

# SAR Test Report

Product Name : GSM Mobile Phone

Model No. : HUAWEI G1101

FCC ID : QISG1101

Applicant : HUAWEI TECHNOLOGIES CO.,LTD.

Address : Administration Building, Huawei Base, Bantian,  
Longgang District, Shenzhen 518129

Date of Receipt : Sep. 26, 2010

Date of Test : Sep. 26, 2010 ~ Sep. 28, 2010

Issued Date : Sep. 29, 2010

Report No. : 109S031R-HPUS-P03V01

Report Version : V1.0

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# Test Report Certification

Issued Date: Sep. 29, 2010

Report No: 109S031R-HP-US-P03V01



Product Name : GSM Mobile Phone  
Applicant : HUAWEI TECHNOLOGIES CO.,LTD.  
Address : Administration Building, Huawei Base, Bantian, Longgang District, Shenzhen 518129  
Manufacturer : HUAWEI TECHNOLOGIES CO.,LTD.  
Address : Administration Building, Huawei Base, Bantian, Longgang District, Shenzhen 518129  
FCC ID : QISG1101  
Model No. : HUAWEI G1101  
Trade Name : HUAWEI  
EUT Voltage : DC 3.7V  
Applicable Standard : FCC OET65 Supplement C June 2001  
: IEEE Std. 1528-2003,47CFR § 2.1093  
Test Result : Max. SAR Measurement (1g)  
Head: 0.977 W/kg  
Body: 0.822 W/kg  
Performed Location : SuZhou EMC 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  
FCC Registration Number: 800392

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## 1. General Information

### 1.1. EUT Description

Product Name	GSM Mobile Phone
FCC ID	QISG1101
Trade Name	HUAWEI
Model No.	HUAWEI G1101
IMEI	353623040009773
SW Version	G1101MAT.P00.I34.27.00
HW Version	0216_1_13
Tx Frequency Range	GSM 850: 824~849MHz PCS 1900: 1850~1910MHz
Rx Frequency Range	GSM 850: 869~894MHz PCS 1900: 1930~1990MHz
Antenna Type	Internal
GPRS Class	N/A
Type of Modulation	GMSK for GSM
Device Category	Portable
Peak Antenna Gain	GSM850: -1dBi PCS1900: 2dBi
Max. Output Power (Conducted)	GSM850: 32.52 dBm PCS1900: 29.76 dBm
Max. Output Power (Radiated)	GSM850: 29.40 - ERP PCS1900: 27.14 - EIRP
Headset Model Number	LTX-20035432815-0216A

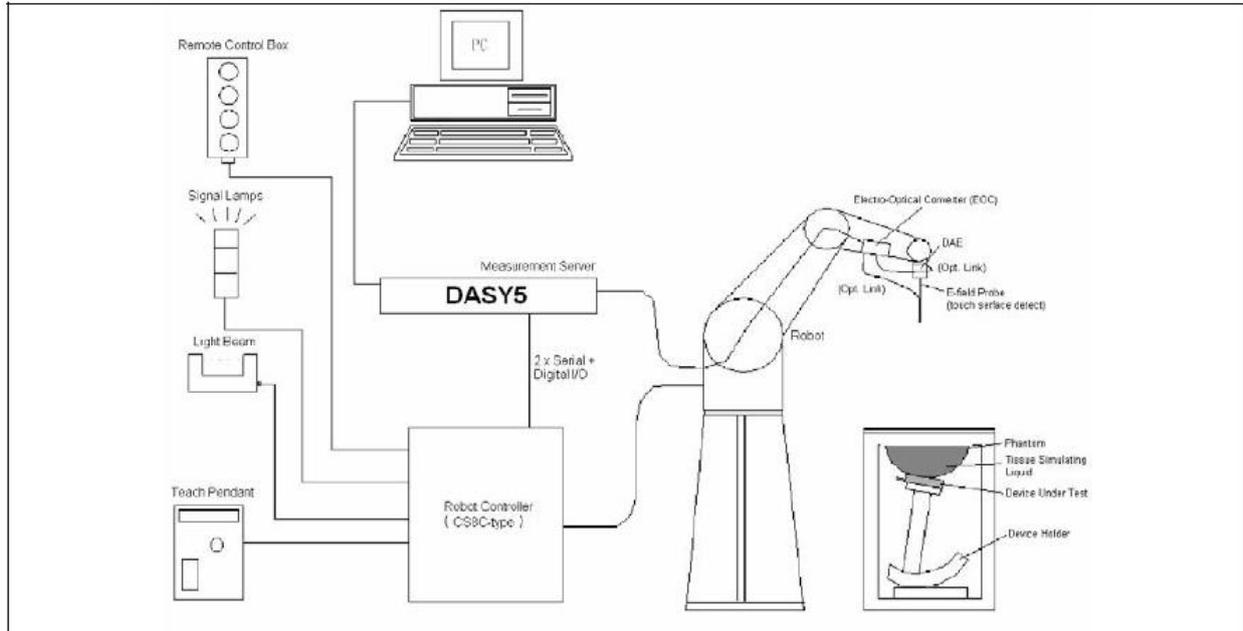
### 1.2. Test Environment

Ambient conditions in the laboratory:

Items	Required	Actual
Temperature (°C)	18-25	21.3± 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<sup>2</sup> 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<sup>3</sup> is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 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, DASYS5 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.

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

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

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

**2.2. DASYS 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**

<b>Model</b>	EX3DV4	
<b>Construction</b>	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
<b>Frequency</b>	10 MHz to 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)	
<b>Directivity</b>	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
<b>Dynamic Range</b>	10 µW/g to 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)	
<b>Dimensions</b>	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	
<b>Application</b>	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). 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 DASY 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  $\epsilon_r = 3$  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
<b>Water</b>	40.45	52.4	54.90	40.5
<b>Salt</b>	1.45	1.40	0.18	0.50
<b>Sugar</b>	57.6	45.0	0.00	58.0
<b>HEC</b>	0.40	1.00	0.00	0.50
<b>Preventol</b>	0.10	0.20	0.00	0.50
<b>DGBE</b>	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

<b>Head Tissue Simulant Measurement</b>				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		$\epsilon_r$	$\sigma$ [s/m]	
835 MHz	Reference result ± 5% window	41.50 39.43 to 43.58	0.90 0.86 to 0.95	N/A
	27-Sep-2010	42.98	0.87	21.0

<b>Body Tissue Simulant Measurement</b>				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		$\epsilon_r$	$\sigma$ [s/m]	
835 MHz	Reference result ± 5% window	55.20 52.44 to 57.96	0.97 0.92 to 1.02	N/A
	27-Sep-2010	55.33	1.01	21.0

<b>Head Tissue Simulant Measurement</b>				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		$\epsilon_r$	$\sigma$ [s/m]	
1900 MHz	Reference result ± 5% window	40.0 38.00 to 42.00	1.40 1.33 to 1.47	N/A
	27-Sep-2010	39.41	1.41	21.2

<b>Body Tissue Simulant Measurement</b>				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		$\epsilon_r$	$\sigma$ [s/m]	
1900 MHz	Reference result ± 5% window	53.30 50.64 to 55.97	1.52 1.44 to 1.60	N/A
	27-Sep-2010	52.60	1.57	21.2

**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.

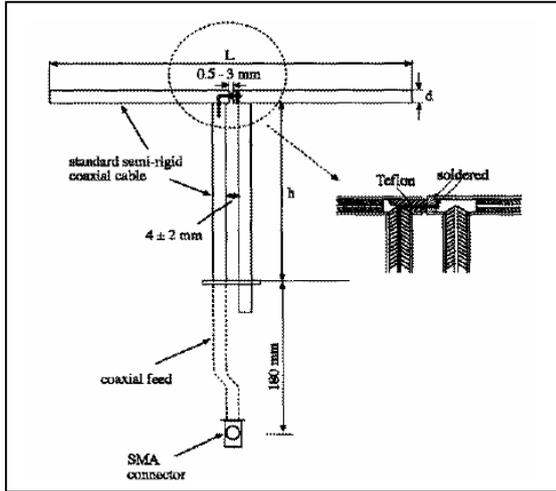
Target Frequency (MHz)	Head		Body	
	$\epsilon_r$	$\sigma$ (S/m)	$\epsilon_r$	$\sigma$ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
<b>835</b>	<b>41.5</b>	<b>0.90</b>	<b>55.2</b>	<b>0.97</b>
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
<b>1800 – 2000</b>	<b>40.0</b>	<b>1.40</b>	<b>53.3</b>	<b>1.52</b>
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

( $\epsilon_r$  = relative permittivity,  $\sigma$  = conductivity and  $\rho = 1000 \text{ kg/m}^3$ )

## 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	165.0	900	3.6
1900MHz	68.0	39.5	3.6

**4.1.2. Validation Result**

<b>System Performance Check at 835MHz &amp;1900MHz for Head</b>				
<b>Validation Kit: D835V2-SN 4d094</b>				
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
	27-Sep-2010	10.16	6.64	21.0
<b>Validation Kit: D1900V2-SN 5d121</b>				
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
	27-Sep-2010	40.4	20.52	21.0
Note: All SAR values are normalized to 1W forward power.				
<b>System Performance Check at 835MHz &amp;1900MHz for Body</b>				
<b>Validation Kit: D835V2-SN 4d094</b>				
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
	27-Sep-2010	10.68	6.88	21.0
<b>Validation Kit: D1900V2-SN 5d121</b>				
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
	27-Sep-2010	39.84	20.36	21.0
Note: All SAR values are normalized to 1W forward power.				

#### 4.2. SAR Measurement Procedure

The ALSAS-10U calculates SAR using the following equation,

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

$\sigma$ : represents the simulated tissue conductivity

$\rho$ : 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  $1\text{mm}^2$ ) 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  $1\text{mm}^3$ ).

## 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.	Last Calibration	Next Calibration
Stäubli Robot TX60L	Stäubli	TX60L	F10/5C90A1/A/01	Mar. 2010	only once
Controller	Stäubli	SP1	S-0034	Mar. 2010	only once
Dipole Validation Kits	SPEAG	D835V2	4d094	Apr. 2010	Apr. 2012
Dipole Validation Kits	SPEAG	D1900V2	5d121	Apr. 2010	Apr. 2012
SAM Twin Phantom	Speag	SAM	TP-1561/1562	N/A	N/A
Device Holder	Speag	SD 000 H01 HA	N/A	N/A	N/A
Data Acquisition Electronic	Speag	DAE4	1220	Mar. 2010	Mar. 2011
E-Field Probe	Speag	EX3DV4	3710	Mar. 2010	Mar. 2011
SAR Software	Speag	DASY5	V5.2 Build 162	N/A	N/A
Power Amplifier	Mini-Circuit	ZVA-183-S+	N657400950	N/A	N/A
Directional Coupler	Agilent	778D	20160	N/A	N/A
Universal Radio Communication Tester	R&S	CMU 200	117088	Jul. 2010	Jul. 2011
Vector Network	Agilent	E5071C	MY48367267	Mar. 2010	Mar. 2011
Signal Generator	Agilent	E4438C	MY49070163	Apr. 2010	Apr. 2011
Power Meter	Anritsu	ML2495A	0905006	Jan. 2010	Jan. 2011
Wide Bandwidth Sensor	Anritsu	MA2411B	0846014	Jan. 2010	Jan. 2011

7. Measurement Uncertainty

DASY5 Uncertainty								
Error Description	Uncert. value	Prob. Dist.	Div.	(ci) 1g	(ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(vi) V <sub>eff</sub>
<b>Measurement System</b>								
Probe Calibration	±5.5%	N	1	1	1	±5.5%	±5.5%	∞
Axial Isotropy	±4.7%	R	$\sqrt{3}$	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	$\sqrt{3}$	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Readout Electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
RF Ambient Noise	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
RF Ambient Reflections	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.4%	R	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
Probe Positioning	±2.9%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Max. SAR Eval.	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
<b>Test Sample Related</b>								
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	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
<b>Phantom and Setup</b>								
Phantom Uncertainty	±4.0%	R	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
Liquid Conductivity (target)	±5.0%	R	$\sqrt{3}$	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	$\sqrt{3}$	0.6	0.49	±1.7%	±1.4%	∞
Liquid Permittivity (meas.)	±2.5%	N	1	0.6	0.49	±1.5%	±1.2%	∞
<b>Combined Std. Uncertainty</b>						±10.7%	±10.5%	387
<b>Expanded STD Uncertainty</b>						±21.5%	±21.0%	

**8. Conducted Power Measurement**

Mode	Frequency (MHz)	Output Power (dBm)	Path Loss (dB)	Result (dBm)
Maximum Power				
GSM850	824.2	31.76	0.7	32.46
	836.6	31.80	0.7	32.50
	848.8	31.82	0.7	<b>32.52</b>
PCS1900	1850.2	28.58	1.0	29.58
	1880.0	28.76	1.0	<b>29.76</b>
	1909.8	28.63	1.0	29.63

## **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. Body SAR was also performed with the headset attached and without.

#### **9.1.2. Body SAR with Headset**

Testing with the headset was performed at the position and channels that resulted in the highest body SAR. SAR with the headset attached was significantly higher than without the headset, and also was verified several times and confirmed, so the final test data shown were the worst case with headset.

In the Body SAR test result table, body-worn means display of device down, body-front means display of device up.

#### **9.1.3. Referenced Documents**

FCC KDB 447498 D01 V04 and KDB 941225 D03 V01

**9.1.4. Test Result**

<b>SAR MEASUREMENT</b>							
Ambient Temperature (°C) : 21.5 ±2				Relative Humidity (%) : 54			
Liquid Temperature (°C) : 21.0 ±2				Depth of Liquid (cm):>15			
Product: GSM Mobile Phone							
Test Mode: GSM850							
Test Position Head	Antenna Position	Frequency		Conducted Power (dBm)	Power Drift (<±0.2)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz				
Left-Cheek	Fixed	128	824.2	32.46	-0.125	0.607	1.6
Left-Cheek	Fixed	189	836.6	32.50	-0.054	0.902	1.6
Left-Cheek	Fixed	251	848.8	32.52	-0.190	0.977	1.6
Left-Tilted	Fixed	189	836.6	32.50	-0.135	0.420	1.6
Right-Cheek	Fixed	128	824.2	32.46	-0.169	0.600	1.6
Right-Cheek	Fixed	189	836.6	32.50	-0.197	0.865	1.6
Right-Cheek	Fixed	251	848.8	32.52	-0.073	0.937	1.6
Right-Tilted	Fixed	189	836.6	32.50	-0.052	0.419	1.6

<b>SAR MEASUREMENT</b>							
Ambient Temperature (°C) : 21.5 ±2				Relative Humidity (%): 54			
Liquid Temperature (°C) : 21.0 ±2				Depth of Liquid (cm):>15			
Product: GSM Mobile Phone							
Test Mode: GSM850							
Test Position Body	Antenna Position	Frequency		Conducted Power (dBm)	Power Drift (<±0.2)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz				
Body-worn	Fixed	128	824.2	32.46	-0.026	0.656	1.6
Body-worn	Fixed	189	836.6	32.50	-0.106	0.822	1.6
Body-worn	Fixed	251	848.8	32.52	-0.111	0.801	1.6
Body-front	Fixed	189	836.6	32.50	-0.182	0.502	1.6
Body-worn (Without Headset)	Fixed	189	836.6	32.50	-0.038	0.777	1.6

<b>SAR MEASUREMENT</b>							
Ambient Temperature (°C) : 21.5 ±2				Relative Humidity (%): 52			
Liquid Temperature (°C) : 21.0 ±2				Depth of Liquid (cm):>15			
Product: GSM Mobile Phone							
Test Mode: PCS1900							
Test Position Head	Antenna Position	Frequency		Conducted Power (dBm)	Power Drift (<±0.2)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz				
Left-Cheek	Fixed	512	1850.2	29.58	-0.129	0.715	1.6
Left-Cheek	Fixed	661	1880.0	29.76	-0.185	0.794	1.6
Left-Cheek	Fixed	810	1909.8	29.63	-0.041	0.796	1.6
Left-Tilted	Fixed	661	1880.0	29.76	-0.052	0.394	1.6
Right-Cheek	Fixed	512	1850.2	29.58	-0.064	0.743	1.6
Right-Cheek	Fixed	661	1880.0	29.76	0.043	0.797	1.6
Right-Cheek	Fixed	810	1909.8	29.63	-0.165	0.768	1.6
Right-Tilted	Fixed	661	1880.0	29.76	-0.097	0.422	1.6

