

## SAR EVALUATION REPORT

For

**Shanghai Xiangcheng Communication Technology Co.,Ltd**

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**FCC ID: 2A2UU-K1133**

|                                        |                                                                                                                                                                                                                             |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report Type:</b><br>Original Report | <b>Product Name:</b><br>Mini POS Terminal                                                                                                                                                                                   |
| <b>Report Number:</b>                  | RKSA260107001-20B                                                                                                                                                                                                           |
| <b>Report Date:</b>                    | 2026-03-13                                                                                                                                                                                                                  |
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REPORT REVISION HISTORY

| Number of Revisions | Report No.        | Version | Issue Date | Description     |
|---------------------|-------------------|---------|------------|-----------------|
| 0                   | RKSA260107001-20B | R1V1    | 2026-03-13 | Initial Release |

| EUT Information        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant:             | Shanghai Xiangcheng Communication Technology Co.,Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Product Type           | Portable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Exposure Category:     | Population / Uncontrolled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Body-Worn Accessories: | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Operation Mode :       | GPRS/EGPRS<br>WCDMA<br>FDD-LTE/ TDD-LTE<br>WLAN2.4G<br>WLAN5G<br>BT/BLE<br>NFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Power Supply:          | DC 3.87V from battery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Trademark:             | KOZEN, Koblie                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Normal Operation:      | Limbs/Body Supported                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Frequency Band:        | GPRS/EGPRS 850: 824-849 MHz(TX), 869-894 MHz(RX)<br>GPRS/EGPRS 1900: 1850-1910 MHz(TX), 1930-1990 MHz(RX)<br>WCDMA Band II: 1850-1910 MHz(TX), 1930-1990 MHz(RX)<br>WCDMA Band IV: 1710-1755 MHz(TX), 2110-2155 MHz(RX)<br>WCDMA Band V: 824-849 MHz(TX), 869-894 MHz(RX)<br>LTE Band 2: 1850-1910 MHz(TX), 1930-1990 MHz(RX)<br>LTE Band 4: 1710-1755 MHz(TX), 2110-2155 MHz(RX)<br>LTE Band 5: 824-849 MHz(TX), 869-894 MHz(RX)<br>LTE Band 7: 2500-2570 MHz(TX), 2620-2690 MHz(RX)<br>LTE Band 12: 699-716 MHz(TX), 729-746 MHz(RX)<br>LTE Band 17: 704-716 MHz(TX), 734-746 MHz(RX)<br>LTE Band 38: 2570-2620 MHz(TX), 2570-2620 MHz(RX)<br>LTE Band 41: 2535-2655 MHz MHz(TX), 2535-2655 MHz MHz(RX)<br>WLAN (2.4G): 2412 -2462 MHz (TX&RX)<br>WLAN (5.2G): 5150-5250MHz(TX&RX)<br>WLAN (5.8G) : 5725-5850 MHz(TX&RX)<br>BT: 2402 MHz-2480 MHz(TX&RX)<br>BLE(1Mbps): 2402 MHz-2480 MHz(TX&RX)<br>BLE(2Mbps): 2402 MHz-2480 MHz(TX&RX)<br>NFC:13.56MHz |
| Tested Model:          | K1133                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Dimensions (L×W×H):    | 92 × 83 × 16 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Product name:          | Mini POS Terminal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Serial Number:         | RKSA260107001-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Test Date:             | 2026-03-01~2026-03-05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| MODE                                                                                                                                                                                                                                                                                                                                                                                                                                     | Max. SAR Level(s) Reported(W/kg)                                                    | Limit                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|
| GSM850                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.63 W/kg 10g Limbs SAR<br>1.13 W/kg 1g Body SAR                                    | 1.6 W/kg(Body)<br>4.0 W/kg(Limbs) |
| PCS1900                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.68 W/kg 10g Limbs SAR<br>0.65 W/kg 1g Body SAR                                    |                                   |
| WCDMA Band II                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.38 W/kg 10g Limbs SAR<br>0.43 W/kg 1g Body SAR                                    |                                   |
| WCDMA Band IV                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.26 W/kg 10g Limbs SAR<br>0.35 W/kg 1g Body SAR                                    |                                   |
| WCDMA Band V                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.31 W/kg 10g Limbs SAR<br>0.20 W/kg 1g Body SAR                                    |                                   |
| LTE Band 2                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.40 W/kg 10g Limbs SAR<br>0.50 W/kg 1g Body SAR                                    |                                   |
| LTE Band 4                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.41 W/kg 10g Limbs SAR<br>0.44 W/kg 1g Body SAR                                    |                                   |
| LTE Band 5                                                                                                                                                                                                                                                                                                                                                                                                                               | 0.60 W/kg 10g Limbs SAR<br>0.38 W/kg 1g Body SAR                                    |                                   |
| LTE Band 7                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.61 W/kg 10g Limbs SAR<br>0.57 W/kg 1g Body SAR                                    |                                   |
| LTE Band 12&17                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.68 W/kg 10g Limbs SAR<br>0.29 W/kg 1g Body SAR                                    |                                   |
| LTE Band 41&38                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.26 W/kg 10g Limbs SAR<br>0.56 W/kg 1g Body SAR                                    |                                   |
| 2.4GHz WLAN                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.87 W/kg 10g Limbs SAR<br>0.23 W/kg 1g Body SAR                                    |                                   |
| 5.2GHz WLAN                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.29 W/kg 10g Limbs SAR<br>0.15 W/kg 1g Body SAR                                    |                                   |
| 5.8GHz WLAN                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.28 W/kg 10g Limbs SAR<br>0.11 W/kg 1g Body SAR                                    |                                   |
| Simultaneous                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.55 W/kg 10g Limbs SAR<br>1.36 W/kg 1g Body SAR<br>1.36 W/kg 1g Body SAR (Hotspot) |                                   |
| Applicable Standards                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                     |                                   |
| FCC 47 CFR part 2.1093<br>Radiofrequency radiation exposure evaluation: portable devices                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |                                   |
| ▲ RF Exposure Procedures: TCB Workshop April 2019                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                     |                                   |
| IEEE 1528:2013<br>IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques                                                                                                                                                                                                                                       |                                                                                     |                                   |
| KDB procedures<br>KDB 447498 D01 General RF Exposure Guidance v06<br>KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04<br>KDB 865664 D02 RF Exposure Reporting v01r02<br>KDB 941225 D01 3G SAR Procedures v03r01<br>KDB 941225 D05 SAR for LTE Devices v02r05<br>KDB 248227 D01 802.11 Wi-Fi SAR v02r02                                                                                                                             |                                                                                     |                                   |
| Note: This wireless device has been shown to be capable of compliance for localized specific absorption rate (SAR) for General Population/Uncontrolled Exposure limits specified in FCC 47 CFR part 2.1093 and has been tested in accordance with the measurement procedures specified in IEEE 1528-2013 and RF exposure KDB procedures.<br>The results and statements contained in this report pertain only to the device(s) evaluated. |                                                                                     |                                   |

*All measurement and test data in this report was gathered from production sample serial number: RKSA260107001-2  
(Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2026-01-07.)*

## REFERENCE, STANDARDS, AND GUIDELINES

### FCC:

The Report and Order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g as recommended by the ANSI/IEEE standard C95.1-1992 [6] for an uncontrolled environment (Paragraph 65). According to the Supplement C of OET Bulletin 65 "Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under "worst-case" conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in North America is 1.6 mW/g average over 1 gram of tissue mass.

### SAR Limits

#### FCC Limit

| EXPOSURE LIMITS                                                  | SAR (W/kg)                                                     |                                                        |
|------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------|
|                                                                  | (General Population /<br>Uncontrolled Exposure<br>Environment) | (Occupational /<br>Controlled Exposure<br>Environment) |
| Spatial Average<br>(averaged over the whole body)                | 0.08                                                           | 0.4                                                    |
| Spatial Peak<br>(averaged over any 1 g of tissue)                | 1.60                                                           | 8.0                                                    |
| Spatial Peak<br>(hands/wrists/feet/ankles<br>averaged over 10 g) | 4.0                                                            | 20.0                                                   |

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

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

General Population/Uncontrolled environments Spatial Peak limit 1.6W/kg for 1g Body SAR and 4.0 W/kg for 10g Extremity SAR applied to the EUT.

## **FACILITIES**

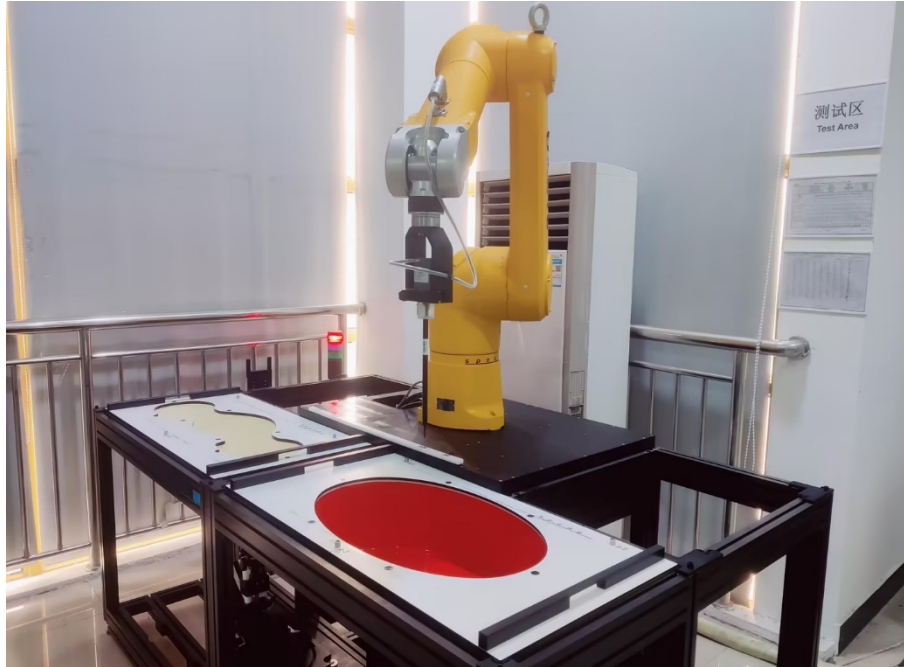
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The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) is accredited in accordance with ISO/IEC 17025:2017 by NVLAP (Lab code: 600338-0), and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN5055.

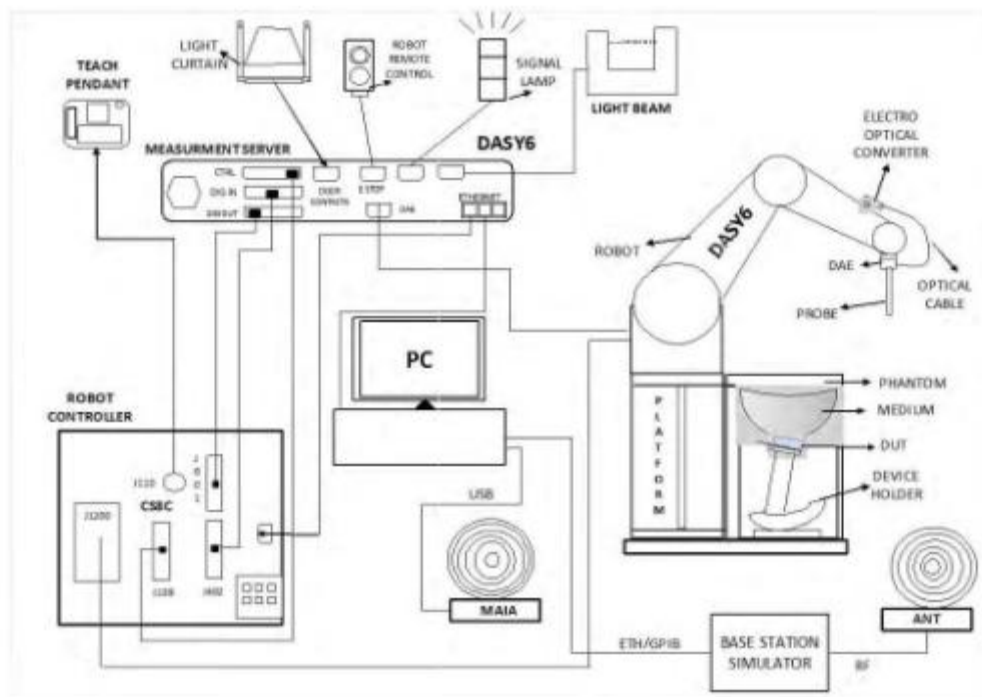
## DESCRIPTION OF TEST SYSTEM

These measurements were performed with the automated near-field scanning system DASY6 from Schmid & Partner Engineering AG (SPEAG) which is the Fifth generation of the system shown in the figure hereinafter:



### DASY6 System Description

The DASY6 system for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot (Staubli TX=RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal application, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 professional operating system and the DASY52 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

### DASY6 Measurement Server

The DASY6 measurement server is based on a PC/104 CPU board with a 400 MHz Intel ULV Celeron, 128 MB chip-disk and 128 MB RAM. The necessary circuits for communication with the DAE4 (or DAE3) electronics box, as well as the 16-bit AD converter system for optical detection and digital I/O interface are contained on the DASY6 I/O board, which is directly connected to the PC/104 bus of the CPU board.



The measurement server performs all real-time data evaluations of field measurements and surface detection, controls robot movements, and handles safety operations. The PC operating system cannot interfere with these time-critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program- controlled robot movements. Furthermore, the measurement server is equipped with an expansion port, which is reserved for future applications. Please note that this expansion port does not have a standardized pinout, and therefore only devices provided by SPEAG can be connected. Connection of devices from any other supplier could seriously damage the measurement server.

### Data Acquisition Electronics

The data acquisition electronics (DAE4) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter 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.

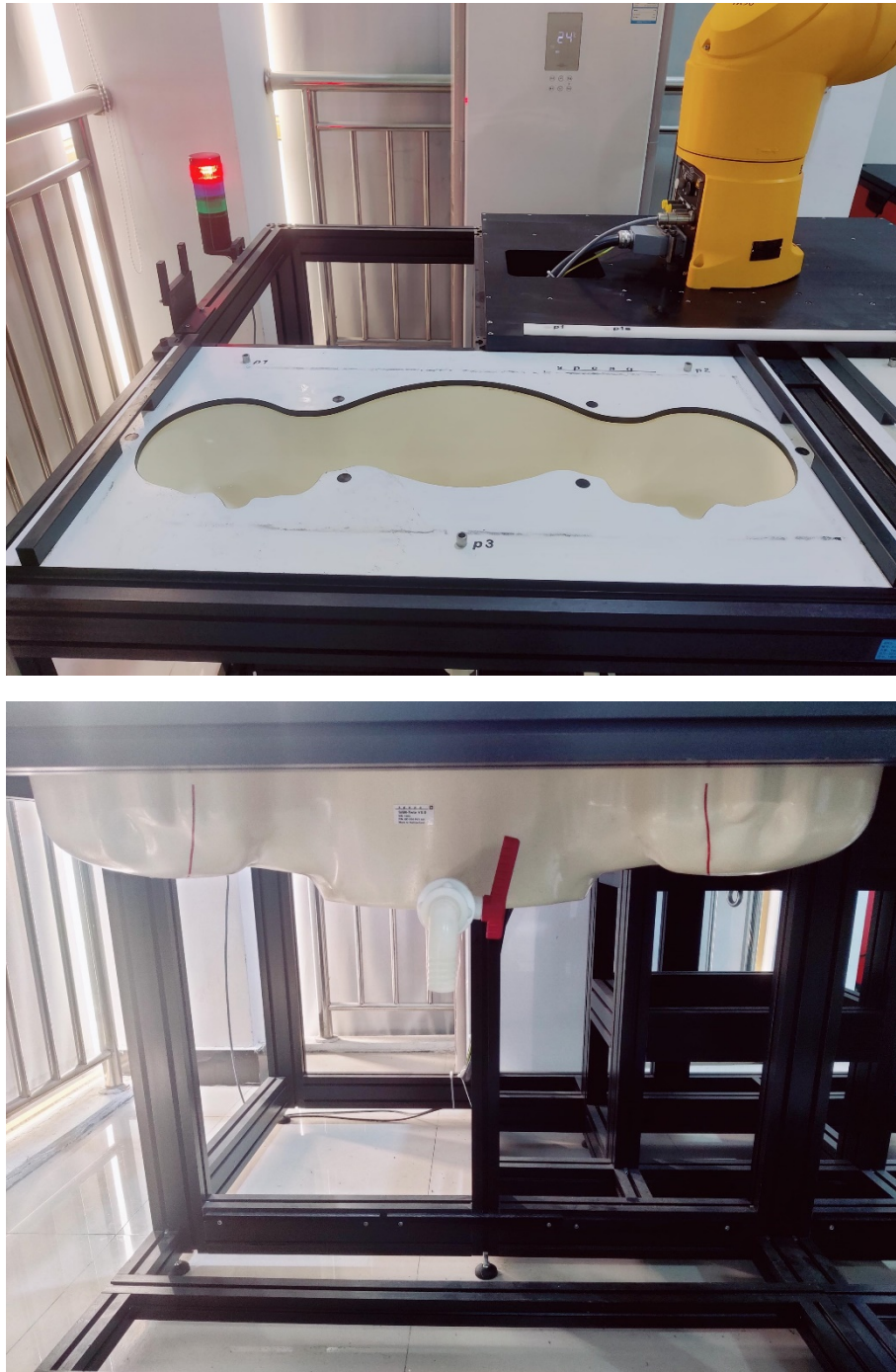
The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

The input impedance of both the DAE4 as well as of the DAE3 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

### EX3DV4 E-Field Probes

|                      |                                                                                                                                                                                                               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Frequency</b>     | 10 MHz to > 6 GHz<br>Linearity: $\pm 0.2$ dB (30 MHz to 6 GHz)                                                                                                                                                |
| <b>Directivity</b>   | $\pm 0.3$ dB in TSL (rotation around probe axis)<br>$\pm 0.5$ dB in TSL (rotation normal to probe axis)                                                                                                       |
| <b>Dynamic Range</b> | 10 $\mu$ W/g to > 100 mW/g<br>Linearity: $\pm 0.2$ dB (noise: typically < 1 $\mu$ W/g)                                                                                                                        |
| <b>Dimensions</b>    | Overall length: 337 mm (Tip: 9 mm)<br>Tip diameter: 2.5 mm (Body: 10 mm)<br>Typical distance from probe tip to dipole centers: 1 mm                                                                           |
| <b>Application</b>   | High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%. |
| <b>Compatibility</b> | DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI                                                                                                                                                                |

### SAM Twin Phantom



The SAM Twin Phantom (shown in front of DASY6) is a fiberglass shell phantom with shell thickness 2 mm, except in the ear region where the thickness is increased to 6 mm. The phantom has three measurement areas: 1) Left Head, 2) Right Head, and 3) Flat Section. For larger devices, the use of the ELI-Phantom (shown behind DASY6) is required. For devices such as glasses with a wireless link, the Face Down Phantom is the most suitable (between the SAM Twin and ELI phantoms). When the phantom is mounted inside allocated slot of the DASY6 platform, phantom reference points can be taught directly in the DASY5 V5.2 software. When the DASY6 platform is used to mount the Phantom, some of the phantom teaching points cannot be reached by the robot in DASY5 V5.2. A special tool called P1a-P2aX-Former is provided to transform two of the three points, P1 and P2, to reachable locations. To use these new teaching points, a revised phantom configuration file is required.

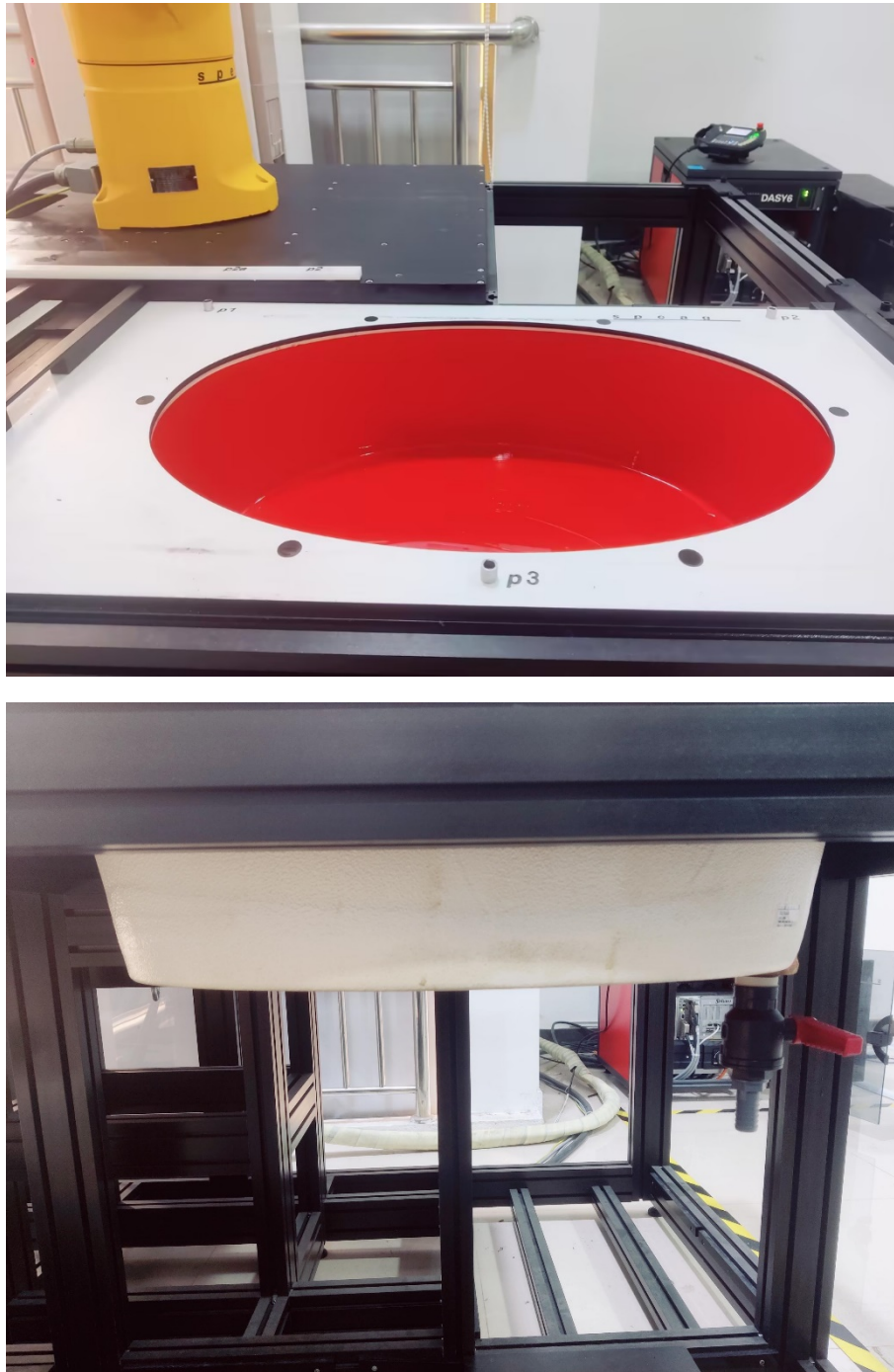
In addition to our standard broadband liquids, the phantom can be used with the following tissue simulating liquids:

Sugar-water-based liquids can be left permanently in the phantom. Always cover the liquid when the system is not in use to prevent changes in liquid parameters due to water evaporation.

DGBE-based liquids should be used with care. As DGBE is a softener for most plastics, the liquid should be taken out of the phantom, and the phantom should be dried when the system is not in use (desirable at least once a week).

Do not use other organic solvents without previously testing the solvent resistivity of the phantom.

Approximately 25 liters of liquid is required to fill the SAM Twin phantom.

**ELI Phantom**

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30MHz to 6 GHz. ELI is fully compatible with the latest draft of the standard IEEE 1528:2013 and the use of all known tissue simulating liquids. ELI has been optimized for performance and can be integrated into a SPEAG standard phantom table. A cover is provided to prevent evaporation of water and changes in liquid parameters. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points.

The phantom can be used with the following tissue simulating liquids:

- Sugar-water-based liquids can be left permanently in the phantom. Always cover the liquid when the system is not in use to prevent changes in liquid parameters due to water evaporation.
- DGBE-based liquids should be used with care. As DGBE is a softener for most plastics, the liquid should be taken out of the phantom, and the phantom should be dried when the system is not in use (desirable at least once a week).
- Do not use other organic solvents without previously testing the solvent resistivity of the phantom.

Approximately 25 liters of liquid is required to fill the ELI phantom.

## Robots

The DASY6 system uses the high-precision industrial robots TX60L, TX90XL, and RX160L from Staubli SA (France). The TX robot family - the successor of the well-known RX robot family - continues to offer the features important for DASY6 applications:

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

The robots are controlled by the Staubli CS8c robot controllers. All information regarding the use and maintenance of the robot arm and the robot controller is provided

## Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 15mm 2 step integral, with 1.5mm interpolation used to locate the peak SAR area used for zoom scan assessments.

Where the system identifies multiple SAR peaks (which are within 25% of peak value) the system will provide the user with the option of assessing each peak location individually for zoom scan averaging.

## Zoom Scan (Cube Scan Averaging)

The averaging zoom scan volume utilized in the DASY5 software is in the shape of a cube and the side dimension of a 1 g or 10 g mass is dependent on the density of the liquid representing the simulated tissue. A density of 1000 kg/m<sup>3</sup> is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1g cube is 10mm, with the side length of the 10g cube is 21.5mm.

When the cube intersects with the surface of the phantom, it is oriented so that 3 vertices touch the surface of the shell or the center of a face is tangent to the surface. The face of the cube closest to the surface is modified in order to conform to the tangent surface.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 7 x 7 x 7 (5mmx5mmx5mm) providing a volume of 30 mm in the X & Y & Z axis.

## Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE 1528:2013

### Recommended Tissue Dielectric Parameters for Head liquid

**Table 2 – Dielectric properties of the tissue-equivalent medium**

| Frequency<br>MHz | Real part of the<br>complex relative<br>permittivity, $\epsilon_r'$ | Conductivity, $\sigma$<br>S/m | Penetration depth<br>(E-field), $\delta$<br>mm |
|------------------|---------------------------------------------------------------------|-------------------------------|------------------------------------------------|
| 4                | 55,0                                                                | 0,75                          | 293,0                                          |
| 13               | 55,0                                                                | 0,75                          | 165,5                                          |
| 30               | 55,0                                                                | 0,75                          | 112,8                                          |
| 150              | 52,3                                                                | 0,76                          | 62,0                                           |
| 300              | 45,3                                                                | 0,87                          | 46,1                                           |
| 450              | 43,5                                                                | 0,87                          | 43,0                                           |
| 750              | 41,9                                                                | 0,89                          | 39,8                                           |
| 835              | 41,5                                                                | 0,90                          | 39,0                                           |
| 900              | 41,5                                                                | 0,97                          | 36,2                                           |
| 1 450            | 40,5                                                                | 1,20                          | 28,6                                           |
| 1 800            | 40,0                                                                | 1,40                          | 24,3                                           |
| 1 900            | 40,0                                                                | 1,40                          | 24,3                                           |
| 1 950            | 40,0                                                                | 1,40                          | 24,3                                           |
| 2 000            | 40,0                                                                | 1,40                          | 24,3                                           |
| 2 100            | 39,8                                                                | 1,49                          | 22,8                                           |
| 2 450            | 39,2                                                                | 1,80                          | 18,7                                           |
| 2 600            | 39,0                                                                | 1,96                          | 17,2                                           |
| 3 000            | 38,5                                                                | 2,40                          | 14,0                                           |
| 3 500            | 37,9                                                                | 2,91                          | 11,4                                           |
| 4 000            | 37,4                                                                | 3,43                          | 10,0                                           |
| 4 500            | 36,8                                                                | 3,94                          | 9,7                                            |

| Frequency<br>MHz | Real part of the<br>complex relative<br>permittivity, $\varepsilon'_r$ | Conductivity, $\sigma$<br>S/m | Penetration depth<br>(E-field), $\delta$<br>mm |
|------------------|------------------------------------------------------------------------|-------------------------------|------------------------------------------------|
| <i>5 000</i>     | 36,2                                                                   | 4,45                          | 1,5                                            |
| <i>5 200</i>     | 36,0                                                                   | 4,66                          | 8,4                                            |
| <i>5 400</i>     | 35,8                                                                   | 4,86                          | 8,1                                            |
| <i>5 600</i>     | 35,5                                                                   | 5,07                          | 7,5                                            |
| <i>5 800</i>     | 35,3                                                                   | 5,27                          | 7,3                                            |
| <i>6 000</i>     | 35,1                                                                   | 5,48                          | 7,0                                            |
| <i>6 500</i>     | 34,5                                                                   | 6,07                          | 6,7                                            |
| <i>7 000</i>     | 33,9                                                                   | 6,65                          | 6,4                                            |
| <i>7 500</i>     | 33,3                                                                   | 7,24                          | 6,1                                            |
| <i>8 000</i>     | 32,7                                                                   | 7,84                          | 5,9                                            |
| <i>8 500</i>     | 32,1                                                                   | 8,46                          | 5,3                                            |
| <i>9 000</i>     | 31,6                                                                   | 9,08                          | 4,8                                            |
| <i>9 500</i>     | 31,0                                                                   | 9,71                          | 4,4                                            |
| <i>10 000</i>    | 30,4                                                                   | 10,40                         | 4,0                                            |

NOTE For convenience, permittivity and conductivity values are linearly interpolated for frequencies that are not a part of the original data from Drossos et al. [2]. They are shown in italics in Table 2. The italicized values are linearly interpolated (below 5800 MHz) or extrapolated (above 5800 MHz) from the non-italicized values that are immediately above and below these values.

**EQUIPMENT LIST AND CALIBRATION****Equipments List & Calibration Information**

| Equipment                    | Model               | S/N           | Calibration Date | Calibration Due Date |
|------------------------------|---------------------|---------------|------------------|----------------------|
| DASY5 Test Software          | DASY52 52.10.4.1535 | N/A           | N/A              | N/A                  |
| DASY6 Measurement Server     | DASY6 6.0.31        | N/A           | N/A              | N/A                  |
| Data Acquisition Electronics | DAE4                | 527           | 2025/05/16       | 2026/05/15           |
| E-Field Probe                | EX3DV4              | 7557          | 2025/05/16       | 2026/05/15           |
| Mounting Device              | MD4HHTV5            | SD 000 H01 KA | N/A              | N/A                  |
| Twin-SAM Phantom             | QD 000 P41 Ax       | 1963          | N/A              | N/A                  |
| Dipole, 750MHz               | D750V3              | 1166          | 2024/06/17       | 2027/06/16           |
| Dipole, 835MHz               | D835V2              | 445           | 2025/06/10       | 2028/06/09           |
| Dipole,1750MHz               | D1750V2             | 1140          | 2024/06/17       | 2027/06/16           |
| Dipole,1900MHz               | D1900V2             | 5d206         | 2024/06/15       | 2027/06/14           |
| Dipole,2450MHz               | D2450V2             | 970           | 2024/06/15       | 2027/06/14           |
| Dipole,2600MHz               | D2600V2             | 1162          | 2025/06/11       | 2028/06/10           |
| Dipole,5GHz                  | D5GHzV2             | 1296          | 2025/06/10       | 2028/06/09           |
| Simulated Tissue LiquidHead  | HBBL600-6000V6      | 180611-3      | Each Time        |                      |
| Network Analyzer             | E5071B              | SG42400155    | 2025/04/08       | 2026/04/07           |
| Dielectric Assessment Kit    | DAK-3.5             | SM DAK 300AB  | N/A              | N/A                  |
| Signal Generator             | SMBV100A            | 261558        | 2025/04/08       | 2026/04/07           |
| Power Amplifier              | ZHL-5W-202-S+       | 416402204     | N/A              | N/A                  |
| Power Amplifier              | ZVE-8G+             | 558401902     | N/A              | N/A                  |
| Directional Coupler          | 4242-10             | 3307          | N/A              | N/A                  |
| Attenuator                   | 3dB                 | 5402          | N/A              | N/A                  |
| Attenuator                   | 10dB                | AU 3842       | N/A              | N/A                  |
| Radio Communication Analyzer | MT8820C             | 6200930956    | 2025/04/08       | 2026/04/07           |
| Hygrothermograph             | HD-7W               | 202408A000201 | 2025/04/11       | 2026/04/10           |
| Thermometer                  | UL-IL01             | N/A           | 2025/04/08       | 2026/04/07           |
| Power Meter                  | E4419B              | MY41291878    | 2025/04/08       | 2026/04/07           |
| Power Meter                  | E4419B              | GB43312421    | 2025/04/08       | 2026/04/07           |
| Spectrum Analyzer            | FSU26               | 200103        | 2025/04/09       | 2026/04/08           |

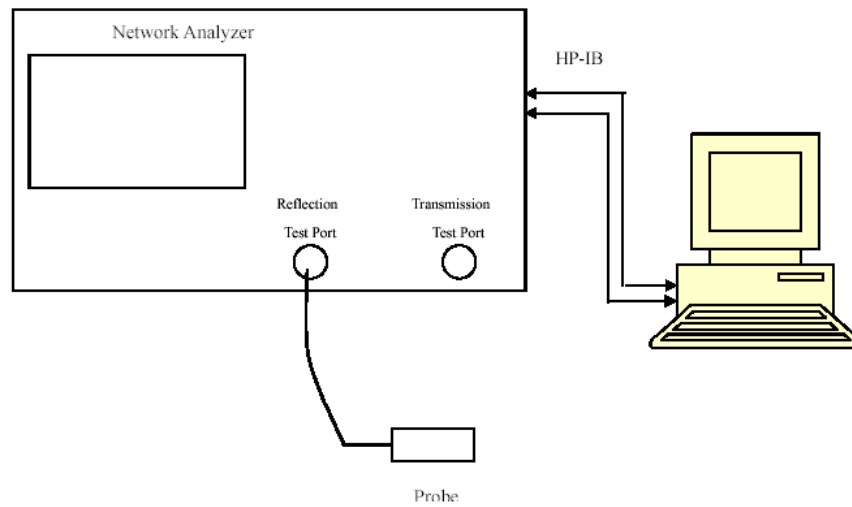
**The Dipole calibration methods and procedures used were as detailed in:**

FCC KDB Publication Number: “KDB865664 D01 SAR Measurement 100 MHz to 6 GHz”

1. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20 dB minimum return-loss requirement.
2. The measurement of real or imaginary parts of impedance does not deviate more than  $5\Omega$  from the previous measurement.

