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Accredited testing laboratory

CNAS Registration number: L0310

Report On SAR Test of WCDMA/GPRS/GSM Mobile Phone

M/N: HUAWEI U1000-5/U1000-5

Test report no.	**: SYBH(Z-SAR)001022010**
Type identification	**: HUAWEI U1000-5/U1000-5**
FCC-ID	**: QISU1000-5**
Test specification	**: IEEE 1528-2003**
	: ANSI C95.1-1999
	: RSS-102 issue 2 (2005)
	: OET Bulletin 65 Supplement C
	: IEC 62209-2:2008(106/162/CDV)

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1 General Information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in 1.5. The HUAWEI does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of HUAWEI.

1.1.1 Statement of Compliance

The SAR values found for the HUAWEI U1000-5/U1000-5 are below the maximum recommended levels of 1.6 W/Kg as averaged over any 1 g tissue according to the FCC rule §2.1093, the ANSI/IEEE C 95.1:1999, the NCRP Report Number 86 for uncontrolled environment, according to the Health Canada's Safety Code 6 and the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure.
For body worn operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and that positions the handset a minimum of 15 mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.
The measurement together with the test system set-up is described in chapter 2.3 of this test report. A detailed description of the equipment under test can be found in chapter 1.5.

Test engineer:

2010-02-05	**Zhang Junqiang**	Zhang Junqiang
Date	Name	Signature

Reviewed by:

2010-02-05	**Hu Zhongxun**	
Date	Name	Signature

Approved by:

2010-02-05	**Liu Chunlin**	Liu Chunlin
Date	Name	Signature

1.2 Testing laboratory

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State of accreditation: The Test laboratory (area of testing) is accredited according to ISO/IEC 17025.
CNAS Registration number: L0310

1.3 Details of applicant

Name: HUAWEI TECHNOLOGIES CO., LTD

Street: Huawei Base, Bantian
Town: Longgang District, Shenzhen
Country: China

Contact: Mr. Qiu Wei
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1.4 Application details

Date of receipt of application: 2010-01-29
Date of receipt of test item: 2010-02-01
Start/Date of test: 2010-02-01
End/Date of test: 2010-02-05

Person(s) present during the test: ---

1.5 Test item

Description of the test item:	WCDMA/GPRS/GSM Mobile Phone
Type identification:	HUAWEI U1000-5/U1000-5
FCC-ID :	QISU1000-5
Serial number:	VJ2AB11012700095
Manufacturer:	Huawei Technologies Co.,Ltd.
Name:	Huawei Technologies Co.,Ltd.
Street:	Huawei Base, Bantian
Town:	Longgang District, Shenzhen
Country:	P.R.China

additional information on the DUT:		
device type :	portable device	
IMEI No :	354437020003295	
exposure category:	uncontrolled environment / general population	
test device production information	production unit	
operating mode(s)	GSM, PCS,UMTS/WCDMA	
modulation	GMSK, QPSK	
GPRS mobile station class :	B	
GPRS multislot class :	10	voice mode : ---
maximum no. of timeslots in uplink:	2	
operating frequency range(s)	transmitter frequency range	receiver frequency range
UMTS/WCDMA II (tested):	1852.4 MHz ~ 1907.6 MHz	1932.4 MHz ~ 1987.6 MHz
UMTS/WCDMA V (tested):	826.4 MHz ~ 846.6 MHz	871.4 MHz ~ 891.6 MHz
PCS 1900 (tested):	1850.2 MHz ~ 1909.8 MHz	1930.2 MHz ~ 1989.8 MHz
GSM850 (tested):	824.2 MHz ~ 848.8 MHz	869.2 MHz ~ 893.8 MHz
Power class :	3,tested with maximum output power (1900 MHz band)	
	3,tested with maximum output power (850 MHz band)	
	1,tested with power level 0 (1900 MHz band)	
	4,tested with power level 5 (850 MHz band)	
measured peak output power (conducted):	1900 MHz band:22.74dBm (QPSK)	
	850 MHz band:23.30dBm (QPSK)	
	1900 MHz band: 29.76dBm (GMSK)	
	850 MHz band:32.43dBm (GMSK)	
test channels (low-mid-high) :	9262-9400-9538(1900 MHz band)	
	4132-4183-4233(850 MHz band)	
	512-661-810 (1900 MHz band)	
	128-190-5-251 (850 MHz band)	
hardware version :	HD3U100M Ver.A	
software version :	U1005V100R001ENGC01B105	
antenna type :	Integrated antenna	
accessories/body-worn configurations:	Stereo headset	
battery options :	Huawei Battery HBU83S Li-Polymer 3.7V 800mAh S/N: HGY9B0223768	
charger options :	Huawei AC/DC Adapter Model: HS-050040R6, S/N: FBA942401245 Huawei AC/DC Adapter Model: HS-050040U6, S/N: HKA9B1451078	

