SAR Test Report

Report No.	:	**SF200518C05**
Applicant	:	**HP Inc.**
Address	:	**3390 East Harmony Road Fort Collins, Colorado 80528 United States**
Product	:	**HP tablet**
FCC ID	:	**B94HHF135P**
Brand	:	**HP**
Model No.	:	**TPC-F135P**
Marketing Name	:	**HP Bridge**
Standards	:	**FCC 47 CFR Part 2 (2.1093), IEEE C95.1:1992, IEEE Std 1528:2013 KDB 865664 D01 v01r04, KDB 865664 D02 v01r02 KDB 248227 D01 v02r02, KDB 447498 D01 v06, KDB 941225 D01 v03r01, KDB 941225 D05 v02r05 KDB 941225 D05A v01r02, KDB 941225 D07 v01r02**
Sample Received Date	:	**Mar. 18, 2020**
Date of Testing	:	**Aug. 05, 2020 ~ Sep. 09, 2020**
Lab Address	:	**No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan**
Test Location	:	**No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City, Taiwan**

CERTIFICATION: The above equipment have been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch–Lin Kou Laboratories**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's SAR characteristics under the conditions specified in this report. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by TAF or any government agencies.

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Approved By : Gordon Lin / Manager

Testing Laboratory 2021

FCC Accredited No.: TW0003

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Release Control Record

Report No.	Reason for Change	Date Issued
SF200518C05	Initial release	Oct. 19, 2020

1. Summary of Maximum SAR Value

Equipment Class	Mode	Highest SAR-1g Body Tested at 5mm (W/kg)	Highest SAR-1g Holster Tested at 0 mm (W/kg)
PCB	WCDMA II	1.06	0.88
	WCDMA IV	1.00	0.93
	WCDMA V	1.08	0.89
	LTE 2	1.13	0.98
	LTE 4	1.15	0.89
	LTE 5	1.17	0.92
	LTE 7	0.78	1.19
	LTE 12	1.17	0.60
	LTE 13	0.75	0.46
	LTE 14	0.81	0.49
	LTE 25	0.95	0.75
	LTE 26	0.97	0.75
	LTE 30	1.12	0.81
	LTE 38	0.80	0.80
	LTE 40	1.12	0.86
	LTE 66	1.03	0.98
DTS	2.4G WLAN	0.33	0.19
NII	5.3G WLAN	0.43	0.28
	5.6G WLAN	0.35	0.13
	5.8G WLAN	0.38	0.15
DSS	Bluetooth	0.07	0.05

Highest Simultaneous Transmission SAR	Highest SAR-1g Body Tested at 5mm (W/kg)	Highest SAR-1g Holster Tested at 0 mm (W/kg)
	1.42	1.47

Note:

1. The SAR criteria **(Head & Body: SAR-1g1.6 W/kg, and Extremity: SAR-10g 4.0 W/kg)**for general population/uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992.

2. Description of Equipment Under Test

EUT Type	HP tablet
FCC ID	B94HHF135P
Brand Name	HP
Model Name	TPC-F135P
Marketing Name	HP Bridge
Tx Frequency Bands (Unit: MHz)	WCDMA Band II : 1852.4 ~ 1907.6 WCDMA Band IV : 1712.4 ~ 1752.6 WCDMA Band V : 826.4 ~ 846.6 LTE Band 2 : 1850.7 ~ 1909.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M) LTE Band 4 : 1710.7 ~ 1754.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M) LTE Band 5 : 824.7 ~ 848.3 (BW: 1.4M, 3M, 5M, 10M) LTE Band 7 : 2502.5 ~ 2567.5 (BW: 5M, 10M, 15M, 20M) LTE Band 12 : 699.7 ~ 715.3 (BW: 1.4M, 3M, 5M, 10M) LTE Band 13 : 779.5 ~ 784.5 (BW: 5M, 10M) LTE Band 14 : 790.5 ~ 795.5 (BW: 5M, 10M) LTE Band 25 : 1850.7 ~ 1914.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M) LTE Band 26 : 814.7 ~ 848.3 (BW: 1.4M, 3M, 5M, 10M, 15M) LTE Band 30 : 2307.5 ~ 2312.5 (BW: 5M, 10M) LTE Band 38 : 2572.5 ~ 2617.5 (BW: 5M, 10M, 15M, 20M) LTE Band 40 : 2302.5 ~ 2397.5 (BW: 5M, 10M, 15M, 20M) LTE Band 66 : 1710.7 ~ 1779.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M) WLAN : 2412 ~ 2462, 5180 ~ 5240, 5260 ~ 5320, 5500 ~ 5720,5745 ~ 5825 Bluetooth : 2402 ~ 2480
Uplink Modulations	WCDMA : QPSK CDMA : QPSK LTE : QPSK, 16QAM, 64QAM 802.11b : DSSS 802.11a/g/n/ac : OFDM Bluetooth : GFSK, π/4-DQPSK, 8-DPSK
Maximum Tune-up Conducted Power (Unit: dBm)	Please refer to section 4.6.1 of this report
Antenna Type	PIFA Antenna (Peak Antenna Gain : -0.91 dBi for 2.4GHz, -0.87 dBi for 5GHz)
EUT Stage	Engineering Sample

Note:

1. The above EUT information is declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.

List of Accessory:

Battery	**Brand Name**	HP
	Model Name	HSP 1CP5/34/77
	Power Rating	3.8 Vdc, 1500 mAh, 5.7Wh
	Type	Li-ion
BT/WLAN Module	**Brand Name**	Qualcomm
	Model Name	SDM660-3
USB Cable	**Brand Name**	HP
	Model Name	WU-0093-00
	Signal Line Type	1.47 meter shielded cable w/o ferrite core
Holster	**Brand Name**	HP
	Model Name	HP Bridge Holster
	Description	HP holster Marketing Name: HP Bridge Holster

3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

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

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

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

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be related to the electrical field in the tissue by

$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}|\mathbf{E}|^2}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

3.2 SPEAG DASY6 System

DASY6 system consists of high precision robot, probe alignment sensor, phantom, robot controller, controlled measurement server and near-field probe. The robot includes six axes that can move to the precision position of the DASY6 software defined. The DASY6 software can define the area that is detected by the probe. The robot is connected to controlled box. Controlled measurement server is connected to the controlled robot box. The DAE includes amplifier, signal multiplexing, AD converter, offset measurement and surface detection. It is connected to the Electro-optical coupler (ECO). The ECO performs the conversion form the optical into digital electric signal of the DAE and transfers data to the PC.

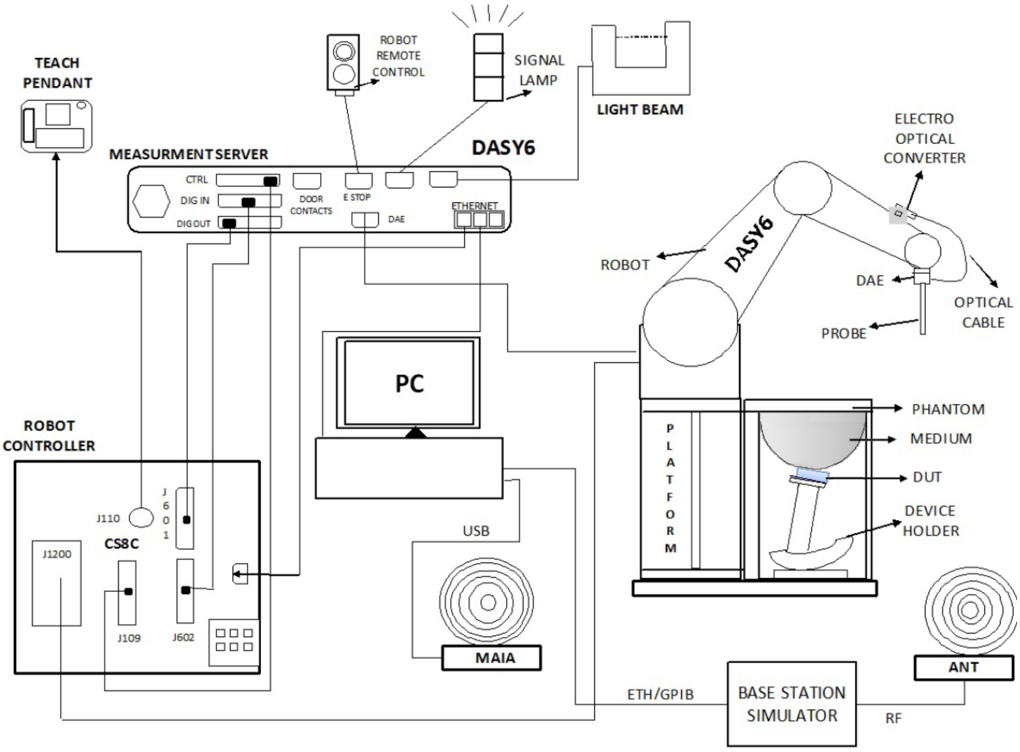


Fig-3.1 SPEAG DASY6 System Setup

3.2.1 Robot

The DASY6 systems use the high precision robots from Stäubli SA (France). For the 6-axis controller system, the robot controller version of CS8c from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability ±0.035 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)

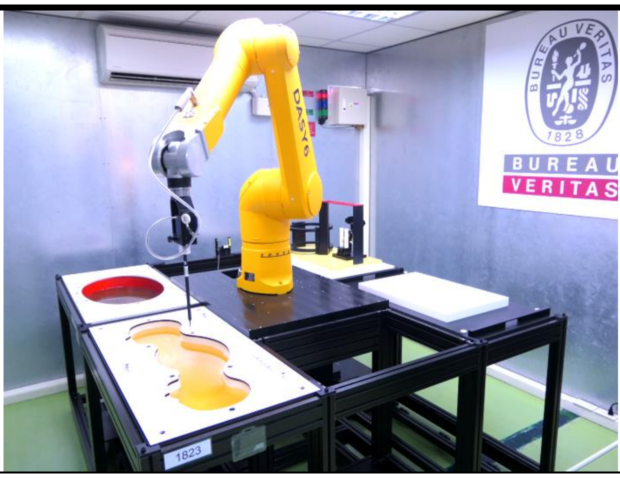


Fig-3.2 SPEAG DASY6 System

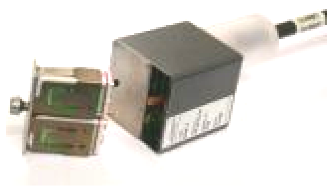
3.2.2 Probes

The SAR measurement is conducted with the dosimetric probe. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency.

Model	EX3DV4
Construction	Symmetrical design with triangular core. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE).
Frequency	4 MHz to 10 GHz Linearity: ± 0.2 dB
Directivity	± 0.1 dB in TSL (rotation around probe axis) ± 0.3 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm

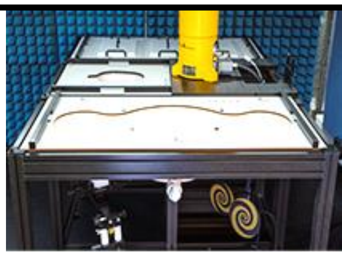
3.2.3 Data Acquisition Electronics (DAE)

Model	DAE3, DAE4
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV, 400mV)
Input Offset Voltage	< 5µV (with auto zero)
Input Bias Current	< 50 fA
Dimensions	60 x 60 x 68 mm

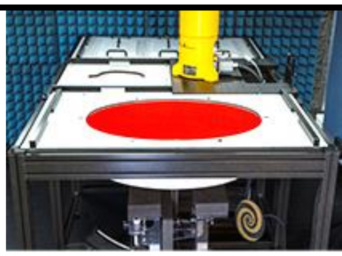


3.2.4 Phantoms

Model	SAM-Twin Phantom
Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE Std 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body-mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.
Material	Vinylester, fiberglass reinforced (VE-GF)
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)
Dimensions	Length: 1000 mm Width: 500 mm Height: adjustable feet
Filling Volume	approx. 25 liters



Model	ELI
Construction	The ELI phantom is used for compliance testing of handheld and body-mounted wireless devices. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.
Material	Vinylester, fiberglass reinforced (VE-GF)
Shell Thickness	2.0 ± 0.2 mm (bottom plate)
Dimensions	Major axis: 600 mm Minor axis: 400 mm
Filling Volume	approx. 30 liters



3.2.5 Device Holder

Model	MD4HHTV5 - Mounting Device for Hand-Held Transmitters
Construction	In combination with the Twin SAM or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat).
Material	Polyoxymethylene (POM)

Model	MDA4WTV5 - Mounting Device Adaptor for Ultra Wide Transmitters
Construction	An upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.
Material	Polyoxymethylene (POM)

Model	MDA4SPV6 - Mounting Device Adaptor for Smart Phones
Construction	The solid low-density MDA4SPV6 adaptor assuring no impact on the DUT radiation performance and is conform with any DUT design and shape.
Material	ROHACELL

Model	MD4LAPV5 - Mounting Device for Laptops and other Body-Worn Transmitters
Construction	In combination with the Twin SAM or ELI phantoms, the Mounting Device (Body-Worn) enables testing of transmitter devices according to IEC 62209-2 specifications. The device holder can be locked for positioning at a flat phantom section.
Material	Polyoxymethylene (POM), PET-G, Foam

3.2.6 System Validation Dipoles

Model	D-Serial
Construction	Symmetrical dipole with l/4 balun. Enables measurement of feed point impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions.
Frequency	750 MHz to 5800 MHz
Return Loss	> 20 dB
Power Capability	> 100 W (f < 1GHz), > 40 W (f > 1GHz)

3.2.7 Power Source

Model	Powersource1
Signal Type	Continuous Wave
Operating Frequencies	600 MHz to 5850 MHz
Output Power	-5.0 dBm to +17.0 dBm
Power Supply	5V DC, via USB jack
Power Consumption	<3 W
Applications	System performance check and validation with a CW signal.

3.2.8 Tissue Simulating Liquids

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 10 % are listed in Table-3.1.

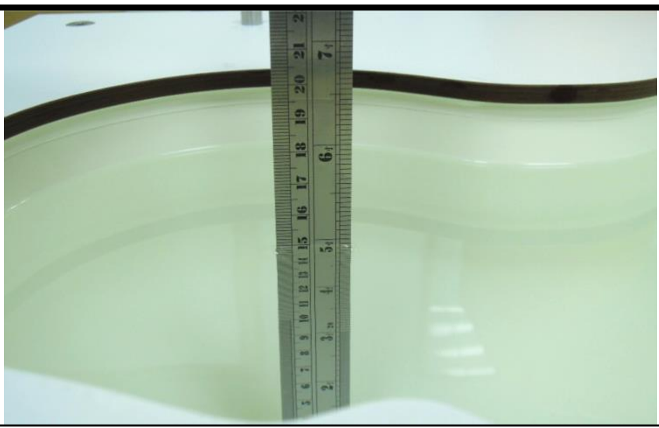
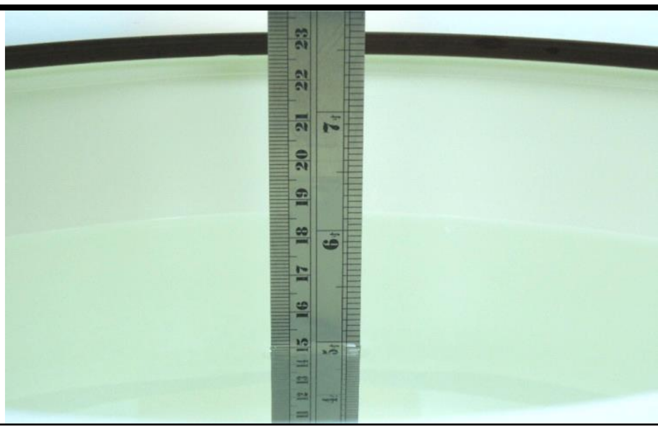
	

Photo of Liquid Height for Head Position	**Photo of Liquid Height for Body Position**

Table-3.1 Targets of Tissue Simulating Liquid

Frequency (MHz)	Target Permittivity	Range of ±10 %	Target Conductivity	Range of ±10 %
450	43.5	39.2 ~ 47.9	0.87	0.78 ~ 0.96
750	41.9	37.7 ~ 46.1	0.89	0.80 ~ 0.98
835	41.5	37.4 ~ 45.7	0.90	0.81 ~ 0.99
900	41.5	37.4 ~ 45.7	0.97	0.87 ~ 1.07
1450	40.5	36.5 ~ 44.6	1.20	1.08 ~ 1.32
1500	40.4	36.4 ~ 44.4	1.23	1.11 ~ 1.35
1640	40.2	36.2 ~ 44.2	1.31	1.18 ~ 1.44
1750	40.1	36.1 ~ 44.1	1.37	1.23 ~ 1.51
1800	40.0	36.0 ~ 44.0	1.40	1.26 ~ 1.54
1900	40.0	36.0 ~ 44.0	1.40	1.26 ~ 1.54
2000	40.0	36.0 ~ 44.0	1.40	1.26 ~ 1.54
2100	39.8	35.8 ~ 43.8	1.49	1.34 ~ 1.64
2300	39.5	35.6 ~ 43.5	1.67	1.50 ~ 1.84
2450	39.2	35.3 ~ 43.1	1.80	1.62 ~ 1.98
2600	39.0	35.1 ~ 42.9	1.96	1.76 ~ 2.16
3000	38.5	34.7 ~ 42.4	2.40	2.16 ~ 2.64
3500	37.9	34.1 ~ 41.7	2.91	2.62 ~ 3.20
4000	37.4	33.7 ~ 41.1	3.43	3.09 ~ 3.77
4500	36.8	33.1 ~ 40.5	3.94	3.55 ~ 4.33
5000	36.2	32.6 ~ 39.8	4.45	4.01 ~ 4.90
5200	36.0	32.4 ~ 39.6	4.66	4.19 ~ 5.13
5400	35.8	32.2 ~ 39.4	4.86	4.37 ~ 5.35
5600	35.5	32.0 ~ 39.1	5.07	4.56 ~ 5.58
5800	35.3	31.8 ~ 38.8	5.27	4.74 ~ 5.80
6000	35.1	31.6 ~ 38.6	5.48	4.93 ~ 6.03

The dielectric properties of the tissue simulating liquids are defined in IEC 62209-1 and IEC 62209-2. The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using a dielectric assessment kit and a network analyzer.

Since the range of ±10 % of the required target values is used to measure relative permittivity and conductivity, the SAR correction procedure is applied to correct measured SAR for the deviations in permittivity and conductivity. Only positive correction has been used to scale up the measured SAR, and SAR result would not be corrected if the correction △SAR has a negative sign.

The following table gives the recipes for tissue simulating liquids.

Table-3.2 Recipes of Tissue Simulating Liquid

Tissue Type	Bactericide	DGBE	HEC	NaCl	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
H750	0.2	-	0.2	1.5	56.0	-	42.1	-
H835	0.2	-	0.2	1.5	57.0	-	41.1	-
H900	0.2	-	0.2	1.4	58.0	-	40.2	-
H1450	-	43.3	-	0.6	-	-	56.1	-
H1640	-	45.8	-	0.5	-	-	53.7	-
H1750	-	47.0	-	0.4	-	-	52.6	-
H1800	-	44.5	-	0.3	-	-	55.2	-
H1900	-	44.5	-	0.2	-	-	55.3	-
H2000	-	44.5	-	0.1	-	-	55.4	-
H2300	-	44.9	-	0.1	-	-	55.0	-
H2450	-	45.0	-	0.1	-	-	54.9	-
H2600	-	45.1	-	0.1	-	-	54.8	-
H3500	-	8.0	-	0.2	-	20.0	71.8	-
H5G	-	-	-	-	-	17.2	65.5	17.3

3.3 SAR System Verification

The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below.

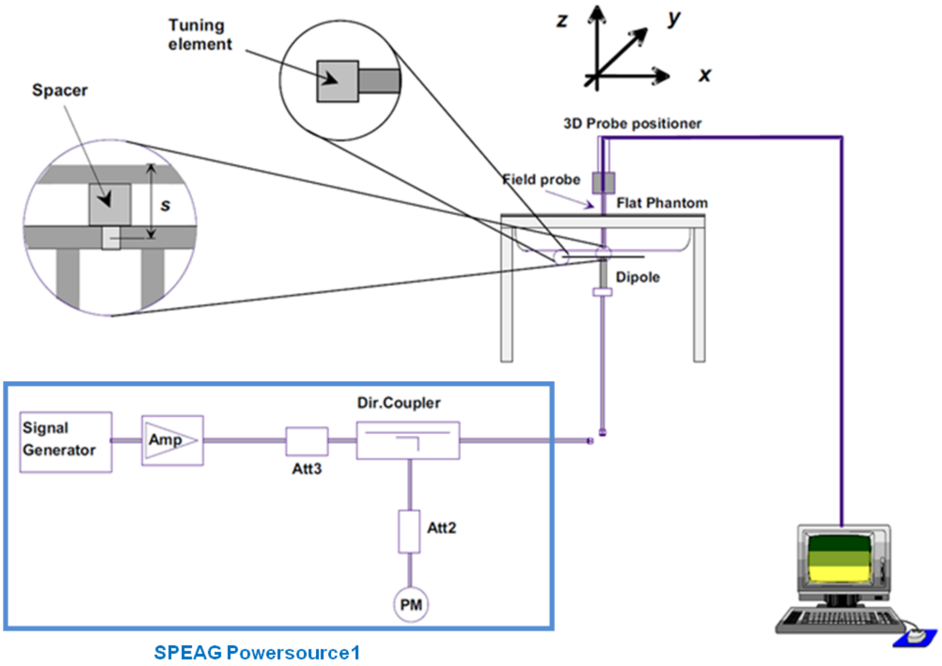


Fig-3.3 System Verification Setup

The SPEAG Powersource1 is a portable and very stable RF source providing a continuous wave (CW) signal. It is designed for conducting SAR system checks and SAR system validation of DASY and is compatible with IEC 62209-1, IEC 62209-2 and IEEE Std 1528 standards. The Powersource1 has been calibrated by SPEAG's ISO/IEC 17025-accredited calibration center. When using Powersource1, the setup can be simplified, as shown in Fig-3.3. The signal purity is warranted by design. Since the Powersource1 is calibrated, no additional equipment is needed and the Powersource1 can directly be connected to the SMA connector of the dipole without a cable as all separate components (signal generator, amplifier, coupler and power meter) are built into the unit.

The validation dipole is placed beneath the flat phantom with the specific spacer in place. The distance spacer is touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The Powersource1 is adjusted for the desired forward power of 17 dBm at the dipole connector and the RF output power would be turned on. After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

3.4 SAR Measurement Procedure

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

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

The SAR measurement procedures for each of test conditions are as follows:

(a) Make EUT to transmit maximum output power
(b) Measure conducted output power through RF cable
(c) Place the EUT in the specific position of phantom
(d) Perform SAR testing steps on the DASY system
(e) Record the SAR value

3.4.1 Area Scan and Zoom Scan Procedure

First area scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an area scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, zoom scan is required. The zoom scan is performed around the highest E-field value to determine the averaged SAR-distribution.

Measure the local SAR at a test point at 1.4 mm of the inner surface of the phantom recommended by SEPAG. The area scan (two-dimensional SAR distribution) is performed cover at least an area larger than the projection of the EUT or antenna. The measurement resolution and spatial resolution for interpolation shall be chosen to allow identification of the local peak locations to within one-half of the linear dimension of the corresponding side of the zoom scan volume. Following table provides the measurement parameters required for the area scan.

Parameter	f ≦ 3 GHz	3 GHz < f ≦ 6 GHz
Maximum distance from closest measurement point to phantom surface	5 ± 1	δ ln(2)/2 ±0.5
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

From the scanned SAR distribution, identify the position of the maximum SAR value, in addition identify the positions of any local maxima with SAR values within 2 dB of the maximum value that will not be within the zoom scan of other peaks. Additional peaks shall be measured only when the primary peak is within 2 dB of the SAR compliance limit (e.g. 1 W/kg for 1.6 W/kg, 1 g limit; or 1.26 W/kg for 2 W/kg, 10 g limit).

The zoom scan (three-dimensional SAR distribution) is performed at the local maxima locations identified in previous area scan procedure. The zoom scan volume must be larger than the required minimum dimensions. When graded grids are used, which only applies in the direction normal to the phantom surface, the initial grid separation closest to the phantom surface and subsequent graded grid increment ratios must satisfy the required protocols. The 1-g SAR averaging volume must be fully contained within the zoom scan measurement volume boundaries; otherwise, the measurement must be repeated by shifting or expanding the zoom scan volume. The similar requirements also apply to 10-g SAR measurements. Following table provides the measurement parameters required for the zoom scan.

Parameter		*f* ≦ 3 GHz	3 GHz < *f* ≦ 6 GHz
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 grids: $\Delta z_{Zoom}(1)$	≦4 mm	3 – 4 GHz: ≦3.0 mm 4 – 5 GHz: ≦2.5 mm 5 – 6 GHz: ≦2.0 mm
	$\Delta z_{Zoom}(n>1)$	≦$1.5 \cdot \Delta z_{Zoom}(n-1)$ 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

Per IEC 62209-2 AMD1, the successively higher resolution zoom scan is required if the zoom scan measured as defined above complies with both of the following criteria, or if the peak spatial-average SAR is below 0.1 W/kg, no additional measurements are needed:

(1) The smallest horizontal distance from the local SAR peaks to all points 3 dB below the SAR peak shall be larger than the horizontal grid steps in both x and y directions (Δx, Δy). This shall be checked for the measured zoom scan plane conformal to the phantom at the distance zM1.

(2) The ratio of the SAR at the second measured point (M2) to the SAR at the closest measured point (M1) at the x-y location of the measured maximum SAR value shall be at least 30 %.

If one or both of the above criteria are not met, the zoom scan measurement shall be repeated using a finer resolution. New horizontal and vertical grid steps shall be determined from the measured SAR distribution so that the above criteria are met. Compliance with the above two criteria shall be demonstrated for the new measured zoom scan.

3.4.2 Volume Scan Procedure

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

3.4.3 Power Drift Monitoring

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

3.4.4 Spatial Peak SAR Evaluation

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

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

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

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

3.4.5 SAR Averaged Methods

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

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

4. SAR Measurement Evaluation

4.1 EUT Configuration and Setting

<Considerations Related to Proximity Sensor>

The device supports WWAN, WLAN, and Bluetooth capabilities. It is designed with a proximity sensor which can trigger/not trigger power reduction for WCDMA and LTE on Front Face, Rear Face and Right Side of EUT for SAR compliance. Others RF capability (WLAN and Bluetooth) have no power reduction. The power levels for all wireless technologies and the power reduction please refer to section 4.6 of this report.

Proximity Sensor Triggering Distances (KDB 616217 D04 §6.2)

The proximity sensor triggering distance was determined per KDB 616217 for rear face and applicable edge. Summary for power verification per distance was tabulated in the below table.

Output Power Verification in dBm for EUT Front Face											
Distance (mm)	11	12	13	14	15	16	17	18	19	20	21
WCDMA II	18.7	18.3	18.5	18.3	18.5	18.6	24.5	24.4	24.5	24.6	24.2
WCDMA IV	17.3	17.3	17.3	17.2	17.1	17.0	24.6	24.8	24.6	24.6	24.5
WCDMA V	22.9	23.3	23.3	22.9	23.4	23.1	24.4	24.7	24.6	24.6	24.7
LTE 2	18.9	19.1	19.2	19.0	19.2	19.3	23.3	23.6	23.6	23.6	23.5
LTE 4	18.0	18.0	17.9	18.3	18.3	18.2	23.9	23.6	23.9	23.6	23.6
LTE 7	18.9	18.7	18.8	18.8	18.7	18.8	23.0	23.2	23.4	23.1	23.4
LTE 25	18.3	18.2	18.4	18.4	18.1	18.2	22.3	22.5	22.4	22.5	22.2
LTE 30	19.1	19.2	19.2	19.5	19.3	19.4	23.0	23.0	23.0	22.6	22.6
LTE 38	21.5	21.5	21.4	21.3	21.2	21.4	22.7	22.6	22.9	22.5	22.7
LTE 40	21.5	21.6	21.9	21.6	21.9	21.6	23.0	23.3	23.1	23.4	23.1
LTE 66	17.8	17.8	17.7	17.7	18.0	17.8	23.7	23.7	23.6	24.0	23.5

Output Power Verification in dBm for EUT Rear Face											
Distance (mm)	9	10	11	12	13	14	15	16	17	18	19
WCDMA II	18.5	18.2	18.5	18.2	18.7	18.6	24.6	24.4	24.7	24.3	24.3
WCDMA IV	17.5	17.0	17.2	17.3	17.5	17.2	25.0	24.6	24.9	24.6	24.7
WCDMA V	23.2	23.3	23.4	23.2	23.0	23.3	24.5	24.7	24.7	24.4	24.2
LTE 2	19.3	18.9	18.9	19.1	19.3	18.9	23.6	23.7	23.3	23.4	23.8
LTE 4	17.9	18.0	18.2	17.9	18.1	17.9	23.7	23.4	23.7	23.4	23.5
LTE 7	18.9	19.0	18.5	18.7	19.0	18.9	23.3	23.1	23.4	22.9	23.3
LTE 25	18.4	18.3	18.1	18.4	18.1	18.5	22.5	22.5	22.3	22.5	22.6
LTE 30	19.3	19.2	19.0	19.4	19.1	19.5	22.7	22.6	22.6	22.8	22.8
LTE 38	21.2	21.5	21.2	21.3	21.0	21.4	22.8	22.9	22.8	22.6	22.8
LTE 40	21.9	21.9	21.5	21.8	21.9	21.8	23.1	23.2	23.5	23.5	23.0
LTE 66	18.0	18.2	18.1	18.1	18.1	17.7	23.6	23.6	23.9	24.0	23.8

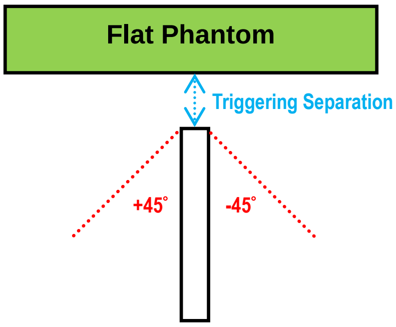
Output Power Verification in dBm for EUT Right Side											
Distance (mm)	23	24	25	26	27	28	29	30	31	32	33
WCDMA II	18.4	18.4	18.6	18.6	18.7	18.7	24.5	24.3	24.6	24.3	24.5
WCDMA IV	17.1	17.3	17.4	17.2	17.4	17.0	24.7	24.8	24.8	24.6	24.7
WCDMA V	23.3	23.4	23.0	22.9	23.3	23.3	24.4	24.5	24.6	24.6	24.5
LTE 2	19.0	19.2	19.1	19.3	19.1	19.1	23.8	23.3	23.7	23.6	23.7
LTE 4	18.0	18.2	18.0	18.0	18.2	18.0	23.5	23.4	23.9	23.8	23.4
LTE 7	18.5	18.9	18.8	18.6	18.9	19.0	23.4	22.9	23.0	22.9	23.3
LTE 25	18.5	18.4	18.6	18.2	18.6	18.4	22.4	22.1	22.2	22.4	22.2
LTE 30	19.4	19.2	19.4	19.4	19.0	19.2	22.8	22.9	22.7	22.6	22.9
LTE 38	21.5	21.2	21.0	21.2	21.4	21.0	23.0	22.5	22.7	22.7	23.0
LTE 40	21.4	21.9	21.6	21.7	21.9	21.4	23.4	23.1	23.3	23.4	23.0
LTE 66	18.1	17.8	17.9	17.9	18.0	17.9	24.0	23.9	23.6	24.0	23.6

Proximity Sensor Coverage (KDB 616217 D04 §6.3)

Since the proximity sensor is collocated with antenna in one component, the procedure for proximity sensor coverage is not required.

Proximity Sensor Tilt Angle Influences (KDB 616217 D04 §6.4)

The proximity sensor tilt angle influence was determined per KDB 616217 for applicable edge. Summary for proximity sensor tilt angle influence is shown in below.



Orientation	Separation Distance (mm)	Tilt Angle										
		-45°	-40°	-30°	-20°	-10°	0°	10°	20°	30°	40°	45°
Right Side	21	On	On	On	On	On	On	On	On	On	On	On

Summary for Proximity Sensor Triggering Test

According to the procedures noticed in KDB 616217 D04, the proximity sensor triggering distance is 16 mm for EUT for Front Face, 14 mm for Rear Face and 28 mm for Right Side. The separation distance of 21 mm determined by the smallest triggering distance on Right Side is used to access the tilt angle influence and the sensor does not release during ±45 degree. Therefore, the smallest separation distance for tilt angle influence is 20 mm for the Right Side. The conservation triggering distances based on the separation distance for the sensor trigger / not triggered as EUT with power reduction at 0 mm, and EUT without power reduction at 15 mm for EUT Front Face, 13 mm for Rear Face and 20 mm for Right Side were used to test SAR.