## SAR MEASUREMENT SYSTEM VERIFICATION

### Liquid Verification



Liquid Verification Setup Block Diagram

**Liquid Verification Results**

| Frequency<br>(MHz) | Liquid<br>Type                     | Liquid<br>Parameter |              | Target Value      |              | Delta<br>(%)    |                     | Tolerance<br>(%) |
|--------------------|------------------------------------|---------------------|--------------|-------------------|--------------|-----------------|---------------------|------------------|
|                    |                                    | $\sigma$<br>(S/m)   | $\epsilon_r$ | $\sigma$<br>(S/m) | $\epsilon_r$ | $\Delta \sigma$ | $\Delta \epsilon_r$ |                  |
| 750                | Simulated<br>Tissue Liquid<br>Head | 0.914               | 43.036       | 0.890             | 41.900       | 2.70            | 2.71                | $\pm 5$          |
| 707.5              | Simulated<br>Tissue Liquid<br>Head | 0.873               | 43.660       | 0.887             | 42.112       | -1.58           | 3.68                | $\pm 5$          |
| 704                | Simulated<br>Tissue Liquid<br>Head | 0.869               | 43.708       | 0.887             | 42.133       | -2.03           | 3.74                | $\pm 5$          |
| 711                | Simulated<br>Tissue Liquid<br>Head | 0.876               | 43.611       | 0.887             | 42.097       | -1.24           | 3.60                | $\pm 5$          |

*Liquid Verification above was performed on 2026/03/01.*

| Frequency<br>(MHz) | Liquid<br>Type                     | Liquid<br>Parameter |              | Target Value      |              | Delta<br>(%)    |                     | Tolerance<br>(%) |
|--------------------|------------------------------------|---------------------|--------------|-------------------|--------------|-----------------|---------------------|------------------|
|                    |                                    | $\sigma$<br>(S/m)   | $\epsilon_r$ | $\sigma$<br>(S/m) | $\epsilon_r$ | $\Delta \sigma$ | $\Delta \epsilon_r$ |                  |
| 835                | Simulated<br>Tissue Liquid<br>Head | 0.912               | 42.155       | 0.900             | 41.500       | 1.33            | 1.58                | $\pm 5$          |
| 836.6              | Simulated<br>Tissue Liquid<br>Head | 0.914               | 42.120       | 0.901             | 41.500       | 1.44            | 1.49                | $\pm 5$          |
| 824.2              | Simulated<br>Tissue Liquid<br>Head | 0.902               | 42.293       | 0.898             | 41.512       | 0.45            | 1.88                | $\pm 5$          |
| 848.8              | Simulated<br>Tissue Liquid<br>Head | 0.926               | 41.961       | 0.909             | 41.500       | 1.87            | 1.11                | $\pm 5$          |
| 826.4              | Simulated<br>Tissue Liquid<br>Head | 0.904               | 42.267       | 0.898             | 41.508       | 0.67            | 1.83                | $\pm 5$          |
| 846.6              | Simulated<br>Tissue Liquid<br>Head | 0.924               | 41.983       | 0.907             | 41.500       | 1.87            | 1.16                | $\pm 5$          |
| 836.5              | Simulated<br>Tissue Liquid<br>Head | 0.914               | 42.130       | 0.901             | 41.500       | 1.44            | 1.52                | $\pm 5$          |
| 829                | Simulated<br>Tissue Liquid<br>Head | 0.906               | 42.236       | 0.899             | 41.504       | 0.78            | 1.76                | $\pm 5$          |
| 844                | Simulated<br>Tissue Liquid<br>Head | 0.921               | 42.028       | 0.904             | 41.500       | 1.88            | 1.27                | $\pm 5$          |

Liquid Verification above was performed on 2026/03/02.

| Frequency<br>(MHz) | Liquid<br>Type                     | Liquid<br>Parameter |              | Target Value      |              | Delta<br>(%)    |                     | Tolerance<br>(%) |
|--------------------|------------------------------------|---------------------|--------------|-------------------|--------------|-----------------|---------------------|------------------|
|                    |                                    | $\sigma$<br>(S/m)   | $\epsilon_r$ | $\sigma$<br>(S/m) | $\epsilon_r$ | $\Delta \sigma$ | $\Delta \epsilon_r$ |                  |
| 1750               | Simulated<br>Tissue<br>Liquid Head | 1.346               | 41.759       | 1.370             | 40.100       | -1.75           | 4.14                | $\pm 5$          |
| 1732.6             | Simulated<br>Tissue<br>Liquid Head | 1.329               | 41.827       | 1.377             | 40.065       | -3.49           | 4.40                | $\pm 5$          |
| 1712.4             | Simulated<br>Tissue<br>Liquid Head | 1.309               | 41.919       | 1.364             | 40.104       | -4.03           | 4.53                | $\pm 5$          |
| 1752.6             | Simulated<br>Tissue<br>Liquid Head | 1.349               | 41.753       | 1.388             | 40.034       | -2.81           | 4.29                | $\pm 5$          |
| 1732.5             | Simulated<br>Tissue<br>Liquid Head | 1.329               | 41.827       | 1.377             | 40.065       | -3.49           | 4.40                | $\pm 5$          |
| 1720               | Simulated<br>Tissue<br>Liquid Head | 1.316               | 41.880       | 1.369             | 40.089       | -3.87           | 4.47                | $\pm 5$          |
| 1745               | Simulated<br>Tissue<br>Liquid Head | 1.341               | 41.782       | 1.384             | 40.046       | -3.11           | 4.34                | $\pm 5$          |

*Liquid Verification above was performed on 2026/03/01.*

| Frequency<br>(MHz) | Liquid<br>Type                     | Liquid<br>Parameter |              | Target Value      |              | Delta<br>(%)    |                     | Tolerance<br>(%) |
|--------------------|------------------------------------|---------------------|--------------|-------------------|--------------|-----------------|---------------------|------------------|
|                    |                                    | $\sigma$<br>(S/m)   | $\epsilon_r$ | $\sigma$<br>(S/m) | $\epsilon_r$ | $\Delta \sigma$ | $\Delta \epsilon_r$ |                  |
| 1900               | Simulated<br>Tissue<br>Liquid Head | 1.436               | 41.016       | 1.400             | 40.000       | 2.57            | 2.54                | $\pm 5$          |
| 1880               | Simulated<br>Tissue<br>Liquid Head | 1.415               | 41.129       | 1.400             | 40.000       | 1.07            | 2.82                | $\pm 5$          |
| 1850.2             | Simulated<br>Tissue<br>Liquid Head | 1.382               | 41.252       | 1.400             | 40.000       | -1.29           | 3.13                | $\pm 5$          |
| 1909.8             | Simulated<br>Tissue<br>Liquid Head | 1.448               | 40.962       | 1.400             | 40.000       | 3.43            | 2.41                | $\pm 5$          |
| 1852.4             | Simulated<br>Tissue<br>Liquid Head | 1.385               | 41.243       | 1.400             | 40.000       | -1.07           | 3.11                | $\pm 5$          |
| 1907.6             | Simulated<br>Tissue<br>Liquid Head | 1.446               | 40.975       | 1.400             | 40.000       | 3.29            | 2.44                | $\pm 5$          |
| 1860               | Simulated<br>Tissue<br>Liquid Head | 1.393               | 41.215       | 1.400             | 40.000       | -0.50           | 3.04                | $\pm 5$          |

Liquid Verification above was performed on 2026/03/03.

| Frequency<br>(MHz) | Liquid<br>Type                     | Liquid<br>Parameter |              | Target Value      |              | Delta<br>(%)    |                     | Tolerance<br>(%) |
|--------------------|------------------------------------|---------------------|--------------|-------------------|--------------|-----------------|---------------------|------------------|
|                    |                                    | $\sigma$<br>(S/m)   | $\epsilon_r$ | $\sigma$<br>(S/m) | $\epsilon_r$ | $\Delta \sigma$ | $\Delta \epsilon_r$ |                  |
| 2450               | Simulated<br>Tissue Liquid<br>Head | 1.857               | 38.329       | 1.800             | 39.200       | 3.17            | -2.22               | $\pm 5$          |
| 2437               | Simulated<br>Tissue Liquid<br>Head | 1.848               | 38.525       | 1.788             | 39.219       | 3.36            | -1.77               | $\pm 5$          |
| 2412               | Simulated<br>Tissue Liquid<br>Head | 1.819               | 38.628       | 1.765             | 39.256       | 3.06            | -1.60               | $\pm 5$          |
| 2462               | Simulated<br>Tissue Liquid<br>Head | 1.876               | 38.419       | 1.812             | 39.183       | 3.53            | -1.95               | $\pm 5$          |

Liquid Verification above was performed on 2026/03/04.

| Frequency<br>(MHz) | Liquid<br>Type                     | Liquid<br>Parameter |              | Target Value      |              | Delta<br>(%)    |                     | Tolera<br>nce<br>(%) |
|--------------------|------------------------------------|---------------------|--------------|-------------------|--------------|-----------------|---------------------|----------------------|
|                    |                                    | $\sigma$<br>(S/m)   | $\epsilon_r$ | $\sigma$<br>(S/m) | $\epsilon_r$ | $\Delta \sigma$ | $\Delta \epsilon_r$ |                      |
| 2600               | Simulated<br>Tissue<br>Liquid Head | 2.027               | 38.679       | 1.960             | 39.000       | 3.42            | -0.82               | $\pm 5$              |
| 2535               | Simulated<br>Tissue<br>Liquid Head | 1.955               | 38.904       | 1.888             | 39.084       | 3.55            | -0.46               | $\pm 5$              |
| 2510               | Simulated<br>Tissue<br>Liquid Head | 1.923               | 38.979       | 1.861             | 39.117       | 3.33            | -0.35               | $\pm 5$              |
| 2560               | Simulated<br>Tissue<br>Liquid Head | 1.986               | 38.849       | 1.916             | 39.051       | 3.65            | -0.52               | $\pm 5$              |
| 2595               | Simulated<br>Tissue<br>Liquid Head | 2.021               | 38.704       | 1.955             | 39.006       | 3.38            | -0.77               | $\pm 5$              |
| 2545               | Simulated<br>Tissue<br>Liquid Head | 1.968               | 38.883       | 1.899             | 39.071       | 3.63            | -0.48               | $\pm 5$              |
| 2570               | Simulated<br>Tissue<br>Liquid Head | 1.996               | 38.828       | 1.927             | 39.038       | 3.58            | -0.54               | $\pm 5$              |
| 2645               | Simulated<br>Tissue<br>Liquid Head | 2.088               | 38.490       | 2.009             | 38.943       | 3.93            | -1.16               | $\pm 5$              |

Liquid Verification above was performed on 2026/03/04.

| Frequency<br>(MHz) | Liquid<br>Type                     | Liquid<br>Parameter |              | Target Value      |              | Delta<br>(%)    |                     | Tolerance<br>(%) |
|--------------------|------------------------------------|---------------------|--------------|-------------------|--------------|-----------------|---------------------|------------------|
|                    |                                    | $\sigma$<br>(S/m)   | $\epsilon_r$ | $\sigma$<br>(S/m) | $\epsilon_r$ | $\Delta \sigma$ | $\Delta \epsilon_r$ |                  |
| 5250               | Simulated<br>Tissue Liquid<br>Head | 4.631               | 36.749       | 4.710             | 35.900       | -1.68           | 2.36                | $\pm 5$          |
| 5200               | Simulated<br>Tissue Liquid<br>Head | 4.569               | 36.861       | 4.660             | 36.000       | -1.95           | 2.39                | $\pm 5$          |
| 5180               | Simulated<br>Tissue Liquid<br>Head | 4.548               | 36.903       | 4.639             | 36.020       | -1.96           | 2.45                | $\pm 5$          |
| 5240               | Simulated<br>Tissue Liquid<br>Head | 4.620               | 36.765       | 4.701             | 35.960       | -1.72           | 2.24                | $\pm 5$          |

Liquid Verification above was performed on 2026/03/05.

| Frequency<br>(MHz) | Liquid<br>Type                     | Liquid<br>Parameter |              | Target Value      |              | Delta<br>(%)    |                     | Tolerance<br>(%) |
|--------------------|------------------------------------|---------------------|--------------|-------------------|--------------|-----------------|---------------------|------------------|
|                    |                                    | $\sigma$<br>(S/m)   | $\epsilon_r$ | $\sigma$<br>(S/m) | $\epsilon_r$ | $\Delta \sigma$ | $\Delta \epsilon_r$ |                  |
| 5750               | Simulated<br>Tissue Liquid<br>Head | 5.221               | 35.639       | 5.220             | 35.400       | 0.02            | 0.68                | $\pm 5$          |
| 5785               | Simulated<br>Tissue Liquid<br>Head | 5.261               | 35.568       | 5.255             | 35.315       | 0.11            | 0.72                | $\pm 5$          |
| 5745               | Simulated<br>Tissue Liquid<br>Head | 5.215               | 35.649       | 5.215             | 35.355       | 0.00            | 0.83                | $\pm 5$          |
| 5825               | Simulated<br>Tissue Liquid<br>Head | 5.309               | 35.483       | 5.296             | 35.275       | 0.25            | 0.59                | $\pm 5$          |

Liquid Verification above was performed on 2026/03/05.

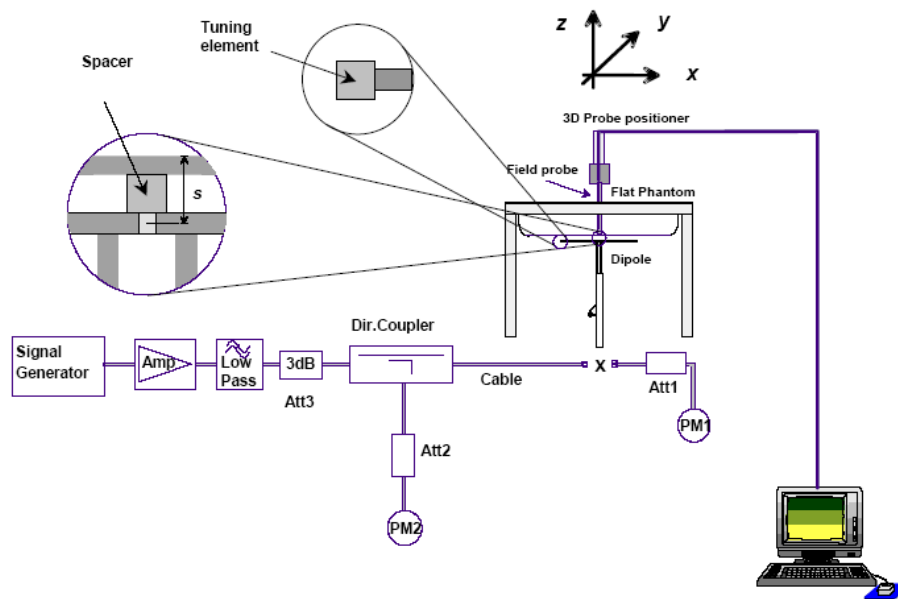
## System Accuracy Verification

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of  $\pm 10\%$ . The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

The spacing distances in the **System Verification Setup Block Diagram** is given by the following:

- $s = 15 \text{ mm} \pm 0,2 \text{ mm}$  for  $300 \text{ MHz} \leq f \leq 1\,000 \text{ MHz}$ ;
- $s = 10 \text{ mm} \pm 0,2 \text{ mm}$  for  $1\,000 \text{ MHz} < f \leq 3\,000 \text{ MHz}$ ;
- $s = 10 \text{ mm} \pm 0,2 \text{ mm}$  for  $3\,000 \text{ MHz} < f \leq 6\,000 \text{ MHz}$ .

## System Verification Setup Block Diagram



**System Accuracy Check Results**

| Date       | Frequency Band | Liquid Type | Input Power (mW) | Measured SAR (W/kg) |      | Normalized to 1W (W/kg) | Target Value (W/kg) | Delta (%) | Tolerance (%) |
|------------|----------------|-------------|------------------|---------------------|------|-------------------------|---------------------|-----------|---------------|
| 2026/03/01 | 750MHz         | Head        | 250              | 1g                  | 2.22 | 8.88                    | 8.45                | 5.09      | ±10           |
| 2026/03/02 | 835MHz         | Head        | 250              | 1g                  | 2.40 | 9.6                     | 9.50                | 1.05      | ±10           |
| 2026/03/01 | 1750MHz        | Head        | 250              | 1g                  | 8.64 | 34.56                   | 36.00               | -4.00     | ±10           |
| 2026/03/03 | 1900MHz        | Head        | 100              | 1g                  | 3.59 | 35.9                    | 39.20               | -8.42     | ±10           |
| 2026/03/04 | 2450MHz        | Head        | 100              | 1g                  | 5.54 | 55.4                    | 53.10               | 4.33      | ±10           |
| 2026/03/04 | 2600MHz        | Head        | 100              | 1g                  | 5.71 | 57.1                    | 54.60               | 4.58      | ±10           |
| 2026/03/05 | 5250MHz        | Head        | 100              | 1g                  | 7.91 | 79.1                    | 78.70               | 0.51      | ±10           |
| 2026/03/05 | 5750MHz        | Head        | 100              | 1g                  | 7.63 | 76.3                    | 78.70               | -3.05     | ±10           |

| Date       | Frequency Band | Liquid Type | Input Power (mW) | Measured SAR (W/kg) |      | Normalized to 1W (W/kg) | Target Value (W/kg) | Delta (%) | Tolerance (%) |
|------------|----------------|-------------|------------------|---------------------|------|-------------------------|---------------------|-----------|---------------|
| 2026/03/01 | 750MHz         | Head        | 250              | 10g                 | 1.49 | 5.96                    | 5.59                | 6.62      | ±10           |
| 2026/03/02 | 835MHz         | Head        | 250              | 10g                 | 1.58 | 6.32                    | 6.23                | 1.44      | ±10           |
| 2026/03/01 | 1750MHz        | Head        | 250              | 10g                 | 4.64 | 18.56                   | 19.40               | -4.33     | ±10           |
| 2026/03/03 | 1900MHz        | Head        | 100              | 10g                 | 1.89 | 18.9                    | 20.60               | -8.25     | ±10           |
| 2026/03/04 | 2450MHz        | Head        | 100              | 10g                 | 2.61 | 26.1                    | 24.90               | 4.82      | ±10           |
| 2026/03/04 | 2600MHz        | Head        | 100              | 10g                 | 2.61 | 26.1                    | 24.30               | 7.41      | ±10           |
| 2026/03/05 | 5250MHz        | Head        | 100              | 10g                 | 2.27 | 22.7                    | 21.90               | 3.65      | ±10           |
| 2026/03/05 | 5750MHz        | Head        | 100              | 10g                 | 2.18 | 21.8                    | 21.60               | 0.93      | ±10           |

The SAR values above are normalized to 1 Watt forward power.

**SAR SYSTEM VALIDATION DATA**

System Check\_Head\_750MHz

DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN:1166

Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 43.036$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.37, 10.37, 10.37) @ 750 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Pin=250mW /Area Scan (6x6x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.39 W/kg

**Pin=250mW /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 52.93 V/m; Power Drift = -0.03 dB

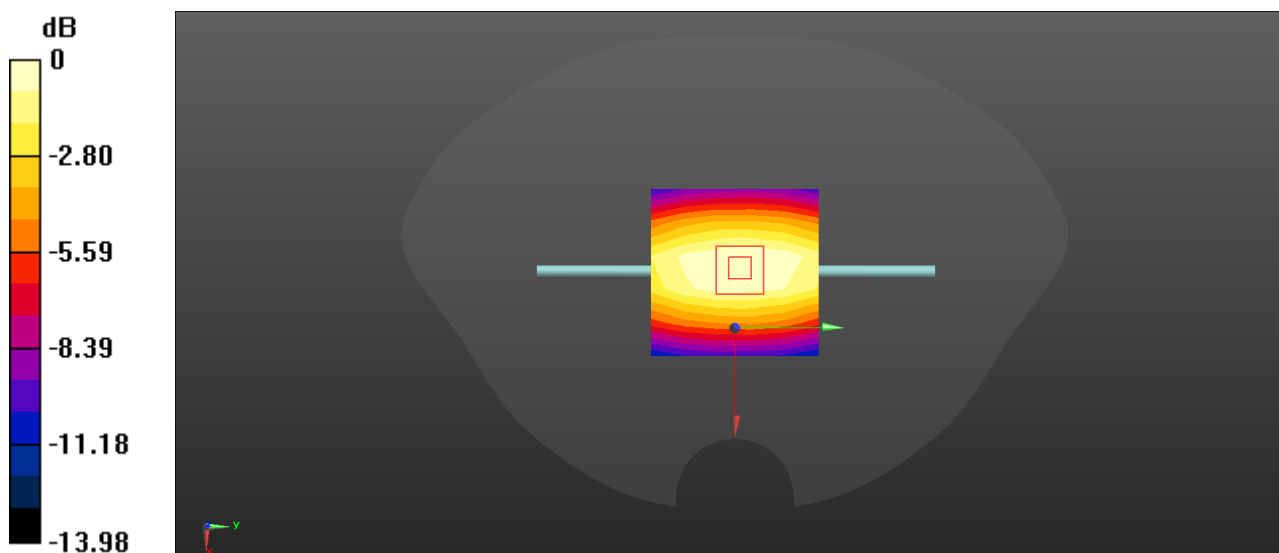
Peak SAR (extrapolated) = 3.17 W/kg

**SAR(1 g) = 2.22 W/kg; SAR(10 g) = 1.49 W/kg**

Smallest distance from peaks to all points 3 dB below = 23.8 mm

Ratio of SAR at M2 to SAR at M1 = 69.8%

Maximum value of SAR (measured) = 2.37 W/kg



$$0 \text{ dB} = 2.37 \text{ W/kg} = 3.75 \text{ dBW/kg}$$

## System Check\_Head\_835MHz

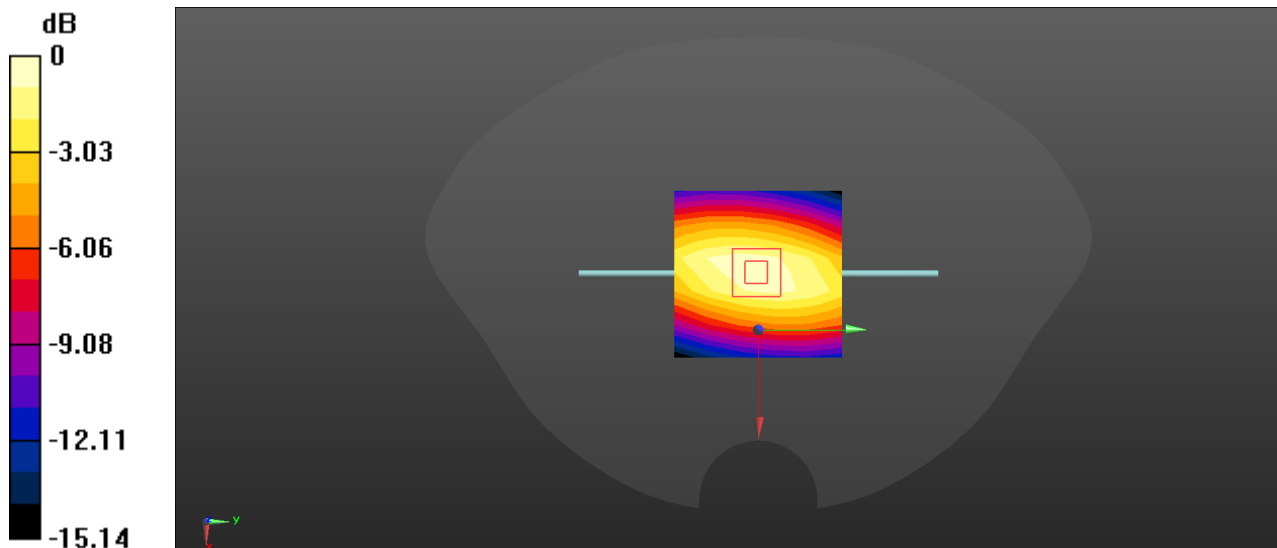
DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:445

Communication System: UID 0, CW (0); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.912 \text{ S/m}$ ;  $\epsilon_r = 42.155$ ;  $\rho = 1000 \text{ kg/m}^3$ 

## DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.97, 9.97, 9.97) @ 835 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Pin=250mW/Area Scan (6x6x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$ Maximum value of SAR (measured) =  $2.49 \text{ W/kg}$ **Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$ Reference Value =  $56.12 \text{ V/m}$ ; Power Drift =  $-0.07 \text{ dB}$ Peak SAR (extrapolated) =  $3.53 \text{ W/kg}$ **SAR(1 g) =  $2.4 \text{ W/kg}$ ; SAR(10 g) =  $1.58 \text{ W/kg}$** Smallest distance from peaks to all points 3 dB below =  $16 \text{ mm}$ Ratio of SAR at M2 to SAR at M1 =  $68\%$ Maximum value of SAR (measured) =  $2.80 \text{ W/kg}$ 

$$0 \text{ dB} = 2.80 \text{ W/kg} = 4.47 \text{ dBW/kg}$$

## System Check\_Head\_1750MHz

DUT: Dipole 1750 MHz D1750V2; Type: D1750V2; Serial: D1750V2 - SN:1140

Communication System: UID 0, CW (0); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.346$  S/m;  $\epsilon_r = 41.759$ ;  $\rho = 1000$  kg/m<sup>3</sup>

## DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.34, 8.34, 8.34) @ 1750 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Pin=250mW/Area Scan (6x6x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 7.88 W/kg

**Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 90.06 V/m; Power Drift = -0.02 dB

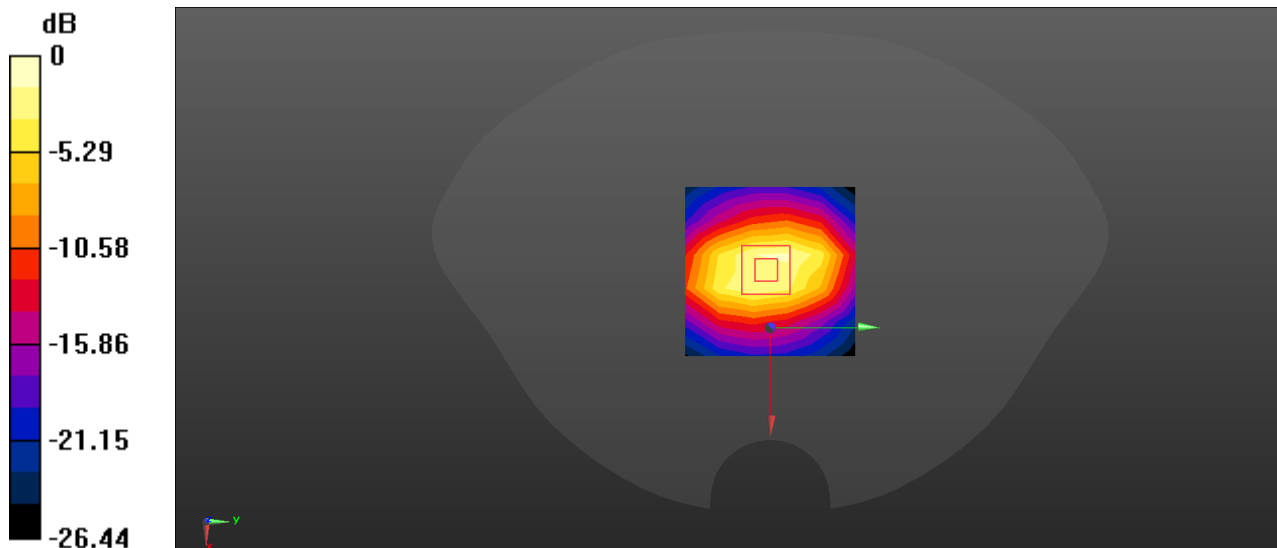
Peak SAR (extrapolated) = 15.0 W/kg

**SAR(1 g) = 8.64 W/kg; SAR(10 g) = 4.64 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.7 mm

Ratio of SAR at M2 to SAR at M1 = 58.4%

Maximum value of SAR (measured) = 10.8 W/kg



$$0 \text{ dB} = 10.8 \text{ W/kg} = 10.33 \text{ dBW/kg}$$

## System Check\_Head\_1900MHz

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:5d206

Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.436$  S/m;  $\epsilon_r = 41.016$ ;  $\rho = 1000$  kg/m<sup>3</sup>

## DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.02, 8.02, 8.02) @ 1900 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Pin=100mW/Area Scan (7x7x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 3.66 W/kg

**Pin=100mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.75 V/m; Power Drift = 0.03 dB

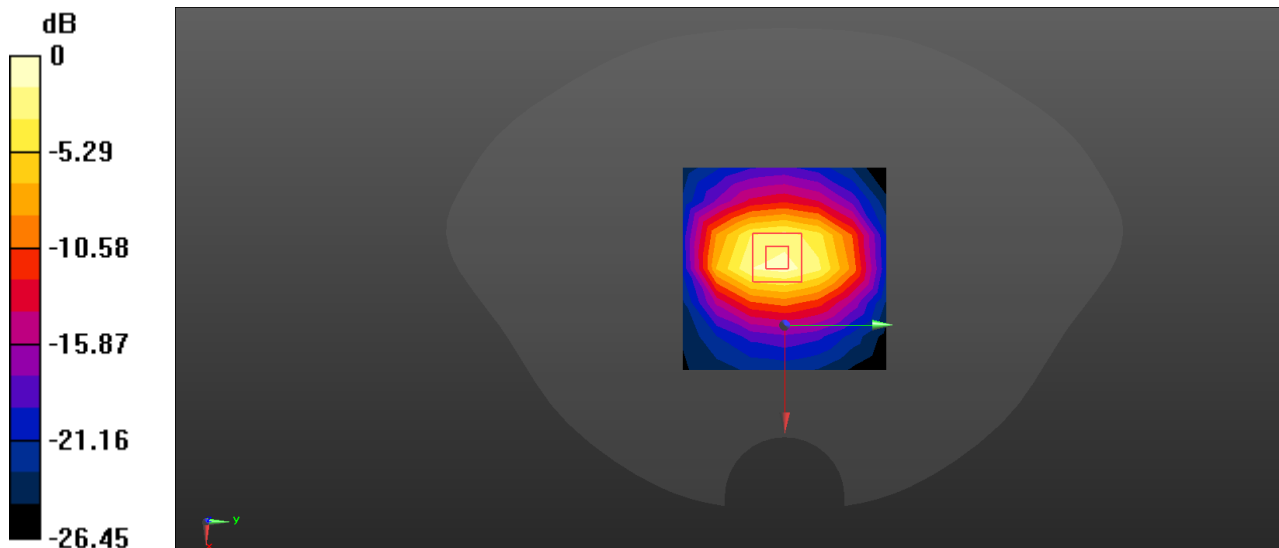
Peak SAR (extrapolated) = 6.45 W/kg

**SAR(1 g) = 3.59 W/kg; SAR(10 g) = 1.89 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.1 mm

Ratio of SAR at M2 to SAR at M1 = 56.3%

Maximum value of SAR (measured) = 4.50 W/kg



$$0 \text{ dB} = 4.50 \text{ W/kg} = 6.53 \text{ dBW/kg}$$

## System Check\_Head\_2450MHz

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:970

Communication System: UID 0, CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.857$  S/m;  $\epsilon_r = 38.329$ ;  $\rho = 1000$  kg/m<sup>3</sup>

## DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.43, 7.43, 7.43) @ 2450 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Pin=100mW/Area Scan (7x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 6.27 W/kg

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

Reference Value = 58.46 V/m; Power Drift = -0.02 dB

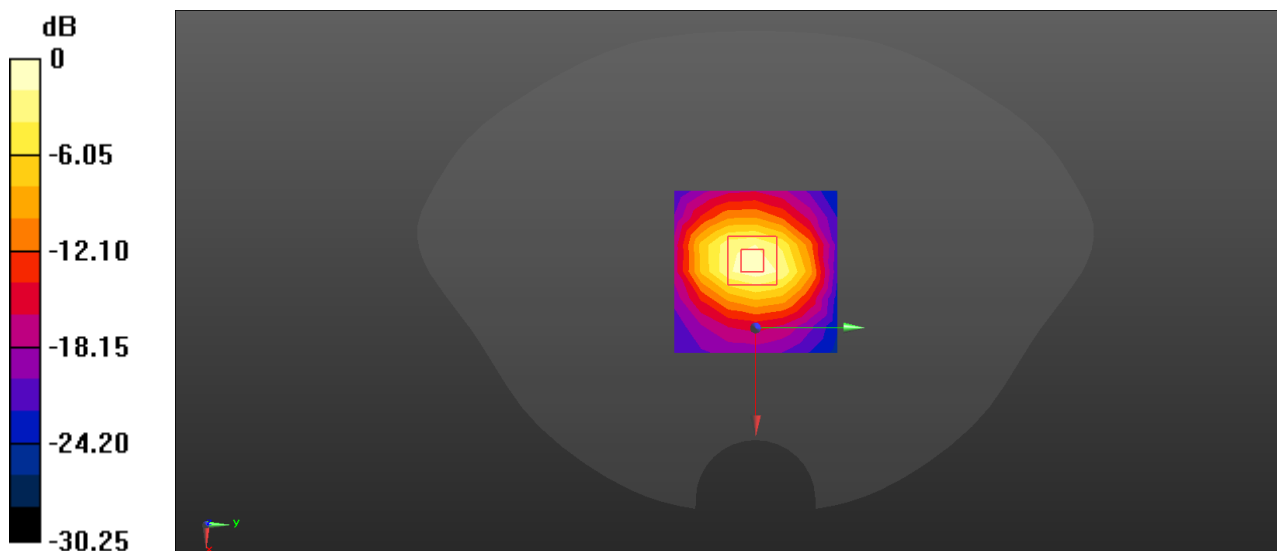
Peak SAR (extrapolated) = 11.2 W/kg

**SAR(1 g) = 5.54 W/kg; SAR(10 g) = 2.61 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.2 mm

Ratio of SAR at M2 to SAR at M1 = 50.6%

Maximum value of SAR (measured) = 7.29 W/kg



$$0 \text{ dB} = 7.29 \text{ W/kg} = 8.63 \text{ dBW/kg}$$

## System Check\_Head\_2600MHz

DUT: D2600V2-1162; Type: D2600V2; Serial: D2600V2 - SN:1162

Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.027$  S/m;  $\epsilon_r = 38.679$ ;  $\rho = 1000$  kg/m<sup>3</sup>

## DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.26, 7.26, 7.26) @ 2600 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Pin=100mW/Area Scan (7x7x1):** Measurement grid: dx=12mm, dy=12mm

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

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

Reference Value = 67.66 V/m; Power Drift = -0.01 dB

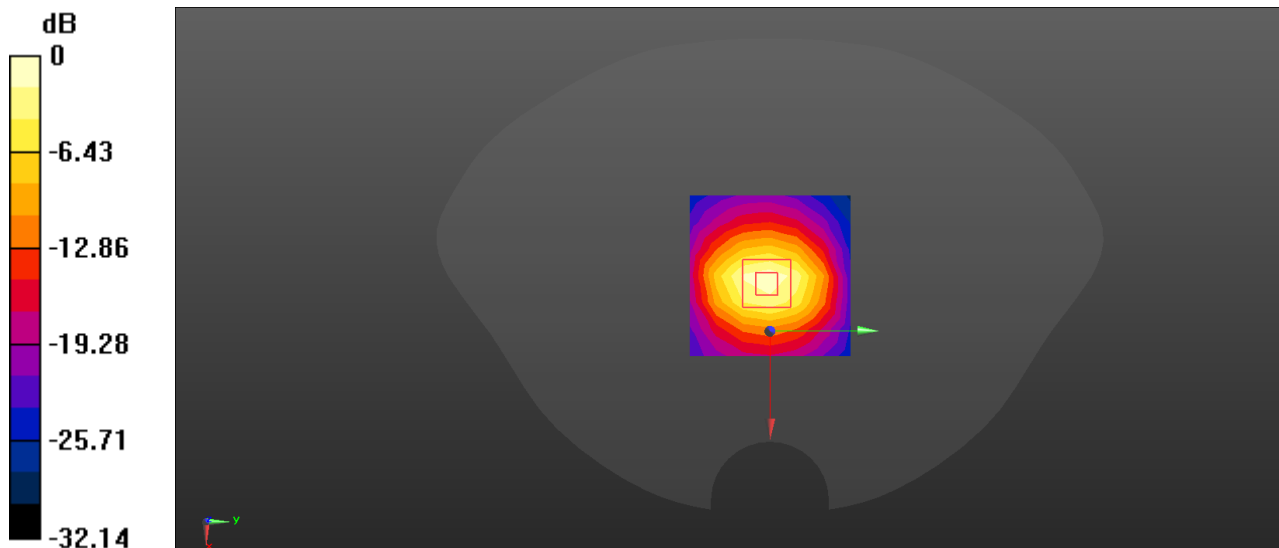
Peak SAR (extrapolated) = 11.8 W/kg

**SAR(1 g) = 5.71 W/kg; SAR(10 g) = 2.61 W/kg**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 49.1%

Maximum value of SAR (measured) = 9.57 W/kg



$$0 \text{ dB} = 9.57 \text{ W/kg} = 9.81 \text{ dBW/kg}$$

## System Check\_Head\_5250MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1296

Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.631$  S/m;  $\epsilon_r = 36.749$ ;  $\rho = 1000$  kg/m<sup>3</sup>

## DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(5.27, 5.27, 5.27) @ 5250 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Pin=100mW/Area Scan (8x8x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 10.1 W/kg

**Pin=100mW/Zoom Scan (7x7x17)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.12 V/m; Power Drift = -0.03 dB

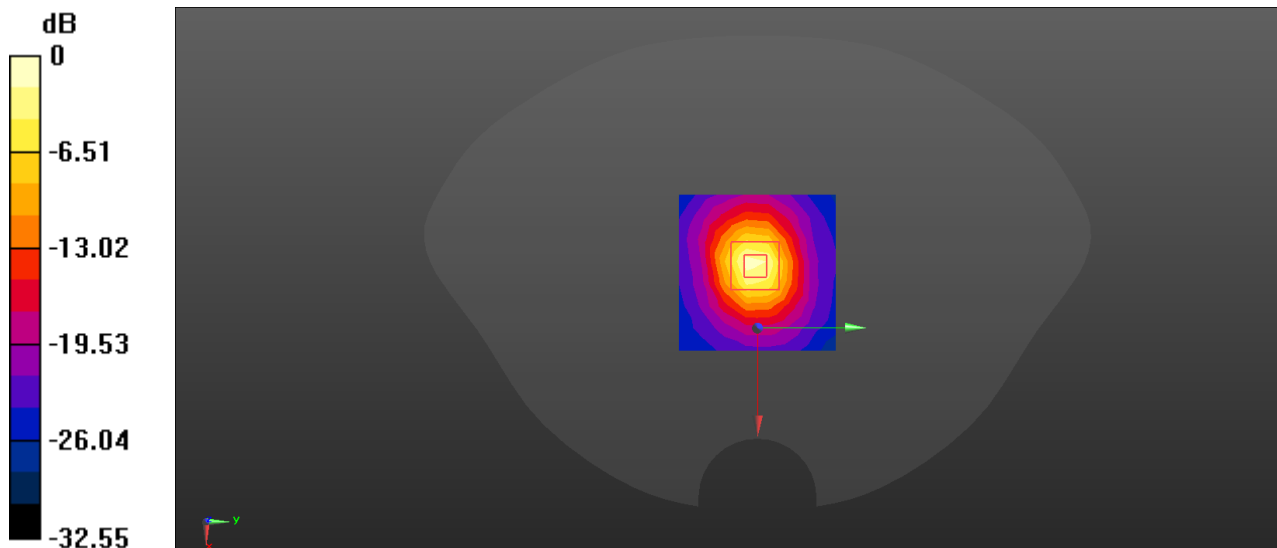
Peak SAR (extrapolated) = 30.1 W/kg

**SAR(1 g) = 7.91 W/kg; SAR(10 g) = 2.27 W/kg**

Smallest distance from peaks to all points 3 dB below = 7.4 mm

Ratio of SAR at M2 to SAR at M1 = 66.9%

Maximum value of SAR (measured) = 12.4 W/kg



$$0 \text{ dB} = 12.4 \text{ W/kg} = 10.93 \text{ dBW/kg}$$

## System Check\_Head\_5750MHz

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1296

Communication System: UID 0, CW (0); Frequency: 5750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5750$  MHz;  $\sigma = 5.221$  S/m;  $\epsilon_r = 35.639$ ;  $\rho = 1000$  kg/m<sup>3</sup>

## DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(4.76, 4.76, 4.76) @ 5750 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Pin=100mW/Area Scan (8x8x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 10.3 W/kg

**Pin=100mW/Zoom Scan (7x7x17)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 60.45 V/m; Power Drift = -0.06 dB

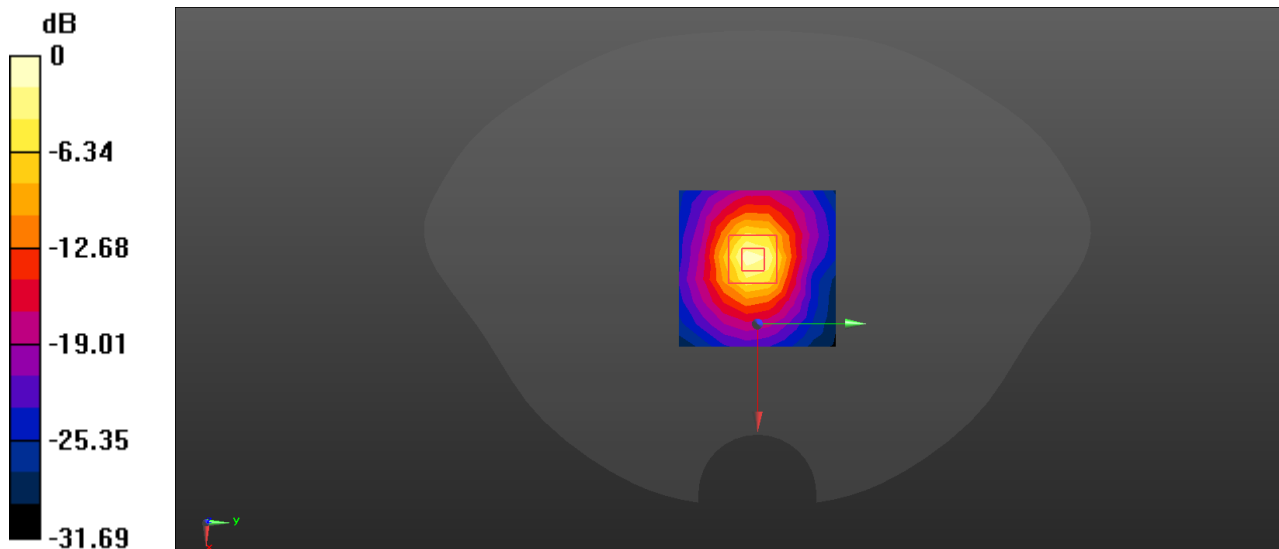
Peak SAR (extrapolated) = 32.1 W/kg

**SAR(1 g) = 7.63 W/kg; SAR(10 g) = 2.18 W/kg**

Smallest distance from peaks to all points 3 dB below = 7.4 mm

Ratio of SAR at M2 to SAR at M1 = 63.5%

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

 $0 \text{ dB} = 11.8 \text{ W/kg} = 10.72 \text{ dBW/kg}$

## EUT TEST STRATEGY AND METHODOLOGY

### Test positions for body-worn and other configurations

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. When multiple accessories that do not contain metallic components are supplied with the device, the device may be tested with only the accessory that dictates the closest spacing to the body. When multiple accessories that contain metallic components are supplied with the device, the device must be tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (e.g., the same metallic belt-clip used with different holsters with no other metallic components), only the accessory that dictates the closest spacing to the body must be tested.