<b>SAR MEASUREMENT</b>							
Ambient Temperature (°C) : 21.5 ±2				Relative Humidity (%) : 52			
Liquid Temperature (°C) : 21.0 ±2				Depth of Liquid (cm) : >15			
Product: GSM Mobile Phone							
Test Mode: PCS1900							
Test Position Body	Antenna Position	Frequency		Conducted Power (dBm)	Power Drift (<±0.2)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz				
Body-worn	Fixed	512	1850.2	29.58	0.012	0.387	1.6
Body-worn	Fixed	661	1880.0	29.76	-0.018	0.433	1.6
Body-worn	Fixed	810	1909.8	29.63	0.013	0.394	1.6
Body-front	Fixed	661	1880.0	29.76	-0.039	0.266	1.6
Body-worn (Without Headset)	Fixed	661	1880.0	29.76	0.024	0.402	1.6

## Appendix A. SAR System Validation Data

Date/Time: 27-Sep-2010

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:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.87 \text{ mho/m}$ ;  $\epsilon_r = 43$ ;  $\rho = 1000 \text{ kg/m}^3$ ;

Phantom section: Flat Section; Input Power=250mW

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

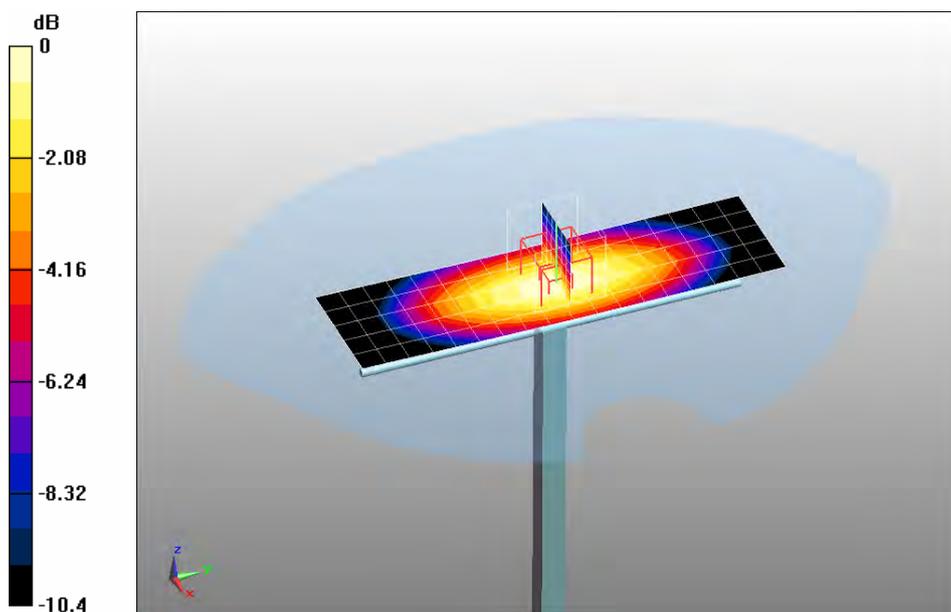
- Probe: EX3DV4 - SN3710; ConvF(8.83, 8.83, 8.83); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/System Check GSM850 Head/Area Scan (6x19x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$  Maximum value of SAR (measured) = 2.6 mW/g

**Configuration/System Check GSM850 Head/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$ , Reference Value = 56 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 3.82 W/kg

**SAR(1 g) = 2.54 mW/g; SAR(10 g) = 1.66 mW/g** Maximum value of SAR (measured) = 2.73 mW/g



0 dB = 2.73mW/g

Date/Time: 27-Sep-2010

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:  $f = 835 \text{ MHz}$ ;  $\sigma = 1.02 \text{ mho/m}$ ;  $\epsilon_r = 55.3$ ;  $\rho = 1000 \text{ kg/m}^3$ ;

Phantom section: Flat Section; Input Power=250mW

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

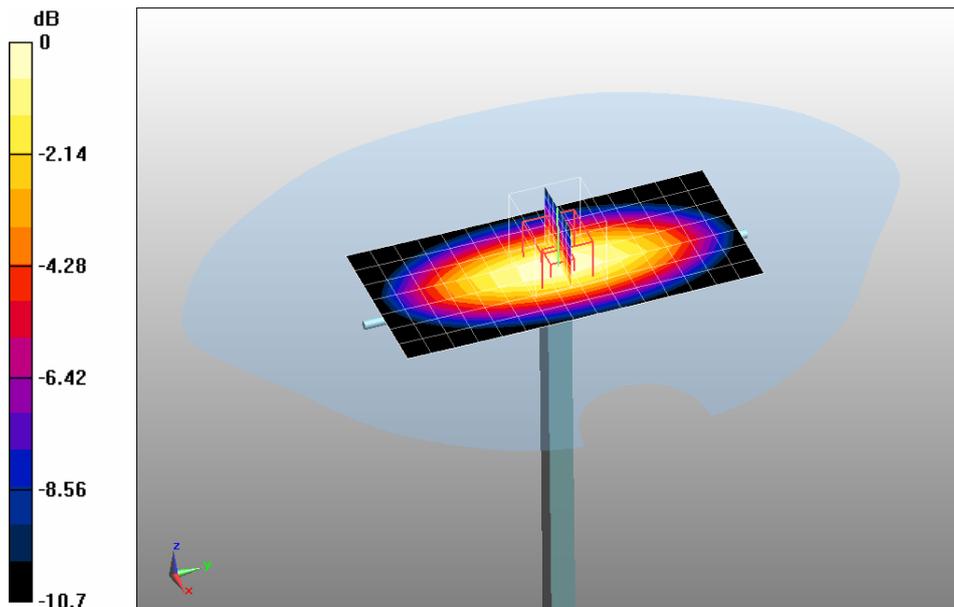
- Probe: EX3DV4 - SN3710; ConvF(8.95, 8.95, 8.95); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/System Check GSM835 Body/Area Scan (8x16x1):** Measurement grid: dx=10mm, dy=10mm, Maximum value of SAR (measured) = 2.74 mW/g

**Configuration/System Check GSM835 Body/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm, Reference Value = 53 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 4.06 W/kg

**SAR(1 g) = 2.67 mW/g; SAR(10 g) = 1.72 mW/g** Maximum value of SAR (measured) = 2.88 mW/g



0 dB = 2.88mW/g

Date/Time: 27-Sep-2010

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;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 39.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section; Input Power=250mW

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

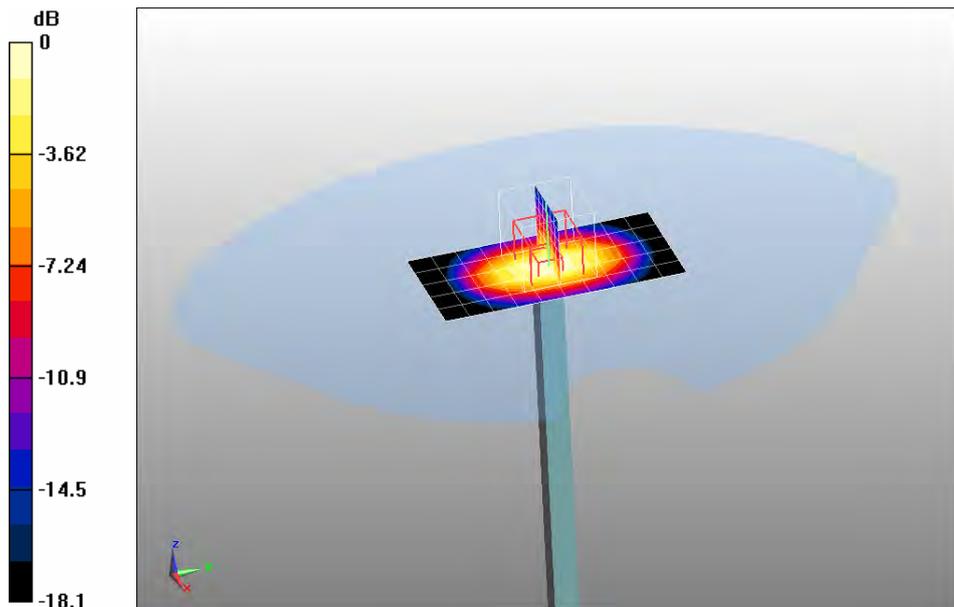
- Probe: EX3DV4 - SN3710; ConvF(7.69, 7.69, 7.69); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/System Check PCS1900 Head/Area Scan (6x11x1):** Measurement grid: dx=10mm, dy=10mm, Maximum value of SAR (measured) = 10 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 = -0.110 dB

Peak SAR (extrapolated) = 19.4 W/kg

**SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.13 mW/g** Maximum value of SAR (measured) = 11.4 mW/g



0 dB = 11.4mW/g

Date/Time: 27-Sep-2010

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;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section; Input Power=250mW

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

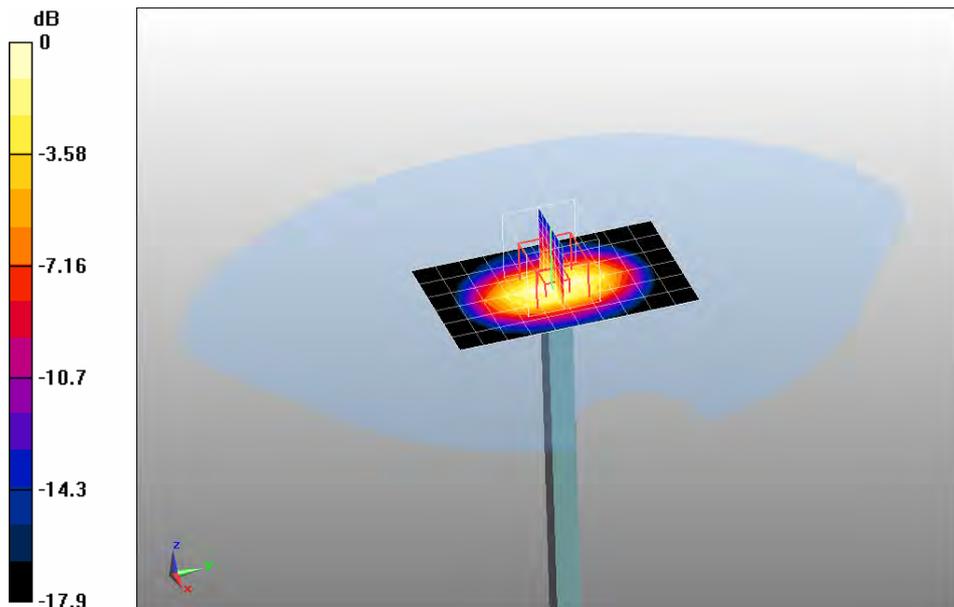
- Probe: EX3DV4 - SN3710; ConvF(7.71, 7.71, 7.71); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/System Check PCS1900 Body/Area Scan (7x11x1):** Measurement grid: dx=10mm, dy=10mm, Maximum value of SAR (measured) = 11 mW/g

**Configuration/System Check PCS1900 Body/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm, Reference Value = 83.8 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 18.7 W/kg

**SAR(1 g) = 9.96 mW/g; SAR(10 g) = 5.09 mW/g** Maximum value of SAR (measured) = 11.3 mW/g



0 dB = 11.3mW/g

## Appendix B. SAR measurement Data

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Low Left-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 824.2 MHz; Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.86$  mho/m;  $\epsilon_r = 43.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Left Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.83, 8.83, 8.83); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/GSM850 Low Left-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

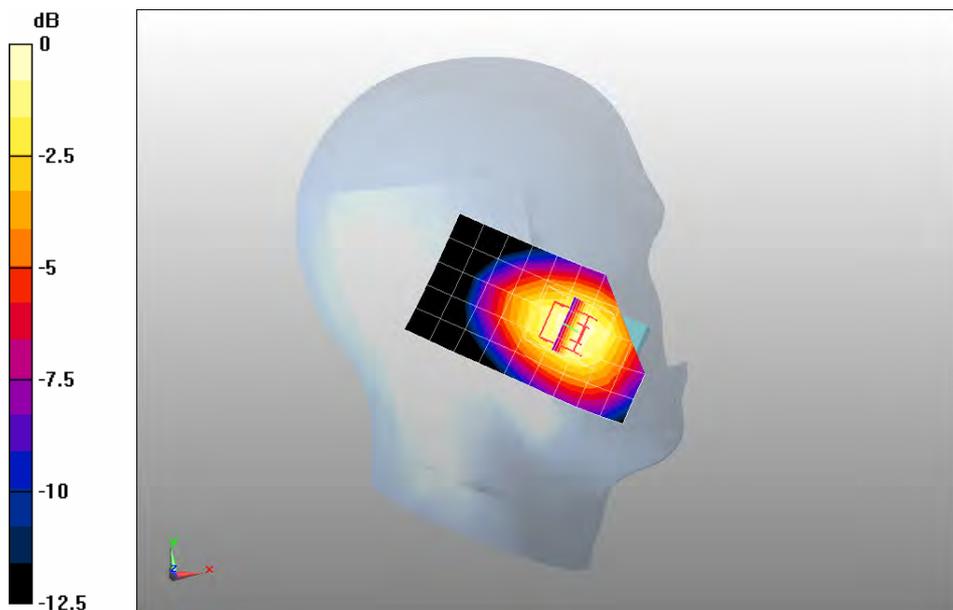
Maximum value of SAR (measured) = 0.621 mW/g

**Configuration/GSM850 Low Left-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm,

dy=8mm, dz=5mm, Reference Value = 8.84 V/m; Power Drift = -0.125 dB

Peak SAR (extrapolated) = 0.816 W/kg

**SAR(1 g) = 0.607 mW/g; SAR(10 g) = 0.426 mW/g** Maximum value of SAR (measured) = 0.645 mW/g



0 dB = 0.645mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Mid Left-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.88$  mho/m;  $\epsilon_r = 43$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Left Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.83, 8.83, 8.83); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

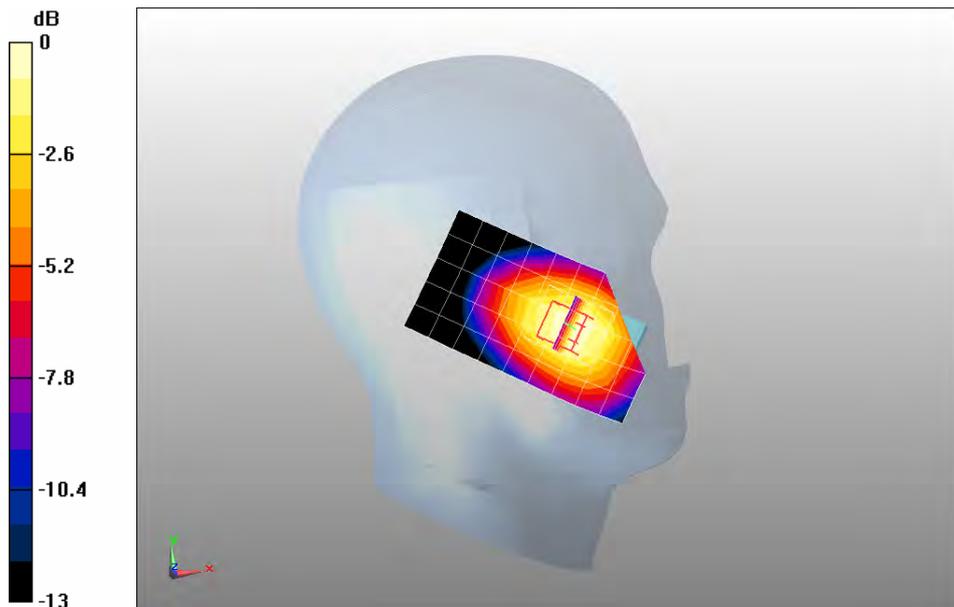
**Configuration/GSM850 Mid Left-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.926 mW/g

