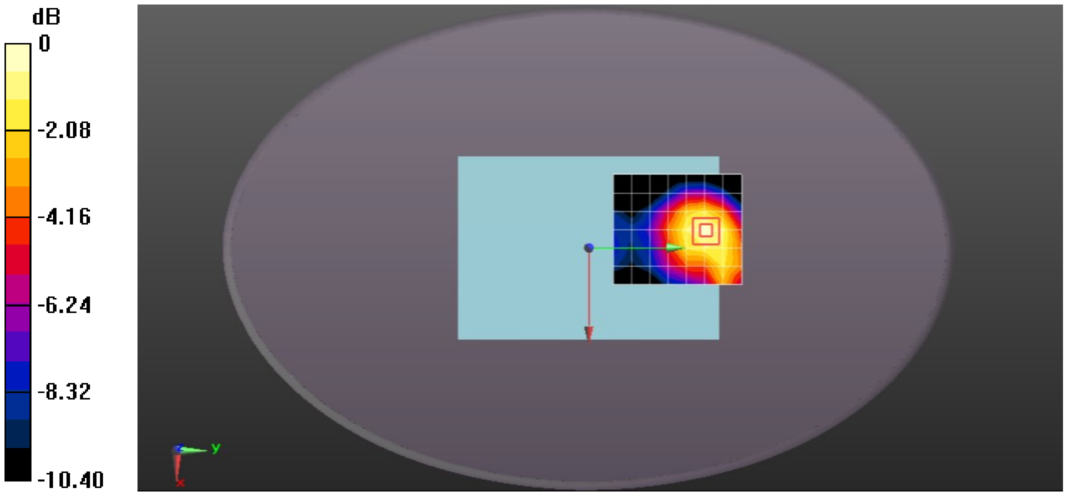
Communication System: UID 0, FDD_LTE (0); Frequency: 704 MHz; Duty Cycle: 1:1
Medium parameters used: f = 704 MHz; σ = 0.945 S/m; ε_r = 57.144; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(9.59, 9.59, 9.59); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.660 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.56 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.758 W/kg
SAR(1 g) = 0.519 W/kg; SAR(10 g) = 0.350 W/kg
Maximum value of SAR (measured) = 0.675 W/kg



0 dB = 0.675 W/kg = -1.71 dBW/kg

Date: 2019/07/29

Test Laboratory: Compliance Certification Services Inc.

LTE Band 13 10M QPSK 1RB0 Ch23230 Edge 2 0mm Sensor Off

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

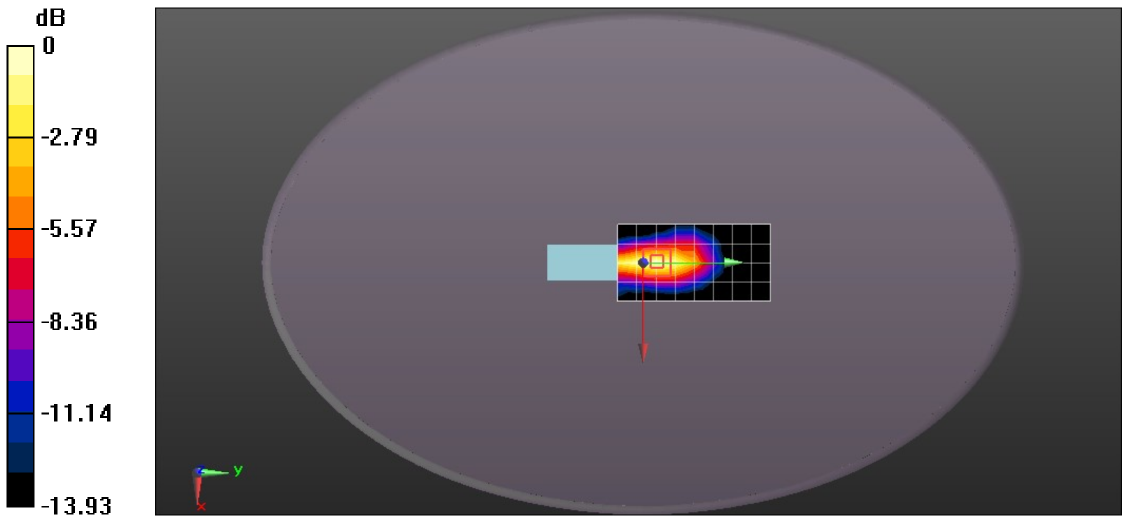
Communication System: UID 0, FDD_LTE (0); Frequency: 782 MHz; Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 0.977 S/m; ε_r = 56.674; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(9.59, 9.59, 9.59); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.935 W/kg

