# SAR Test Report

Report No.:LCSA04094069E

Issued for

WHOOP INTERNATIONAL TRADING LIMITED

Flat-B 8/F Chong Gming Building 72 Cheung Sha Wan Road, Kowloon, Hong Kong

| | |
|---|---|
| Product Name: | 4G SMARTPHONE |
| Brand Name: | ROVER |
| Model Name: | CHIPPY |
| Series Model(s): | N/A |
| FCC ID: | 2AP7LCHIPPY |
| Test Standards: | ANSI/IEEE Std. C95.1-1992<br>FCC 47 CFR Part 2 ( 2.1093)<br>IEC/IEEE 62209-1528 |
| Max. SAR (1g) | Head: 0.302 W/kg<br>Body: 0.665 W/kg |

# TEST REPORT

| | |
|---|---|
| **Applicant's name** ..... : | WHOOP INTERNATIONAL TRADING LIMITED |
| Address ..... : | Flat-B 8/F Chong Gming Building 72 Cheung Sha Wan Road, Kowloon, Hong Kong |
| **Manufacture's Name** ..... : | Shenzhen Teleone Technology Co.,Ltd |
| Address ..... : | Tower B 5/F, Shanshui Building, Nanshan Yungu Innovation Industry Park, 4093 Liuxian Avenue, Shenzhen, China |

**Product description**

| | |
|---|---|
| Product Name..... : | 4G SMARTPHONE |
| Brand Name..... : | ROVER |
| Model Name ..... : . | CHIPPY |
| Series Model(s)..... : | N/A |
| **Standards** ..... : | ANSI/IEEE Std. C95.1-1992<br>FCC 47 CFR Part 2 ( 2.1093)<br>IEC/IEEE 62209-1528 |



**Date of Test**

| | |
|---|---|
| Date (s) of performance of tests ..... : | 29 Mar. 2024 ~ 09 Apr. 2024 |
| Date of Issue ..... : | 12 Apr. 2024 |
| Test Result..... : | **Pass** |

| **Compiled by:** | **Supervised by:** | **Approved by:** |
|---|---|---|
| Jay Zhan/ File administrators | Cary Luo / Technique principal | Gavin Liang / Manager |

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## Revision History

| Rev. | Issue Date | Report No. | Effect Page | Contents |
|---|---|---|---|---|
| 00 | 12 Apr. 2024 | LCSA04094069E | ALL | Initial Issue |
| | | | | |

# 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 | 4G SMARTPHONE |
| Brand Name | ROVER |
| Model Name | CHIPPY |
| Series Model(s) | N/A |
| Model Difference | N/A |
| Battery | Rated Voltage: DC3.8V<br>Charge Limit Voltage: 4.35V<br>Capacity: 3750 |
| Device Category | Portable |
| Product stage | Production unit |
| RF Exposure Environment | General Population / Uncontrolled |
| Hardware Version | J518A_63_32EMB_D3EFV1.0 |
| Software Version | RROVER_CHIPPY_14_V01_20240316 |
| Frequency Range | GSM 850: 824 MHz ~ 849 MHz<br>PCS1900: 1850 MHz ~ 1910 MHz<br>WCDMA Band II: 1850 MHz ~ 1910 MHz<br>WCDMA Band IV:1710 MHz ~ 1755 MHz<br>WCDMA Band V: 824 MHz ~ 849 MHz<br>LTE Band 2:1850~1910MHz<br>LTE Band 4:1710~1755MHz<br>LTE Band 5:824~849MHz<br>LTE Band 12:699~716MHz<br>LTE Band 13:777~787MHz<br>LTE Band 25:1850~1915MHz<br>LTE Band 26 Part 22: 824-849 MHz<br>LTE Band 26 Part 90: 814~849MHz<br>LTE Band 41: 2496-2690 MHz<br>LTE Band 66:1710~1780MHz<br>LTE Band 71: 663-698MHz<br>WLAN802.11b/g/n20: 2412 MHz ~ 2462 MHz<br>Bluetooth: 2402 – 2480 MHz |

| | Band | Mode | Head (W/kg) | Body Worn and Hotspot (W/kg) |
|---|---|---|---|---|
| Max. Reported SAR(1g): (Limit:1.6W/kg) | PCE | GSM 850 | 0.286 | 0.273 |
| | PCE | GSM 1900 | 0.080 | 0.354 |
| | PCE | WCDMA Band II | 0.302 | 0.652 |
| | PCE | WCDMA Band V | 0.136 | 0.510 |
| | PCE | WCDMA Band IV | 0.225 | 0.206 |
| | PCE | LTE Band 2 | 0.143 | 0.665 |
| | PCE | LTE Band 4 | 0.227 | 0.422 |
| | PCE | LTE Band 5 | 0.248 | 0.256 |
| | PCE | LTE Band 12 | 0.215 | 0.312 |
| | PCE | LTE Band 13 | 0.134 | 0.176 |
| | PCE | LTE Band 25 | 0.126 | 0.139 |
| | PCE | LTE Band 26 | 0.218 | 0.249 |
| | PCE | LTE Band 41 | 0.107 | 0.143 |
| | PCE | LTE Band 66 | 0.200 | 0.464 |
| | PCE | LTE Band 71 | 0.243 | 0.458 |
| | DTS | 2.4G WLAN | 0.228 | 0.083 |
| | DTS | BT | 0.171 | 0.052 |
| 1-g Sum SAR | | | 0.748 | |
| FCC Equipment Class | Licensed Portable Transmitter Held to Ear (PCE)<br>Digital Transmission System (DTS) | | | |
| Operating Mode | GSM: GSM Voice; GPRS/EGPRS Class 12<br>WCDMA: RMC, HSDPA, HSUPA Release 6<br>LTE: QPSK, 16QAM<br>WLAN: 802.11 a/b/g/n20<br>Bluetooth: GFSK; π/4-QPSK; 8DPSK;<br>BLE: GFSK<br>GPS: BPSK | | | |
| Antenna Specification | GSM/WCDMA/LTE: PIFA Antenna<br>WLAN/BT: PIFA Antenna | | | |
| DTM Mode | Not Support | | | |
| Hotspot Mode | Support | | | |
| Sample Number | A240409080 | | | |

Note:
1. The dual SIM card mobile has 2 SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (Single active)
2. After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 card to perform all tests.
3. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power

## 1.2 Test Environment

Ambient conditions in the SAR laboratory:

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

## 1.3 Test Factory

Shenzhen LCS Compliance Testing Laboratory Ltd..

101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China FCC test Firm Registration No.: 625569

IC Registration No.: 12108A

A2LA Certificate No.: 4338.01

# 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 | IEC/IEEE 62209-1528 | Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices -<br>Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz) |
| 4 | FCC KDB 447498 D01 v06 | Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies |
| 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 648474 D04 v01r03 | SAR Evaluation Considerations for Wireless Handsets |
| 8 | FCC KDB 248227 D01 Wi-Fi SAR v02r02 | SAR Considerations for 802.11 Devices |

(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 SAR Measurement Set-up

The OPENSAR system for performing compliance tests consist of the following items:

A standard high precision 6-axis robot (KUKA) with controller and software.

KUKA Control Panel (KCP)

A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with a Video Positioning System(VPS).

The stress sensor is composed with mechanical and electronic when the electronic part detects a change on the electro-mechanical switch,It sends an “Emergency signal” to the robot controller that to stop robot’s moves

A computer operating Windows XP.

OPENSAR software

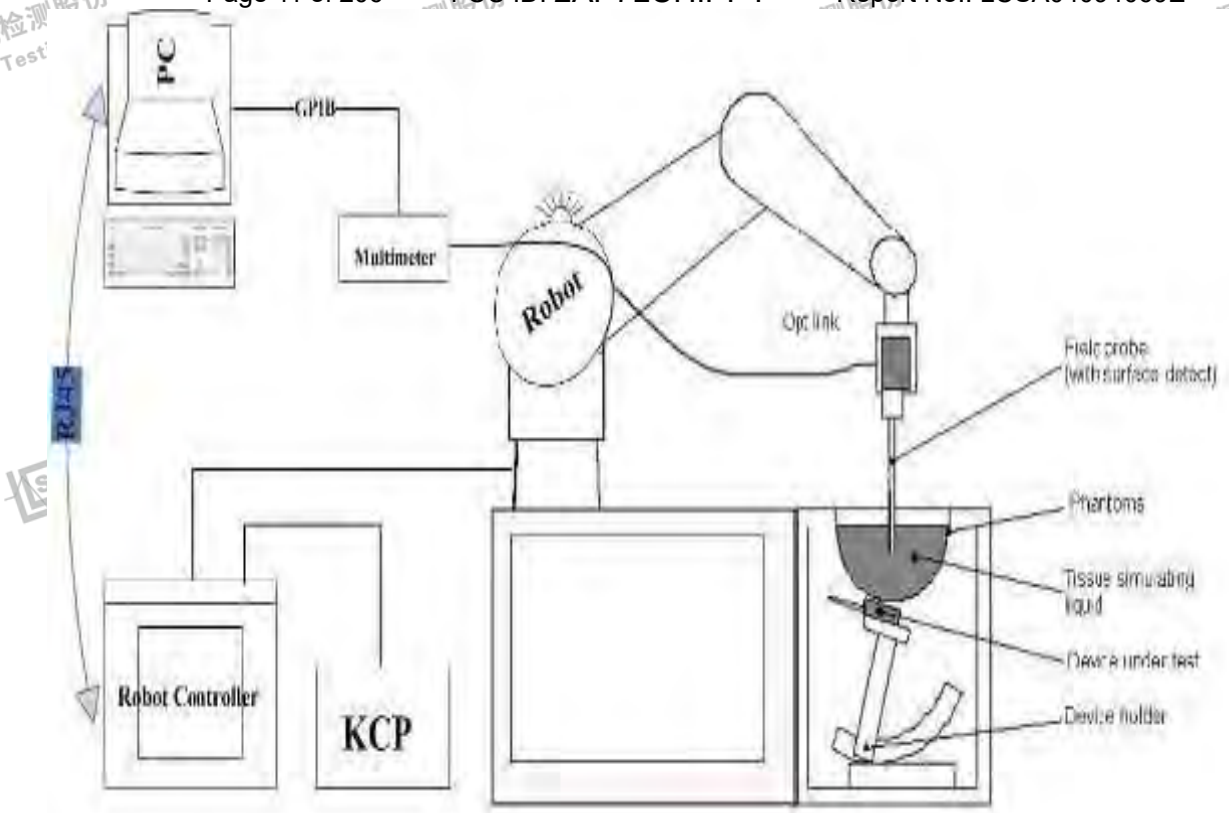
Remote control with teaches pendant and additional circuitry for robot safety such as warning lamps, etc.

The SAM phantom enabling testing left-hand right-hand and body usage.

The Position device for handheld EUT

Tissue simulating liquid mixed according to the given recipes .

System validation dipoles to validate the proper functioning of the system.




## 3.2OPENSAR E-field Probe System

The SAR measurements were conducted with the dosimetric probe EPGO376(manufactured by SATIMO), designed in the classical triangular configuration and optimized for dosimetric evaluation.

Probe Specification

ConstructionSymmetrical design with triangular core
Interleaved sensors
Built-in shielding against static charges
PEEK enclosure material (resistant to organic solvents, e.g., DGBE)

CalibrationISO/IEC 17025 calibration service available.

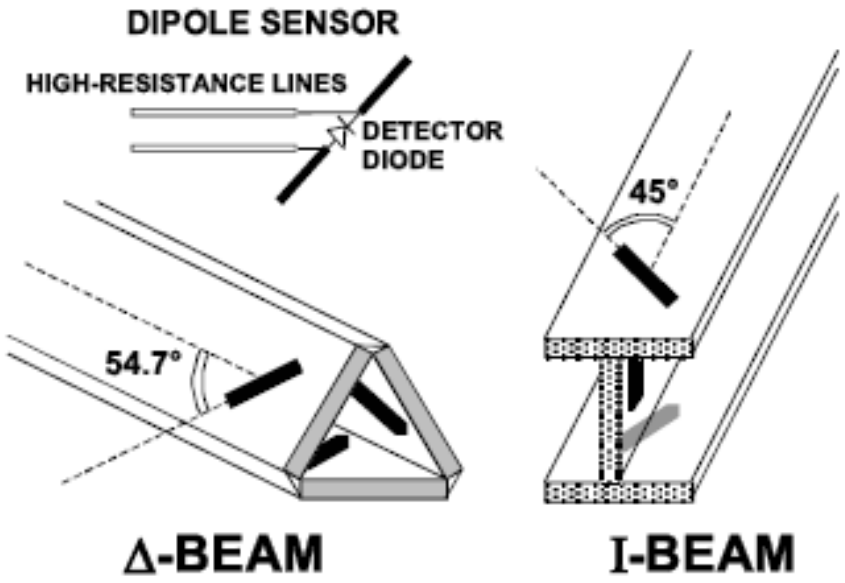
| | |
|---|---|
| **Frequency** | 450 MHz to 6 GHz;<br>Linearity:0.25dB(450 MHz to 6GHz) |
| **Directivity** | 0.25 dB in HSL (rotation around probe axis)<br>0.5 dB in tissue material (rotation normal to probe axis) |
| **Dynamic Range** | 0.01W/kg to > 100 W/kg;<br>Linearity: 0.25 dB |
| **Dimensions** | Overall length: 330 mm (Tip: 16mm)<br>Tip diameter: 5 mm (Body: 8 mm)<br>Distance from probe tip to sensor centers: 2.5 mm |
| **Application** | General dosimetry up to 6 GHz |

Dosimetry in strong gradient fields
Compliance tests of Mobile Phones

Isotropic E-Field Probe

The isotropic E-Field probe has been fully calibrated and assessed for isotropicity, and boundary effect within a controlled environment. Depending on the frequency for which the probe is calibrated the method utilized for calibration will change.

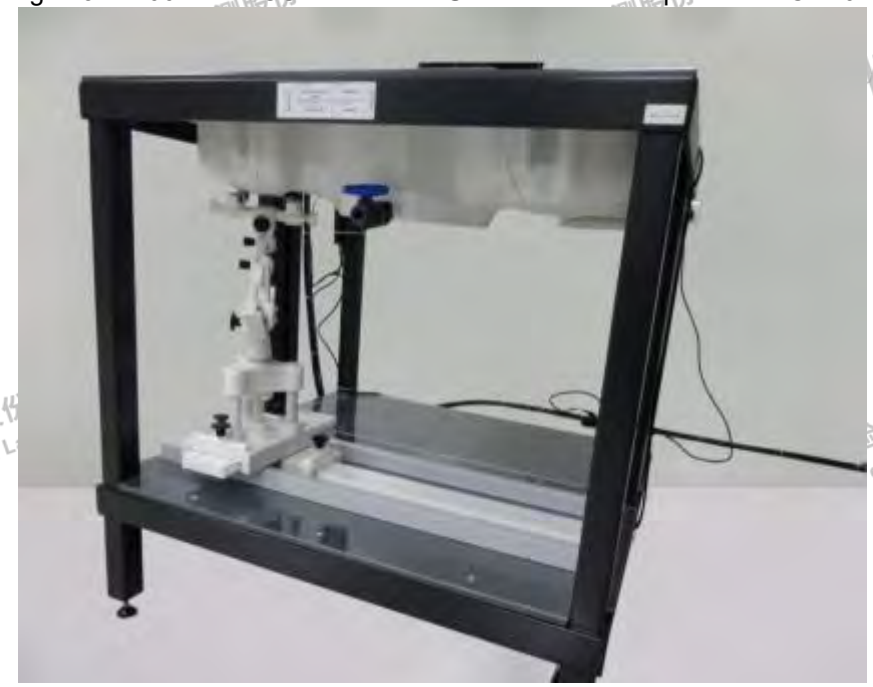
The E-Field probe utilizes a triangular sensor arrangement as detailed in the diagram below:




### 3.3Phantoms

The SAM Phantom SAM117 is constructed of a fiberglass shell ntegrated in a wooden table. The shape of the shell is in compliance with the specification set in IEEE P1528 and CENELEC EN62209-1 , EN62209-2:2010.The phantom enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid. Reference markings on the Phantom allow the complete setup of allpredefined phantom positions and measurement grids by manually teaching three points in the robo

System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.



SAM Twin Phantom

### 3.4Device Holder

In combination with the Generic Twin PhantomSAM117, the Mounting Device enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeatedly positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Device holder supplied by SATIMO

### 3.5Scanning Procedure

**The procedure for assessing the peak spatial-average SAR value consists of the following steps**

Power Reference Measurement
The reference and drift jobs are useful jobs for monitoring the power drift of the device under test in the batch process. Both jobs measure the field at a specified reference position, at a selectable distance from the phantom surface. The reference position can be either the selected section's grid reference point or a user point

in this section. The reference job projects the selected point onto the phantom surface, orients the probe perpendicularly to the surface, and approaches the surface using the selected detection method.

Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot.Before starting the area scan a grid spacing of 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains unchanged. After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

| | ≤ 3 GHz | > 3 GHz |
|---|---|---|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | 5 mm ± 1 mm | $½ \cdot \delta \cdot \ln(2)$ mm ± 0.5 mm |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location | 30° ± 1° | 20° ± 1° |
| Maximum area scan spatial resolution: $\Delta x_{Area}$, $\Delta y_{Area}$ | ≤ 2 GHz: ≤ 15 mm<br>2 – 3 GHz: ≤ 12 mm | 3 – 4 GHz: ≤ 12 mm<br>4 – 6 GHz: ≤ 10 mm |
| | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device. | |

Zoom Scan

Zoom Scans are used to estimate the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The default Zoom Scan is done by 7x7x7 points within a cube whose base is centered around the maxima found in the preceding area scan.

| | | | | |
|---|---|---|---|---|
| Maximum zoom scan spatial resolution: $\Delta x_{Zoom}$, $\Delta y_{Zoom}$ | | | ≤ 2 GHz: ≤ 8 mm<br>2 – 3 GHz: ≤ 5 mm* | 3 – 4 GHz: ≤ 5 mm*<br>4 – 6 GHz: ≤ 4 mm* |
| Maximum zoom scan spatial resolution, normal to phantom surface | uniform grid: $\Delta z_{Zoom}(n)$ | | ≤ 5 mm | 3 – 4 GHz: ≤ 4 mm<br>4 – 5 GHz: ≤ 3 mm<br>5 – 6 GHz: ≤ 2 mm |
| | graded grid | $\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface | ≤ 4 mm | 3 – 4 GHz: ≤ 3 mm<br>4 – 5 GHz: ≤ 2.5 mm<br>5 – 6 GHz: ≤ 2 mm |
| | | $\Delta z_{Zoom}(n>1)$: between subsequent points | ≤ 1.5 · $\Delta z_{Zoom}(n-1)$ mm | |
| Minimum zoom scan volume | x, y, z | | ≥ 30 mm | 3 – 4 GHz: ≥ 28 mm<br>4 – 5 GHz: ≥ 25 mm<br>5 – 6 GHz: ≥ 22 mm |

Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

Power Drift measurement

The drift job measures the field at the same location as the most recent reference job within the same procedure, and with the same settings. The drift measurement gives the field difference in dB from the reading conducted within the last reference measurement. Several drift measurements are possible for one reference measurement. This allows a user to monitor the power drift of the device under test within a batch process. In the properties of the Drift job, the user can specify a limit for the drift and have OPENSAR software stop the measurements if this limit is exceeded.

## 3.6Data Storage and Evaluation

**Data Storage**

The OPENSAR software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files . The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

**Data Evaluation**

The OPENSAR software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

| | | |
|---|---|---|
| Probe parameters: | - Sensitivity | Normi, ai0, ai1, ai2 |
| | - Conversion factor | ConvFi |
| | - Diode compression point | Dcpi |
| Device parameters: | - Frequency | f |
| | - Crest factor | cf |
| Media parameters: | - Conductivity | σ |
| | - Density | ρ |

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the OPENSAR components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

With Vi = compensated signal of channel i ( i = x, y, z )
Ui = input signal of channel i ( i = x, y, z )
cf = crest factor of exciting field
dcpi = diode compression point

From the compensated input signals the primary field data for each channel can be evaluated:

$$\text{E} - \text{fieldprobes}: \quad E_i = \sqrt{\frac{V_i}{Norm_i \cdot ConvF}}$$

$$\text{H} - \text{fieldprobes}: \quad H_i = \sqrt{V_i} \cdot \frac{a_{i0} + a_{i1} f + a_{i2} f^2}{f}$$

With Vi = compensated signal of channel i (i = x, y, z)
Normi = sensor sensitivity of channel i (i = x, y, z)
[mV/(V/m)2] for E-field Probes
ConvF = sensitivity enhancement in solution
aij = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
Ei = electric field strength of channel i in V/m
Hi = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The primary field data are used to calculate the derived field units.

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1'000}$$

with SAR = local specific absorption rate in mW/g
Etot = total field strength in V/m
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm3

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid.

# 4. Tissue Simulating Liquids

## 4.1 Simulating Liquids Parameter Check

The liquid is consisted of water,salt,Glycol,Sugar,Preventol and Cellulose.The liquid has previously been proven to be suited for worst-case.It's satisfying the latest tissue dielectric parameters requirements proposed by the KDB865664.

The composition of the tissue simulating liquid

| Ingredient | 750MHz | | 835MHz | | 1800 MHz | | 1900 MHz | | 2450MHz | | 2600MHz | | 5000MHz | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (% Weight) | Head | Body | Head | Body | Head | Body | Head | Body | Head | Body | Head | Body | Head | Body |
| Water | 39.28 | 51.3 | 41.45 | 52.5 | 54.5 | 40.2 | 54.9 | 40.4 | 62.7 | 73.2 | 60.3 | 71.4 | 65.5 | 78.6 |
| Preventol | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| HEC | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| DGBE | 0.00 | 0.00 | 0.00 | 0.00 | 45.33 | 59.31 | 44.92 | 59.10 | 36.80 | 26.70 | 39.10 | 28.40 | 0.00 | 0.00 |
| Triton X-100 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17.2 | 10.7 |

| Target Frequency (MHz) | Head | |
|---|---|---|
| | $\varepsilon_r$ | $\sigma(S/m)$ |
| 450 | 43.5 | 0.87 |
| 750 | 41.9 | 0.89 |
| 835 | 41.5 | 0.90 |
| 900 | 41.5 | 0.97 |
| 1450 | 40.5 | 1.20 |
| 1640 | 40.2 | 1.31 |
| 1800 | 40.0 | 1.40 |
| 1900 | 40.0 | 1.40 |
| 2000 | 40.0 | 1.40 |
| 2450 | 39.2 | 1.80 |
| 2600 | 39.0 | 1.96 |
| 3000 | 38.5 | 2.40 |
| 5200 | 36.0 | 4.66 |
| 5800 | 35.3 | 5.27 |

**LIQUID MEASUREMENT RESULTS**

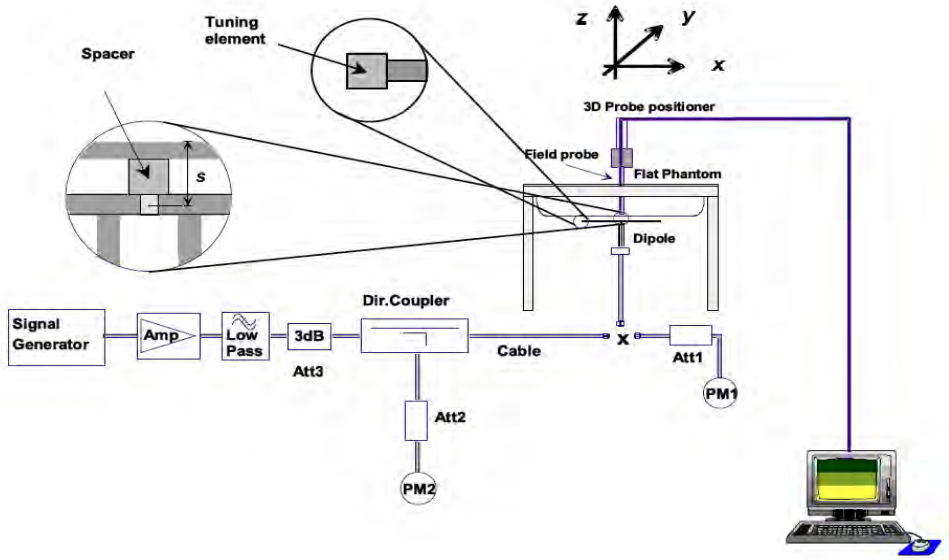
| Date | Ambient | | Simulating Liquid | | Parameters | Target | Measured | Deviation % | Limited % |
|---|---|---|---|---|---|---|---|---|---|
| | Temp. [°C] | Humidity % | Frequency (MHz) | Temp. [°C] | | | | | |
| 2024-04-01 | 22.7 | 50 | 683 | 22.4 | Permittivity | 42.26 | 42.39 | 0.31 | ±5 |
| | | | | | Conductivity | 0.89 | 0.92 | 3.89 | ±5 |
| 2024-04-01 | 22.8 | 50 | 688 | 22.5 | Permittivity | 42.23 | 42.80 | 1.35 | ±5 |
| | | | | | Conductivity | 0.89 | 0.92 | 3.85 | ±5 |
| 2024-04-01 | 22.9 | 51 | 704 | 22.6 | Permittivity | 42.15 | 42.36 | 0.51 | ±5 |
| | | | | | Conductivity | 0.89 | 0.91 | 2.60 | ±5 |
| 2024-04-01 | 22.9 | 51 | 707.5 | 22.6 | Permittivity | 42.13 | 43.19 | 2.52 | ±5 |
| | | | | | Conductivity | 0.89 | 0.86 | -3.06 | ±5 |
| 2024-04-01 | 23.0 | 51 | 750 | 22.7 | Permittivity | 41.90 | 42.48 | 1.38 | ±5 |
| | | | | | Conductivity | 0.89 | 0.85 | -4.49 | ±5 |
| 2024-04-02 | 22.1 | 54 | 782 | 21.8 | Permittivity | 41.75 | 41.69 | -0.14 | ±5 |
| | | | | | Conductivity | 0.89 | 0.91 | 1.82 | ±5 |
| 2024-04-02 | 22.9 | 51 | 821.5 | 22.6 | Permittivity | 41.56 | 41.35 | -0.51 | ±5 |
| | | | | | Conductivity | 0.90 | 0.93 | 3.52 | ±5 |
| 2024-04-02 | 23.0 | 51 | 824.2 | 22.7 | Permittivity | 41.55 | 41.56 | 0.02 | ±5 |
| | | | | | Conductivity | 0.90 | 0.91 | 1.25 | ±5 |
| 2024-04-02 | 23.0 | 51 | 831.5 | 22.8 | Permittivity | 41.52 | 41.06 | -1.10 | ±5 |
| | | | | | Conductivity | 0.90 | 0.88 | -2.18 | ±5 |
| 2024-04-02 | 22.1 | 54 | 835 | 21.8 | Permittivity | 41.50 | 40.87 | -1.52 | ±5 |
| | | | | | Conductivity | 0.90 | 0.91 | 1.11 | ±5 |
| 2024-04-02 | 23.1 | 51 | 836.5 | 22.8 | Permittivity | 41.49 | 41.36 | -0.32 | ±5 |
| | | | | | Conductivity | 0.90 | 0.93 | 3.31 | ±5 |
| 2024-04-02 | 23.2 | 52 | 844 | 22.9 | Permittivity | 41.46 | 41.30 | -0.38 | ±5 |
| | | | | | Conductivity | 0.90 | 0.88 | -2.34 | ±5 |
| 2024-04-02 | 22.1 | 55 | 846.6 | 21.8 | Permittivity | 41.45 | 40.92 | -1.27 | ±5 |
| | | | | | Conductivity | 0.90 | 0.87 | -3.48 | ±5 |
| 2024-04-02 | 22.1 | 55 | 848.8 | 21.8 | Permittivity | 41.44 | 40.72 | -1.73 | ±5 |
| | | | | | Conductivity | 0.90 | 0.86 | -4.62 | ±5 |
| 2024-04-03 | 23.9 | 50 | 1712.6 | 23.6 | Permittivity | 40.12 | 41.36 | 3.08 | ±5 |
| | | | | | Conductivity | 1.35 | 1.37 | 1.48 | ±5 |
| 2024-04-03 | 23.2 | 52 | 1732.5 | 22.9 | Permittivity | 40.10 | 40.95 | 2.13 | ±5 |
| | | | | | Conductivity | 1.36 | 1.38 | 1.36 | ±5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2024-04-03 | 23.2 | 52 | 1745 | 22.9 | Permittivity | 40.08 | 40.23 | 0.38 | ±5 |
| | | | | | Conductivity | 1.37 | 1.34 | -2.09 | ±5 |
| 2024-04-03 | 23.3 | 52 | 1770 | 22.9 | Permittivity | 40.04 | 40.30 | 0.64 | ±5 |
| | | | | | Conductivity | 1.38 | 1.43 | 3.41 | ±5 |
| 2024-04-03 | 23.9 | 50 | 1800 | 23.5 | Permittivity | 40.00 | 40.82 | 2.05 | ±5 |
| | | | | | Conductivity | 1.40 | 1.44 | 2.86 | ±5 |
| 2024-04-06 | 22.8 | 47 | 1850.2 | 22.5 | Permittivity | 40.00 | 40.62 | 1.55 | ±5 |
| | | | | | Conductivity | 1.40 | 1.43 | 2.14 | ±5 |
| 2024-04-06 | 23.3 | 53 | 1852.4 | 23.0 | Permittivity | 40.00 | 40.64 | 1.60 | ±5 |
| | | | | | Conductivity | 1.40 | 1.44 | 2.86 | ±5 |
| 2024-04-06 | 23.4 | 53 | 1860 | 23.2 | Permittivity | 40.00 | 40.17 | 0.43 | ±5 |
| | | | | | Conductivity | 1.40 | 1.42 | 1.43 | ±5 |
| 2024-04-06 | 23.4 | 53 | 1880 | 23.1 | Permittivity | 40.00 | 40.60 | 1.50 | ±5 |
| | | | | | Conductivity | 1.40 | 1.42 | 1.43 | ±5 |
| 2024-04-06 | 23.5 | 53 | 1882.5 | 23.2 | Permittivity | 40.00 | 40.98 | 2.45 | ±5 |
| | | | | | Conductivity | 1.40 | 1.37 | -2.14 | ±5 |
| 2024-04-06 | 22.9 | 47 | 1900 | 22.6 | Permittivity | 40.00 | 40.73 | 1.82 | ±5 |
| | | | | | Conductivity | 1.40 | 1.41 | 0.71 | ±5 |
| 2024-04-06 | 22.9 | 48 | 1907.6 | 22.6 | Permittivity | 40.00 | 40.93 | 2.33 | ±5 |
| | | | | | Conductivity | 1.40 | 1.39 | -0.71 | ±5 |
| 2024-04-07 | 21.8 | 45 | 2441 | 21.5 | Permittivity | 39.22 | 40.14 | 2.36 | ±5 |
| | | | | | Conductivity | 1.79 | 1.81 | 1.00 | ±5 |
| 2024-04-07 | 21.8 | 45 | 2450 | 21.4 | Permittivity | 39.20 | 40.13 | 2.37 | ±5 |
| | | | | | Conductivity | 1.80 | 1.83 | 1.67 | ±5 |
| 2024-04-07 | 21.9 | 45 | 2462 | 21.5 | Permittivity | 39.18 | 39.49 | 0.79 | ±5 |
| | | | | | Conductivity | 1.81 | 1.86 | 2.72 | ±5 |
| 2024-04-08 | 22.1 | 46 | 2506 | 21.8 | Permittivity | 39.13 | 39.25 | 0.32 | ±5 |
| | | | | | Conductivity | 1.86 | 1.89 | 1.63 | ±5 |
| 2024-04-08 | 22.1 | 46 | 2593 | 21.8 | Permittivity | 39.01 | 40.03 | 2.62 | ±5 |
| | | | | | Conductivity | 1.95 | 1.95 | -0.13 | ±5 |
| 2024-04-08 | 22.1 | 46 | 2600 | 21.8 | Permittivity | 39.00 | 39.65 | 1.67 | ±5 |
| | | | | | Conductivity | 1.96 | 2.01 | 2.55 | ±5 |

# 5. SAR System Validation

5.1 The purpose of the system check is to verify that the system operates within its specifications at the decice test frequency.The system check is simple check of repeatability to make sure that the system works correctly at the time of the compliance test;

System check results have to be equal or near the values determined during dipole calibration with the relevant liquids and test system (±10 %).




The output power on dipole port must be calibrated to 20 dBm (100mW) before dipole is connected.

Photo of Dipole Setup

**Justification for Extended SAR Dipole Calibrations**

Referring to KDB 865664D01V01r04, if dipoles are verified in return loss (<-20dB, within 20% of prior calibration), and in impedance (within 5 ohm of prior calibration), the annual calibration is not necessary and the calibration interval can be extended.While calibration intervals not exceed 3 years.

