# TEST REPORT

| | |
|---|---|
| **Applicant:** | SEUIC Technologies Co., Ltd. |
| **Address:** | NO.15 Xinghuo Road, Nanjing New & High Technology Industry Development Zone, 210061, Nanjing City, Jiangsu Province, China |
| **Equipment Type:** | Rugged Tablet PC |
| **Model Name:** | AUTOID Pad Air(Win) |
| **Brand Name:** | Seuic |
| **FCC ID:** | 2AC68-PADAIRWIN |
| **Test Standard:** | FCC 47 CFR Part 2.1093 (refer section 3.1) |
| **Maximum SAR:** | Body 2.4GHz(1 g@0mm): 1.18 W/kg<br>Body 5GHz(1 g@0mm): 1.19 W/kg |
| **Sample Arrival Date:** | Nov. 07, 2022 |
| **Test Date:** | Nov. 21, 2022 - Nov. 24, 2022 |
| **Date of Issue:** | Jan. 10, 2023 |

**ISSUED BY:**

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Zhang Jiwei **Checked by:** Xu Rui **Approved by:** Wei Yanquan (Chief Engineer)

**Revision History**

| Version | Issue Date | Revisions Content |
|---|---|---|
| Rev. 01 | Jan. 10, 2023 | Initial Issue |

# TABLE OF CONTENTS


1 GENERAL INFORMATION ..... 4

1.1 Test Laboratory ..... 4

1.2 Test Location ..... 4

1.3 Test Environment Condition ..... 4

2 PRODUCT INFORMATION ..... 5

2.1 Applicant Information ..... 5

2.2 Manufacturer Information ..... 5

2.3 Factory Information ..... 5

2.4 General Description for Equipment under Test (EUT) ..... 5

2.5 Ancillary Equipment ..... 5

2.6 Technical Information ..... 6

3 SUMMARY OF TEST RESULT ..... 7

3.1 Test Standards ..... 7

3.2 Device Category and SAR Limit ..... 8

3.3 Test Result Summary ..... 9

3.4 Test Uncertainty ..... 10

4 MEASUREMENT SYSTEM ..... 11

4.1 Specific Absorption Rate (SAR) Definition ..... 11

4.2 DASY SAR System ..... 12

5 SYSTEM VERIFICATION ..... 20

5.1 Purpose of System Check ..... 20

5.2 System Check Setup ..... 20

6 TEST POSITION CONFIGURATIONS ..... 21

6.1 Tablet Exposure Condition ..... 21

7 MEASUREMENT PROCEDURE ..... 22
7.1 Measurement Process Diagram ..... 22
7.2 SAR Scan General Requirement ..... 23
7.3 Measurement Procedure ..... 24
7.4 Area & Zoom Scan Procedure ..... 24
8 CONDUCTED RF OUPUT POWER ..... 25
8.1 WIFI ..... 25
8.2 Bluetooth (Main Antenna) ..... 34
9 TEST EXCLUSION CONSIDERATION ..... 35
9.1 Tablet Mode antenna location sketch ..... 35
9.2 SAR Test Consideration Table ..... 36
10 TEST RESULT ..... 41
10.1 Bluetooth ..... 41
10.2 WIFI 2.4GHz ..... 41
10.3 WIFI 5GHz ..... 42
11 SAR Measurement Variability ..... 43
12 SIMULTANEOUS TRANSMISSION ..... 44
12.1 Simultaneous Transmission Mode Considerations ..... 44
12.2 NFC SAR Test Instructions ..... 45
12.3 Sum SAR of Simultaneous Transmission ..... 48
13 TEST EQUIPMENTS LIST ..... 50
ANNEX A SIMULATING LIQUID VERIFICATION RESULT ..... 51
ANNEX B SYSTEM CHECK RESULT ..... 52
ANNEX C TEST DATA ..... 57
ANNEX D EUT EXTERNAL PHOTOS ..... 70
ANNEX E SAR TEST SETUP PHOTOS ..... 70
ANNEX F CALIBRATION REPORT ..... 70
ANNEX G Tune-up Procedure ..... 70

# 1 GENERAL INFORMATION

## 1.1 Test Laboratory

| | |
|---|---|
| Name | Shenzhen BALUN Technology Co., Ltd. |
| Address | Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| Phone Number | +86 755 6685 0100 |

## 1.2 Test Location

| | |
|---|---|
| Name | Shenzhen BALUN Technology Co., Ltd. |
| Location | ☑ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| | ☐ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| Accreditation Certificate | The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. |

## 1.3 Test Environment Condition

| | |
|---|---|
| Ambient Temperature | 18℃ to 25℃ |
| Ambient Relative Humidity | 30% to 70% |

# 2 PRODUCT INFORMATION

## 2.1 Applicant Information

| | |
|---|---|
| Applicant | SEUIC Technologies Co., Ltd. |
| Address | NO.15 Xinghuo Road, Nanjing New & High Technology Industry Development Zone, 210061, Nanjing City, Jiangsu Province, China |

## 2.2 Manufacturer Information

| | |
|---|---|
| Manufacturer | SEUIC Technologies Co., Ltd. |
| Address | NO.15 Xinghuo Road, Nanjing New & High Technology Industry Development Zone, 210061, Nanjing City, Jiangsu Province, China |

## 2.3 Factory Information

| | |
|---|---|
| Factory | SEUIC Technologies Co., Ltd. |
| Address | 3rd Floor, No.4 Building, Zhicheng Industrial Park, Zhida Road, Nanjing Jiangbei New Area, Nanjing City, China |

## 2.4 General Description for Equipment under Test (EUT)

| | |
|---|---|
| EUT Name | Rugged Tablet PC |
| Model Name Under Test | AUTOID Pad Air(Win) |
| Series Model Name | N/A |
| Description of Model Name Differentiation | N/A |
| Hardware Version | N/A |
| Software Version | N/A |
| Dimensions (Approx.) | N/A |
| Weight (Approx.) | N/A |

## 2.5 Ancillary Equipment

| | | |
|---|---|---|
| Ancillary Equipment 1 | Battery | |
| | Brand Name | N/A |
| | Model No. | D530 |
| | Serial No. | N/A |
| | Capacity | 4920 mAh |
| | Rated Voltage | 7.7 V |
| | Limit Charge Voltage | 8.8 V |
| | Manufacturer | Shenzhen 3sun Electronics Co., Ltd. |

## 2.6 Technical Information

| | |
|---|---|
| Network and Wireless connectivity | Bluetooth (BR+EDR+BLE)<br>WIFI 802.11a, 802.11b, 802.11g, 802.11n and 802.11ac<br>U-NII-1/2A/2C/3, NFC |

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

| | | |
|---|---|---|
| Operating Mode | 2.4G WLAN, 5G WLAN, Bluetooth, NFC | |
| Frequency Range | 802.11b/g/n(HT20) | 2412 MHz ~ 2462 MHz |
| | 802.11a/ n(HT20/HT40) /ac(VHT20/VHT40/VHT80) | 5150 MHz ~ 5250 MHz |
| | | 5250 MHz ~ 5350 MHz |
| | | 5470 MHz ~ 5725 MHz |
| | | 5725 MHz ~ 5850 MHz |
| | Bluetooth | 2402 MHz ~ 2480 MHz |
| | NFC | 13.56 MHz |
| Antenna Type | WLAN: PIFA Antenna<br>Bluetooth: PIFA Antenna<br>NFC: Coil 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 | FCC KDB 447498 D04 v01 | 447498 D04 Interim General RF Exposure Guidance v01 |
| 4 | FCC KDB 865664 D01 v01r04 | SAR Measurement 100 MHz to 6 GHz |
| 5 | FCC KDB 865664 D02 v01r02 | RF Exposure Reporting |
| 6 | KDB 248227 D01 v02r02 | SAR Guidance for IEEE 802.11 (Wi-Fi) Transmitters |
| 7 | 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)

| Frequency Band | | Maximum Scaled SAR (W/kg) | Maximum Report SAR (W/kg) |
|---|---|---|---|
| | | Body (0mm) | Body (0mm) |
| WIFI | 2.4 G Aux. Antenna | 1.15 | **1.19** |
| | 2.4 G Main Antenna | 1.18 | |
| | 2.4 G MIMO Antenna | 0.56 | |
| | 5.3G WLAN Aux. Antenna | **1.19** | |
| | 5.3G WLAN Main Antenna | 1.10 | |
| | 5.3G WLAN MIMO Antenna | 0.67 | |
| | 5.6G WLAN Aux. Antenna | 1.09 | |
| | 5.6G WLAN Main Antenna | 1.04 | |
| | 5.6G WLAN MIMO Antenna | 0.45 | |
| | 5.8G WLAN Aux. Antenna | 0.95 | |
| | 5.8G WLAN Main Antenna | 0.76 | |
| | 5.8G WLAN MIMO Antenna | 0.43 | |
| Bluetooth | DH5 Main Antenna | 0.09 | |
| Limit (W/kg) | | 1.60 | |
| Verdict | | Pass | |

### 3.3.2 Highest Simultaneous Transmission SAR Values (1 g Value)

Note: The simultaneous transmission SAR detail please refer to section 12.

## 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 1.19 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

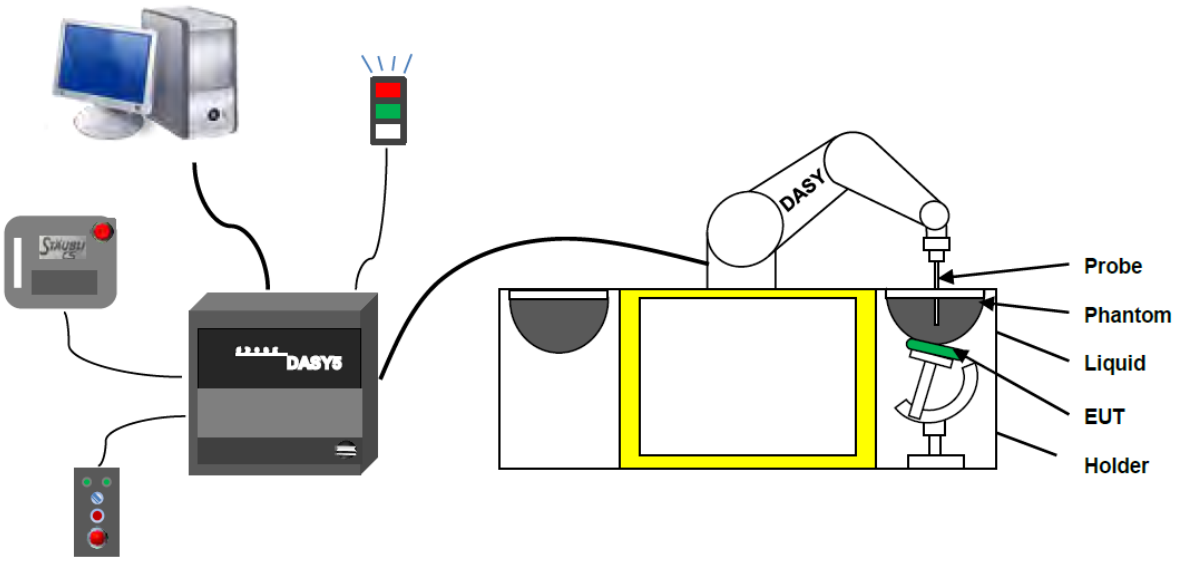
$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}\mathbf{E}^{\mathbf{2}}}{\boldsymbol{\rho}}$$

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:7510 with following specifications is used.

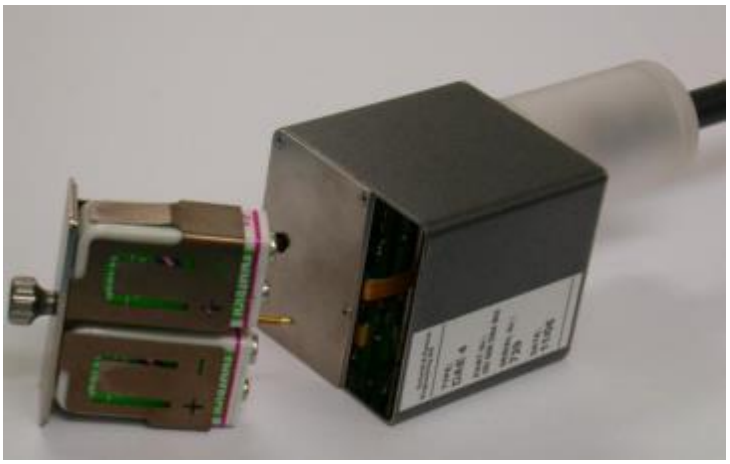
| | |
|---|---|
| Construction | Symmetrical design with triangular core Built-in optical fiber for surface detection systemBuilt-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether) |
| Calibration | ISO/IEC 17025 calibration service available |
| 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

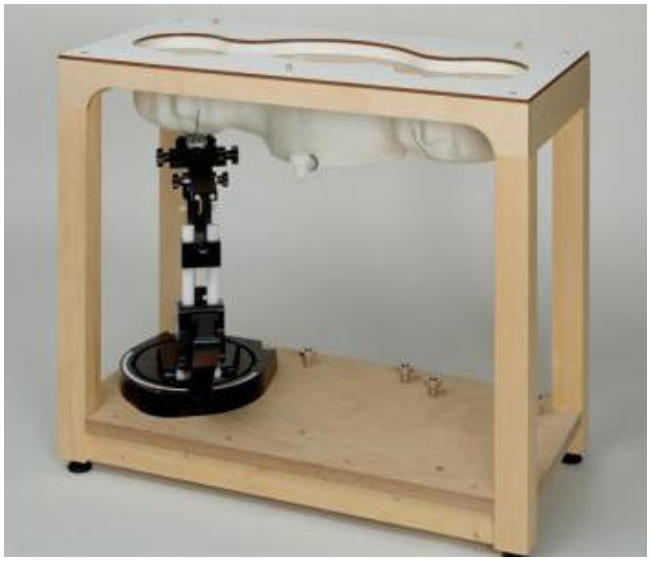
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an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