**Configuration/GSM850 Mid Left-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 10.8 V/m; Power Drift = -0.054 dB

Peak SAR (extrapolated) = 1.22 W/kg

**SAR(1 g) = 0.902 mW/g; SAR(10 g) = 0.630 mW/g** Maximum value of SAR (measured) = 0.962 mW/g



0 dB = 0.962mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 High Left-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 848.6 MHz; Medium parameters used:  $f = 848.6$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 42.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Left Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.83, 8.83, 8.83); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

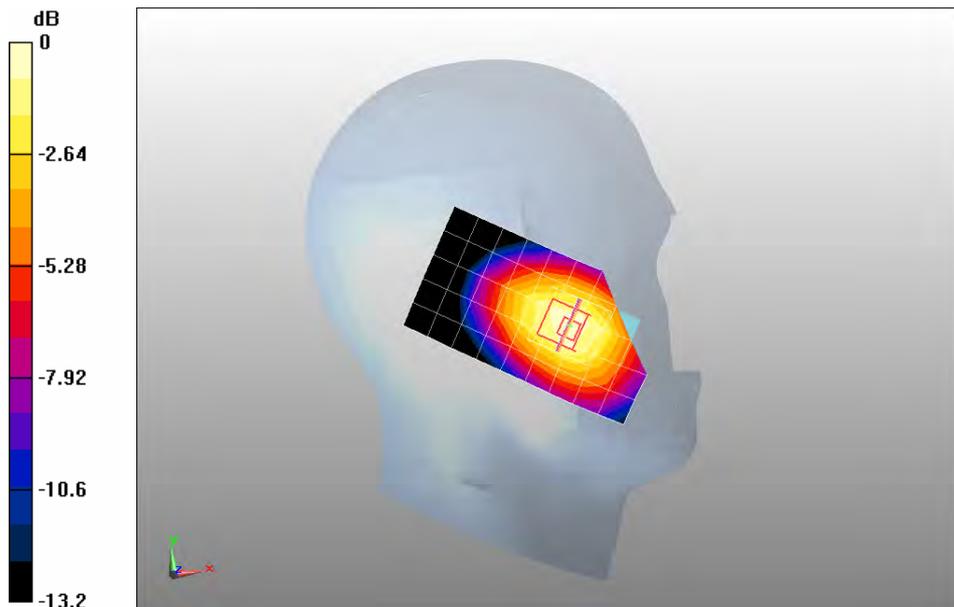
**Configuration/GSM850 High Left-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.976 mW/g

**Configuration/GSM850 High Left-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 11.2 V/m; Power Drift = -0.190 dB

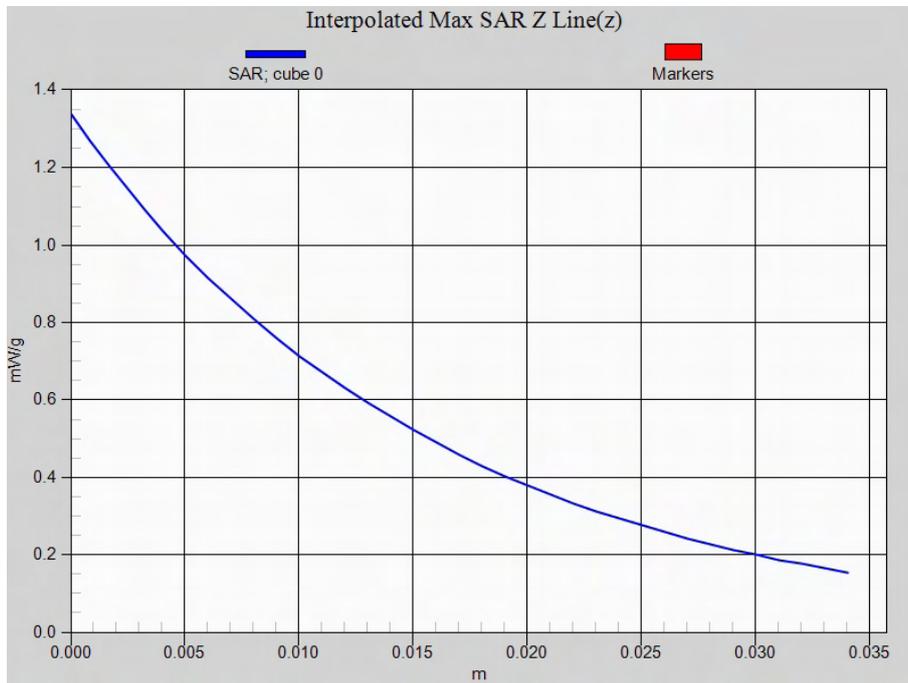
Peak SAR (extrapolated) = 1.34 W/kg

**SAR(1 g) = 0.977 mW/g; SAR(10 g) = 0.679 mW/g** Maximum value of SAR (measured) = 1.04 mW/g



0 dB = 1.04mW/g

Z-Axis Plot



Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Mid Left-Tilt

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.88$  mho/m;  $\epsilon_r = 43$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Left Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.83, 8.83, 8.83); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

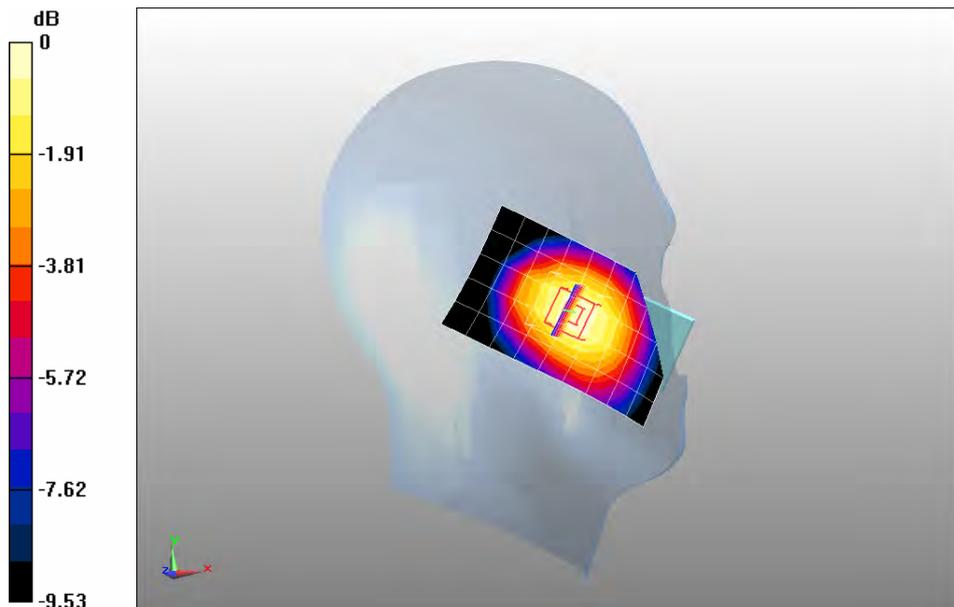
**Configuration/GSM850 Mid Left-Tilt/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.419 mW/g

**Configuration/GSM850 Mid Left-Tilt/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 14.7 V/m; Power Drift = -0.135 dB

Peak SAR (extrapolated) = 0.556 W/kg

**SAR(1 g) = 0.420 mW/g; SAR(10 g) = 0.305 mW/g** Maximum value of SAR (measured) = 0.444 mW/g



0 dB = 0.444mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Low Right-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 824.2 MHz; Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.86$  mho/m;  $\epsilon_r = 43.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Right Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.83, 8.83, 8.83); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

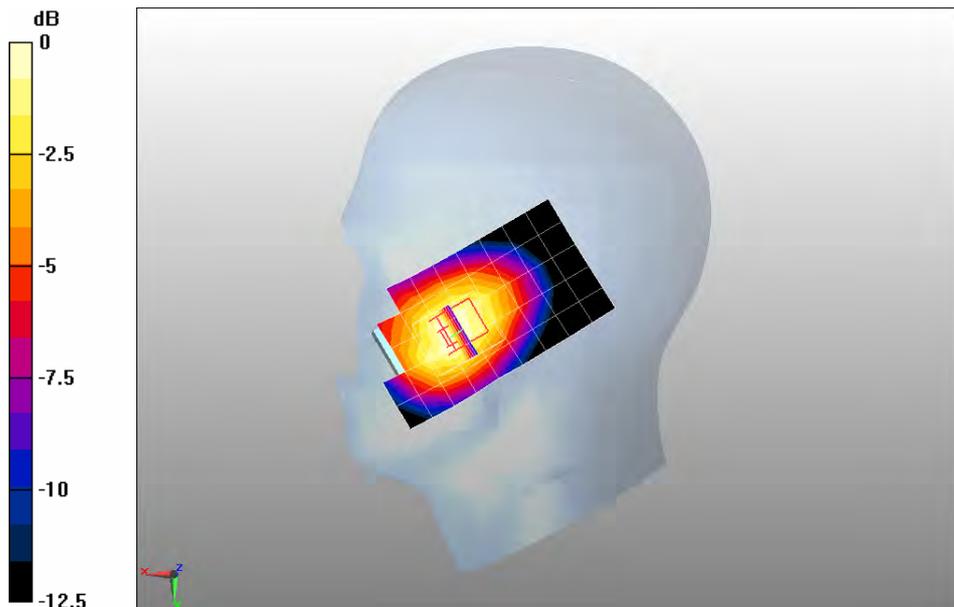
**Configuration/GSM850 Low Right-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.624 mW/g

**Configuration/GSM850 Low Right-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 9.51 V/m; Power Drift = -0.169 dB

Peak SAR (extrapolated) = 0.869 W/kg

**SAR(1 g) = 0.600 mW/g; SAR(10 g) = 0.410 mW/g** Maximum value of SAR (measured) = 0.644 mW/g



0 dB = 0.644mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Mid Right-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.88$  mho/m;  $\epsilon_r = 43$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Right Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.83, 8.83, 8.83); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

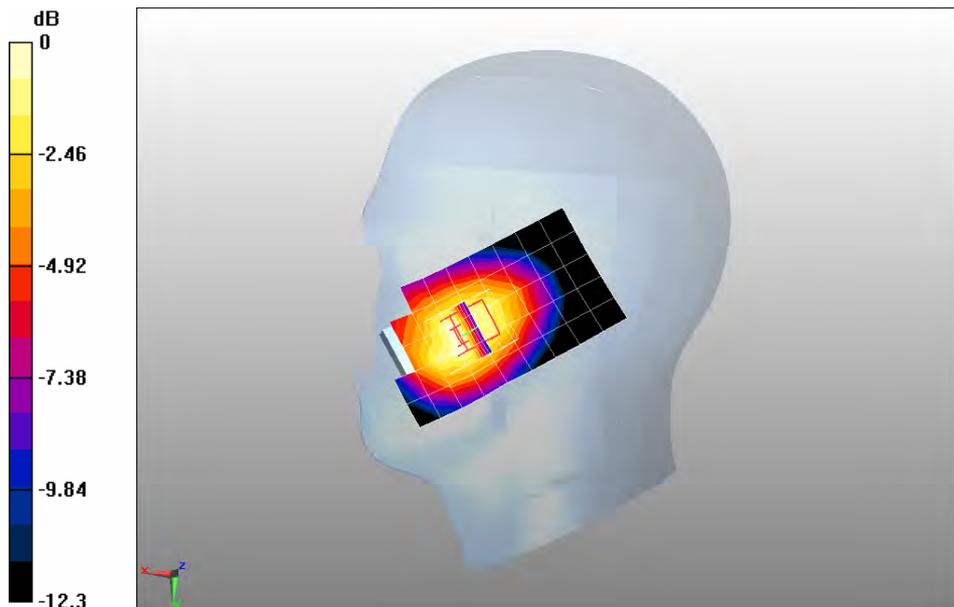
**Configuration/GSM850 Mid Right-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.883 mW/g

**Configuration/GSM850 Mid Right-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 11.3 V/m; Power Drift = -0.197 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.865 mW/g; SAR(10 g) = 0.593 mW/g** Maximum value of SAR (measured) = 0.925 mW/g



0 dB = 0.925mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 High Right-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 848.6 MHz; Medium parameters used:  $f = 848.6$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 42.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Right Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.83, 8.83, 8.83); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

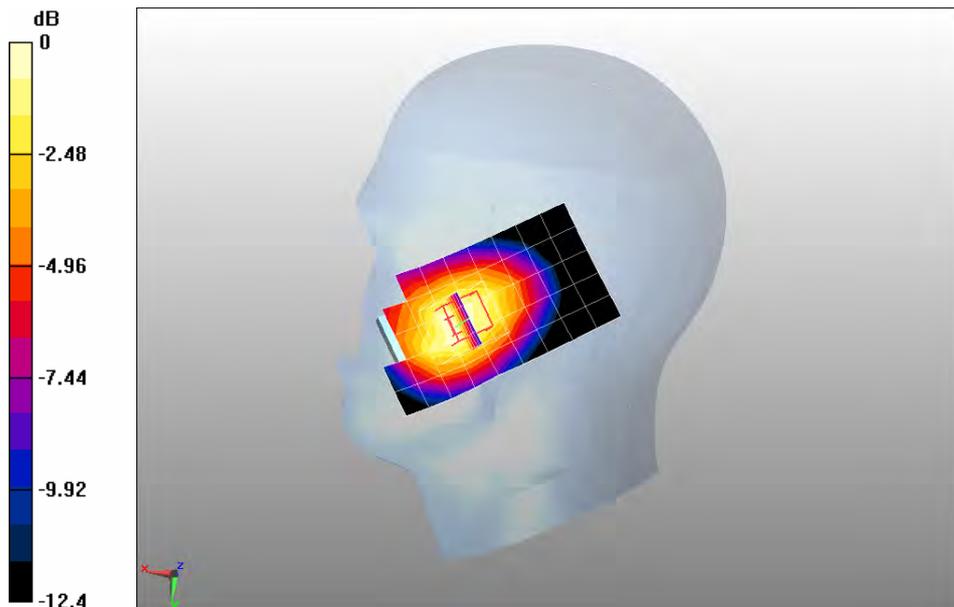
**Configuration/GSM850 High Right-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.933 mW/g

**Configuration/GSM850 High Right-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 11.7 V/m; Power Drift = -0.073 dB

Peak SAR (extrapolated) = 1.35 W/kg

**SAR(1 g) = 0.937 mW/g; SAR(10 g) = 0.640 mW/g** Maximum value of SAR (measured) = 1 mW/g



0 dB = 1mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Mid Right-Tilt

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.88$  mho/m;  $\epsilon_r = 43$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Right Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.83, 8.83, 8.83); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

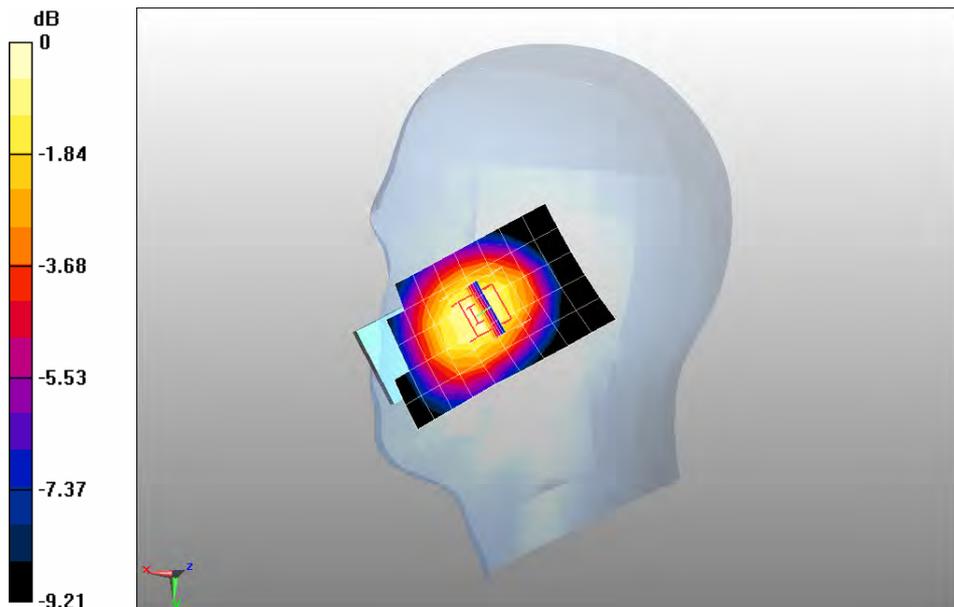
**Configuration/GSM850 Mid Right-Tilt/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.420 mW/g