SID750 SN 07/14 DIP 0G750-302 Extend Dipole Calibrations

| Date of Measurement | Return-Loss (dB) | Delta (%) | Real Impedance (ohm) | Delta (ohm) | Imaginary Impedance (ohm) | Delta (ohm) |
|---|---|---|---|---|---|---|
| 2021-09-29 | -34.80 | | 50.7 | | 1.6 | |
| 2022-09-29 | -34.35 | -1.29 | 51.2 | 0.5 | 1.5 | -0.1 |
| 2023-09-29 | -34.42 | -1.09 | 51.3 | 0.4 | 1.5 | -0.1 |

SID835 SN 07/14 DIP 0G835-303 Extend Dipole Calibrations

| Date of Measurement | Return-Loss (dB) | Delta (%) | Real Impedance (ohm) | Delta (ohm) | Imaginary Impedance (ohm) | Delta (ohm) |
|---|---|---|---|---|---|---|
| 2021-09-29 | -24.49 | | 54.9 | | 2.8 | |
| 2022-09-29 | -24.17 | -1.31 | 54.5 | -0.4 | 2.6 | -0.2 |
| 2023-09-29 | -24.20 | -1.18 | 54.2 | -0.7 | 2.5 | -0.3 |

SID1800 SN 30/14 DIP 1G800-301 Extend Dipole Calibrations

| Date of Measurement | Return-Loss (dB) | Delta (%) | Real Impedance (ohm) | Delta (ohm) | Imaginary Impedance (ohm) | Delta (ohm) |
|---|---|---|---|---|---|---|
| 2021-09-29 | -20.26 | | 43.1 | | 6.9 | |
| 2022-09-29 | -20.13 | -0.64 | 42.9 | -0.2 | 6.7 | -0.2 |
| 2023-09-29 | -20.15 | -0.54 | 42.8 | -0.3 | 6.6 | -0.3 |

SID1900 SN 38/18 DIP 1G900-466 Extend Dipole Calibrations

| Date of Measurement | Return-Loss (dB) | Delta (%) | Real Impedance (ohm) | Delta (ohm) | Imaginary Impedance (ohm) | Delta (ohm) |
|---|---|---|---|---|---|---|
| 2021-09-22 | -26.43 | | 50.5 | | 4.7 | |
| 2022-09-22 | -26.33 | -0.38 | 50.2 | -0.3 | 4.5 | -0.2 |
| 2023-09-22 | -26.40 | -0.11 | 50.1 | -0.4 | 4.6 | -0.1 |

SID2450 SN 07/14 DIP 2G450-306 Extend Dipole Calibrations

| Date of Measurement | Return-Loss (dB) | Delta (%) | Real Impedance (ohm) | Delta (ohm) | Imaginary Impedance (ohm) | Delta (ohm) |
|---|---|---|---|---|---|---|
| 2021-09-29 | -25.59 | | 44.7 | | -1.1 | |
| 2022-09-29 | -25.68 | 0.35 | 44.8 | 0.1 | -1.0 | 0.1 |
| 2023-09-29 | -25.70 | 0.43 | 44.5 | -0.2 | -1.1 | 0.0 |

SID2600 SN 38/18 DIP 2G600-468 Extend Dipole Calibrations

| Date of Measurement | Return-Loss (dB) | Delta (%) | Real Impedance (ohm) | Delta (ohm) | Imaginary Impedance (ohm) | Delta (ohm) |
|---|---|---|---|---|---|---|
| 2021-09-22 | -29.14 | | 49.2 | | 3.4 | |
| 2022-09-22 | -29.12 | -0.07 | 49.1 | -0.1 | 3.2 | -0.2 |
| 2023-09-22 | -29.10 | -0.07 | 49.2 | 0.0 | 3.3 | -0.1 |

## 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) | (%) | (%) |
| 2024-04-01 | 750 | 100 | 0.837 | 8.37 | 8.38 | -0.12 | 10 |
| 2024-04-02 | 835 | 100 | 0.945 | 9.45 | 9.6 | -1.56 | 10 |
| 2024-04-03 | 1800 | 100 | 3.795 | 37.95 | 38.13 | -0.47 | 10 |
| 2024-04-06 | 1900 | 100 | 3.828 | 38.28 | 39.70 | -3.58 | 10 |
| 2024-04-07 | 2450 | 100 | 5.291 | 52.91 | 53.89 | -1.82 | 10 |
| 2024-04-08 | 2600 | 100 | 5.292 | 52.92 | 54.14 | -2.25 | 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 D01v01r01 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 Mobile Phone, support GSM/WCDMA/LTE/WLAN mode.

**Top side**


WLAN/BT **Antennas**

**Left side**

**Right side**

**GSM/WCDMA/LTE Antennas**

| 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 | 5.5 | 0.5 | 15 |
| WWAN | ≤0.5 | ≤0.5 | 0.5 | 4 | 15.5 | 0.5 |

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

| | Wireless Interface | GSM850 | PCS1900 | WCDMA II | WCDMA V | WCDMA IV |
|---|---|---|---|---|---|---|
| Exposure Position | Calculated Frequency(GHz) | 0.8242 | 1.8502 | 1.8524 | 0.8466 | 1.7126 |
| | Maximum Turn-up power (dBm) | 31.5 | 26 | 23.5 | 23 | 23 |
| | Maximum rated power(mW) | 1412.54 | 398.11 | 223.87 | 199.53 | 199.53 |
| Back Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 9.42 | 3.44 | 3.43 | 9.07 | 3.66 |
| | Testing required? | YES | YES | YES | YES | YES |
| Front Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 9.42 | 3.44 | 3.43 | 9.07 | 3.66 |
| | Testing required? | YES | YES | YES | YES | YES |
| Left Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 9.42 | 3.44 | 3.43 | 9.07 | 3.66 |
| | Testing required? | YES | YES | YES | YES | YES |
| Right Side | Separation distance (cm) | 4 | 4 | 4 | 4 | 4 |
| | exclusion threshold(mW) | 175.08 | 158.05 | 157.98 | 174.85 | 162.38 |
| | Testing required? | YES | YES | YES | YES | YES |
| Top Side | Separation distance (cm) | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| | exclusion threshold(mW) | 1175.10 | 1913.84 | 1913.72 | 1201.67 | 1922.05 |
| | Testing required? | YES | NO | NO | NO | NO |
| Bottom Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 9.42 | 3.44 | 3.43 | 9.07 | 3.66 |
| | Testing required? | YES | YES | YES | YES | YES |

| Exposure Position | Wireless Interface | LTE Band 2 | LTE Band 4 | LTE Band 5 | LTE Band 12 | LTE Band 13 |
|---|---|---|---|---|---|---|
| | Calculated Frequency(GHz) | 1.88 | 1.7325 | 0.844 | 0.7 | 0.782 |
| | Maximum Turn-up power (dBm) | 23.5 | 23 | 23.5 | 23.5 | 23 |
| | Maximum rated power(mW) | 223.87 | 199.53 | 223.87 | 223.87 | 199.53 |
| Back Side | Separation distance (cm) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| | exclusion threshold(mW) | 3.39 | 3.62 | 9.11 | 11.84 | 10.14 |
| | Testing required? | YES | YES | YES | YES | YES |
| Front Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 3.39 | 3.62 | 9.11 | 11.84 | 10.14 |
| | Testing required? | YES | YES | YES | YES | YES |
| Left Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 3.39 | 3.62 | 9.11 | 11.84 | 10.14 |
| | Testing required? | YES | YES | YES | YES | YES |
| Right Side | Separation distance (cm) | 4 | 4 | 4 | 4 | 4 |
| | exclusion threshold(mW) | 157.17 | 161.72 | 174.88 | 176.47 | 175.53 |
| | Testing required? | YES | YES | YES | YES | YES |
| Top Side | Separation distance (cm) | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| | exclusion threshold(mW) | 1912.15 | 1920.82 | 1198.59 | 1025.46 | 1124.70 |
| | Testing required? | NO | NO | NO | NO | NO |
| Bottom Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 3.39 | 3.62 | 9.11 | 11.84 | 10.14 |
| | Testing required? | YES | YES | YES | YES | YES |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Exposure Position | Wireless Interface | LTE Band 25 | LTE Band 26 | LTE Band 38 | LTE Band 41 | LTE Band 66 | LTE Band 71 |
| | Calculated Frequency(GHz) | 1.8825 | 0.8215 | 2.595 | 2.593 | 1755 | 688 |
| | Maximum Turn-up power (dBm) | 23.5 | 23.5 | 23.5 | 22.5 | 23 | 23.5 |
| | Maximum rated power(mW) | 223.87 | 223.87 | 223.87 | 177.83 | 199.53 | 223.87 |
| Back Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 3.39 | 9.46 | 2.62 | 2.62 | 0.01 | 0.03 |
| | Testing required? | YES | YES | YES | YES | YES | YES |
| Front Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 3.39 | 9.46 | 2.62 | 2.62 | 0.01 | 0.03 |
| | Testing required? | YES | YES | YES | YES | YES | YES |
| Left Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 3.39 | 9.46 | 2.62 | 2.62 | 0.01 | 0.03 |
| | Testing required? | YES | YES | YES | YES | YES | YES |
| Right Side | Separation distance (cm) | 4 | 4 | 4 | 4 | 4 | 4 |
| | exclusion threshold(mW) | 157.10 | 175.11 | 235.57 | 140.46 | 14.40 | 19.97 |
| | Testing required? | YES | YES | NO | YES | YES | YES |
| Top Side | Separation distance (cm) | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| | exclusion threshold(mW) | 1912.01 | 5233.25 | 1878.34 | 1878.42 | 1309.57 | 1379.23 |
| | Testing required? | NO | NO | NO | NO | NO | NO |
| Bottom Side | Separation distance (cm) | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 3.39 | 9.46 | 2.62 | 2.62 | 0.01 | 0.03 |
| | Testing required? | YES | YES | YES | YES | YES | YES |

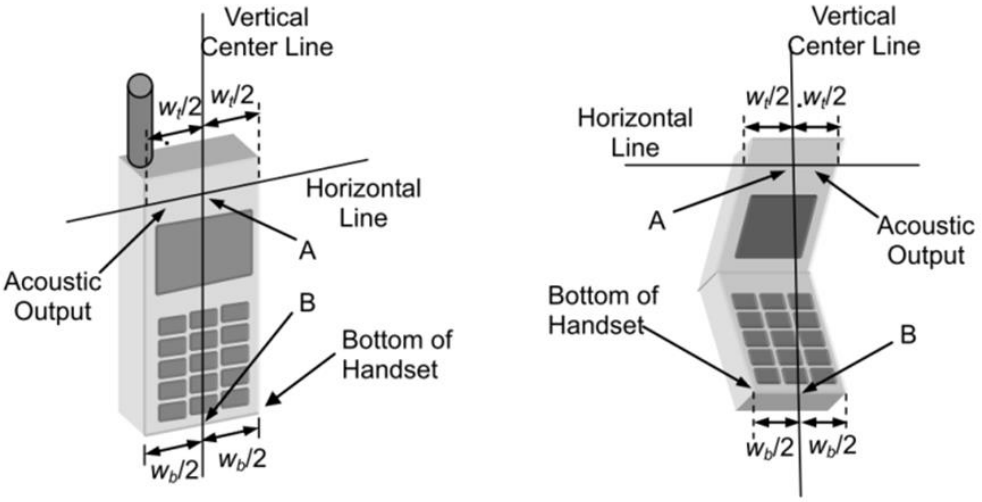
| | | | |
|---|---|---|---|
| Exposure Position | Wireless Interface | BT | 2.4G WLAN |
| | Calculated Frequency(GHz) | 2.441 | 2.412 |
| | Maximum Turn-up power (dBm) | 6 | 11.5 |
| | Maximum rated power(mW) | 3.98 | 14.13 |
| Back Side | Separation distance (cm) | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 2.75 | 2.78 |
| | Testing required? | YES | YES |
| Front Side | Separation distance (cm) | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 2.75 | 2.78 |
| | Testing required? | YES | YES |
| Left Side | Separation distance (cm) | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 2.75 | 2.78 |
| | Testing required? | YES | YES |
| Right Side | Separation distance (cm) | 5.5 | 5.5 |
| | exclusion threshold(mW) | 262.84 | 263.72 |
| | Testing required? | NO | NO |
| Top Side | Separation distance (cm) | ≤0.5 | ≤0.5 |
| | exclusion threshold(mW) | 2.75 | 2.78 |
| | Testing required? | YES | YES |
| Bottom Side | Separation distance (cm) | 15 | 15 |
| | exclusion threshold(mW) | 1770.80 | 1772.12 |
| | Testing required? | NO | NO |

# 8. EUT Test Position

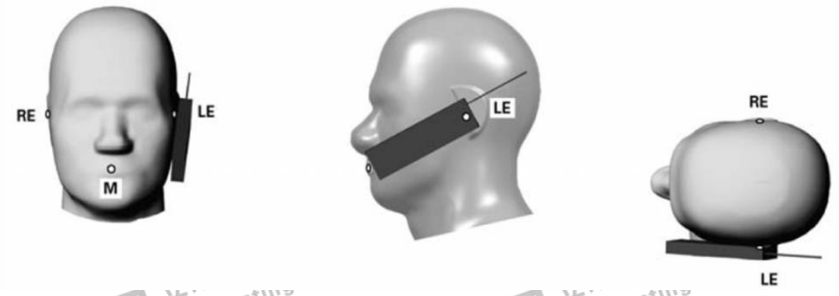
This EUT was tested in Front Side, Back Side, Left Edge, Right Edge, Top Edge, Bottom Edge.

## 8.1 Define Two Imaginary Lines on the Handset

(1)The vertical centerline passes through two points on the front side of the handset the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the handset.
(2)The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.
(3)The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



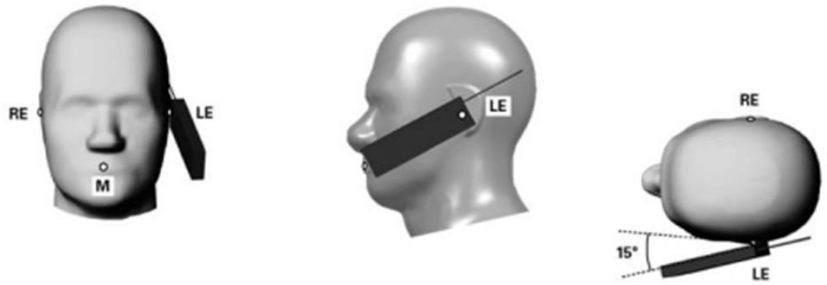

Cheek Position
1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
2) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost



Title Position

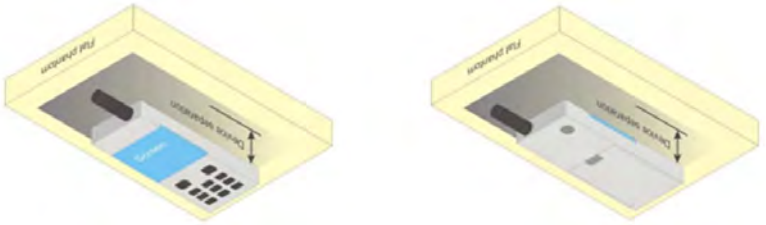
(1)To position the device in the “cheek” position described above.

(2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.



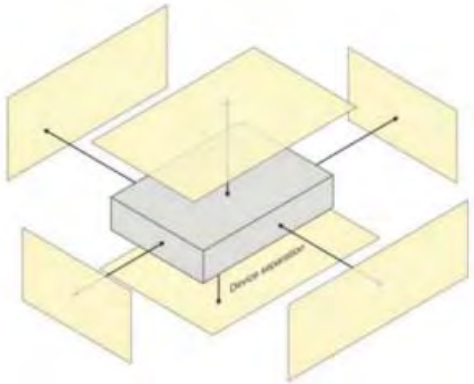

Body-worn Position Conditions:

Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the same wireless transmission configuration is used for testing body-worn accessory and hotspot mode SAR, respectively, in voice and data mode, SAR results for the most conservative *test separation distance* configuration may be used to support both SAR conditions. When the *reported* SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest *reported* SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.



## 8.2 Hotspot mode exposure position condition

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. 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.

| Uncertainty Component | Tol (+- %) | Prob. Dist. | Div. | Ci (1g) | Ci (10g) | 1g Ui (+-%) | 10g Ui (+-%) | Veff |
|---|---|---|---|---|---|---|---|---|
| **Measurement System** | | | | | | | | |
| Probe calibration | 5.8 | N | 1 | 1 | 1 | 5.80 | 5.80 | ∞ |
| Axial Isotropy | 3.5 | R | √3 | $\sqrt{1-C_p}$ | $\sqrt{1-C_p}$ | 1.43 | 1.43 | ∞ |
| Hemispherical Isotropy | 5.9 | R | √3 | $\sqrt{C_p}$ | $\sqrt{C_p}$ | 2.41 | 2.41 | ∞ |
| Boundary effect | 1.0 | R | √3 | 1 | 1 | 0.58 | 0.58 | ∞ |
| Linearity | 4.7 | R | √3 | 1 | 1 | 2.71 | 2.71 | ∞ |
| System detection limits | 1.0 | R | √3 | 1 | 1 | 0.58 | 0.58 | ∞ |
| Readout Electronics | 0.5 | N | 1 | 1 | 1 | 0.50 | 0.50 | ∞ |
| Response Time | 0.0 | R | √3 | 1 | 1 | 0.00 | 0.00 | ∞ |
| Integration Time | 1.4 | R | √3 | 1 | 1 | 0.81 | 0.81 | ∞ |
| RF ambient Conditions - Noise | 3.0 | R | √3 | 1 | 1 | 1.73 | 1.73 | ∞ |
| RF ambient Conditions - Reflections | 3.0 | R | √3 | 1 | 1 | 1.73 | 1.73 | ∞ |
| Probe positioner Mechanical Tolerance | 1.4 | R | √3 | 1 | 1 | 0.81 | 0.81 | ∞ |
| Probe positioning with respect to Phantom Shell | 1.4 | R | √3 | 1 | 1 | 0.81 | 0.81 | ∞ |
| Max. SAR Evaluation | 1.0 | R | √3 | 1 | 1 | 0.6 | 0.6 | ∞ |
| **Test sample Related** | | | | | | | | |
| Device positioning | 2.6 | N | 1 | 1 | 1 | 2.6 | 2.6 | 11 |
| Device holder | 3.0 | N | 1 | 1 | 1 | 3.0 | 3.0 | 7 |
| Drift of output power | 5.0 | N | √3 | 1 | 1 | 2.89 | 2.89 | ∞ |
| **System check source(dipole)** | | | | | | | | |
| Deviation between experimental dipoles | 2.0 | N | 1 | 1 | 1 | 2.0 | 2.0 | ∞ |
| Input power and SAR drift measurement | 4.7 | R | √3 | 1 | 1 | 2.7 | 2.7 | ∞ |
| Dipole axis to liquid distance | 1.0 | R | √3 | 1 | 1 | 0.6 | 0.6 | ∞ |
| **System check source** | | | | | | | | |
| Deviation between experimental source | – | N | 1 | 0 | 0 | – | – | 7 |
| Input power and SAR drift measurement | – | R | √3 | 1 | 1 | – | – | ∞ |
| Other source contributions | – | R | √3 | 1 | 1 | – | – | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Phantom uncertainty | 4.00 | R | √3 | 1 | 1 | 2.31 | 2.31 | ∞ |
| Liquid conductivity (target) | 2.50 | N | 1 | 0.78 | 0.71 | 1.95 | 1.78 | 5 |
| Liquid conductivity (meas) | 4.00 | N | 1 | 0.23 | 0.26 | 0.92 | 1.04 | 5 |
| Liquid Permittivity (target) | 2.50 | N | 1 | 0.78 | 0.71 | 1.95 | 1.78 | ∞ |
| Liquid Permittivity (meas) | 5.00 | N | 1 | 0.23 | 0.26 | 1.15 | 1.30 | ∞ |
| Combined Standard | | RSS | $U_c = \sqrt{\sum_{i=1}^{n} C_i^2 U_i^2}$ | | | 10.63 % | 10.54 % | |
| Expanded Uncertainty (95% Confidence interval) | U = k $U_C$ , k=2 | | | | | 21.26 % | 21.08 % | |

# 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 |
| GPRS (GMSK, 1-Slot) | 32.87 | 32.85 | 32.97 | 29.47 | 29.44 | 29.27 |
| GPRS (GMSK, 2-Slot) | 32.72 | 32.78 | 32.93 | 29.42 | 29.41 | 29.23 |
| GPRS (GMSK, 3-Slot) | 31.07 | 30.90 | 30.83 | 27.28 | 27.30 | 27.14 |
| GPRS (GMSK, 4-Slot) | 29.27 | 29.04 | 28.94 | 25.68 | 25.66 | 25.60 |
| EGPRS(8PSK, 1-Slot) | 27.30 | 27.07 | 27.06 | 23.62 | 23.54 | 23.32 |
| EGPRS(8PSK, 2-Slot) | 26.49 | 27.02 | 26.98 | 25.51 | 25.92 | 25.14 |
| EGPRS(8PSK, 3-Slot) | 25.60 | 25.38 | 25.20 | 24.01 | 24.26 | 23.81 |
| EGPRS(8PSK, 4-Slot) | 22.98 | 23.18 | 22.68 | 21.81 | 21.73 | 21.50 |
| 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 |
| GPRS (GMSK, 1-Slot) | 23.84 | 23.82 | 23.94 | 20.44 | 20.41 | 20.24 |
| GPRS (GMSK, 2-Slot) | 23.69 | 23.75 | 23.90 | 20.39 | 20.38 | 20.20 |
| GPRS (GMSK, 3-Slot) | 25.05 | 24.88 | 24.81 | 21.26 | 21.28 | 21.12 |
| GPRS (GMSK, 4-Slot) | 25.01 | 24.78 | 24.68 | 21.42 | 21.40 | 21.34 |
| EGPRS(8PSK, 1-Slot) | 24.29 | 24.06 | 24.05 | 20.61 | 20.53 | 20.31 |
| EGPRS(8PSK, 2-Slot) | 17.46 | 17.99 | 17.95 | 16.48 | 16.89 | 16.11 |
| EGPRS(8PSK, 3-Slot) | 19.58 | 19.36 | 19.18 | 17.99 | 18.24 | 17.79 |
| EGPRS(8PSK, 4-Slot) | 18.72 | 18.92 | 18.42 | 17.55 | 17.47 | 17.24 |
| 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 | | | | | | |

| Band | WCDMA Band 2 | | | WCDMA Band 5 | | | WCDMA Band 4 | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | 9262 | 9400 | 9538 | 4132 | 4183 | 4233 | 1312 | 1413 | 1513 |
| Frequency (MHz) | 1852.4 | 1880 | 1907.6 | 826.4 | 836.6 | 846.6 | 1712.6 | 1740 | 1752.4 |
| RMC 12.2Kbps | 23.39 | 23.17 | 22.99 | 22.75 | 22.76 | 22.97 | 22.80 | 22.67 | 22.71 |
| HSDPA Subtest-1 | 22.50 | 22.21 | 21.98 | 22.35 | 22.09 | 21.88 | 22.73 | 22.58 | 22.06 |
| HSDPA Subtest-2 | 21.76 | 22.34 | 22.10 | 21.49 | 22.22 | 22.01 | 22.20 | 22.55 | 22.35 |
| HSDPA Subtest-3 | 21.87 | 21.64 | 22.07 | 21.88 | 21.29 | 22.43 | 21.95 | 21.66 | 22.43 |
| HSDPA Subtest-4 | 21.87 | 21.67 | 21.30 | 22.05 | 21.87 | 21.80 | 22.20 | 21.54 | 21.53 |
| HSUPA Subtest-1 | 22.41 | 22.46 | 22.07 | 22.09 | 22.35 | 22.01 | 22.79 | 22.70 | 22.57 |
| HSUPA Subtest-2 | 22.51 | 22.10 | 22.37 | 22.35 | 22.13 | 21.91 | 22.71 | 22.42 | 22.15 |
| HSUPA Subtest-3 | 22.35 | 22.30 | 22.36 | 22.24 | 21.89 | 22.25 | 22.35 | 22.28 | 22.29 |
| HSUPA Subtest-4 | 22.02 | 21.87 | 22.13 | 21.84 | 22.38 | 22.55 | 22.35 | 22.24 | 22.34 |
| HSUPA Subtest-5 | 21.84 | 22.08 | 21.67 | 22.34 | 22.54 | 22.09 | 21.95 | 22.24 | 22.02 |

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, 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) | Average Power (dBm) | Output Power (mW) |
| 802.11b | 1 | 2412 | 11.13 | 12.97 |
| | 7 | 2437 | 11.07 | 12.79 |
| | 11 | 2462 | 11.3 | 13.49 |
| 802.11g | 1 | 2412 | 9.06 | 8.05 |
| | 7 | 2437 | 12.62 | 18.28 |
| | 11 | 2462 | 12.81 | 19.10 |
| 802.11 n-HT20 | 1 | 2412 | 10.37 | 10.89 |
| | 7 | 2437 | 11.99 | 15.81 |
| | 11 | 2462 | 12.46 | 17.62 |

**BT**

| BT | | | | |
|---|---|---|---|---|
| Mode | Channel Number | Frequency (MHz) | Average Power (dBm) | Output Power (mW) |
| GFSK(1Mbps) | 0 | 2402 | 1.69 | 1.48 |
| | 39 | 2441 | 3.45 | 2.21 |
| | 78 | 2480 | 2.81 | 1.91 |
| π/4-QPSK(2Mbps) | 0 | 2402 | 3.7 | 2.34 |
| | 39 | 2441 | 5.46 | 3.52 |
| | 78 | 2480 | 4.74 | 2.98 |
| 8DPSK(3Mbps) | 0 | 2402 | 4.05 | 2.54 |
| | 39 | 2441 | 5.81 | 3.81 |
| | 78 | 2480 | 5.08 | 3.22 |

**BLE**

| BLE | | | | |
|---|---|---|---|---|
| Mode | Channel Number | Frequency (MHz) | Average Power (dBm) | Output Power (mW) |
| GFSK(1Mbps) | 0 | 2402 | 0.42 | 1.10 |
| | 19 | 2440 | 2.16 | 1.64 |
| | 39 | 2480 | 1.67 | 1.47 |

**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 ≤ 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 ≤ 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 ≤ 1.45 W/kg; Per KDB 941225 D05, smaller bandwidth SAR testing is not required.

LTE Band 2

| LTE Band 2 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 1.4 | 1 | 0 | QPSK | 23.29 | 22.79 | **22.51** |
| 1.4 | 1 | 2 | | **23.32** | 22.86 | 22.43 |
| 1.4 | 1 | 5 | | 23.27 | 22.84 | 22.47 |
| 1.4 | 3 | 0 | | 23.13 | 22.89 | 22.3 |
| 1.4 | 3 | 1 | | 23.07 | **22.94** | 22.22 |
| 1.4 | 3 | 3 | | 23.01 | 22.85 | 22.27 |
| 1.4 | 6 | 0 | | 22.51 | 22.4 | 21.67 |
| 1.4 | 1 | 0 | 16-QAM | 22.6 | 22.32 | 22.05 |
| 1.4 | 1 | 2 | | 22.61 | 22.37 | 22 |
| 1.4 | 1 | 5 | | 22.6 | 22.32 | 22.04 |
| 1.4 | 3 | 0 | | 22.22 | 21.97 | 21.32 |
| 1.4 | 3 | 1 | | 22.16 | 21.93 | 21.35 |
| 1.4 | 3 | 3 | | 22.17 | 21.85 | 21.3 |
| 1.4 | 6 | 0 | | 20.93 | 21.24 | 20.39 |
| 3 | 1 | 0 | QPSK | 23.25 | **22.89** | **22.68** |
| 3 | 1 | 7 | | **23.26** | 22.87 | 22.48 |
| 3 | 1 | 14 | | 23.21 | 22.82 | 22.48 |
| 3 | 8 | 0 | | 22.48 | 22.44 | 21.86 |
| 3 | 8 | 3 | | 22.53 | 22.44 | 21.7 |
| 3 | 8 | 7 | | 22.51 | 22.37 | 21.66 |
| 3 | 15 | 0 | | 22.5 | 22.41 | 21.68 |
| 3 | 1 | 0 | 16-QAM | 22.23 | 22.34 | 22.27 |
| 3 | 1 | 7 | | 22.28 | 22.35 | 22.14 |
| 3 | 1 | 14 | | 22.22 | 22.34 | 22.06 |
| 3 | 8 | 0 | | 21.12 | 21.13 | 20.49 |
| 3 | 8 | 3 | | 21.16 | 21.16 | 20.32 |
| 3 | 8 | 7 | | 21.15 | 21.12 | 20.32 |
| 3 | 15 | 0 | | 20.96 | 21.09 | 20.38 |

LTE BAND 2

| LTE Band 2 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 23.04 | **23.02** | **22.44** |
| 5 | 1 | 12 | | 23.03 | 22.97 | 22.32 |
| 5 | 1 | 24 | | **23.08** | 22.95 | 22.13 |
| 5 | 12 | 0 | | 22.5 | 22.35 | 21.94 |
| 5 | 12 | 6 | | 22.53 | 22.31 | 21.9 |
| 5 | 12 | 13 | | 22.54 | 22.3 | 21.72 |
| 5 | 25 | 0 | | 22.54 | 22.33 | 21.91 |
| 5 | 1 | 0 | 16-QAM | 22.98 | 22.52 | 21.67 |
| 5 | 1 | 12 | | 22.9 | 22.53 | 21.39 |
| 5 | 1 | 24 | | 22.96 | 22.57 | 21.28 |
| 5 | 12 | 0 | | 20.9 | 21.19 | 20.5 |
| 5 | 12 | 6 | | 20.99 | 21.15 | 20.49 |
| 5 | 12 | 13 | | 21.01 | 21.18 | 20.42 |
| 5 | 25 | 0 | | 21.15 | 21.15 | 20.36 |
| 10 | 1 | 0 | QPSK | 23.32 | **22.88** | **22.93** |
| 10 | 1 | 24 | | 23.27 | 22.85 | 22.7 |
| 10 | 1 | 49 | | **23.41** | 22.83 | 22.44 |
| 10 | 25 | 0 | | 22.54 | 22.28 | 22.15 |
| 10 | 25 | 12 | | 22.62 | 22.31 | 22.08 |
| 10 | 25 | 25 | | 22.48 | 22.26 | 22.02 |
| 10 | 50 | 0 | | 22.48 | 22.38 | 22.12 |
| 10 | 1 | 0 | 16-QAM | 22.26 | 22.85 | 22.37 |
| 10 | 1 | 24 | | 22.3 | 22.85 | 22.19 |
| 10 | 1 | 49 | | 22.34 | 22.84 | 21.86 |
| 10 | 25 | 0 | | 21.11 | 21.27 | 20.82 |
| 10 | 25 | 12 | | 21.45 | 21.32 | 20.97 |
| 10 | 25 | 25 | | 21.13 | 20.94 | 20.55 |
| 10 | 50 | 0 | | 21.48 | 21.33 | 20.91 |

LTE BAND 2

| LTE Band 2 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 15 | 1 | 0 | QPSK | 23.34 | 22.88 | 22.96 |
| 15 | 1 | 37 | | 23.35 | 22.79 | 22.79 |
| 15 | 1 | 74 | | 23.31 | 22.71 | 22.37 |
| 15 | 36 | 0 | | 22.59 | 22.22 | 22.29 |
| 15 | 36 | 18 | | 22.6 | 22.42 | 22.17 |
| 15 | 36 | 39 | | 22.51 | 22.29 | 21.89 |
| 15 | 75 | 0 | | 22.49 | 22.26 | 22.21 |
| 15 | 1 | 0 | 16-QAM | 22.31 | 22.94 | 22.09 |
| 15 | 1 | 38 | | 22.32 | 22.81 | 22.03 |
| 15 | 1 | 74 | | 22.39 | 22.77 | 21.56 |
| 15 | 36 | 0 | | 21.4 | 21.16 | 20.8 |
| 15 | 36 | 18 | | 21.13 | 21.19 | 20.77 |
| 15 | 36 | 39 | | 21.41 | 20.81 | 20.5 |
| 15 | 75 | 0 | | 21.08 | 21.22 | 20.75 |
| 20 | 1 | 0 | QPSK | 23.25 | 23.29 | 22.81 |
| 20 | 1 | 50 | | 23.24 | 23.14 | 22.79 |
| 20 | 1 | 99 | | 23.19 | 23.09 | 22.4 |
| 20 | 50 | 0 | | 22.56 | 22.35 | 22.34 |
| 20 | 50 | 25 | | 22.54 | 22.46 | 22.35 |
| 20 | 50 | 50 | | 22.52 | 22.49 | 22.12 |
| 20 | 100 | 0 | | 22.62 | 22.34 | 22.27 |
| 20 | 1 | 0 | 16-QAM | 22.8 | 22.68 | 22.93 |
| 20 | 1 | 50 | | 22.78 | 22.53 | 22.9 |
| 20 | 1 | 99 | | 22.71 | 22.54 | 22.41 |
| 20 | 50 | 0 | | 21.55 | 23.46 | 20.98 |
| 20 | 50 | 25 | | 21.25 | 21.22 | 20.95 |
| 20 | 50 | 50 | | 21.15 | 21.02 | 21.02 |
| 20 | 100 | 0 | | 21.21 | 21.27 | 20.9 |

LTE BAND 4

| LTE Band 4 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 1.4 | 1 | 0 | QPSK | 22.62 | 22.37 | 22.56 |
| 1.4 | 1 | 2 | | **22.64** | 22.35 | **22.66** |
| 1.4 | 1 | 5 | | 22.63 | 22.35 | 22.56 |
| 1.4 | 3 | 0 | | 22.33 | 22.47 | 22.6 |
| 1.4 | 3 | 1 | | 22.38 | 22.46 | 22.65 |
| 1.4 | 3 | 3 | | 22.34 | 22.47 | 22.57 |
| 1.4 | 6 | 0 | | 21.77 | 21.95 | 22.11 |
| 1.4 | 1 | 0 | 16-QAM | 22.57 | **22.78** | 22.56 |
| 1.4 | 1 | 2 | | 22.56 | 22.72 | 22.48 |
| 1.4 | 1 | 5 | | 22.53 | 22.69 | 22.57 |
| 1.4 | 3 | 0 | | 21.3 | 21.53 | 21.57 |
| 1.4 | 3 | 1 | | 21.33 | 21.52 | 21.58 |
| 1.4 | 3 | 3 | | 21.32 | 21.5 | 21.64 |
| 1.4 | 6 | 0 | | 20.37 | 20.7 | 20.68 |
| 3 | 1 | 0 | QPSK | 22.63 | 22.49 | 22.58 |
| 3 | 1 | 7 | | **22.7** | 22.4 | **22.61** |
| 3 | 1 | 14 | | 22.67 | 22.45 | 22.52 |
| 3 | 8 | 0 | | 21.85 | 22 | 22.03 |
| 3 | 8 | 3 | | 21.92 | 21.94 | 22.09 |
| 3 | 8 | 7 | | 21.81 | 21.9 | 22.05 |
| 3 | 15 | 0 | | 21.9 | 21.94 | 22.08 |
| 3 | 1 | 0 | 16-QAM | 21.58 | **22.73** | 22.53 |
| 3 | 1 | 7 | | 21.61 | 22.71 | 22.49 |
| 3 | 1 | 14 | | 21.63 | 22.7 | 22.55 |
| 3 | 8 | 0 | | 20.53 | 20.57 | 20.97 |
| 3 | 8 | 4 | | 20.48 | 20.52 | 20.97 |
| 3 | 8 | 7 | | 20.49 | 20.56 | 20.75 |
| 3 | 15 | 0 | | 20.3 | 20.71 | 21 |

LTE BAND 4

| LTE Band 4 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 5 | 1 | 0 | QPSK | 22.27 | **22.66** | 22.42 |
| 5 | 1 | 12 | | 22.25 | 22.58 | 22.5 |
| 5 | 1 | 24 | | **22.29** | 22.61 | **22.56** |
| 5 | 12 | 0 | | 21.87 | 22.02 | 22.14 |
| 5 | 12 | 6 | | 21.81 | 21.95 | 22.08 |
| 5 | 12 | 13 | | 21.96 | 21.99 | 22.16 |
| 5 | 25 | 0 | | 21.9 | 22.01 | 22.16 |
| 5 | 1 | 0 | 16-QAM | 21.71 | 22.18 | 21.51 |
| 5 | 1 | 12 | | 21.83 | 22.12 | 21.67 |
| 5 | 1 | 24 | | 22.01 | 22.12 | 21.71 |
| 5 | 12 | 0 | | 20.32 | 20.56 | 20.57 |
| 5 | 12 | 6 | | 20.38 | 20.6 | 20.92 |
| 5 | 12 | 13 | | 20.36 | 20.61 | 21.05 |
| 5 | 25 | 0 | | 20.56 | 20.51 | 20.88 |
| 10 | 1 | 0 | QPSK | 22.55 | **22.56** | 22.58 |
| 10 | 1 | 24 | | 22.63 | 22.43 | **22.71** |
| 10 | 1 | 49 | | **22.69** | 22.37 | 22.69 |
| 10 | 25 | 0 | | 21.98 | 22.11 | 21.88 |
| 10 | 25 | 12 | | 21.85 | 21.9 | 21.99 |
| 10 | 25 | 25 | | 21.96 | 21.94 | 22.1 |
| 10 | 50 | 0 | | 21.94 | 22.04 | 21.95 |
| 10 | 1 | 0 | 16-QAM | 21.6 | 22.52 | 22.43 |
| 10 | 1 | 24 | | 21.85 | 22.43 | 22.55 |
| 10 | 1 | 49 | | 21.8 | **22.56** | 22.55 |
| 10 | 25 | 0 | | 20.46 | 20.76 | 20.87 |
| 10 | 25 | 12 | | 20.84 | 20.7 | 20.69 |
| 10 | 25 | 25 | | 20.89 | 20.59 | 21.01 |
| 10 | 50 | 0 | | 20.75 | 20.71 | 20.62 |