1.5.1 EUT Description

WCDMA/GPRS/GSM Mobile Phone-HUAWEI U1000-5/U1000-5 is subscriber equipment in the WCDMA/GSM system. The WCDMA frequency band is Band II and Band V, they can be used in this report. The GSM/GPRS frequency band includes GSM850 and DCS1800 and PCS1900, but only GSM850 and PCS1900MHz bands test data included in this report. The Mobile Phone implements such functions as RF signal receiving/transmitting, WCDMA and GSM/GPRS protocol processing, voice etc. Externally it provides earphone port(to provide voice service) and USIM card interface.

1.6 Test specification(s)

Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01)

IEEE 1528-2003 (April 21, 2003): Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques

RSS-102: Radio Frequency Exposure Compliance of Radiocommunication Apparatus
(All Frequency Bands (Issue 2 of November 2005)

Canada's Safety Code 6: Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz (99-EHD-237)

IEEE Std C95.3 – 1991, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave.

IEEE Std C95.1 – 1999, IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.

IEC 62209-2:2008(106/162/CDV), Human Exposure to Radio Frequency Fields from Handheld and Body-Mounted Wireless Communication Devices – Human models, Instrumentation, and Procedures Part 2: Procedure to determine the specific absorption rate (SAR) for mobile wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)

1.6.1 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain)	**1.60 mW/g**	8.00 mW/g
Spatial Average SAR** (Whole Body)	0.08 mW/g	0.40 mW/g
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

Table 1: RF exposure limits

The limit applied in this test report is shown in **bold** letters

Notes:

* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time

** The Spatial Average value of the SAR averaged over the whole body.

*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.	☒
The deviations as specified in 2.5 were ascertained in the course of the tests performed.	☐

The maximum SAR of HUAWEI U1000-5 head position is 1.09W/kg.
The maximum SAR of HUAWEI U1000-5 body position is 1.08W/kg.

2.2 Test environment

General Environment conditions in the test area are as follows:

Ambient temperature: 20°C – 24°C
Tissue simulating liquid: 20°C – 24°C
Humidity: 30% – 70%

Exact temperature values for each test are shown in the table(s) under 2.5. and/or on the measurement plots.

2.3 Measurement and test set-up

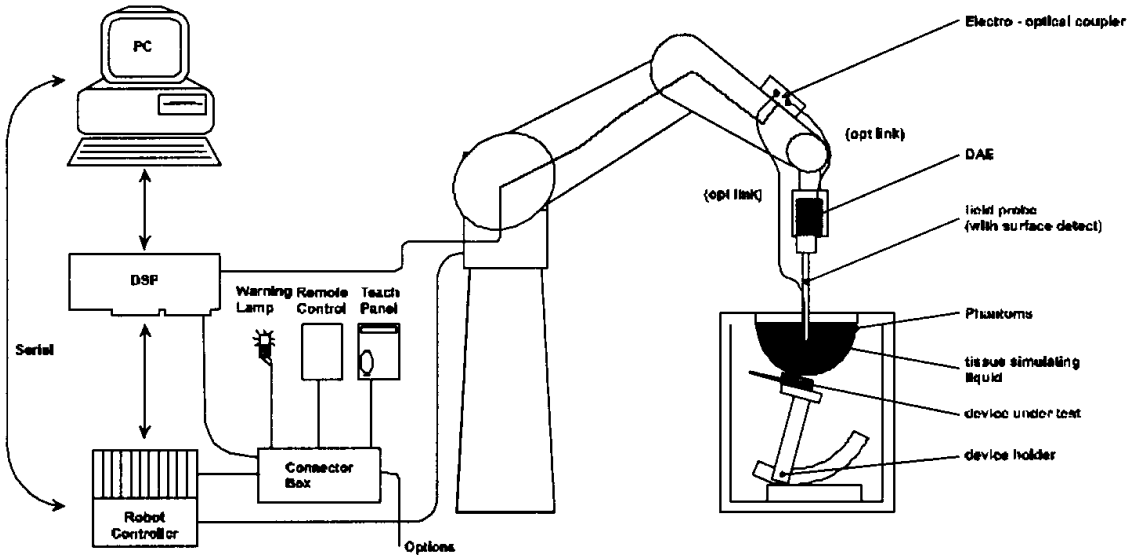
The measurement system is described in chapter 2.4.