**Configuration/GSM850 Mid Right-Tilt/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 14.3 V/m; Power Drift = -0.052 dB

Peak SAR (extrapolated) = 0.554 W/kg

**SAR(1 g) = 0.419 mW/g; SAR(10 g) = 0.302 mW/g** Maximum value of SAR (measured) = 0.447 mW/g



0 dB = 0.447mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Low Body-Back

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 824.2 MHz; Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 1$  mho/m;  $\epsilon_r = 55.5$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.95, 8.95, 8.95); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

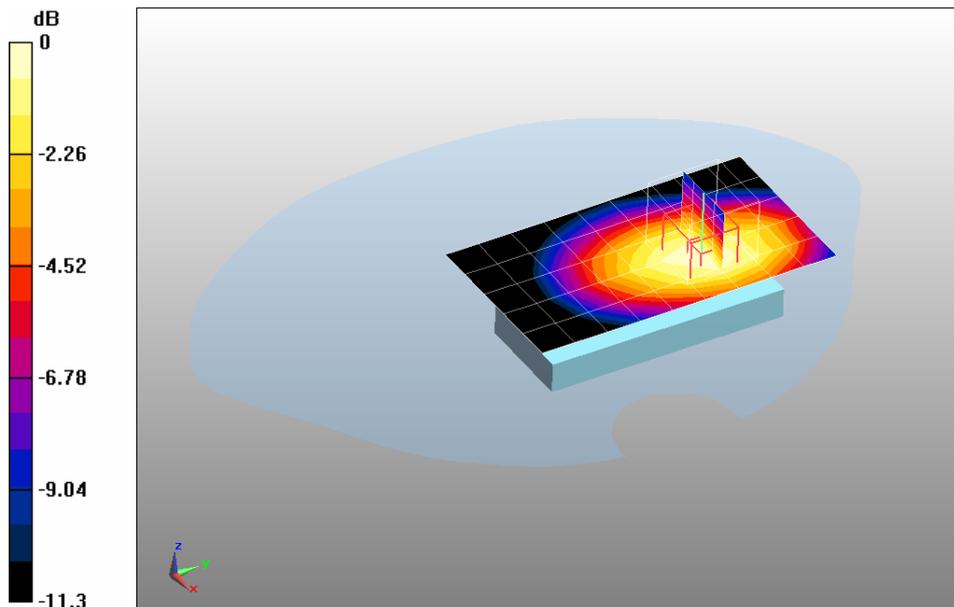
**Configuration/GSM 850 Low Body-Back/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.689 mW/g

**Configuration/GSM 850 Low Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 8.98 V/m; Power Drift = -0.026 dB

Peak SAR (extrapolated) = 0.916 W/kg

**SAR(1 g) = 0.656 mW/g; SAR(10 g) = 0.451 mW/g** Maximum value of SAR (measured) = 0.694 mW/g



0 dB = 0.694mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Mid Body-Back

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 1.02$  mho/m;  $\epsilon_r = 55.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.95, 8.95, 8.95); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

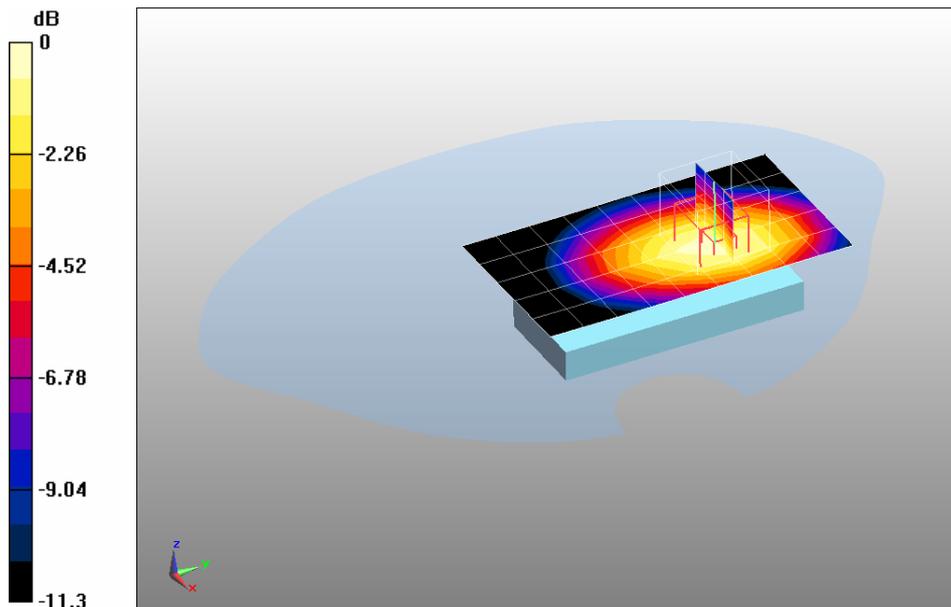
**Configuration/GSM 850 Mid Body-Back/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.852 mW/g

**Configuration/GSM 850 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 10.5 V/m; Power Drift = -0.106 dB

Peak SAR (extrapolated) = 1.15 W/kg

**SAR(1 g) = 0.822 mW/g; SAR(10 g) = 0.562 mW/g** Maximum value of SAR (measured) = 0.872 mW/g



0 dB = 0.872mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 High Body-Back

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 848.6 MHz; Medium parameters used:  $f = 848.6$  MHz;  $\sigma = 1.03$  mho/m;  $\epsilon_r = 55.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.95, 8.95, 8.95); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

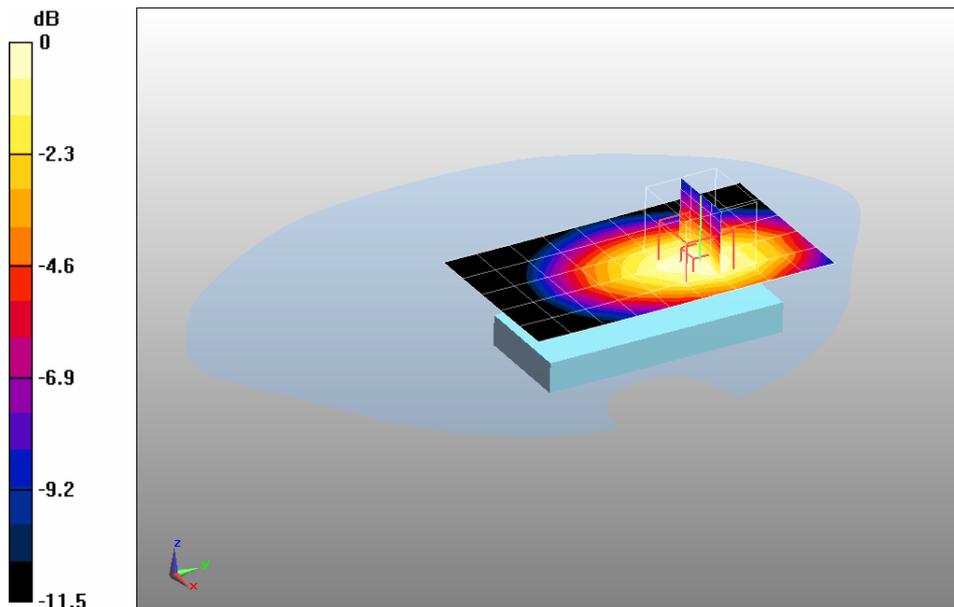
**Configuration/GSM 850 high Body-Back/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.868 mW/g

**Configuration/GSM 850 high Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 10.3 V/m; Power Drift = -0.111 dB

Peak SAR (extrapolated) = 1.13 W/kg

**SAR(1 g) = 0.801 mW/g; SAR(10 g) = 0.551 mW/g** Maximum value of SAR (measured) = 0.848 mW/g



0 dB = 0.848mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Mid Body-Front

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 1.02$  mho/m;  $\epsilon_r = 55.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.95, 8.95, 8.95); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

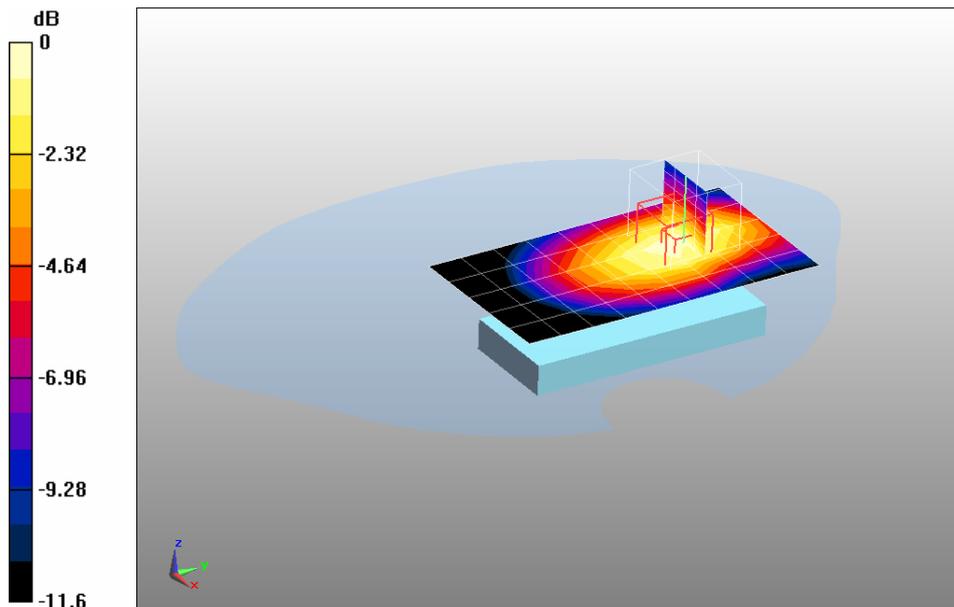
**Configuration/GSM 850 Mid Body-Front/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.513 mW/g

**Configuration/GSM 850 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 7.91 V/m; Power Drift = -0.182 dB

Peak SAR (extrapolated) = 0.719 W/kg

**SAR(1 g) = 0.502 mW/g; SAR(10 g) = 0.340 mW/g** Maximum value of SAR (measured) = 0.536 mW/g



0 dB = 0.536mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

GSM850 Mid Body-Back(Without Headset)

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 1.02$  mho/m;  $\epsilon_r = 55.3$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(8.95, 8.95, 8.95); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

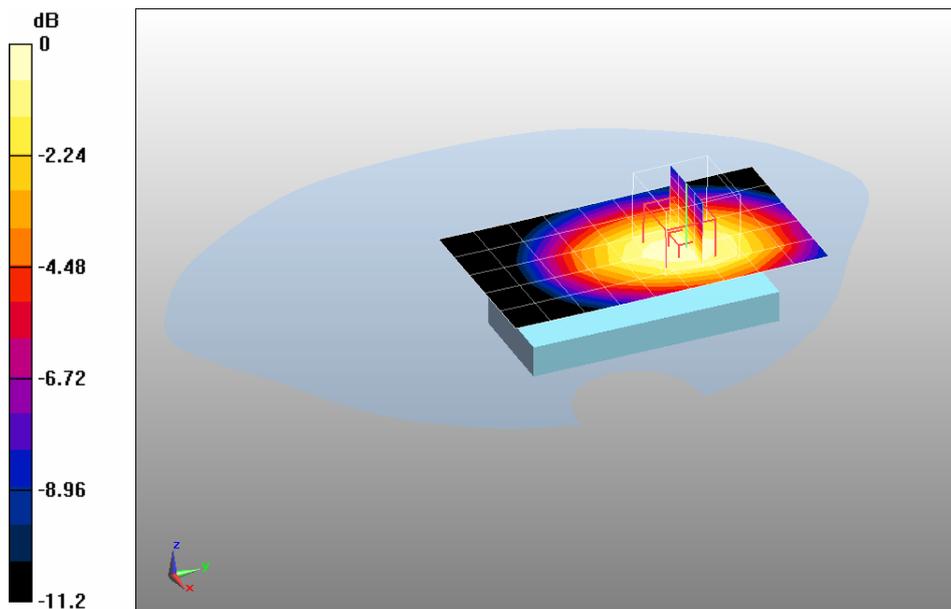
**Configuration/GSM 850 Mid Body-Back/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.827 mW/g

**Configuration/GSM 850 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 10.6 V/m; Power Drift = -0.038 dB

Peak SAR (extrapolated) = 1.06 W/kg

**SAR(1 g) = 0.777 mW/g; SAR(10 g) = 0.545 mW/g** Maximum value of SAR (measured) = 0.820 mW/g



0 dB = 0.820mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Low Left-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);  
 Duty Cycle: 1:8.3; Frequency: 1850.2 MHz; Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.39$  mho/m;  $\epsilon_r = 39.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Left Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.69, 7.69, 7.69); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

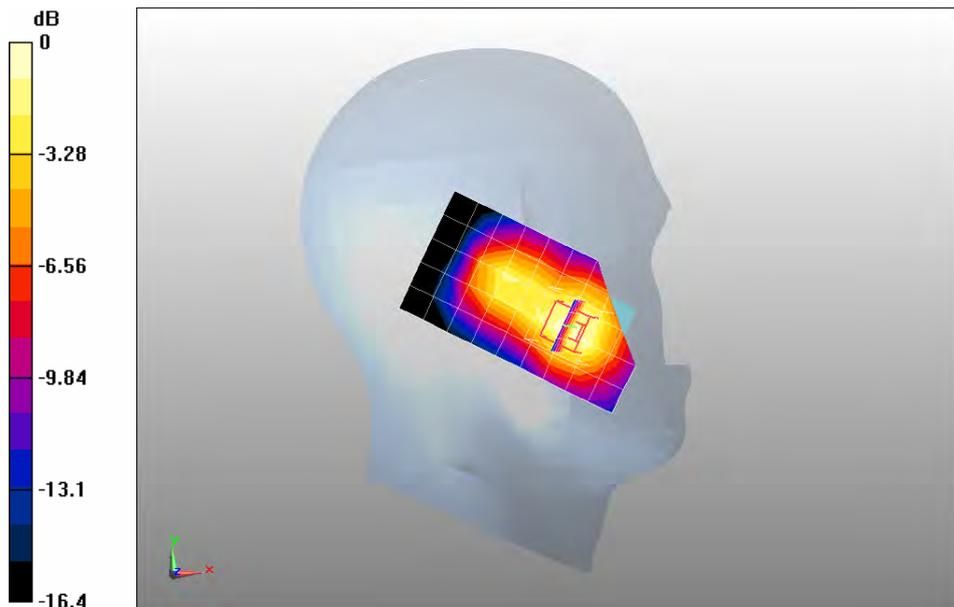
**Configuration/PCS1900 Low Left-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.746 mW/g

**Configuration/PCS1900 Low Left-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 9.62 V/m; Power Drift = -0.129 dB

Peak SAR (extrapolated) = 1.08 W/kg

**SAR(1 g) = 0.715 mW/g; SAR(10 g) = 0.429 mW/g** Maximum value of SAR (measured) = 0.769 mW/g



0 dB = 0.769mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Mid Left-Touch

DUT: GSM Mobile Phone; Type: G1101

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;  $\sigma = 1.4$  mho/m;  $\epsilon_r = 39.5$ ;

$\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Left Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.69, 7.69, 7.69); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