LTE BAND 4

| LTE Band 4 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest |
| 15 | 1 | 0 | QPSK | 22.62 | **22.57** | 22.33 |
| 15 | 1 | 37 | | 22.72 | 22.5 | 22.41 |
| 15 | 1 | 74 | | **22.81** | 22.35 | 22.61 |
| 15 | 36 | 0 | | 21.93 | 21.98 | 21.9 |
| 15 | 36 | 19 | | 22.03 | 21.91 | 21.88 |
| 15 | 36 | 39 | | 22.05 | 21.91 | 22.04 |
| 15 | 75 | 0 | | 22.01 | 21.93 | 21.96 |
| 15 | 1 | 0 | 16-QAM | 21.68 | 22.56 | 22.26 |
| 15 | 1 | 38 | | 21.77 | 22.47 | **22.63** |
| 15 | 1 | 75 | | 21.83 | 22.36 | 22.54 |
| 15 | 36 | 0 | | 20.77 | 20.87 | 20.55 |
| 15 | 36 | 19 | | 20.9 | 20.61 | 20.95 |
| 15 | 36 | 39 | | 20.62 | 20.54 | 20.6 |
| 15 | 75 | 0 | | 20.91 | 20.65 | 20.94 |
| 20 | 1 | 0 | QPSK | 22.49 | 22.75 | 22.51 |
| 20 | 1 | 50 | | 22.64 | 22.63 | 22.46 |
| 20 | 1 | 99 | | **22.65** | 22.56 | **22.66** |
| 20 | 50 | 0 | | 22.01 | 22.04 | 21.8 |
| 20 | 50 | 25 | | 22.07 | **22.85** | 21.85 |
| 20 | 50 | 50 | | 22.13 | 21.99 | 21.98 |
| 20 | 100 | 0 | | 22.04 | 21.95 | 21.92 |
| 20 | 1 | 0 | 16-QAM | 21.94 | 22.73 | 21.61 |
| 20 | 1 | 50 | | 22.13 | 22.73 | 21.66 |
| 20 | 1 | 99 | | 22.24 | 22.69 | 21.88 |
| 20 | 50 | 0 | | 20.84 | 20.71 | 20.79 |
| 20 | 50 | 25 | | 20.92 | 20.61 | 20.58 |
| 20 | 50 | 50 | | 20.71 | 20.6 | 20.76 |
| 20 | 100 | 0 | | 20.88 | 20.6 | 20.63 |

LTE BAND 5

| LTE Band 5 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 1.4 | 1 | 0 | QPSK | **22.81** | 22.72 | **23.1** |
| 1.4 | 1 | 2 | | 22.78 | 22.8 | 23.05 |
| 1.4 | 1 | 5 | | 22.77 | 22.76 | 23.02 |
| 1.4 | 3 | 0 | | 22.58 | 22.88 | 22.89 |
| 1.4 | 3 | 1 | | 22.63 | 22.92 | 22.9 |
| 1.4 | 3 | 2 | | 22.56 | 22.82 | 22.84 |
| 1.4 | 6 | 0 | | 22.07 | 22.26 | 22.33 |
| 1.4 | 1 | 0 | 16-QAM | 22.38 | 23.04 | 22.55 |
| 1.4 | 1 | 2 | | 22.38 | 22.98 | 22.61 |
| 1.4 | 1 | 5 | | 22.36 | **23.08** | 22.57 |
| 1.4 | 3 | 0 | | 21.64 | 21.94 | 21.87 |
| 1.4 | 3 | 1 | | 21.67 | 21.89 | 21.88 |
| 1.4 | 3 | 2 | | 21.62 | 21.91 | 21.87 |
| 1.4 | 6 | 0 | | 20.52 | 20.9 | 20.85 |
| 3 | 1 | 0 | QPSK | **22.77** | 22.74 | **23.15** |
| 3 | 1 | 7 | | 22.74 | 22.79 | 23.09 |
| 3 | 1 | 14 | | 22.74 | 22.75 | 22.95 |
| 3 | 8 | 0 | | 22.2 | 22.41 | 22.42 |
| 3 | 8 | 4 | | 22.06 | 22.4 | 22.35 |
| 3 | 8 | 7 | | 22.13 | 22.45 | 22.37 |
| 3 | 15 | 0 | | 22.17 | 22.34 | 22.34 |
| 3 | 1 | 0 | 16-QAM | 21.81 | 23.01 | 22.69 |
| 3 | 1 | 7 | | 21.82 | **23.12** | 22.73 |
| 3 | 1 | 14 | | 21.9 | 23.04 | 22.59 |
| 3 | 8 | 0 | | 20.49 | 21.16 | 21.21 |
| 3 | 8 | 4 | | 20.49 | 20.81 | 21.22 |
| 3 | 8 | 7 | | 20.92 | 20.77 | 20.72 |
| 3 | 15 | 0 | | 20.77 | 20.9 | 21.33 |

LTE BAND 5

| LTE Band 5 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 5 | 1 | 0 | QPSK | 22.61 | 22.91 | 22.79 |
| 5 | 1 | 12 | | **22.68** | **22.92** | **22.84** |
| 5 | 1 | 24 | | 22.67 | **22.92** | 22.71 |
| 5 | 12 | 0 | | 22.08 | 22.26 | 22.43 |
| 5 | 12 | 6 | | 22.16 | 22.41 | 22.39 |
| 5 | 12 | 11 | | 22 | 22.39 | 22.43 |
| 5 | 25 | 0 | | 22.06 | 22.41 | 22.34 |
| 5 | 1 | 0 | 16-QAM | 22.48 | 22.46 | 22.02 |
| 5 | 1 | 12 | | 22.48 | 22.62 | 21.92 |
| 5 | 1 | 24 | | 22.41 | 22.58 | 21.85 |
| 5 | 12 | 0 | | 20.55 | 21.3 | 21.31 |
| 5 | 12 | 6 | | 20.98 | 20.97 | 21.38 |
| 5 | 12 | 11 | | 20.98 | 20.95 | 21.35 |
| 5 | 25 | 0 | | 21.15 | 20.78 | 21.18 |
| 10 | 1 | 0 | QPSK | 22.94 | 22.65 | 23.06 |
| 10 | 1 | 24 | | 22.96 | 22.8 | **23.09** |
| 10 | 1 | 49 | | **23** | 22.92 | 23 |
| 10 | 25 | 0 | | 22.22 | 22.4 | 22.35 |
| 10 | 25 | 12 | | 22.05 | 22.37 | 22.35 |
| 10 | 25 | 24 | | 22.19 | 22.36 | 22.34 |
| 10 | 50 | 0 | | 22.23 | 22.37 | 22.36 |
| 10 | 1 | 0 | 16-QAM | 21.81 | 22.72 | 22.53 |
| 10 | 1 | 24 | | 21.9 | 22.86 | 22.41 |
| 10 | 1 | 49 | | 22.04 | 22.94 | 22.34 |
| 10 | 25 | 0 | | 21.08 | 21.34 | 20.94 |
| 10 | 25 | 12 | | 20.71 | **23.22** | 21.02 |
| 10 | 25 | 24 | | 20.76 | 21.42 | 21.4 |
| 10 | 50 | 0 | | 20.73 | 21.01 | 20.97 |

LTE BAND 12

| LTE Band 12 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 1.4 | 1 | 0 | QPSK | 23.29 | 22.99 | 23.27 |
| 1.4 | 1 | 2 | | **23.3** | 23.08 | **23.28** |
| 1.4 | 1 | 5 | | 23.29 | 23.07 | 23.21 |
| 1.4 | 3 | 0 | | 23.22 | 23.22 | 23.13 |
| 1.4 | 3 | 1 | | 23.22 | 23.23 | 23.08 |
| 1.4 | 3 | 2 | | 23.22 | 23.19 | 23.07 |
| 1.4 | 6 | 0 | | 22.69 | 22.64 | 22.56 |
| 1.4 | 1 | 0 | 16-QAM | 22.82 | **23.35** | 22.78 |
| 1.4 | 1 | 2 | | 22.81 | **23.35** | 22.78 |
| 1.4 | 1 | 5 | | 22.76 | 23.32 | 22.77 |
| 1.4 | 3 | 0 | | 22.24 | 22.19 | 22.29 |
| 1.4 | 3 | 1 | | 22.2 | 22.11 | 22.22 |
| 1.4 | 3 | 2 | | 22.2 | 22.19 | 21.99 |
| 1.4 | 6 | 0 | | 21.46 | 21.59 | 21.02 |
| 3 | 1 | 0 | QPSK | 23.26 | 23.02 | 23.25 |
| 3 | 1 | 7 | | **23.27** | 23.08 | **23.28** |
| 3 | 1 | 14 | | 23.25 | 23.06 | 23.24 |
| 3 | 8 | 0 | | 22.71 | 22.64 | 22.63 |
| 3 | 8 | 4 | | 22.72 | 22.61 | 22.55 |
| 3 | 8 | 7 | | 22.58 | 22.55 | 22.63 |
| 3 | 15 | 0 | | 22.72 | 22.6 | 22.57 |
| 3 | 1 | 0 | 16-QAM | 22.24 | **23.38** | 22.98 |
| 3 | 1 | 7 | | 22.23 | 23.35 | 22.9 |
| 3 | 1 | 14 | | 22.65 | 23.21 | 22.79 |
| 3 | 8 | 0 | | 21.4 | 21.19 | 20.95 |
| 3 | 8 | 4 | | 21.3 | 21.49 | 20.98 |
| 3 | 8 | 7 | | 21.39 | 21.43 | 21.07 |
| 3 | 15 | 0 | | 21.52 | 21.57 | 20.94 |

| LTE Band 12 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 5 | 1 | 0 | QPSK | 23.16 | 23.21 | 23.06 |
| 5 | 1 | 12 | | 23.06 | 23.19 | **23.07** |
| 5 | 1 | 24 | | 23.15 | **23.23** | 22.97 |
| 5 | 12 | 0 | | 22.73 | 22.63 | 22.62 |
| 5 | 12 | 6 | | 22.67 | 22.63 | 22.72 |
| 5 | 12 | 11 | | 22.56 | 22.51 | 22.6 |
| 5 | 25 | 0 | | 22.63 | 22.58 | 22.59 |
| 5 | 1 | 0 | 16-QAM | 22.94 | 22.61 | 22.13 |
| 5 | 1 | 12 | | **23.36** | 22.53 | 22.22 |
| 5 | 1 | 24 | | 23.04 | 22.6 | 22.1 |
| 5 | 12 | 0 | | 21.38 | 21.23 | 21.11 |
| 5 | 12 | 6 | | 21.41 | 21.55 | 21.05 |
| 5 | 12 | 11 | | 21.36 | 21.51 | 21.07 |
| 5 | 25 | 0 | | 21.61 | 21.52 | 20.87 |
| 10 | 1 | 0 | QPSK | 23.38 | 23.03 | 23.3 |
| 10 | 1 | 24 | | **23.41** | 23.01 | **23.32** |
| 10 | 1 | 49 | | 23.36 | 23.08 | 23.29 |
| 10 | 25 | 0 | | 22.76 | 22.81 | 22.63 |
| 10 | 25 | 12 | | 22.56 | 22.75 | 22.61 |
| 10 | 25 | 24 | | 22.77 | 22.74 | 22.63 |
| 10 | 50 | 0 | | 22.68 | 22.63 | 22.61 |
| 10 | 1 | 0 | 16-QAM | 22.38 | **23.44** | 22.92 |
| 10 | 1 | 24 | | 22.39 | 23.16 | 22.67 |
| 10 | 1 | 49 | | 22.34 | 23.15 | 22.76 |
| 10 | 25 | 0 | | 21.55 | 21.33 | 21.5 |
| 10 | 25 | 12 | | 21.57 | 21.64 | 21.1 |
| 10 | 25 | 24 | | 21.21 | 21.12 | 21.09 |
| 10 | 50 | 0 | | 21.59 | 21.59 | 20.93 |

LTE BAND 13

| LTE Band 13 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 5 | 1 | 0 | QPSK | **22.59** | **22.71** | **22.45** |
| 5 | 1 | 12 | | 22.49 | 22.57 | 22.35 |
| 5 | 1 | 24 | | 22.45 | 22.58 | 22.33 |
| 5 | 12 | 0 | | 22.16 | 22.11 | 22.15 |
| 5 | 12 | 6 | | 22.13 | 21.98 | 21.99 |
| 5 | 12 | 11 | | 22.09 | 22.16 | 21.9 |
| 5 | 25 | 0 | | 22.1 | 22.14 | 21.98 |
| 5 | 1 | 0 | 16-QAM | 22.16 | 22.28 | 21.58 |
| 5 | 1 | 12 | | 22.11 | 22.22 | 21.54 |
| 5 | 1 | 24 | | 22.03 | 22.18 | 21.49 |
| 5 | 12 | 0 | | 21.06 | 20.73 | 20.53 |
| 5 | 12 | 6 | | 20.71 | 20.53 | 20.52 |
| 5 | 12 | 11 | | 20.66 | 20.7 | 20.6 |
| 5 | 25 | 0 | | 20.85 | 20.61 | 20.45 |
| 10 | 1 | 0 | QPSK | / | **22.8** | / |
| 10 | 1 | 24 | | / | 22.63 | / |
| 10 | 1 | 49 | | / | 22.55 | / |
| 10 | 25 | 0 | | / | 22.22 | / |
| 10 | 25 | 12 | | / | 22.07 | / |
| 10 | 25 | 24 | | / | 22.09 | / |
| 10 | 50 | 0 | | / | 22.03 | / |
| 10 | 1 | 0 | 16-QAM | / | 21.97 | / |
| 10 | 1 | 24 | | / | 21.91 | / |
| 10 | 1 | 49 | | / | 21.82 | / |
| 10 | 25 | 0 | | / | 20.75 | / |
| 10 | 25 | 12 | | / | 20.59 | / |
| 10 | 25 | 24 | | / | 20.49 | / |
| 10 | 50 | 0 | | / | 20.62 | / |

LTE BAND 25

| LTE Band 25 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 1.4 | 1 | 0 | QPSK | 23.07 | 22.62 | 22.05 |
| 1.4 | 1 | 2 | | 23.06 | 22.67 | 22.08 |
| 1.4 | 1 | 5 | | 23.07 | 22.67 | 22 |
| 1.4 | 3 | 0 | | 22.83 | 22.71 | 21.85 |
| 1.4 | 3 | 1 | | 22.88 | 22.77 | 21.86 |
| 1.4 | 3 | 2 | | 22.83 | 22.7 | 21.75 |
| 1.4 | 6 | 0 | | 22.35 | 22.22 | 21.31 |
| 1.4 | 1 | 0 | 16-QAM | 22.49 | 22.16 | 21.65 |
| 1.4 | 1 | 2 | | 22.47 | 22.13 | 21.54 |
| 1.4 | 1 | 5 | | 22.5 | 22.15 | 21.54 |
| 1.4 | 3 | 0 | | 22.03 | 21.74 | 21.03 |
| 1.4 | 3 | 1 | | 22.08 | 21.8 | 20.88 |
| 1.4 | 3 | 2 | | 22.07 | 21.72 | 20.88 |
| 1.4 | 6 | 0 | | 20.84 | 20.77 | 19.88 |
| 3 | 1 | 0 | QPSK | 22.96 | 22.61 | 22.04 |
| 3 | 1 | 7 | | 23 | 22.65 | 22.09 |
| 3 | 1 | 14 | | 23.06 | 22.63 | 22 |
| 3 | 8 | 0 | | 22.29 | 22.22 | 21.37 |
| 3 | 8 | 4 | | 22.33 | 22.27 | 21.35 |
| 3 | 8 | 7 | | 22.31 | 22.22 | 21.36 |
| 3 | 15 | 0 | | 22.37 | 22.22 | 21.3 |
| 3 | 1 | 0 | 16-QAM | 22.11 | 22.16 | 21.71 |
| 3 | 1 | 7 | | 22.16 | 22.1 | 21.7 |
| 3 | 1 | 14 | | 22.16 | 22.23 | 21.57 |
| 3 | 8 | 0 | | 20.86 | 20.69 | 20.13 |
| 3 | 8 | 4 | | 20.85 | 20.67 | 20.17 |
| 3 | 8 | 7 | | 21.14 | 20.7 | 19.78 |
| 3 | 15 | 0 | | 20.98 | 20.69 | 20.16 |

| LTE Band 25 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 5 | 1 | 0 | QPSK | 22.8 | 22.77 | 21.91 |
| 5 | 1 | 12 | | 22.89 | 22.81 | 21.75 |
| 5 | 1 | 24 | | 22.89 | 22.7 | 21.74 |
| 5 | 12 | 0 | | 22.46 | 22.19 | 21.57 |
| 5 | 12 | 6 | | 22.36 | 22.14 | 21.46 |
| 5 | 12 | 11 | | 22.32 | 22.21 | 21.39 |
| 5 | 25 | 0 | | 22.35 | 22.22 | 21.33 |
| 5 | 1 | 0 | 16-QAM | 22.76 | 22.36 | 21.03 |
| 5 | 1 | 12 | | 22.83 | 22.33 | 20.97 |
| 5 | 1 | 24 | | 22.79 | 22.31 | 20.88 |
| 5 | 12 | 0 | | 20.81 | 20.74 | 20.07 |
| 5 | 12 | 6 | | 21.01 | 20.69 | 20.26 |
| 5 | 12 | 11 | | 21.08 | 20.72 | 20.28 |
| 5 | 25 | 0 | | 21.28 | 20.64 | 20.01 |
| 10 | 1 | 0 | QPSK | 23.11 | 22.59 | 22.45 |
| 10 | 1 | 24 | | 23.11 | 22.49 | 22.15 |
| 10 | 1 | 49 | | 23.12 | 22.62 | 21.97 |
| 10 | 25 | 0 | | 22.44 | 22.15 | 21.77 |
| 10 | 25 | 12 | | 22.33 | 22.18 | 21.61 |
| 10 | 25 | 24 | | 22.38 | 22.08 | 21.45 |
| 10 | 50 | 0 | | 22.4 | 22.24 | 21.59 |
| 10 | 1 | 0 | 16-QAM | 22.09 | 22.73 | 21.93 |
| 10 | 1 | 24 | | 22.1 | 22.73 | 21.73 |
| 10 | 1 | 49 | | 22.14 | 22.87 | 21.39 |
| 10 | 25 | 0 | | 21.2 | 20.74 | 20.6 |
| 10 | 25 | 12 | | 20.98 | 20.68 | 20.54 |
| 10 | 25 | 24 | | 21.21 | 21.02 | 20.29 |
| 10 | 50 | 0 | | 20.98 | 20.74 | 20.45 |

| LTE Band 25 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 15 | 1 | 0 | QPSK | 23.1 | 22.62 | 22.76 |
| 15 | 1 | 37 | | 23.16 | 22.53 | 22.35 |
| 15 | 1 | 74 | | 23.16 | 22.46 | 21.99 |
| 15 | 36 | 0 | | 22.31 | 22.19 | 21.88 |
| 15 | 36 | 18 | | 22.41 | 22.1 | 21.71 |
| 15 | 36 | 39 | | 22.45 | 22.11 | 21.56 |
| 15 | 75 | 0 | | 22.37 | 22.14 | 21.73 |
| 15 | 1 | 0 | 16-QAM | 22.17 | 22.75 | 21.92 |
| 15 | 1 | 38 | | 22.15 | 22.67 | 21.59 |
| 15 | 1 | 75 | | 22.09 | 22.6 | 21.15 |
| 15 | 36 | 0 | | 20.97 | 20.94 | 20.65 |
| 15 | 36 | 18 | | 21.21 | 20.63 | 20.58 |
| 15 | 36 | 39 | | 21.19 | 20.65 | 20.09 |
| 15 | 75 | 0 | | 21.27 | 20.66 | 20.64 |
| 20 | 1 | 0 | QPSK | 22.95 | 23.18 | 22.84 |
| 20 | 1 | 49 | | 23.08 | 22.94 | 22.57 |
| 20 | 1 | 99 | | 23.04 | 23.03 | 22.2 |
| 20 | 50 | 0 | | 22.41 | 22.3 | 22.19 |
| 20 | 50 | 24 | | 22.5 | 22.24 | 21.83 |
| 20 | 50 | 49 | | 22.35 | 22.21 | 21.66 |
| 20 | 100 | 0 | | 22.47 | 22.28 | 21.89 |
| 20 | 1 | 0 | 16-QAM | 22.54 | 22.49 | 22.76 |
| 20 | 1 | 49 | | 22.58 | 22.34 | 22.51 |
| 20 | 1 | 99 | | 22.58 | 22.32 | 22.05 |
| 20 | 50 | 0 | | 21.07 | 21.05 | 20.76 |
| 20 | 50 | 24 | | 21.3 | 20.73 | 20.82 |
| 20 | 50 | 49 | | 21.28 | 20.75 | 20.56 |
| 20 | 100 | 0 | | 21.27 | 20.82 | 20.76 |

LTE BAND 26

| LTE Band 26Part22 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 1.4 | 1 | 0 | QPSK | 22.8 | 22.72 | 23 |
| 1.4 | 1 | 2 | | 22.81 | 22.78 | 23.05 |
| 1.4 | 1 | 5 | | 22.84 | 22.81 | 23.04 |
| 1.4 | 3 | 0 | | 22.63 | 22.85 | 22.83 |
| 1.4 | 3 | 1 | | 22.68 | 22.89 | 22.97 |
| 1.4 | 3 | 2 | | 22.6 | 22.95 | 22.93 |
| 1.4 | 6 | 0 | | 22.11 | 22.29 | 22.4 |
| 1.4 | 1 | 0 | 16-QAM | 22.42 | 22.94 | 22.91 |
| 1.4 | 1 | 2 | | 22.46 | 22.96 | 22.67 |
| 1.4 | 1 | 5 | | 22.4 | 22.98 | 22.64 |
| 1.4 | 3 | 0 | | 21.63 | 21.74 | 22.27 |
| 1.4 | 3 | 1 | | 21.69 | 21.81 | 21.88 |
| 1.4 | 3 | 2 | | 21.62 | 21.81 | 21.95 |
| 1.4 | 6 | 0 | | 20.58 | 21.25 | 20.93 |
| 3 | 1 | 0 | QPSK | 22.78 | 22.73 | 23.1 |
| 3 | 1 | 7 | | 22.76 | 22.82 | 23.09 |
| 3 | 1 | 14 | | 22.86 | 22.8 | 23.07 |
| 3 | 8 | 0 | | 22.08 | 22.36 | 22.34 |
| 3 | 8 | 4 | | 22.1 | 22.36 | 22.28 |
| 3 | 8 | 7 | | 22.03 | 22.25 | 22.44 |
| 3 | 15 | 0 | | 22.06 | 22.3 | 22.28 |
| 3 | 1 | 0 | 16-QAM | 21.83 | 22.98 | 23.13 |
| 3 | 1 | 7 | | 21.84 | 23.06 | 23.09 |
| 3 | 1 | 14 | | 21.95 | 23.08 | 22.68 |
| 3 | 8 | 0 | | 20.45 | 20.84 | 21.29 |
| 3 | 8 | 4 | | 20.42 | 21.19 | 21.14 |
| 3 | 8 | 7 | | 20.97 | 21.22 | 20.87 |
| 3 | 15 | 0 | | 20.6 | 21.33 | 21.31 |

| LTE Band 26Part22 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 5 | 1 | 0 | QPSK | 22.54 | 22.89 | 22.88 |
| 5 | 1 | 12 | | 22.69 | 22.92 | 22.75 |
| 5 | 1 | 24 | | 22.67 | 22.88 | 22.79 |
| 5 | 12 | 0 | | 22.07 | 22.27 | 22.44 |
| 5 | 12 | 6 | | 22.15 | 22.36 | 22.29 |
| 5 | 12 | 11 | | 21.97 | 22.27 | 22.32 |
| 5 | 25 | 0 | | 22.04 | 22.36 | 22.26 |
| 5 | 1 | 0 | 16-QAM | 22.5 | 22.41 | 21.96 |
| 5 | 1 | 12 | | 22.44 | 22.56 | 22.23 |
| 5 | 1 | 24 | | 22.42 | 22.51 | 21.89 |
| 5 | 12 | 0 | | 20.53 | 20.83 | 21.33 |
| 5 | 12 | 6 | | 20.92 | 21.33 | 21.3 |
| 5 | 12 | 11 | | 20.9 | 21.28 | 21.31 |
| 5 | 25 | 0 | | 21.1 | 21.21 | 21.26 |
| 10 | 1 | 0 | QPSK | 22.88 | 22.66 | 23.03 |
| 10 | 1 | 24 | | 22.89 | 22.82 | 23.09 |
| 10 | 1 | 49 | | 23.05 | 22.86 | 22.99 |
| 10 | 25 | 0 | | 22.01 | 22.28 | 22.34 |
| 10 | 25 | 12 | | 22.16 | 22.26 | 22.35 |
| 10 | 25 | 24 | | 22.25 | 22.25 | 22.36 |
| 10 | 50 | 0 | | 22.25 | 22.26 | 22.36 |
| 10 | 1 | 0 | 16-QAM | 21.83 | 22.67 | 22.44 |
| 10 | 1 | 24 | | 21.84 | 22.76 | 22.4 |
| 10 | 1 | 49 | | 22.05 | 22.9 | 22.49 |
| 10 | 25 | 0 | | 21.08 | 21 | 20.94 |
| 10 | 25 | 12 | | 20.79 | 21.44 | 21.4 |
| 10 | 25 | 24 | | 20.77 | 21.41 | 21.39 |
| 10 | 50 | 0 | | 20.83 | 21.38 | 21.42 |

| LTE Band 26Part22 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 15 | 1 | 0 | QPSK | 22.9 | 22.63 | 22.82 |
| 15 | 1 | 24 | | 23.01 | 22.86 | 23 |
| 15 | 1 | 49 | | 23.13 | 22.93 | 22.94 |
| 15 | 25 | 0 | | 22.05 | 22.23 | 22.41 |
| 15 | 25 | 12 | | 22.12 | 22.27 | 22.43 |
| 15 | 25 | 24 | | 22.2 | 22.47 | 22.29 |
| 15 | 50 | 0 | | 22.12 | 22.37 | 22.4 |
| 15 | 1 | 0 | 16-QAM | 21.85 | 22.57 | 22.05 |
| 15 | 1 | 24 | | 21.93 | 22.83 | 22.16 |
| 15 | 1 | 49 | | 22.09 | 22.84 | 22.16 |
| 15 | 25 | 0 | | 20.67 | 20.77 | 21.24 |
| 15 | 25 | 12 | | 20.64 | 21.22 | 20.86 |
| 15 | 25 | 24 | | 20.87 | 20.88 | 21.33 |
| 15 | 50 | 0 | | 20.79 | 21.33 | 20.95 |

| LTE Band 26Part90 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 1.4 | 1 | 0 | QPSK | 22.74 | 22.46 | 23.01 |
| 1.4 | 1 | 2 | | 22.75 | 22.45 | 22.95 |
| 1.4 | 1 | 5 | | 22.68 | 22.35 | 22.83 |
| 1.4 | 3 | 0 | | 22.62 | 22.66 | 22.67 |
| 1.4 | 3 | 1 | | 22.68 | 22.66 | 22.58 |
| 1.4 | 3 | 2 | | 22.66 | 22.69 | 22.64 |
| 1.4 | 6 | 0 | | 22.12 | 22.14 | 22.1 |
| 1.4 | 1 | 0 | 16-QAM | 22.72 | 22.79 | 22.48 |
| 1.4 | 1 | 2 | | 22.73 | 22.85 | 22.44 |
| 1.4 | 1 | 5 | | 22.6 | 22.87 | 22.4 |
| 1.4 | 3 | 0 | | 22.12 | 21.48 | 21.68 |
| 1.4 | 3 | 1 | | 22.08 | 21.54 | 21.68 |
| 1.4 | 3 | 2 | | 22.08 | 21.53 | 21.58 |
| 1.4 | 6 | 0 | | 20.96 | 20.97 | 20.83 |
| 3 | 1 | 0 | QPSK | 22.85 | 22.43 | 22.82 |
| 3 | 1 | 7 | | 22.7 | 22.39 | 22.84 |
| 3 | 1 | 14 | | 22.67 | 22.42 | 22.87 |
| 3 | 8 | 0 | | 22.06 | 22.2 | 22.12 |
| 3 | 8 | 4 | | 22.15 | 22.06 | 22.13 |
| 3 | 8 | 7 | | 22.16 | 22.12 | 22.01 |
| 3 | 15 | 0 | | 22.11 | 22.05 | 22.09 |
| 3 | 1 | 0 | 16-QAM | 22.14 | 22.93 | 22.41 |
| 3 | 1 | 7 | | 22.17 | 22.87 | 22.5 |
| 3 | 1 | 14 | | 21.81 | 22.96 | 22.44 |
| 3 | 8 | 0 | | 20.96 | 20.94 | 20.37 |
| 3 | 8 | 4 | | 20.97 | 20.98 | 21.01 |
| 3 | 8 | 7 | | 21 | 20.93 | 21 |
| 3 | 15 | 0 | | 21.11 | 21.08 | 21.06 |

| LTE Band 26Part90 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 5 | 1 | 0 | QPSK | 22.71 | 22.69 | 22.44 |
| 5 | 1 | 12 | | 22.62 | 22.68 | 22.42 |
| 5 | 1 | 24 | | 22.67 | 22.7 | 22.5 |
| 5 | 12 | 0 | | 22.07 | 22.05 | 22.05 |
| 5 | 12 | 6 | | 22.07 | 21.95 | 22.03 |
| 5 | 12 | 11 | | 22.05 | 22.09 | 22.11 |
| 5 | 25 | 0 | | 22.19 | 22.13 | 22.1 |
| 5 | 1 | 0 | 16-QAM | 22.68 | 22.24 | 21.63 |
| 5 | 1 | 12 | | 22.32 | 22.19 | 21.68 |
| 5 | 1 | 24 | | 22.26 | 22.25 | 21.66 |
| 5 | 12 | 0 | | 20.93 | 20.96 | 20.56 |
| 5 | 12 | 6 | | 20.87 | 21.04 | 20.54 |
| 5 | 12 | 11 | | 20.86 | 20.64 | 21 |
| 5 | 25 | 0 | | 21.07 | 20.96 | 20.42 |
| 10 | 1 | 0 | QPSK | N/A | 22.93 | N/A |
| 10 | 1 | 24 | | N/A | 22.87 | N/A |
| 10 | 1 | 49 | | N/A | 22.84 | N/A |
| 10 | 25 | 0 | | N/A | 23.05 | N/A |
| 10 | 25 | 12 | | N/A | 22.03 | N/A |
| 10 | 25 | 24 | | N/A | 22.15 | N/A |
| 10 | 50 | 0 | | N/A | 22.17 | N/A |
| 10 | 1 | 0 | 16-QAM | N/A | 22.23 | N/A |
| 10 | 1 | 24 | | N/A | 21.8 | N/A |
| 10 | 1 | 49 | | N/A | 21.82 | N/A |
| 10 | 25 | 0 | | N/A | 21.07 | N/A |
| 10 | 25 | 12 | | N/A | 21.09 | N/A |
| 10 | 25 | 24 | | N/A | 20.54 | N/A |
| 10 | 50 | 0 | | N/A | 21.05 | N/A |

