# SAR TEST REPORT

Product Name: 10.1inch tablet

Model Name: T85 PRO

FCC ID: 2ALJJT85PRO

Issued For : PCD, LLC

1500 TRADEPORT DRIVE. SUITE A. ORLANDO, FL. 32824

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China

| | |
|---|---|
| Report Number: | LGT23I002HA01 |
| Sample Received Date: | Sept. 04, 2023 |
| Date of Test: | Sept. 22, 2023~ Sept. 28, 2023 |
| Date of Issue: | Oct. 12, 2023 |
| Max. SAR (1g): | Body: 0.691 W/kg |

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## Revision History

| Rev. | Issue Date | Contents |
|---|---|---|
| 00 | Oct. 12, 2023 | Initial Issue |
| | | |

# TEST REPORT CERTIFICATION

| | |
|---|---|
| **Applicant** | PCD, LLC |
| Address | 1500 TRADEPORT DRIVE. SUITE A. ORLANDO, FL. 32824 |
| **Manufacture** | HAIER MOBILE COMMUNICATION LIMITED |
| Address | FLAT/RM I-1 BLK 2 4/F GOLDEN DRAGON IND CTR 162-170 TAI LIN PAI ROAD KWAI CHUNG NT HONGKONG |
| Product Name | 10.1inch tablet |
| Trademark | N/A |
| Model Name | T85 PRO |
| Sample number | LGT2309002-1 |

| APPLICABLE STANDARDS | |
|---|---|
| **STANDARD** | **TEST RESULTS** |
| ANSI/IEEE Std. C95.1-1992<br>FCC 47 CFR Part 2 (2.1093)<br>IEEE 1528: 2013 | PASS |

Prepared by:

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Engineer

Approved by:

Vita Li
Manager

# 1. General Information

Environmental evaluation measurements of specific absorption rate (SAR) distributions in emulated human head and body tissues exposed to radio frequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).

## 1.1 EUT Description

| | |
|---|---|
| Product Name | 10.1inch tablet |
| Trademark | N/A |
| Model Name | T85 PRO |
| Series Model | N/A |
| Model Difference | N/A |
| Device Category | Portable |
| Product stage | Production unit |
| RF Exposure Environment | General Population / Uncontrolled |
| Hardware Version | N/A |
| Software Version | N/A |
| Frequency Range | GSM 850: 824 ~ 849 MHz<br>PCS 1900: 1850 ~ 1910 MHz<br>WCDMA Band II: 1850 ~ 1910 MHz<br>WCDMA Band IV:1710 ~ 1755 MHz<br>WCDMA Band V: 824 ~ 849 MHz<br>LTE Band 2:1850 ~1910MHz<br>LTE Band 4:1710 ~1755MHz<br>LTE Band 5:824 ~ 849MHz<br>LTE Band 7: 2500~ 2570.00MHz<br>LTE Band 12:699 ~ 716MHz<br>LTE Band 13:777 ~ 787MHz<br>LTE Band 41:2555 ~ 2655MHz<br>LTE Band 66:1710 ~1780MHz<br>WLAN 802.11b/g/n20: 2412 MHz ~ 2462 MHz<br>WLAN 802.11n40: 2422 MHz ~ 2452 MHz<br>WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5150 ~ 5250 MHz<br>WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5725 ~ 5850 MHz<br>Bluetooth: 2402 ~ 2480 MHz |

<table>
<tr><td rowspan="17">Max. Reported SAR(1g):<br>(Limit:1.6W/kg)<br>Test distance: 0mm</td><td>Mode</td><td>Body Worn and Hotspot(W/kg))</td></tr>
<tr><td>GSM 850</td><td>0.691</td></tr>
<tr><td>PCS 1900</td><td>0.188</td></tr>
<tr><td>WCDMA Band II</td><td>0.363</td></tr>
<tr><td>WCDMA Band IV</td><td>0.612</td></tr>
<tr><td>WCDMA Band V</td><td>0.094</td></tr>
<tr><td>LTE Band 2</td><td>0.259</td></tr>
<tr><td>LTE Band 4</td><td>0.380</td></tr>
<tr><td>LTE Band 5</td><td>0.296</td></tr>
<tr><td>LTE Band 7</td><td>0.554</td></tr>
<tr><td>LTE Band 12</td><td>0.350</td></tr>
<tr><td>LTE Band 13</td><td>0.275</td></tr>
<tr><td>LTE Band 41</td><td>0.221</td></tr>
<tr><td>LTE Band 66</td><td>0.403</td></tr>
<tr><td>2.4G WLAN</td><td>0.147</td></tr>
<tr><td>5.2G WLAN</td><td>0.340</td></tr>
<tr><td>5.8G WLAN</td><td>0.418</td></tr>
<tr><td>BT Note1</td><td>0.258</td></tr>
<tr><td colspan="2">1-g Sum SAR</td><td>1.107</td></tr>
<tr><td>Battery</td><td colspan="2">Rated Voltage:3.8V<br>Capacity: 5000mAh</td></tr>
<tr><td>Operating Mode:</td><td colspan="2">GSM: GSM Voice; GPRS/EGPRS Class 12<br>WCDMA: RMC, HSDPA, HSUPA Release 6<br>LTE: QPSK, 16QAM<br>2.4G WLAN: 802.11b(DSSS): CCK, DQPSK, DBPSK<br>802.11g(OFDM): BPSK, QPSK,16-QAM,64-QAM<br>802.11n(OFDM): BPSK, QPSK,16-QAM,64-QAM<br>5G WLAN: 802.11a(OFDM): BPSK, QPSK,16-QAM,64-QAM<br>802.11n(OFDM): BPSK, QPSK,16-QAM,64-QAM<br>802.11ac (OFDM): BPSK, QPSK,16-QAM,64-QAM,256-QAM<br>Bluetooth: GFSK +π/4DQPSK+8DPSK</td></tr>
<tr><td>Antenna Specification</td><td colspan="2">GSM/WCDMA/LTE: PIFA Antenna<br>Bluetooth: PIFA Antenna<br>WLAN: PIFA Antenna</td></tr>
<tr><td>Operating Mode</td><td colspan="2">Maximum continuous output</td></tr>
<tr><td>SIM Card</td><td colspan="2">Only support single SIM Card.</td></tr>
<tr><td>Hotspot Mode</td><td colspan="2">Support</td></tr>
<tr><td>DTM Mode</td><td colspan="2">Not Support</td></tr>
<tr><td colspan="3">Note:<br>1. Bluetooth SAR was estimated<br>2. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power</td></tr>
</table>

## 1.2 Test Environment

Ambient conditions in the SAR laboratory:

| Items | Required |
|---|---|
| Temperature (℃) | 18-25 |
| Humidity (%RH) | 30-70 |

## 1.3 Test Factory

| | |
|---|---|
| Company Name: | Shenzhen LGT Test Service Co., Ltd. |
| Address: | Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China |
| Accreditation Certificate | FCC Registration No.: 746540 |
| | A2LA Certificate No.: 6727.01 |
| | IC Registration No.: CN0136 |

## 2. Test Standards and Limits

| No. | Identity | Document Title |
|---|---|---|
| 1 | 47 CFR Part 2 | Frequency Allocations and Radio Treaty Matters; General Rules and Regulations |
| 2 | ANSI/IEEE Std. C95.1-1992 | IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz |
| 3 | IEEE Std. 1528-2013 | Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques |
| 4 | FCC KDB 447498 D04 v01 | RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices |
| 5 | FCC KDB 865664 D01 v01r04 | SAR Measurement 100 MHz to 6 GHz |
| 6 | FCC KDB 865664 D02 v01r02 | RF Exposure Reporting |
| 7 | FCC KDB 941225 D01 v03r01 | SAR Measurement Procedures for 3G Devices |
| 8 | FCC KDB 941225 D05 v02r05 | SAR for LTE Devices |
| 9 | FCC KDB 941225 D06 v02r01 | Hotspot Mode SAR |
| 10 | FCC KDB 248227 D01 Wi-Fi SAR v02r02 | SAR Considerations for 802.11 Devices |
| 11 | FCC KDB 616217 D04 SAR for laptop and tablets v01r02 | SAR Evaluation Considerations<br>For Laptop, Notebook, Netbook And Tablet Computers |

(A). Limits for Occupational/Controlled Exposure (W/kg)

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|---|---|---|
| 0.4 | 8.0 | 20.0 |

(B). Limits for General Population/Uncontrolled Exposure (W/kg)

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|---|---|---|
| 0.08 | 1.6 | 4.0 |

NOTE: Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

**Population/Uncontrolled Environments:**
Are defined as locations where there is the exposure of individuals 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).

**NOTE**
**GENERAL POPULATION/UNCONTROLLED EXPOSURE**
**PARTIAL BODY LIMIT**
**1.6 W/kg**

# 3. SAR Measurement System

## 3.1 Definition of Specific Absorption Rate (SAR)

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

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

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

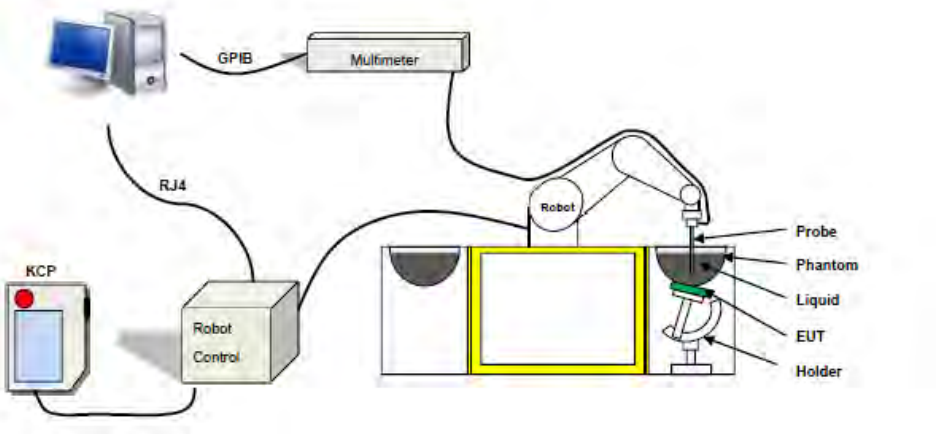
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

## 3.2 SAR System

MVG SAR System Diagram:




COMOSAR is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The COMOSAR system consists of the following items:
- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.


The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The OpenSAR software computes the results to give a SAR value in a 1g or 1g mass.

### 3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 04/22 EPGO364 with following specifications is used
- Probe Length: 330 mm
- Length of Individual Dipoles: 2mm
- Maximum external diameter: 8 mm
- Probe Tip External Diameter: 2.5 mm
- Distance between dipole/probe extremity: 1 mm
- Dynamic range: 0.01-100 W/kg
- Probe linearity: 3%
- Axial Isotropy: ＜0.10 dB
- Spherical Isotropy: ＜0.10 dB
- Calibration range: 600 MHz to 6 GHz for head & body simulating liquid.
-Angle between probe axis (evaluation axis) and surface normal line: less than 30°

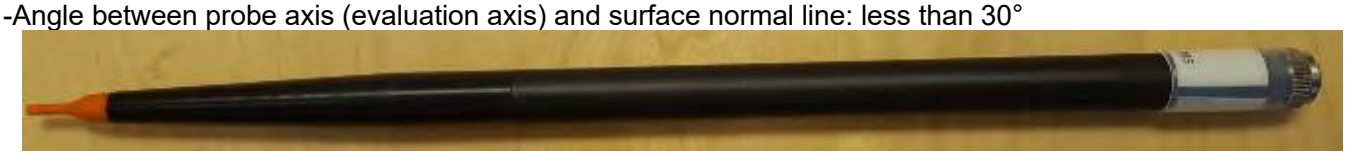


Figure 1-MVG COMOSAR Dosimetric E field Probe

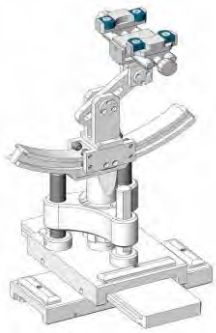
### 3.2.2 Phantom

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

Figure-SN 06/22 SAM 148

Figure-SN 06/22 ELLI 51

### 3.2.3 Device Holder



The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

# 4. Tissue Simulating Liquids

## 4.1 Simulating Liquids Parameter Check

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectric parameters are within the tolerances of the specified target values

The uncertainty due to the liquid conductivity and permittivity arises from two different sources. The first source of error is the deviation of the liquid conductivity from its target value (max _ 5 %) and the second source of error arises from the measurement procedures used to assess conductivity. The uncertainty shall be assessed using a rectangular probability For 1 g averaging, the maximum weighting coefficient for SAR is 0,5.

**IEEE SCC-34/SC-2 RECOMMENDED TISSUE DIELECTRIC PARAMETERS**
The head and body tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 have been incorporated in the following table.

| Frequency | εr | | σ 1g S/m | |
|---|---|---|---|---|
| | Head | Body | Head | Body |
| 300 | 45.3 | 45.3 | 0.87 | 0.87 |
| 450 | 43.5 | 43.5 | 0.87 | 0.87 |
| 900 | 41.5 | 41.5 | 0.97 | 0.97 |
| 1450 | 40.5 | 40.5 | 1.20 | 1.20 |
| 1800 | 40.0 | 40.0 | 1.40 | 1.40 |
| 2450 | 39.2 | 39.2 | 1.80 | 1.80 |
| 3000 | 38.5 | 38.5 | 2.40 | 2.40 |
| 5200 | 36.0 | 36.0 | 4.70 | 4.70 |

## LIQUID MEASUREMENT RESULTS

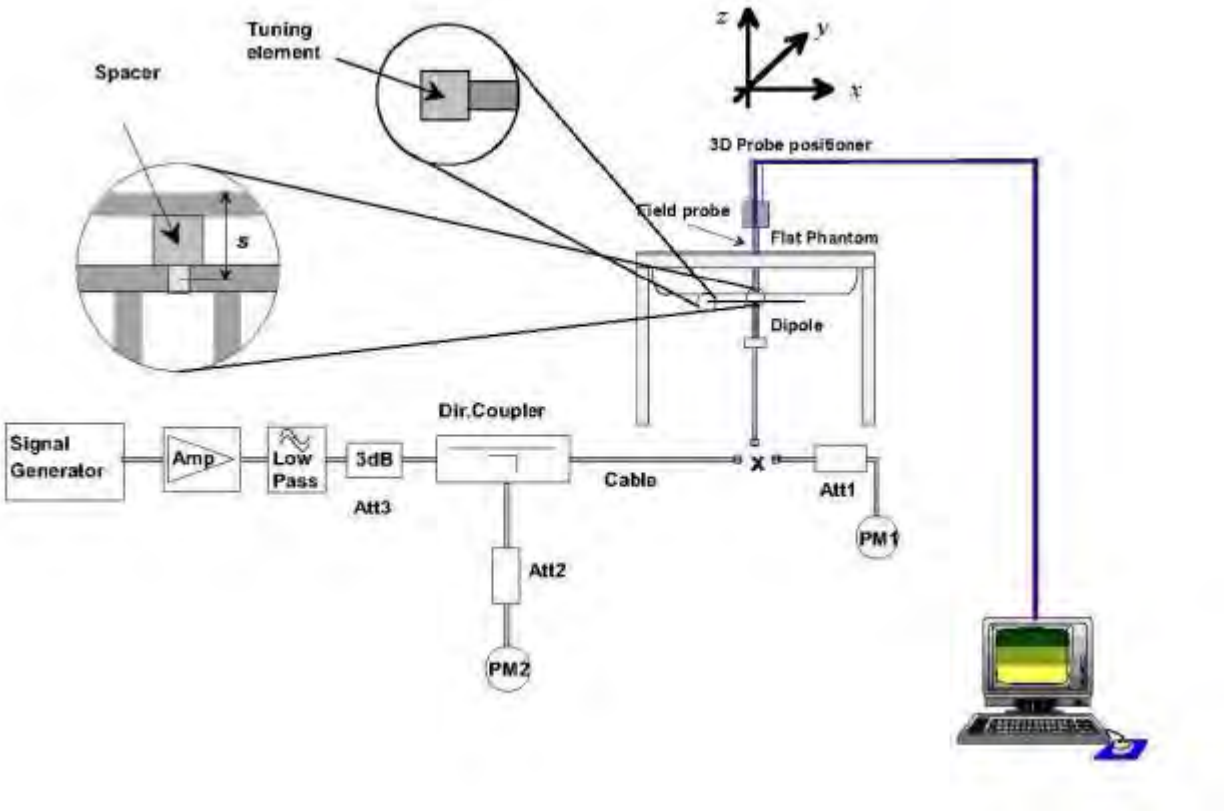
| Date | Ambient | | Simulating Liquid | | Parameters | Target | Measured | Deviation % | Limited % |
|---|---|---|---|---|---|---|---|---|---|
| | Temp. [°C] | Humidity % | Frequency (MHz) | Temp. [°C] | | | | | |
| 2023-09-22 | 20.1 | 46 | 750 | 19.9 | Permittivity | 41.90 | 42.65 | 1.40 | ±5 |
| | | | | | Conductivity | 0.89 | 0.85 | -4.28 | ±5 |
| 2023-09-27 | 23.9 | 50 | 835 | 23.6 | Permittivity | 41.50 | 41.68 | 0.43 | ±5 |
| | | | | | Conductivity | 0.90 | 0.88 | -2.22 | ±5 |
| 2023-09-22 | 20.2 | 46 | 1800 | 19.9 | Permittivity | 40.00 | 40.51 | 1.28 | ±5 |
| | | | | | Conductivity | 1.40 | 1.41 | 0.71 | ±5 |
| 2023-09-28 | 21.9 | 43 | 1900 | 21.6 | Permittivity | 40.00 | 40.71 | 1.78 | ±5 |
| | | | | | Conductivity | 1.40 | 1.45 | 3.57 | ±5 |
| 2023-09-28 | 21.9 | 43 | 2450 | 21.6 | Permittivity | 39.20 | 39.96 | 1.94 | ±5 |
| | | | | | Conductivity | 1.80 | 1.82 | 1.11 | ±5 |
| 2023-09-26 | 22.8 | 47 | 2600 | 22.6 | Permittivity | 39.00 | 39.55 | 1.41 | ±5 |
| | | | | | Conductivity | 1.96 | 1.91 | -2.55 | ±5 |
| 2023-09-23 | 20.6 | 42 | 5200 | 20.3 | Permittivity | 36.00 | 36.52 | 1.44 | ±5 |
| | | | | | Conductivity | 4.66 | 4.70 | 0.86 | ±5 |
| 2023-09-26 | 23.7 | 45 | 5800 | 23.4 | Permittivity | 35.30 | 36.14 | 2.38 | ±5 |
| | | | | | Conductivity | 5.27 | 5.24 | -0.57 | ±5 |
| 2023-09-16 | 21.3 | 52 | 1800 | 21.0 | Permittivity | 40.00 | 40.37 | 0.92 | ±5 |
| | | | | | Conductivity | 1.40 | 1.38 | -1.43 | ±5 |
| 2023-09-17 | 22.4 | 50 | 5800 | 22.1 | Permittivity | 39.00 | 39.67 | 1.72 | ±5 |
| | | | | | Conductivity | 1.96 | 2.01 | 2.55 | ±5 |

# 5. SAR System Validation

## 5.1 Validation System

Each MVG system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the MVG software, enable the user to conduct the system performance check and system validation. System kit includes a dipole, and dipole device holder.

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



## 5.2 Validation Result

Comparing to the original SAR value provided by MVG, the validation data should be within its specification of ±10 %.

| Date | Freq. | Power | Tested Value | Normalized SAR | Target SAR | Tolerance | Limit |
|---|---|---|---|---|---|---|---|
| | (MHz) | (mW) | (W/Kg) | (W/kg) | 1g(W/kg) | (%) | (%) |
| 2023-09-22 | 750 | 100 | 0.851 | 8.51 | 8.27 | 2.90 | 10 |
| 2023-09-27 | 835 | 100 | 0.982 | 9.82 | 9.75 | 0.72 | 10 |
| 2023-09-22 | 1800 | 100 | 3.627 | 36.27 | 39.06 | -7.14 | 10 |
| 2023-09-28 | 1900 | 100 | 3.909 | 39.09 | 40.85 | -4.31 | 10 |
| 2023-09-28 | 2450 | 100 | 5.492 | 54.92 | 54.28 | 1.18 | 10 |
| 2023-09-26 | 2600 | 100 | 5.664 | 56.64 | 56.58 | 0.11 | 10 |
| 2023-09-23 | 5200 | 100 | 7.366 | 73.66 | 77.64 | -5.13 | 10 |
| 2023-09-26 | 5800 | 100 | 7.810 | 78.10 | 74.92 | 4.24 | 10 |
| 2023-09-16 | 1800 | 100 | 3.705 | 37.05 | 39.06 | -5.15 | 10 |
| 2023-09-17 | 2600 | 100 | 5.714 | 57.14 | 56.58 | 0.99 | 10 |

Note:
1. The tolerance limit of System validation ±10%.
2. The dipole input power (forward power) was 100 mW.
3. The results are normalized to 1 W input power.

# 6. SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:

The following steps are used for each test position

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface

- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.

- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.

- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

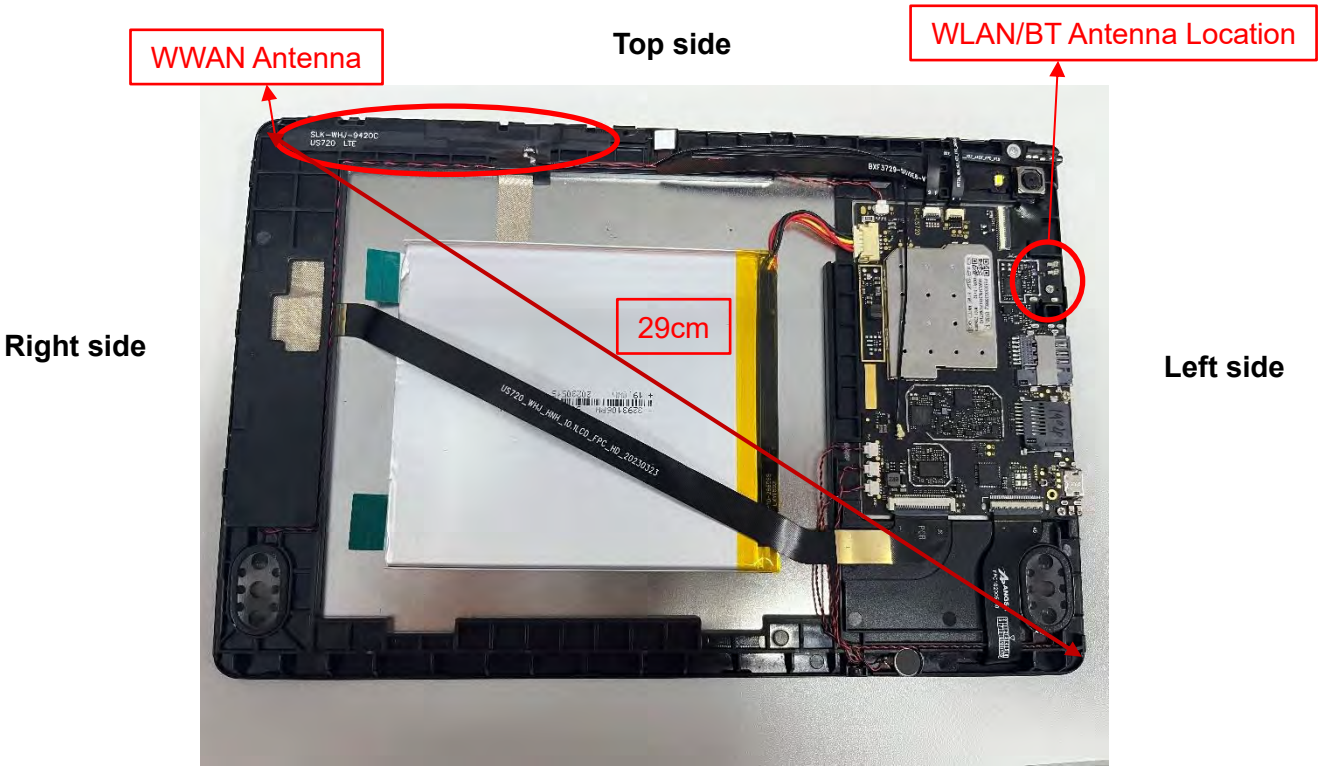
Area Scan& Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01 quoted below.

When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

## 7. EUT Antenna Location Sketch

It is a 10.1inch tablet, support GSM/WCDMA/LTE/WLAN/BT mode.




| Antenna Separation Distance(cm) | | | | | | |
|---|---|---|---|---|---|---|
| ANT | Back Side | Front Side | Left Side | Right Side | Top Side | Bottom Side |
| WLAN/BT | ≤0.5 | ≤0.5 | ≤0.5 | 22.8 | 3.8 | 10.8 |
| WWAN | ≤0.5 | ≤0.5 | 14 | 1 | ≤0.5 | 14.1 |

Note 1: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.

### 7.1 SAR test exclusion consider table

The WWAN/WLAN/BT SAR evaluation of Maximum power (dBm) summing tolerance.

| | | | | | | |
|---|---|---|---|---|---|---|
| Exposure Position | Wireless Interface | GSM850 | PCS1900 | WCDMA II | WCDMA IV | WCDMA V |
| | Calculated Frequency(GHz) | 0.8242 | 1.8202 | 1.9076 | 1.7126 | 0.8364 |
| | Maximum Turn-up power (dBm) | 31.5 | 29 | 23.5 | 23.5 | 23.5 |
| | Maximum rated power(mW) | 1412.54 | 794.33 | 223.87 | 223.87 | 223.87 |
| Back Side | Separation distance (cm) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | exclusion threshold(mW) | 9.42 | 3.48 | 3.35 | 3.66 | 9.23 |
| | Testing required? | YES | YES | YES | YES | YES |
| Left Edge | Separation distance (cm) | 14 | 14 | 14 | 14 | 14 |
| | exclusion threshold(mW) | 1018.46 | 1588.80 | 1583.04 | 1596.31 | 1030.01 |
| | Testing required? | YES | NO | NO | NO | NO |
| Right Edge | Separation distance (cm) | 1 | 1 | 1 | 1 | 1 |
| | exclusion threshold(mW) | 24.95 | 12.44 | 12.07 | 12.95 | 24.60 |
| | Testing required? | YES | YES | YES | YES | YES |
| Top Edge | Separation distance (cm) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | exclusion threshold(mW) | 9.42 | 3.48 | 3.35 | 3.66 | 9.23 |
| | Testing required? | YES | YES | YES | YES | YES |
| Bottom Edge | Separation distance (cm) | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 |
| | exclusion threshold(mW) | 1028.70 | 1609.72 | 1604.00 | 1617.18 | 1040.44 |
| | Testing required? | YES | NO | NO | NO | NO |

| Exposure Position | Wireless Interface | LTE Band 2 | LTE Band 4 | LTE Band 5 | LTE Band 7 | LTE Band 12 |
|---|---|---|---|---|---|---|
| | Calculated Frequency (GHz) | 1.9 | 1.7325 | 0.8365 | 2.56 | 0.704 |
| | Maximum Turn-up power (dBm) | 17.5 | 17 | 17.5 | 16 | 21 |
| | Maximum rated power(mW) | 56.23 | 50.12 | 56.23 | 39.81 | 125.89 |
| Back Side | Separation distance (cm) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | exclusion threshold(mW) | 3.36 | 3.62 | 9.22 | 2.65 | 11.75 |
| | Testing required? | YES | YES | YES | YES | YES |
| Left Edge | Separation distance (cm) | 14 | 14 | 14 | 14 | 14 |
| | exclusion threshold(mW) | 1583.53 | 1594.89 | 1030.11 | 1547.38 | 902.38 |
| | Testing required? | NO | NO | NO | NO | NO |
| Right Edge | Separation distance (cm) | 1 | 1 | 1 | 1 | 1 |
| | exclusion threshold(mW) | 12.10 | 12.85 | 24.60 | 9.97 | 28.98 |
| | Testing required? | YES | YES | YES | YES | YES |
| Top Edge | Separation distance (cm) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | exclusion threshold(mW) | 3.36 | 3.62 | 9.22 | 2.65 | 11.75 |
| | Testing required? | YES | YES | YES | YES | YES |
| Bottom Edge | Separation distance (cm) | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 |
| | exclusion threshold(mW) | 1604.48 | 1615.76 | 1040.54 | 1568.58 | 910.79 |
| | Testing required? | NO | NO | NO | NO | NO |

| Exposure Position | Wireless Interface | LTE Band 13 | LTE Band 41 | LTE Band 66 | BT |
|---|---|---|---|---|---|
| | Calculated Frequency (GHz) | 0.782 | 2.605 | 1.77 | 2.402 |
| | Maximum Turn-up power (dBm) | 23 | 18.2 | 23 | -2 |
| | Maximum rated power(mW) | 199.53 | 66.07 | 199.53 | 0.63 |
| Back Side | Separation distance (cm) | 0.5 | 0.5 | 0.5 | 0.5 |
| | exclusion threshold(mW) | 10.14 | 2.61 | 3.56 | 2.79 |
| | Testing required? | YES | YES | YES | NO |
| Left Edge | Separation distance (cm) | 14 | 14 | 14 | 0.5 |
| | exclusion threshold(mW) | 978.19 | 1545.29 | 1592.24 | 2.79 |
| | Testing required? | NO | NO | NO | NO |
| Right Edge | Separation distance (cm) | 1 | 1 | 1 | 22.8 |
| | exclusion threshold(mW) | 26.23 | 9.85 | 12.67 | 3923.91 |
| | Testing required? | YES | YES | YES | NO |
| Top Edge | Separation distance (cm) | 0.5 | 0.5 | 0.5 | 3.8 |
| | exclusion threshold(mW) | 10.14 | 2.61 | 3.56 | 130.89 |
| | Testing required? | YES | YES | YES | NO |
| Bottom Edge | Separation distance (cm) | 14.1 | 14.1 | 14.1 | 10.8 |
| | exclusion threshold(mW) | 987.78 | 1566.50 | 1613.14 | 950.26 |
| | Testing required? | NO | NO | NO | NO |

| | | | | |
|---|---|---|---|---|
| Exposure Position | Wireless Interface | 2.4G WLAN | 5.2G WLAN | 5.8G WLAN |
| | Calculated Frequency (GHz) | 2.437 | 5.24 | 5.825 |
| | Maximum Turn-up power (dBm) | 17 | 11 | 12 |
| | Maximum rated power(mW) | 50.12 | 12.59 | 15.85 |
| Back Side | Separation distance (cm) | 0.5 | 0.5 | 0.5 |
| | exclusion threshold(mW) | 2.76 | 1.49 | 1.37 |
| | Testing required? | YES | YES | YES |
| Left Edge | Separation distance (cm) | 0.5 | 0.5 | 0.5 |
| | exclusion threshold(mW) | 2.76 | 1.49 | 1.37 |
| | Testing required? | YES | YES | YES |
| Right Edge | Separation distance (cm) | 22.8 | 22.8 | 22.8 |
| | exclusion threshold(mW) | 3925.52 | 4011.97 | 4024.06 |
| | Testing required? | NO | NO | NO |
| Top Edge | Separation distance (cm) | 3.8 | 3.8 | 3.8 |
| | exclusion threshold(mW) | 130.21 | 98.80 | 95.10 |
| | Testing required? | NO | NO | NO |
| Bottom Edge | Separation distance (cm) | 10.8 | 10.8 | 10.8 |
| | exclusion threshold(mW) | 948.42 | 856.08 | 844.05 |
| | Testing required? | NO | NO | NO |

**Note：**

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. Per KDB 447498 D04, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D04, if the maximum time-averaged power available does not exceed 1 mW. This stand-alone SAR exemption test.