The power reduction is depends on the proximity sensor input. For a steady SAR test, the power reduction was enabled or disabled manually by engineering software during SAR testing.

<Connections between EUT and System Simulator>

For WWAN SAR testing, the EUT was linked and controlled by base station emulator. Communication between the EUT and the emulator was established by air link. The distance between the EUT and the communicating antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during SAR testing.

<Considerations Related to WCDMA for Setup and Testing>

Release 5 HSDPA Data Devices

The 3G SAR test reduction procedure is applied to body SAR with 12.2 kbps RMC as the primary mode. Otherwise, body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA.HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH / HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(β_c, β_d), and HS-DPCCH power offset parameters (Δ_{ACK}, Δ_{NACK}, Δ_{CQI}) are set according to values indicated in below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (1)(2)	CM (3) (dB)	MPR (3) (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (4)	15/15 (4)	64	12/15 (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 β_{HS} =30/15*β_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 β_{HS} =30/15*β_c, and Δ_{CQI}=24/15 with β_{HS} =24/15*β_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.

Release 6 HSUPA Data Devices

The 3G SAR test reduction procedure is applied to body SAR with 12.2 kbps RMC as the primary mode. Otherwise, body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode. Otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing. Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the β values indicated in below.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS}(1)	β_{ec}	β_{ed}(4)(5)	β_{ed} (SF)	β_{ed} (Codes)	CM(2) (dB)	MPR(2)(6) (dB)	AG(5) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(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	β_{ed}1: 47/15 β_{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	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1:For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{HS} =30/15 * β_c. For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{HS} =5/15*β_c.
Note 2:CM = 1 for β_c/β_d =12/15, β_{HS}/β_c =24/15. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3:For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: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 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 6:For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

DC-HSDPA SAR Guidance

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

<Considerations Related to LTE for Setup and Testing>

This device contains LTE transmitter which follows 3GPP standards, is category 3, supports both QPSK and 16QAM modulations, and supported LTE band and channel bandwidth is listed in below. The output power was tested per 3GPP TS 36.521-1 maximum transmit procedures for both QPSK and 16QAM modulation. The results please refer to section 4.6 of this report.

EUT Supported LTE Band and Channel Bandwidth						
LTE Band	**BW 1.4 MHz**	**BW 3 MHz**	**BW 5 MHz**	**BW 10 MHz**	**BW 15 MHz**	**BW 20 MHz**
2	V	V	V	V	V	V
4	V	V	V	V	V	V
5	V	V	V	V		
7			V	V	V	V
12	V	V	V	V		
13			V	V		
14			V	V		
25	V	V	V	V	V	V
26	V	V	V	V	V	
30			V	V		
38			V	V	V	V
40			V	V	V	V
66	V	V	V	V	V	V

The LTE maximum power reduction (MPR) in accordance with 3GPP TS 36.101 is active all times during LTE operation. The allowed MPR for the maximum output power is specified in below.

Modulation	Channel Bandwidth / RB Configurations						LTE MPR Setting (dB)
	BW 1.4 MHz	BW 3 MHz	BW 5 MHz	BW 10 MHz	BW 15 MHz	BW 20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16QAM	<= 5	<= 4	<= 8	<= 12	<= 16	<= 18	1
16QAM	> 5	> 4	> 8	> 12	> 16	> 18	2
64QAM	<= 5	<= 4	<= 8	<= 12	<= 16	<= 18	2
64QAM	> 5	> 4	> 8	> 12	> 16	> 18	3

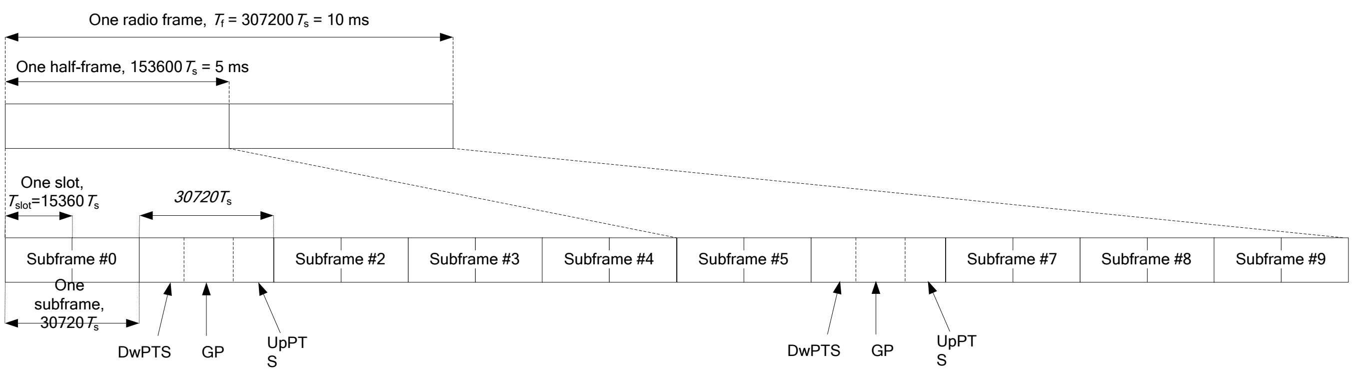
Note: MPR is according to the standard and implemented in the circuit (mandatory).

In addition, the device is compliant with additional maximum power reduction (A-MPR) requirements defined in 3GPP TS 36.101 section 6.2.4 that was disabled for all FCC compliance testing.

During LTE SAR testing, the related parameters of operating band, channel bandwidth, uplink channel number, modulation type, and RB was set in base station simulator. When the EUT has registered and communicated to base station simulator, the simulator set to make EUT transmitting the maximum radiated power.

TDD-LTE Setup Configurations

According to KDB 941225 D05, SAR testing for TDD-LTE device must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP TDD-LTE configurations. The TDD-LTE of this device supports frame structure type 2 defined in 3GPP TS 36.211 section 4.2, and the frame structure configuration can be referred to below.



3GPP TS 36.211 Figure 4.2-1: Frame Structure Type 2

Special Subframe Configuration	Normal Cyclic Prefix in Downlink			Extended Cyclic Prefix in Downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal Cyclic Prefix in Uplink	Extended Cyclic Prefix in Uplink		Normal Cyclic Prefix in Uplink	Extended Cyclic Prefix in Uplink
0	6592 • Ts	2192 • Ts	2560 • Ts	7680 • Ts	2192 • Ts	2560 • Ts
1	19760 • Ts			20480 • Ts		
2	21952 • Ts			23040 • Ts		
3	24144 • Ts			25600 • Ts		
4	26336 • Ts			7680 • Ts	4384 • Ts	5120 • Ts
5	6592 • Ts	4384 • Ts	5120 • Ts	20480 • Ts		
6	19760 • Ts			23040 • Ts		
7	21952 • Ts			12800 • Ts		
8	24144 • Ts			-	-	-
9	13168 • Ts			-	-	-

3GPP TS 36.211 Table 4.2-1: Configuration of Special Subframe

Uplink-Downlink Configuration	Downlink-to-Uplink Switch-Point Periodicity	Subframe Number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

3GPP TS 36.211 Table 4.2-2: Uplink-Downlink Configurations

The variety of different TD-LTE uplink-downlink configurations allows a network operator to allocate the network's capacity between uplink and downlink traffic to meet the needs of the network. The uplink duty cycle of these seven configurations can readily be computed and shown in below.

UL-DL Configuration	0	1	2	3	4	5	6
Highest Duty-Cycle	63.33%	43.33%	23.33%	31.67%	21.67%	11.67%	53.33%

Considering the highest transmission duty cycle, TDD-LTE was tested using Uplink-Downlink Configuration 0 with 6 uplink subframe and 2 special subframe. The special subframe was set to special subframe configuration 7 using extended cyclic prefix uplink. Therefore, SAR testing for TDD-LTE was performed at the maximum output power with highest transmission duty cycle of 63.33%.

LTE Downlink Carrier Aggregation(CA) Setup Configurations

LTE Carrier Aggregation (CA) was defined in 3GPP release 10 and higher. The LTE device in CA mode has one Primary Component Carrier (PCC) and one or more Secondary Component Carriers (SCC). PCC acts as the anchor carrier and can optionally cross-schedule data transmission on SCC. The RRC connection is only handled by one cell, the PCC for downlink and uplink communications. After making a data connection to the PCC, the LTE device adds the SCC on the downlink only. All uplink communications and acknowledgements remain identical to release 8 specifications on the PCC. The combinations of downlink carrier aggregation supported by this device are listed in below.

The Downlink Carrier Aggregation(CA) spec please refer to Appendix F

<Considerations Related to WLAN for Setup and Testing>

In general, various vendor specific external test software and chipset based internal test modes are typically used for SAR measurement. These chipset based test mode utilities are generally hardware and manufacturer dependent, and often include substantial flexibility to reconfigure or reprogram a device. A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement. The test frequencies established using test mode must correspond to the actual channel frequencies. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. In addition, a periodic transmission duty factor is required for current generation SAR systems to measure SAR correctly. The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

According to KDB 248227 D01,this device has installed WLAN engineering testing software which can provide continuous transmitting RF signal. During WLAN SAR testing, this device was operated to transmit continuously at the maximum transmission duty with specified transmission mode, operating frequency, lowest data rate, and maximum output power.

Initial Test Configuration

An initial test configuration is determined for OFDM transmission modes in 2.4 GHz and 5 GHz bands according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Subsequent Test Configuration

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. Additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. When the highest reported SAR for the initial test configuration according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.

SAR Test Configuration and Channel Selection

When multiple channel bandwidth configurations in a frequency band have the same specified maximum output power, the initial test configuration is using largest channel bandwidth, lowest order modulation, lowest data rate, and lowest order 802.11 mode (i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n).After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following.

1) The channel closest to mid-band frequency is selected for SAR measurement.

2) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

Test Reduction for U-NII-1 (5.2 GHz) and U-NII-2A (5.3 GHz) Bands

For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following.

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

2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration.

<Considerations Related to Bluetooth for Setup and Testing>

This device has installed Bluetooth engineering testing software which can provide continuous transmitting RF signal. During Bluetooth SAR testing, this device was operated to transmit continuously at the maximum transmission duty with specified transmission mode, operating frequency, lowest data rate, and maximum output power.

The Bluetooth call box has been used during SAR measurement and the EUT was set to DH5 mode at the maximum output power. Its duty factor was calculated as below and the measured SAR for Bluetooth would be scaled to the 100% transmission duty factor to determine compliance.

Time-domain plot for Bluetooth transmission signal

The duty factor of Bluetooth signal has been calculated as following.

Duty Factor = Pulse Width / Total Period = (8.358 - 5.474) / (9.226 - 5.474) = 76.87 %

4.2 EUT Testing Position

4.2.1 Body Exposure Conditions

For mini-tablet, according to KDB 941225 D07, SAR evaluation is required on all sides and edges with a transmitting antenna within 25 mm from that surface or edge, at 5 mm separation from a flat phantom, for the data modes, wireless technologies and frequency bands supported by the device to determine SAR compliance. Since the procedures are more conservative than those required for hotspot mode, additional SAR tests for hotspot mode is typically not necessary.

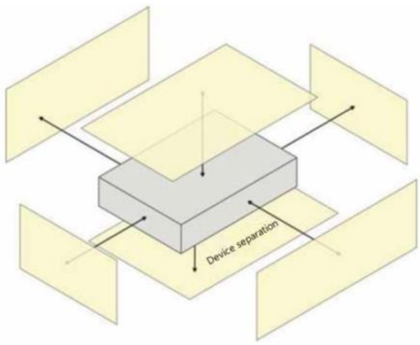


Fig-4.1 Illustration for mini-Tablet Setup

Based on the antenna location shown on appendix D of this report, the SAR testing required for Body mode is listed as below.

Antenna	Front Face	Rear Face	Left Side	Right Side	Top Side	Bottom Side
WWAN	V	V	V	V	V	V
WLAN / BT	V	V	V	V	V	V

4.3 Tissue Verification

The measuring results for tissue simulating liquid are shown as below.

Frequency (MHz)	Liquid Temp. (℃)	Measured Conductivity (σ)	Measured Permittivity (ε_r)	Target Conductivity (σ)	Target Permittivity (ε_r)	Conductivity Deviation (%)	Permittivity Deviation (%)	Test Date
750	23.4	0.884	42.849	0.89	41.9	-0.67	2.26	Aug. 06, 2020
750	23.2	0.893	43.479	0.89	41.9	0.34	3.77	Sep. 02, 2020
835	23.3	0.927	42.381	0.9	41.5	3.00	2.12	Aug. 05, 2020
835	23.4	0.935	43.08	0.9	41.5	3.89	3.81	Aug. 06, 2020
835	23.4	0.928	41.992	0.9	41.5	3.11	1.19	Aug. 31, 2020
835	23.2	0.907	40.819	0.9	41.5	0.78	-1.64	Sep. 02, 2020
835	23	0.919	41.768	0.9	41.5	2.11	0.65	Sep. 04, 2020
1750	23.4	1.326	38.855	1.37	40.1	-3.21	-3.10	Aug. 31, 2020
1750	23.2	1.324	38.994	1.37	40.1	-3.36	-2.76	Sep. 02, 2020
1750	23.5	1.324	38.994	1.37	40.1	-3.36	-2.76	Sep. 02, 2020
1750	23.4	1.325	39.349	1.37	40.1	-3.28	-1.87	Sep. 04, 2020
1750	23	1.325	39.349	1.37	40.1	-3.28	-1.87	Sep. 04, 2020
1750	23.1	1.325	38.809	1.37	40.1	-3.28	-3.22	Sep. 05, 2020
1750	23.1	1.324	40.865	1.37	40.1	-3.36	1.91	Sep. 08, 2020
1900	23.4	1.463	38.229	1.4	40	4.50	-4.43	Aug. 29, 2020
1900	23.4	1.454	38.287	1.4	40	3.86	-4.28	Aug. 31, 2020
1900	23.2	1.453	38.434	1.4	40	3.79	-3.92	Sep. 02, 2020
1900	23	1.46	38.759	1.4	40	4.29	-3.10	Sep. 04, 2020
1900	23.1	1.46	38.175	1.4	40	4.29	-4.56	Sep. 05, 2020
1900	23.1	1.453	40.45	1.4	40	3.79	1.13	Sep. 08, 2020
2300	23.4	1.708	39.932	1.67	39.5	2.28	1.09	Aug. 31, 2020
2300	23.4	1.719	38.337	1.67	39.5	2.93	-2.94	Sep. 02, 2020
2300	23.1	1.713	38.49	1.67	39.5	2.57	-2.56	Sep. 05, 2020
2450	23.2	1.862	37.942	1.8	39.2	3.44	-3.21	Aug. 07, 2020
2450	23.5	1.875	38.02	1.8	39.2	4.17	-3.01	Sep. 02, 2020
2600	23.4	2.025	38.938	1.96	39	3.32	-0.16	Aug. 31, 2020
2600	23.2	2.055	37.81	1.96	39	4.85	-3.05	Sep. 02, 2020
2600	23.1	2.027	37.482	1.96	39	3.42	-3.89	Sep. 05, 2020
2600	23.1	2.045	38.305	1.96	39	4.34	-1.78	Sep. 09, 2020
5250	23.2	4.757	36.931	4.71	35.9	1.00	2.87	Aug. 08, 2020
5250	23.5	4.736	36.971	4.71	35.9	0.55	2.98	Sep. 02, 2020
5600	23.2	5.199	36.179	5.07	35.5	2.54	1.91	Aug. 08, 2020
5600	23.5	5.09	36.503	5.07	35.5	0.39	2.83	Sep. 02, 2020
5750	23.2	5.374	35.896	5.22	35.4	2.95	1.40	Aug. 08, 2020
5750	23.5	5.249	36.283	5.22	35.4	0.56	2.49	Sep. 02, 2020

Note:

The dielectric properties of the tissue simulating liquid have been measured within 24 hours before the SAR testing and within ±10 % of the target values. Liquid temperature during the SAR testing has kept within ±2 ℃.

4.4 System Validation

The SAR measurement system was validated according to procedures in KDB 865664 D01. The validation status in tabulated summary is as below.

Test Date	Probe S/N	Calibration Point	Measured Conductivity (σ)	Measured Permittivity (ε_r)	Validation for CW			Validation for Modulation		
					Sensitivity Range	Probe Linearity	Probe Isotropy	Modulation Type	Duty Factor	PAR
Aug. 06, 2020	7350	750	0.884	42.849	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 02, 2020	3971	750	0.893	43.479	Pass	Pass	Pass	N/A	N/A	N/A
Aug. 05, 2020	7350	835	0.927	42.381	Pass	Pass	Pass	N/A	N/A	N/A
Aug. 06, 2020	7350	835	0.935	43.08	Pass	Pass	Pass	N/A	N/A	N/A
Aug. 31, 2020	3820	835	0.928	41.992	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 02, 2020	3971	835	0.907	40.819	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 04, 2020	7537	835	0.919	41.768	Pass	Pass	Pass	N/A	N/A	N/A
Aug. 31, 2020	3820	1750	1.326	38.855	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 02, 2020	3971	1750	1.324	38.994	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 02, 2020	7537	1750	1.324	38.994	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 04, 2020	3971	1750	1.325	39.349	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 04, 2020	7537	1750	1.325	39.349	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 05, 2020	7350	1750	1.325	38.809	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 08, 2020	7472	1750	1.324	40.865	Pass	Pass	Pass	N/A	N/A	N/A
Aug. 29, 2020	3820	1900	1.463	38.229	Pass	Pass	Pass	N/A	N/A	N/A
Aug. 31, 2020	3820	1900	1.454	38.287	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 02, 2020	3971	1900	1.453	38.434	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 04, 2020	7537	1900	1.46	38.759	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 05, 2020	7350	1900	1.46	38.175	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 08, 2020	7472	1900	1.453	40.45	Pass	Pass	Pass	N/A	N/A	N/A
Aug. 31, 2020	7537	2300	1.708	39.932	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 02, 2020	3971	2300	1.719	38.337	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 05, 2020	7350	2300	1.713	38.49	Pass	Pass	Pass	N/A	N/A	N/A
Aug. 07, 2020	7350	2450	1.862	37.942	Pass	Pass	Pass	OFDM	N/A	Pass
Sep. 02, 2020	7537	2450	1.875	38.02	Pass	Pass	Pass	OFDM	N/A	Pass
Aug. 31, 2020	3820	2600	2.025	38.938	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 02, 2020	3971	2600	2.055	37.81	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 05, 2020	7350	2600	2.027	37.482	Pass	Pass	Pass	N/A	N/A	N/A
Sep. 09, 2020	7472	2600	2.045	38.305	Pass	Pass	Pass	N/A	N/A	N/A
Aug. 08, 2020	7350	5250	4.757	36.931	Pass	Pass	Pass	OFDM	N/A	Pass
Sep. 02, 2020	7537	5250	4.736	36.971	Pass	Pass	Pass	OFDM	N/A	Pass
Aug. 08, 2020	7350	5600	5.199	36.179	Pass	Pass	Pass	OFDM	N/A	Pass
Sep. 02, 2020	7537	5600	5.09	36.503	Pass	Pass	Pass	OFDM	N/A	Pass
Aug. 08, 2020	7350	5750	5.374	35.896	Pass	Pass	Pass	OFDM	N/A	Pass
Sep. 02, 2020	7537	5750	5.249	36.283	Pass	Pass	Pass	OFDM	N/A	Pass

4.5 System Verification

The measuring result for system verification is tabulated as below.

Test Date	Frequency (MHz)	1W Target SAR-1g (W/kg)	Measured SAR-1g (W/kg)	Normalized to 1W SAR-1g (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N
Aug. 06, 2020	750	8.49	0.431	8.62	1.53	1106	7350	917
Sep. 02, 2020	750	8.49	0.403	8.06	-5.06	1106	3971	1277
Aug. 05, 2020	835	9.44	0.478	9.56	1.27	4d166	7350	917
Aug. 06, 2020	835	9.44	0.486	9.72	2.97	4d166	7350	917
Aug. 31, 2020	835	9.44	0.457	9.14	-3.18	4d166	3820	393
Sep. 02, 2020	835	9.44	0.476	9.52	0.85	4d166	3971	1277
Sep. 04, 2020	835	9.44	0.476	9.52	0.85	4d166	7537	1277
Aug. 31, 2020	1750	35.00	1.91	38.20	9.14	1111	3820	393
Sep. 02, 2020	1750	35.00	1.82	36.40	4.00	1111	3971	1277
Sep. 02, 2020	1750	35.00	1.84	36.80	5.14	1111	7537	393
Sep. 04, 2020	1750	35.00	1.67	33.40	-4.57	1111	3971	917
Sep. 04, 2020	1750	35.00	1.81	36.20	3.43	1111	7537	1277
Sep. 05, 2020	1750	35.00	1.72	34.40	-1.71	1111	7350	1431
Sep. 08, 2020	1750	35.00	1.82	36.40	4.00	1111	7472	579
Aug. 29, 2020	1900	40.30	1.99	39.80	-1.24	5d036	3820	393
Aug. 31, 2020	1900	40.30	1.93	38.60	-4.22	5d036	3820	393
Sep. 02, 2020	1900	40.30	1.97	39.40	-2.23	5d036	3971	1277
Sep. 04, 2020	1900	40.30	1.96	39.20	-2.73	5d036	7537	1277
Sep. 05, 2020	1900	40.30	1.99	39.80	-1.24	5d036	7350	1431
Sep. 08, 2020	1900	40.30	1.97	39.40	-2.23	5d036	7472	579
Aug. 31, 2020	2300	48.80	2.42	48.40	-0.82	1004	7537	393
Sep. 02, 2020	2300	48.80	2.68	53.60	9.84	1004	3971	1277
Sep. 05, 2020	2300	48.80	2.32	46.40	-4.92	1004	7350	1431
Aug. 07, 2020	2450	51.10	2.49	49.80	-2.54	903	7350	917
Sep. 02, 2020	2450	51.10	2.58	51.60	0.98	903	7537	393
Aug. 31, 2020	2600	55.90	2.65	53.00	-5.19	1077	3820	393
Sep. 02, 2020	2600	55.90	2.91	58.20	4.11	1077	3971	1277
Sep. 05, 2020	2600	55.90	2.85	57.00	1.97	1077	7350	1431
Sep. 09, 2020	2600	55.90	2.91	58.20	4.11	1077	7472	579
Aug. 08, 2020	5250	79.70	3.71	74.20	-6.90	1019	7350	917
Sep. 02, 2020	5250	79.70	3.76	75.20	-5.65	1019	7537	393
Aug. 08, 2020	5600	83.80	4.12	82.40	-1.67	1019	7350	917
Sep. 02, 2020	5600	83.80	4.17	83.40	-0.48	1019	7537	393
Aug. 08, 2020	5750	80.40	3.72	74.40	-7.46	1019	7350	917
Sep. 02, 2020	5750	80.40	3.79	75.80	-5.72	1019	7537	393

Note:

Comparing to the reference SAR value provided by SPEAG in dipole calibration certificate, the deviation of system check results is within its specification of 10 %. The result indicates the system check can meet the variation criterion and the plots please refer to Appendix A of this report.

4.6 Maximum Output Power

4.6.1 Maximum Target Conducted Power

Refer to Appendix E.

4.6.2 Measured Conducted Power Result

Refer to Appendix F.

4.7 SAR Testing Results

4.7.1 SAR Test Reduction Considerations

<KDB 447498 D01, General RF Exposure Guidance>

Testing of other required channels within the operating mode of a frequency band is not required when the reported SAR for the mid-band or highest output power channel is:

(1) ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
(2) ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
(3) ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

When SAR is not measured at the maximum power level allowed for production units, the measured SAR will be scaled to the maximum tune-up tolerance limit to determine compliance. The scaling factor for the tune-up power is defined as maximum tune-up limit (mW) / measured conducted power (mW). The reported SAR would be calculated by measured SAR x tune-up power scaling factor.

The SAR has been measured with highest transmission duty factor supported by the test mode tools for WLAN and/or Bluetooth. When the transmission duty factor could not achieve 100%, the reported SAR will be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up power. The scaling factor for the duty factor is defined as 100% / transmission duty cycle (%). The reported SAR would be calculated by measured SAR x tune-up power scaling factor x duty cycle scaling factor.

<KDB 941225 D01, 3G SAR Measurement Procedures>

The mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ 1/4 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

<KDB 941225 D05, SAR Evaluation Considerations for LTE Devices>

(1) QPSK with 1 RB and 50% RB allocation

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

(2) QPSK with 100% RB allocation

SAR is not required when the highest maximum output power for 100% RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

(3) Higher order modulations

SAR is required only when the highest maximum output power for the configuration in the higher order modulation is >1/2 dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

(4) Other channel bandwidth

SAR is required when the highest maximum output power of the smaller channel bandwidth is >1/2 dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

<KDB 248227 D01, SAR Guidance for Wi-Fi Transmitters>

(1) For handsets operating next to ear, hotspot mode or mini-tablet configurations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When the reported SAR of initial test position is <= 0.4 W/kg, SAR testing for remaining test positions is not required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is <= 0.8 W/kg or all test positions are measured.

(2) For WLAN 2.4 GHz, the highest measured maximum output power channel for DSSS was selected for SAR measurement. When the reported SAR is <= 0.8 W/kg, no further SAR testing is required. Otherwise, SAR is evaluated at the next highest measured output power channel. When any reported SAR is >1.2 W/kg, SAR is required for the third channel. For OFDM modes (802.11g/n),SAR is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and it is <= 1.2 W/kg.

(3) For WLAN 5GHz, the initial test configuration was selected according to the transmission mode with the highest maximum output power. When the reported SAR of initial test configuration is > 0.8 W/kg, SAR is required for the subsequent highest measured output power channel until the reported SAR result is <=1.2 W/kg or all required channels are measured. For other transmission modes, SAR is not required when the highest reported SAR for initial test configuration is adjusted by the ratio of subsequent test configuration to initial test configuration specified maximum output power and it is <= 1.2 W/kg.

4.7.2 SAR Results for Body Exposure Condition

Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	P-sensor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
01	WCDMA II	RMC12.2k	Front Face	15	9400	w/o	25.00	24.69	1.07	0.03	0.988	1.06
	WCDMA II	RMC12.2k	Rear Face	13	9400	w/o	25.00	24.69	1.07	-0.08	0.888	0.95
	WCDMA II	RMC12.2k	Left Side	5	9400	w/o	25.00	24.69	1.07	0.13	0.221	0.24
	WCDMA II	RMC12.2k	Right Side	20	9400	w/o	25.00	24.69	1.07	0.05	0.545	0.58
	WCDMA II	RMC12.2k	Top Side	5	9400	w/o	25.00	24.69	1.07	-0.09	0.731	0.78
	WCDMA II	RMC12.2k	Bottom Side	5	9400	w/o	25.00	24.69	1.07	0.01	0.557	0.60
	WCDMA II	RMC12.2k	Front Face	5	9262	w/	19.00	18.73	1.06	-0.04	0.741	0.79
	WCDMA II	RMC12.2k	Rear Face	5	9262	w/	19.00	18.73	1.06	-0.19	0.528	0.56
	WCDMA II	RMC12.2k	Right Side	5	9262	w/	19.00	18.73	1.06	-0.08	0.896	0.95
	WCDMA II	RMC12.2k	Front Face	15	9262	w/o	25.00	24.63	1.09	0.07	0.956	1.04
	WCDMA II	RMC12.2k	Front Face	15	9538	w/o	25.00	24.53	1.11	0.05	0.904	1.00
	WCDMA II	RMC12.2k	Rear Face	13	9262	w/o	25.00	24.63	1.09	-0.15	0.859	0.94
	WCDMA II	RMC12.2k	Rear Face	13	9538	w/o	25.00	24.53	1.11	-0.07	0.812	0.90
	WCDMA II	RMC12.2k	Right Side	5	9400	w/	19.00	18.63	1.09	0.06	0.766	0.83
	WCDMA II	RMC12.2k	Right Side	5	9538	w/	19.00	18.49	1.12	0.01	0.707	0.79
	WCDMA II	RMC12.2k	Front Face	15	9400	w/o	25.00	24.69	1.07	-0.06	0.969	1.04
02	WCDMA IV	RMC12.2k	Front Face	15	1413	w/o	25.00	24.99	1.00	-0.06	0.998	1.00
	WCDMA IV	RMC12.2k	Rear Face	13	1413	w/o	25.00	24.99	1.00	0.08	0.941	0.94
	WCDMA IV	RMC12.2k	Left Side	5	1413	w/o	25.00	24.99	1.00	-0.13	0.086	0.09
	WCDMA IV	RMC12.2k	Right Side	20	1413	w/o	25.00	24.99	1.00	0.05	0.881	0.88
	WCDMA IV	RMC12.2k	Top Side	5	1413	w/o	25.00	24.99	1.00	-0.07	0.526	0.53
	WCDMA IV	RMC12.2k	Bottom Side	5	1413	w/o	25.00	24.99	1.00	0.12	0.663	0.66
	WCDMA IV	RMC12.2k	Front Face	5	1413	w/	18.00	17.51	1.12	0.12	0.654	0.73
	WCDMA IV	RMC12.2k	Rear Face	5	1413	w/	18.00	17.51	1.12	0.18	0.396	0.44
	WCDMA IV	RMC12.2k	Right Side	5	1413	w/	18.00	17.51	1.12	0.08	0.856	0.96
	WCDMA IV	RMC12.2k	Front Face	15	1312	w/o	25.00	24.97	1.01	0.01	0.901	0.91
	WCDMA IV	RMC12.2k	Front Face	15	1513	w/o	25.00	24.85	1.04	0.06	0.919	0.96
	WCDMA IV	RMC12.2k	Rear Face	13	1312	w/o	25.00	24.97	1.01	-0.04	0.967	0.98
	WCDMA IV	RMC12.2k	Rear Face	13	1513	w/o	25.00	24.85	1.04	0.02	0.864	0.90
	WCDMA IV	RMC12.2k	Right Side	20	1312	w/o	25.00	24.97	1.01	0.01	0.885	0.89
	WCDMA IV	RMC12.2k	Right Side	20	1513	w/o	25.00	24.85	1.04	0.09	0.867	0.90
	WCDMA IV	RMC12.2k	Right Side	5	1312	w/	18.00	17.46	1.13	-0.06	0.875	0.99
	WCDMA IV	RMC12.2k	Right Side	5	1513	w/	18.00	17.34	1.16	0.13	0.783	0.91
	WCDMA IV	RMC12.2k	Front Face	15	1413	w/o	25.00	24.99	1.00	-0.02	0.949	0.95
	WCDMA V	RMC12.2k	Front Face	15	4182	w/o	25.00	24.74	1.06	-0.02	0.664	0.70
	WCDMA V	RMC12.2k	Rear Face	13	4182	w/o	25.00	24.74	1.06	-0.08	0.624	0.66
	WCDMA V	RMC12.2k	Left Side	5	4182	w/o	25.00	24.74	1.06	0.12	0.068	0.07
	WCDMA V	RMC12.2k	Right Side	20	4182	w/o	25.00	24.74	1.06	0	<0.001	0.00
	WCDMA V	RMC12.2k	Top Side	5	4182	w/o	25.00	24.74	1.06	-0.07	0.554	0.59
	WCDMA V	RMC12.2k	Bottom Side	5	4182	w/o	25.00	24.74	1.06	0.03	0.661	0.70
	WCDMA V	RMC12.2k	Front Face	5	4182	w/	23.50	23.43	1.02	0.14	0.995	1.01
	WCDMA V	RMC12.2k	Rear Face	5	4182	w/	23.50	23.43	1.02	-0.12	0.821	0.84
	WCDMA V	RMC12.2k	Right Side	5	4182	w/	23.50	23.43	1.02	-0.16	0.248	0.25
	WCDMA V	RMC12.2k	Front Face	5	4132	w/	23.50	23.28	1.05	0	0.974	1.02
03	WCDMA V	RMC12.2k	Front Face	5	4233	w/	23.50	23.16	1.08	-0.01	1.00	1.08
	WCDMA V	RMC12.2k	Rear Face	5	4132	w/	23.50	23.28	1.05	0.12	0.813	0.85
	WCDMA V	RMC12.2k	Rear Face	5	4233	w/	23.50	23.16	1.08	-0.09	0.832	0.90
	WCDMA V	RMC12.2k	Front Face	5	4233	w/	23.50	23.16	1.08	-0.08	0.982	1.06

Note: The “< 0.001” means there is no SAR value or the SAR is too low to be measured.

Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	RB	offset	P-sensor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	LTE 2	QPSK20M	Front Face	15	18900	1	0	w/o	25.00	23.77	1.33	0.02	0.821	1.09
	LTE 2	QPSK20M	Rear Face	13	18900	1	0	w/o	25.00	23.77	1.33	-0.08	0.351	0.47
	LTE 2	QPSK20M	Left Side	5	18900	1	0	w/o	25.00	23.77	1.33	0.12	0.268	0.36
	LTE 2	QPSK20M	Right Side	20	18900	1	0	w/o	25.00	23.77	1.33	0.05	0.399	0.53
	LTE 2	QPSK20M	Top Side	5	18900	1	0	w/o	25.00	23.77	1.33	-0.06	0.531	0.71
	LTE 2	QPSK20M	Bottom Side	5	18900	1	0	w/o	25.00	23.77	1.33	0.09	0.408	0.54
	LTE 2	QPSK20M	Front Face	15	18900	50	0	w/o	24.00	22.81	1.32	0.07	0.679	0.90
	LTE 2	QPSK20M	Rear Face	13	18900	50	0	w/o	24.00	22.81	1.32	-0.02	0.325	0.43
	LTE 2	QPSK20M	Left Side	5	18900	50	0	w/o	24.00	22.81	1.32	0.05	0.254	0.34
	LTE 2	QPSK20M	Right Side	20	18900	50	0	w/o	24.00	22.81	1.32	0.03	0.319	0.42
	LTE 2	QPSK20M	Top Side	5	18900	50	0	w/o	24.00	22.81	1.32	-0.12	0.431	0.57
	LTE 2	QPSK20M	Bottom Side	5	18900	50	0	w/o	24.00	22.81	1.32	0.05	0.332	0.44
	LTE 2	QPSK20M	Front Face	15	18900	100	0	w/o	24.00	22.79	1.32	-0.06	0.619	0.82
	LTE 2	QPSK20M	Front Face	5	18700	1	0	w/	20.00	19.36	1.16	0.11	0.917	1.06
	LTE 2	QPSK20M	Rear Face	5	18700	1	0	w/	20.00	19.36	1.16	0.03	0.664	0.77
04	LTE 2	QPSK20M	Right Side	5	18700	1	0	w/	20.00	19.36	1.16	-0.07	0.976	1.13
	LTE 2	QPSK20M	Front Face	5	18700	50	0	w/	19.00	18.41	1.15	-0.12	0.749	0.86
	LTE 2	QPSK20M	Rear Face	5	18700	50	0	w/	19.00	18.41	1.15	0.05	0.511	0.59
	LTE 2	QPSK20M	Right Side	5	18700	50	0	w/	19.00	18.41	1.15	-0.11	0.801	0.92
	LTE 2	QPSK20M	Front Face	5	18700	100	0	w/	19.00	18.32	1.17	0.05	0.752	0.88
	LTE 2	QPSK20M	Right Side	5	18700	100	0	w/	19.00	18.32	1.17	0.08	0.808	0.95
	LTE 2	QPSK20M	Front Face	15	18700	1	0	w/o	25.00	23.65	1.36	-0.08	0.804	1.09
	LTE 2	QPSK20M	Front Face	15	19100	1	0	w/o	25.00	23.56	1.39	0.03	0.763	1.06
	LTE 2	QPSK20M	Front Face	15	18700	50	0	w/o	24.00	22.68	1.36	-0.05	0.633	0.86
	LTE 2	QPSK20M	Front Face	15	19100	50	0	w/o	24.00	22.60	1.38	0.02	0.589	0.81
	LTE 2	QPSK20M	Front Face	5	18900	1	0	w/	20.00	19.28	1.18	-0.08	0.898	1.06
	LTE 2	QPSK20M	Front Face	5	19100	1	0	w/	20.00	19.14	1.22	0.12	0.852	1.04
	LTE 2	QPSK20M	Right Side	5	18900	1	0	w/	20.00	19.28	1.18	0.01	0.892	1.05
	LTE 2	QPSK20M	Right Side	5	19100	1	0	w/	20.00	19.14	1.22	-0.09	0.797	0.97
	LTE 2	QPSK20M	Front Face	5	18900	50	0	w/	19.00	18.32	1.17	0.05	0.707	0.83
	LTE 2	QPSK20M	Front Face	5	19100	50	0	w/	19.00	18.18	1.21	-0.03	0.657	0.79
	LTE 2	QPSK20M	Right Side	5	18900	50	0	w/	19.00	18.32	1.17	-0.08	0.732	0.86
	LTE 2	QPSK20M	Right Side	5	19100	50	0	w/	19.00	18.18	1.21	0.13	0.654	0.79
	LTE 2	QPSK20M	Right Side	5	18700	1	0	w/	20.00	19.36	1.16	0.03	0.965	1.12
	LTE 4	QPSK20M	Front Face	15	20175	1	0	w/o	25.00	23.94	1.28	0.02	0.812	1.04
	LTE 4	QPSK20M	Rear Face	13	20175	1	0	w/o	25.00	23.94	1.28	-0.15	0.371	0.47
	LTE 4	QPSK20M	Left Side	5	20175	1	0	w/o	25.00	23.94	1.28	0.08	0.059	0.08
	LTE 4	QPSK20M	Right Side	20	20175	1	0	w/o	25.00	23.94	1.28	0.03	0.802	1.03
	LTE 4	QPSK20M	Top Side	5	20175	1	0	w/o	25.00	23.94	1.28	-0.11	0.329	0.42
	LTE 4	QPSK20M	Bottom Side	5	20175	1	0	w/o	25.00	23.94	1.28	0.05	0.391	0.50
	LTE 4	QPSK20M	Front Face	15	20175	50	0	w/o	24.00	23.03	1.25	0.07	0.614	0.77
	LTE 4	QPSK20M	Rear Face	13	20175	50	0	w/o	24.00	23.03	1.25	0.12	0.349	0.44
	LTE 4	QPSK20M	Left Side	5	20175	50	0	w/o	24.00	23.03	1.25	0.08	0.044	0.06
	LTE 4	QPSK20M	Right Side	20	20175	50	0	w/o	24.00	23.03	1.25	-0.03	0.584	0.73
	LTE 4	QPSK20M	Top Side	5	20175	50	0	w/o	24.00	23.03	1.25	-0.02	0.261	0.33
	LTE 4	QPSK20M	Bottom Side	5	20175	50	0	w/o	24.00	23.03	1.25	0.11	0.316	0.40
	LTE 4	QPSK20M	Front Face	15	20175	100	0	w/o	24.00	22.97	1.27	0.05	0.622	0.79
	LTE 4	QPSK20M	Right Side	20	20175	100	0	w/o	24.00	22.97	1.27	0.07	0.574	0.73
	LTE 4	QPSK20M	Front Face	5	20175	1	0	w/	19.00	18.31	1.17	-0.11	0.748	0.88
	LTE 4	QPSK20M	Rear Face	5	20175	1	0	w/	19.00	18.31	1.17	-0.14	0.471	0.55
	LTE 4	QPSK20M	Right Side	5	20175	1	0	w/	19.00	18.31	1.17	0.1	0.872	1.02
	LTE 4	QPSK20M	Front Face	5	20175	50	0	w/	18.00	17.45	1.14	0.08	0.586	0.67
	LTE 4	QPSK20M	Rear Face	5	20175	50	0	w/	18.00	17.45	1.14	-0.16	0.290	0.33
	LTE 4	QPSK20M	Right Side	5	20175	50	0	w/	18.00	17.45	1.14	0.17	0.761	0.87
	LTE 4	QPSK20M	Front Face	5	20175	100	0	w/	18.00	17.27	1.18	0.08	0.571	0.67
	LTE 4	QPSK20M	Right Side	5	20175	100	0	w/	18.00	17.27	1.18	-0.01	0.753	0.89
	LTE 4	QPSK20M	Front Face	15	20050	1	0	w/o	25.00	23.83	1.31	0.01	0.864	1.13
	LTE 4	QPSK20M	Front Face	15	20300	1	0	w/o	25.00	23.86	1.30	0.08	0.759	0.99
	LTE 4	QPSK20M	Right Side	20	20050	1	0	w/o	25.00	23.83	1.31	-0.03	0.791	1.04
	LTE 4	QPSK20M	Right Side	20	20300	1	0	w/o	25.00	23.86	1.30	-0.01	0.651	0.85
	LTE 4	QPSK20M	Front Face	5	20050	1	0	w/	19.00	18.30	1.17	-0.08	0.773	0.90
	LTE 4	QPSK20M	Front Face	5	20300	1	0	w/	19.00	18.26	1.19	0.14	0.759	0.90
05	LTE 4	QPSK20M	Right Side	5	20050	1	0	w/	19.00	18.30	1.17	-0.06	0.983	1.15
	LTE 4	QPSK20M	Right Side	5	20300	1	0	w/	19.00	18.26	1.19	0.03	0.921	1.10
	LTE 4	QPSK20M	Right Side	5	20050	50	0	w/	18.00	17.44	1.14	-0.13	0.821	0.94
	LTE 4	QPSK20M	Right Side	5	20300	50	0	w/	18.00	17.40	1.15	0.05	0.783	0.90
	LTE 4	QPSK20M	Right Side	5	20050	1	0	w/	19.00	18.30	1.17	0.07	0.962	1.13

Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	RB	offset	P-sensor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	LTE 5	QPSK10M	Front Face	5	20600	1	0	w/o	25.00	23.59	1.38	-0.13	0.785	1.08
	LTE 5	QPSK10M	Rear Face	5	20600	1	0	w/o	25.00	23.59	1.38	0.08	0.768	1.06
	LTE 5	QPSK10M	Left Side	5	20600	1	0	w/o	25.00	23.59	1.38	0.01	0.101	0.14
	LTE 5	QPSK10M	Right Side	5	20600	1	0	w/o	25.00	23.59	1.38	-0.07	0.319	0.44
	LTE 5	QPSK10M	Top Side	5	20600	1	0	w/o	25.00	23.59	1.38	0.02	0.373	0.51
	LTE 5	QPSK10M	Bottom Side	5	20600	1	0	w/o	25.00	23.59	1.38	-0.05	0.576	0.79
	LTE 5	QPSK10M	Front Face	5	20600	25	0	w/o	24.00	22.66	1.36	0.16	0.638	0.87
	LTE 5	QPSK10M	Rear Face	5	20600	25	0	w/o	24.00	22.66	1.36	0.03	0.569	0.77
	LTE 5	QPSK10M	Left Side	5	20600	25	0	w/o	24.00	22.66	1.36	-0.09	0.064	0.09
	LTE 5	QPSK10M	Right Side	5	20600	25	0	w/o	24.00	22.66	1.36	0.05	0.224	0.30
	LTE 5	QPSK10M	Top Side	5	20600	25	0	w/o	24.00	22.66	1.36	0.07	0.301	0.41
	LTE 5	QPSK10M	Bottom Side	5	20600	25	0	w/o	24.00	22.66	1.36	-0.1	0.405	0.55
	LTE 5	QPSK10M	Front Face	5	20600	50	0	w/o	24.00	22.62	1.37	0.11	0.632	0.87
	LTE 5	QPSK10M	Rear Face	5	20600	50	0	w/o	24.00	22.62	1.37	0.06	0.535	0.73
06	LTE 5	QPSK10M	Front Face	5	20450	1	0	w/o	25.00	23.43	1.44	-0.04	0.811	1.17
	LTE 5	QPSK10M	Front Face	5	20525	1	0	w/o	25.00	23.45	1.43	0.05	0.791	1.13
	LTE 5	QPSK10M	Rear Face	5	20450	1	0	w/o	25.00	23.43	1.44	-0.03	0.663	0.95
	LTE 5	QPSK10M	Rear Face	5	20525	1	0	w/o	25.00	23.45	1.43	0.08	0.771	1.10
	LTE 5	QPSK10M	Front Face	5	20450	25	0	w/o	24.00	22.50	1.41	0.01	0.625	0.88
	LTE 5	QPSK10M	Front Face	5	20525	25	0	w/o	24.00	22.53	1.40	0.09	0.594	0.83
	LTE 5	QPSK10M	Front Face	5	20450	1	0	w/o	25.00	23.43	1.44	0.03	0.799	1.15
	LTE 7	QPSK20M	Front Face	15	21100	1	0	w/o	24.00	23.39	1.15	-0.09	0.191	0.22
	LTE 7	QPSK20M	Rear Face	13	21100	1	0	w/o	24.00	23.39	1.15	0.13	0.255	0.29
	LTE 7	QPSK20M	Left Side	5	21100	1	0	w/o	24.00	23.39	1.15	0.05	0.055	0.06
	LTE 7	QPSK20M	Right Side	20	21100	1	0	w/o	24.00	23.39	1.15	0.11	0.092	0.11
	LTE 7	QPSK20M	Top Side	5	21100	1	0	w/o	24.00	23.39	1.15	0.07	0.143	0.16
	LTE 7	QPSK20M	Bottom Side	5	21100	1	0	w/o	24.00	23.39	1.15	-0.01	0.658	0.76
	LTE 7	QPSK20M	Front Face	15	21100	50	0	w/o	23.00	22.34	1.16	-0.06	0.146	0.17
	LTE 7	QPSK20M	Rear Face	13	21100	50	0	w/o	23.00	22.34	1.16	0.02	0.241	0.28
	LTE 7	QPSK20M	Left Side	5	21100	50	0	w/o	23.00	22.34	1.16	0.07	0.044	0.05
	LTE 7	QPSK20M	Right Side	20	21100	50	0	w/o	23.00	22.34	1.16	-0.05	0.069	0.08
	LTE 7	QPSK20M	Top Side	5	21100	50	0	w/o	23.00	22.34	1.16	-0.03	0.107	0.12
	LTE 7	QPSK20M	Bottom Side	5	21100	50	0	w/o	23.00	22.34	1.16	0.01	0.424	0.49
07	LTE 7	QPSK20M	Front Face	5	20850	1	0	w/	19.00	18.96	1.01	-0.03	0.768	0.78
	LTE 7	QPSK20M	Rear Face	5	20850	1	0	w/	19.00	18.96	1.01	-0.08	0.583	0.59
	LTE 7	QPSK20M	Right Side	5	20850	1	0	w/	19.00	18.96	1.01	-0.07	0.438	0.44
	LTE 7	QPSK20M	Front Face	5	20850	50	0	w/	18.00	17.68	1.08	0.03	0.596	0.64
	LTE 7	QPSK20M	Rear Face	5	20850	50	0	w/	18.00	17.68	1.08	0.1	0.435	0.47
	LTE 7	QPSK20M	Right Side	5	20850	50	0	w/	18.00	17.68	1.08	-0.17	0.324	0.35
	LTE 7	QPSK20M	Front Face	5	21100	1	0	w/	19.00	18.24	1.19	-0.02	0.644	0.77
	LTE 7	QPSK20M	Front Face	5	21350	1	0	w/	19.00	17.70	1.35	0.15	0.573	0.77
08	LTE 12	QPSK10M	Front Face	5	23060	1	0	w/o	25.50	24.33	1.31	-0.07	0.890	1.17
	LTE 12	QPSK10M	Rear Face	5	23060	1	0	w/o	25.50	24.33	1.31	-0.03	0.747	0.98
	LTE 12	QPSK10M	Left Side	5	23060	1	0	w/o	25.50	24.33	1.31	0.11	0.099	0.13
	LTE 12	QPSK10M	Right Side	5	23060	1	0	w/o	25.50	24.33	1.31	0.05	0.334	0.44
	LTE 12	QPSK10M	Top Side	5	23060	1	0	w/o	25.50	24.33	1.31	-0.06	0.266	0.35
	LTE 12	QPSK10M	Bottom Side	5	23060	1	0	w/o	25.50	24.33	1.31	0.07	0.331	0.43
	LTE 12	QPSK10M	Front Face	5	23130	25	0	w/o	24.50	23.33	1.31	-0.08	0.664	0.87
	LTE 12	QPSK10M	Rear Face	5	23130	25	0	w/o	24.50	23.33	1.31	0.03	0.563	0.74
	LTE 12	QPSK10M	Left Side	5	23130	25	0	w/o	24.50	23.33	1.31	-0.12	0.101	0.13
	LTE 12	QPSK10M	Right Side	5	23130	25	0	w/o	24.50	23.33	1.31	0.05	0.283	0.37
	LTE 12	QPSK10M	Top Side	5	23130	25	0	w/o	24.50	23.33	1.31	-0.16	0.359	0.47
	LTE 12	QPSK10M	Bottom Side	5	23130	25	0	w/o	24.50	23.33	1.31	0.07	0.302	0.40
	LTE 12	QPSK10M	Front Face	5	23060	50	0	w/o	24.50	23.32	1.31	-0.02	0.579	0.76
	LTE 12	QPSK10M	Rear Face	5	23060	50	0	w/o	24.50	23.32	1.31	0.15	0.512	0.67
	LTE 12	QPSK10M	Front Face	5	23095	1	0	w/o	25.50	24.21	1.35	-0.09	0.728	0.98
	LTE 12	QPSK10M	Front Face	5	23130	1	0	w/o	25.50	24.27	1.33	0.01	0.692	0.92
	LTE 12	QPSK10M	Rear Face	5	23095	1	0	w/o	25.50	24.21	1.35	0.08	0.605	0.82
	LTE 12	QPSK10M	Rear Face	5	23130	1	0	w/o	25.50	24.27	1.33	0.04	0.569	0.76
	LTE 12	QPSK10M	Front Face	5	23060	25	0	w/o	24.50	23.32	1.31	-0.12	0.663	0.87
	LTE 12	QPSK10M	Front Face	5	23095	25	0	w/o	24.50	23.27	1.33	-0.05	0.641	0.85
	LTE 12	QPSK10M	Front Face	5	23060	1	0	w/o	25.50	24.33	1.31	-0.07	0.881	1.15
09	LTE 13	QPSK10M	Front Face	5	23230	1	0	w/o	24.00	22.55	1.40	-0.09	0.536	0.75
	LTE 13	QPSK10M	Rear Face	5	23230	1	0	w/o	24.00	22.55	1.40	0.01	0.508	0.71
	LTE 13	QPSK10M	Left Side	5	23230	1	0	w/o	24.00	22.55	1.40	-0.06	0.053	0.07
	LTE 13	QPSK10M	Right Side	5	23230	1	0	w/o	24.00	22.55	1.40	0.05	0.276	0.39
	LTE 13	QPSK10M	Top Side	5	23230	1	0	w/o	24.00	22.55	1.40	-0.09	0.305	0.43
	LTE 13	QPSK10M	Bottom Side	5	23230	1	0	w/o	24.00	22.55	1.40	0.02	0.283	0.40
	LTE 13	QPSK10M	Front Face	5	23230	25	0	w/o	23.00	21.63	1.37	-0.06	0.427	0.58
	LTE 13	QPSK10M	Rear Face	5	23230	25	0	w/o	23.00	21.63	1.37	0.03	0.403	0.55
	LTE 13	QPSK10M	Left Side	5	23230	25	0	w/o	23.00	21.63	1.37	0	<0.001	0.00
	LTE 13	QPSK10M	Right Side	5	23230	25	0	w/o	23.00	21.63	1.37	0.17	0.207	0.28
	LTE 13	QPSK10M	Top Side	5	23230	25	0	w/o	23.00	21.63	1.37	0.13	0.249	0.34
	LTE 13	QPSK10M	Bottom Side	5	23230	25	0	w/o	23.00	21.63	1.37	0.08	0.227	0.31

Note: The “< 0.001” means there is no SAR value or the SAR is too low to be measured.

Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	RB	offset	P-sensor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
10	LTE 14	QPSK10M	Front Face	5	23330	1	0	w/o	24.50	23.03	1.40	-0.06	0.582	**0.81**
	LTE 14	QPSK10M	Rear Face	5	23330	1	0	w/o	24.50	23.03	1.40	0.14	0.557	0.78
	LTE 14	QPSK10M	Left Side	5	23330	1	0	w/o	24.50	23.03	1.40	-0.05	0.053	0.07
	LTE 14	QPSK10M	Right Side	5	23330	1	0	w/o	24.50	23.03	1.40	-0.07	0.295	0.41
	LTE 14	QPSK10M	Top Side	5	23330	1	0	w/o	24.50	23.03	1.40	0.01	0.341	0.48
	LTE 14	QPSK10M	Bottom Side	5	23330	1	0	w/o	24.50	23.03	1.40	-0.03	0.332	0.46
	LTE 14	QPSK10M	Front Face	5	23330	25	0	w/o	23.50	22.05	1.40	0.12	0.442	0.62
	LTE 14	QPSK10M	Rear Face	5	23330	25	0	w/o	23.50	22.05	1.40	-0.08	0.425	0.60
	LTE 14	QPSK10M	Left Side	5	23330	25	0	w/o	23.50	22.05	1.40	0.16	0.043	0.06
	LTE 14	QPSK10M	Right Side	5	23330	25	0	w/o	23.50	22.05	1.40	0.05	0.253	0.35
	LTE 14	QPSK10M	Top Side	5	23330	25	0	w/o	23.50	22.05	1.40	-0.11	0.246	0.34
	LTE 14	QPSK10M	Bottom Side	5	23330	25	0	w/o	23.50	22.05	1.40	-0.02	0.259	0.36
	LTE 14	QPSK10M	Front Face	5	23330	50	0	w/o	23.50	22.01	1.41	-0.07	0.453	0.64
	LTE 25	QPSK20M	Front Face	15	26140	1	0	w/o	24.00	22.62	1.37	-0.04	0.538	0.74
	LTE 25	QPSK20M	Rear Face	13	26140	1	0	w/o	24.00	22.62	1.37	-0.14	0.313	0.43
	LTE 25	QPSK20M	Left Side	5	26140	1	0	w/o	24.00	22.62	1.37	0.05	0.038	0.05
	LTE 25	QPSK20M	Right Side	20	26140	1	0	w/o	24.00	22.62	1.37	-0.09	0.312	0.43
	LTE 25	QPSK20M	Top Side	5	26140	1	0	w/o	24.00	22.62	1.37	0.13	0.352	0.48
	LTE 25	QPSK20M	Bottom Side	5	26140	1	0	w/o	24.00	22.62	1.37	0.02	0.287	0.39
	LTE 25	QPSK20M	Front Face	15	26140	50	0	w/o	23.00	21.58	1.39	-0.08	0.461	0.64
	LTE 25	QPSK20M	Rear Face	13	26140	50	0	w/o	23.00	21.58	1.39	0.12	0.294	0.41
	LTE 25	QPSK20M	Left Side	5	26140	50	0	w/o	23.00	21.58	1.39	0.05	0.128	0.18
	LTE 25	QPSK20M	Right Side	20	26140	50	0	w/o	23.00	21.58	1.39	-0.06	0.295	0.41
	LTE 25	QPSK20M	Top Side	5	26140	50	0	w/o	23.00	21.58	1.39	0.07	0.282	0.39
	LTE 25	QPSK20M	Bottom Side	5	26140	50	0	w/o	23.00	21.58	1.39	0.13	0.229	0.32
	LTE 25	QPSK20M	Front Face	5	26140	1	0	w/	19.00	18.57	1.10	0.02	0.774	0.85
	LTE 25	QPSK20M	Rear Face	5	26140	1	0	w/	19.00	18.57	1.10	0.07	0.517	0.57
11	LTE 25	QPSK20M	Right Side	5	26140	1	0	w/	19.00	18.57	1.10	-0.04	0.860	**0.95**
	LTE 25	QPSK20M	Front Face	5	26140	50	0	w/	18.00	17.66	1.08	0.11	0.603	0.65
	LTE 25	QPSK20M	Rear Face	5	26140	50	0	w/	18.00	17.66	1.08	-0.05	0.423	0.46
	LTE 25	QPSK20M	Right Side	5	26140	50	0	w/	18.00	17.66	1.08	0.03	0.671	0.72
	LTE 25	QPSK20M	Front Face	5	26140	100	0	w/	18.00	17.56	1.11	0.15	0.589	0.65
	LTE 25	QPSK20M	Right Side	5	26140	100	0	w/	18.00	17.56	1.11	-0.03	0.643	0.71
	LTE 25	QPSK20M	Front Face	5	26365	1	0	w/	19.00	18.46	1.13	-0.09	0.624	0.71
	LTE 25	QPSK20M	Front Face	5	26590	1	0	w/	19.00	18.28	1.18	-0.04	0.638	0.75
	LTE 25	QPSK20M	Right Side	5	26365	1	0	w/	19.00	18.46	1.13	-0.07	0.697	0.79
	LTE 25	QPSK20M	Right Side	5	26590	1	0	w/	19.00	18.28	1.18	0.11	0.724	0.85
	LTE 25	QPSK20M	Right Side	5	26140	1	0	w/	19.00	18.57	1.10	-0.04	0.852	0.94
12	LTE 26	QPSK15M	Front Face	5	26865	1	0	w/o	24.00	22.73	1.34	-0.03	0.724	**0.97**
	LTE 26	QPSK15M	Rear Face	5	26865	1	0	w/o	24.00	22.73	1.34	-0.05	0.651	0.87
	LTE 26	QPSK15M	Left Side	5	26865	1	0	w/o	24.00	22.73	1.34	0.19	0.053	0.07
	LTE 26	QPSK15M	Right Side	5	26865	1	0	w/o	24.00	22.73	1.34	-0.14	0.209	0.28
	LTE 26	QPSK15M	Top Side	5	26865	1	0	w/o	24.00	22.73	1.34	0.18	0.385	0.52
	LTE 26	QPSK15M	Bottom Side	5	26865	1	0	w/o	24.00	22.73	1.34	-0.17	0.492	0.66
	LTE 26	QPSK15M	Front Face	5	26865	36	0	w/o	23.00	21.80	1.32	-0.14	0.512	0.68
	LTE 26	QPSK15M	Rear Face	5	26865	36	0	w/o	23.00	21.80	1.32	0.17	0.569	0.75
	LTE 26	QPSK15M	Left Side	5	26865	36	0	w/o	23.00	21.80	1.32	0	<0.001	0.00
	LTE 26	QPSK15M	Right Side	5	26865	36	0	w/o	23.00	21.80	1.32	0.02	0.184	0.24
	LTE 26	QPSK15M	Top Side	5	26865	36	0	w/o	23.00	21.80	1.32	0.05	0.287	0.38
	LTE 26	QPSK15M	Bottom Side	5	26865	36	0	w/o	23.00	21.80	1.32	-0.19	0.381	0.50
	LTE 26	QPSK15M	Front Face	5	26865	75	0	w/o	23.00	21.75	1.33	-0.01	0.514	0.68
	LTE 26	QPSK15M	Rear Face	5	26865	75	0	w/o	23.00	21.75	1.33	-0.08	0.432	0.57
	LTE 26	QPSK15M	Front Face	5	26765	1	0	w/o	24.00	22.71	1.35	-0.16	0.669	0.90
	LTE 26	QPSK15M	Front Face	5	26965	1	0	w/o	24.00	22.66	1.36	-0.16	0.616	0.84
	LTE 26	QPSK15M	Rear Face	5	26765	1	0	w/o	24.00	22.71	1.35	0.01	0.686	0.93
	LTE 26	QPSK15M	Rear Face	5	26965	1	0	w/o	24.00	22.66	1.36	-0.02	0.603	0.82
	LTE 30	QPSK10M	Front Face	15	27710	1	0	w/o	23.50	22.97	1.13	0.14	0.336	0.38
	LTE 30	QPSK10M	Rear Face	13	27710	1	0	w/o	23.50	22.97	1.13	-0.12	0.302	0.34
	LTE 30	QPSK10M	Left Side	5	27710	1	0	w/o	23.50	22.97	1.13	-0.11	0.101	0.11
	LTE 30	QPSK10M	Right Side	20	27710	1	0	w/o	23.50	22.97	1.13	0.18	0.088	0.10
	LTE 30	QPSK10M	Top Side	5	27710	1	0	w/o	23.50	22.97	1.13	0.11	0.201	0.23
	LTE 30	QPSK10M	Bottom Side	5	27710	1	0	w/o	23.50	22.97	1.13	-0.01	0.514	0.58
	LTE 30	QPSK10M	Front Face	15	27710	25	0	w/o	22.50	22.22	1.07	-0.07	0.294	0.31
	LTE 30	QPSK10M	Rear Face	13	27710	25	0	w/o	22.50	22.22	1.07	0.05	0.247	0.26
	LTE 30	QPSK10M	Left Side	5	27710	25	0	w/o	22.50	22.22	1.07	0.01	0.048	0.05
	LTE 30	QPSK10M	Right Side	20	27710	25	0	w/o	22.50	22.22	1.07	0.06	0.071	0.08
	LTE 30	QPSK10M	Top Side	5	27710	25	0	w/o	22.50	22.22	1.07	0.1	0.163	0.17
	LTE 30	QPSK10M	Bottom Side	5	27710	25	0	w/o	22.50	22.22	1.07	-0.09	0.423	0.45
13	LTE 30	QPSK10M	Front Face	5	27710	1	0	w/	20.00	19.45	1.14	-0.05	0.980	**1.12**
	LTE 30	QPSK10M	Rear Face	5	27710	1	0	w/	20.00	19.45	1.14	-0.1	0.592	0.67
	LTE 30	QPSK10M	Right Side	5	27710	1	0	w/	20.00	19.45	1.14	0.09	0.354	0.40
	LTE 30	QPSK10M	Front Face	5	27710	25	0	w/	19.00	18.62	1.09	-0.07	0.820	0.89
	LTE 30	QPSK10M	Rear Face	5	27710	25	0	w/	19.00	18.62	1.09	-0.11	0.499	0.54
	LTE 30	QPSK10M	Right Side	5	27710	25	0	w/	19.00	18.62	1.09	0.1	0.293	0.32
	LTE 30	QPSK10M	Front Face	5	27710	50	0	w/	19.00	18.50	1.12	-0.06	0.814	0.91
	LTE 30	QPSK10M	Front Face	5	27710	1	0	w/	20.00	19.45	1.14	-0.17	0.966	1.10

Note: The “< 0.001” means there is no SAR value or the SAR is too low to be measured.

Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	RB	offset	P-sensor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	LTE 38	QPSK20M	Front Face	15	38150	1	0	w/o	24.00	23.00	1.26	-0.16	0.125	0.16
	LTE 38	QPSK20M	Rear Face	13	38150	1	0	w/o	24.00	23.00	1.26	0.15	0.195	0.25
	LTE 38	QPSK20M	Left Side	5	38150	1	0	w/o	24.00	23.00	1.26	0.17	0.045	0.06
	LTE 38	QPSK20M	Right Side	20	38150	1	0	w/o	24.00	23.00	1.26	0.18	0.052	0.07
	LTE 38	QPSK20M	Top Side	5	38150	1	0	w/o	24.00	23.00	1.26	-0.17	0.094	0.12
	LTE 38	QPSK20M	Bottom Side	5	38150	1	0	w/o	24.00	23.00	1.26	-0.01	0.498	0.63
	LTE 38	QPSK20M	Front Face	15	38150	50	0	w/o	23.00	22.13	1.22	0.12	0.096	0.12
	LTE 38	QPSK20M	Rear Face	13	38150	50	0	w/o	23.00	22.13	1.22	0.16	0.156	0.19
	LTE 38	QPSK20M	Left Side	5	38150	50	0	w/o	23.00	22.13	1.22	0	<0.001	0.00
	LTE 38	QPSK20M	Right Side	20	38150	50	0	w/o	23.00	22.13	1.22	-0.06	0.031	0.04
	LTE 38	QPSK20M	Top Side	5	38150	50	0	w/o	23.00	22.13	1.22	-0.07	0.092	0.11
	LTE 38	QPSK20M	Bottom Side	5	38150	50	0	w/o	23.00	22.13	1.22	0.09	0.397	0.48
14	LTE 38	QPSK20M	Front Face	5	38150	1	0	w/	22.00	21.47	1.13	0.01	0.712	0.80
	LTE 38	QPSK20M	Rear Face	5	38150	1	0	w/	22.00	21.47	1.13	0.07	0.514	0.58
	LTE 38	QPSK20M	Right Side	5	38150	1	0	w/	22.00	21.47	1.13	-0.16	0.437	0.49
	LTE 38	QPSK20M	Front Face	5	38150	50	0	w/	21.00	20.63	1.09	0.13	0.556	0.61
	LTE 38	QPSK20M	Rear Face	5	38150	50	0	w/	21.00	20.63	1.09	-0.1	0.411	0.45
	LTE 38	QPSK20M	Right Side	5	38150	50	0	w/	21.00	20.63	1.09	0.03	0.371	0.40
	LTE 38	QPSK20M	Front Face	5	38150	100	0	w/	21.00	20.54	1.11	0.02	0.514	0.57
	LTE 38	QPSK20M	Front Face	5	37850	1	0	w/	22.00	21.03	1.25	-0.02	0.642	0.80
	LTE 38	QPSK20M	Front Face	5	38000	1	0	w/	22.00	21.28	1.18	0.12	0.652	0.77
	LTE 40	QPSK20M	Front Face	15	39550	1	0	w/o	24.00	23.47	1.13	-0.09	0.161	0.18
	LTE 40	QPSK20M	Rear Face	13	39550	1	0	w/o	24.00	23.47	1.13	0.13	0.179	0.20
	LTE 40	QPSK20M	Left Side	5	39550	1	0	w/o	24.00	23.47	1.13	-0.06	0.044	0.05
	LTE 40	QPSK20M	Right Side	20	39550	1	0	w/o	24.00	23.47	1.13	-0.17	0.051	0.06
	LTE 40	QPSK20M	Top Side	5	39550	1	0	w/o	24.00	23.47	1.13	-0.07	0.112	0.13
	LTE 40	QPSK20M	Bottom Side	5	39550	1	0	w/o	24.00	23.47	1.13	-0.12	0.401	0.45
	LTE 40	QPSK20M	Front Face	15	39550	50	0	w/o	23.00	22.45	1.14	-0.06	0.127	0.14
	LTE 40	QPSK20M	Rear Face	13	39550	50	0	w/o	23.00	22.45	1.14	-0.17	0.145	0.17
	LTE 40	QPSK20M	Left Side	5	39550	50	0	w/o	23.00	22.45	1.14	0.04	0.019	0.02
	LTE 40	QPSK20M	Right Side	20	39550	50	0	w/o	23.00	22.45	1.14	0.05	0.039	0.04
	LTE 40	QPSK20M	Top Side	5	39550	50	0	w/o	23.00	22.45	1.14	-0.15	0.086	0.10
	LTE 40	QPSK20M	Bottom Side	5	39550	50	0	w/o	23.00	22.45	1.14	-0.11	0.303	0.35
	LTE 40	QPSK20M	Front Face	5	39550	1	0	w/	22.00	21.94	1.01	0.07	0.970	0.98
	LTE 40	QPSK20M	Rear Face	5	39550	1	0	w/	22.00	21.94	1.01	-0.16	0.690	0.70
	LTE 40	QPSK20M	Right Side	5	39550	1	0	w/	22.00	21.94	1.01	0.13	0.382	0.39
	LTE 40	QPSK20M	Front Face	5	39550	50	0	w/	21.00	20.96	1.01	-0.1	0.780	0.79
	LTE 40	QPSK20M	Rear Face	5	39550	50	0	w/	21.00	20.96	1.01	0.03	0.556	0.56
	LTE 40	QPSK20M	Right Side	5	39550	50	0	w/	21.00	20.96	1.01	-0.16	0.317	0.32
	LTE 40	QPSK20M	Front Face	5	39550	100	0	w/	21.00	20.85	1.04	0.03	0.808	0.84
	LTE 40	QPSK20M	Front Face	5	38750	1	0	w/	22.00	21.74	1.06	0.1	0.995	1.05
15	LTE 40	QPSK20M	Front Face	5	39150	1	0	w/	22.00	21.56	1.11	-0.05	1.01	1.12
	LTE 40	QPSK20M	Front Face	5	39150	1	0	w/	22.00	21.56	1.11	0.15	0.985	1.09
	LTE 66	QPSK20M	Front Face	15	132072	1	0	w/o	25.00	24.03	1.25	0.16	0.709	0.89
	LTE 66	QPSK20M	Rear Face	13	132072	1	0	w/o	25.00	24.03	1.25	-0.07	0.173	0.22
	LTE 66	QPSK20M	Left Side	5	132072	1	0	w/o	25.00	24.03	1.25	-0.14	0.094	0.12
	LTE 66	QPSK20M	Right Side	20	132072	1	0	w/o	25.00	24.03	1.25	0.15	0.473	0.59
	LTE 66	QPSK20M	Top Side	5	132072	1	0	w/o	25.00	24.03	1.25	-0.01	0.337	0.42
	LTE 66	QPSK20M	Bottom Side	5	132072	1	0	w/o	25.00	24.03	1.25	-0.16	0.345	0.43
	LTE 66	QPSK20M	Front Face	15	132072	50	0	w/o	24.00	22.93	1.28	-0.09	0.544	0.70
	LTE 66	QPSK20M	Rear Face	13	132072	50	0	w/o	24.00	22.93	1.28	0.15	0.131	0.17
	LTE 66	QPSK20M	Left Side	5	132072	50	0	w/o	24.00	22.93	1.28	0.12	0.076	0.10
	LTE 66	QPSK20M	Right Side	20	132072	50	0	w/o	24.00	22.93	1.28	0.06	0.462	0.59
	LTE 66	QPSK20M	Top Side	5	132072	50	0	w/o	24.00	22.93	1.28	-0.13	0.247	0.32
	LTE 66	QPSK20M	Bottom Side	5	132072	50	0	w/o	24.00	22.93	1.28	-0.02	0.281	0.36
	LTE 66	QPSK20M	Front Face	15	132072	100	0	w/o	24.00	22.93	1.28	0.06	0.498	0.64
	LTE 66	QPSK20M	Front Face	5	132322	1	0	w/	19.00	18.24	1.19	-0.12	0.698	0.83
	LTE 66	QPSK20M	Rear Face	5	132322	1	0	w/	19.00	18.24	1.19	0.06	0.468	0.56
	LTE 66	QPSK20M	Right Side	5	132322	1	0	w/	19.00	18.24	1.19	0.02	0.782	0.93
	LTE 66	QPSK20M	Front Face	5	132322	50	0	w/	18.00	17.07	1.24	-0.1	0.562	0.70
	LTE 66	QPSK20M	Rear Face	5	132322	50	0	w/	18.00	17.07	1.24	0.02	0.366	0.45
	LTE 66	QPSK20M	Right Side	5	132322	50	0	w/	18.00	17.07	1.24	0.06	0.608	0.75
	LTE 66	QPSK20M	Front Face	5	132322	100	0	w/	18.00	17.00	1.26	0.08	0.547	0.69
	LTE 66	QPSK20M	Right Side	5	132322	100	0	w/	18.00	17.00	1.26	0.02	0.598	0.75
	LTE 66	QPSK20M	Front Face	15	132322	1	0	w/o	25.00	23.99	1.26	-0.11	0.778	0.98
	LTE 66	QPSK20M	Front Face	15	132572	1	0	w/o	25.00	23.71	1.35	0.07	0.724	0.98
	LTE 66	QPSK20M	Front Face	5	132072	1	0	w/	19.00	18.20	1.20	-0.03	0.833	1.00
	LTE 66	QPSK20M	Front Face	5	132572	1	0	w/	19.00	17.93	1.28	-0.01	0.746	0.95
16	LTE 66	QPSK20M	Right Side	5	132072	1	0	w/	19.00	18.20	1.20	-0.03	0.857	1.03
	LTE 66	QPSK20M	Right Side	5	132572	1	0	w/	19.00	17.93	1.28	-0.01	0.723	0.93
	LTE 66	QPSK20M	Right Side	5	132072	1	0	w/	19.00	18.20	1.20	0.08	0.833	1.00

Note: The “< 0.001” means there is no SAR value or the SAR is too low to be measured.

Plot No.	Band	Mode	Test Position	Separation Distance (mm)	Ch.	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	WLAN2.4G	802.11b	Front Face	5	6	99.20	1.01	15.00	14.88	1.03	0.05	0.238	0.25
	WLAN2.4G	802.11b	Rear Face	5	6	99.20	1.01	15.00	14.88	1.03	-0.12	0.159	0.17
	WLAN2.4G	802.11b	Left Side	5	6	99.20	1.01	15.00	14.88	1.03	0	<0.001	0.00
	WLAN2.4G	802.11b	Right Side	5	6	99.20	1.01	15.00	14.88	1.03	0.03	0.036	0.04
	WLAN2.4G	802.11b	Top Side	5	6	99.20	1.01	15.00	14.88	1.03	0	<0.001	0.00
	WLAN2.4G	802.11b	Bottom Side	5	6	99.20	1.01	15.00	14.88	1.03	0.08	0.295	0.31
17	WLAN2.4G	802.11b	Bottom Side	5	1	99.20	1.01	15.00	14.69	1.07	-0.03	0.308	0.33
	WLAN2.4G	802.11b	Bottom Side	5	11	99.20	1.01	15.00	14.82	1.04	0.04	0.279	0.29
	WLAN5.3G	802.11ac VHT80	Front Face	5	58	94.40	1.06	15.00	14.59	1.10	0.03	0.118	0.14
	WLAN5.3G	802.11ac VHT80	Rear Face	5	58	94.40	1.06	15.00	14.59	1.10	-0.12	0.211	0.25
	WLAN5.3G	802.11ac VHT80	Left Side	5	58	94.40	1.06	15.00	14.59	1.10	0.05	0.081	0.09
	WLAN5.3G	802.11ac VHT80	Right Side	5	58	94.40	1.06	15.00	14.59	1.10	0.07	0.047	0.05
	WLAN5.3G	802.11ac VHT80	Top Side	5	58	94.40	1.06	15.00	14.59	1.10	-0.11	0.042	0.05
18	WLAN5.3G	802.11ac VHT80	Bottom Side	5	58	94.40	1.06	15.00	14.59	1.10	-0.08	0.371	0.43
	WLAN5.6G	802.11ac VHT80	Front Face	5	122	94.40	1.06	15.00	14.63	1.09	0.11	0.091	0.11
	WLAN5.6G	802.11ac VHT80	Rear Face	5	122	94.40	1.06	15.00	14.63	1.09	0.03	0.139	0.16
	WLAN5.6G	802.11ac VHT80	Left Side	5	122	94.40	1.06	15.00	14.63	1.09	-0.05	0.081	0.09
	WLAN5.6G	802.11ac VHT80	Right Side	5	122	94.40	1.06	15.00	14.63	1.09	0.12	0.027	0.03
	WLAN5.6G	802.11ac VHT80	Top Side	5	122	94.40	1.06	15.00	14.63	1.09	0.07	0.033	0.04
	WLAN5.6G	802.11ac VHT80	Bottom Side	5	122	94.40	1.06	15.00	14.63	1.09	-0.11	0.286	0.33
19	WLAN5.6G	802.11ac VHT80	Bottom Side	5	106	94.40	1.06	15.00	14.60	1.10	-0.09	0.302	0.35
	WLAN5.6G	802.11ac VHT80	Bottom Side	5	138	94.40	1.06	15.00	14.55	1.11	0.03	0.281	0.33
	WLAN5.8G	802.11ac VHT80	Front Face	5	155	94.40	1.06	15.00	14.81	1.04	0.11	0.115	0.13
	WLAN5.8G	802.11ac VHT80	Rear Face	5	155	94.40	1.06	15.00	14.81	1.04	-0.05	0.162	0.18
	WLAN5.8G	802.11ac VHT80	Left Side	5	155	94.40	1.06	15.00	14.81	1.04	0.03	0.086	0.09
	WLAN5.8G	802.11ac VHT80	Right Side	5	155	94.40	1.06	15.00	14.81	1.04	-0.07	0.035	0.04
	WLAN5.8G	802.11ac VHT80	Top Side	5	155	94.40	1.06	15.00	14.81	1.04	0.12	0.034	0.04
20	WLAN5.8G	802.11ac VHT80	Bottom Side	5	155	94.40	1.06	15.00	14.81	1.04	-0.02	0.348	0.38
	BT	BDR	Front Face	5	0	76.87	1.30	9.50	9.37	1.03	0.07	0.049	0.07
	BT	BDR	Rear Face	5	0	76.87	1.30	9.50	9.37	1.03	0.03	0.029	0.04
	BT	BDR	Left Side	5	0	76.87	1.30	9.50	9.37	1.03	0.02	0.00769	0.01
	BT	BDR	Right Side	5	0	76.87	1.30	9.50	9.37	1.03	-0.07	0.00301	0.00
	BT	BDR	Top Side	5	0	76.87	1.30	9.50	9.37	1.03	0.11	0.00444	0.01
21	BT	BDR	Bottom Side	5	0	76.87	1.30	9.50	9.37	1.03	-0.13	0.055	0.07
	BT	BDR	Bottom Side	5	39	76.87	1.30	9.50	9.00	1.12	0.11	0.046	0.07
	BT	BDR	Bottom Side	5	78	76.87	1.30	9.50	9.37	1.03	0	0.044	0.06

Note: The "< 0.001" means there is no SAR value or the SAR is too low to be measured.

4.7.3 SAR Results for Body Exposure with Holster Condition (Test Separation Distance is 0 mm)

Plot No.	Band	Mode	Test Position	Ch.	P-Sensor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	WCDMA II	RMC12.2k	Rear Face	9400	w/o	25.00	24.69	1.07	0.03	0.779	0.83
	WCDMA II	RMC12.2k	Rear Face	9262	w/o	25.00	24.63	1.09	-0.01	0.784	0.85
22	WCDMA II	RMC12.2k	Rear Face	9538	w/o	25.00	24.53	1.11	0.1	0.790	0.88
	WCDMA IV	RMC12.2k	Rear Face	1413	w/o	25.00	24.99	1.00	0.05	0.906	0.91
23	WCDMA IV	RMC12.2k	Rear Face	1312	w/o	25.00	24.97	1.01	0.1	0.925	0.93
	WCDMA IV	RMC12.2k	Rear Face	1513	w/o	25.00	24.85	1.04	-0.12	0.863	0.90
	WCDMA IV	RMC12.2k	Rear Face	1312	w/o	25.00	24.97	1.01	-0.06	0.903	0.91
	WCDMA V	RMC12.2k	Rear Face	4182	w/o	25.00	24.74	1.06	0.09	0.768	0.81
	WCDMA V	RMC12.2k	Rear Face	4132	w/o	25.00	24.67	1.08	-0.03	0.753	0.81
24	WCDMA V	RMC12.2k	Rear Face	4233	w/o	25.00	24.59	1.10	-0.08	0.813	0.89
	WCDMA V	RMC12.2k	Rear Face	4233	w/o	25.00	24.59	1.10	0.13	0.801	0.88

Plot No.	Band	Mode	Test Position	Ch.	RB	offset	P-Sensor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	LTE 2	QPSK20M	Rear Face	18900	1	0	w/o	25.00	23.77	1.33	-0.12	0.703	0.93
	LTE 2	QPSK20M	Rear Face	18900	50	0	w/o	24.00	22.81	1.32	0.08	0.553	0.73
	LTE 2	QPSK20M	Rear Face	18900	100	0	w/o	24.00	22.79	1.32	0.11	0.596	0.79
25	LTE 2	QPSK20M	Rear Face	18700	1	0	w/o	25.00	23.65	1.36	0.1	0.720	0.98
	LTE 2	QPSK20M	Rear Face	19100	1	0	w/o	25.00	23.56	1.39	0.06	0.661	0.92
	LTE 4	QPSK20M	Rear Face	20175	1	0	w/o	25.00	23.94	1.28	0.03	0.637	0.82
	LTE 4	QPSK20M	Rear Face	20175	50	0	w/o	24.00	23.03	1.25	-0.12	0.496	0.62
	LTE 4	QPSK20M	Rear Face	20175	100	0	w/o	24.00	22.97	1.27	0.03	0.520	0.66
26	LTE 4	QPSK20M	Rear Face	20050	1	0	w/o	25.00	23.83	1.31	-0.15	0.679	0.89
	LTE 4	QPSK20M	Rear Face	20300	1	0	w/o	25.00	23.86	1.30	0.05	0.607	0.79
	LTE 5	QPSK10M	Rear Face	20600	1	0	w/o	25.00	23.59	1.38	0.03	0.561	0.77
	LTE 5	QPSK10M	Rear Face	20600	25	0	w/o	24.00	22.66	1.36	-0.05	0.464	0.63
	LTE 5	QPSK10M	Rear Face	20600	50	0	w/o	24.00	22.62	1.37	-0.13	0.500	0.69
27	LTE 5	QPSK10M	Rear Face	20450	1	0	w/o	25.00	23.43	1.44	-0.07	0.641	0.92
	LTE 5	QPSK10M	Rear Face	20525	1	0	w/o	25.00	23.45	1.43	0.09	0.596	0.85
	LTE 7	QPSK20M	Rear Face	21100	1	0	w/o	24.00	23.39	1.15	-0.07	0.909	1.05
	LTE 7	QPSK20M	Rear Face	21350	50	0	w/o	23.00	22.34	1.16	0.02	0.792	0.92
	LTE 7	QPSK20M	Rear Face	21100	100	0	w/o	23.00	22.36	1.16	0.03	0.781	0.91
28	LTE 7	QPSK20M	Rear Face	20850	1	0	w/o	24.00	23.11	1.23	-0.01	0.966	1.19
	LTE 7	QPSK20M	Rear Face	21350	1	0	w/o	24.00	23.35	1.16	0.05	0.901	1.05
	LTE 7	QPSK20M	Rear Face	20850	50	0	w/o	23.00	22.07	1.24	0.02	0.806	1.00
	LTE 7	QPSK20M	Rear Face	21350	50	0	w/o	23.00	22.31	1.17	0.12	0.775	0.91
	LTE 7	QPSK20M	Rear Face	20850	1	0	w/o	24.00	23.11	1.23	-0.16	0.939	1.15
	LTE 12	QPSK10M	Rear Face	23060	1	0	w/o	25.50	24.33	1.31	0.11	0.441	0.58
	LTE 12	QPSK10M	Rear Face	23130	25	0	w/o	24.50	23.33	1.31	0.07	0.368	0.48
29	LTE 12	QPSK10M	Rear Face	23095	1	0	w/o	25.50	24.21	1.35	-0.03	0.445	0.60
	LTE 12	QPSK10M	Rear Face	23130	1	0	w/o	25.50	24.27	1.33	0.05	0.417	0.55
30	LTE 13	QPSK10M	Rear Face	23230	1	0	w/o	24.00	22.55	1.40	-0.06	0.328	0.46
	LTE 13	QPSK10M	Rear Face	23230	25	0	w/o	23.00	21.63	1.37	-0.12	0.259	0.35
31	LTE 14	QPSK10M	Rear Face	23330	1	0	w/o	24.50	23.03	1.40	-0.01	0.351	0.49
	LTE 14	QPSK10M	Rear Face	23330	25	0	w/o	23.50	22.05	1.40	0.03	0.276	0.39
32	LTE 25	QPSK20M	Rear Face	26140	1	0	w/o	24.00	22.62	1.37	-0.14	0.548	0.75
	LTE 25	QPSK20M	Rear Face	26140	50	0	w/o	23.00	21.58	1.39	-0.11	0.423	0.59
	LTE 25	QPSK20M	Rear Face	26365	1	0	w/o	24.00	22.55	1.40	0.05	0.531	0.74
	LTE 25	QPSK20M	Rear Face	26590	1	0	w/o	24.00	22.35	1.46	-0.03	0.501	0.73
	LTE 26	QPSK15M	Rear Face	26865	1	0	w/o	24.00	22.73	1.34	-0.13	0.514	0.69
	LTE 26	QPSK15M	Rear Face	26865	36	0	w/o	23.00	21.80	1.32	0.02	0.398	0.53
33	LTE 26	QPSK15M	Rear Face	26765	1	0	w/o	24.00	22.71	1.35	-0.08	0.556	0.75
	LTE 26	QPSK15M	Rear Face	26965	1	0	w/o	24.00	22.66	1.36	0.08	0.465	0.63
34	LTE 30	QPSK10M	Rear Face	27710	1	0	w/o	23.50	22.97	1.13	0.02	0.716	0.81
	LTE 30	QPSK10M	Rear Face	27710	25	0	w/o	22.50	22.22	1.07	-0.08	0.578	0.62
	LTE 30	QPSK10M	Rear Face	27710	50	0	w/o	22.50	22.07	1.10	-0.04	0.594	0.65
	LTE 38	QPSK20M	Rear Face	38150	1	0	w/o	24.00	23.00	1.26	-0.08	0.556	0.70
	LTE 38	QPSK20M	Rear Face	38150	50	0	w/o	23.00	22.13	1.22	0.06	0.445	0.54
	LTE 38	QPSK20M	Rear Face	38150	100	0	w/o	23.00	22.03	1.25	-0.18	0.465	0.58
35	LTE 38	QPSK20M	Rear Face	37850	1	0	w/o	24.00	22.69	1.35	-0.06	0.591	0.80
	LTE 38	QPSK20M	Rear Face	38000	1	0	w/o	24.00	22.98	1.26	-0.01	0.578	0.73
36	LTE 40	QPSK20M	Rear Face	39550	1	0	w/o	24.00	23.47	1.13	0.01	0.759	0.86
	LTE 40	QPSK20M	Rear Face	39550	50	0	w/o	23.00	22.45	1.14	0.02	0.610	0.70
	LTE 40	QPSK20M	Rear Face	39550	100	0	w/o	23.00	22.45	1.14	-0.13	0.606	0.69
	LTE 40	QPSK20M	Rear Face	38750	1	0	w/o	24.00	23.23	1.19	0.17	0.586	0.70
	LTE 40	QPSK20M	Rear Face	39150	1	0	w/o	24.00	23.06	1.24	0.15	0.657	0.81
37	LTE 66	QPSK20M	Rear Face	132072	1	0	w/o	25.00	24.03	1.25	0.11	0.782	0.98
	LTE 66	QPSK20M	Rear Face	132072	50	0	w/o	24.00	22.93	1.28	0.08	0.574	0.73
	LTE 66	QPSK20M	Rear Face	132072	100	0	w/o	24.00	22.93	1.28	0.04	0.543	0.70
	LTE 66	QPSK20M	Rear Face	132322	1	0	w/o	25.00	23.99	1.26	-0.03	0.704	0.89
	LTE 66	QPSK20M	Rear Face	132572	1	0	w/o	25.00	23.71	1.35	0.06	0.675	0.91

Plot No.	Band	Mode	Test Position	Ch.	Duty Cycle	Crest Factor	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	WLAN2.4G	802.11b	Rear Face	6	99.20	1.01	15.00	14.88	1.03	-0.02	0.166	0.17
38	WLAN2.4G	802.11b	Rear Face	1	99.20	1.01	15.00	14.69	1.07	0.04	0.172	**0.19**
	WLAN2.4G	802.11b	Rear Face	11	99.20	1.01	15.00	14.82	1.04	0.07	0.160	0.17
39	WLAN5.3G	802.11ac VHT80	Rear Face	58	94.40	1.06	15.00	14.59	1.10	-0.06	0.238	**0.28**
	WLAN5.6G	802.11ac VHT80	Rear Face	122	94.40	1.06	15.00	14.63	1.09	0.02	0.104	0.12
	WLAN5.6G	802.11ac VHT80	Rear Face	106	94.40	1.06	15.00	14.60	1.10	-0.01	0.096	0.11
40	WLAN5.6G	802.11ac VHT80	Rear Face	138	94.40	1.06	15.00	14.55	1.11	0.12	0.107	**0.13**
41	WLAN5.8G	802.11ac VHT80	Rear Face	155	94.40	1.06	15.00	14.81	1.04	0.01	0.134	**0.15**
42	BT	BR / EDR	Rear Face	0	76.87	1.30	9.50	9.37	1.03	0.01	0.034	**0.05**
	BT	BR / EDR	Rear Face	39	76.87	1.30	9.50	9.00	1.12	-0.05	0.031	0.05
	BT	BR / EDR	Rear Face	78	76.87	1.30	9.50	9.37	1.03	-0.13	0.028	0.04

4.7.4 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10, the highest SAR configuration for either head or body tissue-equivalent medium maybe used to perform the repeated measurement. 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.

SAR repeated measurement procedure:

1. When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.
2. When the highest measured SAR is >= 0.80 W/kg, repeat that measurement once.
3. If the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20, or when the original or repeated measurement is >= 1.45 W/kg, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20, and the original, first or second repeated measurement is >= 1.5 W/kg, perform a third repeated measurement.

Body

Band	Mode	Test Position	Ch.	Original Measured SAR-1g (W/kg)	1st Repeated SAR-1g (W/kg)	L/S Ratio	2nd Repeated SAR-1g (W/kg)	L/S Ratio	3rd Repeated SAR-1g (W/kg)	L/S Ratio
WCDMA II	RMC12.2K	Front Face	9400	0.988	0.969	1.02	N/A	N/A	N/A	N/A
WCDMA IV	RMC12.2K	Front Face	1413	0.998	0.949	1.05	N/A	N/A	N/A	N/A
WCDMA V	RMC12.2K	Front Face	4233	1.00	0.982	1.02	N/A	N/A	N/A	N/A
LTE 2	QPSK20M	Right Side	18700	0.976	0.965	1.01	N/A	N/A	N/A	N/A
LTE 4	QPSK20M	Right Side	20050	0.983	0.962	1.02	N/A	N/A	N/A	N/A
LTE 5	QPSK10M	Front Face	20450	0.811	0.799	1.02	N/A	N/A	N/A	N/A
LTE 12	QPSK10M	Front Face	23060	0.890	0.881	1.01	N/A	N/A	N/A	N/A
LTE 25	QPSK20M	Right Side	26140	0.860	0.852	1.01	N/A	N/A	N/A	N/A
LTE 30	QPSK10M	Front Face	27710	0.980	0.966	1.01	N/A	N/A	N/A	N/A
LTE 40	QPSK20M	Front Face	39150	1.01	0.985	1.03	N/A	N/A	N/A	N/A
LTE 66	QPSK20M	Right Side	132072	0.857	0.833	1.03	N/A	N/A	N/A	N/A

Holster

Band	Mode	Test Position	Ch.	Original Measured SAR-1g (W/kg)	1st Repeated SAR-1g (W/kg)	L/S Ratio	2nd Repeated SAR-1g (W/kg)	L/S Ratio	3rd Repeated SAR-1g (W/kg)	L/S Ratio
WCDMA IV	RMC12.2K	Rear Fcae	1312	0.925	0.903	1.02	N/A	N/A	N/A	N/A
WCDMA V	RMC12.2K	Rear Fcae	4233	0.813	0.801	1.01	N/A	N/A	N/A	N/A
LTE 7	QPSK20M	Rear Fcae	20850	0.966	0.939	1.03	N/A	N/A	N/A	N/A

4.7.5 Simultaneous Multi-band Transmission Evaluation

<Possibilities of Simultaneous Transmission>

The simultaneous transmission possibilities for this device are listed as below.

Simultaneous TX Combination	Capable Transmit Configurations	Body Exposure Condition	Holster Exposure Condition
1	WWAN + WLAN 2.4G	Yes	Yes
2	WWAN + WLAN 5G	Yes	Yes
3	WWAN + BT	Yes	Yes

Note :

1. The WLAN 2.4G and WLAN 5G cannot transmit simultaneously.
2. The WLAN and Bluetooth cannot transmit simultaneously.

<SAR Summation Analysis>

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR_{1g} of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit(SAR_{1g} 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR_{1g} is greater than the SAR limit (SAR_{1g} 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

Refer to Appendix G

Test Engineer： Tim Cheng, and Zeke Wang

5. Calibration of Test Equipment

Equipment	Manufacturer	Model	SN	Cal. Date	Cal. Interval
System Validation Dipole	SPEAG	D750V3	1106	Apr. 30, 2020	1 Year
System Validation Dipole	SPEAG	D835V2	4d166	Apr. 29, 2020	1 Year
System Validation Dipole	SPEAG	D1750V2	1111	Apr. 29, 2020	1 Year
System Validation Dipole	SPEAG	D1900V2	5d036	Jan. 21, 2020	1 Year
System Validation Dipole	SPEAG	D2300V2	1004	Jan. 21, 2020	1 Year
System Validation Dipole	SPEAG	D2450V2	903	Oct. 15, 2019	1 Year
System Validation Dipole	SPEAG	D2600V2	1077	Apr. 26, 2020	1 Year
System Validation Dipole	SPEAG	D5GHzV2	1019	Mar. 13, 2020	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	7350	Dec. 16, 2019	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3971	Jan. 27, 2020	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	7472	Aug. 24, 2020	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	7537	May. 29, 2020	1 Year
Dosimetric E-Field Probe	SPEAG	EX3DV4	3820	Jun. 25, 2020	1 Year
Data Acquisition Electronics	SPEAG	DAE4	393	Apr. 30, 2020	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1431	Mar. 18, 2020	1 Year
Data Acquisition Electronics	SPEAG	DAE4	1277	Jan. 24, 2020	1 Year
Data Acquisition Electronics	SPEAG	DAE4	917	Dec. 17, 2019	1 Year
Data Acquisition Electronics	SPEAG	DAE4	579	Aug. 12, 2020	1 Year
Radio Communication Analyzer	Anritsu	MT8821C	6201381727	Jun. 11, 2020	1 Year
Spectrum Analyzer	R&S	FSL6	102006	Mar. 26, 2020	1 Year
Universal Wireless Test Set	Anritsu	MT8870A/MU887000A	6201699387	Oct. 07, 2019	1 Year
Thermometer	YFE	YF-160A	150601220	May. 25, 2020	1 Year
Dielectric Assessment Kit	SPEAG	DAKS-3.5	1092	May. 26, 2020	1 Year
Powersource1	SPEAG	SE_UMS_160BA	4010	Jun. 25, 2020	1 Year

6. Measurement Uncertainty

Source of Uncertainty	Uncertainty (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (± %, 1g)	Standard Uncertainty (± %, 10g)	Vi
Measurement System								
Probe Calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Axial Isotropy	4.7	Rectangular	√3	√0.5	√0.5	1.9	1.9	∞
Hemispherical Isotropy	9.6	Rectangular	√3	√0.5	√0.5	3.9	3.9	∞
Boundary Effect	1.0	Rectangular	√3	1	1	0.6	0.6	∞
Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Detection Limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Probe Modulation Response	4.8	Rectangular	√3	1	1	2.8	2.8	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response Time	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Integration Time	1.7	Rectangular	√3	1	1	1.0	1.0	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.02	Rectangular	√3	1	1	0.01	0.01	∞
Probe Positioning with Respect to Phantom	0.4	Rectangular	√3	1	1	0.2	0.2	∞
Post-processing	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Test Sample Related								
Test Sample Positioning	2.82 / 1.60	Normal	1	1	1	2.8	1.6	35
Device Holder Uncertainty	2.55 / 2.76	Normal	1	1	1	2.6	2.8	7
Power Drift of Measurement	5.0	Rectangular	√3	1	1	2.9	2.9	∞
PowerScaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Phantom and Setup								
Phantom Uncertainty (Shape and Thickness Tolerances)	5.7	Rectangular	√3	1	1	3.3	3.3	∞
Liquid Conductivity (Temperature Uncertainty)	2.58	Rectangular	√3	0.78	0.71	1.2	1.1	∞
Liquid Conductivity (Measured)	2.95	Normal	1	0.78	0.71	2.3	2.1	61
Liquid Permittivity (Temperature Uncertainty)	1.97	Rectangular	√3	0.23	0.26	0.3	0.3	∞
Liquid Permittivity (Measured)	3.04	Normal	1	0.23	0.26	0.7	0.8	47
Combined Standard Uncertainty						± 10.9 %	± 10.7 %	
Expanded Uncertainty (K=2)						**± 21.8 %**	**± 21.4 %**	

Head SAR Uncertainty Budget for Frequency Range of 300 MHz to 3 GHz

Source of Uncertainty	Uncertainty (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (± %, 1g)	Standard Uncertainty (± %, 10g)	Vi
Measurement System								
Probe Calibration	6.55	Normal	1	1	1	6.55	6.55	∞
Axial Isotropy	4.7	Rectangular	√3	0.7	0.7	1.9	1.9	∞
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	0.7	3.9	3.9	∞
Boundary Effect	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Detection Limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Probe Modulation Response	4.8	Rectangular	√3	1	1	2.8	2.8	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response Time	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Integration Time	1.7	Rectangular	√3	1	1	1.0	1.0	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.04	Rectangular	√3	1	1	0.02	0.02	∞
Probe Positioning with Respect to Phantom	0.8	Rectangular	√3	1	1	0.5	0.5	∞
Post-processing	4.0	Rectangular	√3	1	1	2.3	2.3	∞
Test Sample Related								
Test Sample Positioning	2.82 / 1.60	Normal	1	1	1	2.8	1.6	35
Device Holder Uncertainty	2.55 / 2.76	Normal	1	1	1	2.6	2.8	7
Power Drift of Measurement	5.0	Rectangular	√3	1	1	2.9	2.9	∞
PowerScaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Phantom and Setup								
Phantom Uncertainty (Shape and Thickness Tolerances)	6.2	Rectangular	√3	1	1	3.6	3.6	∞
Liquid Conductivity (Temperature Uncertainty)	2.58	Rectangular	√3	0.78	0.71	1.2	1.1	∞
Liquid Conductivity (Measured)	2.95	Normal	1	0.78	0.71	2.3	2.1	61
Liquid Permittivity (Temperature Uncertainty)	1.97	Rectangular	√3	0.23	0.26	0.3	0.3	∞
Liquid Permittivity (Measured)	3.04	Normal	1	0.23	0.26	0.7	0.8	47
Combined Standard Uncertainty						± 11.6 %	± 11.3 %	
Expanded Uncertainty (K=2)						**± 23.2 %**	**± 22.6 %**	

Head SAR Uncertainty Budget for Frequency Range of 3 GHz to 6 GHz

Source of Uncertainty	Uncertainty (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (± %, 1g)	Standard Uncertainty (± %, 10g)	Vi
Measurement System								
Probe Calibration	6.0	Normal	1	1	1	6.0	6.0	∞
Axial Isotropy	4.7	Rectangular	√3	√0.5	√0.5	1.9	1.9	∞
Hemispherical Isotropy	9.6	Rectangular	√3	√0.5	√0.5	3.9	3.9	∞
Boundary Effect	1.0	Rectangular	√3	1	1	0.6	0.6	∞
Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Detection Limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Probe Modulation Response	4.8	Rectangular	√3	1	1	2.8	2.8	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response Time	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Integration Time	1.7	Rectangular	√3	1	1	1.0	1.0	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.02	Rectangular	√3	1	1	0.01	0.01	∞
Probe Positioning with Respect to Phantom	0.4	Rectangular	√3	1	1	0.2	0.2	∞
Post-processing	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Test Sample Related								
Test Sample Positioning	3.68 / 1.73	Normal	1	1	1	3.7	1.7	29
Device Holder Uncertainty	2.55 / 2.76	Normal	1	1	1	2.6	2.8	7
Power Drift of Measurement	5.0	Rectangular	√3	1	1	2.9	2.9	∞
PowerScaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Phantom and Setup								
Phantom Uncertainty (Shape and Thickness Tolerances)	7.2	Rectangular	√3	1	1	4.2	4.2	∞
Liquid Conductivity (Temperature Uncertainty)	2.58	Rectangular	√3	0.78	0.71	1.2	1.1	∞
Liquid Conductivity (Measured)	2.95	Normal	1	0.78	0.71	2.3	2.1	61
Liquid Permittivity (Temperature Uncertainty)	1.97	Rectangular	√3	0.23	0.26	0.3	0.3	∞
Liquid Permittivity (Measured)	3.04	Normal	1	0.23	0.26	0.7	0.8	47
Combined Standard Uncertainty						± 11.5 %	± 11.0 %	
Expanded Uncertainty (K=2)						**± 23.0 %**	**± 22.0 %**	

Body SAR Uncertainty Budget for Frequency Range of 300 MHz to 3 GHz

Source of Uncertainty	Uncertainty (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (± %, 1g)	Standard Uncertainty (± %, 10g)	Vi
Measurement System								
Probe Calibration	6.55	Normal	1	1	1	6.55	6.55	∞
Axial Isotropy	4.7	Rectangular	√3	0.7	0.7	1.9	1.9	∞
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	0.7	3.9	3.9	∞
Boundary Effect	2.0	Rectangular	√3	1	1	1.2	1.2	∞
Linearity	4.7	Rectangular	√3	1	1	2.7	2.7	∞
Detection Limits	0.25	Rectangular	√3	1	1	0.14	0.14	∞
Probe Modulation Response	4.8	Rectangular	√3	1	1	2.8	2.8	∞
Readout Electronics	0.3	Normal	1	1	1	0.3	0.3	∞
Response Time	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Integration Time	1.7	Rectangular	√3	1	1	1.0	1.0	∞
RF Ambient Conditions – Noise	3.0	Rectangular	√3	1	1	1.7	1.7	∞
RF Ambient Conditions – Reflections	3.0	Rectangular	√3	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.04	Rectangular	√3	1	1	0.02	0.02	∞
Probe Positioning with Respect to Phantom	0.8	Rectangular	√3	1	1	0.5	0.5	∞
Post-processing	4.0	Rectangular	√3	1	1	2.3	2.3	∞
Test Sample Related								
Test Sample Positioning	3.68 / 1.73	Normal	1	1	1	3.7	1.7	29
Device Holder Uncertainty	2.55 / 2.76	Normal	1	1	1	2.6	2.8	7
Power Drift of Measurement	5.0	Rectangular	√3	1	1	2.9	2.9	∞
PowerScaling	0.0	Rectangular	√3	1	1	0.0	0.0	∞
Phantom and Setup								
Phantom Uncertainty (Shape and Thickness Tolerances)	7.6	Rectangular	√3	1	1	4.4	4.4	∞
Liquid Conductivity (Temperature Uncertainty)	2.58	Rectangular	√3	0.78	0.71	1.2	1.1	∞
Liquid Conductivity (Measured)	2.95	Normal	1	0.78	0.71	2.3	2.1	61
Liquid Permittivity (Temperature Uncertainty)	1.97	Rectangular	√3	0.23	0.26	0.3	0.3	∞
Liquid Permittivity (Measured)	3.04	Normal	1	0.23	0.26	0.7	0.8	47
Combined Standard Uncertainty						± 12.1 %	± 11.6 %	
Expanded Uncertainty (K=2)						**± 24.2 %**	**± 23.2 %**	

Body SAR Uncertainty Budget for Frequency Range of 3 GHz to 6 GHz

7. Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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Web Site: https://ee.bureauveritas.com.tw/BVInternet/Default

The road map of all our labs can be found in our web site also.

