TEST REPORT

Applicant:	Weibu Information Inc.
Address:	Block B, Productivity Bldg, Hi-tech Middle 2nd Rd, Hi-tech Park, Nanshan District, Shenzhen, China
Equipment Type:	Notebook
Model Name:	P116G
Brand Name:	WEIBU
FCC ID:	2A6VZ-P116G2206
Test Standard:	FCC 47 CFR Part 2.1093 (refer section 3.1)
Maximum SAR:	Body (1 g): 1.04 W/kg
Test Date:	May 26, 2022 - Jun. 02, 2022
Date of Issue:	Jun. 21, 2022

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Zhang Jiwei

Checked by: Liyao Zong

Approved by: Wei Yanquan

(Chief Engineer)

Revision History

Version	Issue Date	Revisions Content
Rev. 01	Jun. 14, 2022	Initial Issue
Rev. 02	Jun. 21, 2022	Updated Frequency Range in Chapter 2.6; Added remarks in Chapter 8.5; Update the data in Chapter 11.1

TABLE OF CONTENTS

1 GENERAL INFORMATION

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China
Phone Number	+86 755 6685 0100

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.
Description	All measurement facilities used to collect the measurement data are located at Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Weibu Information Inc.
Address	Block B, Productivity Bldg, Hi-tech Middle 2nd Rd, Hi-tech Park, Nanshan District, Shenzhen, China

2.2 Manufacturer Information

Manufacturer	Weibu Information Inc.
Address	Block B, Productivity Bldg, Hi-tech Middle 2nd Rd, Hi-tech Park, Nanshan District, Shenzhen, China

2.3 Factory Information

Factory	Shenzhen Yuko Technology Co., Ltd
Address	6th Floor, A9 Building and 6th Floor, A4 Building, TianRui Industrial Park, FuYuan 1st Road, XinHe Community, FuYong Street, Bao'an District, Shenzhen, Guangdong, P.R. China

2.4 General Description for Equipment under Test (EUT)

EUT Name	Notebook
Model Name Under Test	P116G
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	S116GCCR330
Software Version	Windows 11 Pro Education
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	UTL
	Model No.	U5868102PV-2S1P
	Serial No.	N/A
	Capacity	6000 mAh
	Rated Voltage	7.6 V
	Limit Charge Voltage	8.7 V

2.6 Technical Information

Network and Wireless connectivity	3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network FDD LTE Band 2/4/5/12/66/71 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) U-NII-1/3

The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	WCDMA, LTE, 2.4G WLAN, 5G WLAN, Bluetooth		
Frequency Range	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	LTE Band 71	TX: 663 ~ 698 MHz	RX: 617 ~ 652 MHz
	802.11b/g /n(HT20/HT40)	2412 MHz ~ 2462 MHz	
	802.11a /n(HT20/HT40) /ac(VHT20/VHT40 /VHT80)	5150 MHz ~ 5250 MHz	
		5725 MHz ~ 5850 MHz	
	Bluetooth	2402 MHz ~ 2480 MHz	
Antenna Type	WWAN: FPC Antenna WLAN: FPC Antenna Bluetooth: FPC Antenna		
Hotspot Function	N/A		
Exposure Category	General Population/Uncontrolled exposure		
EUT Stage	Portable Device		
Product	Type		
	☒ Production unit	☐ Identical prototype	

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	ANSI C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D04	RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices
5	FCC KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
6	FCC KDB 941225 D05 v02r05	SAR Evaluation Considerations for LTE Devices
7	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
8	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
9	KDB 248227 D01 v02r02	SAR Guidance for IEEE 802.11 (Wi-Fi) Transmitters
10	KDB 616217 D04v01r02	SAR for laptop and tablets

3.2 Device Category and SAR Limit

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user.

Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

Table of Exposure Limits:

Body Position	SAR Value (W/Kg)	
	General Population/ Uncontrolled Exposure	Occupational/ ControlledExposure
Whole-Body SAR (averaged over the entire body)	0.08	0.4
Partial-Body SAR (averaged over any 1 gram of tissue)	1.60	8.0
SAR for hands, wrists, feet and ankles (averaged over any 10 grams of tissue)	4.0	20.0

NOTE:

General Population/Uncontrolled Exposure: Locations where there is the exposure of individuals who have no knowledge or control of their exposure. General population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

Occupational/Controlled Exposure: Locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

3.3 Test Result Summary

3.3.1 Highest SAR (1 g Value)

Band	Maximum Scaled SAR (W/kg)	Maximum Report SAR (W/kg)
	Body	Body
WCDMA Band 2	0.85	**1.04**
WCDMA Band 4	**1.04**	
WCDMA Band 5	0.76	
LTE Band 2	1.02	
LTE Band 4	0.85	
LTE Band 5	0.58	
LTE Band 12	0.59	
LTE Band 66	1.04	
LTE Band 71	0.76	
2.4G WLAN	0.24	
5.2G WLAN	0.13	
5.8G WLAN	0.14	
Bluetooth	0.03	
Limit (W/kg)	1.60	
Verdict	Pass	

3.4 Test Uncertainty

According to KDB 865664 D01, when the highest measured 1 g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis is not required in SAR reports submitted for equipment approval.

The maximum 1 g SAR for the EUT in this report is 1.039 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

4 MEASUREMENT SYSTEM

4.1 Specific Absorption Rate (SAR) Definition

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:

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

SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

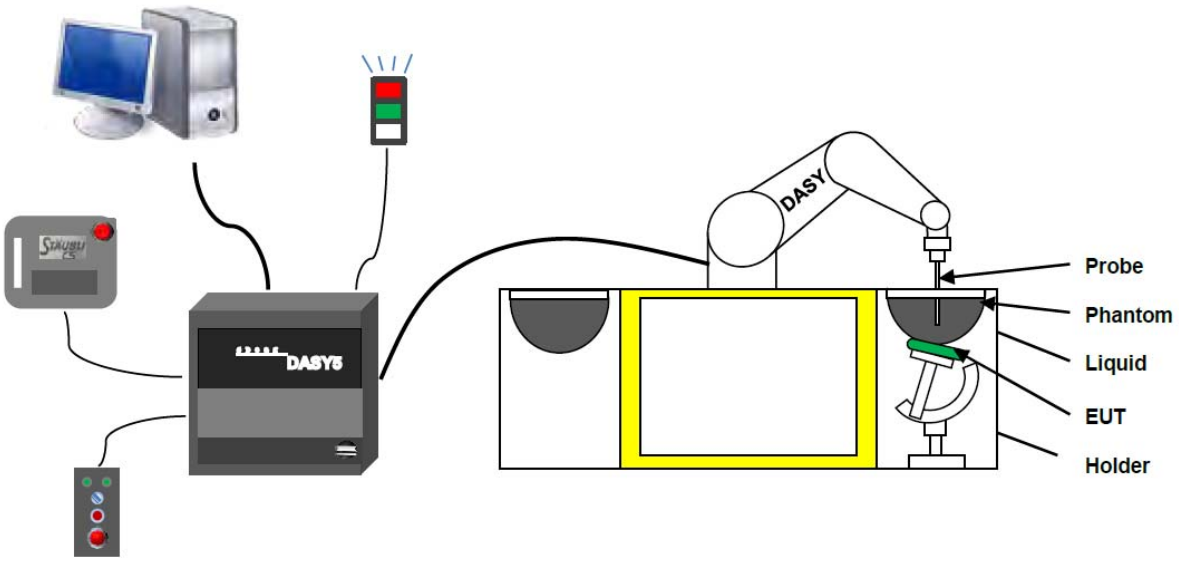
$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}\mathbf{E}^2}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue,

ρis the mass density of the tissue and E is the RMS electrical field strength.

4.2 DASY SAR System

4.2.1 DASY SAR System Diagram



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

1. A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
3. A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
4. A unit to operate the optical surface detector which is connected to the EOC.
5. The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.
6. The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
7. DASY5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

4.2.2 Robot

The Dasy SAR system uses the high precision robots. Symmetrical design with triangular core Built-in optical fiber for surface detection system For the 6-axis controller system, Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents). The robot series have many features that are important for our application:

- High precision
  (repeatability ±0.02 mm)
- High reliability
  (industrial design)
- Low maintenance costs
  (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements
  (brush less synchron motors; no stepper motors)
- Low ELF interference
  (motor control _elds shielded via the closed metallic construction shields)

4.2.3 E-Field Probe

The probe is specially designed and calibrated for use in liquids with high permittivities for the measurements the Specific Dosimetric E-Field Probe EX3DV4- SN: 7663 with following specifications is used.

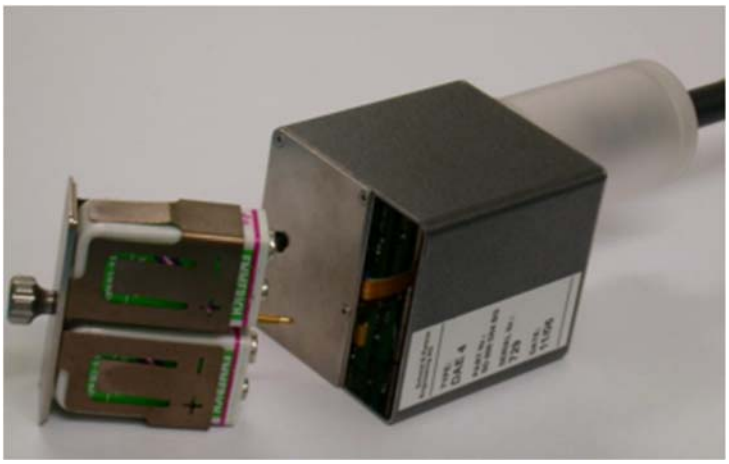
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ; ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic range	5 μW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 337 mm (Tip: 9 mm) Tip diameter: 2.5 mm (Body: 10 mm) Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (EX3DV4)

E-Field Probe Calibration Process

Probe calibration is realized, in compliance with CENELEC EN 62209-1/-2 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 62209-1/2 annexe technique using reference guide at the five frequencies.

4.2.4 Data Acquisition Electronics

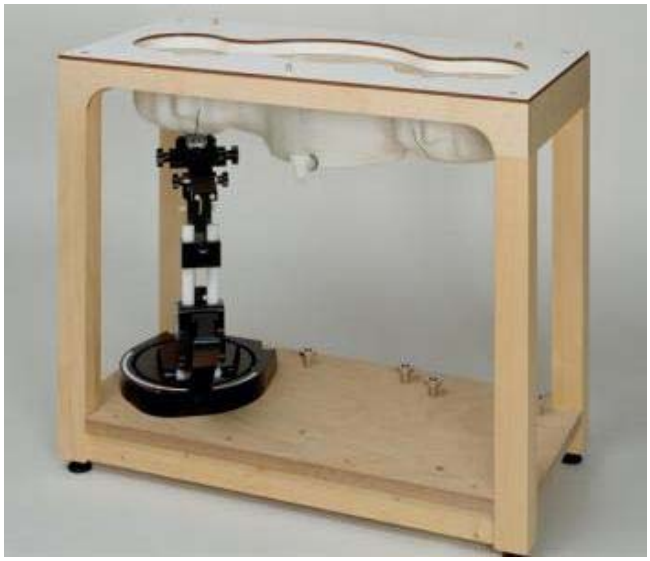
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.



- Input Impedance: 200MOhm
- The Inputs: Symmetrical and Floating
- Commom Mode Rejection: Above 80dB

4.2.5 Phantoms

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



- Left hand
- Right hand
- Flat phantom

Photo of Phantom SN1857

Serial Number	Material	Length	Height
SN 1857 SAM	Vinylester, glass fiber reinforced	1000	500

Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with the latest draft of the standard IEC 62209 Part II and all known tissue simulating liquids. ELI4 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.

·Flat phantom

Photo of Phantom SN1012

Serial Number	Shell Thickness (mm)	Major ellipse axis (mm)	Minor axis (mm)
SN 1012 ELI4	2.0 ± 0.2	600	500

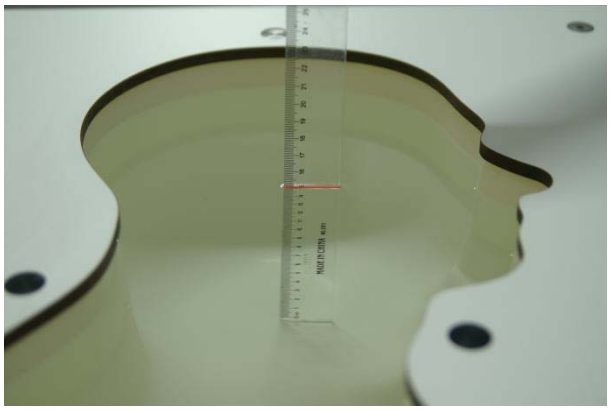
4.2.6 Device Holder

The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA‟s only. If necessary an additional support of polystyrene material is used. Larger DUT‟s (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values. Therefore those devices are normally only tested at the flat part of the SAM.

The positioning system allows obtaining cheek and tilting position with a very good accuracy. Incompliance with CENELEC, the tilt angle uncertainty is lower than 1°.

4.2.7 Simulating Liquid

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 5%.

Head Liquid Depth	Body Liquid Depth
	

The following table gives the recipes for tissue simulating liquid and the theoretical Conductivity/Permittivity.

Head (Reference IEEE1528)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ε
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.4	40.0
2450	55.0	0	0	0.1	0	44.9	1.80	39.2
2600	54.9	0	0	0.1	0	45.0	1.96	39.0
Frequency (MHz)	Water (%)	Hexyl Carbitol (%)			Triton X-100 (%)		Conductivity σ (S/m)	Permittivity ε
5200	62.52	17.24			17.24		4.66	36.0
5800	62.52	17.24			17.24		5.27	35.3
Body (From instrument manufacturer)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ε
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0.1	0	31.3	1.95	52.7
2600	68.2	0	0	0.1	0	31.7	2.16	52.5
Frequency(MHz)	Water	DGBE			Salt		Conductivity	Permittivity

		(%)	(%)	σ (S/m)	ε
5200	78.60	21.40	/	5.54	47.86
5800	78.50	21.40	0.1	6.0	48.20

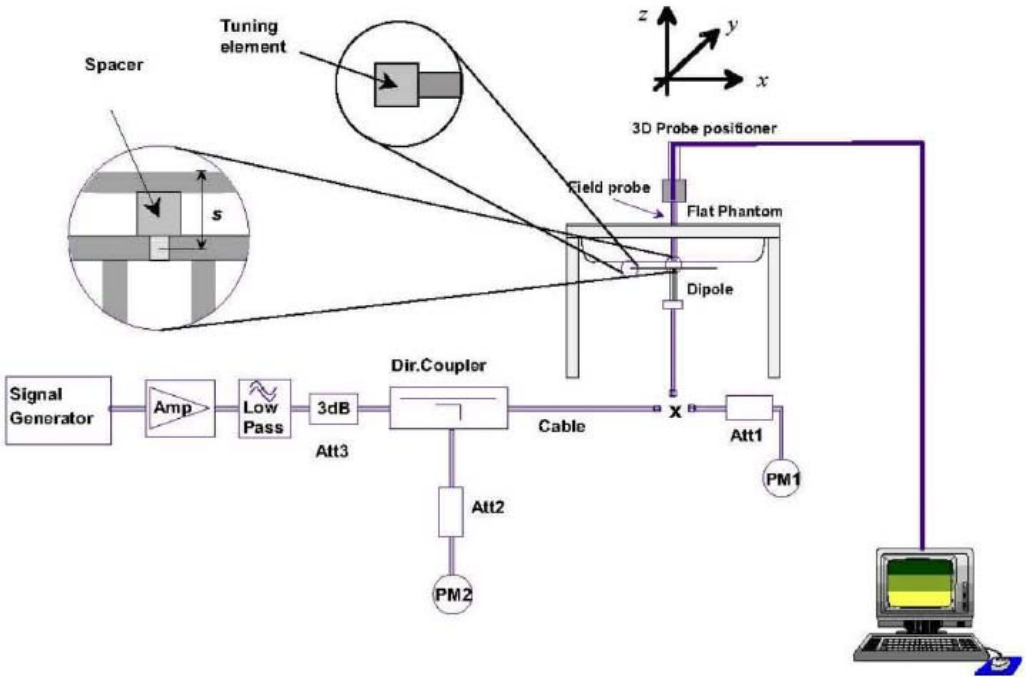
5 SYSTEM VERIFICATION

5.1 Purpose of System Check

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

5.2 System Check Setup

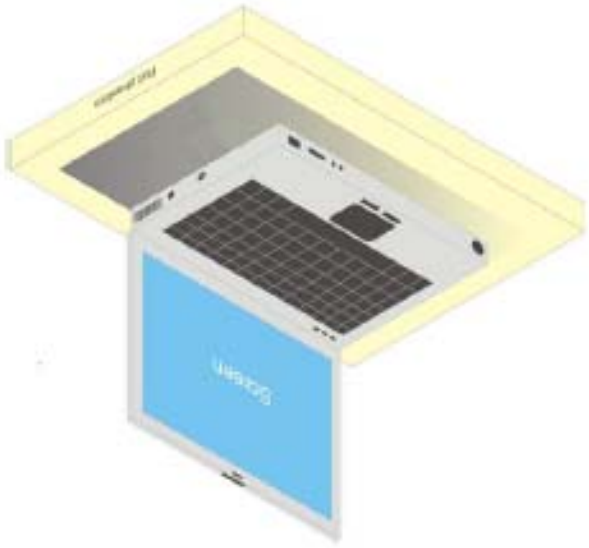
In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



6 TEST POSITION CONFIGURATIONS

6.1 Laptop Exposure Condition

This DUT should consider one position which is bottom of laptop touching with phantom 0 mm air gap and the screen portion of the device shall be an open position at a 90° angle.



6.2 Tablet Exposure Condition

This DUT was tested in four different positions. They are back side, left edge, bottom side and top edge in these positions, the surface of DUT is touching with phantom 0mm.