The test setup for the system validation can be found in chapter 2.4.14.

A description of positioning and test signal control can be found in chapter 2.5 together with the test results.

2.4 Measurement system

2.4.1 System Description



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

- A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).

- A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

- A data acquisition electronic (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.
- A unit to operate the optical surface detector which is connected to the EOC.
- The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.
- The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows XP.
- DASY5 software and SEMCAD data evaluation software.
- Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
- The generic twin phantom enabling the testing of left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- System validation dipoles allowing to validate the proper functioning of the system.

2.4.2 Test environment

The DASY5 measurement system is placed at the head end of a room with dimensions:
4.5 x 4 x 3 m³, the SAM phantom is placed in a distance of 1.3 m from the side walls and 1.1m from the rear wall.
Picture 1 of the photo documentation shows a complete view of the test environment.
The system allows the measurement of SAR values larger than 0.005 mW/g.

2.4.3 Probe description

Isotropic E-Field Probe EX3DV4 for Dosimetric Measurements

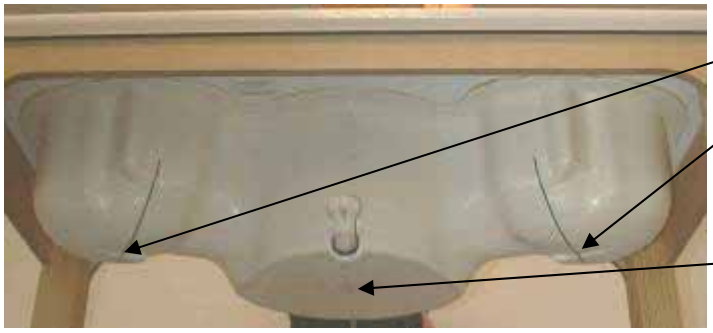
Technical data according to manufacturer information	
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	In air from 10 MHz to 2.5 GHz In head tissue simulating liquid (HSL) at 900 (800-1000) MHz and 1.8 GHz (1700-1910 MHz) (accuracy ± 11%; k=2) Calibration for other liquids and frequencies upon request
Frequency	10 MHz to 3 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 3 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Optical Surface Detection	± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces (EX3DV4 only)
Dimensions	Overall length: 337 mm Tip length: 9 mm Body diameter: 10 mm Tip diameter:2.5 mm Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (EX3DV4)

Isotropic E-Field Probe ES3DV3 for Dosimetric Measurements

Technical data according to manufacturer information	
Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)
Dynamic range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

2.4.4 Phantom description

The used SAM Phantom meets the requirements specified in Edition 01-01 of Supplement C to OET Bulletin 65 for Specific Absorption Rate (SAR) measurements.
The phantom consists of a fibreglass shell integrated in a wooden table. It allows left-hand and right-hand head as well as body-worn measurements with a maximum liquid depth of 18 cm in head position and 22 cm in planar position (body measurements). The thickness of the Phantom shell is 2 mm +/- 0.1 mm.



2.4.5 Device holder description

The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. 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. This device holder is used for standard mobile phones or PDA's only. If necessary an additional support of polystyrene material is used.

Larger DUT's (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values.
Therefore those devices are normally only tested at the flat part of the SAM.

2.4.6 Scanning procedure

The DASY5 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

- The „reference“ and „drift“ measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. +/- 5 %.

- The „surface check“ measurement tests the optical surface detection system of the DASY5 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

- The „area scan“ measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The standard scan uses large grid spacing for faster measurement. Standard grid spacing for head measurements is 15 mm in x- and y- dimension. If a finer resolution is needed, the grid spacing can be reduced. Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation.
  Results of this coarse scan are shown in annex 2.

- A „7x7x7 zoom scan” measures the field in a volume around the 2D peak SAR value acquired in the previous „coarse“ scan. This is a fine 7x7 grid where the robot additionally moves the probe in 7 steps along the z-axis away from the bottom of the Phantom. Grid spacing for the cube measurement is 5 mm in x and y-direction and 5 mm in z-direction. DASY5 is also able to perform repeated zoom scans if more than 1 peak is found during area scan. In this document, the evaluated peak 1g and 10g averaged SAR values are shown in the 2D-graphics in annex 2. Test results relevant for the specified standard (see chapter 1.6.) are shown in table form in chapter 2.5.

- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube 7x7x7 scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 2mm steps. This measurement shows the continuity of the liquid and can - depending in the field strength – also show the liquid depth. A z-axis scan of the measurement with maximum SAR value is shown in annex 2.

2.4.7 Spatial Peak SAR Evaluation

The spatial peak SAR - value for 1 and 10 g is evaluated after the Cube measurements have been done. The basis of the evaluation are the SAR values measured at the points of the fine cube grid consisting of 7 x 7 x 7 points. The algorithm that finds the maximal averaged volume is separated into three different stages.

- The data between the dipole center of the probe and the surface of the phantom are extrapolated. This data cannot be measured since the center of the dipole is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is about 1 mm (see probe calibration sheet). The extrapolated data from a cube measurement can be visualized by selecting 'Graph Evaluated'.

- The maximum interpolated value is searched with a straight-forward algorithm. Around this maximum the SAR - values averaged over the spatial volumes (1g or 10 g) are computed using the 3d-spline interpolation algorithm. If the volume cannot be evaluated (i.e., if a part of the grid was cut off by the boundary of the measurement area) the evaluation will be started on the corners of the bottom plane of the cube.

- All neighboring volumes are evaluated until no neighboring volume with a higher average value is found.

Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, Computermathematik, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

Interpolation

The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot"-condition [W. Gander, Computermathematik, p.141-150] (x, y and z -direction) [Numerical Recipes in C, Second Edition, p.123ff].

Volume Averaging

At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal algorithm. 8000 points (20x20x20) are interpolated to calculate the average.

Advanced Extrapolation

DASY5 uses the advanced extrapolation option which is able to compansate boundary effects on E-field probes.

2.4.8 Data Storage and Evaluation

Data Storage

The DASY5 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DA4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

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

Data Evaluation by SEMCAD

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

Probe parameters:	- Sensitivity	$Norm_i$, a_{i0}, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	Dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	σ
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY5 components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot cf/dcp_i$$

with V_i = compensated signal of channel i (i = x, y, z)
U_i = input signal of channel i (i = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcp_i = diode compression point (DASY parameter)

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

E-field probes: $E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$

H-field probes: $H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1}f + a_{i2}f^2)/f$

with V_i = compensated signal of channel i (i = x, y, z)
$Norm_i$ = sensor sensitivity of channel i [mV/(V/m)^2] for E-field Probes (i = x, y, z)
ConvF = sensitivity enhancement in solution
a_{ij} = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
E_i = electric field strength of channel i in V/m
H_i = magnetic field strength of channel i in A/m

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

$$E_{tot} = (E_x^2 + E_Y^2 + E_z^2)^{1/2}$$

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

$$SAR = (E_{tot}^2 \cdot \sigma) / (\rho \cdot 1000)$$

with SAR = local specific absorption rate in mW/g
E_{tot} = total field strength in V/m
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm^3

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid.The power flow density is calculated assuming the excitation field to be a free space field.

$P_{pwe} = E_{tot}^2 / 3770$ or $P_{pwe} = H_{tot}^2 \cdot 37.7$

with P_{pwe} = equivalent power density of a plane wave in mW/cm^2
E_{tot} = total electric field strength in V/m
H_{tot} = total magnetic field strength in A/m

