SAR Test Report

Product Name : GSM MOBILE PHONE

Model No. : S-250

FCC ID : ZSHS-250

Applicant : SHENZHEN KENXINDA TECHNOLOGY CO.,LTD

Address : 18TH FLOOR, FUCHUN ORIENT BUILDING, SHENNAN AV 7006, FUTIAN, SHENZHEN, P.R.CHINA

Date of Receipt : 03/11/2011

Date of Test : 06/11/2011

Issued Date : 08/11/2011

Report No. : 11BS012R-HP-US-P03V01

Report Version : V1.1

Test Report Certification

Issued Date: 08/11/2011
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QuieTek

Product Name	:	GSM MOBILE PHONE
Applicant	:	SHENZHEN KENXINDA TECHNOLOGY CO.,LTD
Address	:	18TH FLOOR, FUCHUN ORIENT BUILDING, SHENNAN AV 7006, FUTIAN, SHENZHEN, P.R.CHINA
Manufacturer	:	SHENZHEN KENXINDA TECHNOLOGY CO., LTD BAO'AN BRANCH
Address	:	1-6 FLOOR, NO.105 WORK SHOP&1-5 FLOOR, NO.104 WORK SHOP, XINWEIHUANING ROAD, DALANG COMMUNITY, DALANG STREET, BAO'AN DISTRICT, SHENZHEN, P.R.CHINA
Model No.	:	S-250
FCC ID	:	ZSHS-250
Brand Name	:	SEFTON
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: 0.556 W/kg Body: 1.110 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
Documented By	:	Alice Ni (Engineering ADM: Alice Ni)
Reviewed By	:	Robin Wu (Engineering Supervisor: Robin Wu)
Approved By	:	Marlin chen (Engineering Manager: Marlin Chen)

Laboratory Information

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

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

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

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

NVLAP Lab Code : 200347-0 ilac-MRA TAF Testing Laboratory 1313

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

NVLAP Lab Code: 200533-0 ilac-MRA TAF Testing Laboratory 0914

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

NVLAP Lab Code : 200743-0 ilac-MRA TAF Testing Laboratory 1596

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Description **Page**

1. General Information

1.1. EUT Description

Product Name	GSM MOBILE PHONE
Model No.	S-250
Hardware Version	MP2.0
Software Version	PAC_6620_SL71_A36620_K082_M10_SL71_V011_LAN(A6)
Device Category	Portable
RF Exposure Environment	Uncontrolled
Antenna Type	Internal
2G	
Support Band	GSM850/PCS1900
GPRS Type	Class B
GPRS Class	Class 10
Tx Frequency Range	GSM 850: 824~849MHz PCS 1900: 1850~1910MHz
Rx Frequency Range	GSM 850: 869~894MHz PCS 1900: 1930~1990MHz
Release Version	R99
Type of modulation	GMSK for GSM/GPRS
Antenna Gain	1dBi
Bluetooth	
Bluetooth Frequency	2402~2480MHz
Type of modulation	FHSS
Data Rate	1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps (8DPSK)
Antenna Gain	1dBi
Components	
Headset Model Number	N/A
Battery	Brand name: KENXINDA Model No. N/A Voltage and Capacitance: DC 3.7V 900mAh
Adapter	Brand name: SEFTON Model No. HWT-2.5W-5050G Input: AC 100-240V 50/60Hz Output: DC 5.0V 500mAh
Max. Output Power	GSM850: 31.37 dBm

(Avg. Burst Power)	PCS1900: 26.87 dBm
Max. Output Power (Radiated)	GSM850: 30.25 dBm- ERP PCS1900: 28.56 dBm- EIRP

1.2. Test Procedure

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

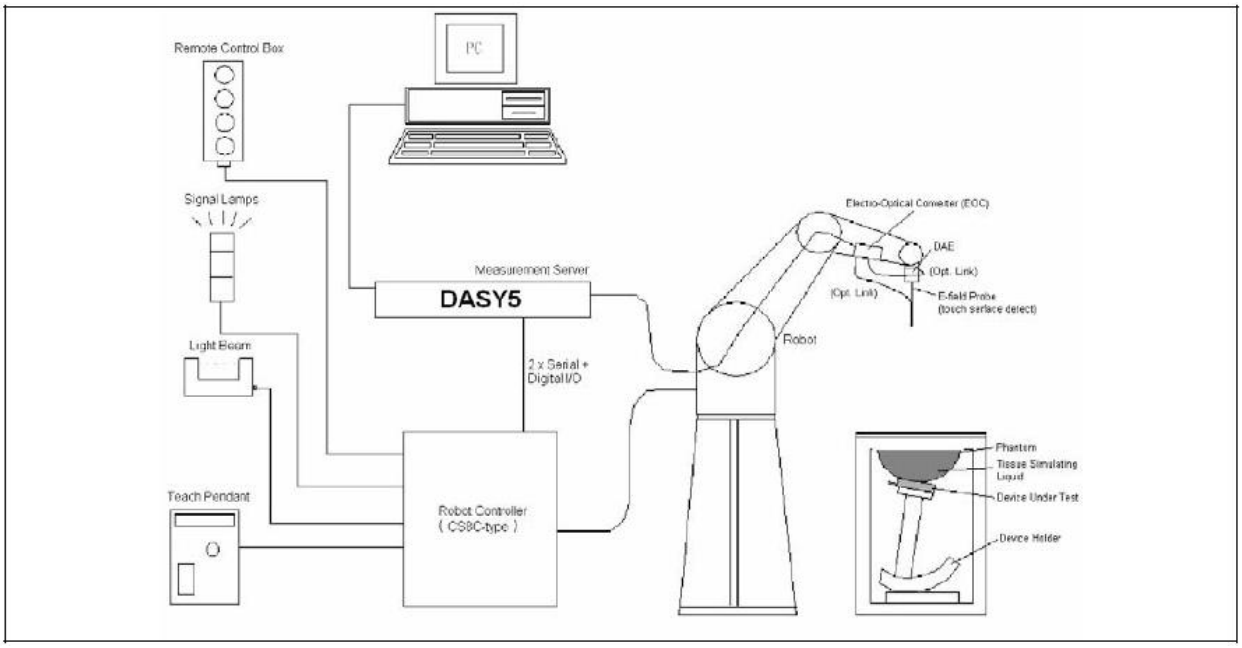
1.3. Test Environment

Ambient conditions in the laboratory:

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

2. SAR Measurement System

2.1. DASY5 System Description



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

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

2.1.1. Applications

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

2.1.2. Area Scans

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

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

2.1.3. Zoom Scan (Cube Scan Averaging)

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

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

2.1.4. Uncertainty of Inter-/Extrapolation and Averaging

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

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

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

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

2.2. DASY5 E-Field Probe

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

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

2.2.1. Isotropic E-Field Probe Specification

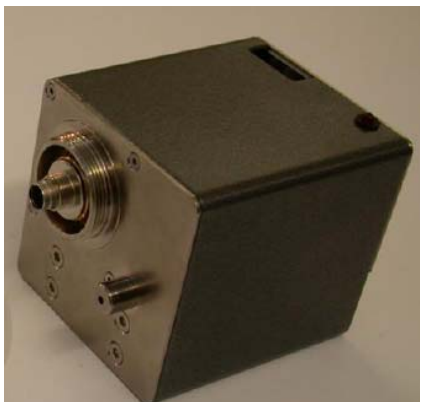
Model	EX3DV4	
Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ±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

2.3. Boundary Detection Unit and Probe Mounting Device

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

2.4. DATA Acquisition Electronics (DAE) and Measurement Server

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



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

2.5. Robot

The DASY5 system uses the high precision robots TX90 XL type out of the newer series from Stäubli SA (France). For the 6-axis controller DASY5 system, the CS8C robot controller version from Stäubli is used.
The XL robot series have many features that are important for our application:

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

2.6. Light Beam Unit

The light beam switch allows automatic "tooling" of the probe. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip.
The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

2.7. Device Holder

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

2.8. SAM Twin Phantom

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

- Left head
- Right head
- Flat phantom

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

3. Tissue Simulating Liquid

3.1. The composition of the tissue simulating liquid

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

3.2. Tissue Calibration Result

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

Head Tissue Simulant Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
835 MHz	Reference result ± 5% window	41.50 39.43 to 43.58	0.90 0.86 to 0.95	N/A
	06-11-2011	40.80	0.88	21.0

Body Tissue Simulant Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
835 MHz	Reference result ± 5% window	55.2 52.44 to 57.96	0.97 0.92 to 1.02	N/A
	06-11-2011	53.70	0.99	21.0

Head Tissue Simulant Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
1900 MHz	Reference result ± 5% window	40.0 38.00 to 42.00	1.40 1.33 to 1.47	N/A
	06-11-2011	38.70	1.47	21.0

Body Tissue Simulant Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
1900 MHz	Reference result ± 5% window	53.3 50.64 to 55.97	1.52 1.44 to 1.60	N/A
	06-11-2011	52.50	1.56	21.0

3.3. Tissue Dielectric Parameters for Head and Body Phantoms

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

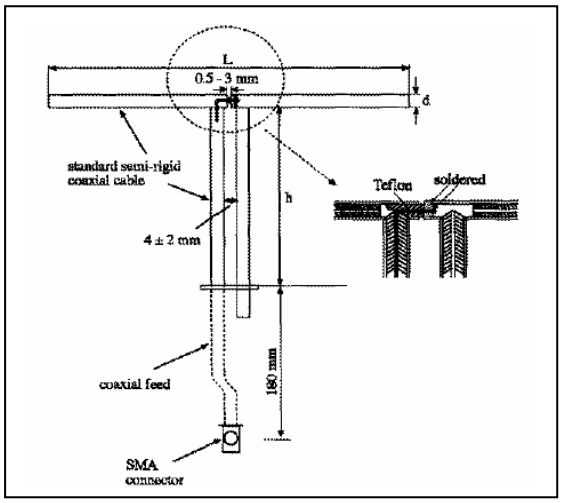
Target Frequency	Head		Body	
(MHz)	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	**41.5**	**0.90**	**55.2**	**0.97**
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	**40.0**	**1.40**	**53.3**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

(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

4. SAR Measurement Procedure

4.1. SAR System Validation

4.1.1. Validation Dipoles



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

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

4.1.2. Validation Result

System Performance Check at 835MHz &1900MHz for Head

Validation Kit: D835V2-SN 4d094

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
835 MHz	Reference result ± 10% window	9.70 8.73 to 10.67	6.30 5.67 to 6.93	N/A
	06-11-2011	9.92	6.48	21.0

Validation Kit: D1900V2-SN 5d121

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
1900 MHz	Reference result ± 10% window	39.8 35.82 to 43.78	21.1 18.99 to 23.21	N/A
	06-11-2011	42.40	21.76	21.0

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

System Performance Check at 835MHz &1900MHz for Body

Validation Kit: D835V2-SN 4d094

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
835 MHz	Reference result ± 10% window	9.90 8.91 to 10.89	6.53 5.88 to 7.18	N/A
	06-11-2011	9.88	6.40	21.0

Validation Kit: D1900V2-SN 5d121

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
1900 MHz	Reference result ± 10% window	41.4 37.26 to 45.54	22.3 20.07 to 24.53	N/A
	06-11-2011	42.80	21.72	21.0

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

4.2. SAR Measurement Procedure

The DASY5 calculates SAR using the following equation,

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

σ: represents the simulated tissue conductivity

ρ: represents the tissue density

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

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

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

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

5. SAR Exposure Limits

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

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

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

6. Test Equipment List

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

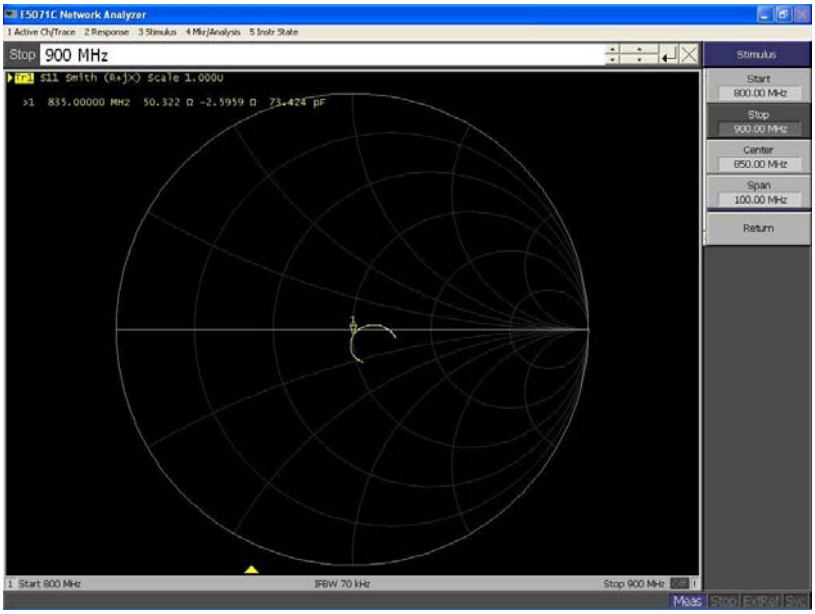
Note: Per KDB 450824 D02 requirements for dipole calibration, QuieTek Lab has adopted two years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