LTE BAND 38

| LTE Band 41 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 5 | 1 | 0 | QPSK | 22.18 | **21.75** | **21.2** |
| 5 | 1 | 12 | | 22.17 | 21.73 | 21.08 |
| 5 | 1 | 24 | | **22.2** | 21.69 | 21.05 |
| 5 | 12 | 0 | | 21.5 | 21.3 | 20.65 |
| 5 | 12 | 6 | | 21.53 | 21.3 | 20.56 |
| 5 | 12 | 11 | | 21.42 | 21.31 | 20.54 |
| 5 | 25 | 0 | | 21.4 | 21.29 | 20.59 |
| 5 | 1 | 0 | 16-QAM | 21 | 21.21 | 20.55 |
| 5 | 1 | 12 | | 21.65 | 21.26 | 20.55 |
| 5 | 1 | 24 | | 21.61 | 21.31 | 20.26 |
| 5 | 12 | 0 | | 19.98 | 19.7 | 19.04 |
| 5 | 12 | 6 | | 20.05 | 19.71 | 19.02 |
| 5 | 12 | 11 | | 20.06 | 19.53 | 19.15 |
| 5 | 25 | 0 | | 20.22 | 20 | 18.97 |
| 10 | 1 | 0 | QPSK | 21.96 | 21.65 | **21.1** |
| 10 | 1 | 24 | | **22.05** | 21.66 | 20.97 |
| 10 | 1 | 49 | | 22.01 | 21.65 | 20.83 |
| 10 | 25 | 0 | | 21.47 | 21.39 | 20.64 |
| 10 | 25 | 12 | | 21.56 | 21.29 | 20.49 |
| 10 | 25 | 24 | | 21.54 | 21.33 | 20.46 |
| 10 | 50 | 0 | | 21.56 | 21.21 | 20.54 |
| 10 | 1 | 0 | 16-QAM | 21.39 | 21.41 | 20.67 |
| 10 | 1 | 24 | | 21.41 | 21.58 | 20.51 |
| 10 | 1 | 49 | | 21.51 | **21.72** | 20.52 |
| 10 | 25 | 0 | | 20.06 | 19.86 | 19.33 |
| 10 | 25 | 12 | | 20.07 | 19.91 | 19.21 |
| 10 | 25 | 24 | | 20.16 | 19.89 | 19.14 |
| 10 | 50 | 0 | | 20.21 | 20 | 19.3 |

| LTE Band 41 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 15 | 1 | 0 | QPSK | 21.96 | 21.67 | 21.09 |
| 15 | 1 | 37 | | 21.95 | 21.64 | 21.03 |
| 15 | 1 | 74 | | 22.05 | 21.69 | 20.97 |
| 15 | 36 | 0 | | 21.49 | 21.26 | 20.62 |
| 15 | 36 | 18 | | 21.52 | 21.39 | 20.67 |
| 15 | 36 | 39 | | 21.6 | 21.33 | 20.61 |
| 15 | 75 | 0 | | 21.59 | 21.35 | 20.52 |
| 15 | 1 | 0 | 16-QAM | 21.42 | 21.29 | 21.12 |
| 15 | 1 | 38 | | 21.44 | 21.57 | 21.23 |
| 15 | 1 | 75 | | 21.47 | 21.46 | 20.79 |
| 15 | 36 | 0 | | 20.14 | 19.96 | 19.21 |
| 15 | 36 | 18 | | 20.11 | 19.89 | 19.07 |
| 15 | 36 | 39 | | 20.21 | 19.96 | 18.86 |
| 15 | 75 | 0 | | 20.19 | 20.01 | 19.3 |
| 20 | 1 | 0 | QPSK | 22.03 | 21.82 | 21.38 |
| 20 | 1 | 49 | | 22.01 | 21.83 | 21.32 |
| 20 | 1 | 99 | | 21.96 | 22.09 | 21.1 |
| 20 | 50 | 0 | | 21.54 | 21.3 | 20.7 |
| 20 | 50 | 24 | | 21.63 | 21.31 | 20.58 |
| 20 | 50 | 49 | | 21.53 | 21.32 | 20.53 |
| 20 | 100 | 0 | | 21.63 | 21.32 | 20.58 |
| 20 | 1 | 0 | 16-QAM | 21.38 | 21.22 | 20.5 |
| 20 | 1 | 49 | | 21.52 | 21.21 | 20.62 |
| 20 | 1 | 99 | | 21.44 | 21.39 | 20.47 |
| 20 | 50 | 0 | | 22.25 | 19.91 | 19.33 |
| 20 | 50 | 24 | | 20.26 | 19.93 | 19.24 |
| 20 | 50 | 49 | | 20.25 | 19.8 | 19.23 |
| 20 | 100 | 0 | | 20.33 | 19.94 | 19.31 |

| LTE Band 66 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 1.4 | 1 | 0 | QPSK | 22.49 | 22.35 | 22.52 |
| 1.4 | 1 | 2 | | 22.49 | 22.34 | 22.43 |
| 1.4 | 1 | 5 | | 22.5 | 22.32 | 22.52 |
| 1.4 | 3 | 0 | | 22.3 | 22.4 | 22.18 |
| 1.4 | 3 | 1 | | 22.36 | 22.46 | 22.24 |
| 1.4 | 3 | 2 | | 22.31 | 22.4 | 22.18 |
| 1.4 | 6 | 0 | | 21.62 | 21.97 | 21.71 |
| 1.4 | 1 | 0 | 16-QAM | 21.81 | 22.46 | 22 |
| 1.4 | 1 | 2 | | 21.82 | 22.46 | 22.04 |
| 1.4 | 1 | 5 | | 21.8 | 22.45 | 22.04 |
| 1.4 | 3 | 0 | | 21.4 | 21.63 | 21.37 |
| 1.4 | 3 | 1 | | 21.38 | 21.65 | 21.47 |
| 1.4 | 3 | 2 | | 21.42 | 21.63 | 21.37 |
| 1.4 | 6 | 0 | | 20.19 | 20.86 | 20.23 |
| 3 | 1 | 0 | QPSK | 22.45 | 22.21 | 22.48 |
| 3 | 1 | 7 | | 22.48 | 22.42 | 22.43 |
| 3 | 1 | 14 | | 22.44 | 22.28 | 22.47 |
| 3 | 8 | 0 | | 21.75 | 21.96 | 21.78 |
| 3 | 8 | 4 | | 21.81 | 22.01 | 21.75 |
| 3 | 8 | 7 | | 21.82 | 21.99 | 21.78 |
| 3 | 15 | 0 | | 21.79 | 21.96 | 21.74 |
| 3 | 1 | 0 | 16-QAM | 21.48 | 22.35 | 22.13 |
| 3 | 1 | 7 | | 21.53 | 22.48 | 22.02 |
| 3 | 1 | 14 | | 21.63 | 22.44 | 22.04 |
| 3 | 8 | 0 | | 20.19 | 20.78 | 20.35 |
| 3 | 8 | 4 | | 20.19 | 20.82 | 20.21 |
| 3 | 8 | 7 | | 20.51 | 20.8 | 20.19 |
| 3 | 15 | 0 | | 20.25 | 20.84 | 20.22 |

| LTE Band 66 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 5 | 1 | 0 | QPSK | 22.35 | 22.47 | 22.27 |
| 5 | 1 | 12 | | 22.34 | 22.63 | 22.15 |
| 5 | 1 | 24 | | 22.43 | 22.59 | 22.19 |
| 5 | 12 | 0 | | 21.78 | 21.92 | 21.81 |
| 5 | 12 | 6 | | 21.86 | 21.98 | 21.86 |
| 5 | 12 | 11 | | 21.81 | 22.02 | 21.75 |
| 5 | 25 | 0 | | 21.76 | 21.97 | 21.73 |
| 5 | 1 | 0 | 16-QAM | 22.2 | 21.99 | 21.9 |
| 5 | 1 | 12 | | 22.24 | 22.17 | 21.82 |
| 5 | 1 | 24 | | 22.19 | 22.19 | 21.82 |
| 5 | 12 | 0 | | 20.21 | 20.68 | 20.43 |
| 5 | 12 | 6 | | 20.51 | 20.9 | 20.41 |
| 5 | 12 | 11 | | 20.48 | 20.92 | 20.29 |
| 5 | 25 | 0 | | 20.68 | 20.9 | 20.42 |
| 10 | 1 | 0 | QPSK | 22.59 | 21.98 | 22.64 |
| 10 | 1 | 24 | | 22.62 | 22.19 | 22.48 |
| 10 | 1 | 49 | | 22.78 | 22.19 | 22.34 |
| 10 | 25 | 0 | | 21.84 | 21.8 | 21.97 |
| 10 | 25 | 12 | | 21.95 | 21.91 | 21.83 |
| 10 | 25 | 24 | | 21.91 | 21.91 | 21.83 |
| 10 | 50 | 0 | | 21.9 | 22 | 21.82 |
| 10 | 1 | 0 | 16-QAM | 21.5 | 22.4 | 22.1 |
| 10 | 1 | 24 | | 21.62 | 22.49 | 21.9 |
| 10 | 1 | 49 | | 21.71 | 22.6 | 21.85 |
| 10 | 25 | 0 | | 20.7 | 20.79 | 20.75 |
| 10 | 25 | 12 | | 20.54 | 20.97 | 20.46 |
| 10 | 25 | 24 | | 20.62 | 20.87 | 20.43 |
| 10 | 50 | 0 | | 20.46 | 21.03 | 20.36 |

| LTE Band 66 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 15 | 1 | 0 | QPSK | 22.57 | 22.04 | 22.71 |
| 15 | 1 | 37 | | 22.68 | 22.27 | 22.43 |
| 15 | 1 | 74 | | 22.83 | 22.36 | 22.28 |
| 15 | 36 | 0 | | 21.94 | 21.86 | 22.11 |
| 15 | 36 | 18 | | 21.86 | 22.05 | 21.97 |
| 15 | 36 | 39 | | 21.99 | 22.11 | 21.76 |
| 15 | 75 | 0 | | 21.91 | 22.01 | 21.88 |
| 15 | 1 | 0 | 16-QAM | 21.51 | 22.41 | 21.96 |
| 15 | 1 | 38 | | 21.66 | 22.55 | 21.76 |
| 15 | 1 | 75 | | 21.77 | 22.58 | 21.6 |
| 15 | 36 | 0 | | 20.45 | 20.59 | 20.64 |
| 15 | 36 | 18 | | 20.51 | 20.89 | 20.67 |
| 15 | 36 | 39 | | 20.55 | 20.89 | 20.35 |
| 15 | 75 | 0 | | 20.5 | 20.95 | 20.8 |
| 20 | 1 | 0 | QPSK | 22.47 | 22.5 | 22.64 |
| 20 | 1 | 49 | | 22.66 | 22.59 | 22.57 |
| 20 | 1 | 99 | | 22.61 | 22.86 | 22.33 |
| 20 | 50 | 0 | | 21.89 | 21.8 | 22.15 |
| 20 | 50 | 24 | | 21.98 | 22.07 | 22.01 |
| 20 | 50 | 49 | | 21.99 | 22.13 | 21.88 |
| 20 | 100 | 0 | | 22.06 | 22.06 | 22.1 |
| 20 | 1 | 0 | 16-QAM | 21.9 | 22.19 | 22.06 |
| 20 | 1 | 49 | | 22.08 | 22.31 | 22.04 |
| 20 | 1 | 99 | | 22.17 | 22.42 | 21.76 |
| 20 | 50 | 0 | | 20.52 | 20.68 | 20.65 |
| 20 | 50 | 24 | | 20.55 | 20.96 | 20.68 |
| 20 | 50 | 49 | | 20.61 | 20.97 | 20.49 |
| 20 | 100 | 0 | | 20.6 | 20.92 | 20.73 |

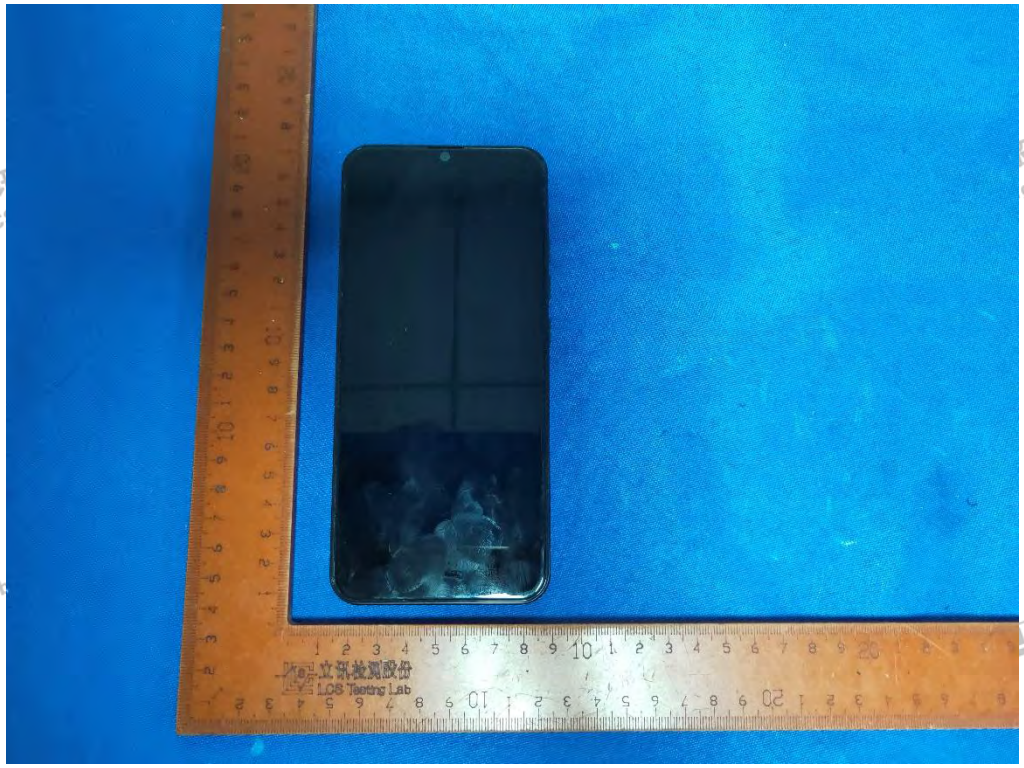
| LTE Band 71 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 5 | 1 | 0 | QPSK | 23.3 | 22.99 | 23.03 |
| 5 | 1 | 2 | | 23.3 | 22.92 | 23.05 |
| 5 | 1 | 5 | | 23.32 | 22.95 | 23.07 |
| 5 | 3 | 0 | | 22.66 | 22.67 | 22.68 |
| 5 | 3 | 1 | | 22.75 | 22.64 | 22.62 |
| 5 | 3 | 2 | | 22.79 | 22.51 | 22.69 |
| 5 | 6 | 0 | | 22.81 | 22.55 | 22.67 |
| 5 | 1 | 0 | 16-QAM | 22.74 | 22.53 | 22.57 |
| 5 | 1 | 2 | | 22.86 | 22.91 | 22.6 |
| 5 | 1 | 5 | | 22.77 | 22.99 | 22.59 |
| 5 | 3 | 0 | | 21.68 | 21.53 | 21.19 |
| 5 | 3 | 1 | | 21.63 | 21.45 | 21.03 |
| 5 | 3 | 2 | | 21.69 | 21.54 | 21.03 |
| 5 | 6 | 0 | | 21.63 | 21.43 | 21.11 |
| 10 | 1 | 0 | QPSK | 23.4 | 23 | 23.15 |
| 10 | 1 | 7 | | 23.47 | 23.02 | 23.29 |
| 10 | 1 | 14 | | 23.44 | 23.01 | 23.32 |
| 10 | 8 | 0 | | 22.67 | 22.53 | 22.66 |
| 10 | 8 | 4 | | 22.79 | 22.56 | 22.63 |
| 10 | 8 | 7 | | 22.62 | 22.49 | 22.73 |
| 10 | 15 | 0 | | 22.73 | 22.51 | 22.63 |
| 10 | 1 | 0 | 16-QAM | 22.32 | 23.49 | 22.57 |
| 10 | 1 | 7 | | 22.3 | 23.38 | 22.56 |
| 10 | 1 | 14 | | 22.38 | 23.05 | 22.74 |
| 10 | 8 | 0 | | 21.7 | 21.6 | 21.08 |
| 10 | 8 | 4 | | 21.21 | 21.58 | 21.06 |
| 10 | 8 | 7 | | 21.7 | 21.58 | 21.14 |
| 10 | 15 | 0 | | 21.2 | 21.53 | 21.09 |

| LTE Band 71 Maximum Average Power [dBm] | | | | | | |
|---|---|---|---|---|---|---|
| **BW [MHz]** | **RB Size** | **RB Offset** | **Mod** | **Lowest** | **Middle** | **Highest** |
| 15 | 1 | 0 | QPSK | 23.24 | 22.96 | 23.15 |
| 15 | 1 | 12 | | 23.4 | 22.85 | 23.13 |
| 15 | 1 | 24 | | 23.34 | 22.99 | 23.27 |
| 15 | 12 | 0 | | 22.73 | 22.53 | 22.61 |
| 15 | 12 | 6 | | 22.56 | 22.56 | 22.68 |
| 15 | 12 | 11 | | 22.63 | 22.54 | 22.73 |
| 15 | 25 | 0 | | 22.6 | 22.53 | 22.69 |
| 15 | 1 | 0 | 16-QAM | 22.36 | 23.03 | 22.31 |
| 15 | 1 | 12 | | 22.41 | 23.35 | 22.33 |
| 15 | 1 | 24 | | 22.67 | 23.18 | 22.45 |
| 15 | 12 | 0 | | 21.19 | 21.51 | 21.51 |
| 15 | 12 | 6 | | 21.61 | 21.47 | 21.1 |
| 15 | 12 | 11 | | 21.11 | 21.53 | 21.13 |
| 15 | 25 | 0 | | 21.59 | 21.47 | 21.21 |
| 20 | 1 | 0 | QPSK | 23.17 | 23.36 | 23.13 |
| 20 | 1 | 24 | | 23.26 | 23.17 | 23.2 |
| 20 | 1 | 49 | | 23.08 | 23.23 | 23.4 |
| 20 | 25 | 0 | | 22.75 | 22.56 | 22.66 |
| 20 | 25 | 12 | | 22.76 | 22.59 | 22.68 |
| 20 | 25 | 24 | | 22.74 | 22.59 | 22.64 |
| 20 | 50 | 0 | | 22.72 | 22.63 | 22.73 |
| 20 | 1 | 0 | 16-QAM | 22.53 | 23.5 | 22.84 |
| 20 | 1 | 24 | | 22.63 | 23.63 | 22.56 |
| 20 | 1 | 49 | | 22.87 | 23.42 | 22.67 |
| 20 | 25 | 0 | | 21.24 | 21.6 | 21.58 |
| 20 | 25 | 12 | | 21.62 | 21.54 | 21.59 |
| 20 | 25 | 24 | | 21.63 | 21.59 | 21.1 |
| 20 | 50 | 0 | | 21.64 | 21.49 | 21.57 |

# 11. EUT And Test Setup Photo

## 11.1 EUT Photo

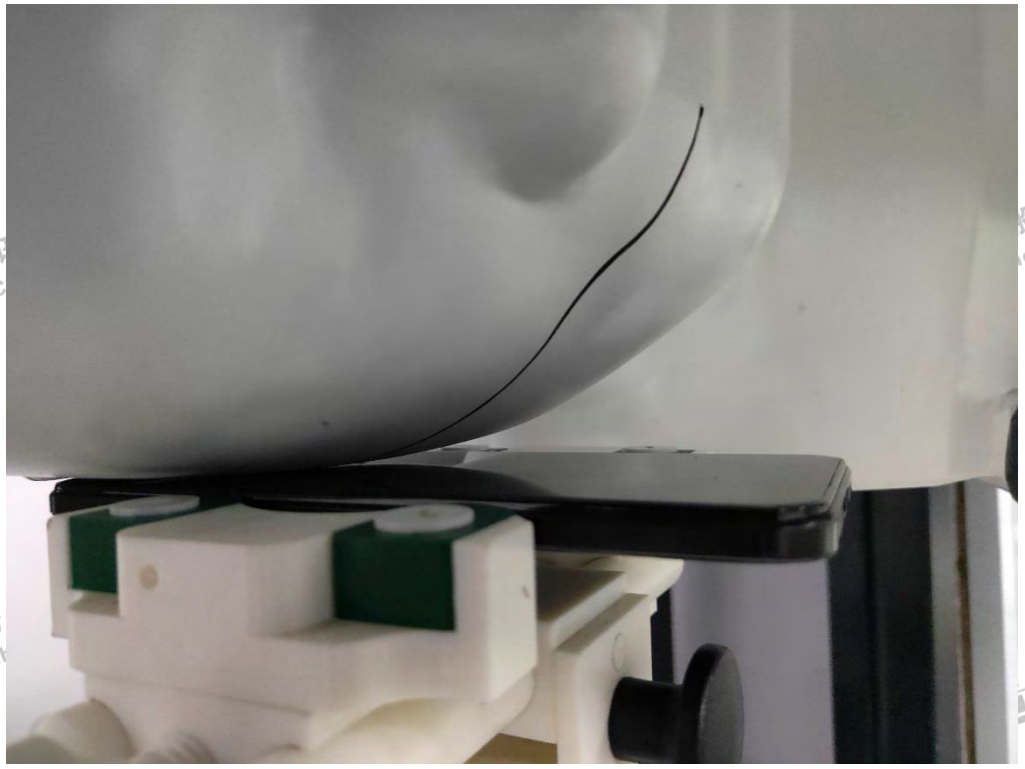
Front side



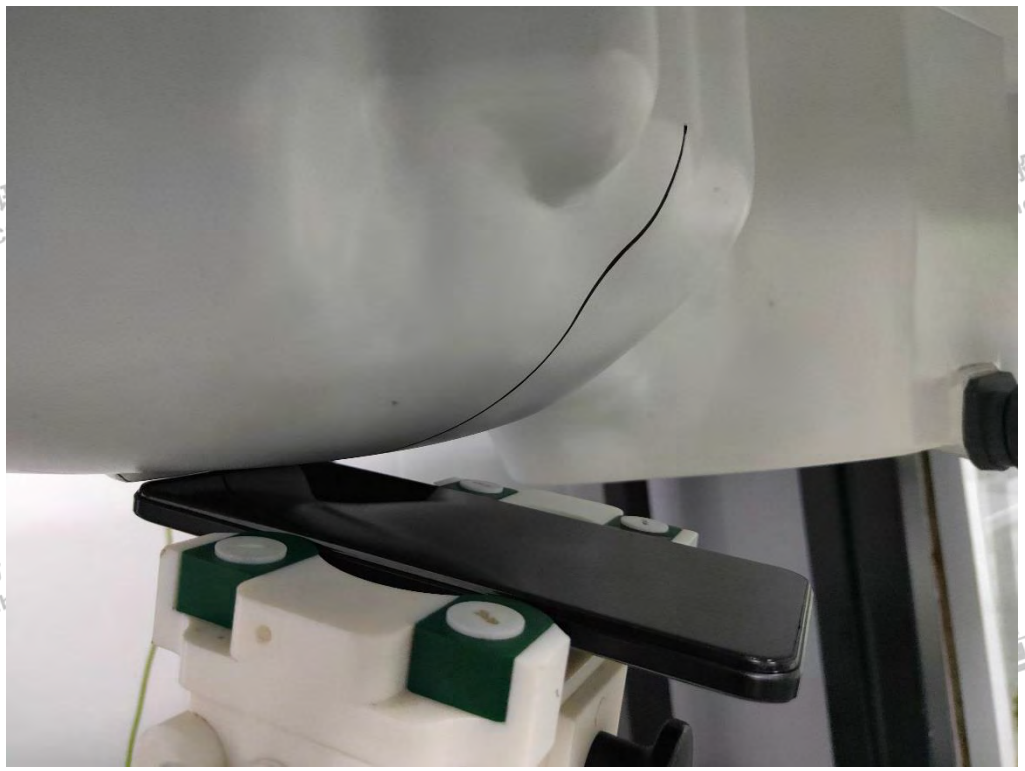
Back side

## 11.2 Setup Photo

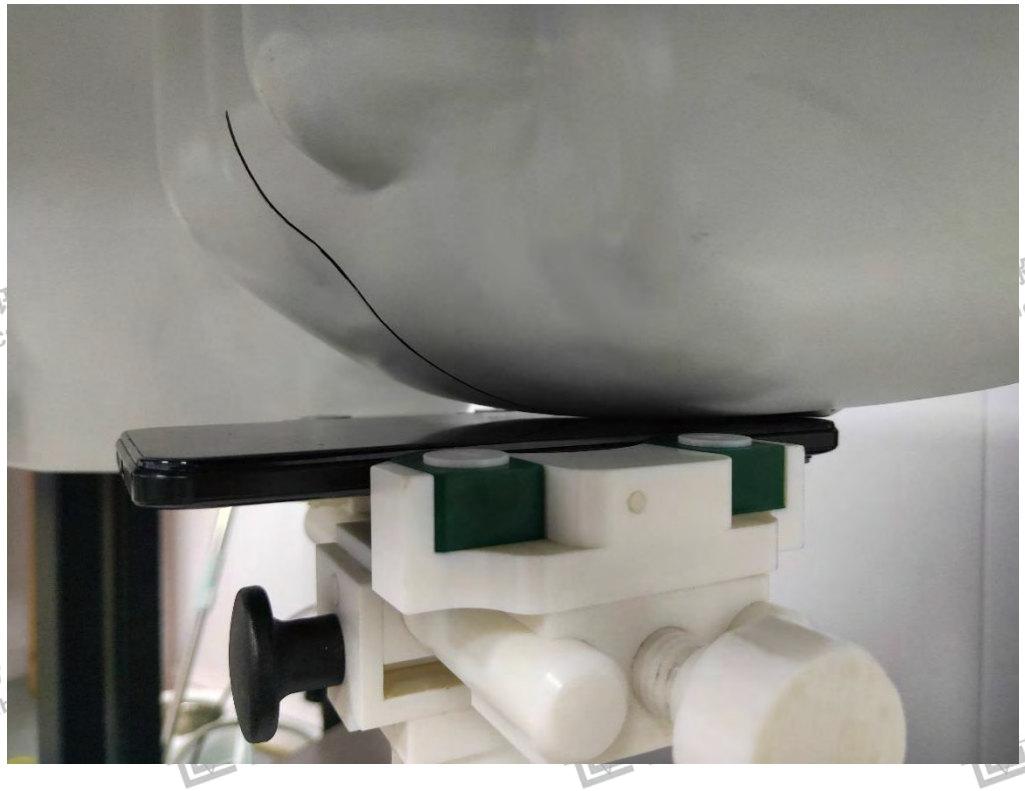
Right Touch



Right Tilt

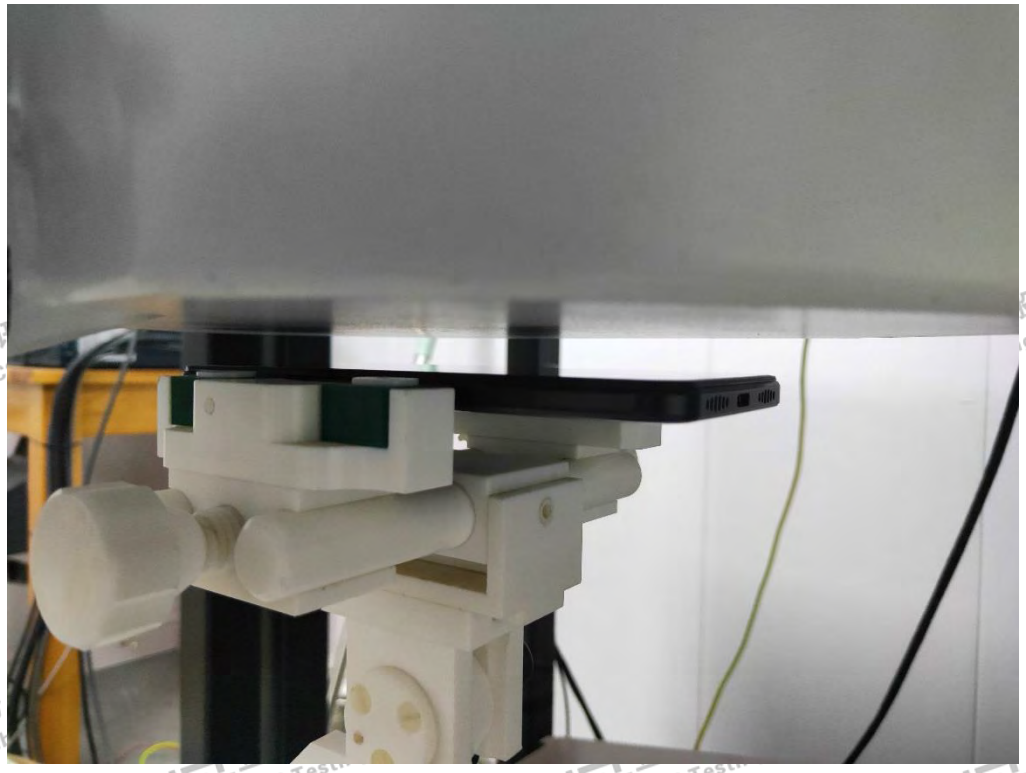


Left Touch

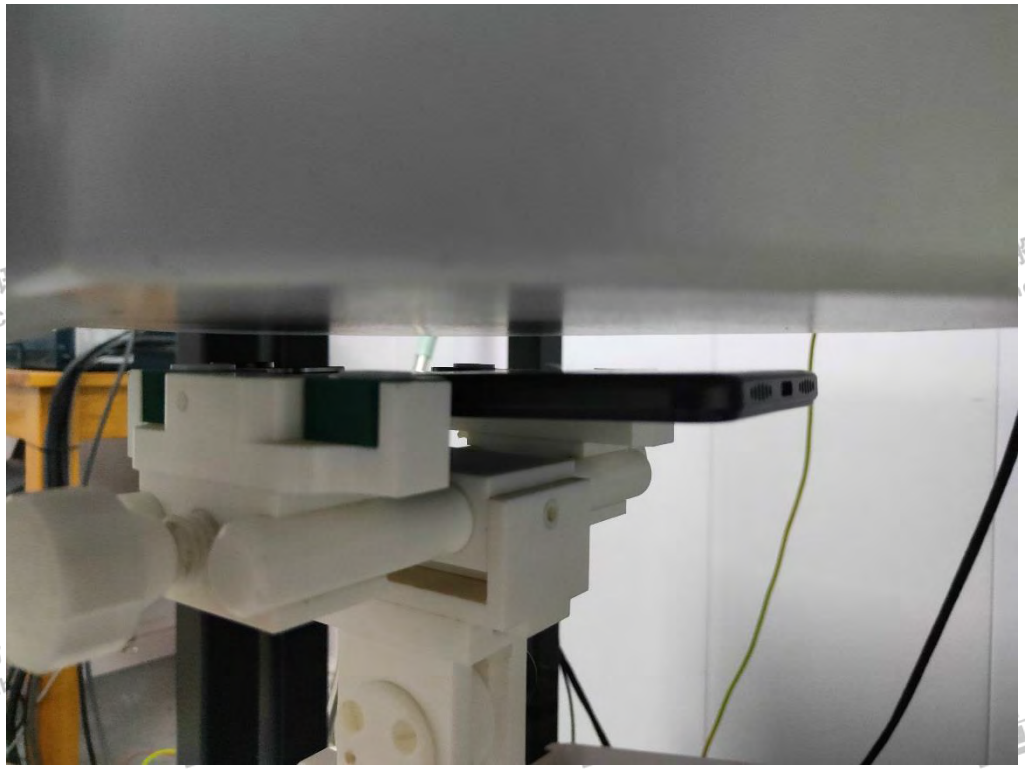


Left Tilt

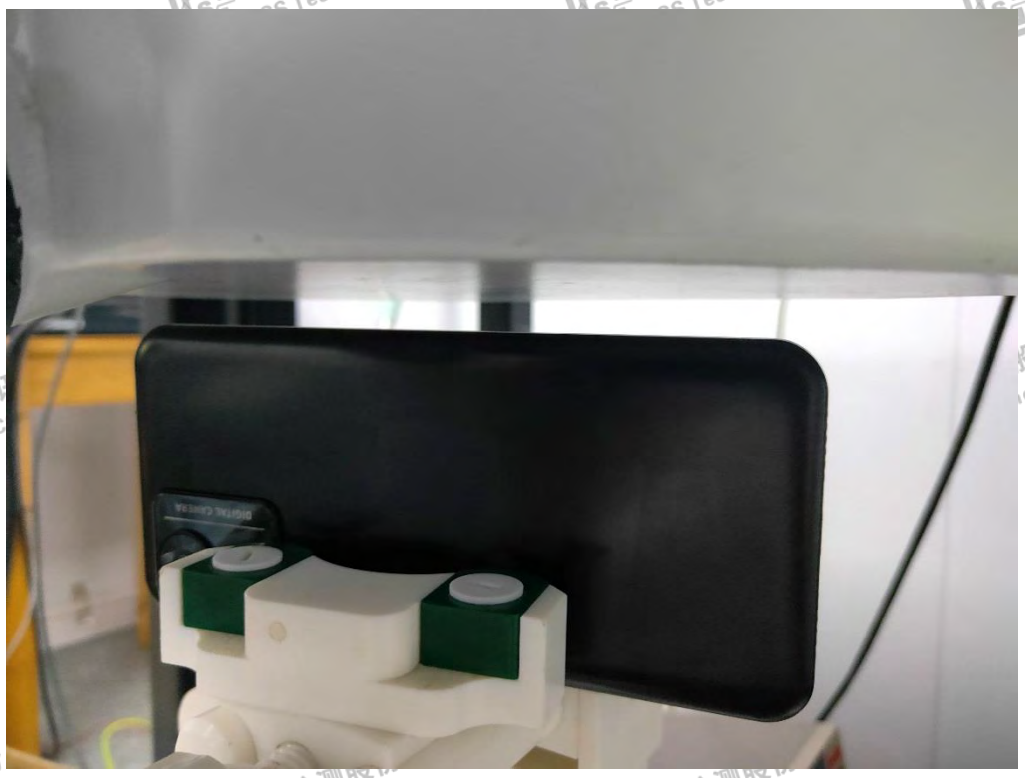
Body Front side(separation distance is 10mm)



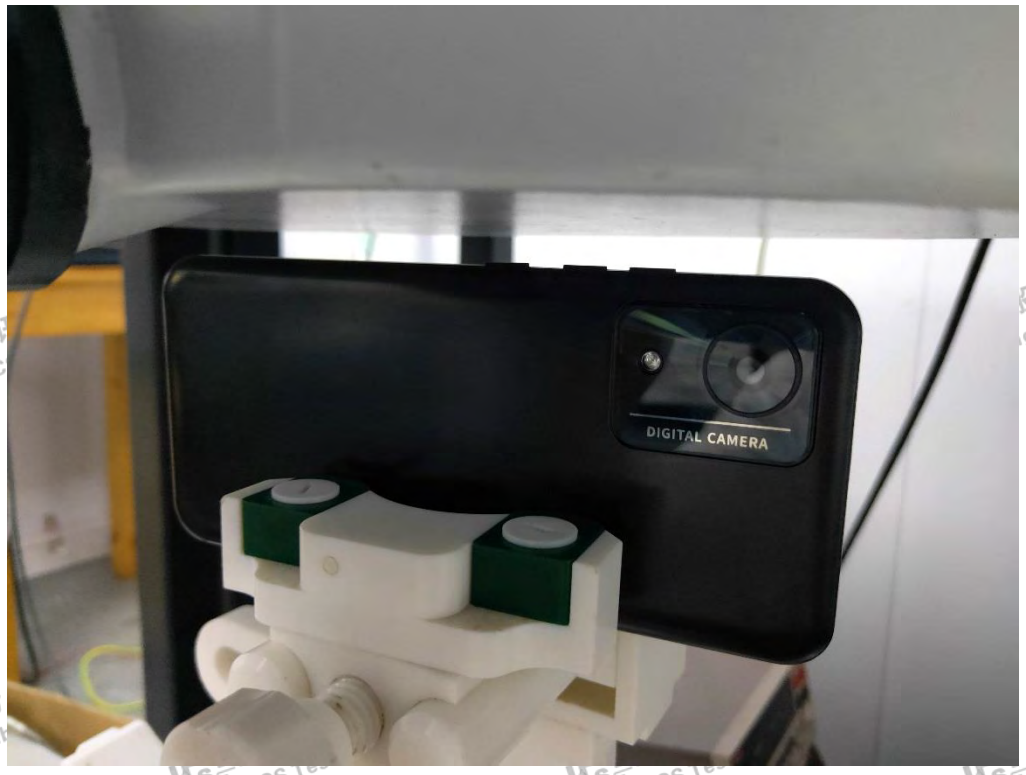
Body Back side(separation distance is 10mm)



Body Left side(separation distance is 10mm)



Body Right side(separation distance is 10mm)



Body Bottom side(separation distance is 10mm)

Body Top side(separation distance is 10mm)

