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TEST REPORT

Report Reference No. ..... :	**TRE18090071**	R/C…….: 83995
FCC ID ..... :	**2AJZP-D450B**	
Applicant's name ..... :	**Mason America, Inc.**	
Address.....:	506 2nd Ave，Suite 1400 Seattle, WA 98104，United States	
Manufacturer.....:	Mason America, Inc.	
Address.....:	506 2nd Ave，Suite 1400 Seattle, WA 98104，United States	
Test item description ..... :	**Mobile phone**	
Trade Mark .....:	MASON	
Model/Type reference.....:	D450B	
Listed Model(s) .....:	-	
Standard ..... :	**FCC 47 CFR Part2.1093** **IEEE 1528: 2013**	
Date of receipt of test sample…….:	Sep.17,2018	
Date of testing……...:	Sep.18,2018-Oct.09,2018	
Date of issue……:	Oct.11,2018	
Result.....……..:	**PASS**	

Compiled by (position+printedname+signature)...:	File administrators:Xiaodong Zhao	Xiaodong Zhao
Supervised by (position+printedname+signature)...:	Test Engineer: Xiaodong Zhao	Xiaodong Zhao
Approved by (position+printedname+signature)...:	Manager: Hans Hu	Hans Hu

Testing Laboratory Name ..... :	**Shenzhen Huatongwei International Inspection Co., Ltd**
Address.....:	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

Contents

1 . Test Standards and Report version

1.1. Test Standards

The tests were performed according to following standards:

FCC 47 Part 2.1093: Radiofrequency radiation exposure evaluation: portable devices.
IEEE Std 1528™-2013: IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.
FCC published RF exposure KDB procedures:
865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz
865664 D02 RF Exposure Reporting v01r02: RF Exposure Compliance Reporting and Documentation Considerations
447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
248227 D01 802 11 Wi-Fi SAR v02r02: SAR Measurement Proceduresfor802.11 a/b/g Transmitters
648474 D04 Handset SAR v01r03: SAR Evaluation Considerations for Wireless Handsets
941225 D01 3G SAR Procedures v03r01: SAR Measurement Procedures for 3G Devices
941225 D05 SAR for LTE Devices v02r05: SAR Evaluation Considerations for LTE Devices
941225 D06 Hotspot Mode v02r01: SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities

1.2. Report version

Revision No.	Date of issue	Description
N/A	2018-10-11	Original

2. Summary

2.1. Client Information

Applicant:	Mason America, Inc.
Address:	506 2nd Ave，Suite 1400 Seattle, WA 98104，United States
Manufacturer:	Mason America, Inc.
Address:	506 2nd Ave，Suite 1400 Seattle, WA 98104，United States

2.2. Product Description

Name of EUT:	Mobile phone			
Trade Mark:	MASON			
Model No.:	D450B			
Listed Model(s):	-			
Power supply:	DC 3.85V			
Device Category:	Portable			
Product stage:	Production unit			
RF Exposure Environment:	General Population/Uncontrolled			
IMEI:	863947030239675			
Hardware version:	X57S_PCB_V1.02			
Software version:	Mason D450A-H01B-S013			
Device Dimension:	Overall (Length x Width x Thickness):160 x 76 x 10mm			
Maximum SAR Value				
Separation Distance:	Head: 0mm Body: 10mm			
Max Report SAR Value (1g):	Test location:	PCE	DTS/U-NII	Simultaneous TX
	Head:	0.279 W/kg	0.673 W/kg	0.952 W/kg
	Body:	1.174 W/kg	0.125 W/kg	1.299 W/kg
	Hotspot:	1.174 W/kg	0.101 W/kg	1.275 W/kg
GSM				
Support Band:	GSM850,PCS1900			
Modulation Type:	GSM/GPRS/EGPRS:GMSK EGPRS:8PSK			
GPRS Multislot Class:	33			
EGPRS Multislot Class:	33			
Antenna Type:	Integral			
WCDMA				
Operation Band:	WCDMA Band II,WCDMA Band IV,WCDMA Band V			
Power Class:	Class 3			
Modulation Type:	QPSK			
DC-HSUPA Release Version:	Not Supported			
Antenna Type:	Integral			

LTE	
Operation Band:	FDD Band 2,FDD Band 4,FDD Band 5,FDD Band 7,FDD Band 12,FDD Band 13,FDD Band 17
Power Class:	Class 3
Modulation Type:	QPSK,16QAM
Antenna Type:	Integral
WIFI 2.4G	
Supported Type:	802.11b/802.11g/802.11n(HT20)/802.11n(HT40)
Modulation Type:	DSSS for 802.11b OFDM for 802.11g/802.11n(HT20)/802.11n(HT40)
Operation Frequency:	2412MHz~2462MHz for 802.11b/802.11g/802.11n(HT20) 2422MHz~2452MHz for 802.11n(HT40)
Channel Number:	11 for 802.11b/802.11g/802.11n(HT20) 7 for 802.11n(HT40)
Channel Separation:	5MHz
Antenna Type:	Integral
WIFI 5G	
Supported Type:	802.11a/802.11n(HT20)/802.11n(HT40)/802.11ac(VHT20)/802.11ac(VHT40)/802.11ac(VHT80)
Modulation Type:	BPSK, QPSK, 16QAM, 64QAM
Operation Frequency:	U-NII-1:5150MHz~5250MHz U-NII-2A:5250MHz~5350MHz U-NII-2C: 5470MHz~5725MHz U-NII-3:5725MHz~5850MHz
Antenna Type:	Integral
Bluetooth	
Version:	BT4.2+EDR
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Operation Frequency:	2402MHz~2480MHz
Channel Number:	79
Channel Separation:	1MHz
Antenna Type:	Integral

Bluetooth	
Version:	BT4.2+BLE
Modulation:	GFSK
Operation Frequency:	2402MHz~2480MHz
Channel Number:	40
Channel Separation:	2MHz
Antenna Type:	Integral

Remark:

1. *The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power*
2. *The Test EUT support two SIM card(SIM1,SIM2),so all the tests are performed at each SIM card (SIM1,SIM2) mode, the datum recorded is the worst case for all the mode at SIM1 Card mode.*
3. *WIFI 5G U-NII-2A and U-NII-2C not supported Hotsopt.*

3. Test Environment

3.1. Test laboratory

Laboratory:Shenzhen Huatongwei International Inspection Co., Ltd.
Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

3.2. Test Facility

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 762235

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 762235.

IC-Registration No.: 5377B-1

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B-1.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Ambient temperature	18 °C to 25 °C
Ambient humidity	30%RH to 70%RH
Air Pressure	950-1050mbar

4. Equipments Used during the Test

Test Equipment	Manufacturer	Type/Model	Serial Number	Calibration	
				Last Cal.	Last Cal.
Data Acquisition Electronics DAEx	SPEAG	DAE4	1549	2018/04/25	2019/04/24
E-field Probe	SPEAG	EX3DV4	7494	2018/02/26	2019/02/25
System Validation Dipole	SPEAG	D750V3	1180	2018/02/07	2021/02/06
System Validation Dipole	SPEAG	D835V2	4d238	2018/02/19	2021/02/18
System Validation Dipole	SPEAG	D1750V2	1164	2018/02/06	2021/02/05
System Validation Dipole	SPEAG	D1900V2	5d226	2018/02/22	2021/02/21
System Validation Dipole	SPEAG	D2450V2	1009	2018/02/05	2021/02/04
System Validation Dipole	SPEAG	D2600V2	1150	2018/02/05	2021/02/04
System Validation Dipole	SPEAG	D5GHzV2	1273	2018/02/21	2021/02/20
Dielectric Assessment Kit	SPEAG	DAK-3.5	1267	2018/03/01	2019/02/28
Network analyzer	Agilent	N9923A	MY51491493	2018/08/31	2019/08/30
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMW500	137681	2018/07/11	2019/07/10
Signal Generator	ROHDE & SCHWARZ	SMB100A	175248	2018/08/31	2019/08/30
Power meter	Agilent	N1914A	MY52090010	2018/03/22	2019/03/21
Power sensor	Agilent	E9304A	MY52140008	2018/03/22	2019/03/21
Power sensor	Agilent	E9301H	MY54470001	2018/03/22	2019/03/21
Power Amplifier	Mini-Circuits	ZVE-8G+	421401127	2018/03/22	2019/03/21
Power Amplifier	Mini-Circuits	ZHL-42W	QA1202003	2017/11/27	2018/11/26
Dual Directional Coupler	Agilent	772D	MY46151257	2018/03/22	2019/03/21
Dual Directional Coupler	Agilent	778D	MY48220612	2018/03/22	2019/03/21
Attenuator	MCL	BW-S10W5+	N/A	N/A	N/A
Attenuator	MCL	BW-S10W5+	N/A	N/A	N/A
Attenuator	MCL	BW-S10W5+	N/A	N/A	N/A

Note:

1. *The Probe,Dipole and DAE calibration reference to the Appendix B and C.*
2. *Referring to KDB865664 D01, the dipole calibration interval can be extended to 3 years with justifcatio. The dipole are also not physically damaged or repaired during the interval.*

5. Measurement Uncertainty

Per KDB 865664 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 expanded SAR measurement uncertainty must be ⩽ 30%, for a confidence interval of k = 2. If these conditions are met,extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

6. SAR Measurements System Configuration

6.1. SAR Measurement Set-up

The DASY5 system for performing compliance tests consists of the following items:

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

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

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

A unit to operate the optical surface detector which is connected to the EOC.

The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.

The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 2003.

DASY5 software and SEMCAD data evaluation software.

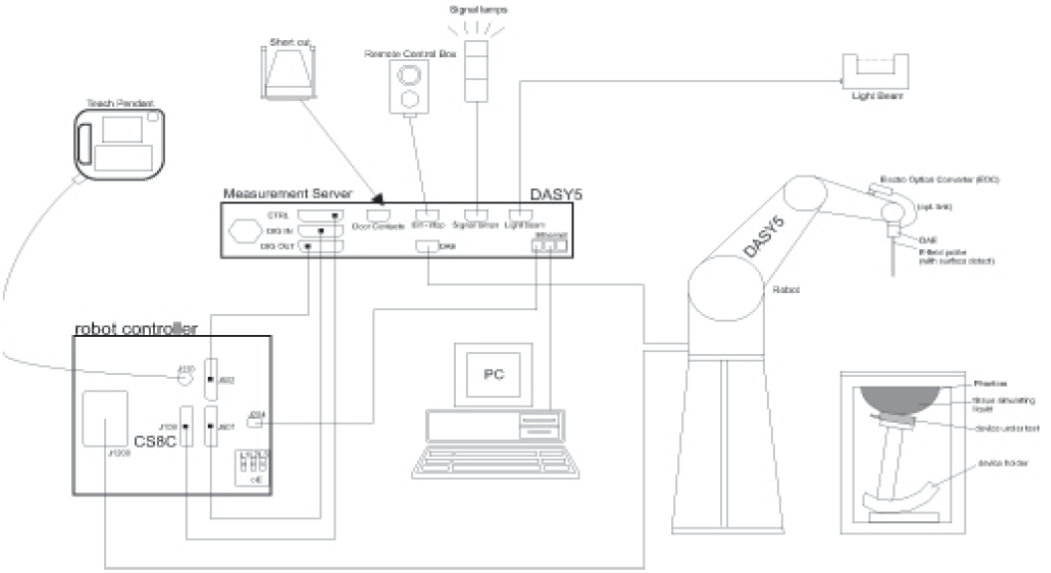
Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.

The generic twin phantom enabling the testing of left-hand and right-hand usage.

The device holder for handheld Mobile Phones.

Tissue simulating liquid mixed according to the given recipes.

System validation dipoles allowing to validate the proper functioning of the system.



6.2. DASY5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

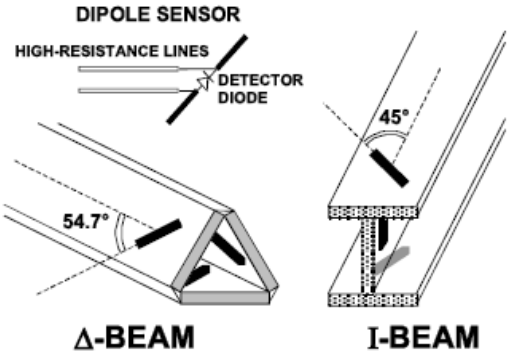
- **Probe Specification**

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	4 MHz to 10 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 W/kg; Linearity: ± 0.2 dB
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 6 GHz Dosimetry in strong gradient fields Compliance tests of Mobile Phones
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

- **Isotropic E-Field Probe**

The isotropic E-Field probe has been fully calibrated and assessed for isotropicity, and boundary effect within a controlled environment. Depending on the frequency for which the probe is calibrated the method utilized for calibration will change.

The E-Field probe utilizes a triangular sensor arrangement as detailed in the diagram below:



6.3. Phantoms

The phantom used for all tests i.e. for both system checks and device testing, was the twin-headed "SAM Phantom", manufactured by SPEAG. The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region, where shell thickness increases to 6mm).
System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.

Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI isfully compatible with standard and all known tissuesimulating liquids. ELI has been optimized regarding its performance and can beintegrated into our standard phantom tables. A cover prevents evaporation ofthe liquid. Reference markings on the phantom allow installation of thecomplete setup, including all predefined phantom positions and measurementgrids, by teaching three points. The phantom is compatible with all SPEAGdosimetric probes and dipoles.

SAM-Twin Phantom

ELI Phantom

6.4. Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the DASY system.
The DASY device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

Device holder supplied by SPEAG

7. SAR Test Procedure

7.1. Scanning Procedure

The DASY5 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

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

The “surface check” measurement tests the optical surface detection system of the DASY5 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

Area Scan
The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot.Before starting the area scan a grid spacing of 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains unchanged. After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

Zoom Scan
After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm.

Spatial Peak Detection
The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses.The DASY5 system allows evaluations that combine measured data and robot positions, such as:
• maximum search
• extrapolation
• boundary correction
• peak search for averaged SAR
During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard’s method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.
Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space.
They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard’s method for extrapolation.

A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

Table 1: Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v04

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

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

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

7.2. Data Storage and Evaluation

Data Storage

The DASY5 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors),s 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 ".DA4". 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], [W/kg], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

Data Evaluation

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:	σ
	Density:	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY5 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:

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

Vi: compensated signal of channel (i = x, y, z)
Ui: input signal of channel (i = x, y, z)
cf: crest factor of exciting field (DASY parameter)
dcpi: diode compression point (DASY parameter)

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

$$\mathrm{E-fieldprobes}: \qquad E_i = \sqrt{\frac{V_i}{Norm_i \cdot ConvF}}$$

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

Vi: compensated signal of channel (i = x, y, z)
Normi: sensor sensitivity of channel (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):

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

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

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1'000}$$

SAR: local specific absorption rate in W/kg
Etot: total field strength in V/m
σ: conductivity in [mho/m] or [Siemens/m]
ρ: 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.

8. Position of the wireless device in relation to the phantom

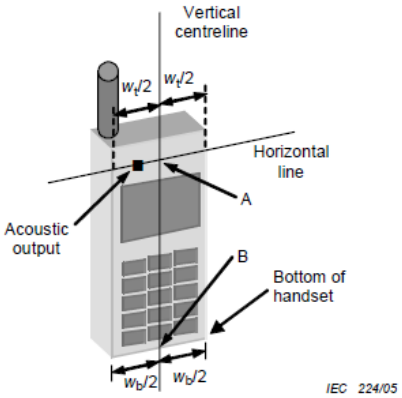
8.1. Head Position

The wireless device define two imaginary lines on the handset, the vertical centreline and the horizontal line, for the handset in vertical orientation as shown in Figures 5a and 5b.

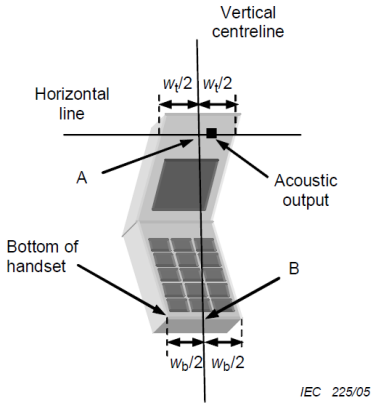
The vertical centreline passes through two points on the front side of the handset: the midpoint of the width W_t of the handset at the level of the acoustic output (point A in Figures 5a and 5b), and the midpoint of the width W_b of the bottom of the handset (point B).

The horizontal line is perpendicular to the vertical centreline and passes through the centre of the acoustic output (see Figures 5a and 5b). The two lines intersect at point A.

Note that for many handsets, point A coincides with the centre of the acoustic output. However, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centreline is not necessarily parallel to the front face of the handset (see Figure 5b), especially for clam-shell handsets, handsets with flip cover pieces, and other irregularly shaped handsets.



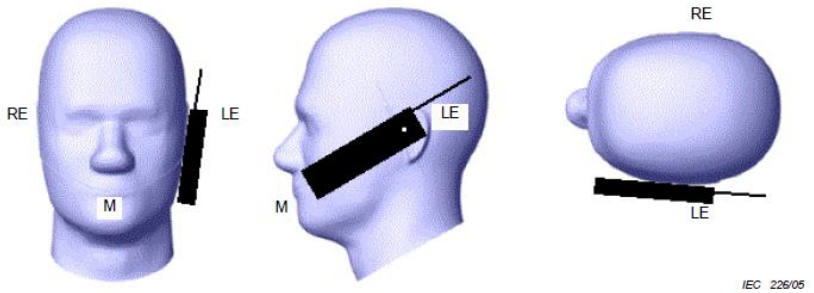
Figures 5a



Figures 5b

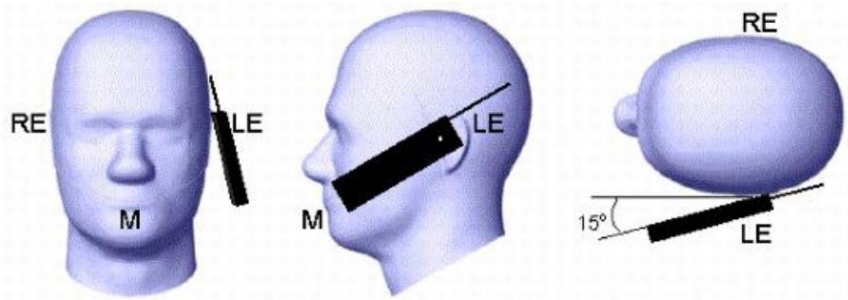
W_t Width of the handset at the level of the acoustic
W_b Width of the bottom of the handset
A Midpoint of the widthwt of the handset at the level of the acoustic output
B Midpoint of the width wb of the bottom of the handset

Cheek position



Picture 2 Cheek position of the wireless device on the left side of SAM

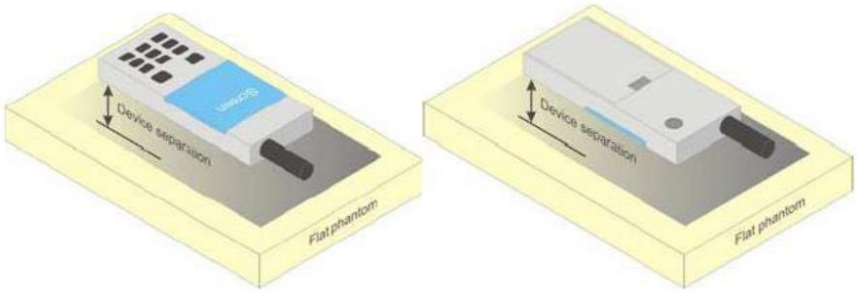
Tilt position



Picture 3 Tilt position of the wireless device on the left side of SAM

8.2. Body Position

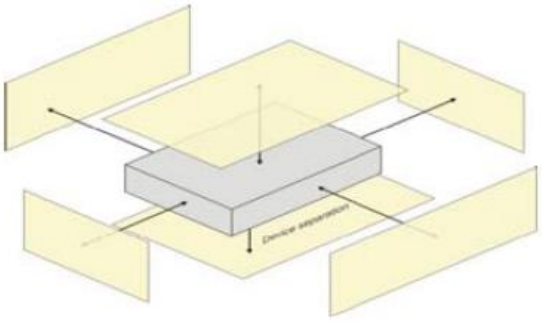
Devices that support transmission while used with body-worn accessories must be tested for body-worn accessory SAR compliance, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics.
Devices that are designed to operate on the body of users using lanyards and straps or without requiring additional body-worn accessories must be tested for SAR compliance using a conservative minimum test separation distance ≤ 5mm to support compliance.



Picture 4 Test positions for body-worn devices

8.3. Hotspot Mode Exposure conditions

The hotspot mode and body-worn accessory SAR test configurations may overlap for handsets. When the same wireless mode transmission configurations for voice and data are required for SAR measurements, the more conservative configuration with a smaller separation distance should be tested for the overlapping SAR configurations. This typically applies to the back and front surfaces of a handset when SAR is required for both hotspot mode and body-worn accessory exposure conditions. Depending on the form factor and dimensions of a device, the test separation distance used for hotspot mode SAR measurement is either 10 mm or that used in the body-worn accessory configuration, whichever is less for devices with dimension > 9 cm x 5 cm. For smaller devices with dimensions ≤ 9 cm x 5 cm because of a greater potential for next to body use a test separation of ≤ 5 mm must be used.



Picture 5 Test positions for Hotspot Mode

9. Dielectric Property Measurements & System Check

9.1. Tissue Dielectric Parameters

The liquid has previously been proven to be suited for worst-case. It's satisfying the latest tissue dielectric parameters requirements proposed by the KDB865664.

Tissue dielectric parameters for Head and Body				
Target Frequency	Head		Body	
(MHz)	εr	σ(s/m)	εr	σ(s/m)
750	41.90	0.89	55.50	0.96
835	41.50	0.90	55.20	0.97
1750	40.10	1.37	53.40	1.49
1800-2000	40.00	1.40	53.30	1.52
2450	39.20	1.80	52.70	1.95
2600	39.00	1.96	52.50	2.16
5200	36.00	4.66	49.01	5.30
5300	35.90	4.76	48.90	5.42
5500	35.64	4.96	48.61	5.65
5600	35.50	5.07	48.47	5.77
5800	35.30	5.27	48.20	6.00

Check Result:

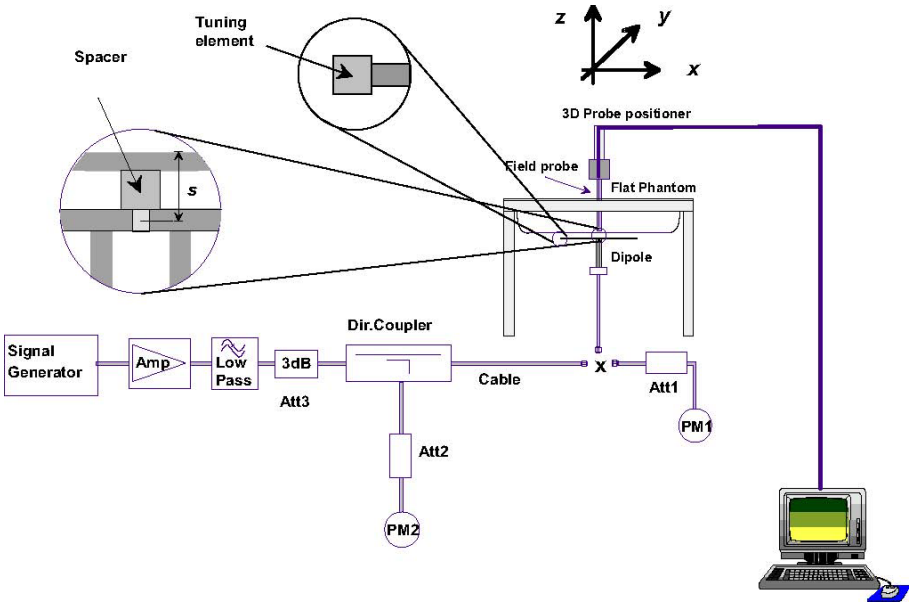
Dielectric performance of Head tissue simulating liquid									
Frequency (MHz)	εr		σ(s/m)		Delta (εr)	Delta (σ)	Limit	Temp (℃)	Date
	Target	Measured	Target	Measured					
750	41.90	42.90	0.89	0.90	2.39%	1.24%	±5%	22	2018-09-27
835	41.50	42.50	0.90	0.93	2.41%	3.56%	±5%	22	2018-09-18
1750	40.10	41.93	1.37	1.38	4.56%	0.36%	±5%	22	2018-09-25
1900	40.00	41.67	1.40	1.47	4.16%	4.71%	±5%	22	2018-09-20
2450	39.20	40.96	1.80	1.84	4.48%	2.11%	±5%	22	2018-10-08
2600	39.00	40.63	1.96	1.97	4.18%	0.51%	±5%	22	2018-09-25
5200	36.00	36.23	4.66	4.52	0.63%	-3.00%	±5%	22	2018-09-29
5300	35.90	36.03	4.76	4.63	0.37%	-2.65%	±5%	22	2018-09-29
5500	35.64	35.69	4.96	4.85	0.13%	-2.26%	±5%	22	2018-09-29
5600	35.50	35.49	5.07	4.96	-0.03%	-2.15%	±5%	22	2018-09-29
5800	35.30	35.17	5.27	5.20	-0.38%	-1.39%	±5%	22	2018-09-29

Dielectric performance of Body tissue simulating liquid									
Frequency (MHz)	εr		σ(s/m)		Delta (εr)	Delta (σ)	Limit	Temp (℃)	Date
	Target	Measured	Target	Measured					
750	55.50	55.63	0.96	0.94	0.23%	-2.60%	±5%	22	2018-09-28
835	55.20	55.40	0.97	0.97	0.36%	-0.41%	±5%	22	2018-09-19
1750	53.40	53.91	1.49	1.44	0.96%	-3.36%	±5%	22	2018-09-26
1900	53.30	53.72	1.52	1.55	0.79%	1.97%	±5%	22	2018-09-21
2450	52.70	53.03	1.95	2.00	0.63%	2.56%	±5%	22	2018-10-08
2600	52.50	52.78	2.16	2.15	0.53%	-0.46%	±5%	22	2018-09-26
5200	49.01	48.15	5.30	5.38	-1.75%	1.53%	±5%	22	2018-09-30
5300	48.90	47.94	5.42	5.52	-1.97%	1.75%	±5%	22	2018-09-30
5500	48.61	47.52	5.65	5.83	-2.25%	3.10%	±5%	22	2018-09-30
5600	48.47	47.35	5.77	5.96	-2.32%	3.42%	±5%	22	2018-09-30
5800	48.20	46.94	6.00	6.27	-2.61%	4.50%	±5%	22	2018-09-30

9.2. SAR System Check

The purpose of the system check is to verify that the system operates within its specifications at the decice test frequency.The system check is simple check of repeatability to make sure that the system works correctly at the time of the compliance test;

System check results have to be equal or near the values determined during dipole calibration with the relevant liquids and test system (±10%).
System check is performed regularly on all frequency bands where tests are performed with the DASY5 system.