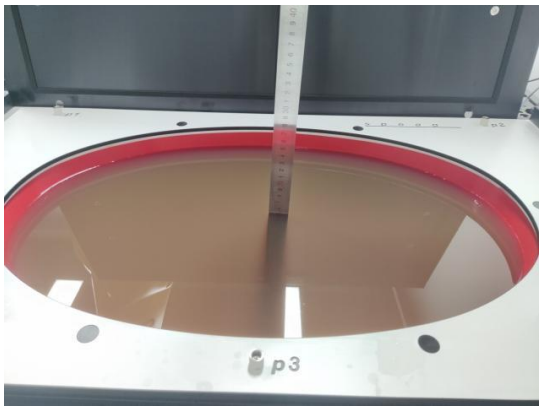
### 4.2.6 Device Holder

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 |

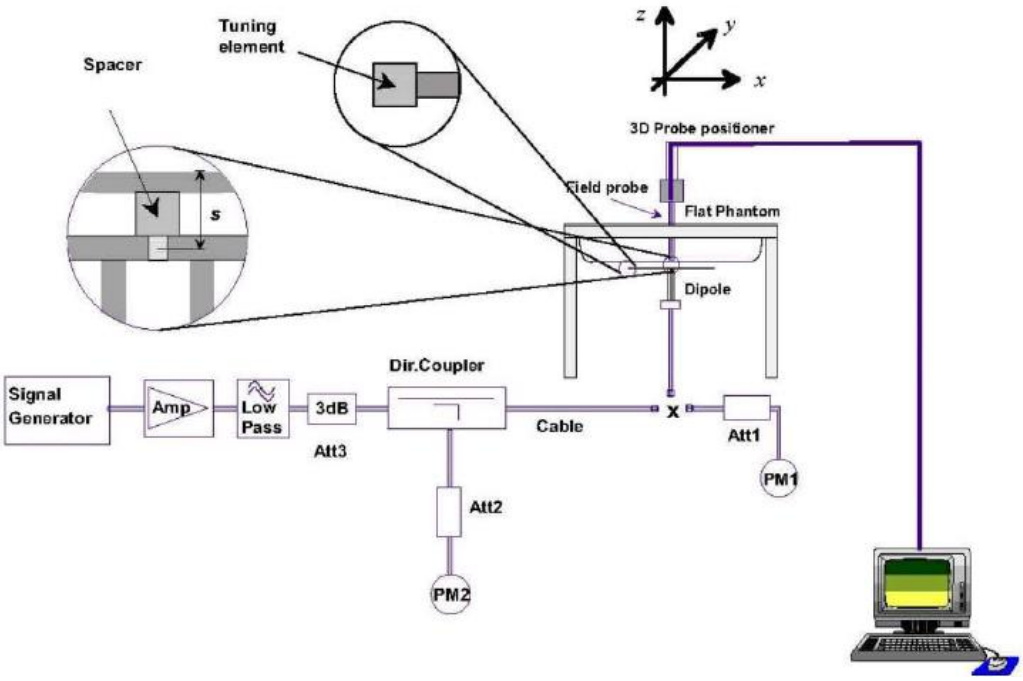
# 5 SYSTEM VERIFICATION

## 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 Tablet Exposure Condition

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

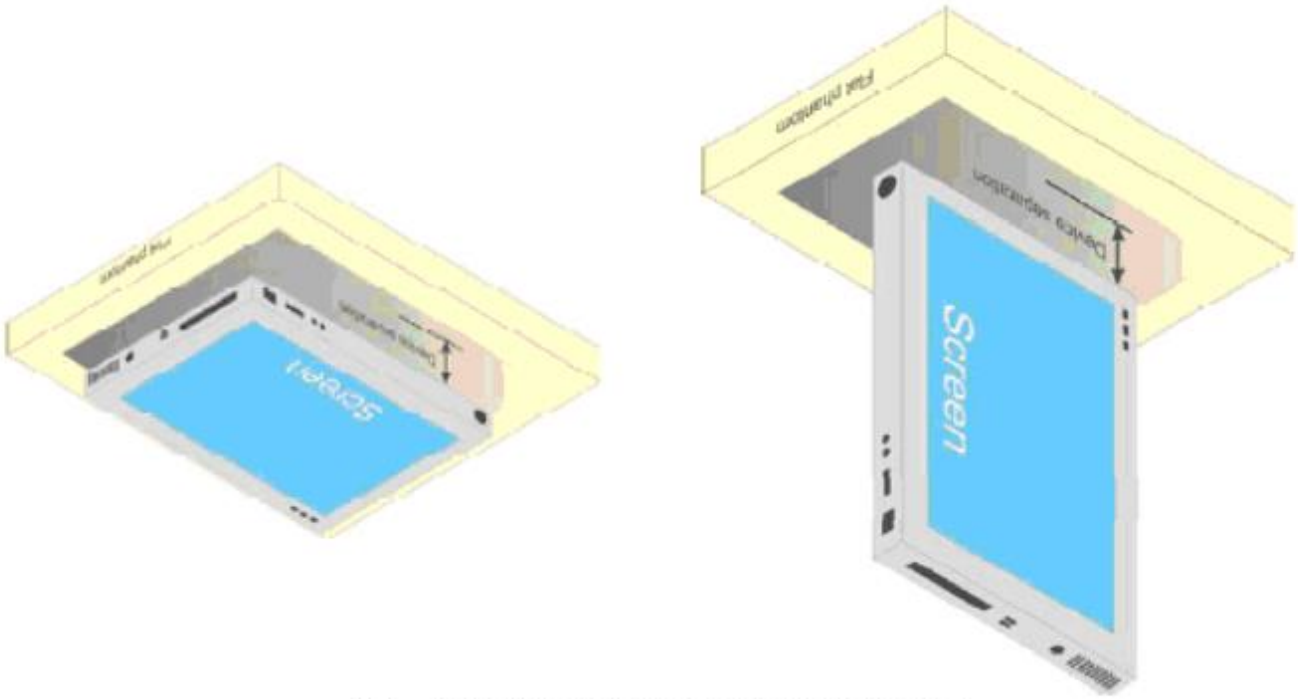
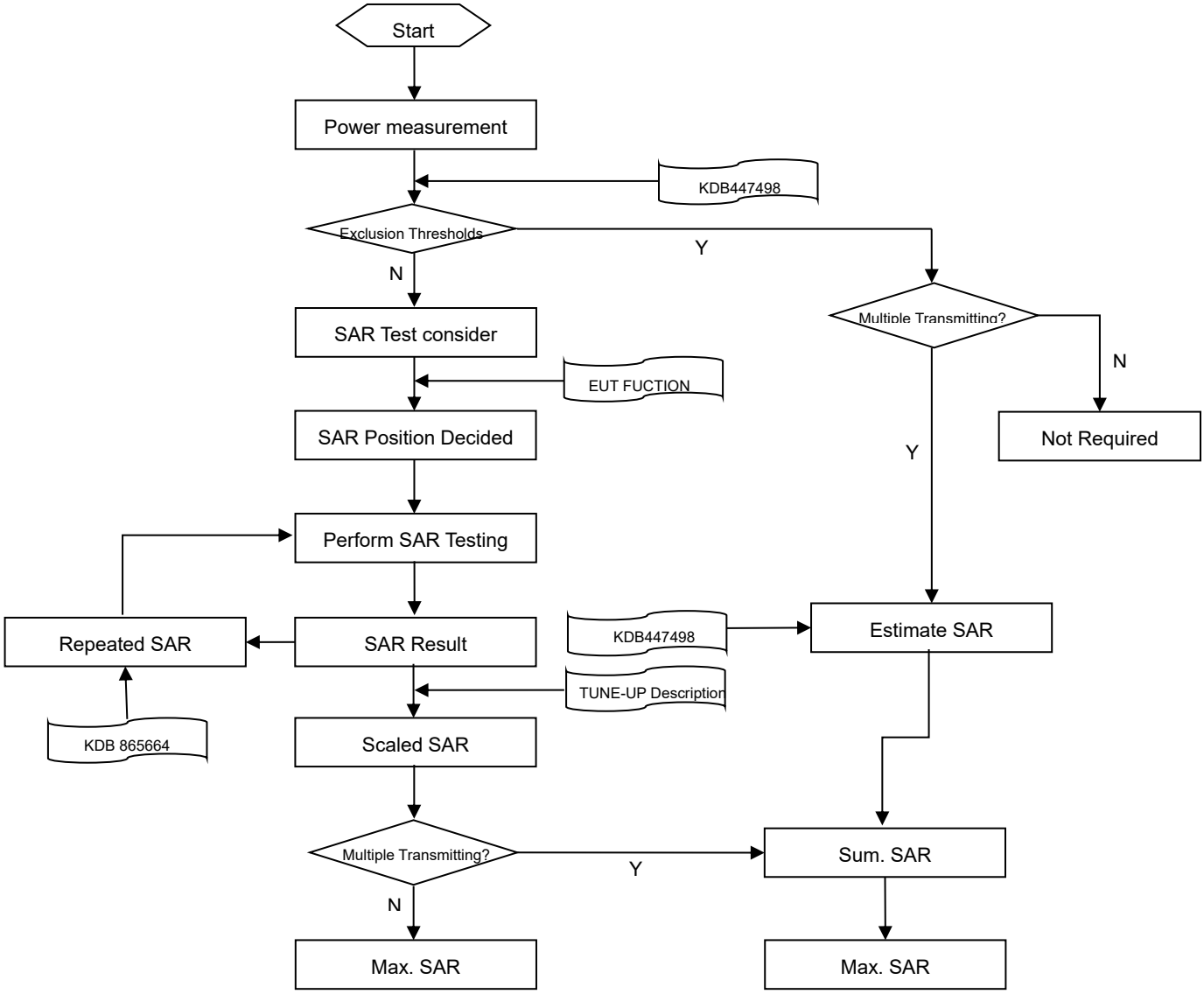



Fig Illustration for Lap-touching Position

# 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<br>2 – 3 GHz: ≤ 12 mm</td><td>3–4 GHz: ≤ 12 mm<br>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<br>2 –3 GHz: ≤ 5 mm*</td><td>3–4 GHz: ≤ 5 mm*<br>4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="7">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="4">graded grid</td><td rowspan="3">Δz Zoom (1): between 1st two points closest to phantom surface</td><td rowspan="3">≤ 4 mm</td><td>3–4 GHz: ≤ 3 mm</td></tr>
<tr><td>4–5 GHz: ≤ 2.5 mm</td></tr>
<tr><td>5–6 GHz: ≤ 2 mm</td></tr>
<tr><td>Δz Zoom (n>1): between subsequent points</td><td colspan="2">≤ 1.5·Δz Zoom (n-1)</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:<br>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.<br>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 WIFI

### 8.1.1 2.4G WIFI (Main Antenna)

| 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 | 14.44 | 16.00 | NO |
| | | 2 | 2417 | **15.49** | 16.50 | YES |
| | | 6 | 2437 | 15.44 | 16.50 | YES |
| | | 11 | 2462 | 15.35 | 16.50 | YES |
| | 802.11g | 1 | 2412 | 13.35 | 15.00 | NO |
| | | 2 | 2417 | 14.58 | 15.50 | NO |
| | | 6 | 2437 | 14.38 | 15.50 | NO |
| | | 10 | 2457 | 14.60 | 15.50 | NO |
| | | 11 | 2462 | 13.44 | 15.00 | NO |
| | 802.11n(HT20) | 1 | 2412 | 12.25 | 14.00 | NO |
| | | 2 | 2417 | 14.51 | 15.50 | NO |
| | | 6 | 2437 | 14.19 | 15.50 | NO |
| | | 10 | 2457 | 14.56 | 15.50 | NO |
| | | 11 | 2462 | 13.26 | 15.00 | NO |

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) According KDB 247228, 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 $\leqslant$ 1.2 W/kg, OFDM SAR test is not required.

Adjusted SAR =1.181 * (35.48mW/44.67mW) = 0.938 W/Kg, so 2.4G OFDM SAR test is not required.

### 8.1.2 2.4G WIFI (Aux. Antenna)

| 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 | 15.14 | 15.50 | YES |
| | | 6 | 2437 | **15.27** | 15.50 | YES |
| | | 10 | 2457 | 15.09 | 15.50 | YES |
| | | 11 | 2462 | 8.90 | 10.50 | NO |
| | 802.11g | 1 | 2412 | 11.55 | 13.00 | NO |
| | | 2 | 2417 | 14.56 | 15.50 | NO |
| | | 6 | 2437 | 14.87 | 15.50 | NO |
| | | 10 | 2457 | 14.56 | 15.50 | NO |
| | | 11 | 2462 | 4.67 | 6.00 | NO |
| | 802.11n(HT20) | 1 | 2412 | 10.81 | 12.50 | NO |
| | | 2 | 2417 | 14.28 | 15.50 | NO |
| | | 6 | 2437 | 14.53 | 15.50 | NO |
| | | 10 | 2457 | 14.30 | 15.50 | NO |
| | | 11 | 2462 | 3.41 | 5.00 | NO |

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) According KDB 247228, 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 $\leqslant$ 1.2 W/kg, OFDM SAR test is not required.

Adjusted SAR =1.145 * (35.48mW/35.48mW) = 1.145 W/Kg, so 2.4G OFDM SAR test is not required.

### 8.1.3 2.4G WIFI (MIMO)

| 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 | 15.13 | 15.50 | NO |
| | | 6 | 2437 | **15.36** | 15.50 | YES |
| | | 10 | 2457 | 15.23 | 15.50 | NO |
| | | 11 | 2462 | 12.42 | 14.00 | NO |
| | 802.11g | 1 | 2412 | 13.88 | 15.50 | NO |
| | | 2 | 2417 | / | / | NO |
| | | 6 | 2437 | 14.69 | 15.50 | NO |
| | | 10 | 2457 | 14.35 | 15.50 | NO |
| | | 11 | 2462 | 7.54 | 9.50 | NO |
| | 802.11n(HT20) | 1 | 2412 | 13.04 | 15.00 | NO |
| | | 2 | 2417 | 14.26 | 15.50 | NO |
| | | 6 | 2437 | 14.49 | 15.50 | NO |
| | | 10 | 2457 | 14.30 | 15.50 | NO |
| | | 11 | 2462 | 6.52 | 8.50 | NO |

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) According KDB 247228, 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 $\leqslant$ 1.2 W/kg, OFDM SAR test is not required.

Adjusted SAR =0.557 * (35.48mW/35.48mW) = 0.557 W/Kg, so 2.4G OFDM SAR test is not required.

### 8.1.4 5G WIFI (Main Antenna)

| 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 | 13.13 | 15.00 | NO |
| | | 44 | 5220 | 14.57 | 15.50 | NO |
| | | 48 | 5240 | 14.92 | 15.50 | NO |
| | 802.11n(HT20) | 36 | 5180 | 12.56 | 14.50 | NO |
| | | 44 | 5220 | 14.39 | 15.50 | NO |
| | | 48 | 5240 | 14.76 | 15.50 | NO |
| | 802.11n(HT40) | 38 | 5190 | 9.22 | 11.00 | NO |
| | | 46 | 5230 | 12.47 | 13.50 | NO |
| | 802.11ac(VHT20) | 36 | 5180 | 12.35 | 14.00 | NO |
| | | 44 | 5220 | 14.58 | 15.50 | NO |
| | | 48 | 5240 | 14.69 | 15.50 | NO |
| | 802.11ac(VHT40) | 38 | 5190 | 9.25 | 11.00 | NO |
| | | 46 | 5230 | 14.36 | 15.50 | NO |
| | 802.11ac(VHT80) | 42 | 5210 | 6.75 | 8.50 | NO |
| 5.3 (5.25~5.35) | 802.11a | 52 | 5260 | 14.63 | 15.50 | NO |
| | | 60 | 5300 | 14.87 | 15.50 | NO |
| | | 64 | 5320 | 14.57 | 15.50 | NO |
| | 802.11n(HT20) | 52 | 5260 | 14.50 | 15.50 | NO |
| | | 60 | 5300 | 14.58 | 15.50 | NO |
| | | 64 | 5320 | 14.28 | 15.50 | NO |
| | 802.11n(HT40) | 54 | 5270 | 12.55 | 13.50 | NO |
| | | 62 | 5310 | 11.15 | 13.00 | NO |
| | 802.11ac(VHT20) | 52 | 5260 | 14.52 | 15.50 | NO |
| | | 60 | 5300 | 14.46 | 15.50 | NO |
| | | 64 | 5320 | 14.30 | 15.50 | NO |
| | 802.11ac(VHT40) | 54 | 5270 | **14.84** | 15.50 | YES |
| | | 62 | 5310 | 11.12 | 13.00 | YES |
| | 802.11ac(VHT80) | 58 | 5290 | 8.14 | 10.00 | NO |
| 5.6 (5.47~5.725) | 802.11a | 100 | 5500 | 13.80 | 15.50 | NO |
| | | 116 | 5580 | 14.10 | 15.50 | NO |
| | | 140 | 5700 | 13.54 | 15.50 | NO |
| | 802.11n(HT20) | 100 | 5500 | 13.70 | 15.50 | NO |
| | | 116 | 5580 | 13.90 | 15.50 | NO |
| | | 140 | 5700 | 14.72 | 15.50 | NO |
| | 802.11n(HT40) | 102 | 5510 | 10.77 | 12.50 | NO |
| | | 118 | 5590 | 11.74 | 13.50 | NO |
| | | 134 | 5670 | 12.04 | 13.50 | NO |
| | 802.11ac(VHT20) | 100 | 5500 | 12.56 | 14.50 | NO |
| | | 116 | 5580 | 12.66 | 14.50 | NO |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 140 | 5700 | 13.40 | 15.00 | NO |
| | 802.11ac(VHT40) | 102 | 5510 | 10.80 | 12.50 | YES |
| | | 118 | 5590 | **14.00** | 15.50 | YES |
| | | 134 | 5670 | 13.97 | 15.50 | YES |
| | 802.11ac(VHT80) | 106 | 5530 | 6.77 | 8.50 | NO |
| | | 122 | 5610 | 13.49 | 15.00 | NO |
| | | 138 | 5690 | 13.30 | 15.00 | NO |
| 5.8 (5.725~5.850) | 802.11a | 149 | 5745 | 15.15 | 15.50 | NO |
| | | 157 | 5785 | 14.87 | 15.50 | NO |
| | | 165 | 5825 | 14.07 | 15.50 | NO |
| | 802.11n(HT20) | 149 | 5745 | 15.03 | 15.50 | NO |
| | | 157 | 5785 | 14.78 | 15.50 | NO |
| | | 165 | 5825 | 13.94 | 15.50 | NO |
| | 802.11n(HT40) | 151 | 5755 | 13.17 | 13.50 | NO |
| | | 159 | 5795 | 13.00 | 13.50 | NO |
| | 802.11ac(VHT20) | 149 | 5745 | 15.17 | 15.50 | NO |
| | | 157 | 5785 | 14.83 | 15.50 | NO |
| | | 165 | 5825 | 13.99 | 15.50 | NO |
| | 802.11ac(VHT40) | 151 | 5755 | 14.94 | 15.50 | NO |
| | | 159 | 5795 | 14.58 | 15.50 | NO |
| | 802.11ac(VHT80) | 155 | 5775 | **15.14** | 15.50 | YES |
| Note: 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. | | | | | | |