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

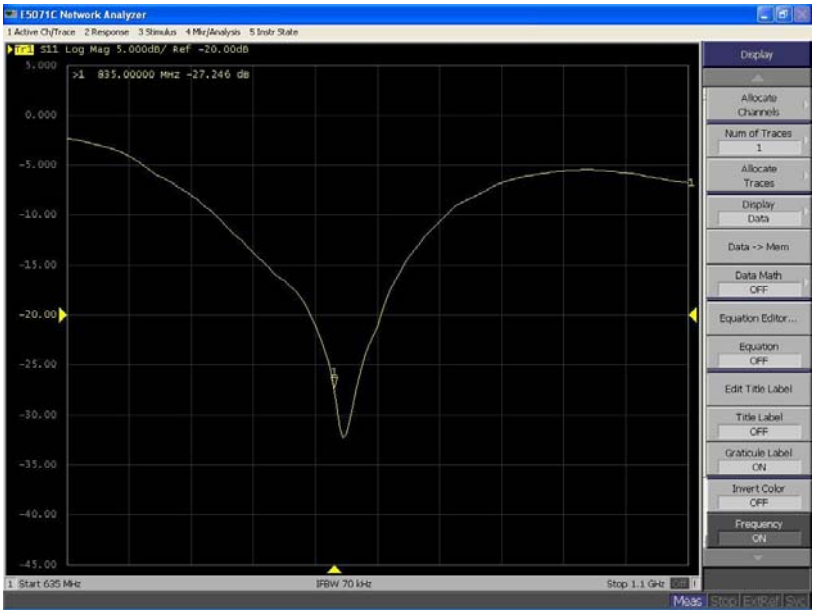
Impedance Plot for D835V2

835 Head

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

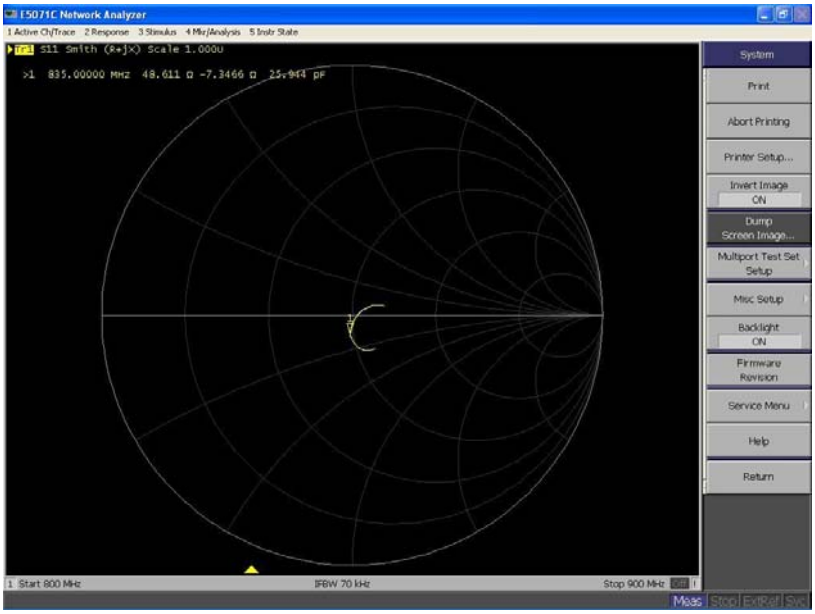


Calibrated return loss: -29.4 dB; Measured impedance: -27.246 dB (within 20%)

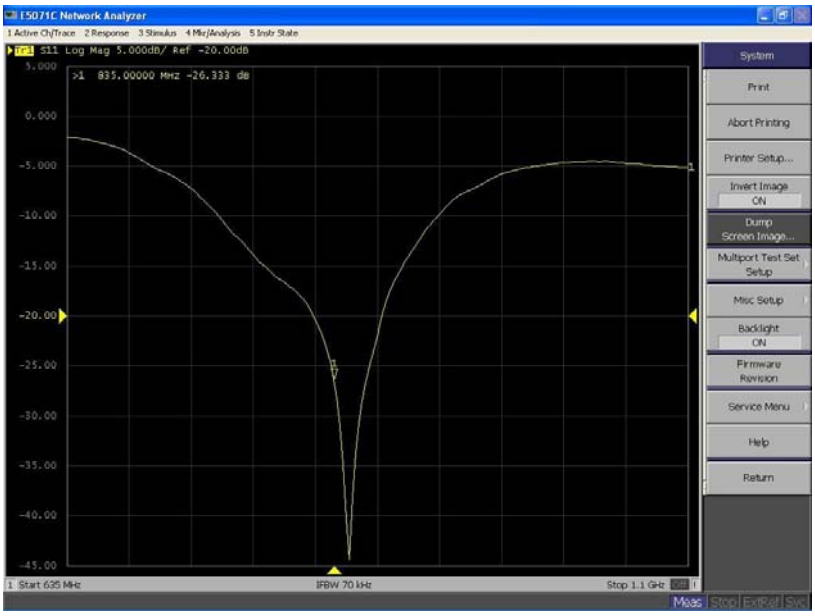


835 Body

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



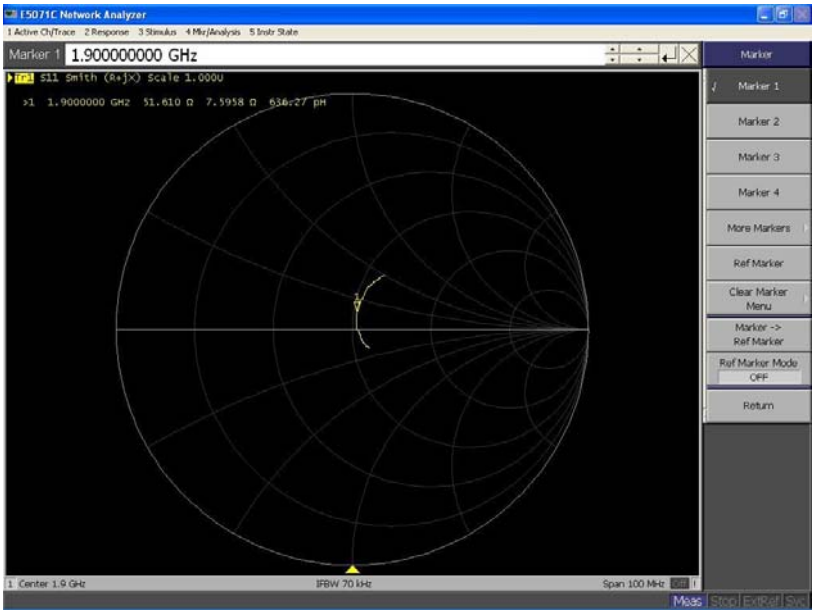
Calibrated return loss: -25.5 dB; Measured impedance: -26.333 dB (within 20%)



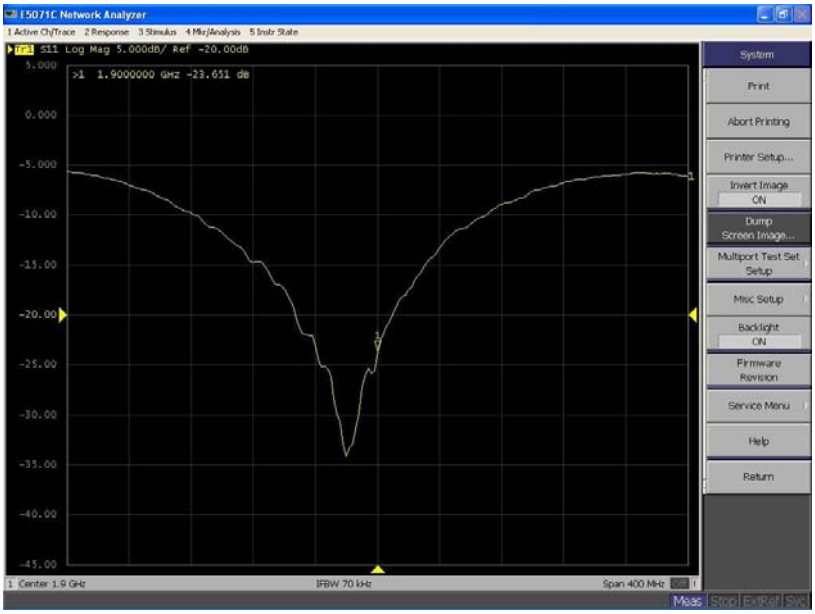
Impedance Plot for D1900V2

1900 Head

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

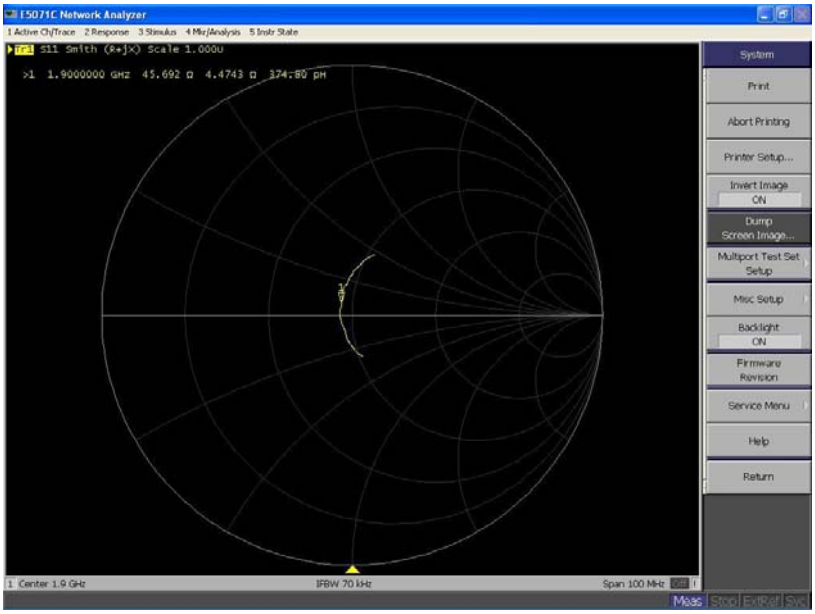


Calibrated return loss: -22.7 dB; Measured impedance: -23.651 dB (within 20%)

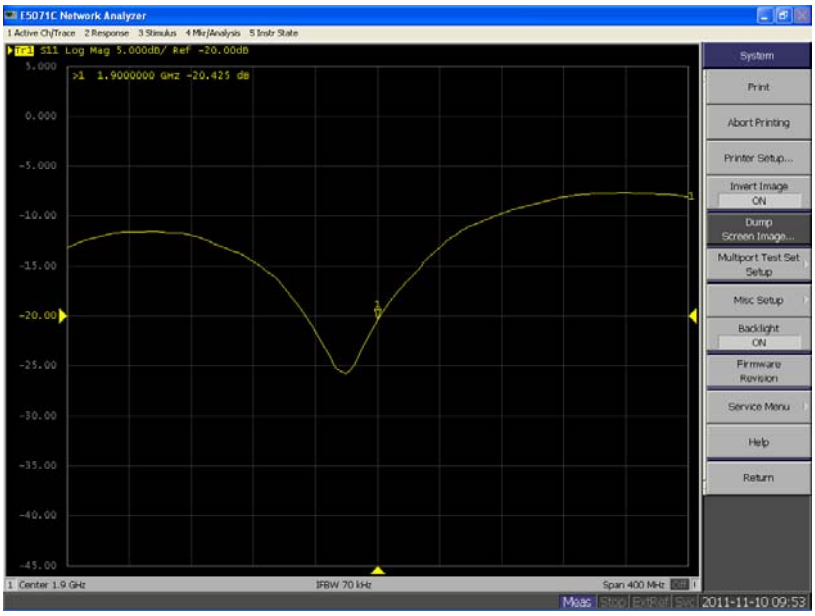


1900 Body

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



Calibrated return loss: -21.5 dB; Measured impedance: -20.425 dB (within 20%)



7. Measurement Uncertainty

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

8. Conducted Power Measurement

Mode	Frequency (MHz)	Avg. Burst Power (dBm)	Duty Cycle Factor (dB)	Frame Power (dBm)
Maximum Power <SIM 1>				
GSM850	824.2	31.25	-9	22.25
	836.4	31.37	-9	22.37
	848.6	31.28	-9	22.28
GPRS850(2 Slot)	824.2	30.69	-6	24.69
	836.4	30.70	-6	24.70
	848.6	30.62	-6	24.62
PCS1900	1850.2	26.87	-9	17.87
	1880.0	26.26	-9	17.26
	1909.8	26.09	-9	17.09
GPRS1900(2 Slot)	1850.2	27.27	-6	21.27
	1880.0	26.82	-6	20.82
	1909.8	26.58	-6	20.58
Maximum Power <SIM 2>				
GSM850	836.4	31.34	-9	22.34
PCS1900	1880.0	26.24	-9	17.24
Maximum Power <SIM 3>				
GSM850	836.4	31.31	-9	22.31
PCS1900	1880.0	26.22	-9	17.22

Note: All SAR testing was done in SIM 1.

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. This testing was performed with GPRS transmitting with 2 uplink timeslots. This operation mode represents the maximum SAR situation, when downloading data via GPRS and listening to music by headset. SAR without the headset attached was significantly higher than with the headset, and also was verified several times and confirmed, so the final test data shown were the worst case without 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. Operation Mode

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

9.1.4. Co-located SAR

According to KDB 648474, the closest separation between GSM antenna and BT antenna is 5mm, Bluetooth Max peak power is lower than pref and GSM SAR value is less than 1.2W/kg, thus, stand-alone SAR and simultaneous transmission SAR for Bluetooth is not required.
Other reference document: KDB 941225, KDB 447498.

9.1.5. Test Result

SAR MEASUREMENT							
Ambient Temperature (°C) : 21.5 ±2				Relative Humidity (%): 52			
Liquid Temperature (°C) : 21.0 ±2				Depth of Liquid (cm):>15			
Product: GSM MOBILE PHONE							
Test Mode: GSM850 <SIM 1>							
Test Position Head	Antenna Position	Frequency		Frame Power (dBm)	Power Drift (<±0.2)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz				
Left-Cheek	Fixed	128	824.2	22.25	--	--	1.6
Left-Cheek	Fixed	189	836.4	22.37	0.026	0.497	1.6
Left-Cheek	Fixed	251	848.6	22.28	--	--	1.6
Left-Tilted	Fixed	189	836.4	22.37	-0.166	0.341	1.6
Right-Cheek	Fixed	128	824.2	22.25	--	--	1.6
Right-Cheek	Fixed	189	836.4	22.37	0.115	**0.556**	1.6
Right-Cheek	Fixed	251	848.6	22.28	--	--	1.6
Right-Tilted	Fixed	189	836.4	22.37	-0.053	0.372	1.6
Test Mode: GSM850 <SIM 2>							
Right-Cheek	Fixed	189	836.4	22.34	0.070	0.552	1.6
Test Mode: GSM850 <SIM 3>							
Right-Cheek	Fixed	189	836.4	22.31	-0.071	0.541	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 941225.							