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Appendix A. SAR Plots of System Verification

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

System Check_H750_200902

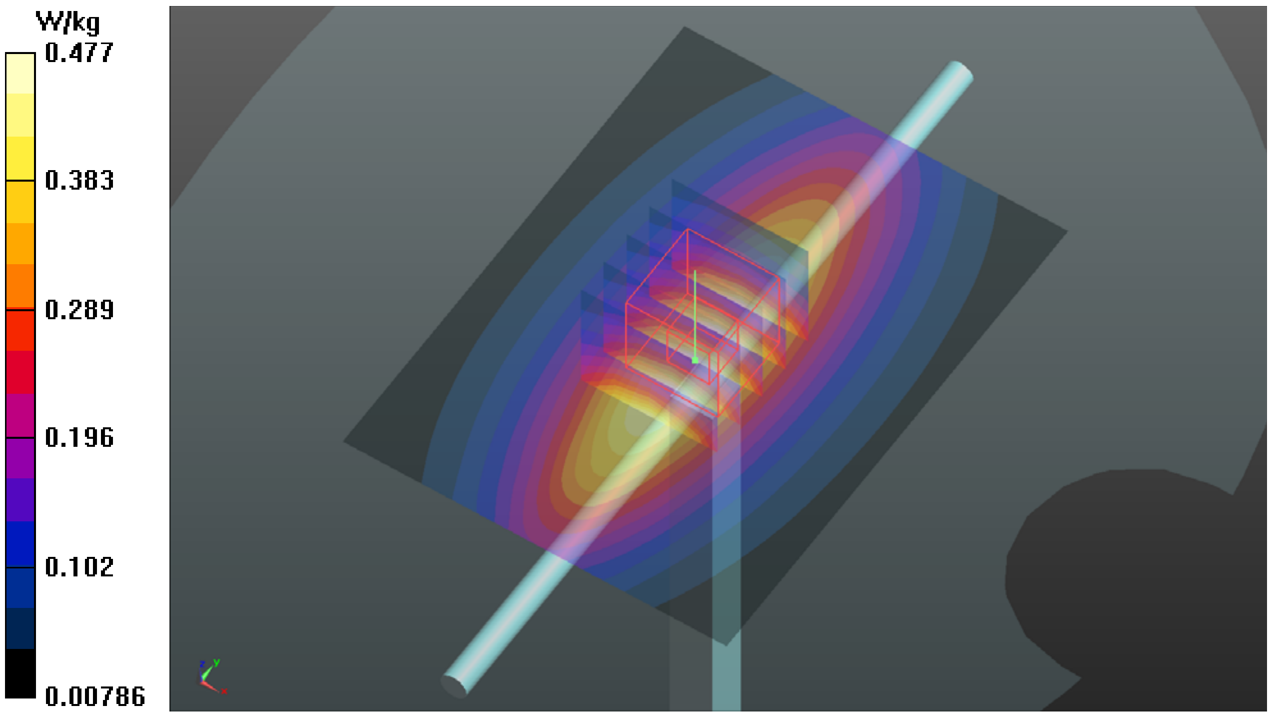
DUT: Dipole 750 MHz; Type: D750V3; SN: 1106

Communication System: UID 0, CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium: H06T09N2_0902 Medium parameters used: f = 750 MHz; σ = 0.893 S/m; ε_r = 43.479; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃； Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3971; ConvF(10.6, 10.6, 10.6) @ 750 MHz; Calibrated: 2020/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2020/01/24
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.477 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.82 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.552 W/kg
SAR(1 g) = 0.403 W/kg; SAR(10 g) = 0.275 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.499 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/8/31

System Check_H835_200831

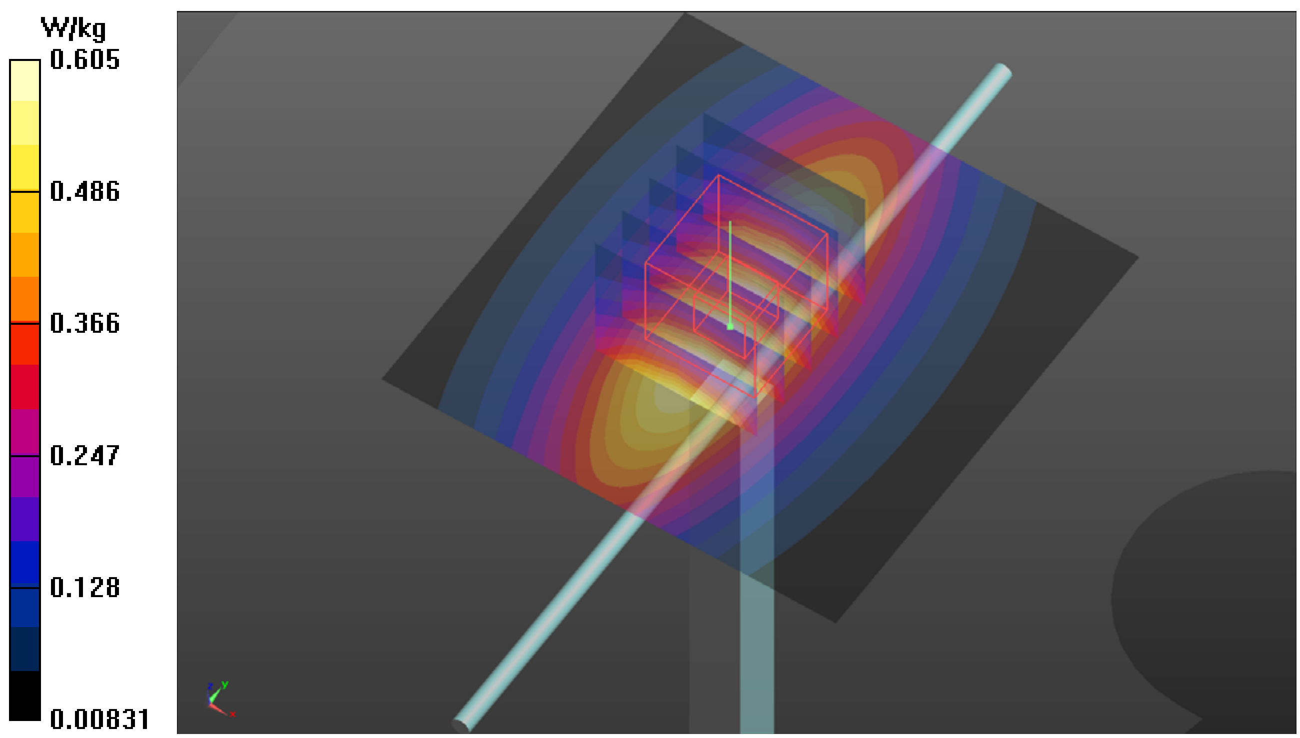
DUT: Dipole 835 MHz; Type: D835V2; SN: 4d166

Communication System: UID 0, CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: H07T10N1_0831 Medium parameters used: f = 835 MHz; σ = 0.928 S/m; ε_r = 41.992; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃； Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(9.01, 9.01, 9.01) @ 835 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.605 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.54 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.686 W/kg
SAR(1 g) = 0.457 W/kg; SAR(10 g) = 0.299 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.617 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/8/31

System Check_H1750_200831

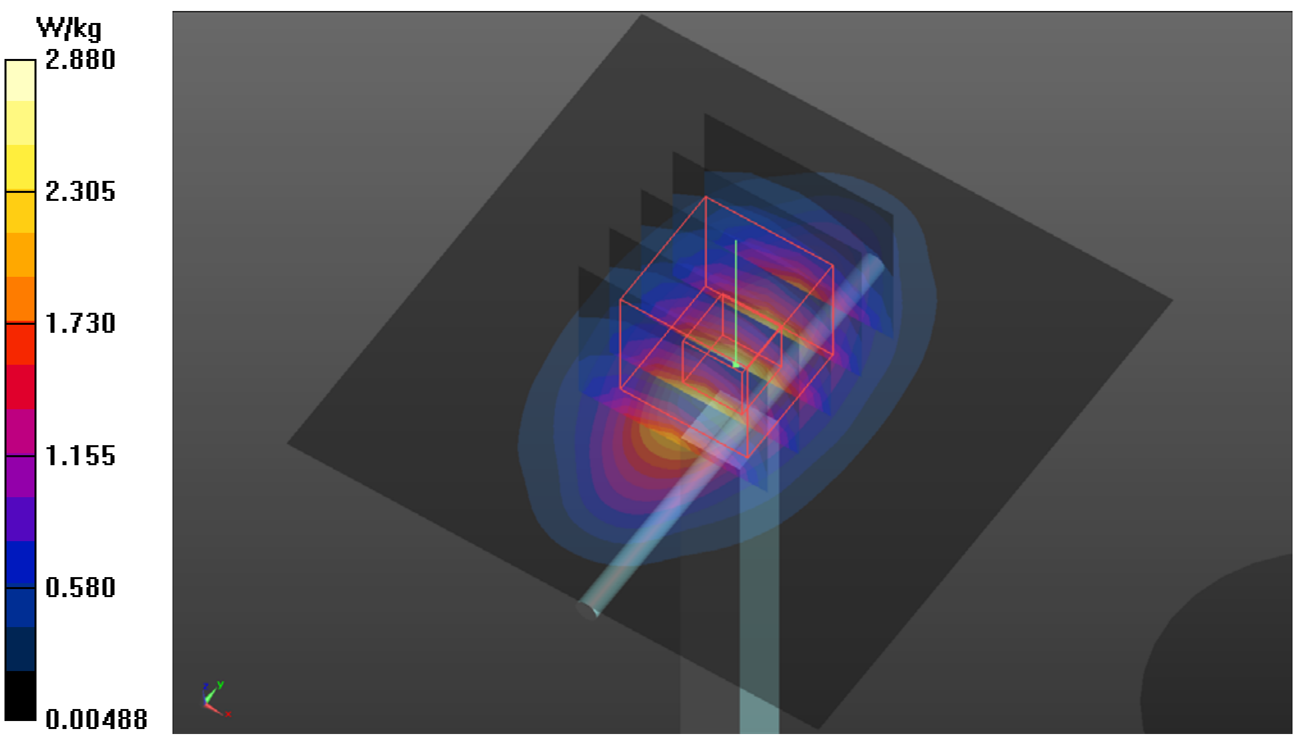
DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1111

Communication System: UID 0, CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: H16T20N1_0831 Medium parameters used: f = 1750 MHz; $\sigma = 1.326$ S/m; $\varepsilon_r = 38.855$; $\rho = 1000$ kg/m^3
Ambient Temperature：23.8 ℃ ; Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(7.71, 7.71, 7.71) @ 1750 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.88 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 48.05 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.43 W/kg
SAR(1 g) = 1.91 W/kg; SAR(10 g) = 1.01 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 2.90 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/8/31

System Check_H1900_200831

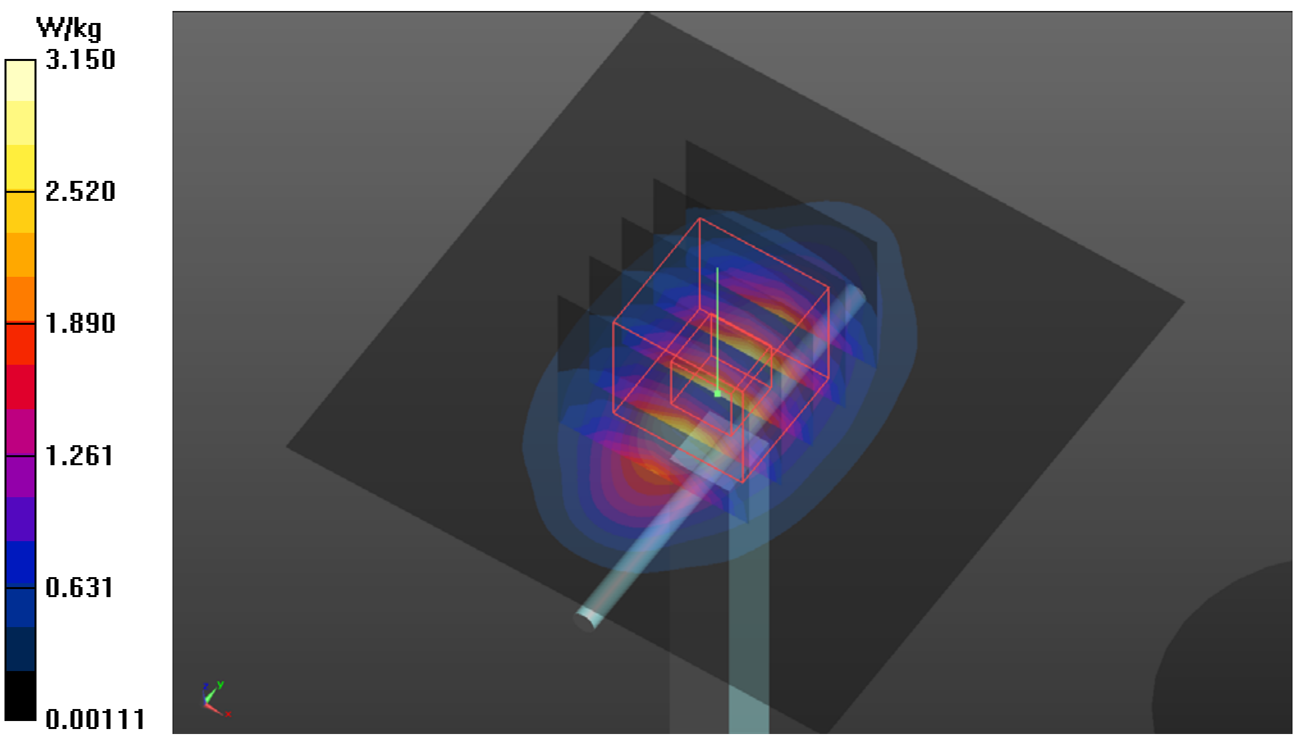
DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

Communication System: UID 0, CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: H16T20N1_0831 Medium parameters used: f = 1900 MHz; σ = 1.454 S/m; ε_r = 38.287; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃； Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(7.4, 7.4, 7.4) @ 1900 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.15 W/kg

Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.67 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.72 W/kg
SAR(1 g) = 1.93 W/kg; SAR(10 g) = 1.01 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.13 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab   Date: 2020/9/2

System Check_H2300_200902

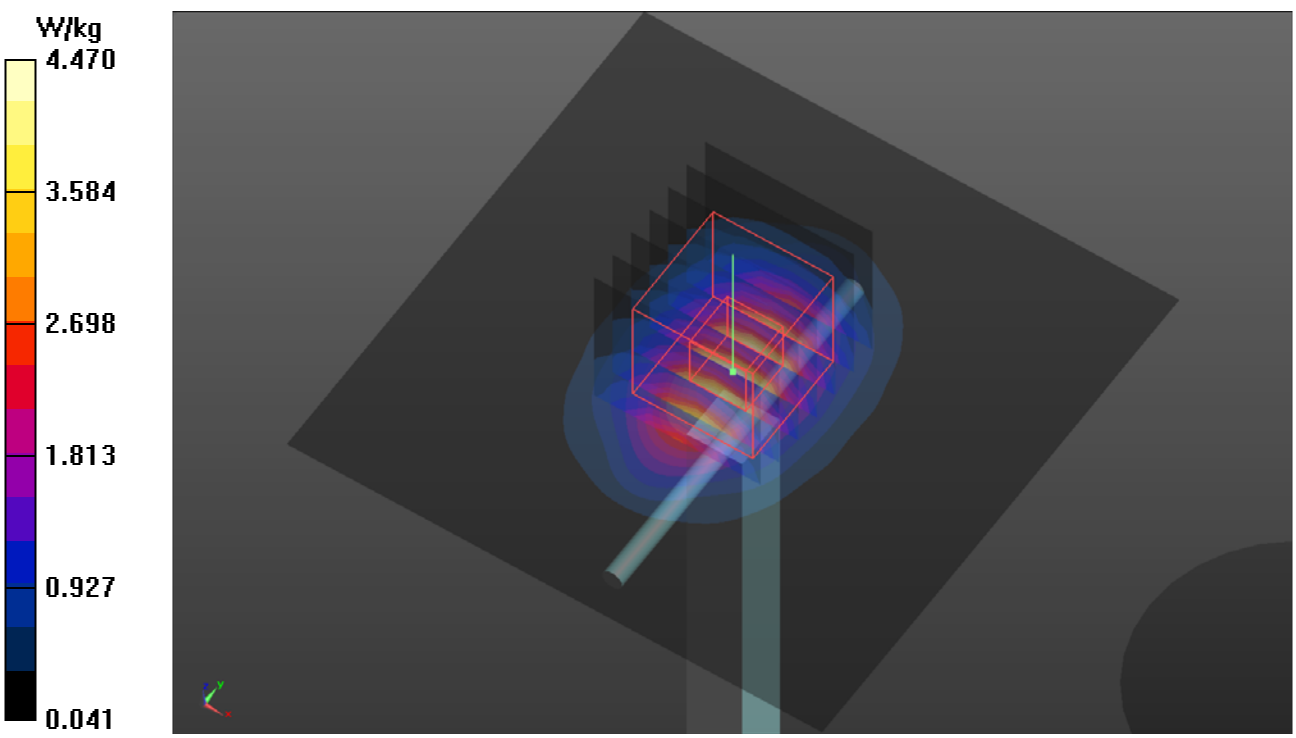
DUT: Dipole 2300 MHz; Type: D2300V2; SN:1004

Communication System: UID 0, CW; Frequency: 2300 MHz;Duty Cycle: 1:1
Medium: H19T27N1_0902 Medium parameters used: f = 2300 MHz; σ = 1.719 S/m; ε_r = 38.337; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃； Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3971; ConvF(8.06, 8.06, 8.06) @ 2300 MHz; Calibrated: 2020/1/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2020/1/24
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.47 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.39 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 5.37 W/kg
SAR(1 g) = 2.68 W/kg; SAR(10 g) = 1.34 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 4.44 W/kg



System Check_H2450_200807

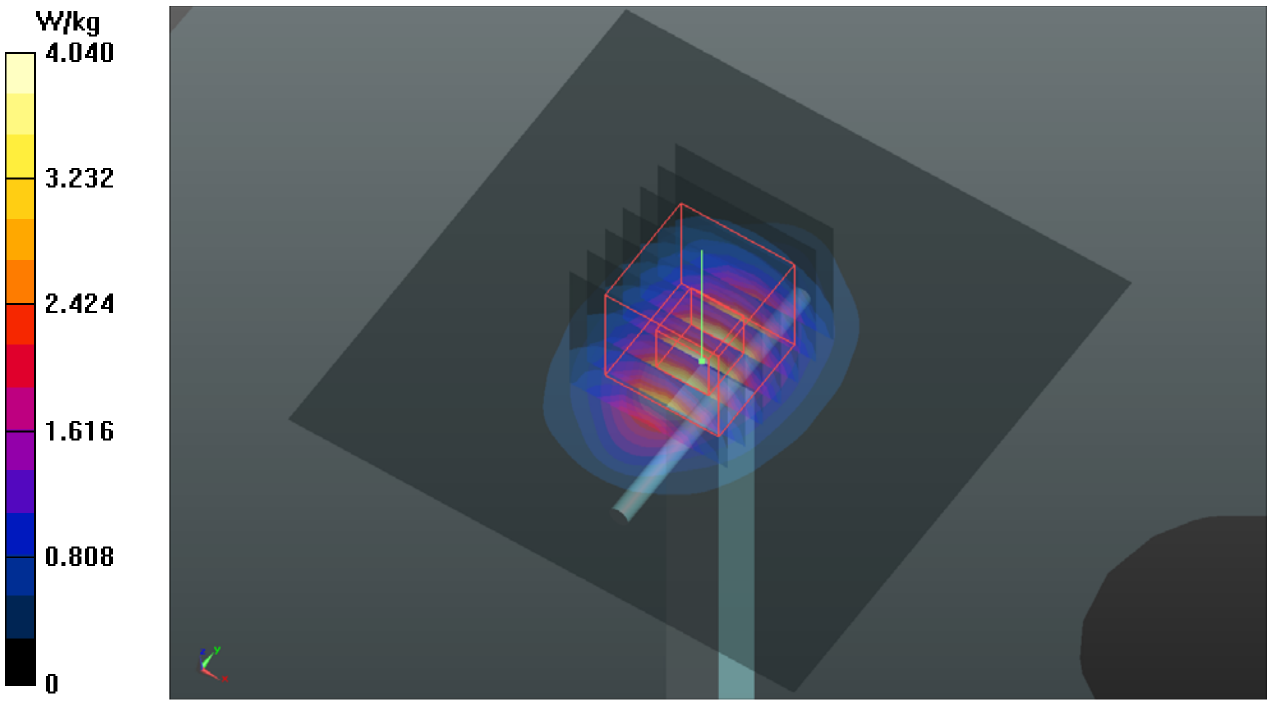
DUT: Dipole 2450 MHz; Type: D2450V2; SN: 903

Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: H19T27N1_0807 Medium parameters used (interpolated): f = 2450 MHz; σ = 1.862 S/m; ε_r = 37.942; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃； Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(7.7, 7.7, 7.7) @ 2450 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.04 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 47.84 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 4.90 W/kg
SAR(1 g) = 2.49 W/kg; SAR(10 g) = 1.15 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 4.01 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/8/31

System Check_H2600_200831

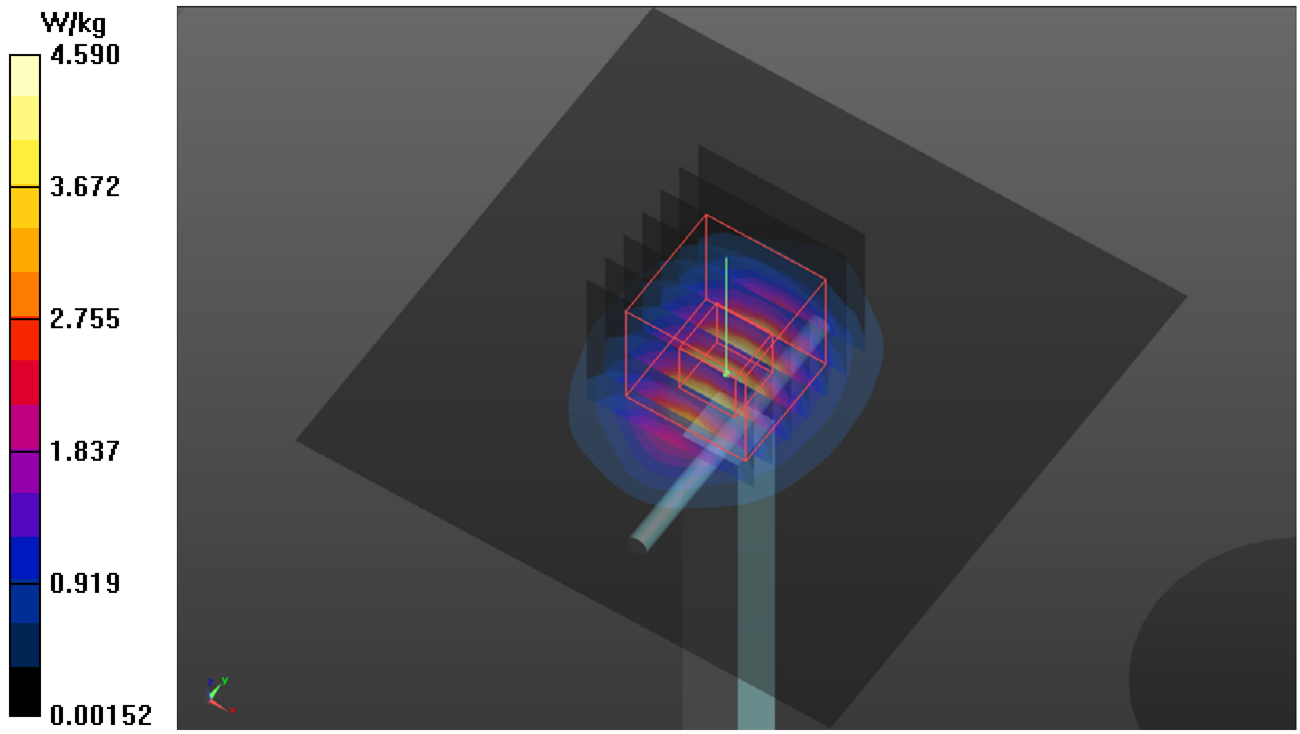
DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1077

Communication System: UID 0, CW; Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: H19T27N1_0831 Medium parameters used: f = 2600 MHz; σ = 2.025 S/m; ε_r = 38.938; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃； Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.67, 6.67, 6.67) @ 2600 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 4.59 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 48.53 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 5.87 W/kg
SAR(1 g) = 2.65 W/kg; SAR(10 g) = 1.19 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 4.67 W/kg



System Check_H5250_200808

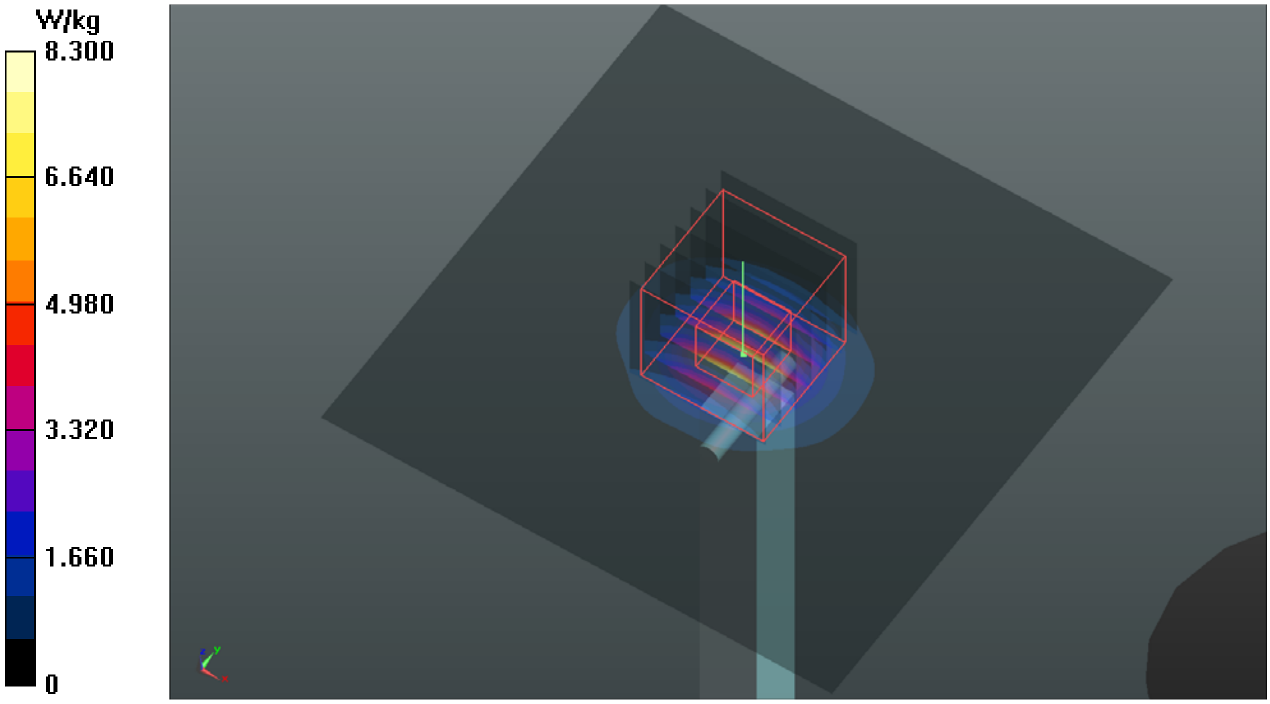
DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: UID 0, CW; Frequency: 5250 MHz;Duty Cycle: 1:1
Medium: H34T60N2_0808 Medium parameters used: f = 5250 MHz; σ = 4.757 S/m; ε_r = 36.931; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃；Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(5.31, 5.31, 5.31) @ 5250 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 8.30 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 47.53 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 13.8 W/kg
SAR(1 g) = 3.71 W/kg; SAR(10 g) = 1.12 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 8.89 W/kg