Configuration/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.83 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.591 W/kg; SAR(10 g) = 0.321 W/kg
Maximum value of SAR (measured) = 0.939 W/kg



0 dB = 0.939 W/kg = -0.27 dBW/kg

Date: 2019/07/23

Test Laboratory: Compliance Certification Services Inc.

WIFI 2.4G 802.11n HT20 SISO Edge 3 Ch1 0mm Ant Main

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

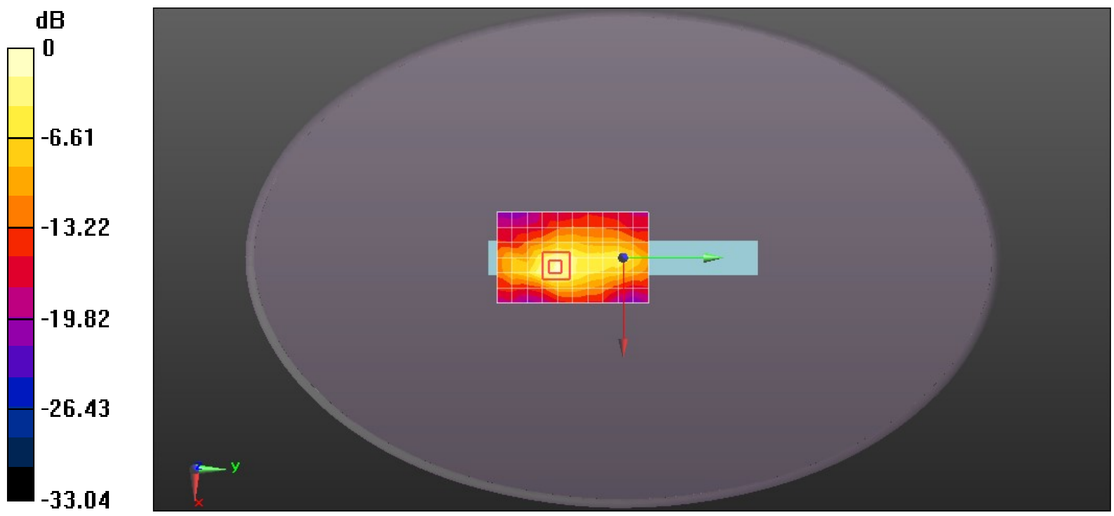
Communication System: UID 0, IEEE802.11n 20 (0); Frequency: 2412 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.945 S/m; ε_r = 52.432; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.37, 7.37, 7.37); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (7x11x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.260 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.324 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.588 W/kg
SAR(1 g) = 0.188 W/kg; SAR(10 g) = 0.091 W/kg
Maximum value of SAR (measured) = 0.359 W/kg



0 dB = 0.359 W/kg = -4.45 dBW/kg

Date: 2019/07/23

Test Laboratory: Compliance Certification Services Inc.