# 12. SAR Result Summary

## 12.1 Head-worn 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 | GPRS Data-4 Slot | Right Cheek | 848.8 | 0.284 | 0.29 | 33.00 | 32.97 | 0.286 | **1** |
| | | Right Tilt | 848.8 | 0.083 | -3.70 | 33.00 | 32.97 | 0.084 | / |
| | | Left Cheek | 848.8 | 0.255 | 3.14 | 33.00 | 32.97 | 0.257 | / |
| | | Left Tilt | 848.8 | 0.074 | -2.62 | 33.00 | 32.97 | 0.075 | / |
| GSM1900 | GPRS Data-4 Slot | Right Cheek | 1850.2 | 0.079 | -1.18 | 29.50 | 29.47 | 0.080 | **3** |
| | | Right Tilt | 1850.2 | 0.033 | -0.58 | 29.50 | 29.47 | 0.033 | / |
| | | Left Cheek | 1850.2 | 0.071 | 1.72 | 29.50 | 29.47 | 0.071 | / |
| | | Left Tilt | 1850.2 | 0.028 | 1.09 | 29.50 | 29.47 | 0.028 | / |
| WCDMA Band II | RMC | Right Cheek | 1852.4 | 0.294 | 0.86 | 23.50 | 23.39 | 0.302 | **5** |
| | | Right Cheek | 1880 | 0.251 | -3.04 | 23.50 | 23.17 | 0.271 | **/** |
| | | Right Cheek | 1907.6 | 0.223 | 1.71 | 23.50 | 22.99 | 0.251 | **/** |
| | | Right Tilt | 1852.4 | 0.092 | 0.34 | 23.50 | 23.39 | 0.094 | / |
| | | Left Cheek | 1852.4 | 0.277 | 2.43 | 23.50 | 23.39 | 0.284 | / |
| | | Left Tilt | 1852.4 | 0.088 | -3.95 | 23.50 | 23.39 | 0.090 | / |
| WCDMA Band V | RMC | Right Cheek | 846.6 | 0.135 | -0.16 | 23.00 | 22.97 | 0.136 | **7** |
| | | Right Tilt | 846.6 | 0.054 | 1.09 | 23.00 | 22.97 | 0.054 | / |
| | | Left Cheek | 846.6 | 0.122 | 0.13 | 23.00 | 22.97 | 0.123 | / |
| | | Left Tilt | 846.6 | 0.047 | 2.37 | 23.00 | 22.97 | 0.047 | / |
| WCDMA Band IV | RMC | Right Cheek | 1712.6 | 0.215 | -0.90 | 23.00 | 22.80 | 0.225 | **9** |
| | | Right Tilt | 1712.6 | 0.066 | -0.67 | 23.00 | 22.80 | 0.069 | / |
| | | Left Cheek | 1712.6 | 0.194 | 1.53 | 23.00 | 22.80 | 0.203 | / |
| | | Left Tilt | 1712.6 | 0.059 | -0.33 | 23.00 | 22.80 | 0.062 | / |

| 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 | Right Cheek | 1880 | 0.136 | 3.09 | 23.5 | 23.29 | 0.143 | **11** |
| | | | 50 | 0 | Right Cheek | 1860 | 0.122 | -1.72 | 23 | 22.56 | 0.135 | / |
| | | | 1 | 0 | Right Tilt | 1880 | 0.067 | 0.00 | 23.5 | 23.29 | 0.070 | / |
| | | | 50 | 0 | Right Tilt | 1860 | 0.063 | -3.26 | 23 | 22.56 | 0.070 | / |
| | | | 1 | 0 | Left Cheek | 1880 | 0.125 | -0.90 | 23.5 | 23.29 | 0.131 | / |
| | | | 50 | 0 | Left Cheek | 1860 | 0.117 | 2.22 | 23 | 22.56 | 0.129 | / |
| | | | 1 | 0 | Left Tilt | 1880 | 0.056 | 2.73 | 23.5 | 23.29 | 0.059 | / |
| | | | 50 | 0 | Left Tilt | 1860 | 0.049 | -0.58 | 23 | 22.56 | 0.054 | / |
| LTE Band 4 | 20M | QPSK | 1 | 0 | Right Cheek | 1732.5 | 0.214 | -1.41 | 23 | 22.75 | 0.227 | **13** |
| | | | 50 | 0 | Right Cheek | 1732.5 | 0.195 | -2.28 | 23 | 22.85 | 0.202 | / |
| | | | 1 | 0 | Right Tilt | 1732.5 | 0.077 | -0.77 | 23 | 22.75 | 0.082 | / |
| | | | 50 | 0 | Right Tilt | 1732.5 | 0.065 | 2.81 | 23 | 22.85 | 0.067 | / |
| | | | 1 | 0 | Left Cheek | 1732.5 | 0.209 | 1.86 | 23 | 22.75 | 0.221 | / |
| | | | 50 | 0 | Left Cheek | 1732.5 | 0.190 | 3.27 | 23 | 22.85 | 0.197 | / |
| | | | 1 | 0 | Left Tilt | 1732.5 | 0.069 | -0.24 | 23 | 22.75 | 0.073 | / |
| | | | 50 | 0 | Left Tilt | 1732.5 | 0.061 | -0.84 | 23 | 22.85 | 0.063 | / |
| LTE Band 5 | 10M | QPSK | 1 | 0 | Right Cheek | 844 | 0.226 | 0.61 | 23.5 | 23.09 | 0.248 | **15** |
| | | | 25 | 0 | Right Cheek | 836.5 | 0.201 | -1.18 | 22.5 | 22.4 | 0.206 | / |
| | | | 1 | 0 | Right Tilt | 844 | 0.079 | 2.06 | 23.5 | 23.09 | 0.087 | / |
| | | | 25 | 0 | Right Tilt | 836.5 | 0.070 | 2.68 | 22.5 | 22.4 | 0.072 | / |
| | | | 1 | 0 | Left Cheek | 844 | 0.187 | 2.14 | 23.5 | 23.09 | 0.206 | / |
| | | | 25 | 0 | Left Cheek | 836.5 | 0.177 | 2.74 | 22.5 | 22.4 | 0.181 | / |
| | | | 1 | 0 | Left Tilt | 844 | 0.064 | 2.31 | 23.5 | 23.09 | 0.070 | / |
| | | | 25 | 0 | Left Tilt | 836.5 | 0.058 | 2.53 | 22.5 | 22.4 | 0.059 | / |
| LTE Band 12 | 10M | QPSK | 1 | 0 | Right Cheek | 704 | 0.211 | -3.06 | 23.5 | 23.41 | 0.215 | **17** |
| | | | 25 | 0 | Right Cheek | 707.5 | 0.192 | -2.15 | 23 | 22.81 | 0.201 | / |
| | | | 1 | 0 | Right Tilt | 704 | 0.068 | -1.67 | 23.5 | 23.41 | 0.069 | / |
| | | | 25 | 0 | Right Tilt | 707.5 | 0.060 | 3.78 | 23 | 22.81 | 0.063 | / |
| | | | 1 | 0 | Left Cheek | 704 | 0.187 | 0.87 | 23.5 | 23.41 | 0.191 | / |
| | | | 25 | 0 | Left Cheek | 707.5 | 0.175 | -1.72 | 23 | 22.81 | 0.183 | / |
| | | | 1 | 0 | Left Tilt | 704 | 0.063 | -1.66 | 23.5 | 23.41 | 0.064 | / |
| | | | 25 | 0 | Left Tilt | 707.5 | 0.058 | 3.26 | 23 | 22.81 | 0.061 | / |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band 13 | 10M | QPSK | 1 | 0 | Right Cheek | 782 | 0.128 | -2.44 | 23 | 22.8 | 0.134 | **19** |
| | | | 25 | 0 | Right Cheek | 782 | 0.122 | 3.59 | 22.5 | 22.22 | 0.130 | / |
| | | | 1 | 0 | Right Tilt | 782 | 0.045 | -0.47 | 23 | 22.8 | 0.047 | / |
| | | | 25 | 0 | Right Tilt | 782 | 0.041 | 0.50 | 22.5 | 22.22 | 0.044 | / |
| | | | 1 | 0 | Left Cheek | 782 | 0.110 | -3.67 | 23 | 22.8 | 0.115 | / |
| | | | 25 | 0 | Left Cheek | 782 | 0.105 | 2.33 | 22.5 | 22.22 | 0.112 | / |
| | | | 1 | 0 | Left Tilt | 782 | 0.042 | 2.00 | 23 | 22.8 | 0.044 | / |
| | | | 25 | 0 | Left Tilt | 782 | 0.038 | -0.38 | 22.5 | 22.22 | 0.041 | / |
| LTE Band 25 | 20M | QPSK | 1 | 0 | Right Cheek | 1882.5 | 0.117 | -1.02 | 23.5 | 23.18 | 0.126 | **21** |
| | | | 50 | 0 | Right Cheek | 1860 | 0.109 | -3.57 | 23 | 22.5 | 0.122 | / |
| | | | 1 | 0 | Right Tilt | 1882.5 | 0.041 | 1.28 | 23.5 | 23.18 | 0.044 | / |
| | | | 50 | 0 | Right Tilt | 1860 | 0.035 | -3.91 | 23 | 22.5 | 0.039 | / |
| | | | 1 | 0 | Left Cheek | 1882.5 | 0.108 | 1.48 | 23.5 | 23.18 | 0.116 | / |
| | | | 50 | 0 | Left Cheek | 1860 | 0.100 | -3.27 | 23 | 22.5 | 0.112 | / |
| | | | 1 | 0 | Left Tilt | 1882.5 | 0.039 | 1.97 | 23.5 | 23.18 | 0.042 | / |
| | | | 50 | 0 | Left Tilt | 1860 | 0.034 | 3.61 | 23 | 22.5 | 0.038 | / |
| LTE Band 26 | 15M | QPSK | 1 | 0 | Right Cheek | 821.5 | 0.200 | 1.77 | 23.5 | 23.13 | 0.218 | **23** |
| | | | 36 | 0 | Right Cheek | 831.5 | 0.191 | 3.42 | 22.5 | 22.47 | 0.192 | / |
| | | | 1 | 0 | Right Tilt | 821.5 | 0.079 | 2.70 | 23.5 | 23.13 | 0.086 | / |
| | | | 36 | 0 | Right Tilt | 831.5 | 0.075 | 2.29 | 22.5 | 22.47 | 0.076 | / |
| | | | 1 | 0 | Left Cheek | 821.5 | 0.184 | -2.06 | 23.5 | 23.13 | 0.200 | / |
| | | | 36 | 0 | Left Cheek | 831.5 | 0.176 | -1.07 | 22.5 | 22.47 | 0.177 | / |
| | | | 1 | 0 | Left Tilt | 821.5 | 0.074 | 1.51 | 23.5 | 23.13 | 0.081 | / |
| | | | 36 | 0 | Left Tilt | 831.5 | 0.072 | -1.17 | 22.5 | 22.47 | 0.072 | / |
| LTE Band 41 | 20M | QPSK | 1 | 0 | Right Cheek | 2593 | 0.097 | 2.74 | 22.5 | 22.09 | 0.107 | **25** |
| | | | 50 | 0 | Right Cheek | 2506 | 0.091 | 3.54 | 22 | 21.63 | 0.099 | / |
| | | | 1 | 0 | Right Tilt | 2593 | 0.037 | 2.40 | 22.5 | 22.09 | 0.041 | / |
| | | | 50 | 0 | Right Tilt | 2506 | 0.034 | -1.15 | 22 | 21.63 | 0.037 | / |
| | | | 1 | 0 | Left Cheek | 2593 | 0.084 | 0.83 | 22.5 | 22.09 | 0.092 | / |
| | | | 50 | 0 | Left Cheek | 2506 | 0.080 | 3.37 | 22 | 21.63 | 0.087 | / |
| | | | 1 | 0 | Left Tilt | 2593 | 0.032 | 0.51 | 22.5 | 22.09 | 0.035 | / |
| | | | 50 | 0 | Left Tilt | 2506 | 0.029 | 2.37 | 22 | 21.63 | 0.032 | / |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band 66 | 20M | QPSK | 1 | 0 | Right Cheek | 1745 | 0.194 | -0.15 | 23 | 22.86 | 0.200 | **27** |
| | | | 50 | 0 | Right Cheek | 1770 | 0.182 | -3.36 | 22.5 | 22.15 | 0.197 | / |
| | | | 1 | 0 | Right Tilt | 1745 | 0.081 | -0.68 | 23 | 22.86 | 0.084 | / |
| | | | 50 | 0 | Right Tilt | 1770 | 0.075 | -3.63 | 22.5 | 22.15 | 0.081 | / |
| | | | 1 | 0 | Left Cheek | 1745 | 0.171 | 3.21 | 23 | 22.86 | 0.177 | / |
| | | | 50 | 0 | Left Cheek | 1770 | 0.160 | -0.93 | 22.5 | 22.15 | 0.173 | / |
| | | | 1 | 0 | Left Tilt | 1745 | 0.075 | 1.02 | 23 | 22.86 | 0.077 | / |
| | | | 50 | 0 | Left Tilt | 1770 | 0.064 | -3.85 | 22.5 | 22.15 | 0.069 | / |
| LTE Band 71 | 20M | QPSK | 1 | 0 | Right Cheek | 688 | 0.237 | -0.76 | 23.5 | 23.4 | 0.243 | **29** |
| | | | 50 | 0 | Right Cheek | 683 | 0.221 | -1.87 | 23 | 22.76 | 0.234 | / |
| | | | 1 | 0 | Right Tilt | 688 | 0.085 | -2.34 | 23.5 | 23.4 | 0.087 | / |
| | | | 50 | 0 | Right Tilt | 683 | 0.076 | -3.78 | 23 | 22.76 | 0.080 | / |
| | | | 1 | 0 | Left Cheek | 688 | 0.222 | -0.10 | 23.5 | 23.4 | 0.227 | / |
| | | | 50 | 0 | Left Cheek | 683 | 0.213 | -3.22 | 23 | 22.76 | 0.225 | / |
| | | | 1 | 0 | Left Tilt | 688 | 0.080 | -2.58 | 23.5 | 23.4 | 0.082 | / |
| | | | 50 | 0 | Left Tilt | 683 | 0.071 | -2.37 | 23 | 22.76 | 0.075 | / |

| 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. |
|---|---|---|---|---|---|---|---|---|---|
| 2.4G WLAN | 802.11b | Right Cheek | 2462 | 0.218 | 2.47 | 11.50 | 11.30 | **0.228** | **31** |
| | | Right Tilt | 2462 | 0.162 | 0.06 | 11.50 | 11.30 | 0.170 | / |
| | | Left Cheek | 2462 | 0.202 | 2.39 | 11.50 | 11.30 | 0.212 | / |
| | | Left Tilt | 2462 | 0.155 | -3.89 | 11.50 | 11.30 | 0.162 | / |
| | 802.11g | Right Cheek | 2462 | 0.194 | 1.60 | 13.00 | 12.81 | 0.203 | / |
| | | Right Tilt | 2462 | 0.144 | -0.81 | 13.00 | 12.81 | 0.150 | / |
| | | Left Cheek | 2462 | 0.181 | -0.28 | 13.00 | 12.81 | 0.189 | / |
| | | Left Tilt | 2462 | 0.142 | 3.56 | 13.00 | 12.81 | 0.148 | / |
| BT | GFSK | Right Cheek | 2441 | 0.164 | 2.71 | 6.00 | 5.81 | 0.171 | **33** |
| | | Right Tilt | 2441 | 0.054 | -1.01 | 6.00 | 5.81 | 0.056 | / |
| | | Left Cheek | 2441 | 0.120 | 2.49 | 6.00 | 5.81 | 0.125 | / |
| | | Left Tilt | 2441 | 0.047 | -2.74 | 6.00 | 5.81 | 0.049 | / |

Note:

1. 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
2. Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.323** W/Kg for Head)
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 Body-worn 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 | GPRS Data-2 Slot | Front Side | 824.2 | 0.166 | -1.53 | 31.50 | 31.07 | 0.183 | **2** |
| | | Back Side | 824.2 | 0.247 | 3.71 | 31.50 | 31.07 | 0.273 | / |
| | | Left Side | 824.2 | 0.122 | 2.55 | 31.50 | 31.07 | 0.135 | / |
| | | Right Side | 824.2 | 0.063 | 0.34 | 31.50 | 31.07 | 0.070 | / |
| | | Top Side | 824.2 | 0.021 | 2.61 | 31.50 | 31.07 | 0.023 | / |
| | | Bottom Side | 824.2 | 0.040 | -2.23 | 31.50 | 31.07 | 0.044 | / |
| GSM1900 | GPRS Data-3 Slot | Front Side | 1850.2 | 0.288 | -2.05 | 26.00 | 25.68 | 0.310 | **4** |
| | | Back Side | 1850.2 | 0.329 | 1.29 | 26.00 | 25.68 | 0.354 | / |
| | | Left Side | 1850.2 | 0.121 | -0.55 | 26.00 | 25.68 | 0.130 | / |
| | | Right Side | 1850.2 | 0.066 | 3.98 | 26.00 | 25.68 | 0.071 | / |
| | | Bottom Side | 1850.2 | 0.187 | 0.19 | 26.00 | 25.68 | 0.201 | / |
| WCDMA Band II | RMC | Front Side | 1852.4 | 0.632 | 3.86 | 23.50 | 23.39 | 0.648 | **6** |
| | | Back Side | 1852.4 | 0.636 | 1.05 | 23.50 | 23.39 | 0.652 | / |
| | | Left Side | 1852.4 | 0.245 | 1.58 | 23.50 | 23.39 | 0.251 | / |
| | | Right Side | 1852.4 | 0.115 | 3.57 | 23.50 | 23.39 | 0.118 | / |
| | | Bottom Side | 1852.4 | 0.278 | -1.57 | 23.50 | 23.39 | 0.285 | / |
| WCDMA Band V | RMC | Front Side | 846.6 | 0.389 | 4.00 | 23.00 | 22.97 | 0.392 | **8** |
| | | Back Side | 846.6 | 0.506 | 0.10 | 23.00 | 22.97 | 0.510 | / |
| | | Left Side | 846.6 | 0.260 | -1.44 | 23.00 | 22.97 | 0.262 | / |
| | | Right Side | 846.6 | 0.166 | -0.75 | 23.00 | 22.97 | 0.167 | / |
| | | Bottom Side | 846.6 | 0.438 | 3.91 | 23.00 | 22.97 | 0.441 | / |
| WCDMA Band IV | RMC | Front Side | 1712.6 | 0.151 | 1.21 | 23.00 | 22.80 | 0.158 | **10** |
| | | Back Side | 1712.6 | 0.197 | 1.32 | 23.00 | 22.80 | 0.206 | / |
| | | Left Side | 1712.6 | 0.101 | -2.80 | 23.00 | 22.80 | 0.106 | / |
| | | Right Side | 1712.6 | 0.054 | 1.71 | 23.00 | 22.80 | 0.057 | / |
| | | Bottom Side | 1712.6 | 0.120 | 3.73 | 23.00 | 22.80 | 0.126 | / |

| 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 | Front side | 1880 | 0.201 | 1.54 | 23.5 | 23.29 | 0.211 | **/** |
| | | | 50 | 0 | Front side | 1860 | 0.181 | -1.90 | 23 | 22.56 | 0.200 | / |
| | | | 1 | 0 | Back Side | 1860 | 0.518 | -1.07 | 23.5 | 23.25 | 0.549 | **/** |
| | | | 1 | 0 | Back Side | 1880 | 0.634 | -3.82 | 23.5 | 23.29 | 0.665 | **12** |
| | | | 1 | 0 | Back Side | 1900 | 0.522 | 0.17 | 23.5 | 22.81 | 0.612 | **/** |
| | | | 50 | 0 | Back Side | 1860 | 0.588 | 0.21 | 23 | 22.56 | 0.651 | / |
| | | | 1 | 0 | Left Side | 1880 | 0.257 | -2.27 | 23.5 | 23.29 | 0.270 | **/** |
| | | | 50 | 0 | Left Side | 1860 | 0.243 | -2.20 | 23 | 22.56 | 0.269 | / |
| | | | 1 | 0 | Right Side | 1880 | 0.125 | 0.32 | 23.5 | 23.29 | 0.131 | / |
| | | | 50 | 0 | Right Side | 1860 | 0.107 | 0.39 | 23 | 22.56 | 0.118 | / |
| | | | 1 | 0 | Bottom Side | 1880 | 0.355 | 2.51 | 23.5 | 23.29 | 0.373 | / |
| | | | 50 | 0 | Bottom Side | 1860 | 0.321 | -2.75 | 23 | 22.56 | 0.355 | / |
| LTE Band 4 | 20M | QPSK | 1 | 0 | Front side | 1732.5 | 0.152 | 2.56 | 23 | 22.75 | 0.161 | **/** |
| | | | 50 | 0 | Front side | 1732.5 | 0.144 | 3.37 | 23 | 22.85 | 0.149 | **/** |
| | | | 1 | 0 | Back Side | 1732.5 | 0.398 | -0.11 | 23 | 22.75 | 0.422 | **14** |
| | | | 50 | 0 | Back Side | 1732.5 | 0.371 | -2.46 | 23 | 22.85 | 0.384 | / |
| | | | 1 | 0 | Left Side | 1732.5 | 0.159 | -3.67 | 23 | 22.75 | 0.168 | **/** |
| | | | 50 | 0 | Left Side | 1732.5 | 0.146 | 0.56 | 23 | 22.85 | 0.151 | / |
| | | | 1 | 0 | Right Side | 1732.5 | 0.047 | -0.38 | 23 | 22.75 | 0.050 | / |
| | | | 50 | 0 | Right Side | 1732.5 | 0.041 | -3.74 | 23 | 22.85 | 0.042 | / |
| | | | 1 | 0 | Bottom Side | 1732.5 | 0.251 | 0.23 | 23 | 22.75 | 0.266 | / |
| | | | 50 | 0 | Bottom Side | 1732.5 | 0.223 | 1.20 | 23 | 22.85 | 0.231 | / |
| LTE Band 5 | 10M | QPSK | 1 | 0 | Front side | 844 | 0.152 | 3.67 | 23.5 | 23.09 | 0.167 | **/** |
| | | | 25 | 0 | Front side | 836.5 | 0.136 | 0.29 | 22.5 | 22.4 | 0.139 | **/** |
| | | | 1 | 0 | Back Side | 844 | 0.233 | 3.91 | 23.5 | 23.09 | 0.256 | **16** |
| | | | 25 | 0 | Back Side | 836.5 | 0.221 | -2.98 | 22.5 | 22.4 | 0.226 | / |
| | | | 1 | 0 | Left Side | 844 | 0.142 | -2.69 | 23.5 | 23.09 | 0.156 | **/** |
| | | | 25 | 0 | Left Side | 836.5 | 0.135 | 2.45 | 22.5 | 22.4 | 0.138 | / |
| | | | 1 | 0 | Right Side | 844 | 0.042 | 3.22 | 23.5 | 23.09 | 0.046 | / |
| | | | 25 | 0 | Right Side | 836.5 | 0.039 | 2.21 | 22.5 | 22.4 | 0.040 | / |
| | | | 1 | 0 | Bottom Side | 844 | 0.158 | 3.77 | 23.5 | 23.09 | 0.174 | / |
| | | | 25 | 0 | Bottom Side | 836.5 | 0.149 | 3.98 | 22.5 | 22.4 | 0.152 | / |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band 12 | 10M | QPSK | 1 | 0 | Front side | 704 | 0.240 | -0.24 | 23.5 | 23.41 | 0.245 | / |
| | | | 25 | 0 | Front side | 707.5 | 0.223 | -3.29 | 23 | 22.81 | 0.233 | / |
| | | | 1 | 0 | Back Side | 704 | 0.306 | -0.64 | 23.5 | 23.41 | 0.312 | **18** |
| | | | 25 | 0 | Back Side | 707.5 | 0.287 | -3.97 | 23 | 22.81 | 0.300 | / |
| | | | 1 | 0 | Left Side | 704 | 0.147 | -3.55 | 23.5 | 23.41 | 0.150 | / |
| | | | 25 | 0 | Left Side | 707.5 | 0.144 | 1.24 | 23 | 22.81 | 0.150 | / |
| | | | 1 | 0 | Right Side | 704 | 0.069 | 1.53 | 23.5 | 23.41 | 0.070 | / |
| | | | 25 | 0 | Right Side | 707.5 | 0.061 | -2.62 | 23 | 22.81 | 0.064 | / |
| | | | 1 | 0 | Bottom Side | 704 | 0.150 | 3.27 | 23.5 | 23.41 | 0.153 | / |
| | | | 25 | 0 | Bottom Side | 707.5 | 0.143 | -3.82 | 23 | 22.81 | 0.149 | / |
| LTE Band 13 | 10M | QPSK | 1 | 0 | Front side | 782 | 0.092 | -2.17 | 23 | 22.8 | 0.096 | / |
| | | | 25 | 0 | Front side | 782 | 0.081 | 3.97 | 22.5 | 22.22 | 0.086 | / |
| | | | 1 | 0 | Back Side | 782 | 0.168 | -0.51 | 23 | 22.8 | 0.176 | **20** |
| | | | 25 | 0 | Back Side | 782 | 0.155 | 2.07 | 22.5 | 22.22 | 0.165 | / |
| | | | 1 | 0 | Left Side | 782 | 0.078 | -0.25 | 23 | 22.8 | 0.082 | / |
| | | | 25 | 0 | Left Side | 782 | 0.070 | -1.80 | 22.5 | 22.22 | 0.075 | / |
| | | | 1 | 0 | Right Side | 782 | 0.041 | 2.70 | 23 | 22.8 | 0.043 | / |
| | | | 25 | 0 | Right Side | 782 | 0.038 | -2.31 | 22.5 | 22.22 | 0.041 | / |
| | | | 1 | 0 | Bottom Side | 782 | 0.100 | -1.97 | 23 | 22.8 | 0.105 | / |
| | | | 25 | 0 | Bottom Side | 782 | 0.088 | 0.85 | 22.5 | 22.22 | 0.094 | / |
| LTE Band 25 | 20M | QPSK | 1 | 0 | Front side | 1882.5 | 0.089 | -3.85 | 23.5 | 23.18 | 0.096 | / |
| | | | 50 | 0 | Front side | 1860 | 0.084 | 3.67 | 23 | 22.5 | 0.094 | / |
| | | | 1 | 0 | Back Side | 1882.5 | 0.129 | 3.74 | 23.5 | 23.18 | 0.139 | **22** |
| | | | 50 | 0 | Back Side | 1860 | 0.121 | -1.21 | 23 | 22.5 | 0.136 | / |
| | | | 1 | 0 | Left Side | 1882.5 | 0.066 | 2.79 | 23.5 | 23.18 | 0.071 | / |
| | | | 50 | 0 | Left Side | 1860 | 0.061 | -0.12 | 23 | 22.5 | 0.068 | / |
| | | | 1 | 0 | Right Side | 1882.5 | 0.035 | 2.45 | 23.5 | 23.18 | 0.038 | / |
| | | | 50 | 0 | Right Side | 1860 | 0.032 | -2.93 | 23 | 22.5 | 0.036 | / |
| | | | 1 | 0 | Bottom Side | 1882.5 | 0.070 | 1.76 | 23.5 | 23.18 | 0.075 | / |
| | | | 50 | 0 | Bottom Side | 1860 | 0.067 | -3.83 | 23 | 22.5 | 0.075 | / |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band 26 | 15M | QPSK | 1 | 0 | Front side | 821.5 | 0.174 | 3.25 | 23.5 | 23.13 | 0.189 | / |
| | | | 36 | 0 | Front side | 831.5 | 0.162 | 1.58 | 22.5 | 22.47 | 0.163 | / |
| | | | 1 | 0 | Back Side | 821.5 | 0.229 | 1.59 | 23.5 | 23.13 | 0.249 | **24** |
| | | | 36 | 0 | Back Side | 831.5 | 0.210 | 0.49 | 22.5 | 22.47 | 0.211 | / |
| | | | 1 | 0 | Left Side | 821.5 | 0.142 | -2.76 | 23.5 | 23.13 | 0.155 | / |
| | | | 36 | 0 | Left Side | 831.5 | 0.133 | 3.35 | 22.5 | 22.47 | 0.134 | / |
| | | | 1 | 0 | Right Side | 821.5 | 0.047 | 2.38 | 23.5 | 23.13 | 0.051 | / |
| | | | 36 | 0 | Right Side | 831.5 | 0.042 | 0.17 | 22.5 | 22.47 | 0.042 | / |
| | | | 1 | 0 | Bottom Side | 821.5 | 0.123 | -0.67 | 23.5 | 23.13 | 0.134 | / |
| | | | 36 | 0 | Bottom Side | 831.5 | 0.112 | -2.72 | 22.5 | 22.47 | 0.113 | / |
| LTE Band 41 | 20M | QPSK | 1 | 0 | Front side | 2593 | 0.088 | 2.44 | 22.5 | 22.09 | 0.097 | / |
| | | | 50 | 0 | Front side | 2506 | 0.074 | 2.71 | 22 | 21.63 | 0.081 | / |
| | | | 1 | 0 | Back Side | 2593 | 0.130 | 1.19 | 22.5 | 22.09 | 0.143 | **26** |
| | | | 50 | 0 | Back Side | 2506 | 0.122 | 0.57 | 22 | 21.63 | 0.133 | / |
| | | | 1 | 0 | Left Side | 2593 | 0.047 | 0.12 | 22.5 | 22.09 | 0.052 | / |
| | | | 50 | 0 | Left Side | 2506 | 0.041 | -1.38 | 22 | 21.63 | 0.045 | / |
| | | | 1 | 0 | Right Side | 2593 | 0.033 | 1.94 | 22.5 | 22.09 | 0.036 | / |
| | | | 50 | 0 | Right Side | 2506 | 0.029 | -0.66 | 22 | 21.63 | 0.032 | / |
| | | | 1 | 0 | Bottom Side | 2593 | 0.050 | -1.87 | 22.5 | 22.09 | 0.055 | / |
| | | | 50 | 0 | Bottom Side | 2506 | 0.048 | -0.34 | 22 | 21.63 | 0.052 | / |
| LTE Band 66 | 20M | QPSK | 1 | 0 | Front side | 1745 | 0.335 | -1.75 | 23 | 22.86 | 0.346 | / |
| | | | 50 | 0 | Front side | 1770 | 0.312 | -3.88 | 22.5 | 22.15 | 0.338 | / |
| | | | 1 | 0 | Back Side | 1745 | 0.449 | -1.13 | 23 | 22.86 | 0.464 | **28** |
| | | | 50 | 0 | Back Side | 1770 | 0.415 | 0.11 | 22.5 | 22.15 | 0.450 | / |
| | | | 1 | 0 | Left Side | 1745 | 0.213 | -0.66 | 23 | 22.86 | 0.220 | / |
| | | | 50 | 0 | Left Side | 1770 | 0.187 | -3.40 | 22.5 | 22.15 | 0.203 | / |
| | | | 1 | 0 | Right Side | 1745 | 0.095 | -1.11 | 23 | 22.86 | 0.098 | / |
| | | | 50 | 0 | Right Side | 1770 | 0.082 | 0.38 | 22.5 | 22.15 | 0.089 | / |
| | | | 1 | 0 | Bottom Side | 1745 | 0.198 | -3.99 | 23 | 22.86 | 0.204 | / |
| | | | 50 | 0 | Bottom Side | 1770 | 0.177 | 2.93 | 22.5 | 22.15 | 0.192 | / |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTE Band 71 | 20M | QPSK | 1 | 0 | Front side | 688 | 0.280 | -2.39 | 23.5 | 23.4 | 0.287 | / |
| | | | 50 | 0 | Front side | 683 | 0.269 | -0.76 | 23 | 22.76 | 0.284 | / |
| | | | 1 | 0 | Back Side | 688 | 0.448 | -3.65 | 23.5 | 23.4 | 0.458 | **30** |
| | | | 50 | 0 | Back Side | 683 | 0.423 | 1.40 | 23 | 22.76 | 0.447 | / |
| | | | 1 | 0 | Left Side | 688 | 0.221 | -1.29 | 23.5 | 23.4 | 0.226 | / |
| | | | 50 | 0 | Left Side | 683 | 0.204 | -0.14 | 23 | 22.76 | 0.216 | / |
| | | | 1 | 0 | Right Side | 688 | 0.124 | 2.59 | 23.5 | 23.4 | 0.127 | / |
| | | | 50 | 0 | Right Side | 683 | 0.110 | -2.12 | 23 | 22.76 | 0.116 | / |
| | | | 1 | 0 | Bottom Side | 688 | 0.251 | -2.66 | 23.5 | 23.4 | 0.257 | / |
| | | | 50 | 0 | Bottom Side | 683 | 0.223 | -0.74 | 23 | 22.76 | 0.236 | / |

| 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 | Front Side | 2462 | 0.069 | -1.58 | 11.50 | 11.30 | 0.072 | / |
| | | Back Side | 2462 | 0.079 | -0.57 | 11.50 | 11.30 | 0.083 | **32** |
| | | Left Side | 2462 | 0.023 | 3.07 | 11.50 | 11.30 | 0.024 | / |
| | | Top Side | 2462 | 0.050 | -3.69 | 11.50 | 11.30 | 0.052 | / |
| | 802.11g | Front Side | 2462 | 0.052 | -0.88 | 13.00 | 12.81 | 0.054 | / |
| | | Back Side | 2462 | 0.063 | 3.97 | 13.00 | 12.81 | 0.066 | / |
| | | Left Side | 2462 | 0.02 | 1.93 | 13.00 | 12.81 | 0.021 | / |
| | | Top Side | 2462 | 0.042 | -0.01 | 13.00 | 12.81 | 0.044 | / |
| BT | GFSK | Front Side | 2441 | 0.041 | 3.57 | 6.00 | 5.81 | 0.043 | / |
| | | Back Side | 2441 | 0.050 | -0.95 | 6.00 | 5.81 | 0.052 | **34** |
| | | Left Side | 2441 | 0.025 | 2.14 | 6.00 | 5.81 | 0.026 | / |
| | | Top Side | 2441 | 0.036 | -3.57 | 6.00 | 5.81 | 0.038 | / |

Note:

1. The test separation of all above table is 0mm.
1. 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
2. Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.118** W/Kg for Body)
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.