System Check_H5600_200808

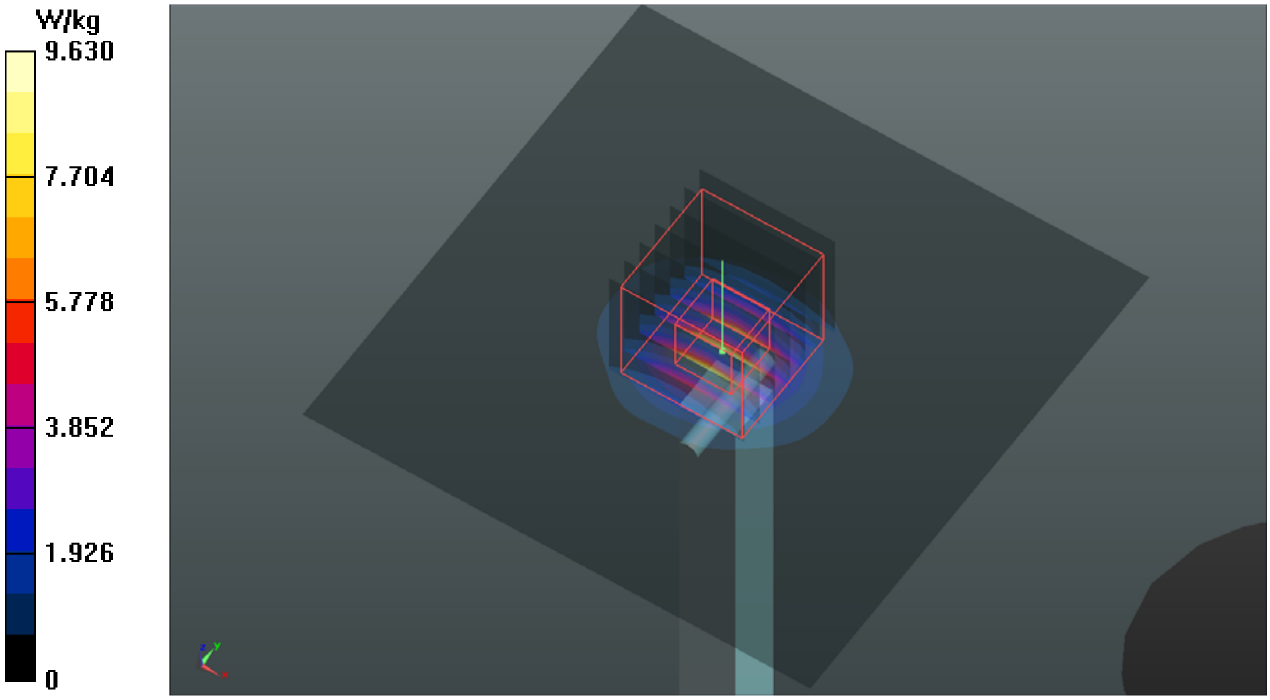
DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: UID 0, CW; Frequency: 5600 MHz;Duty Cycle: 1:1
Medium: H34T60N2_0808 Medium parameters used: f = 5600 MHz; σ = 5.199 S/m; ε_r = 36.179; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃； Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(4.55, 4.55, 4.55) @ 5600 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 9.63 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 48.76 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 17.3 W/kg
SAR(1 g) = 4.12 W/kg; SAR(10 g) = 1.24 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 10.3 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/08/08

System Check_H5750_200808

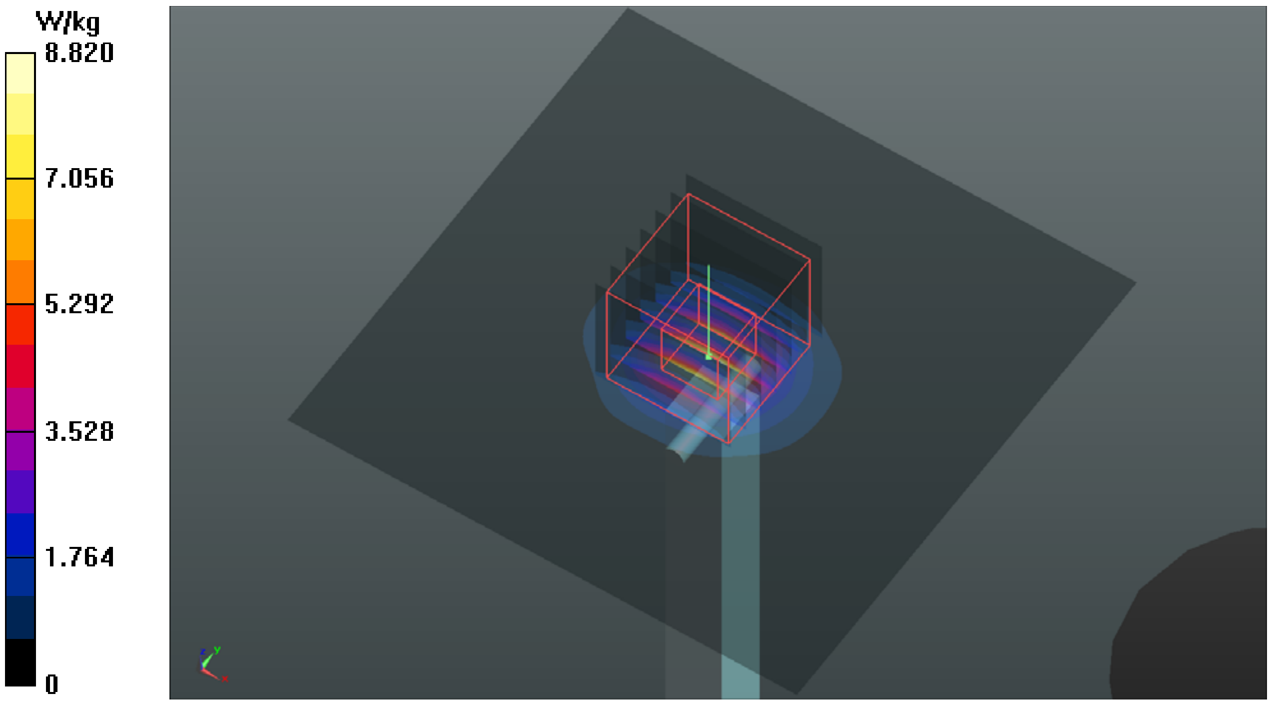
DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: UID 0, CW; Frequency: 5750 MHz;Duty Cycle: 1:1
Medium: H34T60N2_0808 Medium parameters used: f = 5750 MHz; σ = 5.374 S/m; ε_r = 35.896; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃；Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(4.75, 4.75, 4.75) @ 5750 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 8.82 W/kg

Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 45.88 V/m; Power Drift = -0.23 dB
Peak SAR (extrapolated) = 16.1 W/kg
SAR(1 g) = 3.72 W/kg; SAR(10 g) = 1.11 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 9.40 W/kg



Appendix B. SAR Plots of SAR Measurement

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination, and measured SAR > 1.5 W/kg are shown as follows.

P01 WCDMA II_RMC12.2k_Front Face_15mm_Ch9400_P-sensor_w_o

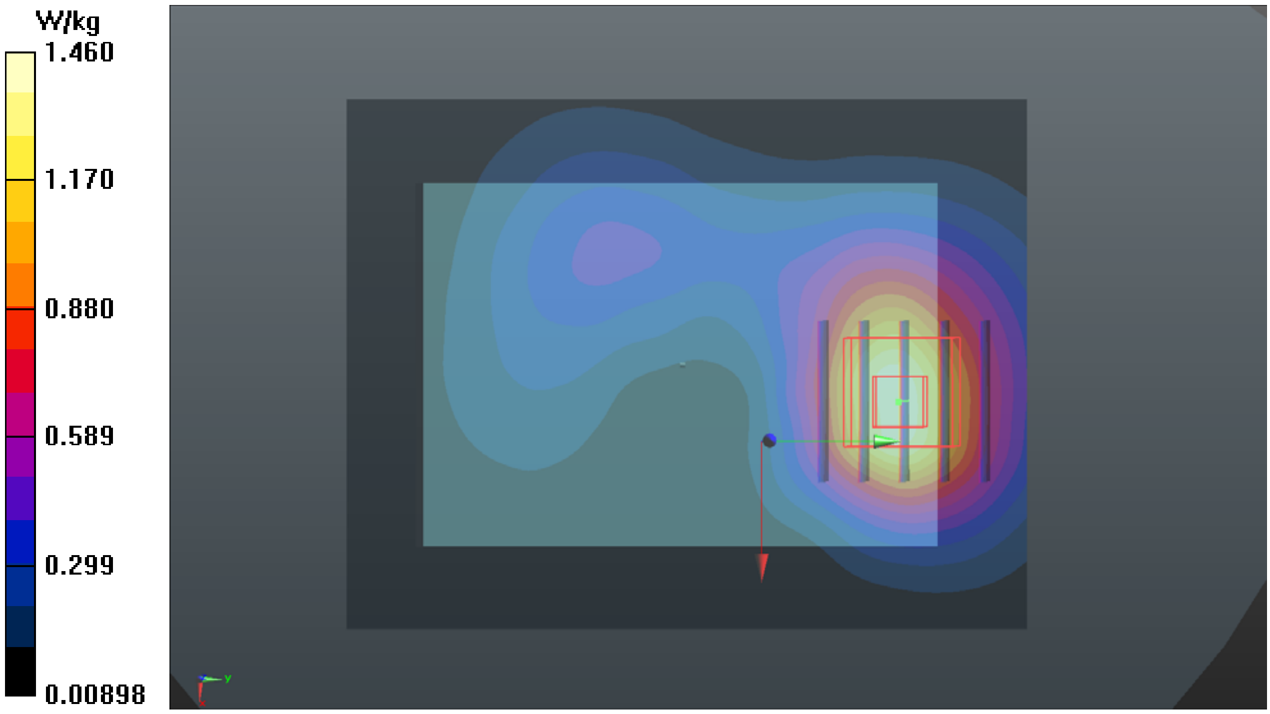
DUT: 200518C05

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1880 MHz;Duty Cycle: 1:1.95
Medium: H16T20N1_0904 Medium parameters used: f = 1880 MHz; σ = 1.443 S/m; ε_r = 38.835; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃； Liquid Temperature：23.0 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7537; ConvF(8.02, 8.02, 8.02) @ 1880 MHz; Calibrated: 2020/05/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2020/01/24
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.46 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.28 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.988 W/kg; SAR(10 g) = 0.602 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 16.7 mm
Ratio of SAR at M2 to SAR at M1 = 62.9%
Maximum value of SAR (measured) = 1.41 W/kg



P02 WCDMA IV_RMC12.2k_Front Face_15mm_Ch1413_P-sensor_w_o

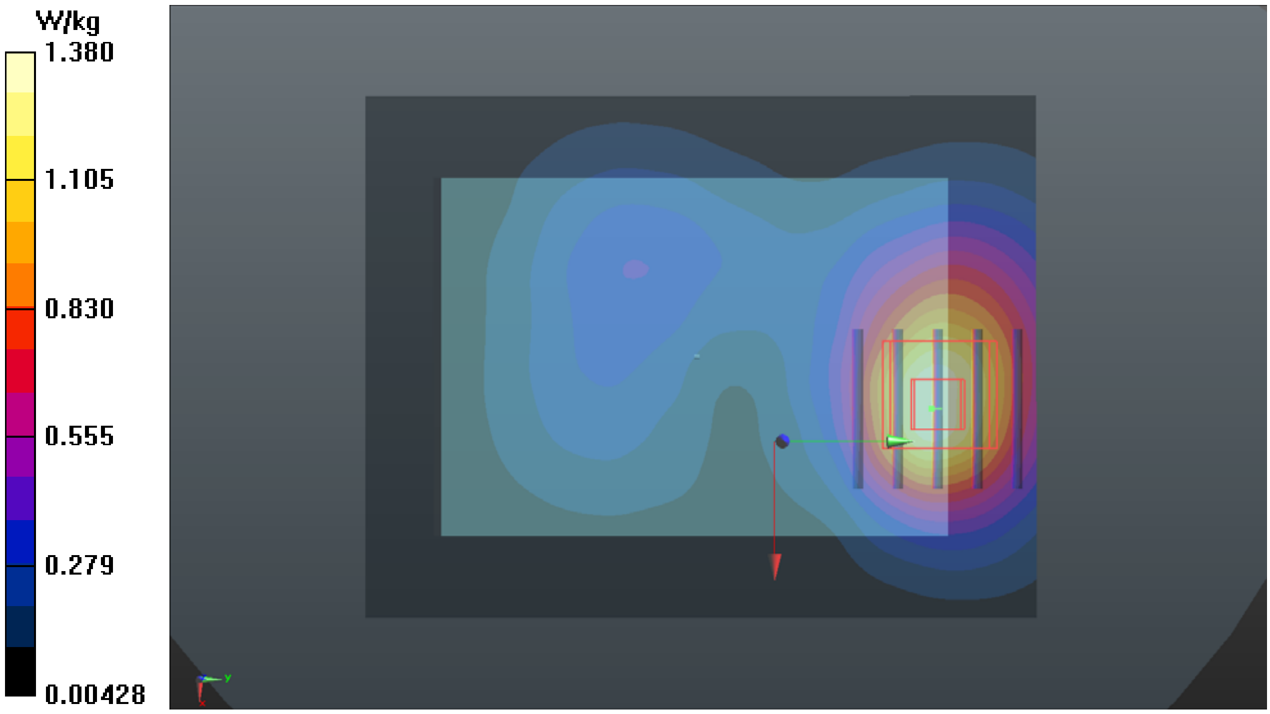
DUT: 200518C05

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1732.6 MHz;Duty Cycle: 1:1.95
Medium: H16T20N1_0904 Medium parameters used: f = 1733 MHz; σ = 1.31 S/m; ε_r = 39.387; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃； Liquid Temperature：23.0 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7537; ConvF(8.47, 8.47, 8.47) @ 1732.6 MHz; Calibrated: 2020/05/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2020/01/24
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.38 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.28 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.53 W/kg
SAR(1 g) = 0.998 W/kg; SAR(10 g) = 0.606 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 17.6 mm
Ratio of SAR at M2 to SAR at M1 = 64.1%
Maximum value of SAR (measured) = 1.34 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/08/31

P03 WCDMA V_RMC12.2K_Front Face_5mm_Ch4233_P-sensor_w

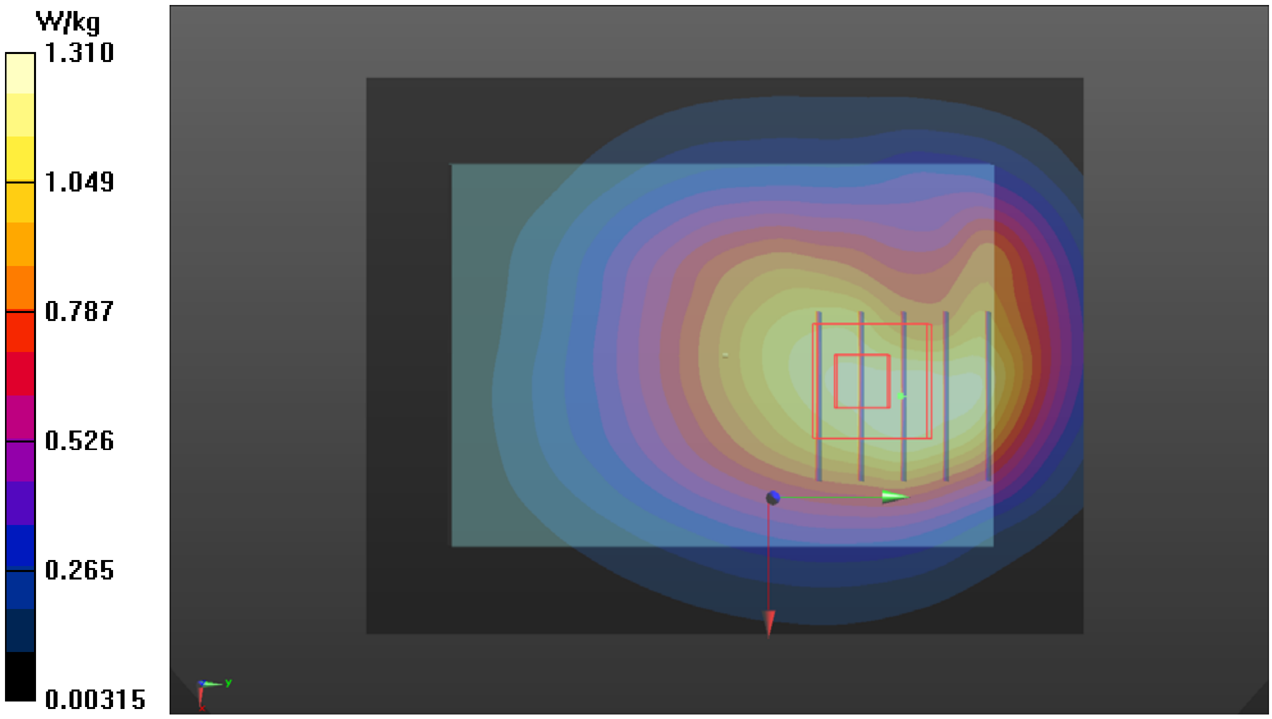
DUT: 200518C05

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 846.6 MHz;Duty Cycle: 1:1.95
Medium: H07T10N1_0831 Medium parameters used: f = 847 MHz; σ = 0.939 S/m; ε_r = 41.84; ρ = 1000 kg/m^3
Ambient Temperature：23.8 °C； Liquid Temperature：23.4 °C

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(9.01, 9.01, 9.01) @ 846.6 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.31 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 38.74 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 1 W/kg; SAR(10 g) = 0.711 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 18.1 mm
Ratio of SAR at M2 to SAR at M1 = 69.5%
Maximum value of SAR (measured) = 1.29 W/kg



P04 LTE 2_QPSK20M_Right Side_5mm_Ch18700_1RB_OS0_P-sensor_w

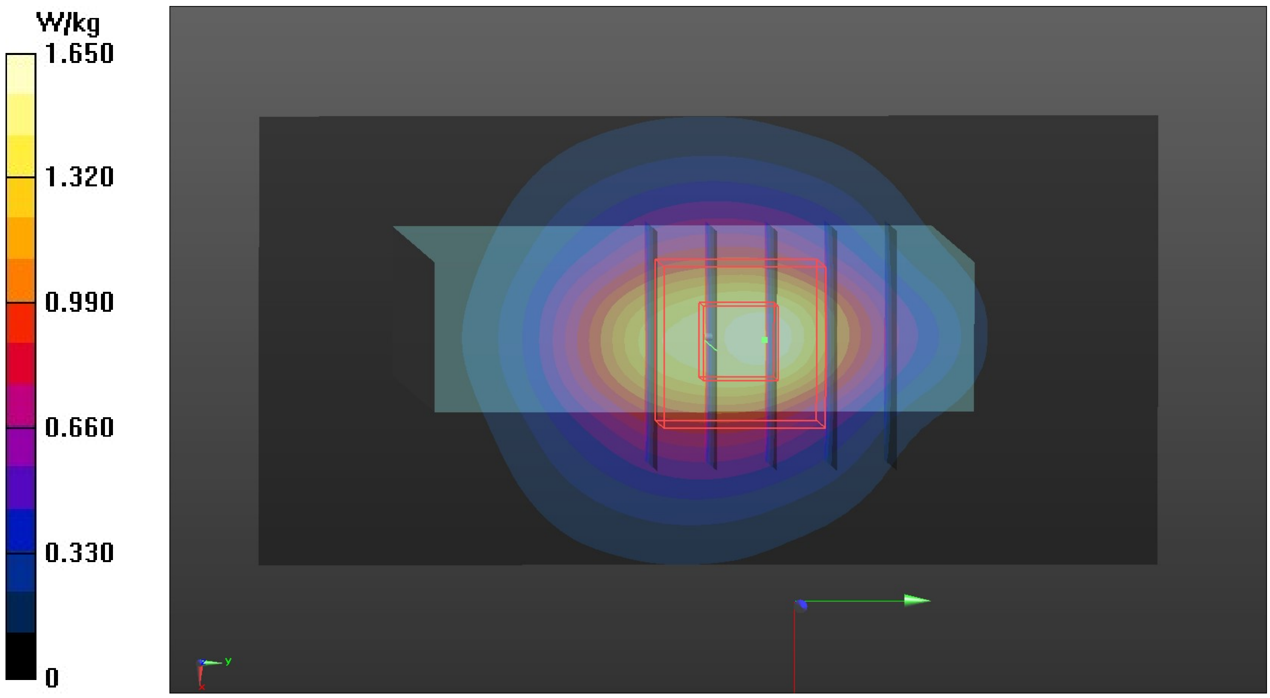
DUT: 200518C05

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 1860 MHz;Duty Cycle: 1:3.74
Medium: H16T20N1_0829 Medium parameters used: f = 1860 MHz; σ = 1.426 S/m; ε_r = 38.372; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃ ; Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(7.4, 7.4, 7.4) @ 1860 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (41x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.65 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 33.28 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.79 W/kg
SAR(1 g) = 0.976 W/kg; SAR(10 g) = 0.551 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 13.2 mm
Ratio of SAR at M2 to SAR at M1 = 54.5%
Maximum value of SAR (measured) = 1.48 W/kg



P05 LTE 4_QPSK20M_Right Side_5mm_Ch20050_1RB_OS0_P-sensor_w

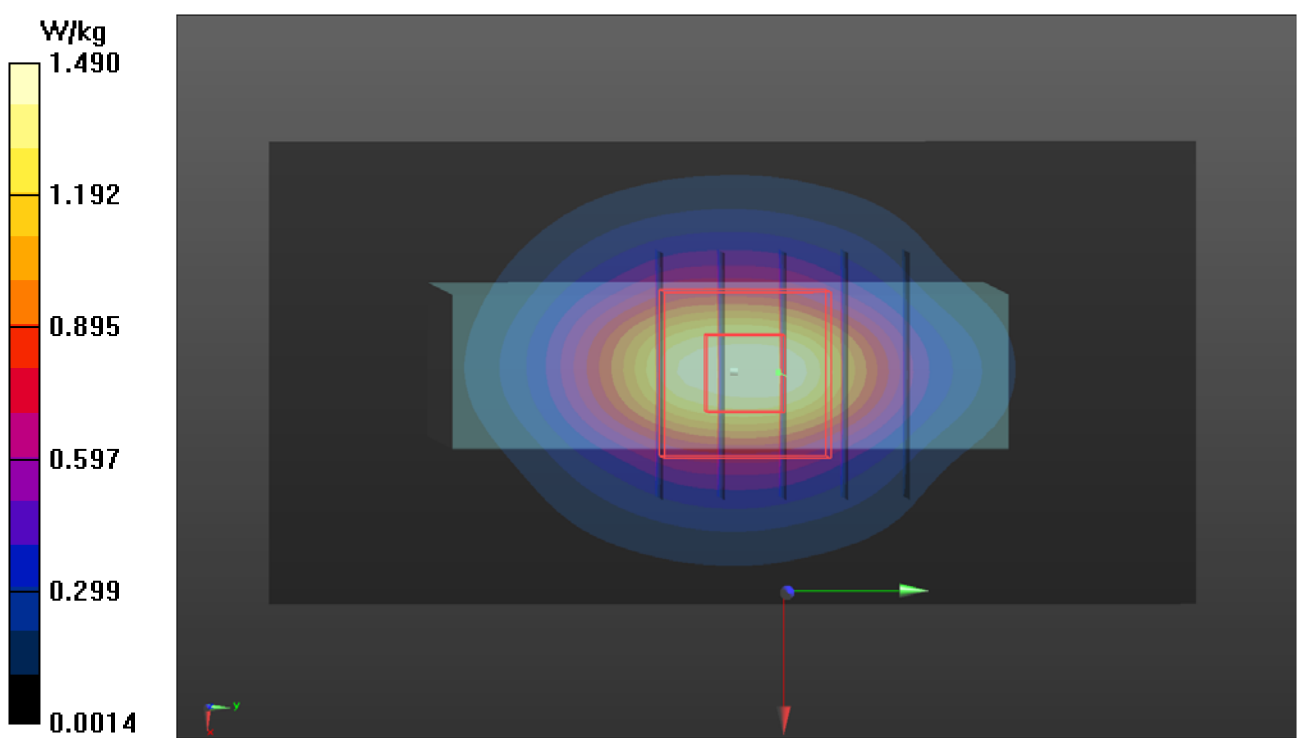
DUT: 200518C05

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 1720 MHz;Duty Cycle: 1:3.74
Medium: H16T20N1_0831 Medium parameters used: f = 1720 MHz; σ = 1.3 S/m; ε_r = 38.976; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃； Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(7.71, 7.71, 7.71) @ 1720 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (41x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.49 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.96 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.78 W/kg
SAR(1 g) = 0.983 W/kg; SAR(10 g) = 0.531 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 11.2 mm
Ratio of SAR at M2 to SAR at M1 = 54.7%
Maximum value of SAR (measured) = 1.46 W/kg



P06 LTE 5_QPSK10M_Front Face_5mm_Ch20450_1RB_OS0_P-sensor_w_o

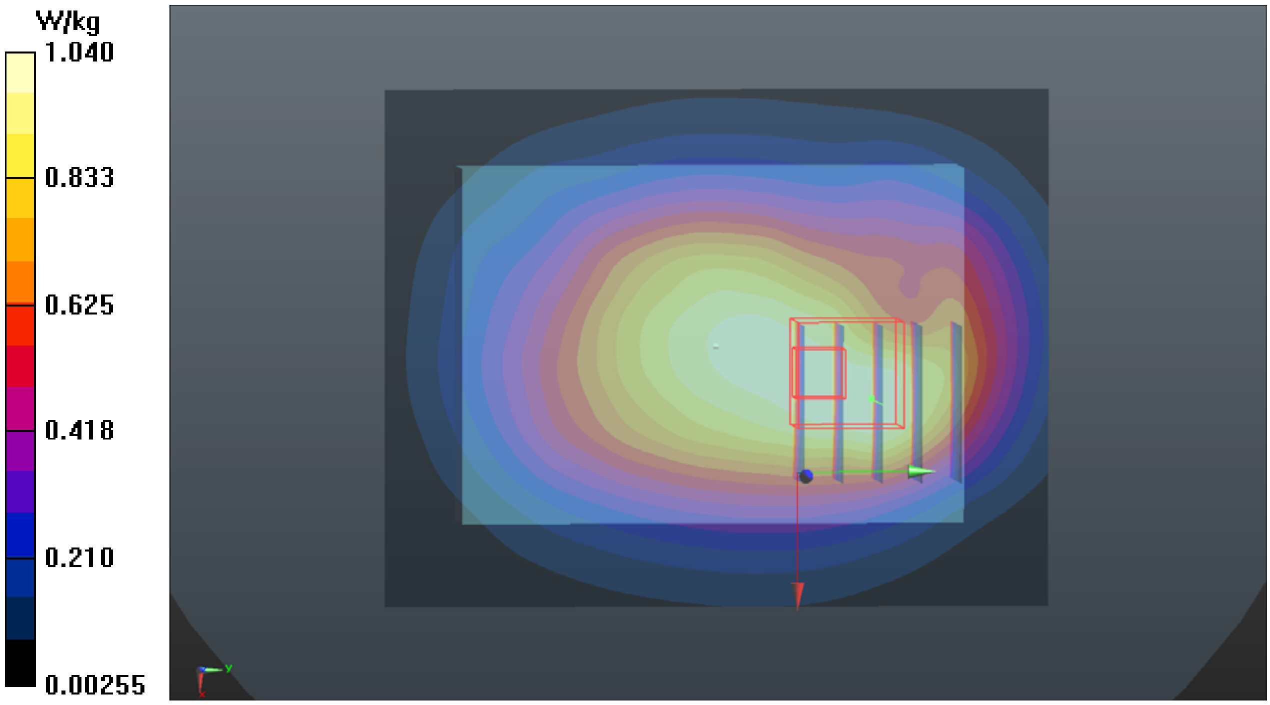
DUT: 200518C05

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);
Frequency: 829 MHz;Duty Cycle: 1:3.74
Medium: H07T10N2_0805 Medium parameters used: f = 829 MHz; σ = 0.921 S/m; ε_r = 42.468; ρ = 1000 kg/m^3
Ambient Temperature：23.6℃；Liquid Temperature：23.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(9.79, 9.79, 9.79) @ 829 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.04 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 35.54 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.811 W/kg; SAR(10 g) = 0.573 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 17.9 mm
Ratio of SAR at M2 to SAR at M1 = 68%
Maximum value of SAR (measured) = 1.03 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab   Date: 2020/08/31

P07 LTE 7_QPSK20M_Front Face_5mm_Ch20850_1RB_OS0_P-sensor_w

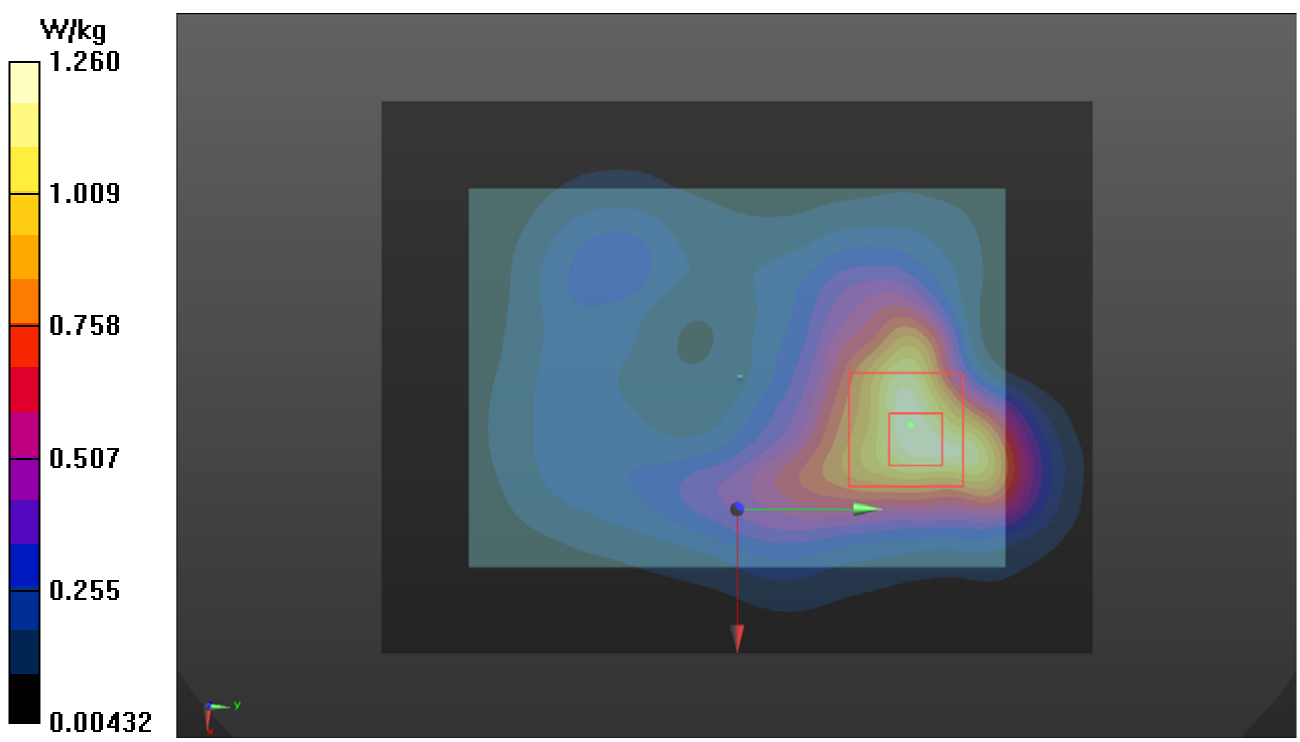
DUT: 200518C05

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 2510 MHz;Duty Cycle: 1:3.74
Medium: H19T27N1_0831 Medium parameters used: f = 2510 MHz; σ = 1.928 S/m; ε_r = 39.234; ρ = 1000 kg/m^3
Ambient Temperature：23.8 °C； Liquid Temperature：23.4 °C

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.67, 6.67, 6.67) @ 2510 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.26 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.92 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.768 W/kg; SAR(10 g) = 0.428 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 11 mm
Ratio of SAR at M2 to SAR at M1 = 53.8%
Maximum value of SAR (measured) = 1.15 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/08/06