2.4.9 Test equipment utilized

This table gives a complete overview of the SAR measurement equipment

Devices used during the test described in chapter 2.5. are marked ☒

	Manufacturer	Device	Type	Serial number	Date of last calibration
☐					
☒	Schmid & Partner Engineering AG	Dosimetric E-Field Probe	ES3DV3	3168	2009-12-18
☒	Schmid & Partner Engineering AG	835 MHz System Validation Dipole	D835V2	4d095	2009-05-25
☐	Schmid & Partner Engineering AG	900 MHz System Validation Dipole	D900V2	1d063	2009-05-26
☐	Schmid & Partner Engineering AG	1800 MHz System Validation Dipole	D1800V2	2d157	2009-05-27
☒	Schmid & Partner Engineering AG	1900 MHz System Validation Dipole	D1900V2	5d091	2009-05-28
☐	Schmid & Partner Engineering AG	2000 MHz System Validation Dipole	D2000V2	1036	2009-05-29
☒	Schmid & Partner Engineering AG	Data acquisition electronics	DAE4	851	2009-05-14
☐	Schmid & Partner Engineering AG	Data acquisition electronics	DAE4	852	2009-12-18
☒	Schmid & Partner Engineering AG	Software	DASY 5 V5.0	N/A	N/A
☒	Schmid & Partner Engineering AG	Twin Phantom	SAM1	TP-1475	N/A
☒	Schmid & Partner Engineering AG	Twin Phantom	SAM2	TP-1474	N/A
☒	Rohde & Schwarz	Universal Radio Communication Tester	CMU 200	111379	2009-09-26
☒	Agilent)*	Network Analyser 300 kHz to 8.5 GHz	E5071B	MY42404956	2009-03-27
☒	Agilent	Dielectric Probe Kit	85070E	2484	N/A
☒	Agilent	Signal Generator	N5181A	MY47420989	2009-03-25
☒	MINI-CIRCUITS	Amplifier	ZHL-42W	QA0746001	N/A
☒	Agilent	Power Meter	E4417A	MY45101339	2009-05-24
☒	Agilent	Power Meter Sensor	E9321A	MY44420359	2009-05-24

)* : Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

2.4.10 Tissue simulating liquids: dielectric properties

The following materials are used for producing the tissue-equivalent materials.

(liquids used for tests described in chapter 2.5. are marked with ☒) :

Ingredients (% of weight)	**Frequency (MHz)**					
frequency band	☐ 450	☒ 835	☐ 900	☐ 1800	☒ 1900	☐ 2450
Tissue Type	Head	Head	Head	Head	Head	Head
Water	38.56	41.45	40.92	52.64	54.9	62.7
Salt (NaCl)	3.95	1.45	1.48	0.36	0.18	0.5
Sugar	56.32	56.0	56.5	0.0	0.0	0.0
HEC	0.98	1.0	1.0	0.0	0.0	0.0
Bactericide	0.19	0.1	0.1	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	36.8
DGBE	0.0	0.0	0.0	47.0	44.92	0.0

Table 2: Head tissue dielectric properties

Ingredients (% of weight)	**Frequency (MHz)**					
frequency band	☐ 450	☒ 835	☐ 900	☐ 1800	☒ 1900	☐ 2450
Tissue Type	Body	Body	Body	Body	Body	Body
Water	51.16	52.4	56.0	69.91	69.91	73.2
Salt (NaCl)	1.49	1.40	0.76	0.13	0.13	0.04
Sugar	46.78	45.0	41.76	0.0	0.0	0.0
HEC	0.52	1.0	1.21	0.0	0.0	0.0
Bactericide	0.05	0.1	0.27	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0
DGBE	0.0	0.0	0.0	29.96	29.96	26.7

Table 3: Body tissue dielectric properties

Salt: 99+% Pure Sodium Chloride Sugar: 98+% Pure Sucrose
Water: De-ionized, 16MΩ+ resistivity HEC: Hydroxyethyl Cellulose
DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100(ultra pure): Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl)phenyl]ether

Note : Due to their availability body tissue simulating liquids as defined by FCC OET Bulletin 65 Supplement C are generally used for body worn SAR testing according to European standards.

2.4.11 Tissue simulating liquids: parameters

Used Target Frequency	Target Head Tissue		Measured Head Tissue		Measured Date
[MHz]	Permittivity	Conductivity [S/m]	Permittivity	Conductivity [S/m]	
1900	40.0	1.40	40.79	1.403	2010-02-01
835	41.5	0.90	41.82	0.9358	2010-02-02

Table 4: Parameter of the head tissue simulating liquid

Used Target Frequency	Target Body Tissue		Measured Body Tissue		Measured Date
[MHz]	Permittivity	Conductivity [S/m]	Permittivity	Conductivity [S/m]	
1900	53.3	1.52	53.35	1.486	2010-02-03
835	55.2	0.97	53.73	0.98	2010-02-04

Table 5: Parameter of the body tissue simulating liquid

Note: The dielectric properties have been measured using the contact probe method at 22°C.