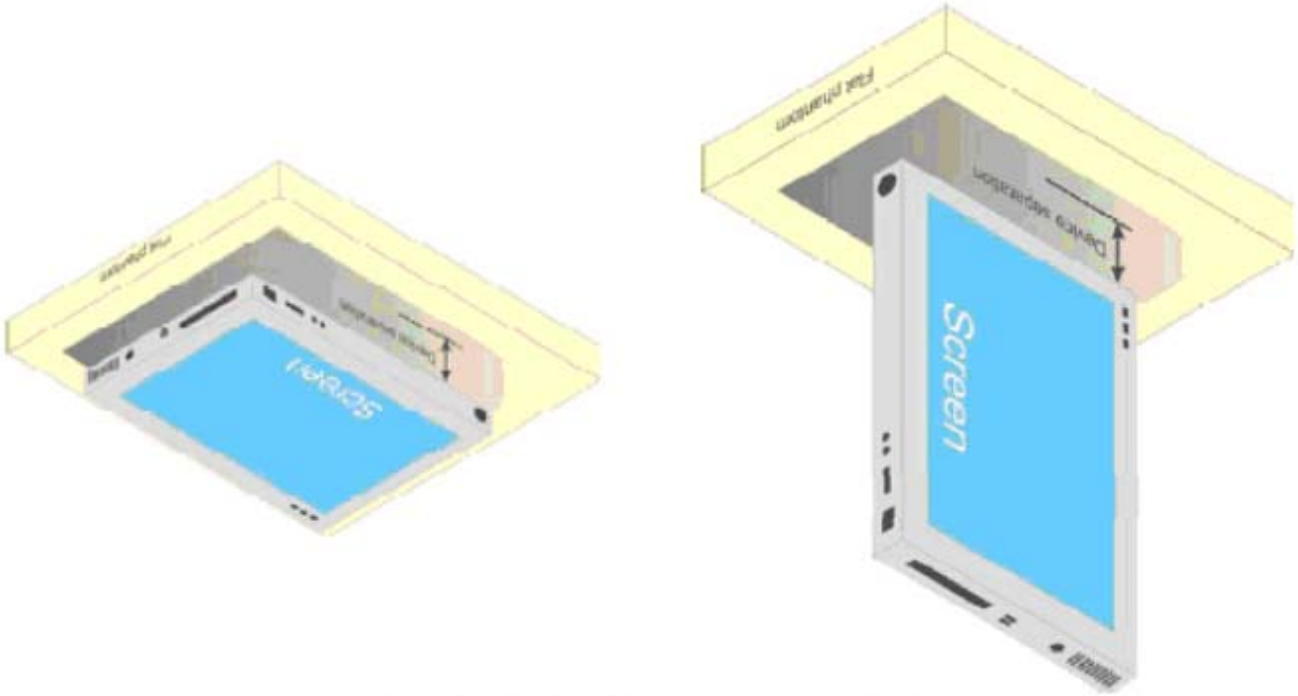
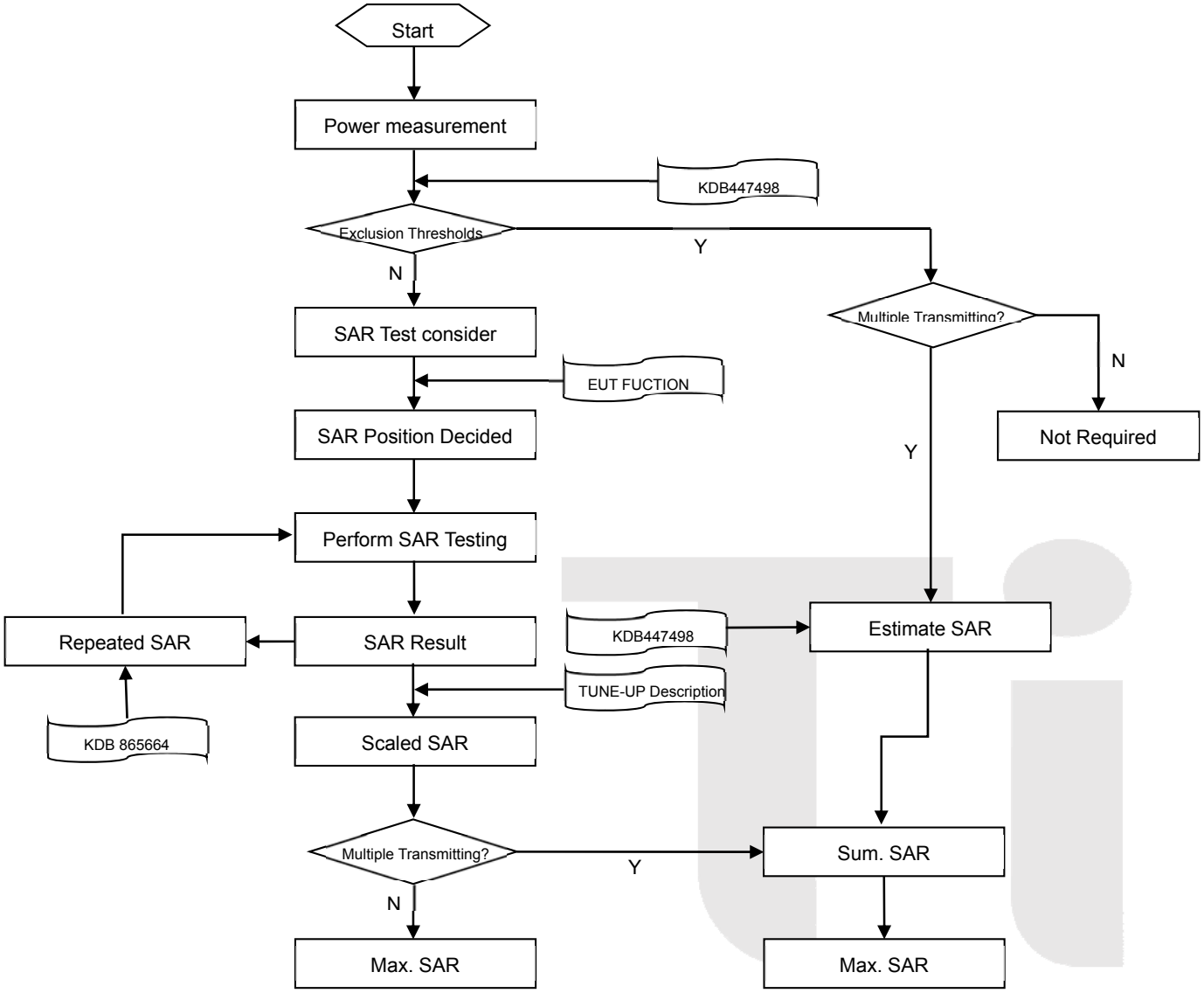


Fig Illustration for Lap-touching Position

7 MEASUREMENT PROCEDURE

7.1 Measurement Process Diagram



7.2 SAR Scan General Requirement

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

<table>
<tr><th colspan="3"></th><th>≤3GHz</th><th>>3GHz</th></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5±1 mm</td><td>½·δ·ln(2)±0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30°±1°</td><td>20°±1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx Area , Δy Area</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3–4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx Zoom , Δy Zoom</td><td>≤ 2 GHz: ≤ 8 mm
2 –3 GHz: ≤ 5 mm*</td><td>3–4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="6">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2" rowspan="3">uniform grid: Δz Zoom (n)</td><td rowspan="3">≤ 5 mm</td><td>3–4 GHz: ≤ 4 mm</td></tr>
<tr><td>4–5 GHz: ≤ 3 mm</td></tr>
<tr><td>5–6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="3">graded grid</td><td rowspan="2">Δz Zoom (1): between 1st two points closest to phantom surface</td><td rowspan="2">≤ 4 mm</td><td>3–4 GHz: ≤ 3 mm</td></tr>
<tr><td>4–5 GHz: ≤ 2.5 mm</td></tr>
<tr><td>Δz Zoom (n>1): between subsequent points</td><td colspan="2">≤ 1.5·Δz Zoom (n-1)</td><td>5–6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="3">Minimum zoom scan volume</td><td colspan="2" rowspan="3">x, y, z</td><td rowspan="3">≥30 mm</td><td>3–4 GHz: ≥ 28 mm</td></tr>
<tr><td>4–5 GHz: ≥ 25 mm</td></tr>
<tr><td>5–6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note:
1. δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
2. * When zoom scan is required and the reported SAR from the area scan based 1 g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

7.3 Measurement Procedure

The following steps are used for each test position

a. Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
b. Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
c. Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
d. Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 *32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

7.4 Area & 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 over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r04 quoted below.
When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

8 CONDUCTED RF OUPUT POWER

8.1 WCDMA

Please refer the document “Conducted RF Output Power List.pdf”.

8.2 LTE

Please refer the document “Conducted RF Output Power List.pdf”.

8.3 WIFI

8.3.1 2.4G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Power Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	15.06	15.50	No
		6	2437	**15.08**	15.50	Yes
		11	2462	15.02	15.50	No
	802.11g	1	2412	13.11	13.50	No
		6	2437	13.08	13.50	No
		11	2462	13.15	13.50	No
	802.11n(HT20)	1	2412	12.77	13.00	No
		6	2437	12.56	13.00	No
		11	2462	12.84	13.00	No
	802.11n(HT40)	3	2422	12.72	13.00	No
		6	2437	12.75	13.00	No
		9	2452	12.65	13.00	No

Note: According KDB 248227 D01 SAR is not required for the following 2.4 GHz OFDM conditions. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

Adjusted SAR = Report SAR * (max power (OFDM)/ max power (DSSS)) = 0.243 * (22.39 mw)/(35.48 mw) =0.153 W/kg, so the 2.4GHz OFDM SAR test is not required.

8.3.2 5G WIFI

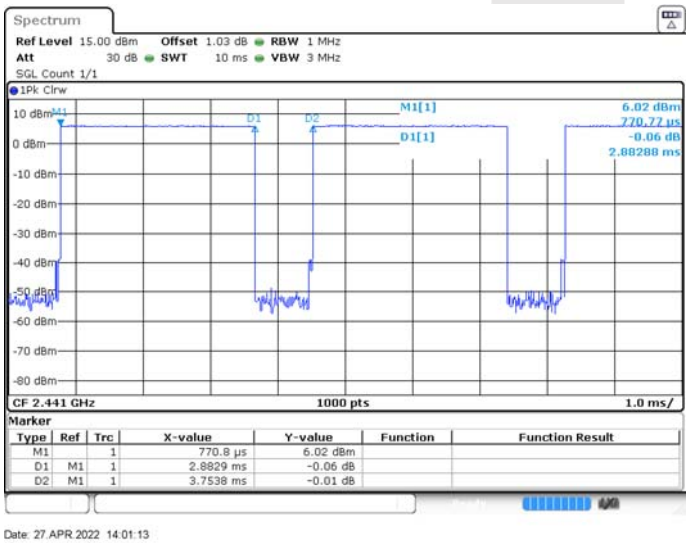
Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Power Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	**13.34**	13.50	Yes
		44	5220	13.26	13.50	No
		48	5240	13.32	13.50	No
	802.11n(HT20)	36	5180	12.85	13.00	No
		44	5220	12.78	13.00	No
		48	5240	12.81	13.00	No
	802.11n(HT40)	38	5190	12.86	13.00	No
		46	5230	12.49	13.00	No
	802.11ac(VHT20)	36	5180	12.73	13.00	No
		44	5220	12.77	13.00	No
		48	5240	12.81	13.00	No
	802.11ac(VHT40)	38	5190	12.75	13.00	No
		46	5230	12.58	13.00	No
	802.11ac(VHT80)	42	5210	12.74	13.00	No
5.8 (5.725~5.850)	802.11a	149	5745	13.07	13.50	No
		157	5785	13.05	13.50	No
		165	5825	**13.11**	13.50	Yes
	802.11n(HT20)	149	5745	12.51	13.00	No
		157	5785	12.82	13.00	No
		165	5825	12.62	13.00	No
	802.11n(HT40)	151	5755	12.59	13.00	No
		159	5795	12.51	13.00	No
	802.11ac(VHT20)	149	5745	12.96	13.00	No
		157	5785	12.87	13.00	No
		165	5825	12.56	13.00	No
	802.11ac(VHT40)	151	5755	12.53	13.00	No
		159	5795	12.51	13.00	No
	802.11ac(VHT80)	155	5775	12.64	13.00	No

8.4 Bluetooth

Mode	GFSK			π/4-DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Conducted Power (dBm)	5.85	**5.95**	5.76	5.77	5.62	5.85
Tune-Up Limit (dBm)	6.00	6.00	6.00	6.00	6.00	6.00
SAR Test Require	No	Yes	No	No	No	No
Mode	8-DPSK			/		
Channel	0	39	78	/	/	/
Frequency (MHz)	2402	2441	2480	/	/	/
Conducted Power (dBm)	5.82	5.93	5.75	/	/	/
Tune-Up Limit (dBm)	6.00	6.00	6.00	/	/	/
SAR Test Require	No	No	No	/	/	/
Mode	BLE-1Mbps			BLE-2Mbps		
Channel	0	19	39	0	19	39
Frequency (MHz)	2402	2440	2480	2402	2440	2480
Conducted Power (dBm)	5.90	5.80	5.71	5.61	5.75	5.78
Tune-Up Limit (dBm)	6.00	6.00	6.00	6.00	6.00	6.00
SAR Test Require	No	No	No	No	No	No
Note: Since Bluetooth BR mode is the maximum output power mode，SAR measurements were performed with test software using DH5 modulation, and SAR measurement is not required for the EDR and LE. When the secondary mode is ≤ ¼ dB higher than the primary mode.						

Duty Cycle

Note: The Bluetooth duty cycle is 76.8 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.



8.5 Power Reduction List

1. The device employs proximity sensors that detect the presence of the user's body of the device. When these conditions are detected, Body reduced power will be active.
2. When the proximity sensors eorr, the power is reduced to the corresponding scene (sensor on).

WWAN Reduced Power Level Table

Reduced level	Sensor	Transmitting conditions	Position
Full power	Off	WWAN Use Only; WWAN+WLAN	Laptop & Tablet Mode
Level 1	On	WWAN Use Only; WWAN+WLAN	Back Side (with keyboard)

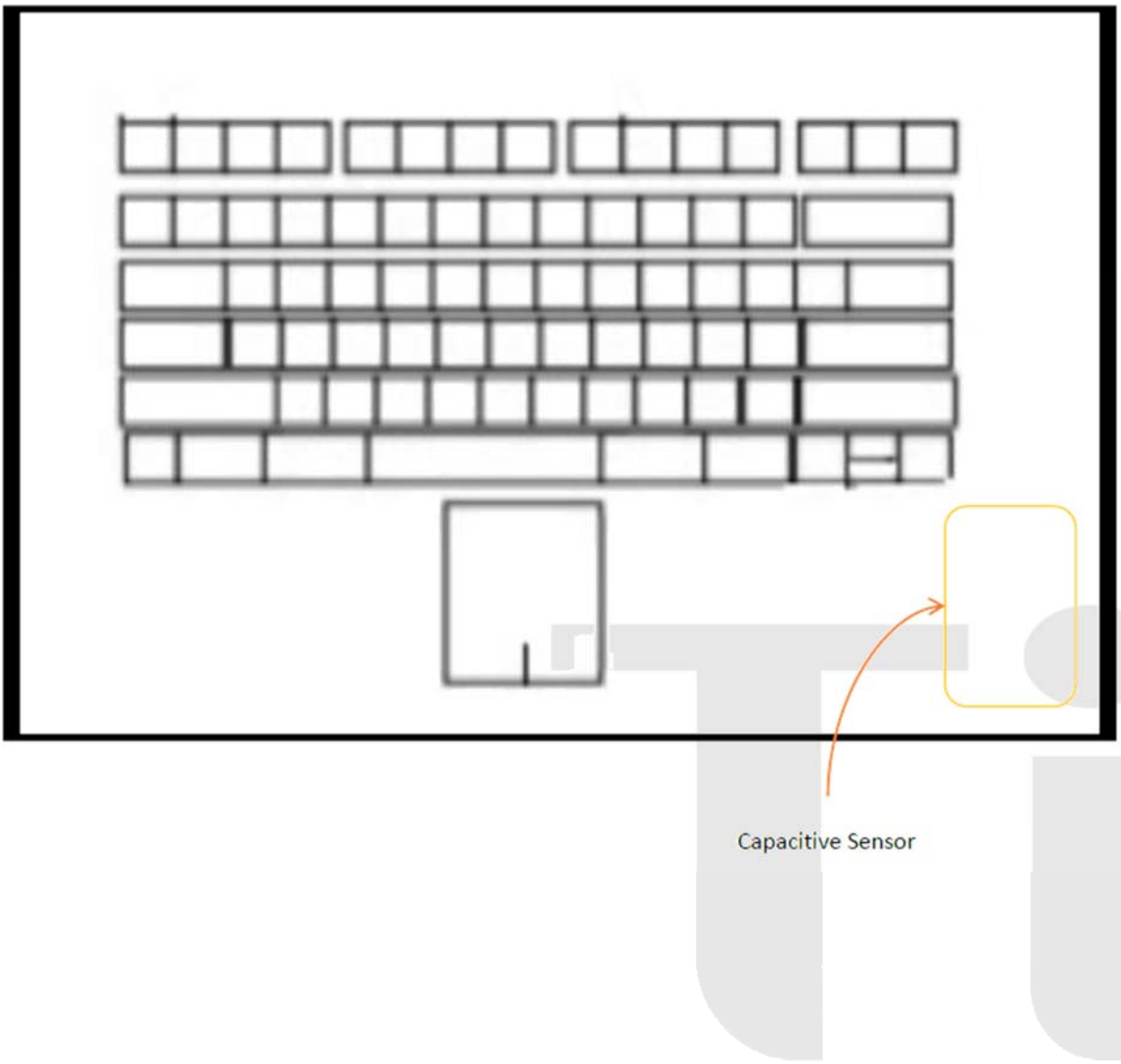
WWAN Power Table

Mode	WWAN Antenna			
	Sensor Off (Full Power)		Sensor On	
	Body		Body	
	Standalone	Simultaneous transmission +2.4G WLAN&5GWLAN	Standalone	Simultaneous transmission +2.4G WLAN&5GWLAN
	Off		Level1	
WCDMA Band2 RMC	24.00		16.00	
HSDPA Subtest-1	23.00		15.00	
HSDPA Subtest-2	23.00		15.00	
HSDPA Subtest-3	22.50		14.50	
HSDPA Subtest-4	22.50		14.50	
HSUPA Subtest-1	23.00		15.00	
HSUPA Subtest-2	22.00		14.00	
HSUPA Subtest-3	21.50		13.50	
HSUPA Subtest-4	22.00		14.00	
HSUPA Subtest-5	23.00		15.00	
WCDMA Band4 RMC	24.00		17.00	
HSDPA Subtest-1	23.00		16.00	
HSDPA Subtest-2	23.00		16.00	
HSDPA Subtest-3	22.50		15.50	
HSDPA Subtest-4	22.50		15.50	
HSUPA Subtest-1	23.00		16.00	
HSUPA Subtest-2	22.00		15.00	
HSUPA Subtest-3	22.00		15.00	
HSUPA Subtest-4	22.50		15.50	
HSUPA Subtest-5	23.00		16.00	
WCDMA Band5 RMC	24.00		22.00	
HSDPA Subtest-1	23.00		21.00	

