# SAR Test Report

Product Name : GPS Tracker

Model No. : XT107

FCC ID : Z6VXT107

Applicant : Shenzhen Xexun Technology Co., Ltd.

Address : F/7, GuangRong Building, DuoLi Industrial Estate, MeiHua Rd., ShangMeiLin, FuTian District, ShenZhen, China

Date of Receipt : 01/11/2011

Date of Test : 01/11/2011

Issued Date : 02/11/2011

Report No. : 11BS001R-HP-US-P03V01

Report Version : V1.1

# Test Report Certification

Issued Date: 02/11/2011
Report No.: 11BS001R-HP-US-P03V01

QuieTek

| | | |
|---|---|---|
| Product Name | : | GPS Tracker |
| Applicant | : | Shenzhen Xexun Technology Co., Ltd. |
| Address | : | F/7, GuangRong Building, DuoLi Industrial Estate, MeiHua Rd., ShangMeiLin, FuTian District, ShenZhen, China |
| Manufacturer | : | Shenzhen Xexun Technology Co., Ltd. |
| Address | : | F/7, GuangRong Building, DuoLi Industrial Estate, MeiHua Rd., ShangMeiLin, FuTian District, ShenZhen, China |
| Model No. | : | XT107 |
| FCC ID | : | Z6VXT107 |
| Brand Name | : | XEXUN |
| EUT Voltage | : | DC 3.7V |
| Applicable Standard | : | FCC Oet65 Supplement C June 2001<br>IEEE Std. 1528-2003,47CFR § 2.1093 |
| Test Result | : | Max. SAR Measurement (1g)<br>Head: 0.304 W/kg<br>Body: 0.343 W/kg |
| Performed Location | : | Suzhou EMC Laboratory<br>No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., Suzhou, China<br>TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098<br>FCC Registration Number: 800392 |
| Documented By | : | Alice Ni<br>(Engineering ADM: Alice Ni) |
| Reviewed By | : | Robin Wu<br>(Senior Engineer: Robin Wu) |
| Approved By | : | Marlin Chen<br>(Engineering Supervisor: Marlin Chen) |

## Laboratory Information

We, **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

| | | |
|---|---|---|
| **Taiwan R.O.C.** | **:** | **BSMI, NCC, TAF** |
| **Germany** | **:** | **TUV Rheinland** |
| **Norway** | **:** | **Nemko, DNV** |
| **USA** | **:** | **FCC, NVLAP** |
| **Japan** | **:** | **VCCI** |

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : http://www.quietek.com/tw/ctg/cts/accreditations.htm
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

**HsinChu Testing Laboratory :**
No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

NVLAP Lab Code : 200347-0

Testing Laboratory 1313

**LinKou Testing Laboratory :**
No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

NVLAP Lab Code: 200533-0

Testing Laboratory 0914

**Suzhou (China) Testing Laboratory :**
No. 99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., Suzhou,China.
TEL : +86-512-6251-5088 / FAX : +86-512-6251-5098 E-Mail : service@quietek.com

NVLAP Lab Code : 200743-0

Testing Laboratory 1596

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# 1. General Information

## 1.1. EUT Description

| | |
|---|---|
| Product Name | GPS Tracker |
| Model No. | XT107 |
| IMEI | 012207004797111 |
| Hardware Version | XT107V1.2 |
| Software Version | XT107V1.2 0805 |
| GPS Function | Yes |
| Tx Frequency Range | GSM 850: 824~849MHz<br>PCS 1900: 1850~1910MHz |
| Rx Frequency Range | GSM 850: 869~894MHz<br>PCS 1900: 1930~1990MHz |
| GPRS Type | Class B |
| GPRS Class | 10 |
| Type of Modulation | GMSK |
| Device Category | Portable |
| Antenna Type | Internal |
| Peak Antenna Gain | -4dBi for GSM850<br>-4.5dBi for PCS1900 |
| Max. Output Power<br>(Avg. Burst Power) | GSM850 : 33.15 dBm<br>PCS1900 : 29.78 dBm |
| Battery | Model Name: BL-5B<br>Rated Voltage and Capacitance: 3.7V860mAh |
| AC Adapter | M/N: KZ328U<br>Input: 110-240VAC 50/60Hz 120mA<br>Output: 5VDC 1000mA |

## 1.2. Test Procedure

| | |
|---|---|
| 1 | Setup the EUT and simulators as shown on above. |
| 2 | Turn on the power of all equipment. |
| 3 | EUT communicate with CMU 200, and test them respectively at GSM 850 & PCS1900. |

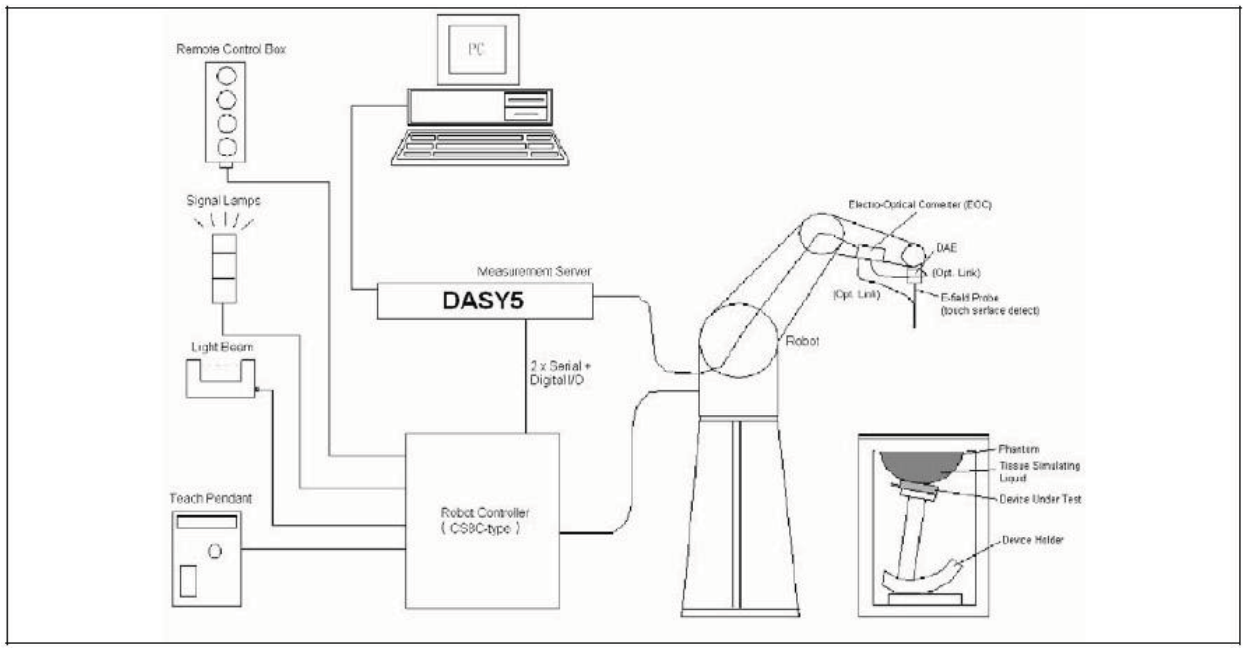
## 1.3. Test Environment

Ambient conditions in the laboratory:

| Items | Required | Actual |
|---|---|---|
| Temperature (°C) | 18-25 | 21.5± 2 |
| Humidity (%RH) | 30-70 | 52 |

# 2. SAR Measurement System

## 2.1. DASY5 System Description




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

- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

### 2.1.1. Applications

Predefined procedures and evaluations for automated compliance testing with all worldwide standards, e.g., IEEE 1528, OET 65, IEC 62209-1, IEC 62209-2, EN 50360, EN 50383 and others.

### 2.1.2. Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a $10mm^2$ step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.

When an Area Scan has measured all reachable points, it computes the field maxima found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE 1528-2003, EN 50361 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan).

### 2.1.3. Zoom Scan (Cube Scan Averaging)

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. A density of 1000 $kg/m^3$ is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1 g cube is 10mm, with the side length of the 10 g cube 21,5mm.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications utilize a physical step of 7x7x7 (5mmx5mmx5mm) providing a volume of 30mm in the X & Y axis, and 30mm in the Z axis.

### 2.1.4. Uncertainty of Inter-/Extrapolation and Averaging

In order to evaluate the uncertainty of the interpolation, extrapolation and averaged SAR calculation algorithms of the Postprocessor, DASY5 allows the generation of measurement grids which are artificially predefined by analytically based test functions. Therefore, the grids of area scans and zoom scans can be filled with uncertainty test data, according to the SAR benchmark functions of IEEE 1528.The three analytical functions shown in equations as below are used to describe the possible range of the expected SAR distributions for the tested handsets. The field gradients are covered by the spatially flat distribution f1, the spatially steep distribution f3 and f2 accounts for H-field cancellation on the phantom/tissue surface.

$$f_1(x,y,z) = Ae^{-\frac{z}{2a}}\cos^2\left(\frac{\pi}{2}\frac{\sqrt{x'^2+y'^2}}{5a}\right)$$

$$f_2(x,y,z) = Ae^{-\frac{z}{a}}\frac{a^2}{a^2+x'^2}\left(3-e^{-\frac{2z}{a}}\right)\cos^2\left(\frac{\pi}{2}\frac{y'}{3a}\right)$$

$$f_3(x,y,z) = A\frac{a^2}{\frac{a^2}{4}+x'^2+y'^2}\left(e^{-\frac{2z}{a}}+\frac{a^2}{2(a+2z)^2}\right)$$

## 2.2. DASY5 E-Field Probe

The SAR measurement is conducted with the dosimetric probe manufactured by SPEAG. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency.

SPEAG conducts the probe calibration in compliance with international and national standards (e.g. IEEE 1528, EN 62209-1, IEC 62209, etc.) under ISO 17025. The calibration data are in Appendix D.

### 2.2.1. Isotropic E-Field Probe Specification

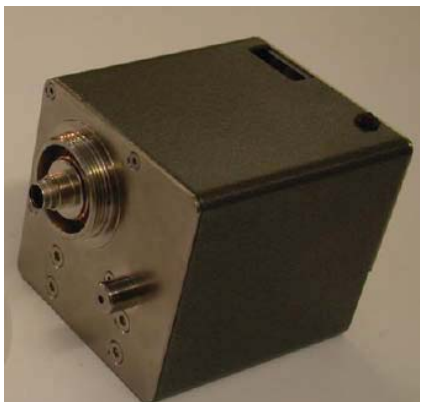
| Model | EX3DV4 | |
|---|---|---|
| **Construction** | Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE) | |
| **Frequency** | 10 MHz to 6 GHz<br>Linearity: ± 0.2 dB (30 MHz to 6 GHz) |  |
| **Directivity** | ± 0.3 dB in HSL (rotation around probe axis)<br>± 0.5 dB in tissue material (rotation normal to probe axis) | |
| **Dynamic Range** | 10 µW/g to 100 mW/g<br>Linearity: ± 0.2 dB (noise: typically < 1 µW/g) | |
| **Dimensions** | Overall length: 330 mm (Tip: 20 mm)<br>Tip diameter: 2.5 mm (Body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm | |
| **Application** | High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%. | |

## 2.3. Boundary Detection Unit and Probe Mounting Device

The DASY5 probes use a precise connector and an additional holder for the probe, consisting of a plastic tube and a flexible silicon ring to center the probe. The connector at the DAE is flexibly mounted and held in the default position with magnets and springs. Two switching systems in the connector mount detect frontal and lateral probe collisions and trigger the necessary software response.

## 2.4. DATA Acquisition Electronics (DAE) and Measurement Server

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit.
Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.
The input impedance of the DAE4 is 200M Ohm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.



The DASY5 measurement server is based on a PC/104 CPU board with a 400MHz intel ULV Celeron, 128MB chipdisk and 128MB RAM. The necessary circuits for communication with the DAE electronics box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

## 2.5. Robot

The DASY5 system uses the high precision robots TX90 XL type out of the newer series from Stäubli SA (France). For the 6-axis controller DASY5 system, the CS8C robot controller version from Stäubli is used.

The XL robot series have many features that are important for our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)
- 6-axis controller

## 2.6. Light Beam Unit

The light beam switch allows automatic "tooling" of the probe. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip.

The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

## 2.7. Device Holder

The DASY5 device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (EPR).
Thus the device needs no repositioning when changing the angles.
The DASY5 device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity εr =3 and loss tangent $\delta$ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

## 2.8. SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas:

- Left head
- Right head
- Flat phantom

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

# 3. Tissue Simulating Liquid

## 3.1. The composition of the tissue simulating liquid

| INGREDIENT (% Weight) | 835MHz Head | 835MHz Body | 1900MHz Head | 1900MHz Body |
|---|---|---|---|---|
| **Water** | 40.45 | 52.4 | 54.90 | 40.5 |
| **Salt** | 1.45 | 1.40 | 0.18 | 0.50 |
| **Sugar** | 57.6 | 45.0 | 0.00 | 58.0 |
| **HEC** | 0.40 | 1.00 | 0.00 | 0.50 |
| **Preventol** | 0.10 | 0.20 | 0.00 | 0.50 |
| **DGBE** | 0.00 | 0.00 | 44.92 | 0.00 |

### 3.2. Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using DASY5 Dielectric Probe Kit and Agilent Vector Network Analyzer E5071C

| **Head Tissue Simulant Measurement** | | | | |
|---|---|---|---|---|
| Frequency [MHz] | Description | Dielectric Parameters | | Tissue Temp. [°C] |
| | | $\varepsilon_r$ | $\sigma$ [s/m] | |
| 835 MHz | Reference result ± 5% window | 42.54<br>40.41 to 44.67 | 0.91<br>0.86 to 0.96 | N/A |
| | 01-11-2011 | 40.80 | 0.88 | 21.0 |
| | | | | |

| **Body Tissue Simulant Measurement** | | | | |
|---|---|---|---|---|
| Frequency [MHz] | Description | Dielectric Parameters | | Tissue Temp. [°C] |
| | | $\varepsilon_r$ | $\sigma$ [s/m] | |
| 835 MHz | Reference result ± 5% window | 55.2<br>52.44 to 57.96 | 0.97<br>0.92 to 1.02 | N/A |
| | 01-11-2011 | 53.70 | 0.99 | 21.0 |
| | | | | |

| **Head Tissue Simulant Measurement** | | | | |
|---|---|---|---|---|
| Frequency [MHz] | Description | Dielectric Parameters | | Tissue Temp. [°C] |
| | | $\varepsilon_r$ | $\sigma$ [s/m] | |
| 1900 MHz | Reference result ± 5% window | 39.9<br>37.91 to 41.90 | 1.42<br>1.35 to 1.49 | N/A |
| | 01-11-2011 | 38.70 | 1.47 | 21.0 |
| | | | | |

| **Body Tissue Simulant Measurement** | | | | |
|---|---|---|---|---|
| Frequency [MHz] | Description | Dielectric Parameters | | Tissue Temp. [°C] |
| | | $\varepsilon_r$ | $\sigma$ [s/m] | |
| 1900 MHz | Reference result ± 5% window | 53.3<br>50.64 to 55.97 | 1.52<br>1.44 to 1.60 | N/A |
| | 01-11-2011 | 52.50 | 1.56 | 21.0 |
| | | | | |