SAR MEASUREMENT

Ambient Temperature (°C) : 21.5 ±2	Relative Humidity (%): 52
Liquid Temperature (°C) : 21.0 ±2	Depth of Liquid (cm):>15
Product: GSM MOBILE PHONE	
Test Mode: GSM850	

Test Position Body	Antenna Position	Frequency		Separation Distance (mm)	Frame Power (dBm)	Power Drift (<±0.2)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz					
Body-worn	Fixed	128	824.2	15	22.25	--	--	1.6
Body-worn	Fixed	189	836.4	15	22.37	-0.179	0.540	1.6
Body-worn	Fixed	251	848.6	15	22.28	--	--	1.6
Test Mode: GPRS850 2slot								
Body-worn	Fixed	128	824.2	15	24.69	-0.108	0.671	1.6
Body-worn	Fixed	189	836.4	15	24.70	-0.186	0.916	1.6
Body-worn	Fixed	251	848.6	15	24.62	-0.102	**1.110**	1.6
Body-front	Fixed	189	836.4	15	24.70	-0.120	0.343	1.6
Body-worn (With Headset)	Fixed	189	836.4	15	24.70	-0.199	0.573	1.6

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

SAR MEASUREMENT

Ambient Temperature (°C) : 21.5 ±2	Relative Humidity (%): 52
Liquid Temperature (°C) : 21.0 ±2	Depth of Liquid (cm):>15
Product: GSM MOBILE PHONE	

Test Position Head	Antenna Position	Frequency		Frame Power (dBm)	Power Drift (<±0.2)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz				
Test Mode: PCS1900 <SIM 1>							
Left-Cheek	Fixed	512	1850.2	17.87	--	--	1.6
Left-Cheek	Fixed	661	1880.0	17.26	0.039	0.152	1.6
Left-Cheek	Fixed	810	1909.8	17.09	--	--	1.6
Left-Tilted	Fixed	661	1880.0	17.26	-0.110	0.175	1.6
Right-Cheek	Fixed	512	1850.2	17.87	--	--	1.6
Right-Cheek	Fixed	661	1880.0	17.26	0.007	0.204	1.6
Right-Cheek	Fixed	810	1909.8	17.09	--	--	1.6
Right-Tilted	Fixed	661	1880.0	17.26	-0.042	**0.267**	1.6
Test Mode: PCS1900 <SIM 2>							
Right-Tilted	Fixed	661	1880.0	17.24	-0.081	0.255	1.6
Test Mode: PCS1900 <SIM 3>							
Right-Tilted	Fixed	661	1880.0	17.22	-0.101	0.245	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 941225.							

SAR MEASUREMENT

Ambient Temperature (°C) : 21.5 ±2	Relative Humidity (%): 52
Liquid Temperature (°C) : 21.0 ±2	Depth of Liquid (cm):>15
Product: GSM MOBILE PHONE	
Test Mode: PCS1900	

Test Position Body	Antenna Position	Frequency		Separation Distance (mm)	Frame Power (dBm)	Power Drift (<±0.2)	SAR 1g (W/kg)	Limit (W/kg)
		Channel	MHz					
Body-worn	Fixed	512	1850.2	15	17.87	--	--	1.6
Body-worn	Fixed	661	1880.0	15	17.26	-0.089	0.177	1.6
Body-worn	Fixed	810	1909.8	15	17.09	--	--	1.6
Test Mode: GPRS1900 2slot								
Body-worn	Fixed	512	1850.2	15	21.27	--	--	1.6
Body-worn	Fixed	661	1880.0	15	20.82	-0.107	**0.302**	1.6
Body-worn	Fixed	810	1909.8	15	20.58	--	--	1.6
Body-front	Fixed	661	1880.0	15	20.82	-0.108	0.074	1.6
Body-worn (With Headset)	Fixed	661	1880.0	15	20.82	-0.101	0.280	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional, refer to KDB 941225.								

Appendix A. SAR System Validation Data

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

System Check Head 835MHz

DUT: Dipole 835 MHz D835V2; Type: D835V2

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

Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; εr = 40.8; ρ = 1000 kg/m^3 ;

Phantom section: Flat Section ; Input Power=250mW

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

DASY5 Configuration:

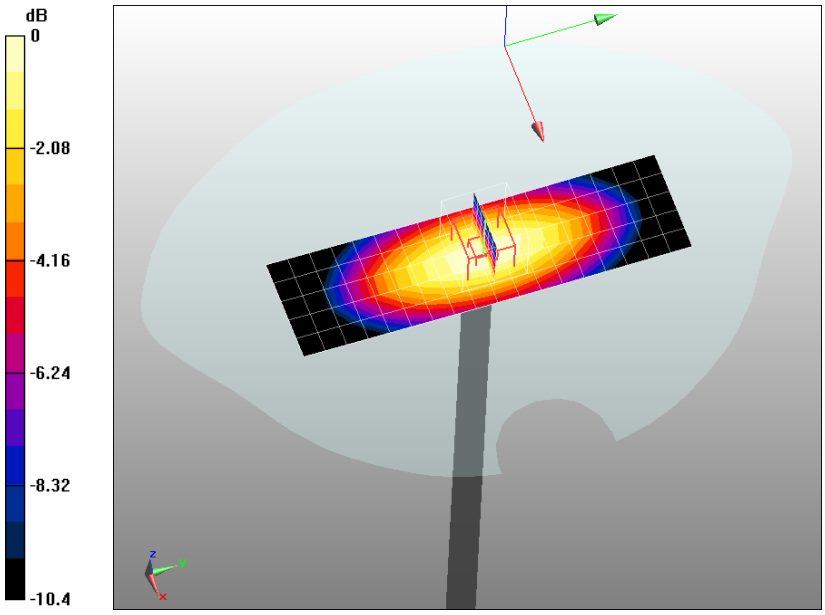
- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

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

Peak SAR (extrapolated) = 3.75 W/kg

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



0 dB = 2.68mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

System Check Body 835MHz

DUT: Dipole 835 MHz D835V2; Type: D835V2

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

Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; εr = 53.7; ρ = 1000 kg/m³ ;

Phantom section: Flat Section ; Input Power=250mW

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

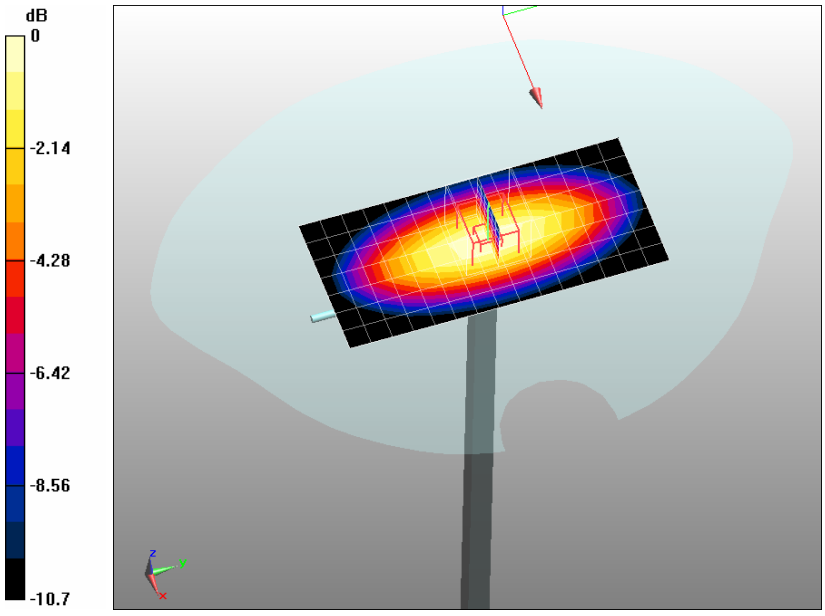
Configuration/System Check GSM835 Body/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm

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

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

Peak SAR (extrapolated) = 3.76 W/kg

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



0 dB = 2.67mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

System Check Head 1900MHz

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

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

Frequency: 1900 MHz; Medium parameters used: f = 1900 MHz; σ = 1.47 mho/m; εr = 38.7; ρ = 1000 kg/m^3 ;

Phantom section: Flat Section ; Input Power=250mW

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

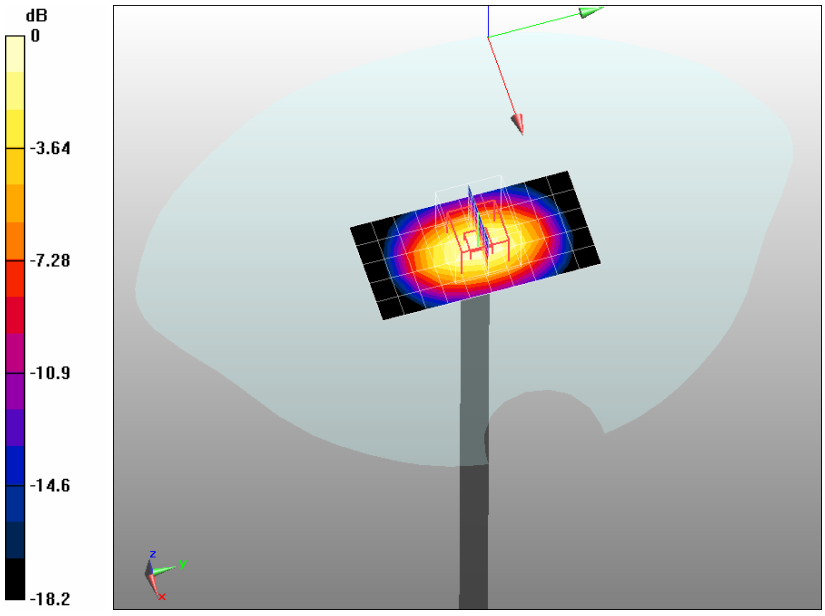
Configuration/System Check PCS1900 Head/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm

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

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

Peak SAR (extrapolated) = 20 W/kg

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



0 dB = 12mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

System Check Body 1900MHz

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2

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

Frequency: 1900 MHz; Medium parameters used: f = 1900 MHz; σ = 1.56 mho/m; εr = 52.5; ρ = 1000 kg/m^3 ;

Phantom section: Flat Section ; Input Power=250mW

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

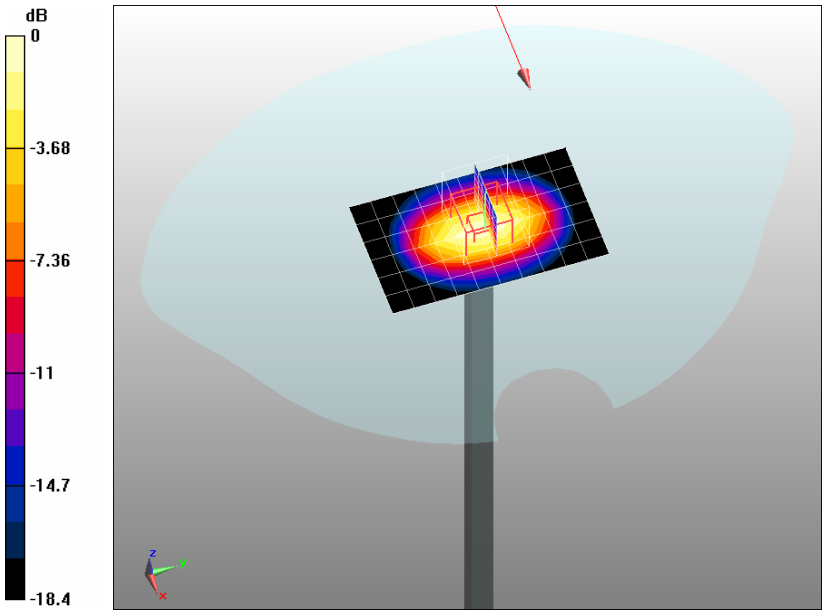
Configuration/System Check PCS1900 Body/Area Scan (7x11x1): Measurement grid: dx=10mm, dy=10mm

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

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

Peak SAR (extrapolated) = 19.8 W/kg

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



0 dB = 12.1mW/g

Appendix B. SAR measurement Data

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GSM850 Mid Touch-Left

DUT: GSM Mobile Phone ; Type: S-250

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; σ = 0.89 mho/m; εr = 40.8; ρ = 1000 kg/m³ ; Phantom section: Left Section

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

DASY5 Configuration:

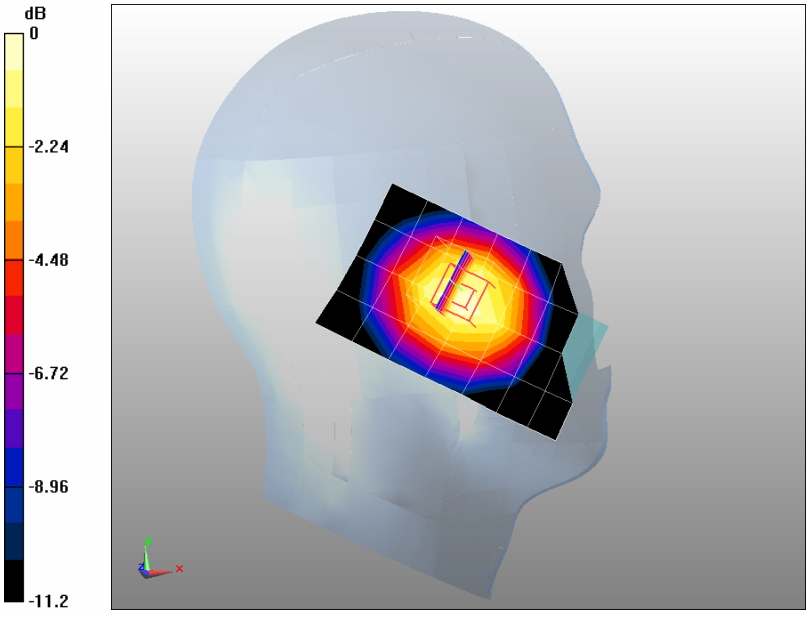
- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GSM850 Mid Touch-Left/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.519 mW/g

Configuration/GSM850 Mid Touch-Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 16 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 0.663 W/kg

SAR(1 g) = 0.497 mW/g; SAR(10 g) = 0.350 mW/g Maximum value of SAR (measured) = 0.521 mW/g



0 dB = 0.521mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GSM850 Mid Tilt-Left

DUT: GSM Mobile Phone ; Type: S-250

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; σ = 0.89 mho/m; εr = 40.8; ρ = 1000 kg/m³ ; Phantom section: Left Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

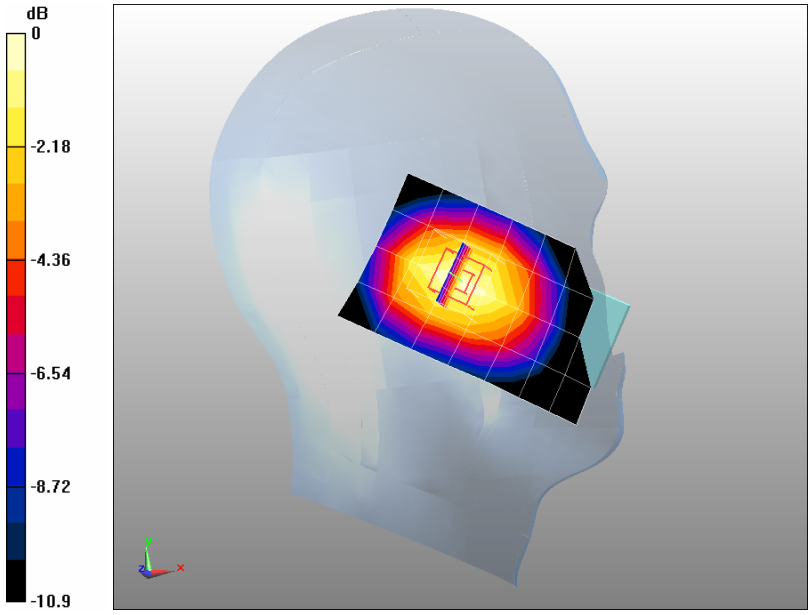
Configuration/GSM850 Mid Tilt-Left/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (measured) = 0.361 mW/g