HSDPA Subtest-2	23.00	21.00
HSDPA Subtest-3	22.50	20.50
HSDPA Subtest-4	22.50	20.50
HSUPA Subtest-1	23.00	21.00
HSUPA Subtest-2	21.50	19.50
HSUPA Subtest-3	21.50	19.50
HSUPA Subtest-4	22.00	20.00
HSUPA Subtest-5	23.00	21.00
LTE Band 2	24.00	16.00
LTE Band 4	24.00	17.00
LTE Band 5	24.00	22.00
LTE Band 12	24.00	22.00
LTE Band 66	24.00	17.00
LTE Band 71	24.00	22.00

9 PROXIMITY(Capacitive) SENSOR TRIGGERING TEST

9.1 Sensor layout

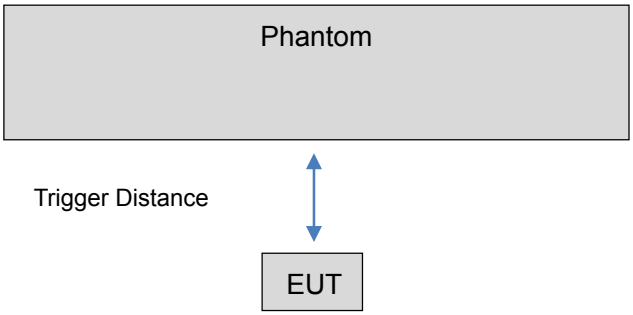


9.2 Procedures for determining proximity sensor distance

The device uses One proximity sensors to reduce the maximum output power in selected wireless mode and operating configurations to ensure SAR compliance. The sensor implementation can identify and facilitate triggering different max power levels for different scenarios including the device held by hand(Extremity) and different exposure test positions test positions when the device is closed to a user's body.

Proximity sensor triggering distance testing was performed, EUT moving further away from the phantom and EUT moving toward the phantom were both assessed, and the shortest triggering distances were reported and used for SAR assessment.

9.2.1 Proximity sensor

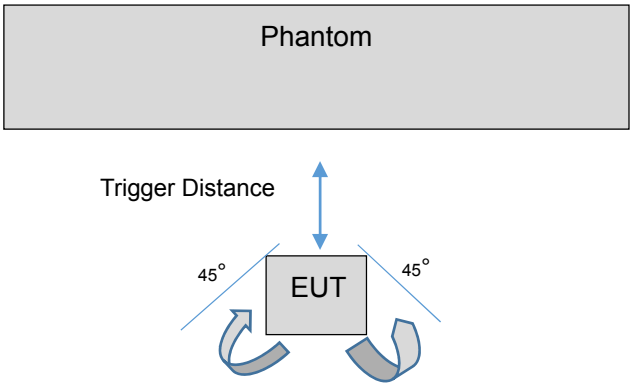


Distance in mm	1~7	8	9	10	11	12	13	14	15	16	22
Back Side (with keyboard)	On	On	On	Off	Off	Off	Off	Off	Off	Off	Off
Note: Power reduction is only applicable for WWAN Antenna.											

9.3 Procedures for determining EUT tilt angle influences to proximity sensor triggering

The influence of EUT tilt angles to proximity sensor A triggering was determined by positioning each EUT edge that contains a transmitting WWAN antenna, perpendicular to the flat phantom, at 9 mm separation for the back side(with keyboard).

Rotating the tablet around the edge next to the phantom in ≤ 10° increments until the tablet is ± 45° from the vertical position at 0°, and the maximum output power remains in the reduced mode.



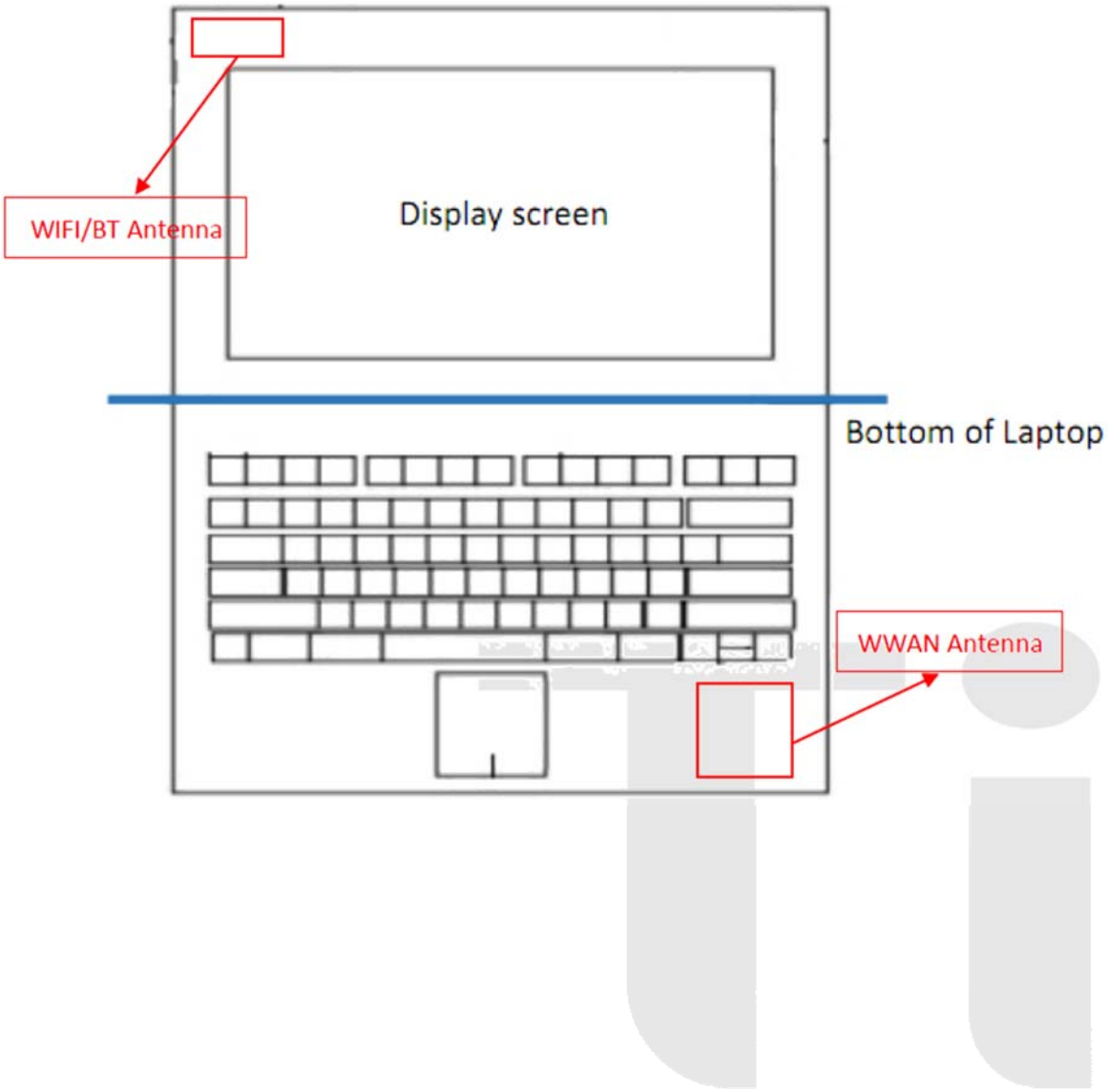
For verification of compliance of power reduction scheme, additional SAR test with EUT transmitting at full RF power at a separation of "the triggering distance – 1 mm"

WWAN Antenna of proximity sensor

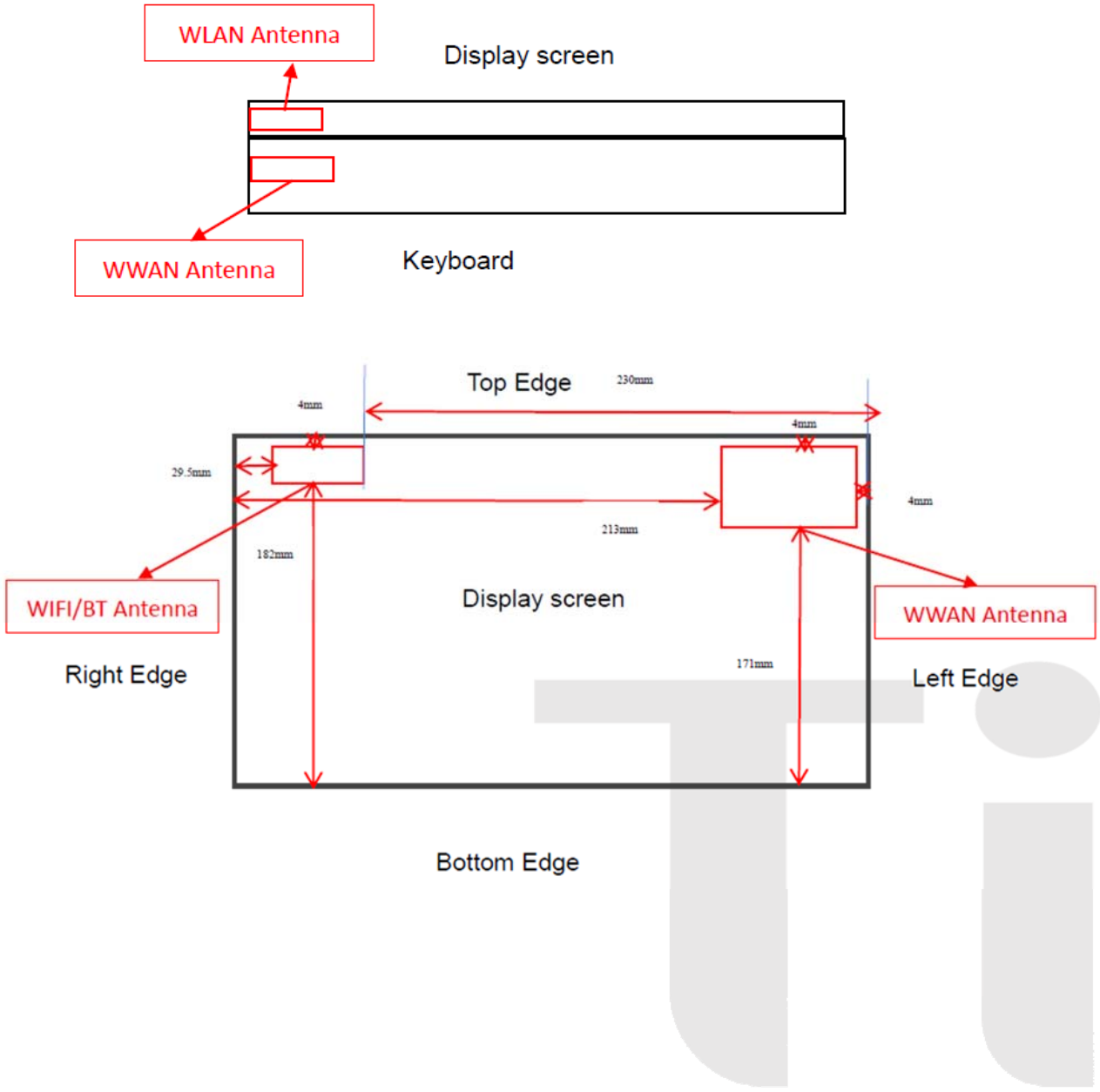
EUT Sides	Additional SAR test Distance in mm
Back Side (with keyboard)	8

10 TEST EXCLUSION CONSIDERATION

10.1 Laptop Mode antenna location sketch



10.2 Tablet Mode antenna location sketch



10.3 SAR Test Consideration Table

According with FCC KDB 447498 D04, Appendix B, The SAR-based exemption formula applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). The following table shows the power threshold from 5mm to 50mm.

Power Thresholds (mW)					
Frequency (MHz)	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
300	39 mW	65 mW	88 mW	110 mW	129 mW
450	22 mW	44 mW	67 mW	89 mW	112 mW
835	9 mW	25 mW	44 mW	66 mW	90 mW
1900	3 mW	12 mW	26 mW	44 mW	66 mW
2450	3 mW	10 mW	22 mW	38 mW	59 mW
3600	2 mW	8 mW	18 mW	32 mW	49 mW
5800	1 mW	6 mW	14 mW	25 mW	40 mW
Frequency (MHz)	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of 50 mm
300	148 mW	166 mW	184 mW	201 mW	217 mW
450	135 mW	158 mW	180 mW	203 mW	226 mW
835	116 mW	145 mW	175 mW	207 mW	240 mW
1900	92 mW	122 mW	157 mW	195 mW	236 mW
2450	83 mW	111 mW	143 mW	179 mW	219 mW
3600	71 mW	96 mW	125 mW	158 mW	195 mW
5800	58 mW	80 mW	106 mW	136 mW	169 mW

10.3.1 Laptop mode SAR Test Consideration

Positon	Band	Calculated Frequency (Ghz)	Distance to User (mm)	Exclusion Threshold (mW)	Max. Peak Power (dBm)	Max. Peak Power (mW)	SAR Test Required
Bottom Side of Laptop	WCDMA Band2	1.91	5	3.35	24.00	251.19	Yes
	WCDMA Band4	1.755	5	3.58	24.00	251.19	Yes
	WCDMA Band5	0.849	5	9.03	24.00	251.19	Yes
	LTE Band2	1.91	5	3.35	24.00	251.19	Yes
	LTE Band4	1.755	5	3.58	24.00	251.19	Yes
	LTE Band5	0.849	5	9.03	24.00	251.19	Yes
	LTE Band12	0.716	5	11.47	24.00	251.19	Yes
	LTE Band66	1.780	5	3.54	24.00	251.19	Yes
	LTE Band71	0.688	5	12.13	24.00	251.19	Yes
Back Side (with keyboard)	WCDMA Band2	1.91	4	2.22	16.00	39.81	Yes
	WCDMA Band4	1.755	4	2.38	17.00	50.12	Yes
	WCDMA Band5	0.849	4	6.57	22.00	158.49	Yes
	LTE Band2	1.91	4	2.22	16.00	39.81	Yes
	LTE Band4	1.755	4	2.38	17.00	50.12	Yes
	LTE Band5	0.849	4	6.57	22.00	158.49	Yes
	LTE Band12	0.716	4	8.56	22.00	158.49	Yes
	LTE Band66	1.780	4	2.35	17.00	50.12	Yes
	LTE Band71	0.688	4	9.10	22.00	158.49	Yes
Left Edge	WCDMA Band2	1.91	4	2.22	24.00	251.19	Yes
	WCDMA Band4	1.755	4	2.38	24.00	251.19	Yes
	WCDMA Band5	0.849	4	6.57	24.00	251.19	Yes
	LTE Band2	1.91	4	2.22	24.00	251.19	Yes
	LTE Band4	1.755	4	2.38	24.00	251.19	Yes
	LTE Band5	0.849	4	6.57	24.00	251.19	Yes
	LTE Band12	0.716	4	8.56	24.00	251.19	Yes
	LTE Band66	1.780	4	2.35	24.00	251.19	Yes
	LTE Band71	0.688	4	9.10	24.00	251.19	Yes
Right Edge	WCDMA Band2	1.91	213	3437.68	24.00	251.19	No
	WCDMA Band4	1.755	213	3433.71	24.00	251.19	No
	WCDMA Band5	0.849	213	1894.55	24.00	251.19	No
	LTE Band2	1.91	213	3437.68	24.00	251.19	No
	LTE Band4	1.755	213	3433.71	24.00	251.19	No
	LTE Band5	0.849	213	1894.55	24.00	251.19	No
	LTE Band12	0.716	213	1586.63	24.00	251.19	No
	LTE Band66	1.780	213	3434.37	24.00	251.19	No
	LTE Band71	0.688	213	1522.09	24.00	251.19	No
Top Edge	WCDMA Band2	1.91	4	2.22	24.00	251.19	Yes
	WCDMA Band4	1.755	4	2.38	24.00	251.19	Yes