**Simultaneous Multi-band Transmission Evaluation:**

Application Simultaneous Transmission information:

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

NOTE:

1. WLAN/BT 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].
   $P_{ant}$ is maximum time-averaged power or effective radiated power (ERP), whichever is greater, and $P_{th}$ is defined in Formula KDB 447498 (B.2).

| Simultaneous Mode | Position | Mode | Max. 1-g SAR (W/kg) | 1-g Sum SAR (W/kg) |
|---|---|---|---|---|
| GSM + 2.4G WLAN | Head | GSM | 0.286 | 0.514 |
| | | 2.4G WLAN | 0.228 | |
| | Body | GSM | 0.354 | 0.582 |
| | | 2.4G WLAN | 0.228 | |
| GSM + Bluetooth | Head | GSM | 0.286 | 0.457 |
| | | Bluetooth | 0.171 | |
| | Body | GSM | 0.354 | 0.406 |
| | | Bluetooth | 0.052 | |
| WCDMA + 2.4G WLAN | Head | WCDMA | 0.302 | 0.582 |
| | | 2.4G WLAN | 0.280 | |
| | Body | WCDMA | 0.652 | 0.735 |
| | | 2.4G WLAN | 0.083 | |
| WCDMA + Bluetooth | Head | WCDMA | 0.302 | 0.473 |
| | | Bluetooth | 0.171 | |
| | Body | WCDMA | 0.562 | 0.614 |
| | | Bluetooth | 0.052 | |
| LTE + 2.4G WLAN | Head | LTE | 0.248 | 0.476 |
| | | 2.4G WLAN | 0.228 | |
| | Body | LTE | 0.665 | 0.748 |
| | | 2.4G WLAN | 0.083 | |
| LTE + Bluetooth | Head | LTE | 0.248 | 0.419 |
| | | Bluetooth | 0.171 | |
| | Body | LTE | 0.665 | 0.717 |
| | | Bluetooth | 0.052 | |

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

| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal Date | Due Date |
|---|---|---|---|---|---|---|
| 1 | PC | Lenovo | G5005 | MY42081102 | N/A | N/A |
| 2 | SAR Measurement system | SATIMO | 4014_01 | SAR_4014_01 | N/A | N/A |
| 3 | Signal Generator | Agilent | E4438C | MY49072627 | 2023-06-09 | 2024-06-08 |
| 4 | S-parameter Network Analyzer | Agilent | 8753ES | US38432944 | 2023-06-09 | 2024-06-08 |
| 5 | Wideband Radio Communication Tester | R&S | CMW500 | 103818-1 | 2023-10-25 | 2024-10-24 |
| 6 | E-Field PROBE | MVG | SSE2 | SN 25/22 EPGO376 | 2023-06-22 | 2024-06-21 |
| 7 | DIPOLE 750 | SATIMO | SID 750 | SN 30/14 DIP 0G750-302 | 2021-09-29 | 2024-09-28 |
| 8 | DIPOLE 835 | SATIMO | SID 835 | SN 07/14 DIP 0G835-303 | 2021-09-29 | 2024-09-28 |
| 9 | DIPOLE 1800 | SATIMO | SID 1800 | SN 07/14 DIP 1G800-301 | 2021-09-29 | 2024-09-28 |
| 10 | DIPOLE 1900 | SATIMO | SID 1900 | SN 38/18 DIP 1G900-466 | 2021-09-22 | 2024-09-21 |
| 11 | DIPOLE 2450 | SATIMO | SID 2450 | SN 07/14 DIP 2G450-306 | 2021-09-29 | 2024-09-28 |
| 12 | DIPOLE 2600 | SATIMO | SID 2600 | SN 38/18 DIP 2G600-468 | 2021-09-22 | 2024-09-21 |
| 14 | COMOSAR OPENCoaxial Probe | SATIMO | OCPG 68 | SN 40/14 OCPG68 | 2023-10-25 | 2024-10-24 |
| 16 | Communication Antenna | SATIMO | ANTA57 | SN 39/14 ANTA57 | 2023-10-25 | 2024-10-24 |
| 17 | FEATURE PHONEPOSITIONING DEVICE | SATIMO | MSH98 | SN 40/14 MSH98 | N/A | N/A |
| 18 | DUMMY PROBE | SATIMO | DP60 | SN 03/14 DP60 | N/A | N/A |
| 19 | SAM PHANTOM | SATIMO | SAM117 | SN 40/14 SAM117 | N/A | N/A |
| 20 | Liquid measurement Kit | HP | 85033D | 3423A03482 | N/A | N/A |
| 21 | Power meter | Agilent | E4419B | MY45104493 | 2023-10-25 | 2024-10-24 |
| 22 | Power meter | Agilent | E4419B | MY45100308 | 2023-10-25 | 2024-10-24 |
| 23 | Power sensor | Agilent | E9301H | MY41495616 | 2023-10-25 | 2024-10-24 |
| 24 | Power sensor | Agilent | E9301H | MY41495234 | 2023-10-25 | 2024-10-24 |
| 25 | Directional Coupler | MCLI/USA | 4426-20 | 03746 | 2023-06-09 | 2024-06-08 |

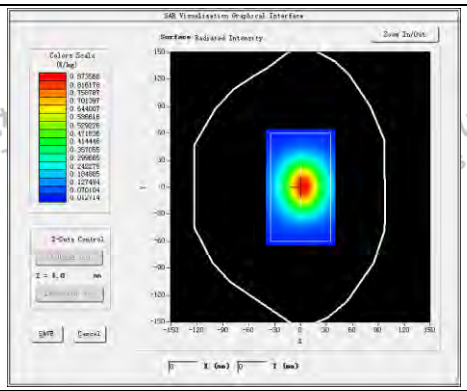
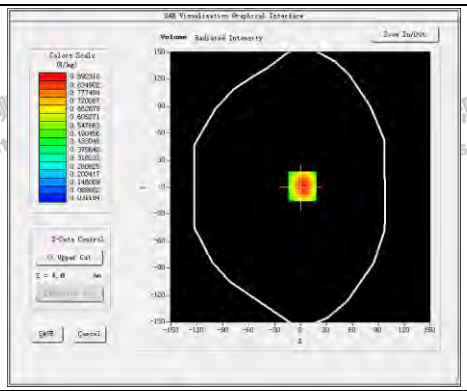
# Appendix A. System Validation Plots

## System Performance Check Data (750MHz)

Type: Phone measurement (Complete)
Area scan resolution: dx=15mm dy=15mm
Zoom scan resolution: 5x5x7,dx=8mm dy=8mm dz=5mm
Date of measurement: 2024-04-01

## Experimental conditions

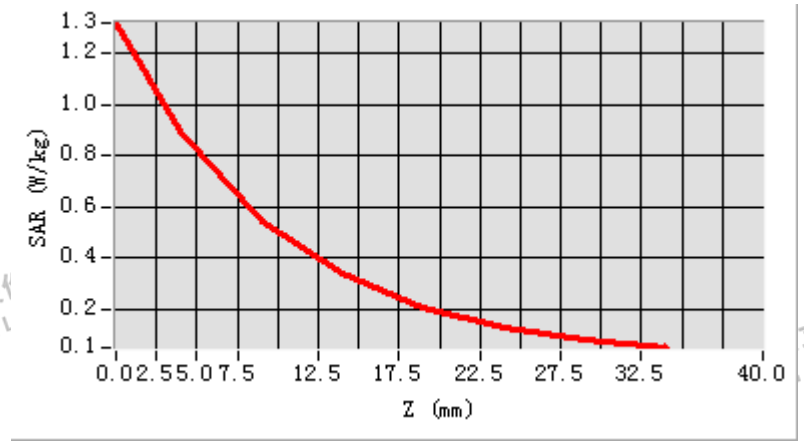
| Phantom | Validation plane |
|---|---|
| Device Position | - |
| Band | 750MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 750MHz |
| Relative permittivity | 42.48 |
| Conductivity (S/m) | 0.85 |
| Probe | SN 25/22 EPGO376 |
| ConvF | 1.58 |
| Crest factor | 1:1 |

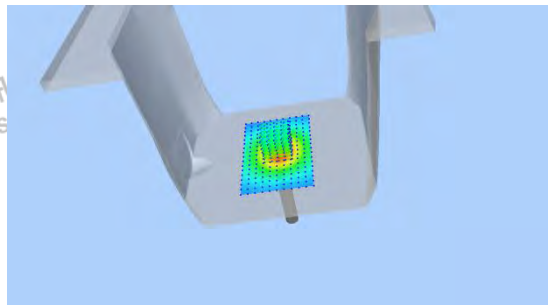
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

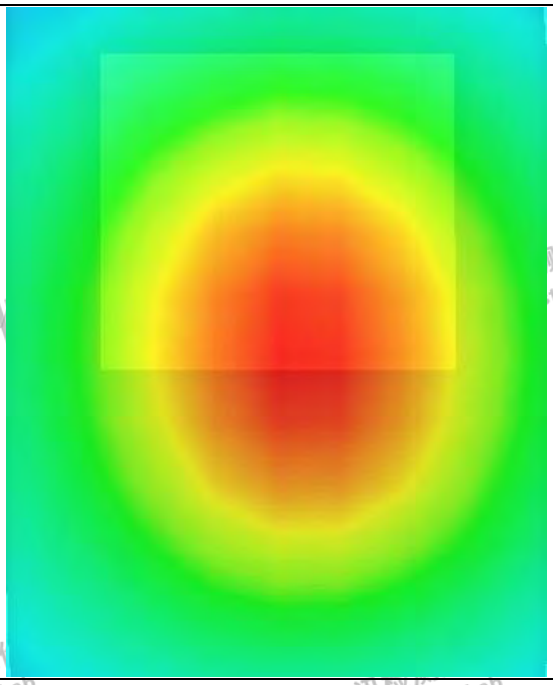
**Maximum location: X=2.00, Y=1.00**

| | |
|---|---|
| SAR 10g (W/Kg) | 0.554749 |
| SAR 1g (W/Kg) | 0.836901 |

## Z Axis Scan


1.3
1.2
1.0
0.8
0.6
0.4
0.2
0.1
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)





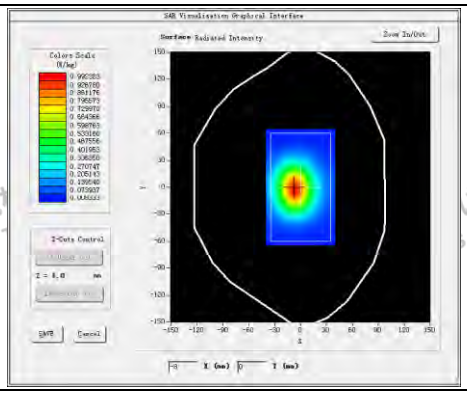
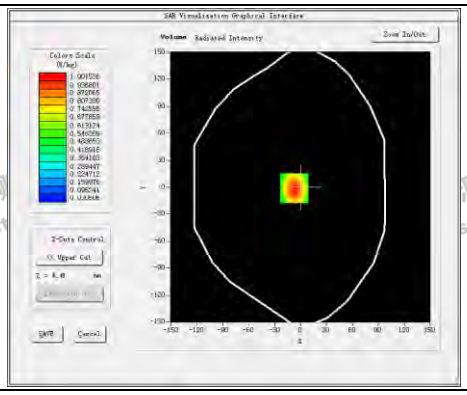
**System Performance Check Data (835MHz)**

Type: Phone measurement (Complete)

Area scan resolution: dx=15mm dy=15mm
Zoom scan resolution: 5x5x7,dx=8mm dy=8mm dz=5mm
Date of measurement: 2024-04-02

**Experimental conditions**

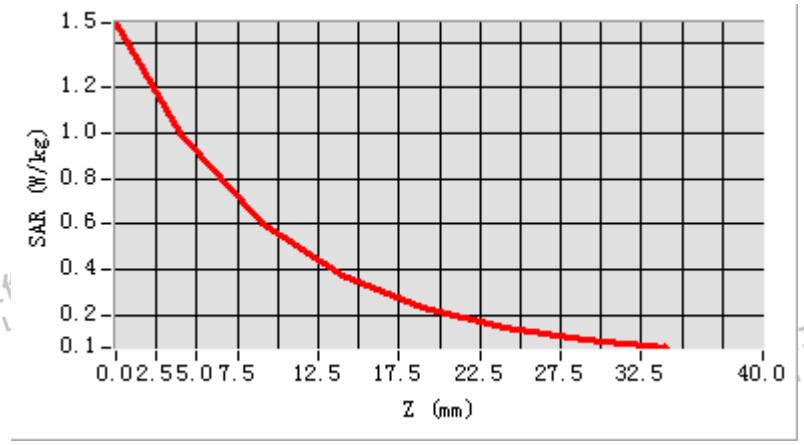
| Phantom | Validation plane |
|---|---|
| Device Position | - |
| Band | 835MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 835MHz |
| Relative permittivity | 40.87 |
| Conductivity (S/m) | 0.91 |
| Probe | SN 25/22 EPGO376 |
| ConvF: | 1.57 |
| Crest factor: | 1:1 |

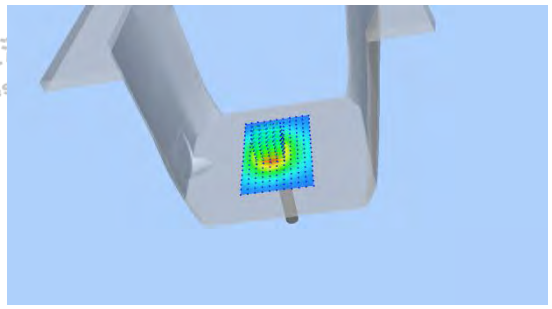
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

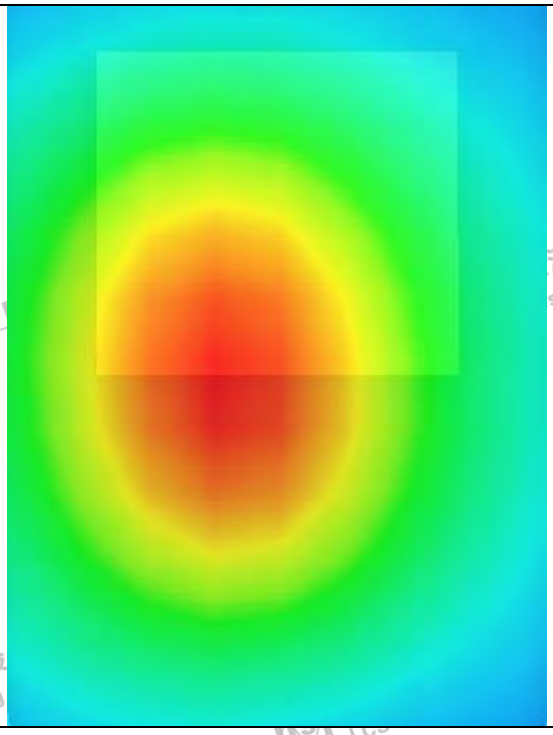
**Maximum location: X=-7.00, Y=-1.00**

| | |
|---|---|
| SAR 10g (W/Kg) | 0.655215 |
| SAR 1g (W/Kg) | 0.944968 |

## Z Axis Scan


1.5
1.2
1.0
0.8
0.6
0.4
0.2
0.1
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)



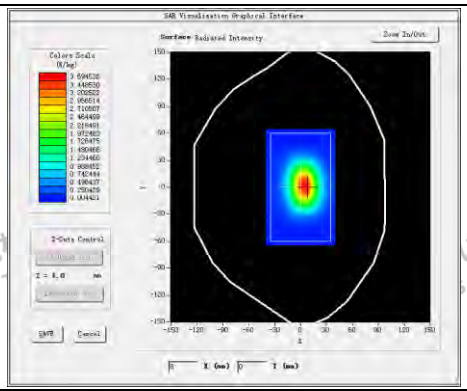
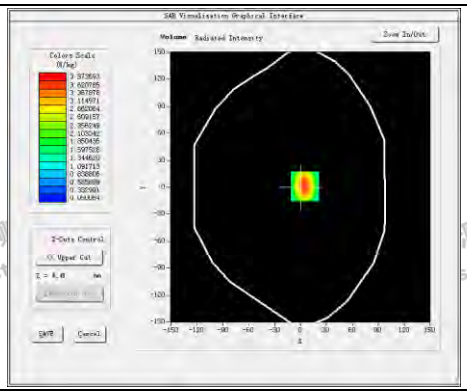


**System Performance Check Data(1800MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=15mm dy=15mm
Zoom scan resolution: 5x5x7,dx=8mm dy=8mm dz=5mm
Date of measurement: 2024-04-03

**Experimental conditions.**

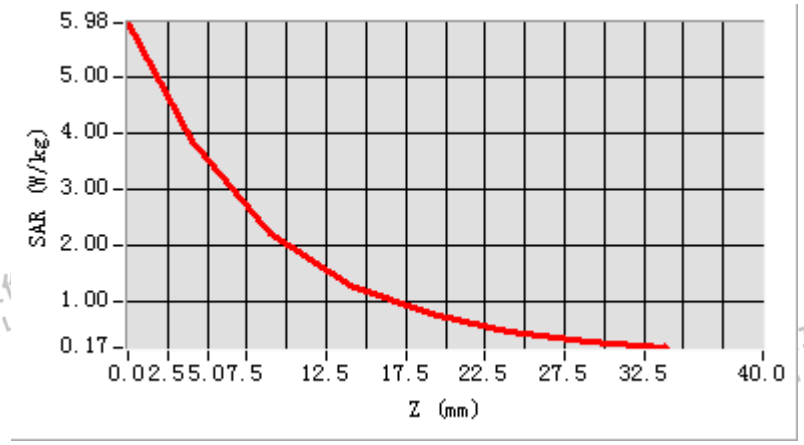
| Phantom | Validation plane |
|---|---|
| Device Position | - |
| Band | 1800MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 1800MHz |
| Relative permittivity | 40.82 |
| Conductivity (S/m) | 1.44 |
| Probe | SN 25/22 EPGO376 |
| ConvF | 1.60 |
| Crest factor: | 1:1 |

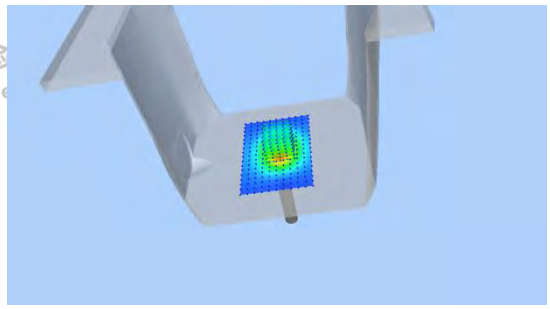
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

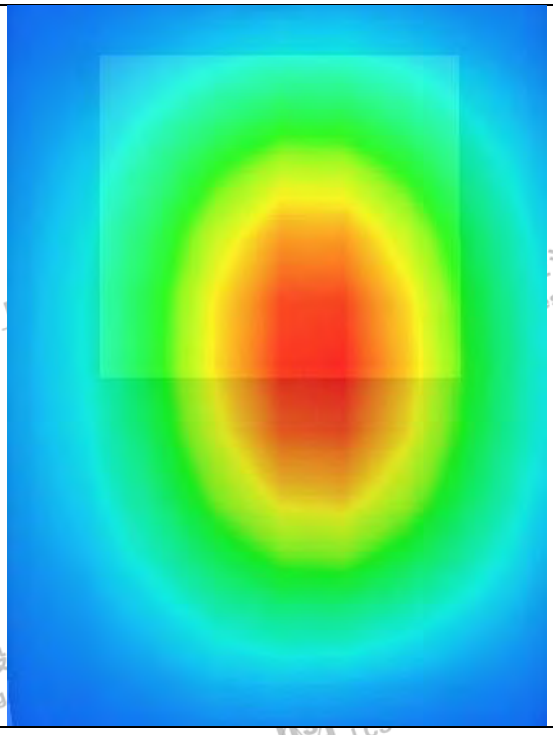
**Maximum location: X=5.00, Y=1.00**

| | |
|---|---|
| SAR 10g (W/Kg) | 2.085691 |
| SAR 1g (W/Kg) | 3.794852 |

## Z Axis Scan


5.98
5.00
4.00
3.00
2.00
1.00
0.17
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)



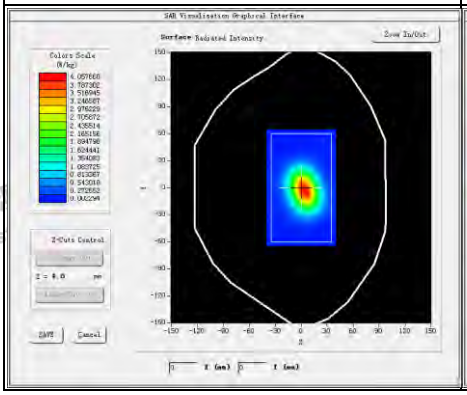
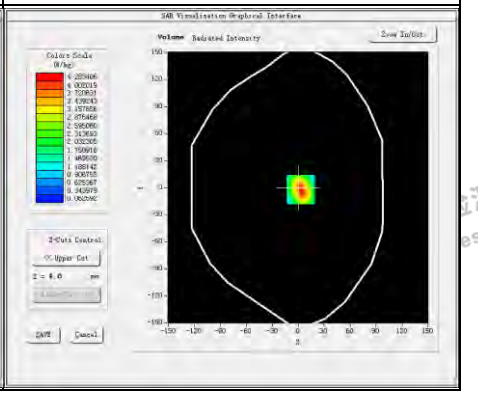


## System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)
Area scan resolution: dx=15mm dy=15mm
Zoom scan resolution: 5x5x7,dx=8mm dy=8mm dz=5mm
Date of measurement: 2024-04-06

**Experimental conditions.**

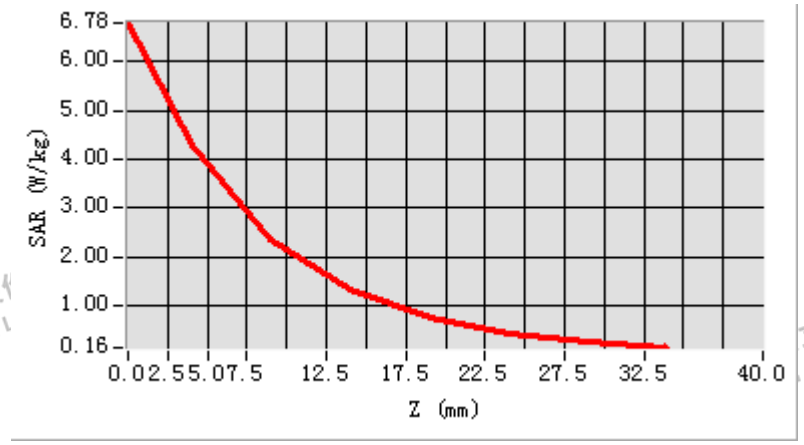
| Phantom | Validation plane |
|---|---|
| Device Position | - |
| Band | 1900MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 1900MHz |
| Relative permittivity | 40.89 |
| Conductivity (S/m) | 1.42 |
| Probe | SN 25/22 EPGO376 |
| ConvF: | 1.78 |
| Crest factor: | 1:1 |

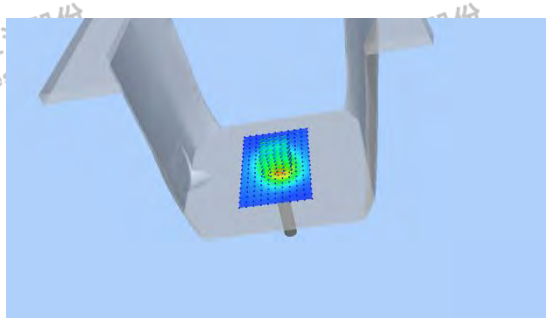
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

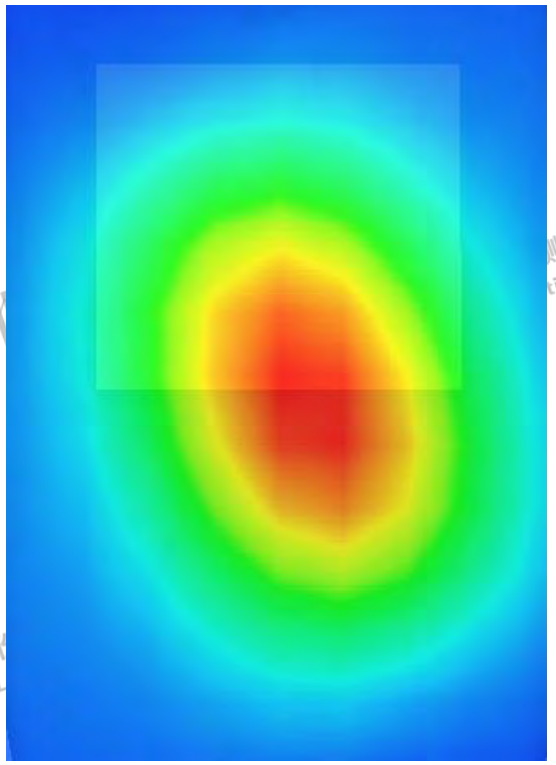
**Maximum location: X=3.00, Y=-2.00**

| | |
|---|---|
| SAR 10g (W/Kg) | 2.052752 |
| SAR 1g (W/Kg) | 3.827693 |

## Z Axis Scan


6.78
6.00
5.00
4.00
3.00
2.00
1.00
0.16
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)



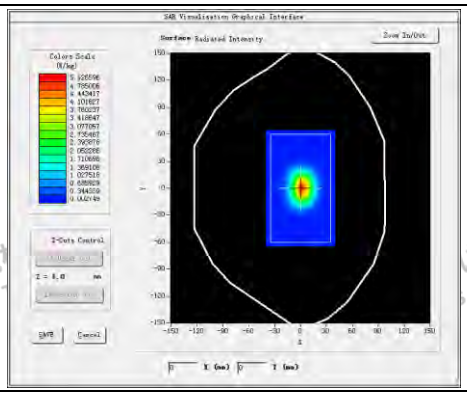
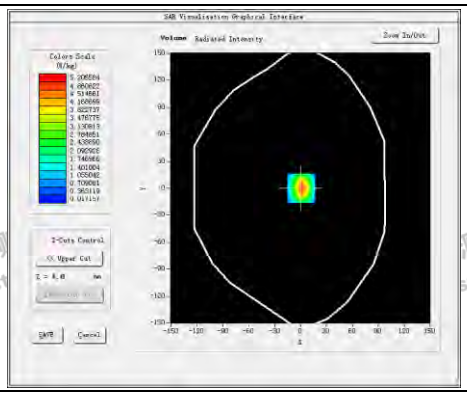


**System Performance Check Data (2450MHz)**

Type: Phone measurement (Complete)
Area scan resolution: dx=15mm dy=15mm
Zoom scan resolution: 5x5x7,dx=8mm dy=8mm dz=5mm
Date of measurement: 2024-04-07

**Experimental conditions.**

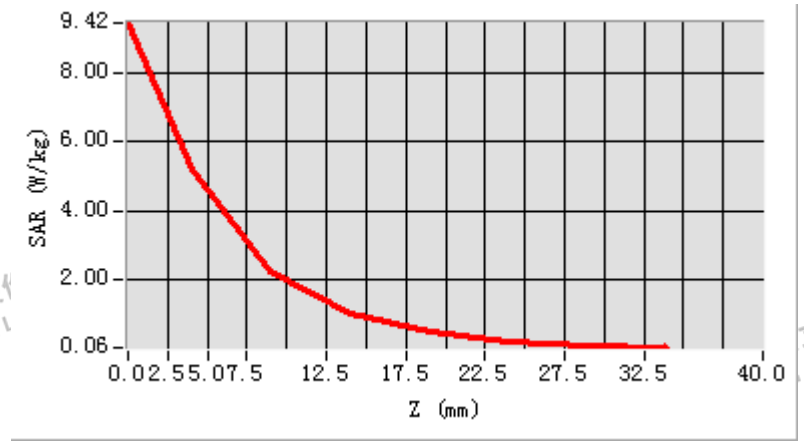
| Device Position | Validation plane |
|---|---|
| Band | 2450 MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 2450 |
| Relative permittivity | 40.13 |
| Conductivity (S/m) | 1.83 |
| Probe | SN 25/22 EPGO376 |
| ConvF | 1.75 |
| Crest factor: | 1:1 |

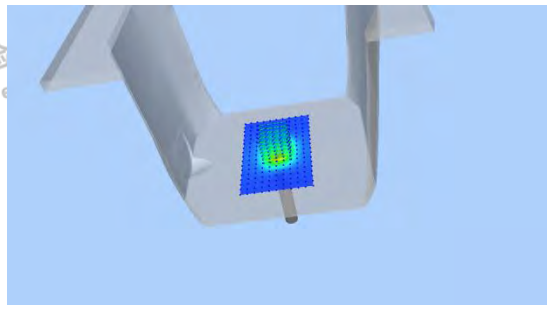
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

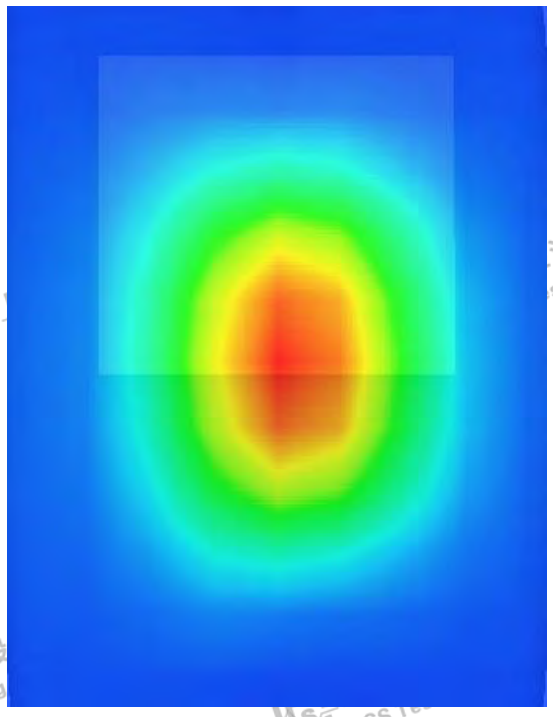
**Maximum location: X=1.00, Y=0.00**

| | |
|---|---|
| SAR 10g (W/Kg) | 2.387328 |
| SAR 1g (W/Kg) | 5.291142 |

## Z Axis Scan


9.42
8.00
6.00
4.00
2.00
0.06
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)



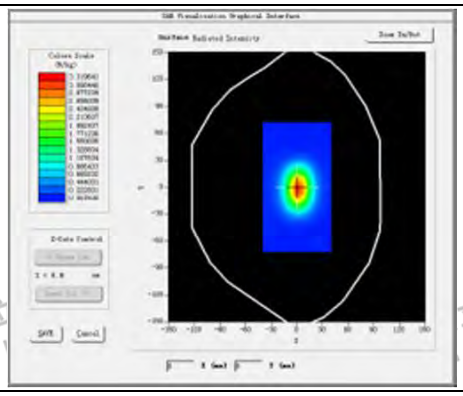
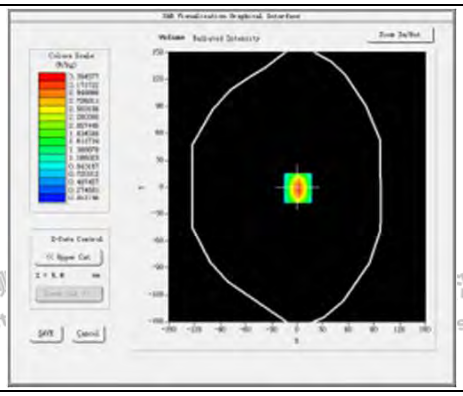


**System Performance Check Data (2600MHz)**

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2024-04-08

**Experimental conditions.**

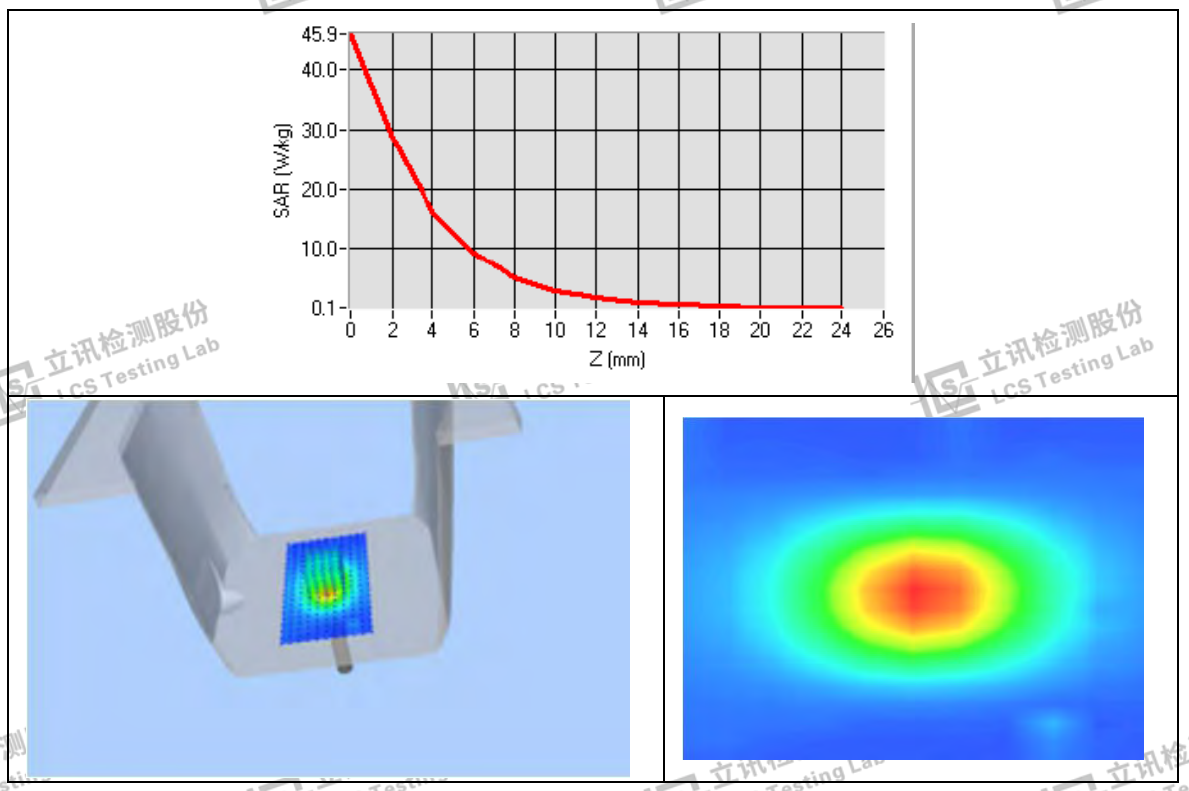
| Device Position | Validation plane |
|---|---|
| Band | 2600 MHz |
| Channels | - |
| Signal | CW |
| Frequency (MHz) | 2600 |
| Relative permittivity | 39.65 |
| Conductivity (S/m) | 2.01 |
| Probe | SN 25/22 EPGO376 |
| ConvF | 1.85 |
| Crest factor: | 1:1 |

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

**Maximum location: X=7.00, Y=2.00**

| | |
|---|---|
| SAR 10g (W/Kg) | 2.491897 |
| SAR 1g (W/Kg) | 5.292163 |

## Z Axis Scan



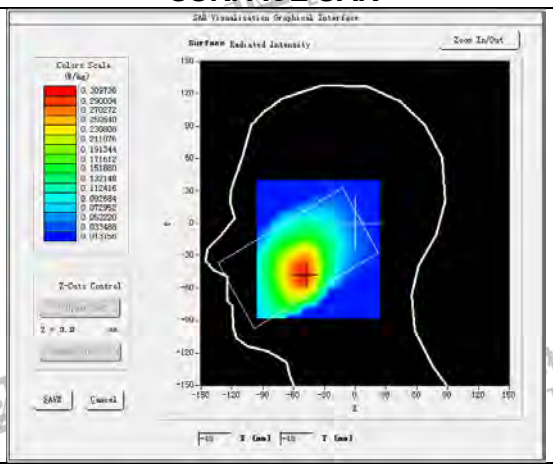
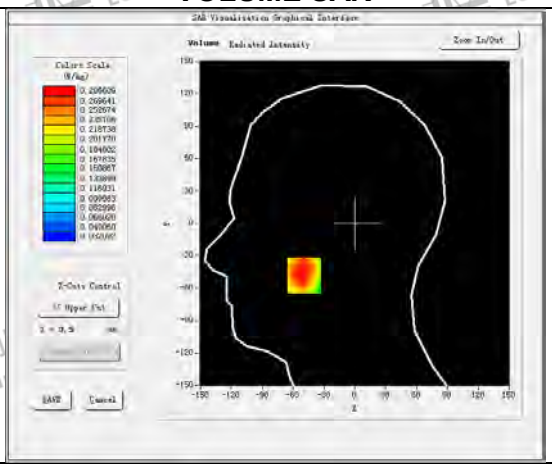
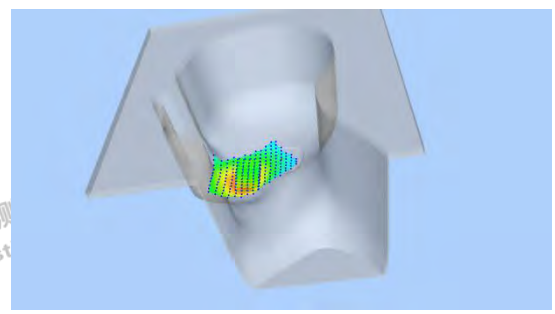
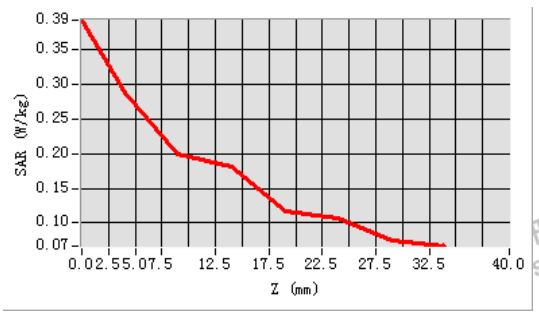
# Appendix B. SAR Test Plots