### 3.3. Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

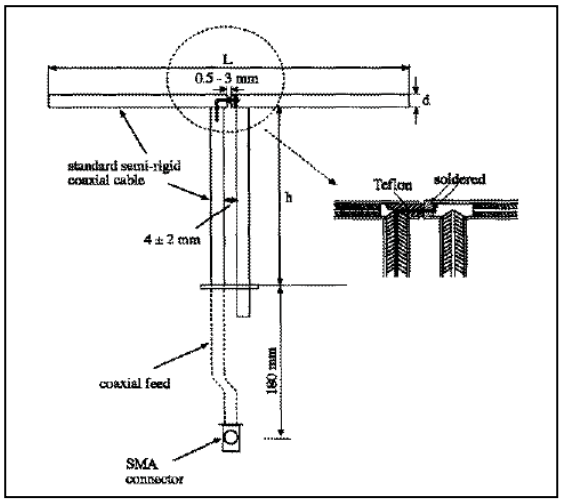
| Target Frequency | Head | | Body | |
|---|---|---|---|---|
| (MHz) | $\varepsilon_r$ | $\sigma$ (S/m) | $\varepsilon_r$ | $\sigma$ (S/m) |
| 150 | 52.3 | 0.76 | 61.9 | 0.80 |
| 300 | 45.3 | 0.87 | 58.2 | 0.92 |
| 450 | 43.5 | 0.87 | 56.7 | 0.94 |
| **835** | **41.5** | **0.90** | **55.2** | **0.97** |
| 900 | 41.5 | 0.97 | 55.0 | 1.05 |
| 915 | 41.5 | 0.98 | 55.0 | 1.06 |
| 1450 | 40.5 | 1.20 | 54.0 | 1.30 |
| 1610 | 40.3 | 1.29 | 53.8 | 1.40 |
| **1800 – 2000** | **40.0** | **1.40** | **53.3** | **1.52** |
| 2450 | 39.2 | 1.80 | 52.7 | 1.95 |
| 3000 | 38.5 | 2.40 | 52.0 | 2.73 |
| 5800 | 35.3 | 5.27 | 48.2 | 6.00 |

($\varepsilon_r$ = relative permittivity, $\sigma$ = conductivity and $\rho$ = 1000 kg/m$^3$)

# 4. SAR Measurement Procedure

## 4.1. SAR System Validation

### 4.1.1. Validation Dipoles




The dipoles used is based on the IEEE-1528 standard, and is complied with mechanical and electrical specifications in line with the requirements of both IEEE and FCC Supplement C. the table below provides details for the mechanical and electrical specifications for the dipoles.

| Frequency | L (mm) | h (mm) | d (mm) |
|---|---|---|---|
| 835MHz | 161.0 | 89.8 | 3.6 |
| 1900MHz | 68.0 | 39.5 | 3.6 |

### 4.1.2. Validation Result

**System Performance Check at 835MHz &1900MHz for Head**

**Validation Kit: D835V2-SN 4d094**

| Frequency [MHz] | Description | SAR [w/kg] 1g | SAR [w/kg] 10g | Tissue Temp. [°C] |
|---|---|---|---|---|
| 835 MHz | Reference result ± 10% window | 9.70 8.73 to 10.67 | 6.30 5.67 to 6.93 | N/A |
| | 01-11-2011 | 9.92 | 6.48 | 21.0 |

**Validation Kit: D1900V2-SN 5d121**

| Frequency [MHz] | Description | SAR [w/kg] 1g | SAR [w/kg] 10g | Tissue Temp. [°C] |
|---|---|---|---|---|
| 1900 MHz | Reference result ± 10% window | 39.8 35.82 to 43.78 | 21.1 18.99 to 23.21 | N/A |
| | 01-11-2011 | 42.40 | 21.76 | 21.0 |

Note: All SAR values are normalized to 1W forward power.

**System Performance Check at 835MHz &1900MHz for Body**

**Validation Kit: D835V2-SN 4d094**

| Frequency [MHz] | Description | SAR [w/kg] 1g | SAR [w/kg] 10g | Tissue Temp. [°C] |
|---|---|---|---|---|
| 835 MHz | Reference result ± 10% window | 9.90 8.91 to 10.89 | 6.53 5.88 to 7.18 | N/A |
| | 01-11-2011 | 9.88 | 6.40 | 21.0 |

**Validation Kit: D1900V2-SN 5d121**

| Frequency [MHz] | Description | SAR [w/kg] 1g | SAR [w/kg] 10g | Tissue Temp. [°C] |
|---|---|---|---|---|
| 1900 MHz | Reference result ± 10% window | 41.4 37.26 to 45.54 | 22.3 20.07 to 24.53 | N/A |
| | 01-11-2011 | 42.80 | 21.72 | 21.0 |

Note: All SAR values are normalized to 1W forward power.

## 4.2. SAR Measurement Procedure

The DASY5 calculates SAR using the following equation,

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

σ: represents the simulated tissue conductivity

ρ: represents the tissue density

The EUT is set to transmit at the required power in line with product specification, at each frequency relating to the LOW, MID, and HIGH channel settings.

Pre-scans are made on the device to establish the location for the transmitting antenna, using a large area scan in either air or tissue simulation fluid.

The EUT is placed against the Universal Phantom where the maximum area scan dimensions are larger than the physical size of the resonating antenna. When the scan size is not large enough to cover the peak SAR distribution, it is modified by either extending the area scan size in both the X and Y directions, or the device is shifted within the predefined area.

The area scan is then run to establish the peak SAR location (interpolated resolution set at $1mm^2$ ) which is then used to orient the center of the zoom scan. The zoom scan is then executed and the 1g and 10g averages are derived from the zoom scan volume (interpolated resolution set at $1mm^3$ ).

## 5. SAR Exposure Limits

SAR assessments have been made in line with the requirements of IEEE-1528, FCC Supplement C, and comply with ANSI/IEEE C95.1-1992 “Uncontrolled Environments” limits. These limits apply to a location which is deemed as “Uncontrolled Environment” which can be described as a situation where the general public may be exposed to an RF source with no prior knowledge or control over their exposure.

**Limits for General Population/Uncontrolled Exposure (W/kg)**

| Type Exposure | Uncontrolled Environment Limit |
|---|---|
| Spatial Peak SAR (1g cube tissue for brain or body) | 1.60 W/kg |
| Spatial Average SAR (whole body) | 0.08 W/kg |
| Spatial Peak SAR (10g for hands, feet, ankles and wrist) | 4.00 W/kg |

## 6. Test Equipment List

| Instrument | Manufacturer | Model No. | Serial No. | Cali. Due Date |
|---|---|---|---|---|
| Stäubli Robot TX60L | Stäubli | TX60L | F10/5C90A1/A/01 | only once |
| Controller | Stäubli | SP1 | S-0034 | only once |
| Dipole Validation Kits | Speag | D835V2 | 4d094 | 2012.03.15 |
| Dipole Validation Kits | Speag | D1900V2 | 5d121 | 2012.03.23 |
| SAM Twin Phantom | Speag | SAM | TP-1561/1562 | N/A |
| Device Holder | Speag | SD 000 H01 HA | N/A | N/A |
| Data Acquisition Electronic | Speag | DAE4 | 1220 | 2012.12.03 |
| E-Field Probe | Speag | EX3DV4 | 3710 | 2012.02.25 |
| SAR Software | Speag | DASY5 | V5.2 Build 162 | N/A |
| Power Amplifier | Mini-Circuit | ZVA-183-S+ | N657400950 | N/A |
| Directional Coupler | Agilent | 778D | 20160 | N/A |
| Universal Radio Communication Tester | R&S | CMU 200 | 117088 | 2012.04.29 |
| Vector Network | Agilent | E5071C | MY48367267 | 2012.04.10 |
| Signal Generator | Agilent | E4438C | MY49070163 | 2012.04.23 |
| Power Meter | Anritsu | ML2495A | 0905006 | 2012.01.12 |
| Wide Bandwidth Sensor | Anritsu | MA2411B | 0846014 | 2012.01.12 |

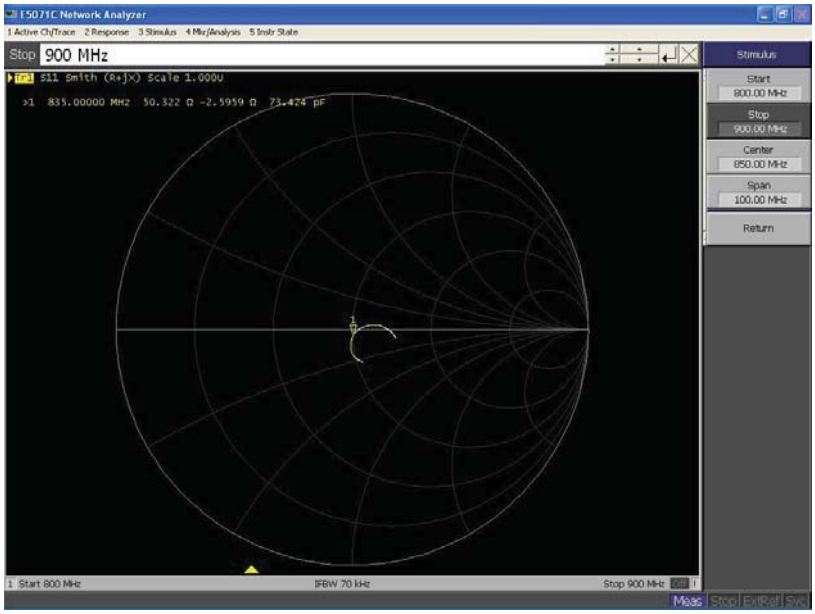
Note: Per KDB 450824 D02 requirements for dipole calibration, QuieTek Lab has adopted two years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss is within 20% of calibrated measurement (Show below);
4. Impedance is within 5Ω of calibrated measurement (Show below).

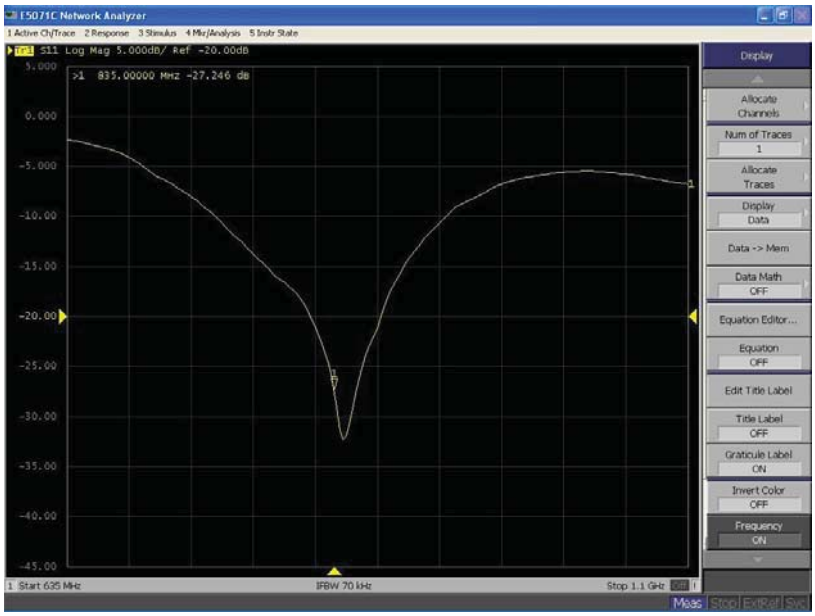
**Impedance Plot for D835V2**

**835 Head**

Calibrated impedance: 52.2 Ω; Measured impedance: 50.322 Ω (within 5Ω)

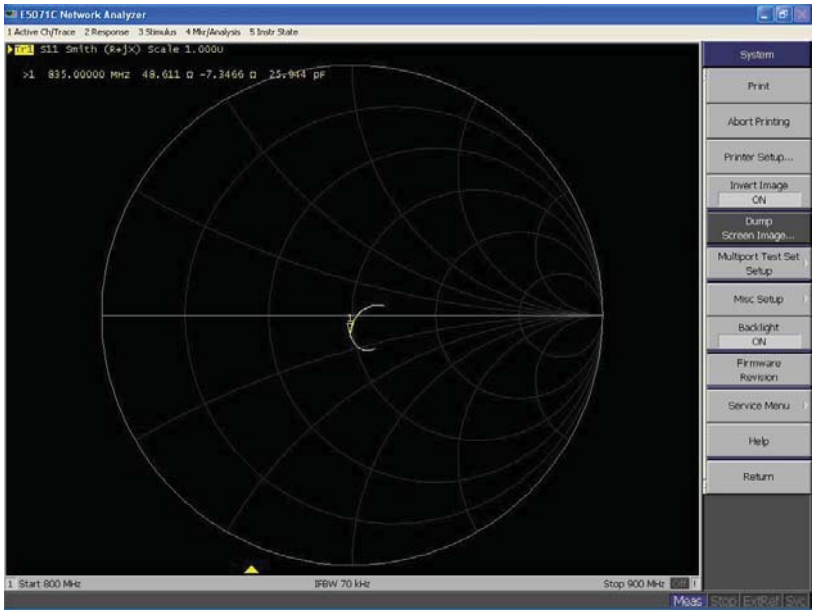



Calibrated return loss: -29.4 dB; Measured impedance: -27.246 dB (within 20%)