	WCDMA Band5	0.849	4	6.57	24.00	251.19	Yes
	LTE Band2	1.91	4	2.22	24.00	251.19	Yes
	LTE Band4	1.755	4	2.38	24.00	251.19	Yes
	LTE Band5	0.849	4	6.57	24.00	251.19	Yes
	LTE Band12	0.716	4	8.56	24.00	251.19	Yes
	LTE Band66	1.780	4	2.35	24.00	251.19	Yes
	LTE Band71	0.688	4	9.10	24.00	251.19	Yes
Bottom Edge	WCDMA Band2	1.91	171	2290.81	24.00	251.19	No
	WCDMA Band4	1.755	171	2297.41	24.00	251.19	No
	WCDMA Band5	0.849	171	1385.48	24.00	251.19	No
	LTE Band2	1.91	171	2290.81	24.00	251.19	No
	LTE Band4	1.755	171	2297.41	24.00	251.19	No
	LTE Band5	0.849	171	1385.48	24.00	251.19	No
	LTE Band12	0.716	171	1188.93	24.00	251.19	No
	LTE Band66	1.780	171	2296.31	24.00	251.19	No
	LTE Band71	0.688	171	1147.10	24.00	251.19	No

Positon	Band	Calculated Frequency (Ghz)	Distance to User (mm)	Exclusion Threshold (mW)	Max. Peak Power (dBm)	Max. Peak Power (mW)	SAR Test Required
Bottom Side of Laptop	Bluetooth	2.48	182	2556.84	6.00	3.98	No
	2.4G WLAN	2.462	182	2557.22	15.50	35.48	No
	5.2G WLAN	5.25	182	2517.87	13.50	22.39	No
	5.8G WLAN	5.825	182	2512.52	13.50	22.39	No
Back Side (with keyboard)	Bluetooth	2.48	8	6.65	6.00	3.98	No
	2.4G WLAN	2.462	8	6.69	15.50	35.48	Yes
	5.2G WLAN	5.25	8	3.94	13.50	22.39	Yes
	5.8G WLAN	5.825	8	3.66	13.50	22.39	Yes
Left Edge	Bluetooth	2.48	230	3993.36	6.00	3.98	No
	2.4G WLAN	2.462	230	3992.48	15.50	35.48	No
	5.2G WLAN	5.25	230	4085.29	13.50	22.39	No
	5.8G WLAN	5.825	230	4098.20	13.50	22.39	No
Right Edge	Bluetooth	2.48	29.5	79.88	6.00	3.98	No
	2.4G WLAN	2.462	29.5	80.12	15.50	35.48	No
	5.2G WLAN	5.25	29.5	58.49	13.50	22.39	No
	5.8G WLAN	5.825	29.5	56.02	13.50	22.39	No
Top Edge	Bluetooth	2.48	4	1.78	6.00	3.98	Yes
	2.4G WLAN	2.462	4	1.79	15.50	35.48	Yes
	5.2G WLAN	5.25	4	0.94	13.50	22.39	Yes
	5.8G WLAN	5.825	4	0.86	13.50	22.39	Yes
Bottom Edge	Bluetooth	2.48	182	2556.84	6.00	3.98	No
	2.4G WLAN	2.462	182	2557.22	15.50	35.48	No
	5.2G WLAN	5.25	182	2517.87	13.50	22.39	No
	5.8G WLAN	5.825	182	2512.52	13.50	22.39	No

Note:

1. Maximum power is the source-based time-average power and represents the maximum RF output power including tune-up tolerance among production units
2. Per KDB 447498 D04, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D04, standalone SAR test exclusion threshold is applied; If the distance of the antenna to the user is < 5mm, 5mm is used to determine SAR exclusion threshold
4. Per KDB 447498 D04, for separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive), the threshold Pth (mW) is given by Following:

$$P_{th}(mW) = \begin{cases} ERP_{20cm}(d/20cm)^x & d \le 20cm \\ ERP_{20cm} & 20cm < d \le 40cm \end{cases}$$

where

$$x = -log_{10}\left(\frac{60}{ERP_{20cm}\sqrt{f}}\right)$$

   a. f(GHz) is the RF channel transmit frequency in GHz
   b. d is the separation distance (cm), The result is rounded to one decimal place for comparison
   c. ERP_{20cm} are determined by:

$$ERP_{20cm}(mW) = f(x) = \begin{cases} 2040f & 0.3GHz \le f < 1.5GHz \\ 3060 & 1.5GHz \le f \le 6GHz \end{cases}$$

5. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion.8. For each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 1/4dB higher than those measured at the lowest data rate
6. Per KDB 248227 D01 SAR is not required for the following 2.4 GHz OFDM conditions.
   a. When KDB Publication 447498 D04 SAR test exclusion applies to the OFDM configuration.
   b. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
7. Per KDB 248227 D01 SAR is not required for the following U-NII-1 and U-NII-2A bands conditions.
   a. When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.
   b. When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, each band is tested independently for SAR.

11 TEST RESULT

11.1 WCDMA Band 2

Powrer Reducteion	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body													
Off	Laptop	RMC	Bottom Side	0	9400	1880.0	-0.06	0.628	22.69	24.00	1.352	**0.849**	1#
Off	Laptop	RMC	Bottom Side	0	9262	1852.4	-0.15	0.529	22.51	24.00	1.409	0.746	/
Off	Laptop	RMC	Bottom Side	0	9538	1907.6	-0.01	0.616	22.66	24.00	1.361	0.839	/
Level1	Table	RMC	Back of keyboard	0	9400	1880.0	0.10	0.580	14.79	16.00	1.321	0.766	/
Off	Table	RMC	Left Edge	0	9400	1880.0	-0.07	0.271	22.69	24.00	1.352	0.366	/
Off	Table	RMC	Top Edge	0	9400	1880.0	-0.17	0.314	22.69	24.00	1.352	0.425	/
Sensor Off													
Off	Table	RMC	Back of keyboard	8	9400	1880.0	-0.01	0.870	22.69	24.00	1.352	1.176	/
Off	Table	RMC	Back of keyboard	8	9262	1852.4	0.04	0.841	22.51	24.00	1.409	1.185	/
Off	Table	RMC	Back of keyboard	8	9538	1907.6	-0.12	0.760	22.66	24.00	1.361	1.035	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

11.2 WCDMA Band 4

Powrer Reducteion	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body													
Off	Laptop	RMC	Bottom Side	0	1412	1732.4	-0.03	0.850	23.13	24.00	1.222	**1.039**	2#
Off	Laptop	RMC	Bottom Side	0	1312	1712.4	-0.13	0.778	22.99	24.00	1.262	0.982	/
Off	Laptop	RMC	Bottom Side	0	1513	1752.6	0.02	0.842	23.10	24.00	1.230	1.036	/
Level1	Table	RMC	Back of keyboard	0	1412	1732.4	-0.05	0.379	15.68	17.00	1.355	0.514	/
Off	Table	RMC	Left Edge	0	1412	1732.4	-0.05	0.244	23.13	24.00	1.222	0.298	/
Off	Table	RMC	Top Edge	0	1412	1732.4	-0.13	0.393	23.13	24.00	1.222	0.480	/
Sensor Off													
Off	Table	RMC	Back of keyboard	8	1412	1732.4	0.05	0.962	23.13	24.00	1.222	1.175	/
Off	Table	RMC	Back of keyboard	8	1312	1712.4	0.10	0.940	22.99	24.00	1.262	1.186	/
Off	Table	RMC	Back of keyboard	8	1513	1752.6	0.18	0.937	23.10	24.00	1.230	1.153	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

11.3 WCDMA Band 5

Powrer Reducteion	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body													
Off	Laptop	RMC	Bottom Side	0	4182	836.4	-0.03	0.125	23.20	24.00	1.202	0.150	/
Level1	Table	RMC	Back of keyboard	0	4233	846.6	-0.06	0.595	20.94	22.00	1.276	**0.759**	3#
Off	Table	RMC	Left Edge	0	4182	836.4	-0.13	0.046	23.20	24.00	1.202	0.055	/
Off	Table	RMC	Top Edge	0	4182	836.4	-0.15	0.475	23.20	24.00	1.202	0.571	/
Sensor Off													
Off	Table	RMC	Back of keyboard	8	4182	836.4	0.03	0.202	23.20	24.00	1.202	0.243	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

11.4 LTE Band 2 (20MHz Bandwidth)

Powrer Reduction	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body															
Off	Laptop	QPSK	Bottom Side	0	18900	1880	1	Mid	-0.01	0.616	22.97	24.00	1.268	0.781	/
Off	Laptop	QPSK	Bottom Side	0	18900	1880	50	Low	-0.09	0.519	21.79	23.00	1.321	0.686	/
Level1	Table	QPSK	Back of keyboard	0	18900	1880	1	Mid	-0.15	0.695	14.35	16.00	1.462	**1.016**	4#
Level1	Table	QPSK	Back of keyboard	0	18900	1880	50	Low	0.14	0.657	14.34	16.00	1.466	0.963	/
Off	Table	QPSK	Left Edge	0	18900	1880	1	Mid	-0.06	0.266	22.97	24.00	1.268	0.337	/
Off	Table	QPSK	Left Edge	0	18900	1880	50	Low	0.15	0.226	21.79	23.00	1.321	0.299	/
Off	Table	QPSK	Top Edge	0	18900	1880	1	Mid	0.10	0.314	22.97	24.00	1.268	0.398	/
Off	Table	QPSK	Top Edge	0	18900	1880	50	Low	-0.18	0.252	21.79	23.00	1.321	0.333	/
Level1	Table	QPSK	Back of keyboard	0	18700	1860	1	High	-0.17	0.424	14.30	16.00	1.479	0.627	/
Level1	Table	QPSK	Back of keyboard	0	19100	1900	1	High	-0.06	0.503	14.31	16.00	1.476	0.742	/
Level1	Table	QPSK	Back of keyboard	0	18700	1860	50	Mid	-0.09	0.427	14.28	16.00	1.486	0.634	/
Level1	Table	QPSK	Back of keyboard	0	19100	1900	50	High	-0.01	0.519	14.23	16.00	1.503	0.780	/
Level1	Table	QPSK	Back of keyboard	0	19100	1900	100	Low	0.01	0.502	14.23	16.00	1.503	0.755	/
Sensor Off															
Off	Table	QPSK	Back of keyboard	8	18900	1880	1	Mid	-0.10	0.918	22.97	24.00	1.268	1.164	/
Off	Table	QPSK	Back of keyboard	8	18900	1880	50	Low	-0.14	0.732	21.79	23.00	1.321	0.967	/
Off	Table	QPSK	Back of keyboard	8	18700	1860	1	Mid	0.12	0.872	22.87	24.00	1.297	1.131	/
Off	Table	QPSK	Back of keyboard	8	19100	1900	1	Low	-0.05	0.839	22.49	24.00	1.416	1.188	/
Off	Table	QPSK	Back of keyboard	8	18700	1860	50	Mid	0.04	0.741	21.69	23.00	1.352	1.002	/
Off	Table	QPSK	Back of keyboard	8	19100	1900	50	High	-0.16	0.736	21.64	23.00	1.368	1.007	/
Off	Table	QPSK	Back of keyboard	8	18900	1880	100	Low	0.04	0.725	21.63	23.00	1.371	0.994	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

11.5 LTE Band 4 (20MHz Bandwidth)

Powrer Reduction	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body															
Off	Laptop	QPSK	Bottom Side	0	20175	1732.5	1	Mid	-0.12	0.724	23.31	24.00	1.172	**0.849**	5#
Off	Laptop	QPSK	Bottom Side	0	20300	1732.5	50	Low	-0.15	0.585	22.11	23.00	1.227	0.718	/
Off	Laptop	QPSK	Bottom Side	0	20300	1732.5	1	Low	-0.07	0.630	22.79	24.00	1.321	0.832	/
Off	Laptop	QPSK	Bottom Side	0	20300	1732.5	1	Mid	-0.02	0.658	23.15	24.00	1.216	0.800	/
Off	Laptop	QPSK	Bottom Side	0	20300	1732.5	100	Low	0.04	0.572	21.94	23.00	1.276	0.730	/
Level1	Table	QPSK	Back of keyboard	0	20175	1732.5	1	Mid	0.07	0.646	15.82	17.00	1.312	0.848	/
Level1	Table	QPSK	Back of keyboard	0	20300	1732.5	50	Low	-0.17	0.613	15.60	17.00	1.380	0.846	/
Off	Table	QPSK	Left Edge	0	20175	1732.5	1	Mid	-0.11	0.215	23.31	24.00	1.172	0.252	/
Off	Table	QPSK	Left Edge	0	20300	1732.5	50	Low	0.14	0.174	22.11	23.00	1.227	0.214	/
Off	Table	QPSK	Top Edge	0	20175	1732.5	1	Mid	-0.02	0.337	23.31	24.00	1.172	0.395	/
Off	Table	QPSK	Top Edge	0	20300	1732.5	50	Low	-0.17	0.264	22.11	23.00	1.227	0.324	/
Level1	Table	QPSK	Back of keyboard	0	20050	1720	1	Low	0.16	0.561	15.35	17.00	1.462	0.820	/
Level1	Table	QPSK	Back of keyboard	0	20300	1745	1	High	0.05	0.592	15.64	17.00	1.368	0.810	/
Level1	Table	QPSK	Back of keyboard	0	20050	1732.5	50	Low	-0.05	0.561	15.45	17.00	1.429	0.802	/
Level1	Table	QPSK	Back of keyboard	0	20175	1732.5	50	Mid	-0.06	0.549	15.44	17.00	1.432	0.786	/
Level1	Table	QPSK	Back of keyboard	0	20300	1732.5	100	Low	-0.17	0.577	15.52	17.00	1.406	0.811	/
Sensor Off															
Off	Table	QPSK	Back of keyboard	8	20175	1732.5	1	Mid	-0.12	0.935	23.31	24.00	1.172	1.096	/
Off	Table	QPSK	Back of keyboard	8	20300	1732.5	50	Low	-0.06	0.818	22.11	23.00	1.227	1.004	/
Off	Table	QPSK	Back of keyboard	8	20050	1720	1	Low	-0.18	0.875	22.79	24.00	1.321	1.156	/
Off	Table	QPSK	Back of keyboard	8	20300	1745	1	Mid	0.18	0.900	23.15	24.00	1.216	1.095	/
Off	Table	QPSK	Back of keyboard	8	20050	1732.5	50	Low	0.09	0.786	21.92	23.00	1.282	1.008	/
Off	Table	QPSK	Back of keyboard	8	20175	1732.5	50	Mid	-0.16	0.803	21.82	23.00	1.312	1.054	/
Off	Table	QPSK	Back of	8	20300	1732.5	100	Low	0.16	0.778	21.94	23.00	1.276	0.993	/

			keyboard												
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

11.6 LTE Band 5 (10MHz Bandwidth)

Powrer Reduction	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body															
Off	Laptop	QPSK	Bottom Side	0	20525	836.5	1	Mid	0.19	0.126	23.66	24.00	1.081	0.136	/
Off	Laptop	QPSK	Bottom Side	0	20600	844	25	High	0.17	0.099	22.54	23.00	1.112	0.110	/
Level1	Table	QPSK	Back of keyboard	0	20525	836.5	1	Mid	0.08	0.480	21.39	22.00	1.151	0.552	/
Level1	Table	QPSK	Back of keyboard	0	20600	844	25	High	0.12	0.493	21.29	22.00	1.178	**0.581**	6#
Off	Table	QPSK	Left Edge	0	20525	836.5	1	Mid	-0.03	0.048	23.66	24.00	1.081	0.052	/
Off	Table	QPSK	Left Edge	0	20600	844	25	High	0.14	0.031	22.48	23.00	1.127	0.035	/
Off	Table	QPSK	Top Edge	0	20525	836.5	1	Mid	0.01	0.508	23.66	24.00	1.081	0.549	/
Off	Table	QPSK	Top Edge	0	20600	844	25	High	0.12	0.387	22.48	23.00	1.127	0.436	/
Sensor Off															
Off	Table	QPSK	Back of keyboard	8	20525	836.5	1	Mid	-0.16	0.223	23.66	24.00	1.081	0.241	/
Off	Table	QPSK	Back of keyboard	8	20600	844	25	High	0.19	0.173	22.54	23.00	1.112	0.192	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

11.7 LTE Band 12 (10MHz Bandwidth)

Powrer Reduction	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body															
Off	Laptop	QPSK	Bottom Side	0	23130	711	1	Mid	0.00	0.353	23.59	24.00	1.099	0.388	/
Off	Laptop	QPSK	Bottom Side	0	23130	711	25	High	0.13	0.293	22.36	23.00	1.159	0.340	/
Level1	Table	QPSK	Back of keyboard	0	23130	711	1	Mid	0.00	0.484	21.17	22.00	1.211	0.586	/
Level1	Table	QPSK	Back of keyboard	0	23130	711	25	High	-0.12	0.475	21.07	22.00	1.239	**0.588**	7#
Off	Table	QPSK	Left Edge	0	23130	711	1	Mid	0.17	0.218	23.59	24.00	1.099	0.240	/
Off	Table	QPSK	Left Edge	0	23130	711	25	High	0.14	0.132	22.36	23.00	1.159	0.153	/
Off	Table	QPSK	Top Edge	0	23130	711	1	Mid	-0.02	0.481	23.59	24.00	1.099	0.529	/
Off	Table	QPSK	Top Edge	0	23130	711	25	High	0.10	0.376	22.36	23.00	1.159	0.436	/
Sensor Off															
Off	Table	QPSK	Back of keyboard	8	23130	711	1	Mid	-0.16	0.189	23.59	24.00	1.099	0.208	/
Off	Table	QPSK	Back of keyboard	8	23130	711	25	High	0.12	0.154	22.36	23.00	1.159	0.178	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