WIFI 2.4G 802.11n HT20 SISO Edge 1 Ch6 0mm Ant Aux

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

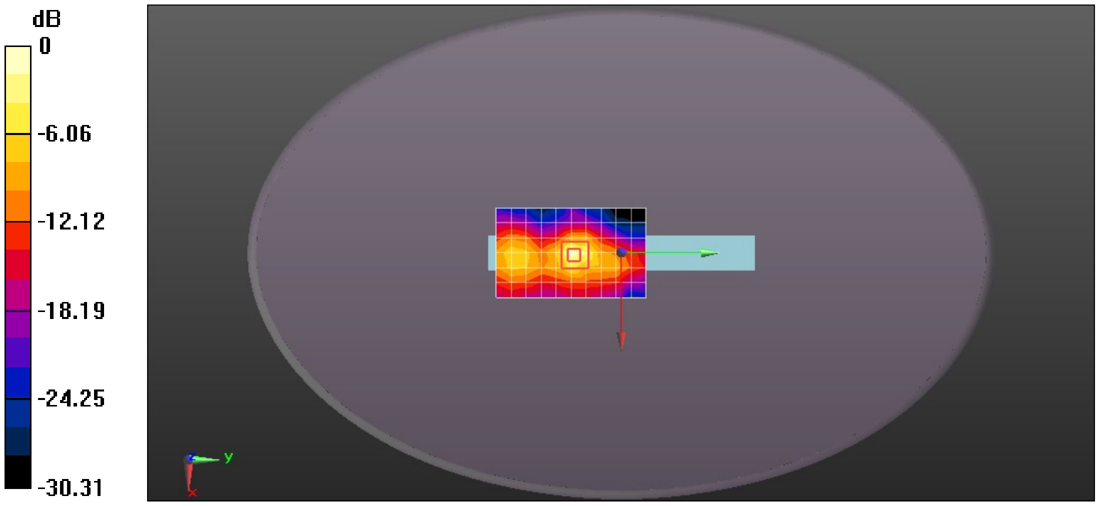
Communication System: UID 0, IEEE802.11n 20 (0); Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.997 S/m; ε_r = 52.393; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(7.37, 7.37, 7.37); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 31.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (7x11x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.640 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.313 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.904 W/kg
SAR(1 g) = 0.352 W/kg; SAR(10 g) = 0.132 W/kg
Maximum value of SAR (measured) = 0.684 W/kg



0 dB = 0.684 W/kg = -1.65 dBW/kg

Date: 2019/08/01

Test Laboratory: Compliance Certification Services Inc.

WIFI 5G 802.11a 6Mbps Edge 3 Ch64 0mm Ant Main

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

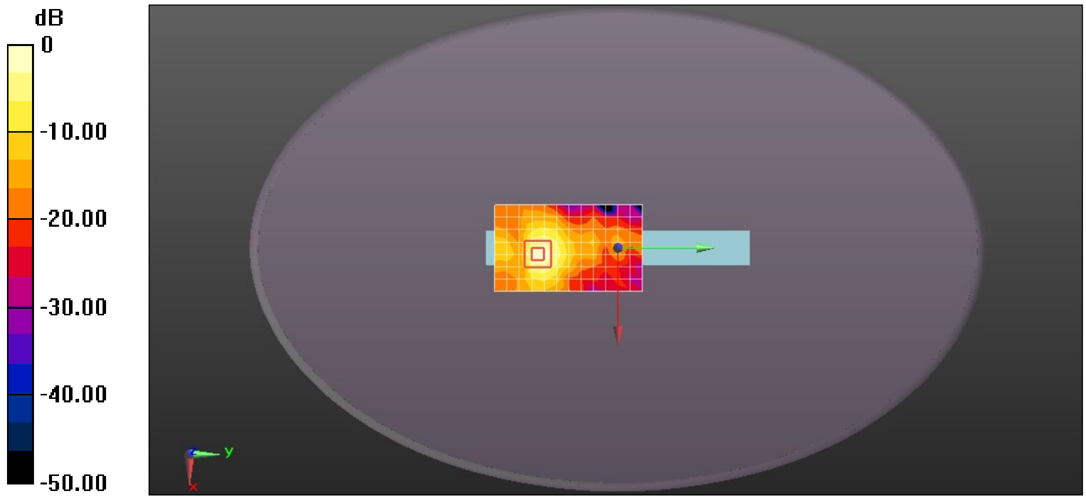
Communication System: UID 0, IEEE 802.11 a (0); Frequency: 5320 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5320 MHz; σ = 5.533 S/m; ε_r = 47.906; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.5, 4.5, 4.5); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 23.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.36 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 3.769 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 2.61 W/kg
SAR(1 g) = 0.674 W/kg; SAR(10 g) = 0.213 W/kg
Maximum value of SAR (measured) = 1.70 W/kg



0 dB = 1.70 W/kg = 2.30 dBW/kg

Date: 2019/08/01

Test Laboratory: Compliance Certification Services Inc.