4. Per KDB 447498 D04, the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold Pth (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by:

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

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\ cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

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

$d$ = the separation distance (cm);

5. Per KDB 447498 D04, An alternative to the SAR-based exemption is using below table and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in below table to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

| RF Source frequency (MHz) | Threshold ERP(watts) |
|---|---|
| 0.3-1.34 | 1,920 $R^2$. |
| 1.34-30 | 3,450 $R^2/f^2$. |
| 30-300 | 3.83 $R^2$. |
| 300-1,500 | 0.0128 $R^2f$. |
| 1,500-100,000 | 19.2$R^2$. |

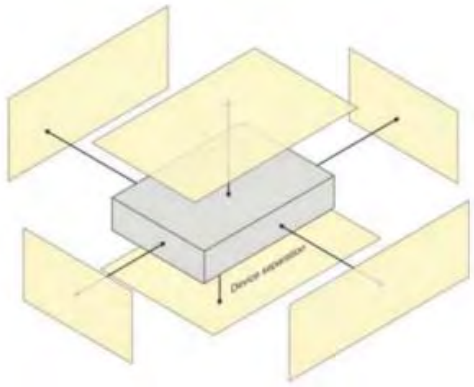
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.
7. Per KDB 616217 D04, SAR evaluation for the front surface of tablet display screens are generally not necessary.

# 8. EUT Test Position

This EUT was tested in Back Side, Left Side, Right Edge and Top Side.

## 8.1 Body-worn Position Conditions

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing function, the relevant hand and body exposure condition are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surface and edges with a transmitting antenna located within 25 mm form that surface or edge. When form factor of a handset is smaller than 9cm x 5cm, a test separation distance of 5mm (instead of 10mm) is required for testing hotspot mode. When the separate distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).



# 9. Uncertainty

## 9.1 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2013.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

| Symbol | Uncertainty Component | Prob. Dist. | Unc. $a(x_i)$ | Div. $q_i$ | $u(x_i) = a(x_i)/q_i$ | $C_i$ | $u(y) = C_i * u(x_i)$ | $v_i$ |
|---|---|---|---|---|---|---|---|---|
| **Measurement system errors** | | | | | | | | |
| CF | Probe calibration | N (k = 2) | 5.8 | 2 | 2.90 | 1 | 2.90 | ∞ |
| $CF_{drift}$ | Probe calibration drift | R | 0.12 | √3 | 0.07 | 1 | 0.07 | ∞ |
| LIN | Probe linearity and detection limit | R | 1.91 | √3 | 1.10 | 1 | 1.10 | ∞ |
| BBS | Broadband signal | R | 0.15 | √3 | 0.09 | 1 | 0.09 | ∞ |
| ISO | Probe isotropy | R | 0.18 | √3 | 0.10 | 1 | 0.10 | ∞ |
| DAE | Other probe and data acquisition errors | N | 2.7 | 1 | 2.70 | 1 | 2.70 | ∞ |
| AMB | RF ambient and noise | N | 1.73 | 1 | 1.73 | 1 | 1.73 | ∞ |
| $\Delta_{xyz}$ | Probe positioning errors | N | 0.81 | 1 | 0.81 | 2/δ | 0.81 | |
| DAT | Data processing errors | N | 2.5 | 1 | 2.50 | 1 | 2.50 | ∞ |
| **Phantom and device (DUT or validation antenna) errors** | | | | | | | | |
| LIQ(σ) | Measurement of phantom conductivity(σ) | N | 4.4 | 1 | 4.4 | cε, cσ | 4.40 | ∞ |
| $LIQ(T_c)$ | Temperature effects (medium) | R | 2.9 | √3 | 1.67 | cε, cσ | 1.67 | ∞ |
| EPS | Shell permittivity | R | 3.4 | √3 | 1.96 | See 8.4.2.3 | 0.49 | ∞ |
| DIS | Distance between the radiating element of the DUT and the phantom medium | N | 0.8 | 1 | 0.8 | 2 | 1.60 | ∞ |
| $D_{xyz}$ | Repeatability of positioning the DUT or source against the phantom | N | 1.5 | 1 | 1.5 | 1 | 1.50 | 5 |
| H | Device holder effects | N | 3 | 1 | 3 | 1 | 3.00 | |
| MOD | Effect of operating mode on probe sensitivity | R | 3.59 | √3 | 2.07 | 1 | 2.07 | ∞ |
| TAS | Time-average SAR | R | 1.73 | √3 | 1.00 | 1 | 1.00 | ∞ |
| $RF_{drift}$ | Variation in SAR due to drift in output of DUT | N | 2.89 | 1 | 2.89 | 1 | 2.89 | |
| VAL | Validation antenna uncertainty (validation measurement only) | N | 1.45 | 1 | 1.45 | 1 | 1.45 | |
| $P_{in}$ | Uncertainty in accepted power (validation measurement only) | N | 2.5 | 1 | 2.5 | 1 | 2.50 | |
| **Corrections to the SAR result (if applied)** | | | | | | | | |
| $C(\varepsilon', \sigma)$ | Phantom deviation from target $(\varepsilon', \sigma)$ | N | 2.31 | 1 | 2.31 | 1 | 2.31 | |
| C(R) | SAR scaling | R | 1.15 | √3 | 0.66 | 1 | 0.66 | |
| u(ΔSAR) | Combined uncertainty | | | | | | 9.53 | |
| U | Expanded uncertainty and effective degrees of freedom | | | | | U = | 19.06 | |

# 10. Conducted Power Measurement

## 10.1 Test Result:

| Burst Average Power (dBm) | | | | | | |
|---|---|---|---|---|---|---|
| Band | GSM 850 | | | PCS 1900 | | |
| Channel | 128 | 190 | 251 | 512 | 661 | 810 |
| Frequency (MHz) | 824.2 | 836.6 | 848.8 | 1850.2 | 1880.0 | 1909.8 |
| GSM (GMSK, 1-Slot) | 31.94 | 31.98 | 31.97 | 29.21 | 28.96 | 28.42 |
| GPRS (GMSK,1-Slot) | 31.99 | 32.05 | 32.00 | 29.17 | 28.90 | 28.43 |
| GPRS (GMSK, 2-Slot) | 31.11 | 31.18 | 31.13 | 28.60 | 28.33 | 27.94 |
| GPRS (GMSK, 3-Slot) | 28.83 | 28.93 | 28.79 | 26.69 | 26.35 | 26.28 |
| GPRS (GMSK, 4-Slot) | 27.59 | 27.65 | 27.43 | 25.55 | 25.22 | 25.26 |
| EGPRS (8PSK, 1-Slot) | 31.96 | 32.02 | 32.09 | 29.13 | 29.01 | 28.57 |
| EGPRS (8PSK, 2-Slot) | 31.89 | 31.94 | 31.96 | 29.04 | 28.93 | 28.41 |
| EGPRS (8PSK, 3-Slot) | 30.58 | 30.25 | 30.47 | 28.73 | 28.64 | 28.08 |
| EGPRS (8PSK, 4-Slot) | 31.29 | 30.66 | 31.23 | 28.49 | 28.36 | 27.80 |
| Remark: GPRS, CS4 coding scheme. EGPRS, MCS5 coding scheme.<br>Multi-Slot Class 8, Support Max 4 downlink, 1 uplink, 5 working link<br>Multi-Slot Class 10, Support Max 4 downlink, 2 uplink, 5 working link<br>Multi-Slot Class 12, Support Max 4 downlink, 4 uplink, 5 working link | | | | | | |

| Frame- Average Power(dBm) | | | | | | |
|---|---|---|---|---|---|---|
| Band | GSM 850 | | | PCS 1900 | | |
| Channel | 128 | 190 | 251 | 512 | 661 | 810 |
| Frequency (MHz) | 824.2 | 836.6 | 848.8 | 1850.2 | 1880.0 | 1909.8 |
| GSM (GMSK, 1-Slot) | 22.91 | 22.95 | 22.94 | 20.18 | 19.93 | 19.39 |
| GPRS (GMSK,1-Slot) | 22.96 | 23.02 | 22.97 | 20.14 | 19.87 | 19.40 |
| GPRS (GMSK, 2-Slot) | 25.09 | 25.16 | 25.11 | 22.58 | 22.31 | 21.92 |
| GPRS (GMSK, 3-Slot) | 24.57 | 24.67 | 24.53 | 22.43 | 22.09 | 22.02 |
| GPRS (GMSK, 4-Slot) | 24.58 | 24.64 | 24.42 | 22.54 | 22.21 | 22.25 |
| EGPRS (8PSK, 1-Slot) | 22.93 | 22.99 | 23.06 | 20.10 | 19.98 | 19.54 |
| EGPRS (8PSK, 2-Slot) | 25.87 | 25.92 | 25.94 | 23.02 | 22.91 | 22.39 |
| EGPRS (8PSK, 3-Slot) | 26.32 | 25.99 | 26.21 | 24.47 | 24.38 | 23.82 |
| EGPRS (8PSK, 4-Slot) | 28.28 | 27.65 | 28.22 | 25.48 | 25.35 | 24.79 |
| Remark:<br>1. SAR testing was performed on the maximum frame-averaged power mode.<br>2. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum<br>Burst - averaged power based on time slots. The calculated method is shown as below:<br>Frame-averaged power = Burst averaged power (1 TX Slot) – 9.03 dB<br>Frame-averaged power = Burst averaged power (2 TX Slots) – 6.02 dB<br>Frame-averaged power = Burst averaged power (3 TX Slots) - 4.26 dB<br>Frame-averaged power = Burst averaged power (4 TX Slots) – 3.01 dB | | | | | | |

WCDMA

| Band | WCDMA Band 2 | | | WCDMA Band 4 | | | WCDMA Band 5 | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 9262 | 9400 | 9538 | 9262 | 9400 | 9538 | 9262 | 9400 | 9538 |
| Frequency (MHz) | 1852.4 | 1880 | 1907.6 | 1852.4 | 1880 | 1907.6 | 1852.4 | 1880 | 1907.6 |
| RMC 12.2Kbps | 22.84 | 22.92 | 23.02 | 23.07 | 23.03 | 23.04 | 24.44 | 24.51 | 24.02 |
| HSDPA Subtest-1 | 21.92 | 22.02 | 22.08 | 22.11 | 22.12 | 22.11 | 22.64 | 21.52 | 22.73 |
| HSDPA Subtest-2 | 21.44 | 21.51 | 21.69 | 21.68 | 21.74 | 21.53 | 23.02 | 20.36 | 22.14 |
| HSDPA Subtest-3 | 20.16 | 20.59 | 20.25 | 20.82 | 20.71 | 20.49 | 21.82 | 22.07 | 21.11 |
| HSDPA Subtest-4 | 20.35 | 20.59 | 20.59 | 20.55 | 20.60 | 20.60 | 21.93 | 21.73 | 22.09 |
| HSUPA Subtest-1 | 20.35 | 21.76 | 21.80 | 20.46 | 21.88 | 21.93 | 22.22 | 23.37 | 22.43 |
| HSUPA Subtest-2 | 21.76 | 21.93 | 22.03 | 22.00 | 21.92 | 22.05 | 20.23 | 23.44 | 20.34 |
| HSUPA Subtest-3 | 20.16 | 20.66 | 20.64 | 20.36 | 20.87 | 20.88 | 21.19 | 22.24 | 21.48 |
| HSUPA Subtest-4 | 21.9 | 21.97 | 22.06 | 22.12 | 22.09 | 22.1 | 22.37 | 23.54 | 22.96 |
| HSUPA Subtest-5 | 20.25 | 21.37 | 21.61 | 20.65 | 21.4 | 21.3 | 21.54 | 22.87 | 21.96 |

According to 3GPP 25.101 sub-clause 6.2.2, the maximum output power is allowed to be reduced by following the table.

Table 6.1A: UE maximum output power with HS-DPCCH and E-DCH

| UE Transmit Channel Configuration | CM (db) | MPR (db) |
|---|---|---|
| For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH | 0≤ CM≤3.5 | MAX(CM-1,0) |
| Note: CM=1 for βc/βd=12/15, βhs/ βc=24/15.For all other combinations of DPDCH, DPCCH, HS-DPCCH,<br>E-DPDCH and E-DPCCH the MPR is based on the relative CM difference. | | |

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

2.4G WLAN

| 2.4GWIFI | | | | |
|---|---|---|---|---|
| Mode | Channel Number | Frequency (MHz) | Output Power (dBm) | Output Power (mW) |
| 802.11b | 1 | 2412 | 16.51 | 44.77 |
| | 6 | 2437 | 16.82 | 48.13 |
| | 11 | 2462 | 16.02 | 39.95 |
| 802.11g | 1 | 2412 | 13.08 | 20.30 |
| | 6 | 2437 | 13.75 | 23.71 |
| | 11 | 2462 | 12.62 | 18.30 |
| 802.11 n-HT20 | 1 | 2412 | 13.98 | 24.99 |
| | 6 | 2437 | 14.42 | 27.67 |
| | 11 | 2462 | 13.58 | 22.80 |
| 802.11 n-HT40 | 3 | 2422 | 13.71 | 23.49 |
| | 6 | 2437 | 13.73 | 23.61 |
| | 9 | 2452 | 13.12 | 20.52 |

Bluetooth

| BT | | | | |
|---|---|---|---|---|
| Mode | Frequency (MHz) | Emission Level (dBuV/m) | EIRP (dBm) | EIRP (mW) |
| GFSK(1Mbps) | 2402 | 91.71 | -3.49 | 0.45 |
| | 2441 | 90.56 | -4.64 | 0.34 |
| | 2480 | 91.71 | -3.49 | 0.45 |
| π/4-QPSK(2Mbps) | 2402 | 91.69 | -3.51 | 0.45 |
| | 2441 | 90.81 | -4.39 | 0.36 |
| | 2480 | 91.4 | -3.80 | 0.42 |
| 8DPSK(3Mbps) | 2402 | 90.39 | -4.81 | 0.33 |
| | 2441 | 90.61 | -4.59 | 0.35 |
| | 2480 | 90.75 | -4.45 | 0.36 |
| Note: EIRP= Emission Level (dBuV/m)-95.2 | | | | |

WLAN (5.2Gband)

| 5.2G WLAN | | | | |
|---|---|---|---|---|
| Mode | Channel Number | Frequency (MHz) | Output Power (dBm) | Output Power (mW) |
| 802.11a20 | 36 | 5180 | 9.45 | 8.80 |
| | 40 | 5200 | 9.34 | 8.59 |
| | 48 | 5240 | 10.56 | 11.37 |
| 802.11n-HT20 | 36 | 5180 | 9.64 | 9.20 |
| | 40 | 5200 | 9.47 | 8.85 |
| | 48 | 5240 | 10.69 | 11.71 |
| 802.11n-HT40 | 38 | 5190 | 10.30 | 10.71 |
| | 46 | 5230 | 10.12 | 10.27 |
| 802.11ac-VHT20 | 36 | 5180 | 9.57 | 9.06 |
| | 40 | 5200 | 9.50 | 8.92 |
| | 48 | 5240 | 10.64 | 11.59 |
| 802.11ac-VHT40 | 38 | 5190 | 10.12 | 10.28 |
| | 46 | 5230 | 10.09 | 10.20 |
| 802.11ac-VHT80 | 42 | 5210 | 10.35 | 10.83 |

WLAN (5.8G band)

| 5.8G WLAN | | | | |
|---|---|---|---|---|
| Mode | Channel Number | Frequency (MHz) | Output Power (dBm) | Output Power (mW) |
| 802.11a20 | 149 | 5745 | 10.68 | 11.69 |
| | 157 | 5785 | 10.78 | 11.96 |
| | 165 | 5825 | 11.20 | 13.19 |
| 802.11n-HT20 | 149 | 5745 | 10.61 | 11.51 |
| | 157 | 5785 | 11.11 | 12.92 |
| | 165 | 5825 | 11.53 | 14.23 |
| 802.11n-HT40 | 151 | 5755 | 10.72 | 11.79 |
| | 159 | 5795 | 10.65 | 11.62 |
| 802.11ac-VHT20 | 149 | 5745 | 10.14 | 10.32 |
| | 157 | 5785 | 10.39 | 10.93 |
| | 165 | 5825 | 10.83 | 12.12 |
| 802.11ac-VHT40 | 151 | 5755 | 10.27 | 10.65 |
| | 159 | 5795 | 10.31 | 10.75 |
| 802.11ac-VHT80 | 155 | 5775 | 10.31 | 10.75 |

**LTE Conducted Power**

**General Note:**

1. Anritsu CMW500 base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per 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 $\leqslant$ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is $\leqslant$ 1.45 W/kg; Per KDB 941225 D05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is $\leqslant$ 1.45 W/kg; Per KDB 941225 D05, smaller bandwidth SAR testing is not required.

| LTE Band 2 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 1.4 | 1 | 0 | QPSK | 16.35 | 16.59 | 16.69 |
| 1.4 | 1 | 2 | | 16.50 | 16.72 | 16.80 |
| 1.4 | 1 | 5 | | 16.35 | 16.57 | 16.66 |
| 1.4 | 3 | 0 | | 16.05 | 16.45 | 16.53 |
| 1.4 | 3 | 1 | | 15.88 | 16.10 | 16.65 |
| 1.4 | 3 | 2 | | 15.84 | 16.34 | 15.99 |
| 1.4 | 6 | 0 | | 15.43 | 15.61 | 15.69 |
| 1.4 | 1 | 0 | 16-QAM | 15.43 | 15.86 | 15.57 |
| 1.4 | 1 | 2 | | 15.56 | 15.99 | 15.69 |
| 1.4 | 1 | 5 | | 15.40 | 15.87 | 15.52 |
| 1.4 | 3 | 0 | | 15.30 | 15.34 | 15.34 |
| 1.4 | 3 | 1 | | 15.38 | 15.66 | 15.61 |
| 1.4 | 3 | 2 | | 14.70 | 15.25 | 15.40 |
| 1.4 | 6 | 0 | | 14.63 | 14.75 | 14.87 |
| 3 | 1 | 0 | QPSK | 16.47 | 16.61 | 16.69 |
| 3 | 1 | 7 | | 16.74 | 16.88 | 17.08 |
| 3 | 1 | 14 | | 16.47 | 16.61 | 16.73 |
| 3 | 8 | 0 | | 15.97 | 16.06 | 16.01 |
| 3 | 8 | 4 | | 16.60 | 16.24 | 16.73 |
| 3 | 8 | 7 | | 15.99 | 16.11 | 16.71 |
| 3 | 15 | 0 | | 15.45 | 15.60 | 15.69 |
| 3 | 1 | 0 | 16-QAM | 15.66 | 15.69 | 15.98 |
| 3 | 1 | 7 | | 16.03 | 16.00 | 16.24 |
| 3 | 1 | 14 | | 15.71 | 15.69 | 15.92 |
| 3 | 8 | 0 | | 15.35 | 15.13 | 15.90 |
| 3 | 8 | 4 | | 15.66 | 15.72 | 16.00 |
| 3 | 8 | 7 | | 15.47 | 15.64 | 15.80 |
| 3 | 15 | 0 | | 14.37 | 14.56 | 14.80 |

| LTE Band 2 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 16.37 | 16.55 | 16.70 |
| 5 | 1 | 12 | | 16.78 | 16.92 | 17.11 |
| 5 | 1 | 24 | | 16.45 | 16.56 | 16.68 |
| 5 | 12 | 0 | | 16.14 | 16.50 | 16.09 |
| 5 | 12 | 6 | | 16.09 | 16.55 | 16.64 |
| 5 | 12 | 11 | | 15.93 | 16.26 | 16.32 |
| 5 | 25 | 0 | | 15.48 | 15.66 | 15.74 |
| 5 | 1 | 0 | 16-QAM | 15.69 | 15.73 | 15.77 |
| 5 | 1 | 12 | | 16.10 | 16.14 | 16.18 |
| 5 | 1 | 24 | | 15.80 | 15.73 | 15.75 |
| 5 | 12 | 0 | | 15.22 | 15.39 | 15.28 |
| 5 | 12 | 6 | | 15.88 | 15.84 | 15.91 |
| 5 | 12 | 11 | | 15.67 | 15.39 | 15.35 |
| 5 | 25 | 0 | | 14.58 | 14.67 | 14.77 |
| 10 | 1 | 0 | QPSK | 16.42 | 16.59 | 16.79 |
| 10 | 1 | 24 | | 16.63 | 16.76 | 16.86 |
| 10 | 1 | 49 | | 16.50 | 16.65 | 16.71 |
| 10 | 25 | 0 | | 15.78 | 16.56 | 16.71 |
| 10 | 25 | 12 | | 16.63 | 16.39 | 16.82 |
| 10 | 25 | 24 | | 16.21 | 16.03 | 16.30 |
| 10 | 50 | 0 | | 15.58 | 15.67 | 15.72 |
| 10 | 1 | 0 | 16-QAM | 15.65 | 15.64 | 16.03 |
| 10 | 1 | 24 | | 15.83 | 15.82 | 16.10 |
| 10 | 1 | 49 | | 15.76 | 15.74 | 15.93 |
| 10 | 25 | 0 | | 15.05 | 15.37 | 15.64 |
| 10 | 25 | 12 | | 15.17 | 15.29 | 16.04 |
| 10 | 25 | 24 | | 15.33 | 15.39 | 15.79 |
| 10 | 50 | 0 | | 14.62 | 14.73 | 14.77 |

| LTE Band 2 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 15 | 1 | 0 | QPSK | 16.38 | 16.51 | 16.78 |
| 15 | 1 | 37 | | 16.73 | 16.88 | 17.01 |
| 15 | 1 | 74 | | 16.51 | 16.61 | 16.69 |
| 15 | 36 | 0 | | 16.05 | 15.98 | 16.52 |
| 15 | 36 | 18 | | 16.16 | 16.58 | 16.58 |
| 15 | 36 | 39 | | 16.20 | 16.22 | 16.32 |
| 15 | 75 | 0 | | 15.59 | 15.69 | 15.72 |
| 15 | 1 | 0 | 16-QAM | 15.56 | 15.63 | 15.77 |
| 15 | 1 | 38 | | 15.96 | 16.06 | 16.11 |
| 15 | 1 | 75 | | 15.69 | 15.66 | 15.62 |
| 15 | 36 | 0 | | 15.12 | 15.32 | 15.65 |
| 15 | 36 | 18 | | 15.63 | 15.82 | 15.41 |
| 15 | 36 | 39 | | 15.24 | 15.38 | 14.93 |
| 15 | 75 | 0 | | 14.63 | 14.69 | 14.77 |
| 20 | 1 | 0 | QPSK | 16.20 | 16.39 | 16.51 |
| 20 | 1 | 49 | | 16.67 | 16.76 | 16.95 |
| 20 | 1 | 99 | | 16.32 | 16.44 | 16.50 |
| 20 | 50 | 0 | | 15.61 | 15.96 | 16.47 |
| 20 | 50 | 24 | | 16.40 | 16.35 | 16.47 |
| 20 | 50 | 49 | | 15.85 | 15.86 | 15.97 |
| 20 | 100 | 0 | | 15.57 | 15.57 | 15.69 |
| 20 | 1 | 0 | 16-QAM | 15.36 | 15.49 | 15.56 |
| 20 | 1 | 49 | | 15.85 | 15.79 | 15.97 |
| 20 | 1 | 99 | | 15.53 | 15.50 | 15.53 |
| 20 | 50 | 0 | | 15.05 | 15.45 | 15.38 |
| 20 | 50 | 24 | | 15.58 | 15.56 | 15.51 |
| 20 | 50 | 49 | | 15.27 | 15.36 | 15.09 |
| 20 | 100 | 0 | | 14.62 | 14.62 | 14.78 |

| LTE Band 4 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 1.4 | 1 | 0 | QPSK | 16.15 | 16.20 | 16.28 |
| 1.4 | 1 | 2 | | 16.32 | 16.42 | 16.51 |
| 1.4 | 1 | 5 | | 16.16 | 16.22 | 16.31 |
| 1.4 | 3 | 0 | | 15.47 | 15.98 | 15.72 |
| 1.4 | 3 | 1 | | 16.22 | 16.16 | 16.08 |
| 1.4 | 3 | 2 | | 15.99 | 15.66 | 15.82 |
| 1.4 | 6 | 0 | | 15.29 | 15.29 | 15.35 |
| 1.4 | 1 | 0 | 16-QAM | 15.25 | 15.50 | 15.19 |
| 1.4 | 1 | 2 | | 15.41 | 15.66 | 15.44 |
| 1.4 | 1 | 5 | | 15.26 | 15.48 | 15.27 |
| 1.4 | 3 | 0 | | 14.85 | 15.29 | 14.76 |
| 1.4 | 3 | 1 | | 15.07 | 15.24 | 14.91 |
| 1.4 | 3 | 2 | | 14.92 | 15.17 | 15.13 |
| 1.4 | 6 | 0 | | 14.48 | 14.38 | 14.49 |
| 3 | 1 | 0 | QPSK | 16.21 | 16.13 | 16.23 |
| 3 | 1 | 7 | | 16.44 | 16.47 | 16.64 |
| 3 | 1 | 14 | | 16.12 | 16.17 | 16.31 |
| 3 | 8 | 0 | | 15.81 | 15.88 | 16.00 |
| 3 | 8 | 4 | | 16.05 | 16.24 | 16.47 |
| 3 | 8 | 7 | | 16.00 | 15.94 | 16.22 |
| 3 | 15 | 0 | | 15.17 | 15.20 | 15.28 |
| 3 | 1 | 0 | 16-QAM | 15.38 | 15.27 | 15.60 |
| 3 | 1 | 7 | | 15.71 | 15.48 | 16.16 |
| 3 | 1 | 14 | | 15.36 | 15.25 | 15.61 |
| 3 | 8 | 0 | | 15.08 | 15.19 | 15.45 |
| 3 | 8 | 4 | | 15.41 | 15.30 | 15.92 |
| 3 | 8 | 7 | | 14.84 | 14.73 | 15.25 |
| 3 | 15 | 0 | | 14.10 | 14.10 | 14.37 |

| LTE Band 4 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 16.07 | 16.09 | 16.20 |
| 5 | 1 | 12 | | 16.54 | 16.48 | 16.59 |
| 5 | 1 | 24 | | 16.07 | 16.08 | 16.26 |
| 5 | 12 | 0 | | 15.57 | 15.71 | 15.76 |
| 5 | 12 | 6 | | 16.22 | 16.40 | 16.20 |
| 5 | 12 | 11 | | 15.42 | 15.51 | 15.73 |
| 5 | 25 | 0 | | 15.20 | 15.21 | 15.29 |
| 5 | 1 | 0 | 16-QAM | 15.45 | 15.30 | 15.28 |
| 5 | 1 | 12 | | 15.84 | 15.70 | 15.75 |
| 5 | 1 | 24 | | 15.45 | 15.22 | 15.35 |
| 5 | 12 | 0 | | 15.04 | 14.96 | 15.21 |
| 5 | 12 | 6 | | 15.22 | 15.07 | 15.26 |
| 5 | 12 | 11 | | 15.14 | 14.86 | 14.99 |
| 5 | 25 | 0 | | 14.24 | 14.22 | 14.30 |
| 10 | 1 | 0 | QPSK | 16.15 | 16.15 | 16.22 |
| 10 | 1 | 24 | | 16.23 | 16.27 | 16.34 |
| 10 | 1 | 49 | | 16.11 | 16.11 | 16.26 |
| 10 | 25 | 0 | | 15.98 | 15.74 | 15.87 |
| 10 | 25 | 12 | | 15.92 | 16.08 | 15.85 |
| 10 | 25 | 24 | | 15.78 | 15.65 | 16.00 |
| 10 | 50 | 0 | | 15.24 | 15.25 | 15.29 |
| 10 | 1 | 0 | 16-QAM | 15.42 | 15.28 | 15.55 |
| 10 | 1 | 24 | | 15.52 | 15.37 | 15.66 |
| 10 | 1 | 49 | | 15.40 | 15.23 | 15.60 |
| 10 | 25 | 0 | | 14.93 | 15.07 | 14.86 |
| 10 | 25 | 12 | | 15.04 | 14.88 | 15.09 |
| 10 | 25 | 24 | | 15.02 | 14.67 | 14.99 |
| 10 | 50 | 0 | | 14.28 | 14.31 | 14.35 |