11.8 LTE Band 66 (20MHz Bandwidth)

Powrer Reduction	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body															
Off	Laptop	QPSK	Bottom Side	0	132322	1745	1	Low	-0.11	0.975	23.73	24.00	1.064	**1.038**	8#
Off	Laptop	QPSK	Bottom Side	0	132322	1745	50	Low	-0.19	0.765	22.56	23.50	1.242	0.950	/
Off	Laptop	QPSK	Bottom Side	0	132072	1720	1	Low	0.03	0.865	23.23	24.00	1.194	1.033	/
Off	Laptop	QPSK	Bottom Side	0	132572	1770	1	Mid	-0.12	0.901	23.42	24.00	1.143	1.030	/
Off	Laptop	QPSK	Bottom Side	0	132072	1720	50	Low	0.17	0.748	22.25	23.50	1.334	0.997	/
Off	Laptop	QPSK	Bottom Side	0	132572	1770	50	Mid	0.18	0.730	22.20	23.50	1.349	0.985	/
Off	Laptop	QPSK	Bottom Side	0	132322	1745	100	Low	0.12	0.752	22.36	23.50	1.300	0.978	/
Level1	Table	QPSK	Back of keyboard	0	132322	1745	1	Low	-0.15	0.680	16.46	17.00	1.132	0.770	/
Level1	Table	QPSK	Back of keyboard	0	132322	1745	50	Mid	0.16	0.631	16.10	17.00	1.230	0.776	/
Off	Table	QPSK	Left Edge	0	132322	1745	1	Low	-0.09	0.225	23.73	24.00	1.064	0.239	/
Off	Table	QPSK	Left Edge	0	132322	1745	50	Low	0.11	0.148	22.56	23.50	1.242	0.184	/
Off	Table	QPSK	Top Edge	0	132322	1745	1	Low	0.16	0.380	23.73	24.00	1.064	0.404	/
Off	Table	QPSK	Top Edge	0	132322	1745	50	Low	0.19	0.277	22.56	23.50	1.242	0.344	/
Sensor Off															
Off	Table	QPSK	Back of keyboard	8	132322	1745	1	Low	-0.15	0.876	23.73	24.00	1.064	0.932	/
Off	Table	QPSK	Back of keyboard	8	132322	1745	50	Low	0.19	0.715	22.56	23.50	1.242	0.888	/
Off	Table	QPSK	Back of keyboard	8	132072	1720	1	Low	-0.14	0.805	23.23	24.00	1.194	0.961	/
Off	Table	QPSK	Back of keyboard	8	132572	1770	1	Mid	0.00	0.796	23.42	24.00	1.143	0.910	/
Off	Table	QPSK	Back of keyboard	8	132072	1720	50	Low	-0.08	0.630	22.25	23.50	1.334	0.840	/
Off	Table	QPSK	Back of keyboard	8	132572	1770	50	Mid	-0.18	0.656	22.20	23.50	1.349	0.885	/
Off	Table	QPSK	Back of keyboard	8	132322	1745	100	Low	0.00	0.638	22.36	23.50	1.300	0.830	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

11.9 LTE Band 71 (20MHz Bandwidth)

Powrer Reduction	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body															
Off	Laptop	QPSK	Bottom Side	0	133222	673	1	High	0.18	0.346	22.78	24.00	1.324	0.458	/
Off	Laptop	QPSK	Bottom Side	0	133222	673	50	High	-0.16	0.278	21.66	23.00	1.361	0.378	/
Level1	Table	QPSK	Back of keyboard	0	133222	673	1	Mid	0.07	0.670	21.48	22.00	1.127	**0.755**	9#
Level1	Table	QPSK	Back of keyboard	0	133222	673	50	High	-0.17	0.656	21.42	22.00	1.143	0.750	/
Off	Table	QPSK	Left Edge	0	133222	673	1	High	-0.01	0.210	22.78	24.00	1.324	0.278	/
Off	Table	QPSK	Left Edge	0	133222	673	50	High	0.17	0.149	21.66	23.00	1.361	0.203	/
Off	Table	QPSK	Top Edge	0	133222	673	1	High	-0.08	0.501	22.78	24.00	1.324	0.663	/
Off	Table	QPSK	Top Edge	0	133222	673	50	High	-0.09	0.406	21.66	23.00	1.361	0.553	/
Sensor Off															
Off	Table	QPSK	Back of keyboard	8	133222	673	1	High	-0.12	0.195	22.78	24.00	1.324	0.258	/
Off	Table	QPSK	Back of keyboard	8	133222	673	50	High	-0.15	0.159	21.66	23.00	1.361	0.216	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

11.10 WIFI 2.4GHz

Fre. Band	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body															
2.4G	Table	802.11 b	Back of keyboard	0	6	2437	0.06	0.013	98.85	1.012	15.08	15.50	1.102	0.014	/
	Table	802.11 b	Top Edge	0	6	2437	-0.01	0.218	98.85	1.012	15.08	15.50	1.102	**0.243**	10#
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

11.11 WIFI 5GHz

Fre. Band	Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body															
5.2G	Table	802.11 a	Back of keyboard	0	36	5180	-0.06	0.009	97.87	1.022	13.34	13.50	1.038	0.010	/
	Table	802.11 a	Top Edge	0	36	5180	0.09	0.126	97.87	1.022	13.34	13.50	1.038	**0.134**	11#
5.8G	Table	802.11 a	Back of keyboard	0	165	5825	-0.01	0.011	97.87	1.022	13.11	13.50	1.094	0.012	/
	Table	802.11 a	Top Edge	0	165	5825	0.04	0.124	97.87	1.022	13.11	13.50	1.094	**0.139**	12#
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

11.12 Bluetooth

Test Position	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body														
Table	DH5	Top Edge	0	39	2441	0.08	0.023	76.80	1.302	5.95	6.00	1.012	**0.031**	13#
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

12 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 may be 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.

Frequency Band (MHz)	Wireless Band	Test Position	RF Exposure Conditions	Test Position	Highest Measured SAR (W/kg)	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	Largest to Smallest SAR Radio
1732.4	WCDMA Band 4	Laptop	Body	Bottom Side	0.850	Yes	0.837	1.02
1745	LTE Band 66	Laptop	Body	Bottom Side	0.975	Yes	0.943	1.03
Note: The ratio of largest to smallest SAR for the original and first repeated measurements is < 1.20, the second repeated measurement is not required.								

13 SIMULTANEOUS TRANSMISSION

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 SAR to Peak Location Ratio (SPLSR). According KDB 447498 D04, simultaneous transmission:

a) SPLSR = (SAR1 + SAR2)^1.5 / R_i (min. separation distance, mm), and the peak separation distance is determined from the square root of [$(x1-x2)^2$ + $(y1-y2)^2$ + $(z1-z2)^2$], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
SAR1 is the highest reported or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition.
SAR2 is the highest reported or estimated SAR for the second of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition as the first.

b) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.

c) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

13.1 Simultaneous Transmission Mode Considerations

No.	Simultaneous Tx Combination	Body-worn
1	WLAN 5GHz + BT	Yes
2	WWAN + WLAN 2.4GHz	Yes
3	WWAN + WLAN 5GHz	Yes
4	WWAN + BT	Yes
5	WWAN + WLAN 5GHz + BT	Yes

Note:

1. 3G&4G share the same antenna and can’t transmit simultaneously.
2. 2.4G WLAN can’t transmit simultaneously with Bluetooth or 5G WLAN.
3. The maximum SAR summation is calculated based on the same configuration and test position.
4. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.

13.2 Sum SAR of Simultaneous Transmission

13.2.1 Body Simultaneous Transmission SAR Evaluation for WWAN and WLAN

Band	Test Position	Position	Stand alone SAR				SUM SAR	
			1	2	3	4		
			WWAN	2.4G WIFI	5G WIFI	Bluetooth	WWAN+WIFI 2.4G (1+2)	WWAN+WIFI 5G+BT (1+3+4)
WCDMA B2	Laptop	Bottom Side 0mm	0.849	/	/	/	0.849	0.849
	Table	Back of keyboard 0mm	0.766	0.014	0.012	/	0.780	0.778
	Table	Left Edge 0mm	0.366	/	/	/	0.366	0.366
	Table	Top Edge 0mm	0.425	0.243	0.139	0.031	0.668	0.594
WCDMA B4	Laptop	Bottom Side 0mm	1.039	/	/	/	**1.039**	**1.039**
	Table	Back of keyboard 0mm	0.514	0.014	0.012	/	0.528	0.526
	Table	Left Edge 0mm	0.298	/	/	/	0.298	0.298
	Table	Top Edge 0mm	0.480	0.243	0.139	0.031	0.723	0.649
WCDMA B5	Laptop	Bottom Side 0mm	0.150	/	/	/	0.150	0.150
	Table	Back of keyboard 0mm	0.759	0.014	0.012	/	0.773	0.771
	Table	Left Edge 0mm	0.055	/	/	/	0.055	0.055
	Table	Top Edge 0mm	0.571	0.243	0.139	0.031	0.814	0.740
LTE B2	Laptop	Bottom Side 0mm	0.781	/	/	/	0.781	0.781
	Table	Back of keyboard 0mm	1.016	0.014	0.012	/	1.030	1.028
	Table	Left Edge 0mm	0.337	/	/	/	0.337	0.337
	Table	Top Edge 0mm	0.398	0.243	0.139	0.031	0.641	0.567
LTE B4	Laptop	Bottom Side 0mm	0.849	/	/	/	0.849	0.849
	Table	Back of keyboard 0mm	0.848	0.014	0.012	/	0.862	0.848
	Table	Left Edge 0mm	0.252	/	/	/	0.252	0.252
	Table	Top Edge 0mm	0.395	0.243	0.139	0.031	0.638	0.564
LTE B5	Laptop	Bottom Side 0mm	0.136	/	/	/	0.136	0.136
	Table	Back of keyboard 0mm	0.581	0.014	0.012	/	0.595	0.593
	Table	Left Edge 0mm	0.052	/	/	/	0.052	0.052
	Table	Top Edge 0mm	0.549	0.243	0.139	0.031	0.792	0.718
LTE B12	Laptop	Bottom Side 0mm	0.388	/	/	/	0.388	0.388
	Table	Back of keyboard 0mm	0.588	0.014	0.012	/	0.602	0.600
	Table	Left Edge 0mm	0.240	/	/	/	0.240	0.240
	Table	Top Edge 0mm	0.529	0.243	0.139	0.031	0.772	0.698
LTE B66	Laptop	Bottom Side 0mm	1.038	/	/	/	1.038	1.038
	Table	Back of keyboard 0mm	0.776	0.014	0.012	/	0.790	0.788
	Table	Left Edge 0mm	0.239	/	/	/	0.239	0.239
	Table	Top Edge 0mm	0.404	0.243	0.139	0.031	0.647	0.573
LTE B71	Laptop	Bottom Side 0mm	0.458	/	/	/	0.458	0.458
	Table	Back of keyboard 0mm	0.755	0.014	0.012	/	0.769	0.755
	Table	Left Edge 0mm	0.278	/	/	/	0.278	0.278
	Table	Top Edge 0mm	0.663	0.243	0.139	0.031	0.906	0.832

Note:

1: The simultaneous transmission combinations of the three antennas contain combinations of two antennas, so only the worst simultaneous transmission combinations was shown in this table.

2: The highest Summed 1g SAR is 1.039 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

14 TEST EQUIPMENTS LIST

Description	Manufacturer	Model	Serial No./Version	Cal. Date	Cal. Due
PC	Dell	N/A	N/A	N/A	N/A
Test Software	Speag	DASY5	52.8.8.1222	N/A	N/A
750MHz Validation Dipole	Speag	D750V3	SN: 1201	2020/11/11	2023/11/10
835MHz Validation Dipole	Speag	D835V2	SN: 4d187	2021/05/17	2024/05/16
1750MHz Validation Dipole	Speag	D1750V2	SN: 1130	2021/05/17	2024/05/16
1900MHz Validation Dipole	Speag	D1900V2	SN: 5d193	2021/05/20	2024/05/19
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2021/05/19	2024/05/18
5GHz Validation Dipole	Speag	D5GHzV2	SN: 1200	2021/05/18	2024/05/17
E-Field Probe	Speag	EX3DV4	SN: 7663	2021/07/23	2022/07/22
Data Acquisition Electronics	Speag	DAE4	SN: 878	2021/07/15	2022/07/14
Signal Generator	R&S	SMB100A	177746	2021/08/24	2022/08/23
Power Meter	R&S	NRVD-B2	7250BJ-0112/2011	2021/09/08	2022/09/07
Power Sensor	R&S	NRV-Z4	100381	2021/09/08	2022/09/07
Power Sensor	R&S	NRV-Z2	100211	2021/09/08	2022/09/07
Network Analyzer	Agilent	E5071C	MY46103472	2021/12/29	2022/12/28
Thermometer	Elitech	RC-4HC	EF720B004820	2021/12/01	2022/11/30
Power Amplifier	SATIMO	6552B	22374	N/A	N/A
Dielectric Probe Kit	SATIMO	SCLMP	SN 25/13 OCPG56	N/A	N/A
Phantom1	Speag	SAM	SN: 1857	N/A	N/A
Phantom2	Speag	ELI4	SN: 1012	N/A	N/A
Attenuator	COM-MW	ZA-S1-31	1305003187	N/A	N/A
Directional coupler	AA-MCS	AAMCS-UDC	000272	N/A	N/A

Note: For dipole antennas, BALUN has adopted 3 years as calibration intervals, and on annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss in within 20% of calibrated measurement.
4. Impedance (real or imaginary parts) in within 5 Ohms of calibrated measurement.

ANNEX A SIMULATING LIQUID VERIFICATION RESULT

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an SCLMP Dielectric Probe Kit.

Head Liquid

Date	Liquid Type	Fre. (MHz)	Temp. (℃)	Meas. Conductivity (σ) (S/m)	Meas. Permittivity (ε)	Target Conductivity (σ) (S/m)	Target Permittivity (ε)	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2022.05.26	Head	750	21.6	0.88	43.11	0.89	41.90	-1.12	2.89
2022.05.27	Head	835	21.1	0.91	41.33	0.90	41.50	1.11	-0.41
2022.05.30	Head	1750	21.2	1.40	41.30	1.37	40.10	2.19	2.99
2022.05.31	Head	1750	21.3	1.39	38.98	1.37	40.10	1.46	-2.79
2022.06.01	Head	1900	21.8	1.42	39.13	1.40	40.00	1.43	-2.17
2022.06.02	Head	2450	21.8	1.78	38.79	1.80	39.20	-1.11	-1.05
2022.06.02	Head	5250	21.4	4.71	36.60	4.71	35.90	0.00	1.95
2022.06.02	Head	5750	21.6	5.13	36.15	5.22	35.40	-1.72	2.12
Note: The tolerance limit of Conductivity and Permittivity is± 5%.									

ANNEX B SYSTEM CHECK RESULT

Comparing to the original SAR value provided by SPEAG, the validation data should be within itsspecification of 10 %(for 1 g).

Head liquid 1g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2022.05.26	Head	750	100	0.845	8.45	8.29	1.93
2022.05.27	Head	835	100	0.962	9.62	9.76	-1.43
2022.05.30	Head	1750	100	3.650	36.50	36.70	-0.54
2022.05.31	Head	1750	100	3.730	37.30	36.70	1.63
2022.06.01	Head	1900	100	4.120	41.20	40.30	2.23
2022.06.02	Head	2450	100	5.410	54.10	53.00	2.08
2022.06.02	Head	5250	100	7.980	79.80	77.80	2.57
2022.06.02	Head	5750	100	8.180	81.80	77.20	5.96
Note: The tolerance limit of System validation ±10%.							

System Performance Check Data (750MHz)

Date: 2022.05.26

Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 750 MHz; σ = 0.88 S/m; ε_r = 43.105; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.6

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(10.41, 10.41, 10.41); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 835 100mW/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.985 W/kg

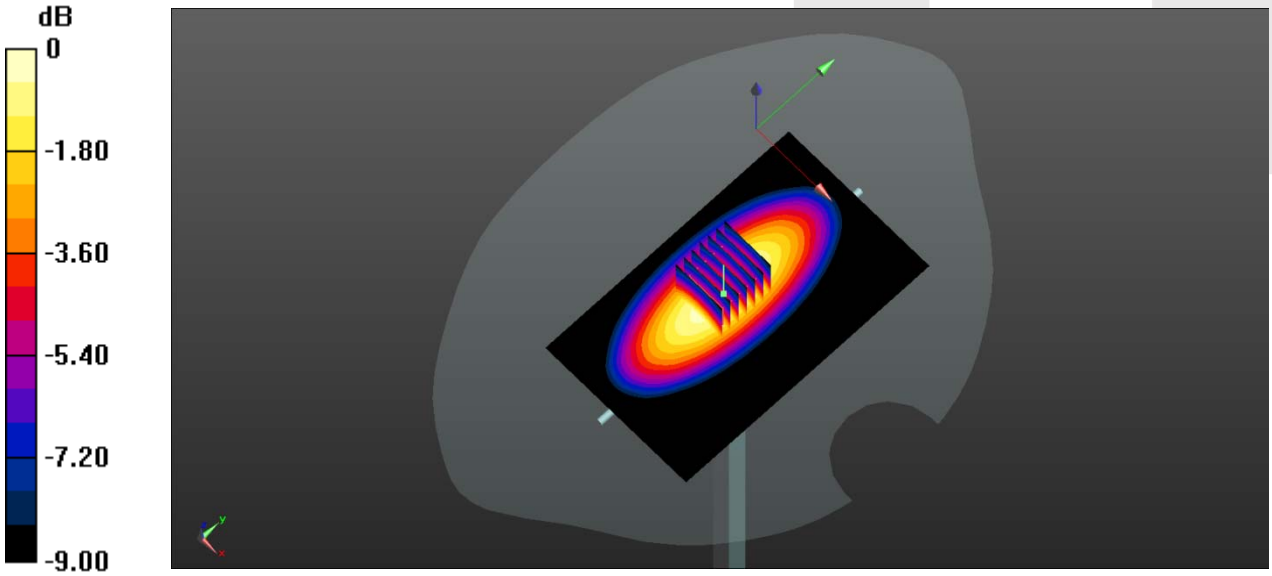
CW 835 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.85 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.969 W/kg

SAR(1 g) = 0.845 W/kg; SAR(10 g) = 0.565 W/kg

Maximum value of SAR (measured) = 0.912 W/kg



0 dB = 0.912 W/kg

System Performance Check Data (835MHz)