### 8.1.5 5G WIFI (Aux. Antenna)

| 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 | 9.85 | 10.00 | NO |
| | | 44 | 5220 | 9.82 | 10.00 | NO |
| | | 48 | 5240 | 9.91 | 10.00 | NO |
| | 802.11n(HT20) | 36 | 5180 | 9.80 | 10.00 | NO |
| | | 44 | 5220 | 9.75 | 10.00 | NO |
| | | 48 | 5240 | 9.78 | 10.00 | NO |
| | 802.11n(HT40) | 38 | 5190 | 9.54 | 10.00 | NO |
| | | 46 | 5230 | 9.57 | 10.00 | NO |
| | 802.11ac(VHT20) | 36 | 5180 | 9.72 | 10.00 | NO |
| | | 44 | 5220 | 9.70 | 10.00 | NO |
| | | 48 | 5240 | 9.80 | 10.00 | NO |
| | 802.11ac(VHT40) | 38 | 5190 | 9.57 | 10.00 | NO |
| | | 46 | 5230 | 9.57 | 10.00 | NO |
| | 802.11ac(VHT80) | 42 | 5210 | 5.61 | 7.50 | NO |
| 5.3 (5.25~5.35) | 802.11a | 52 | 5260 | 9.75 | 10.00 | NO |
| | | 60 | 5300 | 9.74 | 10.00 | NO |
| | | 64 | 5320 | 9.75 | 10.00 | NO |
| | 802.11n(HT20) | 52 | 5260 | 9.85 | 10.00 | NO |
| | | 60 | 5300 | 9.58 | 10.00 | NO |
| | | 64 | 5320 | 9.64 | 10.00 | NO |
| | 802.11n(HT40) | 54 | 5270 | 9.58 | 10.00 | NO |
| | | 62 | 5310 | 9.51 | 10.00 | NO |
| | 802.11ac(VHT20) | 52 | 5260 | 9.87 | 10.00 | NO |
| | | 60 | 5300 | 9.61 | 10.00 | NO |
| | | 64 | 5320 | 9.65 | 10.00 | NO |
| | 802.11ac(VHT40) | 54 | 5270 | 9.28 | 10.00 | NO |
| | | 62 | 5310 | 9.60 | 10.00 | NO |
| | 802.11ac(VHT80) | 58 | 5290 | **9.73** | 10.00 | YES |
| 5.6 (5.47~5.725) | 802.11a | 100 | 5500 | 8.83 | 9.00 | NO |
| | | 116 | 5580 | 8.83 | 9.00 | NO |
| | | 140 | 5700 | 8.60 | 9.00 | NO |
| | 802.11n(HT20) | 100 | 5500 | 8.75 | 9.00 | NO |
| | | 116 | 5580 | 8.73 | 9.00 | NO |
| | | 140 | 5700 | 8.50 | 9.00 | NO |
| | 802.11n(HT40) | 102 | 5510 | 8.89 | 9.00 | NO |
| | | 118 | 5590 | 8.74 | 9.00 | NO |
| | | 134 | 5670 | 8.49 | 9.00 | NO |
| | 802.11ac(VHT20) | 100 | 5500 | 8.77 | 9.00 | NO |
| | | 116 | 5580 | 8.78 | 9.00 | NO |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 140 | 5700 | 8.53 | 9.00 | NO |
| | 802.11ac(VHT40) | 102 | 5510 | 8.57 | 9.00 | NO |
| | | 118 | 5590 | 8.71 | 9.00 | NO |
| | | 134 | 5670 | 8.50 | 9.00 | NO |
| | 802.11ac(VHT80) | 106 | 5530 | **8.65** | 9.00 | YES |
| | | 122 | 5610 | 8.53 | 9.00 | YES |
| | | 138 | 5690 | 8.58 | 9.00 | YES |
| 5.8 (5.725~5.850) | 802.11a | 149 | 5745 | 12.16 | 12.50 | NO |
| | | 157 | 5785 | 12.41 | 12.50 | NO |
| | | 165 | 5825 | 12.23 | 12.50 | NO |
| | 802.11n(HT20) | 149 | 5745 | 12.31 | 12.50 | NO |
| | | 157 | 5785 | 12.15 | 12.50 | NO |
| | | 165 | 5825 | 12.40 | 12.50 | NO |
| | 802.11n(HT40) | 151 | 5755 | 12.14 | 12.50 | NO |
| | | 159 | 5795 | 12.27 | 12.50 | NO |
| | 802.11ac(VHT20) | 149 | 5745 | 12.35 | 12.50 | NO |
| | | 157 | 5785 | 12.13 | 12.50 | NO |
| | | 165 | 5825 | 12.35 | 12.50 | NO |
| | 802.11ac(VHT40) | 151 | 5755 | 12.16 | 12.50 | NO |
| | | 159 | 5795 | 12.33 | 12.50 | NO |
| | 802.11ac(VHT80) | 155 | 5775 | **12.01** | 12.50 | YES |
| Note: 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. | | | | | | |

## 8.1.6 5G WIFI (MIMO)

| 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 | 9.81 | 10.00 | NO |
| | | 44 | 5220 | 9.80 | 10.00 | NO |
| | | 48 | 5240 | 9.76 | 10.00 | NO |
| | 802.11n(HT20) | 36 | 5180 | 9.82 | 10.00 | NO |
| | | 44 | 5220 | 9.92 | 10.00 | NO |
| | | 48 | 5240 | 9.61 | 10.00 | NO |
| | 802.11n(HT40) | 38 | 5190 | 9.56 | 10.00 | NO |
| | | 46 | 5230 | 9.53 | 10.00 | NO |
| | 802.11ac(VHT20) | 36 | 5180 | 9.81 | 10.00 | NO |
| | | 44 | 5220 | 9.82 | 10.00 | NO |
| | | 48 | 5240 | 9.81 | 10.00 | NO |
| | 802.11ac(VHT40) | 38 | 5190 | 9.76 | 10.00 | NO |
| | | 46 | 5230 | 9.72 | 10.00 | NO |
| | 802.11ac(VHT80) | 42 | 5210 | 8.67 | 10.00 | NO |
| 5.3 (5.25~5.35) | 802.11a | 52 | 5260 | 9.76 | 10.00 | NO |
| | | 60 | 5300 | 9.90 | 10.00 | NO |
| | | 64 | 5320 | 9.94 | 10.00 | NO |
| | 802.11n(HT20) | 52 | 5260 | 9.67 | 10.00 | NO |
| | | 60 | 5300 | 9.81 | 10.00 | NO |
| | | 64 | 5320 | 9.79 | 10.00 | NO |
| | 802.11n(HT40) | 54 | 5270 | 9.63 | 10.00 | NO |
| | | 62 | 5310 | 9.69 | 10.00 | NO |
| | 802.11ac(VHT20) | 52 | 5260 | 9.87 | 10.00 | NO |
| | | 60 | 5300 | 9.77 | 10.00 | NO |
| | | 64 | 5320 | 9.88 | 10.00 | NO |
| | 802.11ac(VHT40) | 54 | 5270 | 9.56 | 10.00 | NO |
| | | 62 | 5310 | 9.74 | 10.00 | NO |
| | 802.11ac(VHT80) | 58 | 5290 | **9.56** | 10.00 | YES |
| 5.6 (5.47~5.725) | 802.11a | 100 | 5500 | 8.89 | 9.00 | NO |
| | | 116 | 5580 | 8.47 | 9.00 | NO |
| | | 140 | 5700 | 8.60 | 9.00 | NO |
| | 802.11n(HT20) | 100 | 5500 | 8.34 | 9.00 | NO |
| | | 116 | 5580 | 8.53 | 9.00 | NO |
| | | 140 | 5700 | 8.71 | 9.00 | NO |
| | 802.11n(HT40) | 102 | 5510 | 8.45 | 9.00 | NO |
| | | 118 | 5590 | 8.41 | 9.00 | NO |
| | | 134 | 5670 | 8.74 | 9.00 | NO |
| | 802.11ac(VHT20) | 100 | 5500 | 8.66 | 9.00 | NO |
| | | 116 | 5580 | 8.64 | 9.00 | NO |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 140 | 5700 | 8.80 | 9.00 | NO |
| | 802.11ac(VHT40) | 102 | 5510 | 8.49 | 9.00 | NO |
| | | 118 | 5590 | 8.54 | 9.00 | NO |
| | | 134 | 5670 | 8.59 | 9.00 | NO |
| | 802.11ac(VHT80) | 106 | 5530 | 8.67 | 9.00 | NO |
| | | 122 | 5610 | **8.77** | 9.00 | YES |
| | | 138 | 5690 | 8.52 | 9.00 | NO |
| 5.8 (5.725~5.850) | 802.11a | 149 | 5745 | 12.30 | 12.50 | NO |
| | | 157 | 5785 | 12.26 | 12.50 | NO |
| | | 165 | 5825 | 12.39 | 12.50 | NO |
| | 802.11n(HT20) | 149 | 5745 | 12.23 | 12.50 | NO |
| | | 157 | 5785 | 12.33 | 12.50 | NO |
| | | 165 | 5825 | 12.23 | 12.50 | NO |
| | 802.11n(HT40) | 151 | 5755 | 12.26 | 12.50 | NO |
| | | 159 | 5795 | 12.33 | 12.50 | NO |
| | 802.11ac(VHT20) | 149 | 5745 | 12.32 | 12.50 | NO |
| | | 157 | 5785 | 12.41 | 12.50 | NO |
| | | 165 | 5825 | 12.31 | 12.50 | NO |
| | 802.11ac(VHT40) | 151 | 5755 | 12.20 | 12.50 | NO |
| | | 159 | 5795 | 12.24 | 12.50 | NO |
| | 802.11ac(VHT80) | 155 | 5775 | **12.05** | 12.50 | YES |
| Note: 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. | | | | | | |

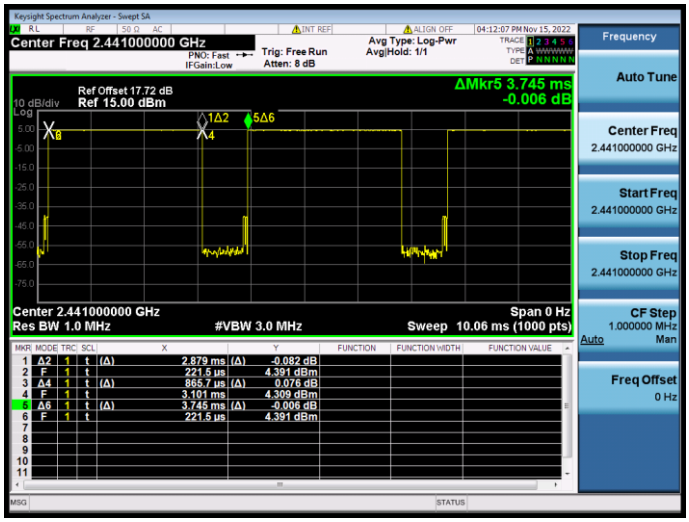
## 8.2 Bluetooth (Main Antenna)

| Mode | GFSK | | | π/4-DQPSK | | |
|---|---|---|---|---|---|---|
| Channel | 0 | 39 | 78 | 0 | 39 | 78 |
| Frequency (MHz) | 2402 | 2441 | 2480 | 2402 | 2441 | 2480 |
| Conducted Power (dBm) | 4.22 | **4.36** | 3.37 | -1.66 | -1.39 | -2.43 |
| Tune-Up Limit (dBm) | 5.00 | | | -1.00 | | |
| SAR Test Require | YES | | | NO | | |
| Mode | 8-DPSK | | | BLE | | |
| Channel | 0 | 39 | 78 | 0 | 19 | 39 |
| Frequency (MHz) | 2402 | 2441 | 2480 | 2402 | 2440 | 2480 |
| Conducted Power (dBm) | -1.70 | -1.42 | -2.45 | 2.06 | 2.70 | 2.12 |
| Tune-Up Limit (dBm) | -1.00 | | | 4.00 | | |
| SAR Test Require | NO | | | NO | | |
| Note 1: 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. | | | | | | |

Note: The Bluetooth duty cycle is 76.88 % 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.

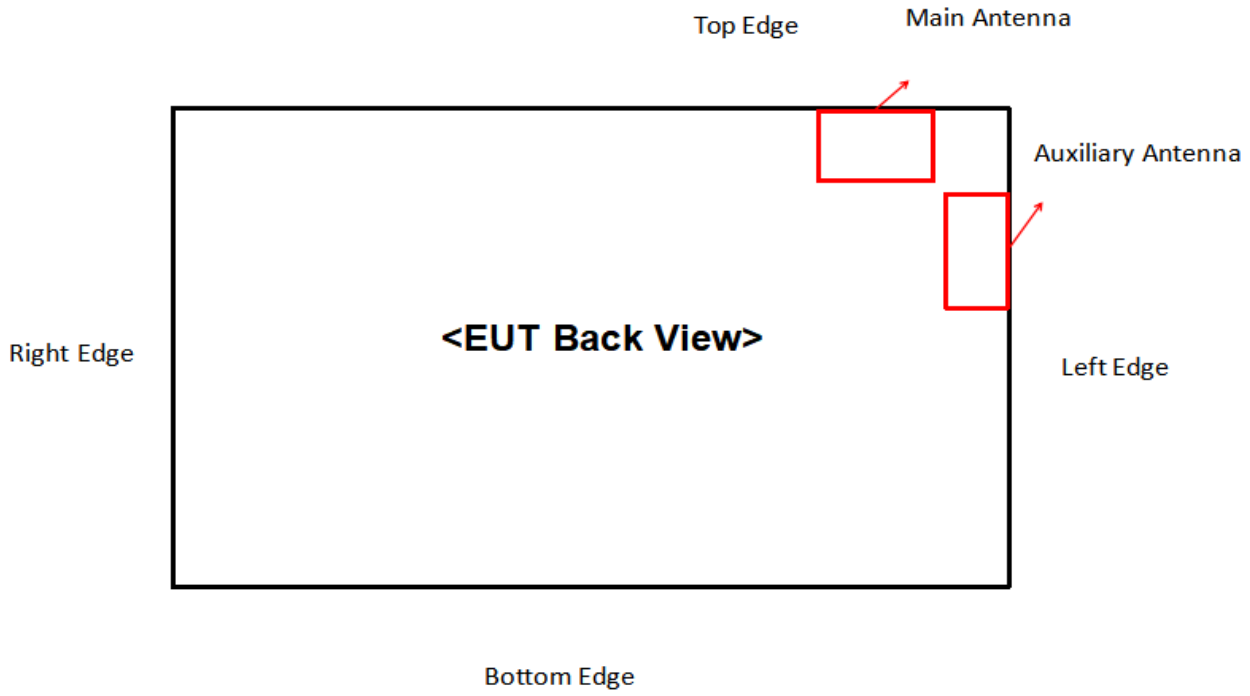
Duty Cycle

GFSK



# 9 TEST EXCLUSION CONSIDERATION

## 9.1 Tablet Mode antenna location sketch




| Antenna | Front Side(mm) | Back Side(mm) | Left Edge(mm) | Right Edge(mm) | Top Edge(mm) | Bottom Edge(mm) |
|---|---|---|---|---|---|---|
| Auxiliary | <5 | <5 | <5 | 241 | 18.1 | 134 |
| Main | <5 | <5 | 60 | 164 | <5 | 157 |
| Note: According to KDB 616217 D04 Tablet host platform test requirements, SAR evaluation for the front surface of tablet display screens are generally not necessary. | | | | | | |