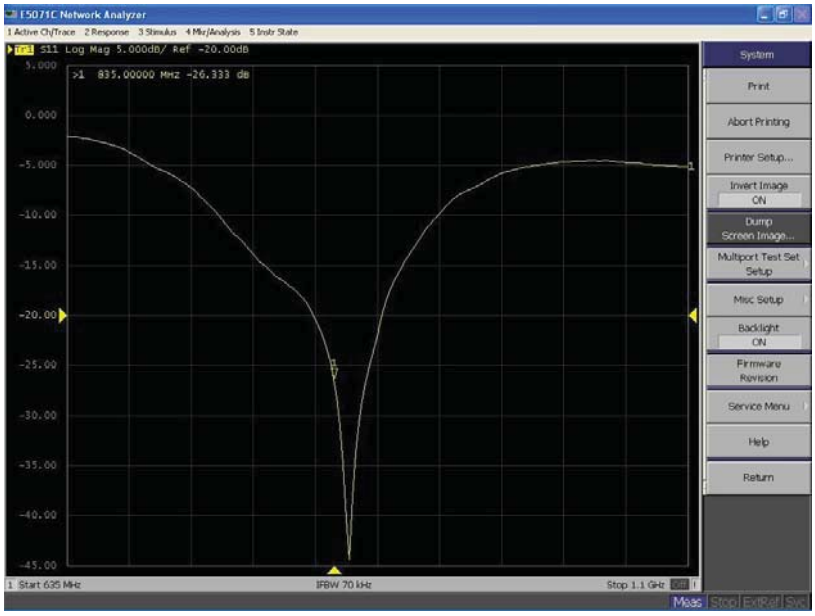


**835 Body**

Calibrated impedance: 48.0 Ω; Measured impedance: 48.611 Ω (within 5Ω)



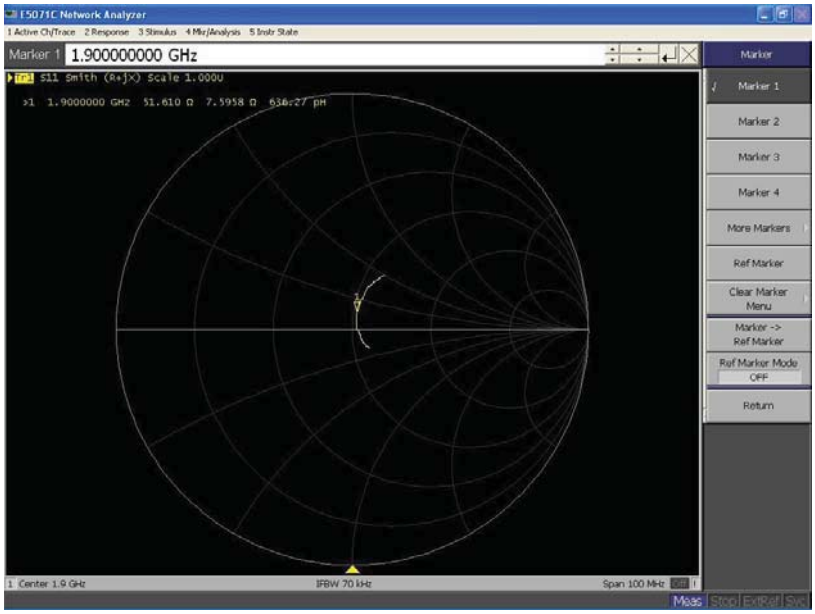

Calibrated return loss: -25.5 dB; Measured impedance: -26.333 dB (within 20%)



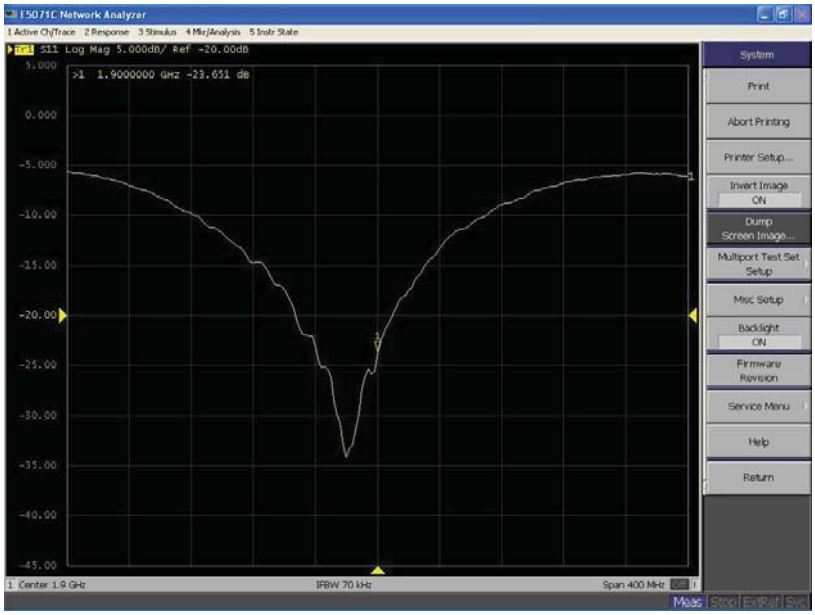
**Impedance Plot for D1900V2**

**1900 Head**

Calibrated impedance: 50.6 Ω; Measured impedance: 51.610 Ω (within 5Ω)

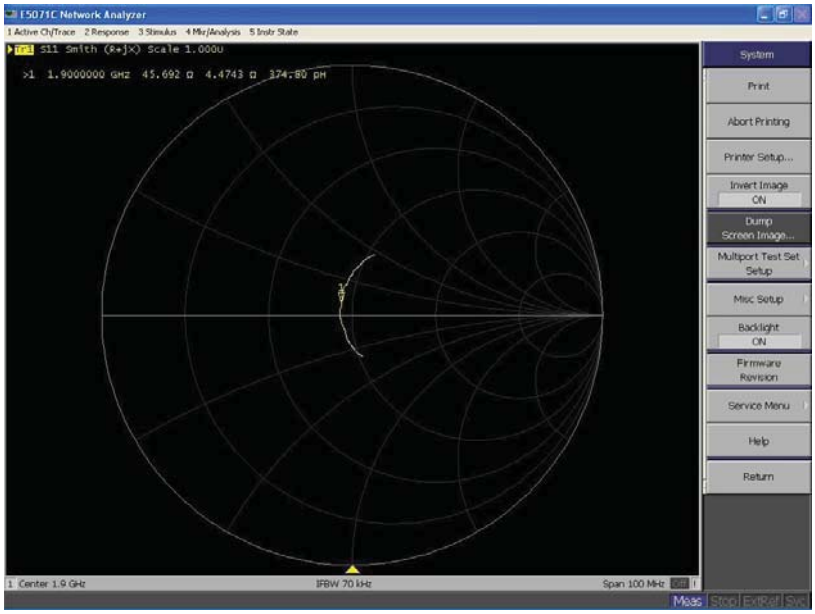



Calibrated return loss: -22.7 dB; Measured impedance: -23.651 dB (within 20%)

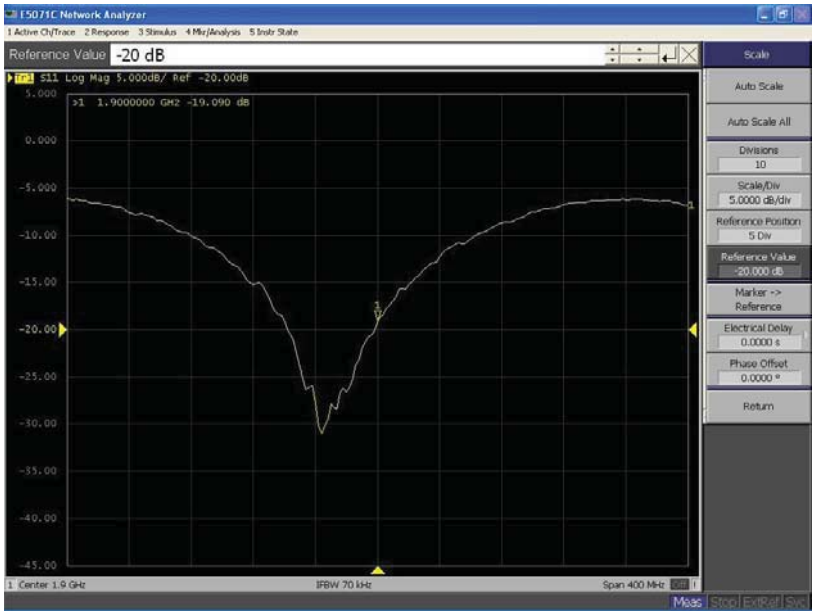


**1900 Body**

Calibrated impedance: 46.1 Ω; Measured impedance: 45.692 Ω (within 5Ω)




Calibrated return loss: -21.5 dB; Measured impedance: -19.090 dB (within 20%)



# 7. Measurement Uncertainty

| DASY5 Uncertainty<br>Measurement uncertainty for 300 MHz to 3 GHz averaged over 1 gram / 10 gram. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Error Description | Uncert. value | Prob. Dist. | Div. | ($c_i$) 1g | ($c_i$) 10g | Std. Unc. (1g) | Std. Unc. (10g) | ($v_i$) $v_{eff}$ |
| **Measurement System** | | | | | | | | |
| Probe Calibration | ±6.5% | N | 1 | 1 | 1 | ±6.5% | ±6.5% | ∞ |
| Axial Isotropy | ±4.7% | R | √3 | 0.7 | 0.7 | ±1.9% | ±1.9% | ∞ |
| Hemispherical Isotropy | ±9.6% | R | √3 | 0.7 | 0.7 | ±3.9% | ±3.9% | ∞ |
| Boundary Effects | ±1.0% | R | √3 | 1 | 1 | ±0.6% | ±0.6% | ∞ |
| Linearity | ±4.7% | R | √3 | 1 | 1 | ±2.7% | ±2.7% | ∞ |
| System Detection Limits | ±1.0% | R | √3 | 1 | 1 | ±0.6% | ±0.6% | ∞ |
| Readout Electronics | ±0.3% | N | 1 | 1 | 1 | ±0.3% | ±0.3% | ∞ |
| Response Time | ±0.8% | R | √3 | 1 | 1 | ±0.5% | ±0.5% | ∞ |
| Integration Time | ±2.6% | R | √3 | 1 | 1 | ±1.5% | ±1.5% | ∞ |
| RF Ambient Noise | ±3.0% | R | √3 | 1 | 1 | ±1.7% | ±1.7% | ∞ |
| RF Ambient Reflections | ±3.0% | R | √3 | 1 | 1 | ±1.7% | ±1.7% | ∞ |
| Probe Positioner | ±0.4% | R | √3 | 1 | 1 | ±0.2% | ±0.2% | ∞ |
| Probe Positioning | ±2.9% | R | √3 | 1 | 1 | ±1.7% | ±1.7% | ∞ |
| Max. SAR Eval. | ±1.0% | R | √3 | 1 | 1 | ±0.6% | ±0.6% | ∞ |
| **Test Sample Related** | | | | | | | | |
| Device Positioning | ±2.9% | N | 1 | 1 | 1 | ±2.9% | ±2.9% | 145 |
| Device Holder | ±3.6% | N | 1 | 1 | 1 | ±3.6% | ±3.6% | 5 |
| Power Drift | ±5.0% | R | √3 | 1 | 1 | ±2.9% | ±2.9% | ∞ |
| **Phantom and Setup** | | | | | | | | |
| Phantom Uncertainty | ±4.0% | R | √3 | 1 | 1 | ±2.3% | ±2.3% | ∞ |
| Liquid Conductivity (target) | ±5.0% | R | √3 | 0.64 | 0.43 | ±1.8% | ±1.2% | ∞ |
| Liquid Conductivity (meas.) | ±2.5% | N | 1 | 0.64 | 0.43 | ±1.6% | ±1.1% | ∞ |
| Liquid Permittivity (target) | ±5.0% | R | √3 | 0.6 | 0.49 | ±1.7% | ±1.4% | ∞ |
| Liquid Permittivity (meas.) | ±2.5% | N | 1 | 0.6 | 0.49 | ±1.5% | ±1.2% | ∞ |
| **Combined Std. Uncertainty** | | | | | | ±11.3% | ±11.0% | 387 |
| **Expanded STD Uncertainty** | | | | | | ±22.5% | ±22.1% | |

# 8. Conducted Power Measurement

| Mode | Frequency (MHz) | Avg. Burst Power (dBm) | Duty Cycle Factor (dB) | Frame Power (dBm) |
|---|---|---|---|---|
| Maximum Power | | | | |
| GSM850 | 824.2 | 33.15 | -9 | 24.15 |
| | 836.4 | 33.04 | -9 | 24.04 |
| | 848.8 | 32.85 | -9 | 23.85 |
| GPRS850(1slot) | 824.2 | 32.95 | -9 | 23.95 |
| | 836.4 | 32.92 | -9 | 23.92 |
| | 848.8 | 32.88 | -9 | 23.88 |
| GPRS850(2 Slot) | 824.2 | 31.21 | -6 | 25.21 |
| | 836.4 | 31.14 | -6 | 25.14 |
| | 848.8 | 31.08 | -6 | 25.08 |
| PCS1900 | 1850.2 | 29.78 | -9 | 20.78 |
| | 1880.0 | 29.68 | -9 | 20.68 |
| | 1909.8 | 29.16 | -9 | 20.16 |
| GPRS1900(1 Slot) | 1850.2 | 29.69 | -9 | 20.69 |
| | 1880.0 | 29.66 | -9 | 20.66 |
| | 1909.8 | 29.19 | -9 | 20.19 |
| GPRS1900(2 Slot) | 1850.2 | 28.03 | -6 | 22.03 |
| | 1880.0 | 27.97 | -6 | 21.97 |
| | 1909.8 | 27.68 | -6 | 21.68 |

# 9. Test Results

## 9.1. SAR Test Results Summary

### 9.1.1. Test position and configuration

Head SAR was performed with the device configured in the positions according to IEEE1528, and Body SAR was performed with the device 15mm from the phantom.

### 9.1.2. Operation Mode

This is a multislot class 10 device capable of 2 uplink timeslots. During the head SAR test, the device was transmitting with 1 uplink timeslot; during the body SAR test, it was transmitting with 2 uplink timeslots. Additionally, this device doesn't support dual transfer mode (DTM).

### 9.1.3. Reference document

Reference document: KDB 447498 and KDB 941225.