WIFI 5G 802.11a 6Mbps Edge 1 Ch52 0mm Ant Aux

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

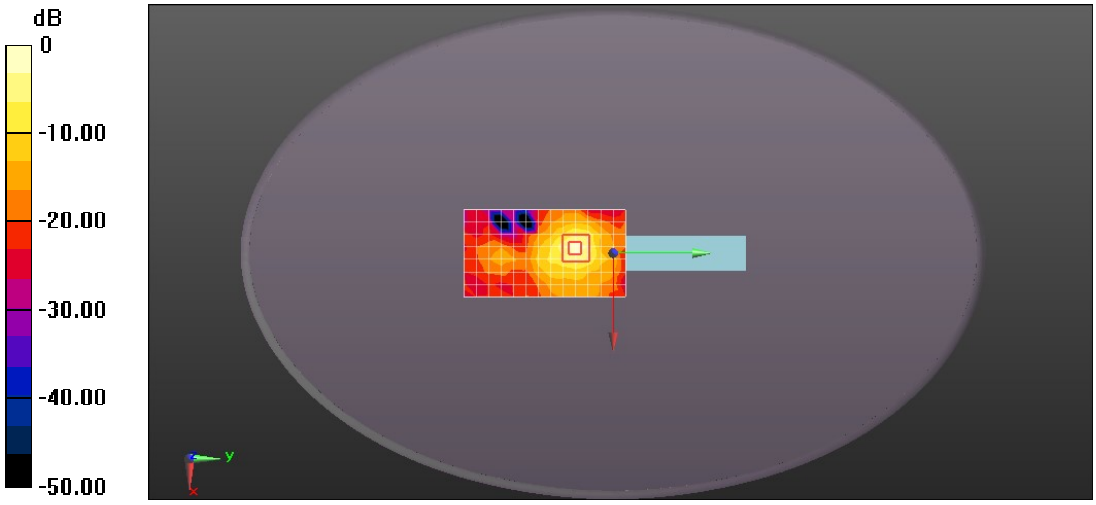
Communication System: UID 0, IEEE 802.11 a (0); Frequency: 5260 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5260 MHz; σ = 5.45 S/m; ε_r = 48.097; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.5, 4.5, 4.5); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 23.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.71 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 4.074 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 5.37 W/kg
SAR(1 g) = 0.721 W/kg; SAR(10 g) = 0.211 W/kg
Maximum value of SAR (measured) = 1.77 W/kg



0 dB = 1.77 W/kg = 2.48 dBW/kg

Date: 2019/08/02

Test Laboratory: Compliance Certification Services Inc.

WIFI 5G 802.11a 6Mbps Edge 3 Ch100 0mm Ant Main

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

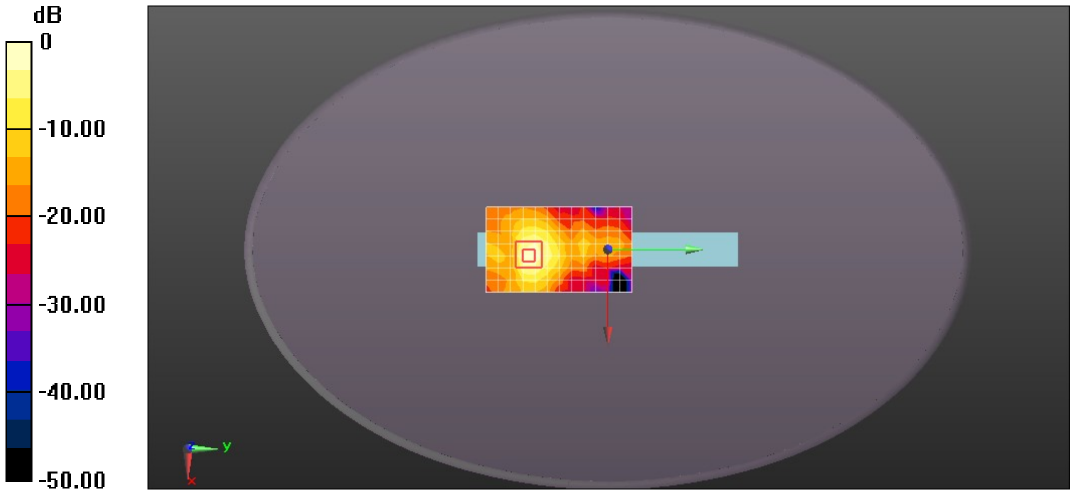
Communication System: UID 0, IEEE 802.11 a (0); Frequency: 5500 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5500 MHz; σ = 5.74 S/m; ε_r = 47.559; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(3.96, 3.96, 3.96); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 23.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.88 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 4.575 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.70 W/kg
SAR(1 g) = 0.929 W/kg; SAR(10 g) = 0.290 W/kg
Maximum value of SAR (measured) = 2.32 W/kg



0 dB = 2.32 W/kg = 3.65 dBW/kg

Date: 2019/08/02

Test Laboratory: Compliance Certification Services Inc.