## 9.2 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 |

### 9.2.1 Table mode SAR Test Consideration

| Main Antenna | | | | | | |
|---|---|---|---|---|---|---|
| Test Position Configurations | Mode | Bluetooth | WLAN 2.4GHz | WLAN 5.3GHz | WLAN 5.6GHz | WLAN 5.8GHz |
| Calculated Frequency(MHz) | | 2480 | 2462 | 5320 | 5700 | 5825 |
| Back Side | Distance to User (mm) | ＜5 | | | | |
| | Max. Peak Power (dBm) | 5.00 | 16.50 | 15.50 | 15.50 | 15.50 |
| | Max. Peak Power (mW) | 3.16 | 44.67 | 35.48 | 35.48 | 35.48 |
| | Exclusion Threshold (mW) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | SAR Test Required | YES | YES | YES | YES | YES |
| Left Edge | Distance to User (mm) | 60 | | | | |
| | Max. Peak Power (dBm) | 5.00 | 16.50 | 15.50 | 15.50 | 15.50 |
| | Max. Peak Power (mW) | 3.16 | 44.67 | 35.48 | 35.48 | 35.48 |
| | Exclusion Threshold (mW) | 308.85 | 309.44 | 252.98 | 248.34 | 247.05 |
| | SAR Test Required | NO | NO | NO | NO | NO |
| Right Edge | Distance to User (mm) | 164 | | | | |
| | Max. Peak Power (dBm) | 5.00 | 16.50 | 15.50 | 15.50 | 15.50 |
| | Max. Peak Power (mW) | 3.16 | 44.67 | 35.48 | 35.48 | 35.48 |
| | Exclusion Threshold (mW) | 2096.79 | 2097.45 | 2028.95 | 2022.77 | 2021.03 |
| | SAR Test Required | NO | NO | NO | NO | NO |
| Top Edge | Distance to User (mm) | ＜5 | | | | |
| | Max. Peak Power (dBm) | 5.00 | 16.50 | 15.50 | 15.50 | 15.50 |
| | Max. Peak Power (mW) | 3.16 | 44.67 | 35.48 | 35.48 | 35.48 |
| | Exclusion Threshold (mW) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | SAR Test Required | YES | YES | YES | YES | YES |
| Bottom Side | Distance to User (mm) | 157 | | | | |
| | Max. Peak Power (dBm) | 5.00 | 16.50 | 15.50 | 15.50 | 15.50 |
| | Max. Peak Power (mW) | 3.16 | 44.67 | 35.48 | 35.48 | 35.48 |
| | Exclusion Threshold (mW) | 1929.61 | 1930.35 | 1853.73 | 1846.85 | 1844.91 |
| | SAR Test Required | NO | NO | NO | NO | NO |

| Auxiliary Antenna | | | | | |
|---|---|---|---|---|---|
| Test Position Configurations | Mode | WLAN 2.4GHz | WLAN 5.3GHz | WLAN 5.6GHz | WLAN 5.8GHz |
| Calculated Frequency(MHz) | | 2462 | 5320 | 5700 | 5825 |
| Back Side | Distance to User (mm) | ＜5 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 0.00 | 0.00 | 0.00 | 0.00 |
| | SAR Test Required | YES | YES | YES | YES |
| Left Edge | Distance to User (mm) | ＜5 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 0.00 | 0.00 | 0.00 | 0.00 |
| | SAR Test Required | YES | YES | YES | YES |
| Right Edge | Distance to User (mm) | 241 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 4363.72 | 4502.02 | 4514.61 | 4518.58 |
| | SAR Test Required | NO | NO | NO | NO |
| Top Edge | Distance to User (mm) | 18.1 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 31.62 | 21.16 | 20.41 | 20.18 |
| | SAR Test Required | YES | YES | YES | YES |
| Bottom Side | Distance to User (mm) | 134 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 1427.92 | 1335.38 | 1327.39 | 1324.89 |
| | SAR Test Required | NO | NO | NO | NO |

| MIMO | | | | | |
|---|---|---|---|---|---|
| Test Position Configurations | Mode | WLAN 2.4GHz | WLAN 5.3GHz | WLAN 5.6GHz | WLAN 5.8GHz |
| Calculated Frequency(MHz) | | 2462 | 5320 | 5700 | 5825 |
| Back Side | Distance to User (mm) | ＜5 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 0.00 | 0.00 | 0.00 | 0.00 |
| | SAR Test Required | YES | YES | YES | YES |
| Left Edge | Distance to User (mm) | ＜5 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 0.00 | 0.00 | 0.00 | 0.00 |
| | SAR Test Required | YES | YES | YES | YES |
| Right Edge | Distance to User (mm) | 164 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 2097.45 | 2028.95 | 2022.77 | 2021.03 |
| | SAR Test Required | NO | NO | NO | NO |
| Top Edge | Distance to User (mm) | ＜5 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 0.00 | 0.00 | 0.00 | 0.00 |
| | SAR Test Required | YES | YES | YES | YES |
| Bottom Side | Distance to User (mm) | 134 | | | |
| | Max. Peak Power (dBm) | 15.50 | 10.00 | 9.00 | 12.50 |
| | Max. Peak Power (mW) | 35.48 | 10.00 | 7.94 | 17.78 |
| | Exclusion Threshold (mW) | 1427.92 | 1335.38 | 1327.39 | 1324.89 |
| | SAR Test Required | NO | NO | NO | 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.
8. NFC test results are derived from project reports BL-SZ22B0401-402.

# 10 TEST RESULT

## 10.1 Bluetooth

| Mode | Antenna | State | Position | Dist. (mm) | Ch. | Freq. (MHz) | Power Drift (dB) | 1g Meas SAR (W/kg) | Meas. Power (dBm) | Max. tune-up power (dBm) | Scaling Factor | Duty cycle (%) | Duty Factor | 1g Scaled SAR (W/kg) | Meas. No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Body** | | | | | | | | | | | | | | | |
| DH5 | Main | Tablet | Back Side | 0 | 39 | 2441 | 0.09 | 0.058 | 4.36 | 5.00 | 1.159 | 76.88 | 1.301 | **0.087** | #1 |
| | | | Left Edge | 0 | 39 | 2441 | -0.07 | 0.036 | 4.36 | 5.00 | 1.159 | 76.88 | 1.301 | 0.054 | / |
| | | | Top Edge | 0 | 39 | 2441 | -0.16 | 0.012 | 4.36 | 5.00 | 1.159 | 76.88 | 1.301 | 0.018 | / |
| Note: Refer to ANNEX C for the detailed test data for each test configuration. | | | | | | | | | | | | | | | |

## 10.2 WIFI 2.4GHz

| Mode | Antenna | State | Position | Dist. (mm) | Ch. | Freq. (MHz) | Power Drift (dB) | 1g Meas SAR (W/kg) | Meas. Power (dBm) | Max. tune-up power (dBm) | Scaling Factor | Duty cycle (%) | Duty Factor | 1g Scaled SAR (W/kg) | Meas. No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Body** | | | | | | | | | | | | | | | |
| 802.11 b | Main | Tablet | Back Side | 0 | 2 | 2417 | 0.05 | 0.922 | 15.49 | 16.50 | 1.262 | 98.56 | 1.015 | **1.181** | #2 |
| | | | Back Side | 0 | 6 | 2437 | -0.10 | 0.813 | 15.44 | 16.50 | 1.276 | 98.56 | 1.015 | 1.053 | / |
| | | | Back Side | 0 | 11 | 2462 | 0.14 | 0.882 | 15.35 | 16.50 | 1.303 | 98.56 | 1.015 | 1.167 | / |
| | | | Top Edge | 0 | 2 | 2417 | 0.09 | 0.455 | 15.49 | 16.50 | 1.262 | 98.56 | 1.015 | 0.583 | / |
| 802.11 b | Aux. | Tablet | Back Side | 0 | 6 | 2437 | -0.06 | 1.070 | 15.27 | 15.50 | 1.054 | 98.56 | 1.015 | **1.145** | #3 |
| | | | Back Side | 0 | 1 | 2437 | -0.16 | 0.786 | 15.14 | 15.50 | 1.086 | 98.56 | 1.015 | 0.867 | / |
| | | | Back Side | 0 | 10 | 2457 | -0.02 | 0.980 | 15.09 | 15.50 | 1.099 | 98.56 | 1.015 | 1.093 | / |
| | | | Left Edge | 0 | 6 | 2437 | 0.02 | 0.745 | 15.27 | 15.50 | 1.054 | 98.56 | 1.015 | 0.797 | / |
| | | | Top Edge | 0 | 6 | 2437 | 0.18 | 0.375 | 15.27 | 15.50 | 1.054 | 98.56 | 1.015 | 0.401 | / |
| 802.11 b | MIMO | Tablet | Back Side | 0 | 6 | 2437 | 0.03 | 0.531 | 15.36 | 15.50 | 1.033 | 98.56 | 1.015 | **0.557** | #4 |
| | | | Left Edge | 0 | 6 | 2437 | -0.17 | 0.421 | 15.36 | 15.50 | 1.033 | 98.56 | 1.015 | 0.441 | / |
| | | | Top Edge | 0 | 6 | 2437 | -0.02 | 0.234 | 15.36 | 15.50 | 1.033 | 98.56 | 1.015 | 0.245 | / |
| Note: Refer to ANNEX C for the detailed test data for each test configuration. | | | | | | | | | | | | | | | |

## 10.3WIFI 5GHz

| Mode | Antenna | State | Position | Dist. (mm) | Ch. | Freq. (MHz) | Power Drift (dB) | 1g Meas SAR (W/kg) | Meas. Power (dBm) | Max. tune-up power (dBm) | Scaling Factor | Duty cycle (%) | Duty Factor | 1g Scaled SAR (W/kg) | Meas. No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Body-5.3G** | | | | | | | | | | | | | | | |
| 802.11 ac (VHT40) | Main | Tablet | Back Side | 0 | 54 | 5270 | 0.02 | 0.919 | 14.84 | 15.50 | 1.165 | 97.16 | 1.029 | **1.102** | #5 |
| | | | Back Side | 0 | 62 | 5310 | -0.04 | 0.401 | 11.12 | 13.00 | 1.542 | 97.16 | 1.029 | 0.636 | / |
| | | | Top Edge | 0 | 54 | 5270 | 0.08 | 0.371 | 14.84 | 15.50 | 1.165 | 97.16 | 1.029 | 0.445 | / |
| 802.11 ac (VHT80) | Aux. | Tablet | Back Side | 0 | 58 | 5290 | -0.11 | 0.564 | 9.73 | 10.00 | 1.064 | 94.13 | 1.062 | 0.637 | / |
| | | | Left Edge | 0 | 58 | 5290 | 0.16 | 1.050 | 9.73 | 10.00 | 1.064 | 94.13 | 1.062 | **1.187** | #6 |
| | | | Top Edge | 0 | 58 | 5290 | -0.03 | 0.225 | 9.73 | 10.00 | 1.064 | 94.13 | 1.062 | 0.254 | / |
| 802.11 ac (VHT80) | MIMO | Tablet | Back Side | 0 | 58 | 5290 | 0.04 | 0.302 | 9.56 | 10.00 | 1.107 | 94.13 | 1.062 | 0.355 | / |
| | | | Left Edge | 0 | 58 | 5290 | 0.01 | 0.566 | 9.56 | 10.00 | 1.107 | 94.13 | 1.062 | **0.665** | #7 |
| | | | Top Edge | 0 | 58 | 5290 | 0.03 | 0.120 | 9.56 | 10.00 | 1.107 | 94.13 | 1.062 | 0.141 | / |
| **Body-5.6G** | | | | | | | | | | | | | | | |
| 802.11 ac (VHT40) | Main | Tablet | Back Side | 0 | 118 | 5590 | 0.04 | 0.713 | 14.00 | 15.50 | 1.413 | 97.16 | 1.029 | **1.036** | #8 |
| | | | Back Side | 0 | 102 | 5510 | -0.05 | 0.495 | 10.80 | 12.50 | 1.479 | 97.16 | 1.029 | 0.753 | / |
| | | | Back Side | 0 | 134 | 5670 | -0.01 | 0.705 | 13.97 | 15.50 | 1.422 | 97.16 | 1.029 | 1.032 | / |
| | | | Top Edge | 0 | 118 | 5590 | 0.04 | 0.304 | 14.00 | 15.50 | 1.413 | 97.16 | 1.029 | 0.442 | / |
| 802.11 ac (VHT80) | Aux. | Tablet | Back Side | 0 | 106 | 5530 | -0.10 | 0.512 | 8.65 | 9.00 | 1.084 | 94.13 | 1.062 | 0.589 | / |
| | | | Left Edge | 0 | 106 | 5530 | -0.19 | 0.945 | 8.65 | 9.00 | 1.084 | 94.13 | 1.062 | **1.088** | #9 |
| | | | Left Edge | 0 | 122 | 5610 | -0.04 | 0.706 | 8.53 | 9.00 | 1.114 | 94.13 | 1.062 | 0.835 | / |
| | | | Left Edge | 0 | 138 | 5690 | -0.06 | 0.651 | 8.58 | 9.00 | 1.102 | 94.13 | 1.062 | 0.762 | / |
| | | | Top Edge | 0 | 106 | 5530 | -0.10 | 0.239 | 8.65 | 9.00 | 1.084 | 94.13 | 1.062 | 0.275 | / |
| 802.11 ac (VHT80) | MIMO | Tablet | Back Side | 0 | 122 | 5610 | 0.16 | 0.219 | 8.77 | 9.00 | 1.054 | 94.13 | 1.062 | 0.245 | / |
| | | | Left Edge | 0 | 122 | 5610 | 0.03 | 0.398 | 8.77 | 9.00 | 1.054 | 94.13 | 1.062 | **0.446** | #10 |
| | | | Top Edge | 0 | 122 | 5610 | 0.18 | 0.101 | 8.77 | 9.00 | 1.054 | 94.13 | 1.062 | 0.113 | / |
| **Body-5.8G** | | | | | | | | | | | | | | | |
| 802.11 ac (VHT80) | Main | Tablet | Back Side | 0 | 155 | 5775 | -0.06 | 0.658 | 15.14 | 15.50 | 1.087 | 94.13 | 1.062 | **0.760** | #11 |
| | | | Top Edge | 0 | 155 | 5775 | -0.15 | 0.360 | 15.14 | 15.50 | 1.087 | 94.13 | 1.062 | 0.416 | / |
| 802.11 ac (VHT80) | Aux. | Tablet | Back Side | 0 | 155 | 5775 | -0.12 | 0.694 | 12.01 | 12.50 | 1.119 | 94.13 | 1.062 | 0.825 | / |
| | | | Left Edge | 0 | 155 | 5775 | 0.03 | 0.800 | 12.01 | 12.50 | 1.119 | 94.13 | 1.062 | **0.951** | #12 |
| | | | Top Edge | 0 | 155 | 5775 | 0.16 | 0.216 | 12.01 | 12.50 | 1.119 | 94.13 | 1.062 | 0.257 | / |
| 802.11 ac (VHT80) | MIMO | Tablet | Back Side | 0 | 155 | 5775 | -0.03 | 0.316 | 12.05 | 12.50 | 1.109 | 94.13 | 1.062 | 0.372 | / |
| | | | Left Edge | 0 | 155 | 5775 | -0.02 | 0.365 | 12.05 | 12.50 | 1.109 | 94.13 | 1.062 | **0.430** | #13 |
| | | | Top Edge | 0 | 155 | 5775 | -0.14 | 0.098 | 12.05 | 12.50 | 1.109 | 94.13 | 1.062 | 0.115 | / |
| Note: Refer to ANNEX C for the detailed test data for each test configuration. | | | | | | | | | | | | | | | |

# 11 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 | Antenna | Test Position | Highest Measured SAR (W/kg) | Repeated SAR (Yes/No) | Highest Measured SAR (W/kg) | Largest to Smallest SAR Radio |
|---|---|---|---|---|---|---|---|
| 2450 | WLAN 2.4G | Main | Back Side | 0.922 | Yes | 0.901 | 1.02 |
| 2450 | WLAN 2.4G | Auxiliary | Back Side | 1.070 | Yes | 1.030 | 1.04 |
| 5300 | WLAN 5.3G | Main | Back Side | 0.919 | Yes | 0.905 | 1.02 |
| 5300 | WLAN 5.3G | Auxiliary | Left Side | 1.050 | Yes | 0.980 | 1.07 |
| 5600 | WLAN 5.6G | Auxiliary | Left Side | 0.945 | Yes | 0.931 | 1.02 |
| 5800 | WLAN 5.8G | Auxiliary | Left Side | 0.800 | Yes | 0.796 | 1.01 |
| 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. | | | | | | | |

# 12 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.

## 12.1 Simultaneous Transmission Mode Considerations

| NO. | Mode | Body |
|---|---|---|
| 1 | 2.4 G WLAN (Auxiliary Antenna) | + 2.4 G WLAN (Main Antenna) |
| 2 | 2.4 G WLAN (Auxiliary Antenna) | + Bluetooth (Main Antenna) |
| 3 | 5 G WLAN (Auxiliary Antenna) | + 5 G WLAN (Main Antenna) |
| 4 | 5 G WLAN (Auxiliary Antenna) | + Bluetooth (Main Antenna) |
| 5 | 5 G WLAN (Auxiliary Antenna) | + 5 G WLAN (Main Antenna)<br>+ Bluetooth (Main Antenna) |
| Note:<br>1. The EUT supports the Main antenna with TX/RX diversity function for WLAN and Bluetooth, the Auxiliary antenna with TX/RX diversity function for WLAN.<br>2. WLAN 2.4GHz and Bluetooth will not be transmitting from the Main antenna at same time.<br>3. 2.4G WLAN can't transmit simultaneously with5G WLAN.<br>4. NFC can be transmitted simultaneously with any of the above combinations, the NFC SAR determination is described following sections section . | | |

## 12.2 NFC SAR Test Instructions

1.1 According to the 2022.04 TCBC Workshop meeting, the power threshold is ≤ 100MHz, refer to P6s.

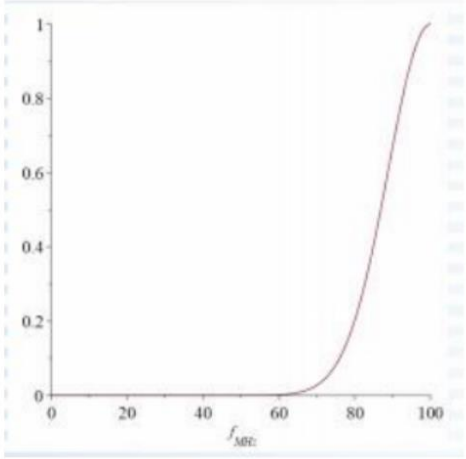
$$P_{7X}(d_{mm}, f_{MHz}) := \begin{cases} P_{6S}(d_{mm}, f_{MHz}) & f_{MHz} \le 100 \\ P_{6to7}(d_{mm}, f_{MHz}) & 100 < f_{MHz} \le 300 \\ P_{7}(d_{mm}, f_{MHz}) & 300 < f_{MHz} \end{cases}$$