### 9.1.4. Test Result

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SAR MEASUREMENT | | | | | | | |
| Ambient Temperature (°C) : 21.5 ±2 | | | | Relative Humidity (%): 52 | | | |
| Liquid Temperature (°C) : 21.0 ±2 | | | | Depth of Liquid (cm):>15 | | | |
| Product: GPS Tracker | | | | | | | |
| Test Mode: GSM850 | | | | | | | |
| Test Position Head | Antenna Position | Frequency | | Frame Power (dBm) | Power Drift (<±0.2) | SAR 1g (W/kg) | Limit (W/kg) |
| | | Channel | MHz | | | | |
| Left-Cheek | Fixed | 128 | 824.2 | 24.15 | -- | -- | 1.6 |
| Left-Cheek | Fixed | 189 | 836.4 | 24.04 | -0.106 | 0.281 | 1.6 |
| Left-Cheek | Fixed | 251 | 848.8 | 23.85 | -- | -- | 1.6 |
| Left-Tilted | Fixed | 189 | 836.4 | 24.04 | -0.104 | 0.108 | 1.6 |
| Right-Cheek | Fixed | 128 | 824.2 | 24.15 | -- | -- | 1.6 |
| Right-Cheek | Fixed | 189 | 836.4 | 24.04 | -0.063 | 0.304 | 1.6 |
| Right-Cheek | Fixed | 251 | 848.8 | 23.85 | -- | -- | 1.6 |
| Right-Tilted | Fixed | 189 | 836.4 | 24.04 | -0.022 | 0.110 | 1.6 |
| Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 941225. | | | | | | | |

SAR MEASUREMENT

| | |
|---|---|
| Ambient Temperature (°C) : 21.5 ±2 | Relative Humidity (%): 52 |
| Liquid Temperature (°C) : 21.0 ±2 | Depth of Liquid (cm):>15 |
| Product: GPS Tracker | |
| Test Mode: GSM850 | |

| Test Position Body | Antenna Position | Frequency | | Separation Distance (mm) | Frame Power (dBm) | Power Drift (<±0.2) | SAR 1g (W/kg) | Limit (W/kg) |
|---|---|---|---|---|---|---|---|---|
| | | Channel | MHz | | | | | |
| Body-Front | Fixed | 189 | 836.4 | 15 | 24.04 | -0.107 | 0.229 | 1.6 |
| Test Mode: GPRS850 1slot | | | | | | | | |
| Body-Front | Fixed | 189 | 836.4 | 15 | 23.92 | -0.033 | 0.225 | 1.6 |
| Test Mode: GPRS850 2slot | | | | | | | | |
| Body-Front | Fixed | 128 | 824.2 | 15 | 25.21 | -- | -- | 1.6 |
| Body-Front | Fixed | 189 | 836.4 | 15 | 25.14 | 0.103 | **0.343** | 1.6 |
| Body-Front | Fixed | 251 | 848.8 | 15 | 25.08 | -- | -- | 1.6 |
| Body-Back | Fixed | 189 | 836.4 | 15 | 25.14 | 0.118 | 0.249 | 1.6 |

Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 941225.

SAR MEASUREMENT

| | |
|---|---|
| Ambient Temperature (°C) : 21.5 ±2 | Relative Humidity (%): 52 |
| Liquid Temperature (°C) : 21.0 ±2 | Depth of Liquid (cm):>15 |
| Product: GPS Tracker | |
| Test Mode: PCS1900 | |

| Test Position Head | Antenna Position | Frequency | | Frame Power (dBm) | Power Drift (<±0.2) | SAR 1g (W/kg) | Limit (W/kg) |
|---|---|---|---|---|---|---|---|
| | | Channel | MHz | | | | |
| Left-Cheek | Fixed | 512 | 1850.2 | 20.78 | -- | -- | 1.6 |
| Left-Cheek | Fixed | 661 | 1880.0 | 20.68 | 0.034 | 0.194 | 1.6 |
| Left-Cheek | Fixed | 810 | 1909.8 | 20.16 | -- | -- | 1.6 |
| Left-Tilted | Fixed | 661 | 1880.0 | 20.68 | 0.085 | 0.078 | 1.6 |
| Right-Cheek | Fixed | 512 | 1850.2 | 20.78 | -- | -- | 1.6 |
| Right-Cheek | Fixed | 661 | 1880.0 | 20.68 | 0.041 | 0.191 | 1.6 |
| Right-Cheek | Fixed | 810 | 1909.8 | 20.16 | -- | -- | 1.6 |
| Right-Tilted | Fixed | 661 | 1880.0 | 20.68 | -0.045 | 0.089 | 1.6 |

Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 941225.

SAR MEASUREMENT

| | |
|---|---|
| Ambient Temperature (°C) : 21.5 ±2 | Relative Humidity (%): 52 |
| Liquid Temperature (°C) : 21.0 ±2 | Depth of Liquid (cm):>15 |
| Product: GPS Tracker | |
| Test Mode: PCS1900 | |

| Test Position Body | Antenna Position | Frequency | | Separation Distance (mm) | Frame Power (dBm) | Power Drift (<±0.2) | SAR 1g (W/kg) | Limit (W/kg) |
|---|---|---|---|---|---|---|---|---|
| | | Channel | MHz | | | | | |
| Body-Front | Fixed | 661 | 1880.0 | 15 | 20.68 | 0.053 | 0.212 | 1.6 |
| Test Mode: GPRS1900 1slot | | | | | | | | |
| Body-Front | Fixed | 661 | 1880.0 | 15 | 20.66 | 0.064 | 0.202 | 1.6 |
| Test Mode: GPRS1900 2slot | | | | | | | | |
| Body-Front | Fixed | 512 | 1850.2 | 15 | 22.03 | -- | -- | 1.6 |
| Body-Front | Fixed | 661 | 1880.0 | 15 | 21.97 | -0.115 | **0.308** | 1.6 |
| Body-Front | Fixed | 810 | 1909.8 | 15 | 21.68 | -- | -- | 1.6 |
| Body-Back | Fixed | 661 | 1880.0 | 15 | 21.97 | 0.069 | 0.260 | 1.6 |

Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 941225.

# Appendix A. SAR System Validation Data

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

System Check Head 835MHz

**DUT: Dipole 835 MHz D835V2; Type: D835V2**

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

Frequency: 835 MHz; Medium parameters used: f = 835 MHz; $\sigma$ = 0.88 mho/m; $\varepsilon r$ = 40.8; $\rho$ = 1000 kg/m$^3$ ;

Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

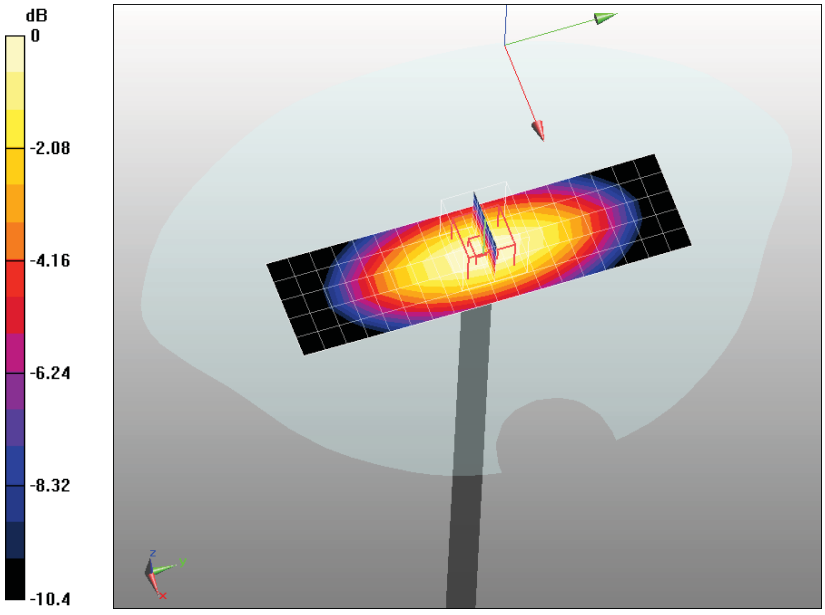
- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/System Check GSM850 Head/Area Scan (6x19x1):** Measurement grid: dx=10mm, dy=10mm, Maximum value of SAR (measured) = 2.56 mW/g

**Configuration/System Check GSM850 Head/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm, Reference Value = 55.7 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 3.75 W/kg

**SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.62 mW/g** Maximum value of SAR (measured) = 2.68 mW/g




0 dB = 2.68mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

System Check Body 835MHz

**DUT: Dipole 835 MHz D835V2; Type: D835V2**

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

Frequency: 835 MHz; Medium parameters used: f = 835 MHz; $\sigma$ = 0.99 mho/m; $\varepsilon r$ = 53.7; $\rho$ = 1000 kg/m$^3$ ;

Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

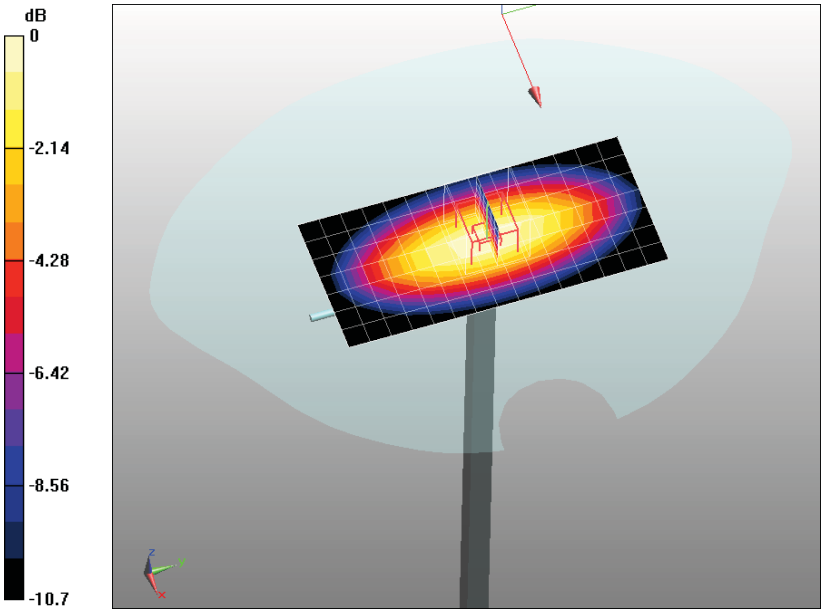
**Configuration/System Check GSM835 Body/Area Scan (8x16x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 2.54 mW/g

**Configuration/System Check GSM835 Body/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm, Reference Value = 52.1 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 3.76 W/kg

**SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.6 mW/g** Maximum value of SAR (measured) = 2.67 mW/g




0 dB = 2.67mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

System Check Head 1900MHz

**DUT: Dipole 1900 MHz D1900V2; Type: D1900V2**

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

Frequency: 1900 MHz; Medium parameters used: f = 1900 MHz; $\sigma$ = 1.47 mho/m; $\varepsilon r$ = 38.7; $\rho$ = 1000 kg/m$^3$ ;

Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

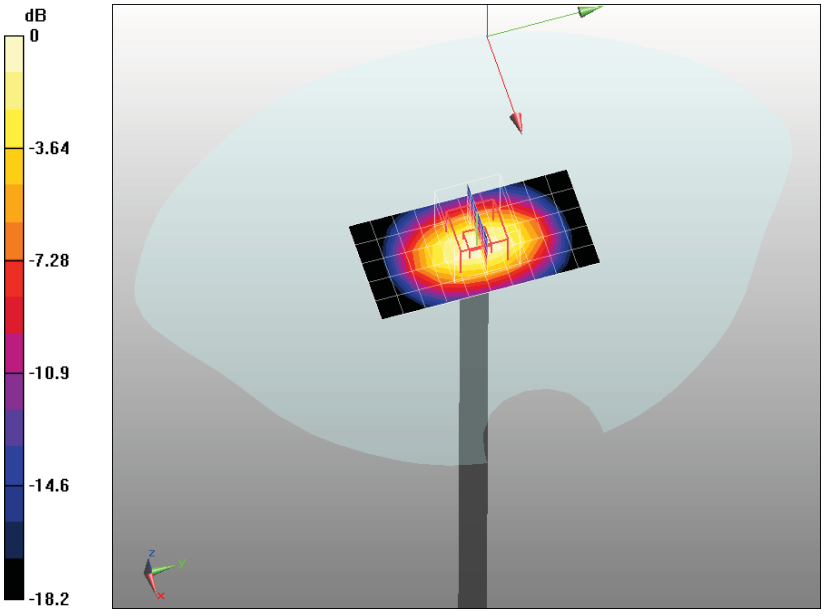
**Configuration/System Check PCS1900 Head/Area Scan (6x11x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 11.1 mW/g

**Configuration/System Check PCS1900 Head/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm, Reference Value = 90.8 V/m; Power Drift = -0.099 dB

Peak SAR (extrapolated) = 20 W/kg

**SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.44 mW/g** Maximum value of SAR (measured) = 12 mW/g




0 dB = 12mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

System Check Body 1900MHz

**DUT: Dipole 1900 MHz D1900V2; Type: D1900V2**

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

Frequency: 1900 MHz; Medium parameters used: f = 1900 MHz; $\sigma$ = 1.56 mho/m; $\varepsilon r$ = 52.5; $\rho$ = 1000 kg/m$^3$ ;

Phantom section: Flat Section ; Input Power=250mW

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

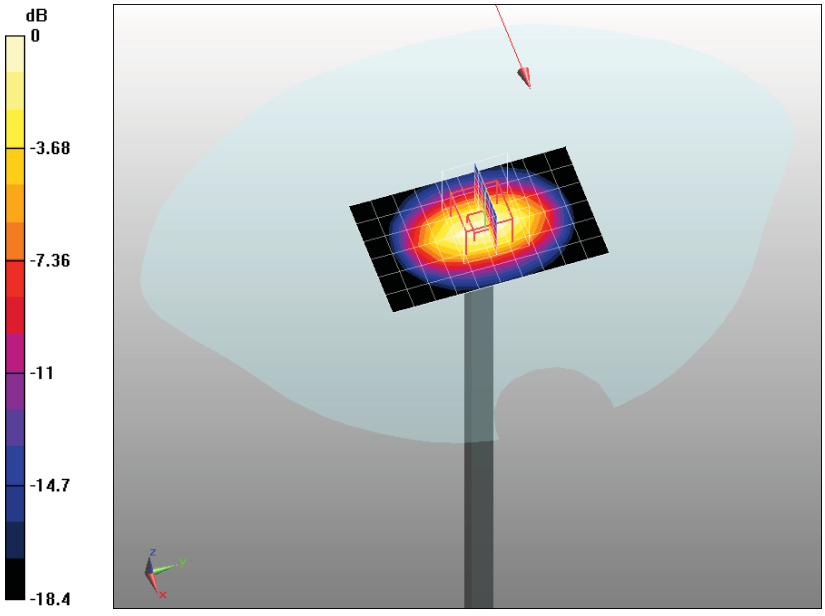
**Configuration/System Check PCS1900 Body/Area Scan (7x11x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 12.1 mW/g

**Configuration/System Check PCS1900 Body/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm, Reference Value = 88.6 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 19.8 W/kg

**SAR(1 g) = 10.7 mW/g; SAR(10 g) = 5.43 mW/g** Maximum value of SAR (measured) = 12 mW/g




0 dB = 12.1mW/g

# Appendix B. SAR measurement Data

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GSM850 Mid Touch-Left

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; $\sigma$ = 0.89 mho/m; $\varepsilon r$ = 40.8; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Left Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