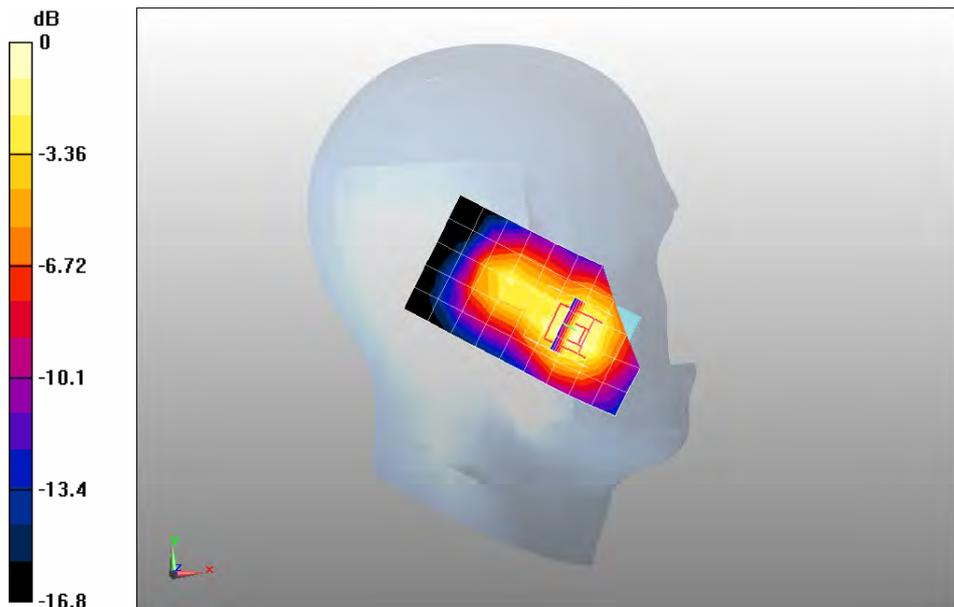
**Configuration/PCS1900 Mid Left-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.865 mW/g

**Configuration/PCS1900 Mid Left-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 11.3 V/m; Power Drift = -0.185 dB

Peak SAR (extrapolated) = 1.19 W/kg

**SAR(1 g) = 0.794 mW/g; SAR(10 g) = 0.472 mW/g** Maximum value of SAR (measured) = 0.849 mW/g



0 dB = 0.849mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 High Left-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);  
 Duty Cycle: 1:8.3; Frequency: 1909.8 MHz; Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 39.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Left Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.69, 7.69, 7.69); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

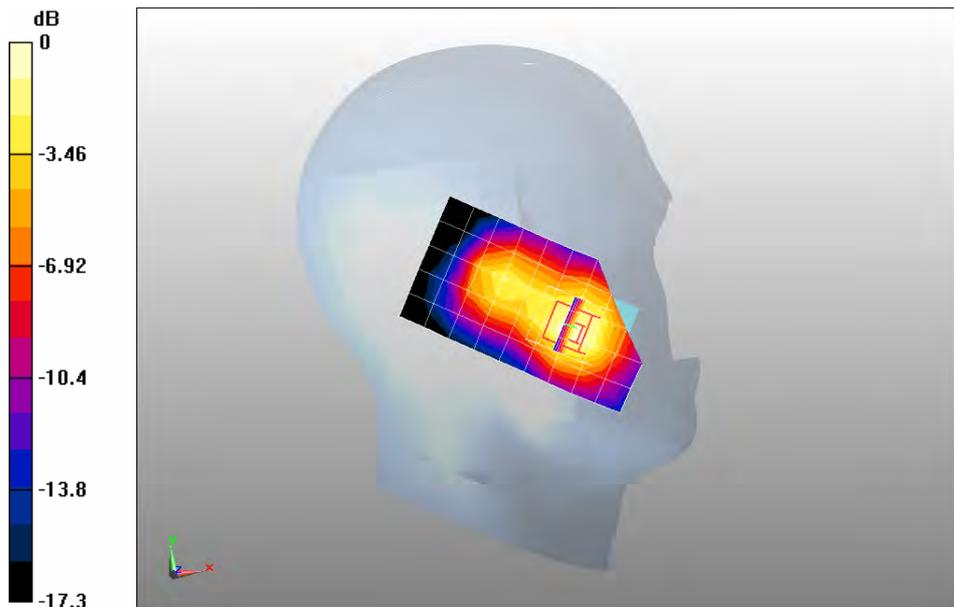
**Configuration/PCS1900 High Left-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.860 mW/g

**Configuration/PCS1900 High Left-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 10.6 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.796 mW/g; SAR(10 g) = 0.466 mW/g** Maximum value of SAR (measured) = 0.850 mW/g



0 dB = 0.850mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Mid Left-Tilt

**DUT: GSM Mobile Phone; Type: G1101**

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;  $\sigma = 1.4$  mho/m;  $\epsilon_r = 39.5$ ;  
 $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Left Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.69, 7.69, 7.69); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

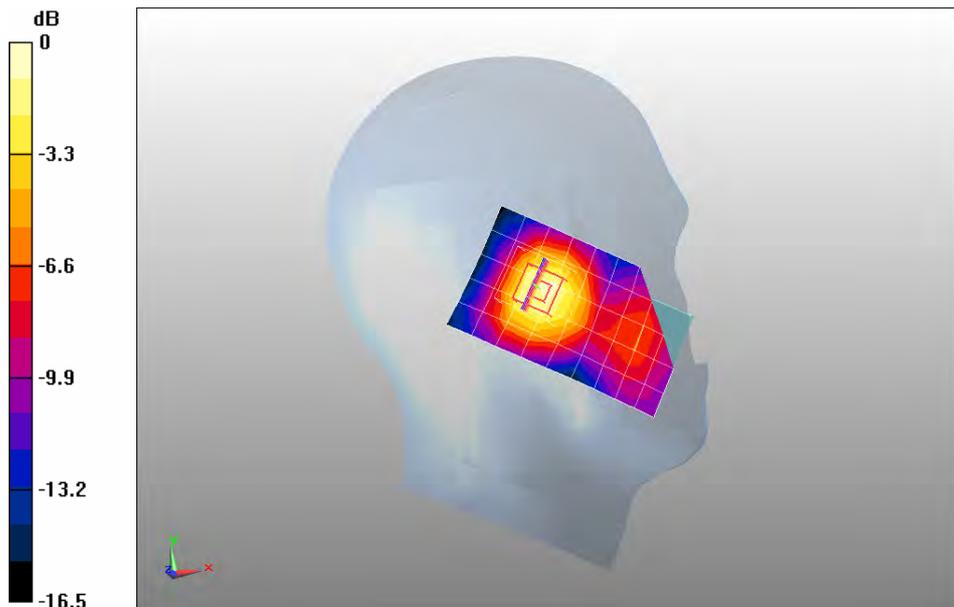
**Configuration/PCS1900 Mid Left-Tilt/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.374 mW/g

**Configuration/PCS1900 Mid Left-Tilt/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 12.9 V/m; Power Drift = -0.052 dB

Peak SAR (extrapolated) = 0.607 W/kg

**SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.234 mW/g** Maximum value of SAR (measured) = 0.433 mW/g



0 dB = 0.433mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Low Right-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);  
 Duty Cycle: 1:8.3; Frequency: 1850.2 MHz; Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.39$  mho/m;  $\epsilon_r = 39.6$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Right Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.69, 7.69, 7.69); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

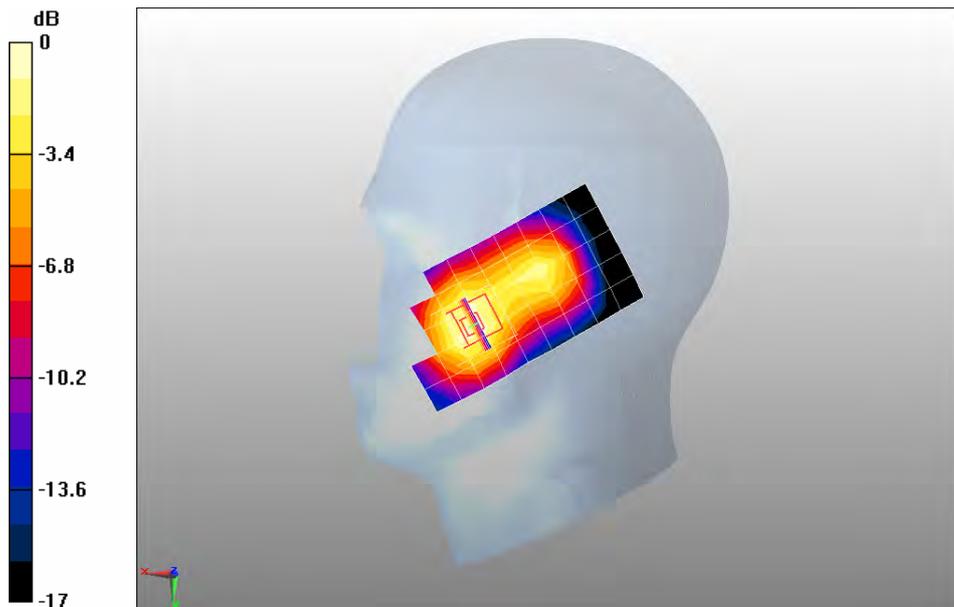
**Configuration/PCS1900 Low Right-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.703 mW/g

**Configuration/PCS1900 Low Right-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 11.1 V/m; Power Drift = -0.064 dB

Peak SAR (extrapolated) = 1.15 W/kg

**SAR(1 g) = 0.743 mW/g; SAR(10 g) = 0.448 mW/g** Maximum value of SAR (measured) = 0.803 mW/g



0 dB = 0.803mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Mid Right-Touch

**DUT: GSM Mobile Phone; Type: G1101**

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;  $\sigma = 1.4$  mho/m;  $\epsilon_r = 39.5$ ;  
 $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Right Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.69, 7.69, 7.69); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

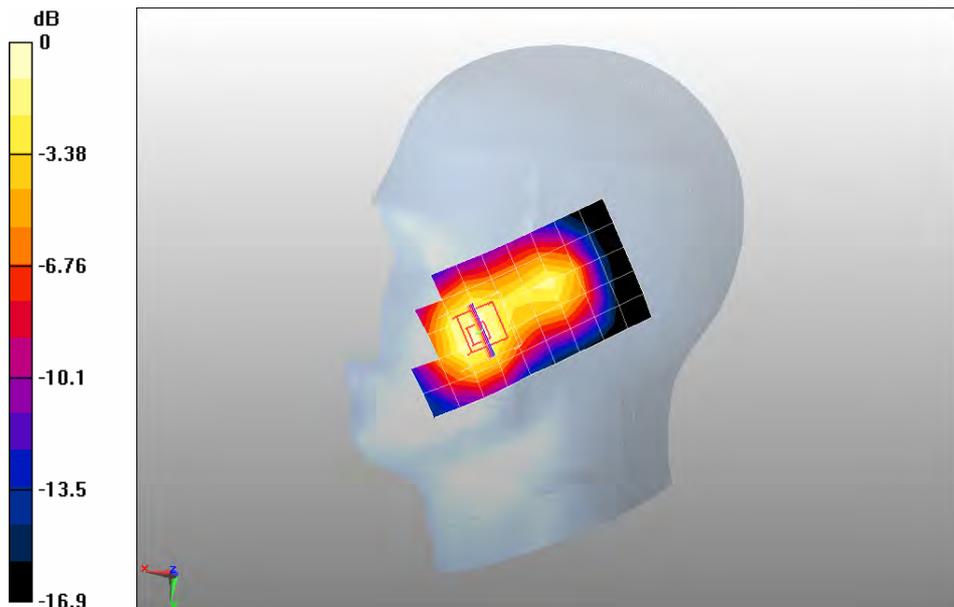
**Configuration/PCS1900 Mid Right-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.787 mW/g

**Configuration/PCS1900 Mid Right-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 11.2 V/m; Power Drift = 0.043 dB

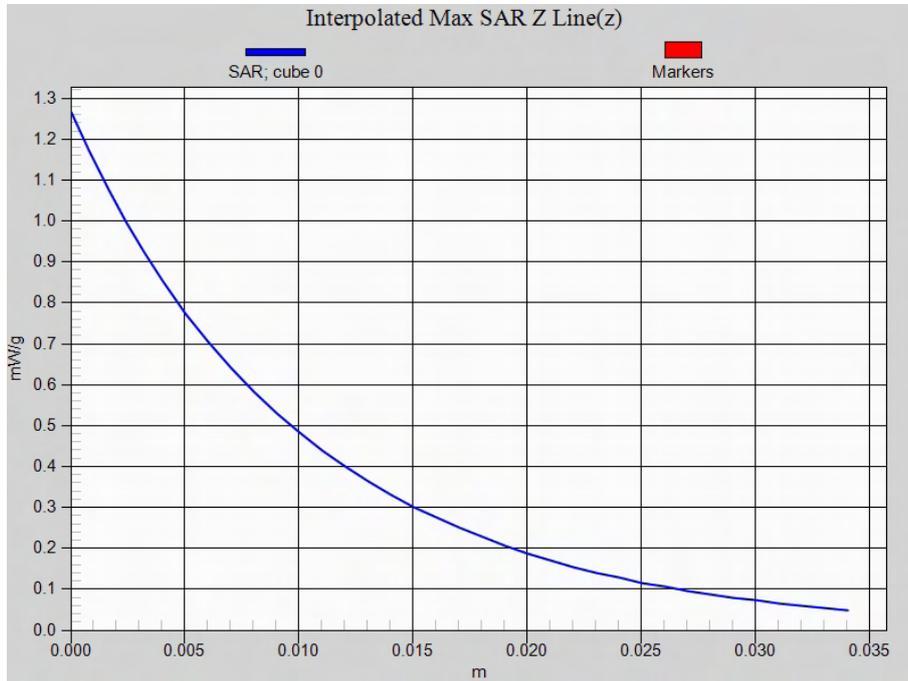
Peak SAR (extrapolated) = 1.26 W/kg

**SAR(1 g) = 0.797 mW/g; SAR(10 g) = 0.476 mW/g** Maximum value of SAR (measured) = 0.867 mW/g



0 dB = 0.867mW/g

Z-Axis Plot



Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 High Right-Touch

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);  
 Duty Cycle: 1:8.3; Frequency: 1909.8 MHz; Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 39.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>; Phantom section: Right Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.69, 7.69, 7.69); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

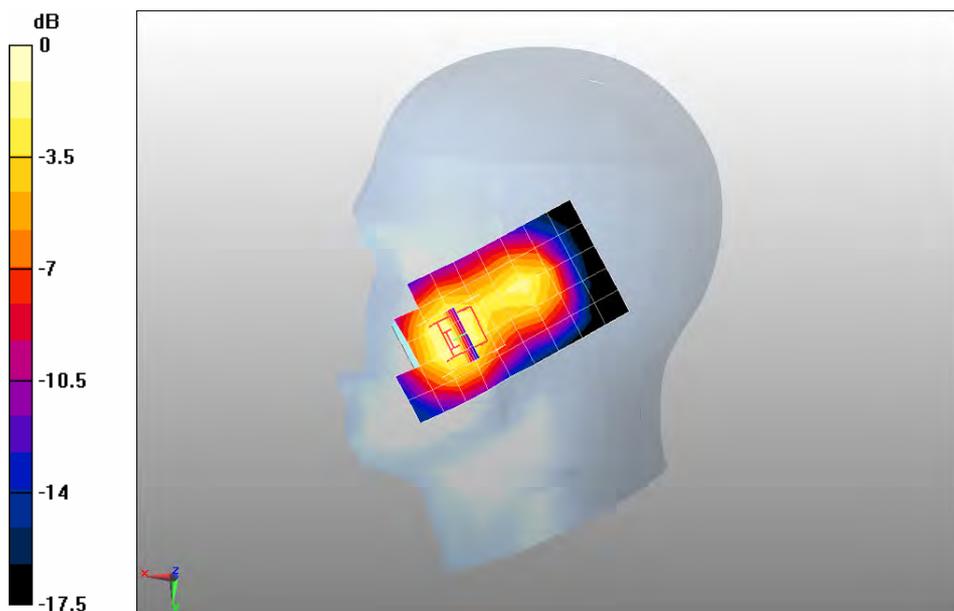
**Configuration/PCS1900 High Right-Touch/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.748 mW/g

**Configuration/PCS1900 High Right-Touch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 11.2 V/m; Power Drift = -0.165 dB

Peak SAR (extrapolated) = 1.22 W/kg

**SAR(1 g) = 0.768 mW/g; SAR(10 g) = 0.456 mW/g** Maximum value of SAR (measured) = 0.831 mW/g



0 dB = 0.831mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Mid Right-Tilt

**DUT: GSM Mobile Phone; Type: G1101**

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;  $\sigma = 1.4$  mho/m;  $\epsilon_r = 39.5$ ;  
 $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Right Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.69, 7.69, 7.69); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