P08 LTE 12_QPSK10M_Front Face_5mm_Ch23060_1RB_OS0_P-sensor_w_o

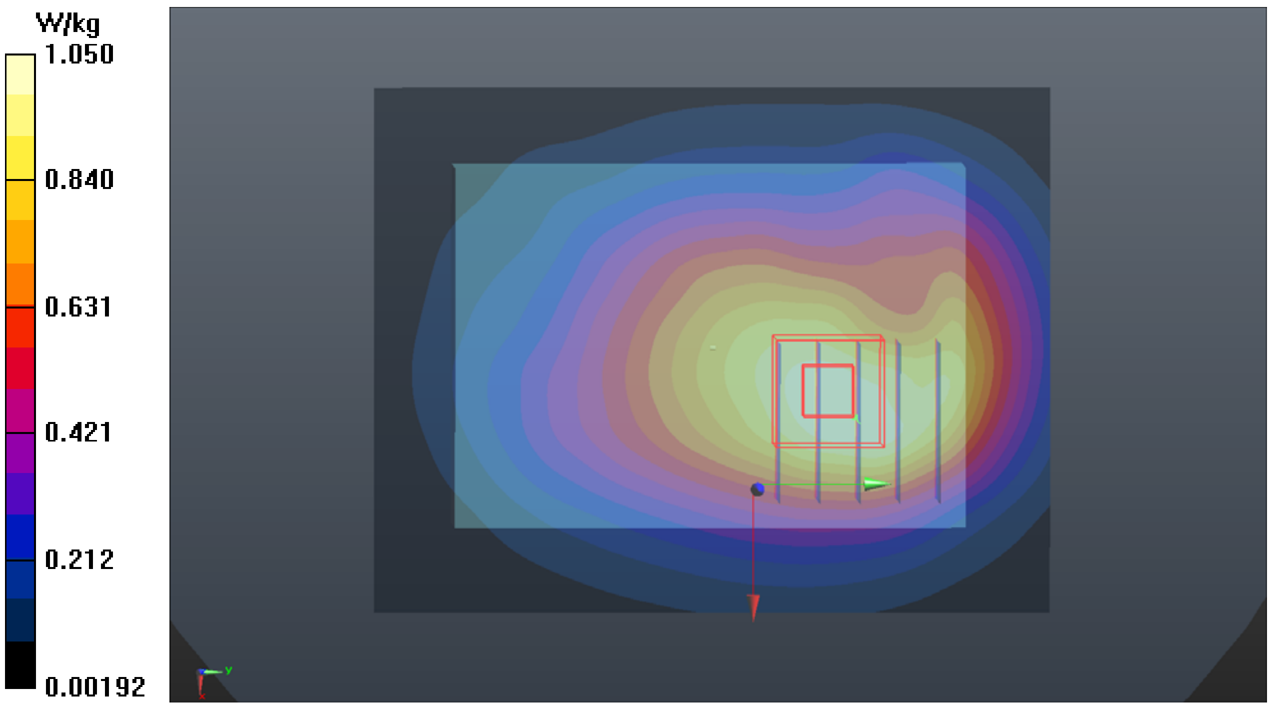
DUT: 200518C05

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);
Frequency: 704 MHz;Duty Cycle: 1:3.74
Medium: H06T09N1_0806 Medium parameters used: f = 704 MHz; $\sigma = 0.844$ S/m; $\varepsilon_r = 43.469$; $\rho = 1000$ kg/m^3
Ambient Temperature：23.7℃； Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(10, 10, 10) @ 704 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.05 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 37.50 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.19 W/kg
SAR(1 g) = 0.890 W/kg; SAR(10 g) = 0.620 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 23.1 mm
Ratio of SAR at M2 to SAR at M1 = 69.2%
Maximum value of SAR (measured) = 1.06 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/08/06

P09 LTE 13_QPSK10M_Front Face_5mm_Ch23230_1RB_OS0_P-sensor_w_o

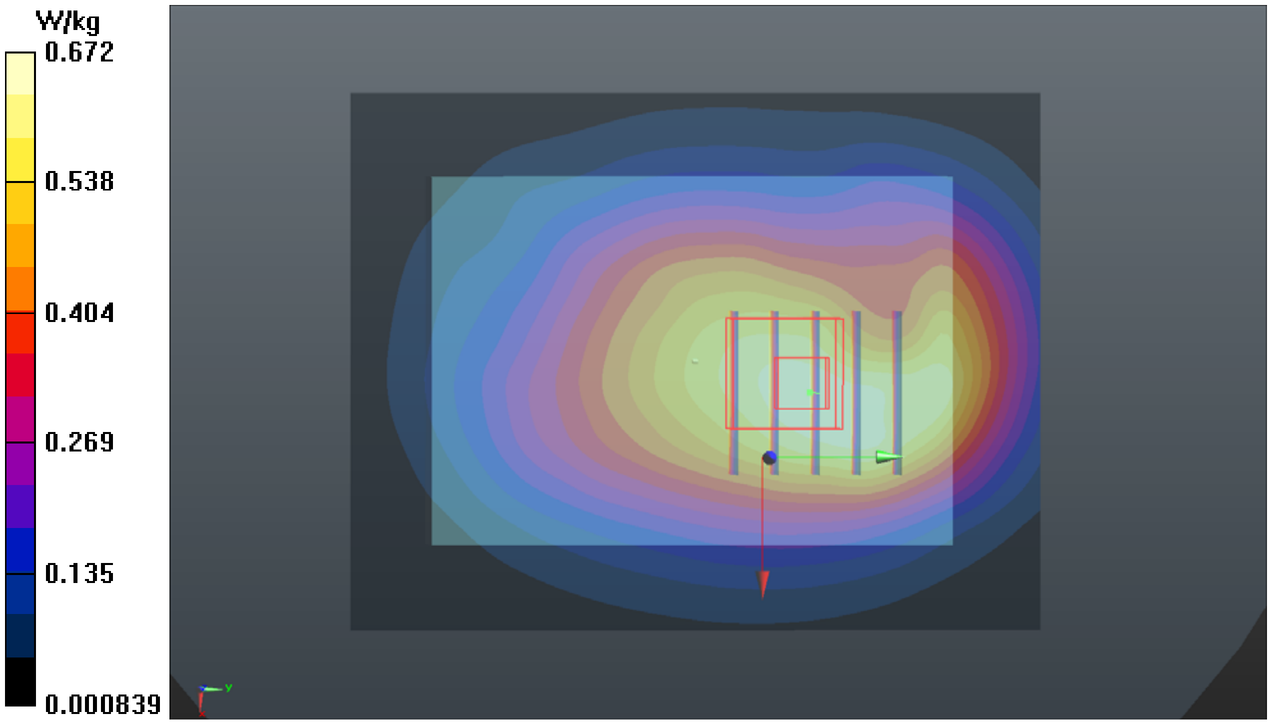
DUT: 200518C05

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);
Frequency: 782 MHz;Duty Cycle: 1:3.74
Medium: H06T09N1_0806 Medium parameters used: f = 782 MHz; σ = 0.912 S/m; ε_r = 42.371; ρ = 1000 kg/m^3
Ambient Temperature：23.7℃； Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(10, 10, 10) @ 782 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.672 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.78 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.752 W/kg
SAR(1 g) = 0.536 W/kg; SAR(10 g) = 0.390 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 74.8%
Maximum value of SAR (measured) = 0.665 W/kg



P10 LTE 14_QPSK10M_Front Face_5mm_Ch23330_1RB_OS0_P-sensor_w_o

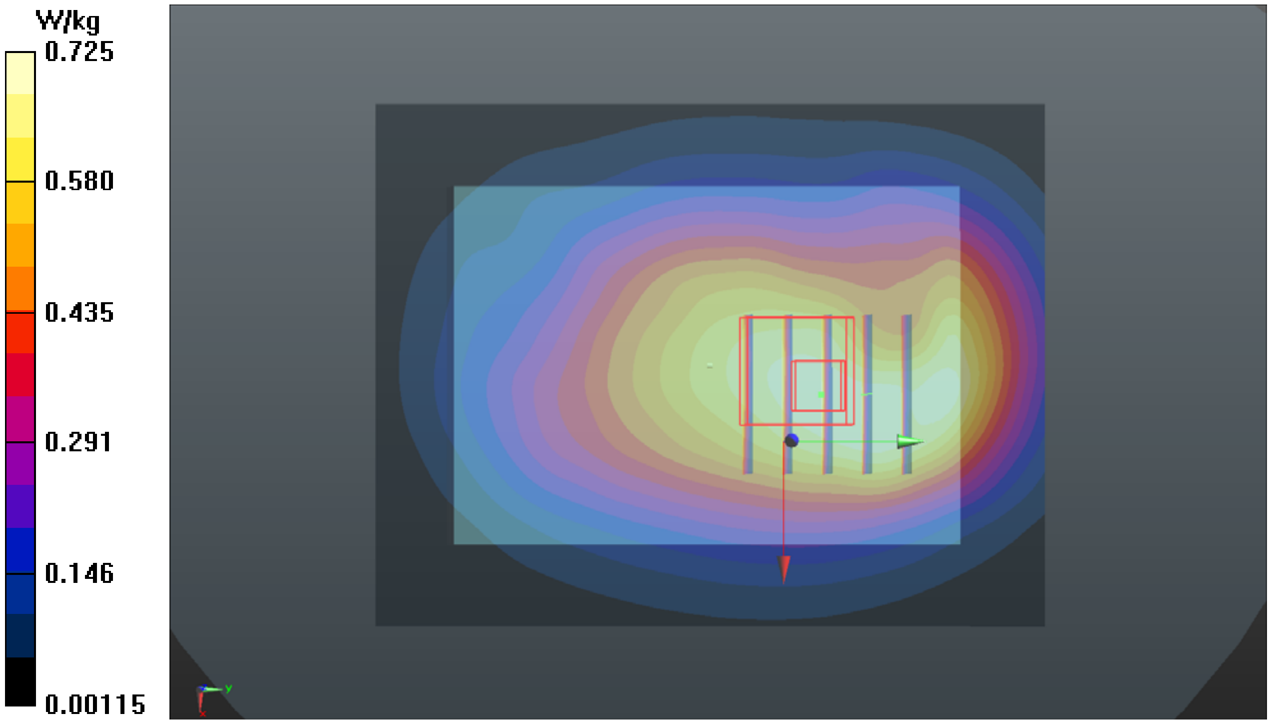
DUT: 200518C05

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);
Frequency: 793 MHz;Duty Cycle: 1:3.74
Medium: H06T09N1_0806 Medium parameters used: f = 793 MHz; σ = 0.922 S/m; ε_r = 42.216; ρ = 1000 kg/m^3
Ambient Temperature：23.7℃； Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(10, 10, 10) @ 793 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.725 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.93 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.841 W/kg
SAR(1 g) = 0.582 W/kg; SAR(10 g) = 0.424 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 69.2%
Maximum value of SAR (measured) = 0.734 W/kg



P11 LTE 25_QPSK20M_Right Side_5mm_Ch26140_1RB_OS0_P-sensor_w

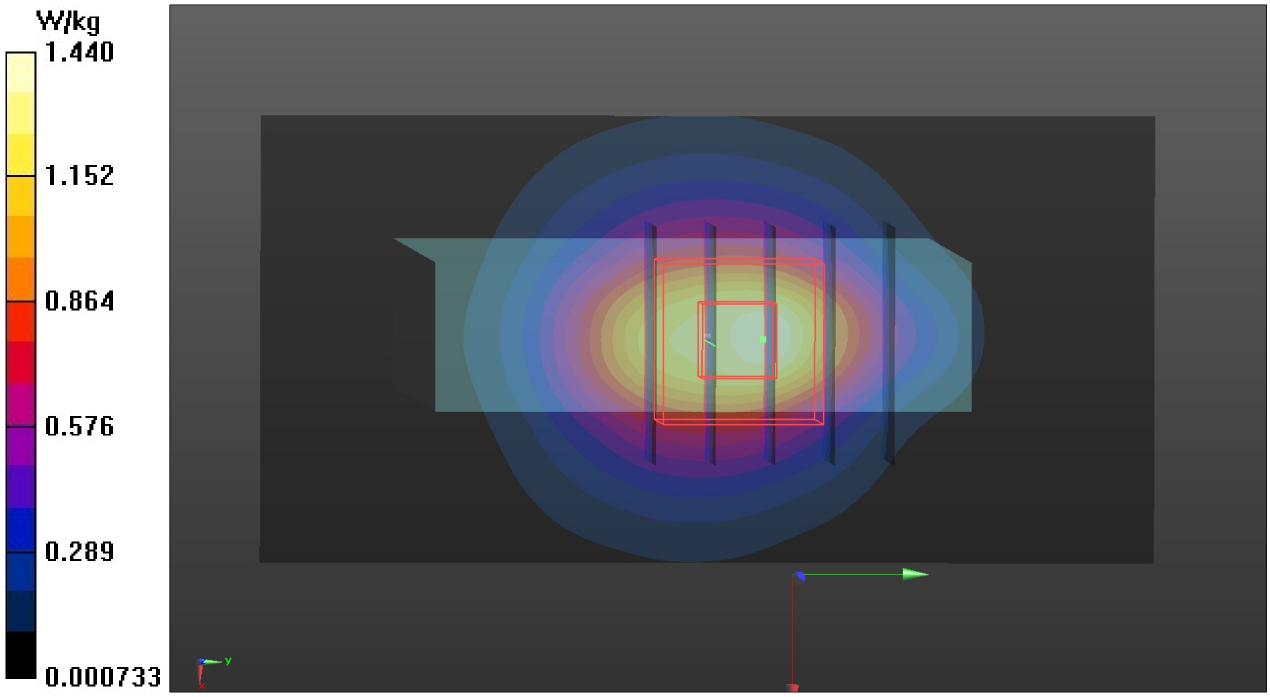
DUT: 200518C05

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 1860 MHz;Duty Cycle: 1:3.74
Medium: H16T20N1_0829 Medium parameters used: f = 1860 MHz; σ = 1.426 S/m; ε_r = 38.372; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃ ; Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(7.4, 7.4, 7.4) @ 1860 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (41x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.44 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.32 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.58 W/kg
SAR(1 g) = 0.860 W/kg; SAR(10 g) = 0.484 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 13.2 mm
Ratio of SAR at M2 to SAR at M1 = 54.3%
Maximum value of SAR (measured) = 1.31 W/kg



P12 LTE 26_QPSK15M_Front Face_5mm_Ch26865_1RB_OS0_P-sensor_w_o

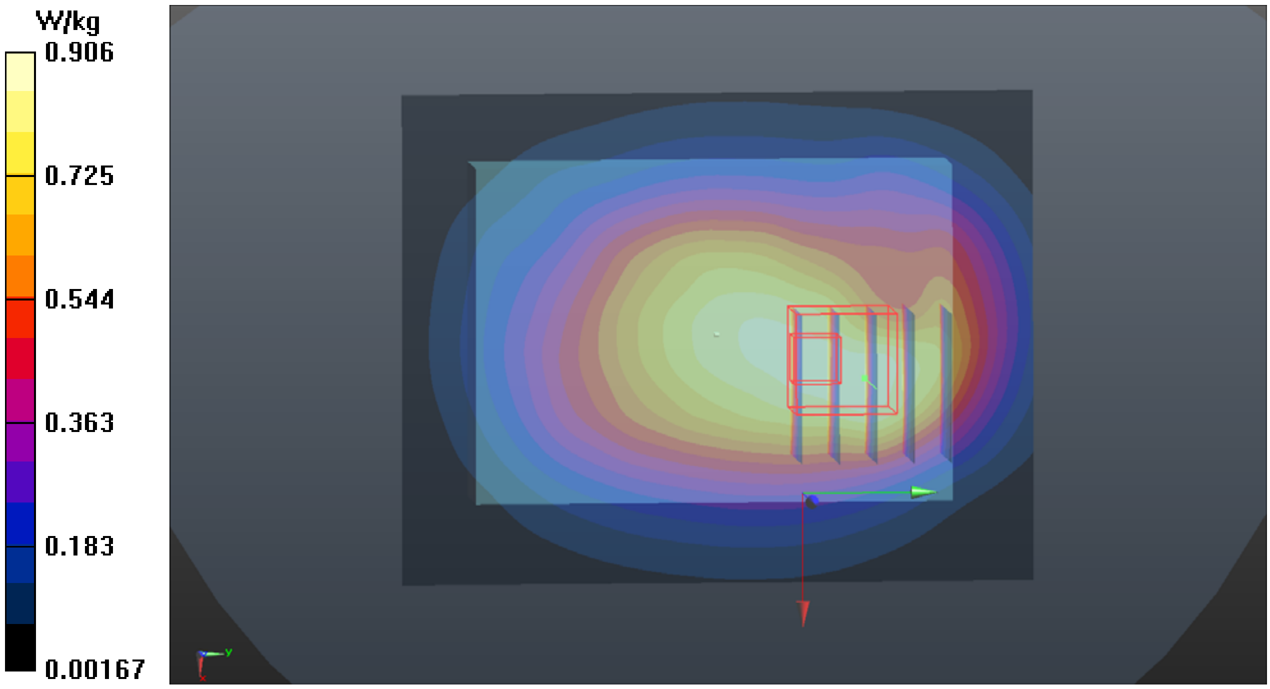
DUT: 200518C05

Communication System: UID 10181 - CAE, LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK);
Frequency: 831.5 MHz;Duty Cycle: 1:3.74
Medium: H07T10N2_0805 Medium parameters used (interpolated): f = 831.5 MHz; σ = 0.923 S/m; ε_r = 42.432; ρ = 1000 kg/m^3
Ambient Temperature：23.6℃； Liquid Temperature：23.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(9.79, 9.79, 9.79) @ 831.5 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.906 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.82 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.724 W/kg; SAR(10 g) = 0.499 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 19.5 mm
Ratio of SAR at M2 to SAR at M1 = 68.7%
Maximum value of SAR (measured) = 0.900 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/08/31

P13 LTE 30_QPSK10M_Front Face_5mm_Ch27710_1RB_OS0_P-sensor_w

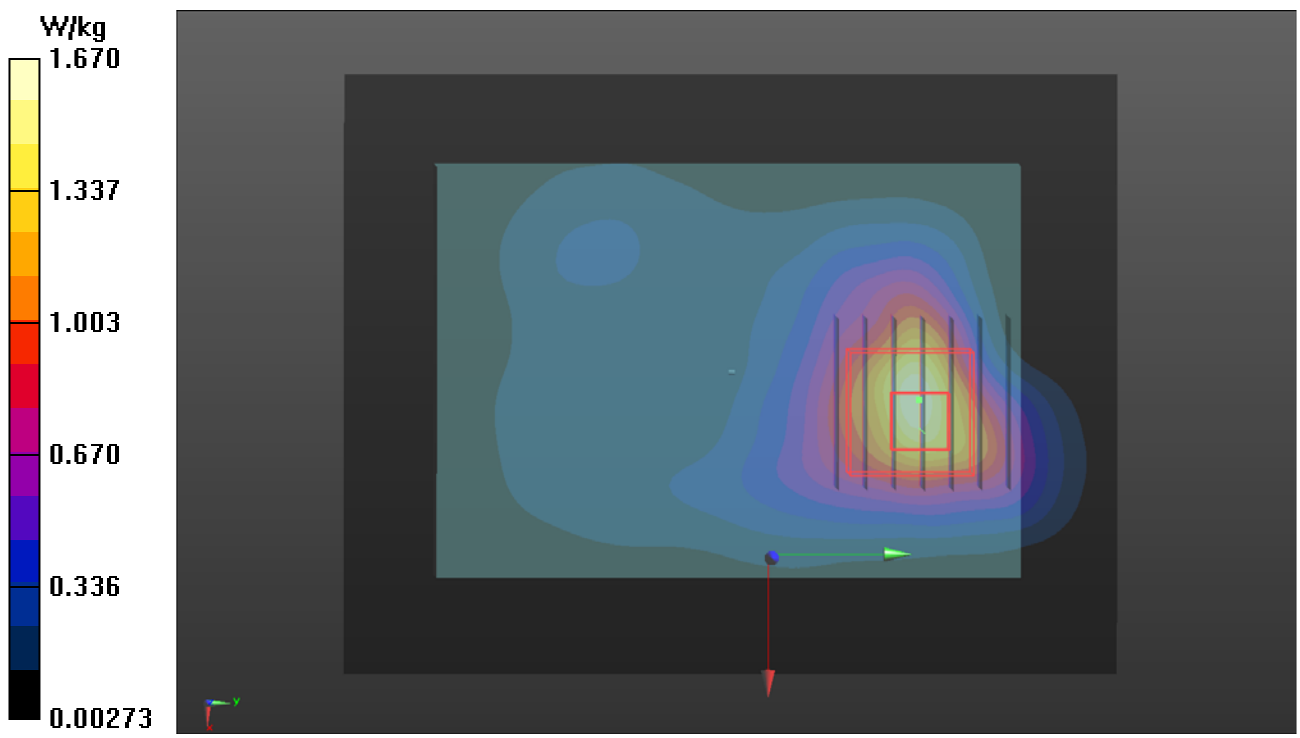
DUT: 200518C05

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);
Frequency: 2310 MHz;Duty Cycle: 1:3.74
Medium: H19T27N1_0831 Medium parameters used: f = 2310 MHz; σ = 1.719 S/m; ε_r = 39.89; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃；Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7537; ConvF(7.72, 7.72, 7.72) @ 2310 MHz; Calibrated: 2020/5/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.67 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.98 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 0.980 W/kg; SAR(10 g) = 0.544 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 11.2 mm
Ratio of SAR at M2 to SAR at M1 = 61.3%
Maximum value of SAR (measured) = 1.41 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/08/31

P14 LTE 38_QPSK20M_Front Face_5mm_Ch38150_1RB_OS0_P-sensor_w

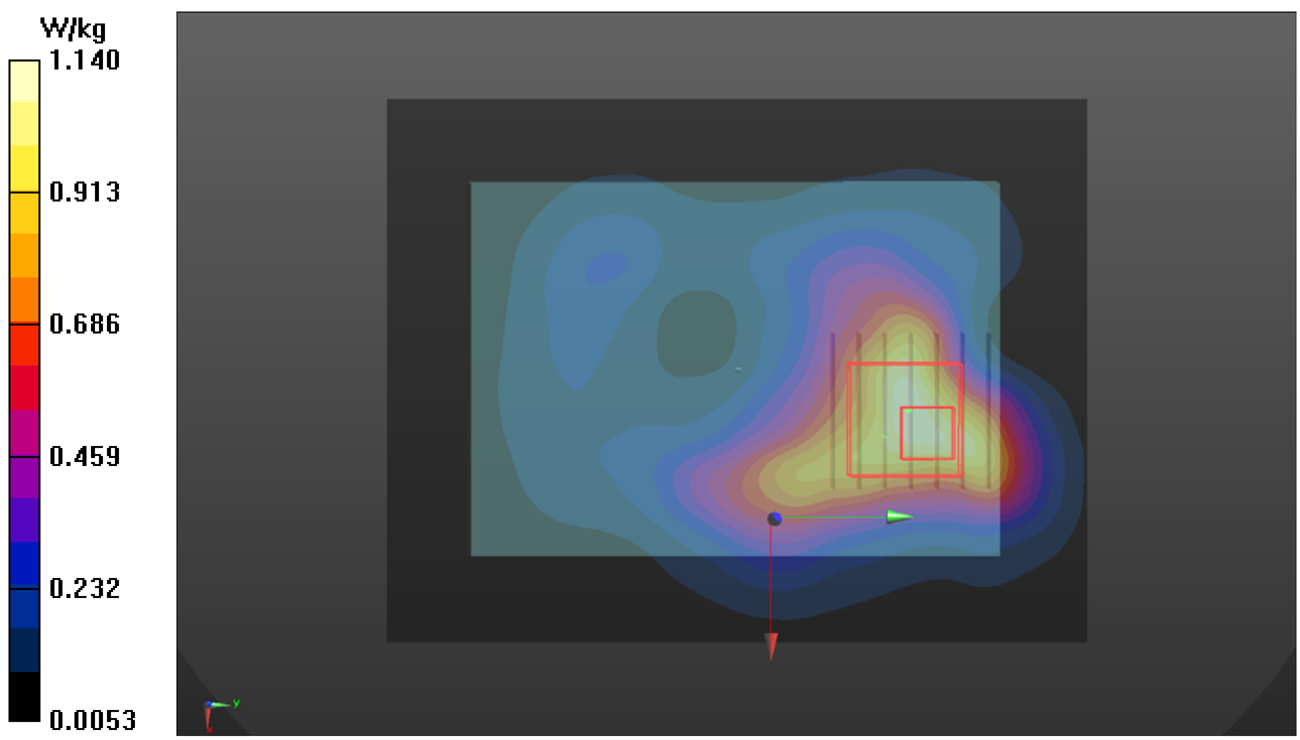
DUT: 200518C05

Communication System: UID 10172 - CAG, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 2610 MHz;Duty Cycle: 1:8.33
Medium: H19T27N1_0831 Medium parameters used (interpolated): f = 2610 MHz; σ = 2.036 S/m; ε_r = 38.908; ρ = 1000 kg/m^3
Ambient Temperature：23.8 °C； Liquid Temperature：23.4 °C

DASY5 Configuration:
- Probe: EX3DV4 - SN3820; ConvF(6.67, 6.67, 6.67) @ 2610 MHz; Calibrated: 2020/6/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.14 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.70 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.712 W/kg; SAR(10 g) = 0.403 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 10.8 mm
Ratio of SAR at M2 to SAR at M1 = 47.2%
Maximum value of SAR (measured) = 1.13 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/08/31

P15 LTE 40_QPSK20M_Front Face_5mm_Ch39150_1RB_OS0_P-sensor_w

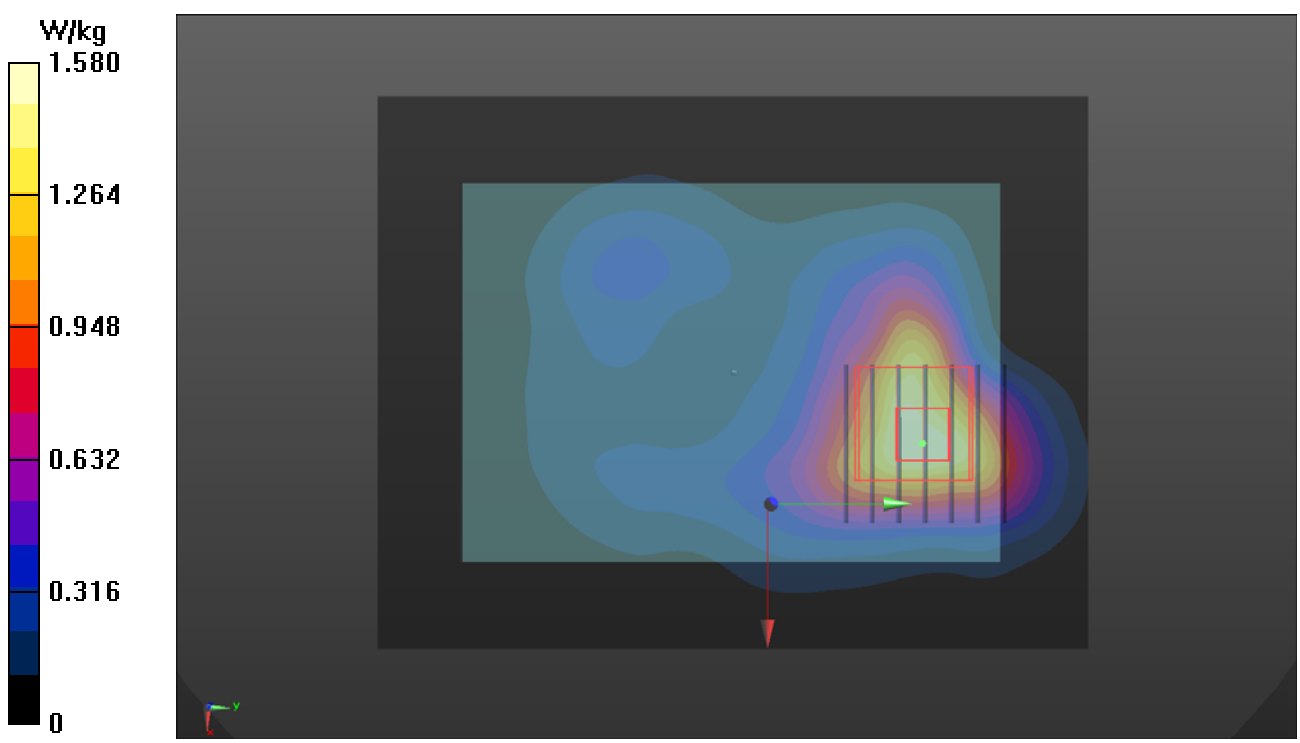
DUT: 200518C05

Communication System: UID 10172 - CAG, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 2350 MHz;Duty Cycle: 1:8.33
Medium: H19T27N1_0831 Medium parameters used: f = 2350 MHz; σ = 1.761 S/m; ε_r = 39.765; ρ = 1000 kg/m^3
Ambient Temperature：23.8 ℃； Liquid Temperature：23.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7537; ConvF(7.72, 7.72, 7.72) @ 2350 MHz; Calibrated: 2020/5/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2020/4/30
- Phantom: SAM Phantom_1982; Type: QD 000 P41 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.58 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.62 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.569 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 13 mm
Ratio of SAR at M2 to SAR at M1 = 60.5%
Maximum value of SAR (measured) = 1.46 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab   Date: 2020/09/02

P16 LTE 66_QPSK20M_Right Side_5mm_Ch132072_1RB_OS0_P-sensor_w

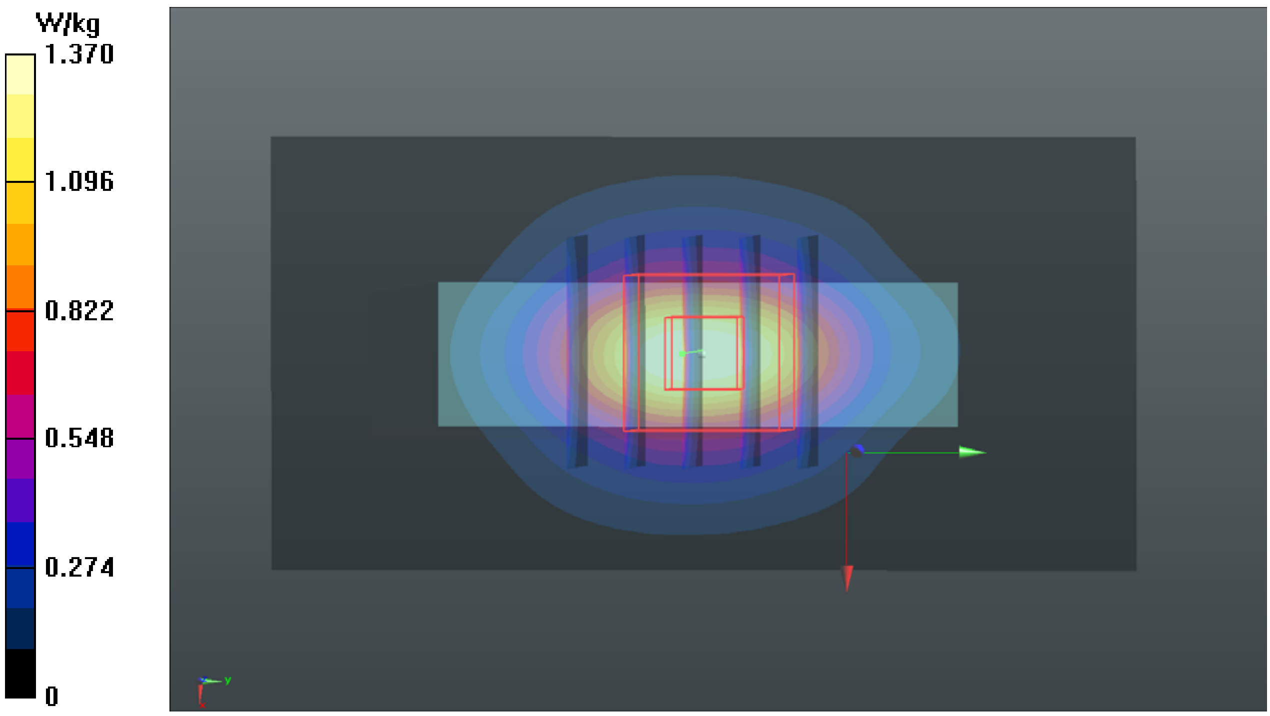
DUT: 200518C05

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 1720 MHz;Duty Cycle: 1:3.74
Medium: H16T20N1_0902 Medium parameters used: f = 1720 MHz; $\sigma = 1.297$ S/m; $\varepsilon_r = 39.117$; $\rho = 1000$ kg/m^3
Ambient Temperature：23.5℃；Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7537; ConvF(8.47, 8.47, 8.47) @ 1720 MHz; Calibrated: 2020/05/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn393; Calibrated: 2019/10/16
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (41x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.37 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 33.12 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.857 W/kg; SAR(10 g) = 0.455 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 11.2 mm
Ratio of SAR at M2 to SAR at M1 = 54.8%
Maximum value of SAR (measured) = 1.27 W/kg