## Plot 1: DUT: 4G SMARTPHONE EUT Model: CHIPPY

| | |
|---|---|
| Test Date | 2024-04-02 |
| ConvF | 1.57 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | GPRS 850 |
| Signal | Duty Cycle: 2.00 (Crest factor: 2.0) |
| Frequency (MHz) | 848.8 |
| Relative permittivity (real part) | 40.72 |
| Conductivity (S/m) | 0.86 |

Maximum location: X=-49.00, Y=-48.00
SAR Peak: 0.39 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.203827 |
| SAR 1g (W/Kg) | 0.283741 |

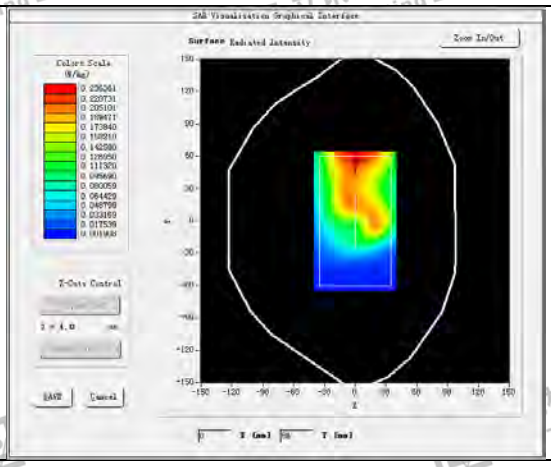
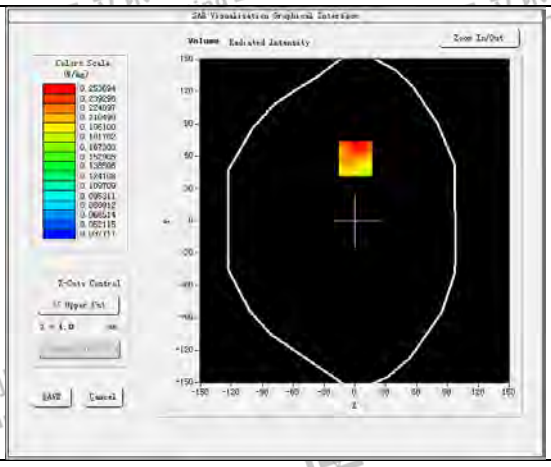
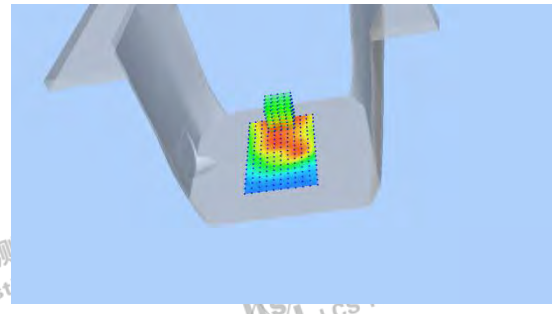
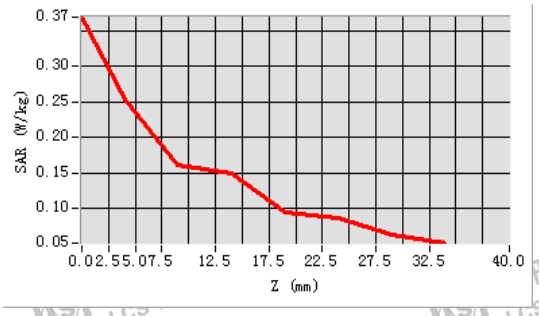
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 2: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-02 |
| ConvF | 1.57 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | GPRS 850 |
| Signal | Duty Cycle: 2.00 (Crest factor: 2.0) |
| Frequency (MHz) | 824.2 |
| Relative permittivity (real part) | 41.56 |
| Conductivity (S/m) | 0.91 |

Maximum location: X=1.00, Y=58.00
SAR Peak: 0.34 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.173419 |
| SAR 1g (W/Kg) | 0.247499 |

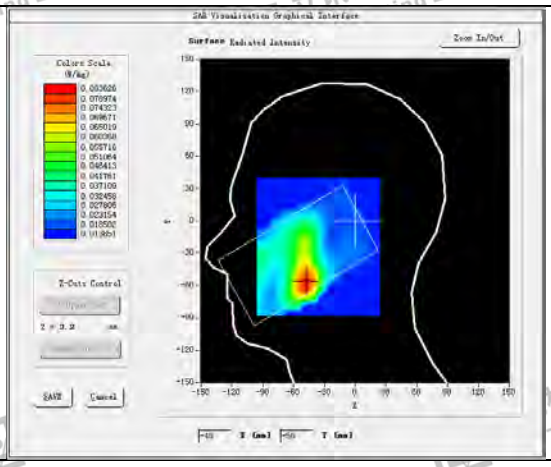
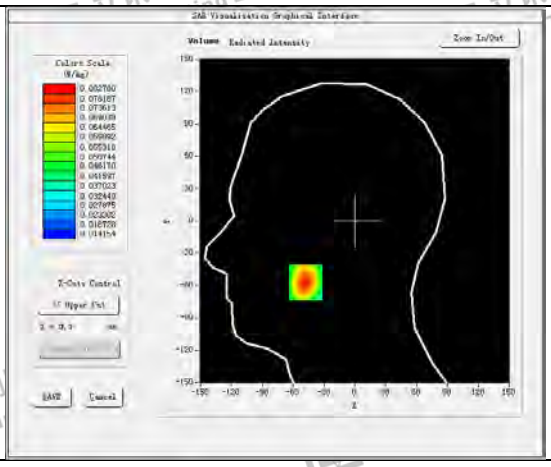
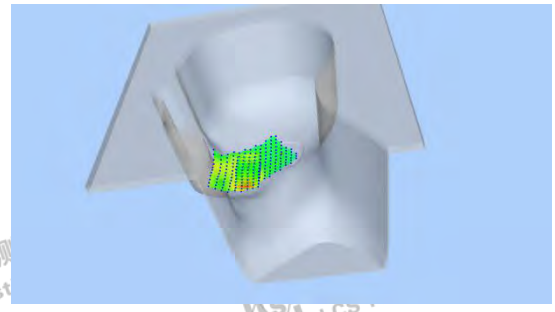
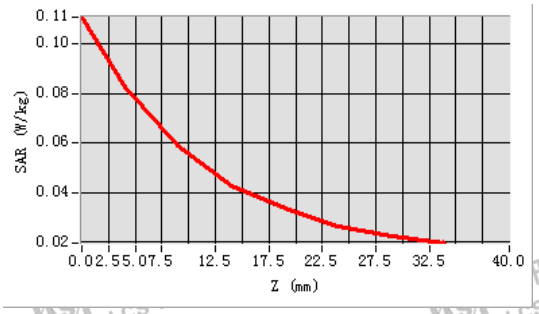
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 3: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.78 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | GPRS 1900 |
| Signal | Duty Cycle: 2.00 (Crest factor: 2.0) |
| Frequency (MHz) | 1850.2 |
| Relative permittivity (real part) | 40.62 |
| Conductivity (S/m) | 1.43 |

Maximum location: X=-48.00, Y=-57.00
SAR Peak: 0.11 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.052229 |
| SAR 1g (W/Kg) | 0.079256 |

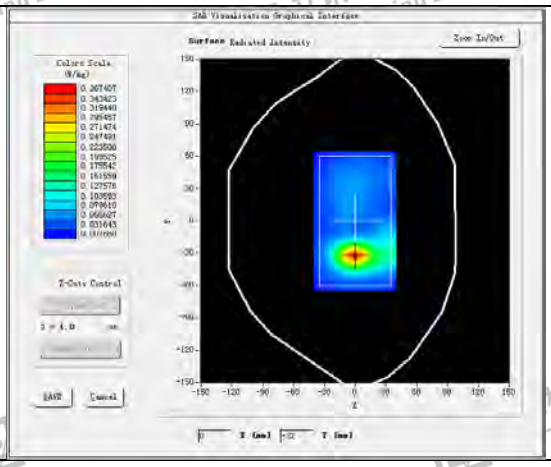
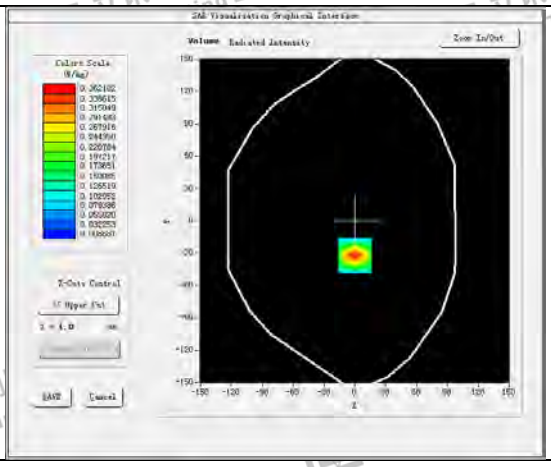
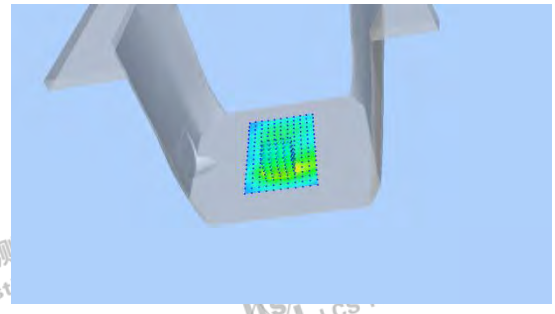
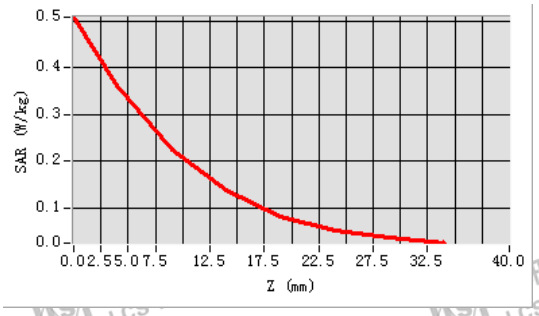
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |   |

**Plot 4: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.78 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | GPRS 1900 |
| Signal | Duty Cycle: 2.00 (Crest factor: 2.0) |
| Frequency (MHz) | 1850.2 |
| Relative permittivity (real part) | 40.62 |
| Conductivity (S/m) | 1.43 |

Maximum location: X=0.00, Y=-32.00
SAR Peak: 0.52 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.172157 |
| SAR 1g (W/Kg) | 0.328723 |

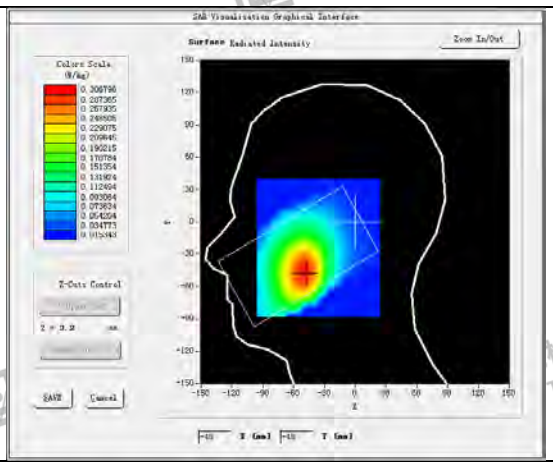
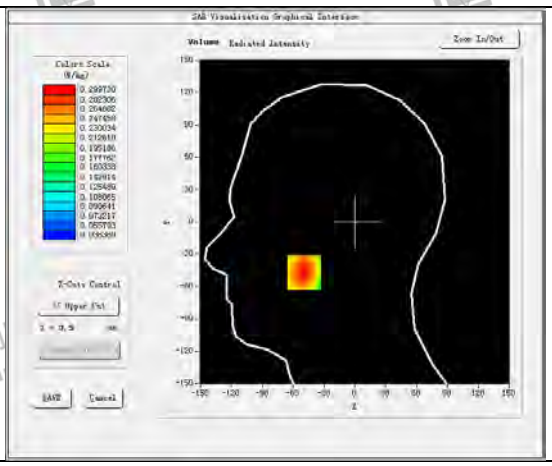
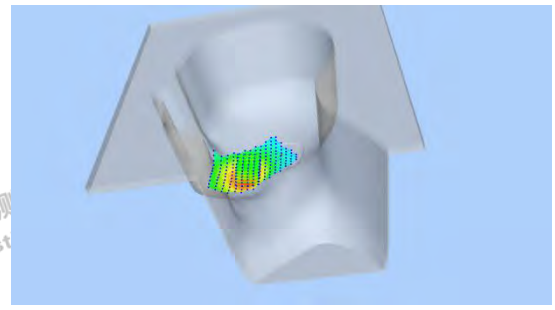
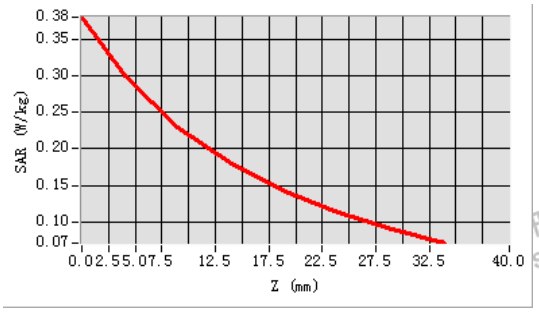
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

## Plot 5: DUT: 4G SMARTPHONE EUT Model: CHIPPY

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.78 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | WCDMA II |
| Signal | WCDMA (Crest factor: 1.0) |
| Frequency (MHz) | 1852.4 |
| Relative permittivity (real part) | 40.64 |
| Conductivity (S/m) | 1.44 |

Maximum location: X=-49.00, Y=-47.00
SAR Peak: 0.38 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.212654 |
| SAR 1g (W/Kg) | 0.294286 |

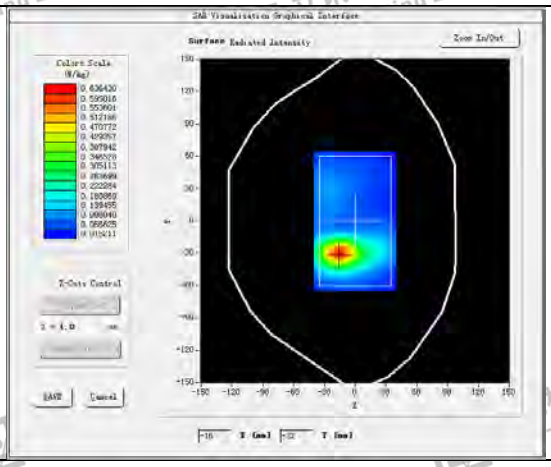
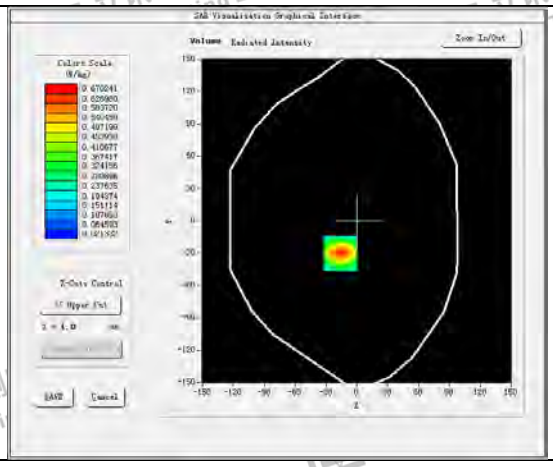
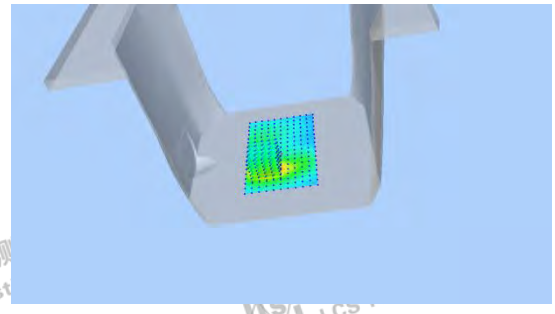
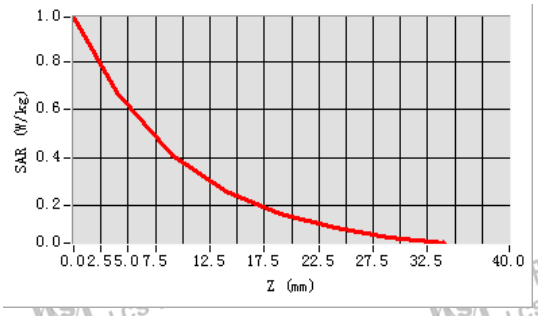
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 6: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.78 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | WCDMA II |
| Signal | WCDMA (Crest factor: 1.0) |
| Frequency (MHz) | 1852.4 |
| Relative permittivity (real part) | 40.64 |
| Conductivity (S/m) | 1.44 |

Maximum location: X=-16.00, Y=-30.00
SAR Peak: 0.98 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.345056 |
| SAR 1g (W/Kg) | 0.631907 |

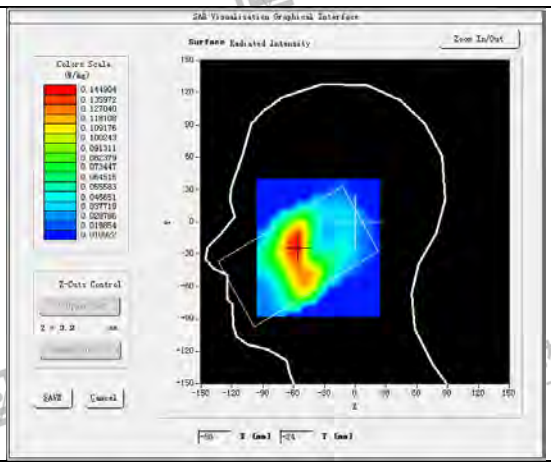
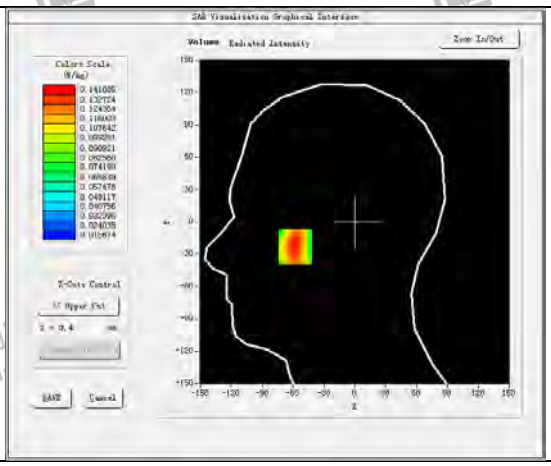
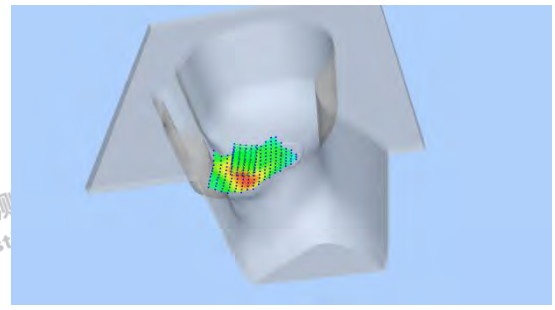
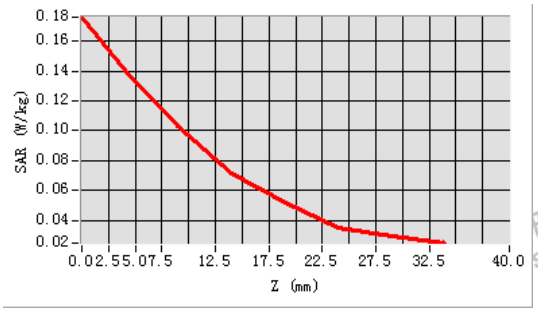
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

## Plot 7: DUT: 4G SMARTPHONE EUT Model: CHIPPY

| | |
|---|---|
| Test Date | 2024-04-02 |
| ConvF | 1.57 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | WCDMA V |
| Signal | WCDMA (Crest factor: 1.0) |
| Frequency (MHz) | 846.6 |
| Relative permittivity (real part) | 40.92 |
| Conductivity (S/m) | 0.87 |

Maximum location: X=-58.00, Y=-23.00
SAR Peak: 0.18 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.088753 |
| SAR 1g (W/Kg) | 0.134590 |

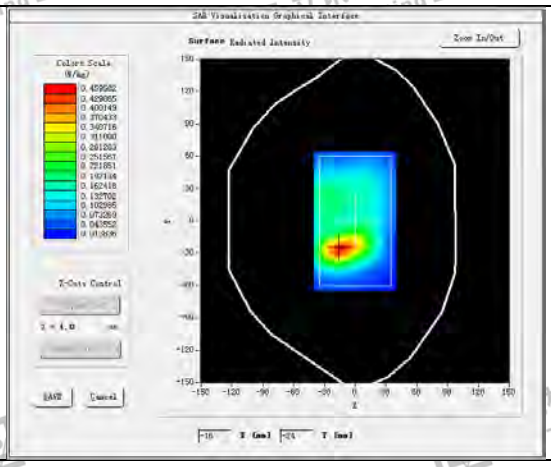
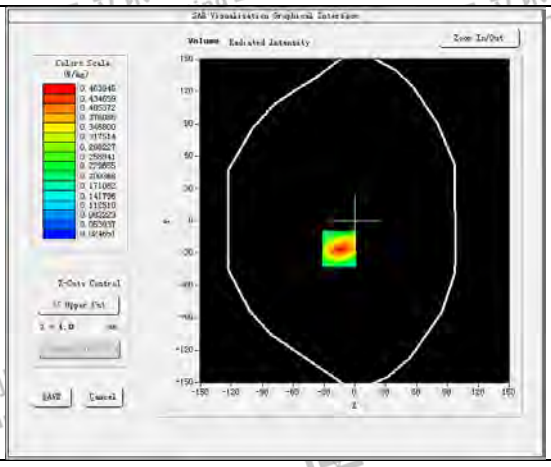
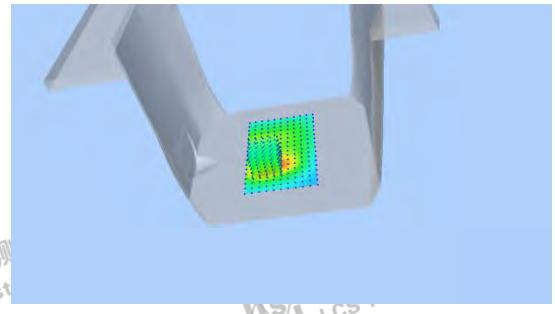
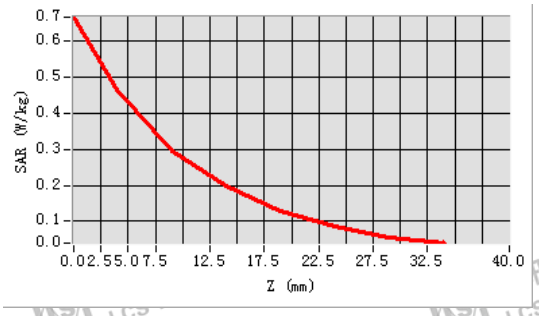
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 8: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-02 |
| ConvF | 1.57 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | WCDMA V |
| Signal | WCDMA (Crest factor: 1.0) |
| Frequency (MHz) | 846.6 |
| Relative permittivity (real part) | 40.92 |
| Conductivity (S/m) | 0.87 |

Maximum location: X=-15.00, Y=-26.00
SAR Peak: 0.66 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.254736 |
| SAR 1g (W/Kg) | 0.438098 |

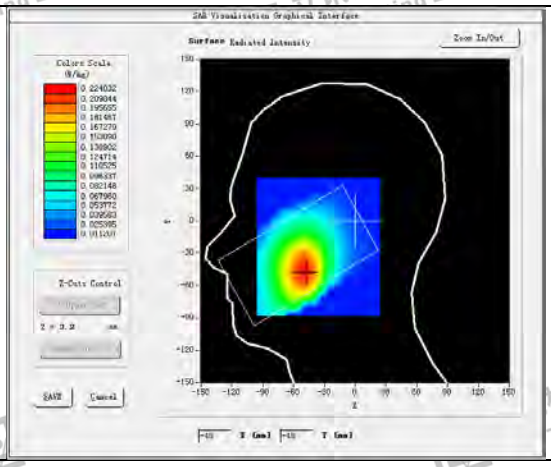
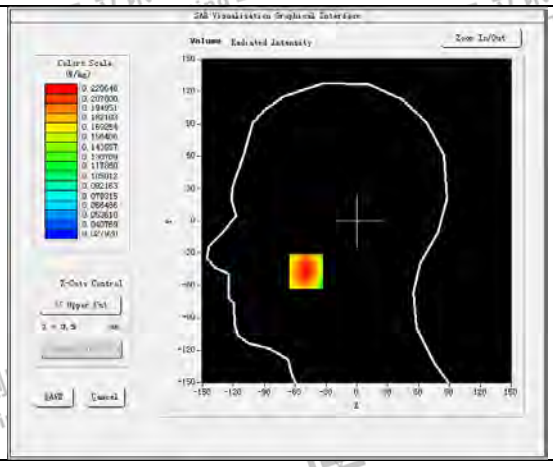
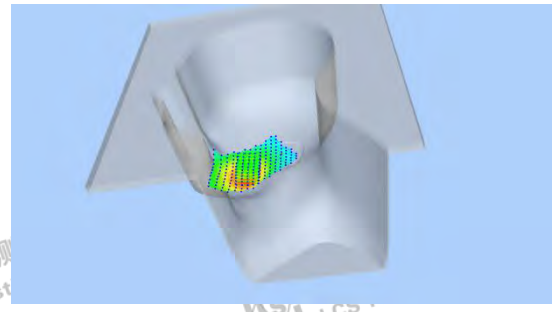
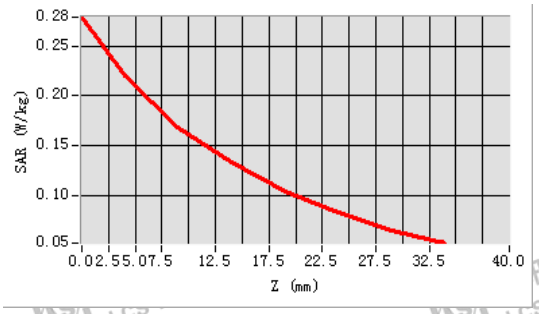
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 9: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.57 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | WCDMA IV |
| Signal | WCDMA (Crest factor: 1.0) |
| Frequency (MHz) | 1712.6 |
| Relative permittivity (real part) | 41.36 |
| Conductivity (S/m) | 1.37 |

Maximum location: X=-49.00, Y=-47.00
SAR Peak: 0.28 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.155827 |
| SAR 1g (W/Kg) | 0.214978 |

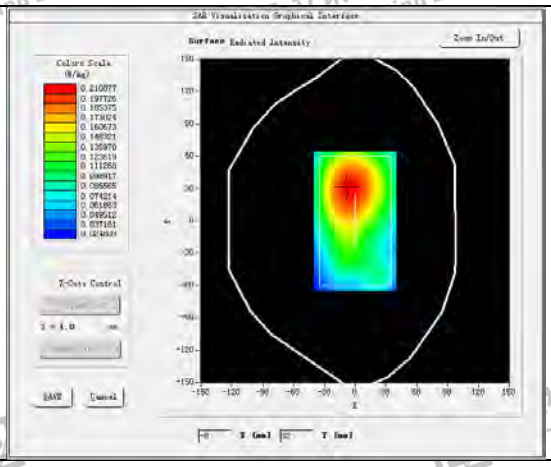
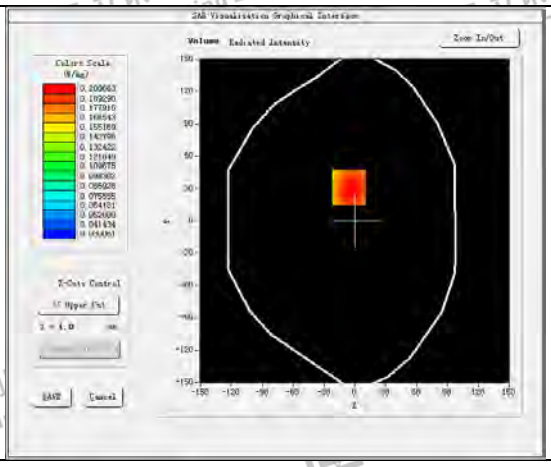
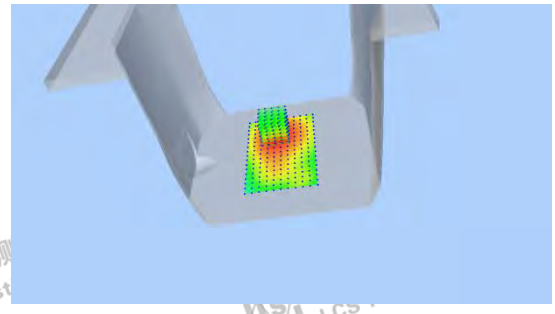
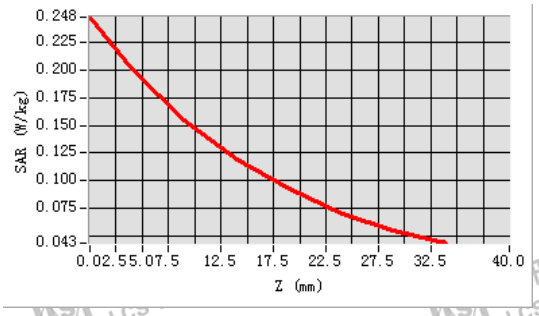
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |   |

**Plot 10: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.57 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | WCDMA IV |
| Signal | WCDMA (Crest factor: 1.0) |
| Frequency (MHz) | 1712.6 |
| Relative permittivity (real part) | 41.36 |
| Conductivity (S/m) | 1.37 |

Maximum location: X=-6.00, Y=31.00
SAR Peak: 0.25 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.146581 |
| SAR 1g (W/Kg) | 0.196680 |

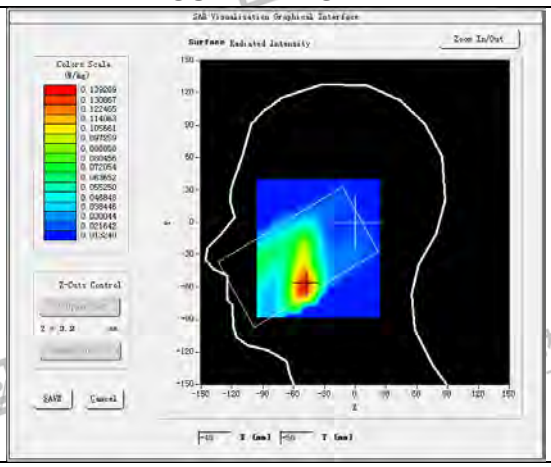
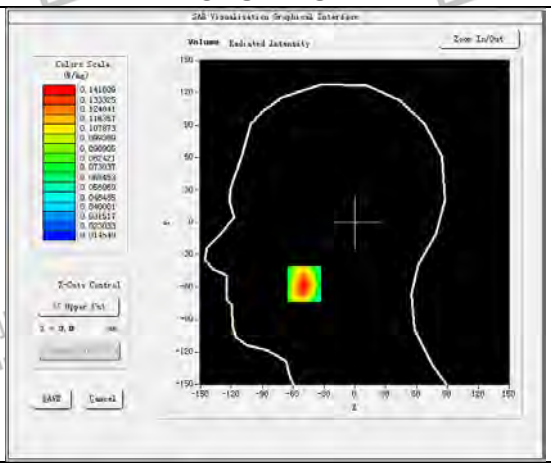
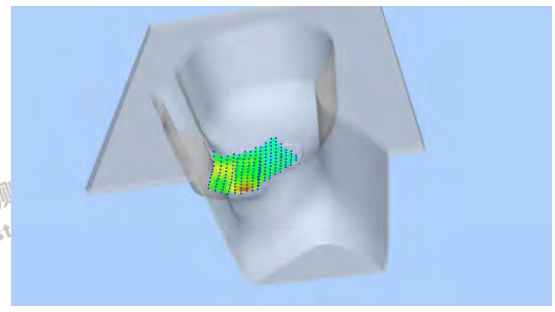
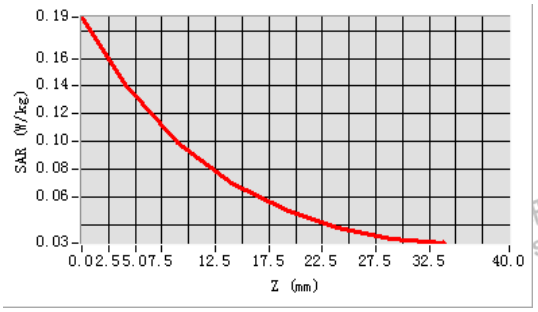
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

## Plot 11: DUT: 4G SMARTPHONE EUT Model: CHIPPY

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.78 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | LTE Band 2 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 1880 |
| Relative permittivity (real part) | 40.82 |
| Conductivity (S/m) | 1.44 |

Maximum location: X=-49.00, Y=-57.00
SAR Peak: 0.20 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.084883 |
| SAR 1g (W/Kg) | 0.136269 |