System Performance Check Setup

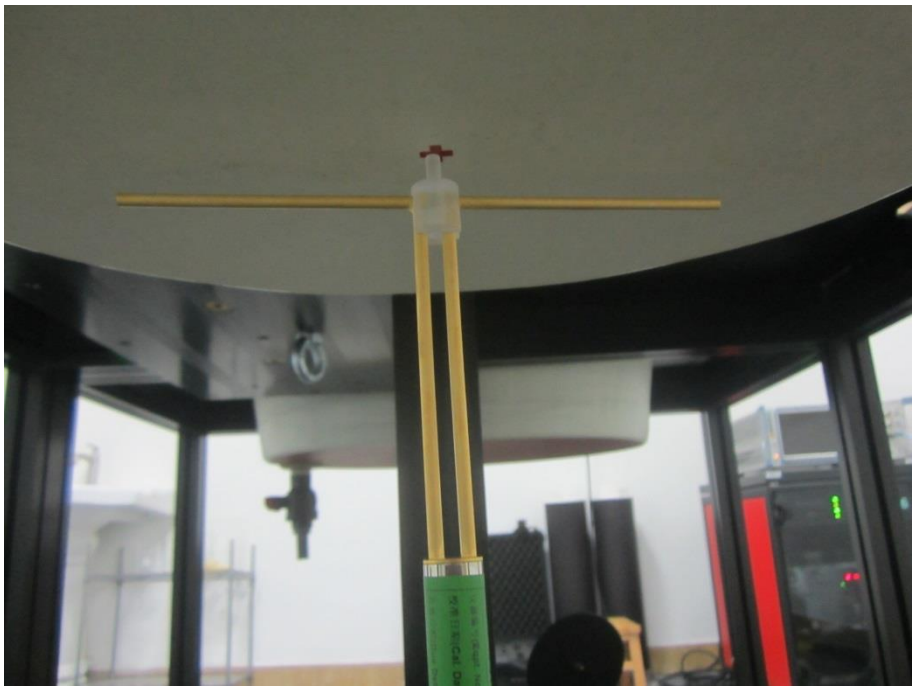


Photo of Dipole Setup

Check Result:

Head											
Frequency (MHz)	1g SAR			10g SAR			Delta (1g)	Delta (10g)	Limit	Temp (℃)	Date
	Target 1W	Normalize to 1W	Measured 250mW	Target 1W	Normalize to 1W	Measured 250mW					
750	8.22	8.48	2.12	5.39	5.60	1.40	3.16%	3.90%	±10%	22	2018-09-27
835	9.51	9.92	2.48	6.15	6.52	1.63	4.31%	6.02%	±10%	22	2018-09-18
1750	36.60	36.24	9.06	19.40	19.44	4.86	-0.98%	0.21%	±10%	22	2018-09-25
1900	40.30	41.60	10.40	21.10	21.68	5.42	3.23%	2.75%	±10%	22	2018-09-20
2450	51.50	50.40	12.60	24.10	23.44	5.86	-2.14%	-2.74%	±10%	22	2018-10-08
2600	55.60	57.60	14.40	25.00	26.04	6.51	3.60%	4.16%	±10%	22	2018-09-25

Head											
Frequency (MHz)	1g SAR			10g SAR			Delta (1g)	Delta (10g)	Limit	Temp (℃)	Date
	Target 1W	Normalize to 1W	Measured 100mW	Target 1W	Normalize to 1W	Measured 100mW					
5200	79.90	72.10	7.21	22.80	20.70	2.07	-9.76%	-9.21%	±10%	22	2018-09-29
5300	81.40	76.70	7.67	23.40	21.80	2.18	-5.77%	-6.84%	±10%	22	2018-09-29
5600	83.90	82.30	8.23	24.00	23.20	2.32	-1.91%	-3.33%	±10%	22	2018-09-29
5800	79.40	77.90	7.79	22.50	21.90	2.19	-1.89%	-2.67%	±10%	22	2018-09-29

Body											
Frequency (MHz)	1g SAR			10g SAR			Delta (1g)	Delta (10g)	Limit	Temp (℃)	Date
	Target 1W	Normalize to 1W	Measured 250mW	Target 1W	Normalize to 1W	Measured 250mW					
750	8.55	8.40	2.10	5.68	5.60	1.40	-1.75%	-1.41%	±10%	22	2018-09-28
835	9.64	10.08	2.52	6.32	6.64	1.66	4.56%	5.06%	±10%	22	2018-09-19
1750	36.70	37.56	9.39	19.50	20.16	5.04	2.34%	3.38%	±10%	22	2018-09-26
1900	39.80	41.60	10.40	20.90	21.68	5.42	4.52%	3.73%	±10%	22	2018-09-21
2450	49.40	50.00	12.50	23.30	23.32	5.83	1.21%	0.09%	±10%	22	2018-10-08
2600	54.60	58.80	14.70	24.40	26.36	6.59	7.69%	8.03%	±10%	22	2018-09-26

Body											
Frequency (MHz)	1g SAR			10g SAR			Delta (1g)	Delta (10g)	Limit	Temp (℃)	Date
	Target 1W	Normalize to 1W	Measured 100mW	Target 1W	Normalize to 1W	Measured 100mW					
5200	73.60	70.70	7.07	20.40	20.00	2.00	-3.94%	-1.96%	±10%	22	2018-09-30
5300	75.60	73.70	7.37	21.10	20.70	2.07	-2.51%	-1.90%	±10%	22	2018-09-30
5600	79.40	78.00	7.80	22.10	21.60	2.16	-1.76%	-2.26%	±10%	22	2018-09-30
5800	76.50	72.80	7.28	21.10	20.20	2.02	-4.84%	-4.27%	±10%	22	2018-09-30

Plots of System Performance Check

System Performance Check-Head 750MHz

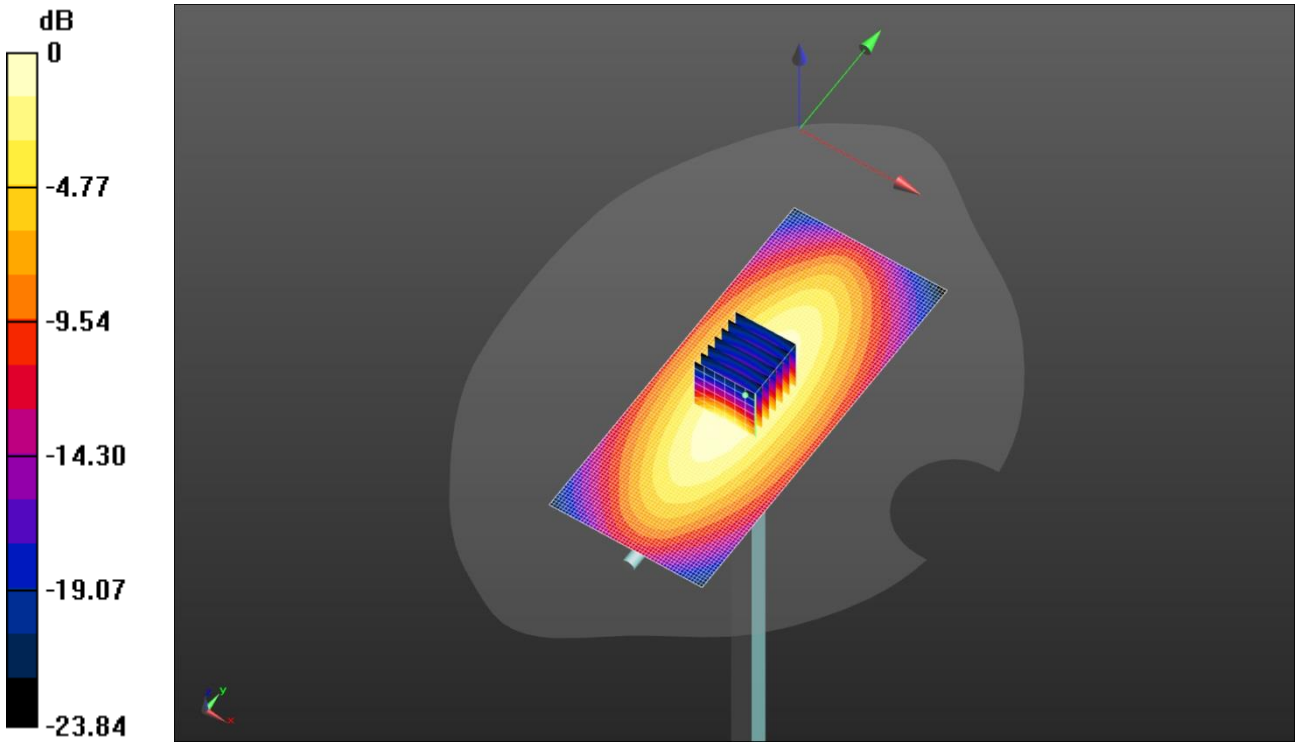
DUT: D750V3; Type: D750V3; Serial: 1180
Date: 2018-09-27
Communication System: UID 0, A-CW (0); Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.901 S/m; ε_r = 42.90; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494;ConvF(11.02, 11.02, 11.02); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0 ; Type: QD 000 P41 AA; Serial: 1974
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7437)

Head/d=15mm, Pin=250mW/Area Scan (41x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.75 W/kg

Head/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.45 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 3.20 W/kg
SAR(1 g) = 2.12 W/kg; SAR(10 g) = 1.4 W/kg
Maximum value of SAR (measured) = 2.82 W/kg



0 dB = 2.75 W/kg = 4.39 dBW/kg

System Performance Check-Body 750MHz

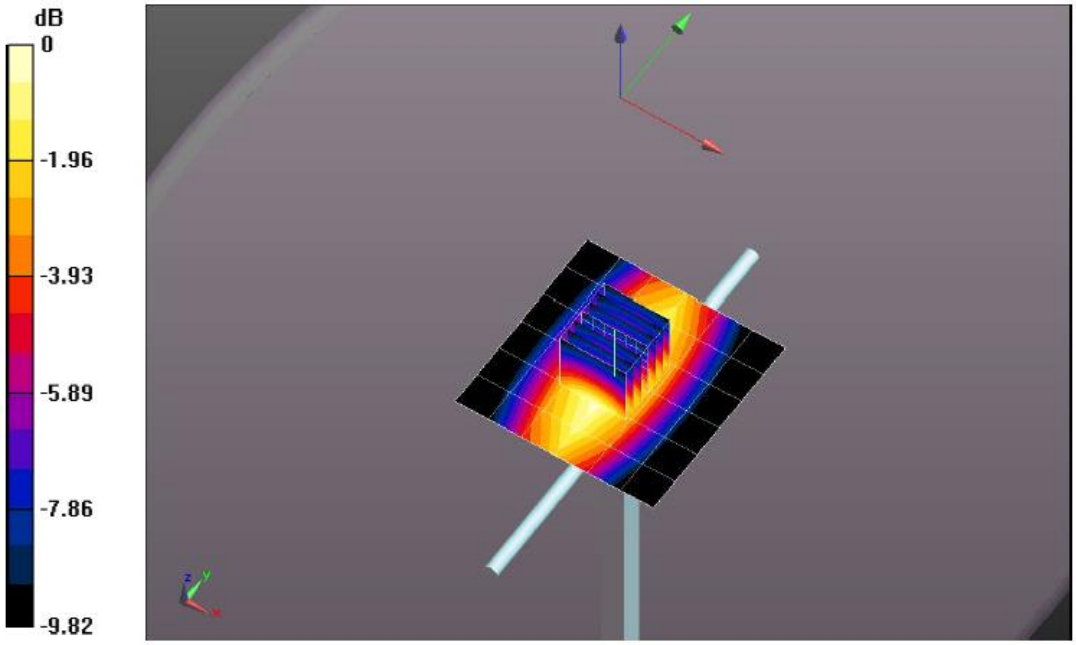
DUT: D750V3; Type: D750V3; Serial: 1180
Date: 2018-09-28
Communication System: UID 0, CW (0); Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.935 S/m; ε_r = 55.625; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494;ConvF(10.87, 10.87, 10.87); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.0(1446); SEMCAD X 14.6.11(7437)

Body/d=15mm,Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.80 W/kg

Body/d=15mm,Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 57.06 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.18 W/kg
SAR(1 g) = 2.1 W/kg; SAR(10 g) = 1.4 W/kg
Maximum value of SAR (measured) = 2.81 W/kg



0 dB = 1.10 W/kg = 0.41 dBW/kg

System Performance Check-Head 835MHz

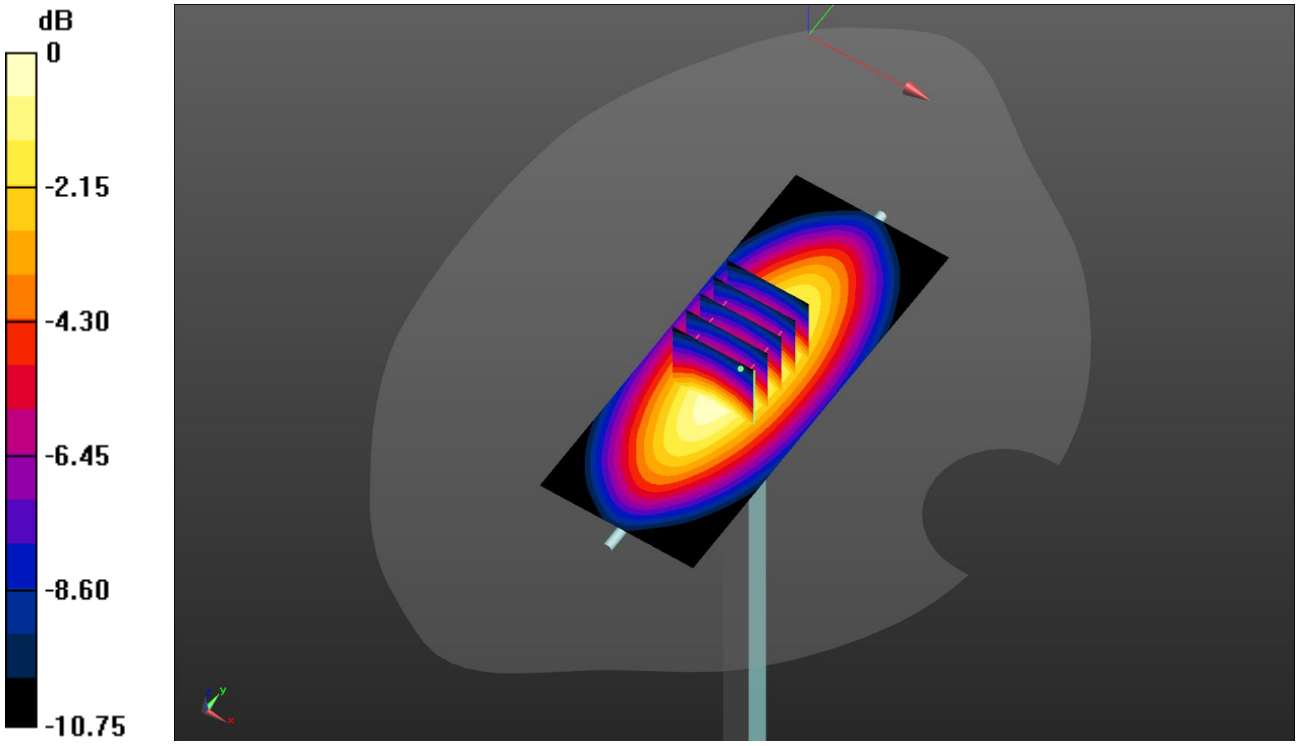
DUT: D835V2; Type: D835V2; Serial: 4d238
Date: 2018-09-18
Communication System: UID 0, CW (0); Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.932 S/m; ε_r = 42.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(10.73, 10.73, 10.73); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=15mm, Pin=250mW/Area Scan (41x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.51 W/kg

Head/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 66.38 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 3.78 W/kg
SAR(1 g) = 2.48 W/kg; SAR(10 g) = 1.63 W/kg
Maximum value of SAR (measured) = 3.34 W/kg



0 dB = 3.34 W/kg = 5.24 dBW/kg

System Performance Check-Body 835MHz

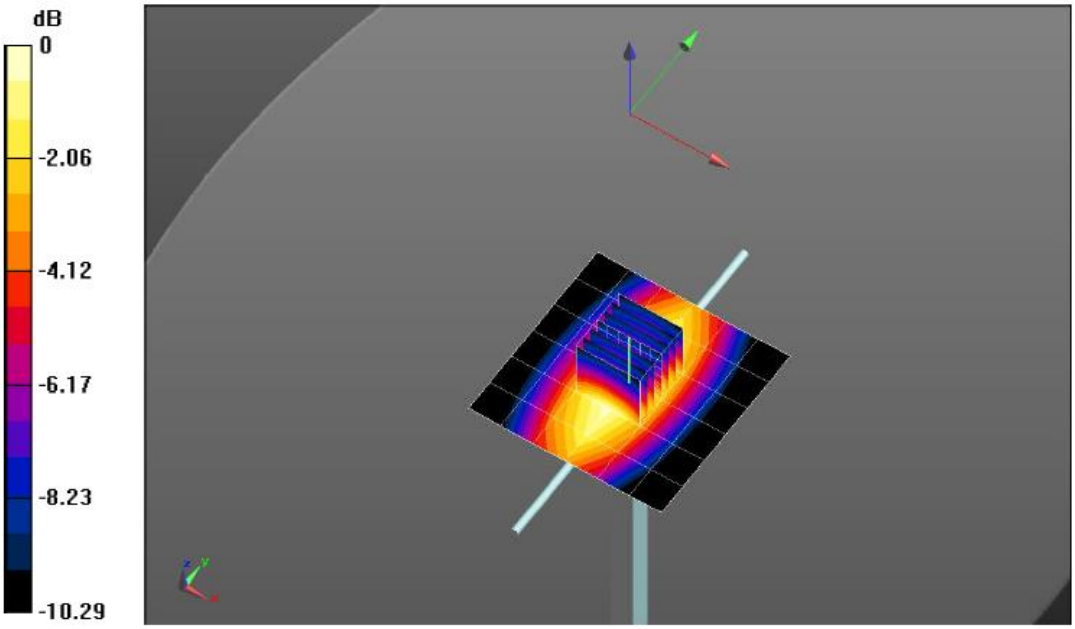
DUT: D835V2; Type: D835V2; Serial: 4d238
Date: 2018-09-19
Communication System: UID 0, CW (0); Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.966 S/m; ε_r = 55.403; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(10.5, 10.5, 10.5); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Body/d=15mm,Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.40 W/kg

Body/d=15mm,Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 61.67 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.97 W/kg
SAR(1 g) = 2.52 W/kg; SAR(10 g) = 1.66 W/kg
Maximum value of SAR (measured) = 3.44 W/kg



0 dB = 1.27 W/kg = 1.04 dBW/kg

System Performance Check-Head 1750MHz

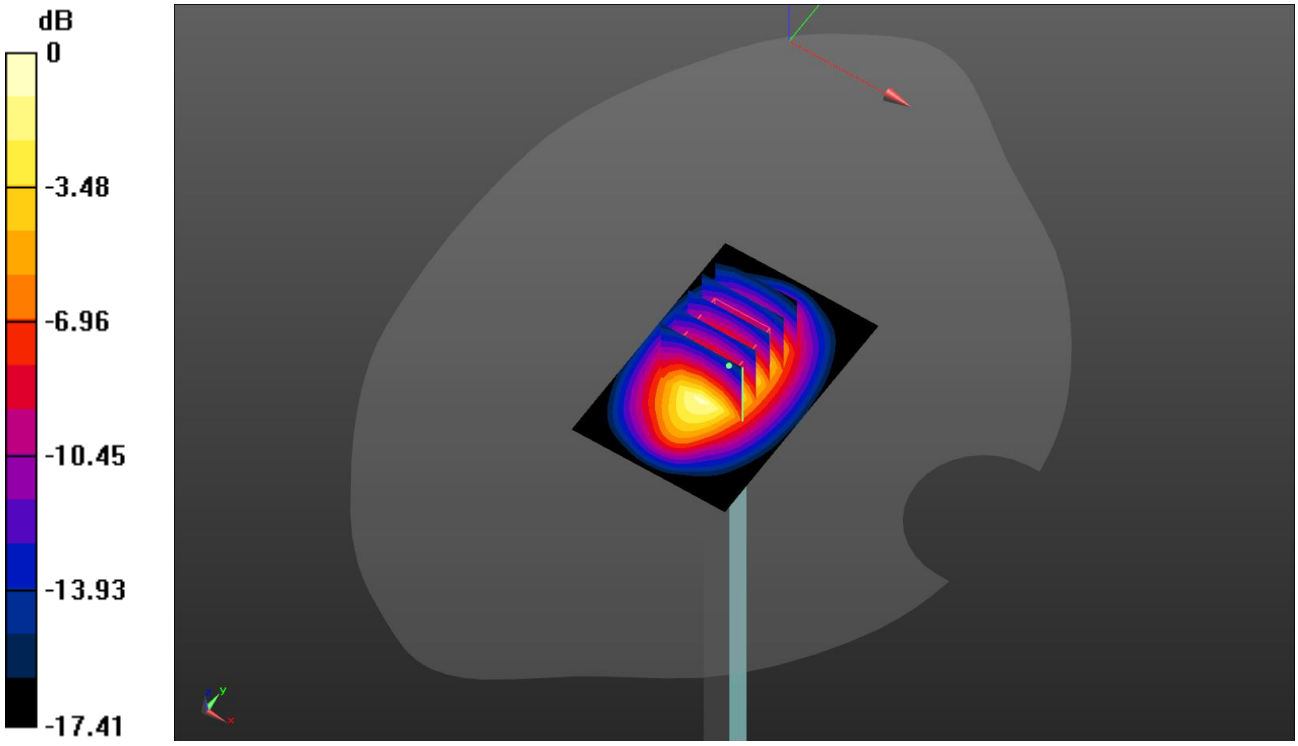
DUT: D1750V2; Type: D1750V2; Serial: 1164
Date: 2018-09-25
Communication System: UID 0, CW (0); Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.375 S/m; ε_r = 41.933; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(9.23, 9.23, 9.23); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=10mm,Pin=250mW/Area Scan (41x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 14.1 W/kg

Head/d=10mm,Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 103.5 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 16.5 W/kg
SAR(1 g) = 9.06 W/kg; SAR(10 g) = 4.86 W/kg
Maximum value of SAR (measured) = 13.8 W/kg



0 dB = 13.8 W/kg = 11.40 dBW/kg

System Performance Check-Body 1750MHz

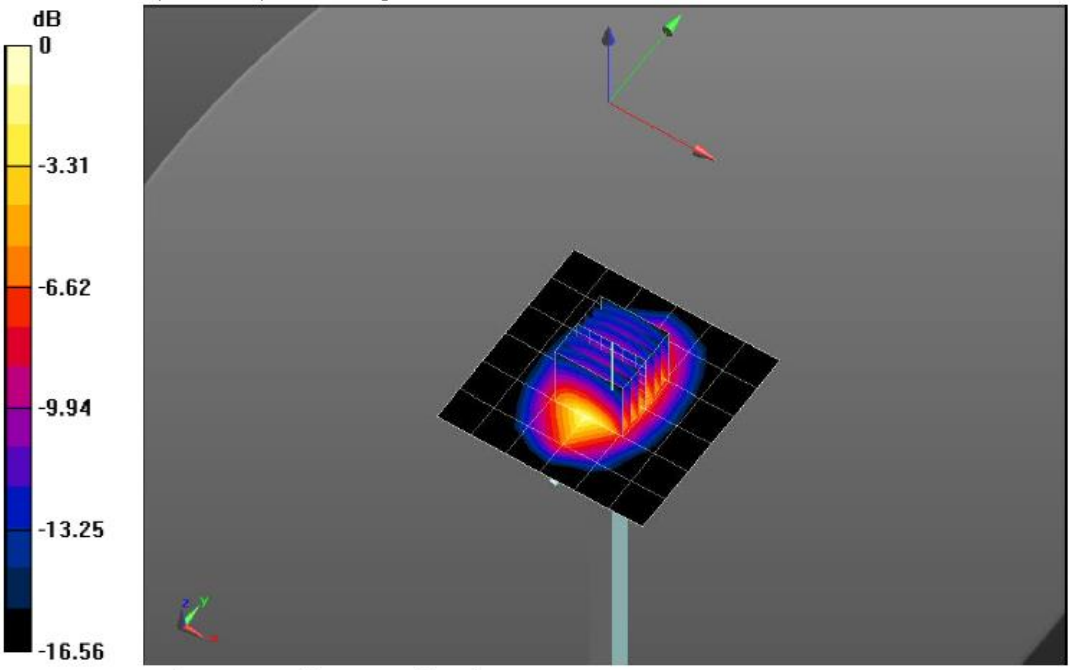
DUT: D1750V2; Type: D1750V2; Serial: 1164
Date: 2018-09-26
Communication System: UID 0, CW (0); Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.441 S/m; ε_r = 53.908; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8.77, 8.77, 8.77); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Body/d=10mm,Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 14.7 W/kg

Body/d=10mm,Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 102.2 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 16.8 W/kg
SAR(1 g) = 9.39 W/kg; SAR(10 g) = 5.04 W/kg
Maximum value of SAR (measured) = 14.1 W/kg



0 dB = 4.80 W/kg = 6.81 dBW/kg

System Performance Check-Head 1900MHz

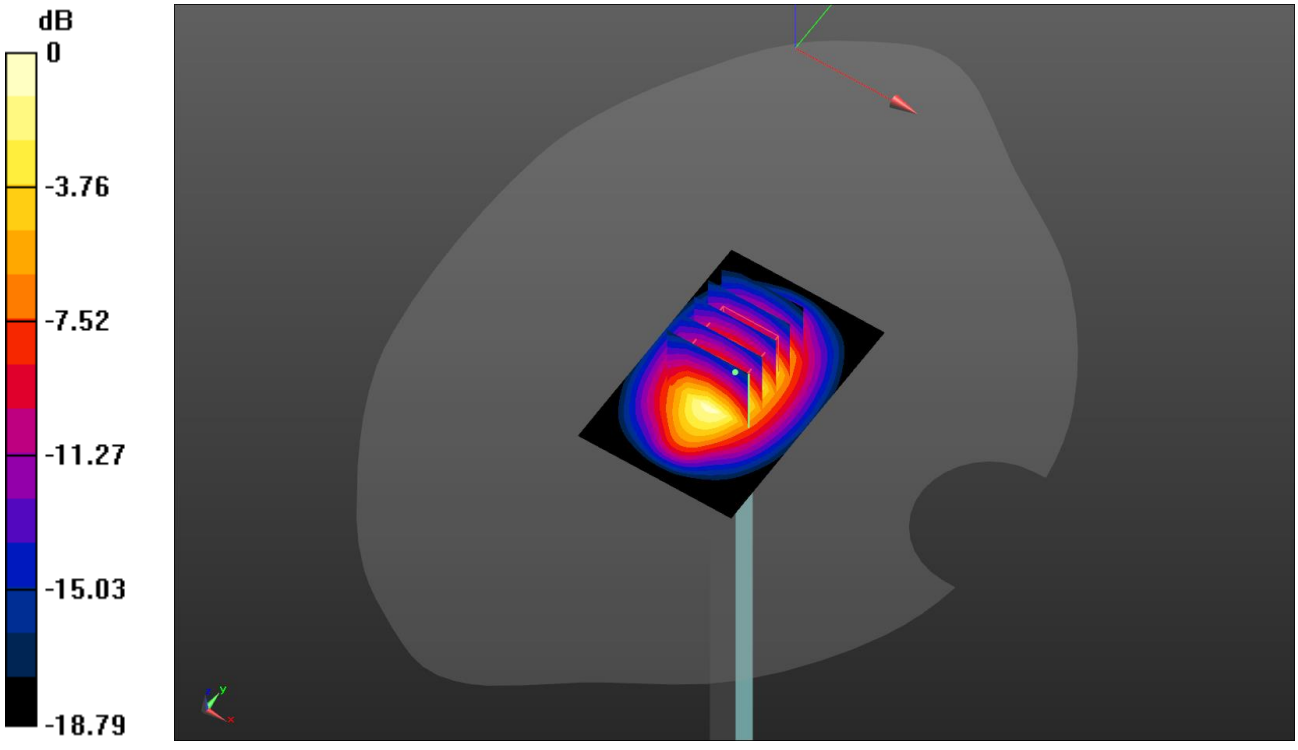
DUT: D1900V2; Type: D1900V2; Serial: 5d226
Date:2018-09-20
Communication System: UID 0, CW (0); Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.466 S/m; ε_r = 41.665; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8.83, 8.83, 8.83); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=10mm,Pin=250mW/Area Scan (41x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 17.1 W/kg

Head/d=10mm,Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 112.4 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 19.5 W/kg
SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.42 W/kg
Maximum value of SAR (measured) = 16.1 W/kg



0 dB = 16.1 W/kg = 12.07 dBW/kg

System Performance Check-Body 1900MHz

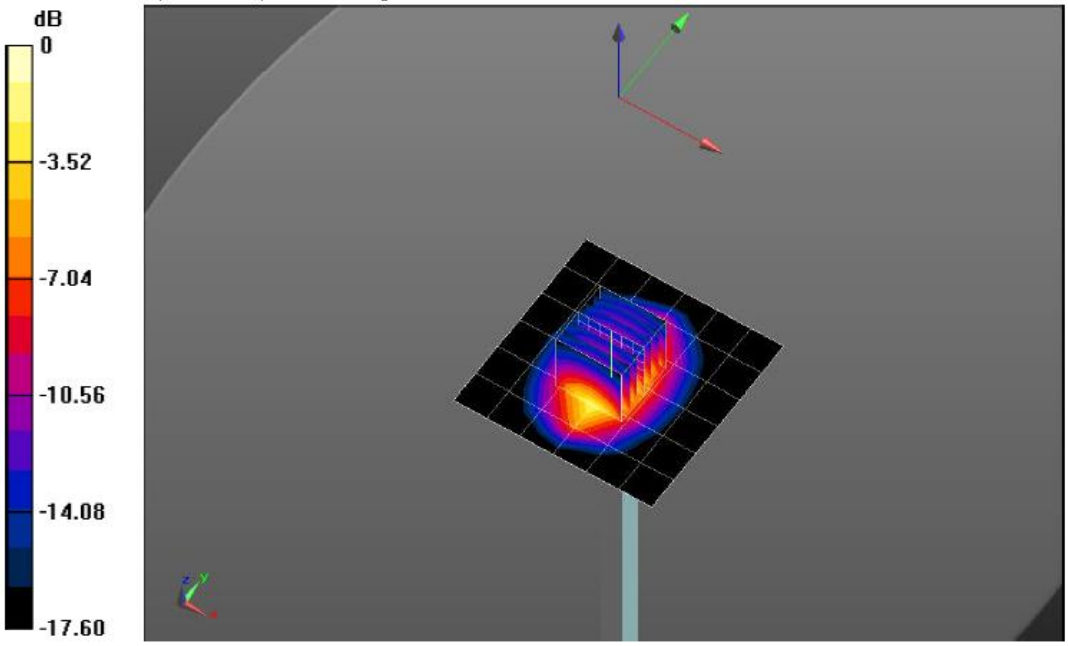
DUT: D1900V2; Type: D1900V2; Serial: 5d226
Date:2018-09-21
Communication System: UID 0, CW (0); Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.553 S/m; ε_r = 53.719; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8.42, 8.42, 8.42); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Body/d=10mm,Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 16.4 W/kg

Body/d=10mm,Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 105.9 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 18.9 W/kg
SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.42 W/kg
Maximum value of SAR (measured) = 15.7 W/kg



0 dB = 5.54 W/kg = 7.44 dBW/kg

SystemPerformanceCheck-Head 2450MHz

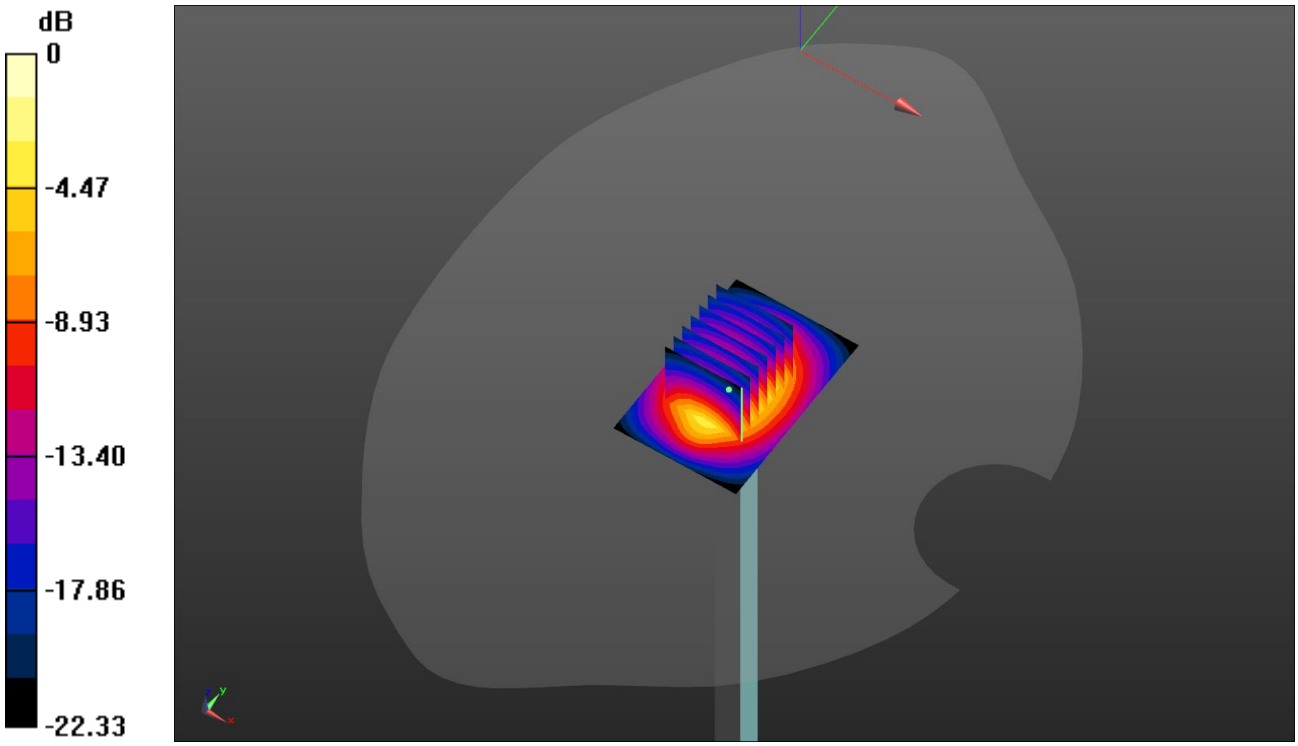
DUT: D2450V2; Type: D2450V2; Serial: 1009
Date:2018-10-08
Communication System: UID 0, CW (0); Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.838 S/m; ε_r = 40.956; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8.27, 8.27, 8.27); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=10mm,Pin=250mW/Area Scan (41x61x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 21.1 W/kg