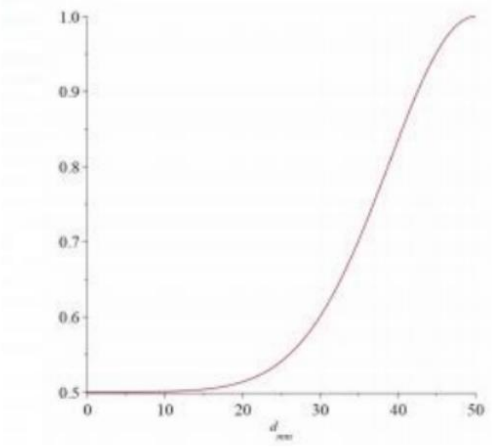
1.2 For portable products, when using a distance of ≤ 50mm, such as mobile phone NFC, P6s is calculated with the following formula calculate.

$$S_f(f_{MHz}) \cdot P_{431a}(d_{mm}, f_{MHz}) + (1 - S_f(f_{MHz})) \cdot S_d(d_{mm}) P_{431b1}(50., 100.) \cdot \left(1. + log10\left(\frac{100.}{f_{MHz}}\right)\right) \qquad d_{mm} \le 50 \text{ and } f_{MHz} \le 100$$

1.3 The smoothing functions Sf and Sd in P6s calculate the limits based on KDB 447498 V06 and are calculated as follows.

$$S_f(f_{MHz}) := exp\left(-10\frac{(f_{MHz} - f_{max})^2}{\Delta f^2}\right) \qquad S_d(d_{mm}) := 0.5 + 0.5 \cdot exp\left(-10\frac{(d_{mm} - d_{max})^2}{\Delta d^2}\right)$$




| d≤50mm | | | | |
|---|---|---|---|---|
| f Max(MHz) | 100 | | d Max(mm) | 50 |
| f MHz | 13.56 | | d(mm) | 5 |
| △f(MHz) | 100 | | △d | 50 |
| $S_f(f_{MHz})$ | 0.000568861 | | $S_d$（dmm） | 0.50015177 |
| P6s(mW) | 443.1257378 | | | |
| Note: SAR testing is required when the distance is 5mm and the power is greater than 443.13mW. | | | | |

2. According to the ANSI C63.10 clause 11.12.2.2:

The value of maximum peak output power is according to the method described in ANSI C63.10 clause 11.12.2.2 General procedure for conducted measurements in restricted bands:

a) Measure the conducted output power (in dBm) using the detector specified (see guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).

b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the ERP level (see guidance on determining the applicable antenna gain)

c) Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).

d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the ERP of all chains in linear terms (e.g., Watts, mW).

e) Convert the resultant ERP level to an equivalent electric field strength using the following relationship:

E = EIRP - 20log D + 104.8

where:

E = electric field strength in dBμV/m,

ERP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

| Mode | f(MHz) | Max. E-Field strength (dBuV/m) | D(m) | Ground reflection factor (dB) | EIRP (dBm) |
|---|---|---|---|---|---|
| NFC (13.56MHz) | 13.56 | 52.32 | 3 | 6 | -36.94 |
| Note:<br>1. Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz).<br>2. EIRP= 52.32+20*Log(3) - 104.8 + 6 =-36.94 (dBm) | | | | | |

According to the FCC KDB 447498 D04

Estimated SAR: SARest =1.6 · Pant / Pth [W/kg]

| Estimated SAR | 1.6 · Pant / Pth [W/kg] | | |
|---|---|---|---|
| Pmeas.(dBm) | -36.94 | Pmeas.(mW) | 0.0002 |
| Pth.(mW) | 443.13 | | |
| NFC<br>Estimated 1g SAR [W/kg] | ＜0.001 | | |

Results:

1. The NFC power is -31.54dBm，the power threshold is P6s=443.13mW,Therefore, the NFC SAR test is excluded.
2. NFC multi-transmit requires the use of the TER formula:

$$TER = \sum_{k=1}^{N_S}\left(\frac{SAR_k}{SAR_{\lim}}\right) + \sum_{k=1}^{N_f}\left(\frac{MPE_{field,\,k}}{MPE_{field,\,\lim}}\right)^2 + \sum_{k=1}^{N_{PD}}\left(\frac{MPE_{PD,\,k}}{MPE_{PD,\,\lim}}\right)$$

The maximum SAR value for WLAN and BT is 1.241 [W/kg],Therefore, the worst TER =(1.241+0.001)/1.6 = 0.776＜1,the NFC SAR transmit simultaneously Pass.

## 12.3 Sum SAR of Simultaneous Transmission

### 12.3.1 Highest Bluetooth and WLAN Sum Body SAR of Simultaneous Transmission

| Test Mode | Position | Mode | Max. 1g SAR (W/kg) | 1g Sum SAR (W/kg) | SPLSR (Yes/No) | SPLSR Num. |
|---|---|---|---|---|---|---|
| Body (Separation 0 mm) | | | | | | |
| Table | Back Side | 2.4 G WLAN Antenna MIMO | 0.557 | / | No | / |
| | | 2.4 G WLAN Antenna Auxiliary | 1.145 | **1.232** | No | / |
| | | Bluetooth | 0.087 | | | |
| | | 5.3 G WLAN Antenna MIMO | 0.355 | / | No | / |
| | | 5.3 G WLAN Antenna Auxiliary | 0.637 | 0.724 | No | / |
| | | Bluetooth | 0.087 | | | |
| | | 5.3 G WLAN Antenna Main | 1.102 | 1.189 | No | / |
| | | Bluetooth | 0.087 | | | |
| | | 5.3 G WLAN Antenna MIMO | 0.355 | 0.442 | No | / |
| | | Bluetooth | 0.087 | | | |
| | | 5.6 G WLAN Antenna MIMO | 0.245 | / | No | / |
| | | 5.6 G WLAN Antenna Auxiliary | 0.589 | 0.676 | No | / |
| | | Bluetooth | 0.087 | | | |
| | | 5.6 G WLAN Antenna Main | 1.036 | 1.123 | No | / |
| | | Bluetooth | 0.087 | | | |
| | | 5.6 G WLAN Antenna MIMO | 0.245 | 0.332 | No | / |
| | | Bluetooth | 0.087 | | | |
| | | 5.8 G WLAN Antenna MIMO | 0.372 | / | No | / |
| | | 5.8 G WLAN Antenna Auxiliary | 0.825 | 0.912 | No | / |
| | | Bluetooth | 0.087 | | | |
| | | 5.8 G WLAN Antenna Main | 0.760 | 0.847 | No | / |
| | | Bluetooth | 0.087 | | | |
| | | 5.8 G WLAN Antenna MIMO | 0.372 | 0.459 | No | / |
| | | Bluetooth | 0.087 | | | |
| | Left Edge | 2.4 G WLAN Antenna MIMO | 0.441 | / | No | / |
| | | 2.4 G WLAN Antenna Auxiliary | 0.797 | 0.851 | No | / |
| | | Bluetooth | 0.054 | | | |
| | | 5.3 G WLAN Antenna MIMO | 0.665 | / | No | / |
| | | 5.3 G WLAN Antenna Auxiliary | 1.187 | **1.241** | No | / |
| | | Bluetooth | 0.054 | | | |
| | | 5.3 G WLAN Antenna Main | / | 0.054 | No | / |
| | | Bluetooth | 0.054 | | | |
| | | 5.3 G WLAN Antenna MIMO | 0.665 | 0.719 | No | / |
| | | Bluetooth | 0.054 | | | |
| | | 5.6 G WLAN Antenna MIMO | 0.446 | / | No | / |
| | | 5.6 G WLAN Antenna Auxiliary | 1.088 | 1.142 | No | / |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Bluetooth | 0.054 | | | |
| | | 5.6 G WLAN Antenna Main | / | 0.054 | No | / |
| | | Bluetooth | 0.054 | | | |
| | | 5.6 G WLAN Antenna MIMO | 0.446 | 0.500 | No | / |
| | | Bluetooth | 0.054 | | | |
| | | 5.8 G WLAN Antenna MIMO | 0.430 | / | No | / |
| | | 5.8 G WLAN Antenna Auxiliary | 0.951 | 1.005 | No | / |
| | | Bluetooth | 0.054 | | | |
| | | 5.8 G WLAN Antenna Main | / | 0.054 | No | / |
| | | Bluetooth | 0.054 | | | |
| | | 5.8 G WLAN Antenna MIMO | 0.430 | 0.484 | No | / |
| | | Bluetooth | 0.054 | | | |
| | Top Side | 2.4 G WLAN Antenna MIMO | 0.245 | / | No | / |
| | | 2.4 G WLAN Antenna Auxiliary | 0.401 | 0.419 | No | / |
| | | Bluetooth | 0.018 | | | |
| | | 5.3 G WLAN Antenna MIMO | 0.141 | / | No | / |
| | | 5.3 G WLAN Antenna Auxiliary | 0.254 | 0.272 | No | / |
| | | Bluetooth | 0.018 | | | |
| | | 5.3 G WLAN Antenna Main | 0.445 | **0.463** | No | / |
| | | Bluetooth | 0.018 | | | |
| | | 5.3 G WLAN Antenna MIMO | 0.141 | 0.159 | No | / |
| | | Bluetooth | 0.018 | | | |
| | | 5.6 G WLAN Antenna MIMO | 0.113 | / | No | / |
| | | 5.6 G WLAN Antenna Auxiliary | 0.275 | 0.293 | No | / |
| | | Bluetooth | 0.018 | | | |
| | | 5.6 G WLAN Antenna Main | 0.442 | 0.460 | No | / |
| | | Bluetooth | 0.018 | | | |
| | | 5.6 G WLAN Antenna MIMO | 0.113 | 0.131 | No | / |
| | | Bluetooth | 0.018 | | | |
| | | 5.8 G WLAN Antenna MIMO | 0.115 | / | No | / |
| | | 5.8 G WLAN Antenna Auxiliary | 0.257 | 0.275 | No | / |
| | | Bluetooth | 0.018 | | | |
| | | 5.8 G WLAN Antenna Main | 0.416 | 0.434 | No | / |
| | | Bluetooth | 0.018 | | | |
| | | 5.8 G WLAN Antenna MIMO | 0.115 | 0.133 | No | / |
| | | Bluetooth | 0.018 | | | |

# 13 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 |
| 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: 7510 | 2021/12/29 | 2022/12/28 |
| Data Acquisition Electronicsr | Speag | DAE4 | SN: 1710 | 2022/02/01 | 2023/01/31 |
| Signal Generator | R&S | SMB100A | 177746 | 2022/05/19 | 2023/05/18 |
| Power Meter | R&S | NRVD-B2 | 7250BJ-0112/2011 | 2022/09/06 | 2023/09/05 |
| Power Sensor | R&S | NRV-Z4 | 100381 | 2022/09/06 | 2023/09/05 |
| Power Sensor | R&S | NRV-Z2 | 100211 | 2022/09/06 | 2023/09/05 |
| Network Analyzer | Agilent | E5071C | MY46103472 | 2021/12/29 | 2022/12/28 |
| Thermometer | Elitech | RC-4HC | EF720B004807 | 2021/12/01 | 2022/11/30 |
| Thermometer | Elitech | RC-4HC | EF720B004820 | 2021/12/01 | 2022/11/30 |
| Power Amplifier | SATIMO | 6552B | 22374 | N/A | N/A |
| Dielectric Probe Kit | Speag | DAK3.5 | SN: 1312 | N/A | N/A |
| Phantom | Speag | SAM | SN: 1857 | 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 a DAK3.5 Dielectric Probe Kit.

| 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 (%) |
|---|---|---|---|---|---|---|---|---|---|
| 2022/11/21 | Head | 2450 | 21.9 | 1.79 | 39.98 | 1.80 | 39.20 | -0.56 | 1.99 |
| 2022/11/22 | Head | 5250 | 21.3 | 4.68 | 35.28 | 4.71 | 35.93 | -0.64 | -1.81 |
| 2022/11/23 | Head | 5600 | 21.3 | 5.16 | 34.69 | 5.07 | 35.53 | 1.78 | -2.36 |
| 2022/11/24 | Head | 5750 | 21.8 | 5.25 | 36.00 | 5.22 | 35.36 | 0.57 | 1.81 |
| 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 (%) |
|---|---|---|---|---|---|---|---|
| 2022/11/21 | Head | 2450 | 100 | 2.38 | 23.80 | 53.00 | -1.32 |
| 2022/11/22 | Head | 5250 | 100 | 2.15 | 21.50 | 77.80 | -1.54 |
| 2022/11/23 | Head | 5600 | 100 | 2.38 | 23.80 | 81.20 | 2.34 |
| 2022/11/24 | Head | 5750 | 100 | 2.24 | 22.40 | 77.20 | 2.20 |
| Note: The tolerance limit of System validation ±10%. | | | | | | | |

# System Performance Check Data (2450MHz)

Date: 2022.11.21

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

Medium parameters used: f = 2450 MHz; $\sigma$ = 1.791 S/m; $\varepsilon_r$ = 39.98; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.2℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.63, 7.63, 7.63); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; 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) = 5.34 W/kg

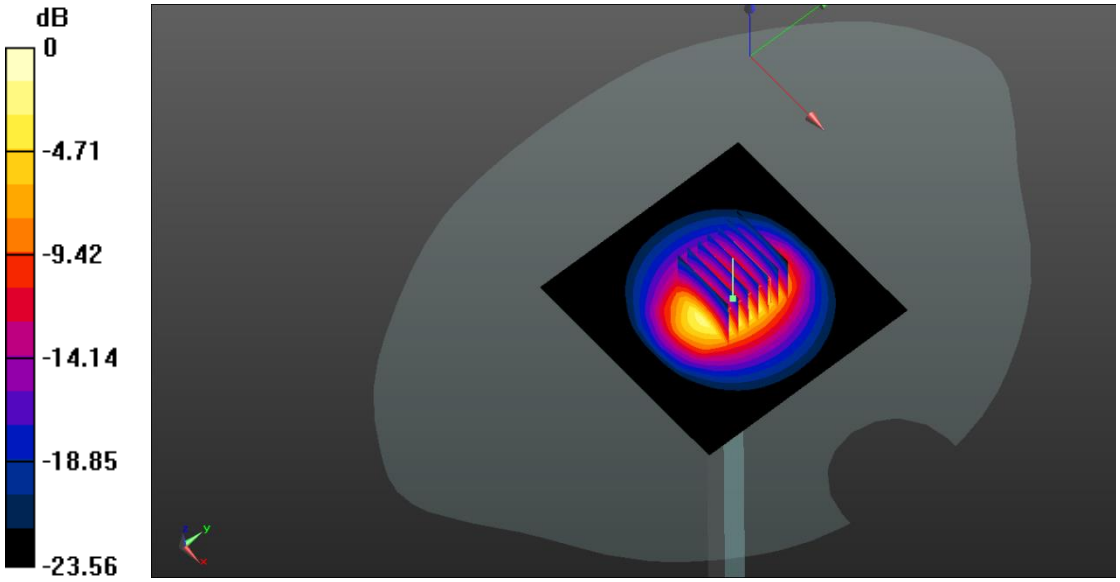
**CW 2450 100mw/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.28 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 11.1 W/kg

**SAR(1 g) = 5.23 W/kg; SAR(10 g) = 2.38 W/kg**

Maximum value of SAR (measured) = 5.25 W/kg




0 dB = 5.25 W/kg

# System Performance Check Data (5250MHz)

Date: 2022.11.22

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

Medium parameters used: f = 5250 MHz; $\sigma$ = 4.682 S/m; $\varepsilon_r$ = 35.283; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.5℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.42, 5.42, 5.42); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW5250 Head100mw/Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 7.64 W/kg