P17 WLAN2.4G_802.11b_Bottom Side_5mm_Ch1

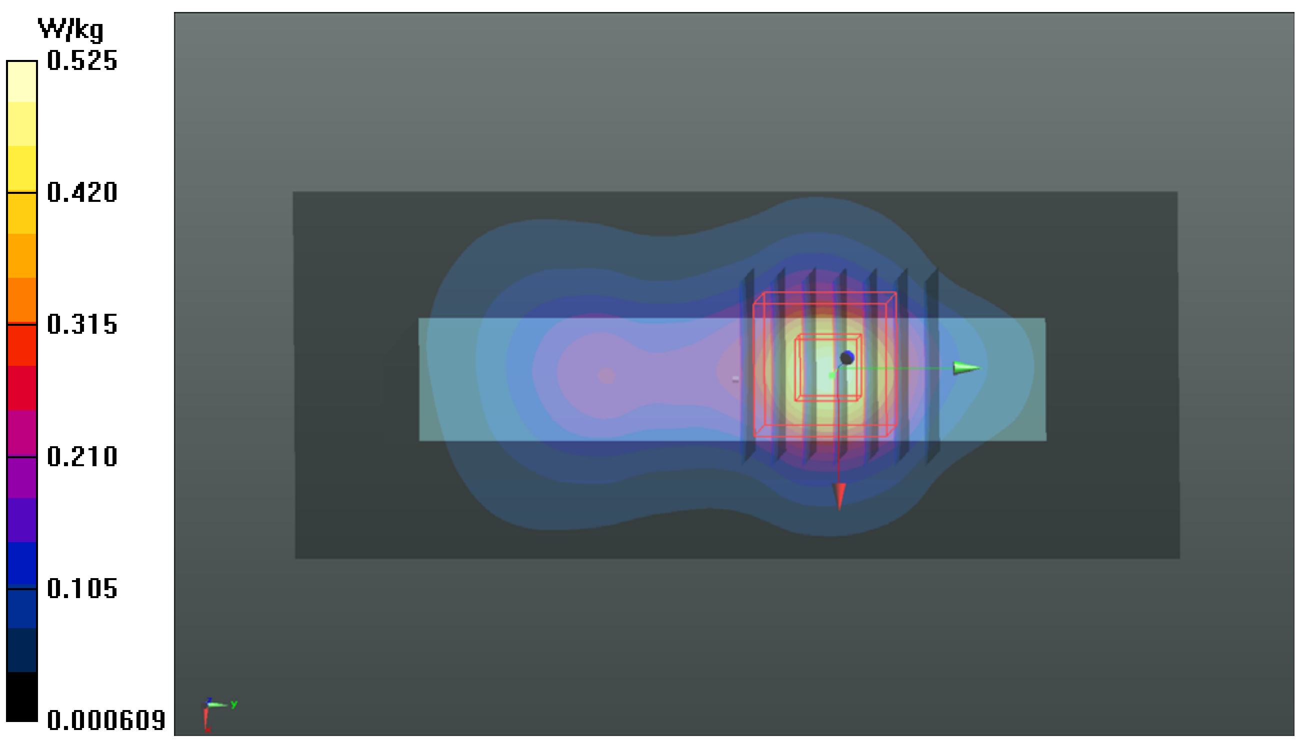
DUT: 200518C05

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps);
Frequency: 2412 MHz;Duty Cycle: 1:1.01
Medium: H19T27N1_0807 Medium parameters used: f = 2412 MHz; σ = 1.824 S/m; ε_r = 38.083; ρ = 1000 kg/m^3
Ambient Temperature：23.7 ℃； Liquid Temperature：23.1 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(7.7, 7.7, 7.7) @ 2412 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (51x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.525 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.68 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.606 W/kg
SAR(1 g) = 0.308 W/kg; SAR(10 g) = 0.149 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 11.4 mm
Ratio of SAR at M2 to SAR at M1 = 53%
Maximum value of SAR (measured) = 0.498 W/kg



P18 WLAN5.3G_802.11ac VHT80_Bottom Side_5mm_Ch58

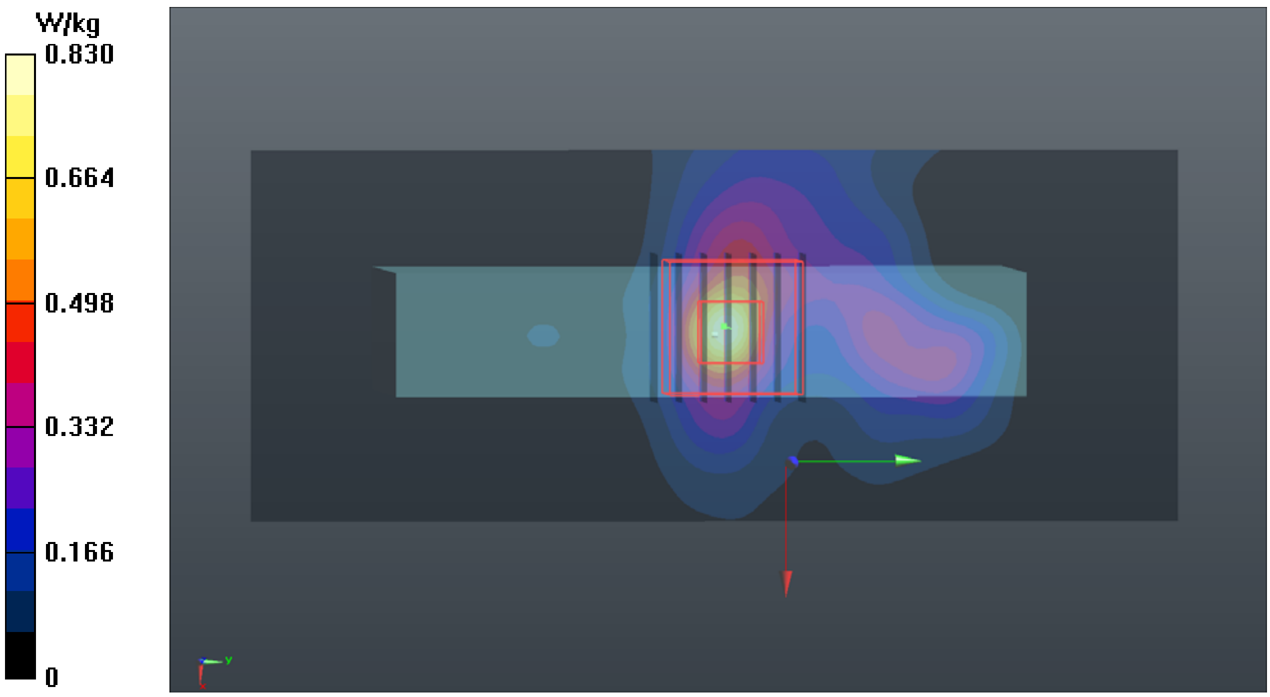
DUT: 200518C05

Communication System: UID 10626 - AAB, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle); Frequency: 5290 MHz;Duty Cycle: 1:1.06
Medium: H34T60N2_0808 Medium parameters used: f = 5290 MHz; σ = 4.809 S/m; ε_r = 36.869; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃； Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(5.31, 5.31, 5.31) @ 5290 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.830 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 14.05 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.126 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 8 mm
Ratio of SAR at M2 to SAR at M1 = 67.9%
Maximum value of SAR (measured) = 0.811 W/kg



P19 WLAN5.6G_802.11ac VHT80_Bottom Side_5mm_Ch106

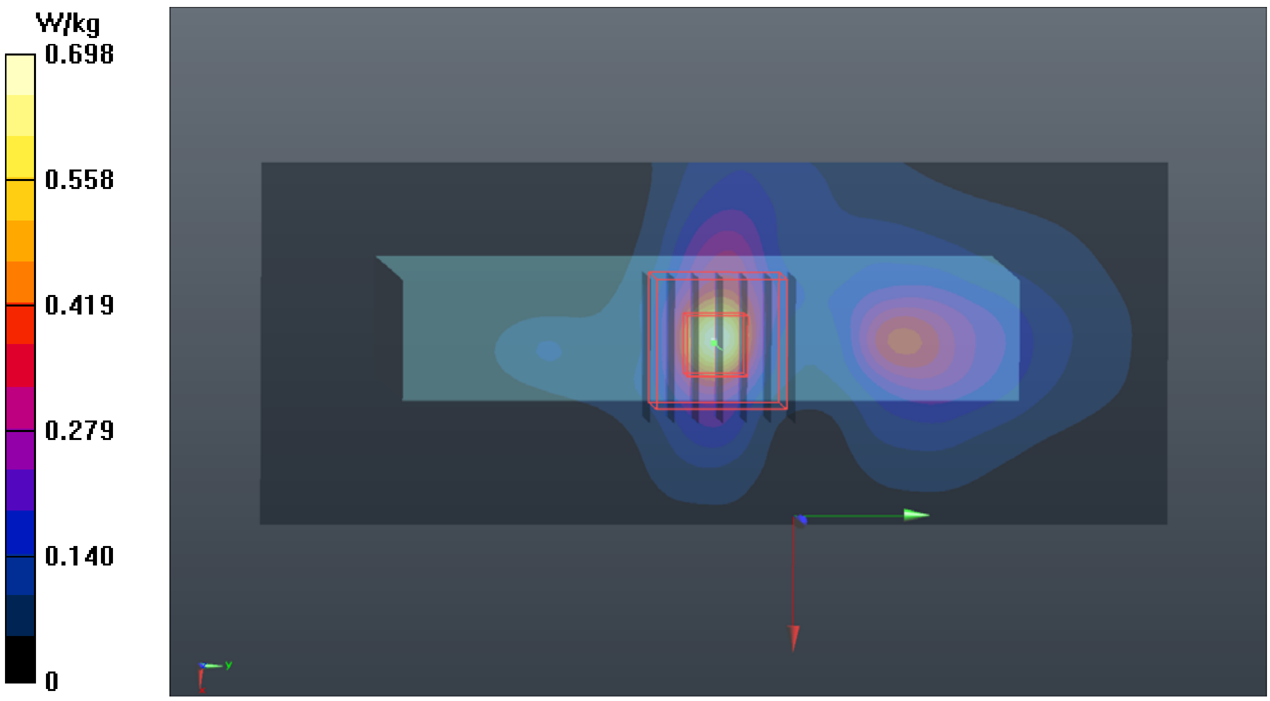
DUT: 200518C05

Communication System: UID 10626 - AAB, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle); Frequency: 5530 MHz;Duty Cycle: 1:1.06
Medium: H34T60N2_0808 Medium parameters used: f = 5530 MHz; σ = 5.101 S/m; ε_r = 36.349; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃； Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(4.55, 4.55, 4.55) @ 5530 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.698 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 12.95 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.302 W/kg; SAR(10 g) = 0.097 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 8.2 mm
Ratio of SAR at M2 to SAR at M1 = 64.6%
Maximum value of SAR (measured) = 0.708 W/kg



P20 WLAN5.8G_802.11ac VHT80_Bottom Side_5mm_Ch155

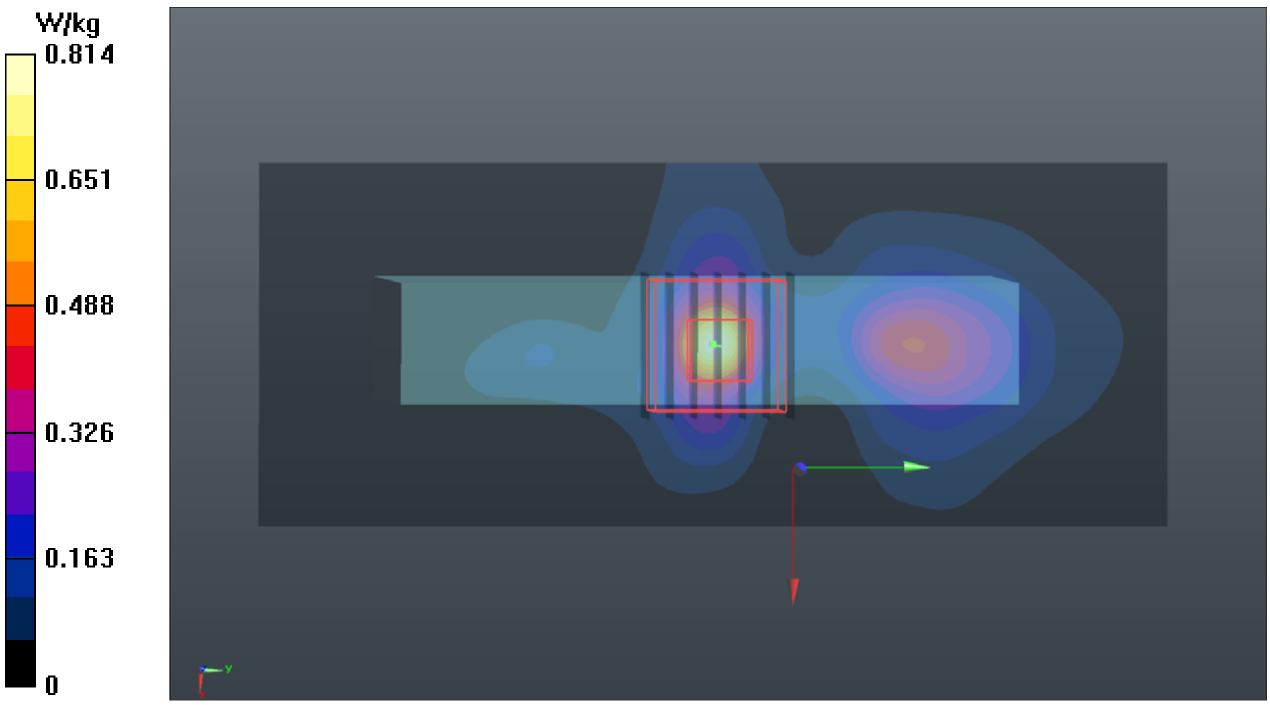
DUT: 200518C05

Communication System: UID 10626 - AAB, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle); Frequency: 5775 MHz;Duty Cycle: 1:1.06
Medium: H34T60N2_0808 Medium parameters used: f = 5775 MHz; σ = 5.396 S/m; ε_r = 35.832; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃； Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(4.75, 4.75, 4.75) @ 5775 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.814 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 13.63 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.348 W/kg; SAR(10 g) = 0.108 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 8.5 mm
Ratio of SAR at M2 to SAR at M1 = 63.4%
Maximum value of SAR (measured) = 0.821 W/kg



P21 BT_BDR_Bottom Side_5mm_Ch0

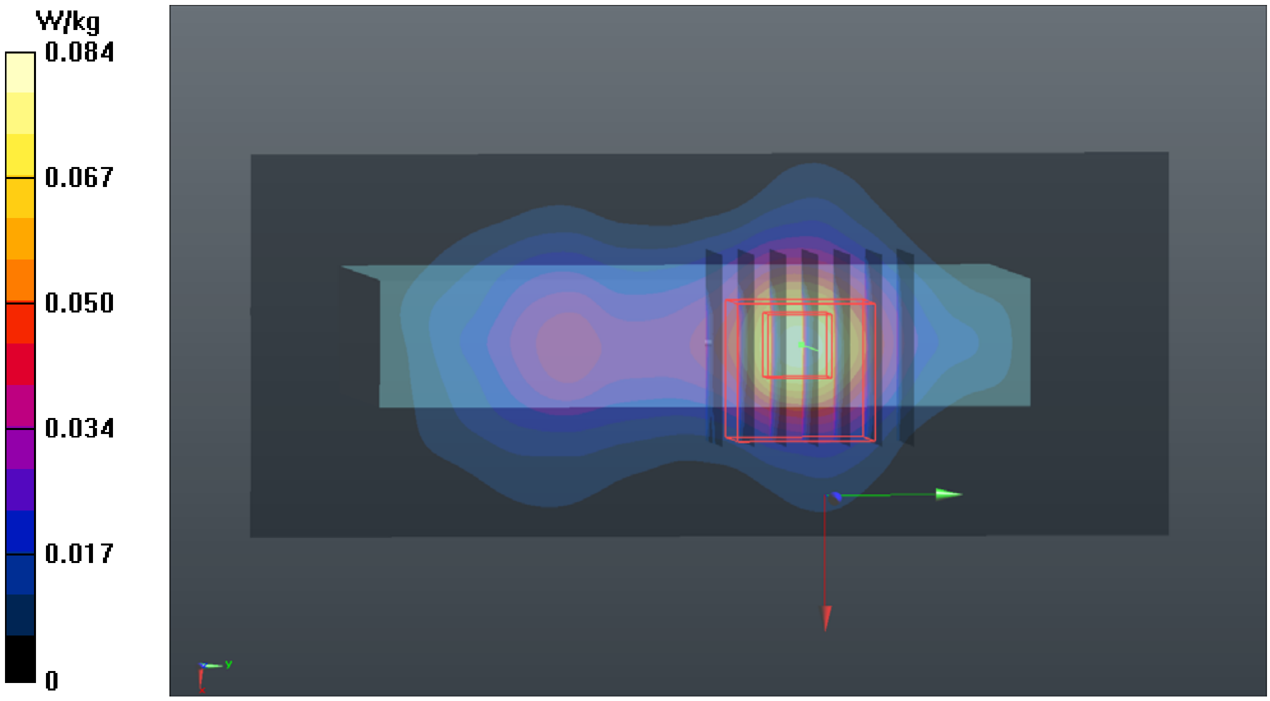
DUT: 200518C05

Communication System: UID 10032 - CAA, IEEE 802.15.1 Bluetooth (GFSK, DH5); Frequency: 2402 MHz;Duty Cycle: 1:1.30
Medium: H19T27N1_0807 Medium parameters used (interpolated): f = 2402 MHz; σ = 1.814 S/m; ε_r = 38.112; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃；Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7350; ConvF(7.7, 7.7, 7.7) @ 2402 MHz; Calibrated: 2019/12/16
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn917; Calibrated: 2019/12/17
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (51x121x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.0840 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.348 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.155 W/kg
SAR(1 g) = 0.055 W/kg; SAR(10 g) = 0.022 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 6 mm
Ratio of SAR at M2 to SAR at M1 = 52%
Maximum value of SAR (measured) = 0.0834 W/kg



P22 WCDMA II_RMC12.2K_Rear Face_0mm_Ch9538_Holster_w_P-sensor_w_o

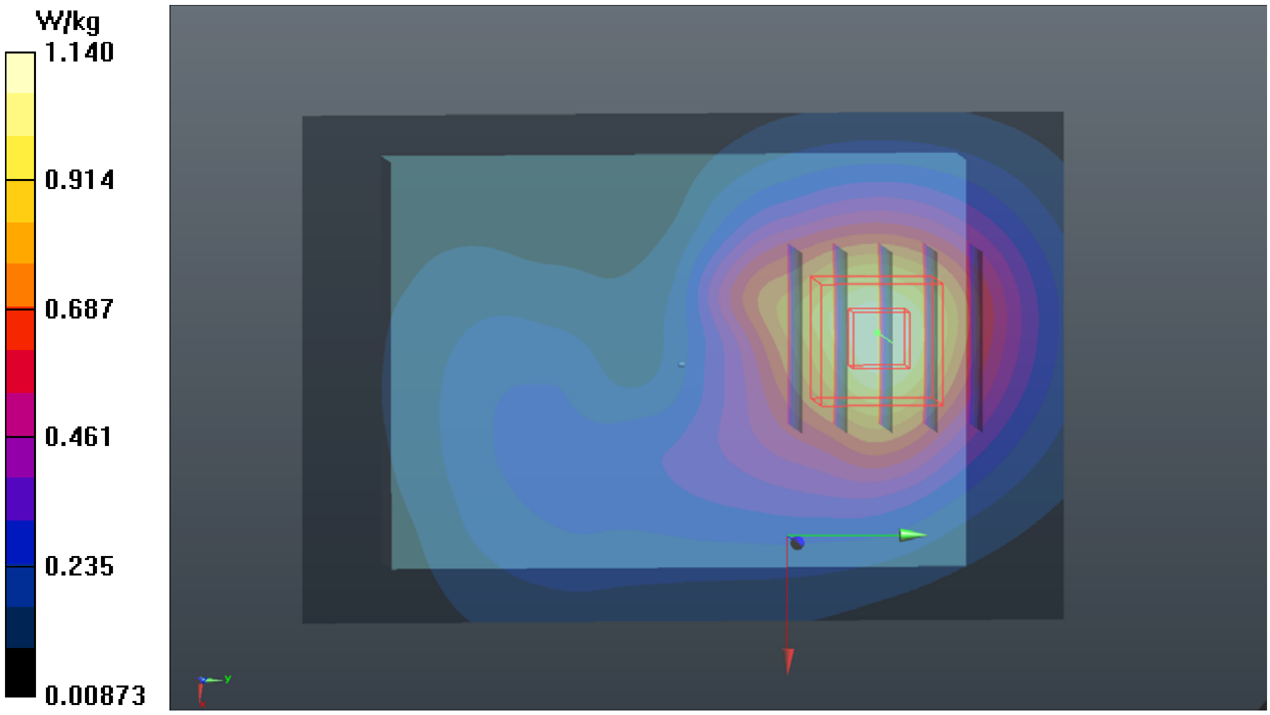
DUT: 200518C05

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1907.6 MHz;Duty Cycle: 1:1.95
Medium: H16T20N1_0902 Medium parameters used: f = 1908 MHz; σ = 1.46 S/m; ε_r = 38.416; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃； Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3971; ConvF(8.54, 8.54, 8.54) @ 1907.6 MHz; Calibrated: 2020/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2020/01/24
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.14 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.16 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.790 W/kg; SAR(10 g) = 0.479 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 18.7 mm
Ratio of SAR at M2 to SAR at M1 = 62.7%
Maximum value of SAR (measured) = 1.13 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab   Date: 2020/09/02

P23 WCDMA IV_RMC12.2K_Rear Face_0mm_Ch1312_Holster_w_P-sensor_w_o

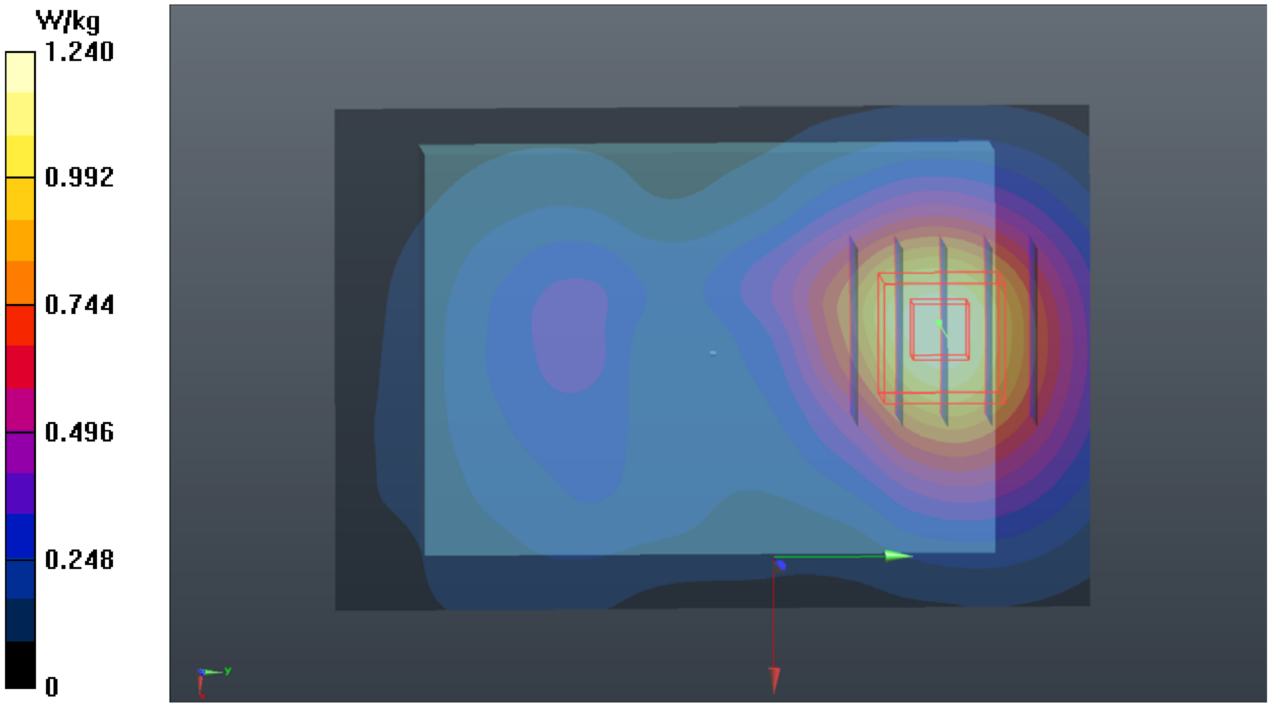
DUT: 200518C05

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1712.4 MHz;Duty Cycle: 1:1.95
Medium: H16T20N1_0902 Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.29 S/m; ε_r = 39.152; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃；Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3971; ConvF(8.73, 8.73, 8.73) @ 1712.4 MHz; Calibrated: 2020/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2020/01/24
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.24 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.19 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.925 W/kg; SAR(10 g) = 0.565 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 19.5 mm
Ratio of SAR at M2 to SAR at M1 = 64.1%
Maximum value of SAR (measured) = 1.24 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/09/02

P24 WCDMA V_RMC12.2K_Rear Face_0mm_Ch4233_Holster_w_P-sensor_w_o

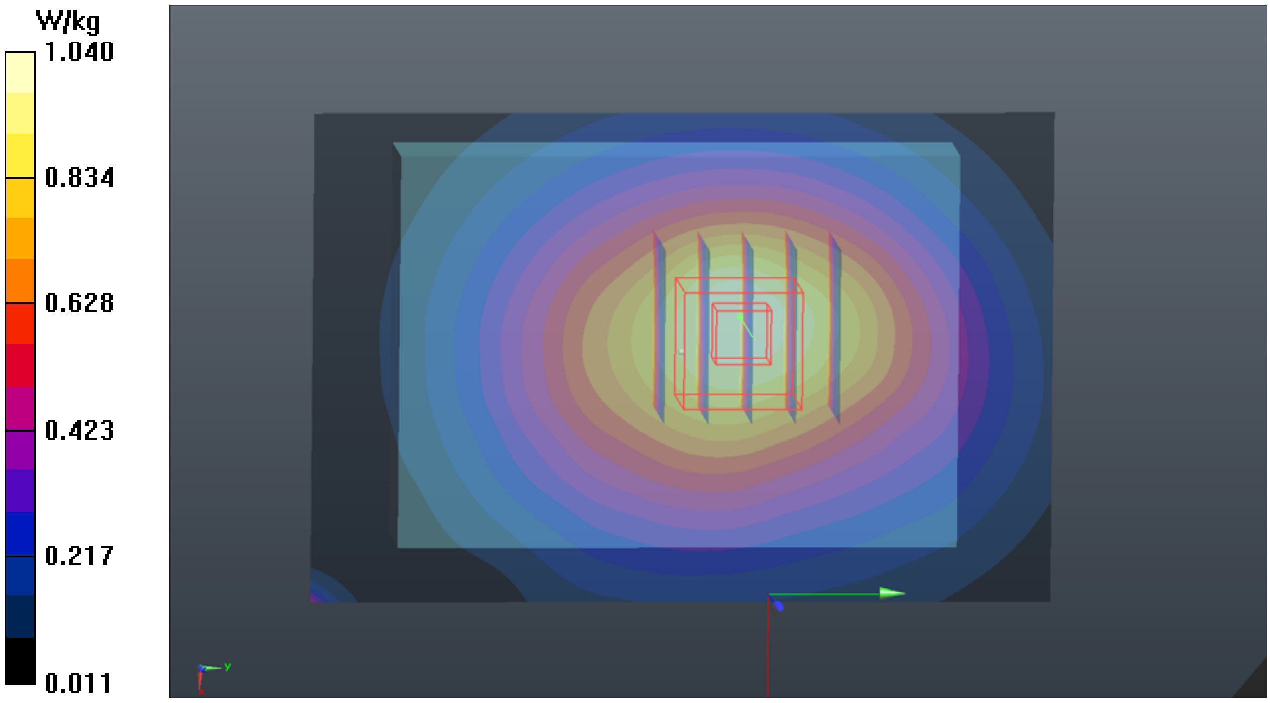
DUT: 200518C05

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 846.6 MHz;Duty Cycle: 1:1.95
Medium: H07T10N2_0902 Medium parameters used: f = 847 MHz; σ = 0.918 S/m; ε_r = 40.673; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃； Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3971; ConvF(10.26, 10.26, 10.26) @ 846.6 MHz; Calibrated: 2020/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2020/01/24
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.04 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 35.31 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.813 W/kg; SAR(10 g) = 0.570 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 72%
Maximum value of SAR (measured) = 1.03 W/kg



P25 LTE 2_QPSK20M_Rear Face_0mm_Ch18700_1RB_OS0_Holster_w_P-sensor_w_o

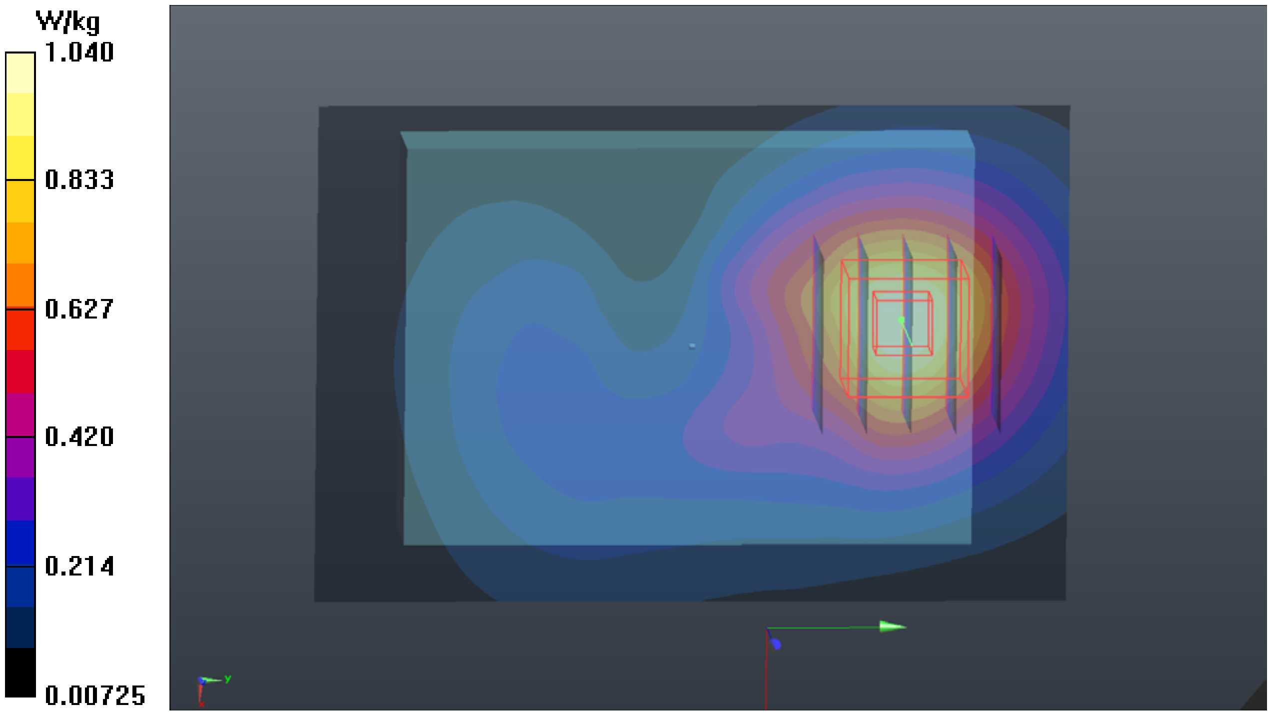
DUT: 200518C05

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 1860 MHz;Duty Cycle: 1:3.74
Medium: H16T20N1_0902 Medium parameters used: f = 1860 MHz; σ = 1.419 S/m; ε_r = 38.561; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃；Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3971; ConvF(8.54, 8.54, 8.54) @ 1860 MHz; Calibrated: 2020/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2020/01/24
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.04 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.13 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.720 W/kg; SAR(10 g) = 0.437 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 19.5 mm
Ratio of SAR at M2 to SAR at M1 = 62.8%
Maximum value of SAR (measured) = 1.02 W/kg



Test Laboratory: Bureau Veritas ADT SAR/HAC Testing Lab Date: 2020/09/02

P26 LTE 4_QPSK20M_Rear Face_0mm_Ch20050_1RB_OS0_Holster_w_P-sensor_w_o

DUT: 200518C05

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 1720 MHz;Duty Cycle: 1:3.74
Medium: H16T20N1_0902 Medium parameters used: f = 1720 MHz; σ = 1.297 S/m; ε_r = 39.117; ρ = 1000 kg/m^3
Ambient Temperature：23.5℃；Liquid Temperature：23.2 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3971; ConvF(8.73, 8.73, 8.73) @ 1720 MHz; Calibrated: 2020/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2020/01/24
- Phantom: Twin SAM Phantom_1822; Type: QD000P40;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.919 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.37 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.679 W/kg; SAR(10 g) = 0.416 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 19.5 mm
Ratio of SAR at M2 to SAR at M1 = 64%
Maximum value of SAR (measured) = 0.910 W/kg