Head/d=10mm,Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 110.0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 26.2 W/kg
SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.86 W/kg
Maximum value of SAR (measured) = 20.8 W/kg



0 dB = 20.8 W/kg = 13.18 dBW/kg

SystemPerformanceCheck-Body 2450MHz

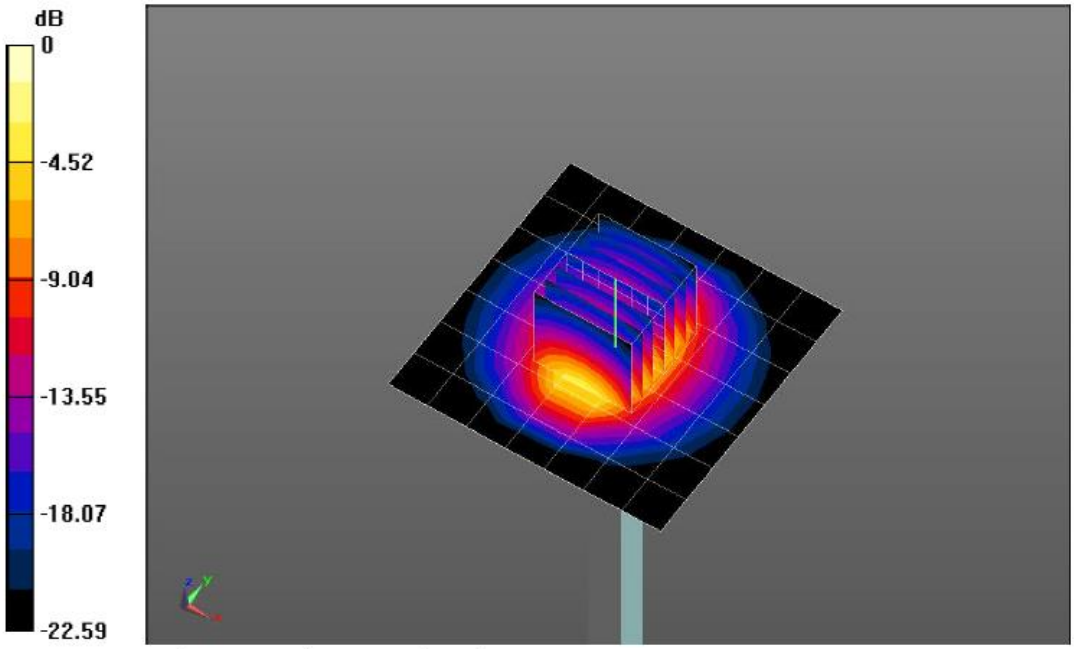
DUT: D2450V2; Type: D2450V2; Serial: 1009
Date:2018-10-08
Communication System: UID 0, CW (0); Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 2.001 S/m; ε_r = 53.03; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(8.08, 8.08, 8.08); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Body/d=10mm,Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 21.1 W/kg

Body/d=10mm,Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 105.6 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 25.7 W/kg
SAR(1 g) = 12.5 W/kg; SAR(10 g) = 5.83 W/kg
Maximum value of SAR (measured) = 20.7 W/kg



0 dB = 7.47 W/kg = 8.73 dBW/kg

SystemPerformanceCheck-Head 2600MHz

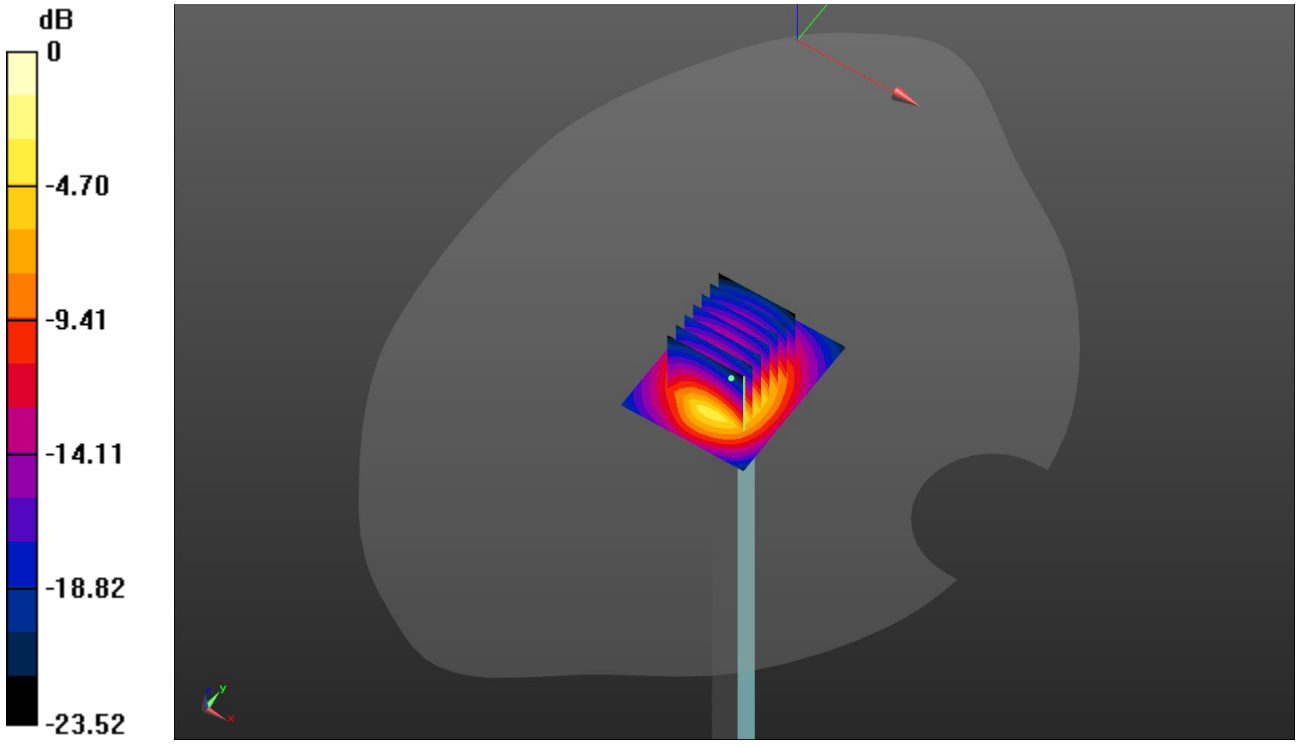
DUT: D2600V2; Type: D2600V2; Serial: 1150
Date:2018-09-25
Communication System: UID 0, CW (0); Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 1.97 S/m; ε_r = 40.632; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(7.92, 7.92, 7.92); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=10mm,Pin=250mW/Area Scan (41x51x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 25.4 W/kg

Head/d=10mm,Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 115.2 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 31.2 W/kg
SAR(1 g) = 14.4 W/kg; SAR(10 g) = 6.51 W/kg
Maximum value of SAR (measured) = 24.9 W/kg



0 dB = 24.9 W/kg = 13.96 dBW/kg

SystemPerformanceCheck-Body 2600MHz

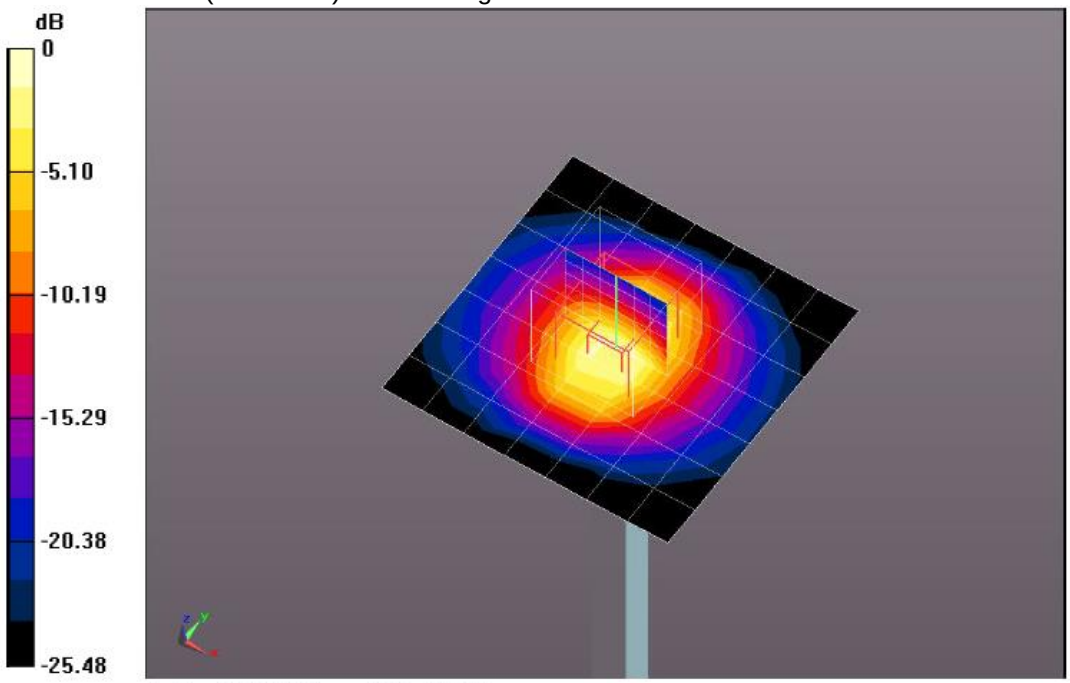
DUT: D2600V2; Type: D2600V2; Serial: 1150
Date:2018-09-26
Communication System: UID 0, CW (0); Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.15 S/m; ε_r = 52.78; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(7.51, 7.51, 7.51); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Body/d=10mm,Pin=250mW/Area Scan (41x51x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 26.6 W/kg

Body/d=10mm,Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 110.2 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 31.6 W/kg
SAR(1 g) = 14.7 W/kg; SAR(10 g) = 6.59 W/kg
Maximum value of SAR (measured) = 25.1 W/kg



0 dB = 8.15 W/kg = 9.11 dBW/kg

SystemPerformanceCheck-Head 5200MHz

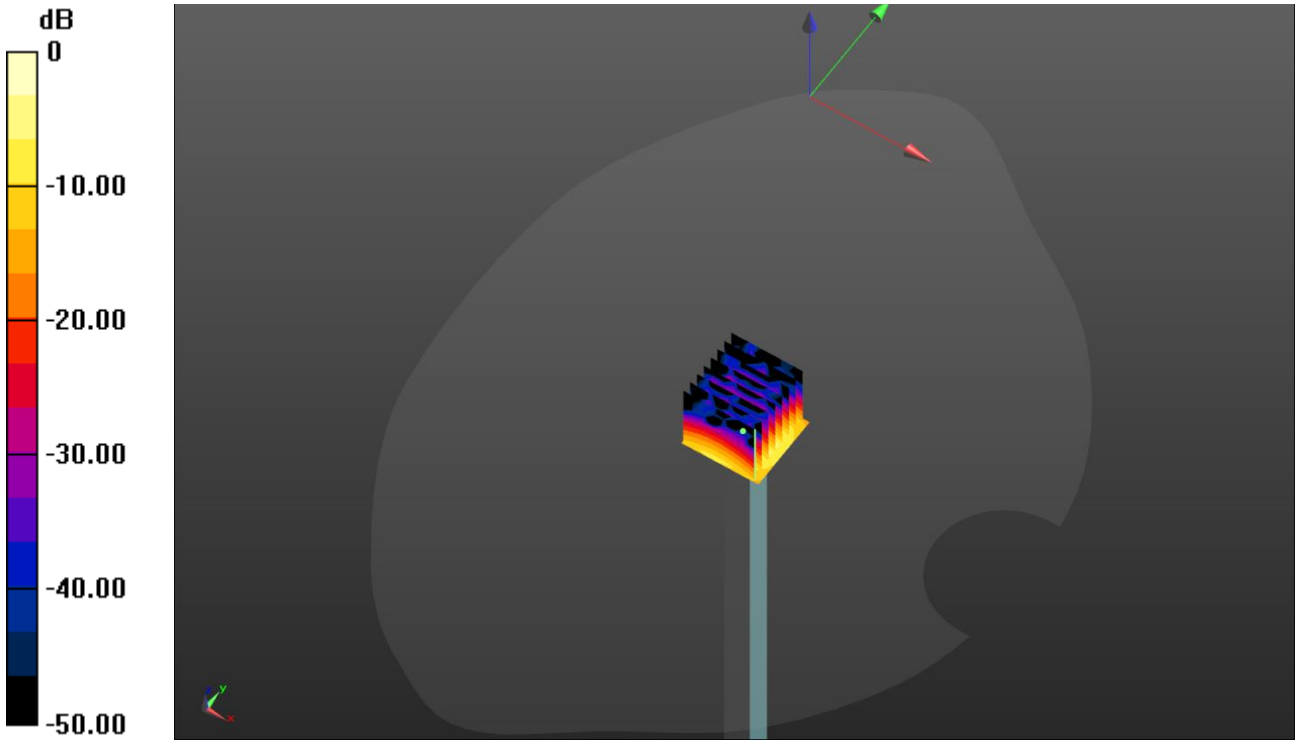
DUT: D5GHzV2; Type: D5GHzV2; Serial: 1273
Date:2018-09-29
Communication System: UID 0, CW (0); Frequency: 5200 MHz
Medium parameters used: f = 5200 MHz; σ = 4.52 S/m; ε_r = 36.228; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(5.63, 5.63, 5.63); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 29.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=10mm,Pin=100mW/Area Scan (31x31x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 19.8 W/kg

Head/d=10mm,Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 69.28 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 29.2 W/kg
SAR(1 g) = 7.21 W/kg; SAR(10 g) = 2.07 W/kg
Maximum value of SAR (measured) = 16.8 W/kg



0 dB = 16.8 W/kg = 12.25 dBW/kg

SystemPerformanceCheck-Body 5200MHz

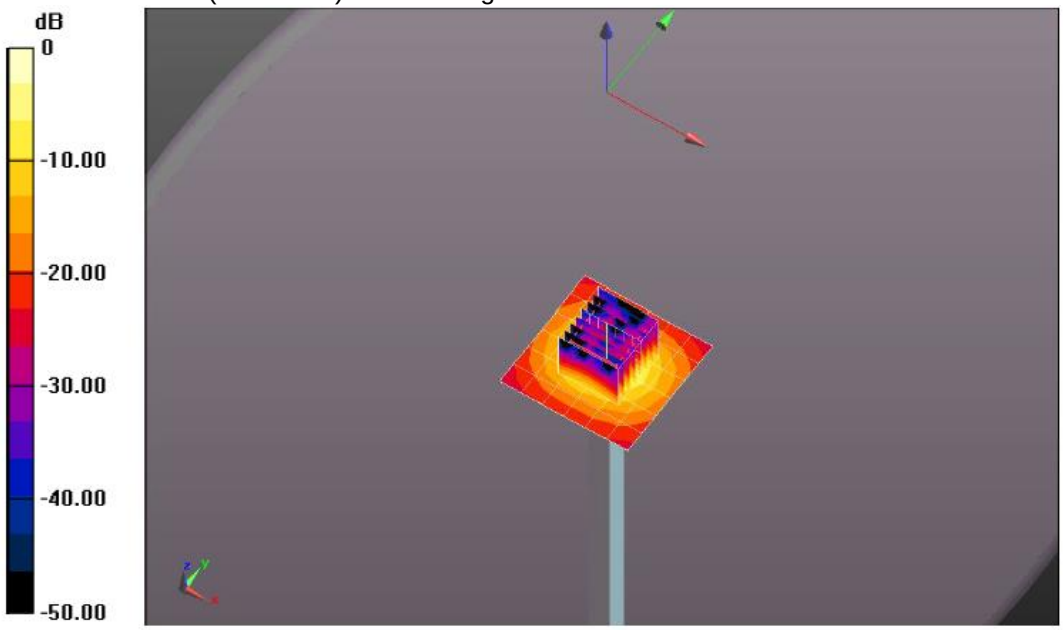
DUT: D5GHzV2; Type: D5GHzV2; Serial: 1273
Date:2018-09-30
Communication System: UID 0, A-CW (0); Frequency: 5200 MHz
Medium parameters used: f = 5200 MHz; σ = 5.381 S/m; ε_r = 48.152; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(5.3, 5.3, 5.3); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 25.0
- Electronics: DAE4 Sn1534; Calibrated: 2/23/2018
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.0(1446); SEMCAD X 14.6.11(7437)

Body/d=10mm,Pin=100mW/Area Scan (61x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 16.4 W/kg

Body/d=10mm,Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.23 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 30.3 W/kg
SAR(1 g) = 7.07 W/kg; SAR(10 g) = 2 W/kg
Maximum value of SAR (measured) = 16.6 W/kg



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

SystemPerformanceCheck-Head 5300MHz

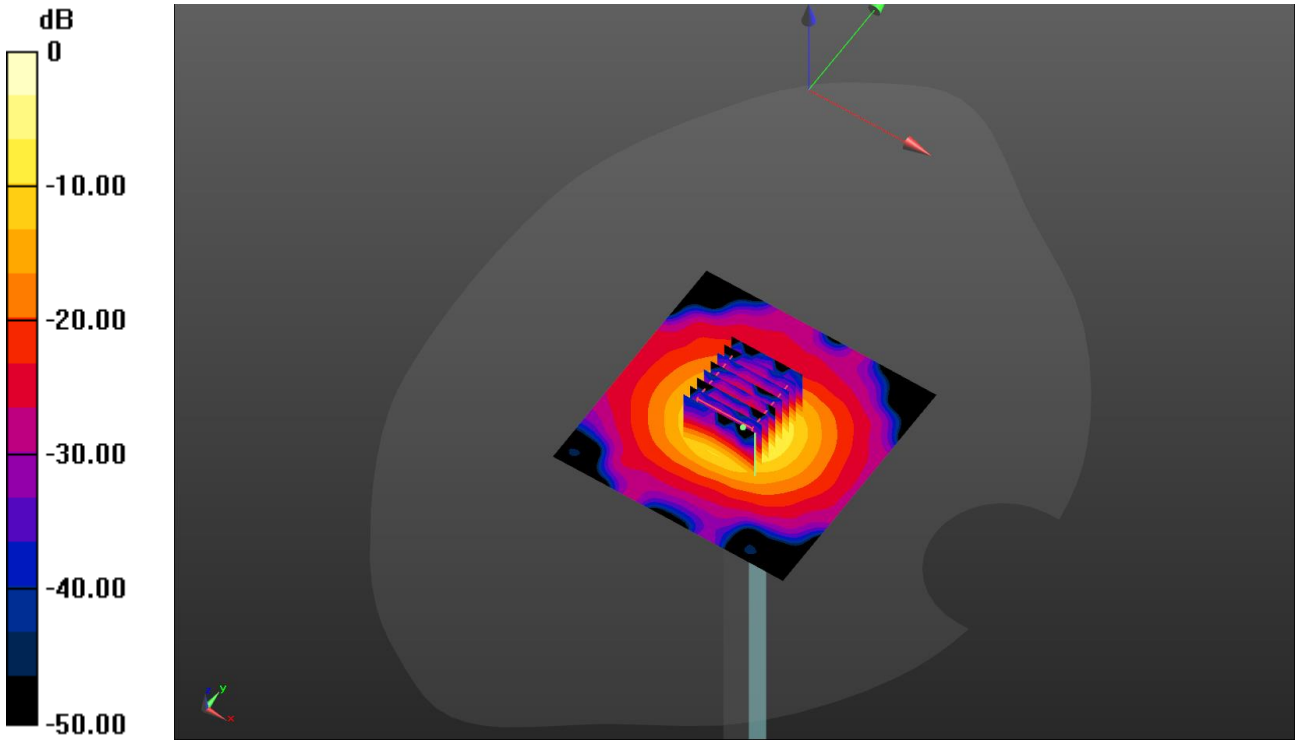
DUT: D5GHzV2; Type: D5GHzV2; Serial: 1273
Date:2018-09-29
Communication System: UID 0, A-CW (0); Frequency: 5300 MHz
Medium parameters used: f = 5300 MHz; σ = 4.634 S/m; ε_r = 36.033; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(5.4, 5.4, 5.4); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 25.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0 ; Type: QD 000 P41 AA; Serial: 1974
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=10mm,Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm,dy=1.000 mm
Maximum value of SAR (interpolated) = 18.1 W/kg

Head/d=10mm,Pin=100mW/Zoom Scan(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 71.24 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 32.1 W/kg
SAR(1 g) = 7.67 W/kg; SAR(10 g) = 2.18 W/kg
Maximum value of SAR (measured) = 18.2 W/kg



0 dB = 18.2 W/kg = 12.60 dBW/kg

SystemPerformanceCheck-Body 5300MHz

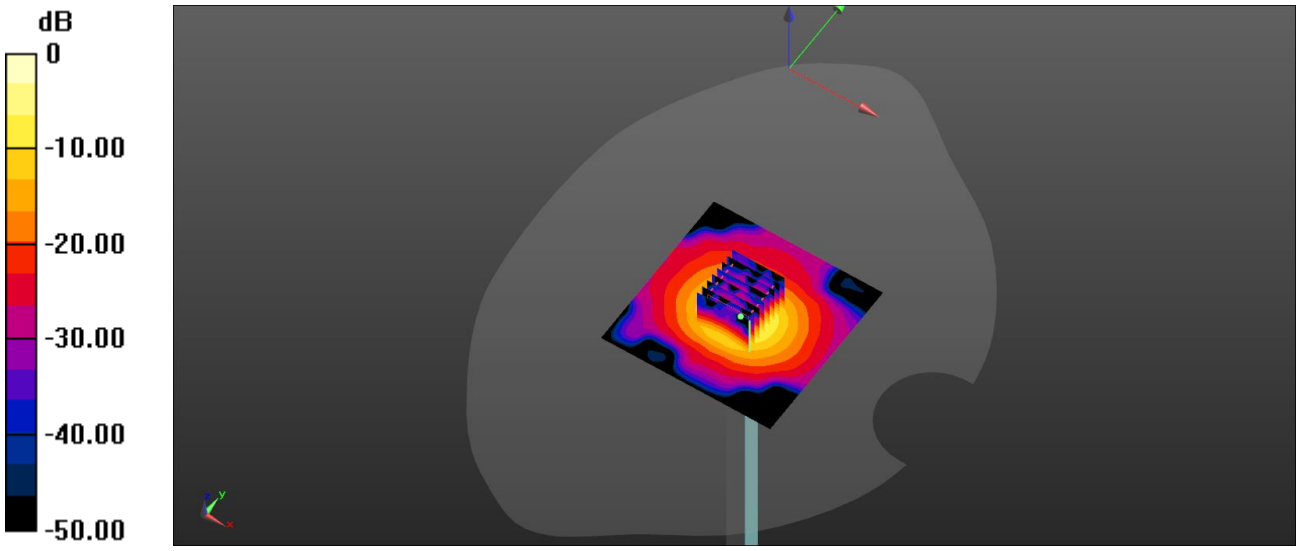
DUT: D5GHzV2; Type: D5GHzV2; Serial: 1273
Date:2018-09-30
Communication System: UID 0, A-CW (0); Frequency: 5300 MHz
Medium parameters used: f = 5300 MHz; σ = 5.515 S/m; ε_r = 47.936; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(4.97, 4.97, 4.97); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 25.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.11(7437)

Body/d=10mm,Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 17.3 W/kg

Body/d=10mm,Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.13 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 31.6 W/kg
SAR(1 g) = 7.37 W/kg; SAR(10 g) = 2.07 W/kg
Maximum value of SAR (measured) = 17.8 W/kg



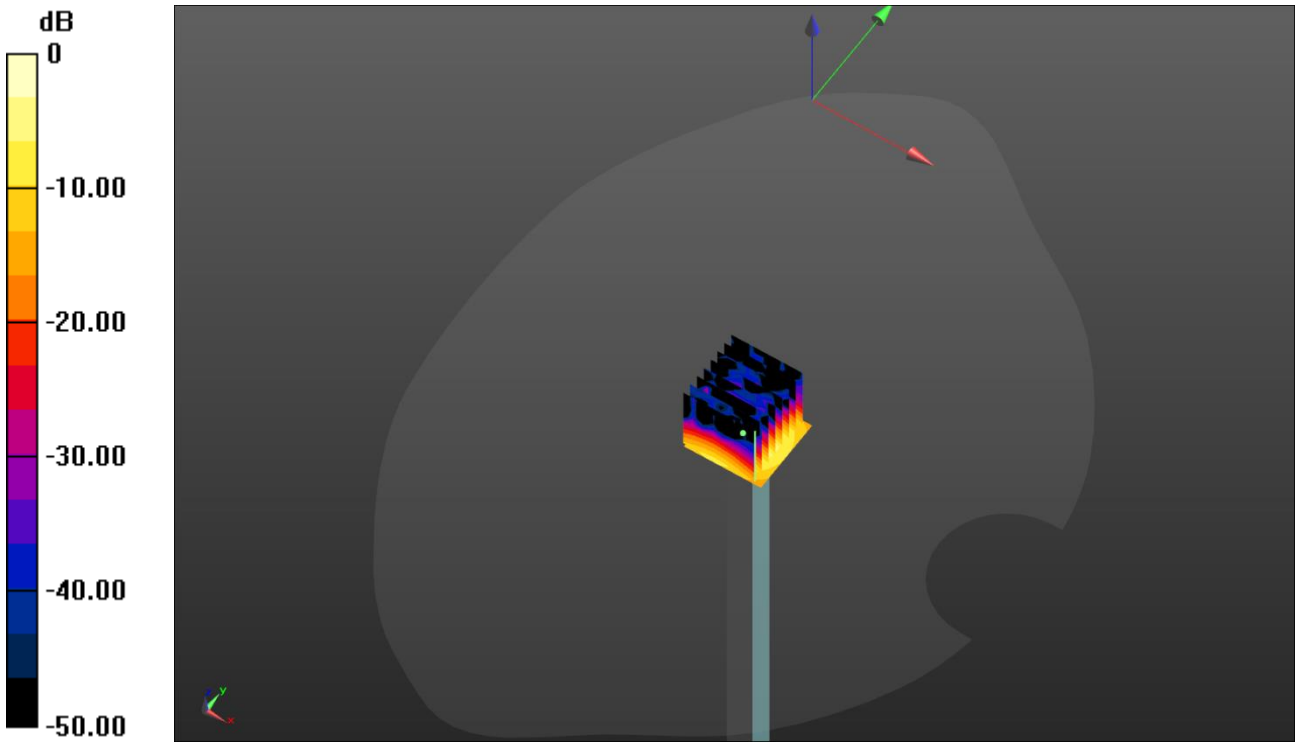
0 dB = 17.8 W/kg = 12.50 dBW/kg

SystemPerformanceCheck-Head 5600MHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1273
Date:2018-09-29
Communication System: UID 0, CW (0); Frequency: 5600 MHz
Medium parameters used: f = 5600 MHz; σ = 4.961 S/m; ε_r = 35.488; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(4.93, 4.93, 4.93); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 29.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=10mm,Pin=100mW/Area Scan (31x31x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 22.1 W/kg
Head/d=10mm,Pin=100mW/Zoom Scan(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 71.23 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 35.4 W/kg
SAR(1 g) = 8.23 W/kg; SAR(10 g) = 2.32 W/kg
Maximum value of SAR (measured) = 20.2 W/kg



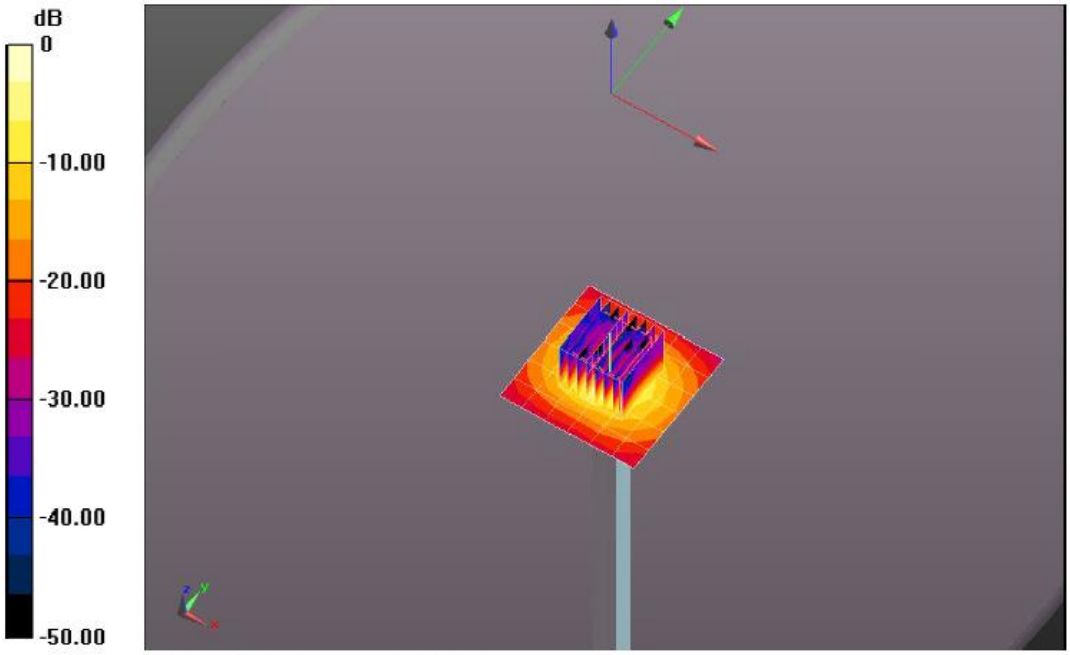
0 dB = 20.2 W/kg = 13.05 dBW/kg

SystemPerformanceCheck-Body 5600MHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1273
Date:2018-09-30
Communication System: UID 0, A-CW (0); Frequency: 5600 MHz
Medium parameters used: f = 5600 MHz; σ = 5.963 S/m; ε_r = 47.347; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(4.51, 4.51, 4.51); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 29.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=10mm,Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 19.4 W/kg
Head/d=10mm,Pin=100mW/Zoom Scan(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.10 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 36.9 W/kg
SAR(1 g) = 7.8 W/kg; SAR(10 g) = 2.16 W/kg
Maximum value of SAR (measured) = 19.7 W/kg