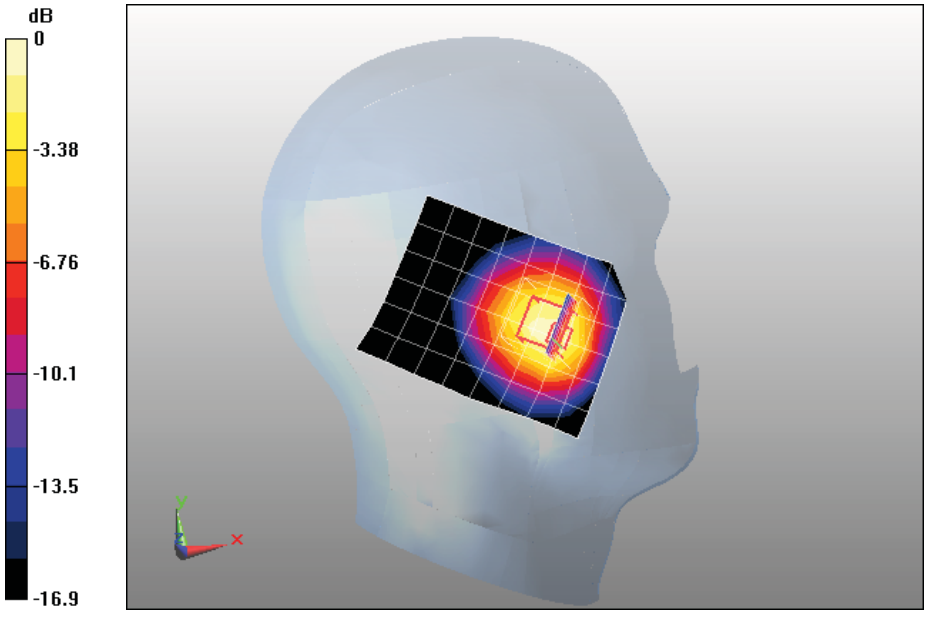
- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/GSM850 Mid Touch-Left/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.293 mW/g

**Configuration/GSM850 Mid Touch-Left/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 5.29 V/m; Power Drift = -0.106 dB

Peak SAR (extrapolated) = 0.589 W/kg

**SAR(1 g) = 0.281 mW/g; SAR(10 g) = 0.165 mW/g** Maximum value of SAR (measured) = 0.304 mW/g




0 dB = 0.304mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GSM850 Mid Tilt-Left

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; $\sigma$ = 0.89 mho/m; $\varepsilon r$ = 40.8; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Left Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

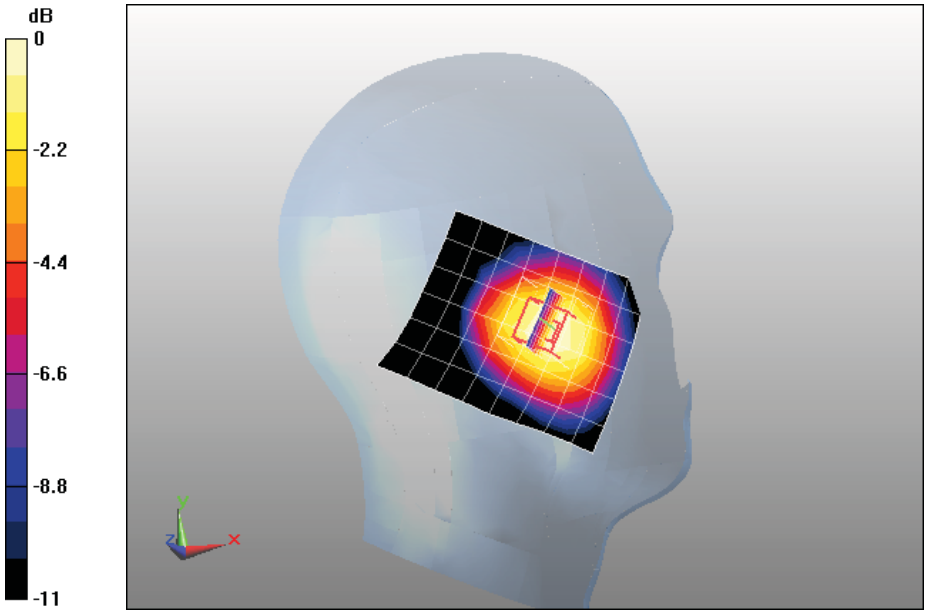
**Configuration/GSM850 Mid Tilt-Left/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.112 mW/g

**Configuration/GSM850 Mid Tilt-Left/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 7.62 V/m; Power Drift = -0.104 dB

Peak SAR (extrapolated) = 0.150 W/kg

**SAR(1 g) = 0.108 mW/g; SAR(10 g) = 0.075 mW/g** Maximum value of SAR (measured) = 0.114 mW/g




0 dB = 0.114mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GSM850 Mid Touch-Right

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; $\sigma$ = 0.89 mho/m; $\varepsilon r$ = 40.8; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Right Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

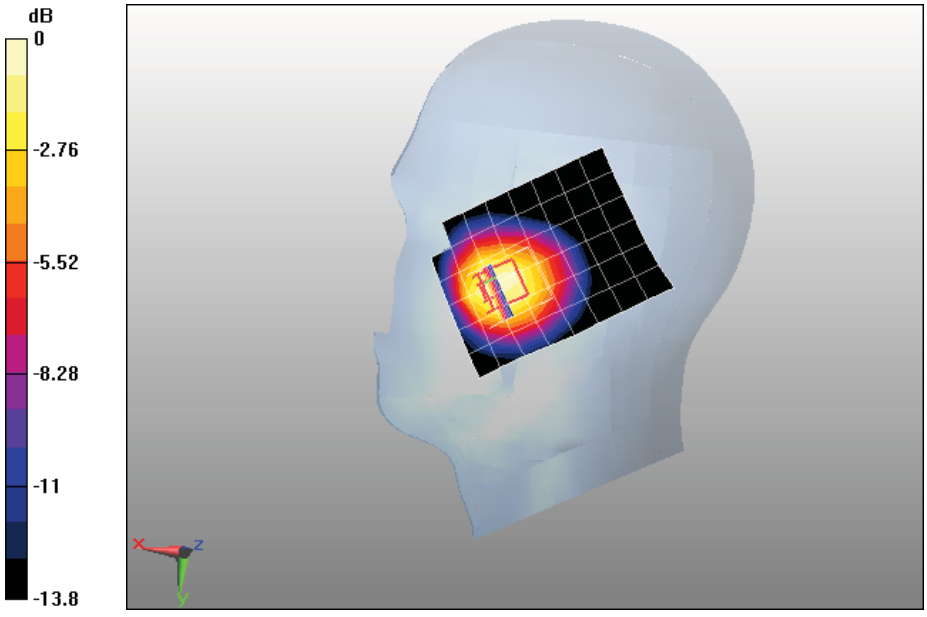
**Configuration/GSM850 Mid Touch-Right/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.302 mW/g

**Configuration/GSM850 Mid Touch-Right/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 5.54 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 0.558 W/kg

**SAR(1 g) = 0.304 mW/g; SAR(10 g) = 0.180 mW/g** Maximum value of SAR (measured) = 0.318 mW/g




0 dB = 0.318mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GSM850 Mid Tilt-Right

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; $\sigma$ = 0.89 mho/m; $\varepsilon r$ = 40.8; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Right Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

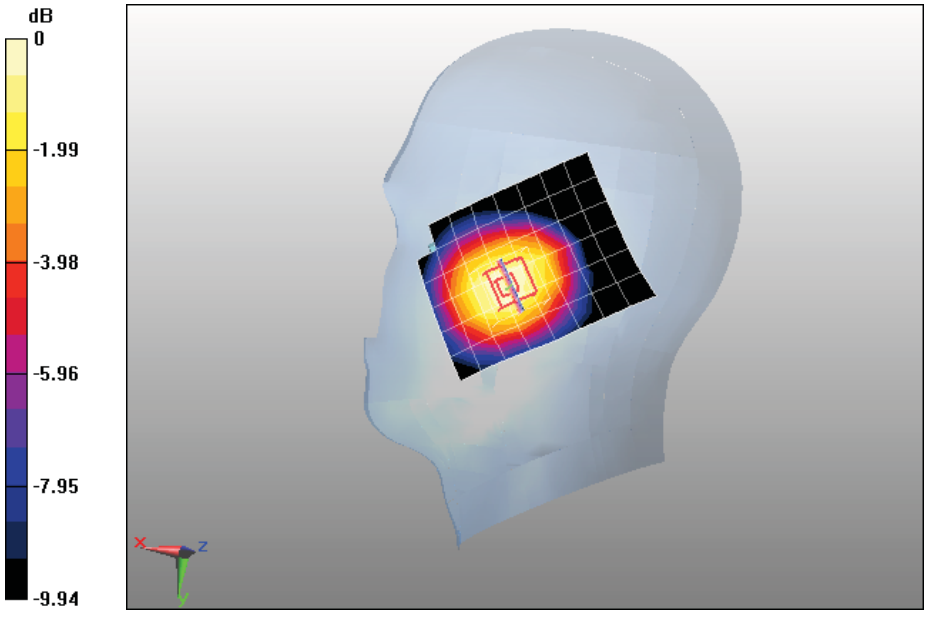
**Configuration/GSM850 Mid Tilt-Right/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.113 mW/g

**Configuration/GSM850 Mid Tilt-Right/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 7.54 V/m; Power Drift = -0.022 dB

Peak SAR (extrapolated) = 0.158 W/kg

**SAR(1 g) = 0.110 mW/g; SAR(10 g) = 0.075 mW/g** Maximum value of SAR (measured) = 0.117 mW/g




0 dB = 0.117mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GSM850 Mid Body-Front

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; $\sigma$ = 0.99 mho/m; $\varepsilon r$ = 53.7; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Flat Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

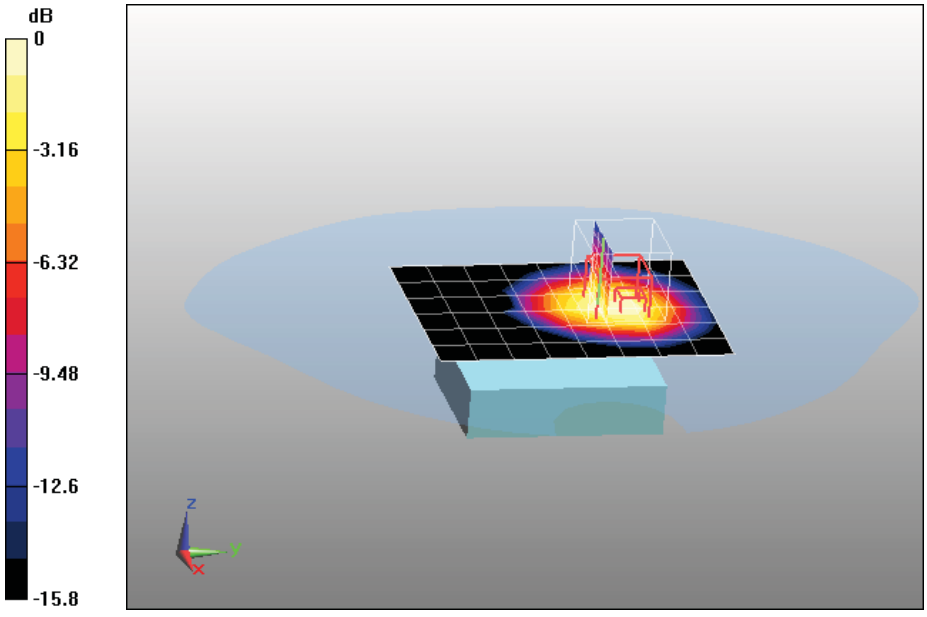
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/GSM850 Mid Body-Front/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.244 mW/g

**Configuration/GSM850 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 9.61 V/m; Power Drift = -0.107 dB

Peak SAR (extrapolated) = 0.442 W/kg

**SAR(1 g) = 0.229 mW/g; SAR(10 g) = 0.136 mW/g** Maximum value of SAR (measured) = 0.244 mW/g




0 dB = 0.244mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GPRS850 Mid Body-Front(1up)

**DUT: GPS Tracker; Type: XT107**

Communication System: GPRS/EGPRS-1 Slot; Communication System Band: GSM 850; Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; $\sigma$ = 0.99 mho/m; $\varepsilon r$ = 53.7; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Flat Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

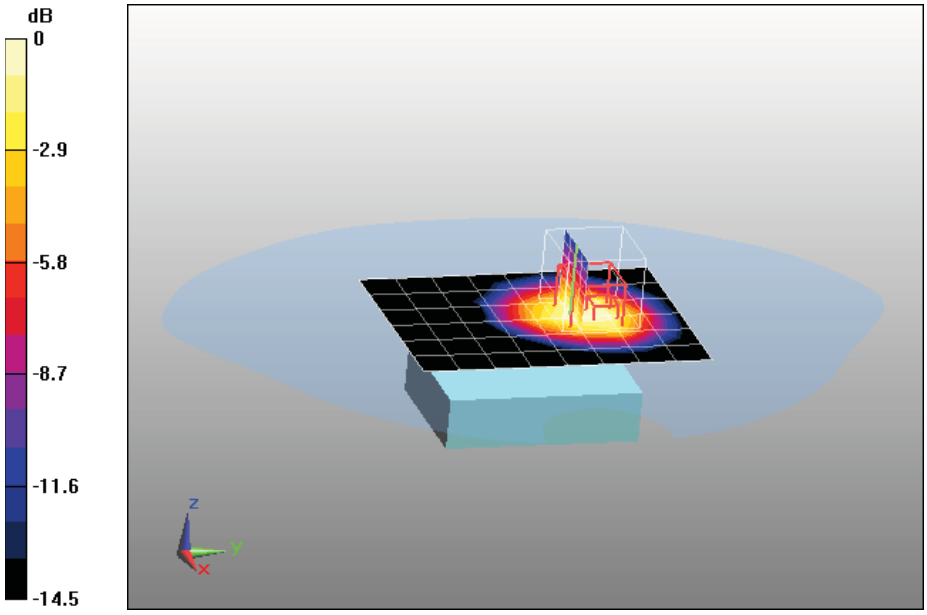
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/GPRS850 Mid Body-Front/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.239 mW/g

**Configuration/GPRS850 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 10 V/m; Power Drift = -0.033 dB

Peak SAR (extrapolated) = 0.435 W/kg

**SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.134 mW/g** Maximum value of SAR (measured) = 0.240 mW/g




0 dB = 0.240mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GPRS850 Mid Body-Front(2up)

**DUT: GPS Tracker; Type: XT107**

Communication System: GPRS/EGPRS-2 Slot; Communication System Band: GSM850; Duty Cycle: 1:4.2 ; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; $\sigma$ = 0.99 mho/m; $\varepsilon r$ = 53.7; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Flat Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