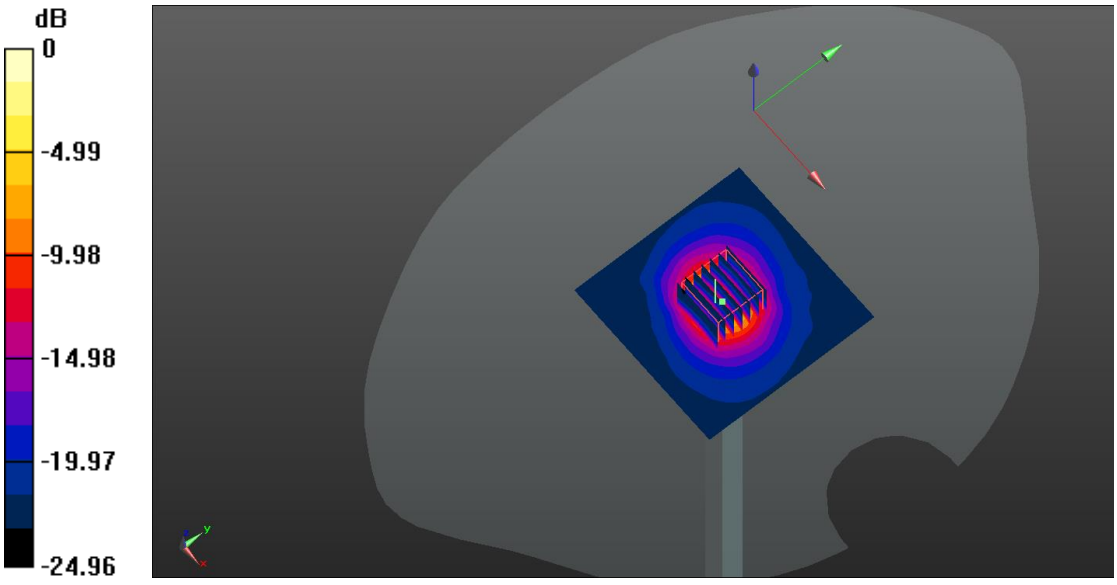
**CW5250 Head 100mw/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 29.51 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 33.2 W/kg

**SAR(1 g) = 7.66 W/kg; SAR(10 g) = 2.15 W/kg**

Maximum value of SAR (measured) = 16.5 W/kg




0 dB = 16.5 W/kg

# System Performance Check Data (5600MHz)

Date: 2022.11.23

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5600 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5600 MHz; $\sigma$ = 5.157 S/m; $\varepsilon_r$ = 34.688; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.1℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.81, 4.81, 4.81); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 5600 100mW/Area Scan (81x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 8.53 W/kg

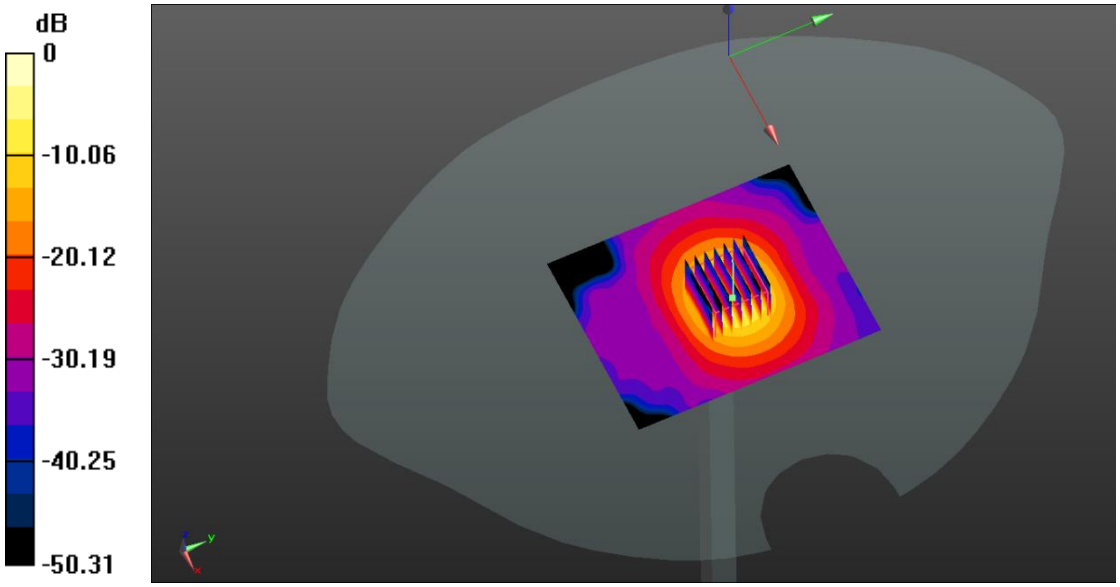
**CW 5600 100mW/Zoom Scan (7x7x21)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 32.18 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 38.2 W/kg

**SAR(1 g) = 8.31 W/kg; SAR(10 g) = 2.38 W/kg**

Maximum value of SAR (measured) = 16.8 W/kg




0 dB = 16.8 W/kg

# System Performance Check Data (5750MHz)

Date: 2022.11.24

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

Medium parameters used: f = 5750 MHz; $\sigma$ = 5.25 S/m; $\varepsilon_r$ = 35.996; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.1℃ Liquid Temperature:21.8℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.9, 4.9, 4.9); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; 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) = 15.3 W/kg

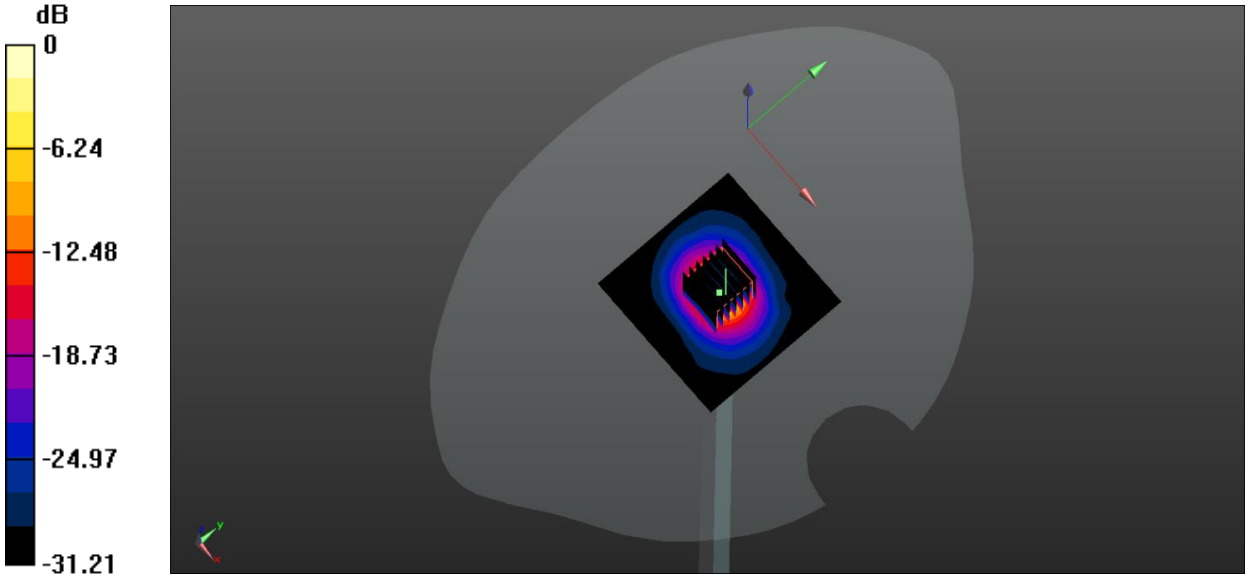
**CW 5750 100mW/Zoom Scan (7x7x15)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 42.88 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 37.5 W/kg

**SAR(1 g) = 7.89 W/kg; SAR(10 g) = 2.24 W/kg**

Maximum value of SAR (measured) = 14.3 W/kg




0 dB = 14.3 W/kg

# ANNEX C TEST DATA

**Meas.1 Body Plane with Back Side 0mm on 39 Channel in Bluetooth mode with Antenna Main**

Date: 2022.11.21

Communication System Band: Bluetooth; Frequency: 2441 MHz;Duty Cycle: 1:1.301

Medium parameters used (interpolated): f = 2441 MHz; $\sigma$ = 1.781 S/m; $\varepsilon_r$ = 40.1; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.2℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.63, 7.63, 7.63); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch39/Area Scan (81x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0892 W/kg

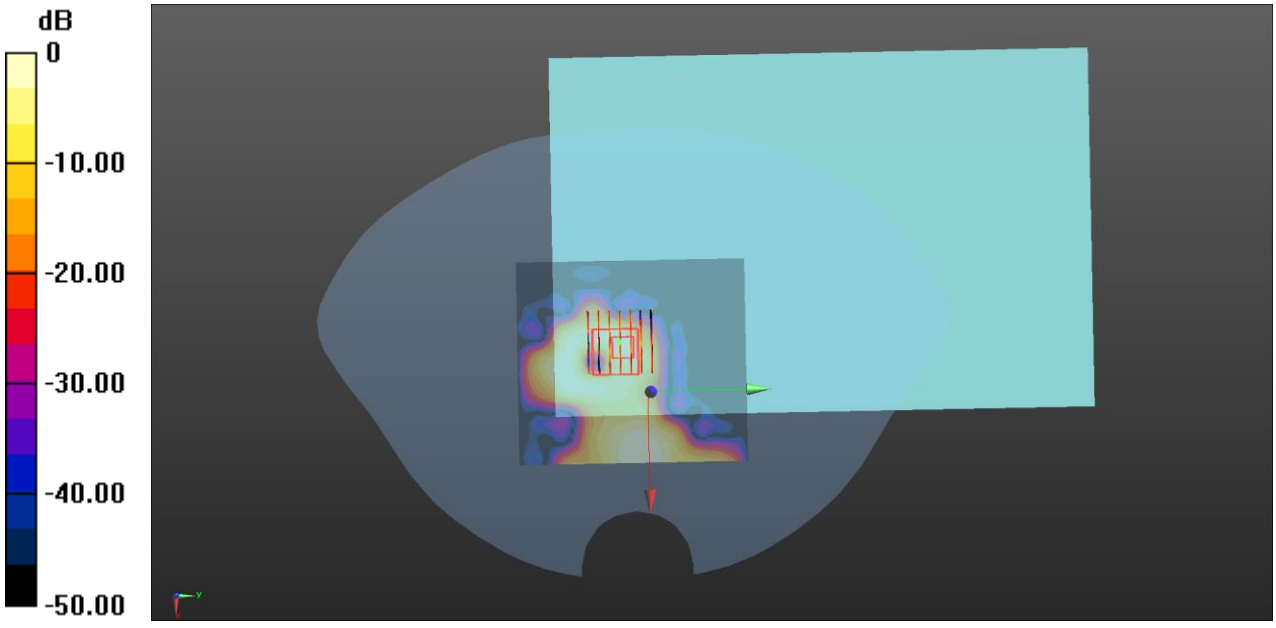
**Ch39/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.954 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.194 W/kg

**SAR(1 g) = 0.058 W/kg; SAR(10 g) = 0.018 W/kg**

Maximum value of SAR (measured) = 0.0758 W/kg




0 dB = 0.0758 W/kg

**Meas.2 Body Plane with Back Side 0mm on 2 Channel in IEEE802.11b mode with Antenna Main**

Date: 2022.11.21

Communication System Band: 2.4G; Frequency: 2417 MHz;Duty Cycle: 1:1.015

Medium parameters used (interpolated): f = 2417 MHz; $\sigma$ = 1.749 S/m; $\varepsilon_r$ = 40.341; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.2℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.63, 7.63, 7.63); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch2/Area Scan (81x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.06 W/kg

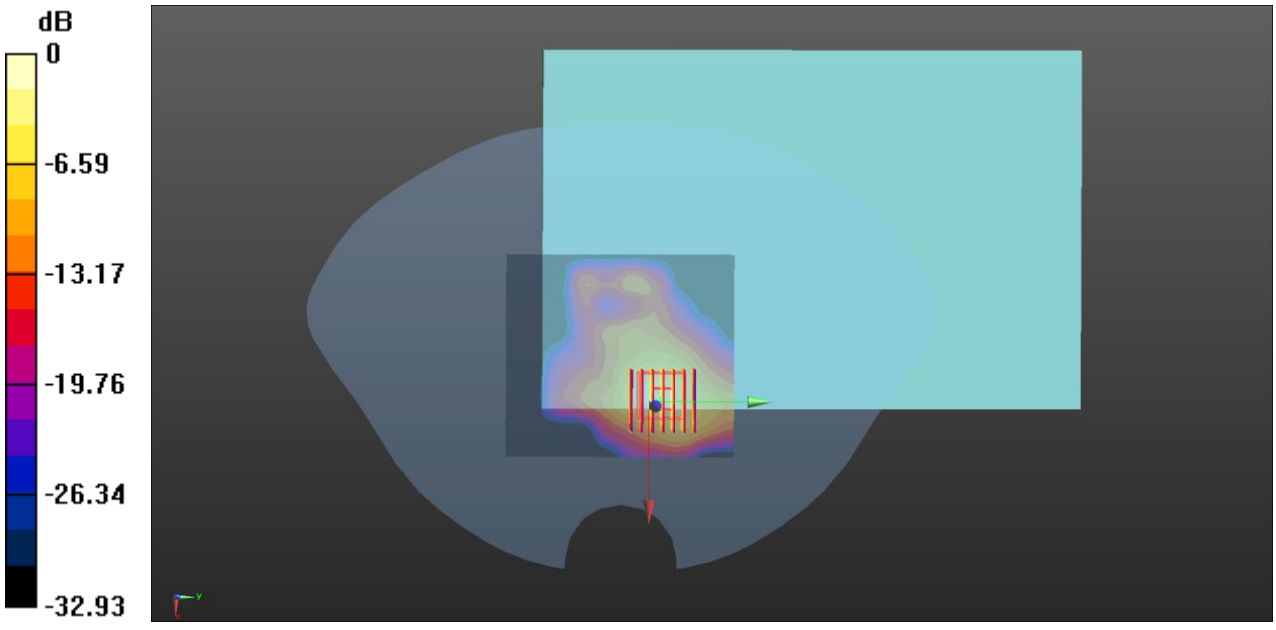
**Ch2/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.228 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 2.21 W/kg

**SAR(1 g) = 0.922 W/kg; SAR(10 g) = 0.379 W/kg**

Maximum value of SAR (measured) = 1.10 W/kg




0 dB = 1.10 W/kg

**Meas.3 Body Plane with Back Side 0mm on 6 Channel in IEEE802.11b mode with Antenna Auxiliary**

Date: 2022.11.21

Communication System Band: 2.4G; Frequency: 2437 MHz;Duty Cycle: 1:1.015

Medium parameters used (interpolated): f = 2437 MHz; $\sigma$ = 1.774 S/m; $\varepsilon_r$ = 40.18; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.2℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.63, 7.63, 7.63); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch6/Area Scan (81x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.34 W/kg

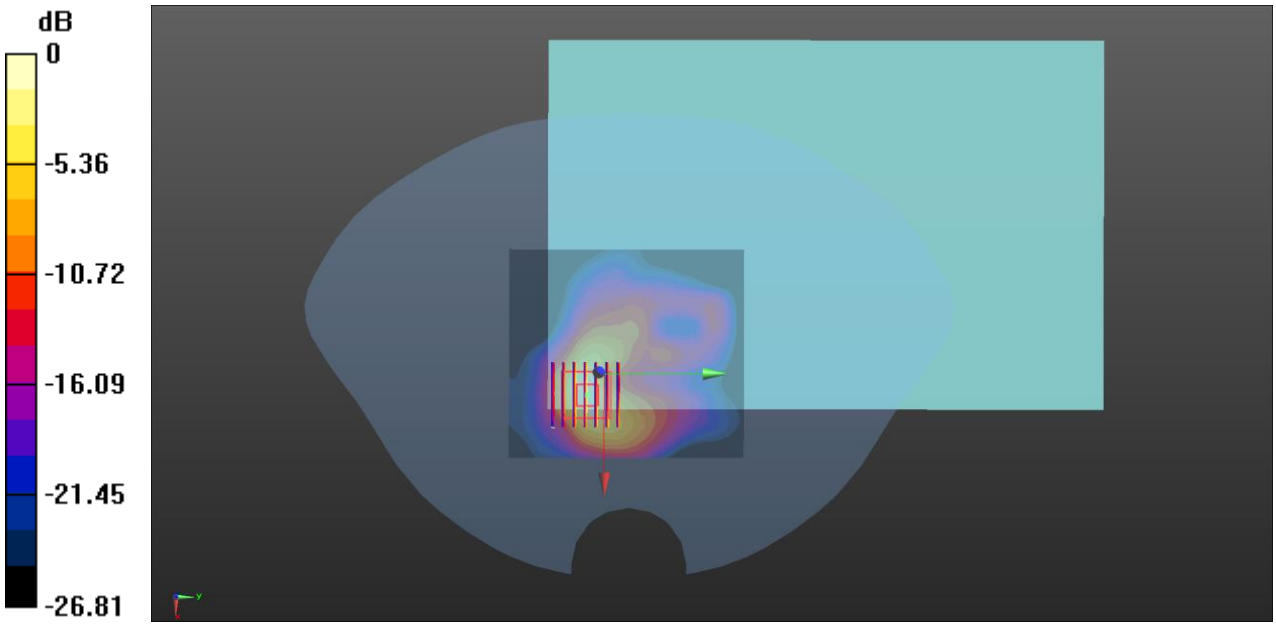
**Ch6/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.188 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 2.94 W/kg

**SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.407 W/kg**

Maximum value of SAR (measured) = 1.36 W/kg




0 dB = 1.36 W/kg

**Meas.4 Body Plane with Back Side 0mm on 6 Channel in IEEE802.11b mode with Antenna MIMO**

Date: 2022.11.21

Communication System Band: 2.4G; Frequency: 2437 MHz;Duty Cycle: 1:1.015

Medium parameters used (interpolated): f = 2437 MHz; $\sigma$ = 1.774 S/m; $\varepsilon_r$ = 40.18; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.2℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.63, 7.63, 7.63); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch6/Area Scan (81x111x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.609 W/kg

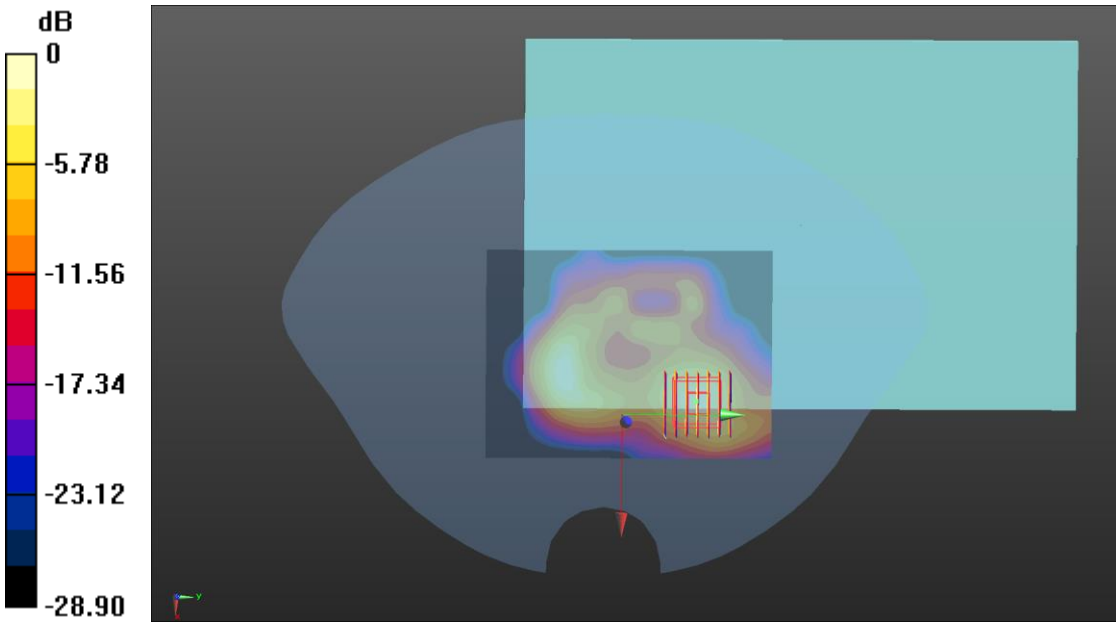
**Ch6/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.469 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.35 W/kg

**SAR(1 g) = 0.531 W/kg; SAR(10 g) = 0.220 W/kg**

Maximum value of SAR (measured) = 0.599 W/kg




0 dB = 0.599 W/kg

**Meas.5 Body Plane with Back Side 0mm on 54 Channel in IEEE802.11ac40 mode with Antenna Main**

Date: 2022.11.22

Communication System Band: 5.3G; Frequency: 5270 MHz;Duty Cycle: 1:1.029

Medium parameters used (interpolated): f = 5270 MHz; $\sigma$ = 4.713 S/m; $\varepsilon_r$ = 35.224; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.5℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.42, 5.42, 5.42); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch54/Area Scan (101x141x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.82 W/kg

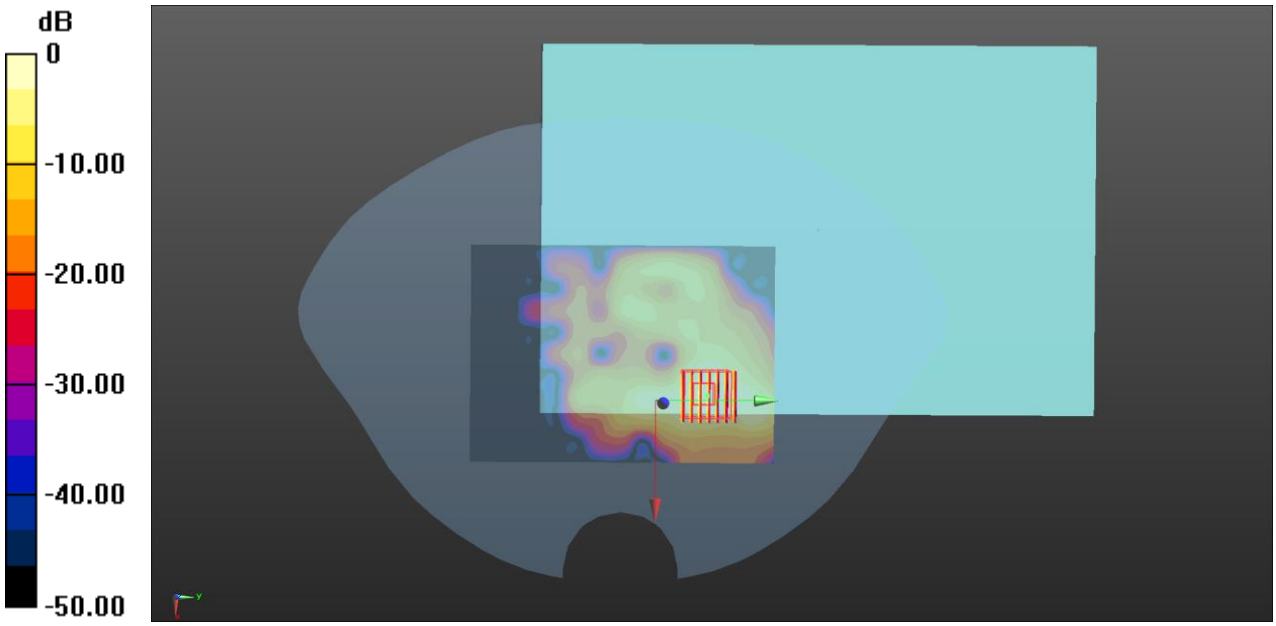
**Ch54/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 4.22 W/kg

**SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.258 W/kg**

Maximum value of SAR (measured) = 1.89 W/kg




0 dB = 1.89 W/kg

**Meas.6 Body Plane with Left Edge 0mm on 58 Channel in IEEE802.11ac80 mode with Antenna Auxiliary**

Date: 2022.11.22

Communication System Band: 5.3G; Frequency: 5290 MHz;Duty Cycle: 1:1.062

Medium parameters used (interpolated): f = 5290 MHz; $\sigma$ = 4.747 S/m; $\varepsilon_r$ = 35.177; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.5℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.42, 5.42, 5.42); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch58/Area Scan (101x151x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.88 W/kg

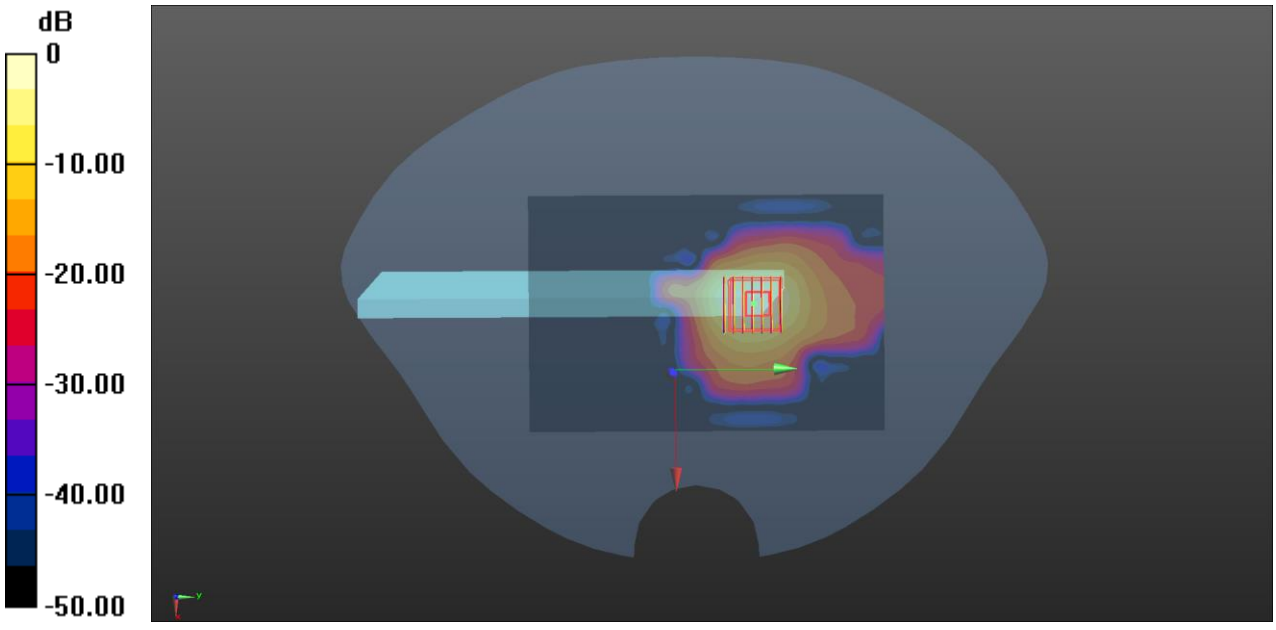
**Ch58/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.500 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 4.31 W/kg

**SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.321 W/kg**

Maximum value of SAR (measured) = 2.17 W/kg




0 dB = 2.17 W/kg

**Meas.7 Body Plane with Left Edge 0mm on 58 Channel in IEEE802.11ac80 mode with Antenna MIMO**

Date: 2022.11.22

Communication System Band: 5.3G; Frequency: 5290 MHz;Duty Cycle: 1:1.062

Medium parameters used (interpolated): f = 5290 MHz; $\sigma$ = 4.747 S/m; $\varepsilon_r$ = 35.177; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.5℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.42, 5.42, 5.42); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch58/Area Scan (101x151x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.10 W/kg

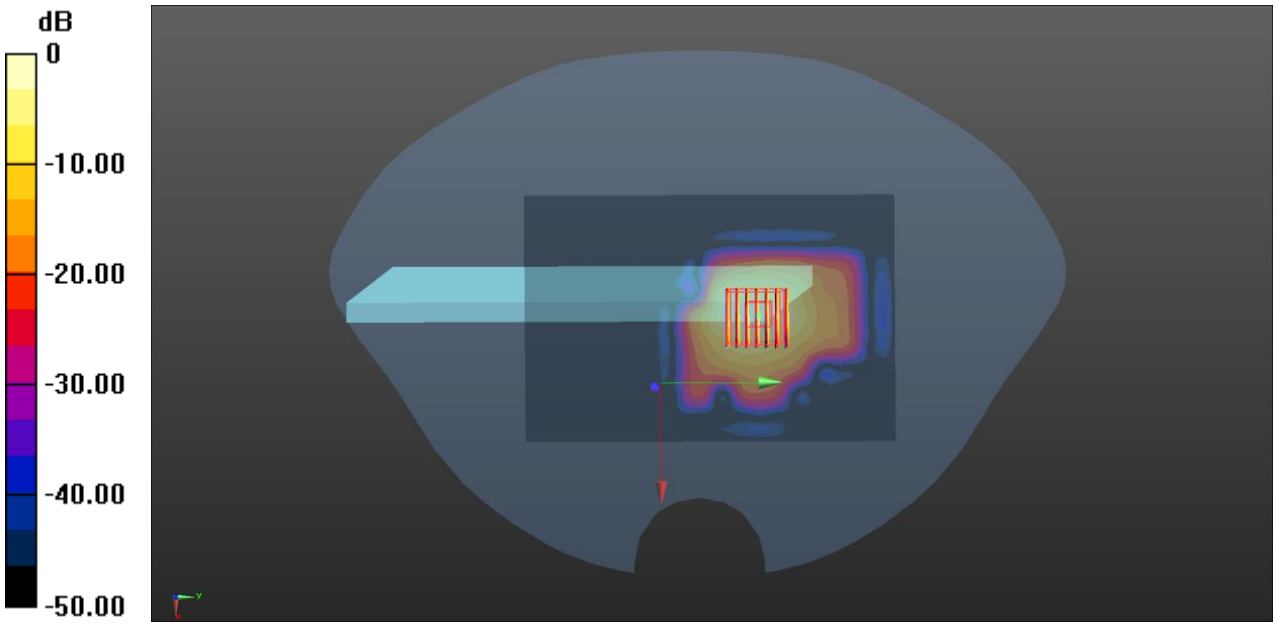
**Ch58/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.307 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.24 W/kg

**SAR(1 g) = 0.566 W/kg; SAR(10 g) = 0.174 W/kg**

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




0 dB = 1.16 W/kg

**Meas.8 Body Plane with Back Side 0mm on 118 Channel in IEEE802.11ac40 mode with Antenna Main**

Date: 2022.11.23

Communication System Band: 5.6G; Frequency: 5590 MHz;Duty Cycle: 1:1.029

Medium parameters used (interpolated): f = 5590 MHz; $\sigma$ = 5.138 S/m; $\varepsilon_r$ = 35.575; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.1℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.81, 4.81, 4.81); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch118/Area Scan (101x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.69 W/kg

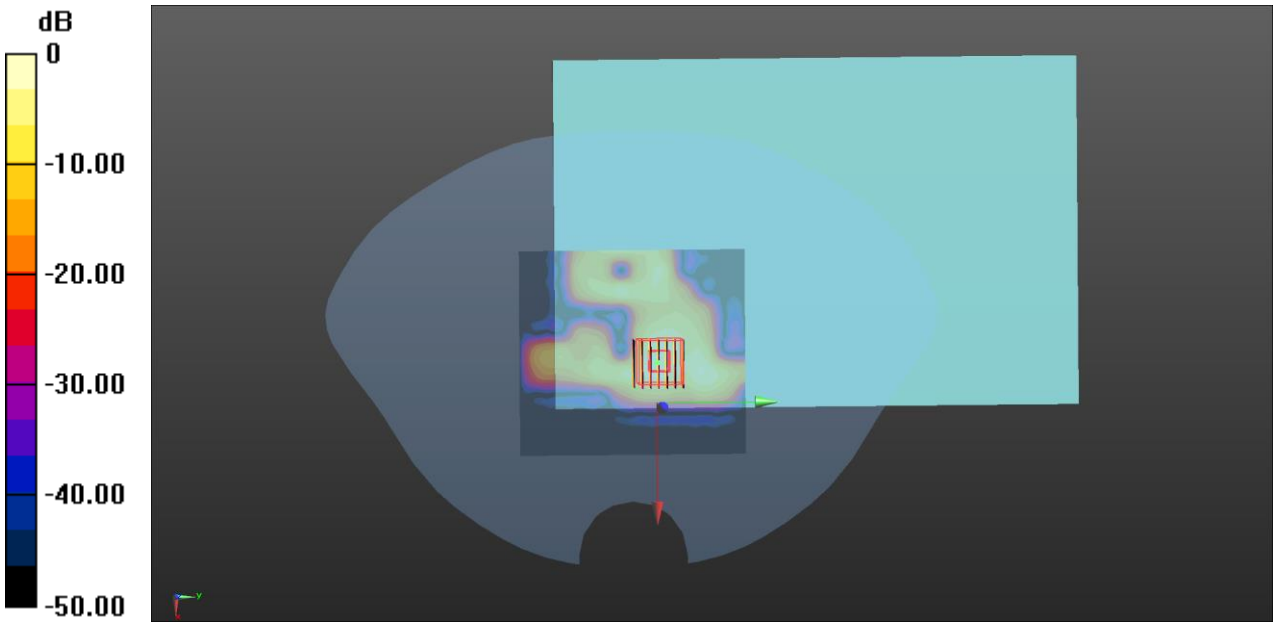
**Ch118/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.686 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 3.61 W/kg

**SAR(1 g) = 0.713 W/kg; SAR(10 g) = 0.192 W/kg**

Maximum value of SAR (measured) = 1.57 W/kg




0 dB = 1.57 W/kg

**Meas.9 Body Plane with Left Edge 0mm on 106 Channel in IEEE802.11ac80 mode with Antenna Auxiliary**

Date: 2022.11.23

Communication System Band: 5.6G; Frequency: 5530 MHz;Duty Cycle: 1:1.062

Medium parameters used (interpolated): f = 5530 MHz; $\sigma$ = 5.064 S/m; $\varepsilon_r$ = 35.832; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.1℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.81, 4.81, 4.81); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch106/Area Scan (101x151x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.67 W/kg