0 dB = 18.0 W/kg = 12.55 dBW/kg

SystemPerformanceCheck-Head 5800MHz

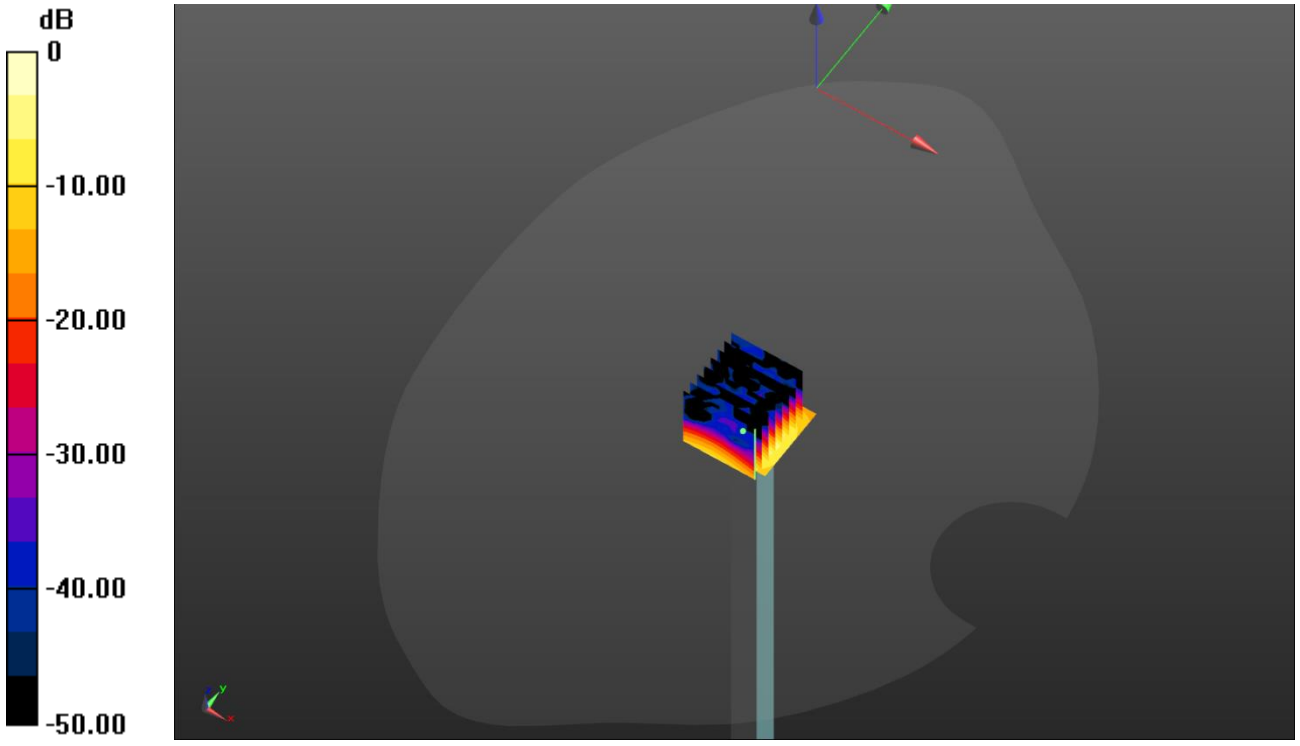
DUT: D5GHzV2; Type: D5GHzV2; Serial: 1273
Date:2018-09-29
Communication System: UID 0, CW (0); Frequency: 5800 MHz
Medium parameters used: f = 5800 MHz; σ = 5.197 S/m; ε_r = 35.167; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(4.9, 4.9, 4.9); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 29.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: Twin-SAM V8.0; Type: QD 000 P41 AA; Serial: 1947
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Head/d=10mm,Pin=100mW/Area Scan (31x31x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 19.2 W/kg

Head/d=10mm,Pin=100mW/Zoom Scan(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.74 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 35.4 W/kg
SAR(1 g) = 7.79 W/kg; SAR(10 g) = 2.19 W/kg
Maximum value of SAR (measured) = 18.9 W/kg



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

SystemPerformanceCheck-Body 5800MHz

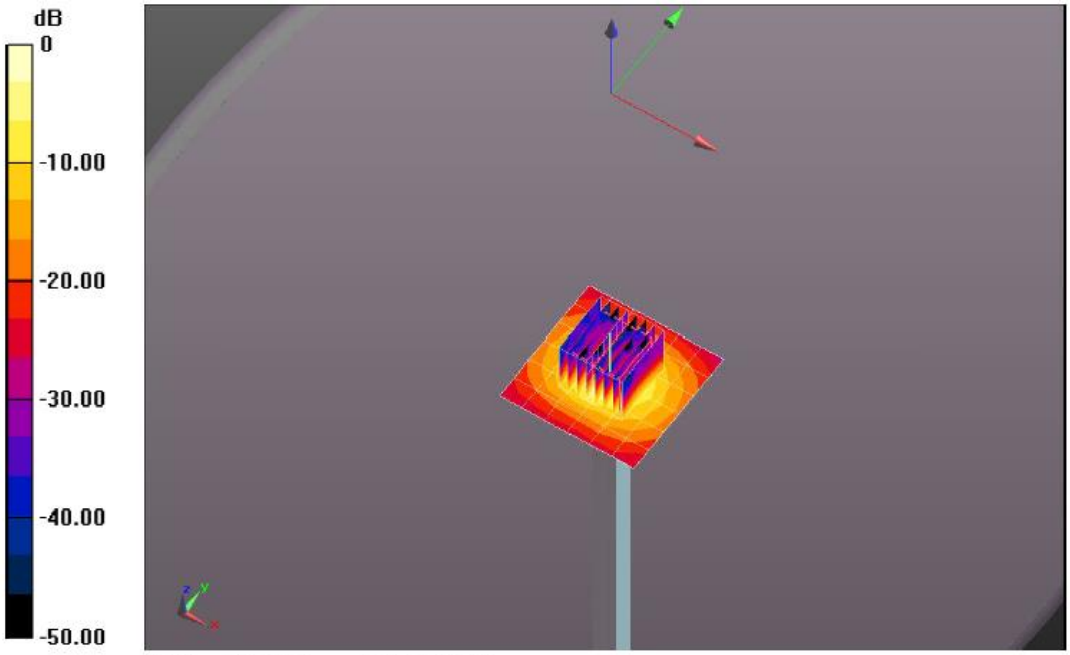
DUT: D5GHzV2; Type: D5GHzV2; Serial: 1273
Date:2018-09-30
Communication System: UID 0, A-CW (0); Frequency: 5800 MHz
Medium parameters used: f = 5800 MHz; σ = 6.27 S/m; ε_r = 46.943; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7494; ConvF(4.61, 4.61, 4.61); Calibrated: 2/26/2018;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 25.0
- Electronics: DAE4 Sn1549; Calibrated: 4/25/2018
- Phantom: ELI V8.0 ; Type: QD OVA 004 AA ; Serial: 2078
- DASY52 52.10.0(1446); SEMCAD X 14.6.11(7437)

Body/d=10mm,Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 17.9 W/kg

Body/d=10mm,Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 62.07 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 36.2 W/kg
SAR(1 g) = 7.28 W/kg; SAR(10 g) = 2.02 W/kg
Maximum value of SAR (measured) = 18.8 W/kg



0 dB = 18.0 W/kg = 12.55 dBW/kg

10. SAR Exposure Limits

SAR assessments have been made in line with the requirements of FCC 47 CFR § 2.1093.

Type Exposure	Limit (W/kg)	
	General Population/ Uncontrolled Exposure Environment	Occupational/ Controlled Exposure Environment
Spatial Average SAR (whole body)	0.08	0.4
Spatial Peak SAR (1g cube tissue for head and trunk)	1.6	8.0
Spatial Peak SAR (10g for limb)	4.0	20.0

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

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

11. Conducted Power Measurement Results

GSM Conducted Power

1. *Per KDB 447498 D01, the maximum output power channel is used for SAR testing and further SAR test reduction.*
2. *Per KDB 941225 D01, considering the possibility of e.g. 3rd party VoIP operation for Head and Body-worn SAR test reduction for GSM and GPRS modes is determined by the source-base time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the EUT was set in GPRS (3Tx slots) for GSM850 and GPRS (3Tx slots) for PCS1900.*
3. *Per KDB941225 D01, for hotspot SAR test reduction for GPRS modes is determined by the source-based time-averaged output power including tune-up tolerance, For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the EUT was set in GPRS (3Tx slots) for GSM850 and GPRS (3Tx slots) for PCS1900.*

Mode: GSM850		Burst Average Power (dBm)			Division Factors	Frame-Average Power (dBm)		
		CH128	CH190	CH251		CH128	CH190	CH251
		824.2MHz	836.6MHz	848.8MHz		824.2MHz	836.6MHz	848.8MHz
GSM		34.35	34.34	34.56	-9.03	25.32	25.31	25.53
GPRS (GMSK)	1TXslot	34.53	34.51	34.45	-9.03	25.50	25.48	25.42
	2TXslots	31.85	32.25	32.19	-6.02	25.83	26.23	26.17
	3TXslots	30.88	30.93	31.11	-4.26	26.62	26.67	26.85
	4TXslots	28.86	28.91	28.92	-3.01	25.85	25.90	25.91
EGPRS (8PSK)	1TXslot	28.09	28.04	28.05	-9.03	19.06	19.01	19.02
	2TXslots	25.71	25.69	25.83	-6.02	19.69	19.67	19.81
	3TXslots	23.78	23.79	23.80	-4.26	19.52	19.53	19.54
	4TXslots	22.59	22.61	22.79	-3.01	19.58	19.60	19.78
Mode: PCS1900		**Burst Average Power (dBm)**			Division Factors	**Frame-Average Power (dBm)**		
		CH512	CH661	CH810		CH512	CH661	CH810
		1850.2MHz	1880.0MHz	1909.8MHz		1850.2MHz	1880.0MHz	1909.8MHz
GSM		31.11	30.70	30.88	-9.03	22.08	21.67	21.85
GPRS (GMSK)	1TXslot	30.99	30.92	30.75	-9.03	21.96	21.89	21.72
	2TXslots	28.00	27.88	27.67	-6.02	21.98	21.86	21.65
	3TXslots	26.91	26.73	26.47	-4.26	22.65	22.47	22.21
	4TXslots	24.90	24.44	24.49	-3.01	21.89	21.43	21.48
EGPRS (8PSK)	1TXslot	26.01	25.88	25.73	-9.03	16.98	16.85	16.70
	2TXslots	23.61	23.28	22.94	-6.02	17.59	17.26	16.92
	3TXslots	21.48	21.24	21.10	-4.26	17.22	16.98	16.84
	4TXslots	20.38	20.13	21.28	-3.01	17.37	17.12	18.27

Note:

1) Division Factors

To Frame-Average Power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> Burst Average Power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> Burst Average Power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> Burst Average Power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> Burst Average Power divided by (8/4) => -3.01dB

WCDMA Conducted Power

1. *The following tests were conducted according to the test requirements outlines in 3GPP TS34.121 specification.*
2. *The procedures in KDB 941225 D01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode to determine SAR test exclusion*

A summary of thest setting are illustrated belowe:

HSDPA Setup Configureation:

a) The EUT was connected to base station RS CMU200 referred to the setup configuration
b) The RF path losses were compensated into the measurements
c) A call was established between EUT and base station with following setting:
   i. Set Gain Factors (βc and βd) and parameters were set according to each specific sub-test in the following table, C10.1.4, Quoted from the TS 34.121
   ii. Set RMC 12.2Kbps + HSDPA mode
   iii. Set Cell Power=-86dBm
   iv. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   v. Select HSDPA uplink parameters
   vi. Set Delta ACK, Delta NACK and Delta CQI=8
   vii. Set Ack-Nack repetition Factor to 3
   viii. Set CQI Feedback Cycle (K) to 4ms
   ix. Set CQI repetition factor to 2
   x. Power ctrl mode= all up bits
d) The transmitter maximum output power waw recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$.

Note 2: 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 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$, and Δ_{CQI} = 24/15 with $\beta_{hs} = 24/15 * \beta_c$.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

Setup Configuration

HSUPA Setup Configureation:

a) The EUT was connected to base station RS CMU200 referred to the setup configuration
b) The RF path losses were compensated into the measurements
c) A call was established between EUT and base station with following setting:
   i. Call configs = 5.2b, 5.9b, 5.10b, and 5.13.2B with QPSK
   ii. Set Gain Factors (βc and βd) and parameters (AG index) were set according to each specific sub-test in the following table, C11.1.3, Quoted from the TS 34.121
   iii. Set Cell Power=-86dBm
   iv. Set channel type= 12.2Kbps + HSPA mode
   v. Set UE Target power
   vi. Set Ctrl mode=Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal the target E-TFCI of 75 for Sub-test 1, and other subtest's E-TFCI
d) The transmitter maximum output power waw recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	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	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 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 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$.

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, 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 β_c = 10/15 and β_d = 15/15.

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

Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

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

Setup Configuration

General Note:

1. Per KDB 941225 D01, SAR for Head / Hotsport / Body-worn Exposure is measured using a 12.2Kbps RMC with TPC bit ocnfigured to all 1s
2. Per KDB 941225 D01 RMC12.2Kbps setting is used to evaluate SAR. If the maximum output power and Tune-up tolerance specified for production units in HSDPA/HSUPA is ≦1/4dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio fo specified maximum output power and tune-up tolerance of HSDPA / HSUPA to RMC 12.2Kbps and the adjusted SAR is ≦1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA.

Mode		WCDMA Band II			WCDMA Band V		
		Conducted Power (dBm)			Conducted Power (dBm)		
		CH9262	CH9400	CH9538	CH4132	CH4183	CH4233
		1852.4MHz	1880.0MHz	1907.6MHz	826.4MHz	836.6MHz	846.6MHz
AMR 12.2K		24.07	24.02	24.04	26.29	26.11	26.05
RMC 12.2K		24.10	24.05	24.05	26.32	26.15	26.06
HSDPA	Subtest-1	23.05	22.98	23.06	25.24	25.12	25.04
	Subtest-2	22.61	22.58	22.50	24.79	24.59	24.51
	Subtest-3	22.64	22.61	22.48	24.78	24.58	24.49
	Subtest-4	22.64	22.63	22.52	24.77	24.58	24.57
HSUPA	Subtest-1	18.57	19.03	19.25	20.43	20.26	20.26
	Subtest-2	18.72	19.07	19.11	20.29	20.15	20.11
	Subtest-3	18.86	18.75	18.74	19.96	19.77	19.69
	Subtest-4	19.19	19.32	19.32	20.51	20.32	20.43
	Subtest-5	20.12	20.28	20.35	21.57	21.49	21.27

Mode		WCDMA Band IV		
		Conducted Power (dBm)		
		CH1312	CH1413	CH1513
		1712.4MHz	1732.6MHz	1752.6MHz
AMR 12.2K		20.24	20.03	19.98
RMC 12.2K		20.26	20.06	19.99
HSDPA	Subtest-1	19.48	19.24	19.35
	Subtest-2	19.05	18.81	18.98
	Subtest-3	19.11	18.85	19.04
	Subtest-4	19.07	18.84	18.92
HSUPA	Subtest-1	19.29	19.75	19.32
	Subtest-2	19.15	19.43	19.21
	Subtest-3	18.67	19.37	18.89
	Subtest-4	19.43	19.68	19.38
	Subtest-5	20.48	20.91	20.61

LTE Conducted Power

General Note:

1. CMW500 base station simulator was used to setup the connection with EUT; the frequency band, channel,bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUTtransmitting at maximum power and at different configurations which are requested to be reported to FCC, forconducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r03, when a properly configured base station simulator is used for the SAR and powermeasurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r03, start with the largest channel bandwidth and measure SAR for QPSK with 1 RBallocation, using the RB offset and required test channel combination with the highest maximum output power for RBoffsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r03, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.
6. Per KDB 941225 D05v02r03, 16QAM output power for each RB allocation configuration is > not ½ dB higher than thesame configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225D05v02r03, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r03, smaller bandwidth output power for each RB allocation configuration is > not ½ dBhigher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supportedbandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r03, smaller bandwidth SAR testing is not required.

LTE-FDD Band 2				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
1.4MHz	QPSK	1	0	24.80	24.59	24.50
			2	24.78	24.76	24.41
			5	24.84	24.73	24.06
		3	0	24.69	24.94	24.41
			1	24.82	24.99	24.37
			3	24.87	24.88	24.21
		6	0	23.79	23.78	24.22
	16QAM	1	0	23.50	23.15	23.63
			2	23.48	23.29	23.52
			5	23.52	23.06	23.14
		3	0	23.90	23.92	23.71
			1	23.92	24.09	23.67
			3	23.95	23.87	23.52
		6	0	22.68	22.59	23.25
3MHz	QPSK	1	0	23.31	23.08	23.84
			8	23.30	23.82	23.38
			14	23.45	23.26	23.74
		8	0	23.97	24.11	24.40
			4	23.76	23.98	24.21
			7	24.11	24.02	24.13
		15	0	23.76	23.99	24.19
	16QAM	1	0	23.14	23.40	23.16
			8	23.17	23.64	23.83
			14	23.26	23.50	23.38
		8	0	23.16	23.28	23.31
			4	23.10	22.96	23.21
			7	23.04	22.89	23.38
		15	0	23.17	23.07	23.39

LTE-FDD Band 2				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
5MHz	QPSK	1	0	24.13	24.37	24.15
			12	24.28	24.29	24.22
			24	24.18	24.99	24.83
		12	0	23.90	24.13	24.25
			7	23.91	24.03	24.10
			13	23.92	24.05	24.12
		25	0	23.97	23.97	24.14
	16QAM	1	0	23.01	23.87	23.00
			12	22.94	23.87	23.19
			24	22.99	23.68	23.29
		12	0	23.15	22.98	23.26
			7	23.04	23.02	23.31
			13	23.05	22.96	23.28
		25	0	22.99	23.16	23.42
10MHz	QPSK	1	0	24.30	24.96	24.31
			24	24.41	24.17	24.18
			49	24.34	24.10	24.59
		25	0	24.36	24.20	24.30
			24	23.98	24.13	24.16
			49	24.10	24.14	24.12
		50	0	24.10	24.12	24.14
	16QAM	1	0	23.37	23.87	23.77
			24	23.28	23.67	23.22
			49	23.26	23.57	23.05
		25	0	23.57	23.27	23.55
			24	23.21	23.23	23.28
			49	23.06	23.19	23.48
		50	0	23.20	23.22	23.43

LTE-FDD Band 2				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
15MHz	QPSK	1	0	23.37	23.18	23.08
			38	23.42	23.05	23.28
			74	23.38	23.13	23.15
		38	0	23.52	24.14	23.36
			18	23.43	24.07	23.42
			37	23.37	23.42	23.48
		75	0	22.85	22.12	22.38
	16QAM	1	0	23.25	23.45	23.44
			38	23.34	23.52	23.98
			74	23.38	23.35	23.56
		38	0	22.58	23.27	22.71
			18	22.66	23.18	22.42
			37	22.57	23.19	22.53
		75	0	22.38	23.16	23.31
20MHz	QPSK	1	0	24.80	24.59	24.50
			49	24.78	24.76	24.41
			99	24.84	24.73	24.06
		50	0	24.69	24.94	24.41
			25	24.82	24.99	24.37
			50	24.87	24.88	24.21
		100	0	23.79	23.78	24.22
	16QAM	1	0	23.34	23.60	23.29
			49	23.35	23.80	23.42
			99	23.43	23.25	23.15
		50	0	23.58	23.34	23.51
			25	23.43	23.32	23.37
			50	23.63	23.25	23.57
		100	0	22.85	23.13	22.52

LTE-FDD Band 4				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
1.4MHz	QPSK	1	0	23.75	23.55	23.82
			2	23.68	23.54	23.58
			5	23.76	23.59	23.77
		3	0	23.91	23.58	23.25
			1	23.84	23.53	23.68
			3	23.81	23.57	23.86
		6	0	21.83	21.91	21.78
	16QAM	1	0	22.35	22.61	22.07
			2	22.33	22.58	22.15
			5	22.27	22.07	22.53
		3	0	22.94	23.02	22.82
			1	22.88	22.90	22.88
			3	23.07	22.90	22.95
		6	0	20.90	20.86	20.88
3MHz	QPSK	1	0	23.50	23.15	23.63
			8	23.48	23.29	23.52
			14	23.52	23.06	23.14
		8	0	21.88	21.81	21.58
			4	21.53	22.18	21.64
			7	21.50	21.83	21.53
		15	0	21.90	21.87	21.80
	16QAM	1	0	21.42	21.25	21.74
			8	21.30	21.38	21.66
			14	21.37	21.16	21.73
		8	0	21.55	22.02	21.60
			4	21.53	21.84	21.66
			7	21.49	21.82	21.51
		15	0	20.80	20.98	20.91

LTE-FDD Band 4				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
5MHz	QPSK	1	0	23.75	23.81	23.47
			12	23.61	23.92	23.55
			24	23.75	23.76	23.57
		12	0	21.85	21.84	21.87
			7	21.91	21.85	21.95
			13	21.83	21.90	22.00
		25	0	21.86	21.78	21.90
	16QAM	1	0	23.32	23.18	23.26
			12	23.48	23.25	23.12
			24	23.22	23.07	23.64
		12	0	21.87	21.84	21.87
			7	21.87	21.75	21.94
			13	21.81	21.90	21.99
		25	0	20.79	21.09	20.86
10MHz	QPSK	1	0	23.81	23.68	23.52
			24	23.77	23.54	23.37
			49	23.79	23.72	22.90
		25	0	21.97	21.81	21.94
			24	21.91	21.80	21.95
			49	21.87	21.93	21.92
		50	0	21.95	21.86	21.96
	16QAM	1	0	23.38	23.36	23.26
			24	23.52	23.77	23.45
			49	23.37	23.48	23.25
		25	0	21.94	21.80	21.95
			24	21.91	21.80	21.96
			49	21.93	21.92	21.99
		50	0	20.85	20.90	20.89

LTE-FDD Band 4				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
15MHz	QPSK	1	0	23.15	22.60	23.14
			38	22.92	23.11	23.15
			74	22.80	22.67	23.58
		38	0	22.06	22.52	22.60
			18	22.64	22.75	22.15
			37	22.71	22.26	22.13
		75	0	21.92	21.91	22.02
	16QAM	1	0	21.95	21.63	21.52
			38	21.89	21.71	21.17
			74	22.02	21.83	21.23
		38	0	21.98	21.07	21.28
			18	21.93	21.58	21.14
			37	21.86	21.25	21.16
		75	0	20.89	21.06	21.04
20MHz	QPSK	1	0	23.82	23.39	23.26
			49	23.10	23.73	23.81
			99	23.13	23.81	23.75
		50	0	21.89	21.79	22.33
			25	21.89	21.96	22.11
			50	21.94	22.13	21.86
		100	0	21.87	21.86	22.10
	16QAM	1	0	22.45	22.36	21.83
			49	22.32	22.40	21.91
			99	22.04	22.18	22.17
		50	0	21.90	21.93	22.08
			25	21.90	21.97	22.04
			50	21.95	21.90	21.98
		100	0	20.85	20.91	21.17

LTE-FDD Band 5				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
1.4MHz	QPSK	1	0	24.75	24.81	24.48
			2	24.76	24.72	24.51
			5	24.83	24.71	24.34
		3	0	24.57	24.60	24.51
			1	24.87	24.84	24.51
			3	24.77	24.65	24.38
		6	0	23.61	23.63	23.62
	16QAM	1	0	23.89	23.92	23.87
			2	24.09	24.19	23.95
			5	23.89	23.84	23.71
		3	0	23.88	23.81	23.55
			1	23.93	23.90	23.58
			3	23.93	23.79	23.46
		6	0	22.55	22.70	22.48
3MHz	QPSK	1	0	24.69	24.62	24.67
			8	24.71	24.74	24.57
			14	24.53	24.63	24.33
		8	0	23.76	23.64	23.61
			4	23.66	23.66	23.55
			7	23.65	23.63	23.48
		15	0	23.67	23.65	23.53
	16QAM	1	0	23.95	24.08	23.58
			8	23.93	24.09	23.59
			14	23.87	24.02	23.59
		8	0	22.86	22.71	22.64
			4	22.82	22.62	22.65
			7	22.77	22.80	22.60
		15	0	22.68	22.72	22.64

LTE-FDD Band 5				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
5MHz	QPSK	1	0	24.49	24.51	24.59
			12	24.94	24.92	24.77
			24	24.63	24.51	24.08
		12	0	23.71	23.65	23.59
			7	23.71	23.68	23.57
			13	23.61	23.65	23.50
		25	0	23.60	23.61	23.52
	16QAM	1	0	23.76	23.22	23.31
			12	23.98	23.50	23.70
			24	23.61	23.38	23.37
		12	0	22.76	22.60	22.75
			7	22.88	22.63	22.74
			13	22.86	22.67	22.56
		25	0	22.74	22.76	22.76
10MHz	QPSK	1	0	24.59	24.58	24.50
			24	24.36	24.74	24.86
			49	24.50	24.42	24.02
		25	0	23.67	23.68	23.62
			24	23.78	23.70	23.64
			49	23.66	23.67	23.59
		50	0	23.73	23.69	23.64
	16QAM	1	0	23.58	23.91	23.78
			24	23.59	24.24	24.26
			49	23.54	23.73	23.47
		25	0	22.68	22.73	22.69
			24	22.76	22.88	22.73
			49	22.88	22.63	22.72
		50	0	22.77	22.67	22.74

LTE-FDD Band 7				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
5MHz	QPSK	1	0	23.01	23.61	23.78
			12	23.55	23.07	23.06
			24	23.12	23.62	23.65
		12	0	22.25	22.58	22.86
			7	22.42	22.71	22.91
			13	22.38	22.64	22.90
		25	0	22.35	22.63	22.84
	16QAM	1	0	22.00	22.37	22.61
			12	22.23	22.76	22.82
			24	21.94	22.58	22.68
		12	0	21.17	21.69	21.90
			7	21.46	21.86	21.93
			13	21.51	21.75	21.85
		25	0	21.60	21.84	22.05
10MHz	QPSK	1	0	23.37	23.45	23.74
			24	23.60	23.80	23.51
			49	23.45	23.61	23.54
		25	0	22.54	22.64	23.03
			24	22.52	22.72	22.99
			49	22.51	22.70	22.99
		50	0	22.48	22.70	22.99
	16QAM	1	0	22.59	22.50	23.18
			24	22.87	22.56	22.52
			49	22.93	22.87	22.93
		25	0	21.62	21.76	21.99
			24	21.77	21.76	22.07
			49	21.60	21.85	22.05
		50	0	21.55	21.67	22.10

LTE-FDD Band 7				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
15MHz	QPSK	1	0	23.26	23.36	23.59
			38	23.39	23.82	23.90
			74	23.35	23.51	23.54
		38	0	22.45	22.67	22.90
			18	22.46	22.74	22.89
			37	22.52	22.79	22.90
		75	0	22.48	22.69	22.91
	16QAM	1	0	22.66	23.02	22.88
			38	22.73	23.14	22.86
			74	22.68	22.73	22.87
		38	0	21.49	21.83	22.05
			18	21.46	21.70	21.89
			37	21.40	21.79	22.00
		75	0	21.55	21.78	21.99
20MHz	QPSK	1	0	23.25	23.04	23.57
			49	23.55	23.40	23.83
			99	22.95	23.56	23.18
		50	0	22.01	22.71	22.95
			25	22.32	22.72	22.99
			50	22.20	22.77	22.95
		100	0	22.33	22.69	22.93
	16QAM	1	0	22.15	22.47	22.75
			49	22.57	22.34	22.14
			99	22.10	23.01	22.44
		50	0	21.55	21.85	21.92
			25	21.46	21.76	21.97
			50	21.08	21.92	22.03
		100	0	21.11	21.80	22.02

LTE-FDD Band 12				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
1.4MHz	QPSK	1	0	25.09	25.49	25.50
			2	25.21	25.28	25.25
			5	25.04	25.52	25.35
		3	0	25.15	25.15	25.32
			1	25.20	25.36	25.40
			3	24.96	25.28	25.19
		6	0	24.09	24.19	24.19
	16QAM	1	0	24.51	24.71	24.67
			2	24.61	24.52	24.91
			5	24.39	24.44	24.61
		3	0	24.15	24.38	24.38
			1	24.20	24.48	24.42
			3	24.01	24.18	24.26
		6	0	22.92	23.17	23.08
3MHz	QPSK	1	0	24.93	25.14	25.33
			8	25.17	25.07	25.17
			14	25.21	25.05	25.21
		8	0	24.01	24.15	24.01
			4	24.04	24.09	24.04
			7	24.05	24.13	24.05
		15	0	24.04	24.11	24.04
	16QAM	1	0	24.33	24.51	24.15
			8	24.35	24.53	24.08
			14	24.50	24.51	24.06
		8	0	23.05	23.01	23.27
			4	22.79	23.02	23.29
			7	23.08	23.04	23.08
		15	0	22.97	23.25	23.31

LTE-FDD Band 12				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
5MHz	QPSK	1	0	25.08	25.23	25.41
			12	25.35	25.61	25.63
			24	25.10	25.30	25.26
		12	0	24.14	24.14	24.27
			7	24.11	24.23	24.35
			13	24.07	24.33	24.27
		25	0	24.12	24.32	24.28
	16QAM	1	0	23.99	23.83	24.08
			12	24.16	24.14	24.18
			24	23.94	23.91	23.98
		12	0	23.11	22.98	23.37
			7	23.00	23.05	23.35
			13	23.20	23.17	23.34
		25	0	23.16	23.44	23.40
10MHz	QPSK	1	0	24.95	25.23	25.23
			24	25.29	25.27	25.55
			49	25.29	25.27	25.18
		25	0	24.10	24.14	24.30
			24	24.05	24.25	24.35
			49	24.25	24.19	24.36
		50	0	24.17	24.18	24.30
	16QAM	1	0	24.22	24.20	24.02
			24	24.71	24.77	24.29
			49	24.66	24.45	24.14
		25	0	22.91	23.13	23.45
			24	23.00	23.40	23.53
			49	23.23	23.40	23.29
		50	0	23.14	23.23	23.36

LTE-FDD Band 13				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
5MHz	QPSK	1	0	24.38	24.40	24.27
			12	24.20	24.28	24.26
			24	24.32	24.27	24.31
		12	0	23.48	23.44	23.32
			7	23.44	23.41	23.39
			13	23.37	23.37	23.18
		25	0	23.44	23.35	23.32
	16QAM	1	0	23.40	23.07	23.41
			12	23.56	23.18	23.48
			24	23.41	23.10	23.16
		12	0	22.37	22.47	22.44
			7	22.62	22.43	22.48
			13	22.47	22.38	22.28
		25	0	22.48	22.43	22.41
10MHz	QPSK	1	0	/	24.22	/
			24	/	24.38	/
			49	/	24.10	/
		25	0	/	23.40	/
			24	/	23.42	/
			49	/	23.38	/
		50	0	/	23.43	/
	16QAM	1	0	/	23.66	/
			24	/	23.96	/
			49	/	23.65	/
		25	0	/	22.63	/
			24	/	22.42	/
			49	/	22.42	/
		50	0	/	22.38	/

LTE-FDD Band 17				Actual output Power (dBm)		
Band-width	Modulation	RB allocation	RB offset	Low	Middle	High
5MHz	QPSK	1	0	24.28	24.30	24.35
			12	24.69	24.52	24.55
			24	24.22	24.25	23.98
		12	0	23.20	23.31	23.46
			7	23.27	23.35	23.46
			13	23.19	23.41	23.44
		25	0	23.26	23.28	23.41
	16QAM	1	0	23.13	22.85	23.23
			12	23.27	23.24	23.37
			24	23.13	23.12	23.14
		12	0	22.40	22.16	22.48
			7	22.39	22.29	22.50
			13	22.34	22.34	22.44
		25	0	22.29	22.33	22.61
10MHz	QPSK	1	0	24.45	24.13	24.18
			24	24.55	24.47	24.57
			49	24.46	24.24	23.89
		25	0	23.43	23.32	23.43
			24	23.56	23.39	23.45
			49	23.46	23.47	23.44
		50	0	23.45	23.44	23.40
	16QAM	1	0	24.52	24.09	24.47
			24	24.02	24.32	24.11
			49	24.37	24.25	24.18
		25	0	22.27	22.36	22.46
			24	22.58	22.42	22.55
			49	22.61	22.67	22.49
		50	0	22.52	22.43	22.45

WLAN Conducted Power

For 2.4GHz WLAN SAR testing, highest average RF output power channel for the lowest data rate for 802.11b were for SAR evaluation. 802.11g/n were not investigated since the average putput powers over all channels and data rates were not more than 0.25dB higher than the tested channel in the lowest data rate of 802.11b mode.