WIFI 5G 802.11a 6Mbps Edge 1 Ch140 0mm Ant Aux

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

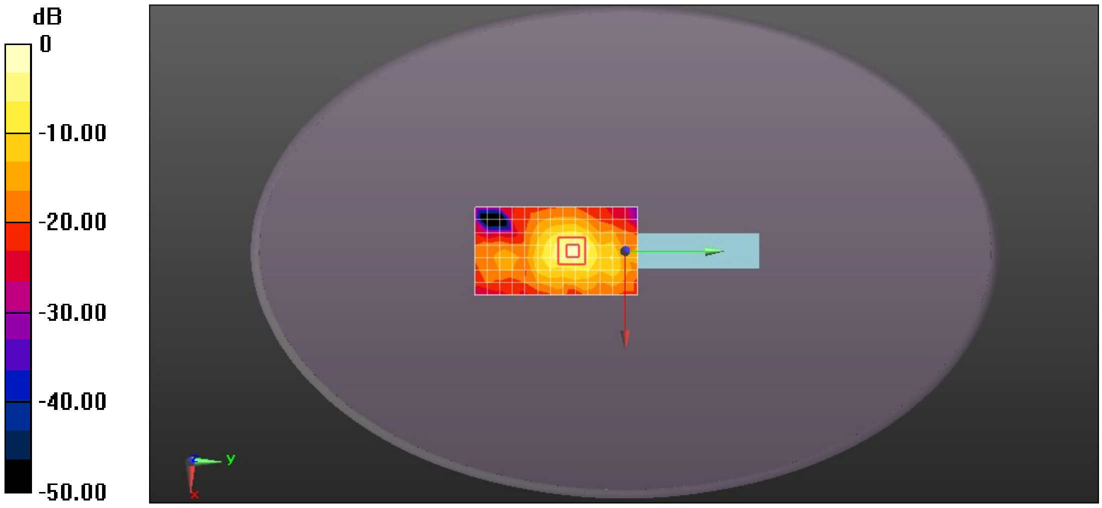
Communication System: UID 0, IEEE 802.11 a (0); Frequency: 5700 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5700 MHz; σ = 5.964 S/m; ε_r = 47.093; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.2, 4.2, 4.2); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 23.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.75 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.525 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 3.97 W/kg
SAR(1 g) = 0.916 W/kg; SAR(10 g) = 0.270 W/kg
Maximum value of SAR (measured) = 2.44 W/kg



0 dB = 2.44 W/kg = 3.87 dBW/kg

Date: 2019/08/03

Test Laboratory: Compliance Certification Services Inc.