| LTE Band 4 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 15 | 1 | 0 | QPSK | 16.07 | 16.06 | 16.18 |
| 15 | 1 | 37 | | 16.41 | 16.39 | 16.57 |
| 15 | 1 | 74 | | 16.04 | 15.99 | 16.21 |
| 15 | 36 | 0 | | 15.47 | 15.79 | 15.81 |
| 15 | 36 | 18 | | 16.07 | 15.73 | 16.54 |
| 15 | 36 | 39 | | 15.92 | 15.47 | 16.03 |
| 15 | 75 | 0 | | 15.25 | 15.27 | 15.31 |
| 15 | 1 | 0 | 16-QAM | 15.35 | 15.18 | 15.23 |
| 15 | 1 | 38 | | 15.56 | 15.54 | 15.58 |
| 15 | 1 | 75 | | 15.29 | 15.16 | 15.27 |
| 15 | 36 | 0 | | 14.92 | 14.72 | 15.05 |
| 15 | 36 | 18 | | 15.01 | 14.91 | 15.21 |
| 15 | 36 | 39 | | 15.10 | 14.73 | 14.95 |
| 15 | 75 | 0 | | 14.27 | 14.22 | 14.32 |
| 20 | 1 | 0 | QPSK | 15.88 | 15.95 | 15.91 |
| 20 | 1 | 49 | | 16.28 | 16.35 | 16.33 |
| 20 | 1 | 99 | | 15.86 | 15.97 | 15.93 |
| 20 | 50 | 0 | | 15.32 | 15.93 | 15.68 |
| 20 | 50 | 24 | | 15.67 | 16.10 | 15.78 |
| 20 | 50 | 49 | | 15.53 | 15.94 | 15.33 |
| 20 | 100 | 0 | | 15.21 | 15.18 | 15.30 |
| 20 | 1 | 0 | 16-QAM | 15.03 | 15.04 | 15.10 |
| 20 | 1 | 49 | | 15.35 | 15.40 | 15.53 |
| 20 | 1 | 99 | | 14.97 | 15.04 | 15.17 |
| 20 | 50 | 0 | | 15.01 | 14.55 | 15.02 |
| 20 | 50 | 24 | | 14.68 | 14.92 | 15.23 |
| 20 | 50 | 49 | | 14.50 | 14.70 | 14.94 |
| 20 | 100 | 0 | | 14.24 | 14.17 | 14.32 |

| LTE Band 5 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 1.4 | 1 | 0 | QPSK | 16.78 | 16.95 | 16.90 |
| 1.4 | 1 | 2 | | 17.02 | 17.05 | 16.97 |
| 1.4 | 1 | 5 | | 16.80 | 16.84 | 16.87 |
| 1.4 | 3 | 0 | | 16.27 | 16.73 | 16.73 |
| 1.4 | 3 | 1 | | 16.94 | 17.01 | 16.94 |
| 1.4 | 3 | 2 | | 16.51 | 16.72 | 16.35 |
| 1.4 | 6 | 0 | | 15.94 | 15.91 | 15.92 |
| 1.4 | 1 | 0 | 16-QAM | 15.92 | 16.20 | 15.75 |
| 1.4 | 1 | 2 | | 16.04 | 16.32 | 15.86 |
| 1.4 | 1 | 5 | | 15.87 | 16.17 | 15.72 |
| 1.4 | 3 | 0 | | 15.59 | 15.88 | 15.11 |
| 1.4 | 3 | 1 | | 15.40 | 15.84 | 15.17 |
| 1.4 | 3 | 2 | | 15.50 | 15.71 | 15.68 |
| 1.4 | 6 | 0 | | 15.12 | 15.04 | 15.00 |
| 3 | 1 | 0 | QPSK | 16.90 | 16.88 | 16.96 |
| 3 | 1 | 7 | | 17.18 | 17.08 | 17.28 |
| 3 | 1 | 14 | | 16.83 | 16.84 | 16.94 |
| 3 | 8 | 0 | | 16.40 | 16.31 | 16.60 |
| 3 | 8 | 4 | | 16.54 | 16.95 | 16.72 |
| 3 | 8 | 7 | | 16.15 | 16.15 | 16.84 |
| 3 | 15 | 0 | | 15.87 | 15.90 | 15.90 |
| 3 | 1 | 0 | 16-QAM | 16.09 | 15.97 | 16.22 |
| 3 | 1 | 7 | | 16.38 | 16.25 | 16.46 |
| 3 | 1 | 14 | | 16.14 | 15.94 | 16.10 |
| 3 | 8 | 0 | | 15.89 | 15.32 | 15.68 |
| 3 | 8 | 4 | | 16.34 | 15.90 | 16.42 |
| 3 | 8 | 7 | | 15.71 | 15.40 | 15.41 |
| 3 | 15 | 0 | | 14.80 | 14.82 | 14.96 |

| LTE Band 5 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 16.80 | 16.82 | 16.91 |
| 5 | 1 | 12 | | 17.17 | 17.14 | 17.29 |
| 5 | 1 | 24 | | 16.82 | 16.81 | 16.86 |
| 5 | 12 | 0 | | 16.47 | 16.71 | 16.60 |
| 5 | 12 | 6 | | 16.61 | 16.89 | 17.06 |
| 5 | 12 | 11 | | 16.35 | 16.25 | 16.34 |
| 5 | 25 | 0 | | 15.92 | 15.94 | 15.95 |
| 5 | 1 | 0 | 16-QAM | 16.19 | 16.02 | 15.99 |
| 5 | 1 | 12 | | 16.51 | 16.64 | 16.41 |
| 5 | 1 | 24 | | 16.17 | 16.00 | 15.94 |
| 5 | 12 | 0 | | 15.90 | 15.38 | 15.80 |
| 5 | 12 | 6 | | 16.27 | 16.16 | 16.26 |
| 5 | 12 | 11 | | 15.56 | 15.94 | 15.46 |
| 5 | 25 | 0 | | 14.92 | 14.92 | 14.98 |
| 10 | 1 | 0 | QPSK | 16.84 | 16.90 | 16.90 |
| 10 | 1 | 24 | | 16.97 | 17.11 | 16.99 |
| 10 | 1 | 49 | | 16.82 | 16.92 | 16.86 |
| 10 | 25 | 0 | | 16.10 | 16.25 | 16.28 |
| 10 | 25 | 12 | | 16.21 | 16.47 | 13.26 |
| 10 | 25 | 24 | | 16.18 | 16.39 | 16.19 |
| 10 | 50 | 0 | | 15.88 | 15.99 | 15.99 |
| 10 | 1 | 0 | 16-QAM | 15.91 | 16.14 | 16.17 |
| 10 | 1 | 24 | | 16.05 | 16.36 | 16.21 |
| 10 | 1 | 49 | | 15.89 | 16.19 | 16.02 |
| 10 | 25 | 0 | | 15.75 | 16.02 | 15.86 |
| 10 | 25 | 12 | | 15.59 | 15.85 | 15.81 |
| 10 | 25 | 24 | | 15.65 | 16.17 | 15.99 |
| 10 | 50 | 0 | | 14.94 | 15.03 | 15.07 |

| LTE Band 7 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 14.99 | 14.84 | 14.87 |
| 5 | 1 | 12 | | 15.33 | 15.17 | 15.31 |
| 5 | 1 | 24 | | 15.02 | 14.80 | 14.92 |
| 5 | 12 | 0 | | 14.49 | 14.34 | 14.24 |
| 5 | 12 | 6 | | 14.68 | 15.01 | 14.78 |
| 5 | 12 | 11 | | 14.81 | 14.74 | 14.72 |
| 5 | 25 | 0 | | 13.98 | 13.95 | 13.98 |
| 5 | 1 | 0 | 16-QAM | 13.99 | 14.21 | 14.04 |
| 5 | 1 | 12 | | 14.44 | 14.53 | 14.50 |
| 5 | 1 | 24 | | 14.01 | 14.12 | 14.09 |
| 5 | 12 | 0 | | 13.60 | 13.95 | 13.42 |
| 5 | 12 | 6 | | 14.14 | 14.30 | 14.01 |
| 5 | 12 | 11 | | 13.44 | 13.93 | 13.73 |
| 5 | 25 | 0 | | 12.97 | 12.97 | 12.94 |
| 10 | 1 | 0 | QPSK | 14.97 | 14.96 | 14.97 |
| 10 | 1 | 24 | | 15.10 | 15.04 | 15.11 |
| 10 | 1 | 49 | | 14.97 | 14.83 | 15.05 |
| 10 | 25 | 0 | | 14.42 | 14.72 | 14.52 |
| 10 | 25 | 12 | | 14.50 | 14.96 | 15.03 |
| 10 | 25 | 24 | | 14.90 | 14.34 | 14.64 |
| 10 | 50 | 0 | | 14.01 | 13.98 | 14.03 |
| 10 | 1 | 0 | 16-QAM | 14.15 | 14.02 | 14.21 |
| 10 | 1 | 24 | | 14.28 | 14.14 | 14.37 |
| 10 | 1 | 49 | | 14.15 | 13.86 | 14.25 |
| 10 | 25 | 0 | | 13.90 | 13.42 | 13.70 |
| 10 | 25 | 12 | | 14.04 | 13.62 | 13.68 |
| 10 | 25 | 24 | | 13.62 | 13.37 | 13.82 |
| 10 | 50 | 0 | | 13.03 | 12.99 | 13.00 |

| LTE Band 7 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 15 | 1 | 0 | QPSK | 14.89 | 14.88 | 14.83 |
| 15 | 1 | 37 | | 15.21 | 15.21 | 15.26 |
| 15 | 1 | 74 | | 14.88 | 14.67 | 14.98 |
| 15 | 36 | 0 | | 14.41 | 14.62 | 14.36 |
| 15 | 36 | 18 | | 14.69 | 15.19 | 14.68 |
| 15 | 36 | 39 | | 14.30 | 14.08 | 14.78 |
| 15 | 75 | 0 | | 13.95 | 13.97 | 14.00 |
| 15 | 1 | 0 | 16-QAM | 14.11 | 13.95 | 13.78 |
| 15 | 1 | 38 | | 14.60 | 14.25 | 14.32 |
| 15 | 1 | 75 | | 14.03 | 13.72 | 13.91 |
| 15 | 36 | 0 | | 13.57 | 13.55 | 13.57 |
| 15 | 36 | 18 | | 14.50 | 14.18 | 14.24 |
| 15 | 36 | 39 | | 13.59 | 13.29 | 13.49 |
| 15 | 75 | 0 | | 12.92 | 12.90 | 12.99 |
| 20 | 1 | 0 | QPSK | 14.73 | 14.74 | 14.60 |
| 20 | 1 | 49 | | 15.10 | 15.08 | 15.11 |
| 20 | 1 | 99 | | 14.68 | 14.53 | 14.79 |
| 20 | 50 | 0 | | 14.14 | 14.24 | 14.19 |
| 20 | 50 | 24 | | 14.53 | 14.60 | 14.63 |
| 20 | 50 | 49 | | 14.03 | 14.46 | 14.65 |
| 20 | 100 | 0 | | 13.92 | 13.90 | 13.92 |
| 20 | 1 | 0 | 16-QAM | 13.91 | 13.78 | 13.65 |
| 20 | 1 | 49 | | 14.24 | 14.09 | 14.09 |
| 20 | 1 | 99 | | 13.86 | 13.58 | 13.77 |
| 20 | 50 | 0 | | 13.71 | 13.38 | 13.45 |
| 20 | 50 | 24 | | 13.85 | 13.71 | 13.64 |
| 20 | 50 | 49 | | 13.72 | 12.91 | 13.47 |
| 20 | 100 | 0 | | 12.91 | 12.89 | 12.92 |

| LTE Band 12 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 1.4 | 1 | 0 | QPSK | 20.32 | 20.01 | 20.12 |
| 1.4 | 1 | 2 | | 20.44 | 20.22 | 20.27 |
| 1.4 | 1 | 5 | | 20.29 | 20.03 | 20.05 |
| 1.4 | 3 | 0 | | 19.84 | 19.88 | 20.04 |
| 1.4 | 3 | 1 | | 20.11 | 19.71 | 19.72 |
| 1.4 | 3 | 2 | | 19.64 | 19.45 | 19.88 |
| 1.4 | 6 | 0 | | 19.25 | 19.13 | 19.12 |
| 1.4 | 1 | 0 | 16-QAM | 19.21 | 19.16 | 19.46 |
| 1.4 | 1 | 2 | | 19.34 | 19.30 | 19.53 |
| 1.4 | 1 | 5 | | 19.15 | 19.07 | 19.36 |
| 1.4 | 3 | 0 | | 19.11 | 19.09 | 19.30 |
| 1.4 | 3 | 1 | | 19.24 | 18.65 | 19.09 |
| 1.4 | 3 | 2 | | 18.85 | 18.59 | 18.77 |
| 1.4 | 6 | 0 | | 18.35 | 18.35 | 18.19 |
| 3 | 1 | 0 | QPSK | 20.32 | 20.10 | 20.13 |
| 3 | 1 | 7 | | 20.46 | 20.34 | 20.45 |
| 3 | 1 | 14 | | 20.22 | 20.07 | 20.21 |
| 3 | 8 | 0 | | 20.04 | 19.47 | 19.57 |
| 3 | 8 | 4 | | 20.32 | 20.34 | 20.23 |
| 3 | 8 | 7 | | 19.90 | 19.39 | 19.57 |
| 3 | 15 | 0 | | 19.19 | 19.14 | 19.10 |
| 3 | 1 | 0 | 16-QAM | 19.52 | 19.20 | 19.43 |
| 3 | 1 | 7 | | 19.78 | 19.46 | 19.74 |
| 3 | 1 | 14 | | 19.51 | 19.19 | 19.42 |
| 3 | 8 | 0 | | 18.85 | 19.12 | 19.37 |
| 3 | 8 | 4 | | 19.10 | 18.84 | 19.61 |
| 3 | 8 | 7 | | 18.83 | 18.80 | 18.72 |
| 3 | 15 | 0 | | 18.14 | 18.05 | 18.16 |

| LTE Band 12 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 20.22 | 19.99 | 20.11 |
| 5 | 1 | 12 | | 20.55 | 20.47 | 20.24 |
| 5 | 1 | 24 | | 20.13 | 20.00 | 20.08 |
| 5 | 12 | 0 | | 20.12 | 19.89 | 19.98 |
| 5 | 12 | 6 | | 20.43 | 19.85 | 19.89 |
| 5 | 12 | 11 | | 19.84 | 19.34 | 19.87 |
| 5 | 25 | 0 | | 19.25 | 19.15 | 19.12 |
| 5 | 1 | 0 | 16-QAM | 19.58 | 19.23 | 19.11 |
| 5 | 1 | 12 | | 19.97 | 19.67 | 19.53 |
| 5 | 1 | 24 | | 19.48 | 19.24 | 19.11 |
| 5 | 12 | 0 | | 18.93 | 19.02 | 19.08 |
| 5 | 12 | 6 | | 19.33 | 19.22 | 19.28 |
| 5 | 12 | 11 | | 19.46 | 18.58 | 18.58 |
| 5 | 25 | 0 | | 18.25 | 18.13 | 18.08 |
| 10 | 1 | 0 | QPSK | 20.18 | 20.09 | 20.14 |
| 10 | 1 | 24 | | 20.26 | 20.19 | 20.24 |
| 10 | 1 | 49 | | 20.09 | 20.06 | 20.14 |
| 10 | 25 | 0 | | 19.68 | 20.00 | 19.80 |
| 10 | 25 | 12 | | 20.19 | 19.89 | 20.15 |
| 10 | 25 | 24 | | 19.47 | 20.02 | 19.90 |
| 10 | 50 | 0 | | 19.24 | 19.22 | 19.07 |
| 10 | 1 | 0 | 16-QAM | 19.42 | 19.20 | 19.44 |
| 10 | 1 | 24 | | 19.55 | 19.31 | 19.55 |
| 10 | 1 | 49 | | 19.35 | 19.13 | 19.41 |
| 10 | 25 | 0 | | 18.84 | 19.14 | 18.74 |
| 10 | 25 | 12 | | 19.06 | 19.20 | 18.97 |
| 10 | 25 | 24 | | 19.28 | 18.55 | 18.94 |
| 10 | 50 | 0 | | 18.20 | 18.22 | 18.09 |

| LTE Band 13 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 19.93 | 19.94 | 19.84 |
| 5 | 1 | 12 | | 20.33 | 20.30 | 20.32 |
| 5 | 1 | 24 | | 19.77 | 19.87 | 19.83 |
| 5 | 12 | 0 | | 19.79 | 19.75 | 19.29 |
| 5 | 12 | 6 | | 20.03 | 20.13 | 19.75 |
| 5 | 12 | 11 | | 19.68 | 19.46 | 19.59 |
| 5 | 25 | 0 | | 18.98 | 19.03 | 18.91 |
| 5 | 1 | 0 | 16-QAM | 19.15 | 19.04 | 19.27 |
| 5 | 1 | 12 | | 19.48 | 19.44 | 19.60 |
| 5 | 1 | 24 | | 19.06 | 18.96 | 19.22 |
| 5 | 12 | 0 | | 18.66 | 18.59 | 19.06 |
| 5 | 12 | 6 | | 19.01 | 18.94 | 19.58 |
| 5 | 12 | 11 | | 18.64 | 18.94 | 18.89 |
| 5 | 25 | 0 | | 17.97 | 18.04 | 17.91 |
| 10 | 1 | 0 | QPSK | / | 22.64 | / |
| 10 | 1 | 24 | | / | 22.76 | / |
| 10 | 1 | 49 | | / | 22.57 | / |
| 10 | 25 | 0 | | / | 22.62 | / |
| 10 | 25 | 12 | | / | 22.50 | / |
| 10 | 25 | 24 | | / | 22.32 | / |
| 10 | 50 | 0 | | / | 21.77 | / |
| 10 | 1 | 0 | 16-QAM | / | 21.83 | / |
| 10 | 1 | 24 | | / | 22.03 | / |
| 10 | 1 | 49 | | / | 21.81 | / |
| 10 | 25 | 0 | | / | 21.32 | / |
| 10 | 25 | 12 | | / | 21.82 | / |
| 10 | 25 | 24 | | / | 21.27 | / |
| 10 | 50 | 0 | | / | 20.79 | / |

| LTE Band 41 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 17.07 | 17.65 | 15.73 |
| 5 | 1 | 12 | | 17.36 | 17.94 | 15.13 |
| 5 | 1 | 24 | | 17.11 | 17.71 | 14.42 |
| 5 | 12 | 0 | | 16.93 | 17.06 | 15.43 |
| 5 | 12 | 6 | | 17.11 | 17.63 | 14.71 |
| 5 | 12 | 11 | | 16.78 | 17.35 | 13.96 |
| 5 | 25 | 0 | | 16.16 | 16.67 | 14.93 |
| 5 | 1 | 0 | 16-QAM | 16.17 | 17.02 | 15.33 |
| 5 | 1 | 12 | | 16.43 | 17.34 | 14.69 |
| 5 | 1 | 24 | | 16.25 | 17.12 | 14.03 |
| 5 | 12 | 0 | | 16.04 | 16.91 | 15.19 |
| 5 | 12 | 6 | | 16.27 | 17.20 | 14.56 |
| 5 | 12 | 11 | | 15.57 | 16.89 | 13.75 |
| 5 | 25 | 0 | | 15.22 | 15.78 | 14.75 |
| 10 | 1 | 0 | QPSK | 17.04 | 17.49 | 15.59 |
| 10 | 1 | 24 | | 17.24 | 17.81 | 15.34 |
| 10 | 1 | 49 | | 17.07 | 17.77 | 14.02 |
| 10 | 25 | 0 | | 17.03 | 17.16 | 15.07 |
| 10 | 25 | 12 | | 17.03 | 17.62 | 15.05 |
| 10 | 25 | 24 | | 16.62 | 17.39 | 13.97 |
| 10 | 50 | 0 | | 16.23 | 16.79 | 15.05 |
| 10 | 1 | 0 | 16-QAM | 16.51 | 16.49 | 15.61 |
| 10 | 1 | 24 | | 16.80 | 16.79 | 15.33 |
| 10 | 1 | 49 | | 16.58 | 16.73 | 14.16 |
| 10 | 25 | 0 | | 15.86 | 16.21 | 15.05 |
| 10 | 25 | 12 | | 16.26 | 16.67 | 15.04 |
| 10 | 25 | 24 | | 16.36 | 16.55 | 13.76 |
| 10 | 50 | 0 | | 15.35 | 15.88 | 15.06 |

| LTE Band 41 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 15 | 1 | 0 | QPSK | 16.96 | 17.39 | 17.25 |
| 15 | 1 | 37 | | 17.33 | 17.84 | 17.33 |
| 15 | 1 | 74 | | 17.02 | 16.36 | 16.48 |
| 15 | 36 | 0 | | 16.27 | 16.79 | 16.95 |
| 15 | 36 | 18 | | 17.29 | 17.58 | 16.68 |
| 15 | 36 | 39 | | 16.62 | 15.73 | 15.80 |
| 15 | 75 | 0 | | 16.18 | 16.52 | 17.55 |
| 15 | 1 | 0 | 16-QAM | 16.50 | 17.44 | 16.96 |
| 15 | 1 | 38 | | 16.79 | 16.85 | 16.58 |
| 15 | 1 | 75 | | 16.53 | 16.47 | 17.25 |
| 15 | 36 | 0 | | 16.08 | 17.39 | 16.78 |
| 15 | 36 | 18 | | 16.45 | 16.85 | 16.55 |
| 15 | 36 | 39 | | 15.96 | 16.10 | 16.63 |
| 15 | 75 | 0 | | 15.27 | 15.89 | 16.87 |
| 20 | 1 | 0 | QPSK | 16.58 | 16.85 | 16.38 |
| 20 | 1 | 49 | | 17.25 | 17.08 | 15.98 |
| 20 | 1 | 99 | | 16.89 | 17.26 | 15.48 |
| 20 | 50 | 0 | | 16.34 | 16.32 | 16.37 |
| 20 | 50 | 24 | | 16.68 | 16.78 | 15.49 |
| 20 | 50 | 49 | | 16.72 | 16.23 | 15.38 |
| 20 | 100 | 0 | | 16.25 | 16.39 | 16.93 |
| 20 | 1 | 0 | 16-QAM | 16.87 | 16.36 | 17.13 |
| 20 | 1 | 49 | | 17.02 | 17.23 | 16.83 |
| 20 | 1 | 99 | | 17.18 | 16.99 | 17.25 |
| 20 | 50 | 0 | | 16.58 | 15.91 | 16.90 |
| 20 | 50 | 24 | | 16.99 | 16.77 | 16.45 |
| 20 | 50 | 49 | | 17.17 | 16.51 | 17.14 |
| 20 | 100 | 0 | | 16.79 | 17.03 | 16.98 |

| LTE Band 66 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 1.4 | 1 | 0 | QPSK | 21.76 | 21.95 | 21.97 |
| 1.4 | 1 | 2 | | 21.96 | 22.11 | 22.11 |
| 1.4 | 1 | 5 | | 21.80 | 21.96 | 21.96 |
| 1.4 | 3 | 0 | | 21.71 | 21.56 | 21.95 |
| 1.4 | 3 | 1 | | 21.37 | 21.96 | 21.45 |
| 1.4 | 3 | 2 | | 21.23 | 21.87 | 21.30 |
| 1.4 | 6 | 0 | | 20.90 | 21.00 | 21.01 |
| 1.4 | 1 | 0 | 16-QAM | 20.86 | 21.30 | 20.80 |
| 1.4 | 1 | 2 | | 21.09 | 21.35 | 21.00 |
| 1.4 | 1 | 5 | | 20.90 | 21.31 | 20.83 |
| 1.4 | 3 | 0 | | 20.79 | 20.86 | 20.34 |
| 1.4 | 3 | 1 | | 20.83 | 21.17 | 20.38 |
| 1.4 | 3 | 2 | | 20.88 | 20.90 | 20.66 |
| 1.4 | 6 | 0 | | 20.10 | 20.08 | 20.10 |
| 3 | 1 | 0 | QPSK | 21.81 | 21.89 | 21.93 |
| 3 | 1 | 7 | | 22.16 | 22.23 | 22.20 |
| 3 | 1 | 14 | | 21.80 | 21.88 | 21.97 |
| 3 | 8 | 0 | | 21.29 | 21.80 | 21.26 |
| 3 | 8 | 4 | | 21.85 | 21.70 | 21.61 |
| 3 | 8 | 7 | | 21.55 | 21.27 | 21.83 |
| 3 | 15 | 0 | | 20.85 | 20.94 | 20.92 |
| 3 | 1 | 0 | 16-QAM | 21.13 | 21.02 | 21.25 |
| 3 | 1 | 7 | | 21.38 | 21.34 | 21.53 |
| 3 | 1 | 14 | | 21.11 | 21.05 | 21.19 |
| 3 | 8 | 0 | | 20.95 | 20.48 | 20.75 |
| 3 | 8 | 4 | | 21.22 | 21.15 | 21.43 |
| 3 | 8 | 7 | | 20.88 | 20.46 | 20.61 |
| 3 | 15 | 0 | | 19.76 | 19.83 | 20.00 |