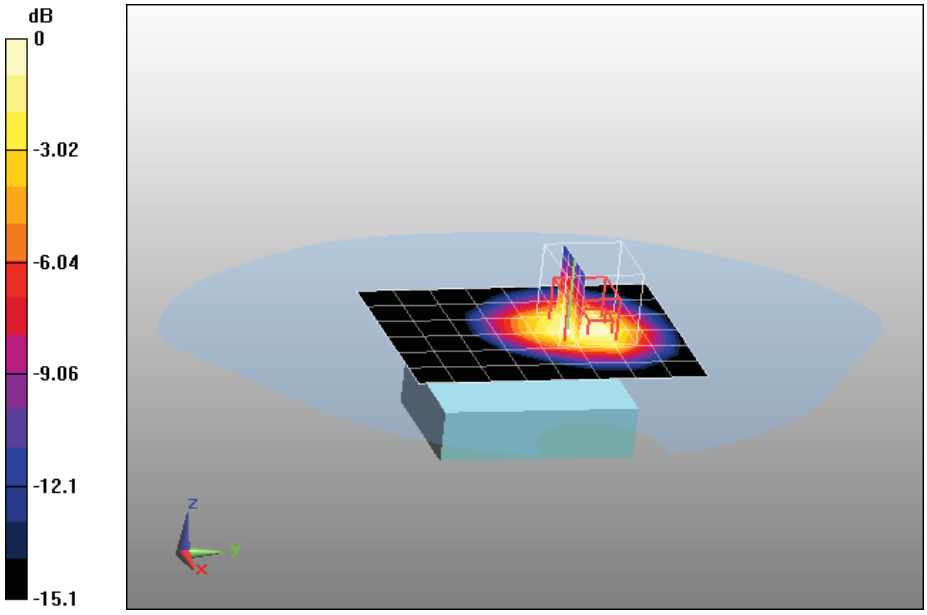
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/GPRS850 Mid Body-Front/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.368 mW/g

**Configuration/GPRS850 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 14.6 V/m; Power Drift = 0.103 dB

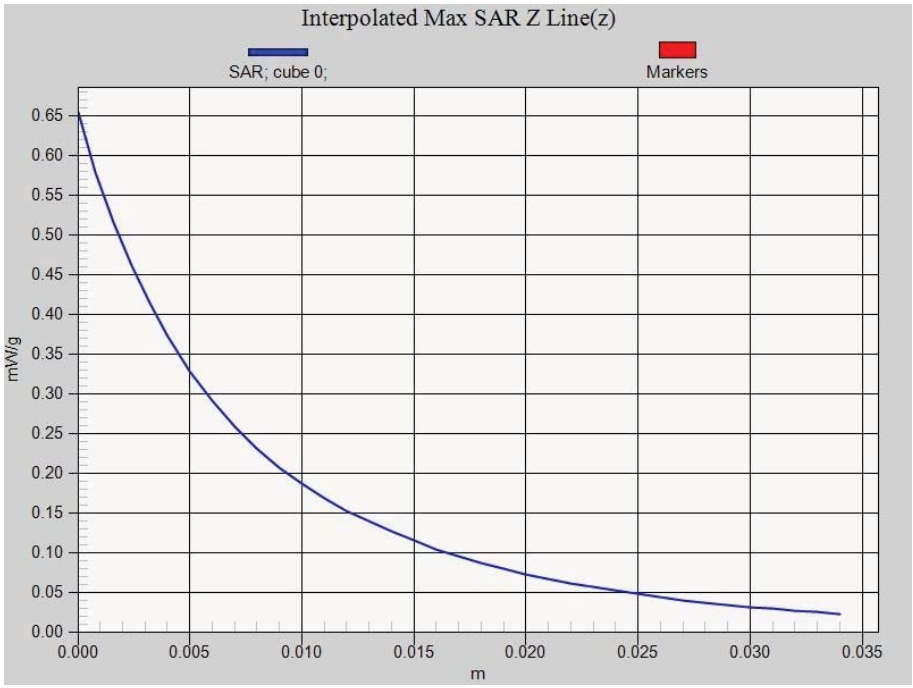
Peak SAR (extrapolated) = 0.653 W/kg

**SAR(1 g) = 0.343 mW/g; SAR(10 g) = 0.207 mW/g** Maximum value of SAR (measured) = 0.375 mW/g




0 dB = 0.375mW/g

**Z-Axis Plot**


Interpolated Max SAR Z Line(z)
SAR; cube 0;
Markers
mW/g
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
m

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GPRS850 Mid Body-Back(2up)

**DUT: GPS Tracker; Type: XT107**

Communication System: GPRS/EGPRS-2 Slot; Communication System Band: GSM850; Duty Cycle: 1:4.2 ; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; $\sigma$ = 0.99 mho/m; $\varepsilon r$ = 53.7; $\rho$ = 1000 kg/m³ ; Phantom section: Flat Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

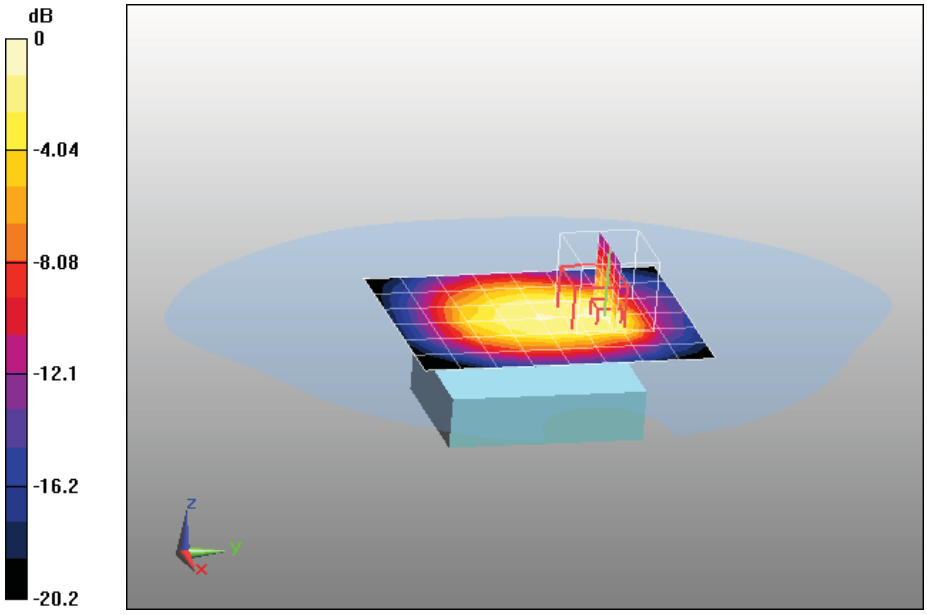
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/GPRS850 Mid Body-Back/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.256 mW/g

**Configuration/GPRS850 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 15.6 V/m; Power Drift = 0.118 dB

Peak SAR (extrapolated) = 0.534 W/kg

**SAR(1 g) = 0.249 mW/g; SAR(10 g) = 0.148 mW/g** Maximum value of SAR (measured) = 0.270 mW/g




0 dB = 0.270mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

PCS1900 Mid Touch-Left

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1880 MHz; $\sigma$ = 1.45 mho/m; $\varepsilon r$ = 38.8; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Left Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

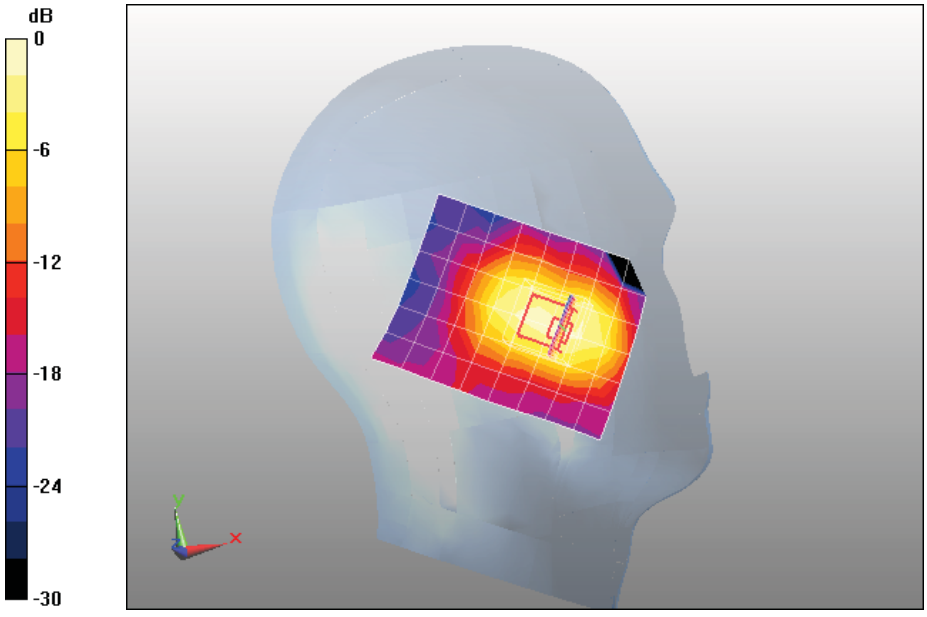
- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/PCS1900 Mid Touch-Left/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.197 mW/g

**Configuration/PCS1900 Mid Touch-Left/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 5.58 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.366 W/kg

**SAR(1 g) = 0.194 mW/g; SAR(10 g) = 0.102 mW/g** Maximum value of SAR (measured) = 0.218 mW/g




0 dB = 0.218mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

PCS1900 Mid Tilt-Left

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1880 MHz; $\sigma$ = 1.45 mho/m; $\varepsilon r$ = 38.8; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Left Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

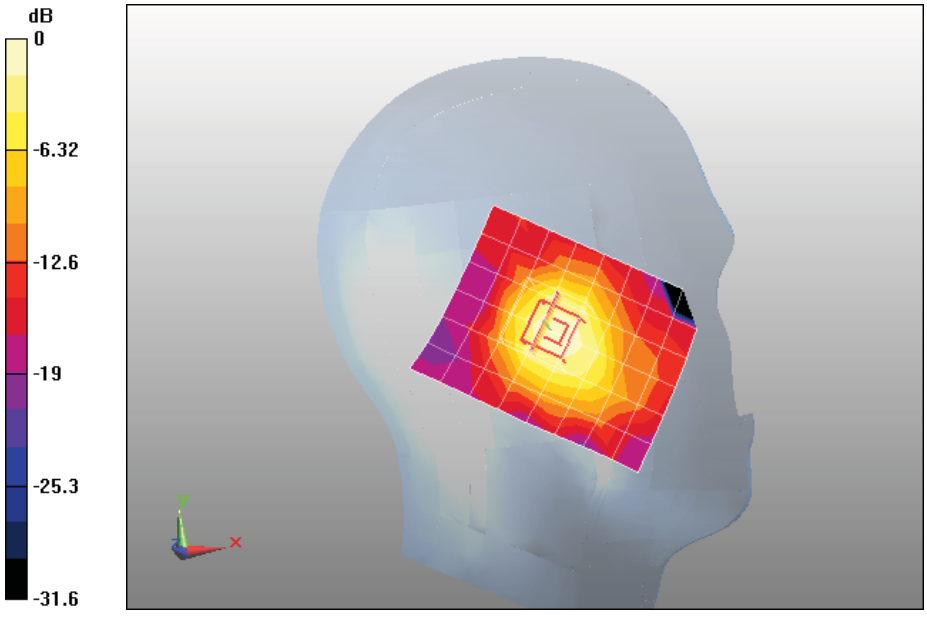
**Configuration/PCS1900 Mid Tilt-Left/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.075 mW/g

**Configuration/PCS1900 Mid Tilt-Left/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 5.29 V/m; Power Drift = 0.085 dB

Peak SAR (extrapolated) = 0.133 W/kg

**SAR(1 g) = 0.078 mW/g; SAR(10 g) = 0.044 mW/g** Maximum value of SAR (measured) = 0.085 mW/g




0 dB = 0.085mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

PCS1900 Mid Touch-Right

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1880 MHz; $\sigma$ = 1.45 mho/m; $\varepsilon r$ = 38.8; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Right Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

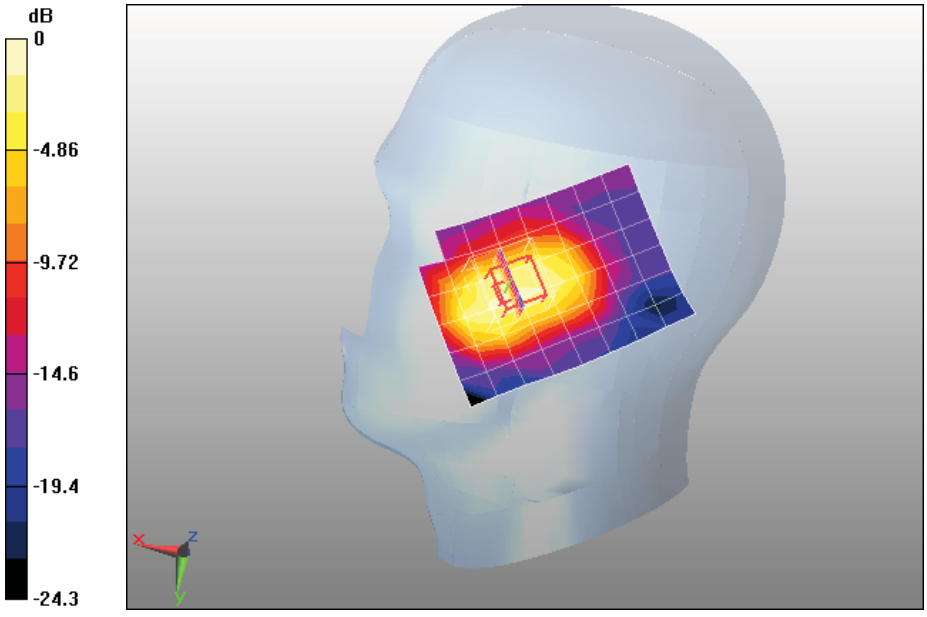
**Configuration/PCS1900 Mid Touch-Right/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.173 mW/g

**Configuration/PCS1900 Mid Touch-Right/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 4.89 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 0.371 W/kg

**SAR(1 g) = 0.191 mW/g; SAR(10 g) = 0.104 mW/g** Maximum value of SAR (measured) = 0.218 mW/g




0 dB = 0.218mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

PCS1900 Mid Tilt-Right

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1880 MHz; $\sigma$ = 1.45 mho/m; $\varepsilon r$ = 38.8; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Right Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