Date: 2022.05.27

Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.91 S/m; ε_r = 41.334; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.3 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(10.1, 10.1, 10.1); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 835 100mW/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.989 W/kg

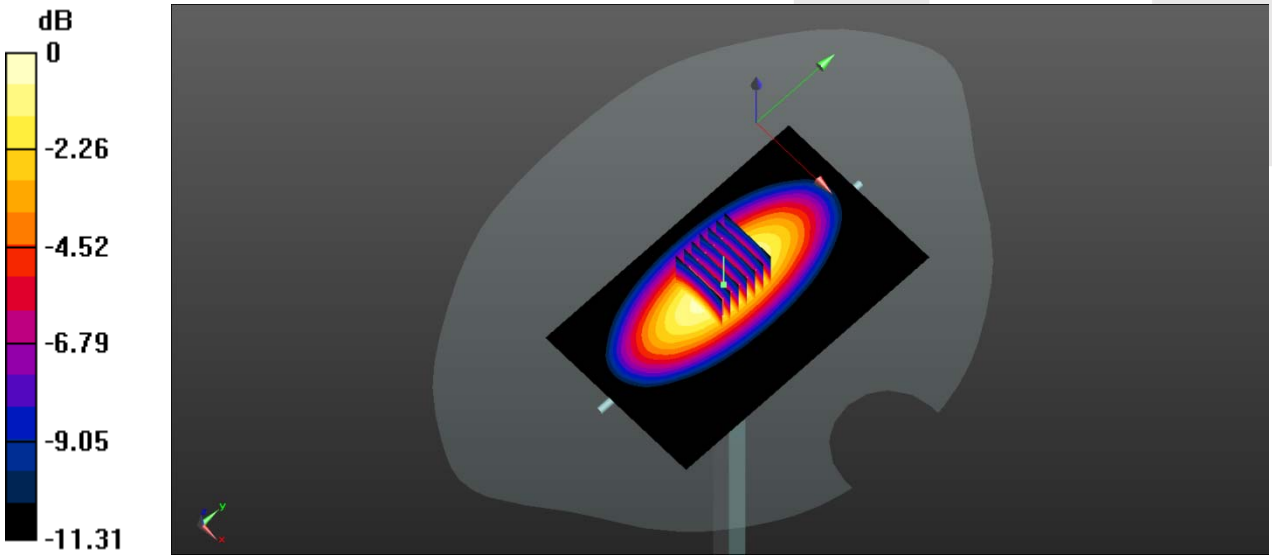
CW 835 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 31.87 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.962 W/kg; SAR(10 g) = 0.642 W/kg

Maximum value of SAR (measured) = 0.999 W/kg



0 dB = 0.999 W/kg

System Performance Check Data (1750MHz)

Date: 2022.05.30

Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1750 MHz; σ = 1.399 S/m; ε_r = 41.297; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.3 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.71, 8.71, 8.71); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 1750 100mw/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 3.85W/kg

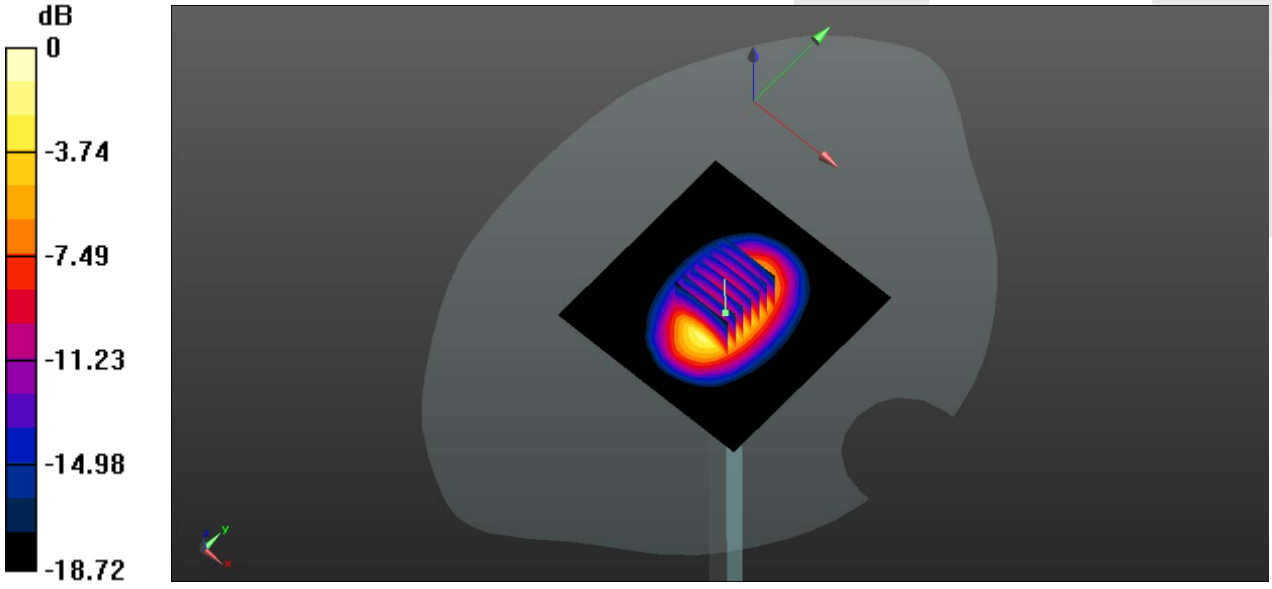
CW 1750 100mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 35.32 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 6.88 W/kg

SAR(1 g) = 3.65 W/kg; SAR(10 g) = 1.91 W/kg

Maximum value of SAR (measured) = 4.25 W/kg



0 dB = 4.25 W/kg

System Performance Check Data (1750MHz)

Date: 2022.05.31

Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1750 MHz; σ = 1.392 S/m; ε_r = 38.975; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.71, 8.71, 8.71); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW1750 100mW/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 3.91 W/kg

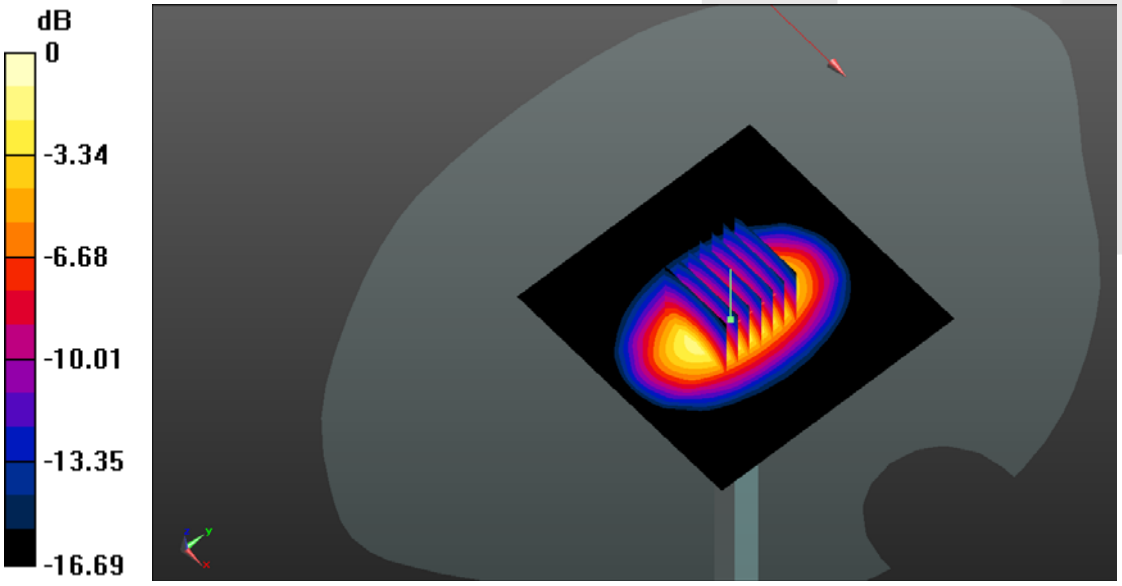
CW1750 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 36.57 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 6.92 W/kg

SAR(1 g) = 3.73 W/kg; SAR(10 g) = 1.95 W/kg

Maximum value of SAR (measured) = 4.28 W/kg



0 dB = 4.28 W/kg

System Performance Check Data (1900MHz)

Date: 2022.06.01

Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.418 S/m; ε_r = 39.125; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.57, 8.57, 8.57); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 1900 100mw/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.11 W/kg

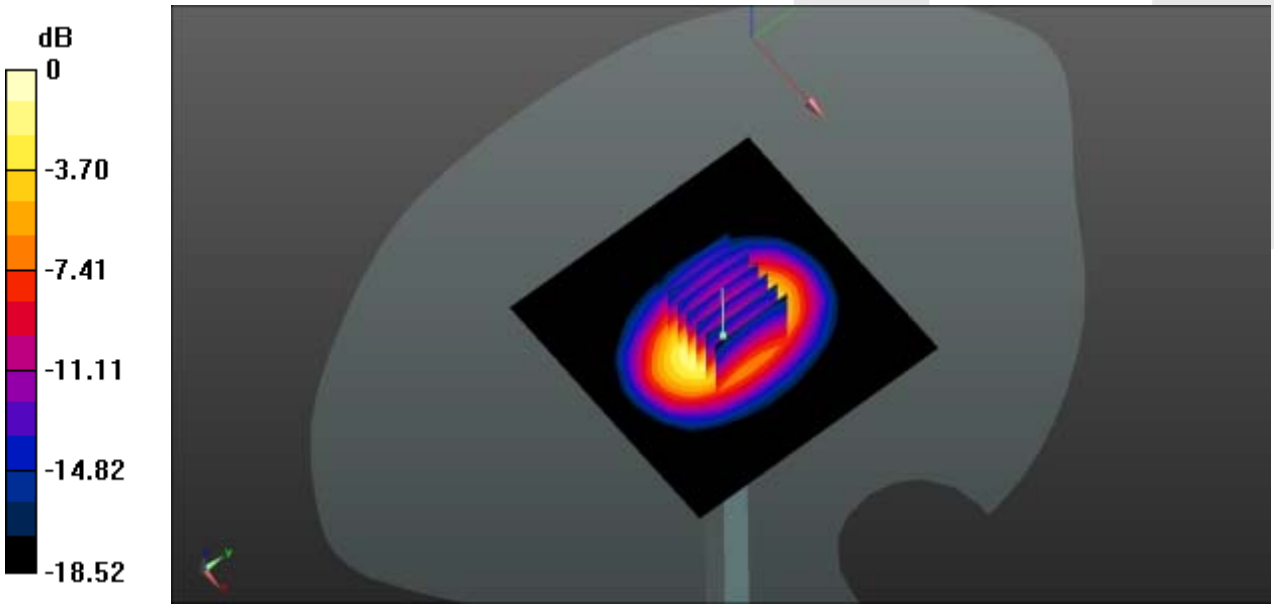
CW 1900 100mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 41.98 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 6.72 W/kg

SAR(1 g) = 4.12 W/kg; SAR(10 g) = 2.11 W/kg

Maximum value of SAR (measured) = 4.37W/kg



0 dB = 4.37 W/kg

System Performance Check Data (2450MHz)

Date: 2022.06.02

Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2450 MHz; σ = 1.777 S/m; ε_r = 38.794; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.19, 8.19, 8.19); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 2450 100mw/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.01 W/kg

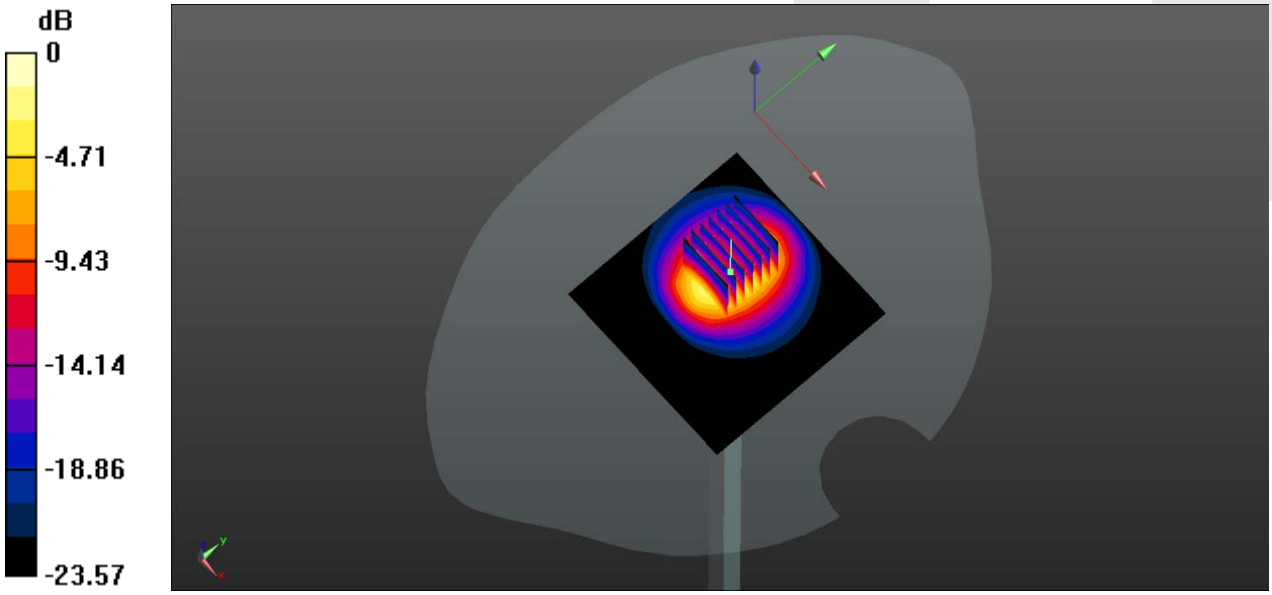
CW 2450 100mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 30.29 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 10.1 W/kg

SAR(1 g) = 5.41 W/kg; SAR(10 g) = 2.39 W/kg

Maximum value of SAR (measured) = 6.21 W/kg



0 dB = 6.21 W/kg

System Performance Check Data (5250MHz)

Date: 2022.06.02

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5250 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5250 MHz; σ = 4.706 S/m; ε_r = 36.599; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(5.72, 5.72, 5.72); Calibrated: 2021/7/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 5250 100mW /Area Scan (81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 8.15 W/kg

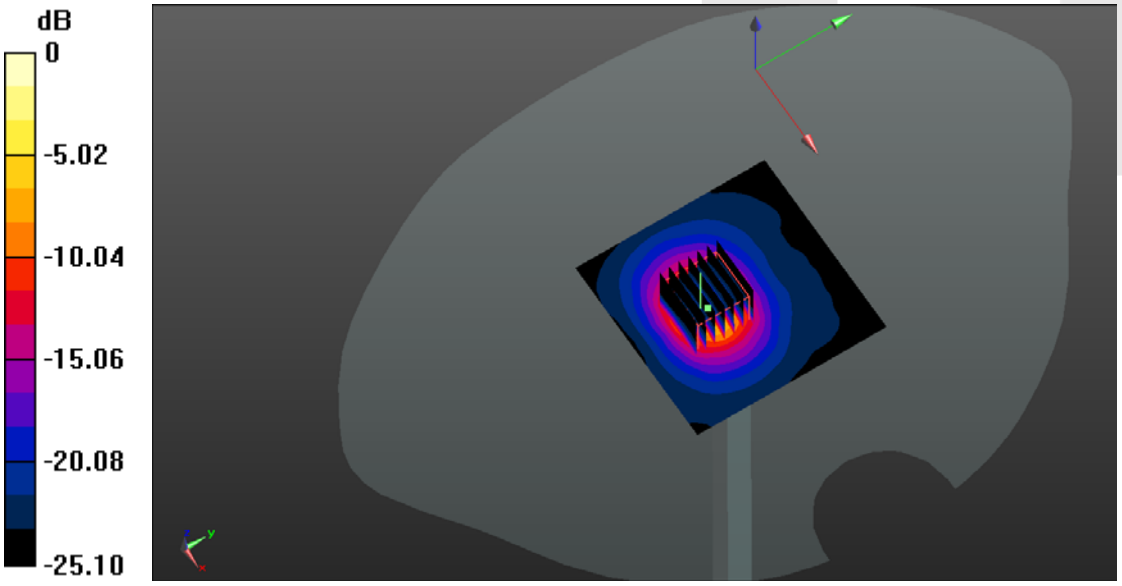
CW 5250 100mW /Zoom Scan (7x7x15)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 26.36 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 32.7 W/kg

SAR(1 g) = 7.98 W/kg; SAR(10 g) = 2.29 W/kg

Maximum value of SAR (measured) = 11.8 W/kg



0 dB = 11.8 W/kg

System Performance Check Data (5750MHz)

Date: 2022.06.02

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5750 MHz; σ = 5.125 S/m; ε_r = 36.154; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.8 Liquid Temperature:21.6

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(5.15, 5.15, 5.15); Calibrated: 2021/7/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 5750 100mW/Area Scan (81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 8.98 W/kg