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

WIFI 2.4G				
Mode	Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)
802.11b	1	2412	16.46	14.04
	6	2437	16.39	13.99
	11	2462	16.52	14.08
802.11g	1	2412	15.84	12.41
	6	2437	15.65	12.23
	11	2462	15.47	12.10
802.11n(HT20)	1	2412	14.31	10.91
	6	2437	14.32	10.90
	11	2462	14.02	10.67
802.11n(HT40)	3	2422	13.29	10.13
	6	2437	13.15	10.01
	9	2452	13.14	10.00

WIFI 5G U-NII-1				
Mode	Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)
802.11ac (VHT20)	36	5180	15.39	13.13
	40	5200	15.30	13.05
	48	5240	15.12	12.90
802.11n (HT20)	36	5180	15.83	13.50
	40	5200	15.05	12.84
	48	5240	15.23	12.99
802.11a	36	5180	16.61	14.17
	40	5200	16.23	13.84
	48	5240	16.30	13.90
802.11ac (VHT40)	38	5190	14.05	11.98
	46	5230	14.10	12.03
802.11n (HT40)	38	5190	14.58	12.44
	46	5230	14.15	12.07
802.11ac (VHT80)	42	5210	12.68	10.82

WIFI 5G U-NII-2A				
Mode	Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)
802.11ac (VHT20)	52	5260	15.48	13.20
	56	5280	15.32	13.07
	64	5320	15.07	12.85
802.11n (HT20)	52	5260	16.01	13.66
	56	5280	15.13	12.91
	64	5320	15.22	12.98
802.11a	52	5260	17.10	14.59
	56	5280	16.42	14.01
	64	5320	16.32	13.92
802.11ac (VHT40)	54	5270	14.04	11.98
	62	5310	14.01	11.95
802.11n (HT40)	54	5270	14.53	12.39
	62	5310	14.63	12.48
802.11ac (VHT80)	58	5290	12.86	10.97

WIFI 5G U-NII-2C				
Mode	Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)
802.11ac (VHT20)	100	5500	15.25	13.01
	120	5600	15.31	13.06
	140	5700	15.19	12.96
802.11n (HT20)	100	5500	15.46	13.19
	120	5600	15.34	13.09
	140	5700	15.42	13.15
802.11a	100	5500	16.23	13.84
	120	5600	16.25	13.86
	140	5700	16.38	13.97
802.11ac (VHT40)	102	5510	13.82	11.79
	118	5590	14.29	12.19
	134	5670	14.36	12.25
802.11n (HT40)	102	5510	14.18	12.10
	118	5590	14.39	12.27
	134	5670	14.46	12.33
802.11ac (VHT80)	106	5530	12.03	10.26
	122	5610	12.65	10.79
	138	5690	12.30	10.49

WIFI 5G U-NII-3				
Mode	Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)
802.11ac (VHT20)	149	5745	15.24	13.00
	157	5785	15.67	13.37
	165	5825	15.86	13.53
802.11n (HT20)	149	5745	15.35	13.09
	157	5785	15.43	13.16
	165	5825	15.65	13.35
802.11a	149	5745	16.31	13.91
	157	5785	16.56	14.13
	165	5825	16.96	14.47
802.11ac (VHT40)	151	5755	14.21	12.12
	159	5795	14.33	12.22
802.11n (HT40)	151	5755	14.63	12.48
	159	5795	14.78	12.61
802.11ac (VHT80)	155	5775	12.49	10.65

Bluetooth Conducted Power

Bluetooth			
Mode	Channel	Frequency (MHz)	Conducted Power (dBm)
GFSK	0	2402	1.52
	39	2441	3.09
	78	2480	3.43
π/4QPSK	0	2402	1.60
	39	2441	3.14
	78	2480	3.42
8DPSK	0	2402	1.94
	39	2441	3.53
	78	2480	3.45
GFSK(BLE)	0	2402	-2.17
	19	2440	-2.49
	39	2480	-3.56

12. Maximum Tune-up Limit

GSM		
Mode	Maximum Tune-up (dBm)	
	GSM850	PCS1900
GSM (GMSK, 1Tx Slot)	35.00	31.50
GPRS (GMSK, 1Tx Slot)	35.00	31.00
GPRS (GMSK, 2Tx Slot)	32.50	28.00
GPRS (GMSK, 3Tx Slot)	31.50	27.00
GPRS (GMSK, 4Tx Slot)	29.00	25.00
EGPRS (8PSK, 1Tx Slot)	28.50	26.50
EGPRS (8PSK, 2Tx Slot)	26.00	24.00
EGPRS (8PSK, 3Tx Slot)	24.00	21.50
EGPRS (8PSK, 4Tx Slot)	23.00	20.50

WCDMA			
Mode	Maximum Tune-up (dBm)		
	WCDMA Band II	WCDMA Band IV	WCDMA Band V
AMR 12.2Kbps	24.50	20.50	26.50
RMC 12.2Kbps	24.50	20.50	26.50
HSDPA Subtest-1	23.50	20.00	25.50
HSDPA Subtest-2	23.00	20.00	25.00
HSDPA Subtest-3	23.00	20.00	25.00
HSDPA Subtest-4	23.00	20.00	25.00
HSUPA Subtest-1	19.50	20.00	20.50
HSUPA Subtest-2	19.50	20.00	20.50
HSUPA Subtest-3	19.00	20.00	20.00
HSUPA Subtest-4	19.50	20.00	21.00
HSUPA Subtest-5	20.50	21.00	22.00

LTE				
Fequency Band	Band-width(MHz)	Modulation	RB allocation	Maximum Tune-up (dBm)
LTE Band 2	1.4	QPSK	1	25.00
			3	25.00
			6	24.50
		16QAM	1	24.00
			3	24.50
			6	23.50
	3	QPSK	1	24.00
			8	24.50
			15	24.50
		16QAM	1	24.00
			8	23.50
			15	23.50
	5	QPSK	1	25.00
			12	24.50
			25	24.50
		16QAM	1	24.00
			12	23.50
			25	23.50
	10	QPSK	1	25.00
			25	24.50
			50	24.50
		16QAM	1	24.00
			25	24.00
			50	23.50
	15	QPSK	1	23.50
			38	24.50
			75	23.00
		16QAM	1	24.00
			38	23.50
			75	23.50
	20	QPSK	1	25.00
			50	24.50
			100	24.50
		16QAM	1	24.00
			50	24.00
			100	23.50

LTE				
Fequency Band	Band-width(MHz)	Modulation	RB allocation	Maximum Tune-up (dBm)
LTE Band 4	1.4	QPSK	1	24.00
			3	24.00
			6	22.00
		16QAM	1	23.00
			3	23.50
			6	21.00
	3	QPSK	1	24.00
			8	22.50
			15	22.00
		16QAM	1	22.00
			8	22.50
			15	21.00
	5	QPSK	1	24.00
			12	22.00
			25	22.00
		16QAM	1	24.00
			12	22.00
			25	21.50
	10	QPSK	1	24.00
			25	22.00
			50	22.00
		16QAM	1	24.00
			25	22.00
			50	21.00
	15	QPSK	1	24.00
			38	23.00
			75	22.50
		16QAM	1	22.50
			38	22.00
			75	21.50
	20	QPSK	1	24.00
			50	22.50
			100	22.50
		16QAM	1	22.50
			50	22.50
			100	21.50

LTE				
Fequency Band	Band-width(MHz)	Modulation	RB allocation	Maximum Tune-up (dBm)
LTE Band 5	1.4	QPSK	1	25.00
			3	25.00
			6	24.00
		16QAM	1	24.50
			3	24.00
			6	23.00
	3	QPSK	1	25.00
			8	24.00
			15	24.00
		16QAM	1	24.50
			8	23.00
			15	23.00
	5	QPSK	1	25.00
			12	24.00
			25	24.00
		16QAM	1	24.00
			12	23.00
			25	23.00
	10	QPSK	1	25.00
			25	24.00
			50	24.00
		16QAM	1	24.50
			25	23.00
			50	23.00

LTE				
Fequency Band	Band-width(MHz)	Modulation	RB allocation	Maximum Tune-up (dBm)
LTE Band 7	5	QPSK	1	24.00
			12	23.00
			25	23.00
		16QAM	1	23.00
			12	22.00
			25	22.50
	10	QPSK	1	24.00
			25	23.50
			50	23.00
		16QAM	1	23.50
			25	22.50
			50	22.50
	15	QPSK	1	24.00
			38	23.00
			75	23.00
		16QAM	1	23.50
			38	22.50
			75	22.00
	20	QPSK	1	24.00
			50	23.00
			100	23.00
		16QAM	1	23.50
			50	22.50
			100	22.50

LTE				
Fequency Band	Band-width(MHz)	Modulation	RB allocation	Maximum Tune-up (dBm)
LTE Band 12	1.4	QPSK	1	26.00
			3	25.50
			6	24.50
		16QAM	1	25.00
			3	24.50
			6	23.50
	3	QPSK	1	25.50
			8	24.50
			15	24.50
		16QAM	1	25.00
			8	23.50
			15	23.50
	5	QPSK	1	26.00
			12	24.50
			25	24.50
		16QAM	1	24.50
			12	23.50
			25	23.50
	10	QPSK	1	26.00
			25	24.50
			50	24.50
		16QAM	1	25.00
			25	24.00
			50	23.50

LTE				
Fequency Band	Band-width(MHz)	Modulation	RB allocation	Maximum Tune-up (dBm)
LTE Band 13	5	QPSK	1	24.50
			12	23.50
			25	23.50
		16QAM	1	24.00
			12	23.00
			25	22.50
	10	QPSK	1	24.50
			25	23.50
			50	23.50
		16QAM	1	24.00
			25	23.00
			50	22.50

LTE				
Fequency Band	Band-width(MHz)	Modulation	RB allocation	Maximum Tune-up (dBm)
LTE Band 17	5	QPSK	1	25.00
			12	23.50
			25	23.50
		16QAM	1	23.50
			12	22.50
			25	23.00
	10	QPSK	1	25.00
			25	24.00
			50	23.50
		16QAM	1	25.00
			25	23.00
			50	23.00

The allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2-1due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3

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

WIFI 2.4G	
Mode	Maximum Tune-up (dBm)
802.11b	14.50
802.11g	12.50
802.11n(HT20)	11.00
802.11n(HT40)	10.50

WIFI 5G U-NII-1	
Mode	Maximum Tune-up (dBm)
802.11ac(VHT20)	13.50
802.11n(HT20)	13.50
802.11a	14.50
802.11ac(VHT40)	12.50
802.11n(HT40)	12.50
802.11ac(VHT80)	11.00

WIFI 5G U-NII-2A	
Mode	Maximum Tune-up (dBm)
802.11ac(VHT20)	13.50
802.11n(HT20)	14.00
802.11a	15.00
802.11ac(VHT40)	12.50
802.11n(HT40)	13.00
802.11ac(VHT80)	11.00

WIFI 5G U-NII-2C	
Mode	Maximum Tune-up (dBm)
802.11ac(VHT20)	13.50
802.11n(HT20)	13.50
802.11a	14.00
802.11ac(VHT40)	12.50
802.11n(HT40)	12.50
802.11ac(VHT80)	11.00

WIFI 5G U-NII-3	
Mode	Maximum Tune-up (dBm)
802.11ac(VHT20)	14.00
802.11n(HT20)	13.50
802.11a	14.50
802.11ac(VHT40)	12.50
802.11n(HT40)	13.00
802.11ac(VHT80)	11.00

Bluetooth	
Mode	Maximum Tune-up (dBm)
GFSK	3.50
π/4QPSK	3.50
8DPSK	3.60
GFSK(BLE)	-2.00

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

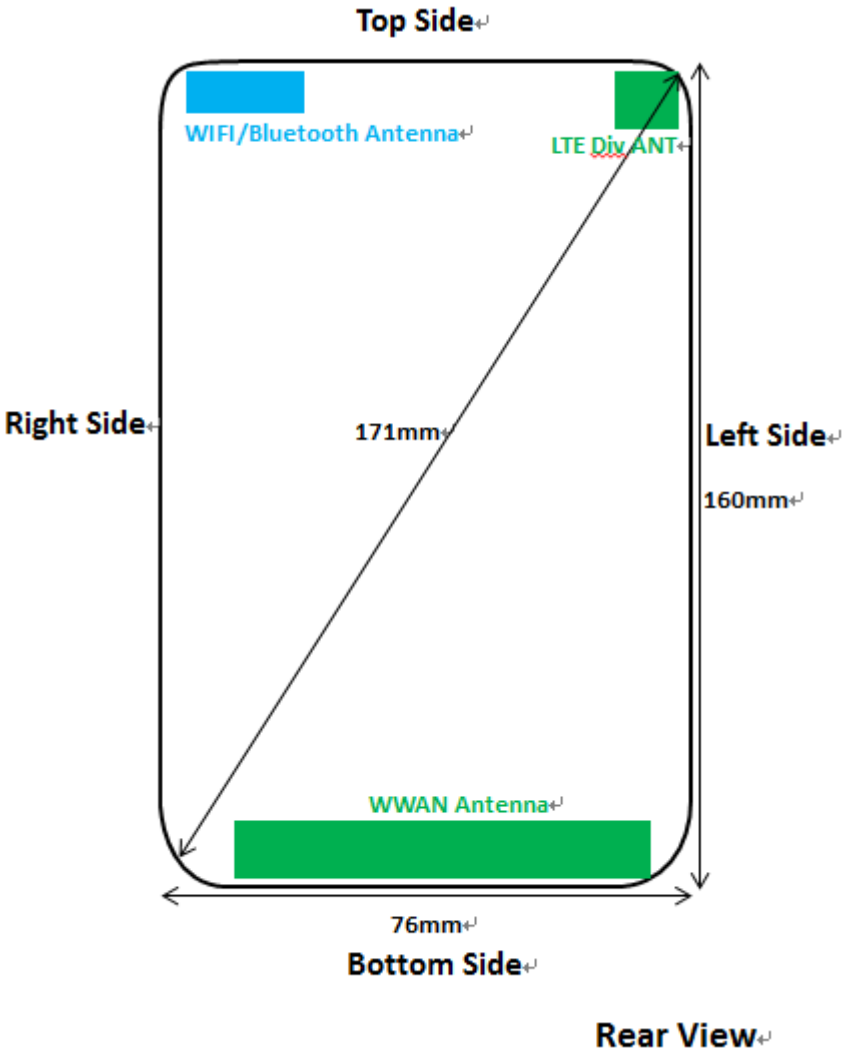
[(max. Power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] * [√f(GHz)] ≦3.0 for 1-g SAR

Band/Mode	F(GHz)	Position	Separation Distance (mm)	Exclusion Thresholds	SAR test exclusion
Bluetooth	2.45	Head	0	0.7	Yes
		Body	10	0.4	Yes

Per KDB 447498 D01, when the minimum test separation distance is <5mm, a distance of 5mm is applied to determine SAR test exclusion.

The test exclusion thereshold is ≦3, SAR testing is not required.

13. Antenna Location



Distance of the Antenna to the EUT surface/edge(mm)						
Antenna	Rear	Front	Top side	Bottom side	Right side	Left side
WWAN	2	3	150	2	7	2
WIFI/BT	2	3	2	155	2	58

Positions for SAR tests; Hotspot mode						
Antenna	Rear	Front	Top side	Bottom side	Right side	Left side
WWAN	Yes	Yes	No	Yes	Yes	Yes
WIFI/BT	Yes	Yes	Yes	No	Yes	No

General note:
Referring to KDB941225 D06, when the overall device length and width are >9cm*5cm, the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

14. SAR Measurement Results

Head SAR

GSM850										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
GPRS (3Tx slot)	Left-Cheek	128	824.2	30.88	31.50	1.15	-	-	-	-
		190	836.6	30.93	31.50	1.14	-0.11	0.157	0.179	1
		251	848.8	31.11	31.50	1.09	-	-	-	-
	Left-Tilt	128	824.2	30.88	31.50	1.15	-	-	-	-
		190	836.6	30.93	31.50	1.14	0.12	0.120	0.137	-
		251	848.8	31.11	31.50	1.09	-	-	-	-
	Right-Cheek	128	824.2	30.88	31.50	1.15	-	-	-	-
		190	836.6	30.93	31.50	1.14	0.05	0.146	0.166	-
		251	848.8	31.11	31.50	1.09	-	-	-	-
	Right-Tilt	128	824.2	30.88	31.50	1.15	-	-	-	-
		190	836.6	30.93	31.50	1.14	-0.06	0.110	0.126	-
		251	848.8	31.11	31.50	1.09	-	-	-	-

PCS1900										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
GPRS (3Tx slot)	Left-Cheek	512	1850.2	26.91	27.00	1.02	-	-	-	-
		661	1880.0	26.73	27.00	1.06	-0.18	0.082	0.087	3
		810	1909.8	26.47	27.00	1.13	-	-	-	-
	Left-Tilt	512	1850.2	26.91	27.00	1.02	-	-	-	-
		661	1880.0	26.73	27.00	1.06	-0.13	0.066	0.070	-
		810	1909.8	26.47	27.00	1.13	-	-	-	-
	Right-Cheek	512	1850.2	26.91	27.00	1.02	-	-	-	-
		661	1880.0	26.73	27.00	1.06	0.09	0.079	0.084	-
		810	1909.8	26.47	27.00	1.13	-	-	-	-
	Right-Tilt	512	1850.2	26.91	27.00	1.02	-	-	-	-
		661	1880.0	26.73	27.00	1.06	0.11	0.062	0.066	-
		810	1909.8	26.47	27.00	1.13	-	-	-	-

Note:
Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg.

WCDMA Band II										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
RMC 12.2K bps	Left-Cheek	9262	1852.4	24.10	24.50	1.10	-	-	-	-
		9400	1880.0	24.05	24.50	1.11	-0.18	0.197	0.218	5
		9538	1907.6	24.05	24.50	1.11	-	-	-	-
	Left-Tilt	9262	1852.4	24.10	24.50	1.10	-	-	-	-
		9400	1880.0	24.05	24.50	1.11	-0.15	0.162	0.180	-
		9538	1907.6	24.05	24.50	1.11	-	-	-	-
	Right-Cheek	9262	1852.4	24.10	24.50	1.10	-	-	-	-
		9400	1880.0	24.05	24.50	1.11	-0.14	0.183	0.203	-
		9538	1907.6	24.05	24.50	1.11	-	-	-	-
	Right-Tilt	9262	1852.4	24.10	24.50	1.10	-	-	-	-
		9400	1880.0	24.05	24.50	1.11	0.08	0.147	0.162	-
		9538	1907.6	24.05	24.50	1.11	-	-	-	-

WCDMA Band IV										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
RMC 12.2K bps	Left-Cheek	1312	1712.4	20.26	20.50	1.06	-	-	-	-
		1413	1732.6	20.06	20.50	1.11	-0.12	0.026	0.029	7
		1513	1752.6	19.99	20.50	1.12	-	-	-	-
	Left-Tilt	1312	1712.4	20.26	20.50	1.06	-	-	-	-
		1413	1732.6	20.06	20.50	1.11	-0.10	0.021	0.024	-
		1513	1752.6	19.99	20.50	1.12	-	-	-	-
	Right-Cheek	1312	1712.4	20.26	20.50	1.06	-	-	-	-
		1413	1732.6	20.06	20.50	1.11	-0.16	0.025	0.027	-
		1513	1752.6	19.99	20.50	1.12	-	-	-	-
	Right-Tilt	1312	1712.4	20.26	20.50	1.06	-	-	-	-
		1413	1732.6	20.06	20.50	1.11	0.05	0.020	0.022	-
		1513	1752.6	19.99	20.50	1.12	-	-	-	-

Note:
Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg.

WCDMA Band V										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
RMC 12.2K bps	Left-Cheek	4132	826.4	26.32	26.50	1.04	-	-	-	-
		4183	836.6	26.15	26.50	1.08	0.20	0.143	0.155	9
		4233	846.6	26.06	26.50	1.11	-	-	-	-
	Left-Tilt	4132	826.4	26.32	26.50	1.04	-	-	-	-
		4183	836.6	26.15	26.50	1.08	0.11	0.115	0.125	-
		4233	846.6	26.06	26.50	1.11	-	-	-	-
	Right-Cheek	4132	826.4	26.32	26.50	1.04	-	-	-	-
		4183	836.6	26.15	26.50	1.08	0.11	0.143	0.155	-
		4233	846.6	26.06	26.50	1.11	-	-	-	-
	Right-Tilt	4132	826.4	26.32	26.50	1.04	-	-	-	-
		4183	836.6	26.15	26.50	1.08	-0.11	0.112	0.122	-
		4233	846.6	26.06	26.50	1.11	-	-	-	-