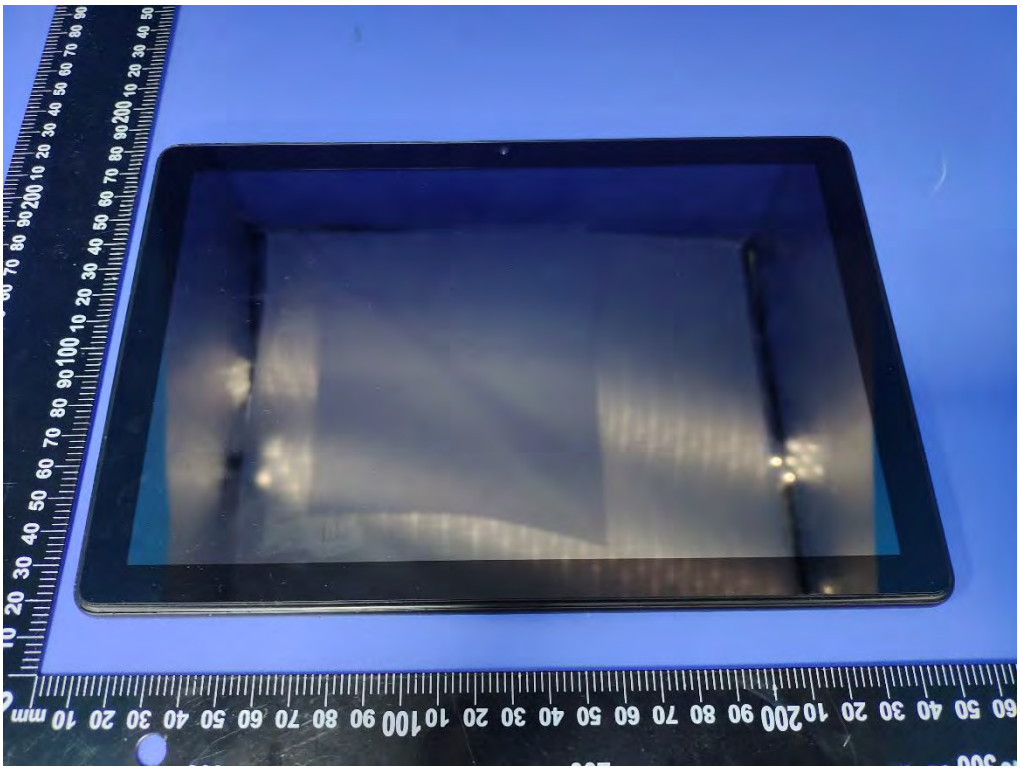
| LTE Band 66 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 21.75 | 21.84 | 21.91 |
| 5 | 1 | 12 | | 22.16 | 22.18 | 22.38 |
| 5 | 1 | 24 | | 21.83 | 21.84 | 21.90 |
| 5 | 12 | 0 | | 21.64 | 21.15 | 21.64 |
| 5 | 12 | 6 | | 21.80 | 21.92 | 22.10 |
| 5 | 12 | 11 | | 21.33 | 21.51 | 21.29 |
| 5 | 25 | 0 | | 20.91 | 20.96 | 20.99 |
| 5 | 1 | 0 | 16-QAM | 21.16 | 21.07 | 20.99 |
| 5 | 1 | 12 | | 21.71 | 21.46 | 21.38 |
| 5 | 1 | 24 | | 21.19 | 21.06 | 20.98 |
| 5 | 12 | 0 | | 20.87 | 21.03 | 20.82 |
| 5 | 12 | 6 | | 21.64 | 20.98 | 21.22 |
| 5 | 12 | 11 | | 20.88 | 20.92 | 20.84 |
| 5 | 25 | 0 | | 19.95 | 19.94 | 19.97 |
| 10 | 1 | 0 | QPSK | 21.81 | 21.90 | 21.99 |
| 10 | 1 | 24 | | 22.00 | 22.02 | 22.10 |
| 10 | 1 | 49 | | 21.88 | 21.92 | 21.97 |
| 10 | 25 | 0 | | 21.56 | 21.33 | 21.80 |
| 10 | 25 | 12 | | 21.74 | 21.76 | 21.99 |
| 10 | 25 | 24 | | 21.69 | 21.89 | 21.36 |
| 10 | 50 | 0 | | 21.00 | 21.06 | 21.03 |
| 10 | 1 | 0 | 16-QAM | 21.08 | 21.01 | 21.29 |
| 10 | 1 | 24 | | 21.26 | 21.17 | 21.35 |
| 10 | 1 | 49 | | 21.17 | 21.06 | 21.23 |
| 10 | 25 | 0 | | 20.60 | 20.42 | 20.84 |
| 10 | 25 | 12 | | 20.59 | 20.94 | 21.22 |
| 10 | 25 | 24 | | 21.00 | 20.95 | 20.91 |
| 10 | 50 | 0 | | 20.02 | 20.06 | 20.06 |

| LTE Band 66 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 15 | 1 | 0 | QPSK | 21.78 | 21.84 | 22.05 |
| 15 | 1 | 37 | | 22.20 | 22.22 | 22.23 |
| 15 | 1 | 74 | | 21.79 | 21.83 | 21.92 |
| 15 | 36 | 0 | | 21.70 | 21.17 | 21.64 |
| 15 | 36 | 18 | | 21.88 | 22.00 | 21.59 |
| 15 | 36 | 39 | | 21.47 | 21.81 | 21.86 |
| 15 | 75 | 0 | | 21.01 | 21.10 | 21.13 |
| 15 | 1 | 0 | 16-QAM | 21.04 | 20.94 | 21.05 |
| 15 | 1 | 38 | | 21.47 | 21.32 | 21.25 |
| 15 | 1 | 75 | | 21.02 | 20.96 | 20.89 |
| 15 | 36 | 0 | | 20.82 | 20.73 | 20.90 |
| 15 | 36 | 18 | | 20.89 | 21.29 | 20.93 |
| 15 | 36 | 39 | | 20.50 | 20.81 | 20.85 |
| 15 | 75 | 0 | | 20.03 | 20.05 | 20.09 |
| 20 | 1 | 0 | QPSK | 21.63 | 21.63 | 21.74 |
| 20 | 1 | 49 | | 22.03 | 22.08 | 22.09 |
| 20 | 1 | 99 | | 21.66 | 21.70 | 21.66 |
| 20 | 50 | 0 | | 21.12 | 21.09 | 21.50 |
| 20 | 50 | 24 | | 21.60 | 21.45 | 21.64 |
| 20 | 50 | 49 | | 21.57 | 21.29 | 21.54 |
| 20 | 100 | 0 | | 20.96 | 21.00 | 21.02 |
| 20 | 1 | 0 | 16-QAM | 20.84 | 20.79 | 20.86 |
| 20 | 1 | 49 | | 21.25 | 21.21 | 21.15 |
| 20 | 1 | 99 | | 20.85 | 20.83 | 20.74 |
| 20 | 50 | 0 | | 20.72 | 20.73 | 20.59 |
| 20 | 50 | 24 | | 20.85 | 20.89 | 20.96 |
| 20 | 50 | 49 | | 20.63 | 20.42 | 20.36 |
| 20 | 100 | 0 | | 19.96 | 20.06 | 20.00 |

# 11. EUT and Test Setup Photo

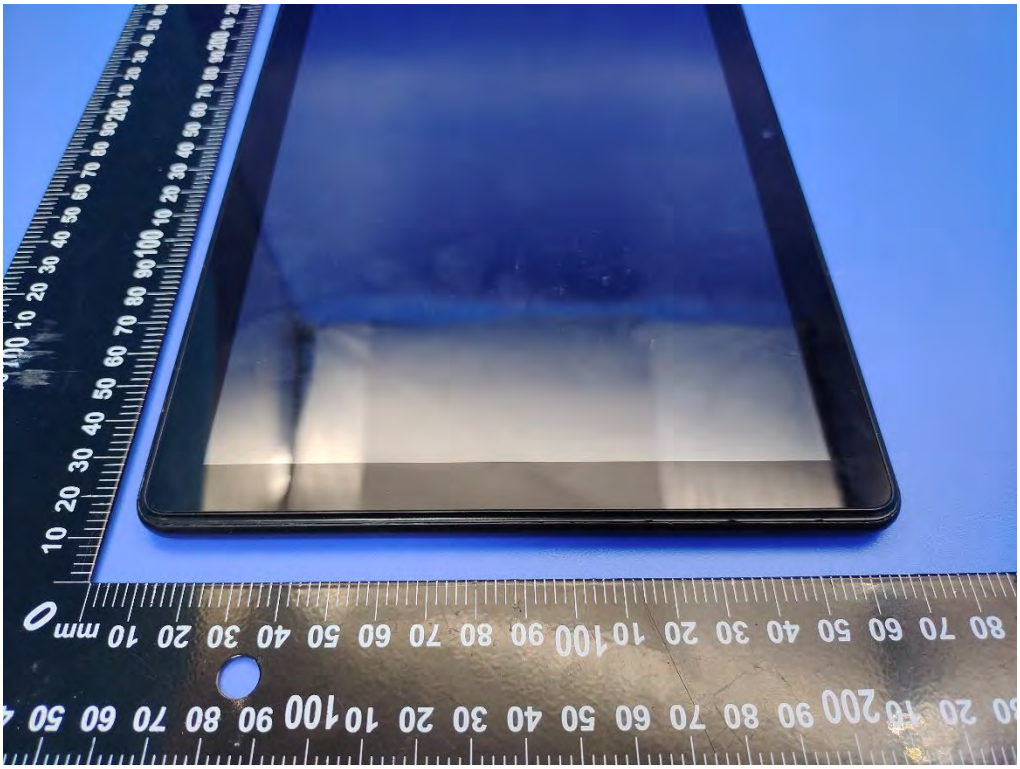
## 11.1 EUT Photos

Front side

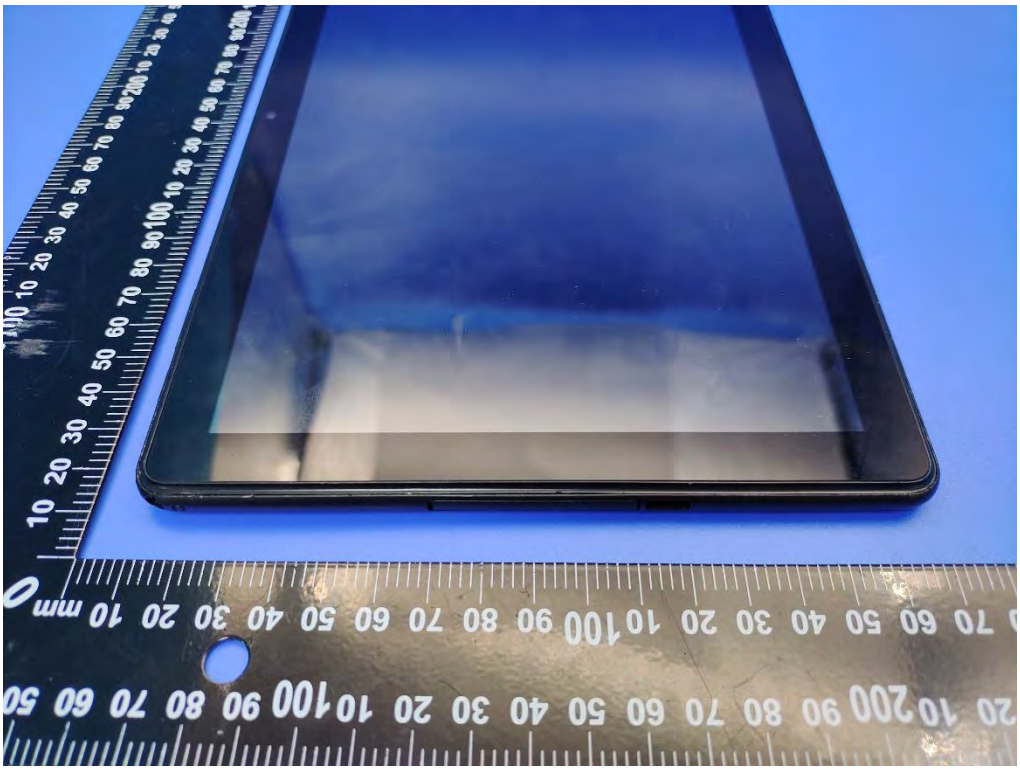


Back side

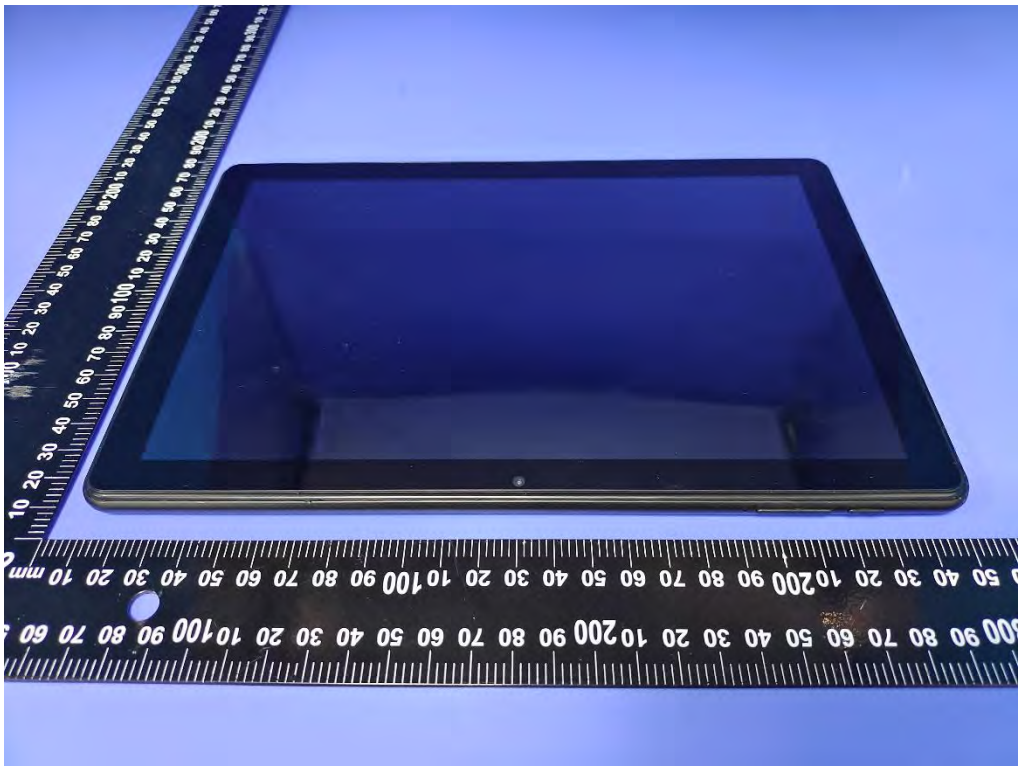
Right Edge



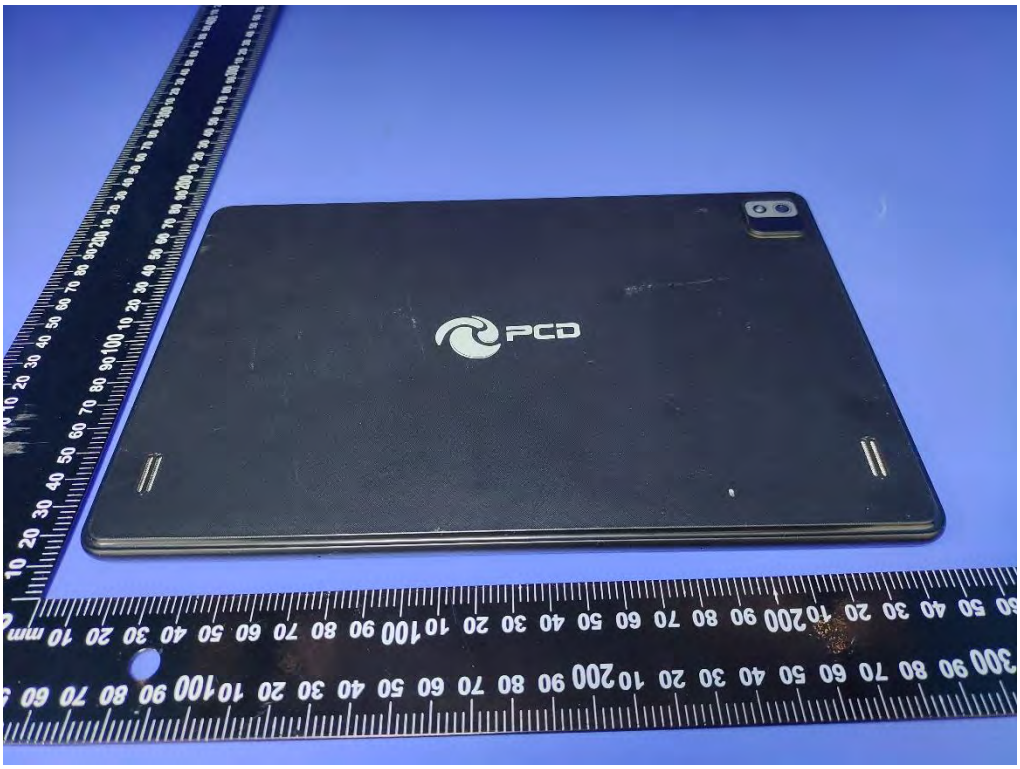
Left Edge



Top Edge

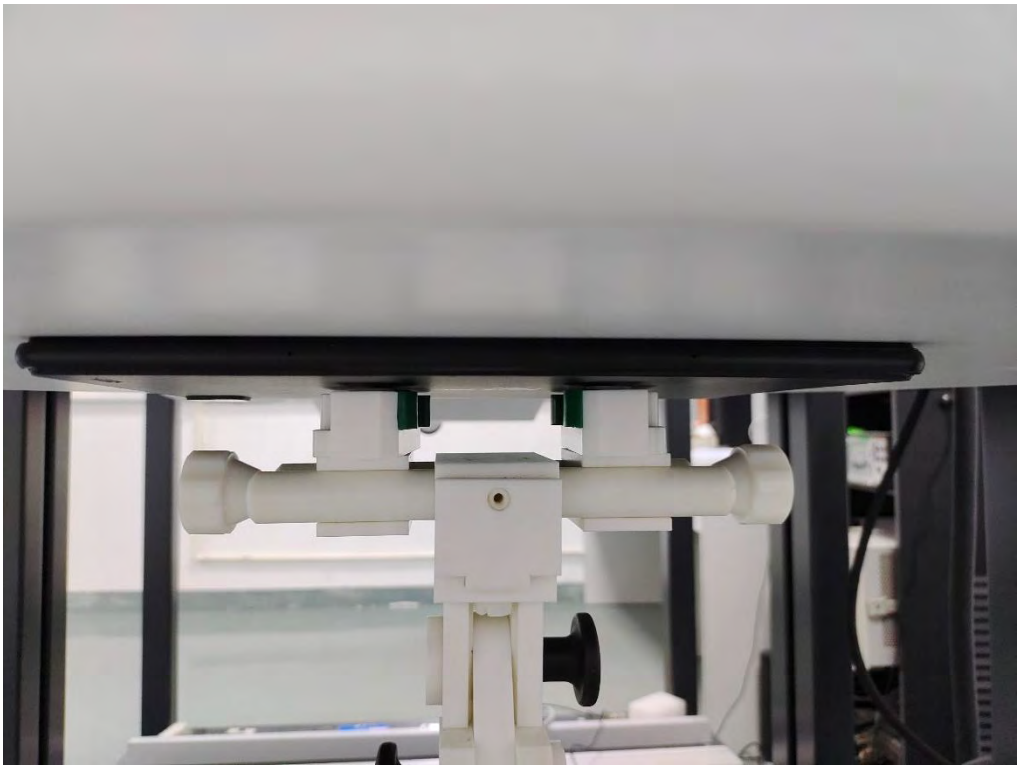


Bottom Edge



## 11.2 Setup Photos

Body Back side (separation distance 0mm)

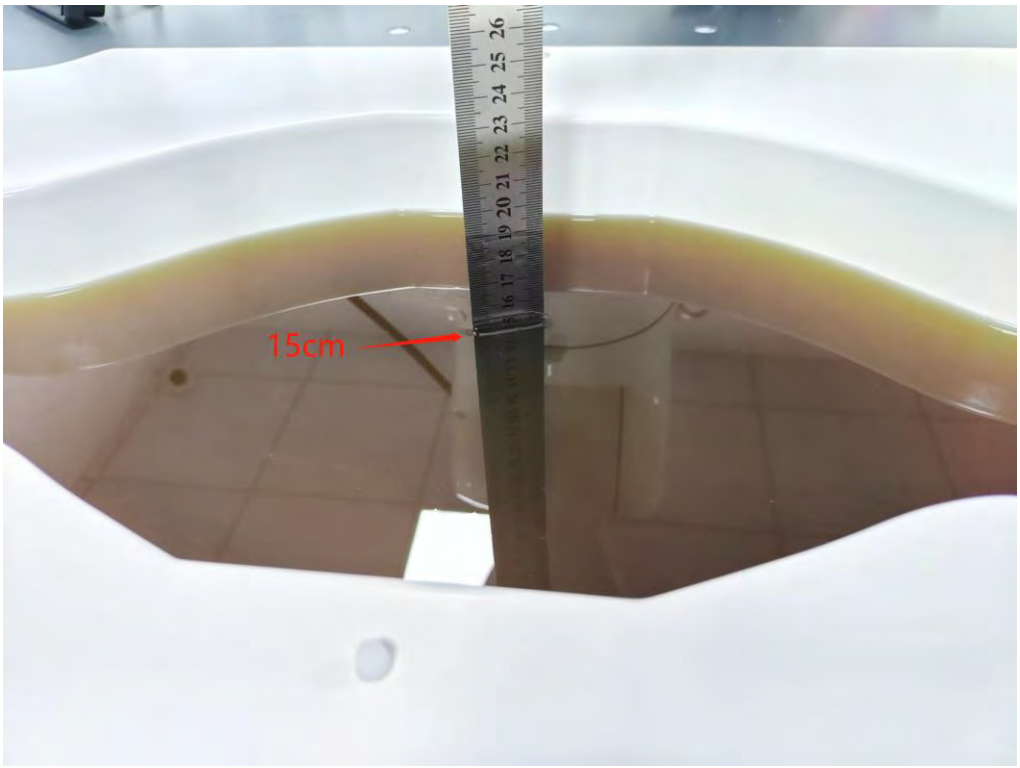


Body Left side (separation distance is 0mm)

Body Right side (separation distance is 0mm)


Body Top side (separation distance is 0mm)

Liquid depth (15 cm)



# 12. SAR Result Summary

## 12.1 Body-worn and Hotspot SAR

| Band | Model | Test Position | Freq. | SAR (1g) (W/kg) | Power Drift (%) | Max. Turn-up Power (dBm) | Meas. Output Power (dBm) | Scaled SAR (W/Kg) | Meas. No. |
|---|---|---|---|---|---|---|---|---|---|
| GSM850 | EGPRS (8PSK, 4-Slot) | Back Side | 824.2 | 0.658 | 3.03 | 31.50 | 31.29 | **0.691** | **1** |
| | | Back Side | 836.6 | 0.432 | 2.73 | 31.50 | 30.66 | 0.524 | / |
| | | Back Side | 848.8 | 0.574 | 3.09 | 31.50 | 31.23 | 0.611 | / |
| | | Left Side | 824.2 | 0.076 | 3.33 | 31.50 | 31.29 | 0.080 | / |
| | | Right Side | 824.2 | 0.237 | -1.28 | 31.50 | 31.29 | 0.249 | / |
| | | Top Side | 824.2 | 0.315 | -3.84 | 31.50 | 31.29 | 0.331 | / |
| | | Bottom Side | 824.2 | 0.028 | 3.06 | 31.50 | 31.29 | 0.029 | / |
| PCS 1900 | EGPRS (8PSK, 4-Slot) | Back Side | 1850.2 | 0.167 | 1.54 | 29.00 | 28.49 | **0.188** | **2** |
| | | Right Side | 1850.2 | 0.042 | 0.25 | 29.00 | 28.49 | 0.047 | / |
| | | Top Side | 1850.2 | 0.060 | -3.83 | 29.00 | 28.49 | 0.067 | / |
| WCDMA Band II | RMC | Back Side | 1907.6 | 0.325 | 3.93 | 23.50 | 23.02 | **0.363** | **3** |
| | | Right Side | 1907.6 | 0.067 | -3.96 | 23.50 | 23.02 | 0.075 | / |
| | | Top Side | 1907.6 | 0.152 | 0.19 | 23.50 | 23.02 | 0.170 | / |
| WCDMA Band IV | RMC | Back Side | 1712.6 | 0.554 | -2.81 | 23.50 | 23.07 | **0.612** | **4** |
| | | Right Side | 1712.6 | 0.103 | 0.86 | 23.50 | 23.07 | 0.114 | / |
| | | Top Side | 1712.6 | 0.149 | 2.88 | 23.50 | 23.07 | 0.165 | / |
| WCDMA Band V | RMC | Back Side | 836.4 | 0.078 | 2.26 | 25.00 | 24.51 | 0.087 | / |
| | | Right Side | 836.4 | 0.084 | -3.18 | 25.00 | 24.51 | **0.094** | **5** |
| | | Top Side | 836.4 | 0.039 | -3.93 | 25.00 | 24.51 | 0.044 | / |

| Band | BW (MHz) | Mod. | RB Size | RB offset | Test Position | Freq. | Result 1g (W/Kg) | Power Drift (%) | Max. Turn-up Power (dBm) | Meas. Output Power (dBm) | Scaled SAR (W/Kg) | Meas. No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band 2 | 20M | QPSK | 1 | 0 | Back Side | 1900 | 0.228 | 0.38 | 17.5 | 16.95 | **0.259** | **6** |
| | | | 1 | 0 | Right Side | 1900 | 0.102 | 2.70 | 17.5 | 16.95 | 0.116 | / |
| | | | 1 | 0 | Top Side | 1900 | 0.043 | -0.04 | 17.5 | 16.95 | 0.049 | / |
| | | | 50 | 0 | Back Side | 1900 | 0.202 | -1.22 | 17 | 16.47 | 0.228 | / |
| | | | 50 | 0 | Right Side | 1900 | 0.087 | -2.78 | 17 | 16.47 | 0.098 | / |
| | | | 50 | 0 | Top Side | 1900 | 0.032 | -1.36 | 17 | 16.47 | 0.036 | / |
| LTE Band 4 | 20M | QPSK | 1 | 0 | Back Side | 1732.5 | 0.327 | -1.69 | 17 | 16.35 | **0.380** | **7** |
| | | | 1 | 0 | Right Side | 1732.5 | 0.149 | -3.28 | 17 | 16.35 | 0.173 | / |
| | | | 1 | 0 | Top Side | 1732.5 | 0.082 | -2.09 | 17 | 16.35 | 0.095 | / |
| | | | 50 | 0 | Back Side | 1732.5 | 0.287 | -0.03 | 16.5 | 16.1 | 0.315 | / |
| | | | 50 | 0 | Right Side | 1732.5 | 0.132 | 3.03 | 16.5 | 16.1 | 0.145 | / |
| | | | 50 | 0 | Top Side | 1732.5 | 0.065 | -3.70 | 16.5 | 16.1 | 0.071 | / |
| LTE Band 5 | 10M | QPSK | 1 | 0 | Back Side | 836.5 | 0.271 | -3.02 | 17.5 | 17.11 | **0.296** | **8** |
| | | | 1 | 0 | Right Side | 836.5 | 0.139 | -1.33 | 17.5 | 17.11 | 0.152 | / |
| | | | 1 | 0 | Top Side | 836.5 | 0.080 | 3.86 | 17.5 | 17.11 | 0.088 | / |
| | | | 25 | 0 | Back Side | 836.5 | 0.135 | -1.12 | 16.5 | 16.47 | 0.136 | / |
| | | | 25 | 0 | Right Side | 836.5 | 0.083 | 0.41 | 16.5 | 16.47 | 0.084 | / |
| | | | 25 | 0 | Top Side | 836.5 | 0.051 | 0.10 | 16.5 | 16.47 | 0.051 | / |
| LTE Band 7 | 20M | QPSK | 1 | 0 | Back Side | 2560 | 0.451 | 1.43 | 16 | 15.11 | **0.554** | **9** |
| | | | 1 | 0 | Right Side | 2560 | 0.207 | 1.82 | 16 | 15.11 | 0.254 | / |
| | | | 1 | 0 | Top Side | 2560 | 0.111 | 1.45 | 16 | 15.11 | 0.136 | / |
| | | | 50 | 0 | Back Side | 2560 | 0.356 | -2.12 | 15 | 14.65 | 0.386 | / |
| | | | 50 | 0 | Right Side | 2560 | 0.183 | 1.37 | 15 | 14.65 | 0.198 | / |
| | | | 50 | 0 | Top Side | 2560 | 0.183 | -1.12 | 15 | 14.65 | 0.198 | / |
| LTE Band 12 | 10M | QPSK | 1 | 0 | Back Side | 704 | 0.295 | -2.10 | 21 | 20.26 | **0.350** | **10** |
| | | | 1 | 0 | Right Side | 704 | 0.140 | 2.39 | 21 | 20.26 | 0.166 | / |
| | | | 1 | 0 | Top Side | 704 | 0.084 | 1.07 | 21 | 20.26 | 0.100 | / |
| | | | 25 | 0 | Back Side | 704 | 0.253 | 1.43 | 20.5 | 20.19 | 0.272 | / |
| | | | 25 | 0 | Right Side | 704 | 0.115 | 2.81 | 20.5 | 20.19 | 0.124 | / |
| | | | 25 | 0 | Top Side | 704 | 0.065 | -2.01 | 20.5 | 20.19 | 0.070 | / |
| | 10M | QPSK | 1 | 0 | Back Side | 782 | 0.260 | -3.66 | 23 | 22.76 | **0.275** | **11** |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band 13 | | | 1 | 0 | Right Side | 782 | 0.129 | 2.18 | 23 | 22.76 | 0.136 | / |
| | | | 1 | 0 | Top Side | 782 | 0.063 | -2.12 | 23 | 22.76 | 0.067 | / |
| | | | 25 | 0 | Back Side | 782 | 0.245 | -0.98 | 23 | 22.62 | 0.267 | / |
| | | | 25 | 0 | Right Side | 782 | 0.113 | 3.23 | 23 | 22.62 | 0.123 | / |
| | | | 25 | 0 | Top Side | 782 | 0.057 | -3.51 | 23 | 22.62 | 0.062 | / |
| LTE Band 41 | 20M | QPSK | 1 | 0 | Back Side | 2605 | 0.178 | 0.14 | 18.2 | 17.26 | **0.221** | **12** |
| | | | 1 | 0 | Right Side | 2605 | 0.100 | -3.14 | 18.2 | 17.26 | 0.124 | / |
| | | | 1 | 0 | Top Side | 2605 | 0.050 | 3.14 | 18.2 | 17.26 | 0.062 | / |
| | | | 50 | 0 | Back Side | 2605 | 0.127 | 3.65 | 17 | 16.78 | 0.134 | / |
| | | | 50 | 0 | Right Side | 2605 | 0.073 | -0.10 | 17 | 16.78 | 0.077 | / |
| | | | 50 | 0 | Top Side | 2605 | 0.037 | -2.73 | 17 | 16.78 | 0.039 | / |
| LTE Band 66 | 20M | QPSK | 1 | 0 | Back Side | 1770 | 0.327 | 0.61 | 23 | 22.09 | **0.403** | **13** |
| | | | 1 | 0 | Right Side | 1770 | 0.163 | -3.38 | 23 | 22.09 | 0.201 | / |
| | | | 1 | 0 | Top Side | 1770 | 0.089 | 0.60 | 23 | 22.09 | 0.110 | / |
| | | | 50 | 0 | Back Side | 1770 | 0.257 | 0.51 | 22 | 21.64 | 0.279 | / |
| | | | 50 | 0 | Right Side | 1770 | 0.132 | -3.15 | 22 | 21.64 | 0.143 | / |
| | | | 50 | 0 | Top Side | 1770 | 0.059 | 2.31 | 22 | 21.64 | 0.064 | / |

| Band | Model | Test Position | Freq. | SAR (1g) (W/kg) | Power Drift(%) | Max.Turn-up Power(dBm) | Meas.Output Power(dBm) | Scaled SAR (W/Kg) | Meas.No. |
|---|---|---|---|---|---|---|---|---|---|
| 2.4GHz WLAN | 802.11b | Back Side | 2437 | 0.141 | -0.83 | 17.00 | 16.82 | **0.147** | **13** |
| | | Left Side | 2437 | 0.085 | -2.38 | 17.00 | 16.82 | 0.089 | / |
| 5.2GHz WLAN | 802.11ac-VHT20 | Back Side | 5240 | 0.317 | 3.32 | 11.00 | 10.58 | **0.349** | **14** |
| | | Left Side | 5240 | 0.252 | 1.70 | 11.00 | 10.58 | 0.278 | / |
| 5.8GHz WLAN | 802.11n-HT20 | Back Side | 5825 | 0.373 | -2.09 | 12.00 | 11.42 | **0.426** | **16** |
| | | Left Side | 5825 | 0.268 | 3.57 | 12.00 | 11.42 | 0.306 | / |

Note:

1. The test separation of all above table is 0mm.
2. Per KDB 447498 D04, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. Scaled SAR(W/kg) = Measured SAR(W/kg) *Tune-up Scaling Factor
3. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The “Portable Hotspot” feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

## 12.2 Simultaneous Multi-band Transmission Evaluation:

Application Simultaneous Transmission information:

| Position | Simultaneous State |
|---|---|
| Body | 1. GSM + 2.4GHz WLAN/5G WLAN |
| | 2. GSM + Bluetooth |
| | 3. WCDMA + 2.4GHz WLAN/5G WLAN |
| | 4. WCDMA + Bluetooth |
| | 5. LTE + 2.4GHz WLAN/5G WLAN |
| | 6. LTE + Bluetooth |

NOTE:

1. Bluetooth and WLAN can't simultaneous transmission at the same time.
2. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
3. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
4. KDB 447498 Appendix E, 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:
   $SAR_{est}$ =1.6 · Pant / Pth [W/kg].
   *Pant* is maximum time-averaged power or effective radiated power (ERP), whichever is greater, and *Pth* is defined in Formula KDB 447498 (B.2).

| Estimated SAR | | Antenna to user(cm) | Pant | Pth | Stand Alone SAR(1g) [W/kg] |
|---|---|---|---|---|---|
| BT | Body | ≤0.5 | 0.45 | 2.79 | 0.258 |

| Simultaneous Mode | Position | Mode | Max. 1-g SAR (W/kg) | 1-g Sum SAR (W/kg) |
|---|---|---|---|---|
| GSM + 2.4G WLAN | Body | GSM | 0.691 | 0.838 |
| | | 2.4G WLAN | 0.147 | |
| GSM + Bluetooth | Body | GSM | 0.691 | 0.949 |
| | | Bluetooth | 0.258 | |
| GSM + 5G WLAN | Body | GSM | 0.691 | 1.107 |
| | | 5G WLAN | 0.416 | |
| WCDMA + 2.4G WLAN | Body | WCDMA | 0.612 | 0.759 |
| | | 2.4G WLAN | 0.147 | |
| WCDMA + Bluetooth | Body | WCDMA | 0.612 | 0.870 |
| | | Bluetooth | 0.258 | |
| WCDMA + 5G WLAN | Body | WCDMA | 0.612 | 1.028 |
| | | 5G WLAN | 0.416 | |
| LTE + 2.4G WLAN | Body | LTE | 0.554 | 0.701 |
| | | 2.4G WLAN | 0.147 | |
| LTE + Bluetooth | Body | LTE | 0.554 | 0.812 |
| | | Bluetooth | 0.258 | |
| LTE + 5G WLAN | Body | LTE | 0.554 | 0.970 |
| | | 5G WLAN | 0.416 | |

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna.