2.4.12 Measurement uncertainty evaluation for SAR test

The overall combined measurement uncertainty of the measurement system is ± 10.7% (K=1).
The expanded uncertainty (k=2) is assessed to be ± 21.4%
This measurement uncertainty budget is suggested by IEEE P1528 and determined by Schmid & Partner Engineering AG. The breakdown of the individual uncertainties is as follows:

Error Sources	Uncertainty Value	Probability Distribution	Divi-sor	c_i 1g	c_i 10g	Standard Uncertainty 1g	Standard Uncertainty 10g	v_i^2 or v_{eff}
Measurement System								
Probe calibration	± 5.9%	Normal	1	1	1	± 5.9%	± 5.9%	∞
Axial isotropy	± 4.7%	Rectangular	√3	0.7	0.7	± 1.9%	± 1.9%	∞
Hemispherical isotropy	± 9.6%	Rectangular	√3	0.7	0.7	± 3.9%	± 3.9%	∞
Spatial resolution	± 0.0%	Rectangular	√3	1	1	± 0.0%	± 0.0%	∞
Boundary effects	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Probe linearity	± 4.7%	Rectangular	√3	1	1	± 2.7%	± 2.7%	∞
System detection limits	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Readout electronics	± 0.3%	Normal	1	1	1	± 0.3%	± 0.3%	∞
Response time	± 0.8%	Rectangular	√3	1	1	± 0.5%	± 0.5%	∞
Integration time	± 2.6%	Rectangular	√3	1	1	± 1.5%	± 1.5%	∞
RF ambient conditions	± 3.0%	Rectangular	√3	1	1	± 1.7%	± 1.7%	∞
Probe positioner	± 0.4%	Rectangular	√3	1	1	± 0.2%	± 0.2%	∞
Probe positioning	± 2.9%	Rectangular	√3	1	1	± 1.7%	± 1.7%	∞
Max. SAR evaluation	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Test Sample Related								
Device positioning	± 2.9%	Normal	1	1	1	± 2.9%	± 2.9%	145
Device holder uncertainty	± 3.6%	Normal	1	1	1	± 3.6%	± 3.6%	5
Power drift	± 5.0%	Rectangular	√3	1	1	± 2.9%	± 2.9%	∞
Phantom and Set-up								
Phantom uncertainty	± 4.0%	Rectangular	√3	1	1	± 2.3%	± 2.3%	∞
Liquid conductivity (target)	± 5.0%	Rectangular	√3	0.64	0.43	± 1.8%	± 1.2%	∞
Liquid conductivity (meas.)	± 2.5%	Normal	1	0.64	0.43	± 1.6%	± 1.1%	∞
Liquid permittivity (target)	± 5.0%	Rectangular	√3	0.6	0.49	± 1.7%	± 1.4%	∞
Liquid permittivity (meas.)	± 2.5%	Normal	1	0.6	0.49	± 1.5%	± 1.2%	∞
Combined Uncertainty						± 10.9%	± 10.7%	387
Expanded Std. Uncertainty						**± 21.9%**	**± 21.4%**	

Table 6: Measurement uncertainties

2.4.13 Measurement uncertainty evaluation for system validation

The overall combined measurement uncertainty of the measurement system is ± 9.2% (K=1).
The expanded uncertainty (k=2) is assessed to be ± 18.4%
This measurement uncertainty budget is suggested by IEEE P1528 and determined by Schmid & Partner Engineering AG. The breakdown of the individual uncertainties is as follows:

Error Sources	Uncertainty Value	Probability Distribution	Divi-sor	c_i 1g	c_i 10g	Standard Uncertainty 1g	Standard Uncertainty 10g	v_i^2 or v_{eff}
Measurement System								
Probe calibration	± 5.9%	Normal	1	1	1	± 5.9%	± 5.9%	∞
Axial isotropy	± 4.7%	Rectangular	√3	1	1	± 2.7%	± 2.7%	∞
Hemispherical isotropy	± 9.6%	Rectangular	√3	0.7	0.7	± 0.0%	± 0.0%	∞
Boundary effects	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Probe linearity	± 4.7%	Rectangular	√3	1	1	± 2.7%	± 2.7%	∞
System detection limits	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Readout electronics	± 0.3%	Normal	1	1	1	± 0.3%	± 0.3%	∞
Response time	± 0.0%	Rectangular	√3	1	1	± 0.0%	± 0.0%	∞
Integration time	± 0.0%	Rectangular	√3	1	1	± 0.0%	± 0.0%	∞
RF ambient conditions	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Probe positioner	± 0.4%	Rectangular	√3	1	1	± 0.2%	± 0.2%	∞
Probe positioning	± 2.9%	Rectangular	√3	1	1	± 1.7%	± 1.7%	∞
Max. SAR evaluation	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Dipole								
Deviation of experimental dipole	± 5.5%	Rectangular	√3	1	1	± 3.2%	± 3.2%	∞
Dipole axis to liquid distance	± 2.0%	Rectangular	1	1	1	± 1.2%	± 1.2%	∞
Power drift	± 4.7%	Rectangular	√3	1	1	± 2.7%	± 2.7%	∞
Phantom and Set-up								
Phantom uncertainty	± 4.0%	Rectangular	√3	1	1	± 2.3%	± 2.3%	∞
Liquid conductivity (target)	± 5.0%	Rectangular	√3	0.64	0.43	± 1.8%	± 1.2%	∞
Liquid conductivity (meas.)	± 2.5%	Normal	1	0.64	0.43	± 1.6%	± 1.1%	∞
Liquid permittivity (target)	± 5.0%	Rectangular	√3	0.6	0.49	± 1.7%	± 1.4%	∞
Liquid permittivity (meas.)	± 2.5%	Normal	1	0.6	0.49	± 1.5%	± 1.2%	∞
Combined Uncertainty						**± 9.5%**	**± 9.2%**	
Expanded Std. Uncertainty						**± 18.9%**	**± 18.4%**	