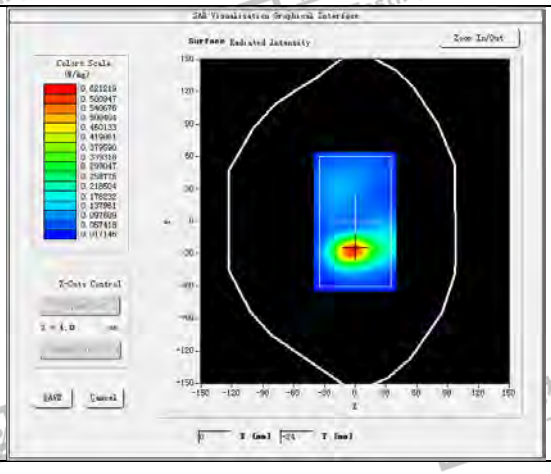
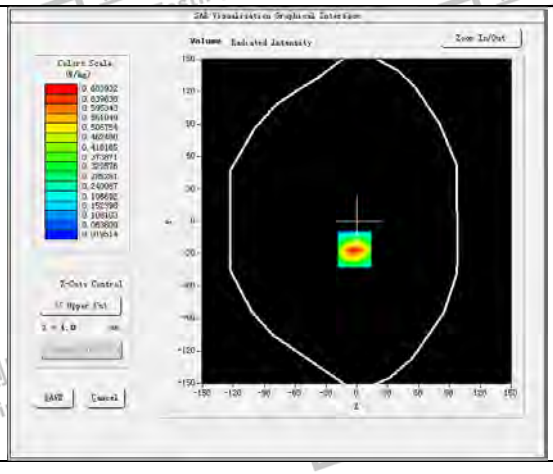
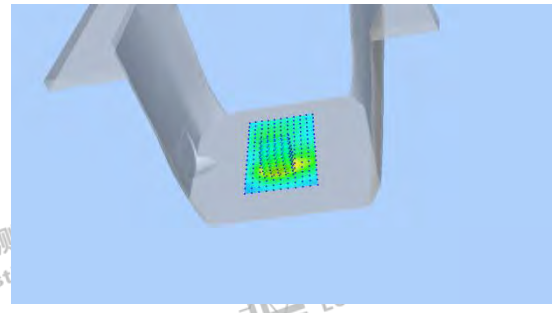
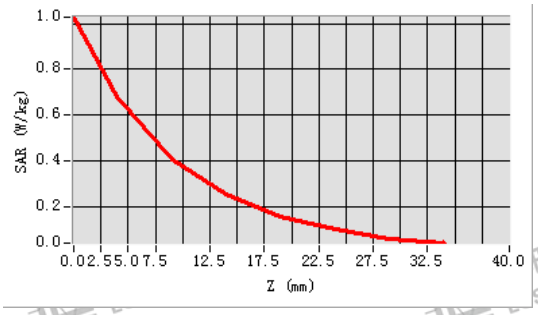
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 12: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.78 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | LTE Band 2 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 1880 |
| Relative permittivity (real part) | 40.82 |
| Conductivity (S/m) | 1.44 |

Maximum location: X=-2.00, Y=-26.00
SAR Peak: 1.02 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.337021 |
| SAR 1g (W/Kg) | 0.633965 |

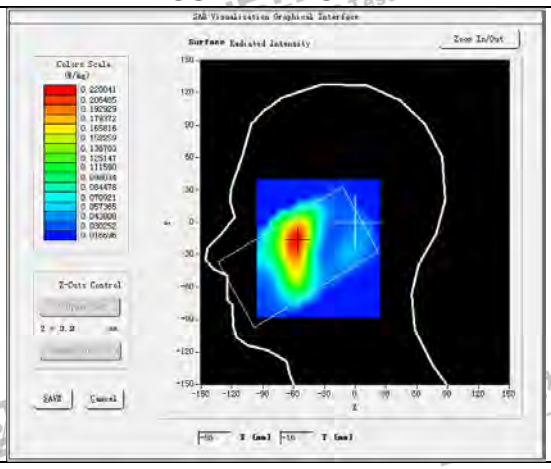
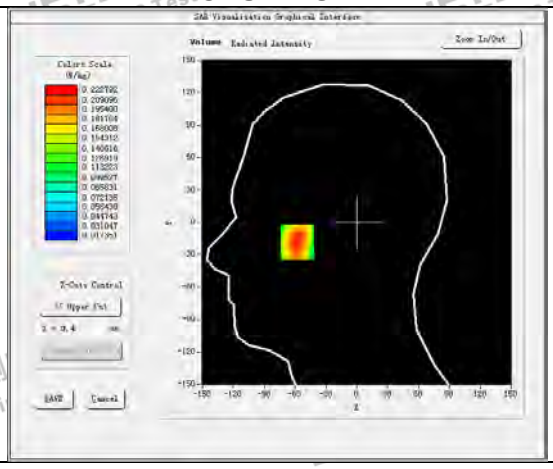
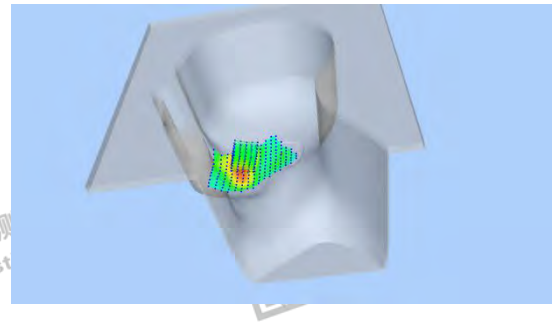
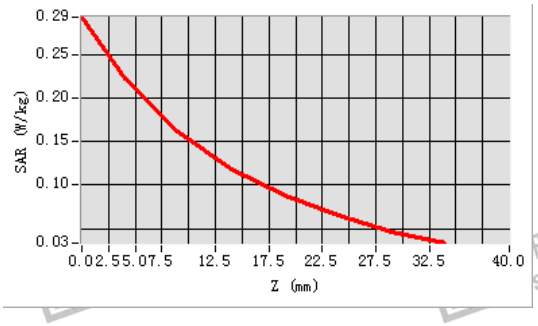
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 13: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-03 |
| ConvF | 1.60 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | LTE Band 4 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 1732.5 |
| Relative permittivity (real part) | 40.95 |
| Conductivity (S/m) | 1.38 |

Maximum location: X=-58.00, Y=-17.00
SAR Peak: 0.30 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.140612 |
| SAR 1g (W/Kg) | 0.213656 |

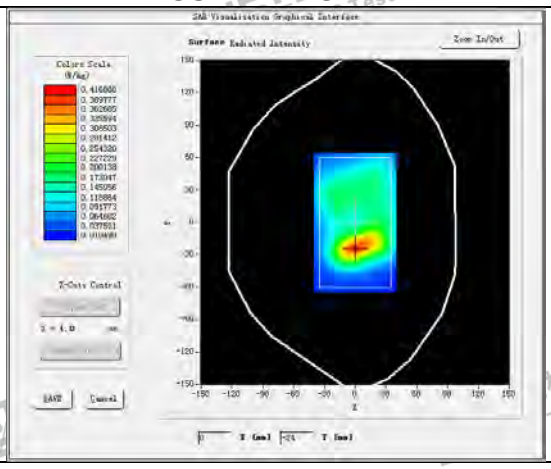
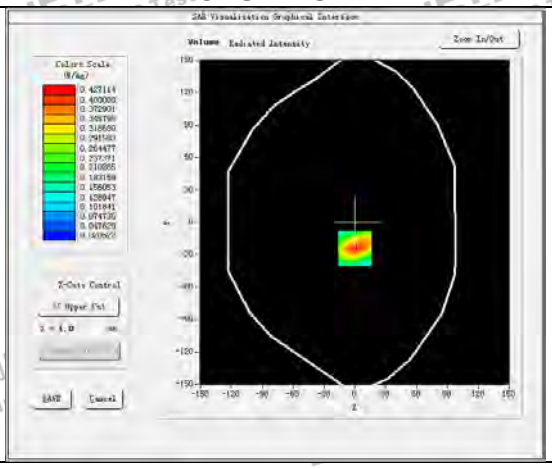
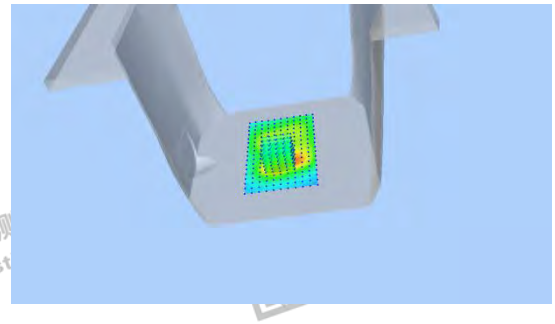
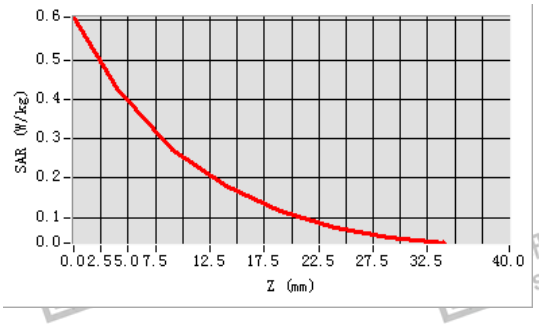
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |   |

**Plot 14: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-03 |
| ConvF | 1.60 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | LTE Band 4 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 1732.5 |
| Relative permittivity (real part) | 40.95 |
| Conductivity (S/m) | 1.38 |

Maximum location: X=0.00, Y=-24.00
SAR Peak: 0.60 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.229655 |
| SAR 1g (W/Kg) | 0.397804 |

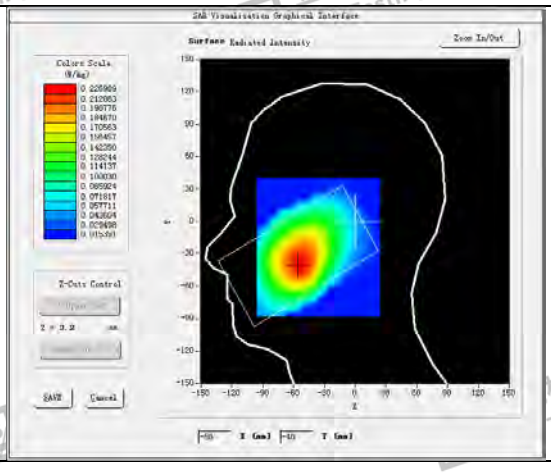
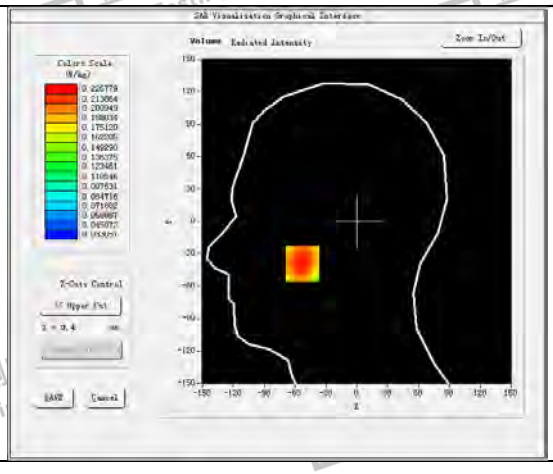
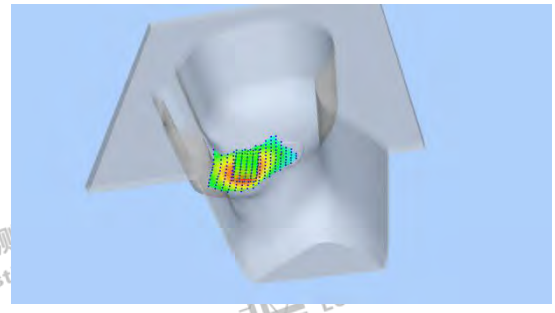
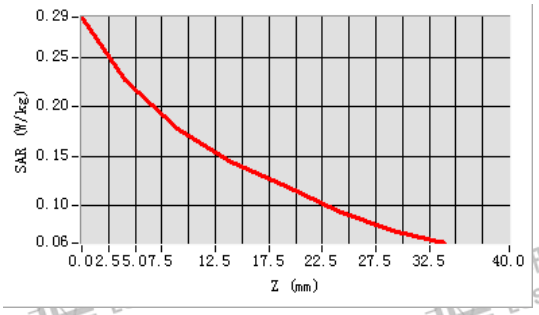
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 15: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-02 |
| ConvF | 1.57 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | LTE Band 5 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 844 |
| Relative permittivity (real part) | 41.30 |
| Conductivity (S/m) | 0.88 |

Maximum location: X=-53.00, Y=-39.00
SAR Peak: 0.29 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.169757 |
| SAR 1g (W/Kg) | 0.225748 |

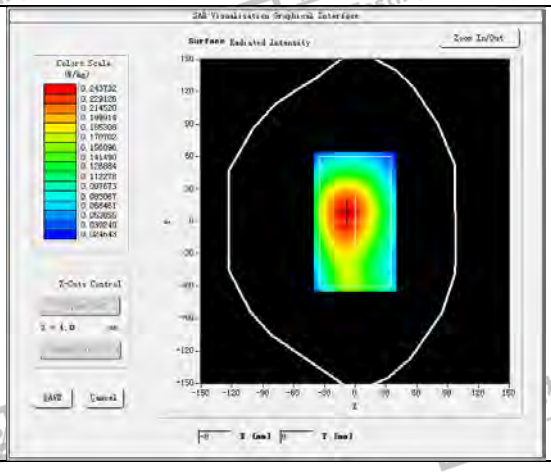
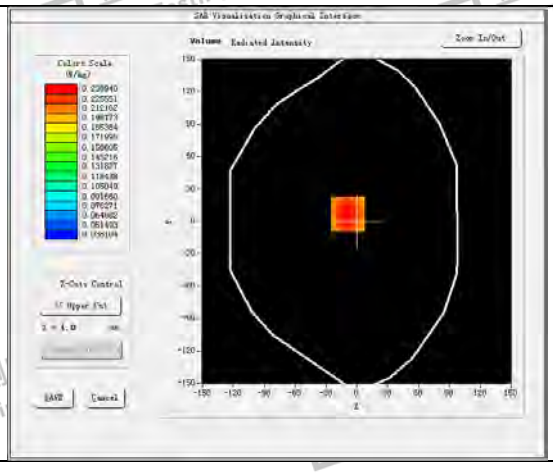
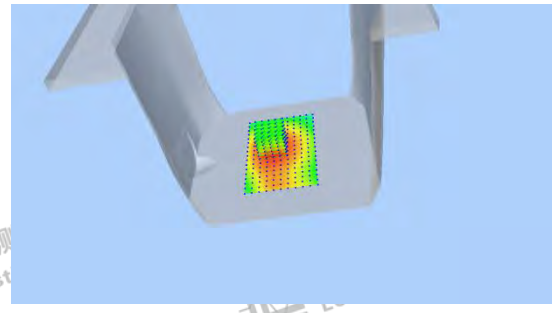
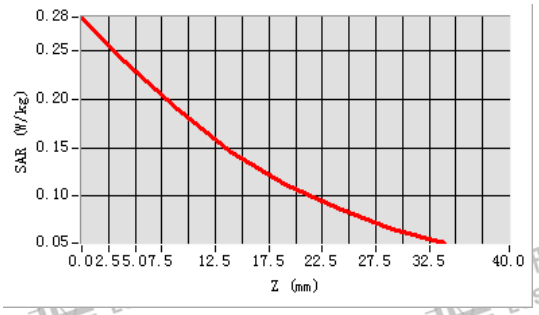
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 16: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-02 |
| ConvF | 1.57 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | LTE Band 5 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 844 |
| Relative permittivity (real part) | 41.30 |
| Conductivity (S/m) | 0.88 |

Maximum location: X=-9.00, Y=7.00
SAR Peak: 0.29 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.174331 |
| SAR 1g (W/Kg) | 0.233137 |

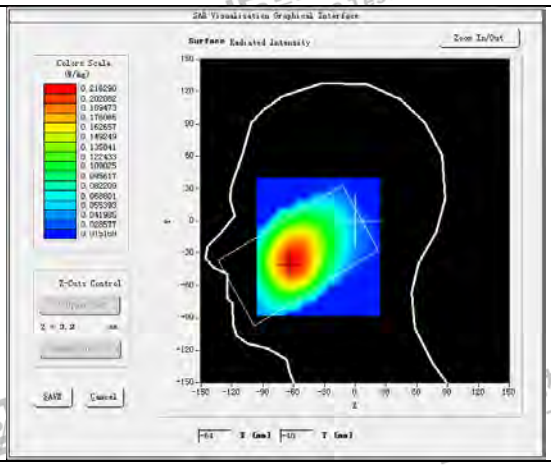
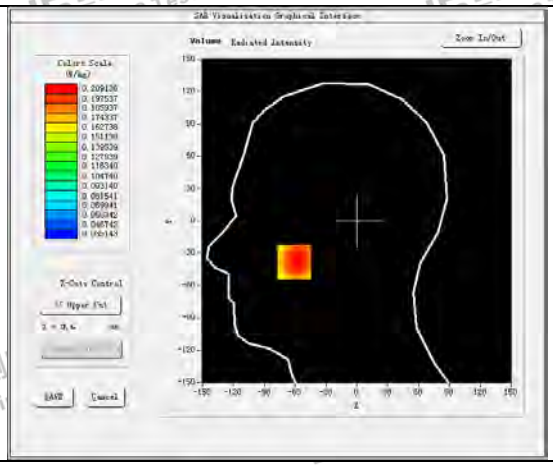
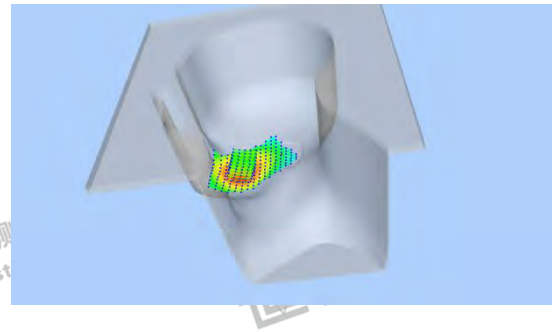
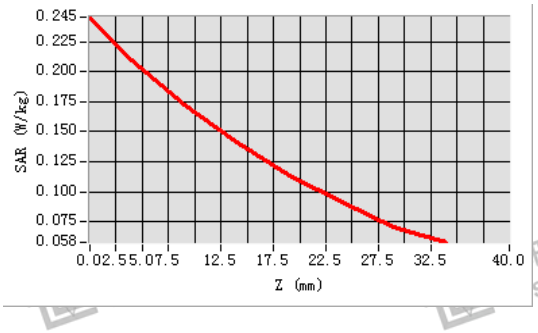
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 17: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-01 |
| ConvF | 1.58 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | LTE Band 12 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 704 |
| Relative permittivity (real part) | 42.54 |
| Conductivity (S/m) | 0.91 |

Maximum location: X=-61.00, Y=-38.00
SAR Peak: 0.25 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.160967 |
| SAR 1g (W/Kg) | 0.210639 |

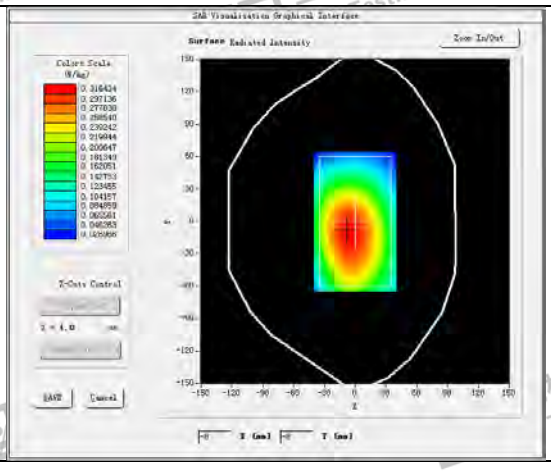
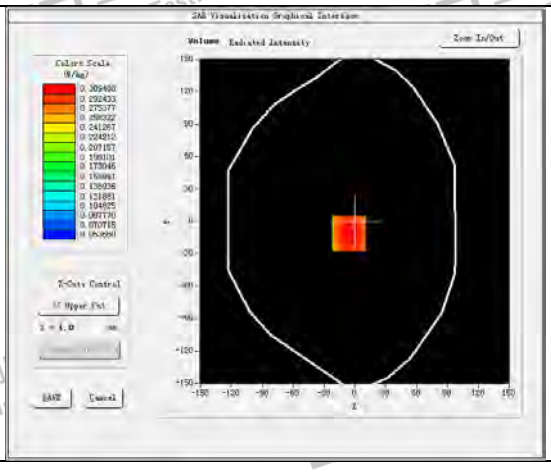
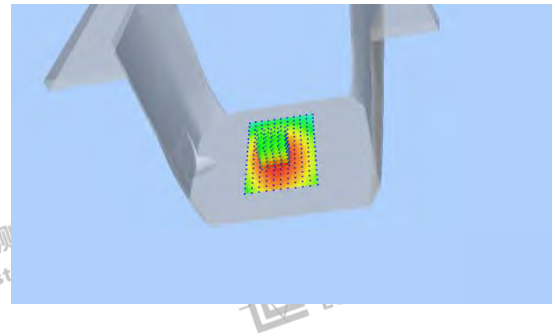
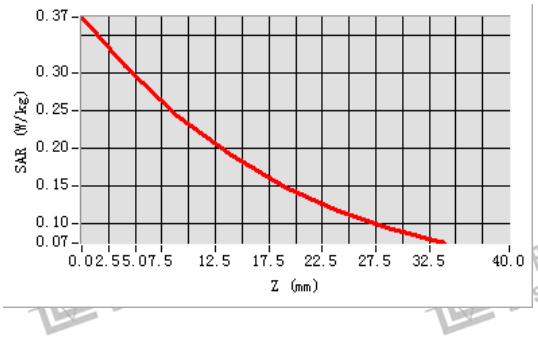
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 18: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-01 |
| ConvF | 1.58 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | LTE Band 12 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 704 |
| Relative permittivity (real part) | 41.69 |
| Conductivity (S/m) | 0.91 |

Maximum location: X=-6.00, Y=-11.00
SAR Peak: 0.38 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.230594 |
| SAR 1g (W/Kg) | 0.306248 |

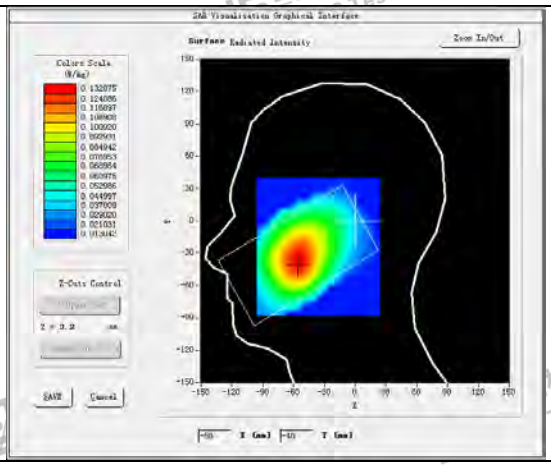
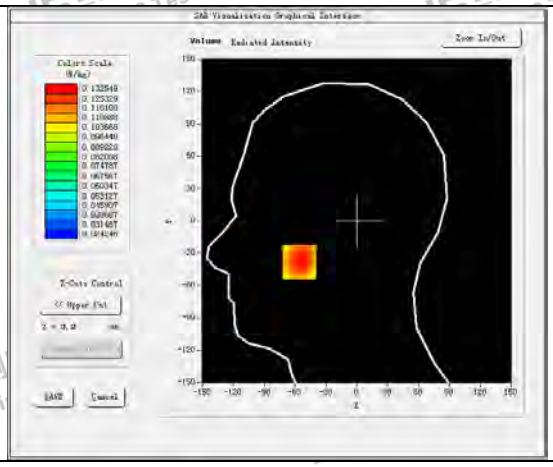
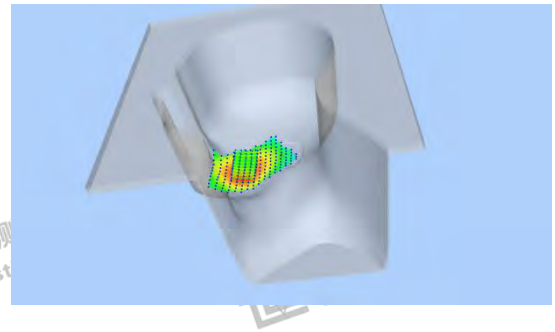
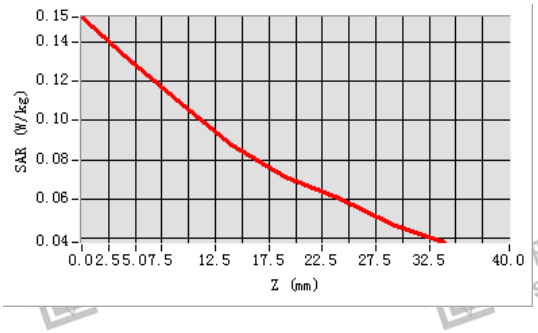
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 19: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-01 |
| ConvF | 1.58 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | LTE Band 13(RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 782 |
| Relative permittivity (real part) | 42.46 |
| Conductivity (S/m) | 0.85 |

Maximum location: X=-56.00, Y=-38.00
SAR Peak: 0.16 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.099424 |
| SAR 1g (W/Kg) | 0.128309 |

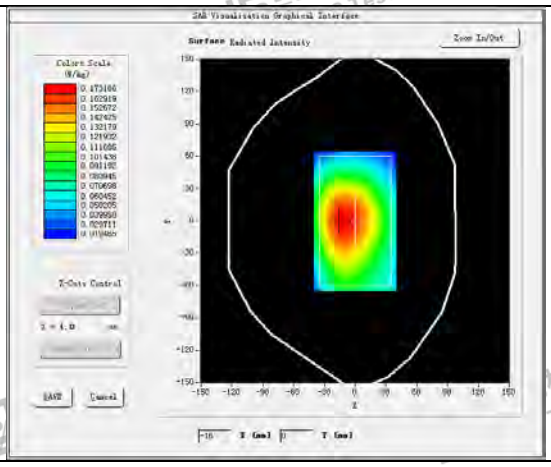
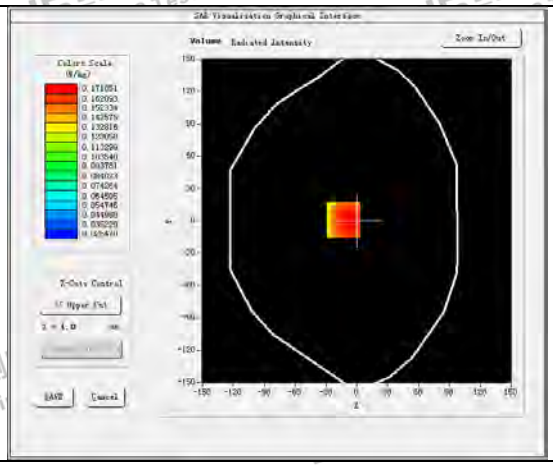
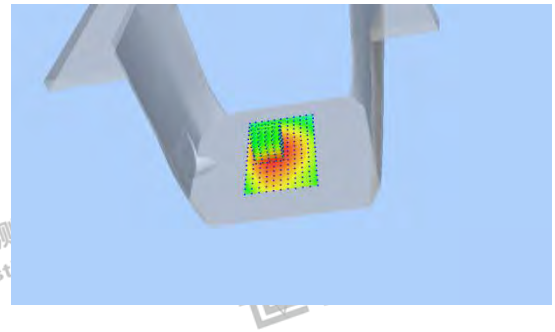
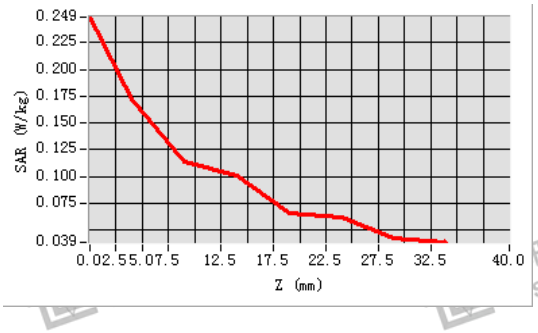
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 20: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-01 |
| ConvF | 1.58 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | LTE Band 13(RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 782 |
| Relative permittivity (real part) | 41.69 |
| Conductivity (S/m) | 0.91 |

Maximum location: X=-13.00, Y=1.00
SAR Peak: 0.22 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.123301 |
| SAR 1g (W/Kg) | 0.168310 |

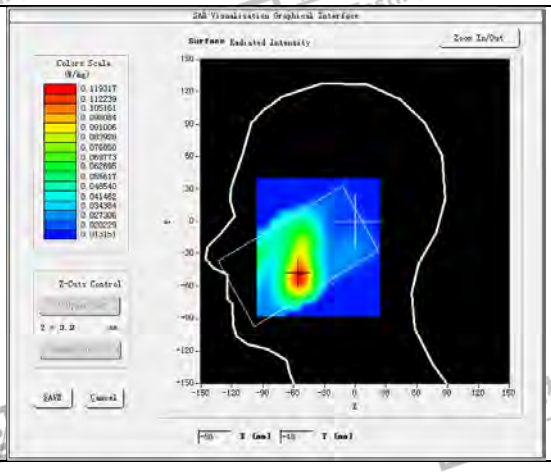
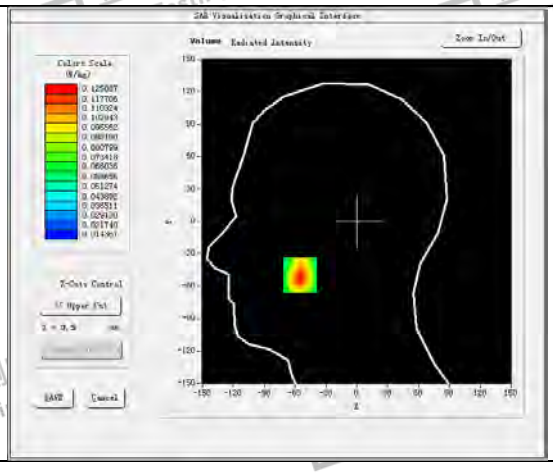
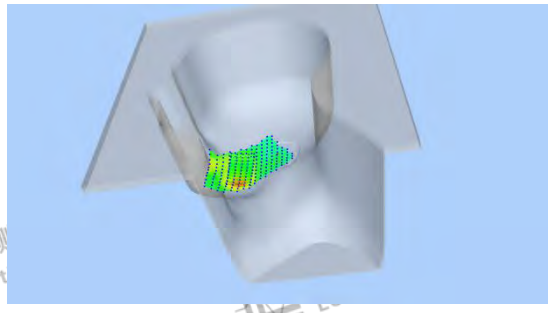
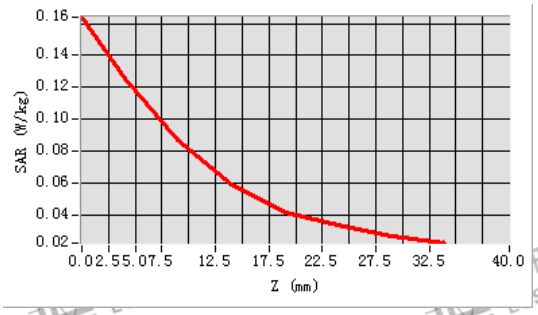
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |  |

**Plot 21: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.85 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Right Head |
| Band | LTE Band 25 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 1882.5 |
| Relative permittivity (real part) | 40.98 |
| Conductivity (S/m) | 1.37 |

Maximum location: X=-55.00, Y=-50.00
SAR Peak: 0.17 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.073536 |
| SAR 1g (W/Kg) | 0.117406 |

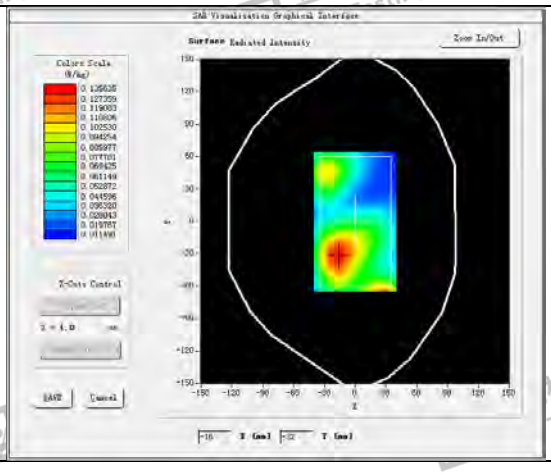
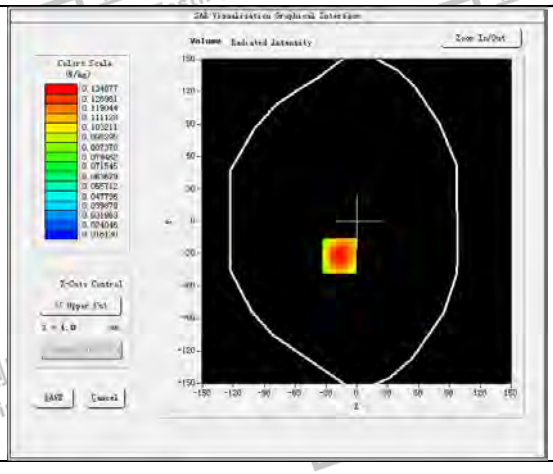
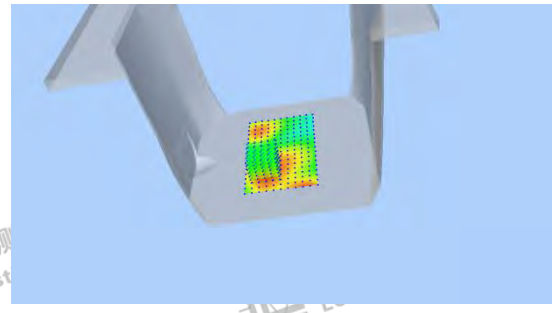
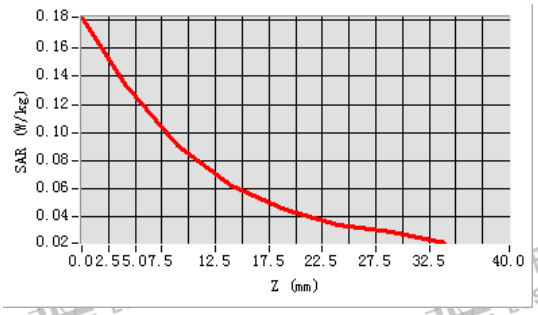
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |   |

**Plot 22: DUT: 4G SMARTPHONE EUT Model: CHIPPY**

| | |
|---|---|
| Test Date | 2024-04-06 |
| ConvF | 1.85 |
| Probe | SN 25/22 EPGO376 |
| Area Scan | dx=15mm dy=15mm, h= 5.00 mm |
| Zoom Scan | 5x5x7,dx=8mm dy=8mm dz=5mm |
| Phantom | Validation plane |
| Device Position | Back Side |
| Band | LTE Band 25 (RB 1) |
| Signal | LTE (Crest factor: 1.0) |
| Frequency (MHz) | 1882.5 |
| Relative permittivity (real part) | 40.98 |
| Conductivity (S/m) | 1.37 |

Maximum location: X=-17.00, Y=-32.00
SAR Peak: 0.19 W/kg

| | |
|---|---|
| SAR 10g (W/Kg) | 0.083948 |
| SAR 1g (W/Kg) | 0.128867 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |
| **3D** | **Z Axis Scan** |
|  |   |