Body-worn accessories may not always be supplied or available as options for some devices that are intended to be authorized for body-worn use. A separation distance of 1.5 cm between the back of the device and a flat phantom is recommended for testing body-worn SAR compliance under such circumstances. Other separation distances may be used, but they should not exceed 2.5 cm. In these cases, the device may use body-worn accessories that provide a separation distance greater than that tested for the device provided however that the accessory contains no metallic components.

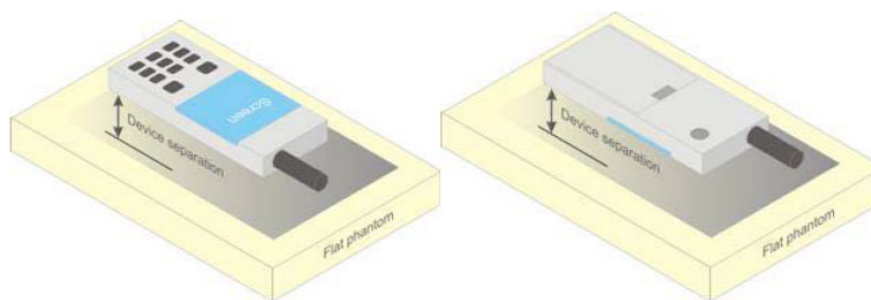


Figure 5 – Test positions for body-worn devices

### Test Distance for SAR Evaluation

In this case the EUT (Equipment under Test) is set against from the phantom, the test distance is 0mm (Limbs)/10mm(Body supported)

## SAR Evaluation Procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point or central position was used as a reference value for assessing the power drop. The SAR at this point is measured at the start of the test and then again at the end of the testing.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head or radiating structures of the EUT, the horizontal grid spacing was 15 mm x 15 mm, and the SAR distribution was determined by integrated grid of 1.5mm x 1.5mm. Based on these data, the area of the maximum absorption was determined by spline interpolation. The first Area Scan covers the entire dimension of the EUT to ensure that the hotspot was correctly identified.

Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7x 7 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

1) The data at the surface were extrapolated, since the center of the dipoles is 1.2 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

2) The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one dimensional splines with the "Not a knot"-condition (in x, y and z-directions). The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the averages.

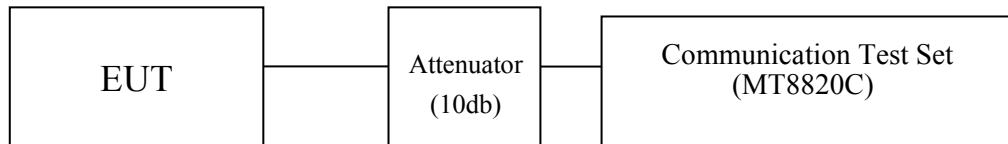
All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation was repeated.

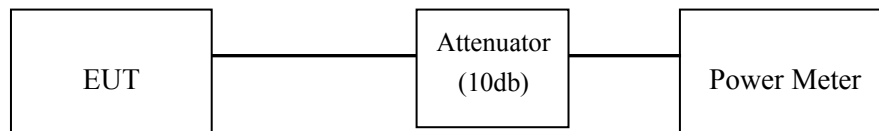
## CONDUCTED OUTPUT POWER MEASUREMENT

### Test Procedure

The RF output of the transmitter was connected to the input of the Communication Test Set and Power Meter through Connector.



### GPRS&EGPRS&WCDMA&LTE



### WLAN&BT&BLE

### Radio Configuration

The power measurement was configured by the Wireless Communication Test Set.

#### GPRS/EGPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900

Press Connection control to choose the different menus

Press RESET > choose all the reset all settings

Connection Press Signal Off to turn off the signal and change settings

Network Support > GSM + GPRS or GSM + EGSM

Main Service > Packet Data

Service selection > Test Mode A – Auto Slot Config. off

MS Signal Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting

- > Slot configuration > Uplink/Gamma

- > 33 dBm for GPRS 850

- > 30 dBm for GPRS 1900

- > 27 dBm for EGPRS 850

- > 26 dBm for EGPRS 1900

BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel

Frequency Offset > + 0 Hz

Mode > BCCH and TCH

BCCH Level > -85 dBm (May need to adjust if link is not stable)

BCCH Channel > choose desired test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off

P0 > 4 dB

Slot Config > Unchanged (if already set under MS signal)

TCH > choose desired test channel  
Hopping > Off

Main Timeslot > 3  
Network Coding Scheme > CS4 (GPRS) and MCS5 (EGPRS)  
Bit Stream > 2E9-1 PSR Bit Stream  
AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input  
Connection Press Signal on to turn on the signal and change settings

### WCDMA Release 99

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification. The EUT has a nominal maximum output power of 24dBm (+1.7/-3.7).

|                                   |                         |              |
|-----------------------------------|-------------------------|--------------|
| <b>WCDMA<br/>General Settings</b> | Loopback Mode           | Test Mode 1  |
|                                   | Rel99 RMC               | 12.2kbps RMC |
|                                   | Power Control Algorithm | Algorithm2   |
|                                   | $\beta_c/\beta_d$       | 8/15         |

### HSDPA

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

|                                        | Mode                        | HSDPA        | HSDPA | HSDPA | HSDPA |
|----------------------------------------|-----------------------------|--------------|-------|-------|-------|
|                                        | Subset                      | 1            | 2     | 3     | 4     |
| <b>WCDMA<br/>General<br/>Settings</b>  | Loopback Mode               | Test Mode 1  |       |       |       |
|                                        | Rel99 RMC                   | 12.2kbps RMC |       |       |       |
|                                        | HSDPA FRC                   | H-Set1       |       |       |       |
|                                        | Power Control Algorithm     | Algorithm2   |       |       |       |
|                                        | $\beta_c$                   | 2/15         | 12/15 | 15/15 | 15/15 |
|                                        | $\beta_d$                   | 15/15        | 15/15 | 8/15  | 4/15  |
|                                        | $\beta_d(\text{SF})$        | 64           |       |       |       |
|                                        | $\beta_c/\beta_d$           | 2/15         | 12/15 | 15/8  | 15/4  |
|                                        | $\beta_{hs}$                | 4/15         | 24/15 | 30/15 | 30/15 |
|                                        | MPR(dB)                     | 0            | 0     | 0.5   | 0.5   |
| <b>HSDPA<br/>Specific<br/>Settings</b> | DACK                        | 8            |       |       |       |
|                                        | DNAK                        | 8            |       |       |       |
|                                        | DCQI                        | 8            |       |       |       |
|                                        | Ack-Nack repetition factor  | 3            |       |       |       |
|                                        | CQI Feedback                | 4ms          |       |       |       |
|                                        | CQI Repetition Factor       | 2            |       |       |       |
|                                        | $A_{hs}=\beta_{hs}/\beta_c$ | 30/15        |       |       |       |

**HSUPA**

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

|                                | Mode                             | HSUPA                                                                                                                                        | HSUPA | HSUPA                                                | HSUPA | HSUPA                                                                                                                                        |
|--------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------|
|                                | Subset                           | 1                                                                                                                                            | 2     | 3                                                    | 4     | 5                                                                                                                                            |
| <b>WCDMA General Settings</b>  | Loopback Mode                    | Test Mode 1                                                                                                                                  |       |                                                      |       |                                                                                                                                              |
|                                | Rel99 RMC                        | 12.2kbps RMC                                                                                                                                 |       |                                                      |       |                                                                                                                                              |
|                                | HSDPA FRC                        | H-Set1                                                                                                                                       |       |                                                      |       |                                                                                                                                              |
|                                | HSUPA Test                       | HSUPA Loopback                                                                                                                               |       |                                                      |       |                                                                                                                                              |
|                                | Power Control Algorithm          | Algorithm2                                                                                                                                   |       |                                                      |       |                                                                                                                                              |
|                                | $\beta_c$                        | 11/15                                                                                                                                        | 6/15  | 15/15                                                | 2/15  | 15/15                                                                                                                                        |
|                                | $\beta_d$                        | 15/15                                                                                                                                        | 15/15 | 9/15                                                 | 15/15 | 0                                                                                                                                            |
|                                | $\beta_{ec}$                     | 209/225                                                                                                                                      | 12/15 | 30/15                                                | 2/15  | 5/15                                                                                                                                         |
|                                | $\beta_c / \beta_d$              | 11/15                                                                                                                                        | 6/15  | 15/9                                                 | 2/15  | -                                                                                                                                            |
|                                | $\beta_{hs}$                     | 22/15                                                                                                                                        | 12/15 | 30/15                                                | 4/15  | 5/15                                                                                                                                         |
|                                | CM(dB)                           | 1.0                                                                                                                                          | 3.0   | 2.0                                                  | 3.0   | 1.0                                                                                                                                          |
|                                | MPR(dB)                          | 0                                                                                                                                            | 2     | 1                                                    | 2     | 0                                                                                                                                            |
| <b>HSDPA Specific Settings</b> | DACK                             | 8                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                | DNAK                             | 8                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                | DCQI                             | 8                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                | Ack-Nack repetition factor       | 3                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                | CQI Feedback                     | 4ms                                                                                                                                          |       |                                                      |       |                                                                                                                                              |
|                                | CQI Repetition Factor            | 2                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                | $A_{hs} = \beta_{hs} / \beta_c$  | 30/15                                                                                                                                        |       |                                                      |       |                                                                                                                                              |
| <b>HSUPA Specific Settings</b> | DE-DPCCH                         | 6                                                                                                                                            | 8     | 8                                                    | 5     | 7                                                                                                                                            |
|                                | DHARQ                            | 0                                                                                                                                            | 0     | 0                                                    | 0     | 0                                                                                                                                            |
|                                | AG Index                         | 20                                                                                                                                           | 12    | 15                                                   | 17    | 21                                                                                                                                           |
|                                | ETFCI                            | 75                                                                                                                                           | 67    | 92                                                   | 71    | 81                                                                                                                                           |
|                                | Associated Max UL Data Rate kbps | 242.1                                                                                                                                        | 174.9 | 482.8                                                | 205.8 | 308.9                                                                                                                                        |
|                                | Reference E_FCI                  | E-TFCI 11 E<br>E-TFCI PO 4<br>E-TFCI 67<br>E-TFCI PO 18<br>E-TFCI 71<br>E-TFCI PO23<br>E-TFCI 75<br>E-TFCI PO26<br>E-TFCI 81<br>E-TFCI PO 27 |       | E-TFCI 11<br>E-TFCI PO4<br>E-TFCI 92<br>E-TFCI PO 18 |       | E-TFCI 11 E<br>E-TFCI PO 4<br>E-TFCI 67<br>E-TFCI PO 18<br>E-TFCI 71<br>E-TFCI PO23<br>E-TFCI 75<br>E-TFCI PO26<br>E-TFCI 81<br>E-TFCI PO 27 |
|                                |                                  |                                                                                                                                              |       |                                                      |       |                                                                                                                                              |

**HSPA+**

| Sub-test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | $\beta_c$<br>(Note3) | $\beta_d$ | $\beta_{HS}$<br>(Note1) | $\beta_{ec}$ | $\beta_{ed}$<br>(2xSF2)<br>(Note 4)            | $\beta_{ed}$<br>(2xSF4)<br>(Note 4)            | CM<br>(dB)<br>(Note 2) | MPR<br>(dB)<br>(Note 2) | AG<br>Index<br>(Note 4) | E-TFCI<br>(Note 5) | E-TFCI<br>(boost) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------|-------------------------|--------------|------------------------------------------------|------------------------------------------------|------------------------|-------------------------|-------------------------|--------------------|-------------------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1                    | 0         | 30/15                   | 30/15        | $\beta_{ed1}$ : 30/15<br>$\beta_{ed2}$ : 30/15 | $\beta_{ed3}$ : 24/15<br>$\beta_{ed4}$ : 24/15 | 3.5                    | 2.5                     | 14                      | 105                | 105               |
| <p>Note 1: <math>\Delta_{ACK}</math>, <math>\Delta_{NACK}</math> and <math>\Delta_{CQI} = 30/15</math> with <math>\beta_{hs} = 30/15 * \beta_c</math>.</p> <p>Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).</p> <p>Note 3: DPDCH is not configured, therefore the <math>\beta_c</math> is set to 1 and <math>\beta_d = 0</math> by default.</p> <p>Note 4: <math>\beta_{ed}</math> can not be set directly; it is set by Absolute Grant Value.</p> <p>Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.</p> |                      |           |                         |              |                                                |                                                |                        |                         |                         |                    |                   |

The following tests were conducted according to the test requirements in Table C.11.1.4 of 3GPP TS 34.121-1

**FDD-LTE**

For UE Power Class 1 and 3, the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2-1 due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1.

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

| Modulation | Channel bandwidth / Transmission bandwidth ( $N_{RB}$ ) |          |          |           |           |           | MPR (dB) |
|------------|---------------------------------------------------------|----------|----------|-----------|-----------|-----------|----------|
|            | 1.4 MHz                                                 | 3.0 MHz  | 5 MHz    | 10 MHz    | 15 MHz    | 20 MHz    |          |
| QPSK       | > 5                                                     | > 4      | > 8      | > 12      | > 16      | > 18      | $\leq 1$ |
| 16 QAM     | $\leq 5$                                                | $\leq 4$ | $\leq 8$ | $\leq 12$ | $\leq 16$ | $\leq 18$ | $\leq 1$ |
| 16 QAM     | > 5                                                     | > 4      | > 8      | > 12      | > 16      | > 18      | $\leq 2$ |

For UE Power Class 1 and 3 the specific requirements and identified sub clauses are specified in Table 6.2.4-1 along with the allowed A-MPR values that may be used to meet these requirements. The allowed A-MPR values specified below in Table 6.2.4-1 to 6.2.4-15 are in addition to the allowed MPR requirements specified in sub clause 6.2.3.

**Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)**

| Network Signalling value | Requirements (subclause)      | E-UTRA Band              | Channel bandwidth (MHz) | Resources Blocks ( $N_{RB}$ )                     | A-MPR (dB) |
|--------------------------|-------------------------------|--------------------------|-------------------------|---------------------------------------------------|------------|
| NS_01                    | 6.6.2.1.1                     | Table 5.5-1              | 1.4, 3, 5, 10, 15, 20   | Table 5.6-1                                       | N/A        |
| NS_03                    | 6.6.2.2.1                     | 2, 4, 10, 23, 25, 35, 36 | 3                       | >5                                                | $\leq 1$   |
|                          |                               |                          | 5                       | >6                                                | $\leq 1$   |
|                          |                               |                          | 10                      | >6                                                | $\leq 1$   |
|                          |                               |                          | 15                      | >8                                                | $\leq 1$   |
|                          |                               |                          | 20                      | >10                                               | $\leq 1$   |
| NS_04                    | 6.6.2.2.2                     | 41                       | 5                       | >6                                                | $\leq 1$   |
|                          |                               |                          | 10, 15, 20              | Table 6.2.4-4                                     |            |
| NS_05                    | 6.6.3.3.1                     | 1                        | 10, 15, 20              | $\geq 50$                                         | $\leq 1$   |
| NS_06                    | 6.6.2.2.3                     | 12, 13, 14, 17           | 1.4, 3, 5, 10           | Table 5.6-1                                       | N/A        |
| NS_07                    | 6.6.2.2.3<br>6.6.3.3.2        | 13                       | 10                      | Table 6.2.4-2                                     |            |
| NS_08                    | 6.6.3.3.3                     | 19                       | 10, 15                  | > 44                                              | $\leq 3$   |
| NS_09                    | 6.6.3.3.4                     | 21                       | 10, 15                  | > 40                                              | $\leq 1$   |
|                          |                               |                          |                         | > 55                                              | $\leq 2$   |
| NS_10                    |                               | 20                       | 15, 20                  | Table 6.2.4-3                                     |            |
| NS_11                    | 6.6.2.2.1                     | 23                       | 1.4, 3, 5, 10, 15, 20   | Table 6.2.4-5                                     |            |
| NS_12                    | 6.6.3.3.5                     | 26                       | 1.4, 3, 5               | Table 6.2.4-6                                     |            |
| NS_13                    | 6.6.3.3.6                     | 26                       | 5                       | Table 6.2.4-7                                     |            |
| NS_14                    | 6.6.3.3.7                     | 26                       | 10, 15                  | Table 6.2.4-8                                     |            |
| NS_15                    | 6.6.3.3.8                     | 26                       | 1.4, 3, 5, 10, 15       | Table 6.2.4-9<br>Table 6.2.4-10                   |            |
| NS_16                    | 6.6.3.3.9                     | 27                       | 3, 5, 10                | Table 6.2.4-11, Table 6.2.4-12,<br>Table 6.2.4-13 |            |
| NS_17                    | 6.6.3.3.10                    | 28                       | 5, 10                   | Table 5.6-1                                       | N/A        |
| NS_18                    | 6.6.3.3.11                    | 28                       | 5                       | $\geq 2$                                          | $\leq 1$   |
|                          |                               |                          | 10, 15, 20              | $\geq 1$                                          | $\leq 4$   |
| NS_19                    | 6.6.3.3.12                    | 44                       | 10, 15, 20              | Table 6.2.4-14                                    |            |
| NS_20                    | 6.2.2<br>6.6.2.2.1<br>6.6.3.2 | 23                       | 5, 10, 15, 20           | Table 6.2.4-15                                    |            |
| ...                      |                               |                          |                         |                                                   |            |
| NS_32                    | -                             | -                        | -                       | -                                                 | -          |

**TDD-LTE**

P TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

| Special subframe configuration | Normal cyclic prefix in downlink |                                |                                  | Extended cyclic prefix in downlink |                                |                                  |
|--------------------------------|----------------------------------|--------------------------------|----------------------------------|------------------------------------|--------------------------------|----------------------------------|
|                                | DwPTS                            | UpPTS                          |                                  | DwPTS                              | UpPTS                          |                                  |
|                                |                                  | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |                                    | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| 0                              | $6592 \cdot T_s$                 | $2192 \cdot T_s$               | $2560 \cdot T_s$                 | $7680 \cdot T_s$                   | $2192 \cdot T_s$               | $2560 \cdot T_s$                 |
| 1                              | $19760 \cdot T_s$                |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 2                              | $21952 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 3                              | $24144 \cdot T_s$                |                                |                                  | $25600 \cdot T_s$                  |                                |                                  |
| 4                              | $26336 \cdot T_s$                | $4384 \cdot T_s$               | $5120 \cdot T_s$                 | $7680 \cdot T_s$                   | $4384 \cdot T_s$               | $5120 \cdot T_s$                 |
| 5                              | $6592 \cdot T_s$                 |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 6                              | $19760 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 7                              | $21952 \cdot T_s$                |                                |                                  | $12800 \cdot T_s$                  |                                |                                  |
| 8                              | $24144 \cdot T_s$                |                                |                                  | -                                  | -                              | -                                |
| 9                              | $13168 \cdot T_s$                |                                |                                  | -                                  | -                              | -                                |

Table 4.2-2: Uplink-downlink configurations.

| Uplink-downlink configuration | Downlink-to-Uplink Switch-point periodicity | Subframe number |   |   |   |   |   |   |   |   |   |
|-------------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|
|                               |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U |
| 1                             | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D |
| 2                             | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D |
| 3                             | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D |
| 4                             | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D |
| 5                             | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D |
| 6                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D |

**Calculated Duty Cycle**

| Uplink-Downlink Configuration | Downlink-to-Uplink Switch-point Periodicity | Subframe Number |   |   |   |   |   |   |   |   |   | Calculated Duty Cycle (%) |
|-------------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|---------------------------|
|                               |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                           |
| 0                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U | 63.33                     |
| 1                             | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D | 43.33                     |
| 2                             | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D | 23.33                     |
| 3                             | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D | 31.67                     |
| 4                             | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D | 21.67                     |
| 5                             | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D | 11.67                     |
| 6                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D | 53.33                     |

We used configuration 0 for LTE Band 41/38 SAR test, that is 63.33%(1:1.58)for duty cycle.

**Maximum Target Output Power****Full Power Target power**

| Mode/Band             | Max Target Power(dBm) |        |      |
|-----------------------|-----------------------|--------|------|
|                       | Channel               |        |      |
|                       | Low                   | Middle | High |
| GSM850 GPRS 1 TX      | 33.5                  | 33.5   | 33.5 |
| GSM850 GPRS 2 TX      | 33                    | 33     | 33   |
| GSM850 GPRS 3 TX      | 31                    | 31     | 31   |
| GSM850 GPRS 4 TX      | 29.8                  | 29.5   | 29.5 |
| GSM850 EGPRS 1 TX     | 26                    | 26     | 26   |
| GSM850 EGPRS 2 TX     | 25                    | 25     | 25   |
| GSM850 EGPRS 3 TX     | 23                    | 23     | 23   |
| GSM850 EGPRS 4 TX     | 21.5                  | 21.5   | 21.5 |
| PCS1900GPRS 1 TX      | 29                    | 29     | 29   |
| PCS1900GPRS 2 TX      | 28                    | 28     | 28   |
| PCS1900GPRS 3 TX      | 26                    | 26     | 26   |
| PCS1900GPRS 4 TX      | 25                    | 25     | 25   |
| PCS1900EGPRS 1 TX     | 24.5                  | 24.5   | 24.5 |
| PCS1900EGPRS 2 TX     | 23.5                  | 23.5   | 23.5 |
| PCS1900EGPRS 3 TX     | 21.5                  | 21.5   | 21.5 |
| PCS1900EGPRS 4 TX     | 20.5                  | 20.5   | 20.5 |
| WCDMA Band 2          | 22.5                  | 22.5   | 22.5 |
| WCDMA Band 4          | 21.5                  | 21.5   | 21.5 |
| WCDMA Band 5          | 22.5                  | 22.5   | 22.5 |
| LTE Band 2            | 23.5                  | 23.5   | 23.5 |
| LTE Band 4            | 23.5                  | 23.5   | 23.5 |
| LTE Band 5            | 23.5                  | 23.5   | 23.5 |
| LTE Band 7            | 23.5                  | 23.5   | 23.5 |
| LTE Band 12           | 24                    | 24     | 24   |
| LTE Band 17           | 24                    | 24     | 24   |
| LTE Band 38           | 23.5                  | 23.5   | 23.5 |
| LTE Band 41           | 23.5                  | 23.5   | 23.5 |
| 2.4G WLAN(802.11b)    | 14                    | 14     | 14   |
| 2.4G WLAN(802.11g)    | 12                    | 12     | 12   |
| 2.4G WLAN(802.11n20)  | 10                    | 10     | 10   |
| 2.4G WLAN(802.11n40)  | 10                    | 10     | 10   |
| 5.2G WLAN(802.11a)    | 13.5                  | 13.5   | 13.5 |
| 5.2G WLAN(802.11ac20) | 10                    | 10     | 10   |

|                       |     |     |     |
|-----------------------|-----|-----|-----|
| 5.2G WLAN(802.11ac40) | 10  | /   | 10  |
| 5.8G WLAN(802.11a)    | 12  | 12  | 12  |
| 5.8G WLAN(802.11ac20) | 8.5 | 8.5 | 8.5 |
| 5.8G WLAN(802.11ac40) | 8   | /   | 8   |
| Bluetooth             | 5.5 | 5.5 | 5.5 |
| BLE                   | -5  | -5  | -5  |

## Note:

1. Channels without Max Target Power are represented by /.
2. The Maximum Target Power for LTE bands corresponds to their maximum power in QPSK modes with maximum bandwidth.

**Test Results:****Maximum Output Power:****GPRS:**

| Mode    | Channel No. | Frequency (MHz) | RF Output Power (dBm) |         |         |         |
|---------|-------------|-----------------|-----------------------|---------|---------|---------|
|         |             |                 | 1 slot                | 2 slots | 3 slots | 4 slots |
| GSM850  | 128         | 824.2           | 33.1                  | 32.41   | 30.68   | 29.53   |
|         | 190         | 836.6           | 33.13                 | 32.48   | 29.77   | 29.34   |
|         | 251         | 848.8           | 32.09                 | 31.48   | 29.8    | 29.21   |
| PCS1900 | 512         | 1850.2          | 27.88                 | 27.48   | 25.8    | 24.43   |
|         | 661         | 1880            | 27.85                 | 27.48   | 25.86   | 24.53   |
|         | 810         | 1909.8          | 27.42                 | 27.1    | 25.56   | 24.28   |

**EGPRS:**

| Mode    | Channel No. | Frequency (MHz) | RF Output Power (dBm) |         |         |         |
|---------|-------------|-----------------|-----------------------|---------|---------|---------|
|         |             |                 | 1 slot                | 2 slots | 3 slots | 4 slots |
| GSM850  | 128         | 824.2           | 25.48                 | 24.23   | 21.98   | 20.9    |
|         | 190         | 836.6           | 25.58                 | 24.35   | 22.07   | 20.99   |
|         | 251         | 848.8           | 25.52                 | 24.32   | 22.07   | 20.88   |
| PCS1900 | 512         | 1850.2          | 23.99                 | 22.97   | 20.94   | 19.89   |
|         | 661         | 1880            | 23.93                 | 22.89   | 20.85   | 19.77   |
|         | 810         | 1909.8          | 24.11                 | 23.03   | 21      | 19.9    |

For SAR, the time based average power is relevant, the difference in between depends on the duty cycle of the TDMA signal.

| Number of Time slot                                  | 1     | 2     | 3        | 4     |
|------------------------------------------------------|-------|-------|----------|-------|
| Duty Cycle                                           | 1:8   | 1:4   | 1:2.66   | 1:2   |
| Time based Ave. power compared to slotted Ave. power | -9 dB | -6 dB | -4.25 dB | -3 dB |
| Crest Factor                                         | 8     | 4     | 2.66     | 2     |

#### The time based average power for GPRS

| Band    | Channel No. | Frequency (MHz) | Time based average Power (dBm) |         |         |         |
|---------|-------------|-----------------|--------------------------------|---------|---------|---------|
|         |             |                 | 1 slot                         | 2 slots | 3 slots | 4 slots |
| GSM850  | 128         | 824.2           | 24.1                           | 26.41   | 26.43   | 26.53   |
|         | 190         | 836.6           | 24.13                          | 26.48   | 25.52   | 26.34   |
|         | 251         | 848.8           | 23.09                          | 25.48   | 25.55   | 26.21   |
| PCS1900 | 512         | 1850.2          | 18.88                          | 21.48   | 21.55   | 21.43   |
|         | 661         | 1880            | 18.85                          | 21.48   | 21.61   | 21.53   |
|         | 810         | 1909.8          | 18.42                          | 21.1    | 21.31   | 21.28   |

#### The time based average power for EGPRS

| Band    | Channel No. | Frequency (MHz) | Time based average Power (dBm) |         |         |         |
|---------|-------------|-----------------|--------------------------------|---------|---------|---------|
|         |             |                 | 1 slot                         | 2 slots | 3 slots | 4 slots |
| GSM850  | 128         | 824.2           | 16.48                          | 18.23   | 17.73   | 17.9    |
|         | 190         | 836.6           | 16.58                          | 18.35   | 17.82   | 17.99   |
|         | 251         | 848.8           | 16.52                          | 18.32   | 17.82   | 17.88   |
| PCS1900 | 512         | 1850.2          | 14.99                          | 16.97   | 16.69   | 16.89   |
|         | 661         | 1880            | 14.93                          | 16.89   | 16.6    | 16.77   |
|         | 810         | 1909.8          | 15.11                          | 17.03   | 16.75   | 16.9    |

#### Note:

1. Rohde & Schwarz Radio Communication Tester (MT8820C) was used for the measurement of GSM peak and average output power for active timeslots.
2. For GPRS, 1, 2, 3 and 4 timeslots has been activated separately with power level 3(850 MHz band) and 3(1900 MHz band).
3. According to KDB941225D01-SAR for EGPRS mode are not required when the source-based time-averaged output power for data mode is lower than that in the normal GPRS mode.
4. For EGPRS, 1, 2, 3 and 4timeslots has been activated separately with power level 6(850 MHz band) and 5(1900 MHz band).

**WCDMA Band 2**

| Test Condition | Test Mode  | 3GPP Sub Test | Averaged Mean Power(dBm) |             |              |
|----------------|------------|---------------|--------------------------|-------------|--------------|
|                |            |               | Low Channel              | Mid Channel | High Channel |
| Normal         | Rel 99 RMC | 1             | 21.89                    | 22.05       | 21.05        |
|                | HSDPA      | 1             | 20.94                    | 21.06       | 21.07        |
|                |            | 2             | 21.95                    | 21.99       | 20.94        |
|                |            | 3             | 21.57                    | 21.48       | 20.66        |
|                |            | 4             | 21.42                    | 21.41       | 20.59        |
|                | HSUPA      | 1             | 20.94                    | 21.06       | 21.06        |
|                |            | 2             | 20.55                    | 20.58       | 20.57        |
|                |            | 3             | 20.53                    | 20.68       | 20.69        |
|                |            | 4             | 20.58                    | 20.53       | 20.59        |
|                |            | 5             | 21.1                     | 21.18       | 21.23        |
|                | HSPA+      | 1             | 20.93                    | 21.05       | 21.06        |

**WCDMA Band 4**

| Test Condition | Test Mode  | 3GPP Sub Test | Averaged Mean Power(dBm) |             |              |
|----------------|------------|---------------|--------------------------|-------------|--------------|
|                |            |               | Low Channel              | Mid Channel | High Channel |
| Normal         | Rel 99 RMC | 1             | 21.29                    | 21.19       | 20.96        |
|                | HSDPA      | 1             | 21.27                    | 21.10       | 20.74        |
|                |            | 2             | 21.26                    | 21.12       | 20.56        |
|                |            | 3             | 20.64                    | 20.46       | 20.42        |
|                |            | 4             | 20.58                    | 20.73       | 20.04        |
|                | HSUPA      | 1             | 21.27                    | 21.11       | 20.74        |
|                |            | 2             | 19.54                    | 19.62       | 19.57        |
|                |            | 3             | 20.18                    | 20.00       | 19.61        |
|                |            | 4             | 19.72                    | 19.76       | 19.52        |
|                |            | 5             | 21.28                    | 20.95       | 20.68        |
|                | HSPA+      | 1             | 21.27                    | 21.11       | 20.74        |

**WCDMA Band 5**

| Test Condition | Test Mode  | 3GPP Sub Test | Averaged Mean Power(dBm) |             |              |
|----------------|------------|---------------|--------------------------|-------------|--------------|
|                |            |               | Low Channel              | Mid Channel | High Channel |
| Normal         | Rel 99 RMC | 1             | 22.09                    | 22.3        | 22.09        |
|                | HSDPA      | 1             | 22.1                     | 22.14       | 22.08        |
|                |            | 2             | 22.03                    | 22.28       | 22.07        |
|                |            | 3             | 21.74                    | 21.49       | 21.53        |
|                |            | 4             | 21.6                     | 21.72       | 21.69        |
|                |            | 5             | 21.5                     | 21.6        | 21.5         |
|                | HSUPA      | 1             | 22.08                    | 22.12       | 22.08        |
|                |            | 2             | 21.18                    | 21.13       | 21           |
|                |            | 3             | 20.92                    | 21.18       | 20.91        |
|                |            | 4             | 20.6                     | 21          | 20.59        |
|                |            | 5             | 22.17                    | 22.08       | 22.29        |
|                | HSPA+      | 1             | 22.1                     | 22.12       | 22.09        |

**Note:**

1. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in All 1
2. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/ HSPA+ when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.