Table 7: Measurement uncertainties

2.4.14 System validation

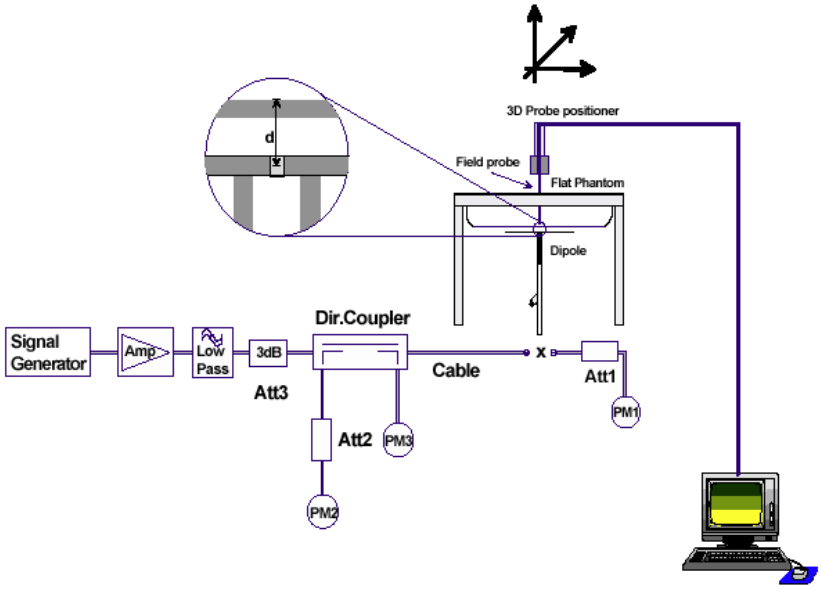
The system validation is performed for verifying the accuracy of the complete measurement system and performance of the software. The system validation is performed with tissue equivalent material according to IEEE P1528 (described above). The following table shows validation results for all frequency bands and tissue liquids used during the tests of the test item described in chapter 1.5.
(graphic plot(s) see annex 1).

Validation Kit	Frequency	Target SAR_{1g} (250 mW) (+/- 10%)	Target SAR_{10g} (250 mW) (+/- 10%)	Measured SAR_{1g}	Measured SAR_{10g}	Measured date
D1900V2 S/N: 5d091	1900 MHz head	9.60mW/g	5.10mW/g	10.1mW/g	5.28mW/g	2010-02-01
D1900V2 S/N: 5d091	1900 MHz body	10.10mW/g	5.27mW/g	9.996mW/g	5.14mW/g	2010-02-03
D835V2 S/N: 4d095	835 MHz head	2.29mW/g	1.50mW/g	2.42mW/g	1.54mW/g	2010-02-02
D835V2 S/N: 4d095	835 MHz body	2.49mW/g	1.62mW/g	2.58mW/g	1.69mW/g	2010-02-04

Table 8: Results system validation

2.4.15 Validation procedure

The validation is performed by using a validation dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 250 mW. To adjust this power a power meter is used. The power sensor is connected to the cable before the validation to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the validation to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot).
Validation results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system.



2.5 Test Results

2.5.1 Conducted power measurements

For the measurements a Rohde & Schwarz Radio Communication Tester CMU 200 was used.
The output power was measured using an integrated RF connector and attached RF cable.
The conducted output power was also checked before and after each SAR measurement. The resulting power values were within a 0.2 dB tolerance of the values shown below.