Configuration/GSM850 Mid Tilt-Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 18.3 V/m; Power Drift = -0.166 dB

Peak SAR (extrapolated) = 0.464 W/kg

SAR(1 g) = 0.341 mW/g; SAR(10 g) = 0.238 mW/g Maximum value of SAR (measured) = 0.363 mW/g



0 dB = 0.363mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GSM850 Mid Touch-Right

DUT: GSM Mobile Phone ; Type: S-250

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; σ = 0.89 mho/m; εr = 40.8; ρ = 1000 kg/m³ ; Phantom section: Right Section

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

DASY5 Configuration:

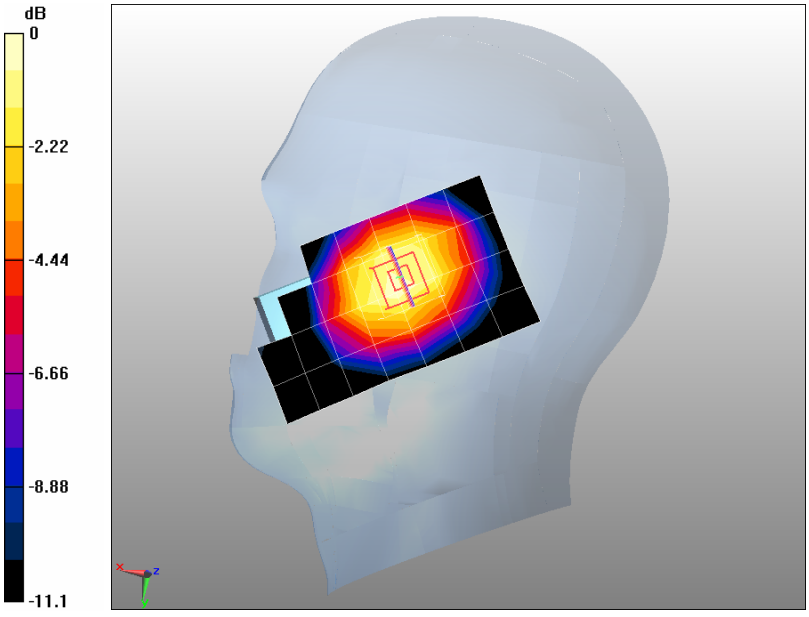
- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GSM850 Mid Touch-Right/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.565 mW/g

Configuration/GSM850 Mid Touch-Right/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 16.8 V/m; Power Drift = 0.115 dB

Peak SAR (extrapolated) = 0.765 W/kg

SAR(1 g) = 0.556 mW/g; SAR(10 g) = 0.389 mW/g Maximum value of SAR (measured) = 0.590 mW/g



0 dB = 0.590mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GSM850 Mid Tilt-Right

DUT: GSM Mobile Phone ; Type: S-250

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; σ = 0.89 mho/m; εr = 40.8; ρ = 1000 kg/m³ ; Phantom section: Right Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

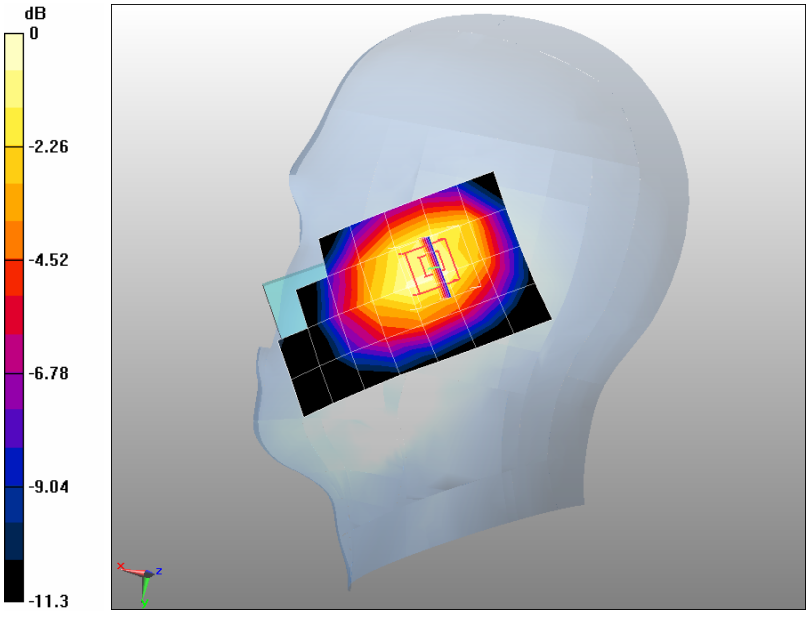
Configuration/GSM850 Mid Tilt-Right/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (measured) = 0.351 mW/g

Configuration/GSM850 Mid Tilt-Right/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 17 V/m; Power Drift = -0.053 dB

Peak SAR (extrapolated) = 0.553 W/kg

SAR(1 g) = 0.372 mW/g; SAR(10 g) = 0.255 mW/g Maximum value of SAR (measured) = 0.396 mW/g



0 dB = 0.396mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GSM850 Mid Touch-Right <SIM 2>

DUT: GSM Mobile Phone ; Type: S-250

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

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

DASY5 Configuration:

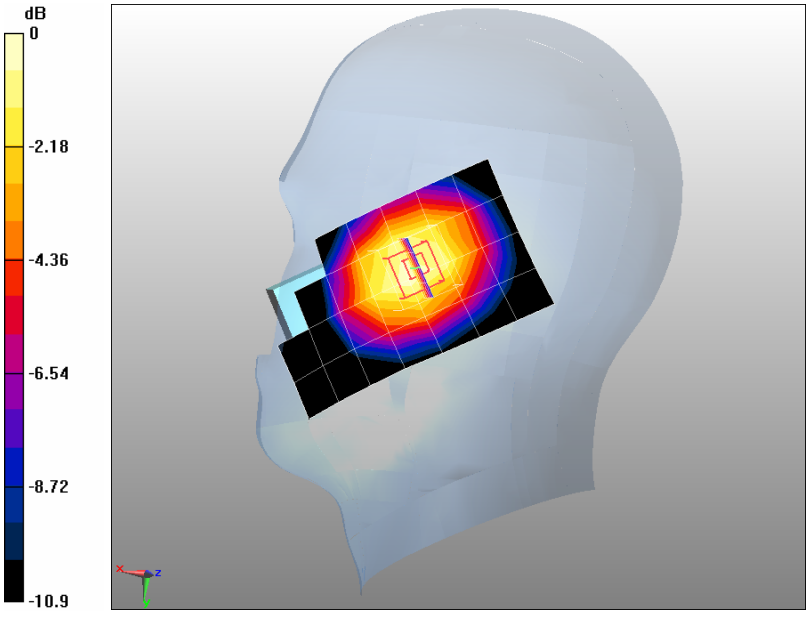
- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GSM850 Mid Touch-Right/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.562 mW/g

Configuration/GSM850 Mid Touch-Right/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 17.7 V/m; Power Drift = 0.070 dB

Peak SAR (extrapolated) = 0.763 W/kg

SAR(1 g) = 0.552 mW/g; SAR(10 g) = 0.387 mW/g Maximum value of SAR (measured) = 0.582 mW/g



0 dB = 0.582mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GSM850 Mid Touch-Right <SIM 3>

DUT: GSM Mobile Phone ; Type: S-250

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; σ = 0.89 mho/m; εr = 40.8; ρ = 1000 kg/m³ ; Phantom section: Right Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.843, 4.303, 4.435); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

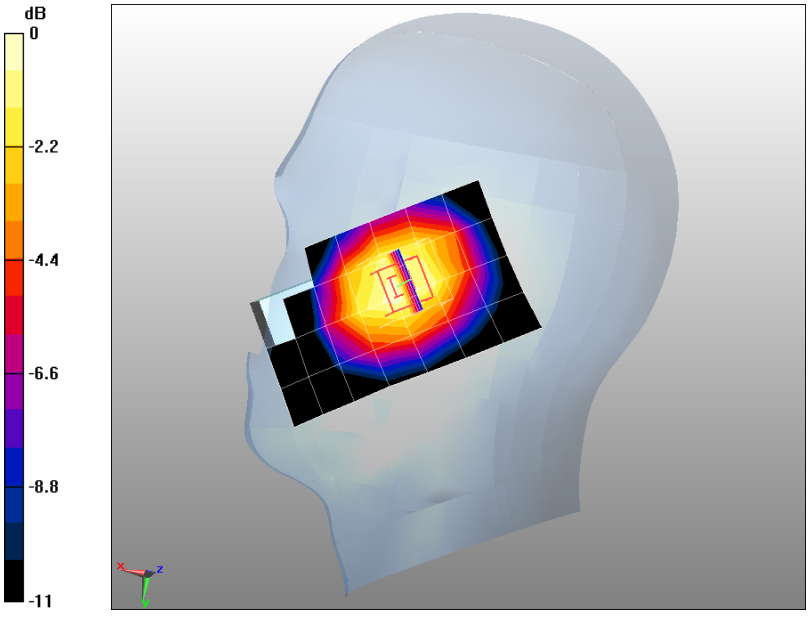
Configuration/GSM850 Mid Touch-Right/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (measured) = 0.555 mW/g

Configuration/GSM850 Mid Touch-Right/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 17.5 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 0.743 W/kg

SAR(1 g) = 0.541 mW/g; SAR(10 g) = 0.380 mW/g Maximum value of SAR (measured) = 0.571 mW/g



0 dB = 0.571mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GSM850 Mid Body-Back

DUT: GSM Mobile Phone ; Type: S-250

Communication System: Generic GSM; Communication System Band: GSM 850 (824.0 - 849.0 MHz); Duty Cycle: 1:8.3; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; σ = 0.99 mho/m; εr = 53.7; ρ = 1000 kg/m³ ; Phantom section: Flat Section

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

DASY5 Configuration:

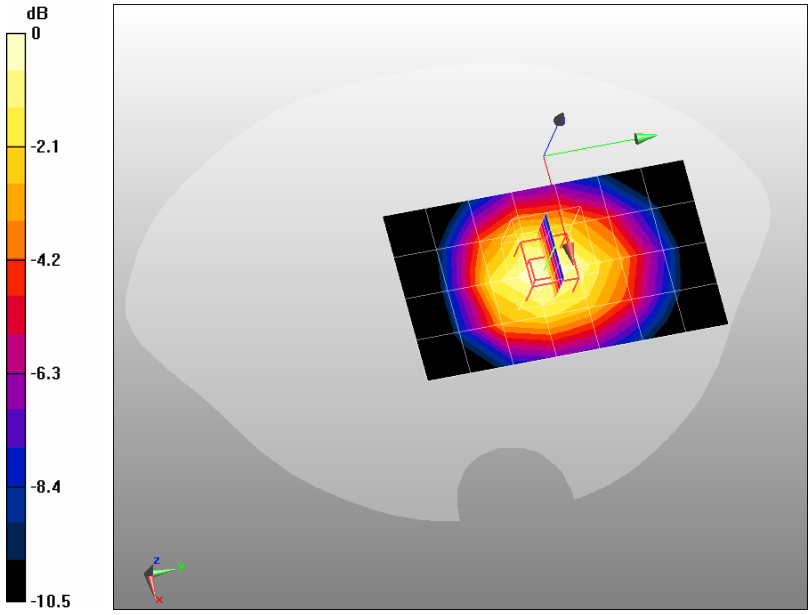
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GSM850 Mid Body-Back/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.576 mW/g

Configuration/GSM850 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 12 V/m; Power Drift = -0.179 dB

Peak SAR (extrapolated) = 0.732 W/kg

SAR(1 g) = 0.540 mW/g; SAR(10 g) = 0.379 mW/g Maximum value of SAR (measured) = 0.572 mW/g



0 dB = 0.572mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GPRS850 Low Body-Back(2up)

DUT: GSM Mobile Phone ; Type: S-250

Communication System: GPRS/EGPRS-2 Slot; Communication System Band: GSM850; Duty Cycle: 1:4.2 ; Frequency: 824.2 MHz; Medium parameters used: f = 824.2 MHz; σ = 0.98 mho/m; εr = 53.8; ρ = 1000 kg/m³ ; Phantom section: Flat Section

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

DASY5 Configuration:

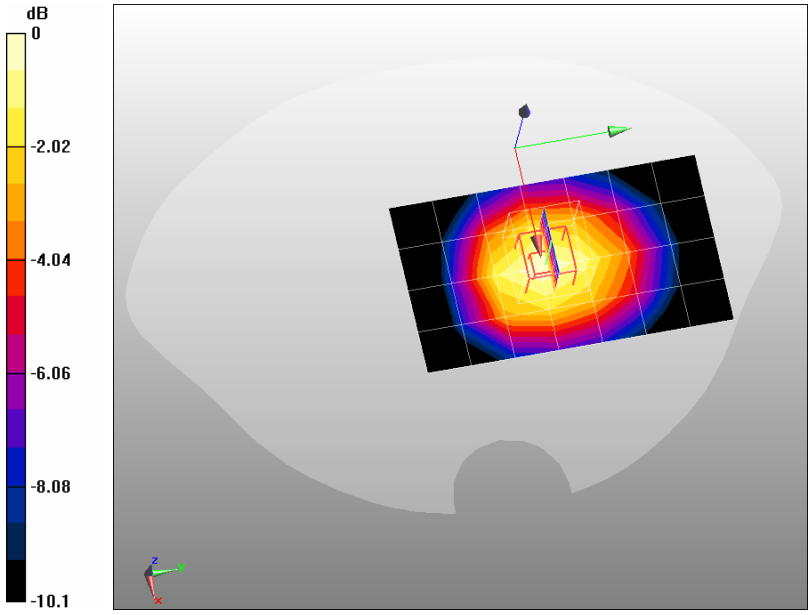
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GPRS850 Low Body-Back/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.709 mW/g