**LTE Band 2**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | 1#0                        | 23.19             | 22.68                | 22.63              |
|                |                 | 1#3                        | 23.31             | 22.84                | 22.81              |
|                |                 | 1#5                        | 23.14             | 22.71                | 22.61              |
|                |                 | 3#0                        | 23.12             | 22.86                | 22.79              |
|                |                 | 3#1                        | 23.14             | 22.94                | 22.83              |
|                |                 | 3#3                        | 23.14             | 22.92                | 22.78              |
|                |                 | 6#0                        | 22.05             | 21.84                | 21.73              |
|                | 16-QAM          | 1#0                        | 22.35             | 21.58                | 21.54              |
|                |                 | 1#3                        | 22.55             | 21.77                | 21.68              |
|                |                 | 1#5                        | 22.37             | 21.65                | 21.53              |
|                |                 | 3#0                        | 22.43             | 22.05                | 21.91              |
|                |                 | 3#1                        | 22.39             | 22.11                | 21.97              |
|                |                 | 3#3                        | 22.42             | 22.08                | 21.96              |
|                |                 | 6#0                        | 20.99             | 21.09                | 20.94              |
| 3M             | QPSK            | 1#0                        | 22.9              | 22.81                | 22.88              |
|                |                 | 1#8                        | 22.91             | 22.8                 | 22.91              |
|                |                 | 1#14                       | 22.89             | 22.79                | 22.89              |
|                |                 | 8#0                        | 22.03             | 21.86                | 21.74              |
|                |                 | 8#7                        | 22.04             | 21.86                | 21.76              |
|                |                 | 8#4                        | 21.97             | 21.82                | 21.71              |
|                |                 | 15#0                       | 22.01             | 21.8                 | 21.74              |
|                | 16-QAM          | 1#0                        | 21.85             | 21.84                | 22.06              |
|                |                 | 1#8                        | 21.81             | 21.77                | 22.08              |
|                |                 | 1#14                       | 21.77             | 21.73                | 22.08              |
|                |                 | 8#0                        | 21.02             | 20.88                | 20.89              |
|                |                 | 8#7                        | 21.07             | 20.95                | 20.87              |
|                |                 | 8#4                        | 21.01             | 20.85                | 20.8               |
|                |                 | 15#0                       | 21                | 20.93                | 20.78              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | 1#0                        | 22.92             | 22.82                | 22.6               |
|                |                 | 1#12                       | 23.13             | 23.01                | 22.86              |
|                |                 | 1#24                       | 22.86             | 22.8                 | 22.63              |
|                |                 | 12#0                       | 22.09             | 21.88                | 21.75              |
|                |                 | 12#7                       | 22.11             | 21.91                | 21.8               |
|                |                 | 12#13                      | 22.06             | 21.88                | 21.66              |
|                |                 | 25#0                       | 22.03             | 21.87                | 21.71              |
|                | 16-QAM          | 1#0                        | 21.97             | 21.88                | 22.27              |
|                |                 | 1#12                       | 22.17             | 22.04                | 22.5               |
|                |                 | 1#24                       | 21.98             | 21.83                | 22.23              |
|                |                 | 12#0                       | 21.17             | 20.92                | 20.85              |
|                |                 | 12#7                       | 21.18             | 20.96                | 20.91              |
|                |                 | 12#13                      | 21.14             | 20.95                | 20.8               |
|                |                 | 25#0                       | 21.11             | 20.94                | 20.85              |
| 10M            | QPSK            | 1#0                        | 22.95             | 22.9                 | 22.95              |
|                |                 | 1#25                       | 23.07             | 22.95                | 23.02              |
|                |                 | 1#49                       | 22.83             | 22.79                | 22.9               |
|                |                 | 25#0                       | 22.14             | 21.95                | 21.85              |
|                |                 | 25#12                      | 22.09             | 21.9                 | 21.81              |
|                |                 | 25#25                      | 22.08             | 21.9                 | 21.69              |
|                |                 | 50#0                       | 22.1              | 21.96                | 21.78              |
|                | 16-QAM          | 1#0                        | 21.84             | 21.87                | 22.16              |
|                |                 | 1#25                       | 21.94             | 21.99                | 22.22              |
|                |                 | 1#49                       | 21.76             | 21.83                | 22.06              |
|                |                 | 25#12                      | 21.25             | 21.05                | 20.89              |
|                |                 | 25#25                      | 21.2              | 21.01                | 20.79              |
|                |                 | 50#0                       | 21.17             | 21.01                | 20.82              |

| Test Bandwidth | Test Modulation | Resource Block<br>& RB offset | Low Channel<br>(dBm) | Middle<br>Channel (dBm) | High Channel<br>(dBm) |
|----------------|-----------------|-------------------------------|----------------------|-------------------------|-----------------------|
| 15M            | QPSK            | 1#0                           | 23.1                 | 23.07                   | 22.82                 |
|                |                 | 1#37                          | 23.23                | 23.13                   | 22.94                 |
|                |                 | 1#74                          | 22.93                | 22.9                    | 22.7                  |
|                |                 | 36#0                          | 22.11                | 21.99                   | 21.84                 |
|                |                 | 36#20                         | 22.1                 | 21.97                   | 21.82                 |
|                |                 | 36#39                         | 22.12                | 21.9                    | 21.76                 |
|                |                 | 75#0                          | 22.09                | 21.97                   | 21.82                 |
|                | 16-QAM          | 1#0                           | 22.07                | 22.25                   | 21.84                 |
|                |                 | 1#37                          | 22.24                | 22.41                   | 21.91                 |
|                |                 | 1#74                          | 21.99                | 22.13                   | 21.63                 |
|                |                 | 36#0                          | 21.18                | 21.01                   | 20.81                 |
|                |                 | 36#20                         | 21.16                | 20.97                   | 20.79                 |
|                |                 | 36#39                         | 21.12                | 20.95                   | 20.74                 |
|                |                 | 75#0                          | 21.15                | 20.98                   | 20.78                 |
| 20M            | QPSK            | 1#0                           | 22.95                | 23.32                   | 22.86                 |
|                |                 | 1#49                          | 23.04                | 22.97                   | 22.78                 |
|                |                 | 1#99                          | 22.55                | 22.54                   | 22.39                 |
|                |                 | 50#0                          | 22.09                | 23.08                   | 21.85                 |
|                |                 | 50#24                         | 22.07                | 22.94                   | 21.83                 |
|                |                 | 50#50                         | 22.1                 | 22.83                   | 21.73                 |
|                |                 | 100#0                         | 22.12                | 22.92                   | 21.79                 |
|                | 16-QAM          | 1#0                           | 22.17                | 22.41                   | 21.98                 |
|                |                 | 1#49                          | 22.35                | 22.66                   | 22.2                  |
|                |                 | 1#99                          | 21.97                | 22.23                   | 22.51                 |
|                |                 | 50#0                          | 21.12                | 21.06                   | 20.94                 |
|                |                 | 50#24                         | 21.11                | 21.01                   | 20.89                 |
|                |                 | 50#50                         | 21.11                | 20.92                   | 20.74                 |
|                |                 | 100#0                         | 21.17                | 20.95                   | 20.84                 |

**LTE Band 4**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | 1#0                        | 22.89             | 22.68                | 22.85              |
|                |                 | 1#3                        | 23                | 22.82                | 23.02              |
|                |                 | 1#5                        | 22.84             | 22.67                | 22.86              |
|                |                 | 3#0                        | 22.79             | 22.81                | 23.01              |
|                |                 | 3#1                        | 22.86             | 22.88                | 23.08              |
|                |                 | 3#3                        | 22.82             | 22.85                | 23.03              |
|                |                 | 6#0                        | 21.71             | 21.87                | 21.99              |
|                | 16-QAM          | 1#0                        | 22.06             | 21.55                | 21.74              |
|                |                 | 1#3                        | 22.22             | 21.73                | 21.87              |
|                |                 | 1#5                        | 22.04             | 21.56                | 21.75              |
|                |                 | 3#0                        | 22.08             | 21.94                | 22.11              |
|                |                 | 3#1                        | 22.09             | 22.05                | 22.16              |
|                |                 | 3#3                        | 22.08             | 21.97                | 22.12              |
|                |                 | 6#0                        | 20.73             | 21.06                | 21.17              |
| 3M             | QPSK            | 1#0                        | 22.71             | 22.81                | 23.09              |
|                |                 | 1#8                        | 22.71             | 22.86                | 23.15              |
|                |                 | 1#14                       | 22.7              | 22.85                | 23.14              |
|                |                 | 8#0                        | 21.78             | 21.86                | 21.95              |
|                |                 | 8#7                        | 21.84             | 21.95                | 22.03              |
|                |                 | 8#4                        | 21.77             | 21.85                | 21.96              |
|                |                 | 15#0                       | 21.79             | 21.85                | 21.97              |
|                | 16-QAM          | 1#0                        | 21.65             | 21.84                | 22.33              |
|                |                 | 1#8                        | 21.59             | 21.77                | 22.37              |
|                |                 | 1#14                       | 21.57             | 21.77                | 22.36              |
|                |                 | 8#0                        | 20.81             | 20.95                | 21.16              |
|                |                 | 8#7                        | 20.84             | 20.97                | 21.15              |
|                |                 | 8#4                        | 20.8              | 20.91                | 21.07              |
|                |                 | 15#0                       | 20.8              | 20.94                | 21.04              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | 1#0                        | 22.7              | 22.82                | 22.87              |
|                |                 | 1#12                       | 22.97             | 23.07                | 23.08              |
|                |                 | 1#24                       | 22.79             | 22.78                | 22.9               |
|                |                 | 12#0                       | 21.81             | 21.94                | 22.02              |
|                |                 | 12#7                       | 21.9              | 21.93                | 22.07              |
|                |                 | 12#13                      | 21.84             | 21.87                | 21.98              |
|                |                 | 25#0                       | 21.79             | 21.9                 | 22.01              |
|                | 16-QAM          | 1#0                        | 21.76             | 21.83                | 22.46              |
|                |                 | 1#12                       | 21.95             | 22.11                | 22.73              |
|                |                 | 1#24                       | 21.77             | 21.81                | 22.52              |
|                |                 | 12#0                       | 20.91             | 21.02                | 21.11              |
|                |                 | 12#7                       | 20.97             | 21.05                | 21.19              |
|                |                 | 12#13                      | 20.95             | 20.95                | 21.11              |
|                |                 | 25#0                       | 20.85             | 20.94                | 21.15              |
| 10M            | QPSK            | 1#0                        | 22.75             | 22.9                 | 23.17              |
|                |                 | 1#25                       | 22.87             | 23.01                | 23.32              |
|                |                 | 1#49                       | 22.72             | 22.86                | 23.15              |
|                |                 | 25#0                       | 21.8              | 21.94                | 22.02              |
|                |                 | 25#12                      | 21.89             | 21.93                | 22.04              |
|                |                 | 25#25                      | 21.85             | 21.89                | 21.95              |
|                |                 | 50#0                       | 21.88             | 21.9                 | 22                 |
|                | 16-QAM          | 1#0                        | 21.61             | 21.88                | 22.37              |
|                |                 | 1#25                       | 21.73             | 21.95                | 22.49              |
|                |                 | 1#49                       | 21.56             | 21.85                | 22.32              |
|                |                 | 25#12                      | 21.02             | 21.08                | 21.11              |
|                |                 | 25#25                      | 20.97             | 20.99                | 21.06              |
|                |                 | 50#0                       | 20.93             | 20.97                | 21.04              |

| Test Bandwidth | Test Modulation | Resource Block<br>& RB offset | Low Channel<br>(dBm) | Middle<br>Channel (dBm) | High Channel<br>(dBm) |
|----------------|-----------------|-------------------------------|----------------------|-------------------------|-----------------------|
| 15M            | QPSK            | 1#0                           | 22.88                | 22.83                   | 23.1                  |
|                |                 | 1#37                          | 23.08                | 23.03                   | 23.35                 |
|                |                 | 1#74                          | 22.86                | 22.76                   | 23.08                 |
|                |                 | 36#0                          | 21.91                | 21.98                   | 22.06                 |
|                |                 | 36#20                         | 21.95                | 21.98                   | 22.1                  |
|                |                 | 36#39                         | 21.88                | 21.92                   | 22.05                 |
|                |                 | 75#0                          | 21.89                | 21.97                   | 22.08                 |
|                | 16-QAM          | 1#0                           | 21.88                | 21.83                   | 22.31                 |
|                |                 | 1#37                          | 22.03                | 22                      | 22.54                 |
|                |                 | 1#74                          | 21.8                 | 21.75                   | 22.3                  |
|                |                 | 36#0                          | 20.89                | 21.01                   | 21.1                  |
|                |                 | 36#20                         | 20.9                 | 21.02                   | 21.13                 |
|                |                 | 36#39                         | 20.84                | 20.95                   | 21.09                 |
|                |                 | 75#0                          | 20.88                | 20.97                   | 21.07                 |
| 20M            | QPSK            | 1#0                           | 23.17                | 23.21                   | 23.36                 |
|                |                 | 1#49                          | 22.84                | 22.98                   | 22.98                 |
|                |                 | 1#99                          | 22.49                | 22.65                   | 22.65                 |
|                |                 | 50#0                          | 22.88                | 23.01                   | 23.01                 |
|                |                 | 50#24                         | 21.88                | 21.95                   | 22.03                 |
|                |                 | 50#50                         | 21.79                | 21.9                    | 21.96                 |
|                |                 | 100#0                         | 21.87                | 22                      | 21.99                 |
|                | 16-QAM          | 1#0                           | 21.88                | 22.28                   | 21.99                 |
|                |                 | 1#49                          | 22.18                | 22.61                   | 22.38                 |
|                |                 | 1#99                          | 21.87                | 22.29                   | 22.01                 |
|                |                 | 50#0                          | 20.91                | 21.11                   | 21.05                 |
|                |                 | 50#24                         | 20.89                | 21.04                   | 21.08                 |
|                |                 | 50#50                         | 20.82                | 20.96                   | 21.07                 |
|                |                 | 100#0                         | 20.87                | 21.02                   | 21.04                 |

**LTE Band 5**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | 1#0                        | 23.29             | 22.97                | 23.01              |
|                |                 | 1#3                        | 23.39             | 23.12                | 23.22              |
|                |                 | 1#5                        | 23.27             | 22.97                | 22.99              |
|                |                 | 3#0                        | 23.21             | 23.17                | 23.19              |
|                |                 | 3#1                        | 23.24             | 23.24                | 23.2               |
|                |                 | 3#3                        | 23.24             | 23.19                | 23.23              |
|                |                 | 6#0                        | 22.13             | 22.17                | 22.17              |
|                | 16-QAM          | 1#0                        | 22.5              | 21.92                | 21.93              |
|                |                 | 1#3                        | 22.64             | 22                   | 22.15              |
|                |                 | 1#5                        | 22.49             | 21.9                 | 21.94              |
|                |                 | 3#0                        | 22.49             | 22.36                | 22.37              |
|                |                 | 3#1                        | 22.49             | 22.39                | 22.43              |
|                |                 | 3#3                        | 22.54             | 22.36                | 22.38              |
|                |                 | 6#0                        | 21.06             | 21.38                | 21.39              |
| 3M             | QPSK            | 1#0                        | 23.05             | 23.12                | 23.38              |
|                |                 | 1#8                        | 23.09             | 23.15                | 23.33              |
|                |                 | 1#14                       | 23.07             | 23.19                | 23.38              |
|                |                 | 8#0                        | 22.23             | 22.18                | 22.18              |
|                |                 | 8#7                        | 22.21             | 22.27                | 22.27              |
|                |                 | 8#4                        | 22.2              | 22.19                | 22.19              |
|                |                 | 15#0                       | 22.19             | 22.21                | 22.25              |
|                | 16-QAM          | 1#0                        | 22.03             | 22.22                | 22.58              |
|                |                 | 1#8                        | 22                | 22.19                | 22.58              |
|                |                 | 1#14                       | 21.96             | 22.13                | 22.6               |
|                |                 | 8#0                        | 21.2              | 21.24                | 21.33              |
|                |                 | 8#7                        | 21.23             | 21.33                | 21.39              |
|                |                 | 8#4                        | 21.21             | 21.25                | 21.31              |
|                |                 | 15#0                       | 21.2              | 21.3                 | 21.25              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | 1#0                        | 23.07             | 23.13                | 23.08              |
|                |                 | 1#12                       | 23.31             | 23.36                | 23.28              |
|                |                 | 1#24                       | 23.11             | 23.1                 | 23.07              |
|                |                 | 12#0                       | 22.23             | 22.22                | 22.2               |
|                |                 | 12#7                       | 22.3              | 22.31                | 22.24              |
|                |                 | 12#13                      | 22.24             | 22.19                | 22.14              |
|                |                 | 25#0                       | 22.23             | 22.19                | 22.17              |
|                | 16-QAM          | 1#0                        | 22.15             | 22.13                | 22.76              |
|                |                 | 1#12                       | 22.27             | 22.41                | 23                 |
|                |                 | 1#24                       | 22.17             | 22.16                | 22.73              |
|                |                 | 12#0                       | 21.29             | 21.29                | 21.31              |
|                |                 | 12#7                       | 21.36             | 21.37                | 21.39              |
|                |                 | 12#13                      | 21.31             | 21.24                | 21.25              |
|                |                 | 25#0                       | 21.26             | 21.24                | 21.34              |
| 10M            | QPSK            | 1#0                        | 23.36             | 23.43                | 23.47              |
|                |                 | 1#25                       | 23.25             | 23.3                 | 23.46              |
|                |                 | 1#49                       | 23.06             | 23.11                | 23.33              |
|                |                 | 25#0                       | 23.05             | 23.28                | 23.07              |
|                |                 | 25#12                      | 22.28             | 22.29                | 22.29              |
|                |                 | 25#25                      | 22.27             | 22.21                | 22.21              |
|                |                 | 50#0                       | 22.27             | 22.3                 | 22.26              |
|                | 16-QAM          | 1#0                        | 21.94             | 22.22                | 22.62              |
|                |                 | 1#25                       | 22.06             | 22.28                | 22.67              |
|                |                 | 1#49                       | 21.99             | 22.14                | 22.53              |
|                |                 | 25#12                      | 21.33             | 21.39                | 21.36              |
|                |                 | 25#25                      | 21.37             | 21.32                | 21.32              |
|                |                 | 50#0                       | 21.36             | 21.33                | 21.31              |

**LTE Band 7**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | 1#0                        | 22.76             | 22.74                | 22.8               |
|                |                 | 1#12                       | 22.92             | 22.98                | 23.06              |
|                |                 | 1#24                       | 22.73             | 22.7                 | 22.81              |
|                |                 | 12#0                       | 21.87             | 21.91                | 21.93              |
|                |                 | 12#7                       | 21.94             | 21.93                | 21.97              |
|                |                 | 12#13                      | 21.86             | 21.83                | 21.86              |
|                |                 | 25#0                       | 21.88             | 21.88                | 21.9               |
|                | 16-QAM          | 1#0                        | 22.4              | 21.78                | 21.81              |
|                |                 | 1#12                       | 22.59             | 21.94                | 22.04              |
|                |                 | 1#24                       | 22.3              | 21.76                | 21.82              |
|                |                 | 12#0                       | 20.95             | 20.96                | 20.99              |
|                |                 | 12#7                       | 21                | 20.95                | 20.98              |
|                |                 | 12#13                      | 20.94             | 20.91                | 20.91              |
|                |                 | 25#0                       | 21.02             | 20.9                 | 20.97              |
| 10M            | QPSK            | 1#0                        | 22.77             | 23.01                | 23.17              |
|                |                 | 1#25                       | 22.89             | 23.17                | 23.26              |
|                |                 | 1#49                       | 22.72             | 22.95                | 23.15              |
|                |                 | 25#0                       | 21.86             | 22.1                 | 22.1               |
|                |                 | 25#12                      | 21.9              | 22.04                | 22.11              |
|                |                 | 25#25                      | 21.99             | 22.03                | 22.01              |
|                |                 | 50#0                       | 22.08             | 22.05                | 22.05              |
|                | 16-QAM          | 1#0                        | 21.86             | 21.96                | 22.35              |
|                |                 | 1#25                       | 21.98             | 22.08                | 22.52              |
|                |                 | 1#49                       | 21.78             | 21.9                 | 22.34              |
|                |                 | 25#12                      | 21.21             | 21.18                | 21.18              |
|                |                 | 25#25                      | 21.25             | 21.12                | 21.11              |
|                |                 | 50#0                       | 21.14             | 21.08                | 21.1               |

| Test Bandwidth | Test Modulation | Resource Block<br>& RB offset | Low Channel<br>(dBm) | Middle<br>Channel (dBm) | High Channel<br>(dBm) |
|----------------|-----------------|-------------------------------|----------------------|-------------------------|-----------------------|
| 15M            | QPSK            | 1#0                           | 23                   | 22.83                   | 23.01                 |
|                |                 | 1#37                          | 23.17                | 23.03                   | 23.24                 |
|                |                 | 1#74                          | 22.85                | 22.68                   | 22.96                 |
|                |                 | 36#0                          | 21.98                | 22.01                   | 21.95                 |
|                |                 | 36#20                         | 22.01                | 21.95                   | 21.99                 |
|                |                 | 36#39                         | 22.02                | 21.93                   | 21.93                 |
|                |                 | 75#0                          | 22.02                | 21.96                   | 21.97                 |
|                | 16-QAM          | 1#0                           | 22.01                | 21.84                   | 22.14                 |
|                |                 | 1#37                          | 22.06                | 22.01                   | 22.43                 |
|                |                 | 1#74                          | 21.79                | 21.72                   | 22.14                 |
|                |                 | 36#0                          | 20.93                | 21                      | 20.94                 |
|                |                 | 36#20                         | 20.99                | 20.98                   | 20.99                 |
|                |                 | 36#39                         | 20.97                | 20.9                    | 20.86                 |
|                |                 | 75#0                          | 20.95                | 20.97                   | 20.89                 |
| 20M            | QPSK            | 1#0                           | 23.17                | 23.27                   | 23.17                 |
|                |                 | 1#49                          | 22.72                | 22.83                   | 22.76                 |
|                |                 | 1#99                          | 22.38                | 22.44                   | 22.47                 |
|                |                 | 50#0                          | 22.74                | 22.95                   | 22.81                 |
|                |                 | 50#24                         | 21.84                | 21.83                   | 21.87                 |
|                |                 | 50#50                         | 21.82                | 21.78                   | 21.68                 |
|                |                 | 100#0                         | 21.76                | 21.81                   | 21.79                 |
|                | 16-QAM          | 1#0                           | 21.89                | 22.22                   | 21.86                 |
|                |                 | 1#49                          | 22.22                | 22.49                   | 22.18                 |
|                |                 | 1#99                          | 21.77                | 22.11                   | 21.85                 |
|                |                 | 50#0                          | 20.76                | 20.94                   | 20.83                 |
|                |                 | 50#24                         | 20.8                 | 20.91                   | 20.89                 |
|                |                 | 50#50                         | 20.78                | 20.82                   | 20.73                 |
|                |                 | 100#0                         | 20.8                 | 20.86                   | 20.8                  |

**LTE Band 12**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | 1#0                        | 23.23             | 23.39                | 23.19              |
|                |                 | 1#3                        | 23.37             | 23.51                | 23.37              |
|                |                 | 1#5                        | 23.15             | 23.33                | 23.18              |
|                |                 | 3#0                        | 23.42             | 23.37                | 23.38              |
|                |                 | 3#1                        | 23.42             | 23.45                | 23.41              |
|                |                 | 3#3                        | 23.4              | 23.35                | 23.39              |
|                |                 | 6#0                        | 22.37             | 22.38                | 22.36              |
|                | 16-QAM          | 1#0                        | 22.09             | 22.09                | 22.11              |
|                |                 | 1#3                        | 22.3              | 22.24                | 22.32              |
|                |                 | 1#5                        | 22.13             | 22.09                | 22.11              |
|                |                 | 3#0                        | 22.56             | 22.55                | 22.6               |
|                |                 | 3#1                        | 22.6              | 22.55                | 22.58              |
|                |                 | 3#3                        | 22.55             | 22.49                | 22.59              |
|                |                 | 6#0                        | 21.54             | 21.6                 | 21.58              |
| 3M             | QPSK            | 1#0                        | 23.24             | 23.24                | 23.4               |
|                |                 | 1#8                        | 23.16             | 23.23                | 23.39              |
|                |                 | 1#14                       | 23.17             | 23.24                | 23.46              |
|                |                 | 8#0                        | 22.37             | 22.34                | 22.27              |
|                |                 | 8#7                        | 22.36             | 22.37                | 22.31              |
|                |                 | 8#4                        | 22.33             | 22.31                | 22.29              |
|                |                 | 15#0                       | 22.37             | 22.32                | 22.29              |
|                | 16-QAM          | 1#0                        | 22.18             | 22.23                | 22.7               |
|                |                 | 1#8                        | 22.11             | 22.18                | 22.67              |
|                |                 | 1#14                       | 22.09             | 22.19                | 22.67              |
|                |                 | 8#0                        | 21.36             | 21.39                | 21.46              |
|                |                 | 8#7                        | 21.37             | 21.41                | 21.45              |
|                |                 | 8#4                        | 21.34             | 21.34                | 21.43              |
|                |                 | 15#0                       | 21.35             | 21.39                | 21.36              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | 1#0                        | 23.19             | 23.24                | 23.2               |
|                |                 | 1#12                       | 23.38             | 23.4                 | 23.42              |
|                |                 | 1#24                       | 23.21             | 23.2                 | 23.15              |
|                |                 | 12#0                       | 22.46             | 22.31                | 22.41              |
|                |                 | 12#7                       | 22.41             | 22.37                | 22.35              |
|                |                 | 12#13                      | 22.39             | 22.35                | 22.29              |
|                |                 | 25#0                       | 22.39             | 22.31                | 22.39              |
|                | 16-QAM          | 1#0                        | 22.28             | 22.33                | 22.86              |
|                |                 | 1#12                       | 22.48             | 22.45                | 23.08              |
|                |                 | 1#24                       | 22.32             | 22.29                | 22.88              |
|                |                 | 12#0                       | 21.53             | 21.38                | 21.53              |
|                |                 | 12#7                       | 21.49             | 21.41                | 21.48              |
|                |                 | 12#13                      | 21.47             | 21.42                | 21.41              |
|                |                 | 25#0                       | 21.44             | 21.35                | 21.49              |
| 10M            | QPSK            | 1#0                        | 23.4              | 23.52                | 23.37              |
|                |                 | 1#25                       | 23.32             | 23.41                | 23.27              |
|                |                 | 1#49                       | 23.13             | 23.24                | 23.18              |
|                |                 | 25#0                       | 23.17             | 23.34                | 23.06              |
|                |                 | 25#12                      | 22.4              | 22.37                | 22.39              |
|                |                 | 25#25                      | 22.46             | 22.36                | 22.33              |
|                |                 | 50#0                       | 22.48             | 22.35                | 22.37              |
|                | 16-QAM          | 1#0                        | 22.16             | 22.74                | 22.09              |
|                |                 | 1#25                       | 22.29             | 22.81                | 22.17              |
|                |                 | 1#49                       | 22.03             | 22.69                | 22.1               |
|                |                 | 25#12                      | 21.53             | 21.45                | 21.5               |
|                |                 | 25#25                      | 21.63             | 21.43                | 21.43              |
|                |                 | 50#0                       | 21.51             | 21.4                 | 21.42              |

## LTE Band 17

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | 1#0                        | 23.18             | 23.16                | 23.18              |
|                |                 | 1#12                       | 23.35             | 23.32                | 23.44              |
|                |                 | 1#24                       | 23.13             | 23.12                | 23.19              |
|                |                 | 12#0                       | 22.3              | 22.31                | 22.36              |
|                |                 | 12#7                       | 22.36             | 22.36                | 22.36              |
|                |                 | 12#13                      | 22.35             | 22.23                | 22.27              |
|                |                 | 25#0                       | 22.33             | 22.29                | 22.37              |
|                | 16-QAM          | 1#0                        | 22.91             | 22.22                | 22.24              |
|                |                 | 1#12                       | 23.07             | 22.4                 | 22.5               |
|                |                 | 1#24                       | 22.85             | 22.2                 | 22.27              |
|                |                 | 12#0                       | 21.41             | 21.4                 | 21.49              |
|                |                 | 12#7                       | 21.44             | 21.46                | 21.43              |
|                |                 | 12#13                      | 21.48             | 21.33                | 21.35              |
|                |                 | 25#0                       | 21.45             | 21.32                | 21.41              |
| 10M            | QPSK            | 1#0                        | 23.46             | 23.51                | 23.61              |
|                |                 | 1#25                       | 23.32             | 23.36                | 23.6               |
|                |                 | 1#49                       | 23.13             | 23.23                | 23.45              |
|                |                 | 25#0                       | 23.34             | 23.31                | 23.39              |
|                |                 | 25#12                      | 22.4              | 22.39                | 22.4               |
|                |                 | 25#25                      | 22.27             | 22.25                | 22.31              |
|                |                 | 50#0                       | 22.32             | 22.35                | 22.37              |
|                | 16-QAM          | 1#0                        | 22.13             | 22.24                | 22.66              |
|                |                 | 1#25                       | 22.24             | 22.31                | 22.83              |
|                |                 | 1#49                       | 22.08             | 22.26                | 22.73              |
|                |                 | 25#12                      | 21.54             | 21.52                | 21.47              |
|                |                 | 25#25                      | 21.36             | 21.31                | 21.36              |
|                |                 | 50#0                       | 21.41             | 21.36                | 21.4               |

## LTE Band 38

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | 1#0                        | 22.91             | 22.86                | 23.05              |
|                |                 | 1#12                       | 22.91             | 22.87                | 23.07              |
|                |                 | 1#24                       | 22.89             | 22.84                | 22.99              |
|                |                 | 12#0                       | 21.95             | 21.96                | 22.04              |
|                |                 | 12#7                       | 21.96             | 21.96                | 22.08              |
|                |                 | 12#13                      | 21.89             | 21.94                | 22.04              |
|                |                 | 25#0                       | 21.91             | 21.96                | 22.07              |
|                | 16-QAM          | 1#0                        | 21.97             | 21.84                | 21.98              |
|                |                 | 1#12                       | 21.96             | 21.87                | 22.01              |
|                |                 | 1#24                       | 21.94             | 21.83                | 21.94              |
|                |                 | 12#0                       | 20.98             | 20.93                | 20.94              |
|                |                 | 12#7                       | 20.96             | 20.97                | 20.98              |
|                |                 | 12#13                      | 20.92             | 20.88                | 20.95              |
|                |                 | 25#0                       | 20.95             | 20.97                | 21.11              |
| 10M            | QPSK            | 1#0                        | 23.02             | 22.96                | 23.04              |
|                |                 | 1#25                       | 23.15             | 23.07                | 23.23              |
|                |                 | 1#49                       | 23.07             | 22.9                 | 23.01              |
|                |                 | 25#0                       | 22.08             | 22.08                | 22.08              |
|                |                 | 25#12                      | 22.03             | 22.03                | 22.06              |
|                |                 | 25#25                      | 21.94             | 22.03                | 22.09              |
|                |                 | 50#0                       | 22                | 22.07                | 22.08              |
|                | 16-QAM          | 1#0                        | 21.96             | 21.84                | 22.08              |
|                |                 | 1#25                       | 22.07             | 21.96                | 22.19              |
|                |                 | 1#49                       | 21.97             | 21.76                | 22.04              |
|                |                 | 25#12                      | 21                | 21.02                | 21.11              |
|                |                 | 25#25                      | 20.98             | 20.99                | 21.1               |
|                |                 | 50#0                       | 21.07             | 21.04                | 21.11              |

| Test Bandwidth | Test Modulation | Resource Block<br>& RB offset | Low Channel<br>(dBm) | Middle<br>Channel (dBm) | High Channel<br>(dBm) |
|----------------|-----------------|-------------------------------|----------------------|-------------------------|-----------------------|
| 15M            | QPSK            | 1#0                           | 22.93                | 22.86                   | 22.96                 |
|                |                 | 1#37                          | 22.88                | 22.78                   | 22.89                 |
|                |                 | 1#74                          | 22.94                | 22.75                   | 22.86                 |
|                |                 | 36#0                          | 22.01                | 22.03                   | 22.04                 |
|                |                 | 36#20                         | 21.96                | 21.99                   | 22.03                 |
|                |                 | 36#39                         | 21.93                | 21.99                   | 22.03                 |
|                |                 | 75#0                          | 21.96                | 22                      | 22.04                 |
|                | 16-QAM          | 1#0                           | 22.05                | 21.75                   | 22.01                 |
|                |                 | 1#37                          | 22                   | 21.66                   | 21.94                 |
|                |                 | 1#74                          | 22.02                | 21.67                   | 21.92                 |
|                |                 | 36#0                          | 21.02                | 21.05                   | 20.9                  |
|                |                 | 36#20                         | 20.97                | 21.03                   | 20.9                  |
|                |                 | 36#39                         | 20.94                | 21.02                   | 20.91                 |
|                |                 | 75#0                          | 20.93                | 20.99                   | 21.04                 |
| 20M            | QPSK            | 1#0                           | 23.14                | 23.37                   | 23.23                 |
|                |                 | 1#49                          | 23.36                | 23.35                   | 23.32                 |
|                |                 | 1#99                          | 22.88                | 22.79                   | 22.76                 |
|                |                 | 50#0                          | 23.03                | 23.15                   | 23.1                  |
|                |                 | 50#24                         | 22.14                | 22.11                   | 22.1                  |
|                |                 | 50#50                         | 22.07                | 22.08                   | 22.09                 |
|                |                 | 100#0                         | 22.16                | 22.39                   | 22.17                 |
|                | 16-QAM          | 1#0                           | 21.66                | 21.85                   | 21.73                 |
|                |                 | 1#49                          | 22.18                | 22.32                   | 22.21                 |
|                |                 | 1#99                          | 21.6                 | 21.77                   | 21.68                 |
|                |                 | 50#0                          | 21.03                | 21.02                   | 20.97                 |
|                |                 | 50#24                         | 20.97                | 21                      | 20.99                 |
|                |                 | 50#50                         | 20.87                | 20.98                   | 20.98                 |
|                |                 | 100#0                         | 21.05                | 20.99                   | 20.97                 |

**LTE Band 41**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | 2570 MHz (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------|----------------------|--------------------|
| 5M             | QPSK            | 1#0                        | 22.94             | 22.96          | 23.03                | 23                 |
|                |                 | 1#12                       | 22.93             | 23             | 23.02                | 23.04              |
|                |                 | 1#24                       | 22.86             | 22.99          | 22.98                | 23.03              |
|                |                 | 12#0                       | 21.87             | 22.14          | 22.01                | 22.18              |
|                |                 | 12#7                       | 21.98             | 22.13          | 22.05                | 22.17              |
|                |                 | 12#13                      | 21.97             | 22.12          | 21.97                | 22.16              |
|                |                 | 25#0                       | 21.91             | 22.14          | 22.01                | 22.18              |
|                | 16-QAM          | 1#0                        | 21.88             | 21.94          | 22.06                | 21.98              |
|                |                 | 1#12                       | 21.88             | 21.99          | 22.03                | 22.03              |
|                |                 | 1#24                       | 21.79             | 21.97          | 22.01                | 22.01              |
|                |                 | 12#0                       | 20.8              | 21.05          | 21.01                | 21.09              |
|                |                 | 12#7                       | 20.92             | 21.07          | 21.03                | 21.11              |
|                |                 | 12#13                      | 20.84             | 20.97          | 21                   | 21.01              |
|                |                 | 25#0                       | 20.99             | 21.08          | 21                   | 21.12              |
| 10M            | QPSK            | 1#0                        | 22.94             | 23.01          | 23.13                | 23.05              |
|                |                 | 1#25                       | 23.02             | 23.17          | 23.3                 | 23.21              |
|                |                 | 1#49                       | 22.84             | 23.02          | 23.1                 | 23.06              |
|                |                 | 25#0                       | 21.9              | 22.2           | 22.14                | 22.24              |
|                |                 | 25#12                      | 21.94             | 22.12          | 22.07                | 22.16              |
|                |                 | 25#25                      | 22.02             | 22.06          | 22.06                | 22.1               |
|                |                 | 50#0                       | 21.96             | 22.14          | 22.13                | 22.18              |
|                | 16-QAM          | 1#0                        | 22                | 21.85          | 22.04                | 21.89              |
|                |                 | 1#25                       | 22.09             | 22.02          | 22.18                | 22.06              |
|                |                 | 1#49                       | 21.87             | 21.82          | 22.02                | 21.86              |
|                |                 | 25#12                      | 20.93             | 21.09          | 21.07                | 21.13              |
|                |                 | 25#25                      | 21.02             | 21.01          | 21.08                | 21.05              |
|                |                 | 50#0                       | 20.97             | 21.13          | 21.17                | 21.17              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | 2570 MHz (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------|----------------------|--------------------|
| 15M            | QPSK            | 1#0                        | 22.89             | 22.96          | 23.03                | 23                 |
|                |                 | 1#37                       | 22.77             | 22.91          | 23.01                | 22.95              |
|                |                 | 1#74                       | 22.69             | 22.89          | 22.99                | 22.93              |
|                |                 | 36#0                       | 21.88             | 22.16          | 22.05                | 22.2               |
|                |                 | 36#20                      | 21.96             | 22.12          | 22.09                | 22.16              |
|                |                 | 36#39                      | 21.99             | 22.07          | 22.02                | 22.11              |
|                |                 | 75#0                       | 21.94             | 22.13          | 22.06                | 22.17              |
|                | 16-QAM          | 1#0                        | 21.95             | 21.83          | 22.14                | 21.87              |
|                |                 | 1#37                       | 21.83             | 21.76          | 22.11                | 21.8               |
|                |                 | 1#74                       | 21.76             | 21.73          | 22.08                | 21.77              |
|                |                 | 36#0                       | 21.74             | 21.19          | 21.06                | 21.23              |
|                |                 | 36#20                      | 21.82             | 21.13          | 21.12                | 21.17              |
|                |                 | 36#39                      | 21.84             | 21.08          | 21.08                | 21.12              |
|                |                 | 75#0                       | 21.89             | 21.12          | 21.03                | 21.16              |
| 20M            | QPSK            | 1#0                        | 23.27             | 23.44          | 23.34                | 23.48              |
|                |                 | 1#49                       | 23.19             | 23.43          | 23.47                | 23.47              |
|                |                 | 1#99                       | 22.61             | 22.89          | 22.92                | 22.93              |
|                |                 | 50#0                       | 22.88             | 23.18          | 23.19                | 23.22              |
|                |                 | 50#24                      | 22.16             | 22.14          | 22.11                | 22.18              |
|                |                 | 50#50                      | 22.14             | 22.16          | 22.14                | 22.2               |
|                |                 | 100#0                      | 22.13             | 22.14          | 22.98                | 22.18              |
|                | 16-QAM          | 1#0                        | 21.64             | 21.91          | 21.75                | 21.95              |
|                |                 | 1#49                       | 22.03             | 22.47          | 22.28                | 22.51              |
|                |                 | 1#99                       | 21.41             | 21.86          | 21.7                 | 21.9               |
|                |                 | 50#0                       | 21.67             | 21.15          | 21.08                | 21.19              |
|                |                 | 50#24                      | 21.91             | 21.1           | 21.1                 | 21.14              |
|                |                 | 50#50                      | 21.92             | 20.96          | 21.03                | 21                 |
|                |                 | 100#0                      | 21.8              | 21.03          | 21.07                | 21.07              |

**WLAN 2.4G:**

| Mode       | Channel frequency (MHz) | Data Rate | Duty cycle (%) | Conducted Average Output Power(dBm) |
|------------|-------------------------|-----------|----------------|-------------------------------------|
| 802.11b    | 2412                    | 1Mbps     | 99.45          | 13.58                               |
|            | 2437                    |           |                | 13.61                               |
|            | 2462                    |           |                | 13.64                               |
| 802.11g    | 2412                    | 6Mbps     | /              | 11.49                               |
|            | 2437                    |           |                | 11.49                               |
|            | 2462                    |           |                | 11.63                               |
| 802.11n 20 | 2412                    | MCS0      | /              | 9.52                                |
|            | 2437                    |           |                | 9.57                                |
|            | 2462                    |           |                | 9.53                                |
| 802.11n 40 | 2422                    | MCS0      | /              | 9.69                                |
|            | 2437                    |           |                | 9.63                                |
|            | 2452                    |           |                | 9.65                                |

**Note:**

The test data and plots of duty cycle, please refer to the radio report: RKSA260107001-00B, which was issued by Bay Area Compliance Laboratories Corp. (KunShan).