Note:
Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg

LTE Band 2										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
20M_1RB	Left-Cheek	18700	1860.0	24.84	25.00	1.04	-	-	-	-
		18900	1880.0	24.73	25.00	1.06	-0.13	0.262	0.279	11
		19100	1900.0	24.06	25.00	1.24	-	-	-	-
	Left-Tilt	18700	1860.0	24.84	25.00	1.04	-	-	-	-
		18900	1880.0	24.73	25.00	1.06	0.09	0.214	0.228	-
		19100	1900.0	24.06	25.00	1.24	-	-	-	-
	Right-Cheek	18700	1860.0	24.84	25.00	1.04	-	-	-	-
		18900	1880.0	24.73	25.00	1.06	0.06	0.255	0.272	-
		19100	1900.0	24.06	25.00	1.24	-	-	-	-
	Right-Tilt	18700	1860.0	24.84	25.00	1.04	-	-	-	-
		18900	1880.0	24.73	25.00	1.06	-0.08	0.203	0.217	-
		19100	1900.0	24.06	25.00	1.24	-	-	-	-
20M_50RB	Left-Cheek	18700	1860.0	24.69	25.00	1.07	-	-	-	-
		18900	1880.0	24.94	25.00	1.01	0.12	0.221	0.224	-
		19100	1900.0	24.41	25.00	1.15	-	-	-	-
	Left-Tilt	18700	1860.0	24.69	25.00	1.07	-	-	-	-
		18900	1880.0	24.94	25.00	1.01	-0.06	0.194	0.196	-
		19100	1900.0	24.41	25.00	1.15	-	-	-	-
	Right-Cheek	18700	1860.0	24.69	25.00	1.07	-	-	-	-
		18900	1880.0	24.94	25.00	1.01	-0.05	0.204	0.207	-
		19100	1900.0	24.41	25.00	1.15	-	-	-	-
	Right-Tilt	18700	1860.0	24.69	25.00	1.07	-	-	-	-
		18900	1880.0	24.94	25.00	1.01	0.04	0.174	0.176	-
		19100	1900.0	24.41	25.00	1.15	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg.
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 4										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
20M_1RB	Left-Cheek	20050	1720.0	23.82	24.00	1.04	-	-	-	-
		20175	1732.5	23.39	24.00	1.15	-0.12	0.033	0.038	13
		20300	1745.0	23.26	24.00	1.19	-	-	-	-
	Left-Tilt	20050	1720.0	23.82	24.00	1.04	-	-	-	-
		20175	1732.5	23.39	24.00	1.15	0.02	0.025	0.028	-
		20300	1745.0	23.26	24.00	1.19	-	-	-	-
	Right-Cheek	20050	1720.0	23.82	24.00	1.04	-	-	-	-
		20175	1732.5	23.39	24.00	1.15	0.06	0.032	0.037	-
		20300	1745.0	23.26	24.00	1.19	-	-	-	-
	Right-Tilt	20050	1720.0	23.82	24.00	1.04	-	-	-	-
		20175	1732.5	23.39	24.00	1.15	-0.03	0.025	0.029	-
		20300	1745.0	23.26	24.00	1.19	-	-	-	-
20M_50RB	Left-Cheek	20050	1720.0	21.94	22.50	1.14	-	-	-	-
		20175	1732.5	22.13	22.50	1.09	0.08	0.021	0.023	-
		20300	1745.0	21.86	22.50	1.16	-	-	-	-
	Left-Tilt	20050	1720.0	21.94	22.50	1.14	-	-	-	-
		20175	1732.5	22.13	22.50	1.09	-0.06	0.017	0.018	-
		20300	1745.0	21.86	22.50	1.16	-	-	-	-
	Right-Cheek	20050	1720.0	21.94	22.50	1.14	-	-	-	-
		20175	1732.5	22.13	22.50	1.09	-0.04	0.019	0.021	-
		20300	1745.0	21.86	22.50	1.16	-	-	-	-
	Right-Tilt	20050	1720.0	21.94	22.50	1.14	-	-	-	-
		20175	1732.5	22.13	22.50	1.09	0.05	0.014	0.015	-
		20300	1745.0	21.86	22.50	1.16	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 5										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
10M_1 RB	Left-Cheek	20450	829.0	24.59	25.00	1.10	-	-	-	-
		20525	836.5	24.58	25.00	1.10	-0.02	0.143	0.158	15
		20600	844.0	24.50	25.00	1.12	-	-	-	-
	Left-Tilt	20450	829.0	24.59	25.00	1.10	-	-	-	-
		20525	836.5	24.58	25.00	1.10	-0.01	0.120	0.132	-
		20600	844.0	24.50	25.00	1.12	-	-	-	-
	Right-Cheek	20450	829.0	24.59	25.00	1.10	-	-	-	-
		20525	836.5	24.58	25.00	1.10	0.01	0.138	0.152	-
		20600	844.0	24.50	25.00	1.12	-	-	-	-
	Right-Tilt	20450	829.0	24.59	25.00	1.10	-	-	-	-
		20525	836.5	24.58	25.00	1.10	-0.01	0.110	0.121	-
		20600	844.0	24.50	25.00	1.12	-	-	-	-
10M_2 5RB	Left-Cheek	20450	829.0	23.78	24.00	1.05	-	-	-	-
		20525	836.5	23.70	24.00	1.07	0.07	0.102	0.109	-
		20600	844.0	23.64	24.00	1.09	-	-	-	-
	Left-Tilt	20450	829.0	23.78	24.00	1.05	-	-	-	-
		20525	836.5	23.70	24.00	1.07	-0.04	0.079	0.085	-
		20600	844.0	23.64	24.00	1.09	-	-	-	-
	Right-Cheek	20450	829.0	23.78	24.00	1.05	-	-	-	-
		20525	836.5	23.70	24.00	1.07	0.03	0.102	0.109	-
		20600	844.0	23.64	24.00	1.09	-	-	-	-
	Right-Tilt	20450	829.0	23.78	24.00	1.05	-	-	-	-
		20525	836.5	23.70	24.00	1.07	0.04	0.083	0.089	-
		20600	844.0	23.64	24.00	1.09	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 7										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
20M_1RB	Left-Cheek	20850	2510	23.55	24.00	1.11	-	-	-	-
		21100	2535	23.40	24.00	1.15	-0.14	0.114	0.131	17
		21350	2560	23.83	24.00	1.04	-	-	-	-
	Left-Tilt	20850	2510	23.55	24.00	1.11	-	-	-	-
		21100	2535	23.40	24.00	1.15	-0.07	0.095	0.110	-
		21350	2560	23.83	24.00	1.04	-	-	-	-
	Right-Cheek	20850	2510	23.55	24.00	1.11	-	-	-	-
		21100	2535	23.40	24.00	1.15	0.10	0.110	0.126	-
		21350	2560	23.83	24.00	1.04	-	-	-	-
	Right-Tilt	20850	2510	23.55	24.00	1.11	-	-	-	-
		21100	2535	23.40	24.00	1.15	-0.05	0.087	0.100	-
		21350	2560	23.83	24.00	1.04	-	-	-	-
20M_50RB	Left-Cheek	20850	2510	22.32	23.00	1.17	-	-	-	-
		21100	2535	22.72	23.00	1.07	0.12	0.077	0.082	-
		21350	2560	22.99	23.00	1.00	-	-	-	-
	Left-Tilt	20850	2510	22.32	23.00	1.17	-	-	-	-
		21100	2535	22.72	23.00	1.07	-0.07	0.060	0.064	-
		21350	2560	22.99	23.00	1.00	-	-	-	-
	Right-Cheek	20850	2510	22.32	23.00	1.17	-	-	-	-
		21100	2535	22.72	23.00	1.07	0.06	0.077	0.082	-
		21350	2560	22.99	23.00	1.00	-	-	-	-
	Right-Tilt	20850	2510	22.32	23.00	1.17	-	-	-	-
		21100	2535	22.72	23.00	1.07	0.07	0.063	0.067	-
		21350	2560	22.99	23.00	1.00	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 12										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
10M_1 RB	Left-Cheek	23060	704	25.29	26.00	1.18	-	-	-	-
		23095	707.5	25.27	26.00	1.18	-0.15	0.094	0.111	19
		23130	711	25.55	26.00	1.11	-	-	-	-
	Left-Tilt	23060	704	25.29	26.00	1.18	-	-	-	-
		23095	707.5	25.27	26.00	1.18	-0.08	0.079	0.093	-
		23130	711	25.55	26.00	1.11	-	-	-	-
	Right-Cheek	23060	704	25.29	26.00	1.18	-	-	-	-
		23095	707.5	25.27	26.00	1.18	0.11	0.091	0.107	-
		23130	711	25.55	26.00	1.11	-	-	-	-
	Right-Tilt	23060	704	25.29	26.00	1.18	-	-	-	-
		23095	707.5	25.27	26.00	1.18	-0.05	0.072	0.085	-
		23130	711	25.55	26.00	1.11	-	-	-	-
10M_2 5RB	Left-Cheek	23060	704	24.10	24.50	1.10	-	-	-	-
		23095	707.5	24.14	24.50	1.09	0.11	0.077	0.084	-
		23130	711	24.30	24.50	1.05	-	-	-	-
	Left-Tilt	23060	704	24.10	24.50	1.10	-	-	-	-
		23095	707.5	24.14	24.50	1.09	-0.07	0.060	0.065	-
		23130	711	24.30	24.50	1.05	-	-	-	-
	Right-Cheek	23060	704	24.10	24.50	1.10	-	-	-	-
		23095	707.5	24.14	24.50	1.09	0.05	0.077	0.083	-
		23130	711	24.30	24.50	1.05	-	-	-	-
	Right-Tilt	23060	704	24.10	24.50	1.10	-	-	-	-
		23095	707.5	24.14	24.50	1.09	0.06	0.063	0.068	-
		23130	711	24.30	24.50	1.05	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 13										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
10M_1RB	Left-Cheek	23230	782.0	24.38	24.50	1.03	-0.15	0.021	0.022	21
	Left-Tilt	23230	782.0	24.38	24.50	1.03	-0.08	0.018	0.018	-
	Right-Cheek	23230	782.0	24.38	24.50	1.03	0.11	0.020	0.021	-
	Right-Tilt	23230	782.0	24.38	24.50	1.03	-0.05	0.016	0.017	-
10M_25RB	Left-Cheek	23230	782.0	23.42	23.50	1.02	-0.14	0.017	0.017	-
	Left-Tilt	23230	782.0	23.42	23.50	1.02	0.09	0.013	0.013	-
	Right-Cheek	23230	782.0	23.42	23.50	1.02	-0.06	0.017	0.017	-
	Right-Tilt	23230	782.0	23.42	23.50	1.02	-0.08	0.014	0.014	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 17										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
10M_1RB	Left-Cheek	23780	709.0	24.55	25.00	1.11	-	-	-	-
		23790	710.0	24.47	25.00	1.13	0.18	0.077	0.087	23
		23800	711.0	24.57	25.00	1.10	-	-	-	-
	Left-Tilt	23780	709.0	24.55	25.00	1.11	-	-	-	-
		23790	710.0	24.47	25.00	1.13	0.09	0.064	0.073	-
		23800	711.0	24.57	25.00	1.10	-	-	-	-
	Right-Cheek	23780	709.0	24.55	25.00	1.11	-	-	-	-
		23790	710.0	24.47	25.00	1.13	-0.13	0.074	0.084	-
		23800	711.0	24.57	25.00	1.10	-	-	-	-
	Right-Tilt	23780	709.0	24.55	25.00	1.11	-	-	-	-
		23790	710.0	24.47	25.00	1.13	0.06	0.059	0.067	-
		23800	711.0	24.57	25.00	1.10	-	-	-	-
10M_25RB	Left-Cheek	23780	709.0	23.56	23.00	0.88	-	-	-	-
		23790	710.0	23.39	23.00	0.91	0.11	0.043	0.039	-
		23800	711.0	23.45	23.00	0.90	-	-	-	-
	Left-Tilt	23780	709.0	23.56	23.00	0.88	-	-	-	-
		23790	710.0	23.39	23.00	0.91	-0.07	0.033	0.030	-
		23800	711.0	23.45	23.00	0.90	-	-	-	-
	Right-Cheek	23780	709.0	23.56	23.00	0.88	-	-	-	-
		23790	710.0	23.39	23.00	0.91	0.05	0.043	0.039	-
		23800	711.0	23.45	23.00	0.90	-	-	-	-
	Right-Tilt	23780	709.0	23.56	23.00	0.88	-	-	-	-
		23790	710.0	23.39	23.00	0.91	0.06	0.035	0.032	-
		23800	711.0	23.45	23.00	0.90	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

WIFI 2.4G										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
802.11b 1Mbps	Left-Cheek	01	2412	14.04	14.50	1.11	-	-	-	-
		06	2437	13.99	14.50	1.13	-0.02	0.441	0.486	25
		11	2462	14.08	14.50	1.10	-	-	-	-
	Left-Tilt	01	2412	14.04	14.50	1.11	-	-	-	-
		06	2437	13.99	14.50	1.13	0.03	0.374	0.412	-
		11	2462	14.08	14.50	1.10	-	-	-	-
	Right-Cheek	01	2412	14.04	14.50	1.11	-	-	-	-
		06	2437	13.99	14.50	1.13	-0.11	0.176	0.194	-
		11	2462	14.08	14.50	1.10	-	-	-	-
	Right-Tilt	01	2412	14.04	14.50	1.11	-	-	-	-
		06	2437	13.99	14.50	1.13	-0.01	0.148	0.163	-
		11	2462	14.08	14.50	1.10	-	-	-	-

Note:

1. According to the above table, the initial test position for head is “Left Cheek”, and its reported SAR is≤ 0.4W/kg. Thus further SAR measurement is not required for the other (remaining) test positions. Because the reported SAR of the highest measured maximum output power channel for the exposureconfiguration is ≤ 0.8W/kg, no further SAR testing is required for 802.11b DSSS in that exposureconfiguration.
2. When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied. SAR is not required for the following 2.4 GHz OFDM conditions.
   a) When KDB Publication 447498 D01 SAR test exclusion applies to the OFDM configuration.
   b) 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,the 802.11g/n is not required.

WIFI 2.4G- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11b 1Mbps	Left-Cheek	6	2437	99.17%	100%	0.486	0.490
	Left-Tilt	6	2437	99.17%	100%	0.412	0.415
	Right-Cheek	6	2437	99.17%	100%	0.194	0.195
	Right-Tilt	6	2437	99.17%	100%	0.163	0.164

Note:

1. According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 99.17% is achievable for WLAN in this project.

WIFI 5G U-NII-2A										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
802.11 a	Left-Cheek	52	5260	14.59	15.00	1.10	-0.19	0.528	0.664	27
		56	5280	14.01	15.00	1.26	-	-	-	-
		64	5320	13.92	15.00	1.28	-	-	-	-
	Left-Tilt	52	5260	14.59	15.00	1.10	0.12	0.447	0.563	-
		56	5280	14.01	15.00	1.26	-	-	-	-
		64	5320	13.92	15.00	1.28	-	-	-	-
	Right-Cheek	52	5260	14.59	15.00	1.10	0.10	0.507	0.638	-
		56	5280	14.01	15.00	1.26	-	-	-	-
		64	5320	13.92	15.00	1.28	-	-	-	-
	Right-Tilt	52	5260	14.59	15.00	1.10	-0.14	0.426	0.536	-
		56	5280	14.01	15.00	1.26	-	-	-	-
		64	5320	13.92	15.00	1.28	-	-	-	-

Note:
When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and aggregated frequency 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.

a) 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, each band is tested independently for SAR.

b) b) 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, each band is tested independently for SAR.

WIFI 5G U-NII-2A- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11a	Left-Cheek	52	5260	98.59%	100%	0.664	0.673
	Left-Tilt	52	5260	98.59%	100%	0.563	0.571
	Right-Cheek	52	5260	98.59%	100%	0.638	0.647
	Right-Tilt	52	5260	98.59%	100%	0.536	0.543

Note:
According to the KDB 248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 98.59% is achievable for WLAN in this project.

WIFI 5G U-NII-2C										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
802.11 a	Left-Cheek	100	5500	13.84	14.00	1.04	-	-	-	-
		120	5600	13.86	14.00	1.03	-0.18	0.135	0.139	-
		140	5700	13.97	14.00	1.01	-	-	-	-
	Left-Tilt	100	5500	13.84	14.00	1.04	-	-	-	-
		120	5600	13.86	14.00	1.03	0.04	0.114	0.118	-
		140	5700	13.97	14.00	1.01	-	-	-	-
	Right-Cheek	100	5500	13.84	14.00	1.04	-	-	-	-
		120	5600	13.86	14.00	1.03	0.10	0.130	0.134	-
		140	5700	13.97	14.00	1.01	-	-	-	-
	Right-Tilt	100	5500	13.84	14.00	1.04	-	-	-	-
		120	5600	13.86	14.00	1.03	-0.13	0.109	0.112	-
		140	5700	13.97	14.00	1.01	-	-	-	-

Note:
When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and aggregated frequency 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.

a) 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, each band is tested independently for SAR.

b) b) 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, each band is tested independently for SAR.

WIFI 5G U-NII-2C- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11a	Left-Cheek	120	5600	98.59%	100%	0.139	0.141
	Left-Tilt	120	5600	98.59%	100%	0.118	0.120
	Right-Cheek	120	5600	98.59%	100%	0.134	0.136
	Right-Tilt	120	5600	98.59%	100%	0.112	0.114

Note:
According to the KDB 248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 98.59% is achievable for WLAN in this project.

WIFI 5G U-NII-3										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
802.11 a	Left-Cheek	149	5745	13.91	14.50	1.14	-	-	-	-
		157	5785	14.13	14.50	1.09	-0.10	0.057	0.062	-
		165	5825	14.47	14.50	1.01	-	-	-	-
	Left-Tilt	149	5745	13.91	14.50	1.14	-	-	-	-
		157	5785	14.13	14.50	1.09	0.14	0.048	0.053	-
		165	5825	14.47	14.50	1.01	-	-	-	-
	Right-Cheek	149	5745	13.91	14.50	1.14	-	-	-	-
		157	5785	14.13	14.50	1.09	0.05	0.055	0.060	-
		165	5825	14.47	14.50	1.01	-	-	-	-
	Right-Tilt	149	5745	13.91	14.50	1.14	-	-	-	-
		157	5785	14.13	14.50	1.09	-0.07	0.046	0.050	-
		165	5825	14.47	14.50	1.01	-	-	-	-

Note:
When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and aggregated frequency 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.

a) 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, each band is tested independently for SAR.

b) b) 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, each band is tested independently for SAR.

WIFI 5G U-NII-3- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11a	Left-Cheek	157	5785	98.59%	100%	0.062	0.063
	Left-Tilt	157	5785	98.59%	100%	0.053	0.053
	Right-Cheek	157	5785	98.59%	100%	0.060	0.061
	Right-Tilt	157	5785	98.59%	100%	0.050	0.051

Note:
According to the KDB 248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 98.59% is achievable for WLAN in this project.

Body SAR

GSM850										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
GPRS (3Tx slot)	Front	128	824.2	30.88	31.50	1.15	-	-	-	-
		190	836.6	30.93	31.50	1.14	-0.06	0.111	0.126	-
		251	848.8	31.11	31.50	1.09	-	-	-	-
	Rear	128	824.2	30.88	31.50	1.15	-	-	-	-
		190	836.6	30.93	31.50	1.14	0.12	0.168	0.192	2
		251	848.8	31.11	31.50	1.09	-	-	-	-

PCS1900										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
GPRS (3Tx slot)	Front	512	1850.2	26.91	27.00	1.02	-	-	-	-
		661	1880.0	26.73	27.00	1.06	0.14	0.137	0.146	-
		810	1909.8	26.47	27.00	1.13	-	-	-	-
	Rear	512	1850.2	26.91	27.00	1.02	-	-	-	-
		661	1880.0	26.73	27.00	1.06	-0.19	0.217	0.231	4
		810	1909.8	26.47	27.00	1.13	-	-	-	-

Note:
Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg

WCDMA Band II										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
RMC 12.2Kbps	Front	9262	1852.4	24.10	24.50	1.10	-	-	-	-
		9400	1880.0	24.05	24.50	1.11	-0.08	0.452	0.501	-
		9538	1907.6	24.05	24.50	1.11	-	-	-	-
	Rear	9262	1852.4	24.10	24.50	1.10	-	-	-	-
		9400	1880.0	24.05	24.50	1.11	0.20	0.635	0.704	6
		9538	1907.6	24.05	24.50	1.11	-	-	-	-

WCDMA Band IV										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
RMC 12.2Kbps	Front	1312	1712.4	20.26	20.50	1.06	-	-	-	-
		1413	1732.6	20.06	20.50	1.11	-0.03	0.450	0.498	-
		1513	1752.6	19.99	20.50	1.12	-	-	-	-
	Rear	1312	1712.4	20.26	20.50	1.06	-	-	-	-
		1413	1732.6	20.06	20.50	1.11	0.07	0.632	0.700	8
		1513	1752.6	19.99	20.50	1.12	-	-	-	-

WCDMA Band V										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
RMC 12.2Kbps	Front	4132	826.4	26.32	26.50	1.04	-	-	-	-
		4183	836.6	26.15	26.50	1.08	0.03	0.284	0.308	-
		4233	846.6	26.06	26.50	1.11	-	-	-	-
	Rear	4132	826.4	26.32	26.50	1.04	-	-	-	-
		4183	836.6	26.15	26.50	1.08	0.08	0.461	0.500	10
		4233	846.6	26.06	26.50	1.11	-	-	-	-

Note:
Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg

LTE Band 2										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
20M_1RB	Front	18700	1860.0	24.84	25.00	1.04	-	-	-	-
		18900	1880.0	24.73	25.00	1.06	0.08	0.411	0.438	-
		19100	1900.0	24.06	25.00	1.24	-	-	-	-
	Rear	18700	1860.0	24.84	25.00	1.04	-	-	-	-
		18900	1880.0	24.73	25.00	1.06	-0.16	0.684	0.728	12
		19100	1900.0	24.06	25.00	1.24	-	-	-	-
20M_50RB	Front	18700	1860.0	24.69	25.00	1.07	-	-	-	-
		18900	1880.0	24.94	25.00	1.01	-0.01	0.371	0.376	-
		19100	1900.0	24.41	25.00	1.15	-	-	-	-
	Rear	18700	1860.0	24.69	25.00	1.07	-	-	-	-
		18900	1880.0	24.94	25.00	1.01	0.07	0.655	0.664	-
		19100	1900.0	24.41	25.00	1.15	-	-	-	-

LTE Band 4										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
20M_1RB	Front	20050	1720.0	23.82	24.00	1.04	-	-	-	-
		20175	1732.5	23.39	24.00	1.15	0.04	0.475	0.547	-
		20300	1745.0	23.26	24.00	1.19	-	-	-	-
	Rear	20050	1720.0	23.82	24.00	1.04	0.07	1.110	1.157	-
		20175	1732.5	23.39	24.00	1.15	0.18	1.020	1.174	14
		20300	1745.0	23.26	24.00	1.19	0.06	0.903	1.071	-
20M_50RB	Front	20050	1720.0	21.94	22.50	1.14	-	-	-	-
		20175	1732.5	22.13	22.50	1.09	-0.03	0.311	0.339	-
		20300	1745.0	21.86	22.50	1.16	-	-	-	-
	Rear	20050	1720.0	21.94	22.50	1.14	-	-	-	-
		20175	1732.5	22.13	22.50	1.09	0.17	0.712	0.775	-
		20300	1745.0	21.86	22.50	1.16	-	-	-	-
20M_100RB	Rear	20050	1720.0	21.87	22.50	1.16	-	-	-	-
		20175	1732.5	21.86	22.50	1.16	0.11	0.685	0.794	-
		20300	1745.0	22.10	22.50	1.10	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 5										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
10M_1RB	Front	20450	829.0	24.59	25.00	1.10	-	-	-	-
		20525	836.5	24.58	25.00	1.10	-0.09	0.231	0.255	-
		20600	844.0	24.50	25.00	1.12	-	-	-	-
	Rear	20450	829.0	24.59	25.00	1.10	-	-	-	-
		20525	836.5	24.58	25.00	1.10	0.14	0.343	0.378	16
		20600	844.0	24.50	25.00	1.12	-	-	-	-
10M_25RB	Front	20450	829.0	23.78	24.00	1.05	-	-	-	-
		20525	836.5	23.70	24.00	1.07	-0.07	0.150	0.160	-
		20600	844.0	23.64	24.00	1.09	-	-	-	-
	Rear	20450	829.0	23.78	24.00	1.05	-	-	-	-
		20525	836.5	23.70	24.00	1.07	0.11	0.274	0.294	-
		20600	844.0	23.64	24.00	1.09	-	-	-	-

LTE Band 7										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
20M_1RB	Front	20850	2510	23.55	24.00	1.11	-	-	-	-
		21100	2535	23.40	24.00	1.15	0.10	0.360	0.413	-
		21350	2560	23.83	24.00	1.04	-	-	-	-
	Rear	20850	2510	23.55	24.00	1.11	-	-	-	-
		21100	2535	23.40	24.00	1.15	-0.16	0.533	0.612	18
		21350	2560	23.83	24.00	1.04	-	-	-	-
20M_50RB	Front	20850	2510	22.32	23.00	1.17	-	-	-	-
		21100	2535	22.72	23.00	1.07	-0.08	0.260	0.278	-
		21350	2560	22.99	23.00	1.00	-	-	-	-
	Rear	20850	2510	22.32	23.00	1.17	-	-	-	-
		21100	2535	22.72	23.00	1.07	0.12	0.476	0.508	-
		21350	2560	22.99	23.00	1.00	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 12										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
10M_1RB	Front	23060	704	25.29	26.00	1.18	-	-	-	-
		23095	707.5	25.27	26.00	1.18	-0.10	0.306	0.362	-
		23130	711	25.55	26.00	1.11	-	-	-	-
	Rear	23060	704	25.29	26.00	1.18	-	-	-	-
		23095	707.5	25.27	26.00	1.18	0.15	0.453	0.536	20
		23130	711	25.55	26.00	1.11	-	-	-	-
10M_25RB	Front	23060	704	24.10	24.50	1.10	-	-	-	-
		23095	707.5	24.14	24.50	1.09	-0.11	0.190	0.206	-
		23130	711	24.30	24.50	1.05	-	-	-	-
	Rear	23060	704	24.10	24.50	1.10	-	-	-	-
		23095	707.5	24.14	24.50	1.09	0.17	0.347	0.377	-
		23130	711	24.30	24.50	1.05	-	-	-	-

LTE Band 13										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
10M_1RB	Front	23230	782.0	24.38	24.50	1.03	0.07	0.148	0.153	-
	Rear	23230	782.0	24.38	24.50	1.03	-0.11	0.220	0.226	22
10M_25RB	Front	23230	782.0	23.42	23.50	1.02	0.05	0.108	0.110	-
	Rear	23230	782.0	23.42	23.50	1.02	-0.07	0.197	0.201	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 17										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
10M_1RB	Front	23780	709.0	24.55	25.00	1.11	-	-	-	-
		23790	710.0	24.47	25.00	1.13	-0.10	0.277	0.312	-
		23800	711.0	24.57	25.00	1.10	-	-	-	-
	Rear	23780	709.0	24.55	25.00	1.11	-	-	-	-
		23790	710.0	24.47	25.00	1.13	0.15	0.410	0.463	24
		23800	711.0	24.57	25.00	1.10	-	-	-	-
10M_25RB	Front	23780	709.0	23.56	23.00	0.88	-	-	-	-
		23790	710.0	23.39	23.00	0.91	0.08	0.196	0.179	-
		23800	711.0	23.45	23.00	0.90	-	-	-	-
	Rear	23780	709.0	23.56	23.00	0.88	-	-	-	-
		23790	710.0	23.39	23.00	0.91	-0.12	0.359	0.328	-
		23800	711.0	23.45	23.00	0.90	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

WIFI 2.4G										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
802.11b 1Mbps	Front	1	2412	14.04	14.50	1.11	-	-	-	-
		6	2437	13.99	14.50	1.13	0.27	0.062	0.068	-
		11	2462	14.08	14.50	1.10	-	-	-	-
	Rear	1	2412	14.04	14.50	1.11	-	-	-	-
		6	2437	13.99	14.50	1.13	-0.18	0.091	0.100	26
		11	2462	14.08	14.50	1.10	-	-	-	-

Note:

1. According to the above table, the initial test position for body is “Rear”, and its reported SAR is≤ 0.4W/kg. Thus further SAR measurement is not required for the other (remaining) test positions. Because the reported SAR of the highest measured maximum output power channel for the exposureconfiguration is ≤ 0.8W/kg, no further SAR testing is required for 802.11b DSSS in that exposureconfiguration.

WIFI 2.4G- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11b 1Mbps	Front	6	2437	99.17%	100%	0.068	0.069
	Rear	6	2437	99.17%	100%	0.100	0.101

Note:

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 99.17% is achievable for WLAN in this project.

WIFI 5G U-NII-2A										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
802.11a	Front	52	5260	14.59	15.00	1.10	0.18	0.067	0.084	-
		56	5280	14.01	15.00	1.26	-	-	-	-
		64	5320	13.92	15.00	1.28	-	-	-	-
	Rear	52	5260	14.59	15.00	1.10	-0.12	0.098	0.123	28
		56	5280	14.01	15.00	1.26	-	-	-	-
		64	5320	13.92	15.00	1.28	-	-	-	-

Note:
When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and aggregated frequency 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.

a) 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.19 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, each band is tested independently for SAR.

b) 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, each band is tested independently for SAR.

WIFI 5G U-NII-2A- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11a	Front	52	5260	98.59%	100%	0.084	0.085
	Rear	52	5260	98.59%	100%	0.123	0.125

Note:
According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 98.59% is achievable for WLAN in this project.

WIFI 5G U-NII-2C										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
802.11a	Front	100	5500	13.84	14.00	1.04	-	-	-	-
		120	5600	13.86	14.00	1.03	0.16	0.040	0.041	-
		140	5700	13.97	14.00	1.01	-	-	-	-
	Rear	100	5500	13.84	14.00	1.04	-	-	-	-
		120	5600	13.86	14.00	1.03	-0.11	0.058	0.060	-
		140	5700	13.97	14.00	1.01	-	-	-	-

Note:
When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and aggregated frequency 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.

a) 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.19 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, each band is tested independently for SAR.

b) 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, each band is tested independently for SAR.

WIFI 5G U-NII-2C- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11a	Front	120	5600	98.59%	100%	0.041	0.041
	Rear	120	5600	98.59%	100%	0.060	0.061

Note:
According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 98.59% is achievable for WLAN in this project.

WIFI 5G U-NII-3										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
8.2.11a	Front	149	5745	13.91	14.50	1.14	-	-	-	-
		157	5785	14.13	14.50	1.09	0.28	0.032	0.035	-
		165	5825	14.47	14.50	1.01	-	-	-	-
	Rear	149	5745	13.91	14.50	1.14	-	-	-	-
		157	5785	14.13	14.50	1.09	-0.19	0.047	0.051	-
		165	5825	14.47	14.50	1.01	-	-	-	-

Note:
When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and aggregated frequency 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.

a) 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.19 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, each band is tested independently for SAR.

b) 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, each band is tested independently for SAR.

WIFI 5G U-NII-3- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11a	Front	157	5785	98.59%	100%	0.035	0.035
	Rear	157	5785	98.59%	100%	0.051	0.052

Note:
According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 98.59% is achievable for WLAN in this project.

Hotspot SAR

Positions for SAR tests; Hotspot mode						
Antenna	Rear	Front	Top side	Bottom side	Right side	Left side
WWAN	Yes	Yes	No	Yes	Yes	Yes
WIFI / BT	Yes	Yes	Yes	No	Yes	No

General note:
Referring to KDB941225 D06, when the overall device length and width are >9cm*5cm, the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

GSM850										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
GPRS (3Tx slot)	Front	128	824.2	30.88	31.50	1.15	-	-	-	-
		190	836.6	30.93	31.50	1.14	-0.06	0.111	0.126	-
		251	848.8	31.11	31.50	1.09	-	-	-	-
	Rear	128	824.2	30.88	31.50	1.15	-	-	-	-
		190	836.6	30.93	31.50	1.14	0.12	0.168	0.192	2
		251	848.8	31.11	31.50	1.09	-	-	-	-
	Left	190	836.6	30.93	31.50	1.14	-0.07	0.120	0.137	-
	Right	190	836.6	30.93	31.50	1.14	0.04	0.054	0.061	-
	Top	190	836.6	30.93	31.50	1.14	-	-	-	-
	Bottom	190	836.6	30.93	31.50	1.14	0.04	0.114	0.130	-

PCS1900										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
GPRS (3Tx slot)	Front	512	1850.2	26.91	27.00	1.02	-	-	-	-
		661	1880.0	26.73	27.00	1.06	0.14	0.137	0.146	-
		810	1909.8	26.47	27.00	1.13	-	-	-	-
	Rear	512	1850.2	26.91	27.00	1.02	-	-	-	-
		661	1880.0	26.73	27.00	1.06	-0.19	0.217	0.231	4
		810	1909.8	26.47	27.00	1.13	-	-	-	-
	Left	661	1880.0	26.73	27.00	1.06	0.09	0.131	0.140	-
	Right	661	1880.0	26.73	27.00	1.06	0.05	0.072	0.077	-
	Top	661	1880.0	26.73	27.00	1.06	-	-	-	-
	Bottom	661	1880.0	26.73	27.00	1.06	-0.20	0.136	0.145	-

Note:
Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg

WCDMA Band II										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
RMC 12.2Kbps	Front	9262	1852.4	24.10	24.50	1.10	-	-	-	-
		9400	1880.0	24.05	24.50	1.11	-0.08	0.452	0.501	-
		9538	1907.6	24.05	24.50	1.11	-	-	-	-
	Rear	9262	1852.4	24.10	24.50	1.10	-	-	-	-
		9400	1880.0	24.05	24.50	1.11	0.20	0.635	0.704	6
		9538	1907.6	24.05	24.50	1.11	-	-	-	-
	Left	9400	1880.0	24.05	24.50	1.11	0.09	0.432	0.479	-
	Right	9400	1880.0	24.05	24.50	1.11	-0.01	0.237	0.263	-
	Top	9400	1880.0	24.05	24.50	1.11	-	-	-	-
	Bottom	9400	1880.0	24.05	24.50	1.11	-0.06	0.418	0.463	-

WCDMA Band IV										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
RMC 12.2Kbps	Front	1312	1712.4	20.26	20.50	1.06	-	-	-	-
		1413	1732.6	20.06	20.50	1.11	-0.03	0.450	0.498	-
		1513	1752.6	19.99	20.50	1.12	-	-	-	-
	Rear	1312	1712.4	20.26	20.50	1.06	-	-	-	-
		1413	1732.6	20.06	20.50	1.11	0.07	0.632	0.700	8
		1513	1752.6	19.99	20.50	1.12	-	-	-	-
	Left	1413	1732.6	20.06	20.50	1.11	0.03	0.430	0.476	-
	Right	1413	1732.6	20.06	20.50	1.11	-0.07	0.236	0.261	-
	Top	1413	1732.6	20.06	20.50	1.11	-	-	-	-
	Bottom	1413	1732.6	20.06	20.50	1.11	-0.02	0.416	0.460	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.

WCDMA Band V										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
RMC 12.2Kbps	Front	4132	826.4	26.32	26.50	1.04	-	-	-	-
		4183	836.6	26.15	26.50	1.08	0.03	0.284	0.308	-
		4233	846.6	26.06	26.50	1.11	-	-	-	-
	Rear	4132	826.4	26.32	26.50	1.04	-	-	-	-
		4183	836.6	26.15	26.50	1.08	0.08	0.461	0.500	10
		4233	846.6	26.06	26.50	1.11	-	-	-	-
	Left	4183	836.6	26.15	26.50	1.08	-0.06	0.280	0.304	-
	Right	4183	836.6	26.15	26.50	1.08	0.10	0.172	0.187	-
	Top	4183	836.6	26.15	26.50	1.08	-	-	-	-
	Bottom	4183	836.6	26.15	26.50	1.08	0.04	0.279	0.303	-

Note:
1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.