When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR-1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR-1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

## 13. Equipment List

| Kind of Equipment | Manufacturer | Type No. | Serial No. | Last Calibration | Calibrated Until |
|---|---|---|---|---|---|
| 750MHz Dipole | MVG | DIP0G750 | SN 06/22 DIP0G750-638 | 2022.02.11 | 2025.02.10 |
| 835MHz Dipole | MVG | DIP0G835 | SN 06/22 DIP0G835-639 | 2022.02.11 | 2025.02.10 |
| 1800MHz Dipole | MVG | DIP1G800 | SN 06/22 DIP1G800-640 | 2022.02.11 | 2025.02.10 |
| 1900MHz Dipole | MVG | DIP1G900 | SN 06/22 DIP1G900-641 | 2022.02.11 | 2025.02.10 |
| 2450MHz Dipole | MVG | DIP2G450 | SN 06/22 DIP2G450-645 | 2022.02.11 | 2025.02.10 |
| 2600MHz Dipole | MVG | DIP2G600 | SN 06/22 DIP2G600-646 | 2022.02.11 | 2025.02.10 |
| 5000MHz Dipole | MVG | DIP5G000 | SN 06/22 DIP5G000-653 | 2022.02.11 | 2025.02.10 |
| E-Field Probe | MVG | EPGO364 | SN 04/22 EPGO364 | 2023.02.10 | 2024.02.09 |
| Liquid Calibration Kit | MVG | OCPG 87 | SN 06/22 OCPG87 | 2023.02.10 | 2024.02.09 |
| Antenna | MVG | ANTA 73 | SN 06/22 ANTA 73 | N/A | N/A |
| Ellipsoid Phantom | MVG | ELLI 51 | SN 06/22 ELLI 51 | N/A | N/A |
| Phantom | MVG | SAM 148 | SN 06/22 SAM148 | N/A | N/A |
| Phone holder | MVG | MSH 117 | SN 06/22 MSH 117 | N/A | N/A |
| Laptop holder | MVG | LSH 36 | SN 06/22 LSH 38 | N/A | N/A |
| Directional coupler | SHW | SHWDCP | 202203280013 | N/A | N/A |
| Network Analyzer | Agilent | E5071C | MY46418070 | 2023.03.27 | 2024.03.26 |
| Multi Meter | Keithley | DMM6500 | DMM6500 | 2023.03.27 | 2024.03.26 |
| Signal Generator | Keithley | N5182B | MY59100717 | 2023.04.07 | 2024.04.06 |
| Wireless Communication Test Set | R&S | CMW500 | 137737 | 2023.04.14 | 2024.04.13 |
| Power Sensor | R&S | Z11 | 116184 | 2023.03.27 | 2024.03.26 |
| Temperature hygrometer | N/A | ST-W2318 | N/A | 2023.04.24 | 2024.04.23 |
| Thermograph | N/A | TP101 | N/A | 2023.04.25 | 2024.04.24 |

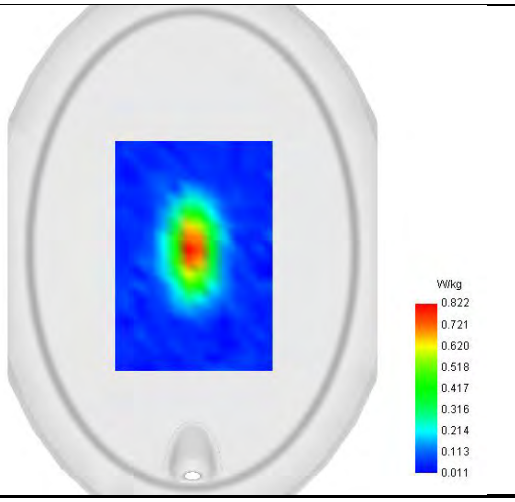
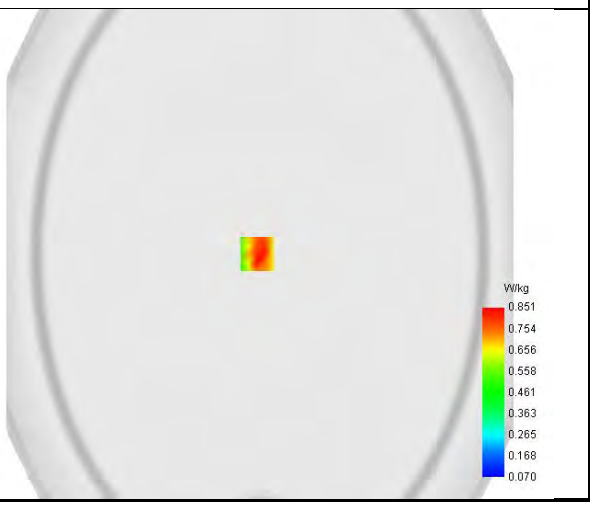
# Appendix A. System Validation Plots

### System Performance Check Data (750MHz)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2023-09-22

### Experimental conditions.

| | |
|---|---|
| Phantom | ELLI |
| Device Position | Dipole |
| Band | CW750 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 750.000 |
| Relative permittivity | 42.65 |
| Conductivity (S/m) | 0.85 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 1.69 |
| Crest factor: | 1:1 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

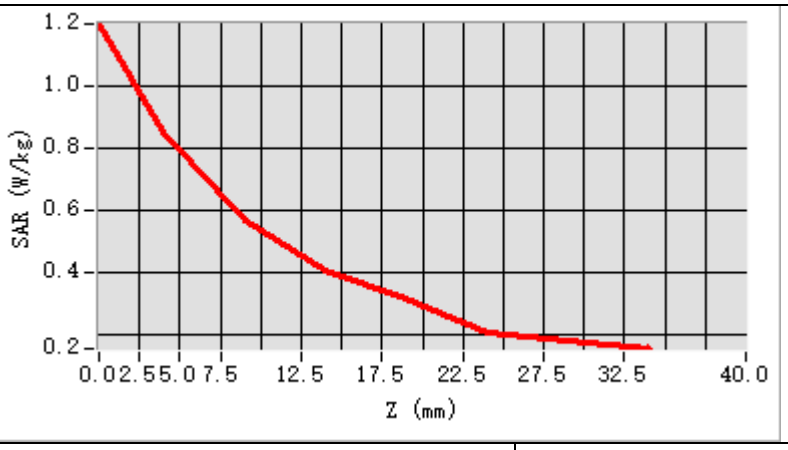


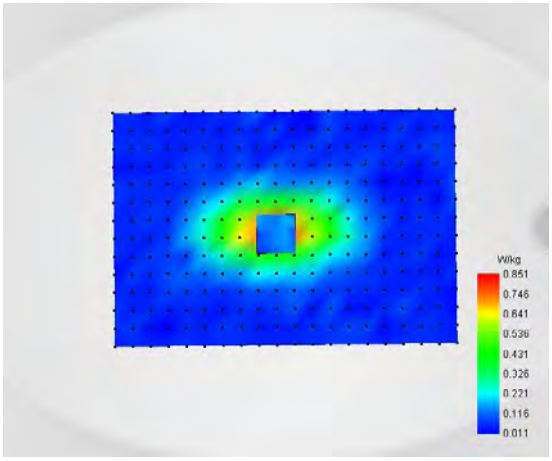


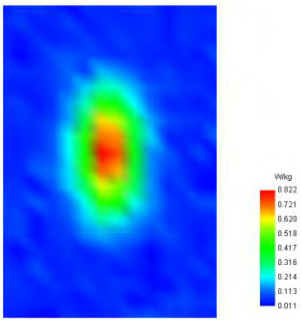
**Maximum location: X=-3.00, Y=0.00 ; SAR Peak: 1.22 W/kg**

| | |
|---|---|
| SAR 10g (W/Kg) | 0.539 |
| SAR 1g (W/Kg) | 0.851 |

# Z Axis Scan


1.2
1.0
0.8
0.6
0.4
0.2
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)


W/kg
0.851
0.746
0.641
0.536
0.431
0.326
0.221
0.116
0.011

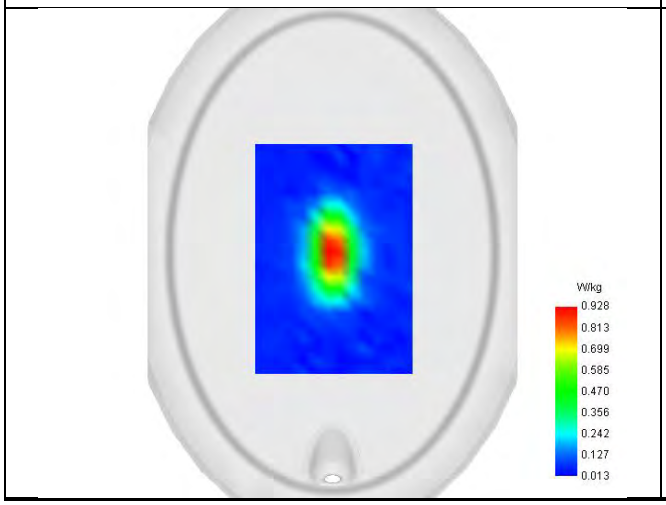
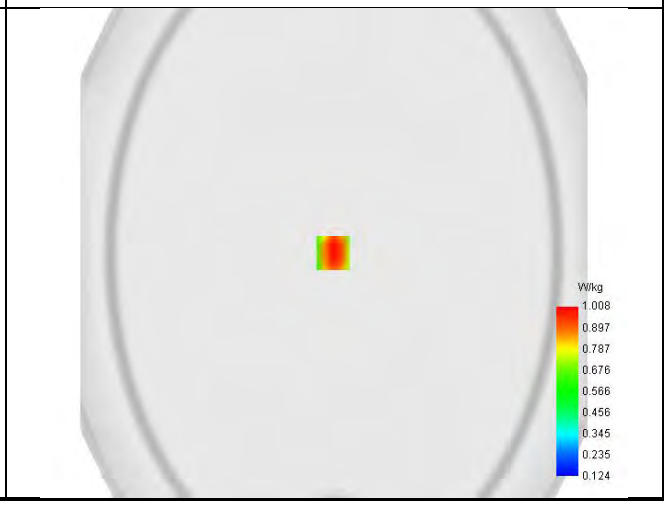

W/kg
0.822
0.721
0.620
0.518
0.417
0.316
0.214
0.113
0.011

**System Performance Check Data (835MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2023-09-27

**Experimental conditions.**

| | |
|---|---|
| Phantom | ELLI |
| Device Position | Dipole |
| Band | CW835 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 835.000 |
| Relative permittivity | 41.68 |
| Conductivity (S/m) | 0.88 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 1.72 |
| Crest factor: | 1:1 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

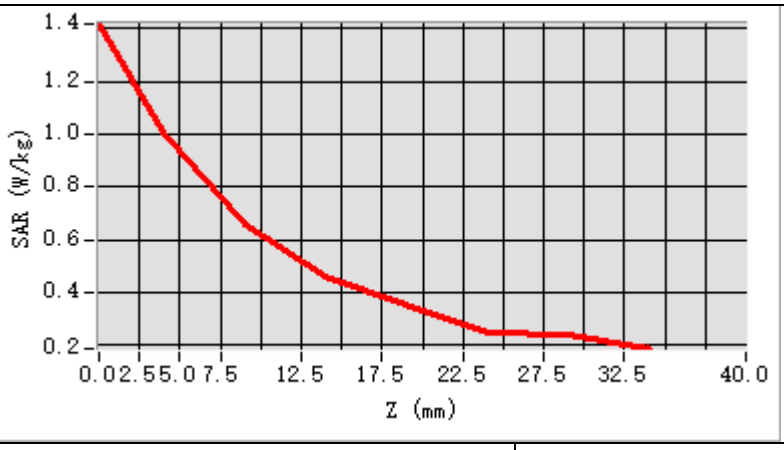


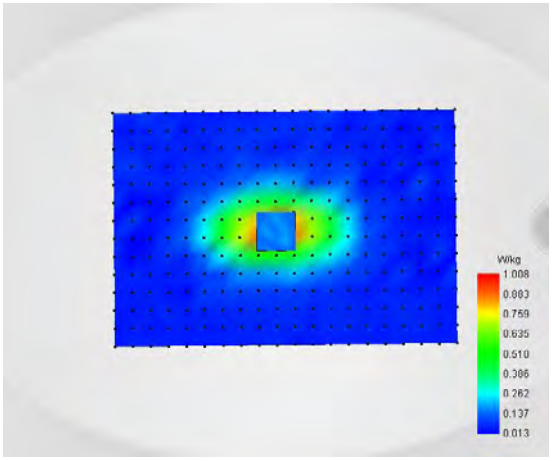


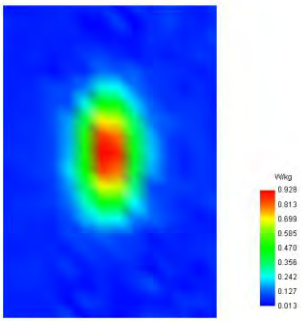
**Maximum location: X=-1.00, Y=0.00 ; SAR Peak: 1.43 W/kg**

| | |
|---|---|
| SAR 10g (W/Kg) | 0.630 |
| SAR 1g (W/Kg) | 0.982 |

## Z Axis Scan


1.4
1.2
1.0
0.8
0.6
0.4
0.2
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)


W/kg
1.008
0.883
0.759
0.635
0.510
0.386
0.262
0.137
0.013

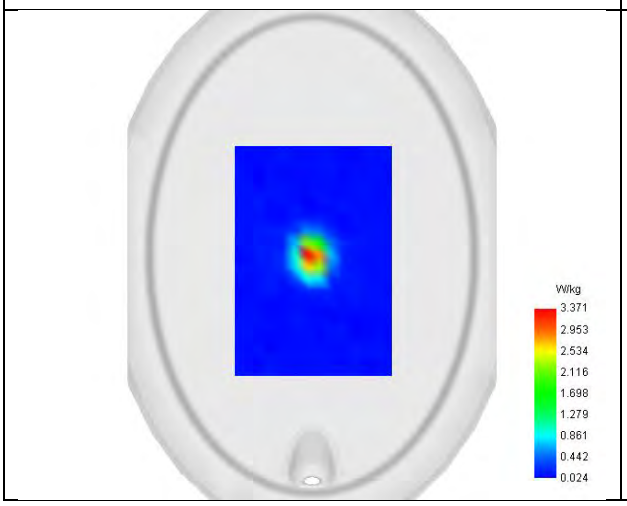
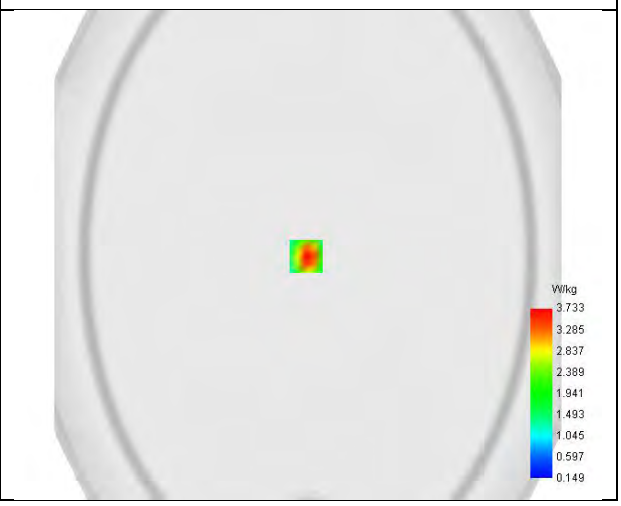

W/kg
0.928
0.813
0.699
0.585
0.470
0.356
0.242
0.127
0.013

**System Performance Check Data (1800MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2023-09-16

**Experimental conditions.**

| | |
|---|---|
| Phantom | ELLI |
| Device Position | Dipole |
| Band | CW1800 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 1800.000 |
| Relative permittivity | 40.37 |
| Conductivity (S/m) | 1.38 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 1.95 |
| Crest factor: | 1:1 |

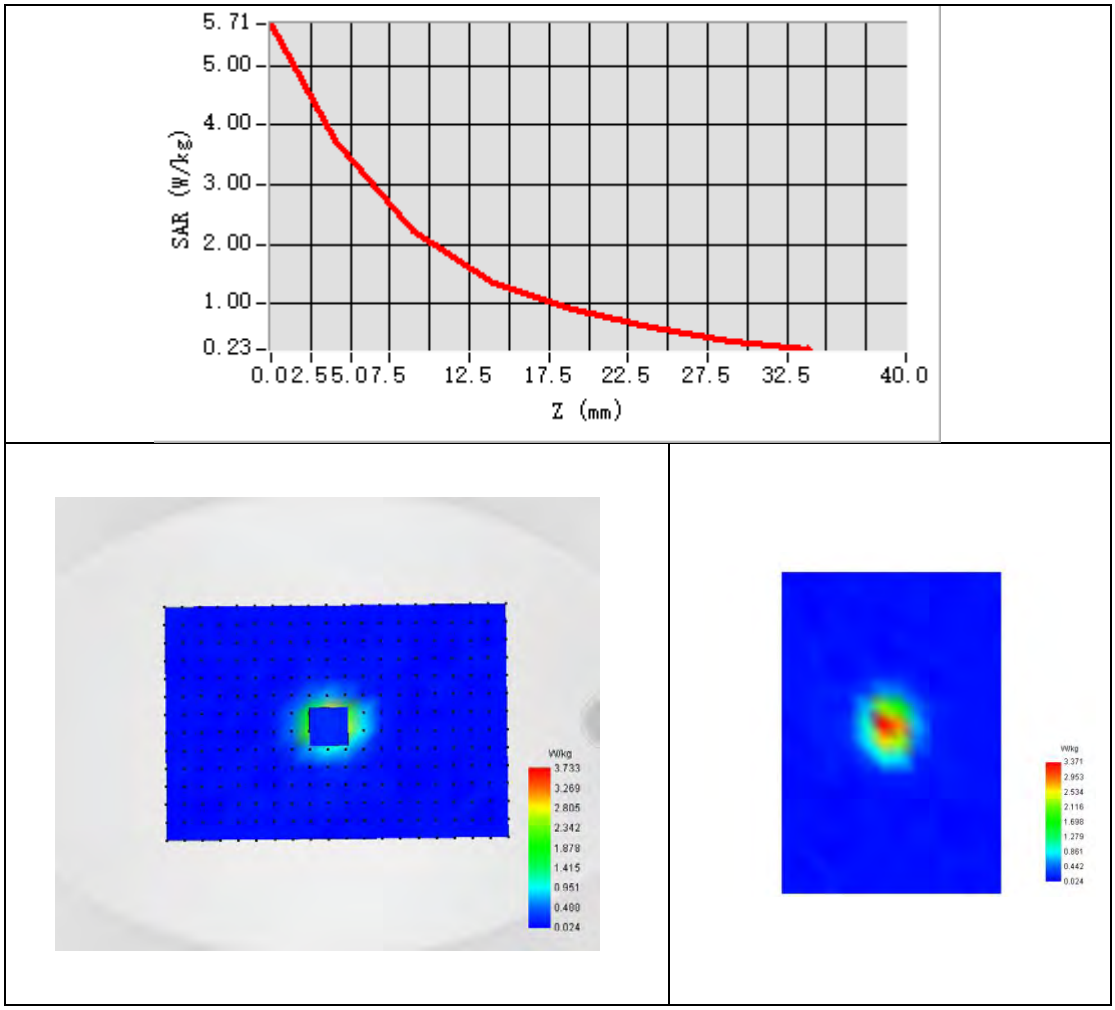
| SURFACE | VOLUME SAR |
|---|---|
|  |  |



**Maximum location: X=-2.00, Y=-1.00 ; SAR Peak: 5.74 W/kg**

| | |
|---|---|
| SAR 10g (W/Kg) | 2.137 |
| SAR 1g (W/Kg) | 3.705 |

## Z Axis Scan

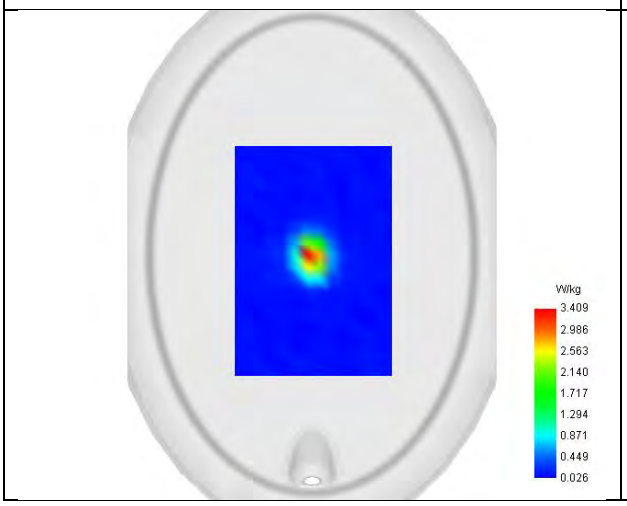
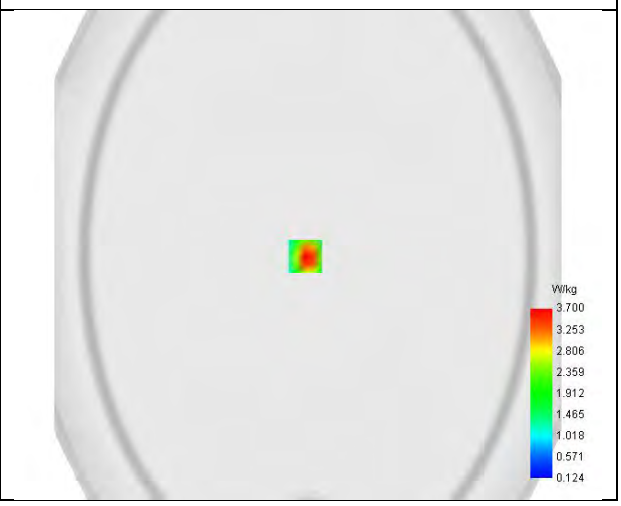

5.71
5.00
4.00
3.00
2.00
1.00
0.23
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)
W/kg
3.733
3.269
2.805
2.342
1.878
1.415
0.951
0.488
0.024
W/kg
3.371
2.953
2.534
2.116
1.698
1.279
0.861
0.442
0.024

**System Performance Check Data (1800MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2023-09-22

**Experimental conditions.**

| | |
|---|---|
| Phantom | ELLI |
| Device Position | Dipole |
| Band | CW1800 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 1800.000 |
| Relative permittivity | 40.51 |
| Conductivity (S/m) | 1.41 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 1.95 |
| Crest factor: | 1:1 |

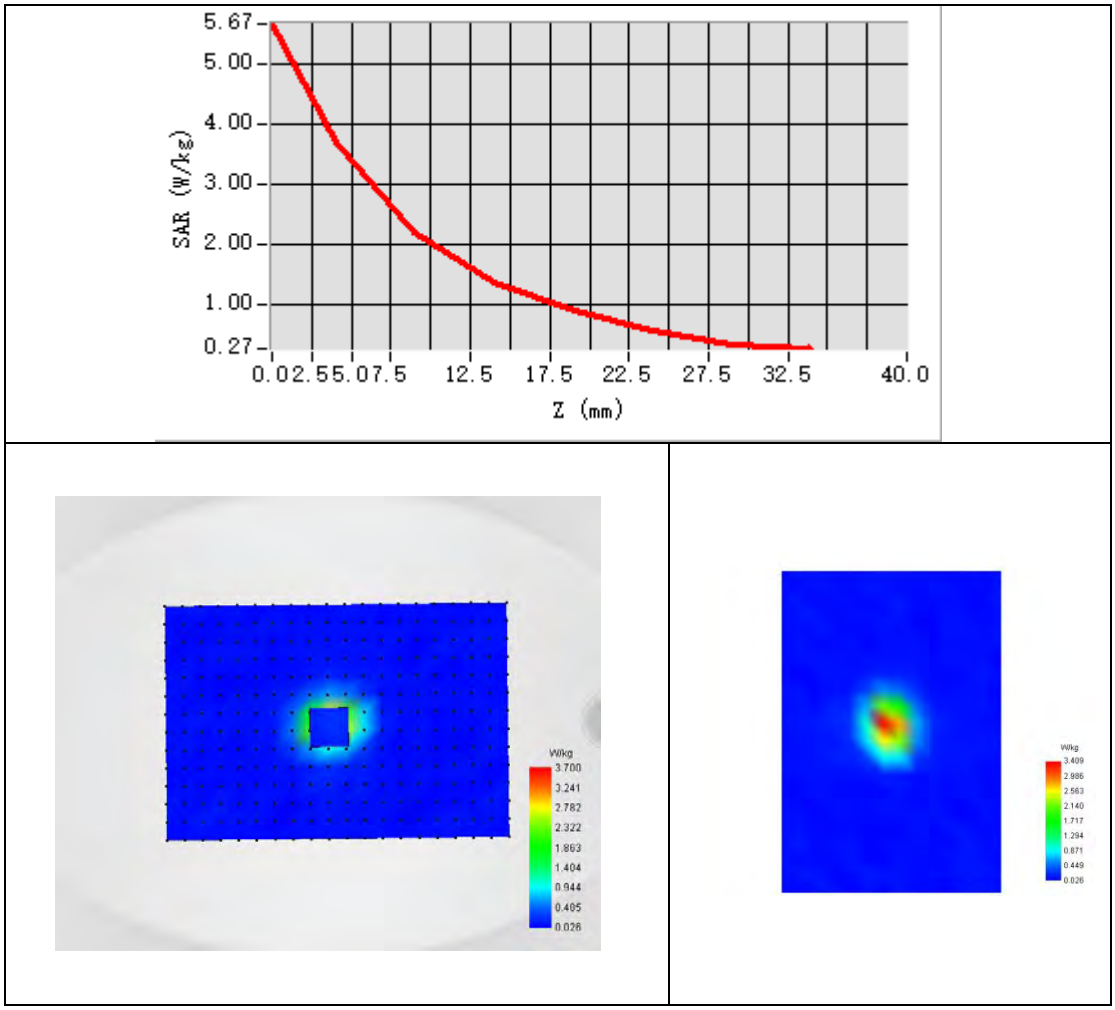
| SURFACE | VOLUME SAR |
|---|---|
|  |  |