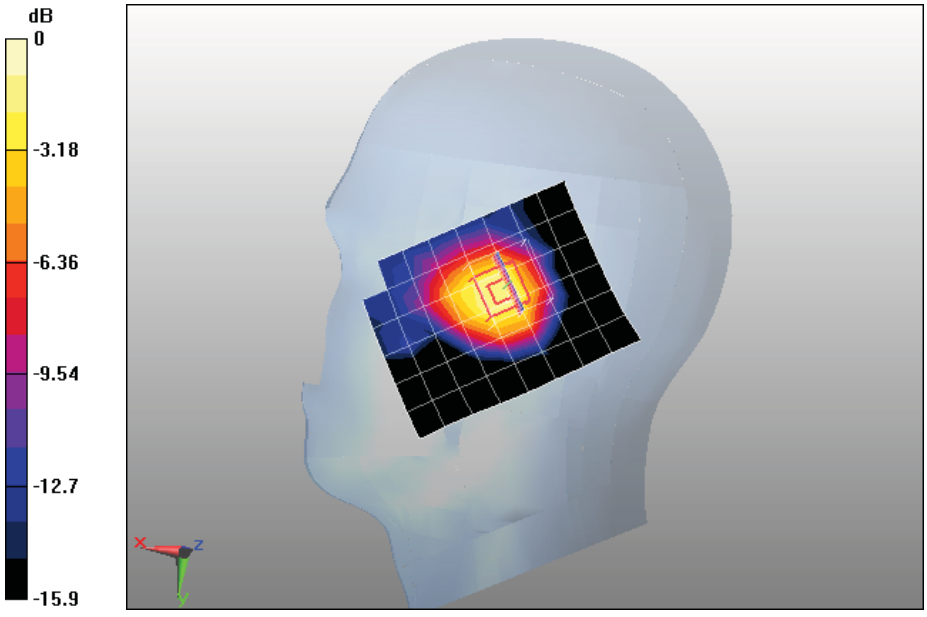
**Configuration/PCS1900 Mid Tilt-Right/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.078 mW/g

**Configuration/PCS1900 Mid Tilt-Right/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 5.72 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 0.146 W/kg

**SAR(1 g) = 0.089 mW/g; SAR(10 g) = 0.051 mW/g** Maximum value of SAR (measured) = 0.096 mW/g




0 dB = 0.096mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

PCS1900 Mid Body-Front

**DUT: GPS Tracker; Type: XT107**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon r$ = 52.5; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Flat Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

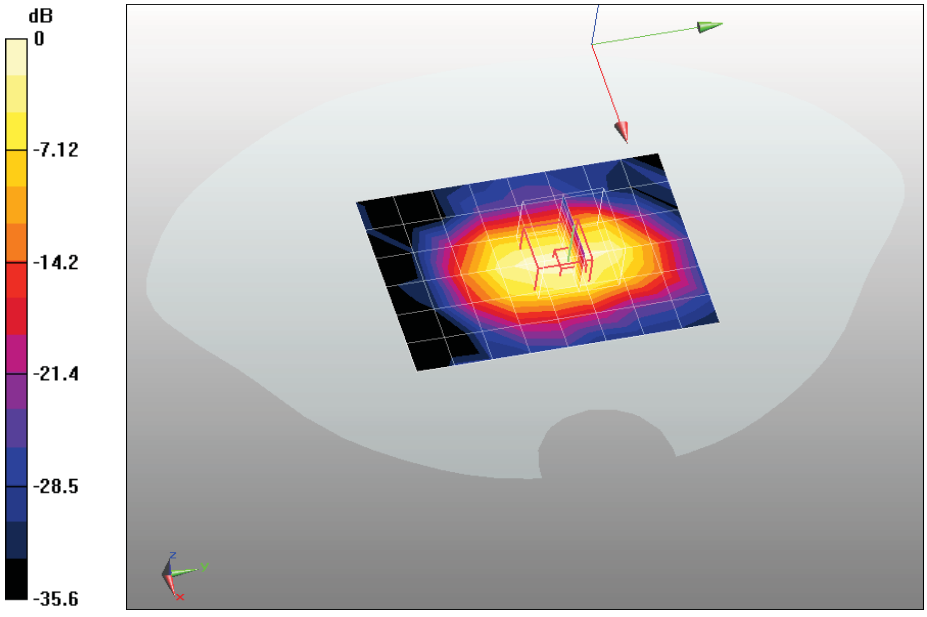
**Configuration/PCS1900 Mid Body-Front/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.222 mW/g

**Configuration/PCS1900 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 9.72 V/m; Power Drift = 0.053 dB

Peak SAR (extrapolated) = 0.388 W/kg

**SAR(1 g) = 0.212 mW/g; SAR(10 g) = 0.119 mW/g** Maximum value of SAR (measured) = 0.230 mW/g




0 dB = 0.230mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GPRS1900 Mid Body-Front(1up)

**DUT: GPS Tracker; Type: XT107**

Communication System: GPRS/EGPRS-1 Slot; Communication System Band: PCS 1900; Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon r$ = 52.5; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Flat Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

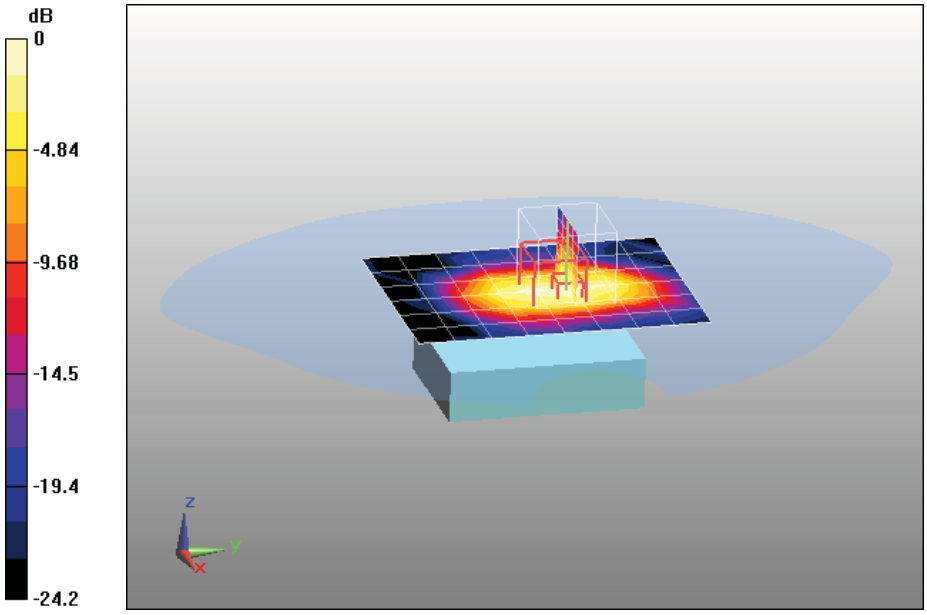
- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/GPRS1900 Mid Body-Front/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.208 mW/g

**Configuration/GPRS1900 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 9.5 V/m; Power Drift = 0.064 dB

Peak SAR (extrapolated) = 0.392 W/kg

**SAR(1 g) = 0.202 mW/g; SAR(10 g) = 0.113 mW/g** Maximum value of SAR (measured) = 0.220 mW/g




0 dB = 0.220mW/g

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GPRS1900 Mid Body-Front(2up)

**DUT: GPS Tracker; Type: XT107**

Communication System: GPRS/EGPRS-2 Slot; Communication System Band: PCS1900; Duty Cycle: 1:4.2 ; Frequency: 1880 MHz; Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon r$ = 52.5; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Flat Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

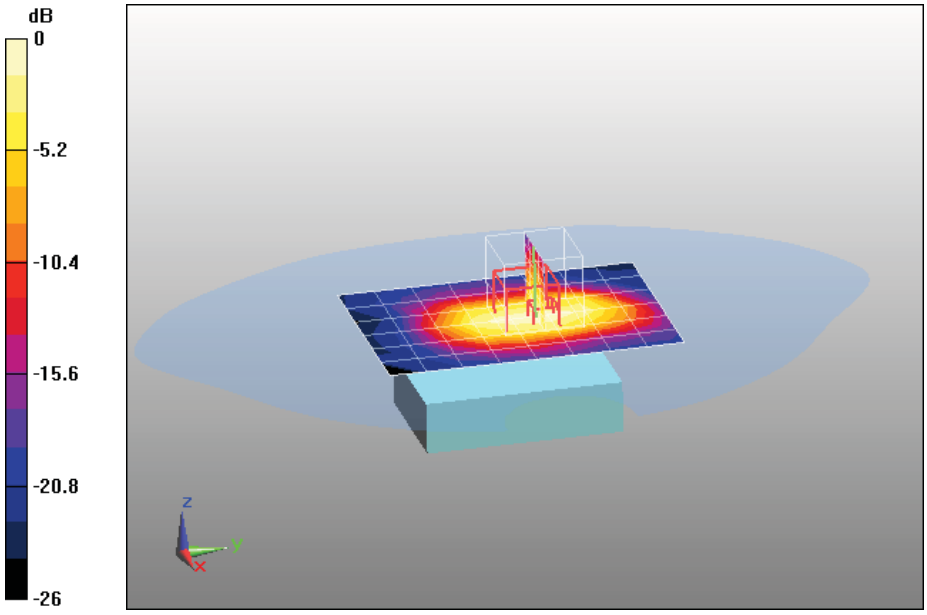
- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/GPRS1900 Mid Body-Front/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.341 mW/g

**Configuration/GPRS1900 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 14.4 V/m; Power Drift = -0.115 dB

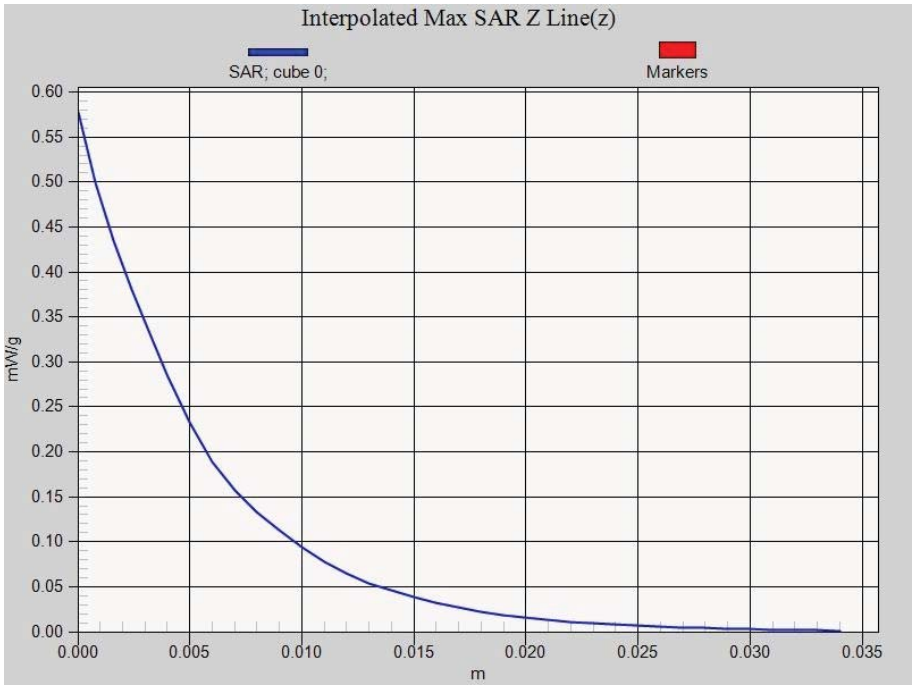
Peak SAR (extrapolated) = 0.577 W/kg

**SAR(1 g) = 0.308 mW/g; SAR(10 g) = 0.173 mW/g** Maximum value of SAR (measured) = 0.332 mW/g




0 dB = 0.332mW/g

**Z-Axis Plot**


Interpolated Max SAR Z Line(z)
SAR; cube 0;
Markers
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
mW/g
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
m

**Date/Time: 01-11-2011**

Test Laboratory: QuieTek Lab

GPRS1900 Mid Body-Back(2up)

**DUT: GPS Tracker; Type: XT107**

Communication System: GPRS/EGPRS-2 Slot; Communication System Band: PCS1900; Duty Cycle: 1:4.2 ; Frequency: 1880 MHz; Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon r$ = 52.5; $\rho$ = 1000 kg/m$^3$ ; Phantom section: Flat Section

Ambient temperature (℃): 21.5, Liquid temperature (℃): 21.0

DASY5 Configuration:

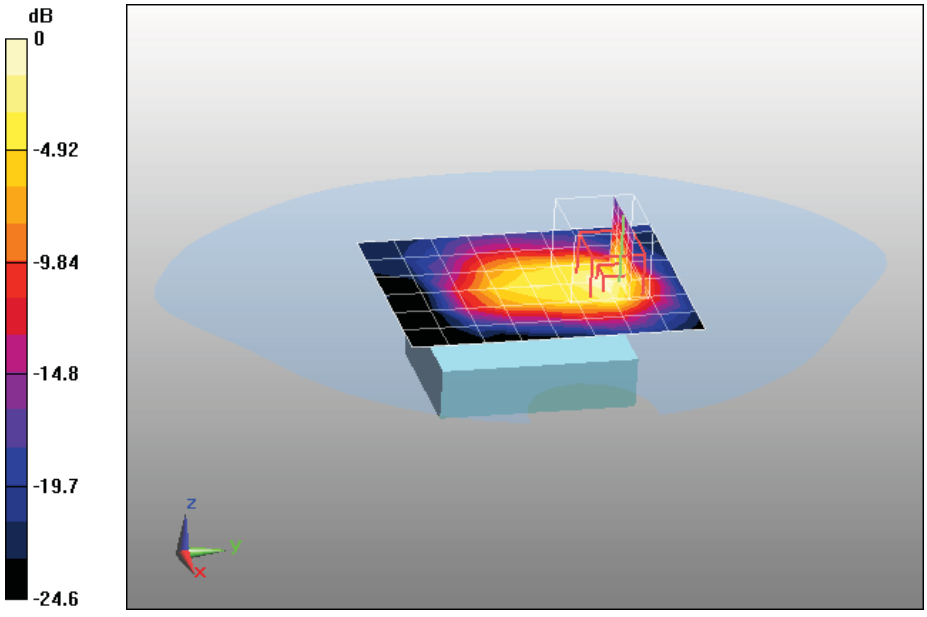
- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/GPRS1900 Mid Body-Back/Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.300 mW/g