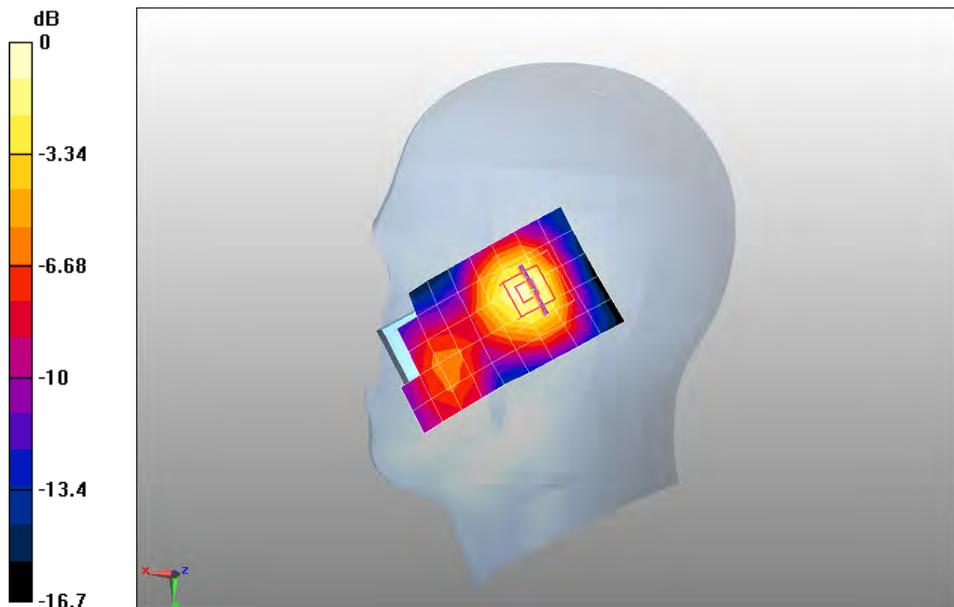
**Configuration/PCS1900 Mid Right-Tilt/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.427 mW/g

**Configuration/PCS1900 Mid Right-Tilt/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 13.6 V/m; Power Drift = -0.097 dB

Peak SAR (extrapolated) = 0.646 W/kg

**SAR(1 g) = 0.422 mW/g; SAR(10 g) = 0.250 mW/g** Maximum value of SAR (measured) = 0.460 mW/g



0 dB = 0.460mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Low Body-Back

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);  
 Duty Cycle: 1:8.3; Frequency: 1850.2 MHz; Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 52.7$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.71, 7.71, 7.71); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

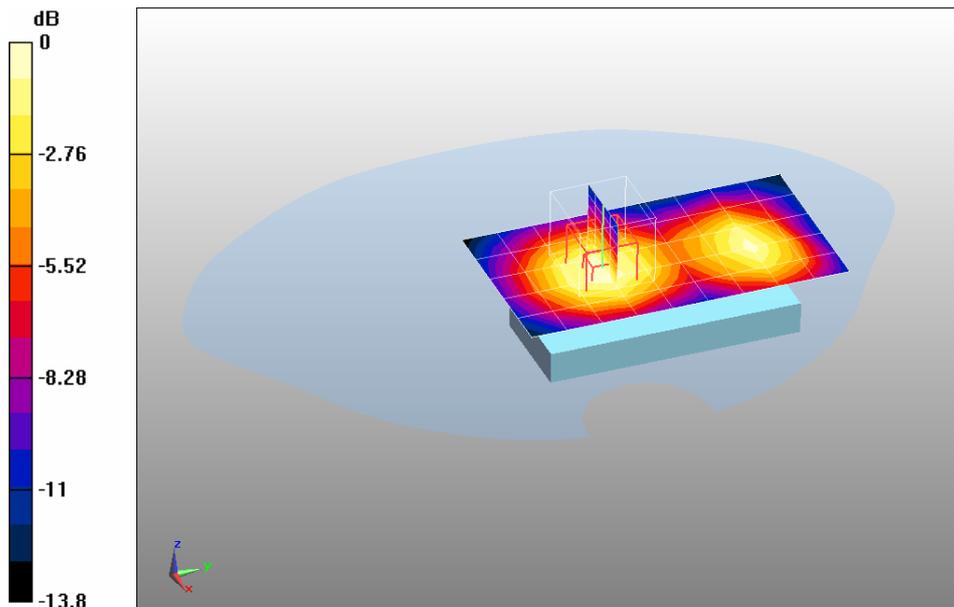
**Configuration/PCS 1900 Low Body-Back/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.402 mW/g

**Configuration/PCS 1900 Low Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 12.6 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 0.589 W/kg

**SAR(1 g) = 0.387 mW/g; SAR(10 g) = 0.244 mW/g** Maximum value of SAR (measured) = 0.415 mW/g



0 dB = 0.415mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Mid Body-Back

**DUT: GSM Mobile Phone; Type: G1101**

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;  $\sigma = 1.55$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.71, 7.71, 7.71); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

**Configuration/PCS 1900 Mid Body-Back/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

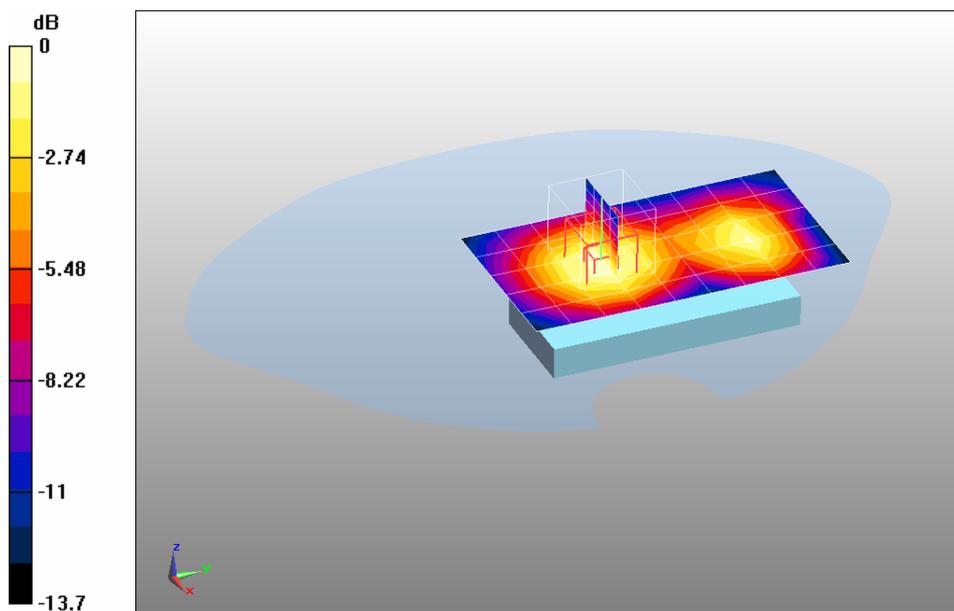
Maximum value of SAR (measured) = 0.443 mW/g

**Configuration/PCS 1900 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 13 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 0.658 W/kg

**SAR(1 g) = 0.433 mW/g; SAR(10 g) = 0.272 mW/g**

Maximum value of SAR (measured) = 0.466 mW/g



0 dB = 0.466mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 High Body-Back

**DUT: GSM Mobile Phone; Type: G1101**

Communication System: Generic GSM; Communication System Band: PCS 1900 (1850.0 - 1910.0 MHz);  
 Duty Cycle: 1:8.3; Frequency: 1909.8 MHz; Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.59$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.71, 7.71, 7.71); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

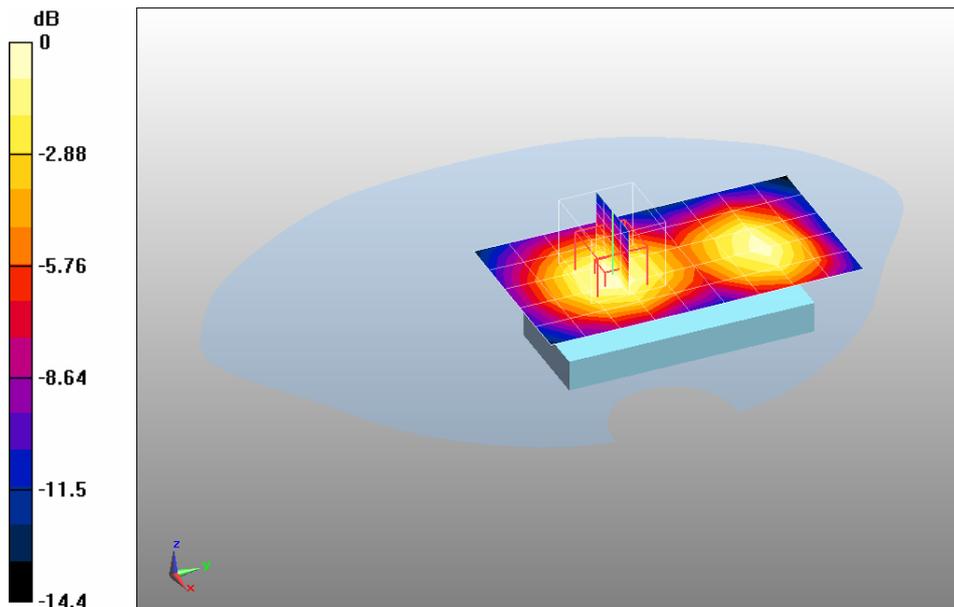
**Configuration/PCS 1900 High Body-Back/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.413 mW/g

**Configuration/PCS 1900 High Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 12.7 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.609 W/kg

**SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.245 mW/g** Maximum value of SAR (measured) = 0.426 mW/g



0 dB = 0.426mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Mid Body-Front

**DUT: GSM Mobile Phone; Type: G1101**

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;  $\sigma = 1.55$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.71, 7.71, 7.71); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

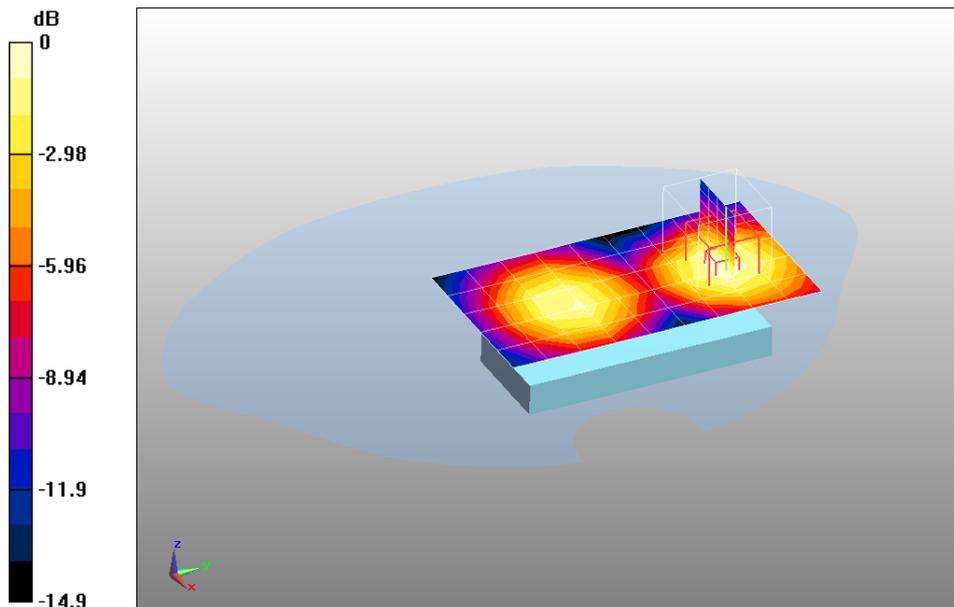
**Configuration/PCS 1900 Mid Body-Front/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.276 mW/g

**Configuration/PCS 1900 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 10.2 V/m; Power Drift = -0.039 dB

Peak SAR (extrapolated) = 0.422 W/kg

**SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.162 mW/g** Maximum value of SAR (measured) = 0.281 mW/g



0 dB = 0.281mW/g

Date/Time: 27-Sep-2010

Test Laboratory: QuieTek Lab

PCS1900 Mid Body-Back(Without Headset)

**DUT: GSM Mobile Phone; Type: G1101**

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;  $\sigma = 1.55$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Phantom section: Flat Section

Ambient temperature (°C): 21.5, Liquid temperature (°C): 21.0

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(7.71, 7.71, 7.71); Calibrated: 05/03/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 09/03/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

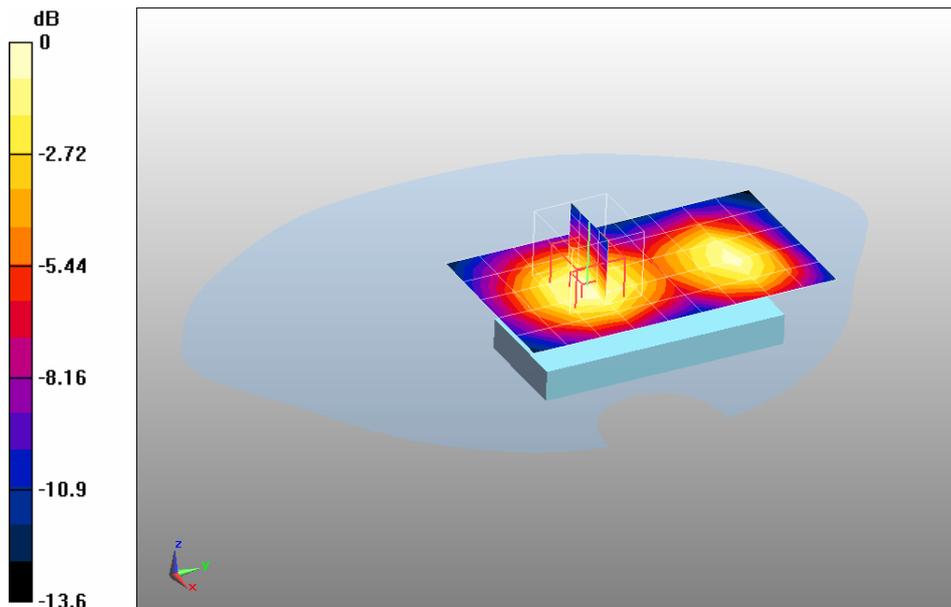
**Configuration/PCS 1900 Mid Body-Back/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.413 mW/g

**Configuration/PCS 1900 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 12.9 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 0.612 W/kg