**WLAN 5.2G:**

| Test mode  | Band          | Frequency (MHz) | Duty cycle (%) | Average Conducted Output Power (dBm) |
|------------|---------------|-----------------|----------------|--------------------------------------|
| 802.11a    | 5150-5250 MHz | 5180            | 96.8           | 13.18                                |
|            |               | 5200            |                | 13.13                                |
|            |               | 5240            |                | 12.58                                |
| 802.11ac20 | 5150-5250 MHz | 5180            | /              | 9.41                                 |
|            |               | 5200            |                | 9.36                                 |
|            |               | 5240            |                | 9.28                                 |
| 802.11ac40 | 5150-5250 MHz | 5190            | /              | 9.63                                 |
|            |               | 5230            |                | 9.51                                 |

**Note:**

1. The test data and plots of duty cycle, please refer to the radio report: RKSA260107001-00D, which was issued by Bay Area Compliance Laboratories Corp. (KunShan).
2. The system support 802.11a/n ht20/n ht40/ac vht20/ ac vht40 /, the n ht20/ ht40 is reduced due to having the same parameters as 802.11 ac vht20 and vht 40.

**WLAN 5.8G:**

| Test mode  | Band          | Frequency (MHz) | Duty cycle (%) | Average Conducted Output Power (dBm) |
|------------|---------------|-----------------|----------------|--------------------------------------|
| 802.11a    | 5725-5850 MHz | 5745            | 96.8           | 11.53                                |
|            |               | 5785            |                | 11.14                                |
|            |               | 5825            |                | 10.97                                |
| 802.11ac20 | 5725-5850 MHz | 5745            | /              | 8.12                                 |
|            |               | 5785            |                | 7.68                                 |
|            |               | 5825            |                | 7.63                                 |
| 802.11ac40 | 5725-5850 MHz | 5755            | /              | 7.76                                 |
|            |               | 5795            |                | 7.48                                 |

**Note:**

- 1.The test data and plots of duty cycle, please refer to the radio report: RKSA260107001-00D, which was issued by Bay Area Compliance Laboratories Corp. (KunShan).
- 2.The system support 802.11a/n ht20/n ht40/ac vht20/ ac vht40, the n ht20/ ht40 is reduced due to having the same parameters as 802.11 ac vht20 and vht 40.

**Bluetooth:**

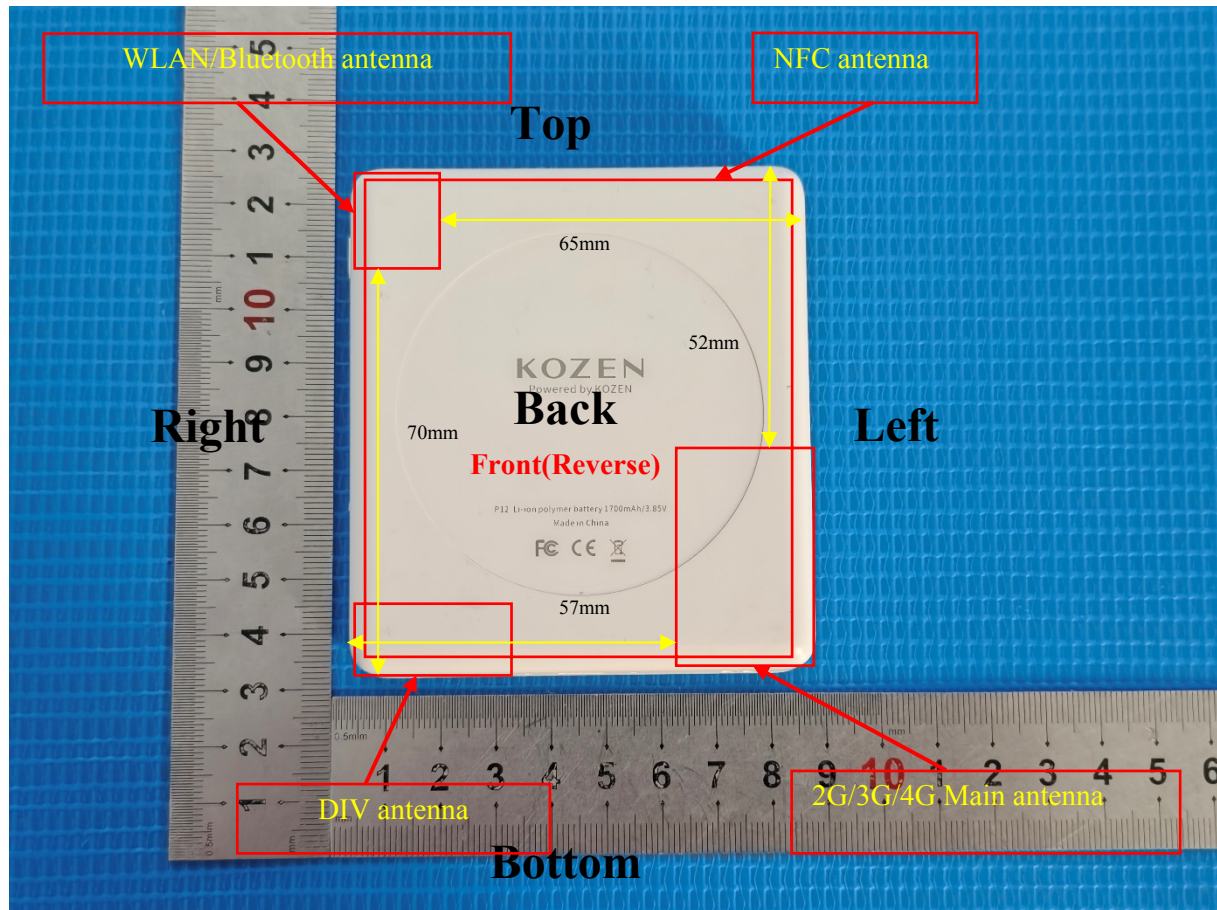
| Mode                 | Channel frequency<br>(MHz) | Duty cycle<br>(%) | Max Conducted Peak<br>Output Power<br>(dBm) |
|----------------------|----------------------------|-------------------|---------------------------------------------|
| BDR(GFSK)            | 2402                       | /                 | 5.08                                        |
|                      | 2441                       |                   | 5.29                                        |
|                      | 2480                       |                   | 5.39                                        |
| EDR( $\pi/4$ -DQPSK) | 2402                       | /                 | 4.18                                        |
|                      | 2441                       |                   | 4.39                                        |
|                      | 2480                       |                   | 4.46                                        |
| EDR(8DPSK)           | 2402                       | /                 | 4.36                                        |
|                      | 2441                       |                   | 4.56                                        |
|                      | 2480                       |                   | 4.65                                        |

**BLE:**

| Mode     | Max ConductedPeak OutputPower<br>(dBm) |        |       |
|----------|----------------------------------------|--------|-------|
|          | Low                                    | Middle | High  |
| BLE (1M) | -5.63                                  | -5.41  | -5.41 |
| BLE (2M) | -5.63                                  | -5.52  | -5.32 |

## Standalone SAR test exclusion considerations

### Antennas Location:



### Antenna Distance To Edge

| Antenna     | Antenna Distance To Edge(mm) |       |      |       |     |        |
|-------------|------------------------------|-------|------|-------|-----|--------|
|             | Back                         | Front | Left | Right | Top | Bottom |
| WWAN Main   | <5                           | <5    | <5   | 57    | 52  | <5     |
| WIFI/BT/BLE | <5                           | <5    | 65   | <5    | <5  | 70     |

**Note:** The Main antenna has transmitting and receiving functions, while the DIV antenna only has receiving functions.

**Standalone SAR Test Exclusion Considerations**

| Mode      | Frequency (MHz) | Output Power (dBm) | Output Power (mW) | Distance (mm) | Calculated value | Threshold (1-g) | SAR Test Exclusion |
|-----------|-----------------|--------------------|-------------------|---------------|------------------|-----------------|--------------------|
| WLAN 2.4G | 2462            | 14                 | 25.12             | 0             | 7.9              | 3               | No                 |
| WLAN 5.2G | 5240            | 13.5               | 22.39             | 0             | 10.3             | 3               | No                 |
| WLAN 5.8G | 5825            | 12                 | 15.85             | 0             | 7.7              | 3               | No                 |
| BT        | 2480            | 5.5                | 3.55              | 0             | 1.1              | 3               | YES                |
| BLE       | 2480            | -5                 | 0.32              | 0             | 0.1              | 3               | YES                |

**NOTE:**

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

1.  $f(\text{GHz})$  is the RF channel transmit frequency in GHz.

2. Power and distance are rounded to the nearest mW and mm before calculation.

3. The result is rounded to one decimal place for comparison.

4. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test Exclusion.

**Standalone SAR estimation:**

| Mode      | Frequency (MHz) | Pavg (dBm) | Pavg (mW) | Distance (mm) | Estimated 10-g (W/kg) |
|-----------|-----------------|------------|-----------|---------------|-----------------------|
| BT Limbs  | 2480            | 5.5        | 3.55      | 0             | 0.06                  |
| BLE Limbs | 2480            | -5         | 0.32      | 0             | 0.01                  |

| Mode     | Frequency (MHz) | Pavg (dBm) | Pavg (mW) | Distance (mm) | Estimated 1-g (W/kg) |
|----------|-----------------|------------|-----------|---------------|----------------------|
| BT Body  | 2480            | 5.5        | 3.55      | 10            | 0.15                 |
| BLE Body | 2480            | -5         | 0.32      | 10            | 0.01                 |

**Note:** The BT&BLE based Peak power for calculation.

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

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})/x}]$

W/kg for test separation distances  $\leq 50$  mm;

where  $x = 7.5$  for 1-g SAR. and  $x = 18.75$  for 10-g SAR.

When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test Exclusion

According to KDB447498 D01 General RF Exposure Guidance v06: 4.3. General SAR test exclusion guidance

c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):

- 1) For test separation distances  $> 50$  mm and  $< 200$  mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by  $[1 + \log(100/f(\text{MHz}))]$
- 2) For test separation distances  $\leq 50$  mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by  $\frac{1}{2}$
- 3) SAR measurement procedures are not established below 100 MHz

**Measurement Result:**

For NFC, the power of EUT: E-Field@3m is 70.36 dBuV/m = -24.84 dBm (0.00328mW)

Note:  $\text{EIRP}[\text{dBm}] = \text{E}[\text{dB}\mu\text{V/m}] - 95.2$  for  $d = 3$  m.

SAR test exclusion threshold for NFC (13.56MHz) separation distance  $< 50$ mm

$$= [474 * (1 + \log(100/f(\text{MHz}))) / 2]$$

$$= 443 \text{ mW}$$

$$> 0.00328 \text{ mW}$$

**Conclusion:**

The NFC SAR evaluation can be exempted.

**Note:**

For NFC, please refer to report RKSA260107001-00E

## Standalone SAR test exclusion considerations

| Mode           | Frequency (MHz) | Pavg (dBm) | Pavg (mW) | Test Exclusion Distance(mm) |
|----------------|-----------------|------------|-----------|-----------------------------|
| GSM 850        | 848.8           | 29.8       | 954.99    | 190                         |
| GSM 1900       | 1909.8          | 26         | 398.11    | 78.96                       |
| WCDMA 2        | 1907.6          | 22.5       | 177.83    | 56.92                       |
| WCDMA 4        | 1752.6          | 21.5       | 141.25    | 52.79                       |
| WCDMA 5        | 846.6           | 22.5       | 177.83    | 52.62                       |
| LTE Band 2     | 1900            | 23.5       | 223.87    | 61.51                       |
| LTE Band 4     | 1745            | 23.5       | 223.87    | 61.03                       |
| LTE Band 5     | 844             | 23.5       | 223.87    | 60.80                       |
| LTE Band 7     | 2560            | 23.5       | 223.87    | 63.01                       |
| LTE Band 12&17 | 711             | 24         | 251.19    | 65.46                       |
| LTE Band 41&38 | 2645            | 23.5       | 223.87    | 63.16                       |
| WLAN 2.4G      | 2462            | 14         | 25.12     | 13.14                       |
| WLAN 5.2G      | 5240            | 13.5       | 22.39     | 17.08                       |
| WLAN 5.8G      | 5825            | 12         | 15.85     | 12.75                       |

## SAR test exclusion for the EUT edge considerations Result

| Mode           | Back     | Front    | Left      | Right     | Top      | Bottom    |
|----------------|----------|----------|-----------|-----------|----------|-----------|
| GSM 850        | Required | Required | Required  | Required  | Required | Required  |
| GSM 1900       | Required | Required | Required  | Required  | Required | Required  |
| WCDMA 2        | Required | Required | Required  | Exclusion | Required | Required  |
| WCDMA 4        | Required | Required | Required  | Exclusion | Required | Required  |
| WCDMA 5        | Required | Required | Required  | Exclusion | Required | Required  |
| LTE Band 2     | Required | Required | Required  | Required  | Required | Required  |
| LTE Band 4     | Required | Required | Required  | Required  | Required | Required  |
| LTE Band 5     | Required | Required | Required  | Required  | Required | Required  |
| LTE Band 7     | Required | Required | Required  | Required  | Required | Required  |
| LTE Band 12&17 | Required | Required | Required  | Required  | Required | Required  |
| LTE Band 41&38 | Required | Required | Required  | Required  | Required | Required  |
| WLAN 2.4G      | Required | Required | Exclusion | Required  | Required | Exclusion |
| WLAN 5.2G      | Required | Required | Exclusion | Required  | Required | Exclusion |
| WLAN 5.8G      | Required | Required | Exclusion | Required  | Required | Exclusion |

**Distance < 50mm (To Edges)**

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

1.  $f(\text{GHz})$  is the RF channel transmit frequency in GHz.

2. Power and distance are rounded to the nearest mW and mm before calculation.

3. The result is rounded to one decimal place for comparison.

4. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test Exclusion.

5. The Time based average Power is used for calculation

**Distance > 50mm (To Edges)**

At 100 MHz to 6 GHz and for *test separation distances*  $> 50$  mm, the SAR test exclusion threshold is determined according to the following:

a)  $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)]$  mW, at 100 MHz to 1500 MHz

b)  $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10]$  mW at  $> 1500$  MHz and  $\leq 6$  GHz.

## SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

### SAR Test Data

#### Environmental Conditions

|                    |              |              |              |
|--------------------|--------------|--------------|--------------|
| Temperature:       | 22.1-23.2 °C | 22.2-23.3 °C | 22.1-23.5 °C |
| Relative Humidity: | 48 %         | 50 %         | 51 %         |
| Test Date:         | 2026/03/01   | 2026/03/02   | 2026/03/03   |
| Temperature:       | 22.1-23.3 °C | 22.2-23.1 °C | /            |
| Relative Humidity: | 50 %         | 48 %         | /            |
| Test Date:         | 2026/03/04   | 2026/03/05   | /            |

Testing was performed by Allen sun and Jacky cai

#### GSM850:

| Band   | EUT Position      | Freq.<br>(MHz) | Test Mode       | Max.<br>Meas.<br>Power<br>(dBm) | Max.<br>Rated<br>Power<br>(dBm) | Scaled<br>Factor | Meas.<br>(W/Kg) | Scaled SAR<br>(W/Kg) | Limit<br>(W/Kg) | Plot |
|--------|-------------------|----------------|-----------------|---------------------------------|---------------------------------|------------------|-----------------|----------------------|-----------------|------|
| GSM850 | Limbs Front(0mm)  | 836.6          | GPRS 4 Tx slots | 29.34                           | 29.5                            | 1.038            | 0.888           | 0.92                 | 4.0             | /    |
| GSM850 | Limbs Back (0mm)  | 836.6          | GPRS 4 Tx slots | 29.34                           | 29.5                            | 1.038            | 1.570           | 1.63                 | 4.0             | 1#   |
| GSM850 | Limbs Left(0mm)   | 836.6          | GPRS 4 Tx slots | 29.34                           | 29.5                            | 1.038            | 1.350           | 1.40                 | 4.0             | /    |
| GSM850 | Limbs Right (0mm) | 836.6          | GPRS 4 Tx slots | 29.34                           | 29.5                            | 1.038            | 0.331           | 0.34                 | 4.0             | /    |
| GSM850 | Limbs Top(0mm)    | 836.6          | GPRS 4 Tx slots | 29.34                           | 29.5                            | 1.038            | 0.225           | 0.23                 | 4.0             | /    |
| GSM850 | Limbs Bottom(0mm) | 836.6          | GPRS 4 Tx slots | 29.34                           | 29.5                            | 1.038            | 1.190           | 1.24                 | 4.0             | /    |
| GSM850 | Body Back (10mm)  | 836.6          | GPRS 4 Tx slots | 29.34                           | 29.5                            | 1.038            | 0.838           | 0.87                 | 1.6             | /    |
| GSM850 | Body Back (10mm)  | 824.2          | GPRS 4 Tx slots | 29.53                           | 29.8                            | 1.064            | 1.030           | 1.10                 | 1.6             | /    |
| GSM850 | Body Back (10mm)  | 848.8          | GPRS 4 Tx slots | 29.21                           | 29.5                            | 1.069            | 1.060           | 1.13                 | 1.6             | 2#   |

**PCS1900:**

| Band    | EUT Position      | Freq. (MHz) | Test Mode       | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot      |
|---------|-------------------|-------------|-----------------|------------------------|------------------------|---------------|--------------|-------------------|--------------|-----------|
| PCS1900 | Limbs Front(0mm)  | 1880        | GPRS 3 Tx slots | 25.86                  | 26                     | 1.033         | 0.265        | 0.27              | 4.0          | /         |
| PCS1900 | Limbs Back (0mm)  | 1880        | GPRS 3 Tx slots | 25.86                  | 26                     | 1.033         | <b>1.630</b> | <b>1.68</b>       | 4.0          | <b>3#</b> |
| PCS1900 | Limbs Left(0mm)   | 1880        | GPRS 3 Tx slots | 25.86                  | 26                     | 1.033         | 0.725        | 0.75              | 4.0          | /         |
| PCS1900 | Limbs Right (0mm) | 1880        | GPRS 3 Tx slots | 25.86                  | 26                     | 1.033         | 0.166        | 0.17              | 4.0          | /         |
| PCS1900 | Limbs Top(0mm)    | 1880        | GPRS 3 Tx slots | 25.86                  | 26                     | 1.033         | 0.231        | 0.24              | 4.0          | /         |
| PCS1900 | Limbs Bottom(0mm) | 1880        | GPRS 3 Tx slots | 25.86                  | 26                     | 1.033         | 0.663        | 0.69              | 4.0          | /         |
| PCS1900 | Body Back (10mm)  | 1880        | GPRS 3 Tx slots | 25.86                  | 26                     | 1.033         | <b>0.633</b> | <b>0.65</b>       | 1.6          | <b>4#</b> |

**Note:**

1. When the SAR value is less than half of the limit, testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. When the maximum output power variation across the required test channels is  $> \frac{1}{2}$  dB, instead of the middle channel, the highest output power channel must be used.

**WCDMA Band 2:**

| Band         | EUT Position      | Freq. (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot      |
|--------------|-------------------|-------------|-----------|------------------------|------------------------|---------------|--------------|-------------------|--------------|-----------|
| WCDMA Band 2 | Limbs Front(0mm)  | 1880        | RMC       | 22.05                  | 22.5                   | 1.109         | 0.278        | 0.31              | 4.0          | /         |
| WCDMA Band 2 | Limbs Back (0mm)  | 1880        | RMC       | 22.05                  | 22.5                   | 1.109         | <b>1.240</b> | <b>1.38</b>       | 4.0          | <b>5#</b> |
| WCDMA Band 2 | Limbs Left(0mm)   | 1880        | RMC       | 22.05                  | 22.5                   | 1.109         | 0.529        | 0.59              | 4.0          | /         |
| WCDMA Band 2 | Limbs Right (0mm) | 1880        | RMC       | /                      | /                      | /             | /            | /                 | 4.0          | /         |
| WCDMA Band 2 | Limbs Top(0mm)    | 1880        | RMC       | 22.05                  | 22.5                   | 1.109         | 0.178        | 0.20              | 4.0          | /         |
| WCDMA Band 2 | Limbs Bottom(0mm) | 1880        | RMC       | 22.05                  | 22.5                   | 1.109         | 0.528        | 0.59              | 4.0          | /         |
| WCDMA Band 2 | Body Back (10mm)  | 1880        | RMC       | 22.05                  | 22.5                   | 1.109         | <b>0.385</b> | <b>0.43</b>       | 1.6          | <b>6#</b> |

**WCDMA Band 4**

| Band         | EUT Position      | Freq. (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot      |
|--------------|-------------------|-------------|-----------|------------------------|------------------------|---------------|--------------|-------------------|--------------|-----------|
| WCDMA Band 4 | Limbs Front(0mm)  | 1732.6      | RMC       | 21.19                  | 21.5                   | 1.074         | 0.265        | 0.29              | 4.0          | /         |
| WCDMA Band 4 | Limbs Back (0mm)  | 1732.6      | RMC       | 21.19                  | 21.5                   | 1.074         | <b>1.170</b> | <b>1.26</b>       | 4.0          | <b>7#</b> |
| WCDMA Band 4 | Limbs Left(0mm)   | 1732.6      | RMC       | 21.19                  | 21.5                   | 1.074         | 0.577        | 0.62              | 4.0          | /         |
| WCDMA Band 4 | Limbs Right (0mm) | 1732.6      | RMC       | /                      | /                      | /             | /            | /                 | 4.0          | /         |
| WCDMA Band 4 | Limbs Top(0mm)    | 1732.6      | RMC       | 21.19                  | 21.5                   | 1.074         | 0.093        | 0.10              | 4.0          | /         |
| WCDMA Band 4 | Limbs Bottom(0mm) | 1732.6      | RMC       | 21.19                  | 21.5                   | 1.074         | 0.574        | 0.62              | 4.0          | /         |
| WCDMA Band 4 | Body Back (10mm)  | 1732.6      | RMC       | 21.19                  | 21.5                   | 1.074         | <b>0.326</b> | <b>0.35</b>       | 1.6          | <b>8#</b> |

**WCDMA Band 5**

| Band         | EUT Position      | Freq. (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot       |
|--------------|-------------------|-------------|-----------|------------------------|------------------------|---------------|--------------|-------------------|--------------|------------|
| WCDMA Band 5 | Limbs Front(0mm)  | 836.6       | RMC       | 22.3                   | 22.5                   | 1.047         | 0.224        | 0.24              | 4.0          | /          |
| WCDMA Band 5 | Limbs Back (0mm)  | 836.6       | RMC       | 22.3                   | 22.5                   | 1.047         | 0.295        | 0.31              | 4.0          | /          |
| WCDMA Band 5 | Limbs Left(0mm)   | 836.6       | RMC       | 22.3                   | 22.5                   | 1.047         | 0.275        | 0.29              | 4.0          | /          |
| WCDMA Band 5 | Limbs Right (0mm) | 836.6       | RMC       | /                      | /                      | /             | /            | /                 | 4.0          | /          |
| WCDMA Band 5 | Limbs Top(0mm)    | 836.6       | RMC       | 22.3                   | 22.5                   | 1.047         | 0.065        | 0.07              | 4.0          | /          |
| WCDMA Band 5 | Limbs Bottom(0mm) | 836.6       | RMC       | 22.3                   | 22.5                   | 1.047         | <b>0.296</b> | <b>0.31</b>       | 4.0          | <b>9#</b>  |
| WCDMA Band 5 | Body Back (10mm)  | 836.6       | RMC       | 22.3                   | 22.5                   | 1.047         | <b>0.195</b> | <b>0.20</b>       | 1.6          | <b>10#</b> |

**Note:**

1. When the SAR value is less than half of the limit, testing for other channels are optional.
2. The EUT transmit and receive through the same antenna while testing SAR.
3. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in All 1.
4. KDB 941225 D01-Body SAR is not required for HSUPA/HSDPA / HSPA+when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

**LTE FDD Band 2:**

| EUT Position      | Freq. (MHz) | Modulation Type | Bandwidth (MHz) | RB    | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot       |
|-------------------|-------------|-----------------|-----------------|-------|------------------------|------------------------|---------------|--------------|-------------------|--------------|------------|
| Limbs Front(0mm)  | 1880        | QPSK            | 20              | 1RB   | 23.32                  | 23.50                  | 1.042         | 0.237        | 0.25              | 4.0          | /          |
| Limbs Front(0mm)  | 1880        | QPSK            | 20              | 50%RB | 23.08                  | 23.50                  | 1.102         | 0.215        | 0.24              | 4.0          | /          |
| Limbs Back(0mm)   | 1880        | QPSK            | 20              | 1RB   | 23.32                  | 23.50                  | 1.042         | <b>1.340</b> | <b>1.40</b>       | 4.0          | <b>11#</b> |
| Limbs Back(0mm)   | 1880        | QPSK            | 20              | 50%RB | 23.08                  | 23.50                  | 1.102         | 1.240        | 1.37              | 4.0          | /          |
| Limbs Left(0mm)   | 1880        | QPSK            | 20              | 1RB   | 23.32                  | 23.50                  | 1.042         | 0.530        | 0.55              | 4.0          | /          |
| Limbs Left(0mm)   | 1880        | QPSK            | 20              | 50%RB | 23.08                  | 23.50                  | 1.102         | 0.454        | 0.50              | 4.0          | /          |
| Limbs Right (0mm) | 1880        | QPSK            | 20              | 1RB   | 23.32                  | 23.50                  | 1.042         | 0.065        | 0.07              | 4.0          | /          |
| Limbs Right (0mm) | 1880        | QPSK            | 20              | 50%RB | 23.08                  | 23.50                  | 1.102         | 0.055        | 0.06              | 4.0          | /          |
| Limbs Top(0mm)    | 1880        | QPSK            | 20              | 1RB   | 23.32                  | 23.50                  | 1.042         | 0.160        | 0.17              | 4.0          | /          |
| Limbs Top(0mm)    | 1880        | QPSK            | 20              | 50%RB | 23.08                  | 23.50                  | 1.102         | 0.141        | 0.16              | 4.0          | /          |
| Limbs Bottom(0mm) | 1880        | QPSK            | 20              | 1RB   | 23.32                  | 23.50                  | 1.042         | 0.557        | 0.58              | 4.0          | /          |
| Limbs Bottom(0mm) | 1880        | QPSK            | 20              | 50%RB | 23.08                  | 23.50                  | 1.102         | 0.499        | 0.55              | 4.0          | /          |
| Body Back(10mm)   | 1880        | QPSK            | 20              | 1RB   | 23.32                  | 23.50                  | 1.042         | <b>0.476</b> | <b>0.50</b>       | 1.6          | <b>12#</b> |
| Body Back(10mm)   | 1880        | QPSK            | 20              | 50%RB | 23.08                  | 23.50                  | 1.102         | 0.450        | 0.50              | 1.6          | /          |

**LTE FDD Band 4:**

| EUT Position      | Freq. (MHz) | Modulation Type | Bandwidth (MHz) | RB    | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot       |
|-------------------|-------------|-----------------|-----------------|-------|------------------------|------------------------|---------------|--------------|-------------------|--------------|------------|
| Limbs Front(0mm)  | 1732.5      | QPSK            | 20              | 1RB   | 23.21                  | 23.50                  | 1.069         | 0.224        | 0.24              | 4.0          | /          |
| Limbs Front(0mm)  | 1732.5      | QPSK            | 20              | 50%RB | 23.01                  | 23.50                  | 1.119         | 0.195        | 0.22              | 4.0          | /          |
| Limbs Back(0mm)   | 1732.5      | QPSK            | 20              | 1RB   | 23.21                  | 23.50                  | 1.069         | <b>1.320</b> | <b>1.41</b>       | 4.0          | <b>13#</b> |
| Limbs Back(0mm)   | 1732.5      | QPSK            | 20              | 50%RB | 23.01                  | 23.50                  | 1.119         | 1.100        | 1.23              | 4.0          | /          |
| Limbs Left(0mm)   | 1732.5      | QPSK            | 20              | 1RB   | 23.21                  | 23.50                  | 1.069         | 0.618        | 0.66              | 4.0          | /          |
| Limbs Left(0mm)   | 1732.5      | QPSK            | 20              | 50%RB | 23.01                  | 23.50                  | 1.119         | 0.529        | 0.59              | 4.0          | /          |
| Limbs Right (0mm) | 1732.5      | QPSK            | 20              | 1RB   | 23.21                  | 23.50                  | 1.069         | 0.041        | 0.04              | 4.0          | /          |
| Limbs Right (0mm) | 1732.5      | QPSK            | 20              | 50%RB | 23.01                  | 23.50                  | 1.119         | 0.036        | 0.04              | 4.0          | /          |
| Limbs Top(0mm)    | 1732.5      | QPSK            | 20              | 1RB   | 23.21                  | 23.50                  | 1.069         | 0.091        | 0.10              | 4.0          | /          |
| Limbs Top(0mm)    | 1732.5      | QPSK            | 20              | 50%RB | 23.01                  | 23.50                  | 1.119         | 0.081        | 0.09              | 4.0          | /          |
| Limbs Bottom(0mm) | 1732.5      | QPSK            | 20              | 1RB   | 23.21                  | 23.50                  | 1.069         | 0.611        | 0.65              | 4.0          | /          |
| Limbs Bottom(0mm) | 1732.5      | QPSK            | 20              | 50%RB | 23.01                  | 23.50                  | 1.119         | 0.526        | 0.59              | 4.0          | /          |
| Body Back(10mm)   | 1732.5      | QPSK            | 20              | 1RB   | 23.21                  | 23.50                  | 1.069         | 0.390        | 0.42              | 1.6          | /          |
| Body Back(10mm)   | 1732.5      | QPSK            | 20              | 50%RB | 23.01                  | 23.50                  | 1.119         | <b>0.393</b> | <b>0.44</b>       | 1.6          | <b>14#</b> |

**LTE FDD Band 5:**

| EUT Position      | Freq. (MHz) | Modulation Type | Bandwidth (MHz) | RB    | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot       |
|-------------------|-------------|-----------------|-----------------|-------|------------------------|------------------------|---------------|--------------|-------------------|--------------|------------|
| Limbs Front(0mm)  | 836.5       | QPSK            | 10              | 1RB   | 23.43                  | 23.50                  | 1.016         | 0.412        | 0.42              | 4.0          | /          |
| Limbs Front(0mm)  | 836.5       | QPSK            | 10              | 50%RB | 23.28                  | 23.50                  | 1.052         | 0.320        | 0.34              | 4.0          | /          |
| Limbs Back(0mm)   | 836.5       | QPSK            | 10              | 1RB   | 23.43                  | 23.50                  | 1.016         | 0.569        | 0.58              | 4.0          | /          |
| Limbs Back(0mm)   | 836.5       | QPSK            | 10              | 50%RB | 23.28                  | 23.50                  | 1.052         | 0.459        | 0.48              | 4.0          | /          |
| Limbs Left(0mm)   | 836.5       | QPSK            | 10              | 1RB   | 23.43                  | 23.50                  | 1.016         | 0.460        | 0.47              | 4.0          | /          |
| Limbs Left(0mm)   | 836.5       | QPSK            | 10              | 50%RB | 23.28                  | 23.50                  | 1.052         | 0.360        | 0.38              | 4.0          | /          |
| Limbs Right (0mm) | 836.5       | QPSK            | 10              | 1RB   | 23.43                  | 23.50                  | 1.016         | 0.108        | 0.11              | 4.0          | /          |
| Limbs Right (0mm) | 836.5       | QPSK            | 10              | 50%RB | 23.28                  | 23.50                  | 1.052         | 0.081        | 0.09              | 4.0          | /          |
| Limbs Top(0mm)    | 836.5       | QPSK            | 10              | 1RB   | 23.43                  | 23.50                  | 1.016         | 0.120        | 0.12              | 4.0          | /          |
| Limbs Top(0mm)    | 836.5       | QPSK            | 10              | 50%RB | 23.28                  | 23.50                  | 1.052         | 0.097        | 0.10              | 4.0          | /          |
| Limbs Bottom(0mm) | 836.5       | QPSK            | 10              | 1RB   | 23.43                  | 23.50                  | 1.016         | <b>0.587</b> | <b>0.60</b>       | 4.0          | <b>15#</b> |
| Limbs Bottom(0mm) | 836.5       | QPSK            | 10              | 50%RB | 23.28                  | 23.50                  | 1.052         | 0.465        | 0.49              | 4.0          | /          |
| Body Back(10mm)   | 836.5       | QPSK            | 10              | 1RB   | 23.43                  | 23.50                  | 1.016         | <b>0.375</b> | <b>0.38</b>       | 1.6          | <b>16#</b> |
| Body Back(10mm)   | 836.5       | QPSK            | 10              | 50%RB | 23.28                  | 23.50                  | 1.052         | 0.363        | 0.38              | 1.6          | /          |

**LTE FDD Band 7:**

| EUT Position      | Freq. (MHz) | Modulation Type | Bandwidth (MHz) | RB    | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot       |
|-------------------|-------------|-----------------|-----------------|-------|------------------------|------------------------|---------------|--------------|-------------------|--------------|------------|
| Limbs Front(0mm)  | 2535        | QPSK            | 20              | 1RB   | 23.27                  | 23.5                   | 1.054         | 0.162        | 0.17              | 4.0          | /          |
| Limbs Front(0mm)  | 2535        | QPSK            | 20              | 50%RB | 22.95                  | 23.5                   | 1.135         | 0.125        | 0.14              | 4.0          | /          |
| Limbs Back(0mm)   | 2535        | QPSK            | 20              | 1RB   | 23.27                  | 23.5                   | 1.054         | <b>1.530</b> | <b>1.61</b>       | 4.0          | <b>17#</b> |
| Limbs Back(0mm)   | 2535        | QPSK            | 20              | 50%RB | 22.95                  | 23.5                   | 1.135         | 1.270        | 1.44              | 4.0          | /          |
| Limbs Left(0mm)   | 2535        | QPSK            | 20              | 1RB   | 23.27                  | 23.5                   | 1.054         | 0.628        | 0.66              | 4.0          | /          |
| Limbs Left(0mm)   | 2535        | QPSK            | 20              | 50%RB | 22.95                  | 23.5                   | 1.135         | 0.515        | 0.59              | 4.0          | /          |
| Limbs Right (0mm) | 2535        | QPSK            | 20              | 1RB   | 23.27                  | 23.5                   | 1.054         | 0.032        | 0.03              | 4.0          | /          |
| Limbs Right (0mm) | 2535        | QPSK            | 20              | 50%RB | 22.95                  | 23.5                   | 1.135         | 0.025        | 0.03              | 4.0          | /          |
| Limbs Top(0mm)    | 2535        | QPSK            | 20              | 1RB   | 23.27                  | 23.5                   | 1.054         | 0.097        | 0.10              | 4.0          | /          |
| Limbs Top(0mm)    | 2535        | QPSK            | 20              | 50%RB | 22.95                  | 23.5                   | 1.135         | 0.085        | 0.10              | 4.0          | /          |
| Limbs Bottom(0mm) | 2535        | QPSK            | 20              | 1RB   | 23.27                  | 23.5                   | 1.054         | 0.421        | 0.44              | 4.0          | /          |
| Limbs Bottom(0mm) | 2535        | QPSK            | 20              | 50%RB | 22.95                  | 23.5                   | 1.135         | 0.402        | 0.46              | 4.0          | /          |
| Body Back(10mm)   | 2535        | QPSK            | 20              | 1RB   | 23.27                  | 23.5                   | 1.054         | <b>0.536</b> | <b>0.57</b>       | 1.6          | <b>18#</b> |
| Body Back(10mm)   | 2535        | QPSK            | 20              | 50%RB | 22.95                  | 23.5                   | 1.135         | 0.404        | 0.46              | 1.6          | /          |

**LTE FDD Band 12&17:**

| EUT Position      | Freq.<br>(MHz) | Modulation<br>Type | Bandwidth<br>(MHz) | RB    | Max.<br>Meas.<br>Power<br>(dBm) | Max.<br>Rated<br>Power<br>(dBm) | Scaled<br>Factor | Meas.<br>(W/Kg) | Scaled SAR<br>(W/Kg) | Limit<br>(W/Kg) | Plot       |
|-------------------|----------------|--------------------|--------------------|-------|---------------------------------|---------------------------------|------------------|-----------------|----------------------|-----------------|------------|
| Limbs Front(0mm)  | 707.5          | QPSK               | 10                 | 1RB   | 23.52                           | 24                              | 1.117            | 0.348           | 0.39                 | 4.0             | /          |
| Limbs Front(0mm)  | 707.5          | QPSK               | 10                 | 50%RB | 23.34                           | 24                              | 1.164            | 0.285           | 0.33                 | 4.0             | /          |
| Limbs Back(0mm)   | 707.5          | QPSK               | 10                 | 1RB   | 23.52                           | 24                              | 1.117            | <b>0.604</b>    | <b>0.68</b>          | 4.0             | <b>19#</b> |
| Limbs Back(0mm)   | 707.5          | QPSK               | 10                 | 50%RB | 23.34                           | 24                              | 1.164            | 0.580           | 0.68                 | 4.0             | /          |
| Limbs Left(0mm)   | 707.5          | QPSK               | 10                 | 1RB   | 23.52                           | 24                              | 1.117            | 0.571           | 0.64                 | 4.0             | /          |
| Limbs Left(0mm)   | 707.5          | QPSK               | 10                 | 50%RB | 23.34                           | 24                              | 1.164            | 0.480           | 0.56                 | 4.0             | /          |
| Limbs Right (0mm) | 707.5          | QPSK               | 10                 | 1RB   | 23.52                           | 24                              | 1.117            | 0.086           | 0.10                 | 4.0             | /          |
| Limbs Right (0mm) | 707.5          | QPSK               | 10                 | 50%RB | 23.34                           | 24                              | 1.164            | 0.072           | 0.08                 | 4.0             | /          |
| Limbs Top(0mm)    | 707.5          | QPSK               | 10                 | 1RB   | 23.52                           | 24                              | 1.117            | 0.082           | 0.09                 | 4.0             | /          |
| Limbs Top(0mm)    | 707.5          | QPSK               | 10                 | 50%RB | 23.34                           | 24                              | 1.164            | 0.066           | 0.08                 | 4.0             | /          |
| Limbs Bottom(0mm) | 707.5          | QPSK               | 10                 | 1RB   | 23.52                           | 24                              | 1.117            | 0.289           | 0.32                 | 4.0             | /          |
| Limbs Bottom(0mm) | 707.5          | QPSK               | 10                 | 50%RB | 23.34                           | 24                              | 1.164            | 0.225           | 0.26                 | 4.0             | /          |
| Body Back(10mm)   | 707.5          | QPSK               | 10                 | 1RB   | 23.52                           | 24                              | 1.117            | <b>0.255</b>    | <b>0.29</b>          | 1.6             | <b>20#</b> |
| Body Back(10mm)   | 707.5          | QPSK               | 10                 | 50%RB | 23.34                           | 24                              | 1.164            | 0.171           | 0.20                 | 1.6             | /          |

**Note:**

1.LTE FDD Band 12 and LTE FDD Band 17 have the same power, we only tested the LTE FDD Band 12 because it has a larger frequency range, so the LTE FDD Band 17 does not need to be tested.