LTE Band 2										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
20M_1RB	Front	18700	1860.0	24.84	25.00	1.04	-	-	-	-
		18900	1880.0	24.73	25.00	1.06	0.08	0.411	0.438	-
		19100	1900.0	24.06	25.00	1.24	-	-	-	-
	Rear	18700	1860.0	24.84	25.00	1.04	-	-	-	-
		18900	1880.0	24.73	25.00	1.06	-0.16	0.684	0.728	12
		19100	1900.0	24.06	25.00	1.24	-	-	-	-
	Left	18900	1880.0	24.73	25.00	1.06	0.09	0.395	0.421	-
	Right	18900	1880.0	24.73	25.00	1.06	-0.06	0.299	0.318	-
	Top	18900	1880.0	24.73	25.00	1.06	-	-	-	-
	Bottom	18900	1880.0	24.73	25.00	1.06	-0.16	0.429	0.456	-
20M_50RB	Front	18700	1860.0	24.69	25.00	1.07	-	-	-	-
		18900	1880.0	24.94	25.00	1.01	-0.01	0.371	0.376	-
		19100	1900.0	24.41	25.00	1.15	-	-	-	-
	Rear	18700	1860.0	24.69	25.00	1.07	-	-	-	-
		18900	1880.0	24.94	25.00	1.01	0.07	0.655	0.664	-
		19100	1900.0	24.41	25.00	1.15	-	-	-	-
	Left	18900	1880.0	24.94	25.00	1.01	-0.02	0.424	0.430	-
	Right	18900	1880.0	24.94	25.00	1.01	-0.02	0.264	0.268	-
	Top	18900	1880.0	24.94	25.00	1.01	-	-	-	-
	Bottom	18900	1880.0	24.94	25.00	1.01	0.07	0.414	0.420	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.
3. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 4										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
20M_1RB	Front	20050	1720.0	23.82	24.00	1.04	-	-	-	-
		20175	1732.5	23.39	24.00	1.15	0.04	0.475	0.547	-
		20300	1745.0	23.26	24.00	1.19	-	-	-	-
	Rear	20050	1720.0	23.82	24.00	1.04	0.07	1.110	1.157	-
		20175	1732.5	23.39	24.00	1.15	0.18	1.020	1.174	14
		20300	1745.0	23.26	24.00	1.19	0.06	0.903	1.071	-
	Left	20175	1732.5	23.39	24.00	1.15	-0.14	0.617	0.710	-
	Right	20175	1732.5	23.39	24.00	1.15	0.02	0.419	0.482	-
	Top	20175	1732.5	23.39	24.00	1.15	-	-	-	-
	Bottom	20175	1732.5	23.39	24.00	1.15	0.07	0.625	0.720	-
20M_50RB	Front	20050	1720.0	21.94	22.50	1.14	-	-	-	-
		20175	1732.5	22.13	22.50	1.09	-0.03	0.311	0.339	-
		20300	1745.0	21.86	22.50	1.16	-	-	-	-
	Rear	20050	1720.0	21.94	22.50	1.14	-	-	-	-
		20175	1732.5	22.13	22.50	1.09	0.17	0.712	0.775	-
		20300	1745.0	21.86	22.50	1.16	-	-	-	-
	Left	20175	1732.5	22.13	22.50	1.09	-0.11	0.484	0.528	-
	Right	20175	1732.5	22.13	22.50	1.09	0.02	0.283	0.308	-
	Top	20175	1732.5	22.13	22.50	1.09	-	-	-	-
	Bottom	20175	1732.5	22.13	22.50	1.09	0.04	0.471	0.513	-
20M_100RB	Rear	20050	1720.0	21.87	22.50	1.16	-	-	-	-
		20175	1732.5	21.86	22.50	1.16	0.11	0.685	0.794	-
		20300	1745.0	22.10	22.50	1.10	-	-	-	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg.
2. Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.
3. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 5										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
10M_1RB	Front	20450	829.0	24.59	25.00	1.10	-	-	-	-
		20525	836.5	24.58	25.00	1.10	-0.09	0.231	0.255	-
		20600	844.0	24.50	25.00	1.12	-	-	-	-
	Rear	20450	829.0	24.59	25.00	1.10	-	-	-	-
		20525	836.5	24.58	25.00	1.10	0.14	0.343	0.378	16
		20600	844.0	24.50	25.00	1.12	-	-	-	-
	Left	20525	836.5	24.58	25.00	1.10	-0.05	0.242	0.267	-
	Right	20525	836.5	24.58	25.00	1.10	0.05	0.149	0.164	-
	Top	20525	836.5	24.58	25.00	1.10	-	-	-	-
	Bottom	20525	836.5	24.58	25.00	1.10	0.09	0.208	0.229	-
10M_25RB	Front	20450	829.0	23.78	24.00	1.05	-	-	-	-
		20525	836.5	23.70	24.00	1.07	-0.07	0.150	0.160	-
		20600	844.0	23.64	24.00	1.09	-	-	-	-
	Rear	20450	829.0	23.78	24.00	1.05	-	-	-	-
		20525	836.5	23.70	24.00	1.07	0.11	0.274	0.294	-
		20600	844.0	23.64	24.00	1.09	-	-	-	-
	Left	20525	836.5	23.70	24.00	1.07	-0.08	0.181	0.194	-
	Right	20525	836.5	23.70	24.00	1.07	0.04	0.119	0.128	-
	Top	20525	836.5	23.70	24.00	1.07	-	-	-	-
	Bottom	20525	836.5	23.70	24.00	1.07	0.02	0.150	0.161	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.
3. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 7										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
20M_1RB	Front	20850	2510	23.55	24.00	1.11	-	-	-	-
		21100	2535	23.40	24.00	1.15	0.10	0.360	0.413	-
		21350	2560	23.83	24.00	1.04	-	-	-	-
	Rear	20850	2510	23.55	24.00	1.11	-	-	-	-
		21100	2535	23.40	24.00	1.15	-0.16	0.533	0.612	18
		21350	2560	23.83	24.00	1.04	-	-	-	-
	Left	21100	2535	23.40	24.00	1.15	0.06	0.377	0.433	-
	Right	21100	2535	23.40	24.00	1.15	-0.06	0.231	0.266	-
	Top	21100	2535	23.40	24.00	1.15	-	-	-	-
	Bottom	21100	2535	23.40	24.00	1.15	-0.10	0.323	0.370	-
20M_50RB	Front	20850	2510	22.32	23.00	1.17	-	-	-	-
		21100	2535	22.72	23.00	1.07	-0.08	0.260	0.278	-
		21350	2560	22.99	23.00	1.00	-	-	-	-
	Rear	20850	2510	22.32	23.00	1.17	-	-	-	-
		21100	2535	22.72	23.00	1.07	0.12	0.476	0.508	-
		21350	2560	22.99	23.00	1.00	-	-	-	-
	Left	21100	2535	22.72	23.00	1.07	-0.09	0.314	0.335	-
	Right	21100	2535	22.72	23.00	1.07	0.04	0.207	0.221	-
	Top	21100	2535	22.72	23.00	1.07	-	-	-	-
	Bottom	21100	2535	22.72	23.00	1.07	0.02	0.261	0.278	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.
3. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 12										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
10M_1RB	Front	23060	704	25.29	26.00	1.18	-	-	-	-
		23095	707.5	25.27	26.00	1.18	-0.10	0.306	0.362	-
		23130	711	25.55	26.00	1.11	-	-	-	-
	Rear	23060	704	25.29	26.00	1.18	-	-	-	-
		23095	707.5	25.27	26.00	1.18	0.15	0.453	0.536	20
		23130	711	25.55	26.00	1.11	-	-	-	-
	Left	23095	707.5	25.27	26.00	1.18	-0.05	0.320	0.379	-
	Right	23095	707.5	25.27	26.00	1.18	0.05	0.197	0.233	-
	Top	23095	707.5	25.27	26.00	1.18	-	-	-	-
	Bottom	23095	707.5	25.27	26.00	1.18	0.10	0.274	0.324	-
10M_25RB	Front	23060	704	24.10	24.50	1.10	-	-	-	-
		23095	707.5	24.14	24.50	1.09	-0.11	0.190	0.206	-
		23130	711	24.30	24.50	1.05	-	-	-	-
	Rear	23060	704	24.10	24.50	1.10	-	-	-	-
		23095	707.5	24.14	24.50	1.09	0.17	0.347	0.377	-
		23130	711	24.30	24.50	1.05	-	-	-	-
	Left	23095	707.5	24.14	24.50	1.09	-0.13	0.229	0.249	-
	Right	23095	707.5	24.14	24.50	1.09	0.06	0.151	0.164	-
	Top	23095	707.5	24.14	24.50	1.09	-	-	-	-
	Bottom	23095	707.5	24.14	24.50	1.09	0.02	0.190	0.206	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.
3. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 13										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
10M_1RB	Front	23230	782.0	24.38	24.50	1.03	0.07	0.148	0.153	-
	Rear	23230	782.0	24.38	24.50	1.03	-0.11	0.220	0.226	22
	Left	23230	782.0	24.38	24.50	1.03	0.04	0.155	0.160	-
	Right	23230	782.0	24.38	24.50	1.03	-0.04	0.096	0.098	-
	Top	23230	782.0	24.38	24.50	1.03	-	-	-	-
	Bottom	23230	782.0	24.38	24.50	1.03	-0.07	0.133	0.137	-
10M_25RB	Front	23230	782.0	23.42	23.50	1.02	0.05	0.108	0.110	-
	Rear	23230	782.0	23.42	23.50	1.02	-0.07	0.197	0.201	-
	Left	23230	782.0	23.42	23.50	1.02	0.05	0.130	0.133	-
	Right	23230	782.0	23.42	23.50	1.02	-0.03	0.086	0.087	-
	Top	23230	782.0	23.42	23.50	1.02	-	-	-	-
	Bottom	23230	782.0	23.42	23.50	1.02	-0.01	0.108	0.110	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.
3. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

LTE Band 17										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Test Plot
		CH	MHz							
10M_1RB	Front	23780	709.0	24.55	25.00	1.11	-	-	-	-
		23790	710.0	24.47	25.00	1.13	-0.10	0.277	0.312	-
		23800	711.0	24.57	25.00	1.10	-	-	-	-
	Rear	23780	709.0	24.55	25.00	1.11	-	-	-	-
		23790	710.0	24.47	25.00	1.13	0.15	0.410	0.463	24
		23800	711.0	24.57	25.00	1.10	-	-	-	-
	Left	23790	710.0	24.47	25.00	1.13	-0.05	0.290	0.327	-
	Right	23790	710.0	24.47	25.00	1.13	0.05	0.178	0.201	-
	Top	23790	710.0	24.47	25.00	1.13	-	-	-	-
	Bottom	23790	710.0	24.47	25.00	1.13	0.10	0.248	0.280	-
10M_25RB	Front	23780	709.0	23.56	23.00	0.88	-	-	-	-
		23790	710.0	23.39	23.00	0.91	0.08	0.196	0.179	-
		23800	711.0	23.45	23.00	0.90	-	-	-	-
	Rear	23780	709.0	23.56	23.00	0.88	-	-	-	-
		23790	710.0	23.39	23.00	0.91	-0.12	0.359	0.328	-
		23800	711.0	23.45	23.00	0.90	-	-	-	-
	Left	23790	710.0	23.39	23.00	0.91	0.09	0.237	0.217	-
	Right	23790	710.0	23.39	23.00	0.91	-0.04	0.156	0.143	-
	Top	23790	710.0	23.39	23.00	0.91	-	-	-	-
	Bottom	23790	710.0	23.39	23.00	0.91	-0.02	0.197	0.180	-

Note:

1. Per KDB865664 D01v01r04, Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg
2. Additional 1-g SAR testing at 5 mm is not required when hotspot mode 10-g extremity SAR is not required for the surfaces and edges; since all 1-g reported SAR < 1.2 W/kg.
3. Per KDB 941225 D05v02r03, for QPSK with 100% RB allocation, SAR is not required when the highest maximumoutput power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations andthe highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highestoutput power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also betested.

WIFI 2.4G										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
802.11b 1Mbps	Front	1	2412	14.04	14.50	1.11	-	-	-	-
		6	2437	13.99	14.50	1.13	0.27	0.062	0.068	-
		11	2462	14.08	14.50	1.10	-	-	-	-
	Rear	1	2412	14.04	14.50	1.11	-	-	-	-
		6	2437	13.99	14.50	1.13	-0.18	0.091	0.100	26
		11	2462	14.08	14.50	1.10	-	-	-	-
	Left	6	2437	14.08	14.50	1.10	-	-	-	-
	Right	6	2437	14.08	14.50	1.10	-0.132	0.076	0.084	-
	Top	6	2437	14.08	14.50	1.10	0.06	0.060	0.066	-
	Bottom	6	2437	14.08	14.50	1.10	-	-	-	-

Note:

1. According to the above table, the initial test position for body is “Rear”, and its reported SAR is≤ 0.4W/kg. Thus further SAR measurement is not required for the other (remaining) test positions. Because the reported SAR of the highest measured maximum output power channel for the exposureconfiguration is ≤ 0.8W/kg, no further SAR testing is required for 802.11b DSSS in that exposureconfiguration.
2. When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied. SAR is not required for the following 2.4 GHz OFDM conditions.
   a) When KDB Publication 447498 D01 SAR test exclusion applies to the OFDM configuration.
   b) 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. the 802.11g/n is not required

WIFI 2.4G- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11b 1Mbps	Front	6	2437	99.17%	100%	0.068	0.069
	Rear	6	2437	99.17%	100%	0.100	0.101
	Right	6	2437	99.17%	100%	0.084	0.084
	Top	6	2437	99.17%	100%	0.066	0.067

Note:

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 99.17% is achievable for WLAN in this project.

WIFI 5G U-NII-1										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
802.11a	Front	36	5180	14.17	14.50	1.08	-	-	-	-
		40	5200	13.84	14.50	1.16	0.27	0.018	0.021	-
		48	5240	13.90	14.50	1.15	-	-	-	-
	Rear	36	5180	14.17	14.50	1.08	-	-	-	-
		40	5200	13.84	14.50	1.16	-0.18	0.027	0.031	-
		48	5240	13.90	14.50	1.15	-	-	-	-
	Left	40	5200	13.84	14.50	1.16	-	-	-	-
	Right	40	5200	13.84	14.50	1.16	-0.13	0.023	0.026	-
	Top	40	5200	13.84	14.50	1.16	0.06	0.018	0.021	-
	Bottom	40	5200	13.84	14.50	1.16	-	-	-	-

Note:
When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and aggregated frequency 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.

a) 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.19 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, each band is tested independently for SAR.

b) 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, each band is tested independently for SAR.

WIFI 5G U-NII-1- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11a	Front	40	5200	98.59%	100%	0.021	0.022
	Rear	40	5200	98.59%	100%	0.031	0.032
	Right	40	5200	98.59%	100%	0.026	0.027
	Top	40	5200	98.59%	100%	0.021	0.021

Note:
According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 98.59% is achievable for WLAN in this project.

WIFI 5G U-NII-3										
Mode	Test Position	Frequency		Conducted Power (dBm)	Tune up limit (dBm)	Tune up scaling factor	Power Drift(dB)	Measured SAR(1g) (W/kg)	Report SAR(1g) (W/kg)	Plot No.
		CH	MHz							
802.11a	Front	149	5745	13.91	14.50	1.14	-	-	-	-
		157	5785	14.13	14.50	1.09	0.28	0.032	0.035	-
		165	5825	14.47	14.50	1.01	-	-	-	-
	Rear	149	5745	13.91	14.50	1.14	-	-	-	-
		157	5785	14.13	14.50	1.09	-0.19	0.047	0.051	29
		165	5825	14.47	14.50	1.01	-	-	-	-
	Left	157	5785	14.13	14.50	1.09	-0.14	0.039	0.043	-
	Right	157	5785	14.13	14.50	1.09	-	-	-	-
	Top	157	5785	14.13	14.50	1.09	0.06	0.031	0.034	-
	Bottom	157	5785	14.13	14.50	1.09	-	-	-	-

Note:
When SAR measurement is required for 802.11 a/g/n/ac OFDM configurations, each standalone and aggregated frequency 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.

a) 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.19 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, each band is tested independently for SAR.

b) 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, each band is tested independently for SAR.

WIFI 5G U-NII-3- Scaled Reported SAR							
Mode	Test Position	Frequency		Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
		CH	MHz				
802.11a	Front	157	5785	98.59%	100%	0.035	0.035
	Rear	157	5785	98.59%	100%	0.051	0.052
	Right	157	5785	98.59%	100%	0.043	0.043
	Top	157	5785	98.59%	100%	0.034	0.034

Note:
According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. A maximum transmission duty factor of 98.59% is achievable for WLAN in this project.

SAR Test Data Plots to the Appendix A.

15. SAR Measurement Variability

In accordance with published RF Exposure KDB 865664 D01 SAR measurement 100 MHz to 6 GHz. These 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 <0.8 or 2 W/kg (1-g or 10-g respectively); steps 2) through 4) do not apply.

2) When the original highest measured SAR is ≥ 0.8 or 2 W/kg (1-g or 10-g respectively), 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 or 3.6 W/kg (~ 10% from the 1-g or 10-g respective SAR limit).

4) Perform a third repeated measurement only if the original, first, or second repeated measurement is ≥ 1.5 or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Band	Test Position	Frequency		Highest Measured SAR (W/kg)	First Repeated		Second Repeated	
		CH	MHz		Measured SAR(W/kg)	Largest to Smallest SAR Ratio	Measured SAR(W/kg)	Largest to Smallest SAR Ratio
LTE Band 4	Rear	20175	1732.5	1.02	0.997	1.02	N/A	N/A

16. Simultaneous Transmission analysis

No.	Simultaneous Transmission Configurations	Head	Body-worn	Hotspot	Note
1	GSM(voice) + Bluetooth (data)	Yes	Yes		
2	GSM(voice) + WIFI (data)	Yes	Yes		
3	WCDMA(voice) + Bluetooth (data)	Yes	Yes		
4	WCDMA(voice) + WIFI (data)	Yes	Yes		
5	GPRS (data) + Bluetooth (data)	Yes	Yes	NA	
6	GPRS (data) + WIFI (data)	Yes	Yes	Yes	
7	WCDMA (data) + Bluetooth (data)	Yes	Yes	NA	
8	WCDMA (data) + WIFI (data)	Yes	Yes	Yes	
9	LTE + Bluetooth (data)	Yes	Yes	NA	
10	LTE + WIFI (data)	Yes	Yes	Yes	

General note:

1. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
2. EUT will choose either GSM or WCDMA LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
3. The reported SAR summation is calculated based on the same configuration and test position
4. For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 based on the formula below
   a) [(max. Power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] * [√f(GHz)/x]W/kg for test separation distances ≦50mm; whetn x=7.5 for 1-g SAR, and x=18.75 for 10-g SAR.
   b) When the minimum separation distance is <5mm, the distance is used 5mm to determine SAR test exclusion
   c) 0.4 W/kg for 1-g SAR and 1.0W/kg for 10-g SAR, when the test separation distances is >50mm.

Bluetooth Max power	Exposure position	Head	Body-worn
	Test separation	0mm	10mm
3.60 dBm	Estimated SAR (W/kg)	0.096	0.048

Maximum reported SAR value for Head

WWAN PCE + WLAN DTS					
WWAN Band		Exposure Position	Max SAR (W/kg)		Summed SAR
			WWAN PCE	WLAN DTS	(W/kg)
GSM	GSM850	Left Cheek	0.179	0.490	0.669
		Left Tilted	0.137	0.415	0.552
		Right Cheek	0.166	0.195	0.361
		Right Tilted	0.126	0.164	0.290
	PCS1900	Left Cheek	0.087	0.490	0.577
		Left Tilted	0.070	0.415	0.485
		Right Cheek	0.084	0.195	0.279
		Right Tilted	0.066	0.164	0.230
WCDMA	Band II	Left Cheek	0.218	0.490	0.708
		Left Tilted	0.180	0.415	0.595
		Right Cheek	0.203	0.195	0.398
		Right Tilted	0.162	0.164	0.327
	Band IV	Left Cheek	0.029	0.490	0.519
		Left Tilted	0.024	0.415	0.439
		Right Cheek	0.027	0.195	0.223
		Right Tilted	0.022	0.164	0.186
	Band V	Left Cheek	0.155	0.490	0.645
		Left Tilted	0.125	0.415	0.540
		Right Cheek	0.155	0.195	0.351
		Right Tilted	0.122	0.164	0.286
LTE	B2 1RB	Left Cheek	0.279	0.490	**0.769**
		Left Tilted	0.228	0.415	0.643
		Right Cheek	0.272	0.195	0.467
		Right Tilted	0.217	0.164	0.381
	B2 50RB	Left Cheek	0.224	0.490	0.714
		Left Tilted	0.196	0.415	0.612
		Right Cheek	0.207	0.195	0.403
		Right Tilted	0.176	0.164	0.340
	B4 1RB	Left Cheek	0.038	0.490	0.528
		Left Tilted	0.028	0.415	0.444
		Right Cheek	0.037	0.195	0.232
		Right Tilted	0.029	0.164	0.193
	B4 50RB	Left Cheek	0.023	0.490	0.513
		Left Tilted	0.018	0.415	0.433
		Right Cheek	0.021	0.195	0.216
		Right Tilted	0.015	0.164	0.179

LTE	B5 1RB	Left Cheek	0.158	0.490	0.647
		Left Tilted	0.132	0.415	0.547
		Right Cheek	0.152	0.195	0.348
		Right Tilted	0.121	0.164	0.285
	B5 25RB	Left Cheek	0.109	0.490	0.599
		Left Tilted	0.085	0.415	0.500
		Right Cheek	0.109	0.195	0.304
		Right Tilted	0.089	0.164	0.253
	B7 1RB	Left Cheek	0.131	0.490	0.621
		Left Tilted	0.110	0.415	0.525
		Right Cheek	0.126	0.195	0.322
		Right Tilted	0.100	0.164	0.264
	B7 50RB	Left Cheek	0.082	0.490	0.572
		Left Tilted	0.064	0.415	0.479
		Right Cheek	0.082	0.195	0.277
		Right Tilted	0.067	0.164	0.231
	B12 1RB	Left Cheek	0.111	0.490	0.601
		Left Tilted	0.093	0.415	0.508
		Right Cheek	0.021	0.195	0.216
		Right Tilted	0.085	0.164	0.249
	B12 25RB	Left Cheek	0.084	0.490	0.573
		Left Tilted	0.065	0.415	0.480
		Right Cheek	0.083	0.195	0.279
		Right Tilted	0.068	0.164	0.232
	B13 1RB	Left Cheek	0.022	0.490	0.511
		Left Tilted	0.018	0.415	0.433
		Right Cheek	0.021	0.195	0.216
		Right Tilted	0.017	0.164	0.181
	B13 25RB	Left Cheek	0.017	0.490	0.507
		Left Tilted	0.013	0.415	0.429
		Right Cheek	0.017	0.195	0.213
		Right Tilted	0.014	0.164	0.178
	B17 1RB	Left Cheek	0.087	0.490	0.577
		Left Tilted	0.073	0.415	0.488
		Right Cheek	0.084	0.195	0.280
		Right Tilted	0.067	0.164	0.231
	B17 25RB	Left Cheek	0.039	0.490	0.529
		Left Tilted	0.030	0.415	0.446
		Right Cheek	0.039	0.195	0.235
		Right Tilted	0.039	0.164	0.203

WWAN PCE + WLAN U-NII					
WWAN Band		Exposure Position	Max SAR (W/kg)		Summed SAR
			WWAN PCE	WLAN U-NII	(W/kg)
GSM	GSM850	Left Cheek	0.179	0.673	0.852
		Left Tilted	0.137	0.571	0.708
		Right Cheek	0.166	0.647	0.813
		Right Tilted	0.126	0.543	0.669
	PCS1900	Left Cheek	0.087	0.673	0.761
		Left Tilted	0.070	0.571	0.641
		Right Cheek	0.084	0.647	0.731
		Right Tilted	0.066	0.543	0.609
WCDMA	Band II	Left Cheek	0.218	0.673	0.892
		Left Tilted	0.180	0.571	0.750
		Right Cheek	0.203	0.647	0.850
		Right Tilted	0.162	0.543	0.706
	Band IV	Left Cheek	0.029	0.673	0.702
		Left Tilted	0.024	0.571	0.594
		Right Cheek	0.027	0.647	0.674
		Right Tilted	0.022	0.543	0.565
	Band V	Left Cheek	0.155	0.673	0.828
		Left Tilted	0.125	0.571	0.695
		Right Cheek	0.155	0.647	0.802
		Right Tilted	0.122	0.543	0.665
LTE	B2 1RB	Left Cheek	0.279	0.673	**0.952**
		Left Tilted	0.228	0.571	0.799
		Right Cheek	0.272	0.647	0.919
		Right Tilted	0.217	0.543	0.760
	B2 50RB	Left Cheek	0.224	0.673	0.897
		Left Tilted	0.196	0.571	0.767
		Right Cheek	0.207	0.647	0.854
		Right Tilted	0.176	0.543	0.720
	B4 1RB	Left Cheek	0.038	0.673	0.711
		Left Tilted	0.028	0.571	0.599
		Right Cheek	0.037	0.647	0.684
		Right Tilted	0.029	0.543	0.572
	B4 50RB	Left Cheek	0.023	0.673	0.696
		Left Tilted	0.018	0.571	0.589
		Right Cheek	0.021	0.647	0.668
		Right Tilted	0.015	0.543	0.558

LTE	B5 1RB	Left Cheek	0.158	0.673	0.831
		Left Tilted	0.132	0.571	0.703
		Right Cheek	0.152	0.647	0.799
		Right Tilted	0.121	0.543	0.664
	B5 25RB	Left Cheek	0.109	0.673	0.783
		Left Tilted	0.085	0.571	0.655
		Right Cheek	0.109	0.647	0.756
		Right Tilted	0.089	0.543	0.632
	B7 1RB	Left Cheek	0.131	0.673	0.804
		Left Tilted	0.110	0.571	0.680
		Right Cheek	0.126	0.647	0.773
		Right Tilted	0.100	0.543	0.644
	B7 50RB	Left Cheek	0.082	0.673	0.755
		Left Tilted	0.064	0.571	0.634
		Right Cheek	0.082	0.647	0.729
		Right Tilted	0.067	0.543	0.610
	B12 1RB	Left Cheek	0.111	0.673	0.784
		Left Tilted	0.093	0.571	0.664
		Right Cheek	0.021	0.647	0.668
		Right Tilted	0.085	0.543	0.628
	B12 25RB	Left Cheek	0.084	0.673	0.757
		Left Tilted	0.065	0.571	0.635
		Right Cheek	0.083	0.647	0.730
		Right Tilted	0.068	0.543	0.611
	B13 1RB	Left Cheek	0.022	0.673	0.695
		Left Tilted	0.018	0.571	0.589
		Right Cheek	0.021	0.647	0.668
		Right Tilted	0.017	0.543	0.560
	B13 25RB	Left Cheek	0.017	0.673	0.691
		Left Tilted	0.013	0.571	0.584
		Right Cheek	0.017	0.647	0.664
		Right Tilted	0.014	0.543	0.557
	B17 1RB	Left Cheek	0.087	0.673	0.760
		Left Tilted	0.073	0.571	0.643
		Right Cheek	0.084	0.647	0.731
		Right Tilted	0.067	0.543	0.610
	B17 25RB	Left Cheek	0.039	0.673	0.713
		Left Tilted	0.030	0.571	0.601
		Right Cheek	0.039	0.647	0.686
		Right Tilted	0.039	0.543	0.582

WWAN PCE + Bluetooth					
WWAN Band		Exposure Position	Max SAR (W/kg)		Summed SAR
			WWAN PCE	Bluetooth	(W/kg)
GSM	GSM850	Left Cheek	0.179	0.096	0.275
		Left Tilted	0.137	0.096	0.233
		Right Cheek	0.166	0.096	0.262
		Right Tilted	0.126	0.096	0.222
	PCS1900	Left Cheek	0.087	0.096	0.183
		Left Tilted	0.070	0.096	0.166
		Right Cheek	0.084	0.096	0.180
		Right Tilted	0.066	0.096	0.162
WCDMA	Band II	Left Cheek	0.218	0.096	0.314
		Left Tilted	0.180	0.096	0.276
		Right Cheek	0.203	0.096	0.299
		Right Tilted	0.162	0.096	0.258
	Band IV	Left Cheek	0.029	0.096	0.125
		Left Tilted	0.024	0.096	0.120
		Right Cheek	0.027	0.096	0.123
		Right Tilted	0.022	0.096	0.118
	Band V	Left Cheek	0.155	0.096	0.251
		Left Tilted	0.125	0.096	0.221
		Right Cheek	0.155	0.096	0.251
		Right Tilted	0.122	0.096	0.218
LTE	B2 1RB	Left Cheek	0.279	0.096	0.375
		Left Tilted	0.228	0.096	0.324
		Right Cheek	0.272	0.096	0.368
		Right Tilted	0.217	0.096	0.313
	B2 50RB	Left Cheek	0.224	0.096	0.320
		Left Tilted	0.196	0.096	0.292
		Right Cheek	0.207	0.096	0.303
		Right Tilted	0.176	0.096	0.272
	B4 1RB	Left Cheek	0.038	0.096	0.134
		Left Tilted	0.028	0.096	0.124
		Right Cheek	0.037	0.096	0.133
		Right Tilted	0.029	0.096	0.125
	B4 50RB	Left Cheek	0.023	0.096	0.119
		Left Tilted	0.018	0.096	0.114
		Right Cheek	0.021	0.096	0.117
		Right Tilted	0.015	0.096	0.111