**Configuration/GPRS1900 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 9.21 V/m; Power Drift = 0.069 dB

Peak SAR (extrapolated) = 0.591 W/kg

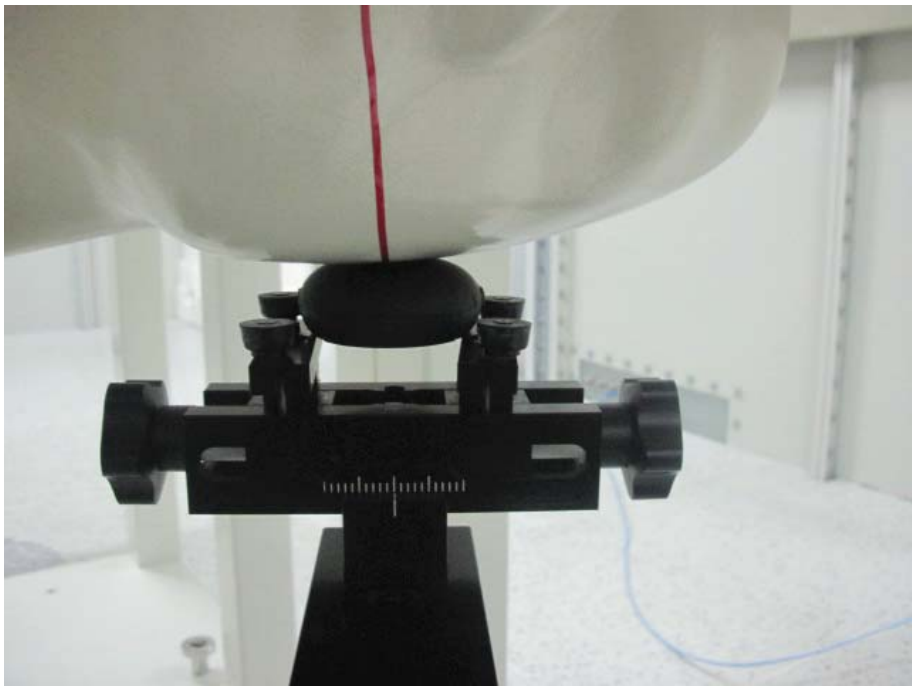
**SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.108 mW/g** Maximum value of SAR (measured) = 0.273 mW/g



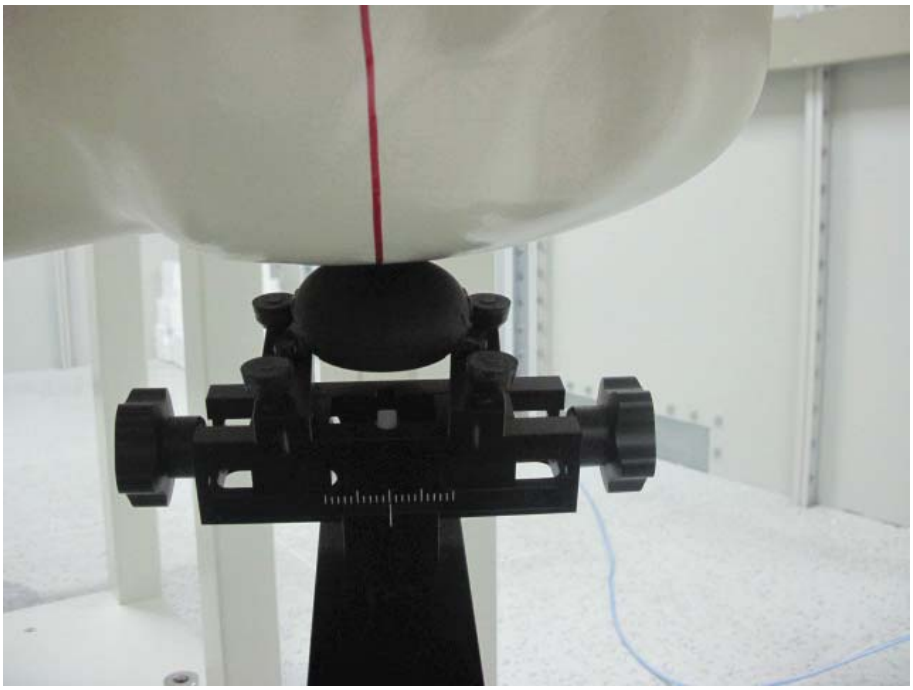

0 dB = 0.273mW/g

# Appendix C. Test Setup Photographs & EUT Photographs

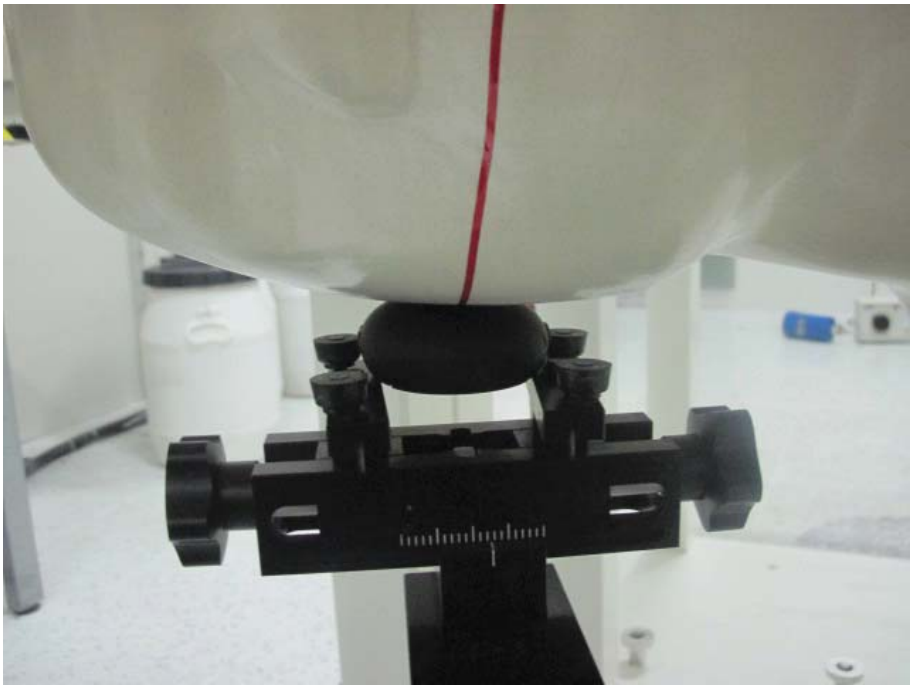
## Test Setup Photographs



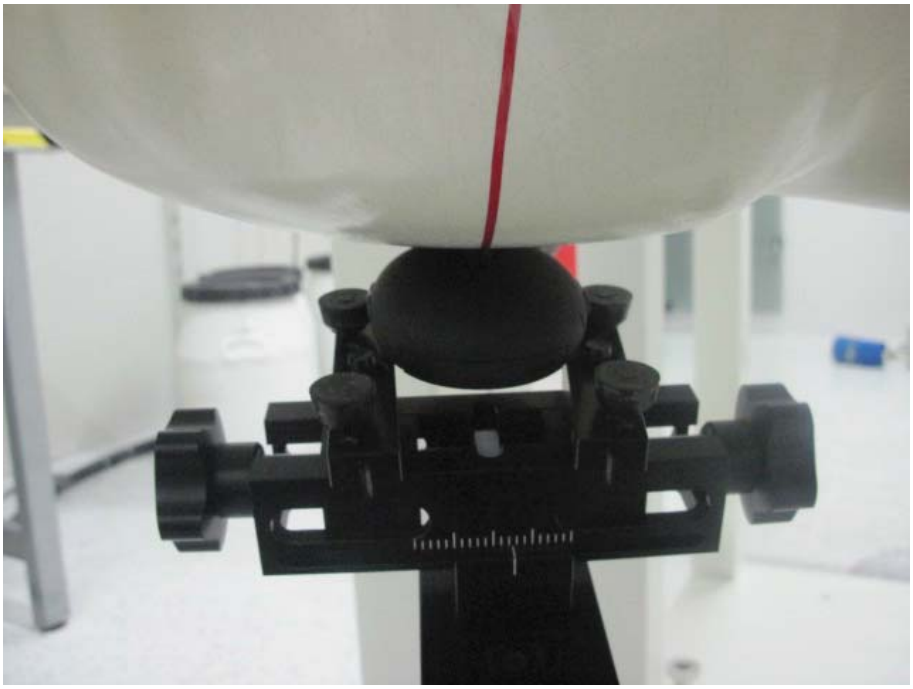
Left-Cheek Touch



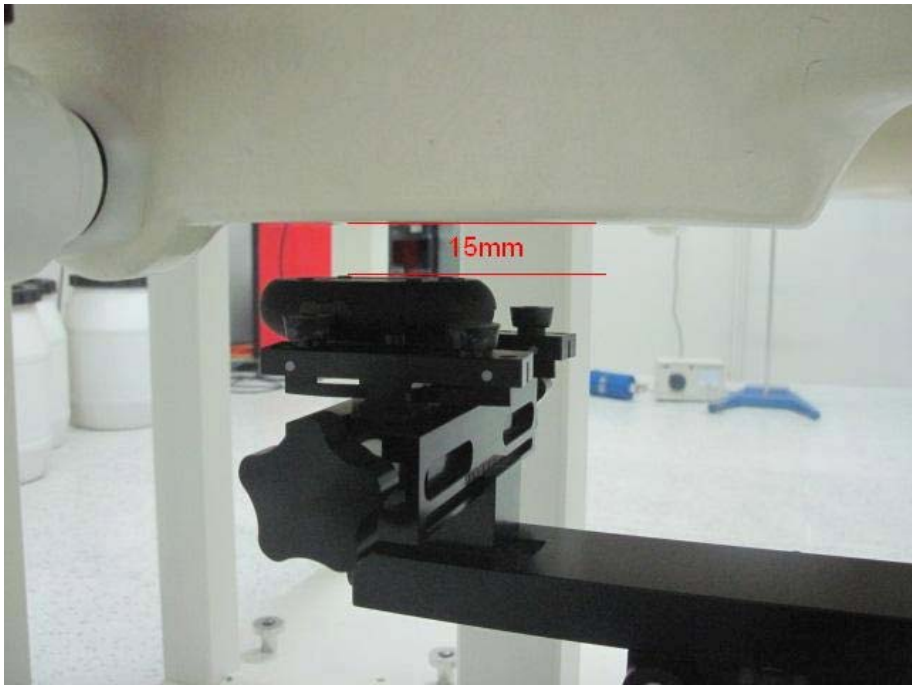
Left-Tilt 15°



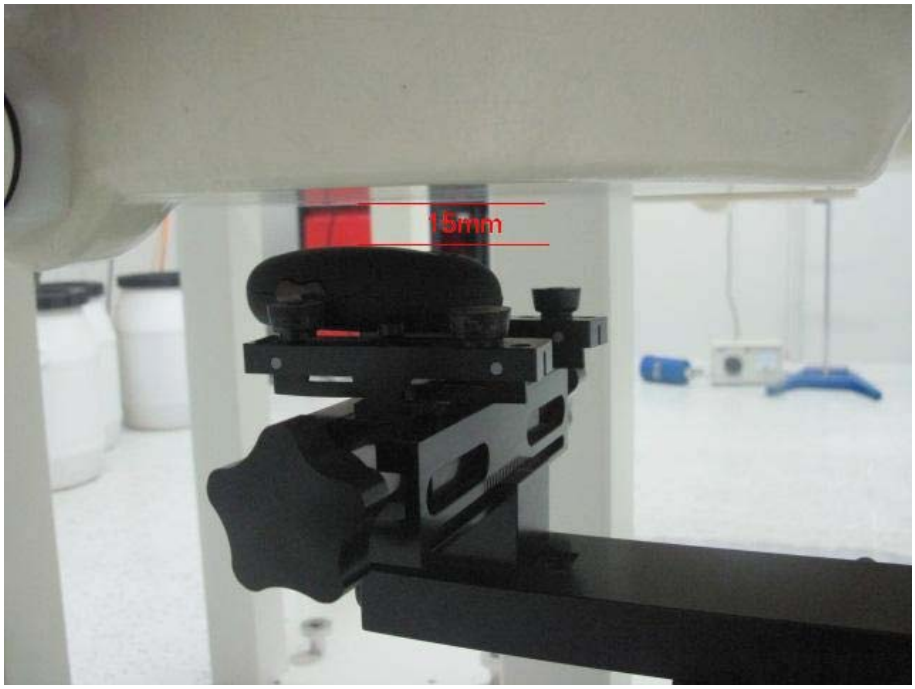
Right-Cheek Touch



Right-Tilt 15°



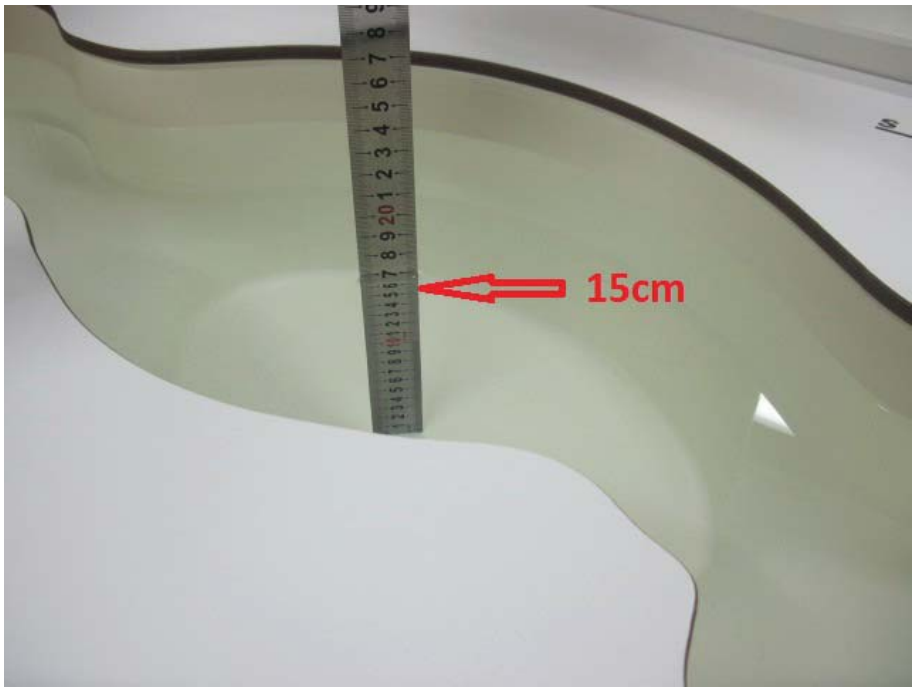

Body SAR Back 15mm




Body SAR Front 15mm

**Depth of the liquid in the phantom – Zoom in**

Note: The position used in the measurements were according to IEEE 1528 - 2003



## EUT Photographs

(1) EUT Photo

(2) EUT Photo