**LTE TDD Band 41&38:**

| EUT Position      | Freq. (MHz) | Modulation Type | Bandwidth (MHz) | RB    | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot |
|-------------------|-------------|-----------------|-----------------|-------|------------------------|------------------------|---------------|--------------|-------------------|--------------|------|
| Limbs Front(0mm)  | 2595        | QPSK            | 20              | 1RB   | 23.34                  | 23.5                   | 1.038         | 0.113        | 0.12              | 4.0          | /    |
| Limbs Front(0mm)  | 2595        | QPSK            | 20              | 50%RB | 23.19                  | 23.5                   | 1.074         | 0.097        | 0.10              | 4.0          | /    |
| Limbs Back(0mm)   | 2595        | QPSK            | 20              | 1RB   | 23.34                  | 23.5                   | 1.038         | 1.210        | 1.26              | 4.0          | 21#  |
| Limbs Back(0mm)   | 2595        | QPSK            | 20              | 50%RB | 23.19                  | 23.5                   | 1.074         | 1.170        | 1.26              | 4.0          | /    |
| Limbs Left(0mm)   | 2595        | QPSK            | 20              | 1RB   | 23.34                  | 23.5                   | 1.038         | 0.731        | 0.76              | 4.0          | /    |
| Limbs Left(0mm)   | 2595        | QPSK            | 20              | 50%RB | 23.19                  | 23.5                   | 1.074         | 0.641        | 0.69              | 4.0          | /    |
| Limbs Right (0mm) | 2595        | QPSK            | 20              | 1RB   | 23.34                  | 23.5                   | 1.038         | 0.015        | 0.02              | 4.0          | /    |
| Limbs Right (0mm) | 2595        | QPSK            | 20              | 50%RB | 23.19                  | 23.5                   | 1.074         | 0.012        | 0.01              | 4.0          | /    |
| Limbs Top(0mm)    | 2595        | QPSK            | 20              | 1RB   | 23.34                  | 23.5                   | 1.038         | 0.085        | 0.09              | 4.0          | /    |
| Limbs Top(0mm)    | 2595        | QPSK            | 20              | 50%RB | 23.19                  | 23.5                   | 1.074         | 0.071        | 0.08              | 4.0          | /    |
| Limbs Bottom(0mm) | 2595        | QPSK            | 20              | 1RB   | 23.34                  | 23.5                   | 1.038         | 0.267        | 0.28              | 4.0          | /    |
| Limbs Bottom(0mm) | 2595        | QPSK            | 20              | 50%RB | 23.19                  | 23.5                   | 1.074         | 0.223        | 0.24              | 4.0          | /    |
| Body Back(10mm)   | 2595        | QPSK            | 20              | 1RB   | 23.34                  | 23.5                   | 1.038         | 0.540        | 0.56              | 1.6          | 22#  |
| Body Back(10mm)   | 2595        | QPSK            | 20              | 50%RB | 23.19                  | 23.5                   | 1.074         | 0.354        | 0.38              | 1.6          | /    |

Note:

1. The frequency range of LTE Band 41 is 2535~ 2655MHz. Per KDB 447498 D01, according to the following formula Calculate  $N_c$  is 4.

2. KDB procedures the following should be applied to determine the number of required test channels. The test channels should be evenly spread across the transmission frequency band of each wireless mode.

$$N_c = \text{Round}\{[100(f_{\text{high}} - f_{\text{low}})/f_c]^{0.5} \times (f_c/100)^{0.2}\},$$

where

- $N_c$  is the number of test channels, rounded to nearest integer,
- $f_{\text{high}}$  and  $f_{\text{low}}$  are the highest and lowest channel frequencies within the transmission band,
- $f_c$  is the mid-band channel frequency,
- all frequencies are in MHz.

3. The power class 3 used for LTE Band 41 SAR testing.

**Note:**

1. When the SAR value is greater than half of the limit value, the other two channels should be tested

2. KDB 941225 D05- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg.

3. KDB 941225 D05- other channel bandwidths SAR test is required when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is  $> \frac{1}{2}$  dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is  $> 1.45$  W/kg.

4. LTE TDD Band 41 and LTE TDD Band 38 have the same power, we only tested the LTE TDD Band 41 because it has a larger frequency range, so the LTE TDD Band 38 does not need to be tested.

**WLAN 2.4G:**

| Band     | EUT Position      | Freq. (MHz) | Test Mode     | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Duct cycle Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot       |
|----------|-------------------|-------------|---------------|------------------------|------------------------|---------------|-------------------|--------------|-------------------|--------------|------------|
| WLAN2.4G | Limbs Front(0mm)  | 2437        | 802.11b 1Mbps | 13.61                  | 14.00                  | 1.094         | 1.006             | 0.241        | 0.27              | 4.0          | /          |
| WLAN2.4G | Limbs Back (0mm)  | 2437        | 802.11b 1Mbps | 13.61                  | 14.00                  | 1.094         | 1.006             | <b>0.788</b> | <b>0.87</b>       | 4.0          | <b>23#</b> |
| WLAN2.4G | Limbs Left(0mm)   | 2437        | 802.11b 1Mbps | /                      | /                      | /             | /                 | /            | /                 | 4.0          | /          |
| WLAN2.4G | Limbs Right (0mm) | 2437        | 802.11b 1Mbps | 13.61                  | 14.00                  | 1.094         | 1.006             | 0.141        | 0.16              | 4.0          | /          |
| WLAN2.4G | Limbs Top(0mm)    | 2437        | 802.11b 1Mbps | 13.61                  | 14.00                  | 1.094         | 1.006             | 0.489        | 0.54              | 4.0          | /          |
| WLAN2.4G | Limbs Bottom(0mm) | 2437        | 802.11b 1Mbps | /                      | /                      | /             | /                 | /            | /                 | 4.0          | /          |
| WLAN2.4G | Body Back (10mm)  | 2437        | 802.11b 1Mbps | 13.61                  | 14.00                  | 1.094         | 1.006             | <b>0.206</b> | <b>0.23</b>       | 1.6          | <b>24#</b> |

**Note:**

1. For 802.11b 1Mbps mode power is the largest mode of 802.11b/g/n, 802.11b 1Mbps mode is selected to test.

**WLAN 5.2G:**

| Band     | EUT Position      | Freq. (MHz) | Test Mode     | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Duct cycle Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot       |
|----------|-------------------|-------------|---------------|------------------------|------------------------|---------------|-------------------|--------------|-------------------|--------------|------------|
| WLAN5.2G | Limbs Front(0mm)  | 5200        | 802.11a 6Mbps | 13.13                  | 13.50                  | 1.089         | 1.033             | 0.094        | 0.11              | 4.0          | /          |
| WLAN5.2G | Limbs Back (0mm)  | 5200        | 802.11a 6Mbps | 13.13                  | 13.50                  | 1.089         | 1.033             | <b>0.255</b> | <b>0.29</b>       | 4.0          | <b>25#</b> |
| WLAN5.2G | Limbs Left(0mm)   | 5200        | 802.11a 6Mbps | /                      | /                      | /             | /                 | /            | /                 | 4.0          | /          |
| WLAN5.2G | Limbs Right (0mm) | 5200        | 802.11a 6Mbps | 13.13                  | 13.50                  | 1.089         | 1.033             | 0.233        | 0.26              | 4.0          | /          |
| WLAN5.2G | Limbs Top(0mm)    | 5200        | 802.11a 6Mbps | 13.13                  | 13.50                  | 1.089         | 1.033             | 0.129        | 0.15              | 4.0          | /          |
| WLAN5.2G | Limbs Bottom(0mm) | 5200        | 802.11a 6Mbps | /                      | /                      | /             | /                 | /            | /                 | 4.0          | /          |
| WLAN5.2G | Body Back (10mm)  | 5200        | 802.11a 6Mbps | 13.13                  | 13.50                  | 1.089         | 1.033             | <b>0.137</b> | <b>0.15</b>       | 1.6          | <b>26#</b> |

**Note:**

1. For 802.11a 6Mbps mode power is the largest mode of 802.11a/ac/n, 802.11a 6Mbps mode is selected to test.

**WLAN 5.8G:**

| Band     | EUT Position      | Freq. (MHz) | Test Mode     | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | Scaled Factor | Duct cycle Factor | Meas. (W/Kg) | Scaled SAR (W/Kg) | Limit (W/Kg) | Plot |
|----------|-------------------|-------------|---------------|------------------------|------------------------|---------------|-------------------|--------------|-------------------|--------------|------|
| WLAN5.8G | Limbs Front(0mm)  | 5785        | 802.11a 6Mbps | 11.14                  | 12.00                  | 1.219         | 1.033             | 0.101        | 0.13              | 4.0          | /    |
| WLAN5.8G | Limbs Back (0mm)  | 5785        | 802.11a 6Mbps | 11.14                  | 12.00                  | 1.219         | 1.033             | 0.220        | 0.28              | 4.0          | 27#  |
| WLAN5.8G | Limbs Left(0mm)   | 5785        | 802.11a 6Mbps | /                      | /                      | /             | /                 | /            | /                 | 4.0          | /    |
| WLAN5.8G | Limbs Right (0mm) | 5785        | 802.11a 6Mbps | 11.14                  | 12.00                  | 1.219         | 1.033             | 0.172        | 0.22              | 4.0          | /    |
| WLAN5.8G | Limbs Top(0mm)    | 5785        | 802.11a 6Mbps | 11.14                  | 12.00                  | 1.219         | 1.033             | 0.100        | 0.13              | 4.0          | /    |
| WLAN5.8G | Limbs Bottom(0mm) | 5785        | 802.11a 6Mbps | /                      | /                      | /             | /                 | /            | /                 | 4.0          | /    |
| WLAN5.8G | Body Back (10mm)  | 5785        | 802.11a 6Mbps | 11.14                  | 12.00                  | 1.219         | 1.033             | 0.088        | 0.11              | 1.6          | 28#  |

**Note:**

1. When the SAR Value is less than half of the limit, testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. When the maximum output power variation across the required test channels is  $> \frac{1}{2}$  dB, instead of the middle channel, the highest output power channel must be used.
4. For 802.11a 6Mbps mode power is the largest mode of 802.11a/ac/n, 802.11a 6Mbps mode is selected to test.

## SAR Measurement Variability

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz v01. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results

- 1) Repeated measurement is not required when the original highest measured SAR is  $< 0.80$  W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is  $\geq 0.80$  W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is  $> 1.20$  or when the original or repeated measurement is  $\geq 1.45$  W/kg ( $\sim 10\%$  from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .

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

### The Highest Measured SAR Configuration in Each Frequency Band

#### Body:

| SAR probe calibration point | Frequency Band | Freq.(MHz) | EUT Position | Meas. SAR (W/kg) |          | Largest to Smallest SAR Ratio |
|-----------------------------|----------------|------------|--------------|------------------|----------|-------------------------------|
|                             |                |            |              | Original         | Repeated |                               |
| 835 MHz (800~935MHz)        | GSM850         | 848.8      | Body Back    | 1.06             | 1.02     | 1.04                          |

#### Note:

1. Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not  $> 1.20$ .
2. The measured SAR results do not have to be scaled to the maximum tune-up tolerance to determine if repeated measurements are required.
3. SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements..

## SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

### Simultaneous Transmission:

| Description of Simultaneous Transmit Capabilities |               |          |
|---------------------------------------------------|---------------|----------|
| Transmitter Combination                           | Simultaneous? | Hotspot? |
| WWAN(GSM/WCDMA/LTE) + 2.4GWLAN+NFC                | √             | √        |
| WWAN(GSM/WCDMA/LTE) + 5GWLAN+NFC                  | √             | ×        |
| WWAN(GSM/WCDMA/LTE) + BT+NFC                      | √             | √        |

### Simultaneous Transmission Consideration Detail

#### Limbs:

| Transmitter Combination | Position | Max SAR(W/kg) |            | $\Sigma$ SAR< 4.0W/kg |
|-------------------------|----------|---------------|------------|-----------------------|
|                         |          | SAR1(WWAN)    | SAR2(WLAN) |                       |
| WWAN+ 2.4GWLAN          | Limbs    | 1.68          | 0.87       | 2.55                  |

| Transmitter Combination | Position | Max SAR(W/kg) |            | $\Sigma$ SAR< 4.0W/kg |
|-------------------------|----------|---------------|------------|-----------------------|
|                         |          | SAR1(WWAN)    | SAR2(WLAN) |                       |
| WWAN+5GWLAN             | Limbs    | 1.68          | 0.29       | 1.97                  |

| Transmitter Combination | Position | Max SAR(W/kg) |            | $\Sigma$ SAR< 4.0W/kg |
|-------------------------|----------|---------------|------------|-----------------------|
|                         |          | SAR1(WWAN)    | SAR2(WLAN) |                       |
| WWAN+ BT                | Limbs    | 1.68          | 0.06       | 1.74                  |

#### Body:

| Transmitter Combination | Position | Max SAR(W/kg) |            | $\Sigma$ SAR< 1.6W/kg |
|-------------------------|----------|---------------|------------|-----------------------|
|                         |          | SAR1(WWAN)    | SAR2(WLAN) |                       |
| WWAN+ 2.4GWLAN          | Body     | 1.13          | 0.23       | 1.36                  |

| Transmitter Combination | Position | Max SAR(W/kg) |            | $\Sigma$ SAR< 1.6W/kg |
|-------------------------|----------|---------------|------------|-----------------------|
|                         |          | SAR1(WWAN)    | SAR2(WLAN) |                       |
| WWAN+5GWLAN             | Body     | 1.13          | 0.15       | 1.28                  |

| Transmitter Combination | Position | Max SAR(W/kg) |            | $\Sigma$ SAR< 1.6W/kg |
|-------------------------|----------|---------------|------------|-----------------------|
|                         |          | SAR1(WWAN)    | SAR2(WLAN) |                       |
| WWAN+ BT                | Body     | 1.13          | 0.15       | 1.28                  |

### Conclusion:

Sum of SAR: **1.6 W/kg(Body)/4.0 W/kg(Limbs)** therefore simultaneous transmission SAR result is **Compliance**.

## APPENDIX A SAR PLOTS OF SAR MEASUREMENT

1#\_GSM850\_GPRS 4 Tx slots\_Back\_0mm\_Ch190

Communication System: UID 0, GSM850 (0); Frequency: 836.6 MHz; Duty Cycle: 1:2

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 42.12$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.97, 9.97, 9.97) @ 836.6 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 4.73 W/kg

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

Reference Value = 35.13 V/m; Power Drift = -0.02 dB

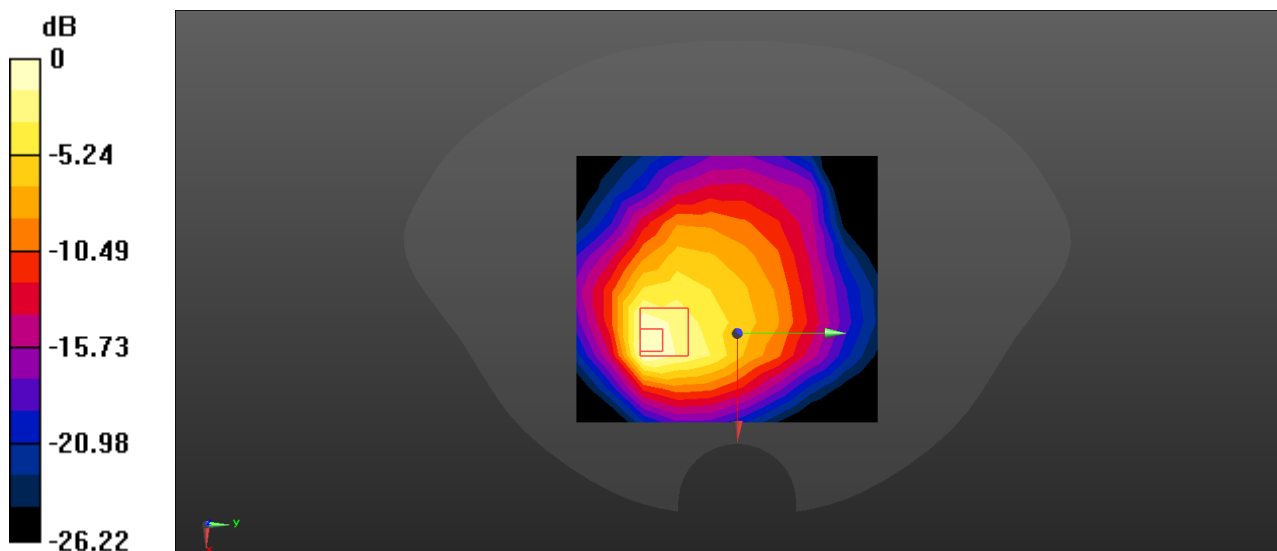
Peak SAR (extrapolated) = 7.85 W/kg

**SAR(1 g) = 2.9 W/kg; SAR(10 g) = 1.57 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.8 mm

Ratio of SAR at M2 to SAR at M1 = 42.1%

Maximum value of SAR (measured) = 4.97 W/kg



$$0 \text{ dB} = 4.97 \text{ W/kg} = 6.96 \text{ dBW/kg}$$

**2#\_GSM850\_GPRS 4 Tx slots\_Back\_10mm\_Ch251**

Communication System: UID 0, GSM850 (0); Frequency: 848.8 MHz; Duty Cycle: 1:2

Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 0.926$  S/m;  $\epsilon_r = 41.961$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.97, 9.97, 9.97) @ 848.8 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.54 W/kg

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.02 V/m; Power Drift = -0.04 dB

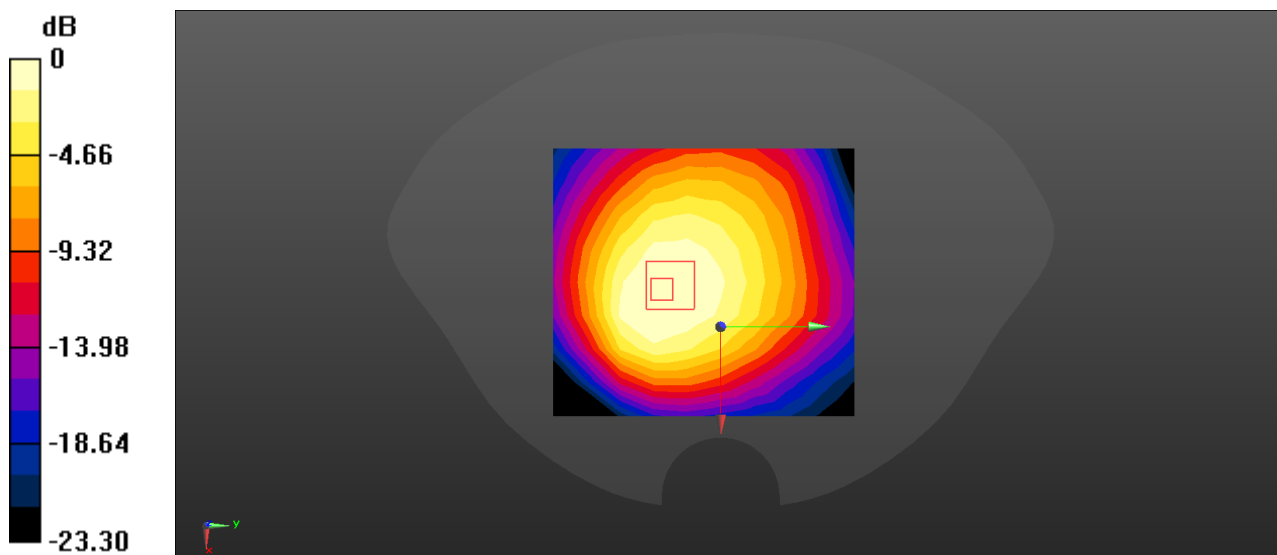
Peak SAR (extrapolated) = 1.60 W/kg

**SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.740 W/kg**

Smallest distance from peaks to all points 3 dB below = 19.5 mm

Ratio of SAR at M2 to SAR at M1 = 66.7%

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



$$0 \text{ dB} = 1.36 \text{ W/kg} = 1.34 \text{ dBW/kg}$$

3#\_GSM1900\_GPRS 3 Tx slots\_Back\_0mm\_Ch661

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz; Duty Cycle: 1:2.66

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.415$  S/m;  $\epsilon_r = 41.129$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.02, 8.02, 8.02) @ 1880 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 4.80 W/kg

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

Reference Value = 11.17 V/m; Power Drift = 0.01 dB

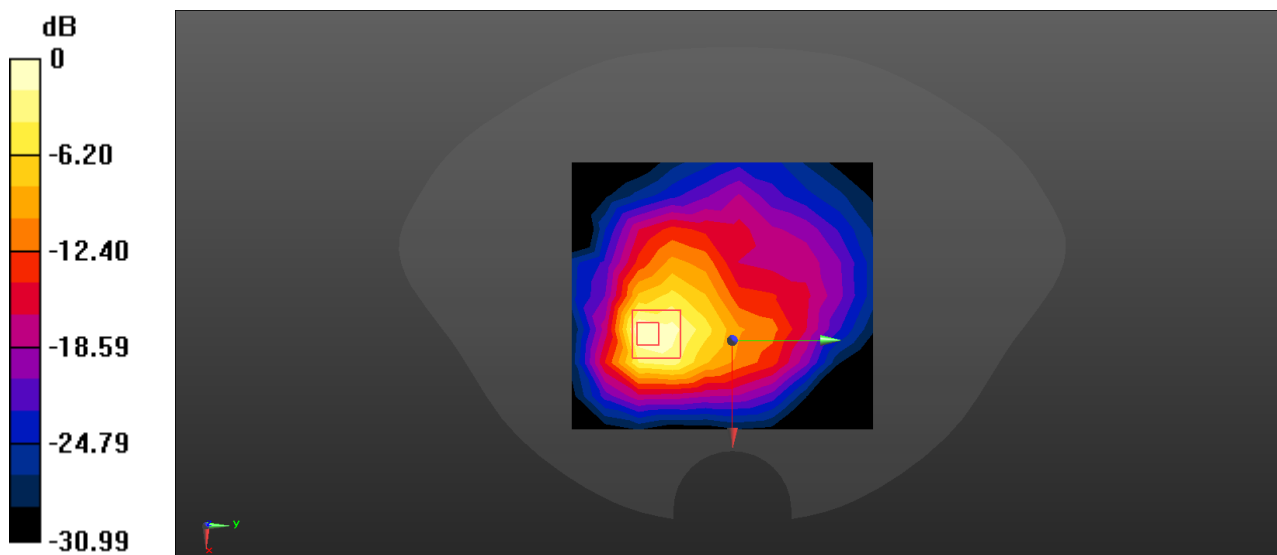
Peak SAR (extrapolated) = 6.65 W/kg

**SAR(1 g) = 3.24 W/kg; SAR(10 g) = 1.63 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.4 mm

Ratio of SAR at M2 to SAR at M1 = 61.1%

Maximum value of SAR (measured) = 4.44 W/kg



0 dB = 4.44 W/kg = 6.47 dBW/kg

## 4#\_GSM1900\_GPRS 3 Tx slots\_Back\_10mm\_Ch661

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz; Duty Cycle: 1:2.66

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.415$  S/m;  $\epsilon_r = 41.129$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.02, 8.02, 8.02) @ 1880 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.807 W/kg

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

Reference Value = 10.05 V/m; Power Drift = -0.02 dB

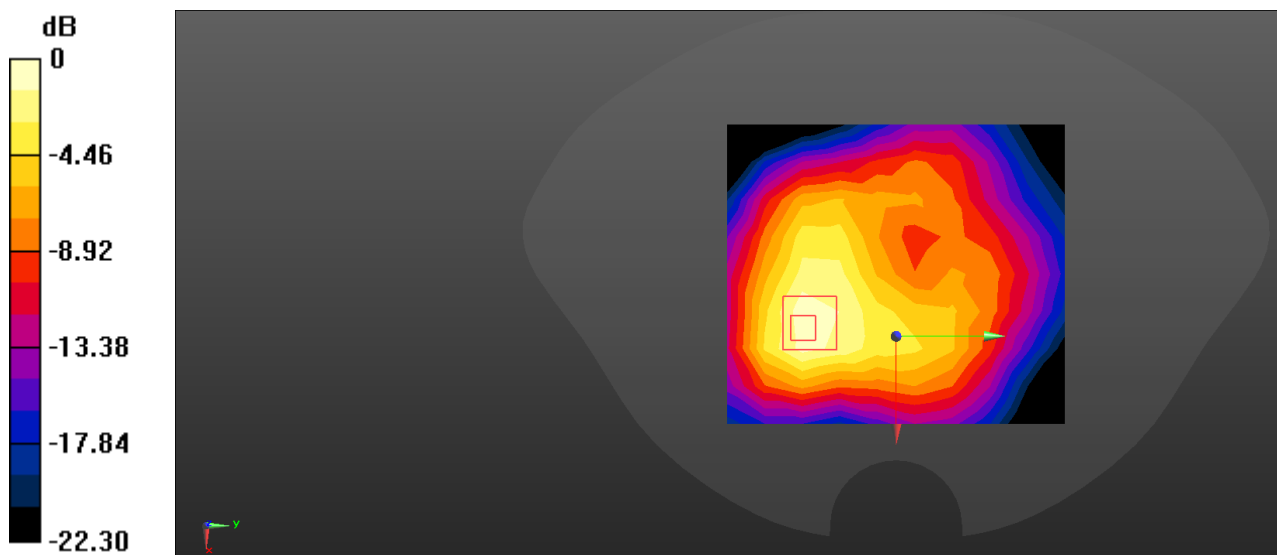
Peak SAR (extrapolated) = 1.06 W/kg

**SAR(1 g) = 0.633 W/kg; SAR(10 g) = 0.368 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 60.3%

Maximum value of SAR (measured) = 0.883 W/kg



$$0 \text{ dB} = 0.883 \text{ W/kg} = -0.54 \text{ dBW/kg}$$

5#\_WCDMA II\_RMC 12.2Kbps\_Back\_0mm\_Ch9400

Communication System: UID 0, WCDMA 3G (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.415$  S/m;  $\epsilon_r = 41.129$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.02, 8.02, 8.02) @ 1880 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 3.89 W/kg

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

Reference Value = 9.928 V/m; Power Drift = -0.02 dB

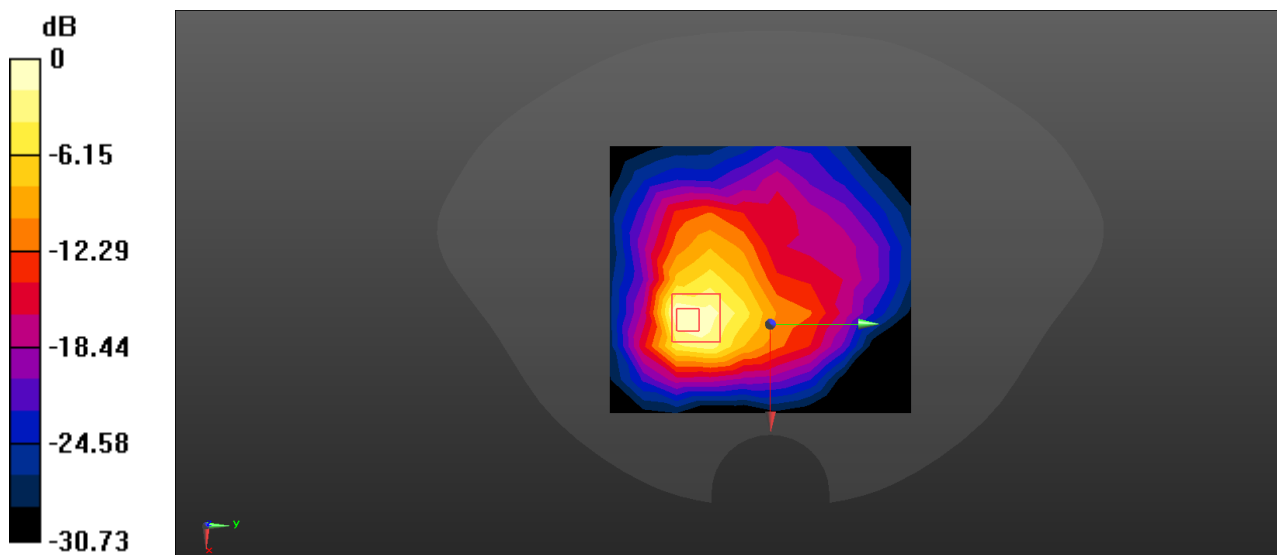
Peak SAR (extrapolated) = 5.42 W/kg

**SAR(1 g) = 2.48 W/kg; SAR(10 g) = 1.24 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.8 mm

Ratio of SAR at M2 to SAR at M1 = 55.5%

Maximum value of SAR (measured) = 3.58 W/kg



$$0 \text{ dB} = 3.58 \text{ W/kg} = 5.54 \text{ dBW/kg}$$

6#\_WCDMA II\_RMC 12.2Kbps\_Back\_10mm\_Ch9400

Communication System: UID 0, WCDMA 3G (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.415$  S/m;  $\epsilon_r = 41.129$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.02, 8.02, 8.02) @ 1880 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.466 W/kg

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

Reference Value = 6.514 V/m; Power Drift = -0.01 dB

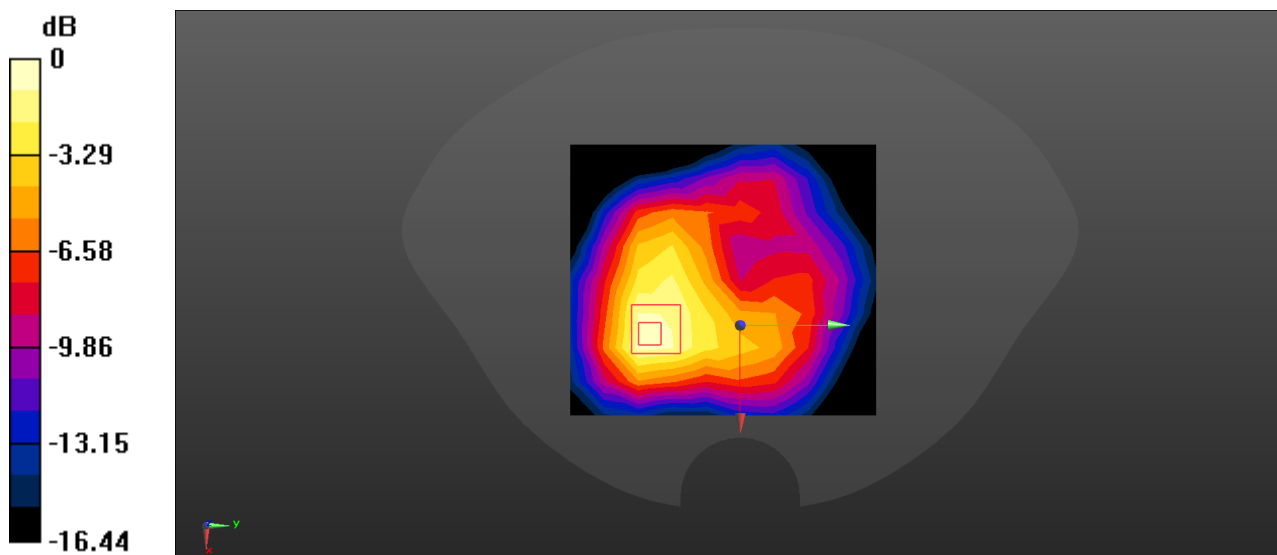
Peak SAR (extrapolated) = 0.632 W/kg

**SAR(1 g) = 0.385 W/kg; SAR(10 g) = 0.228 W/kg**

Smallest distance from peaks to all points 3 dB below = 14.8 mm

Ratio of SAR at M2 to SAR at M1 = 61.7%

Maximum value of SAR (measured) = 0.540 W/kg



0 dB = 0.540 W/kg = -2.68 dBW/kg

7#\_WCDMA IV\_RMC 12.2Kbps\_Back\_0mm\_Ch1413

Communication System: UID 0, WCDMA 3G (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1732.6$  MHz;  $\sigma = 1.329$  S/m;  $\epsilon_r = 41.827$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.34, 8.34, 8.34) @ 1732.6 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 4.07 W/kg

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

Reference Value = 11.11 V/m; Power Drift = 0.02 dB

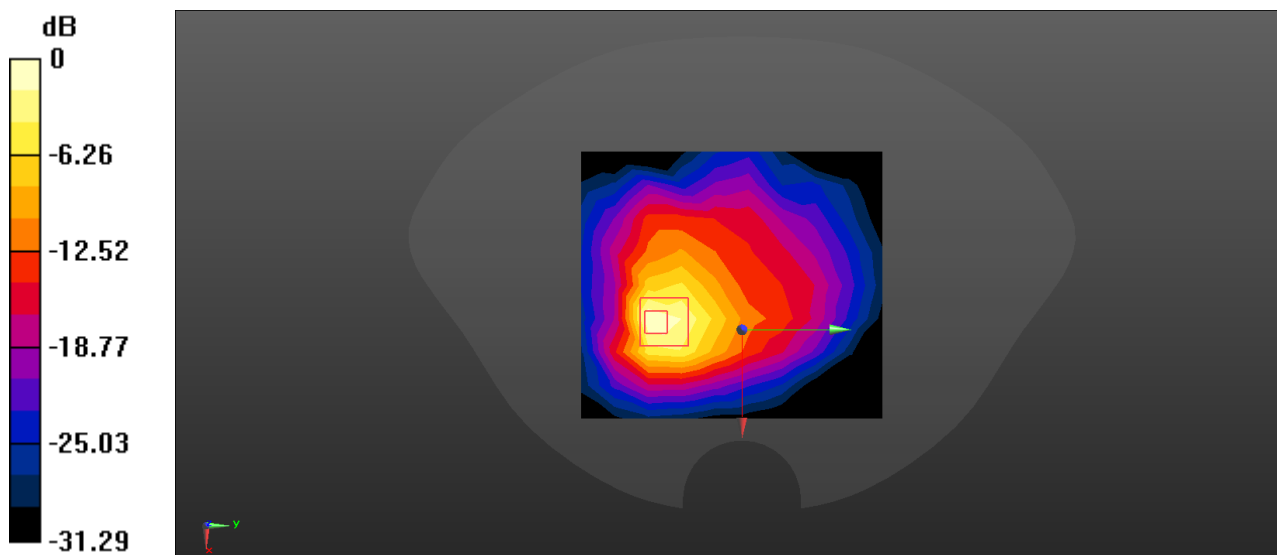
Peak SAR (extrapolated) = 5.17 W/kg

**SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.17 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.8 mm

Ratio of SAR at M2 to SAR at M1 = 50.6%

Maximum value of SAR (measured) = 3.94 W/kg



0 dB = 3.94 W/kg = 5.95 dBW/kg

## 8#\_WCDMA IV\_RMC 12.2Kbps\_Back\_10mm\_Ch1413

Communication System: UID 0, WCDMA 3G (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1732.6$  MHz;  $\sigma = 1.329$  S/m;  $\epsilon_r = 41.827$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.34, 8.34, 8.34) @ 1732.6 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.426 W/kg