**Maximum location: X=-3.00, Y=-1.00 ; SAR Peak: 5.88 W/kg**

| | |
|---|---|
| SAR 10g (W/Kg) | 2.003 |
| SAR 1g (W/Kg) | 3.627 |

## Z Axis Scan

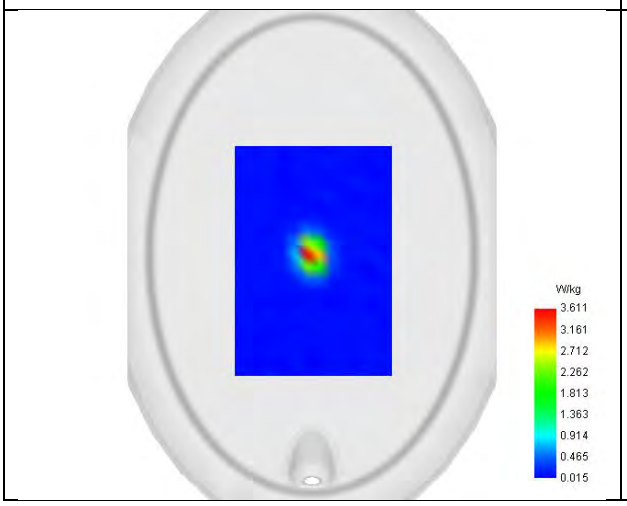
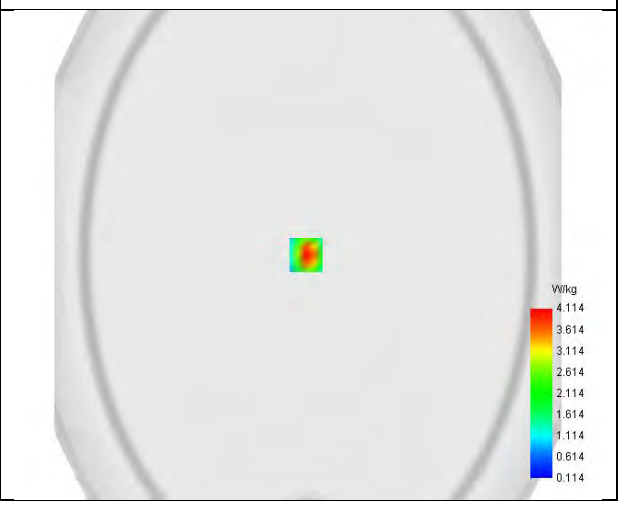

5.67
5.00
4.00
3.00
2.00
1.00
0.27
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)
W/kg
3.700
3.241
2.782
2.322
1.863
1.404
0.944
0.485
0.026
W/kg
3.409
2.986
2.563
2.140
1.717
1.294
0.871
0.449
0.026

**System Performance Check Data (1900MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2023-09-28

**Experimental conditions.**

| Phantom | Validation plane |
|---|---|
| Device Position | Dipole |
| Band | CW1900 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 1900.000 |
| Relative permittivity | 40.71 |
| Conductivity (S/m) | 1.45 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 2.25 |
| Crest factor: | 1:1 |

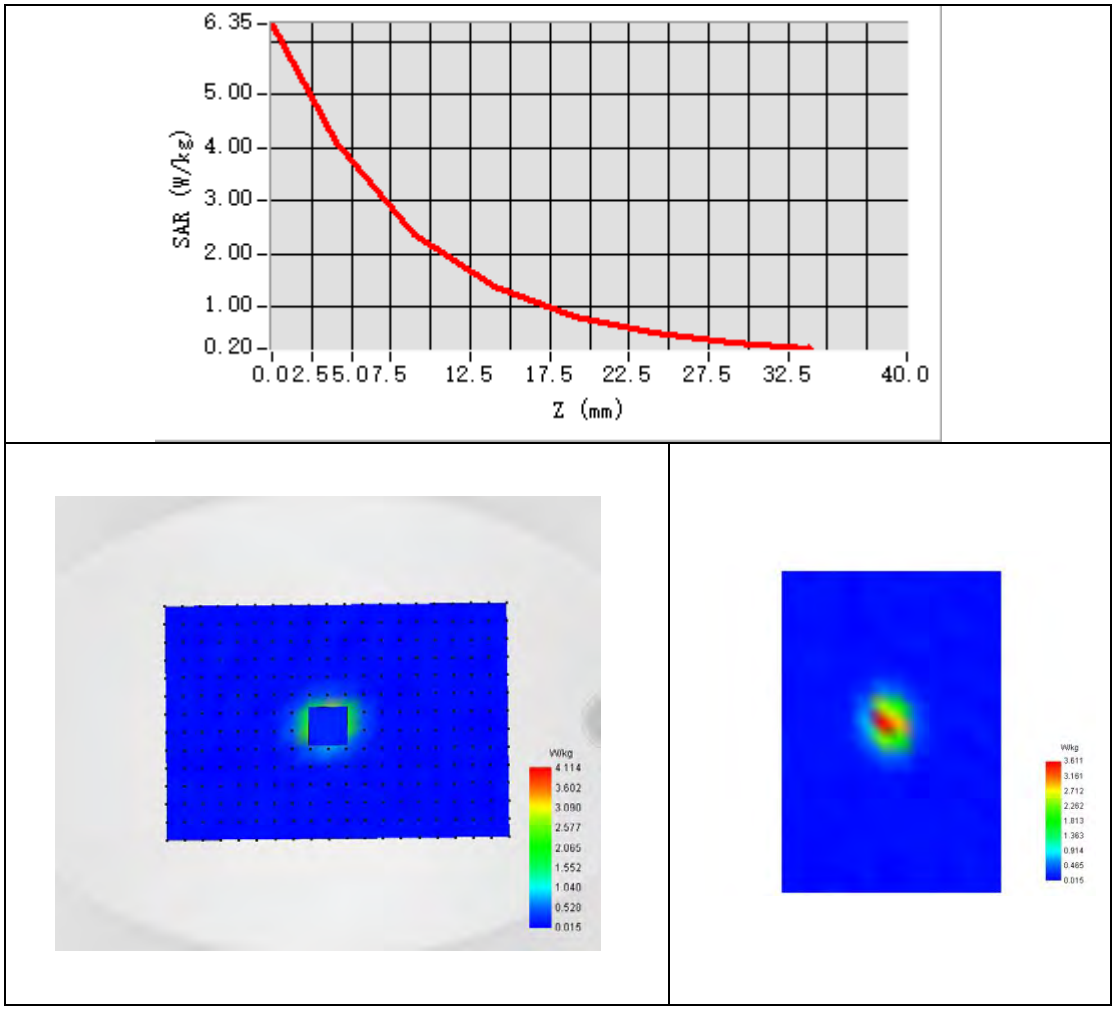
| SURFACE | VOLUME SAR |
|---|---|
|  |  |



**Maximum location: X=-2.00, Y=0.00 ; SAR Peak: 6.43 W/kg**

| SAR 10g (W/Kg) | 2.074 |
|---|---|
| SAR 1g (W/Kg) | 3.909 |

## Z Axis Scan

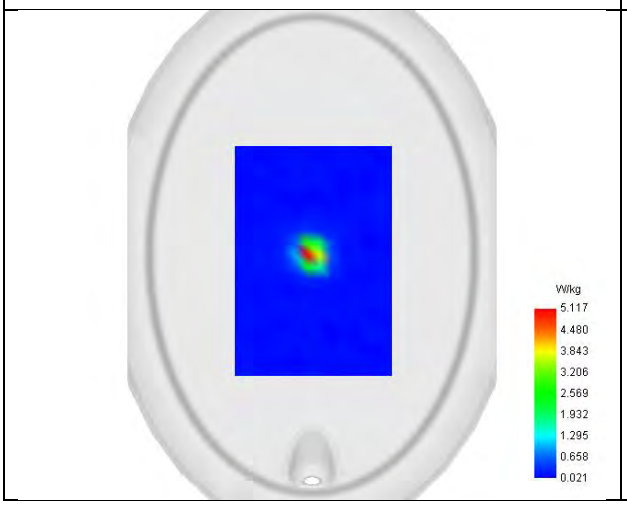
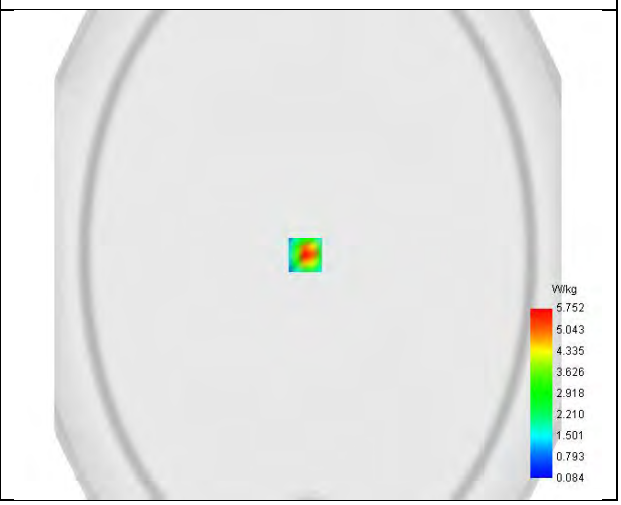

6.35
5.00
4.00
3.00
2.00
1.00
0.20
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)
W/kg
4.114
3.602
3.090
2.577
2.065
1.552
1.040
0.520
0.015
W/kg
3.611
3.161
2.712
2.262
1.813
1.363
0.914
0.465
0.015

**System Performance Check Data (2450MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2023-09-28

**Experimental conditions.**

| Phantom | Validation plane |
|---|---|
| Device Position | Dipole |
| Band | CW2450 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 2450.000 |
| Relative permittivity | 39.96 |
| Conductivity (S/m) | 1.82 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 2.33 |
| Crest factor: | 1:1 |

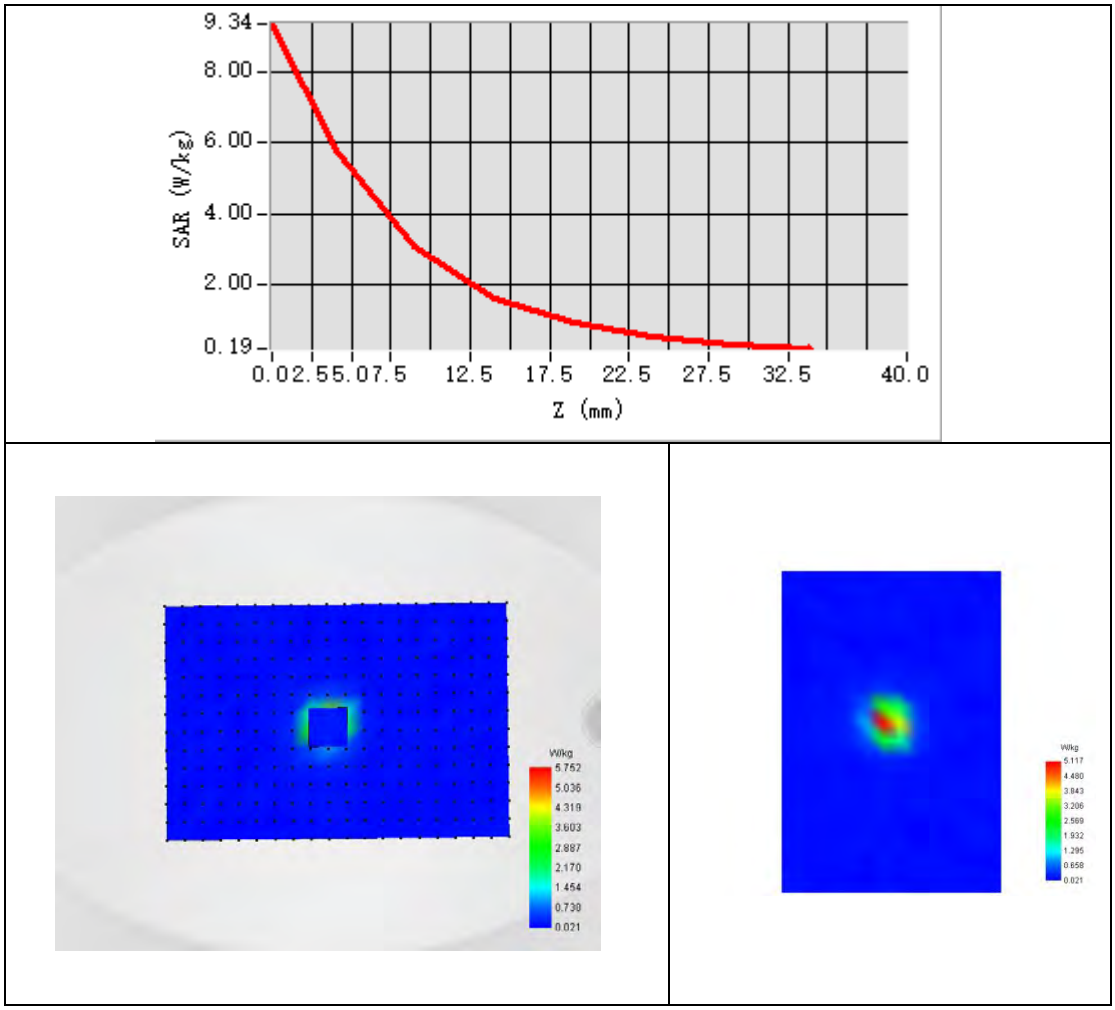
| SURFACE | VOLUME SAR |
|---|---|
|  |  |



**Maximum location: X=-3.00, Y=0.00 ; SAR Peak: 9.55 W/kg**

| SAR 10g (W/Kg) | 2.662 |
|---|---|
| SAR 1g (W/Kg) | 5.492 |

## Z Axis Scan

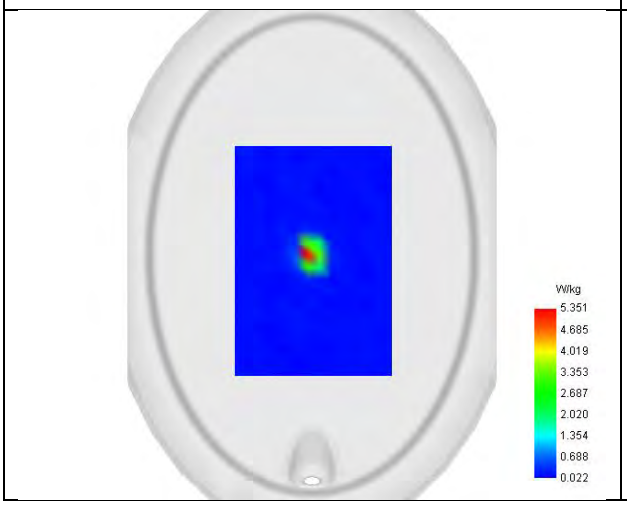
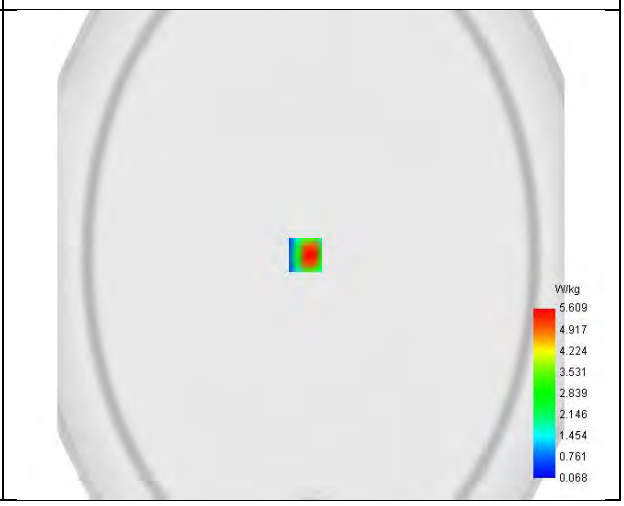

9.34
8.00
6.00
4.00
2.00
0.19
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)
W/kg
5.762
5.036
4.310
3.603
2.887
2.170
1.454
0.730
0.021
W/kg
5.117
4.480
3.843
3.206
2.569
1.932
1.295
0.658
0.021

**System Performance Check Data (2600MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2023-09-17

**Experimental conditions.**

| | |
|---|---|
| Phantom | ELLI |
| Device Position | Dipole |
| Band | CW2600 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 2600.000 |
| Relative permittivity | 39.67 |
| Conductivity (S/m) | 2.01 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 2.36 |
| Crest factor: | 1:1 |

| SURFACE | VOLUME SAR |
|---|---|
|  |  |

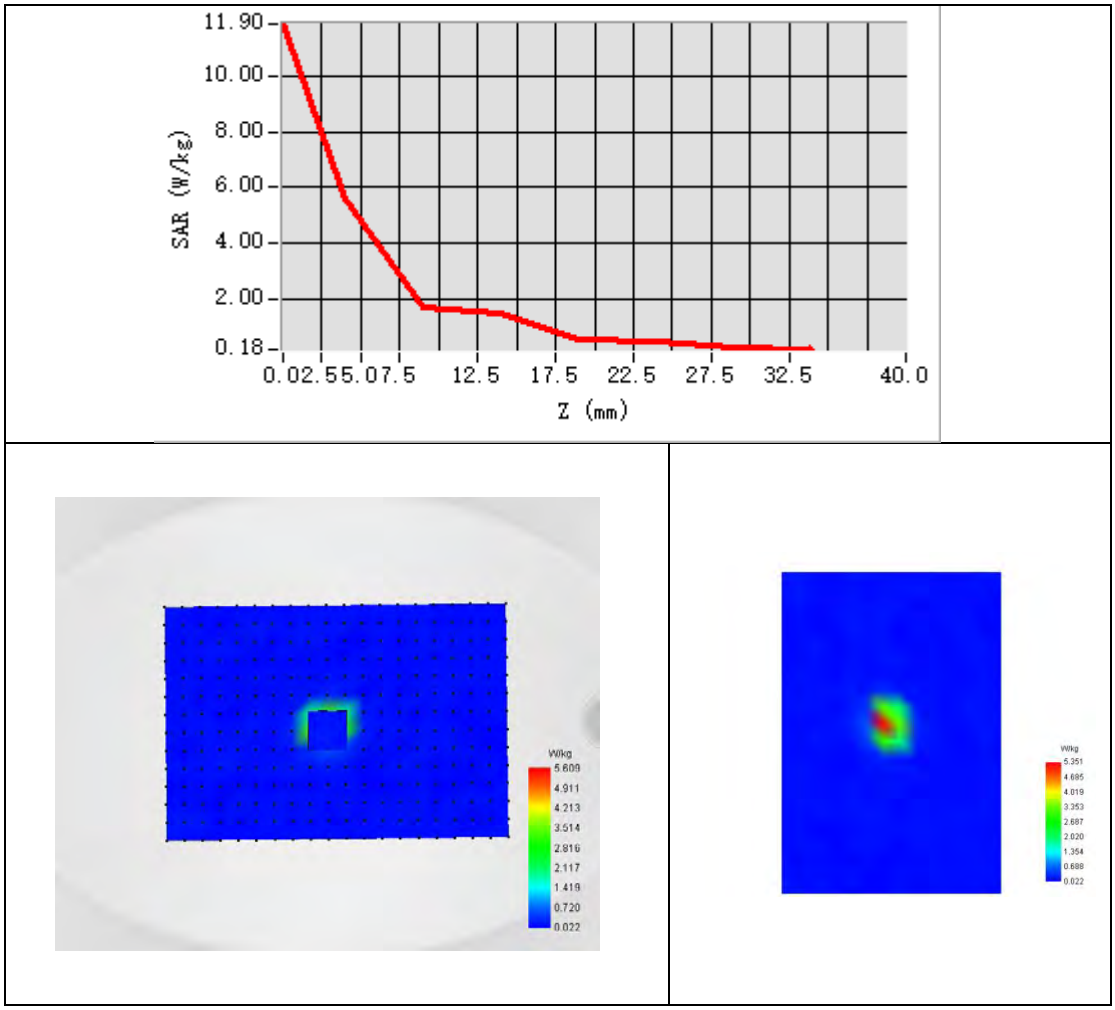




**Maximum location: X=-5.00, Y=0.00 ; SAR Peak: 10.29 W/kg**

| | |
|---|---|
| SAR 10g (W/Kg) | 2.574 |
| SAR 1g (W/Kg) | 5.714 |

## Z Axis Scan

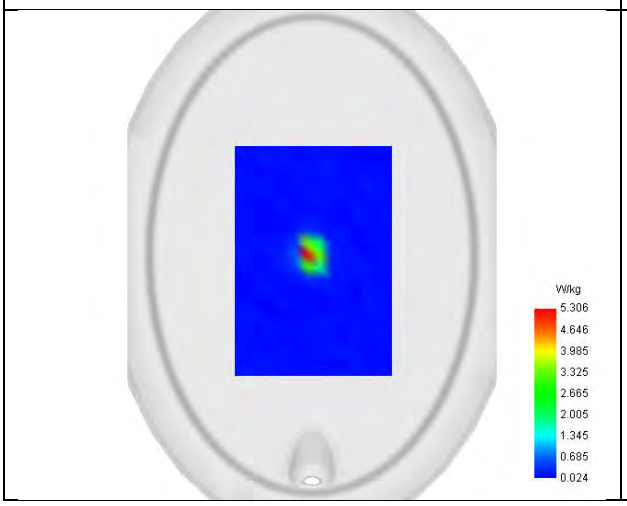
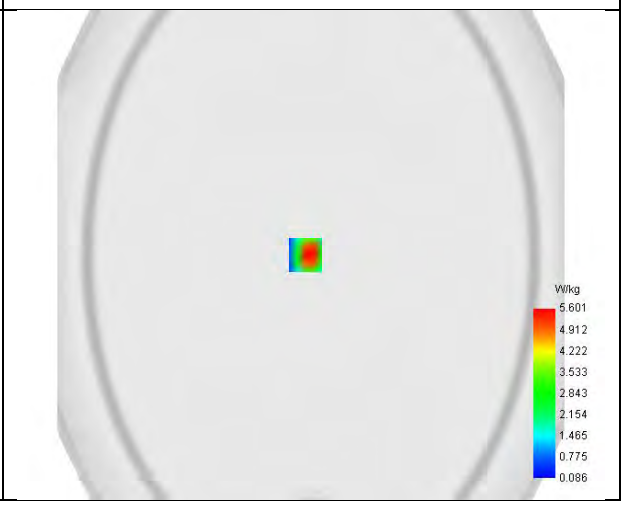

11.90
10.00
8.00
6.00
4.00
2.00
0.18
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)
W/kg
5.609
4.911
4.213
3.514
2.816
2.117
1.419
0.720
0.022
W/kg
5.351
4.685
4.019
3.353
2.687
2.020
1.354
0.688
0.022

**System Performance Check Data (2600MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2023-09-26

**Experimental conditions.**

| | |
|---|---|
| Phantom | ELLI |
| Device Position | Dipole |
| Band | CW2600 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 2600.000 |
| Relative permittivity | 39.55 |
| Conductivity (S/m) | 1.91 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 2.36 |
| Crest factor: | 1:1 |

| SURFACE | VOLUME SAR |
|---|---|
|  |  |

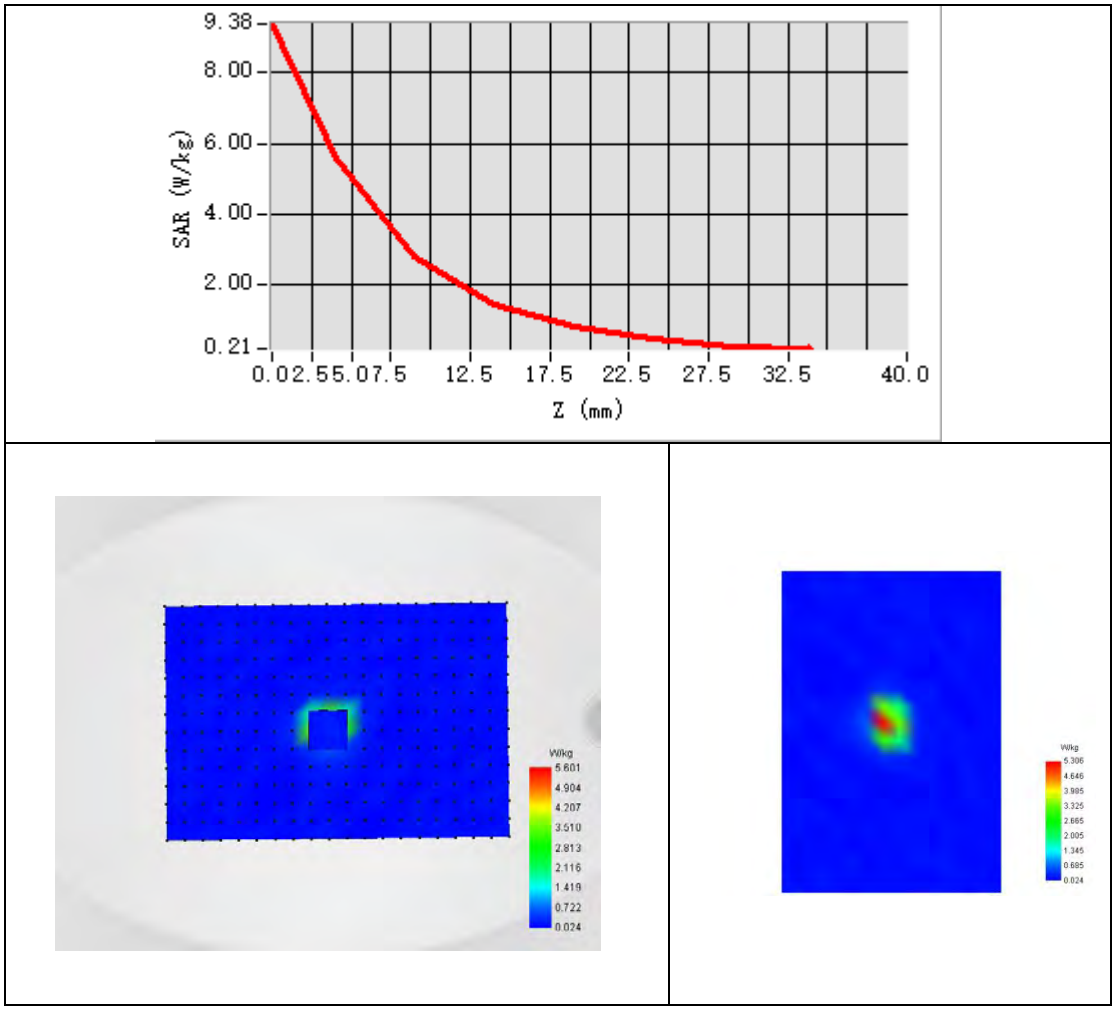




**Maximum location: X=-5.00, Y=0.00 ; SAR Peak: 10.34 W/kg**

| | |
|---|---|
| SAR 10g (W/Kg) | 2.658 |
| SAR 1g (W/Kg) | 5.664 |

## Z Axis Scan

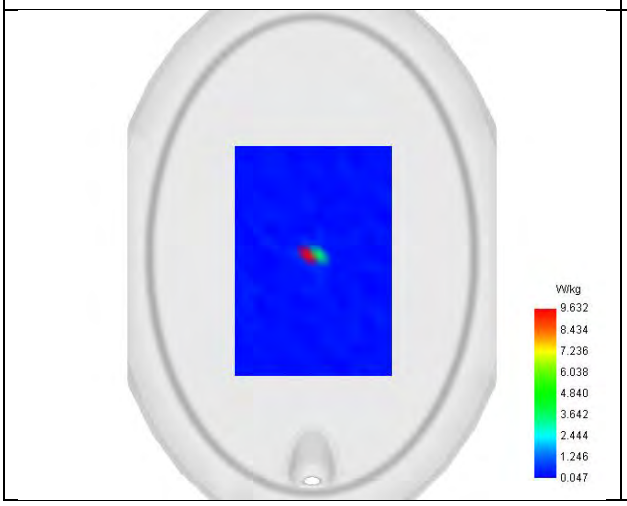
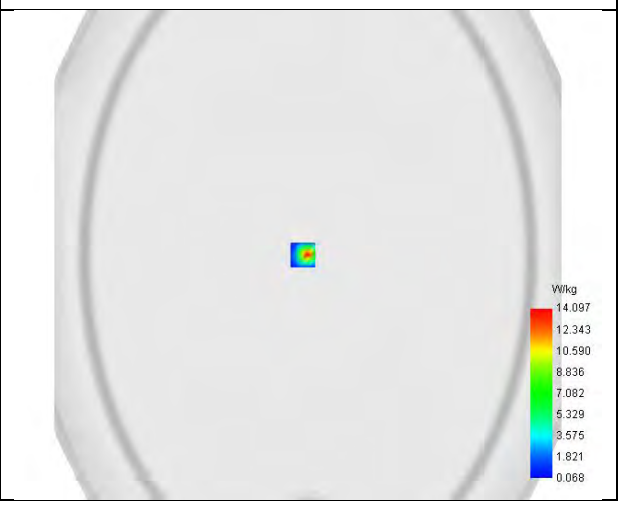

9.38
8.00
6.00
4.00
2.00
0.21
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)
W/kg
5.601
4.904
4.207
3.510
2.813
2.116
1.419
0.722
0.024
W/kg
5.306
4.646
3.985
3.325
2.665
2.005
1.345
0.685
0.024

**System Performance Check Data (5200MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2023-09-23

**Experimental conditions.**

| | |
|---|---|
| Phantom | ELLI |
| Device Position | Dipole |
| Band | CW5200 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 5200.000 |
| Relative permittivity | 36.52 |
| Conductivity (S/m) | 4.70 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 1.95 |
| Crest factor: | 1:1 |