LTE	B5 1RB	Left Cheek	0.158	0.096	0.254
		Left Tilted	0.132	0.096	0.228
		Right Cheek	0.152	0.096	0.248
		Right Tilted	0.121	0.096	0.217
	B5 25RB	Left Cheek	0.109	0.096	0.205
		Left Tilted	0.085	0.096	0.181
		Right Cheek	0.109	0.096	0.205
		Right Tilted	0.089	0.096	0.185
	B7 1RB	Left Cheek	0.131	0.096	0.227
		Left Tilted	0.110	0.096	0.206
		Right Cheek	0.126	0.096	0.222
		Right Tilted	0.100	0.096	0.196
	B7 50RB	Left Cheek	0.082	0.096	0.178
		Left Tilted	0.064	0.096	0.160
		Right Cheek	0.082	0.096	0.178
		Right Tilted	0.067	0.096	0.163
	B12 1RB	Left Cheek	0.111	0.096	0.207
		Left Tilted	0.093	0.096	0.189
		Right Cheek	0.021	0.096	0.117
		Right Tilted	0.085	0.096	0.181
	B12 25RB	Left Cheek	0.084	0.096	0.180
		Left Tilted	0.065	0.096	0.161
		Right Cheek	0.083	0.096	0.179
		Right Tilted	0.068	0.096	0.164
	B13 1RB	Left Cheek	0.022	0.096	0.118
		Left Tilted	0.018	0.096	0.114
		Right Cheek	0.021	0.096	0.117
		Right Tilted	0.017	0.096	0.113
	B13 25RB	Left Cheek	0.017	0.096	0.113
		Left Tilted	0.013	0.096	0.109
		Right Cheek	0.017	0.096	0.113
		Right Tilted	0.014	0.096	0.110
	B17 1RB	Left Cheek	0.087	0.096	0.183
		Left Tilted	0.073	0.096	0.169
		Right Cheek	0.084	0.096	0.180
		Right Tilted	0.067	0.096	0.163
	B17 25RB	Left Cheek	0.039	0.096	0.135
		Left Tilted	0.030	0.096	0.126
		Right Cheek	0.039	0.096	0.135
		Right Tilted	0.039	0.096	0.135

Maximum reported SAR value for Body

WWAN PCE + WLAN DTS					
WWAN Band		Exposure Position	Max SAR (W/kg)		Summed SAR
			WWAN PCE	WLAN DTS	(W/kg)
GSM	GSM850	Front	0.126	0.069	0.195
		Rear	0.192	0.101	0.293
	PCS1900	Front	0.146	0.069	0.215
		Rear	0.231	0.101	0.332
WCDMA	Band II	Front	0.501	0.069	0.570
		Rear	0.704	0.101	0.805
	Band IV	Front	0.498	0.069	0.567
		Rear	0.700	0.101	0.801
	Band V	Front	0.308	0.069	0.377
		Rear	0.500	0.101	0.601
LTE	B2 1RB	Front	0.438	0.069	0.507
		Rear	0.728	0.101	0.829
	B2 50RB	Front	0.376	0.069	0.445
		Rear	0.664	0.101	0.765
	B4 1RB	Front	0.547	0.069	0.616
		Rear	1.174	0.101	**1.275**
	B4 50RB	Front	0.339	0.069	0.407
		Rear	0.775	0.101	0.876
	B5 1RB	Front	0.255	0.069	0.324
		Rear	0.378	0.101	0.479
	B5 25RB	Front	0.160	0.069	0.229
		Rear	0.294	0.101	0.395
	B7 1RB	Front	0.413	0.069	0.482
		Rear	0.612	0.101	0.713
	B7 50RB	Front	0.278	0.069	0.346
		Rear	0.508	0.101	0.609
	B12 1RB	Front	0.362	0.069	0.430
		Rear	0.536	0.101	0.637
	B12 25RB	Front	0.206	0.069	0.275
		Rear	0.377	0.101	0.478
	B13 1RB	Front	0.153	0.069	0.221
		Rear	0.226	0.101	0.327
	B13 25RB	Front	0.110	0.069	0.179
		Rear	0.201	0.101	0.302

LTE	B17 1RB	Front	0.312	0.069	0.381
		Rear	0.463	0.101	0.564
	B17 25RB	Front	0.179	0.069	0.248
		Rear	0.328	0.101	0.429

WWAN PCE + WLAN U-NII					
WWAN Band		Exposure Position	Max SAR (W/kg)		Summed SAR
			WWAN PCE	WLAN U-NII	(W/kg)
GSM	GSM850	Front	0.126	0.085	0.212
		Rear	0.192	0.125	0.317
	PCS1900	Front	0.146	0.085	0.231
		Rear	0.231	0.125	0.356
WCDMA	Band II	Front	0.501	0.085	0.586
		Rear	0.704	0.125	0.829
	Band IV	Front	0.498	0.085	0.583
		Rear	0.700	0.125	0.825
	Band V	Front	0.308	0.085	0.393
		Rear	0.500	0.125	0.625
LTE	B2 1RB	Front	0.438	0.085	0.523
		Rear	0.728	0.125	0.853
	B2 50RB	Front	0.376	0.085	0.461
		Rear	0.664	0.125	0.789
	B4 1RB	Front	0.547	0.085	0.632
		Rear	1.174	0.125	**1.299**
	B4 50RB	Front	0.339	0.085	0.424
		Rear	0.775	0.125	0.900
	B5 1RB	Front	0.255	0.085	0.340
		Rear	0.378	0.125	0.503
	B5 25RB	Front	0.160	0.085	0.246
		Rear	0.294	0.125	0.419
	B7 1RB	Front	0.413	0.085	0.498
		Rear	0.612	0.125	0.737
	B7 50RB	Front	0.278	0.085	0.363
		Rear	0.508	0.125	0.633
	B12 1RB	Front	0.362	0.085	0.447
		Rear	0.536	0.125	0.661
	B12 25RB	Front	0.206	0.085	0.291
		Rear	0.377	0.125	0.502
	B13 1RB	Front	0.153	0.085	0.238
		Rear	0.226	0.125	0.351
	B13 25RB	Front	0.110	0.085	0.195
		Rear	0.201	0.125	0.326

LTE	B17 1RB	Front	0.312	0.085	0.398
		Rear	0.463	0.125	0.588
	B17 25RB	Front	0.179	0.085	0.265
		Rear	0.328	0.125	0.453

WWAN PCE + Bluetooth					
WWAN Band		Exposure Position	Max SAR (W/kg)		Summed SAR
			WWAN PCE	Bluetooth	(W/kg)
GSM	GSM850	Front	0.126	0.048	0.174
		Rear	0.192	0.048	0.240
	PCS1900	Front	0.146	0.048	0.194
		Rear	0.231	0.048	0.279
WCDMA	Band II	Front	0.501	0.048	0.549
		Rear	0.704	0.048	0.752
	Band IV	Front	0.498	0.048	0.546
		Rear	0.700	0.048	0.748
	Band V	Front	0.308	0.048	0.356
		Rear	0.500	0.048	0.548
LTE	B2 1RB	Front	0.438	0.048	0.486
		Rear	0.728	0.048	0.776
	B2 50RB	Front	0.376	0.048	0.424
		Rear	0.664	0.048	0.712
	B4 1RB	Front	0.547	0.048	0.595
		Rear	1.174	0.048	1.222
	B4 50RB	Front	0.339	0.048	0.387
		Rear	0.775	0.048	0.823
	B5 1RB	Front	0.255	0.048	0.303
		Rear	0.378	0.048	0.426
	B5 25RB	Front	0.160	0.048	0.208
		Rear	0.294	0.048	0.342
	B7 1RB	Front	0.413	0.048	0.461
		Rear	0.612	0.048	0.660
	B7 50RB	Front	0.278	0.048	0.326
		Rear	0.508	0.048	0.556
	B12 1RB	Front	0.362	0.048	0.410
		Rear	0.536	0.048	0.584
	B12 25RB	Front	0.206	0.048	0.254
		Rear	0.377	0.048	0.425
	B13 1RB	Front	0.153	0.048	0.201
		Rear	0.226	0.048	0.274
	B13 25RB	Front	0.110	0.048	0.158
		Rear	0.201	0.048	0.249

LTE	B17 1RB	Front	0.312	0.048	0.360
		Rear	0.463	0.048	0.511
	B17 25RB	Front	0.179	0.048	0.227
		Rear	0.328	0.048	0.376

Maximum reported SAR value for Hotspot mode

WWAN PCE + WLAN DTS					
WWAN Band		Exposure Position	Max SAR (W/kg)		Summed SAR
			WWAN PCE	WLAN DTS	(W/kg)
GSM	GSM850	Front	0.126	0.069	0.195
		Rear	0.192	0.101	0.293
		Left side	0.137	-	0.137
		Right side	0.061	0.084	0.146
		Top side	-	0.067	0.067
		Bottom side	0.130	-	0.130
	PCS1900	Front	0.146	0.069	0.215
		Rear	0.231	0.101	0.332
		Left side	0.140	-	0.140
		Right side	0.077	0.084	0.161
		Top side	-	0.067	0.067
		Bottom side	0.145	-	0.145
WCDMA	Band II	Front	0.501	0.069	0.570
		Rear	0.704	0.101	0.805
		Left side	0.479	-	0.479
		Right side	0.263	0.084	0.347
		Top side	-	0.067	0.067
		Bottom side	0.463	-	0.463
	Band IV	Front	0.498	0.069	0.567
		Rear	0.700	0.101	0.801
		Left side	0.476	-	0.476
		Right side	0.261	0.084	0.346
		Top side	-	0.067	0.067
		Bottom side	0.460	-	0.460
	Band V	Front	0.308	0.069	0.377
		Rear	0.500	0.101	0.601
		Left side	0.304	-	0.304
		Right side	0.187	0.084	0.271
		Top side	-	0.067	0.067
		Bottom side	0.303	-	0.303

LTE	B2 1RB	Front	0.438	0.069	0.507
		Rear	0.728	0.101	0.829
		Left side	0.421	-	0.421
		Right side	0.318	0.084	0.403
		Top side	-	0.067	0.067
		Bottom side	0.456	-	0.456
	B2 50RB	Front	0.376	0.069	0.445
		Rear	0.664	0.101	0.765
		Left side	0.430	-	0.430
		Right side	0.268	0.084	0.353
		Top side	-	0.067	0.067
		Bottom side	0.420	-	0.420
	B4 1RB	Front	0.547	0.069	0.616
		Rear	1.174	0.101	**1.275**
		Left side	0.710	-	0.710
		Right side	0.482	0.084	0.566
		Top side	-	0.067	0.067
		Bottom side	0.720	-	0.720
	B4 50RB	Front	0.339	0.069	0.407
		Rear	0.775	0.101	0.876
		Left side	0.528	-	0.528
		Right side	0.308	0.084	0.393
		Top side	-	0.067	0.067
		Bottom side	0.513	-	0.513
	B5 1RB	Front	0.255	0.069	0.324
		Rear	0.378	0.101	0.479
		Left side	0.267	-	0.267
		Right side	0.164	0.084	0.248
		Top side	-	0.067	0.067
		Bottom side	0.229	-	0.229
	B5 25RB	Front	0.160	0.069	0.229
		Rear	0.294	0.101	0.395
		Left side	0.194	-	0.194
		Right side	0.128	0.084	0.212
		Top side	-	0.067	0.067
		Bottom side	0.161	-	0.161

LTE	B7 1RB	Front	0.413	0.069	0.482
		Rear	0.612	0.101	0.713
		Left side	0.433	-	0.433
		Right side	0.266	0.084	0.350
		Top side	-	0.067	0.067
		Bottom side	0.370	-	0.370
	B7 50RB	Front	0.278	0.069	0.346
		Rear	0.508	0.101	0.609
		Left side	0.335	-	0.335
		Right side	0.221	0.084	0.305
		Top side	-	0.067	0.067
		Bottom side	0.278	-	0.278
	B12 1RB	Front	0.362	0.069	0.430
		Rear	0.536	0.101	0.637
		Left side	0.379	-	0.379
		Right side	0.233	0.084	0.317
		Top side	-	0.067	0.067
		Bottom side	0.324	-	0.324
	B12 25RB	Front	0.206	0.069	0.275
		Rear	0.377	0.101	0.478
		Left side	0.249	-	0.249
		Right side	0.164	0.084	0.248
		Top side	-	0.067	0.067
		Bottom side	0.206	-	0.206
	B13 1RB	Front	0.153	0.069	0.221
		Rear	0.226	0.101	0.327
		Left side	0.160	-	0.160
		Right side	0.098	0.084	0.183
		Top side	-	0.067	0.067
		Bottom side	0.137	-	0.137
	B13 25RB	Front	0.110	0.069	0.179
		Rear	0.201	0.101	0.302
		Left side	0.133	-	0.133
		Right side	0.087	0.084	0.172
		Top side	-	0.067	0.067
		Bottom side	0.110	-	0.110

LTE	B17 1RB	Front	0.312	0.069	0.381
		Rear	0.463	0.101	0.564
		Left side	0.327	-	0.327
		Right side	0.201	0.084	0.286
		Top side	-	0.067	0.067
		Bottom side	0.280	-	0.280
	B17 25RB	Front	0.179	0.069	0.248
		Rear	0.328	0.101	0.429
		Left side	0.217	-	0.217
		Right side	0.143	0.084	0.227
		Top side	-	0.067	0.067
		Bottom side	0.180	-	0.180

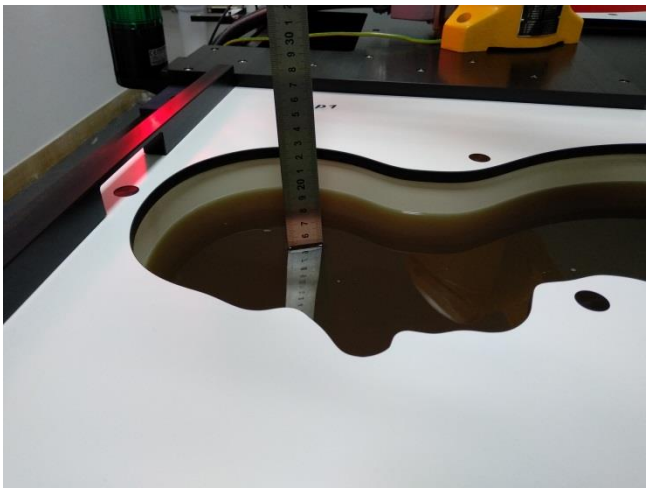
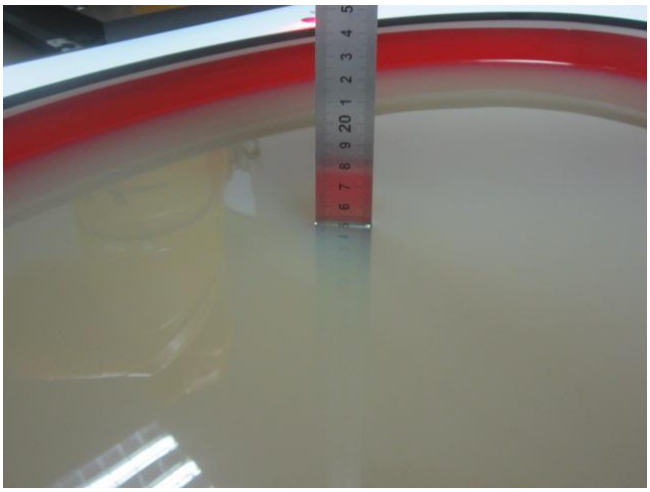
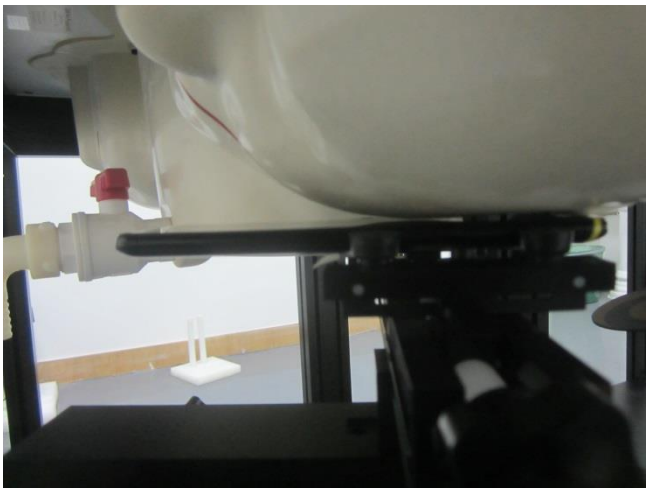
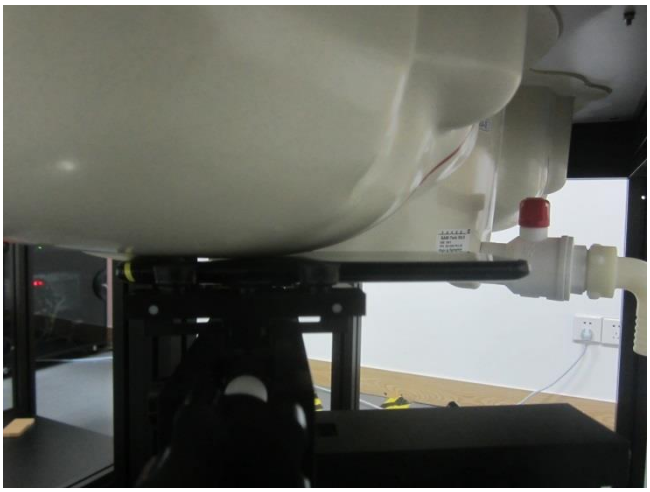
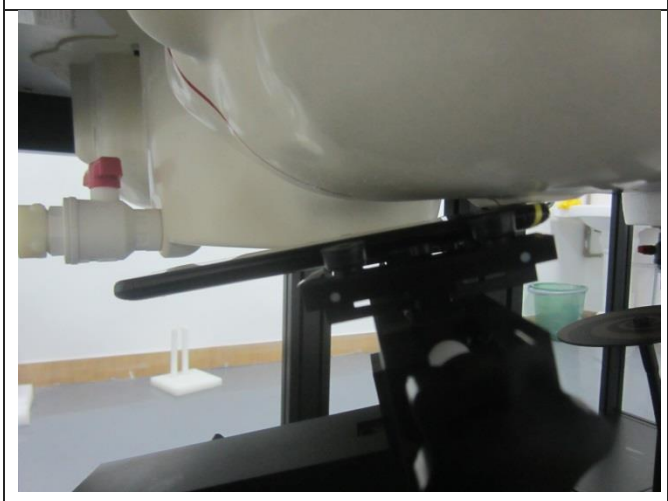
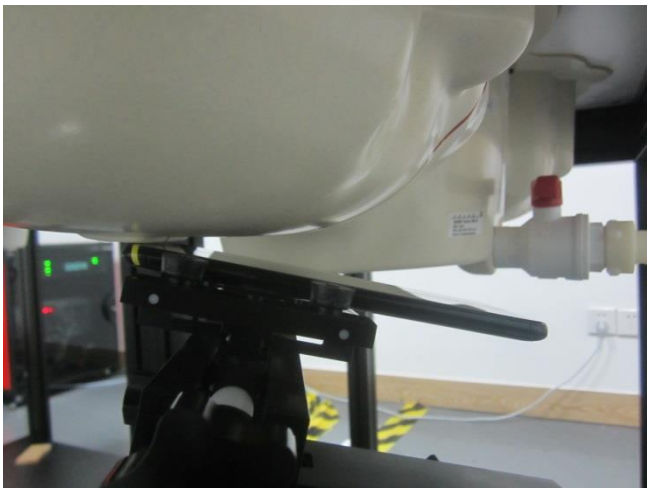
WWAN PCE + WLAN U-NII					
WWAN Band		Exposure Position	Max SAR (W/kg)		Summed SAR
			WWAN PCE	WLAN U-NII	(W/kg)
GSM	GSM850	Front	0.126	0.035	0.162
		Rear	0.192	0.052	0.244
		Left side	0.137	-	0.137
		Right side	0.061	0.043	0.104
		Top side	-	0.034	0.034
		Bottom side	0.130	-	0.130
	PCS1900	Front	0.146	0.035	0.181
		Rear	0.231	0.052	0.283
		Left side	0.140	-	0.140
		Right side	0.077	0.043	0.120
		Top side	-	0.034	0.034
		Bottom side	0.145	-	0.145
WCDMA	Band II	Front	0.501	0.035	0.536
		Rear	0.704	0.052	0.756
		Left side	0.479	-	0.479
		Right side	0.263	0.043	0.306
		Top side	-	0.034	0.034
		Bottom side	0.463	-	0.463
	Band IV	Front	0.498	0.035	0.533
		Rear	0.700	0.052	0.752
		Left side	0.476	-	0.476
		Right side	0.261	0.043	0.305
		Top side	-	0.034	0.034
		Bottom side	0.460	-	0.460
	Band V	Front	0.308	0.035	0.343
		Rear	0.500	0.052	0.552
		Left side	0.304	-	0.304
		Right side	0.187	0.043	0.230
		Top side	-	0.034	0.034
		Bottom side	0.303	-	0.303

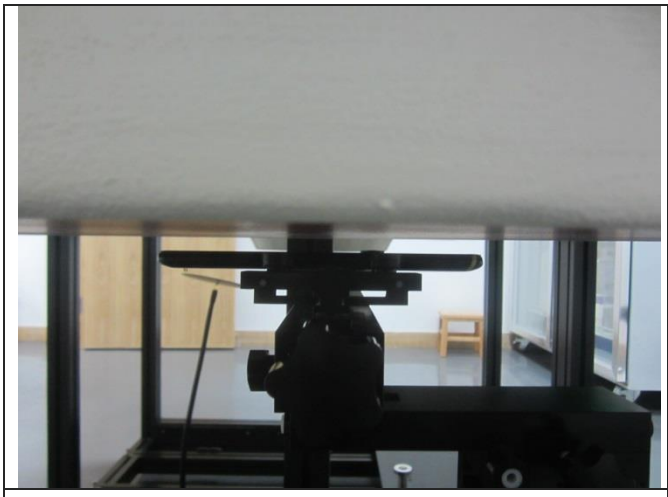
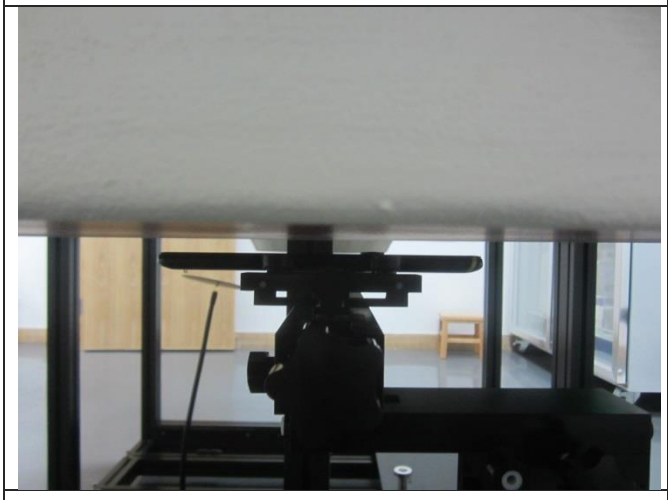
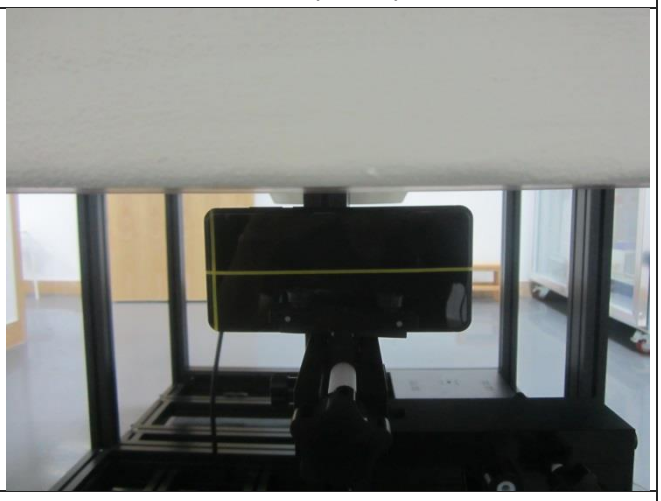
LTE	B2 1RB	Front	0.438	0.035	0.473
		Rear	0.728	0.052	0.780
		Left side	0.421	-	0.421
		Right side	0.318	0.043	0.362
		Top side	-	0.034	0.034
		Bottom side	0.456	-	0.456
	B2 50RB	Front	0.376	0.035	0.411
		Rear	0.664	0.052	0.716
		Left side	0.430	-	0.430
		Right side	0.268	0.043	0.312
		Top side	-	0.034	0.034
		Bottom side	0.420	-	0.420
	B4 1RB	Front	0.547	0.035	0.582
		Rear	1.174	0.052	**1.226**
		Left side	0.710	-	0.710
		Right side	0.482	0.043	0.525
		Top side	-	0.034	0.034
		Bottom side	0.720	-	0.720
	B4 50RB	Front	0.339	0.035	0.374
		Rear	0.775	0.052	0.827
		Left side	0.528	-	0.528
		Right side	0.308	0.043	0.351
		Top side	-	0.034	0.034
		Bottom side	0.513	-	0.513
	B5 1RB	Front	0.255	0.035	0.290
		Rear	0.378	0.052	0.430
		Left side	0.267	-	0.267
		Right side	0.164	0.043	0.207
		Top side	-	0.034	0.034
		Bottom side	0.229	-	0.229
	B5 25RB	Front	0.160	0.035	0.196
		Rear	0.294	0.052	0.346
		Left side	0.194	-	0.194
		Right side	0.128	0.043	0.171
		Top side	-	0.034	0.034
		Bottom side	0.161	-	0.161

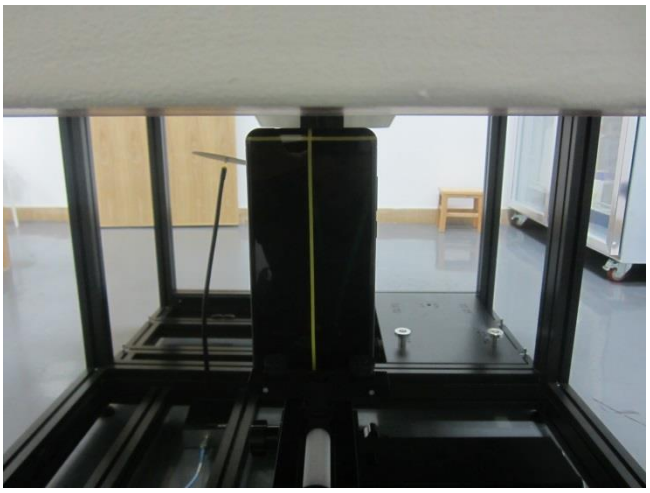
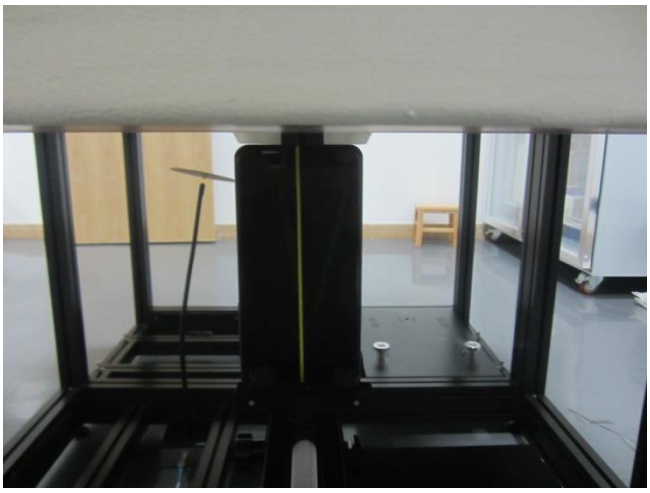
LTE	B7 1RB	Front	0.413	0.035	0.448
		Rear	0.612	0.052	0.664
		Left side	0.433	-	0.433
		Right side	0.266	0.043	0.309
		Top side	-	0.034	0.034
		Bottom side	0.370	-	0.370
	B7 50RB	Front	0.278	0.035	0.313
		Rear	0.508	0.052	0.560
		Left side	0.335	-	0.335
		Right side	0.221	0.043	0.264
		Top side	-	0.034	0.034
		Bottom side	0.278	-	0.278
	B12 1RB	Front	0.362	0.035	0.397
		Rear	0.536	0.052	0.588
		Left side	0.379	-	0.379
		Right side	0.233	0.043	0.276
		Top side	-	0.034	0.034
		Bottom side	0.324	-	0.324
	B12 25RB	Front	0.206	0.035	0.241
		Rear	0.377	0.052	0.429
		Left side	0.249	-	0.249
		Right side	0.164	0.043	0.207
		Top side	0.000	0.034	0.034
		Bottom side	0.206	-	0.206
	B13 1RB	Front	0.153	0.035	0.188
		Rear	0.226	0.052	0.278
		Left side	0.160	-	0.160
		Right side	0.098	0.043	0.142
		Top side	-	0.034	0.034
		Bottom side	0.137	-	0.137
	B13 25RB	Front	0.110	0.035	0.145
		Rear	0.201	0.052	0.253
		Left side	0.133	-	0.133
		Right side	0.087	0.043	0.131
		Top side	-	0.034	0.034
		Bottom side	0.110	-	0.110

LTE	B17 1RB	Front	0.312	0.035	0.348
		Rear	0.463	0.052	0.515
		Left side	0.327	-	0.327
		Right side	0.201	0.043	0.245
		Top side	-	0.034	0.034
		Bottom side	0.280	-	0.280
	B17 25RB	Front	0.179	0.035	0.215
		Rear	0.328	0.052	0.380
		Left side	0.217	-	0.217
		Right side	0.143	0.043	0.186
		Top side	-	0.034	0.034
		Bottom side	0.180	-	0.180

17. TestSetup Photos

	
Liquid depth in the Head phantom	Liquid depth in the Body phantom
	
Left Head Touch	Right Head Touch
	
Left Head Tilt (15^{o})	Right Head Tilt (15^{o})

	
Body-worn Front (10mm)	Body-worn Rear (10mm)
	
Front (10mm)	Rear (10mm)
	
Left Side (10mm)	Right Side (10mm)

	
Top Side (10mm)	Bottom Side (10mm)

18. External and Internal Photos of the EUT

Please reference to the report No.: TRE1809007001

---------End of Report----------