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

Reference Value = 9.236 V/m; Power Drift = 0.02 dB

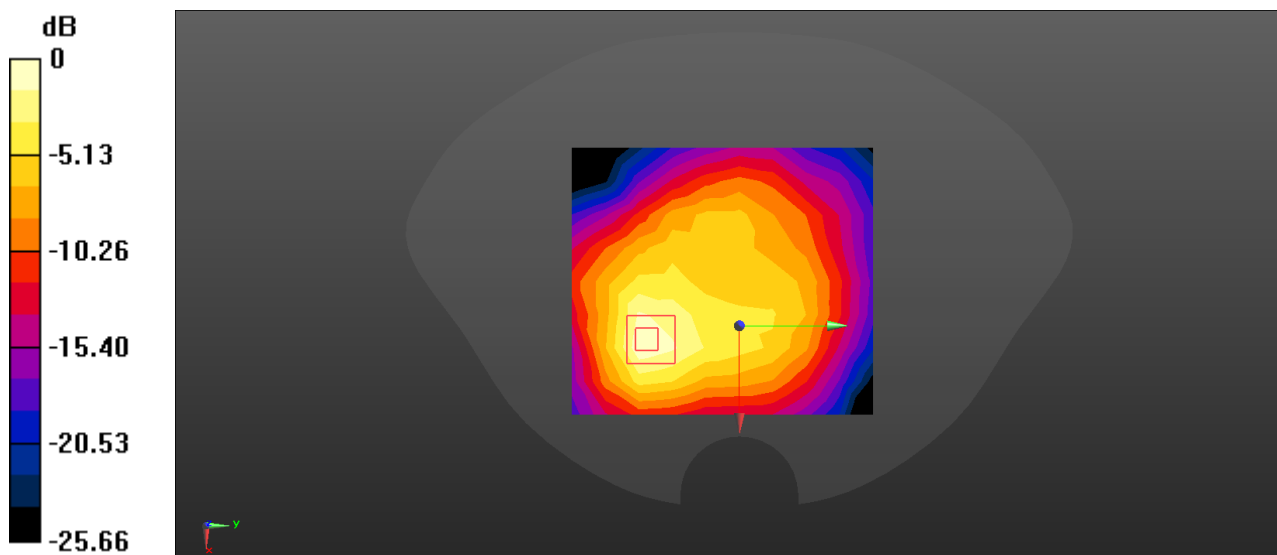
Peak SAR (extrapolated) = 0.534 W/kg

**SAR(1 g) = 0.326 W/kg; SAR(10 g) = 0.187 W/kg**

Smallest distance from peaks to all points 3 dB below = 13.2 mm

Ratio of SAR at M2 to SAR at M1 = 62.6%

Maximum value of SAR (measured) = 0.459 W/kg



$$0 \text{ dB} = 0.459 \text{ W/kg} = -3.38 \text{ dBW/kg}$$

9#\_WCDMA V\_RMC 12.2Kbps\_Bottom\_0mm\_Ch4183

Communication System: UID 0, WCDMA 3G (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 42.12$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.97, 9.97, 9.97) @ 836.6 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.834 W/kg

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.51 V/m; Power Drift = -0.05 dB

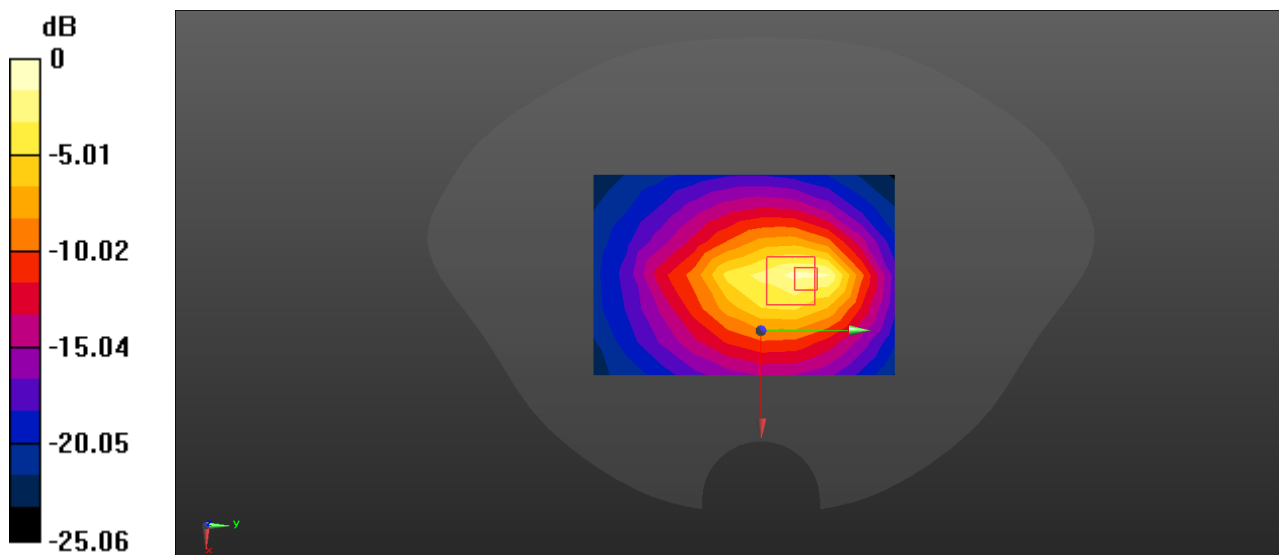
Peak SAR (extrapolated) = 1.46 W/kg

**SAR(1 g) = 0.554 W/kg; SAR(10 g) = 0.296 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.4 mm

Ratio of SAR at M2 to SAR at M1 = 36.5%

Maximum value of SAR (measured) = 1.07 W/kg



$$0 \text{ dB} = 1.07 \text{ W/kg} = 0.29 \text{ dBW/kg}$$

10#\_WCDMA V\_RMC 12.2Kbps\_Back\_10mm\_Ch4183

Communication System: UID 0, WCDMA 3G (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 42.12$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.97, 9.97, 9.97) @ 836.6 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

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

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.74 V/m; Power Drift = -0.04 dB

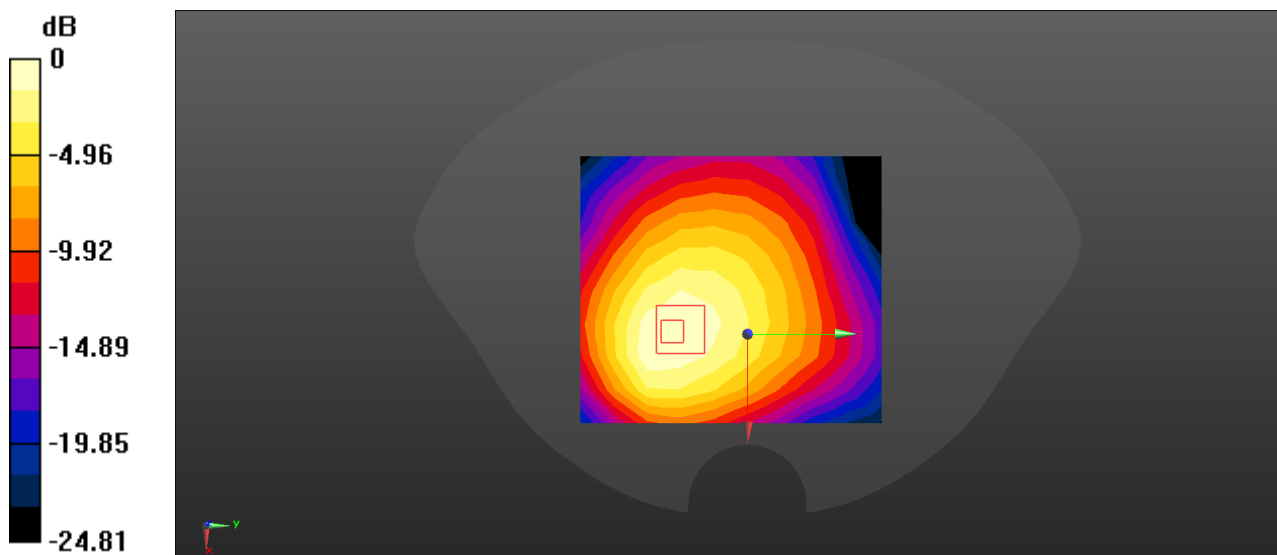
Peak SAR (extrapolated) = 0.307 W/kg

**SAR(1 g) = 0.195 W/kg; SAR(10 g) = 0.132 W/kg**

Smallest distance from peaks to all points 3 dB below = 17.6 mm

Ratio of SAR at M2 to SAR at M1 = 60.2%

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



0 dB = 0.257 W/kg = -5.90 dBW/kg

11#\_LTE Band 2\_20M\_QPSK\_1RB\_0offset\_Back\_0mm\_Ch18900

Communication System: UID 0, FDD LTE 4G (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.415$  S/m;  $\epsilon_r = 41.129$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.02, 8.02, 8.02) @ 1880 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 3.63 W/kg

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

Reference Value = 10.34 V/m; Power Drift = -0.02 dB

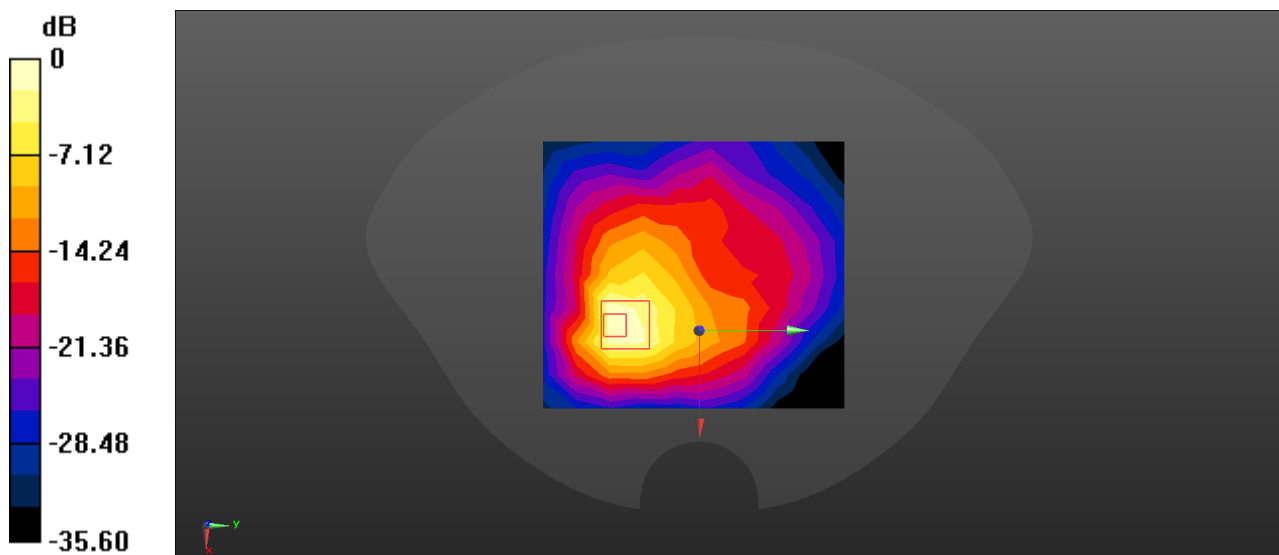
Peak SAR (extrapolated) = 6.11 W/kg

**SAR(1 g) = 2.7 W/kg; SAR(10 g) = 1.34 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.1 mm

Ratio of SAR at M2 to SAR at M1 = 45.6%

Maximum value of SAR (measured) = 4.34 W/kg



0 dB = 4.34 W/kg = 6.37 dBW/kg

12#\_LTE Band 2\_20M\_QPSK\_1RB\_0offset\_Back\_10mm\_Ch18900

Communication System: UID 0, FDD LTE 4G (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.415$  S/m;  $\epsilon_r = 41.129$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.02, 8.02, 8.02) @ 1880 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.569 W/kg

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

Reference Value = 7.681 V/m; Power Drift = -0.02 dB

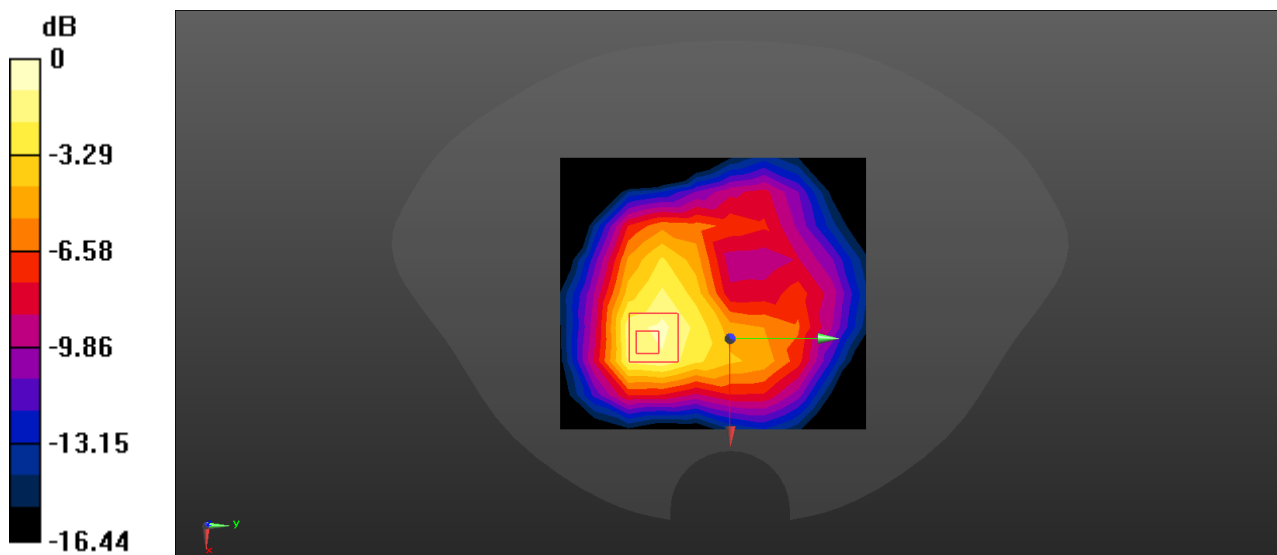
Peak SAR (extrapolated) = 0.797 W/kg

**SAR(1 g) = 0.476 W/kg; SAR(10 g) = 0.280 W/kg**

Smallest distance from peaks to all points 3 dB below = 14.3 mm

Ratio of SAR at M2 to SAR at M1 = 61.1%

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



0 dB = 0.677 W/kg = -1.69 dBW/kg

13#\_LTE Band 4\_20M\_QPSK\_1RB\_0offset\_Back\_0mm\_Ch20175

Communication System: UID 0, FDD LTE 4G (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1732.5$  MHz;  $\sigma = 1.329$  S/m;  $\epsilon_r = 41.827$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.34, 8.34, 8.34) @ 1732.5 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 12.15 V/m; Power Drift = -0.02 dB

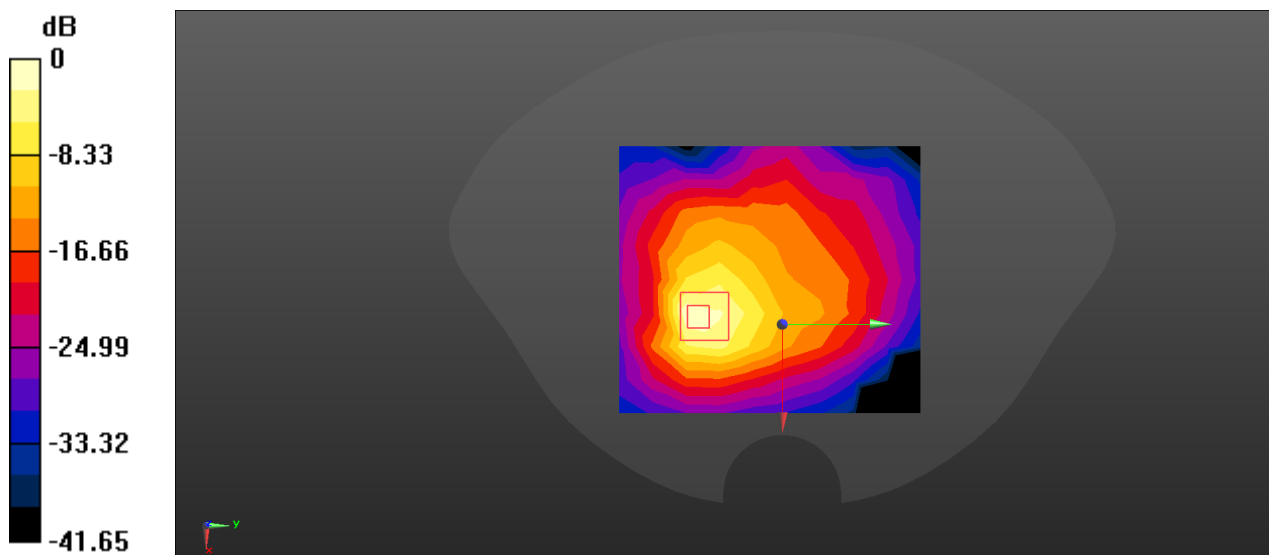
Peak SAR (extrapolated) = 6.05 W/kg

**SAR(1 g) = 2.78 W/kg; SAR(10 g) = 1.32 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.3 mm

Ratio of SAR at M2 to SAR at M1 = 47.4%

Maximum value of SAR (measured) = 4.75 W/kg



0 dB = 4.75 W/kg = 6.77 dBW/kg

14#\_LTE Band 4\_20M\_QPSK\_50RB\_0offset\_Back\_10mm\_Ch20175

Communication System: UID 0, FDD LTE 4G (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1732.5$  MHz;  $\sigma = 1.329$  S/m;  $\epsilon_r = 41.827$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.34, 8.34, 8.34) @ 1732.5 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.441 W/kg

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

Reference Value = 9.100 V/m; Power Drift = -0.05 dB

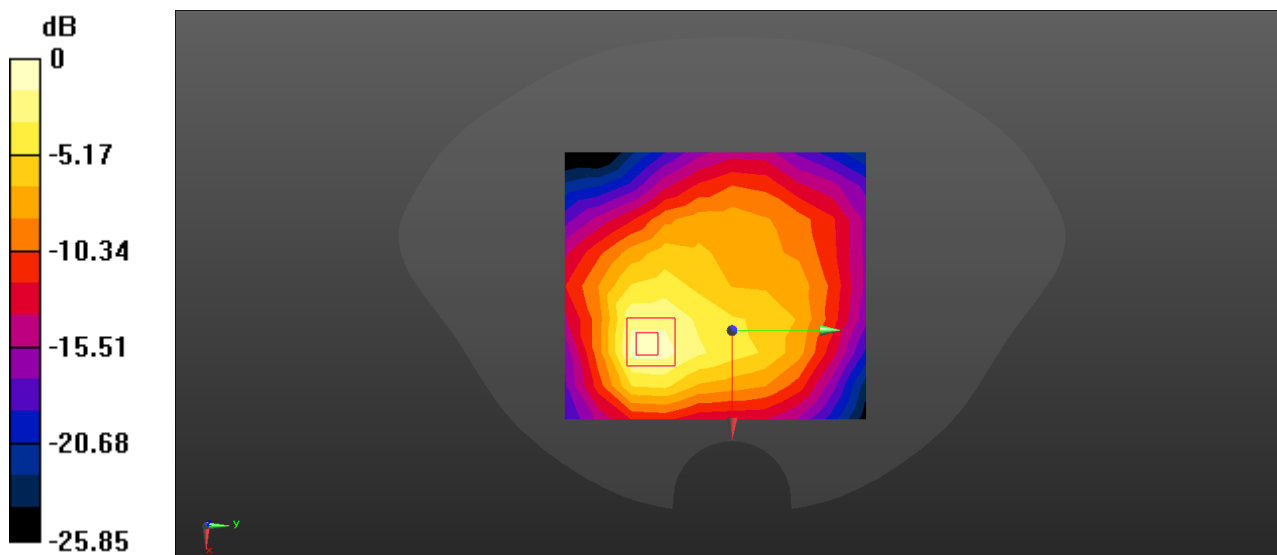
Peak SAR (extrapolated) = 0.650 W/kg

**SAR(1 g) = 0.393 W/kg; SAR(10 g) = 0.226 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.8 mm

Ratio of SAR at M2 to SAR at M1 = 62.4%

Maximum value of SAR (measured) = 0.559 W/kg



0 dB = 0.559 W/kg = -2.53 dBW/kg

**15#\_LTE Band 5\_10M\_QPSK\_1RB\_0offset\_Bottom\_0mm\_Ch20525**

Communication System: UID 0, FDD LTE 4G (0); Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 836.5$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 42.13$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.97, 9.97, 9.97) @ 836.5 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.26 W/kg

**Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 36.11 V/m; Power Drift = 0.01 dB

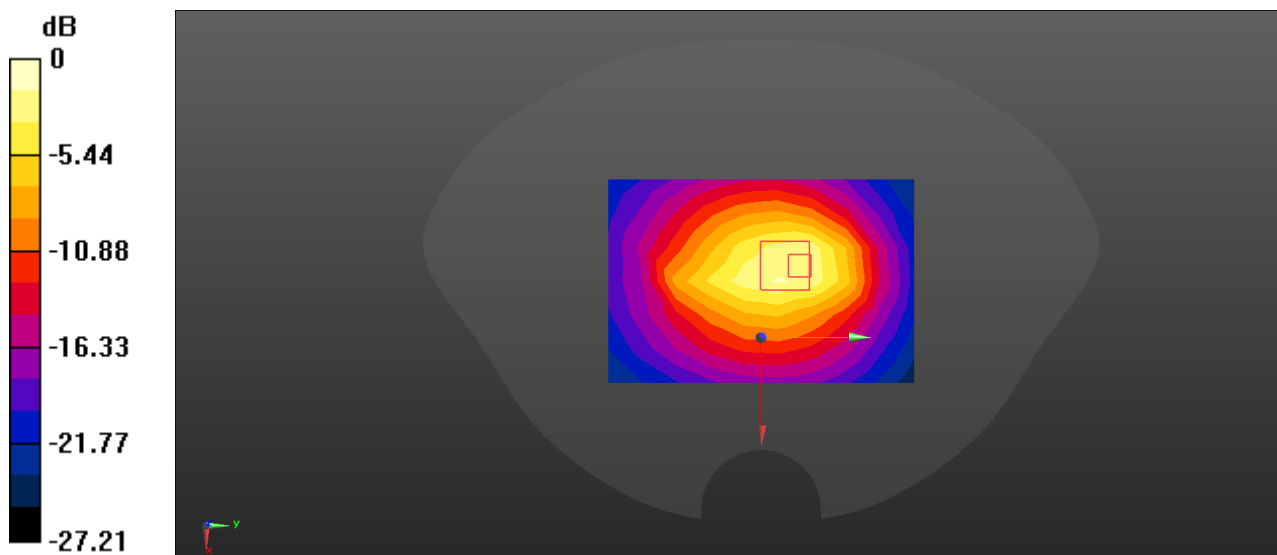
Peak SAR (extrapolated) = 2.53 W/kg

**SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.587 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.2 mm

Ratio of SAR at M2 to SAR at M1 = 45.2%

Maximum value of SAR (measured) = 1.81 W/kg



$$0 \text{ dB} = 1.81 \text{ W/kg} = 2.58 \text{ dBW/kg}$$

16#\_LTE Band 5\_10M\_QPSK\_1RB\_0offset\_Back\_10mm\_Ch20525

Communication System: UID 0, FDD LTE 4G (0); Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 836.5$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 42.13$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.97, 9.97, 9.97) @ 836.5 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.490 W/kg

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.50 V/m; Power Drift = 0.02 dB

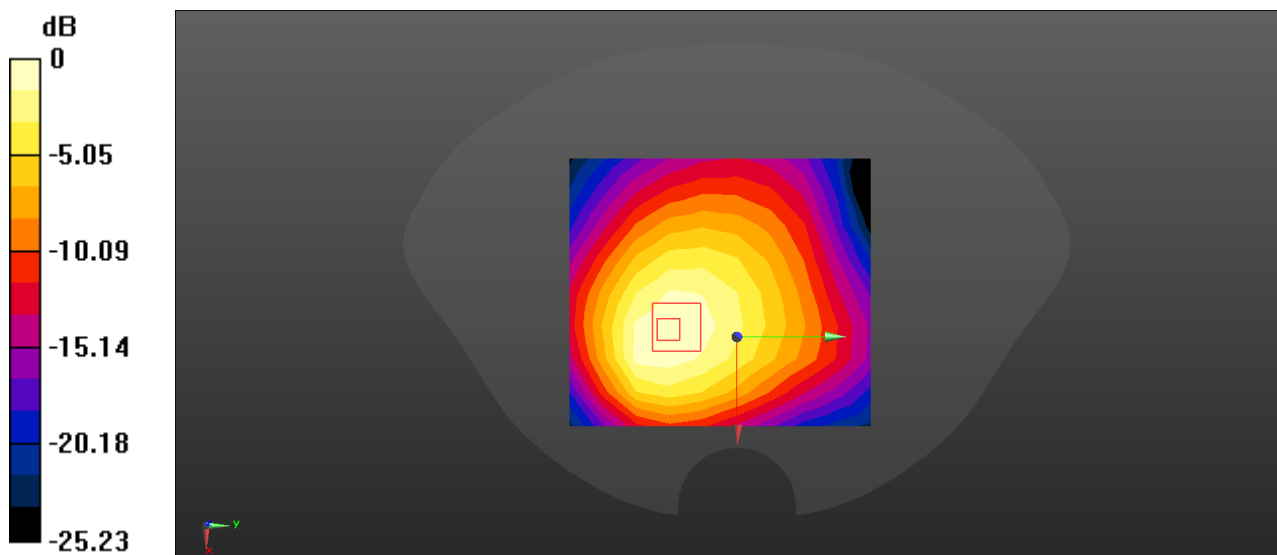
Peak SAR (extrapolated) = 0.591 W/kg

**SAR(1 g) = 0.375 W/kg; SAR(10 g) = 0.254 W/kg**

Smallest distance from peaks to all points 3 dB below = 16 mm

Ratio of SAR at M2 to SAR at M1 = 60.1%

Maximum value of SAR (measured) = 0.494 W/kg



0 dB = 0.494 W/kg = -3.06 dBW/kg

**17#\_LTE Band 7\_20M\_QPSK\_1RB\_0offset\_Back\_0mm\_Ch21100**

Communication System: UID 0, FDD LTE 4G (0); Frequency: 2535 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2535$  MHz;  $\sigma = 1.955$  S/m;  $\epsilon_r = 38.904$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.26, 7.26, 7.26) @ 2535 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (10x11x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 6.30 W/kg

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

Reference Value = 6.982 V/m; Power Drift = 0.03 dB

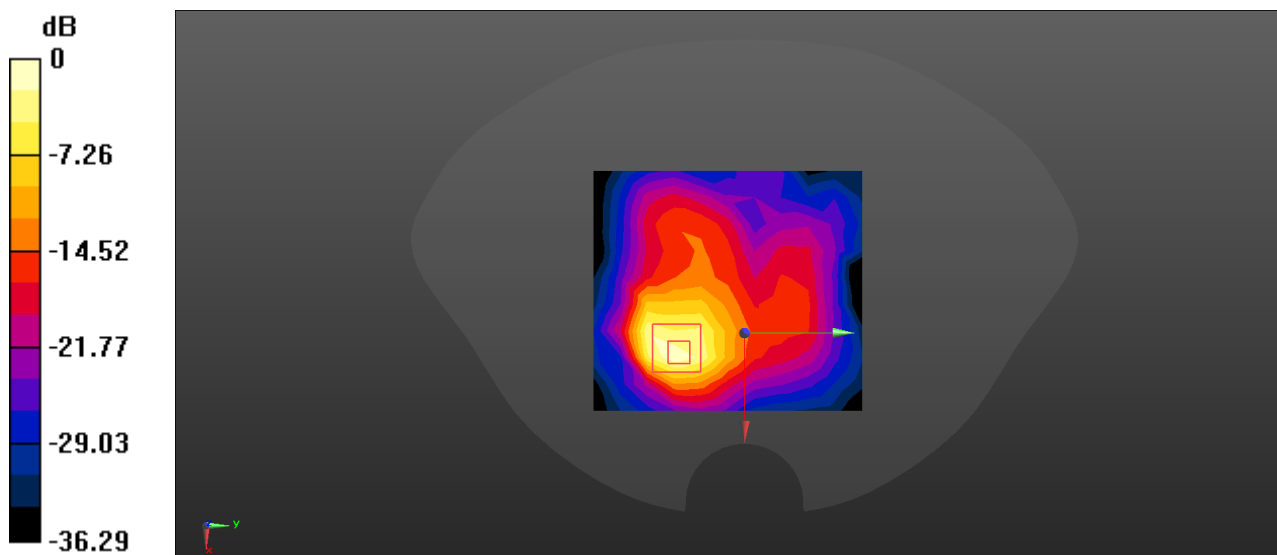
Peak SAR (extrapolated) = 8.53 W/kg

**SAR(1 g) = 3.55 W/kg; SAR(10 g) = 1.53 W/kg**

Smallest distance from peaks to all points 3 dB below = 6.7 mm

Ratio of SAR at M2 to SAR at M1 = 42.6%

Maximum value of SAR (measured) = 6.72 W/kg



$$0 \text{ dB} = 6.72 \text{ W/kg} = 8.27 \text{ dBW/kg}$$

18#\_LTE Band 7\_20M\_QPSK\_1RB\_0offset\_Back\_10mm\_Ch21100

Communication System: UID 0, FDD LTE 4G (0); Frequency: 2535 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2535$  MHz;  $\sigma = 1.955$  S/m;  $\epsilon_r = 38.904$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.26, 7.26, 7.26) @ 2535 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (11x12x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.775 W/kg

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

Reference Value = 7.049 V/m; Power Drift = -0.02 dB

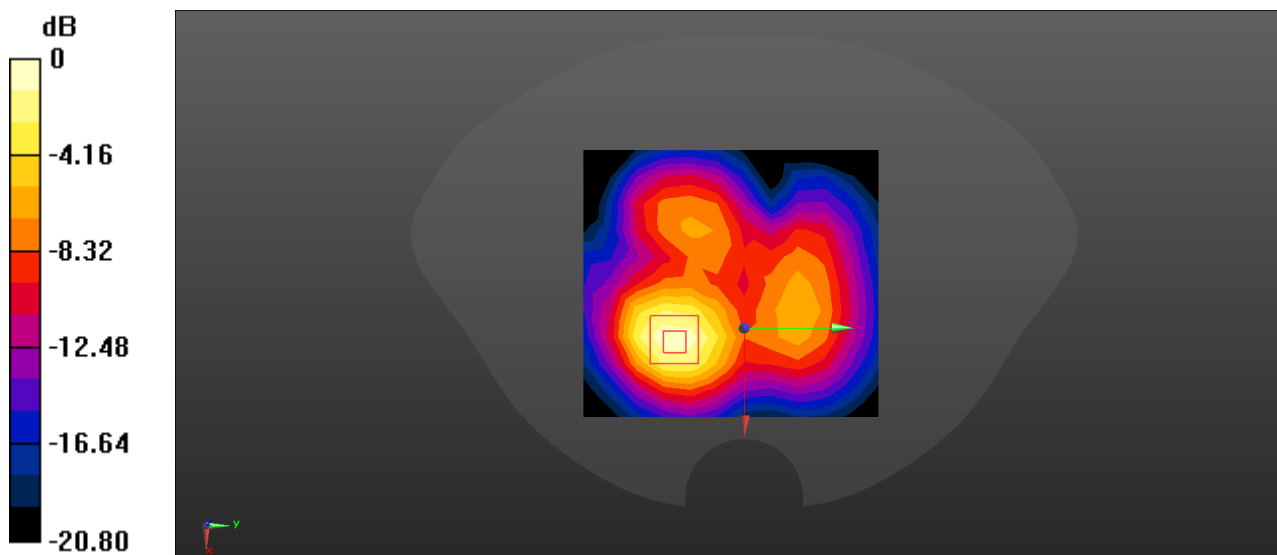
Peak SAR (extrapolated) = 1.00 W/kg

**SAR(1 g) = 0.536 W/kg; SAR(10 g) = 0.279 W/kg**

Smallest distance from peaks to all points 3 dB below = 11 mm

Ratio of SAR at M2 to SAR at M1 = 53%

Maximum value of SAR (measured) = 0.825 W/kg



0 dB = 0.825 W/kg = -0.84 dBW/kg

19#\_LTE Band 12\_10M\_QPSK\_1RB\_0offset\_Back\_0mm\_Ch23095

Communication System: UID 0, FDD LTE 4G (0); Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 707.5$  MHz;  $\sigma = 0.873$  S/m;  $\epsilon_r = 43.66$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.37, 10.37, 10.37) @ 707.5 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.42 W/kg

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

Reference Value = 19.20 V/m; Power Drift = -0.05 dB

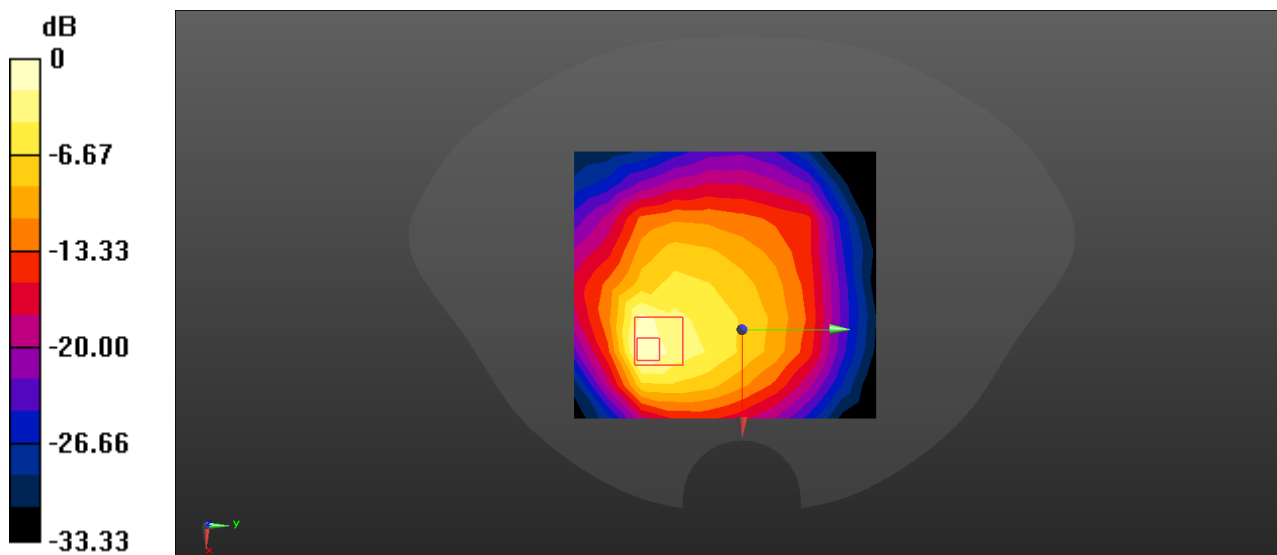
Peak SAR (extrapolated) = 3.44 W/kg

**SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.604 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.4 mm

Ratio of SAR at M2 to SAR at M1 = 32.1%

Maximum value of SAR (measured) = 2.15 W/kg



$$0 \text{ dB} = 2.15 \text{ W/kg} = 3.32 \text{ dBW/kg}$$

20#\_LTE Band 12\_10M\_QPSK\_1RB\_0offset\_Back\_10mm\_Ch23095

Communication System: UID 0, FDD LTE 4G (0); Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 707.5$  MHz;  $\sigma = 0.873$  S/m;  $\epsilon_r = 43.66$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.37, 10.37, 10.37) @ 707.5 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (9x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.322 W/kg

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.44 V/m; Power Drift = -0.04 dB