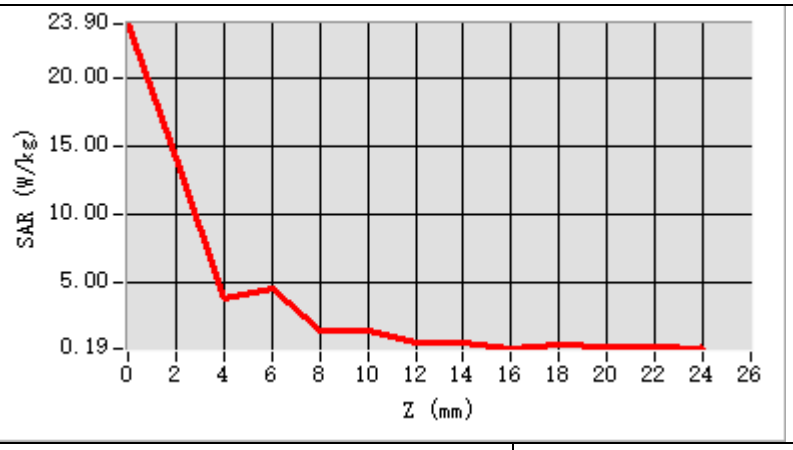
| SURFACE | VOLUME SAR |
|---|---|
|  |  |

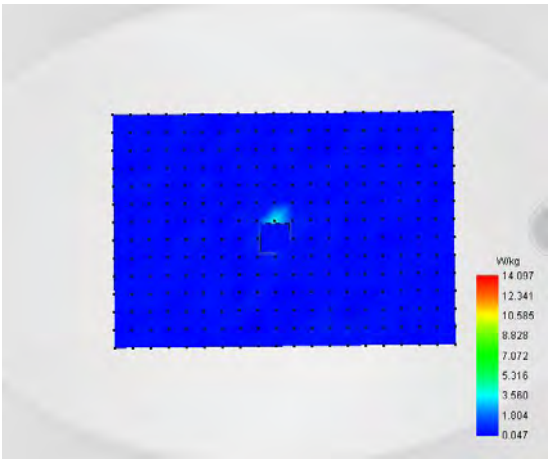


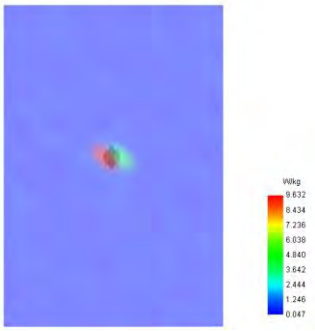
**Maximum location: X=-5.00, Y=0.00 ; SAR Peak: 23.69 W/kg**

| | |
|---|---|
| SAR 10g (W/Kg) | 1.975 |
| SAR 1g (W/Kg) | 7.366 |

## Z Axis Scan


23.90
20.00
15.00
10.00
5.00
0.19
SAR (W/kg)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
Z (mm)


W/kg
14.097
12.341
10.585
8.828
7.072
5.316
3.560
1.804
0.047

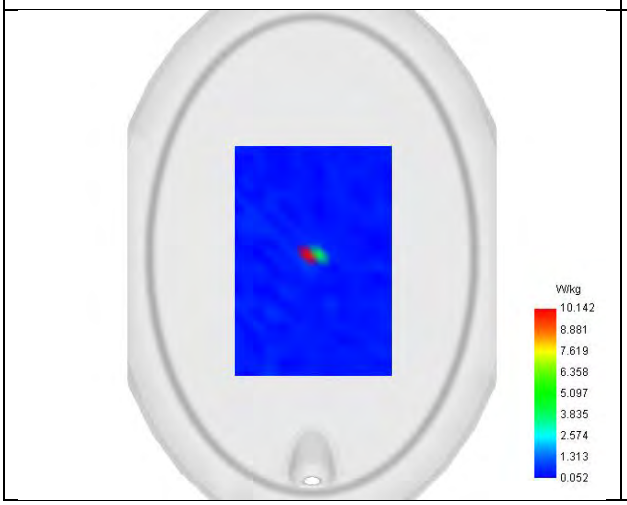
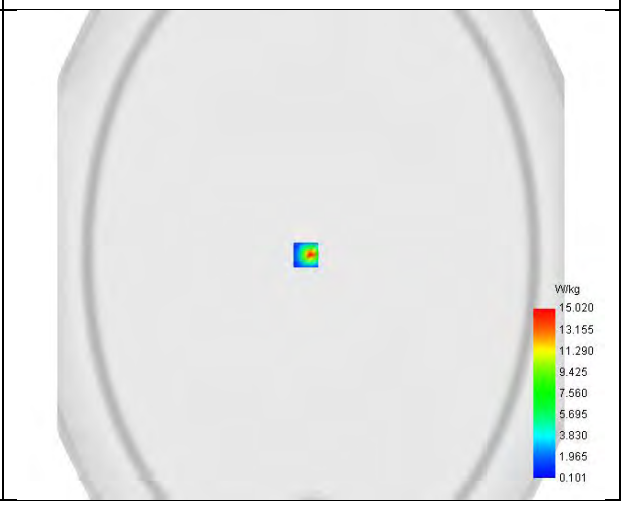

W/kg
9.632
8.434
7.236
6.038
4.840
3.642
2.444
1.246
0.047

**System Performance Check Data (5800MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2023-09-26

**Experimental conditions.**

| | |
|---|---|
| Phantom | ELLI |
| Device Position | Dipole |
| Band | CW5800 |
| Channels | Middle |
| Signal | CW |
| Frequency (MHz) | 5800.000 |
| Relative permittivity | 36.14 |
| Conductivity (S/m) | 5.24 |
| Probe | SN 04/22 EPGO364 |
| ConvF | 1.73 |
| Crest factor: | 1:1 |

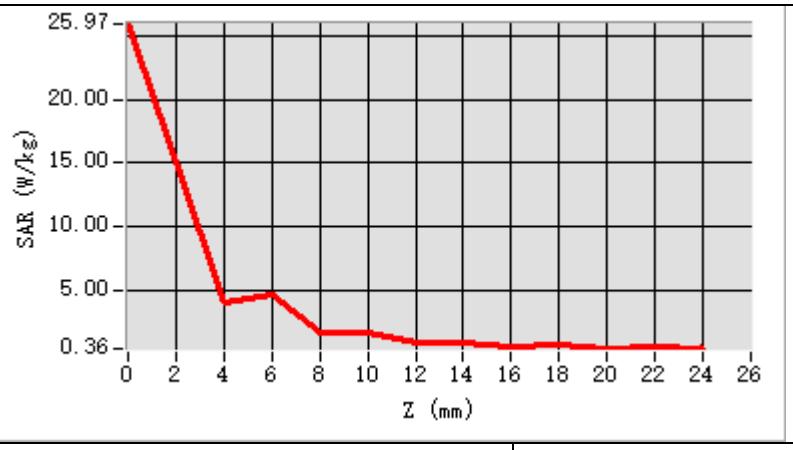
| SURFACE | VOLUME SAR |
|---|---|
|  |  |

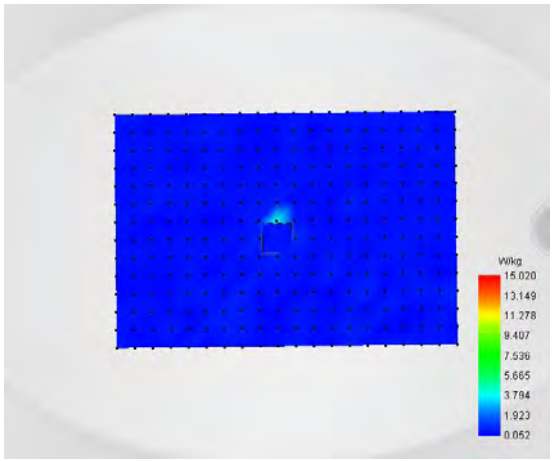


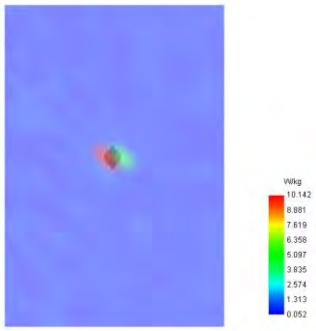
**Maximum location: X=-5.00, Y=0.00 ; SAR Peak: 24.86 W/kg**

| | |
|---|---|
| SAR 10g (W/Kg) | 2.180 |
| SAR 1g (W/Kg) | 7.810 |

## Z Axis Scan


25.97
20.00
15.00
10.00
5.00
0.36
SAR (W/kg)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
Z (mm)


W/kg
15.020
13.149
11.278
9.407
7.536
5.665
3.794
1.923
0.052

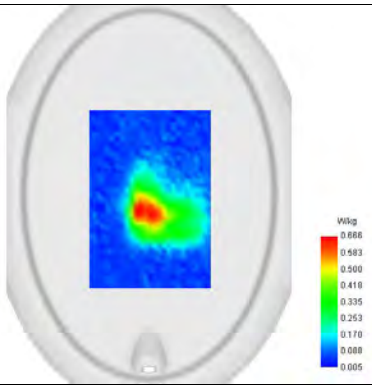
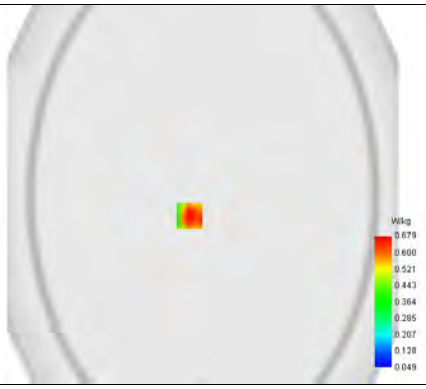
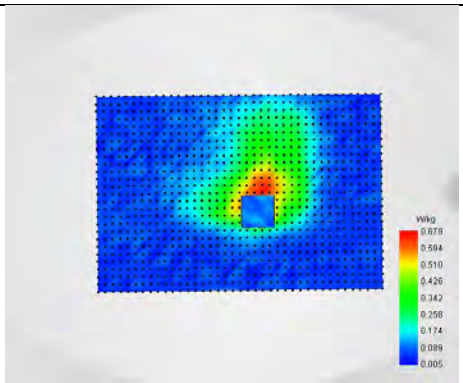
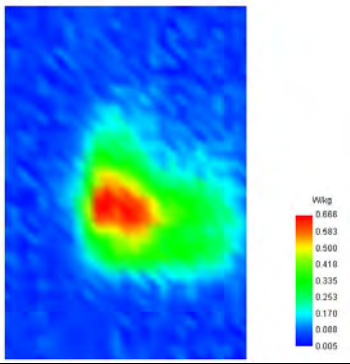
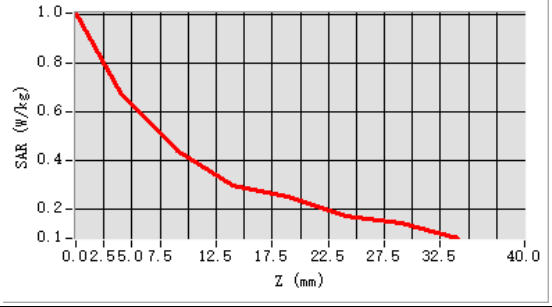

W/kg
10.142
8.881
7.619
6.358
5.097
3.835
2.574
1.313
0.052

# Appendix B. SAR Test Plots

## Plot 1:

| | |
|---|---|
| Test Date | 2023-09-27 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | EGPRS850 |
| Signal | TDMA (EGPRS) |
| Frequency | 824.2 |
| Relative permittivity | 41.68 |
| Conductivity (S/m) | 0.88 |
| ConvF | 1.72 |
| SAR 10g (W/Kg) | 0.400 |
| SAR 1g (W/Kg) | 0.658 |

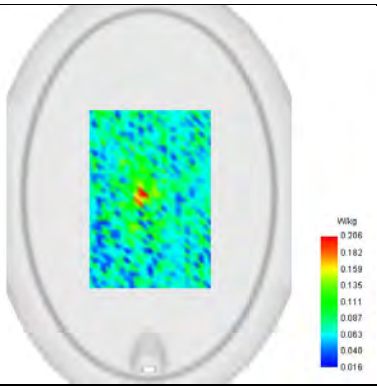
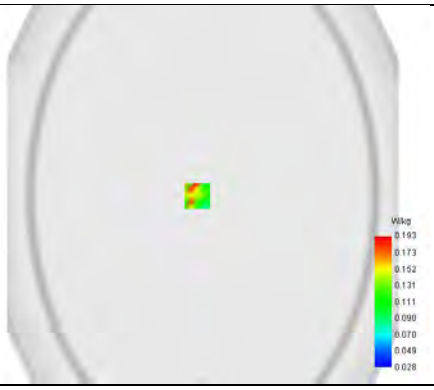
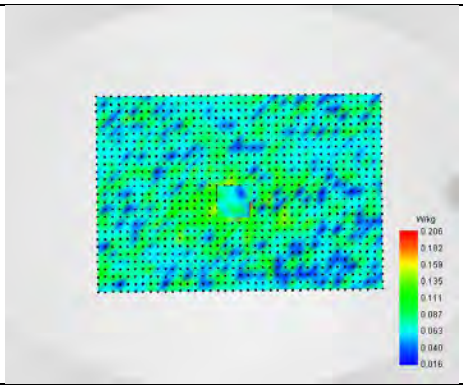
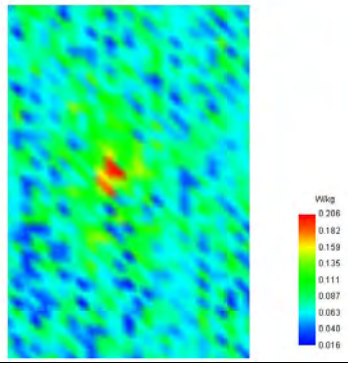
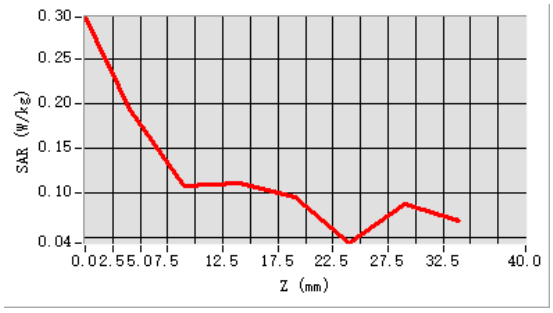
Maximum location: X=-17.00, Y=-26.00 ; SAR Peak: 1.02 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 2:**

| | |
|---|---|
| Test Date | 2023-09-22 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | EGPRS1900 |
| Signal | TDMA (EGPRS) |
| Frequency | 1850.2 |
| Relative permittivity | 40.51 |
| Conductivity (S/m) | 1.41 |
| ConvF | 2.25 |
| SAR 10g (W/Kg) | 0.113 |
| SAR 1g (W/Kg) | 0.167 |

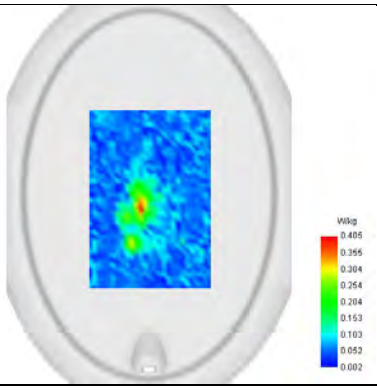
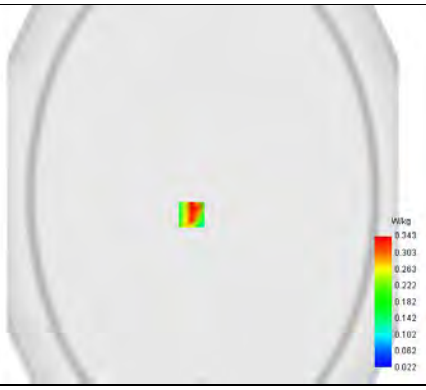
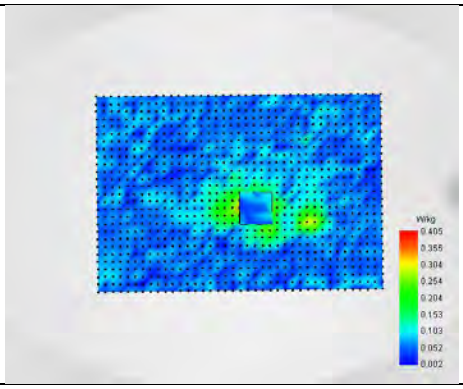
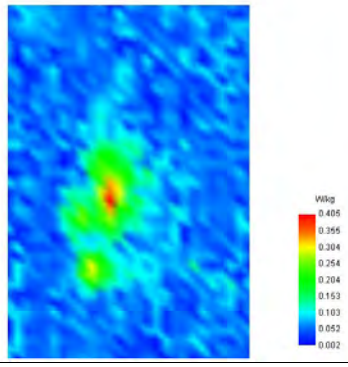
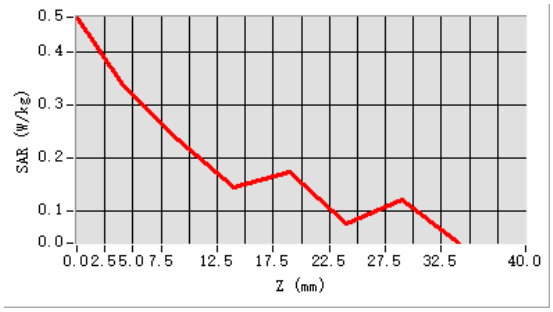
Maximum location: X=-7.00, Y=-1.00 ; SAR Peak: 0.35 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 3:**

| | |
|---|---|
| Test Date | 2023-09-28 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | Band 2 (1900) |
| Signal | WCDMA |
| Frequency | 1907.6 |
| Relative permittivity | 40.71 |
| Conductivity (S/m) | 1.45 |
| ConvF | 2.25 |
| SAR 10g (W/Kg) | 0.189 |
| SAR 1g (W/Kg) | 0.325 |

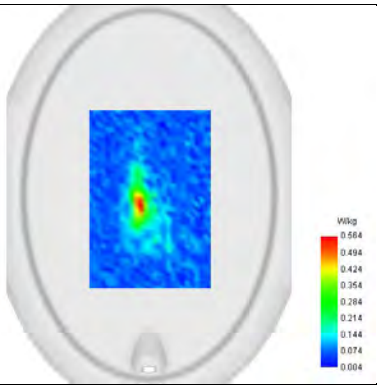
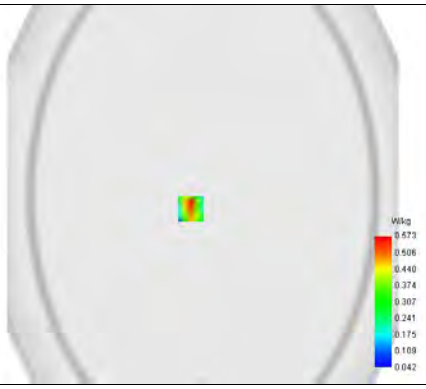
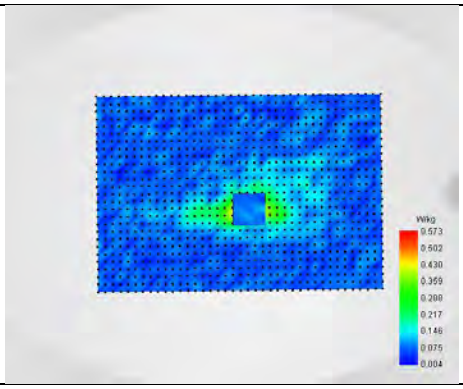
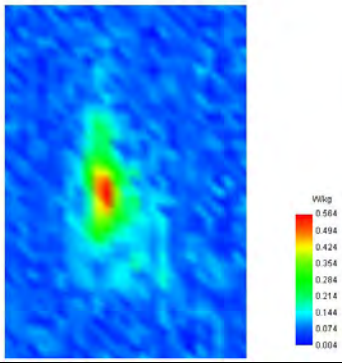
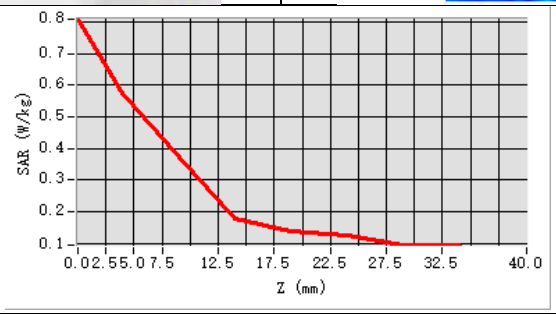
Maximum location: X=-14.00, Y=-24.00 ; SAR Peak: 0.52 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 4:**

| | |
|---|---|
| Test Date | 2023-09-22 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | Band 4 (1700) |
| Signal | WCDMA |
| Frequency | 1712.6 |
| Relative permittivity | 40.51 |
| Conductivity (S/m) | 1.41 |
| ConvF | 1.95 |
| SAR 10g (W/Kg) | 0.293 |
| SAR 1g (W/Kg) | 0.554 |

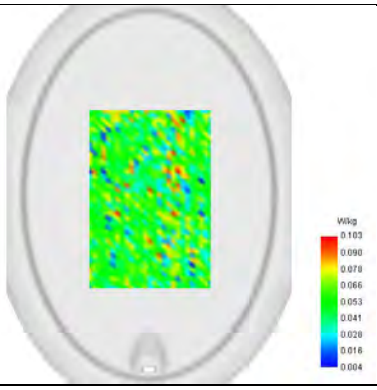
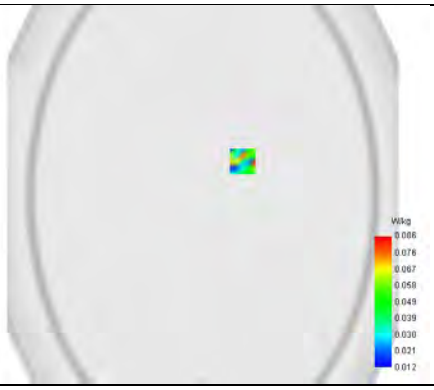
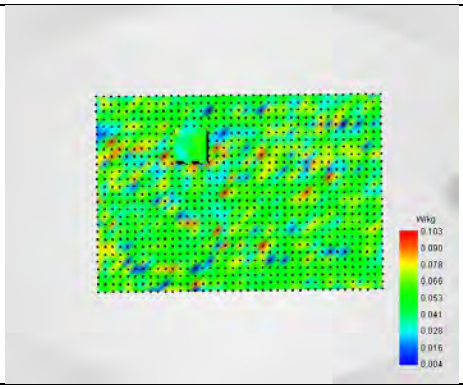
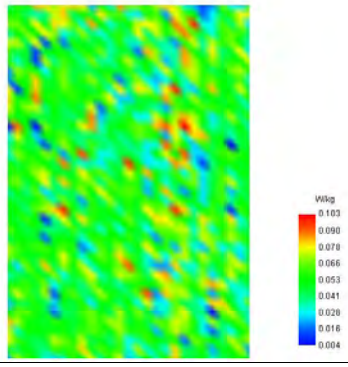
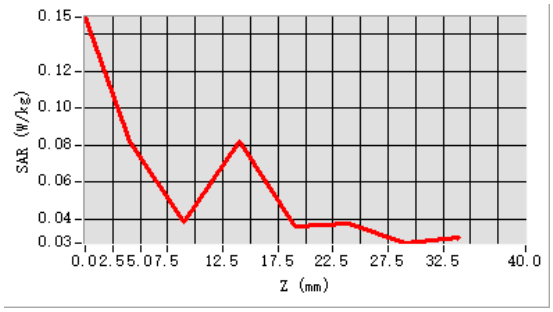
Maximum location: X=-15.00, Y=-17.00 ; SAR Peak: 1.01 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 5:**

| | |
|---|---|
| Test Date | 2023-09-27 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Right Side |
| Band | Band 5 (850) |
| Signal | WCDMA |
| Frequency | 836.4 |
| Relative permittivity | 41.68 |
| Conductivity (S/m) | 0.88 |
| ConvF | 1.72 |
| SAR 10g (W/Kg) | 0.045 |
| SAR 1g (W/Kg) | 0.084 |

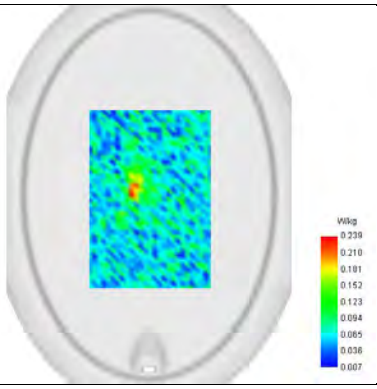
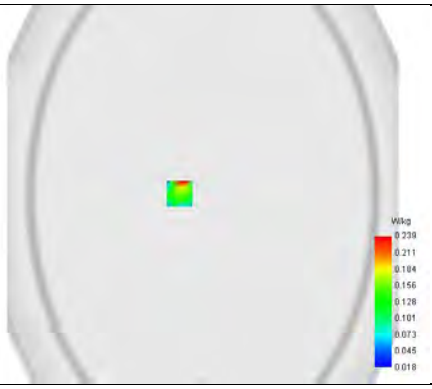
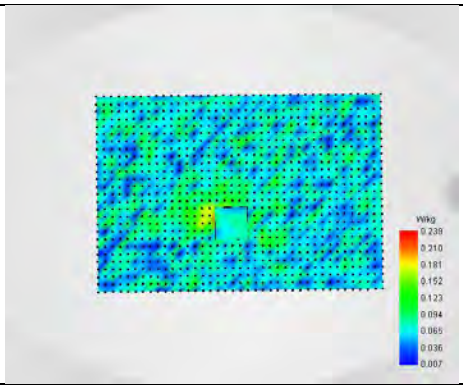
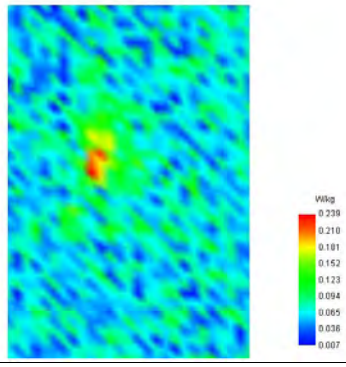
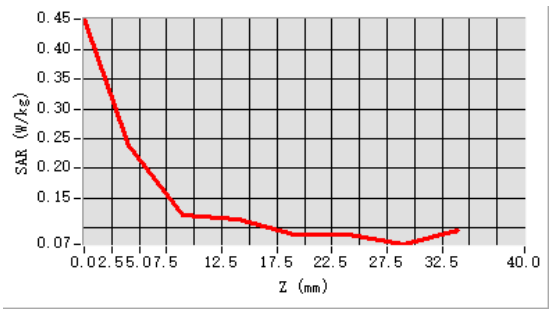
Maximum location: X=50.00, Y=41.00 ; SAR Peak: 0.23 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 6:**

| | |
|---|---|
| Test Date | 2023-09-28 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | LTE band 2 |
| Signal | LTE FDD |
| Frequency | 1900 |
| Relative permittivity | 40.71 |
| Conductivity (S/m) | 1.45 |
| ConvF | 2.25 |
| SAR 10g (W/Kg) | 0.115 |
| SAR 1g (W/Kg) | 0.228 |

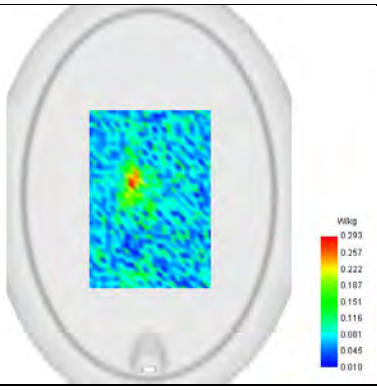
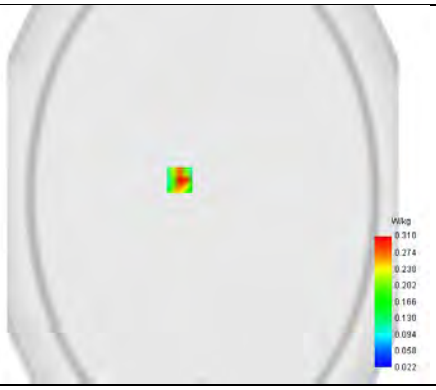
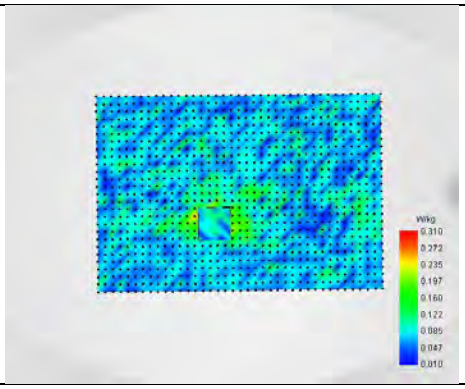
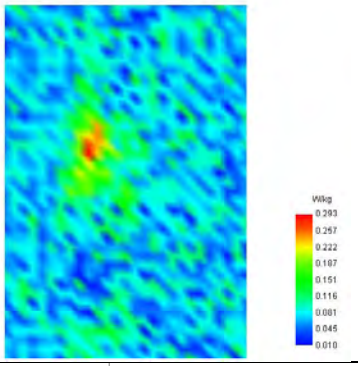
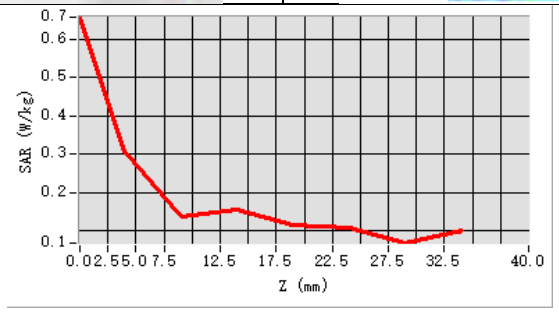
Maximum location: X=-29.00, Y=1.00 ; SAR Peak: 0.52 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 7:**

| | |
|---|---|
| Test Date | 2023-09-22 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | LTE band 4 |
| Signal | LTE FDD |
| Frequency | 1732.5 |
| Relative permittivity | 40.51 |
| Conductivity (S/m) | 1.41 |
| ConvF | 1.95 |
| SAR 10g (W/Kg) | 0.170 |
| SAR 1g (W/Kg) | 0.327 |