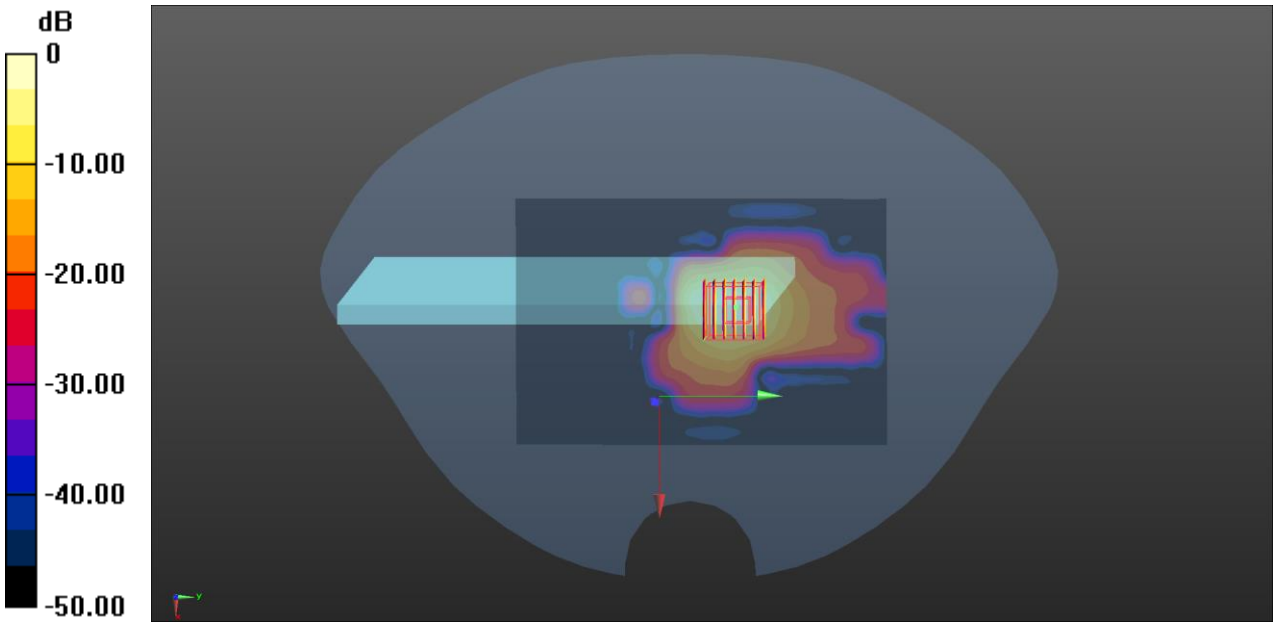
**Ch106/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 6.075 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 4.32 W/kg

**SAR(1 g) = 0.945 W/kg; SAR(10 g) = 0.278 W/kg**

Maximum value of SAR (measured) = 2.00 W/kg




0 dB = 2.00 W/kg

**Meas.10 Body Plane with Left Edge 0mm on 106 Channel in IEEE802.11ac80 mode with Antenna MIMO**

Date: 2022.11.23

Communication System Band: 5.6G; Frequency: 5530 MHz;Duty Cycle: 1:1.062

Medium parameters used (interpolated): f = 5530 MHz; $\sigma$ = 5.064 S/m; $\varepsilon_r$ = 35.832; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.1℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.81, 4.81, 4.81); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch106/Area Scan (101x151x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.795 W/kg

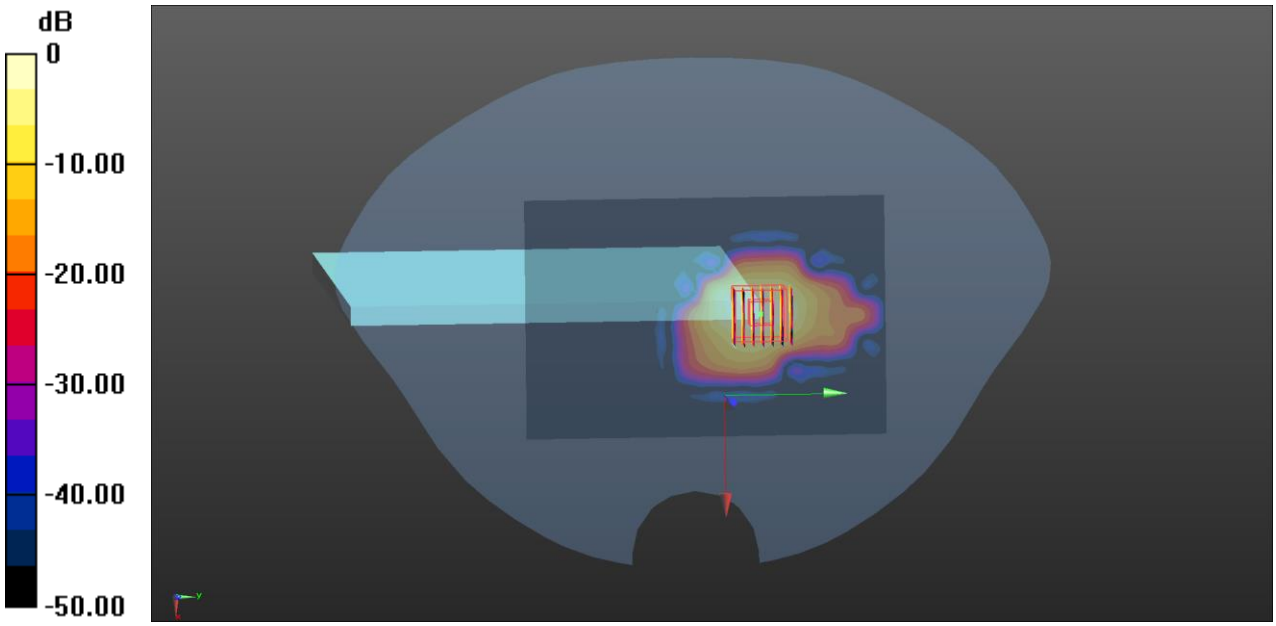
**Ch106/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.4980 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.67 W/kg

**SAR(1 g) = 0.398 W/kg; SAR(10 g) = 0.118 W/kg**

Maximum value of SAR (measured) = 0.820 W/kg




0 dB = 0.820 W/kg

**Meas.11 Body Plane with Back Side 0mm on 155 Channel in IEEE802.11ac80 mode with Antenna Main**

Date: 2022.11.24

Communication System Band: 5.8G; Frequency: 5775 MHz;Duty Cycle: 1:1.062

Medium parameters used (interpolated): f = 5775 MHz; $\sigma$ = 5.286 S/m; $\varepsilon_r$ = 35.852; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.1℃ Liquid Temperature:21.8℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.9, 4.9, 4.9); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch155/Area Scan (101x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.84 W/kg

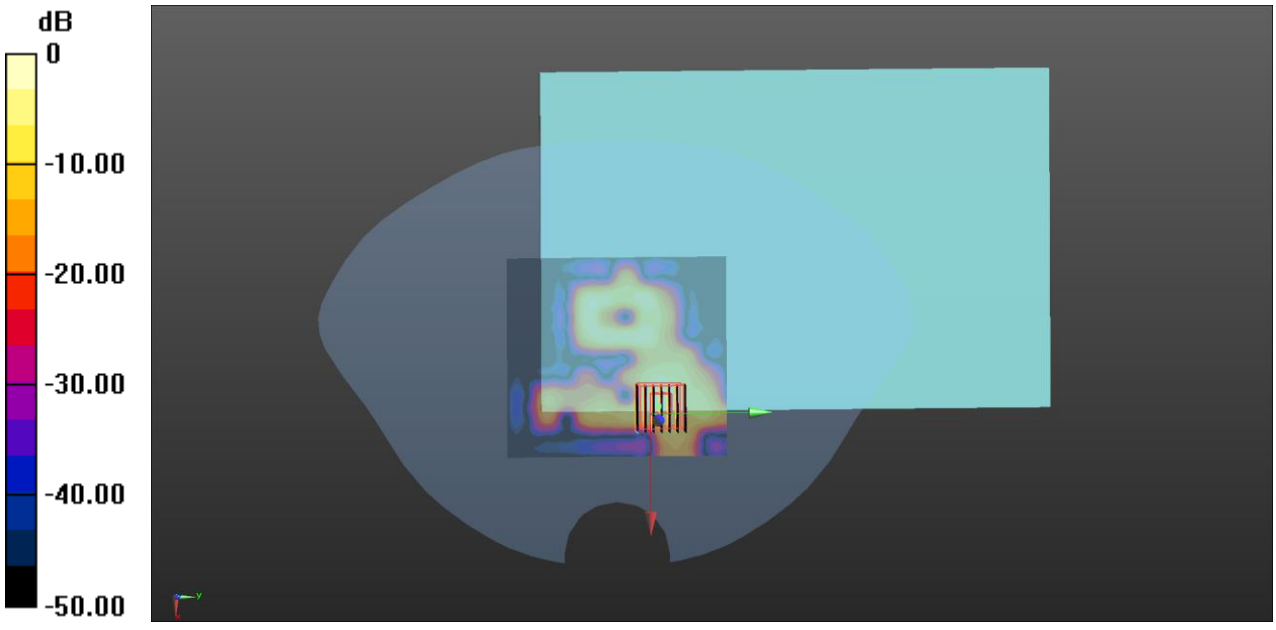
**Ch155/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.438 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.49 W/kg

**SAR(1 g) = 0.658 W/kg; SAR(10 g) = 0.164 W/kg**

Maximum value of SAR (measured) = 1.44 W/kg




0 dB = 1.44 W/kg

**Meas.12 Body Plane with Left Edge 0mm on 155 Channel in IEEE802.11ac80 mode with Antenna Auxiliary**

Date: 2022.11.24

Communication System Band: 5.8G; Frequency: 5775 MHz;Duty Cycle: 1:1.062

Medium parameters used (interpolated): f = 5775 MHz; $\sigma$ = 5.286 S/m; $\varepsilon_r$ = 35.852; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.1℃ Liquid Temperature:21.8℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.9, 4.9, 4.9); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch155/Area Scan (101x151x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.43 W/kg

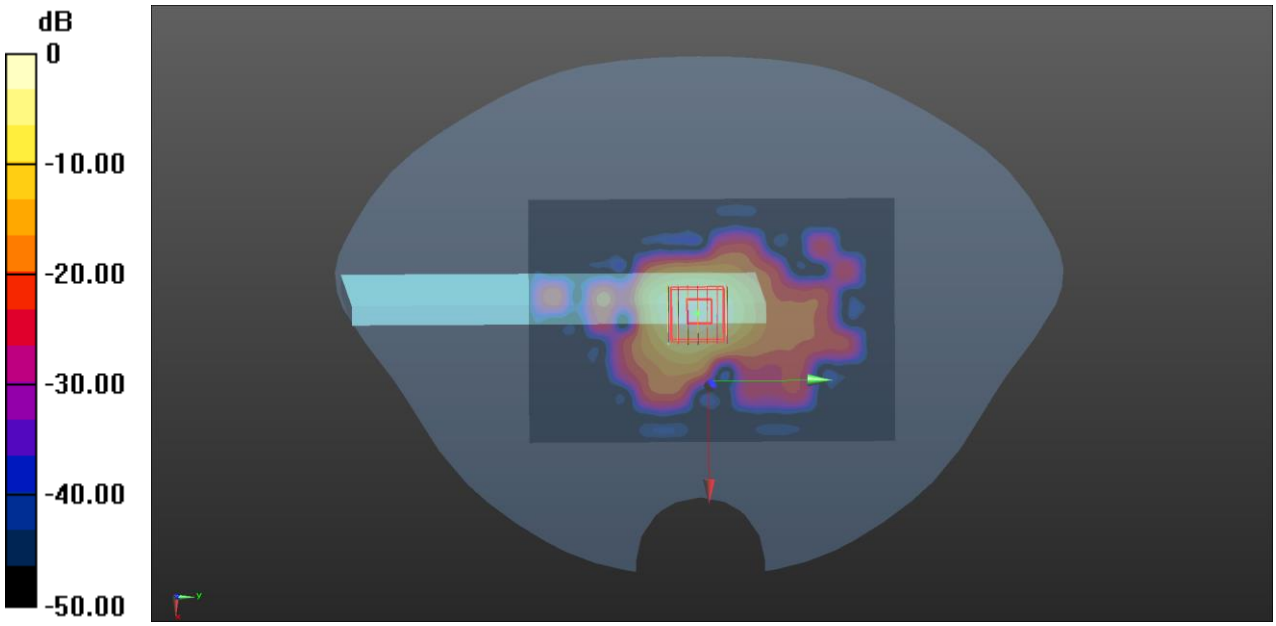
**Ch155/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 12.97 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 3.46 W/kg

**SAR(1 g) = 0.800 W/kg; SAR(10 g) = 0.238 W/kg**

Maximum value of SAR (measured) = 1.69 W/kg




0 dB = 1.69 W/kg

**Meas.13 Body Plane with Left Edge 0mm on 155 Channel in IEEE802.11ac80 mode with Antenna MIMO**

Date: 2022.11.24

Communication System Band: 5.8G; Frequency: 5775 MHz;Duty Cycle: 1:1.062

Medium parameters used (interpolated): f = 5775 MHz; $\sigma$ = 5.286 S/m; $\varepsilon_r$ = 35.852; $\rho$ = 1000 kg/m$^3$

Phantom section: Flat Section

Ambient Temperature:22.1℃ Liquid Temperature:21.8℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.9, 4.9, 4.9); Calibrated: 2021.12.29;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2022.02.01
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch155/Area Scan (101x151x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.787 W/kg

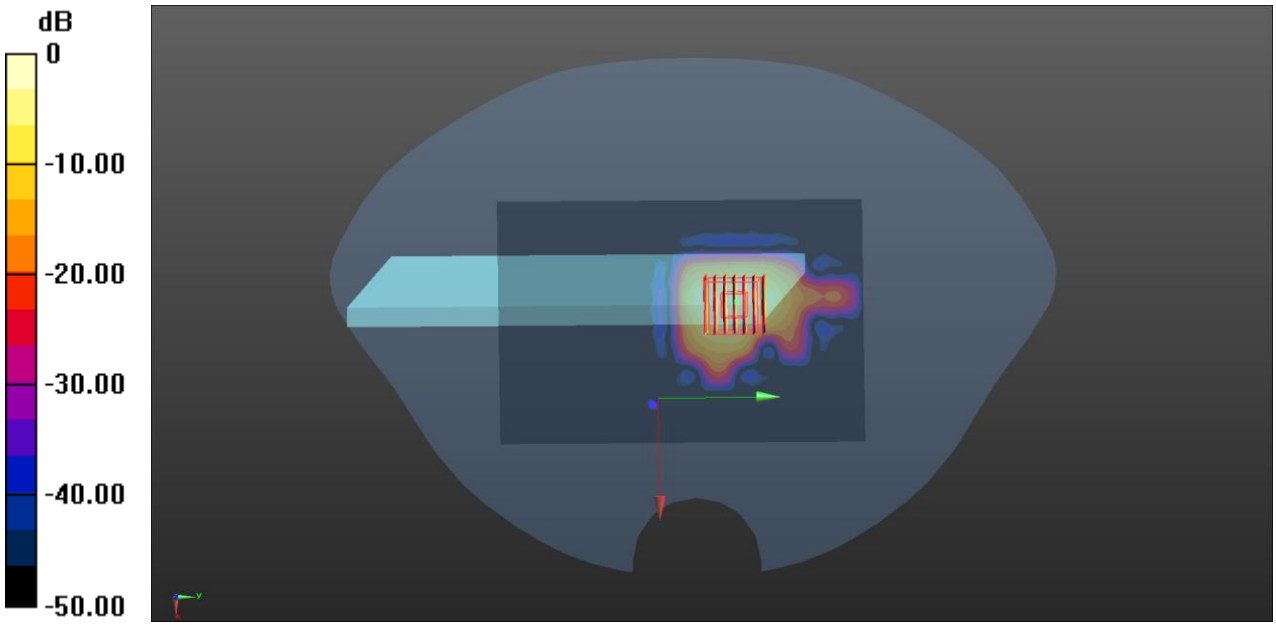
**Ch155/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.325 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.78 W/kg

**SAR(1 g) = 0.365 W/kg; SAR(10 g) = 0.104 W/kg**

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




0 dB = 0.798 W/kg

# ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ22B0401-AW.pdf”.

# ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SZ22B0401-AS.pdf”.

# ANNEX F CALIBRATION REPORT

Please refer the document “CALIBRATION REPORT.pdf”.

# ANNEX G Tune-up Procedure

Please refer the document “BL-SZ22B0401 Tune-up Procedure.pdf”.

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