**SAR(1 g) = 0.402 mW/g; SAR(10 g) = 0.252 mW/g** Maximum value of SAR (measured) = 0.432 mW/g



0 dB = 0.432mW/g

**Appendix D. Probe Calibration Data**

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Quietek (Auden)**

Certificate No: **EX3-3710\_Mar10**

CALIBRATION CERTIFICATE																																																			
Object	EX3DV4 - SN:3710																																																		
Calibration procedure(s)	QA CAL-01.v6, QA CAL-14.v3, QA CAL-23.v3 and QA CAL-25.v2 Calibration procedure for dosimetric E-field probes																																																		
Calibration date:	March 5, 2010																																																		
<p>This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.</p> <p>All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity &lt; 70%.</p> <p>Calibration Equipment used (M&amp;TE critical for calibration)</p> <table border="1"> <thead> <tr> <th>Primary Standards</th> <th>ID #</th> <th>Cal Date (Certificate No.)</th> <th>Scheduled Calibration</th> </tr> </thead> <tbody> <tr> <td>Power meter E4419B</td> <td>GB41293874</td> <td>1-Apr-09 (No. 217-01030)</td> <td>Apr-10</td> </tr> <tr> <td>Power sensor E4412A</td> <td>MY41495277</td> <td>1-Apr-09 (No. 217-01030)</td> <td>Apr-10</td> </tr> <tr> <td>Power sensor E4412A</td> <td>MY41498087</td> <td>1-Apr-09 (No. 217-01030)</td> <td>Apr-10</td> </tr> <tr> <td>Reference 3 dB Attenuator</td> <td>SN: S5054 (3c)</td> <td>31-Mar-09 (No. 217-01026)</td> <td>Mar-10</td> </tr> <tr> <td>Reference 20 dB Attenuator</td> <td>SN: S5086 (20b)</td> <td>31-Mar-09 (No. 217-01028)</td> <td>Mar-10</td> </tr> <tr> <td>Reference 30 dB Attenuator</td> <td>SN: S5129 (30b)</td> <td>31-Mar-09 (No. 217-01027)</td> <td>Mar-10</td> </tr> <tr> <td>Reference Probe ES3DV2</td> <td>SN: 3013</td> <td>30-Dec-09 (No. ES3-3013_Dec09)</td> <td>Dec-10</td> </tr> <tr> <td>DAE4</td> <td>SN: 660</td> <td>29-Sep-09 (No. DAE4-660_Sep09)</td> <td>Sep-10</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Secondary Standards</th> <th>ID #</th> <th>Check Date (in house)</th> <th>Scheduled Check</th> </tr> </thead> <tbody> <tr> <td>RF generator HP 8648C</td> <td>US3642U01700</td> <td>4-Aug-99 (in house check Oct-09)</td> <td>In house check: Oct-11</td> </tr> <tr> <td>Network Analyzer HP 8753E</td> <td>US37390585</td> <td>18-Oct-01 (in house check Oct-09)</td> <td>In house check: Oct10</td> </tr> </tbody> </table>				Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration	Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10	Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10	Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10	Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10	Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10	Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10	Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10	DAE4	SN: 660	29-Sep-09 (No. DAE4-660_Sep09)	Sep-10	Secondary Standards	ID #	Check Date (in house)	Scheduled Check	RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11	Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10
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Calibrated by:	Name Katja Pokovic	Function Technical Manager	Signature 																																																
Approved by:	Name Niels Kuster	Function Quality Manager	Signature 																																																
			Issued: March 5, 2010																																																
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.																																																			

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

**Glossary:**

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization $\varphi$	$\varphi$ rotation around probe axis
Polarization $\vartheta$	$\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

**Calibration is Performed According to the Following Standards:**

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

**Methods Applied and Interpretation of Parameters:**

- **NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\vartheta = 0$  ( $f < 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not effect the E<sup>2</sup>-field uncertainty inside TSL (see below *ConvF*).
- **NORM(f)<sub>x,y,z</sub>** = NORM<sub>x,y,z</sub> \* *frequency\_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- **DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- **A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; VR<sub>x,y,z</sub>**: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- **ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f < 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- **Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- **Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

EX3DV4 SN:3710

March 5, 2010

# Probe EX3DV4

## SN:3710

Manufactured:	July 21, 2009
Calibrated:	March 5, 2010

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

EX3DV4 SN:3710

March 5, 2010

**DASY - Parameters of Probe: EX3DV4 SN:3710**

**Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup>	0.48	0.58	0.60	$\pm 10.1\%$
DCP (mV) <sup>B</sup>	90.8	94.4	91.8	

**Modulation Calibration Parameters**

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc <sup>E</sup> (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300	$\pm 1.5\%$
			Y	0.00	0.00	1.00	300	
			Z	0.00	0.00	1.00	300	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of NormX,Y,Z do not affect the E<sup>2</sup>-field uncertainty (inside TSL (see Pages 5 and 6))

<sup>B</sup> Numerical linearization parameter; uncertainty not required

<sup>E</sup> Uncertainty is determined using the maximum deviation from linear response applying rectangular distribution and is expressed for the square of the field value

EX3DV4 SN:3710

March 5, 2010

**DASY - Parameters of Probe: EX3DV4 SN:3710**

**Calibration Parameter Determined in Head Tissue Simulating Media**

f [MHz]	Validity [MHz] <sup>c</sup>	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	8.83	8.83	8.83	0.68	0.64 ± 11.0%
900	± 50 / ± 100	41.5 ± 5%	0.97 ± 5%	8.73	8.73	8.73	0.83	0.58 ± 11.0%
1810	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	7.69	7.69	7.69	0.62	0.63 ± 11.0%
1950	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	7.35	7.35	7.35	0.70	0.60 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	6.96	6.96	6.96	0.46	0.75 ± 11.0%
2600	± 50 / ± 100	39.0 ± 5%	1.96 ± 5%	6.88	6.88	6.88	0.31	0.92 ± 11.0%
3500	± 50 / ± 100	37.9 ± 5%	2.91 ± 5%	6.64	6.64	6.64	0.33	1.18 ± 13.1%
5200	± 50 / ± 100	36.0 ± 5%	4.66 ± 5%	4.92	4.92	4.92	0.40	1.90 ± 13.1%
5300	± 50 / ± 100	35.9 ± 5%	4.76 ± 5%	4.60	4.60	4.60	0.40	1.90 ± 13.1%
5500	± 50 / ± 100	35.6 ± 5%	4.96 ± 5%	4.42	4.42	4.42	0.50	1.90 ± 13.1%
5600	± 50 / ± 100	35.5 ± 5%	5.07 ± 5%	4.42	4.42	4.42	0.40	1.90 ± 13.1%
5800	± 50 / ± 100	35.3 ± 5%	5.27 ± 5%	4.26	4.26	4.26	0.50	1.90 ± 13.1%

<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

EX3DV4 SN:3710

March 5, 2010

## DASY - Parameters of Probe: EX3DV4 SN:3710

### Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz] <sup>c</sup>	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	8.95	8.95	8.95	0.84	0.62 ± 11.0%
900	± 50 / ± 100	55.0 ± 5%	1.05 ± 5%	8.80	8.80	8.80	0.65	0.69 ± 11.0%
1810	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	7.71	7.71	7.71	0.57	0.72 ± 11.0%
1950	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	7.45	7.45	7.45	0.38	0.87 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	7.00	7.00	7.00	0.32	0.95 ± 11.0%
2600	± 50 / ± 100	52.5 ± 5%	2.16 ± 5%	6.90	6.90	6.90	0.47	0.79 ± 11.0%
3500	± 50 / ± 100	51.3 ± 5%	3.31 ± 5%	6.19	6.19	6.19	0.31	1.44 ± 13.1%
5200	± 50 / ± 100	49.0 ± 5%	5.30 ± 5%	4.13	4.13	4.13	0.50	1.90 ± 13.1%
5300	± 50 / ± 100	48.5 ± 5%	5.42 ± 5%	3.91	3.91	3.91	0.55	1.90 ± 13.1%
5500	± 50 / ± 100	48.6 ± 5%	5.65 ± 5%	3.81	3.81	3.81	0.55	1.90 ± 13.1%
5600	± 50 / ± 100	48.5 ± 5%	5.77 ± 5%	3.58	3.58	3.58	0.60	1.90 ± 13.1%
5800	± 50 / ± 100	48.2 ± 5%	6.00 ± 5%	3.97	3.97	3.97	0.60	1.90 ± 13.1%

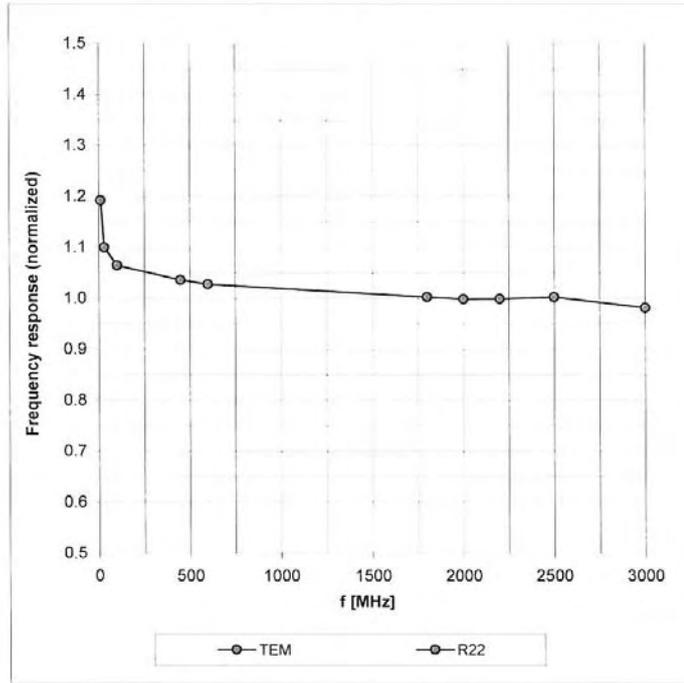
<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

EX3DV4 SN:3710

March 5, 2010

### Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)

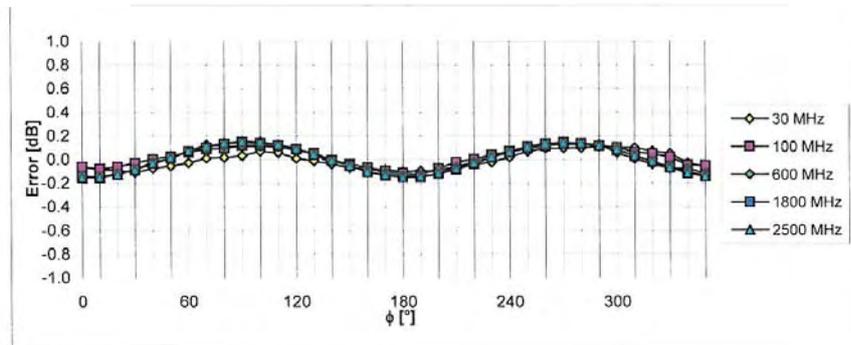
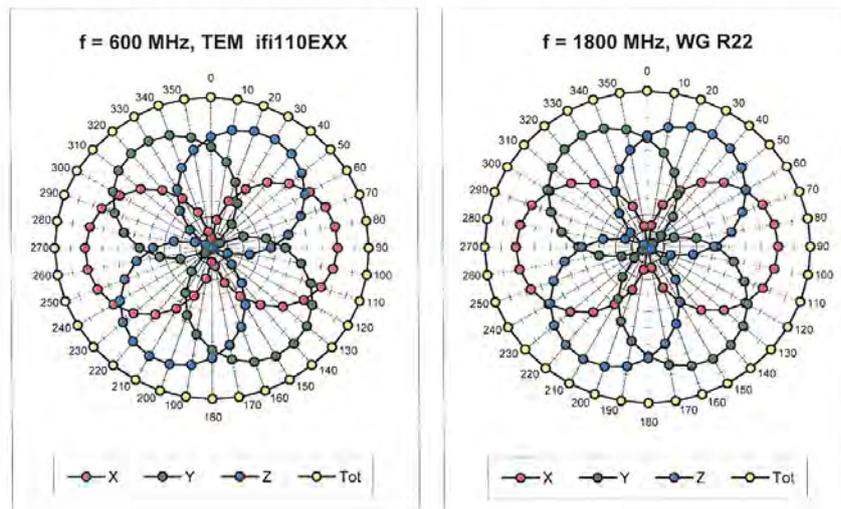


Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  (k=2)

EX3DV4 SN:3710

March 5, 2010

Receiving Pattern ( $\phi$ ),  $\vartheta = 0^\circ$

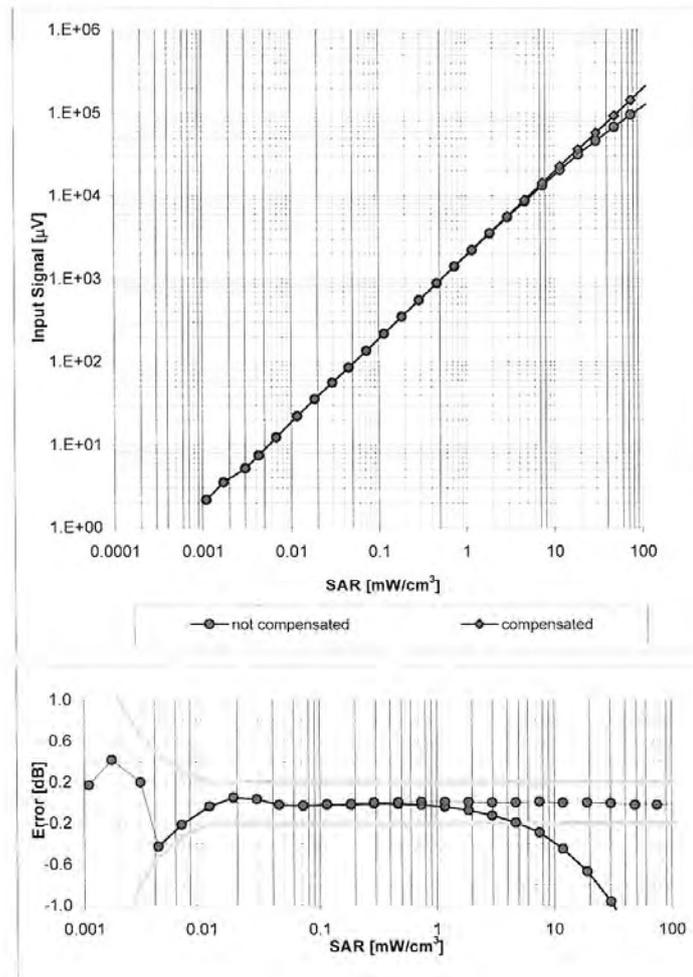


Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  (k=2)

EX3DV4 SN:3710

March 5, 2010

**Dynamic Range  $f(SAR_{head})$**   
 (Waveguide R22,  $f = 1800$  MHz)

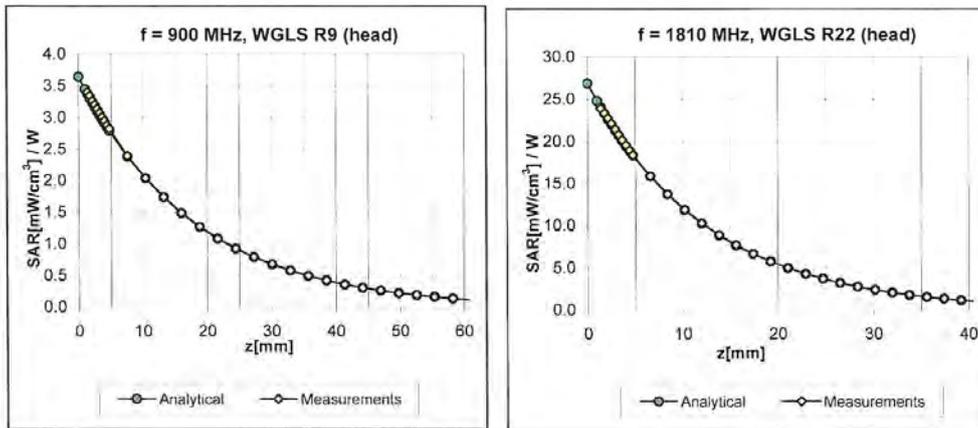


Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

EX3DV4 SN:3710

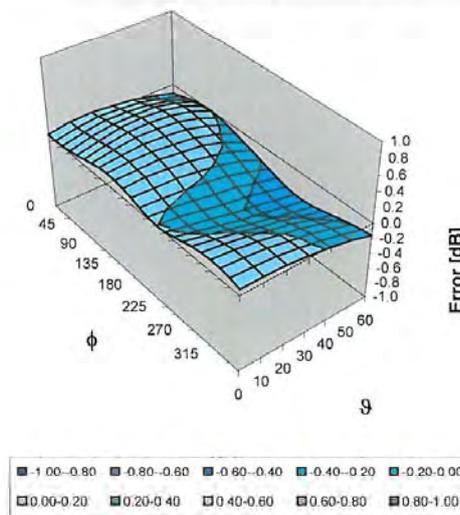
March 5, 2010

### Conversion Factor Assessment



### Deviation from Isotropy in HSL

Error ( $\phi, \theta$ ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment:  $\pm 2.6\%$  (k=2)

EX3DV4 SN:3710

March 5, 2010

**Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm

**Appendix E. Dipole Calibration Data**

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**S** Service suisse d'étalonnage  
**C** Servizio svizzero di taratura  
**S** Swiss Calibration Service

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Quietek (Auden)**

Certificate No: **D835V2-4d094\_Mar10**

**CALIBRATION CERTIFICATE**

Object **D835V2 - SN: 4d094**

Calibration procedure(s) **QA CAL-05.v7  
Calibration procedure for dipole validation kits**

Calibration date: **March 15, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	02-Mar-10 (No. DAE4-601_Mar10)	Mar-11
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