WIFI 5G 802.11a 6Mbps Edge 3 Ch157 0mm Ant Main

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

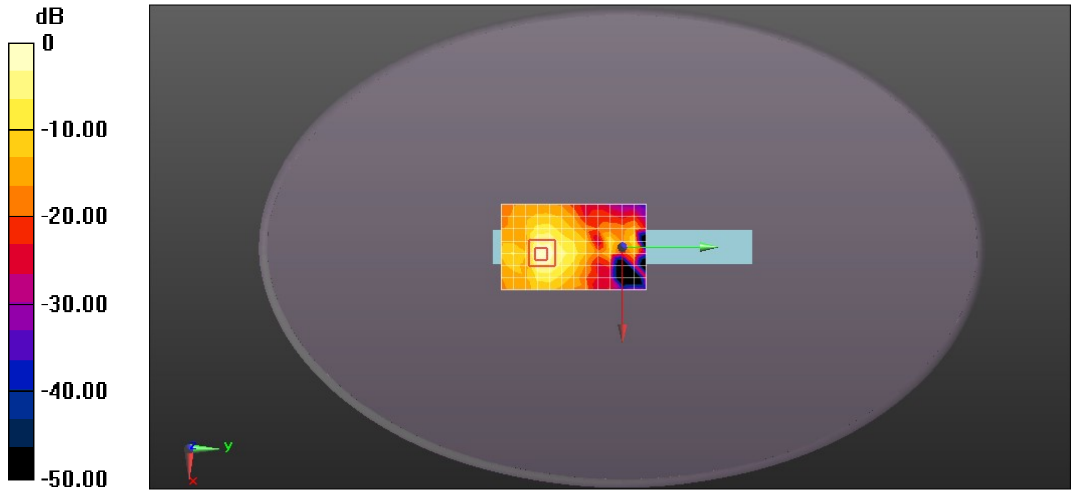
Communication System: UID 0, IEEE 802.11 a (0); Frequency: 5785 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 6.038 S/m; ε_r = 46.67; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.2, 4.2, 4.2); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 23.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.22 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.780 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 2.94 W/kg
SAR(1 g) = 0.554 W/kg; SAR(10 g) = 0.159 W/kg
Maximum value of SAR (measured) = 1.42 W/kg



0 dB = 1.42 W/kg = 1.52 dBW/kg

Date: 2019/08/03

Test Laboratory: Compliance Certification Services Inc.

WIFI 5G 802.11a 6Mbps Edge 1 Ch149 0mm Ant Aux

DUT: Mobile Tablet; Type: DT380CR; Serial: 380W11917Y507

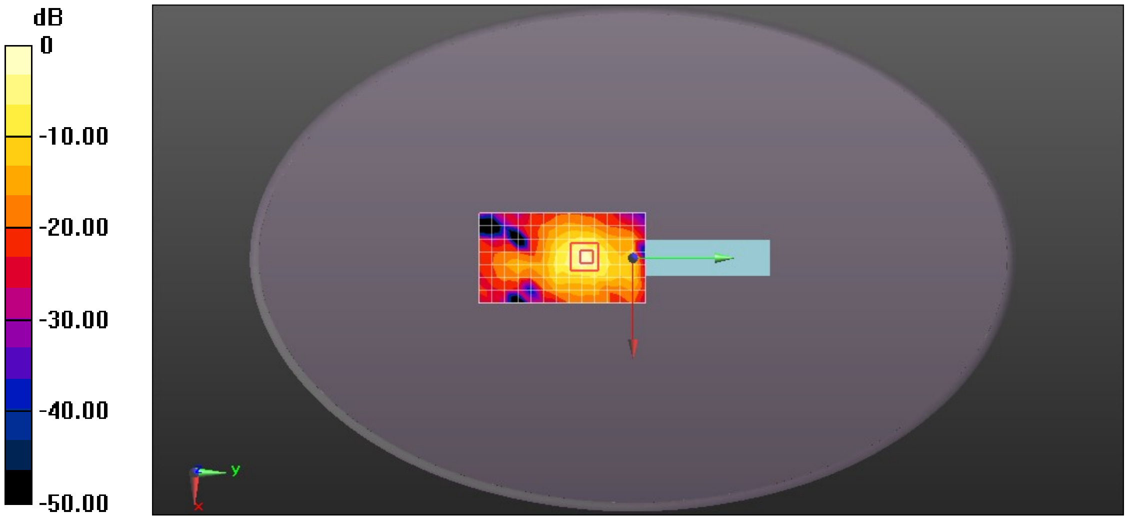
Communication System: UID 0, IEEE 802.11 a (0); Frequency: 5745 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 6.036 S/m; ε_r = 46.775; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3798; ConvF(4.2, 4.2, 4.2); Calibrated: 2019/05/24;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -29.0, 23.0
- Electronics: DAE4 Sn1245; Calibrated: 2019/05/21
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1102
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Body/Area Scan (8x14x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.43 W/kg

Configuration/Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 5.750 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 5.09 W/kg
SAR(1 g) = 0.828 W/kg; SAR(10 g) = 0.240 W/kg
Maximum value of SAR (measured) = 2.14 W/kg



0 dB = 2.14 W/kg = 3.30 dBW/kg

Appendix C: Calibration certificate

Appendix D: Photographs

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