Configuration/GPRS850 Low Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 15 V/m; Power Drift = -0.108 dB

Peak SAR (extrapolated) = 0.916 W/kg

SAR(1 g) = 0.671 mW/g; SAR(10 g) = 0.471 mW/g Maximum value of SAR (measured) = 0.712 mW/g



0 dB = 0.712mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GPRS850 Mid Body-Back(2up)

DUT: GSM Mobile Phone ; Type: S-250

Communication System: GPRS/EGPRS-2 Slot; Communication System Band: GSM850; Duty Cycle: 1:4.2 ; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; σ = 0.99 mho/m; εr = 53.7; ρ = 1000 kg/m³ ; Phantom section: Flat Section

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

DASY5 Configuration:

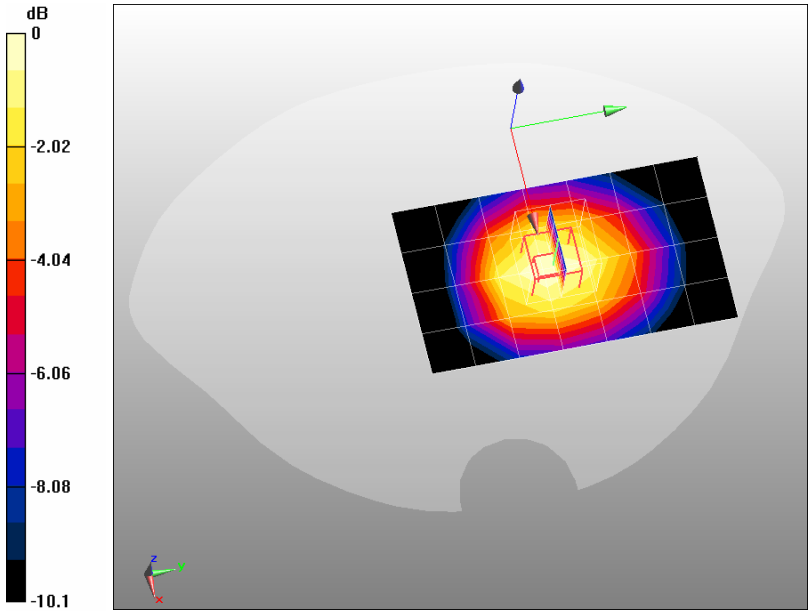
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GPRS850 Mid Body-Back/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 1.01 mW/g

Configuration/GPRS850 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 17.7 V/m; Power Drift = -0.186 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.916 mW/g; SAR(10 g) = 0.644 mW/g Maximum value of SAR (measured) = 0.964 mW/g



0 dB = 0.964mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GPRS850 High Body-Back(2up)

DUT: GSM Mobile Phone ; Type: S-250

Communication System: GPRS/EGPRS-2 Slot; Communication System Band: GSM850; Duty Cycle: 1:4.2 ; Frequency: 848.6 MHz; Medium parameters used: f = 848.6 MHz; σ = 1 mho/m; εr = 53.6; ρ = 1000 kg/m^3 ; Phantom section: Flat Section

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

DASY5 Configuration:

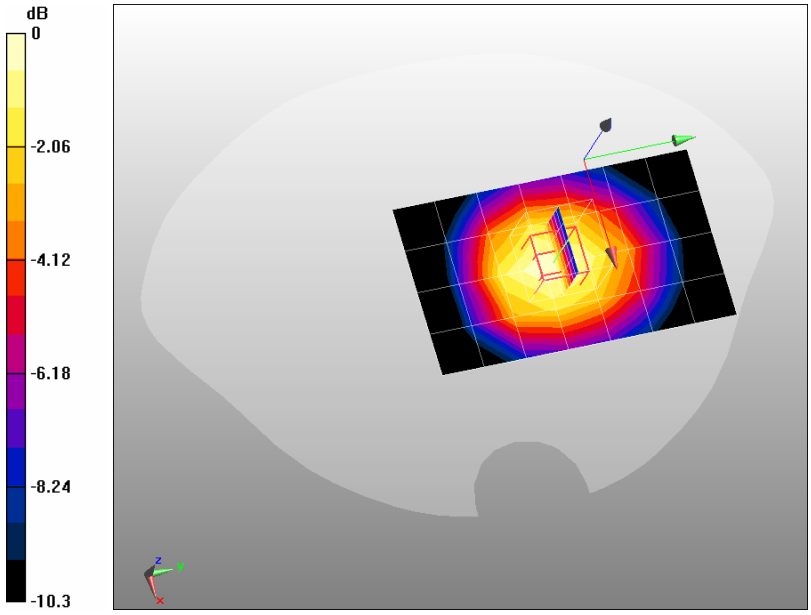
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GPRS850 High Body-Back/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 1.19 mW/g

Configuration/GPRS850 High Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 18.8 V/m; Power Drift = -0.102 dB

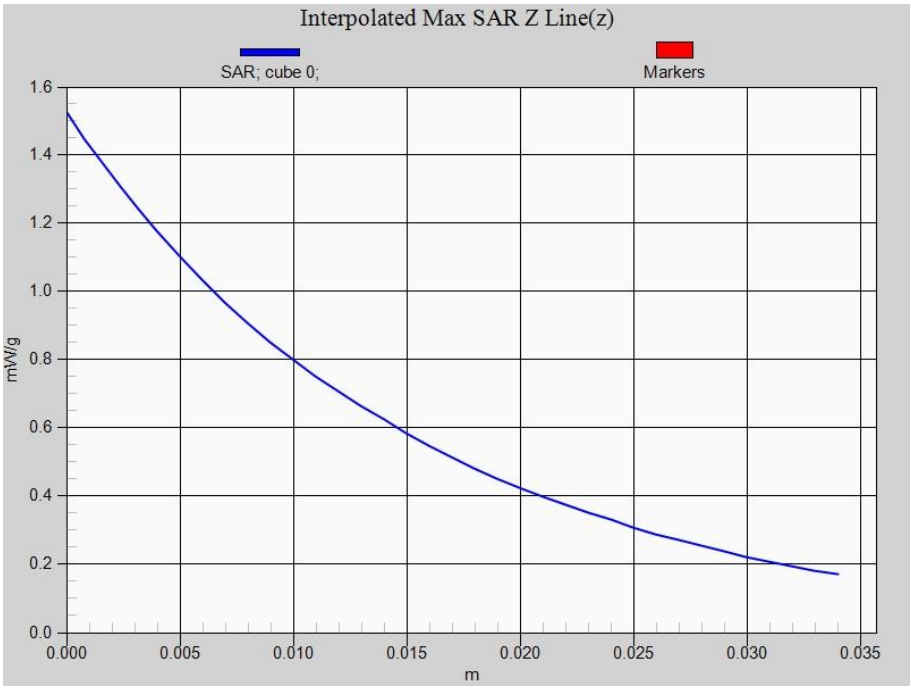
Peak SAR (extrapolated) = 1.52 W/kg

SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.776 mW/g Maximum value of SAR (measured) = 1.17 mW/g



0 dB = 1.17mW/g

Z-Axis Plot


Interpolated Max SAR Z Line(z)
SAR; cube 0;
Markers
mW/g
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
m

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GPRS850 Mid Body-Front(2up)

DUT: GSM Mobile Phone ; Type: S-250

Communication System: GPRS/EGPRS-2 Slot; Communication System Band: GSM850; Duty Cycle: 1:4.2 ; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; σ = 0.99 mho/m; εr = 53.7; ρ = 1000 kg/m³ ; Phantom section: Flat Section

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

DASY5 Configuration:

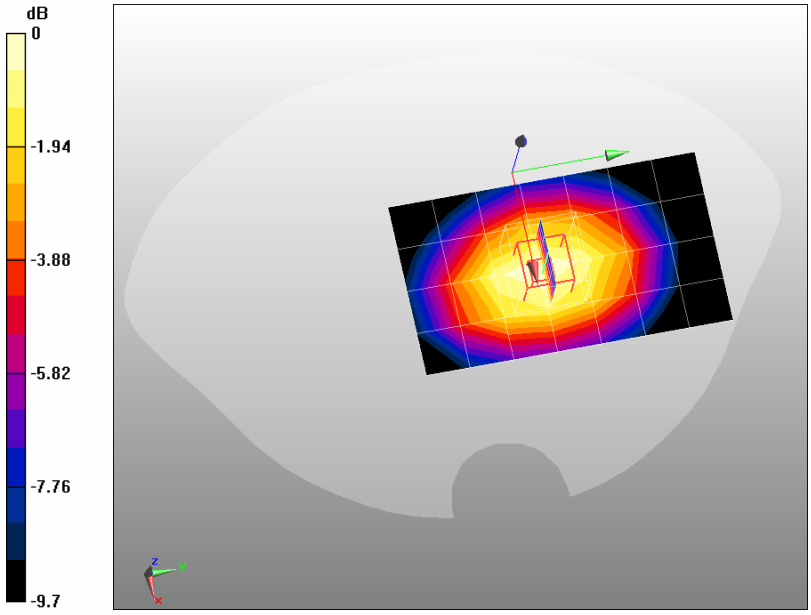
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GPRS850 Mid Body-Front/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (measured) = 0.368 mW/g

Configuration/GPRS850 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 14.1 V/m; Power Drift = -0.120 dB

Peak SAR (extrapolated) = 0.461 W/kg

SAR(1 g) = 0.343 mW/g; SAR(10 g) = 0.243 mW/g Maximum value of SAR (measured) = 0.364 mW/g



0 dB = 0.364mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GPRS850 Mid Body-Back(2up)(with headset)

DUT: GSM Mobile Phone ; Type: S-250

Communication System: GPRS/EGPRS-2 Slot; Communication System Band: GSM850; Duty Cycle: 1:4.2 ; Frequency: 836.4 MHz; Medium parameters used: f = 836.4 MHz; σ = 0.99 mho/m; εr = 53.7; ρ = 1000 kg/m³ ; Phantom section: Flat Section

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

DASY5 Configuration:

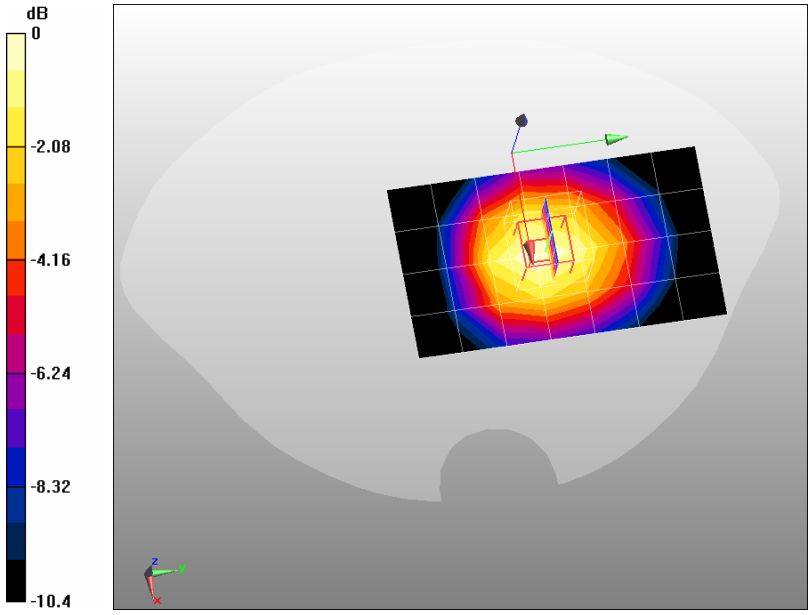
- Probe: EX3DV4 - SN3710; ConvF(4.438, 4.985, 5.123); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM2; Type: SAM; Serial: TP1562
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GPRS850 Mid Body-Back/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.619 mW/g

Configuration/GPRS850 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 13.2 V/m; Power Drift = -0.199 dB

Peak SAR (extrapolated) = 0.795 W/kg

SAR(1 g) = 0.573 mW/g; SAR(10 g) = 0.399 mW/g Maximum value of SAR (measured) = 0.604 mW/g



0 dB = 0.604mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

PCS1900 Mid Touch-Left

DUT: GSM Mobile Phone; Type: S-250

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; σ = 1.45 mho/m; εr = 38.8; ρ = 1000 kg/m³ ; Phantom section: Left Section

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

DASY5 Configuration:

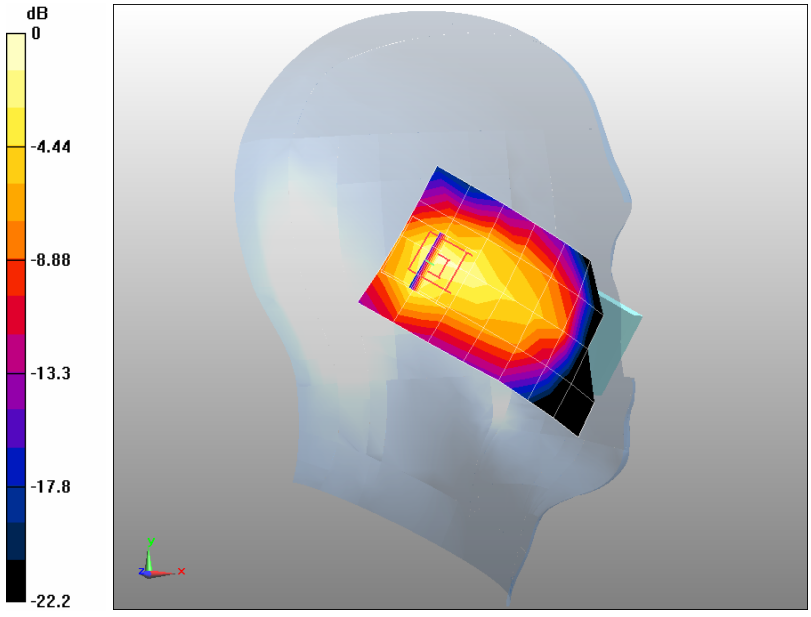
- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/PCS1900 Mid Touch-Left/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.148 mW/g

Configuration/PCS1900 Mid Touch-Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 10.6 V/m; Power Drift = 0.039 dB

Peak SAR (extrapolated) = 0.279 W/kg

SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.082 mW/g Maximum value of SAR (measured) = 0.169 mW/g



0 dB = 0.169mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

PCS1900 Mid Tilt-Left

DUT: GSM Mobile Phone; Type: S-250

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; σ = 1.45 mho/m; εr = 38.8; ρ = 1000 kg/m³ ; Phantom section: Left Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