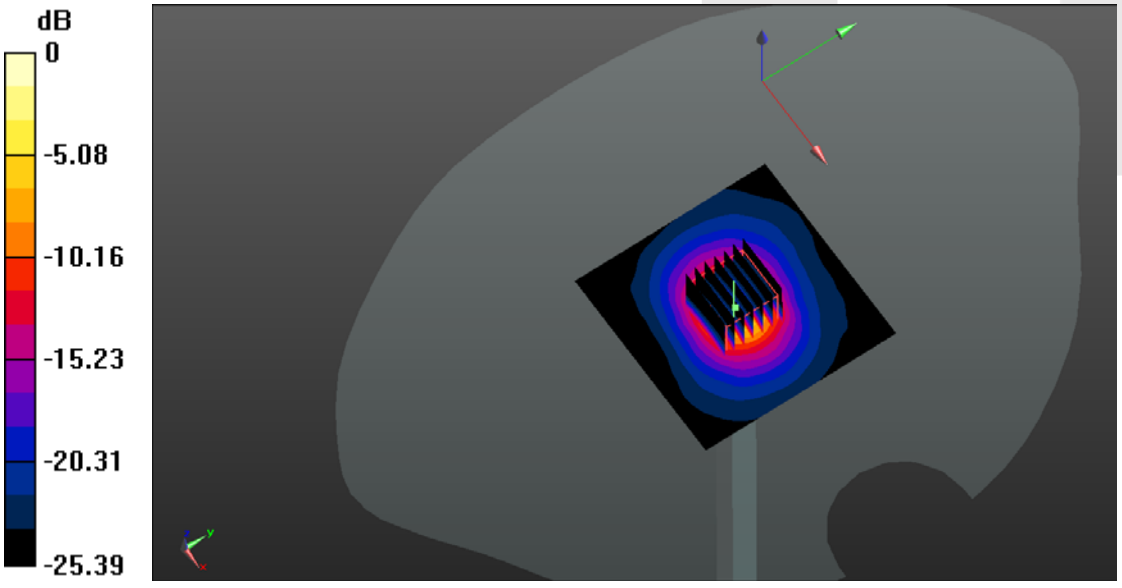
CW 5750 100mW/Zoom Scan (7x7x15)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 37.54 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 34.9 W/kg

SAR(1 g) = 8.18 W/kg; SAR(10 g) = 2.11 W/kg

Maximum value of SAR (measured) = 14.5 W/kg



0 dB = 14.5 W/kg

ANNEX C TEST DATA

Meas.1 Body Plane with Bottom Side 0mm on Middle Channel in WCDMA Band2 mode

Date: 2022.06.01

Communication System Band: II; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1880 MHz; σ = 1.417 S/m; ε_r = 39.361; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.57, 8.57, 8.57); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9400/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.680 W/kg

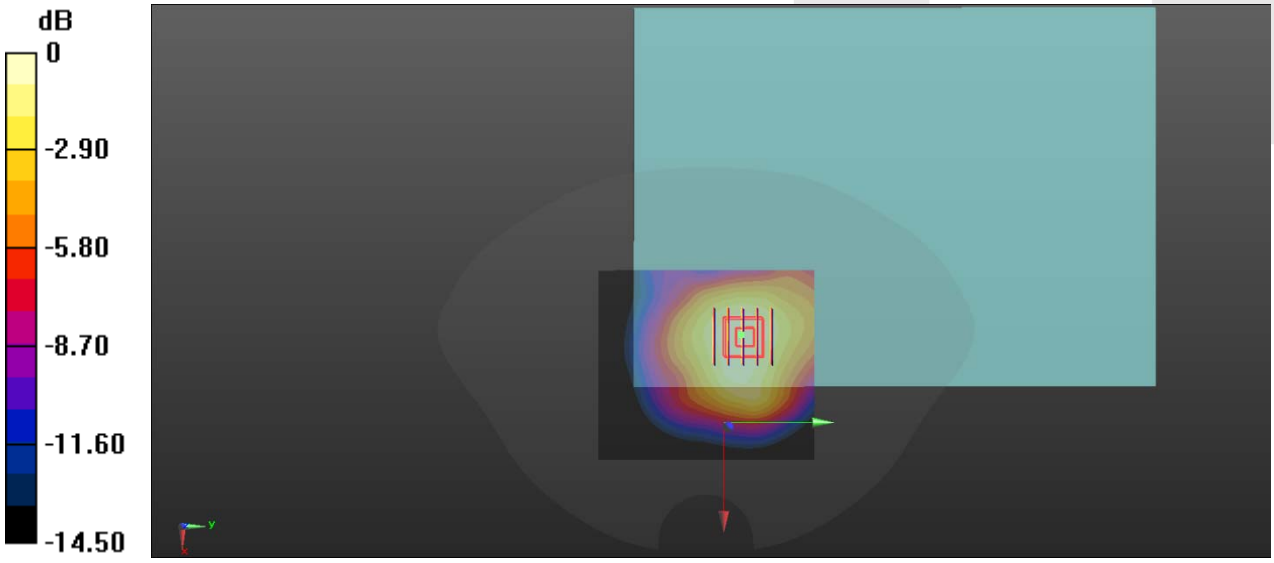
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.00 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.971 W/kg

SAR(1 g) = 0.628 W/kg; SAR(10 g) = 0.395 W/kg

Maximum value of SAR (measured) = 0.679 W/kg



0 dB = 0.679 W/kg

Meas.2 Body Plane with Bottom Side 0mm on Middle Channel in WCDMA Band4 mode

Date: 2022.05.30

Communication System Band: IV; Frequency: 1732.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.386 S/m; ε_r = 41.463; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.3 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.71, 8.71, 8.71); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1412/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.930 W/kg

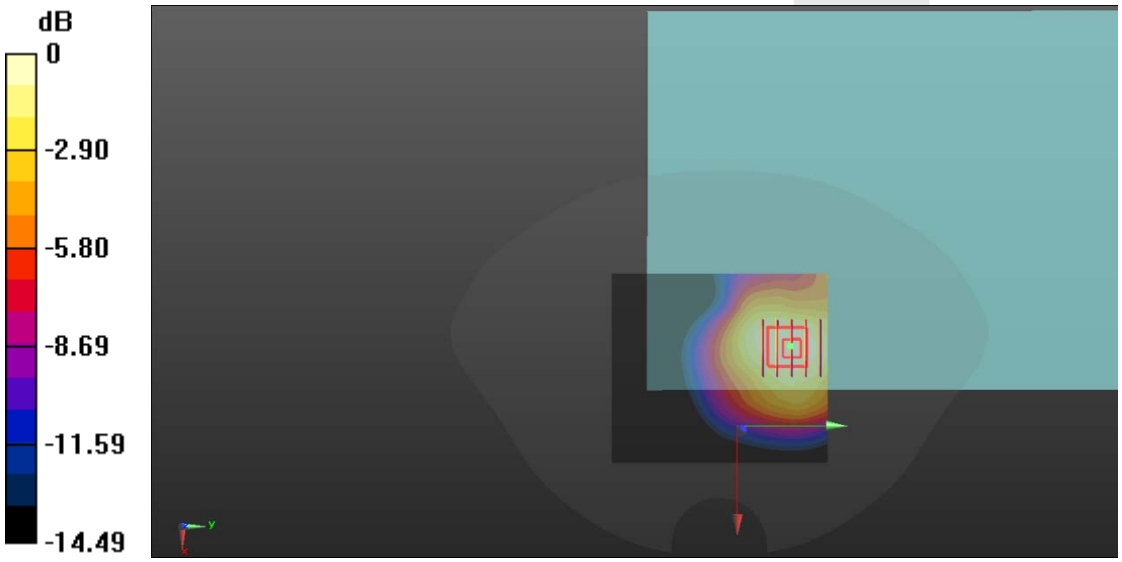
Ch1412/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.09 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.32 W/kg

SAR(1 g) = 0.850 W/kg; SAR(10 g) = 0.539 W/kg

Maximum value of SAR (measured) = 0.917 W/kg



0 dB = 0.917 W/kg

Meas.3 Body Plane with Back Side of Keyboard 0mm on Middle Channel in WCDMA Band5 mode

Date: 2022.05.27

Communication System Band: V; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.925 S/m; ε_r = 41.087; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.3 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(10.1, 10.1, 10.1); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4233/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.593 W/kg

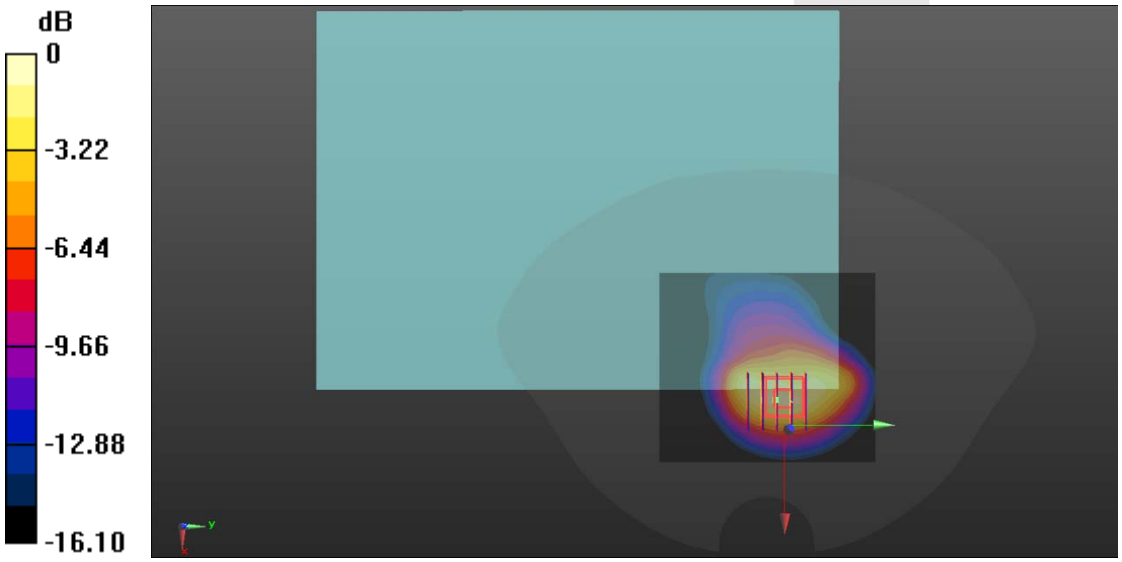
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.64 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.20 W/kg

SAR(1 g) = 0.595 W/kg; SAR(10 g) = 0.319 W/kg

Maximum value of SAR (measured) = 0.677 W/kg



0 dB = 0.677 W/kg

Meas.4 Body Plane with Back Side of Keyboard 0mm on Middle Channel in LTE Band2 mode

Date: 2022.06.01

Communication System Band: Band 2; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1880 MHz; σ = 1.417 S/m; ε_r = 39.361; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.57, 8.57, 8.57); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch18900/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.830 W/kg

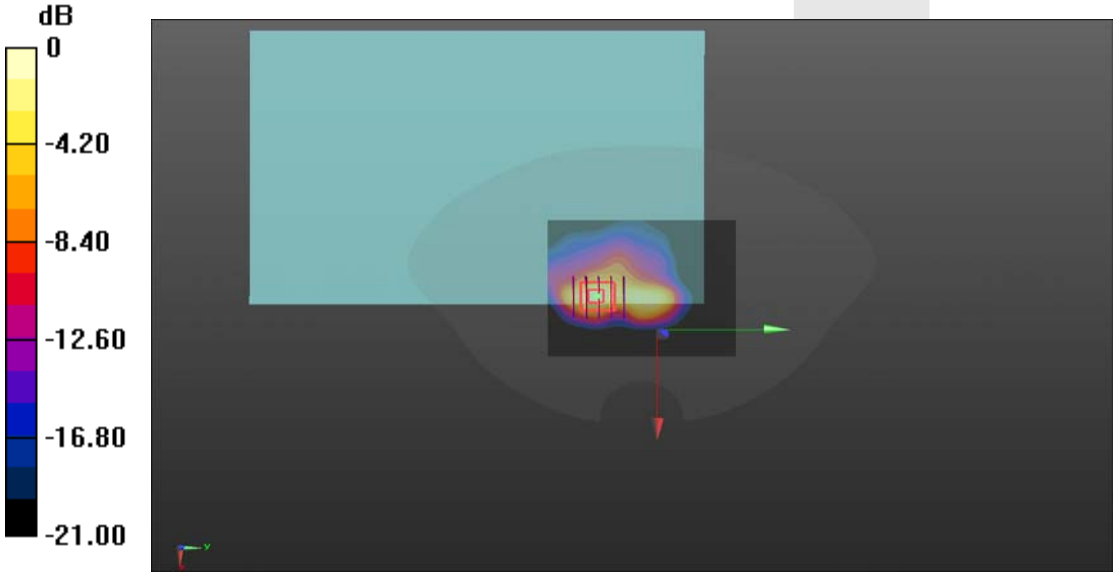
Ch18900/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.16 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.58 W/kg

SAR(1 g) = 0.695 W/kg; SAR(10 g) = 0.298 W/kg

Maximum value of SAR (measured) = 0.804 W/kg



0 dB = 0.804 W/kg

Meas.5 Body Plane with Bottom Side 0mm on Middle Channel in LTE Band4 mode

Date: 2022.05.31

Communication System Band: Band 4; Frequency: 1732.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1732.5 MHz; σ = 1.378 S/m; ε_r = 39.368; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.71, 8.71, 8.71); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20175/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.798 W/kg

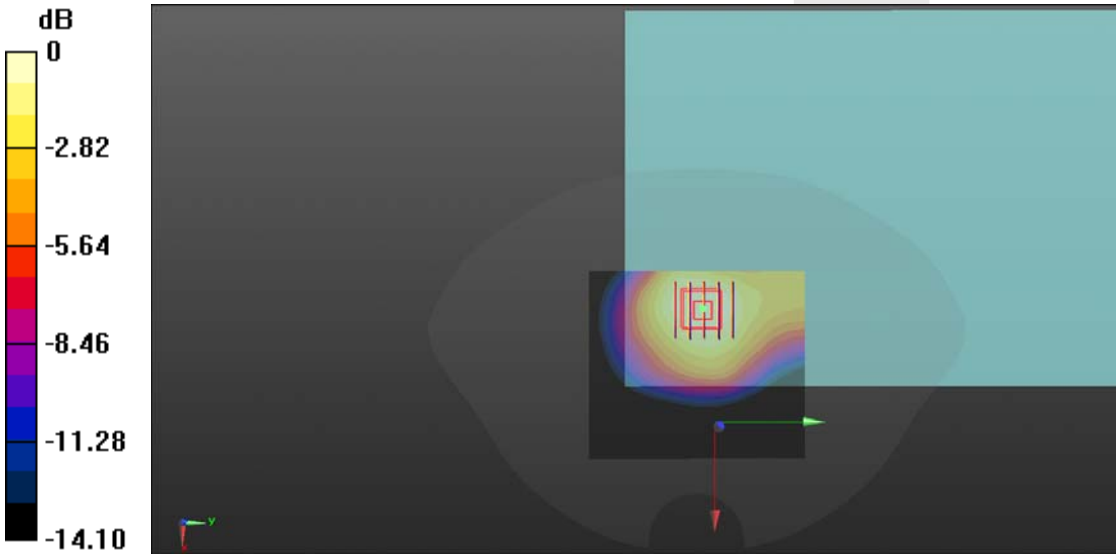
Ch20175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.84 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.724 W/kg; SAR(10 g) = 0.463 W/kg

Maximum value of SAR (measured) = 0.786 W/kg



0 dB = 0.786 W/kg

Meas.6 Body Plane with Back Side of Keyboard 0mm on High Channel in LTE Band5 mode

Date: 2022.05.27

Communication System Band: Band 5; Frequency: 844 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 844 MHz; σ = 0.921 S/m; ε_r = 42.117; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.3 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(10.1, 10.1, 10.1); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20600/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.516 W/kg

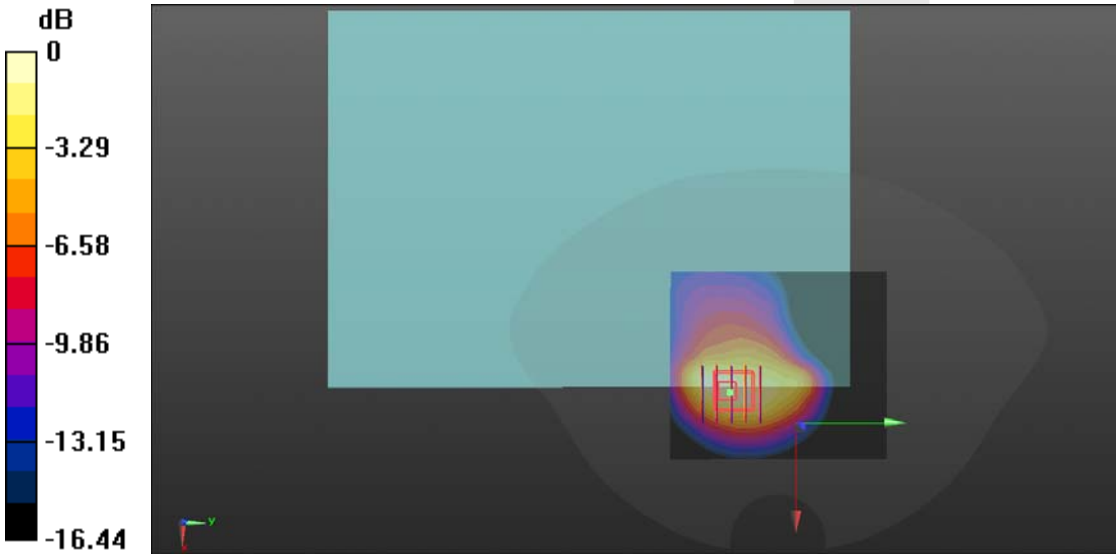
Ch20600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.53 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.493 W/kg; SAR(10 g) = 0.256 W/kg

Maximum value of SAR (measured) = 0.543 W/kg



0 dB = 0.543 W/kg

Meas.7 Body Plane with Back Side of Keyboard 0mm on Middle Channel in LTE Band12 mode

Date: 2022.05.26

Communication System Band: Band 12; Frequency: 711 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 711 MHz; σ = 0.872 S/m; ε_r = 43.365; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.6

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(10.41, 10.41, 10.41); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23130/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.505 W/kg