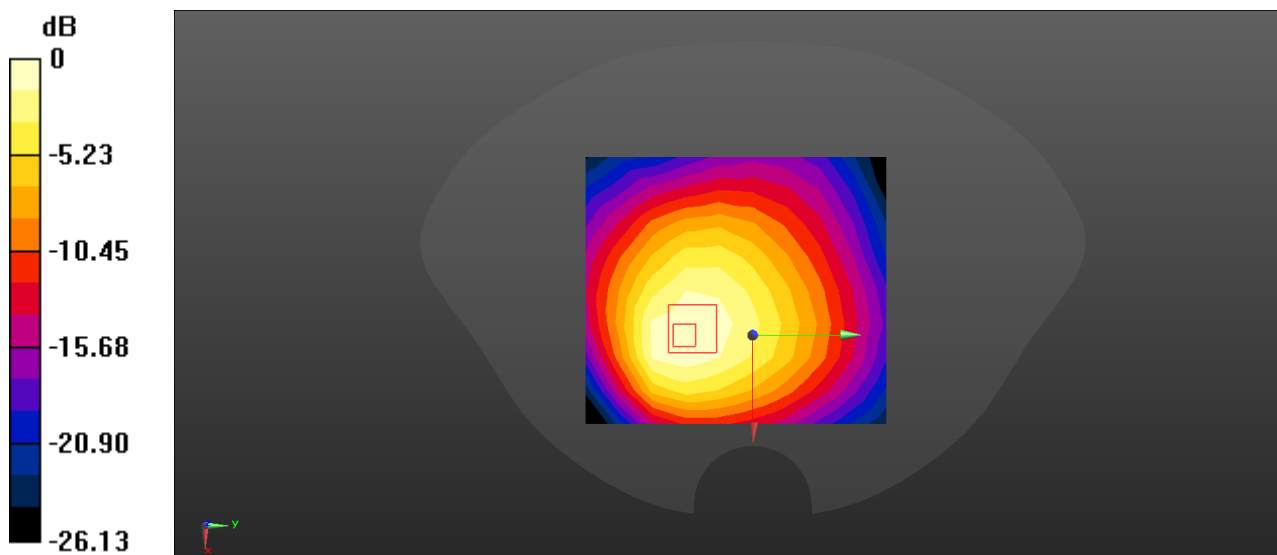
Peak SAR (extrapolated) = 0.420 W/kg

**SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.174 W/kg**

Smallest distance from peaks to all points 3 dB below = 14.3 mm

Ratio of SAR at M2 to SAR at M1 = 58.2%

Maximum value of SAR (measured) = 0.343 W/kg



0 dB = 0.343 W/kg = -4.65 dBW/kg

21#\_LTE Band 41\_20M\_QPSK\_1RB\_0offset\_Back\_0mm\_Ch40740

Communication System: UID 0, TDD LTE 4G (0); Frequency: 2595 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2595$  MHz;  $\sigma = 2.021$  S/m;  $\epsilon_r = 38.704$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.26, 7.26, 7.26) @ 2595 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (11x12x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 4.59 W/kg

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

Reference Value = 5.415 V/m; Power Drift = 0.03 dB

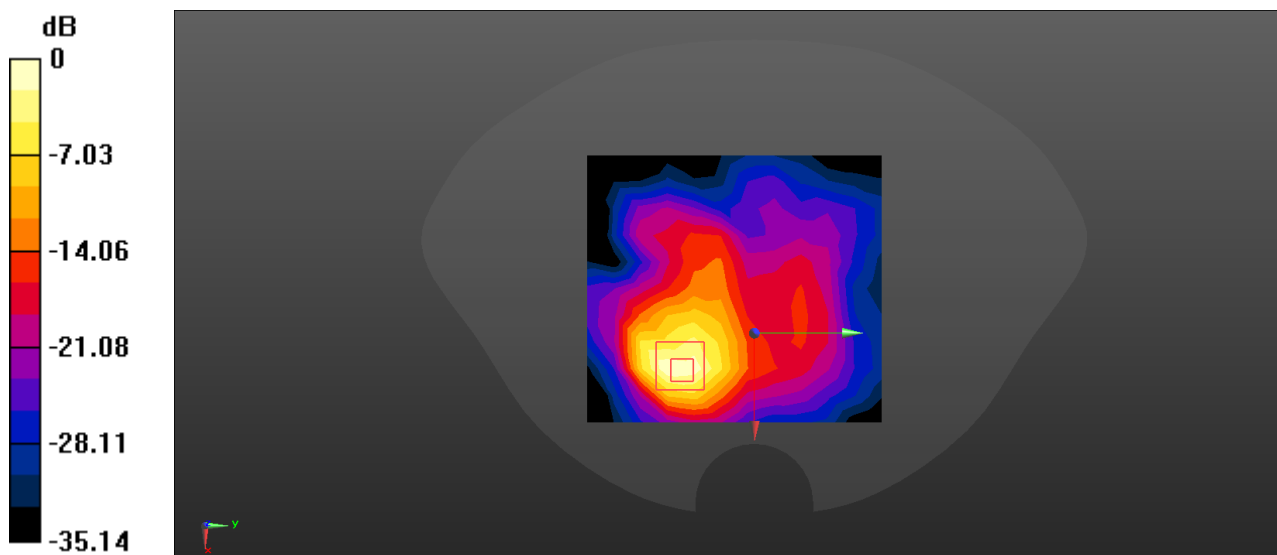
Peak SAR (extrapolated) = 6.36 W/kg

**SAR(1 g) = 2.82 W/kg; SAR(10 g) = 1.21 W/kg**

Smallest distance from peaks to all points 3 dB below = 6 mm

Ratio of SAR at M2 to SAR at M1 = 47.5%

Maximum value of SAR (measured) = 4.73 W/kg



0 dB = 4.73 W/kg = 6.75 dBW/kg

22#\_LTE Band 41\_20M\_QPSK\_1RB\_0offset\_Back\_10mm\_Ch40640

Communication System: UID 0, TDD LTE 4G (0); Frequency: 2595 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2595$  MHz;  $\sigma = 2.021$  S/m;  $\epsilon_r = 38.704$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.26, 7.26, 7.26) @ 2595 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (11x12x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.758 W/kg

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

Reference Value = 6.068 V/m; Power Drift = 0.07 dB

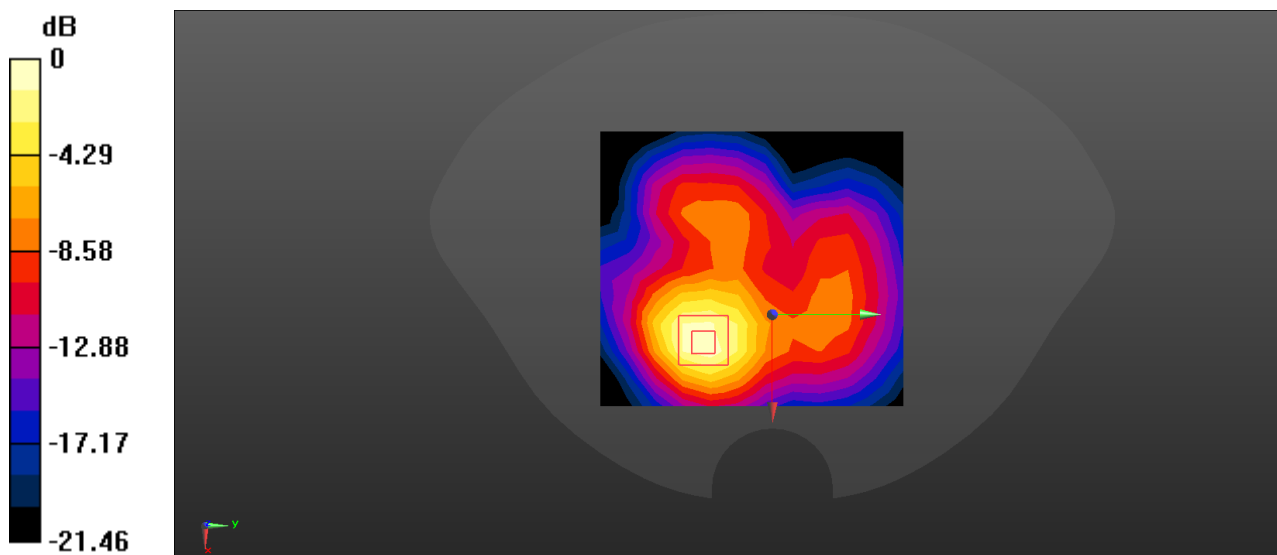
Peak SAR (extrapolated) = 1.01 W/kg

**SAR(1 g) = 0.540 W/kg; SAR(10 g) = 0.280 W/kg**

Smallest distance from peaks to all points 3 dB below = 12 mm

Ratio of SAR at M2 to SAR at M1 = 53%

Maximum value of SAR (measured) = 0.828 W/kg



0 dB = 0.828 W/kg = -0.82 dBW/kg

23#\_WLAN 2.4GHz\_802.11b 1Mbps\_Back\_0mm\_Ch6

Communication System: UID 0, WIFI2.4G (0); Frequency: 2437 MHz; Duty Cycle: 1:1.006

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.848$  S/m;  $\epsilon_r = 38.525$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.43, 7.43, 7.43) @ 2437 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (11x11x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 2.39 W/kg

**Zoom Scan (8x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.801 V/m; Power Drift = 0.03 dB

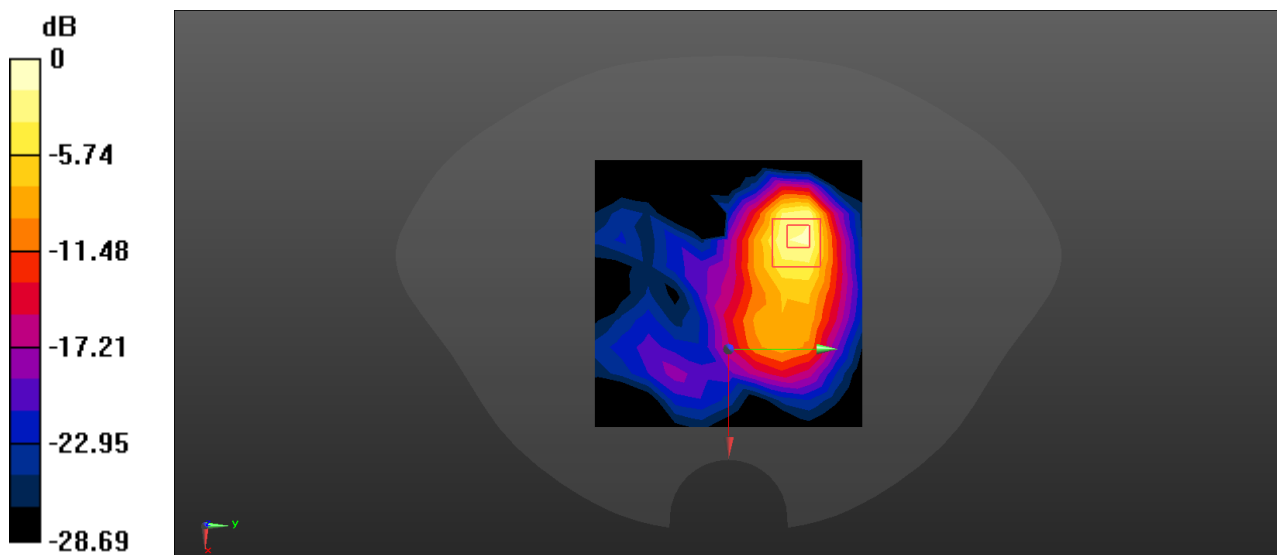
Peak SAR (extrapolated) = 4.35 W/kg

**SAR(1 g) = 1.87 W/kg; SAR(10 g) = 0.788 W/kg**

Smallest distance from peaks to all points 3 dB below = 8 mm

Ratio of SAR at M2 to SAR at M1 = 50.8%

Maximum value of SAR (measured) = 3.26 W/kg



24#\_WLAN 2.4GHz\_802.11b 1Mbps\_Back\_10mm\_Ch6

Communication System: UID 0, WIFI2.4G (0); Frequency: 2437 MHz; Duty Cycle: 1:1.006

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.848$  S/m;  $\epsilon_r = 38.525$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.43, 7.43, 7.43) @ 2437 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (11x12x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.292 W/kg

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

Reference Value = 5.582 V/m; Power Drift = 0.07 dB

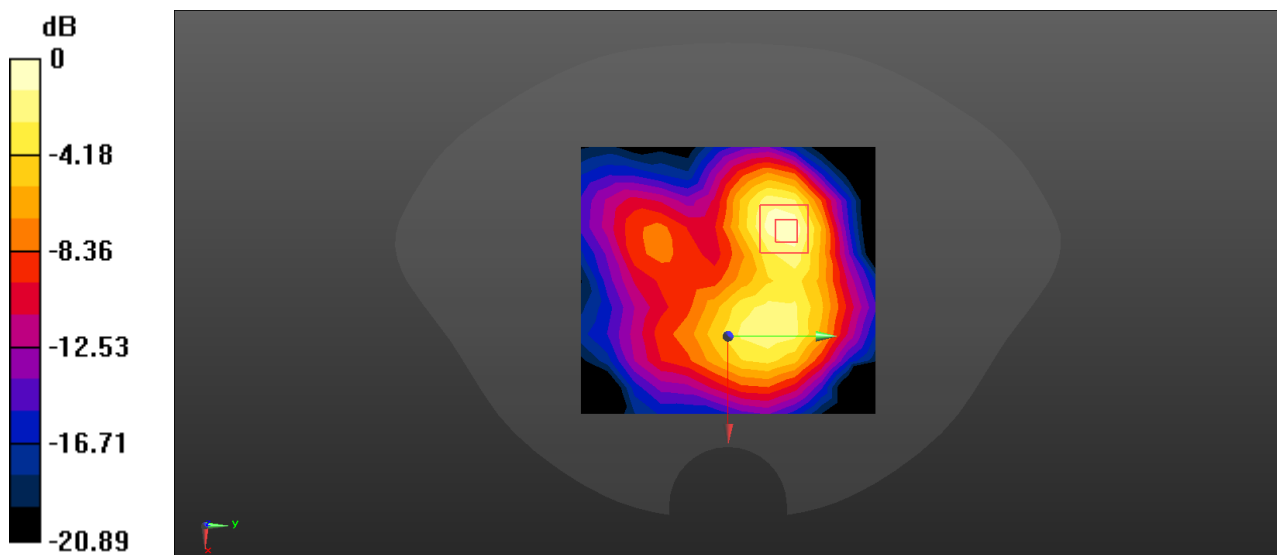
Peak SAR (extrapolated) = 0.380 W/kg

**SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.105 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.1 mm

Ratio of SAR at M2 to SAR at M1 = 54.1%

Maximum value of SAR (measured) = 0.313 W/kg



$$0 \text{ dB} = 0.313 \text{ W/kg} = -5.04 \text{ dBW/kg}$$

25#\_WLAN 5.2GHz\_802.11a 6Mbps\_Back\_0mm\_Ch40

Communication System: UID 0, WIFI 5G (0); Frequency: 5200 MHz; Duty Cycle: 1:1.033

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 4.569$  S/m;  $\epsilon_r = 36.861$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(5.27, 5.27, 5.27) @ 5200 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (13x13x1):** Measurement grid: dx=10mm, dy=10mm

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

**Zoom Scan (9x9x17)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 1.843 V/m; Power Drift = 0.03 dB

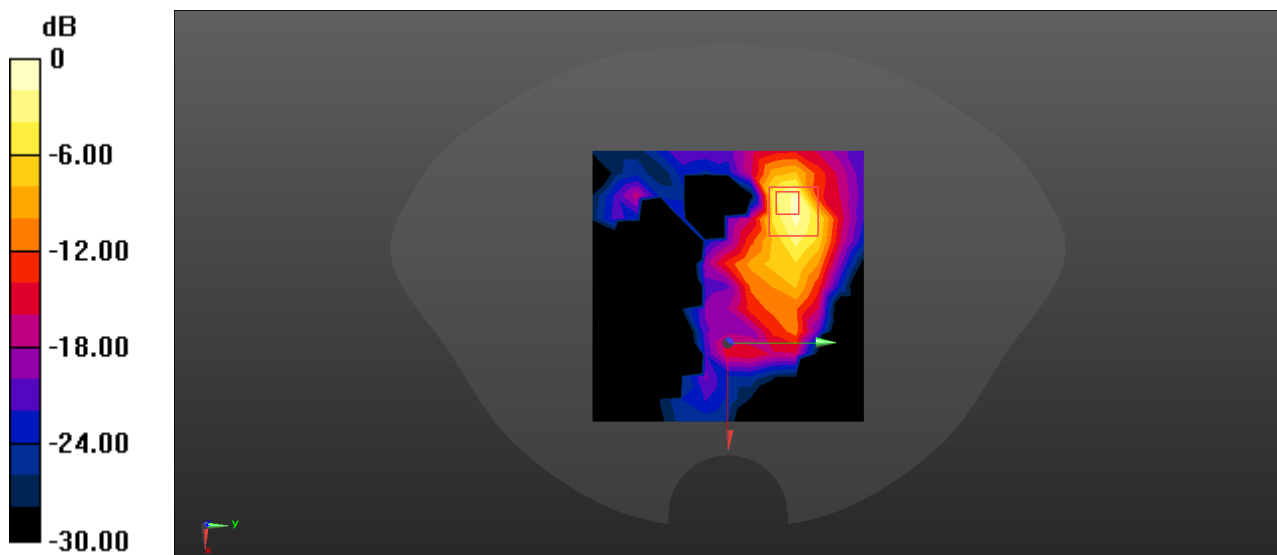
Peak SAR (extrapolated) = 3.68 W/kg

**SAR(1 g) = 0.884 W/kg; SAR(10 g) = 0.255 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.8 mm

Ratio of SAR at M2 to SAR at M1 = 67.9%

Maximum value of SAR (measured) = 2.11 W/kg



$$0 \text{ dB} = 2.11 \text{ W/kg} = 3.24 \text{ dBW/kg}$$

26#\_WLAN 5.2GHz\_802.11a 6Mbps\_Back\_10mm\_Ch40

Communication System: UID 0, WIFI 5G (0); Frequency: 5200 MHz; Duty Cycle: 1:1.033

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 4.569$  S/m;  $\epsilon_r = 36.861$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(5.27, 5.27, 5.27) @ 5200 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (13x14x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.256 W/kg

**Zoom Scan (9x9x17)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 1.469 V/m; Power Drift = -0.05 dB

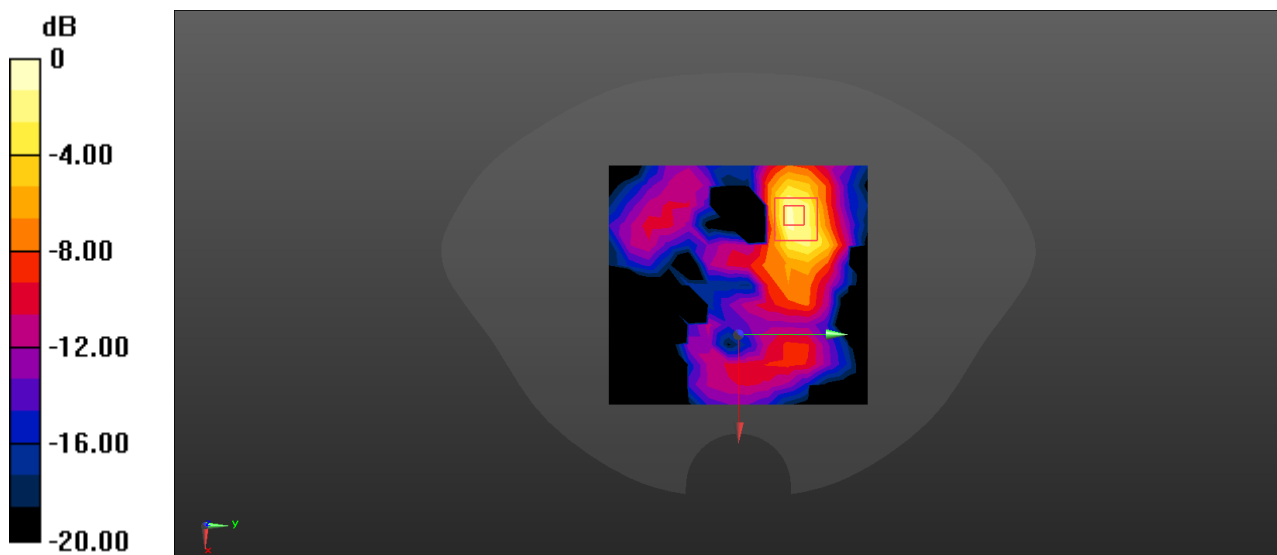
Peak SAR (extrapolated) = 0.460 W/kg

**SAR(1 g) = 0.137 W/kg; SAR(10 g) = 0.046 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.2 mm

Ratio of SAR at M2 to SAR at M1 = 68.4%

Maximum value of SAR (measured) = 0.318 W/kg



0 dB = 0.318 W/kg = -4.98 dBW/kg

27#\_WLAN 5.8GHz\_802.11a 6Mbps\_Back\_0mm\_Ch157

Communication System: UID 0, WIFI 5G (0); Frequency: 5785 MHz; Duty Cycle: 1:1.033

Medium parameters used:  $f = 5785$  MHz;  $\sigma = 5.261$  S/m;  $\epsilon_r = 35.568$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(4.76, 4.76, 4.76) @ 5785 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (13x13x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.74 W/kg

**Zoom Scan (10x9x17)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 3.750 V/m; Power Drift = 0.06 dB

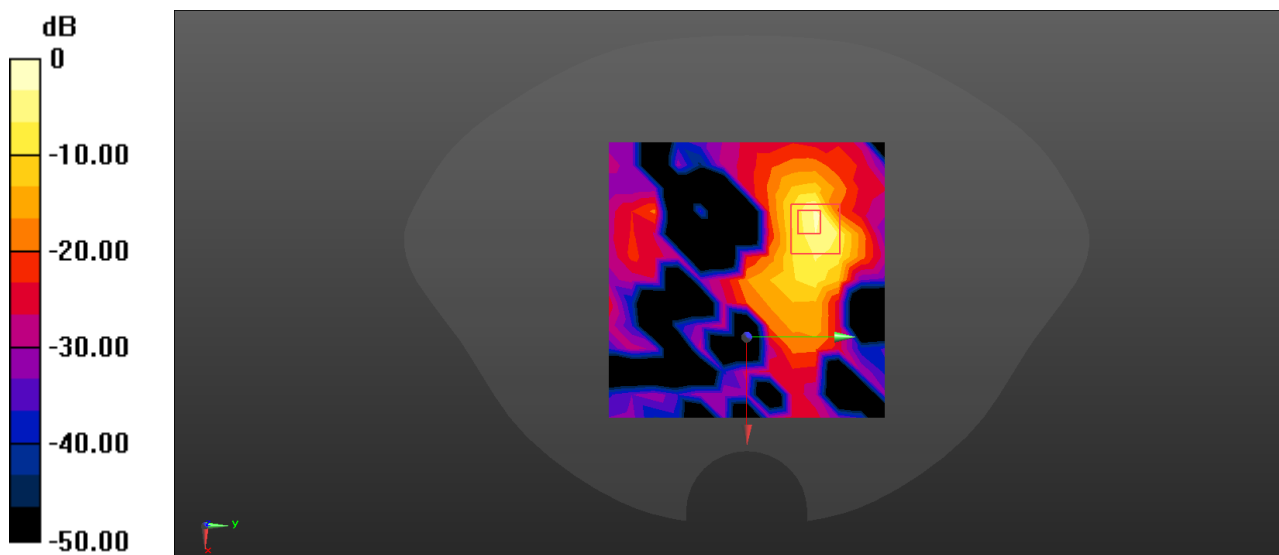
Peak SAR (extrapolated) = 6.08 W/kg

**SAR(1 g) = 0.975 W/kg; SAR(10 g) = 0.220 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.4 mm

Ratio of SAR at M2 to SAR at M1 = 61.6%

Maximum value of SAR (measured) = 3.15 W/kg



$$0 \text{ dB} = 3.15 \text{ W/kg} = 4.98 \text{ dBW/kg}$$

28#\_WLAN 5.8GHz\_802.11a 6Mbps\_Back\_10mm\_Ch157

Communication System: UID 0, WIFI 5G (0); Frequency: 5785 MHz; Duty Cycle: 1:1.033

Medium parameters used:  $f = 5785$  MHz;  $\sigma = 5.261$  S/m;  $\epsilon_r = 35.568$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(4.76, 4.76, 4.76) @ 5785 MHz; Calibrated: 5/16/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 5/16/2025
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (13x14x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.191 W/kg

**Zoom Scan (8x8x17)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 1.346 V/m; Power Drift = -0.01 dB

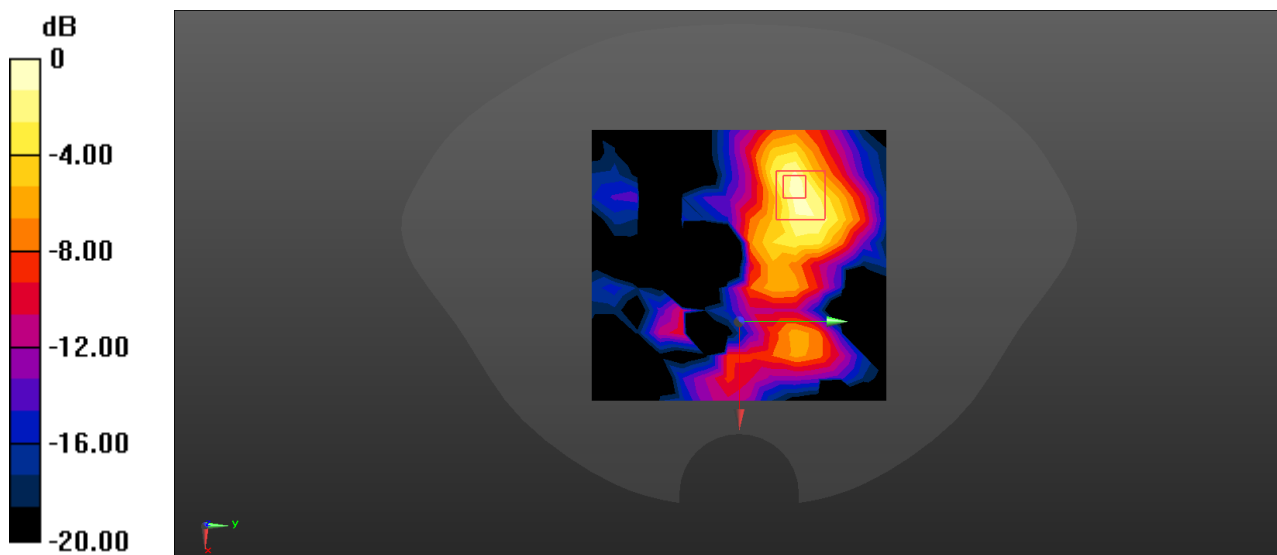
Peak SAR (extrapolated) = 0.345 W/kg

**SAR(1 g) = 0.088 W/kg; SAR(10 g) = 0.030 W/kg**

Smallest distance from peaks to all points 3 dB below = 7.4 mm

Ratio of SAR at M2 to SAR at M1 = 62%

Maximum value of SAR (measured) = 0.220 W/kg



$$0 \text{ dB} = 0.220 \text{ W/kg} = -6.58 \text{ dBW/kg}$$

## APPENDIX B MEASUREMENT UNCERTAINTY

The uncertainty budget has been determined for the measurement system and is given in the following Table.

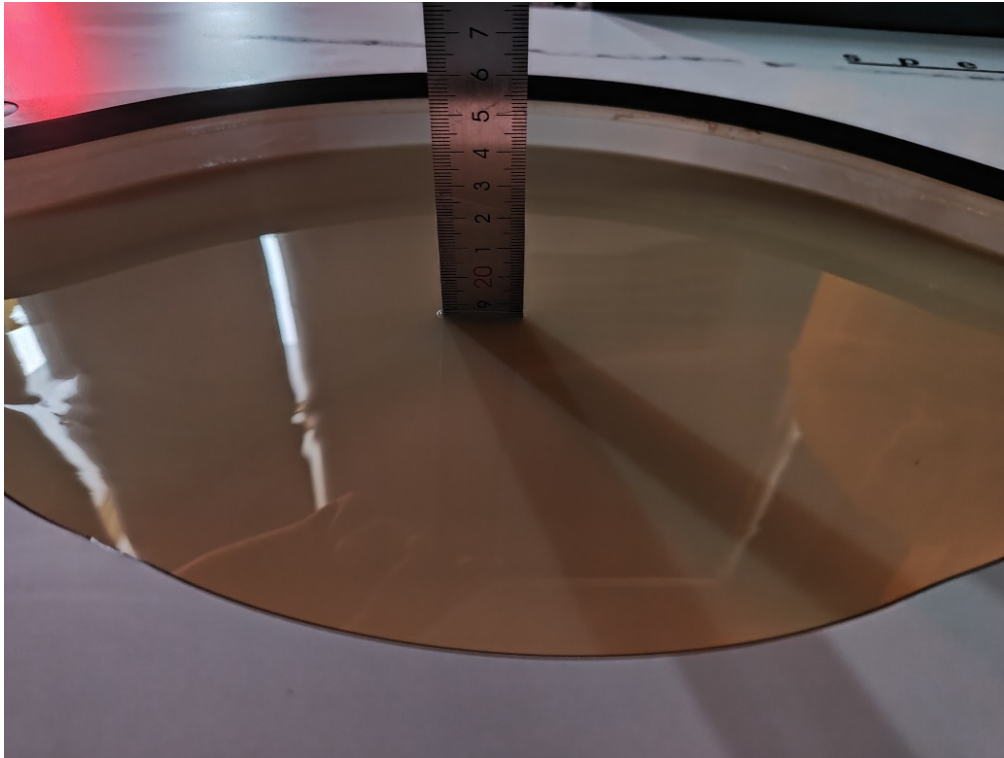
Measurement uncertainty evaluation for IEEE 1528:2013 SAR test

| Uncertainty component                                                             | Tolerance/<br>uncertainty<br>± % | Probability<br>distribution | Divisor    | ci<br>(1 g)  | ci<br>(10 g) | Standard<br>uncertainty<br>± %, (1 g) | Standard<br>uncertainty<br>± %, (10 g) |
|-----------------------------------------------------------------------------------|----------------------------------|-----------------------------|------------|--------------|--------------|---------------------------------------|----------------------------------------|
| <b>Measurement system</b>                                                         |                                  |                             |            |              |              |                                       |                                        |
| Probe calibration(k=1)                                                            | 6.55                             | N                           | 1          | 1            | 1            | 6.6                                   | 6.6                                    |
| Axial isotropy                                                                    | 4.7                              | R                           | $\sqrt{3}$ | $\sqrt{0.5}$ | $\sqrt{0.5}$ | 1.9                                   | 1.9                                    |
| Hemispherical isotropy                                                            | 9.6                              | R                           | $\sqrt{3}$ | $\sqrt{0.5}$ | $\sqrt{0.5}$ | 3.9                                   | 3.9                                    |
| Boundary effect                                                                   | 1.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.6                                   | 0.6                                    |
| Linearity                                                                         | 4.7                              | R                           | $\sqrt{3}$ | 1            | 1            | 2.7                                   | 2.7                                    |
| System detection limits                                                           | 1.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.6                                   | 0.6                                    |
| Modulation response                                                               | 0.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.0                                   | 0.0                                    |
| Readout electronics                                                               | 0.3                              | N                           | 1          | 1            | 1            | 0.3                                   | 0.3                                    |
| Response time                                                                     | 0.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.0                                   | 0.0                                    |
| Integration time                                                                  | 0.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.0                                   | 0.0                                    |
| RF ambient conditions-noise                                                       | 1.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.6                                   | 0.6                                    |
| RF ambient conditions-reflections                                                 | 1.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.6                                   | 0.6                                    |
| Probe positioner mech. tolerance                                                  | 0.8                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.5                                   | 0.5                                    |
| Probe positioning with respect to phantom shell                                   | 6.7                              | R                           | $\sqrt{3}$ | 1            | 1            | 3.9                                   | 3.9                                    |
| Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation | 2.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 1.2                                   | 1.2                                    |
| <b>Test sample related</b>                                                        |                                  |                             |            |              |              |                                       |                                        |
| Test sample positioning                                                           | 3.5                              | N                           | 1          | 1            | 1            | 3.5                                   | 3.5                                    |
| Device holder uncertainty                                                         | 4.8                              | N                           | 1          | 1            | 1            | 4.8                                   | 4.8                                    |
| Output power variation –SAR draft measurement                                     | 5.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 2.9                                   | 2.9                                    |
| SAR scaling                                                                       | 2.8                              | R                           | $\sqrt{3}$ | 1            | 1            | 1.6                                   | 1.6                                    |
| <b>Phantom and tissue parameters</b>                                              |                                  |                             |            |              |              |                                       |                                        |
| Phantom shell uncertainty– shape, thickness and permittivity                      | 4.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 2.3                                   | 2.3                                    |
| Uncertainty in SAR correction for deviations in permittivity and conductivity     | 1.9                              | N                           | 1          | 1            | 0.84         | 1.9                                   | 1.6                                    |
| Liquid conductivity meas.                                                         | 2.5                              | N                           | 1          | 0.78         | 0.71         | 2.0                                   | 1.8                                    |
| Liquid permittivity meas.                                                         | 2.5                              | N                           | 1          | 0.23         | 0.26         | 0.6                                   | 0.7                                    |
| Liquid conductivity – temperature uncertainty                                     | 1.7                              | R                           | $\sqrt{3}$ | 0.78         | 0.71         | 0.8                                   | 0.7                                    |
| Liquid permittivity – temperature uncertainty                                     | 0.3                              | R                           | $\sqrt{3}$ | 0.23         | 0.26         | 0.0                                   | 0.0                                    |
| Combined standard uncertainty                                                     |                                  | RSS                         |            |              |              | 12.2                                  | 12.1                                   |
| Expanded uncertainty (95 % confidence interval)                                   |                                  | k=2                         |            |              |              | 24.4                                  | 24.2                                   |

## APPENDIX C EUT TEST POSITION PHOTOS

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**Liquid depth  $\geq 15\text{cm}$**



WWAN /WLAN Limbs Front (0mm)



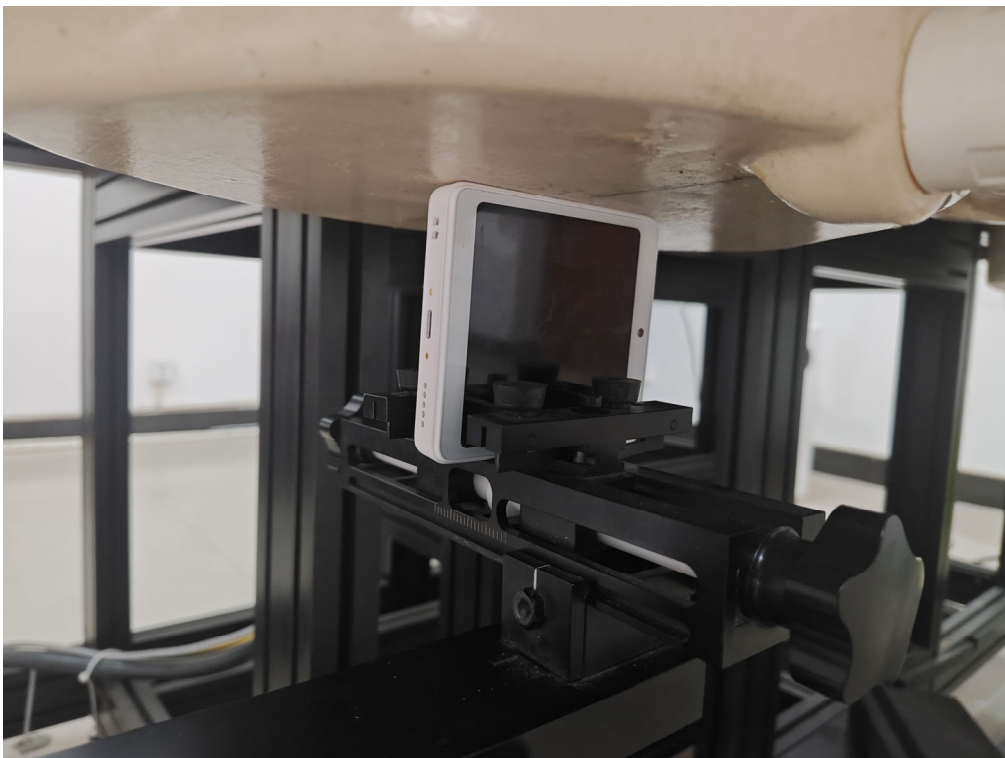
WWAN /WLAN Limbs Back (0mm)



WWAN /WLAN Body Back (10mm)



WWAN Limbs Left (0mm)



WWAN/WLAN Limbs Right (0mm)



WWAN/WLAN Limbs Top (0mm)



WWAN Limbs Bottom (0mm)



## APPENDIX D CALIBRATION CERTIFICATES

**Please Refer to the Attachment.**

## APPENDIX E DIPOLE INTERMEDIATE CHECK

**Please Refer to the Attachment.**

### Declarations

1. The laboratory is not responsible for the authenticity of any information provided by the applicant. Information from the applicant that may affect test results is marked with “★”.
2. The test data was only valid for the test sample(s).
3. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.
4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
5. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor  $k=2$  with the 95.45% confidence interval.
6. This report may contain standards and test items that are not covered by the accreditation scope and shall be marked with an asterisk “▲”.

**\*\*\*\*\* END OF REPORT \*\*\*\*\***