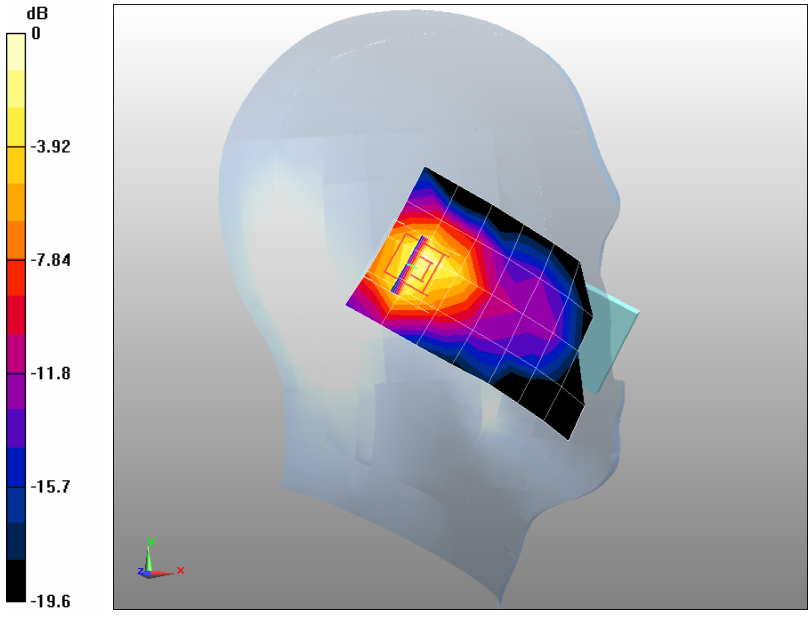
Configuration/PCS1900 Mid Tilt-Left/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (measured) = 0.169 mW/g

Configuration/PCS1900 Mid Tilt-Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 11 V/m; Power Drift = -0.110 dB

Peak SAR (extrapolated) = 0.319 W/kg

SAR(1 g) = 0.175 mW/g; SAR(10 g) = 0.092 mW/g Maximum value of SAR (measured) = 0.197 mW/g



0 dB = 0.197mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

PCS1900 Mid Touch-Right

DUT: GSM Mobile Phone; Type: S-250

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; σ = 1.45 mho/m; εr = 38.8; ρ = 1000 kg/m³ ; Phantom section: Right Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

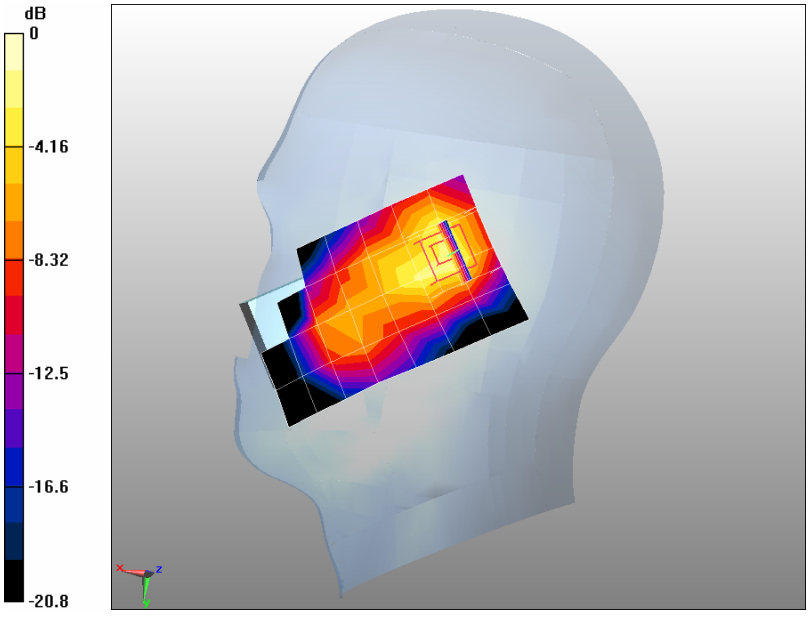
Configuration/PCS1900 Mid Touch-Right/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (measured) = 0.162 mW/g

Configuration/PCS1900 Mid Touch-Right/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 11.3 V/m; Power Drift = 0.007 dB

Peak SAR (extrapolated) = 0.419 W/kg

SAR(1 g) = 0.204 mW/g; SAR(10 g) = 0.102 mW/g Maximum value of SAR (measured) = 0.218 mW/g



0 dB = 0.218mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

PCS1900 Mid Tilt-Right

DUT: GSM Mobile Phone; Type: S-250

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; σ = 1.45 mho/m; εr = 38.8; ρ = 1000 kg/m³ ; Phantom section: Right Section

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

DASY5 Configuration:

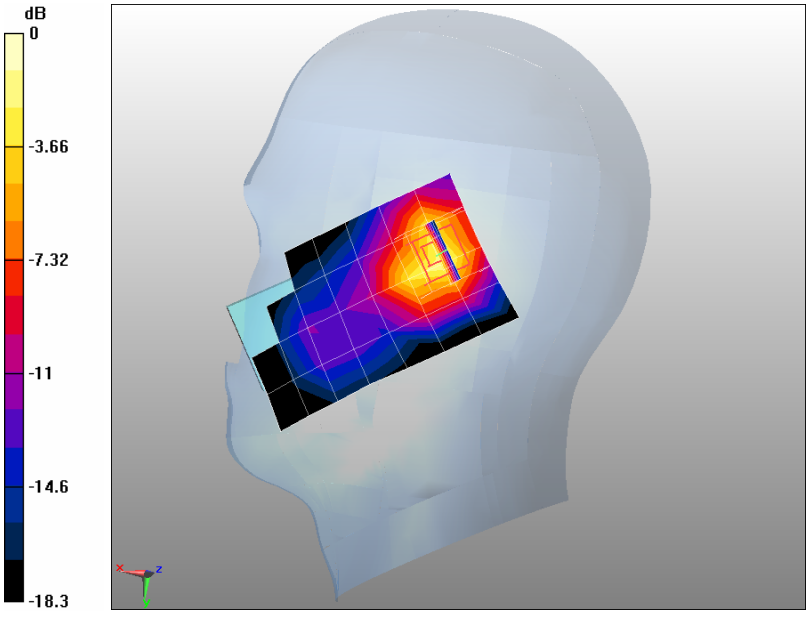
- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/PCS1900 Mid Tilt-Right/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.229 mW/g

Configuration/PCS1900 Mid Tilt-Right/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 13.4 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.532 W/kg

SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.134 mW/g Maximum value of SAR (measured) = 0.296 mW/g



0 dB = 0.296mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

PCS1900 Mid Tilt-Right <SIM 2>

DUT: GSM Mobile Phone; Type: S-250

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; σ = 1.45 mho/m; εr = 38.8; ρ = 1000 kg/m³ ; Phantom section: Right Section

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

DASY5 Configuration:

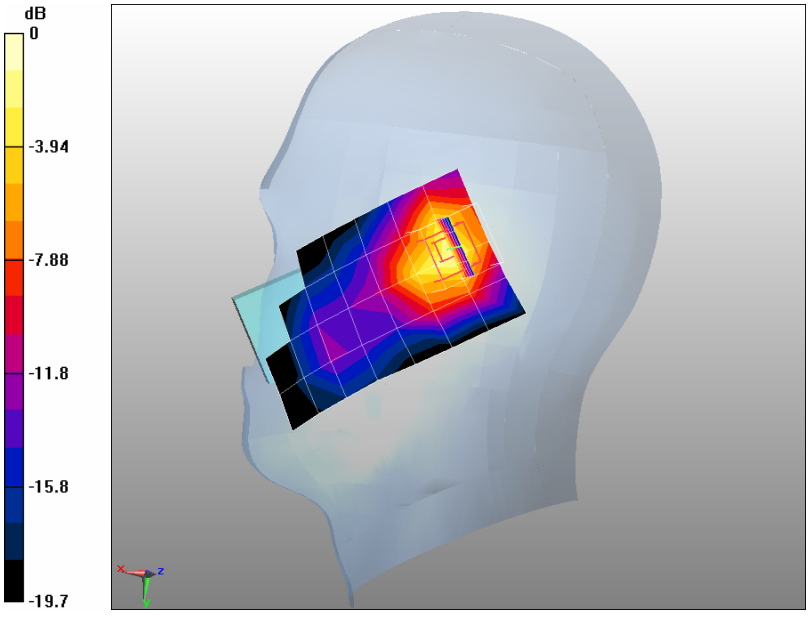
- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/PCS1900 Mid Tilt-Right/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.238 mW/g

Configuration/PCS1900 Mid Tilt-Right/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 13.2 V/m; Power Drift = -0.081 dB

Peak SAR (extrapolated) = 0.503 W/kg

SAR(1 g) = 0.255 mW/g; SAR(10 g) = 0.129 mW/g Maximum value of SAR (measured) = 0.285 mW/g



0 dB = 0.285mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

PCS1900 Mid Tilt-Right <SIM 3>

DUT: GSM Mobile Phone; Type: S-250

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; σ = 1.45 mho/m; εr = 38.8; ρ = 1000 kg/m³ ; Phantom section: Right Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3710; ConvF(3.609, 4.015, 4.146); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

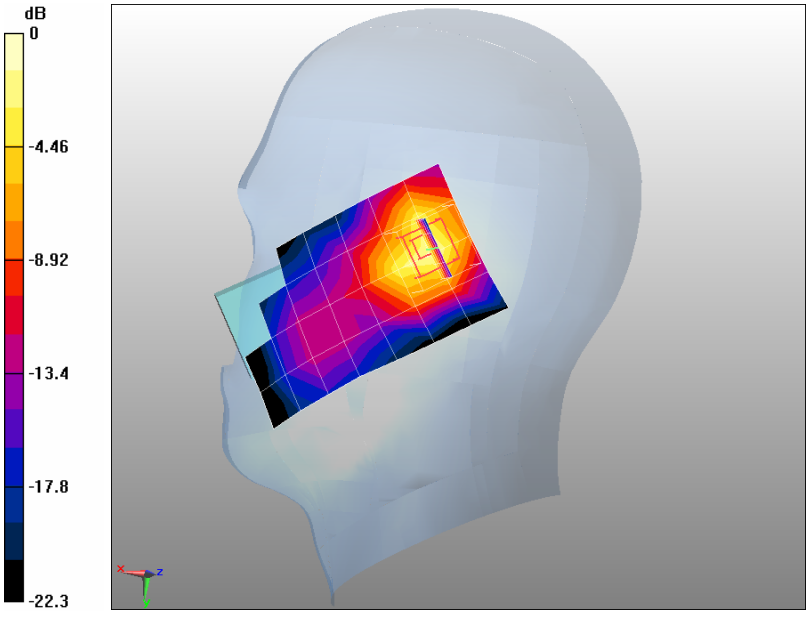
Configuration/PCS1900 Mid Tilt-Right/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (measured) = 0.223 mW/g

Configuration/PCS1900 Mid Tilt-Right/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 13.2 V/m; Power Drift = -0.101 dB

Peak SAR (extrapolated) = 0.488 W/kg

SAR(1 g) = 0.245 mW/g; SAR(10 g) = 0.122 mW/g Maximum value of SAR (measured) = 0.265 mW/g



0 dB = 0.265mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

PCS1900 Mid Body-Back

DUT: GSM Mobile Phone; Type: S-250

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; σ = 1.53 mho/m; εr = 52.5; ρ = 1000 kg/m³ ; Phantom section: Flat Section

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

DASY5 Configuration:

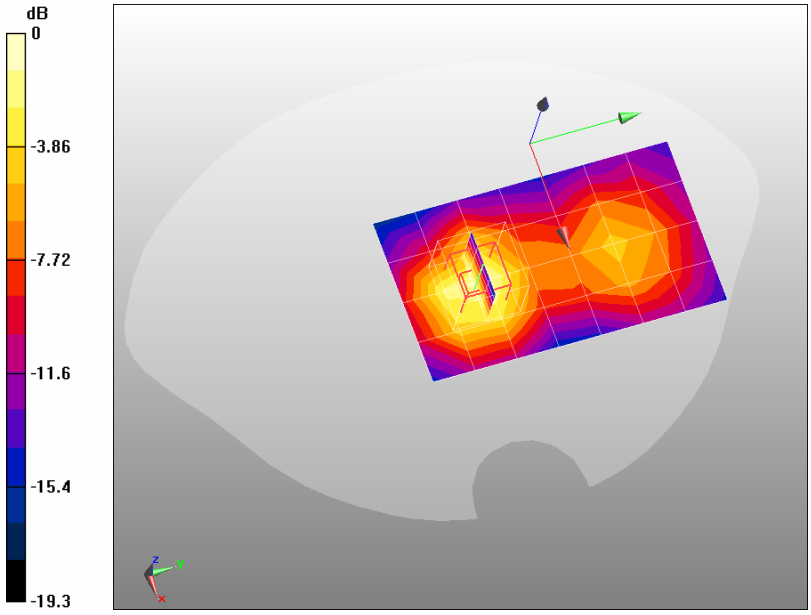
- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/PCS1900 Mid Body-Back/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.171 mW/g

Configuration/PCS1900 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 10.2 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 0.293 W/kg

SAR(1 g) = 0.177 mW/g; SAR(10 g) = 0.100 mW/g Maximum value of SAR (measured) = 0.192 mW/g



0 dB = 0.192mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GPRS1900 Mid Body-Back(2up)

DUT: GSM Mobile Phone; Type: S-250

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

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

DASY5 Configuration:

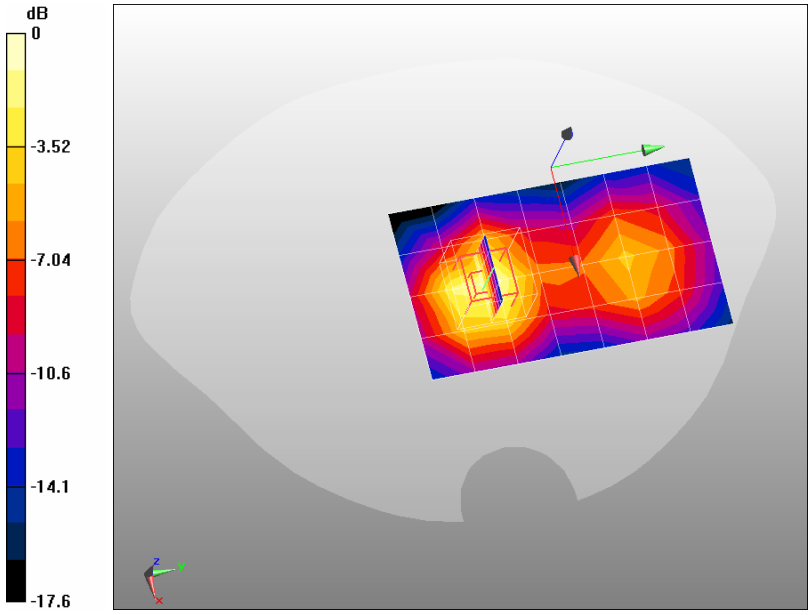
- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GPRS1900 Mid Body-Back/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.294 mW/g