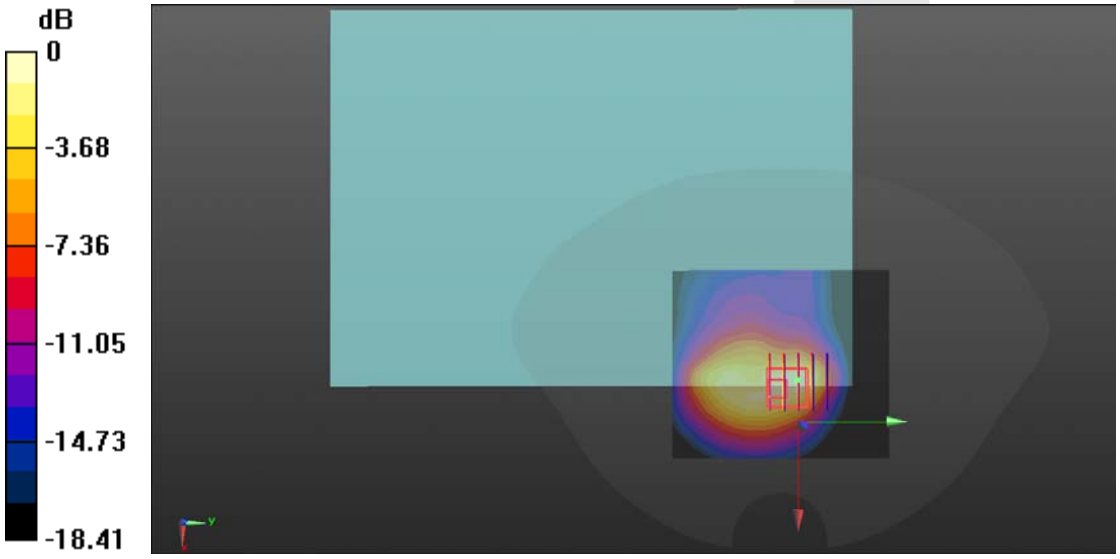
Ch23130/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.30 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.475 W/kg; SAR(10 g) = 0.228 W/kg

Maximum value of SAR (measured) = 0.515 W/kg



0 dB = 0.515 W/kg

Meas.8 Body Plane with Bottom Side 0mm on Middle Channel in LTE Band66 mode

Date: 2022/5/30

Communication System Band: Band 66; Frequency: 1745 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1745 MHz; σ = 1.391 S/m; ε_r = 41.34; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.3 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.71, 8.71, 8.71); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch132322/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.13 W/kg

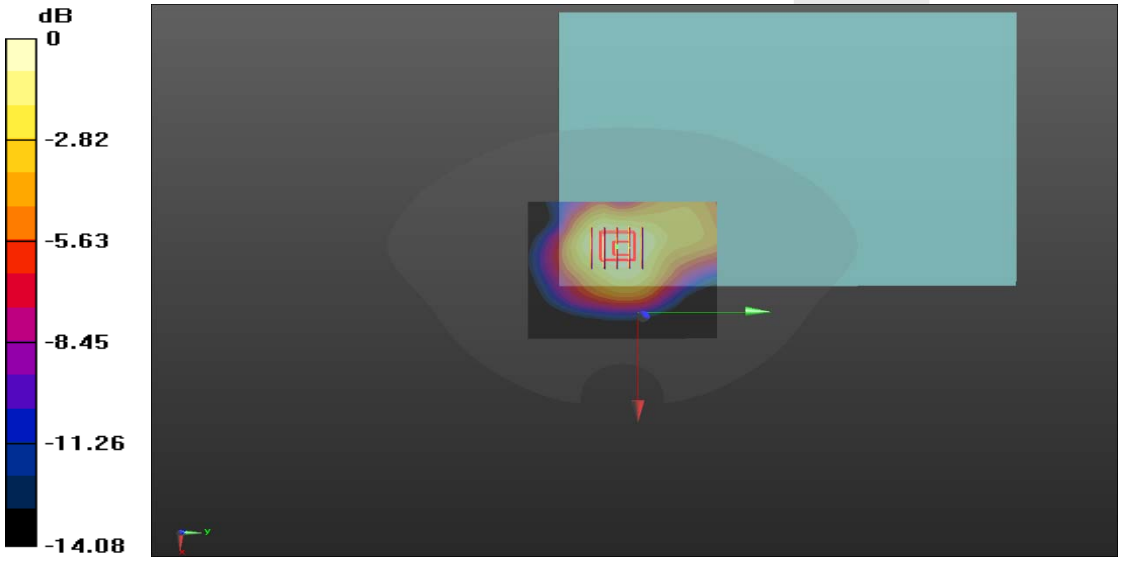
Ch132322/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.52 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.975 W/kg; SAR(10 g) = 0.603 W/kg

Maximum value of SAR (measured) = 1.16 W/kg



0 dB = 1.16 W/kg

Meas.9 Body Plane with Back Side of Keyboard 0mm on Low Channel in LTE Band71 mode

Date: 2022/5/26

Communication System Band: Band 71; Frequency: 673 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 673 MHz; σ = 0.865 S/m; ε_r = 43.462; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.6

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(10.41, 10.41, 10.41); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch133222/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.721 W/kg

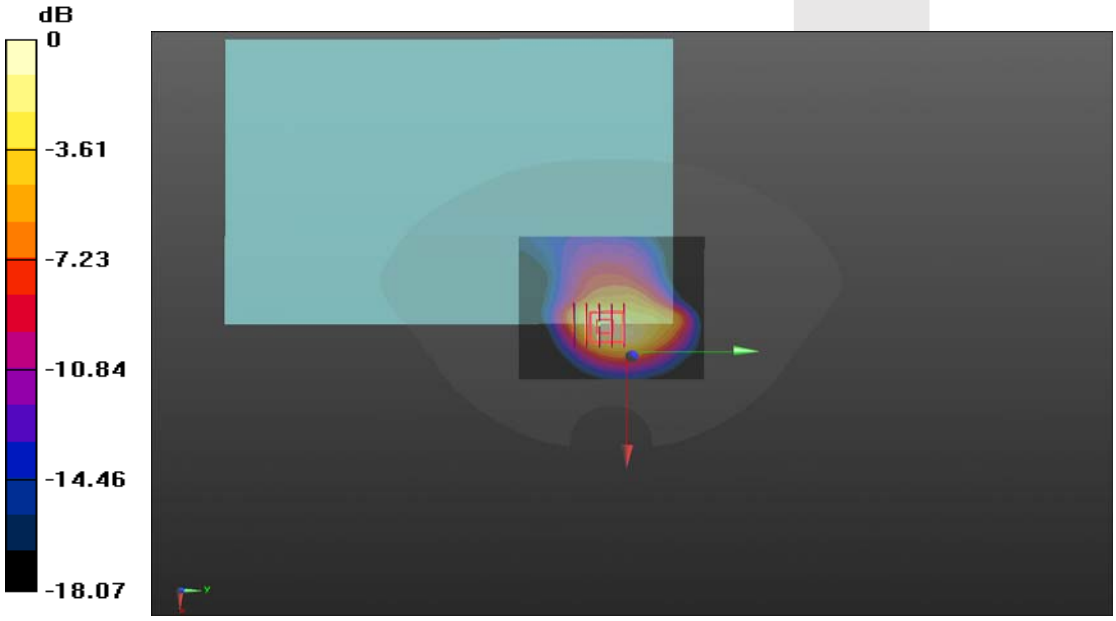
Ch133222/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.45 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.670 W/kg; SAR(10 g) = 0.314 W/kg

Maximum value of SAR (measured) = 0.712 W/kg



0 dB = 0.712 W/kg

Meas.10 Body Plane with Top Edge 0mm on 6 Channel in IEEE802.11b mode

Date: 2022.06.02

Communication System Band: WLAN(b); Frequency: 2437 MHz;Duty Cycle: 1:1.012

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.762 S/m; ε_r = 39.067; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.19, 8.19, 8.19); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch6/Area Scan (81x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.290 W/kg

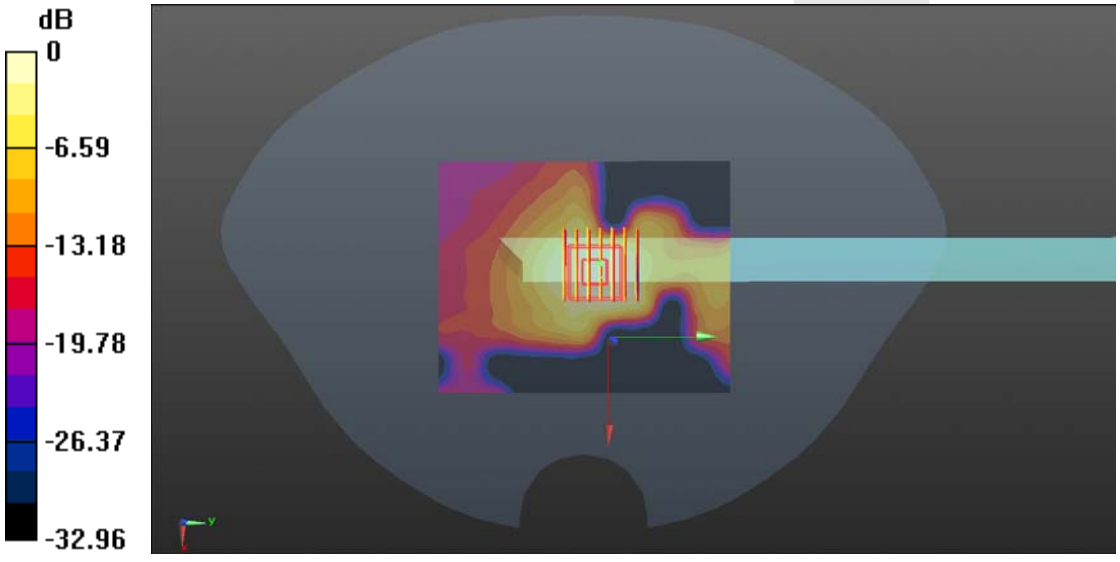
Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.79 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.446 W/kg

SAR(1 g) = 0.218 W/kg; SAR(10 g) = 0.107 W/kg

Maximum value of SAR (measured) = 0.240 W/kg



0 dB = 0.240 W/kg

Meas.11 Body Plane with Top Edge 0mm on 36 Channel in IEEE802.11a mode

Date: 2021.06.02

Communication System Band: WLAN(a); Frequency: 5180 MHz;Duty Cycle: 1:1.022

Medium parameters used (interpolated): f = 5180 MHz; σ = 4.611 S/m; ε_r = 37.27; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(5.72, 5.72, 5.72); Calibrated: 2021/7/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (101x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.251 W/kg

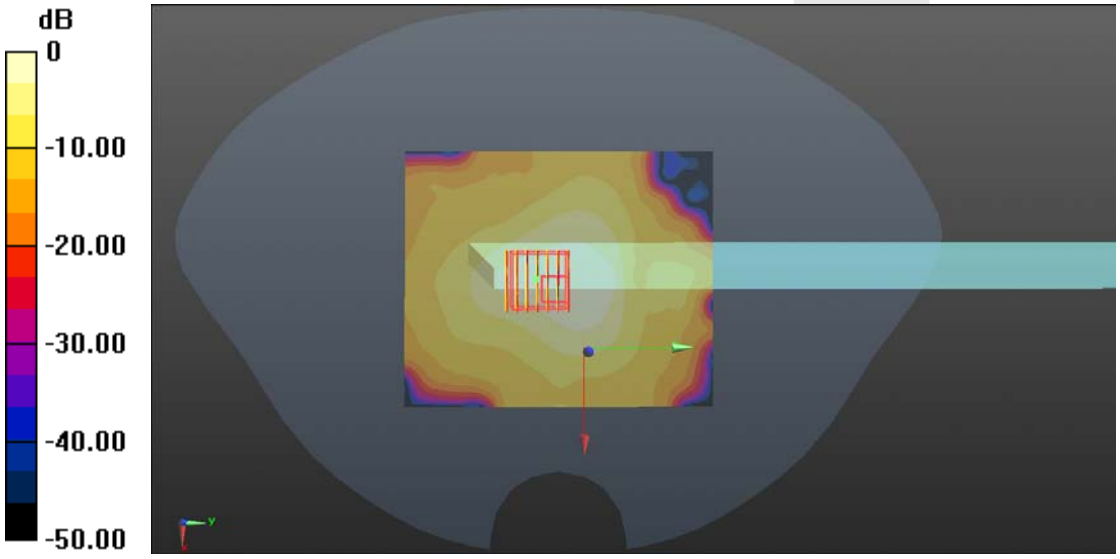
Ch36/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.365 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 0.126 W/kg; SAR(10 g) = 0.042 W/kg

Maximum value of SAR (measured) = 0.257 W/kg



0 dB = 0.257 W/kg

Meas.12 Body Plane with Top Edge 0mm on 165 Channel in IEEE802.11a mode

Date: 2021.06.02

Communication System Band: WLAN(a); Frequency: 5825 MHz;Duty Cycle: 1:1.022

Medium parameters used (interpolated): f = 5825 MHz; σ = 5.52 S/m; ε_r = 35.431; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.8 Liquid Temperature:21.6

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(5.15, 5.15, 5.15); Calibrated: 2021/7/23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch165/Area Scan (101x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.266 W/kg

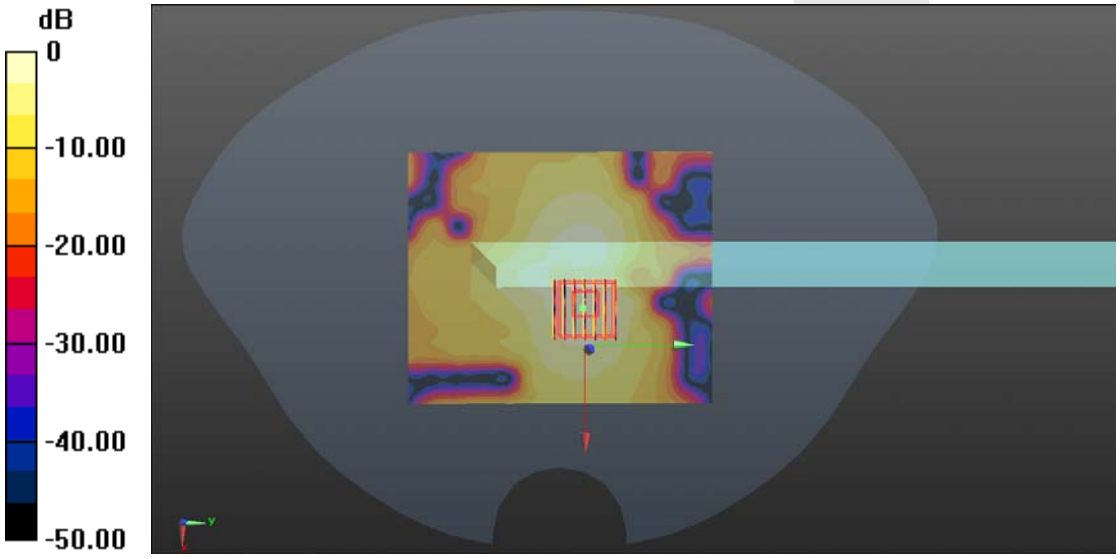
Ch165/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.068 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.33 W/kg

SAR(1 g) = 0.124 W/kg; SAR(10 g) = 0.041 W/kg

Maximum value of SAR (measured) = 0.252 W/kg



0 dB = 0.252 W/kg

Meas.13 Body Plane with Top Edge 0mm on 39 Channel in Bluetooth mode

Date: 2022.06.02

Communication System Band: Bluetooth; Frequency: 2441 MHz;Duty Cycle: 1:1.302

Medium parameters used (interpolated): f = 2441 MHz; σ = 1.767 S/m; ε_r = 38.989; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7663; ConvF(8.19, 8.19, 8.19); Calibrated: 2021/7/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn878; Calibrated: 2021/7/15
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch39/Area Scan (81x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0761 W/kg

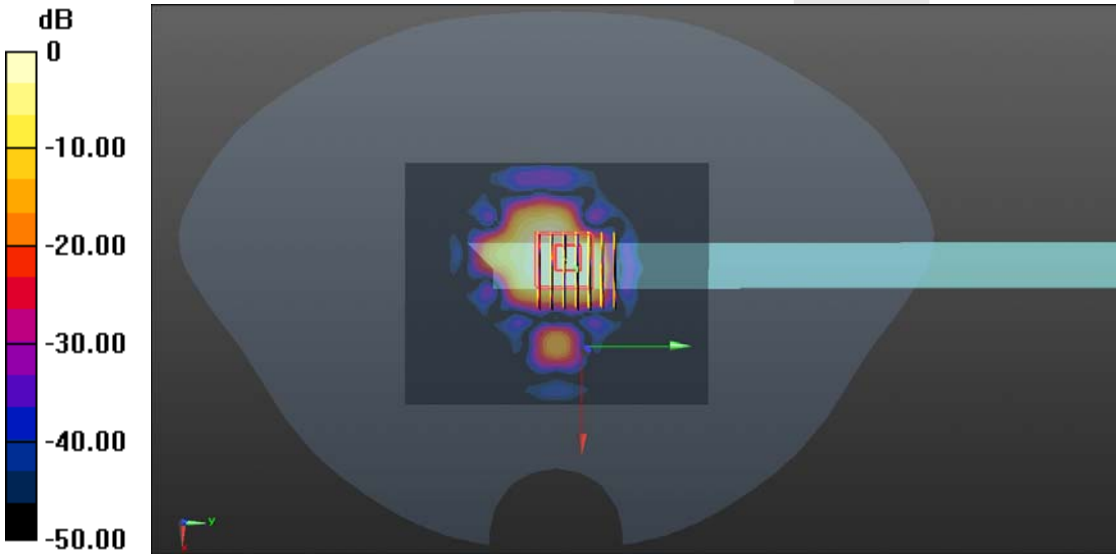
Ch39/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.206 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.0880 W/kg

SAR(1 g) = 0.023 W/kg; SAR(10 g) = 0.00799 W/kg

Maximum value of SAR (measured) = 0.0251 W/kg



0 dB = 0.0251 W/kg

ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2240596-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SZ2240596-AS.pdf”.

ANNEX F CALIBRATION REPORT

Please refer the document “CALIBRATION REPORT.pdf”.

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