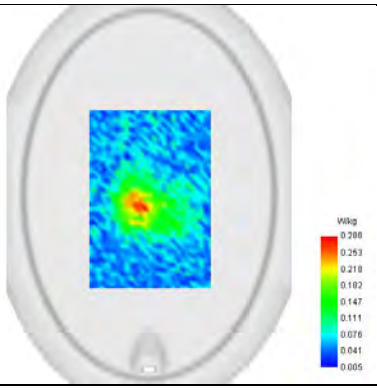
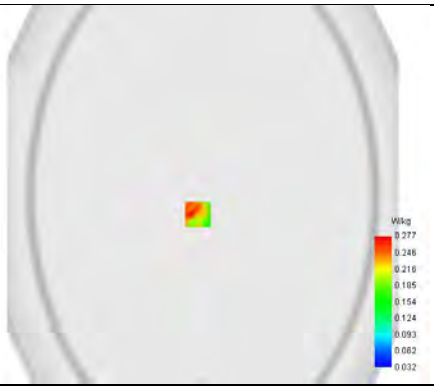
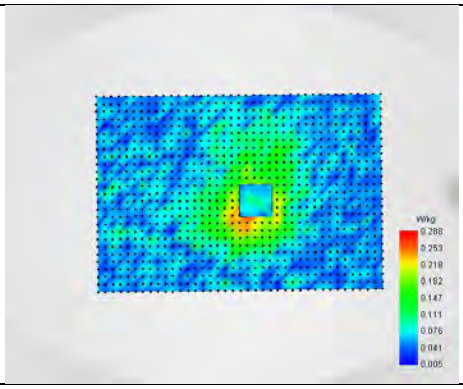
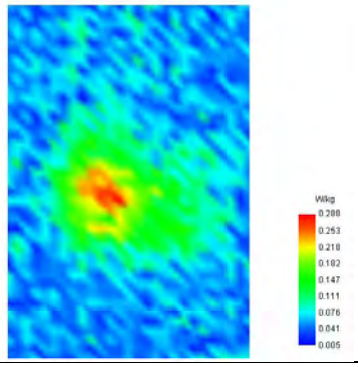
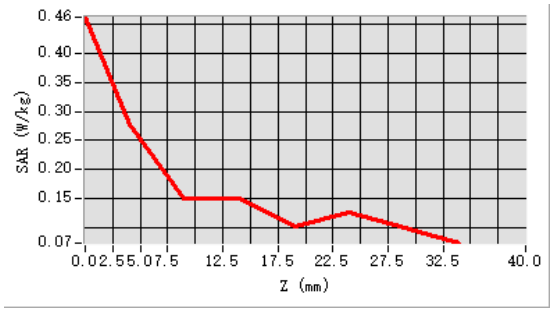
Maximum location: X=-29.00, Y=18.00 ; SAR Peak: 0.65 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 8:**

| | |
|---|---|
| Test Date | 2023-09-26 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | LTE band 5 |
| Signal | LTE FDD |
| Frequency | 836.5 |
| Relative permittivity | 41.68 |
| Conductivity (S/m) | 0.88 |
| ConvF | 1.72 |
| SAR 10g (W/Kg) | 0.153 |
| SAR 1g (W/Kg) | 0.271 |

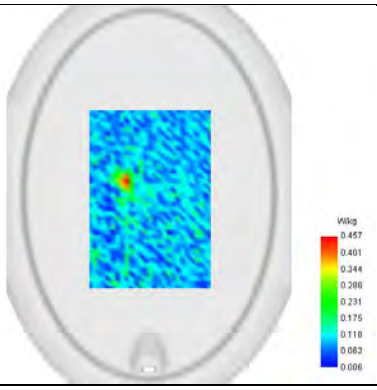
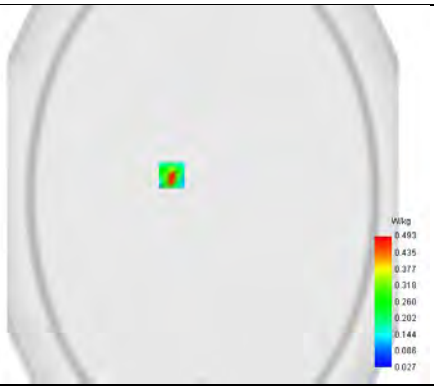
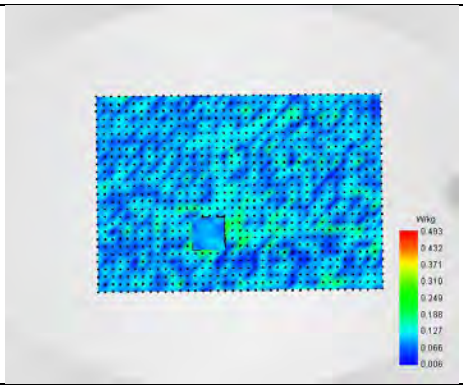
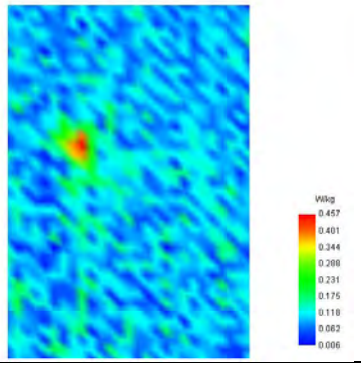
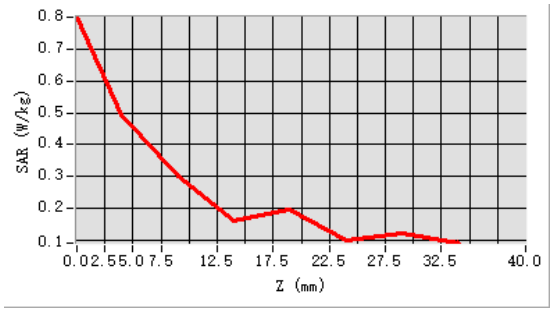
Maximum location: X=-6.00, Y=-24.00 ; SAR Peak: 0.47 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 9:**

| | |
|---|---|
| Test Date | 2023-09-26 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | LTE band 7 |
| Signal | LTE FDD |
| Frequency | 2560 |
| Relative permittivity | 39.55 |
| Conductivity (S/m) | 1.91 |
| ConvF | 2.36 |
| SAR 10g (W/Kg) | 0.230 |
| SAR 1g (W/Kg) | 0.451 |

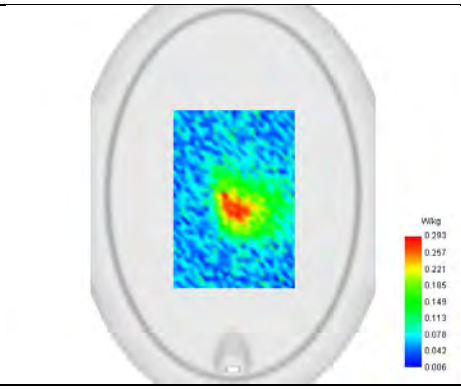
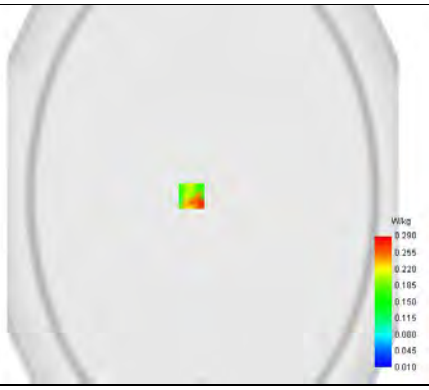
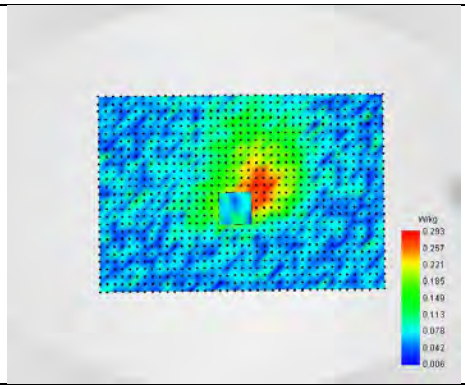
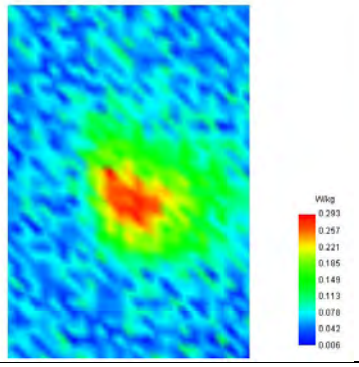
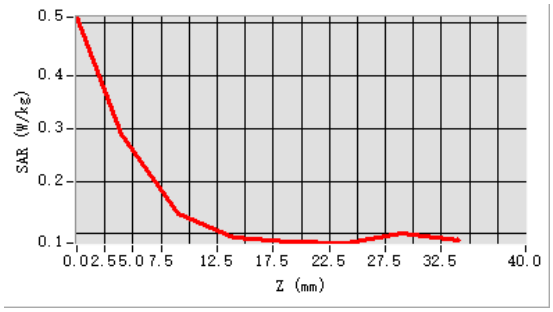
Maximum location: X=-39.00, Y=24.00 ; SAR Peak: 0.79 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 10:**

| | |
|---|---|
| Test Date | 2023-09-22 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | LTE band 12 |
| Signal | LTE FDD |
| Frequency | 704 |
| Relative permittivity | 42.65 |
| Conductivity (S/m) | 0.85 |
| ConvF | 1.69 |
| SAR 10g (W/Kg) | 0.133 |
| SAR 1g (W/Kg) | 0.295 |

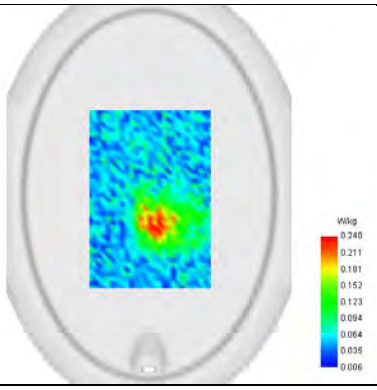
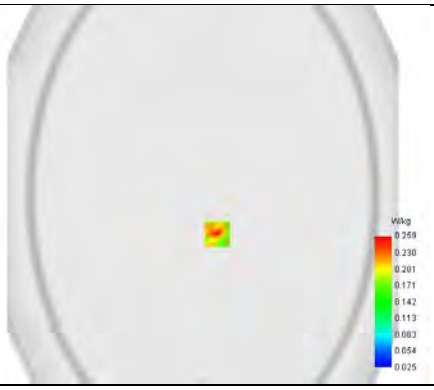
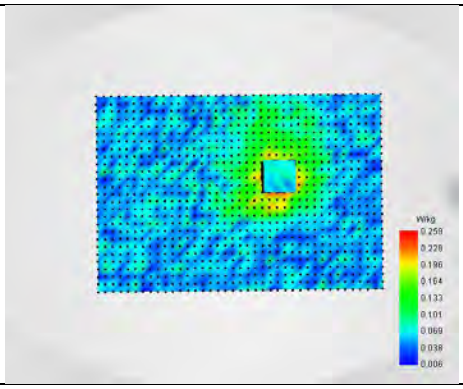
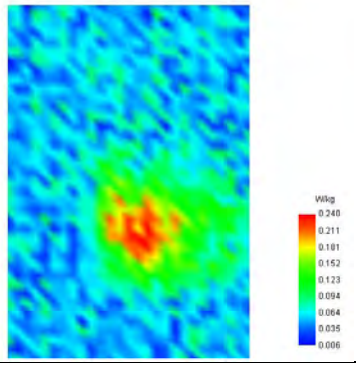
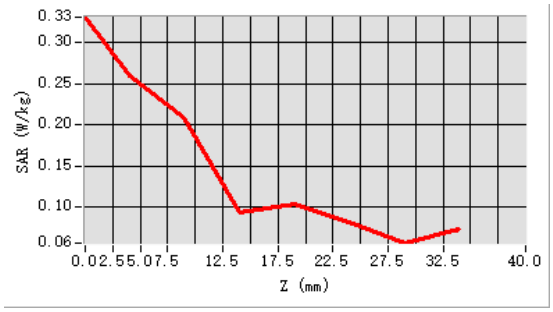
Maximum location: X=-14.00, Y=-1.00 ; SAR Peak: 0.53 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 11:**

| | |
|---|---|
| Test Date | 2023-09-22 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | LTE band 13 |
| Signal | LTE FDD |
| Frequency | 782 |
| Relative permittivity | 42.65 |
| Conductivity (S/m) | 0.85 |
| ConvF | 1.69 |
| SAR 10g (W/Kg) | 0.150 |
| SAR 1g (W/Kg) | 0.260 |

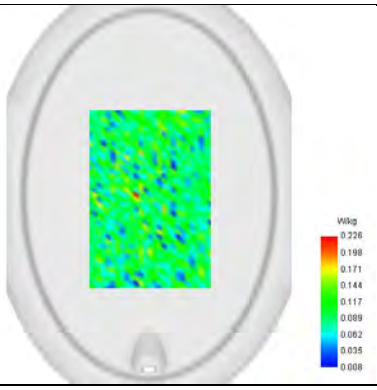
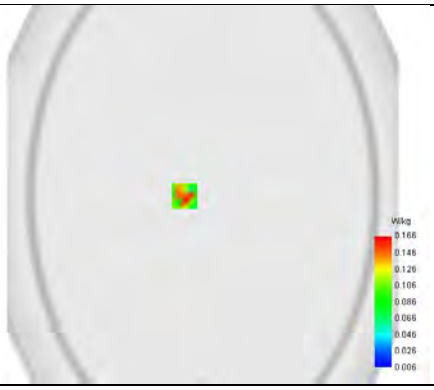
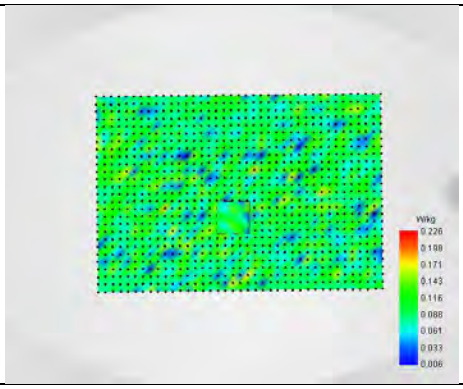
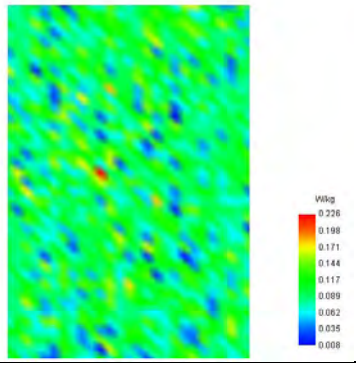
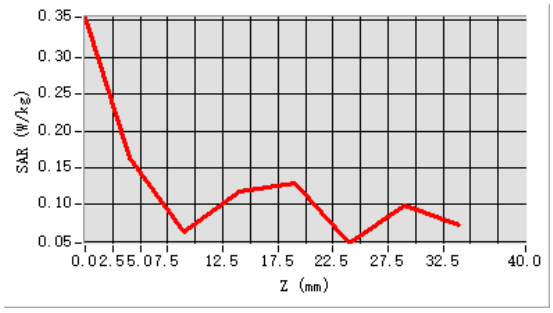
Maximum location: X=18.00, Y=-48.00 ; SAR Peak: 0.47 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 12:**

| | |
|---|---|
| Test Date | 2023-09-26 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Top Side |
| Band | LTE band 41 |
| Signal | LTE TDD |
| Frequency | 2605 |
| Relative permittivity | 39.55 |
| Conductivity (S/m) | 1.91 |
| ConvF | 2.36 |
| SAR 10g (W/Kg) | 0.093 |
| SAR 1g (W/Kg) | 0.178 |

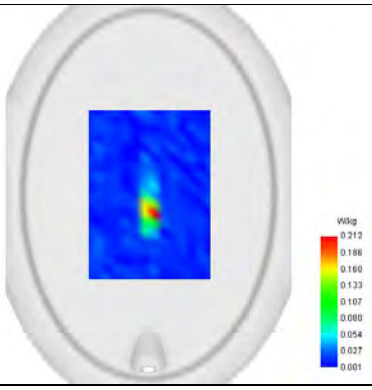
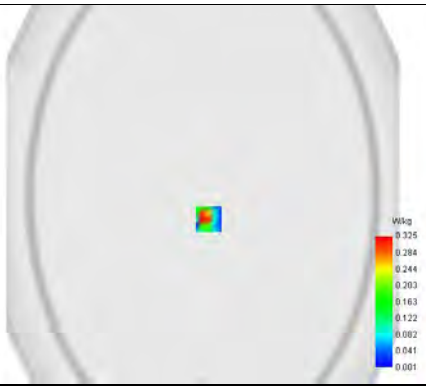
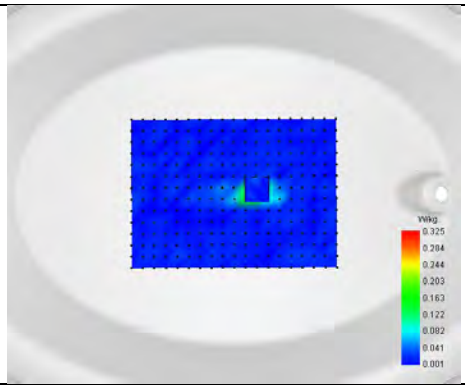
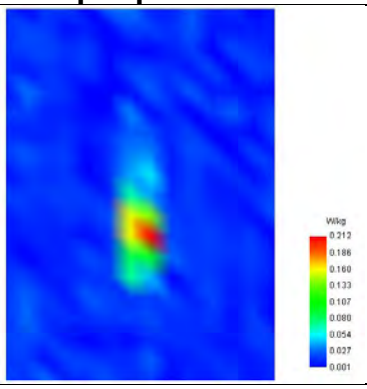
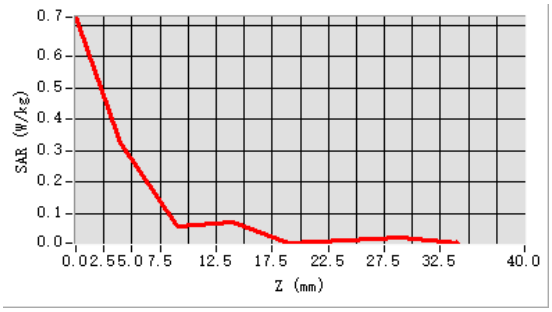
Maximum location: X=-23.00, Y=-1.00 ; SAR Peak: 0.46 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 13:**

| | |
|---|---|
| Test Date | 2023-09-22 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | LTE band 66 |
| Signal | LTE FDD |
| Frequency | 1770 |
| Relative permittivity | 40.51 |
| Conductivity (S/m) | 1.41 |
| ConvF | 1.95 |
| SAR 10g (W/Kg) | 0.126 |
| SAR 1g (W/Kg) | 0.327 |

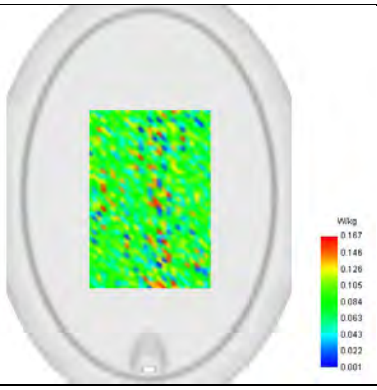
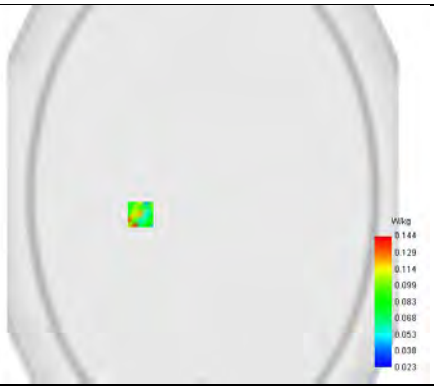
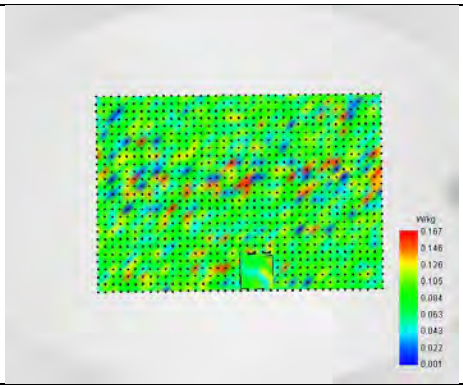
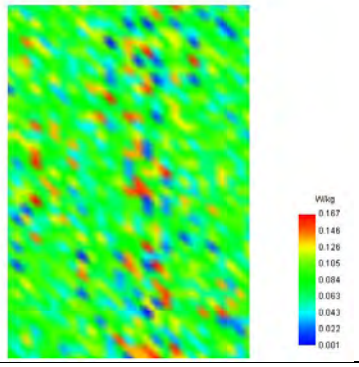
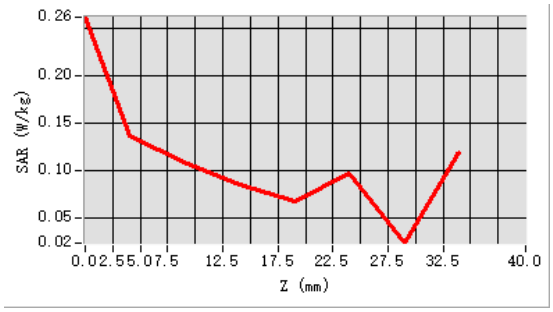
Maximum location: X=7.00, Y=-31.00 ; SAR Peak: 0.66 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 14:**

| | |
|---|---|
| Test Date | 2023-09-28 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | ISM |
| Signal | IEEE 802.11 b |
| Frequency | 2437 |
| Relative permittivity | 39.96 |
| Conductivity (S/m) | 1.82 |
| ConvF | 2.33 |
| SAR 10g (W/Kg) | 0.078 |
| SAR 1g (W/Kg) | 0.141 |

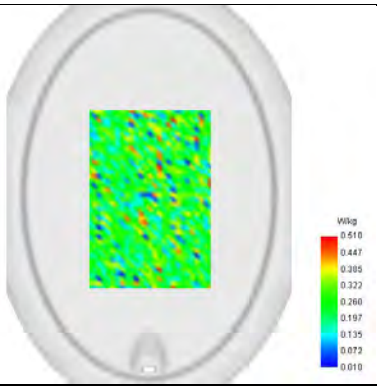
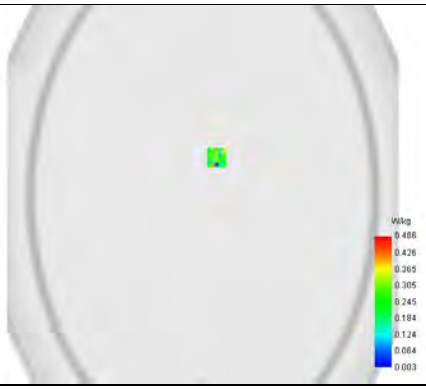
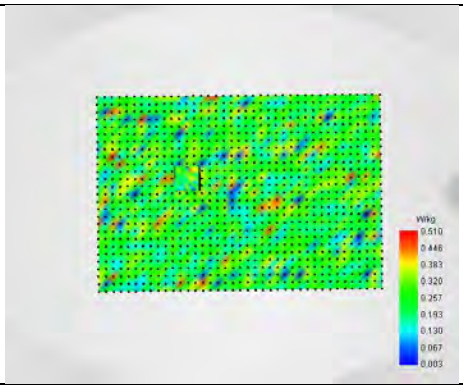
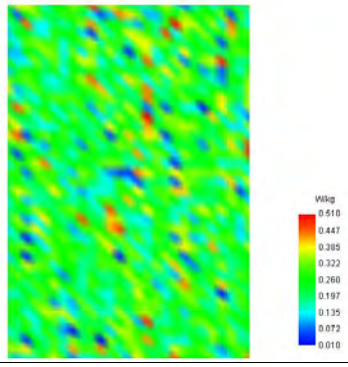
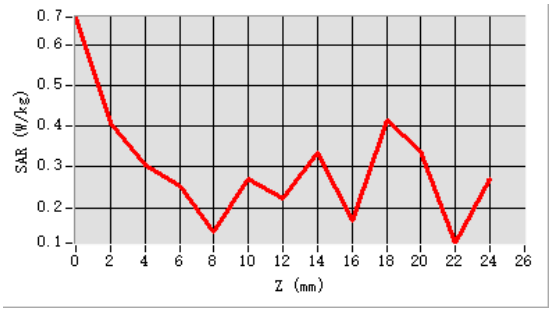
Maximum location: X=-78.00, Y=-24.00 ; SAR Peak: 0.35 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 15:**

| | |
|---|---|
| Test Date | 2023-09-23 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 7x7x12,dx=4mm dy=4mm dz=2mm |
| Phantom | ELLI |
| Device Position | Back Side |
| Band | U-NII-1 |
| Signal | IEEE 802.11 ac |
| Frequency | 5190 |
| Relative permittivity | 36.52 |
| Conductivity (S/m) | 4.70 |
| ConvF | 1.95 |
| SAR 10g (W/Kg) | 0.201 |
| SAR 1g (W/Kg) | 0.317 |

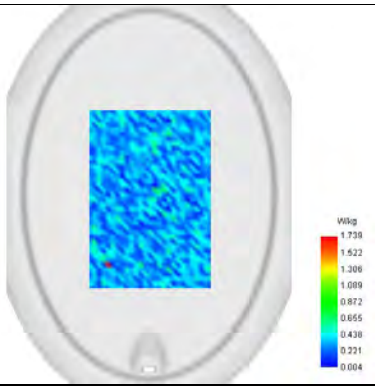
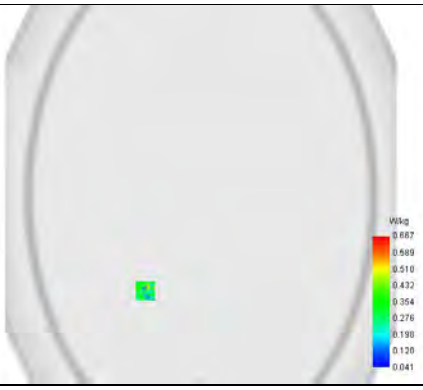
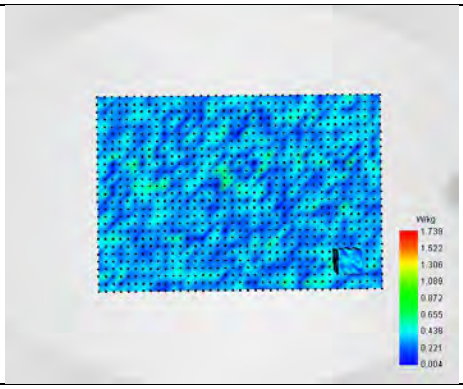
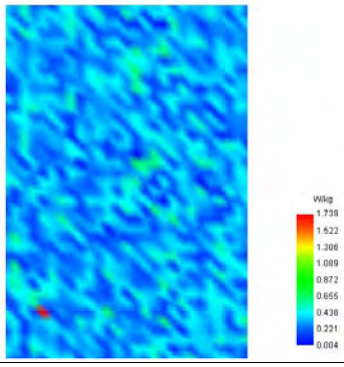
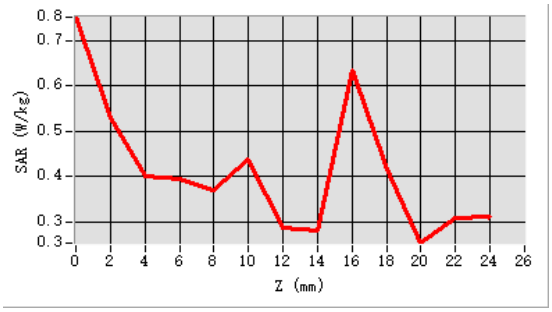
Maximum location: X=17.00, Y=46.00 ; SAR Peak: 1.56 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

**Plot 16:**

| | |
|---|---|
| Test Date | 2023-09-26 |
| Area Scan | dx=8mm dy=8mm |
| Zoom Scan | 7x7x12,dx=4mm dy=4mm dz=2mm |
| Phantom | ELLI |
| Device Position | Left Side |
| Band | U-NII-1 |
| Signal | IEEE 802.11 ac |
| Frequency | 5755 |
| Relative permittivity | 36.14 |
| Conductivity (S/m) | 5.24 |
| ConvF | 1.73 |
| SAR 10g (W/Kg) | 0.240 |
| SAR 1g (W/Kg) | 0.373 |

Maximum location: X=21.00, Y=77.00 ; SAR Peak: 0.41 W/kg

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D screen shot** | **Hot spot position** |
|  |  |
|  | |

## Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※