Configuration/GPRS1900 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 13.7 V/m; Power Drift = -0.107 dB

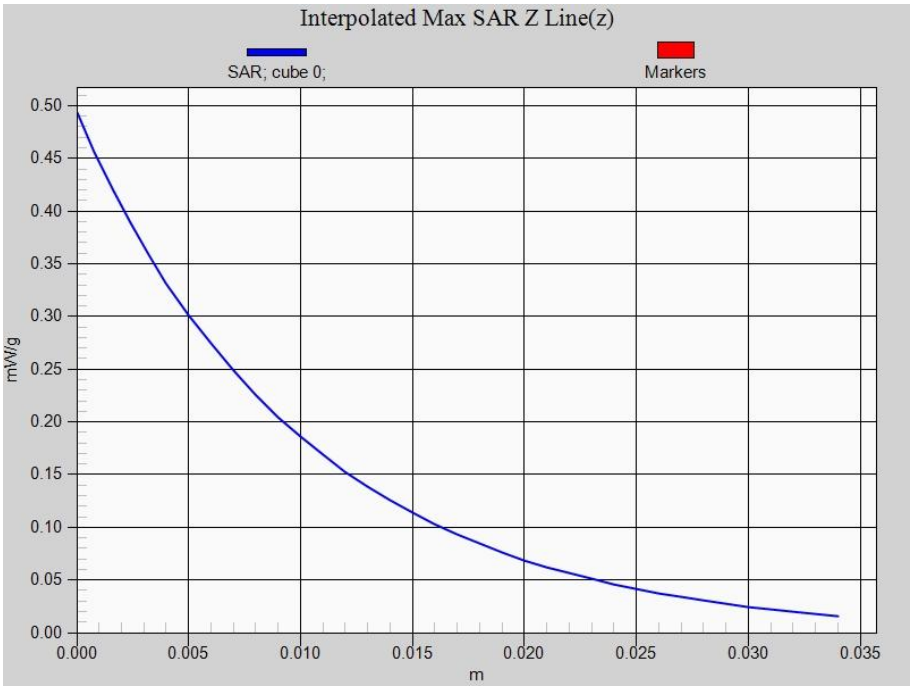
Peak SAR (extrapolated) = 0.493 W/kg

SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.172 mW/g Maximum value of SAR (measured) = 0.327 mW/g



0 dB = 0.327mW/g

Z-Axis Plot


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

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GPRS1900 Mid Body-Front(2up)

DUT: GSM Mobile Phone; Type: S-250

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

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

DASY5 Configuration:

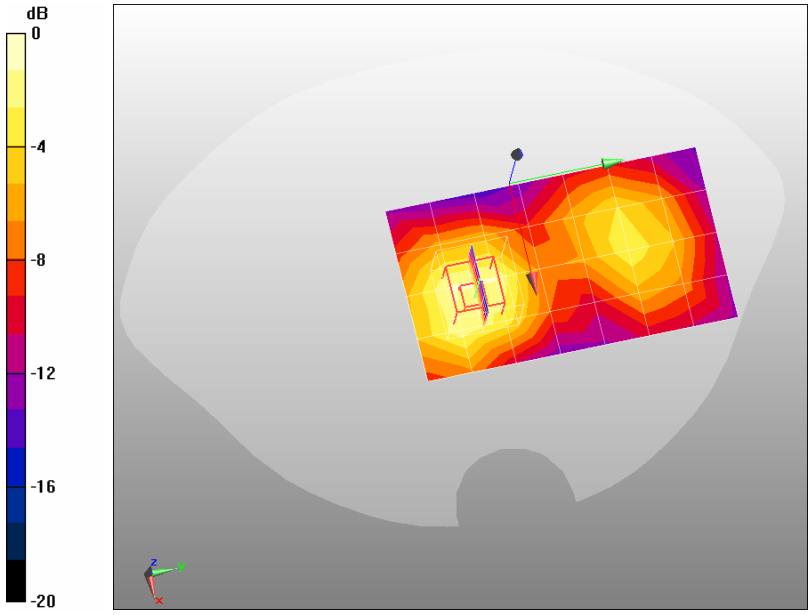
- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GPRS1900 Mid Body-Front/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.063 mW/g

Configuration/GPRS1900 Mid Body-Front/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 6.95 V/m; Power Drift = -0.108 dB

Peak SAR (extrapolated) = 0.123 W/kg

SAR(1 g) = 0.074 mW/g; SAR(10 g) = 0.042 mW/g Maximum value of SAR (measured) = 0.081 mW/g



0 dB = 0.081mW/g

Date/Time: 06-11-2011

Test Laboratory: QuieTek Lab

GPRS1900 Mid Body-Back(2up)(with headset)

DUT: GSM Mobile Phone; Type: S-250

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

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

DASY5 Configuration:

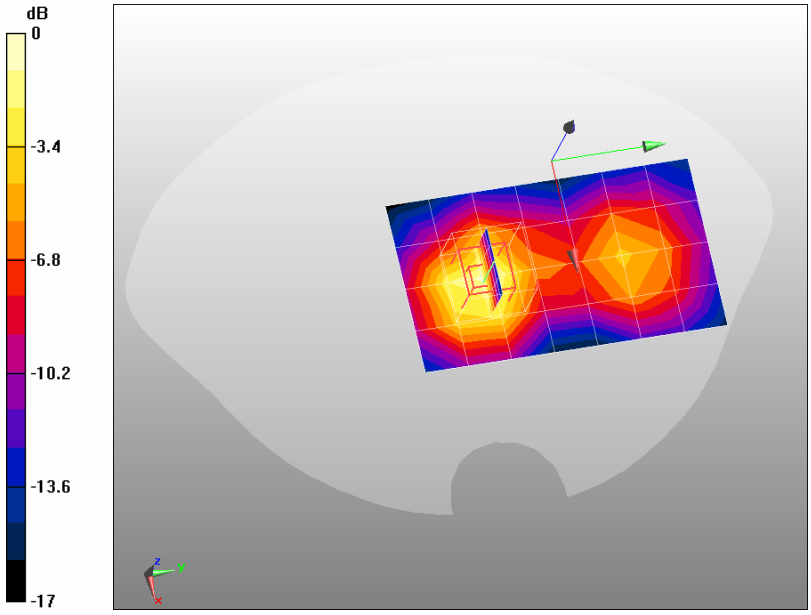
- Probe: EX3DV4 - SN3710; ConvF(4.193, 4.677, 4.833); Calibrated: 25/02/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1220; Calibrated: 03/12/2010
- Phantom: SAM1; Type: SAM; Serial: TP1561
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Configuration/GPRS1900 Mid Body-Back/Area Scan (5x8x1): Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (measured) = 0.279 mW/g

Configuration/GPRS1900 Mid Body-Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm, Reference Value = 12.9 V/m; Power Drift = -0.101 dB

Peak SAR (extrapolated) = 0.473 W/kg

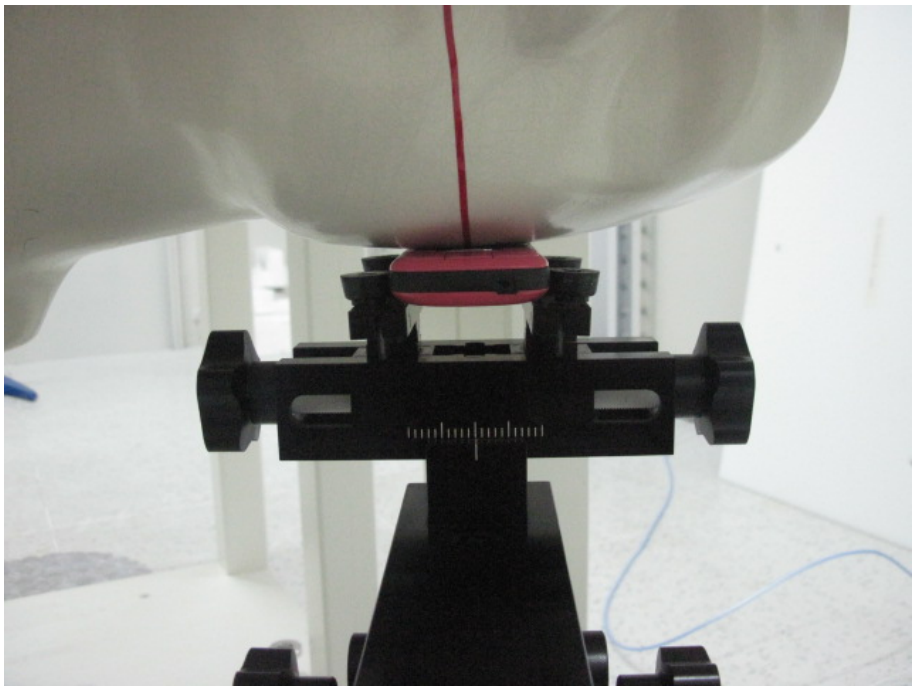
SAR(1 g) = 0.280 mW/g; SAR(10 g) = 0.159 mW/g Maximum value of SAR (measured) = 0.303 mW/g