Calibrated by:	Name <b>Dirce Iliev</b>	Function <b>Laboratory Technician</b>	Signature 
Approved by:	<b>Katja Pokovic</b>	<b>Technical Manager</b>	

Issued: March 15, 2010

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**Calibration Laboratory of  
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Zeughausstrasse 43, 8004 Zurich, Switzerland



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

**Glossary:**

TSL tissue simulating liquid  
ConvF sensitivity in TSL / NORM x,y,z  
N/A not applicable or not measured

**Calibration is Performed According to the Following Standards:**

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

**Additional Documentation:**

- d) DAS4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

**Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V5.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

**Head TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.9 ± 6 %	0.91 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C	---	---

**SAR result with Head TSL**

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.43 mW / g
SAR normalized	normalized to 1W	9.72 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	<b>9.70 mW / g ± 17.0 % (k=2)</b>

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.58 mW / g
SAR normalized	normalized to 1W	6.32 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	<b>6.30 mW / g ± 16.5 % (k=2)</b>

**Body TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.3 ± 6 %	1.01 mho/m ± 6 %
Body TSL temperature during test	(21.3 ± 0.2) °C	----	----

**SAR result with Body TSL**

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.55 mW / g
SAR normalized	normalized to 1W	10.2 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	<b>9.90 mW / g ± 17.0 % (k=2)</b>

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.67 mW / g
SAR normalized	normalized to 1W	6.68 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	<b>6.53 mW / g ± 16.5 % (k=2)</b>

**Appendix**

**Antenna Parameters with Head TSL**

Impedance, transformed to feed point	52.2 $\Omega$ - 2.7 j $\Omega$
Return Loss	- 29.4 dB

**Antenna Parameters with Body TSL**

Impedance, transformed to feed point	48.0 $\Omega$ - 4.8 j $\Omega$
Return Loss	- 25.5 dB

**General Antenna Parameters and Design**

Electrical Delay (one direction)	1,388 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

**Additional EUT Data**

Manufactured by	SPEAG
Manufactured on	September 15, 2009

**DASY5 Validation Report for Head TSL**

Date/Time: 08.03.2010 10:52:27

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d094**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL900

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42.7$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.04, 6.04, 6.04); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

**Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement**

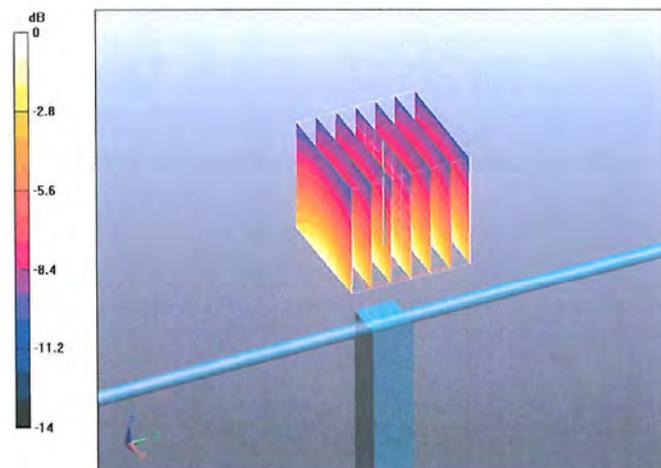
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.3 V/m; Power Drift = 0.00297 dB

Peak SAR (extrapolated) = 3.65 W/kg

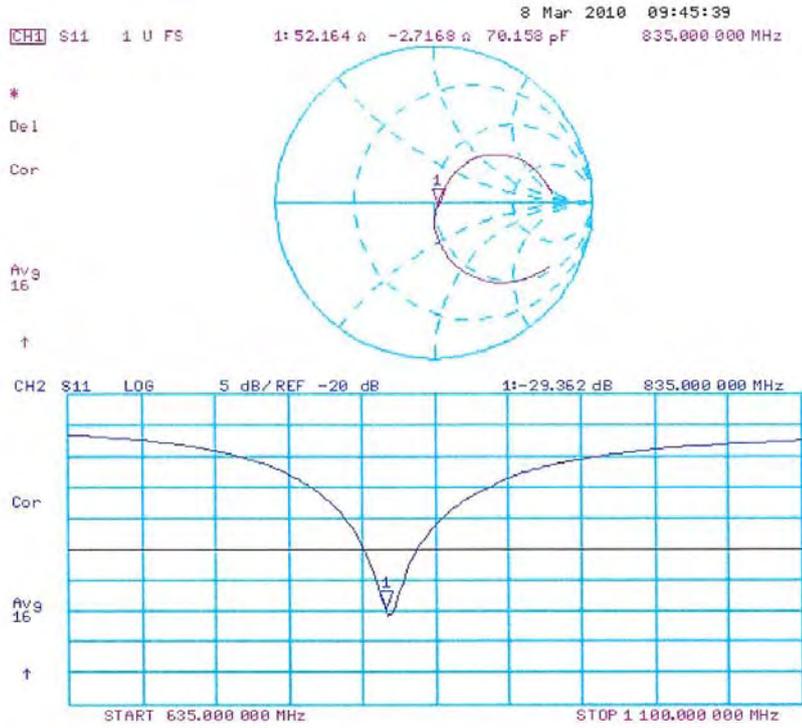
**SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.58 mW/g**

Maximum value of SAR (measured) = 2.84 mW/g



0 dB = 2.84mW/g

Impedance Measurement Plot for Head TSL



**DASY5 Validation Report for Body**

Date/Time: 15.03.2010 11:52:53

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d094**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL900

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 55.3$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.97, 5.97, 5.97); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

**Pin250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0:** Measurement

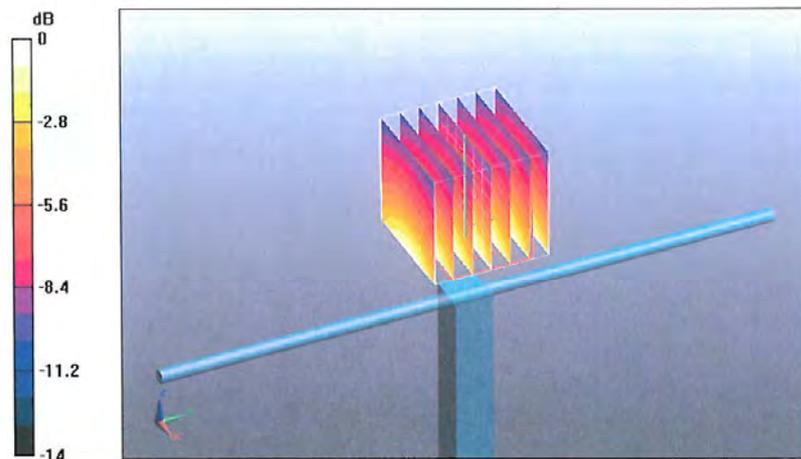
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.9 V/m; Power Drift = -0.00975 dB

Peak SAR (extrapolated) = 3.77 W/kg

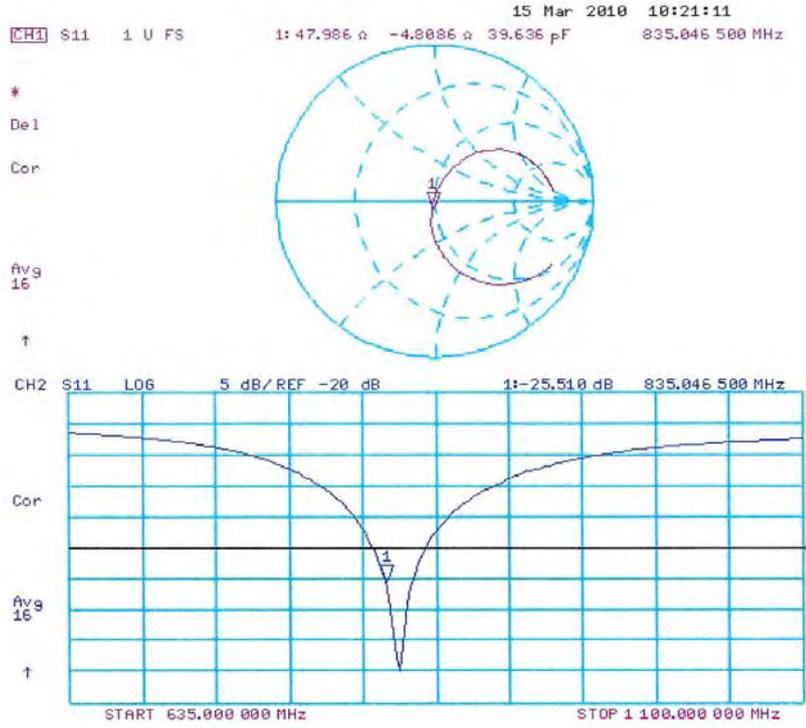
**SAR(1 g) = 2.55 mW/g; SAR(10 g) = 1.67 mW/g**

Maximum value of SAR (measured) = 2.98 mW/g



0 dB = 2.98mW/g

Impedance Measurement Plot for Body TSL



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Accreditation No.: **SCS 108**

Client **Quietek (Auden)**

Certificate No: **D1900V2-5d121\_Mar10**

## CALIBRATION CERTIFICATE

Object: **D1900V2 - SN: 5d121**

Calibration procedure(s): **QA CAL-05.v7**  
**Calibration procedure for dipole validation kits**

Calibration date: **March 23, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	02-Mar-10 (No. DAE4-601_Mar10)	Mar-11
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 23, 2010

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Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

**Glossary:**

TSL tissue simulating liquid  
 ConvF sensitivity in TSL / NORM x,y,z  
 N/A not applicable or not measured

**Calibration is Performed According to the Following Standards:**

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

**Additional Documentation:**

- d) DASY4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

**Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V5.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

**Head TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.1 ± 6 %	1.45 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C	----	-----

**SAR result with Head TSL**

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.1 mW / g
SAR normalized	normalized to 1W	40.4 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	<b>39.8 mW /g ± 17.0 % (k=2)</b>

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.30 mW / g
SAR normalized	normalized to 1W	21.2 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	<b>21.1 mW /g ± 16.5 % (k=2)</b>

**Body TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.9 ± 6 %	1.58 mho/m ± 6 %
Body TSL temperature during test	(21.5 ± 0.2) °C	----	----

**SAR result with Body TSL**

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.5 mW / g
SAR normalized	normalized to 1W	42.0 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	<b>41.4 mW / g ± 17.0 % (k=2)</b>

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.60 mW / g
SAR normalized	normalized to 1W	22.4 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	<b>22.3 mW / g ± 16.5 % (k=2)</b>

**Appendix**

**Antenna Parameters with Head TSL**

Impedance, transformed to feed point	50.6 $\Omega$ + 7.4 j $\Omega$
Return Loss	- 22.7 dB

**Antenna Parameters with Body TSL**

Impedance, transformed to feed point	46.1 $\Omega$ + 7.1 j $\Omega$
Return Loss	- 21.5 dB

**General Antenna Parameters and Design**

Electrical Delay (one direction)	1.205 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

**Additional EUT Data**

Manufactured by	SPEAG
Manufactured on	August 25, 2009

**DASY5 Validation Report for Head TSL**

Date/Time: 23.03.2010 12:23:06

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d121**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL U11 BB

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.45 \text{ mho/m}$ ;  $\epsilon_r = 41.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.09, 5.09, 5.09); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

**Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement**

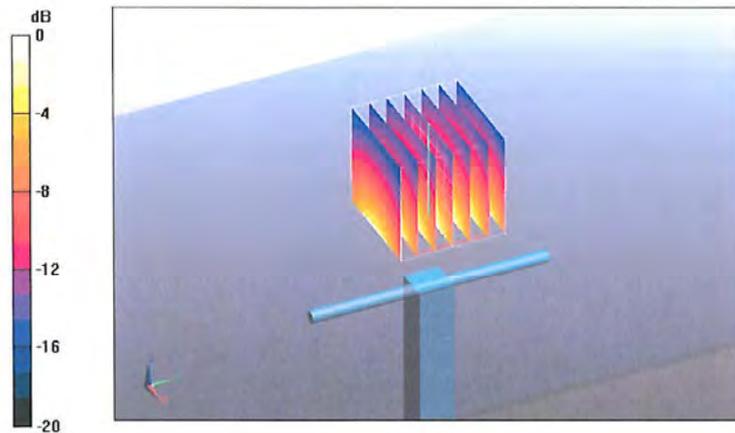
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.6 V/m; Power Drift = 0.00658 dB

Peak SAR (extrapolated) = 18.5 W/kg

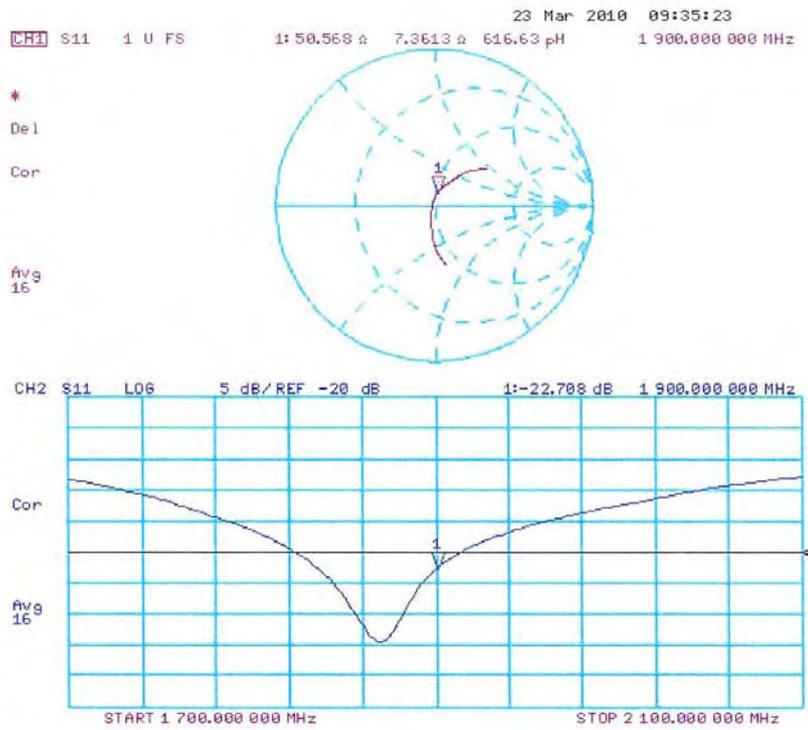
**SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.3 mW/g**

Maximum value of SAR (measured) = 12.8 mW/g



0 dB = 12.8mW/g

Impedance Measurement Plot for Head TSL



**DASY5 Validation Report for Body**

Date/Time: 17.03.2010 13:29:09

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d121**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL U11 BB

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.58 \text{ mho/m}$ ;  $\epsilon_r = 55$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.59, 4.59, 4.59); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

**Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement**

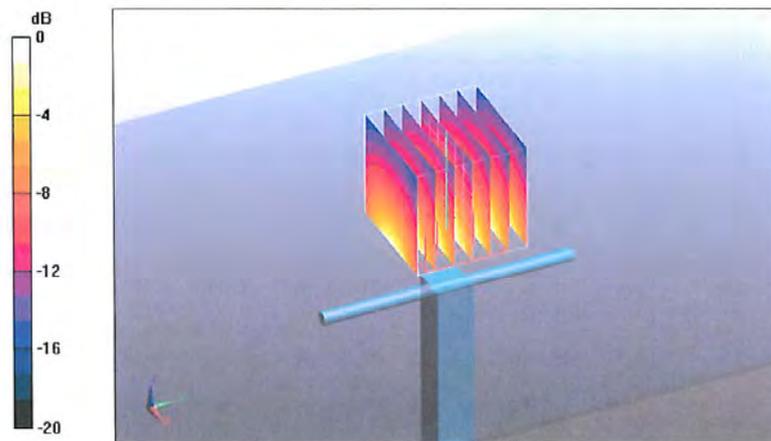
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97 V/m; Power Drift = 0.00345 dB

Peak SAR (extrapolated) = 17.6 W/kg

**SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.6 mW/g**

Maximum value of SAR (measured) = 13.3 mW/g



0 dB = 13.3mW/g

Impedance Measurement Plot for Body TSL