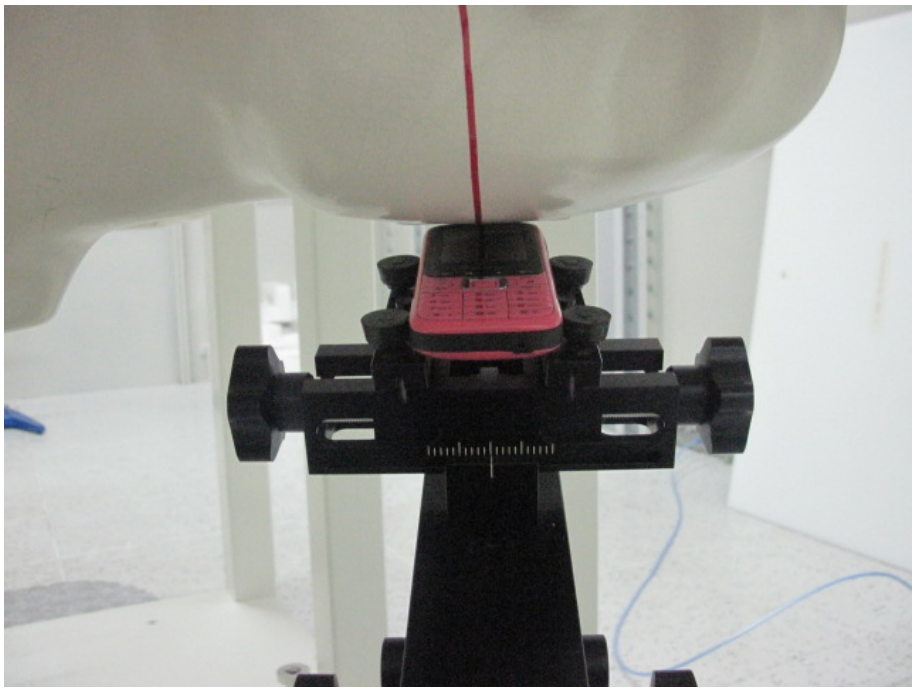
0 dB = 0.303mW/g

Appendix C. Test Setup Photographs & EUT Photographs

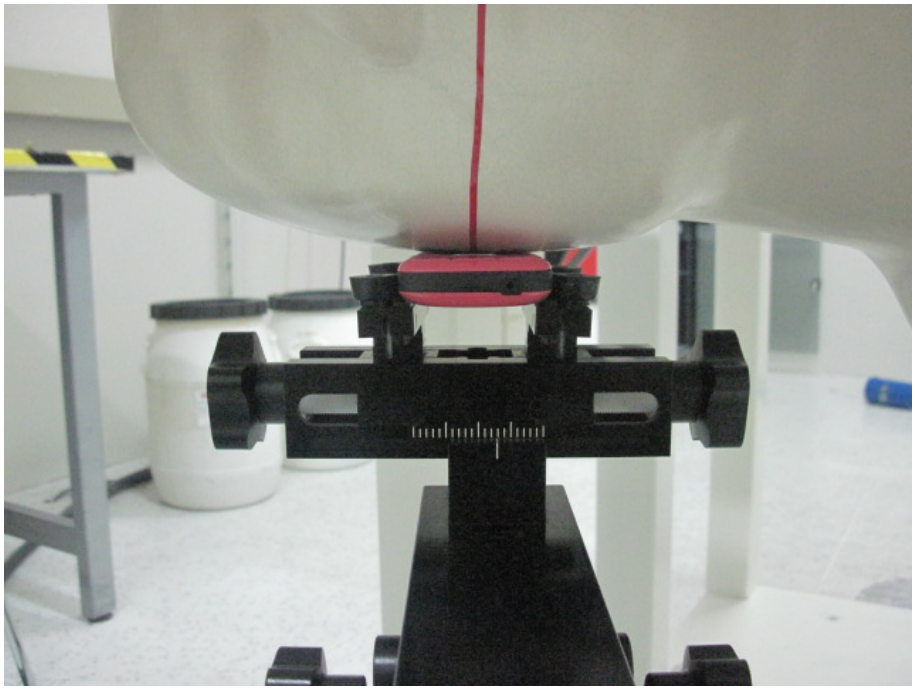
Test Setup Photographs



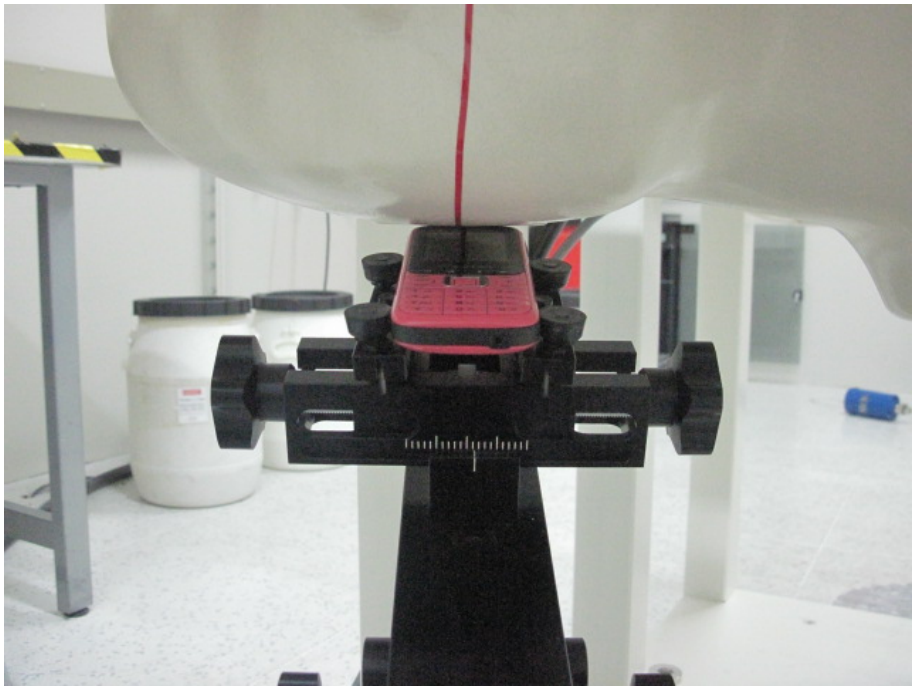
Left-Cheek Touch



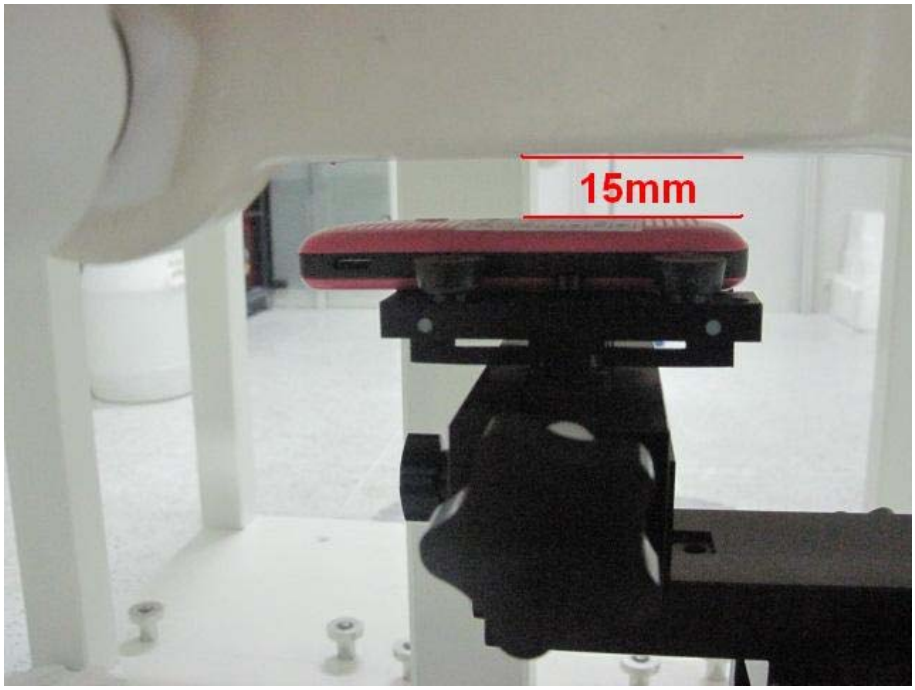
Left-Tilt 15°



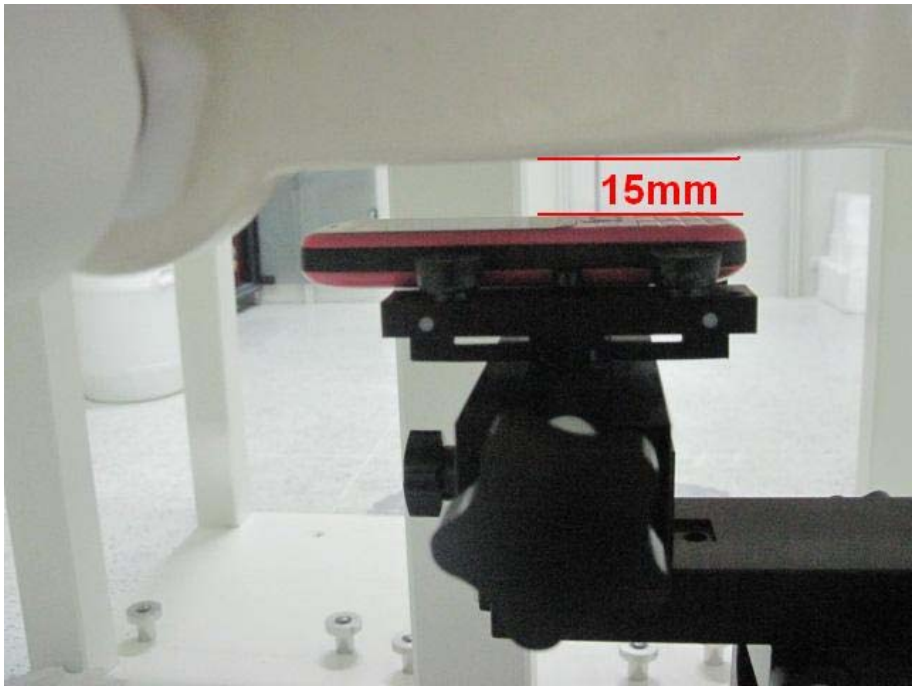
Right-Cheek Touch



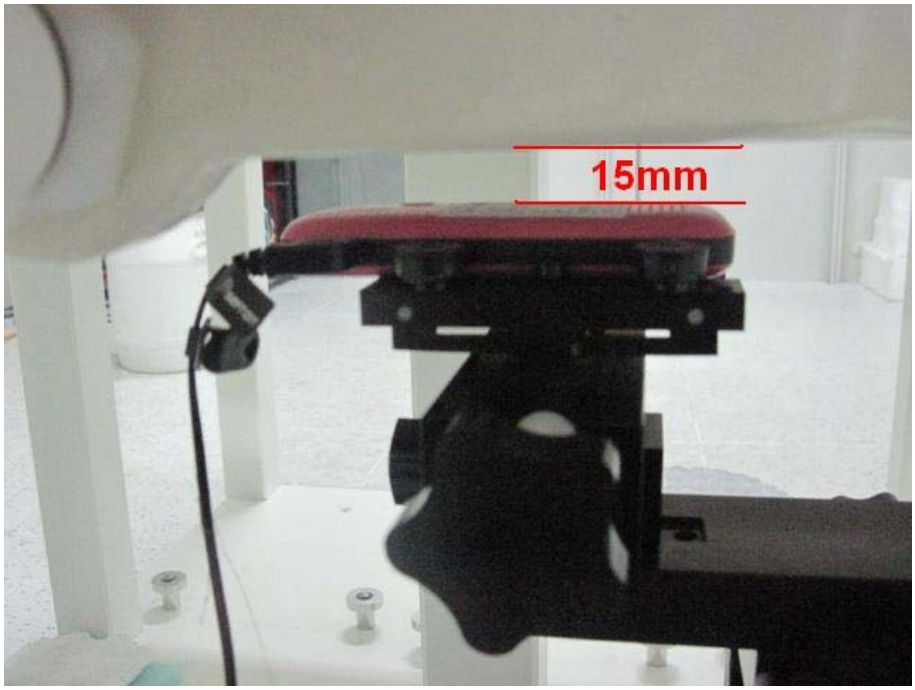
Right-Tilt 15°



Body SAR Back 15mm



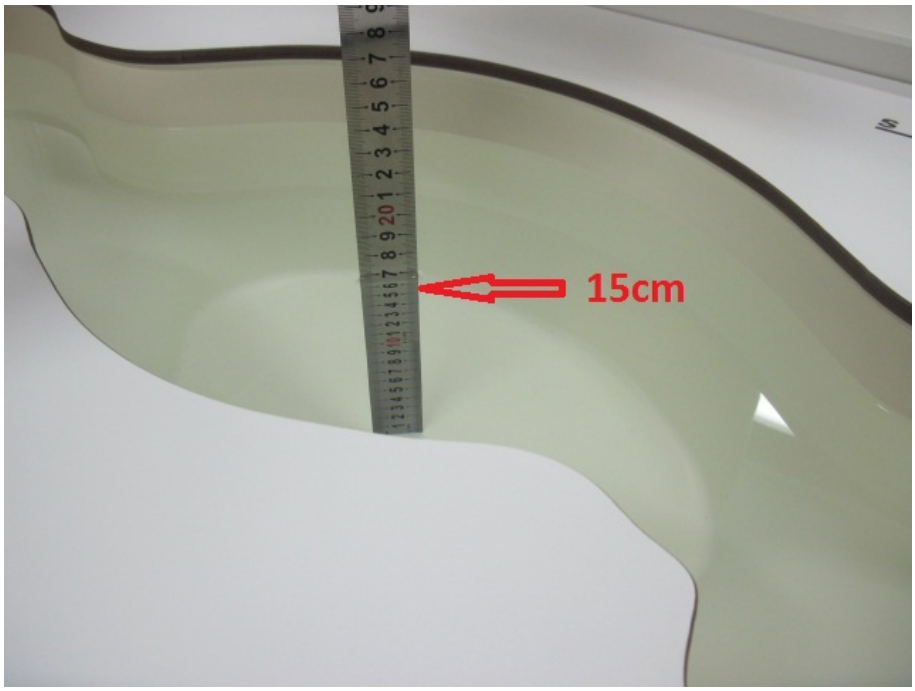
Body SAR Front 15mm



Body SAR Back 15mm with Headset

Depth of the liquid in the phantom – Zoom in

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



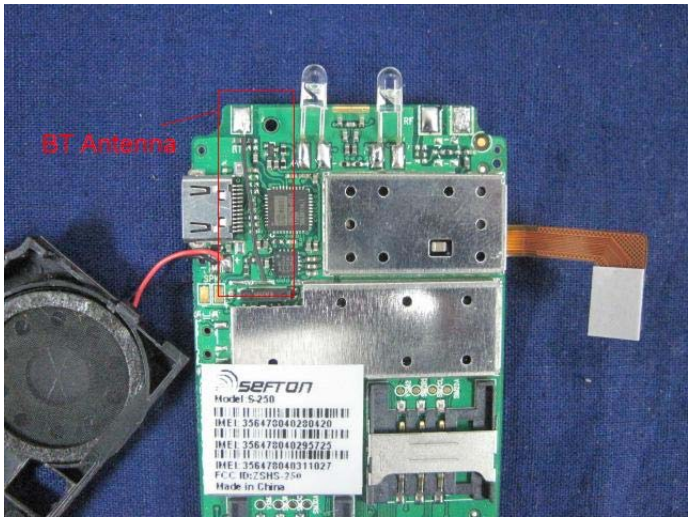
EUT Photographs

(1) EUT Photo

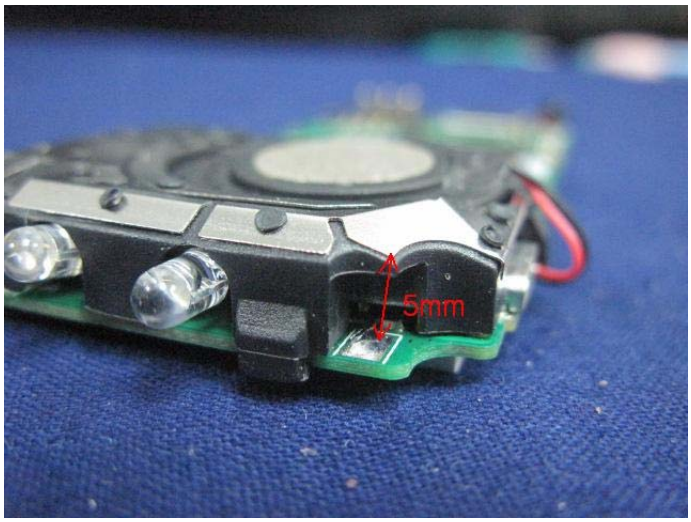
(2) EUT Photo

(3) EUT Photo

(4) EUT Photo



(5) EUT Photo



Appendix D. Probe Calibration Data

国家无线电监测中心检测中心
The State Radio_monitoring_center Testing Center

校准证书

Calibration Certificate

CNAS 校准 CNAS L0447

器具名称 Instrument	电场探头 E-Field Probe
型号/规格 Type/Model	EX3DV4
生产厂家 Manufacturer	Schmid & Partner Engineering AG
出厂编号 Serial No	SN:3710
客户名称 Name of Client	快特电波科技（苏州）有限公司
客户地址 Address of Client	苏州工业园区娄葑高新技术开发区宏业路 99 号
校准日期 Calibration Date	2011.2.25

所有的校准工作都是在屏蔽实验室中完成：环境温度 (22±3) ℃ 湿度<70%
All calibrations have been conducted in the closed laboratory facility: environment temperature (22±3) ℃ and humidity<70%

授权签字人：
Approved by

国家无线电监测中心检测中心 校准报告专用章

地址：北京市西城区北礼士路 80 号
Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

电话 Tel：+86-10-68009202 68009203
传真 Fax：+86-10-68009205 68009195

第 1 页 共 7 页 证书编号 Certificate No.SRTC2011-CAL002-001

国家无线电监测中心检测中心
The State Radio_monitoring_center Testing Center

校准规范 Reference documents of the measurement(Code, Name)
SRMC3003-V2.0.0 比吸收率（SAR）测试系统校准规范
校准环境及地点 Place and environmental condition of the measurement
温度 Temperature 23.2℃ 湿度 Humidity 32.5 % 地点 Location SRTC room 226

主要校准设备 Primary Calibration Equipment used	型号 Model/Type	序列号 ID#	校准日期 Cal Date	校准有效期至 Scheduled Calibration
功率计 Power meter	E4417A	SN: MY45101004	2010.8	2011.8
功率传感器 Power sensor	E9300B	SN: MY41496001	2010.8	2011.8
功率传感器 Power sensor	E9300B	SN: MY41496003	2010.8	2011.8
参考 DAE Reference DAE	DAE4	SN: 720	2011.1	2012.1
信号源 Signal generator	SML03	SN:103514	2010.8	2011.8
网络分析仪 Network analyzer	8714ET	SN:US40372083	2010.8	2011.8
次要校准设备 Secondary Calibration Equipment	型号 Model/Type	序列号 ID#		
波导 Waveguide	WGLS R9	SN:1006		
波导 Waveguide	WGLS R14	SN:1003		
波导 Waveguide	WGLS R22	SN:1006		

地址：北京市西城区北礼士路 80 号
Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China
电话 Tel：+86-10-68009202 68009203
传真 Fax：+86-10-68009205 68009195