Note : CMU200 measures GSM peak and average output power for active timeslots.
For SAR the timebased average power is relevant. The difference in between depends on the duty cycle of the TDMA signal :

No. of timeslots	**1**	**2**	**3**	**4**
Duty Cycle	1 : 8	1: 4	1 : 2.66	1 : 2
timebased avg. power compared to slotted avg. power	- 9 dB	- 6 dB	- 4.25 dB	- 3 dB

The signalling modes differ as follows :

mode	**coding scheme**	**modulation**
GPRS	CS1 to CS4	GMSK

Apart from modulation change (GMSK/8PSK) coding schemes differ in code rate without influence on the RF signal. Therefore one coding scheme per mode was selected for conducted power measurements.

2.5.2 Conducted power measurements

Max. RMS output power, WCDMA FDD II/ dBm				
		Channel / frequency		
mode		9262/ 1852.4 MHz	9400 /1880 MHz	9538/1907.6 MHz
RMC 12.2 kbit/s	Before Test	22.72	22.45	22.46
	After Test	22.68	22.42	22.47
RMC 64 kbit/s	Before Test	22.61	22.51	22.47
	After Test	22.64	22.53	22.46
RMC 144 kbit/s	Before Test	22.73	22.44	22.38
	After Test	22.74	22.41	22.38
RMC 384 kbit/s	Before Test	22.71	22.51	22.41
	After Test	22.67	22.52	22.39

Table 9: Test results conducted power measurement UMTS (WCDMA) FDD II 1900MHz

Max. RMS output power, WCDMA FDD V / dBm				
		Channel / frequency		
mode		4132/826.4 MHz	4183 /836.6 MHz	4233/ 846.6 MHz
RMC 12.2 kbit/s	Before Test	23.27	23.00	22.68
	After Test	23.26	22.98	22.72
RMC 64 kbit/s	Before Test	23.14	23.04	22.54
	After Test	23.18	23.01	22.52
RMC 144 kbit/s	Before Test	23.27	23.01	22.68
	After Test	23.30	22.97	22.73
RMC 384 kbit/s	Before Test	23.29	23.03	22.71
	After Test	23.29	23.07	22.72

Table 10: Test results conducted power measurement UMTS (WCDMA) FDD V 850MHz

Channel / frequency	modulation	timeslots	slotted avg. power(before test)	timebased avg. power (calculated)	slotted avg. power(after test)
512 / 1850.2 MHz	GMSK	1	29.72dBm	20.72dBm	29.76dBm
661 / 1880.0 MHz	GMSK	1	29.65dBm	20.65dBm	29.68dBm
810 / 1909.8 MHz	GMSK	1	29.63dBm	20.63dBm	29.63dBm
512 / 1850.2 MHz	GMSK	2	28.19dBm	22.19dBm	28.22dBm
661 / 1880.0 MHz	GMSK	2	28.21dBm	22.21dBm	28.21dBm
810 / 1909.8 MHz	GMSK	2	28.11dBm	22.11dBm	28.14dBm

Table 11: Test results conducted power measurement PCS 1900 MHz

Channel / frequency	modulation	timeslots	slotted avg. power(before test)	timebased avg. power (calculated)	slotted avg. power(after test)
128/ 824.2 MHz	GMSK	1	32.03dBm	23.03dBm	32.06dBm
190/ 836.6MHz	GMSK	1	31.92dBm	22.92dBm	31.88dBm
251/ 848.8 MHz	GMSK	1	32.42dBm	23.42dBm	32.43dBm
128/ 824.2 MHz	GMSK	2	30.77dBm	24.77dBm	30.78dBm
190/ 836.6MHz	GMSK	2	30.45dBm	24.45dBm	30.49dBm
251/ 848.8 MHz	GMSK	2	30.81dBm	24.81dBm	30.78dBm

Table 12: Test results conducted power measurement GSM 850 MHz

2.6 Test results (Head and Body SAR)

UMTS (WCDMA) FDD II

The table contains the measured SAR values averaged over a mass of 1 g					
Channel / frequency	Position	Left hand position	Right hand position	Limit	Liquid temperature
U1000-5					
9400 / 1880 MHz	cheek	0.735 W/kg	0.539 W/kg	1.6 W/kg	21.4/21.4 °C
9400 / 1880 MHz	tilted 15°	0.717 W/kg	0.528 W/kg	1.6 W/kg	21.4/21.4 °C
9538 / 1907.6 MHz	cheek	0.827 W/kg	--- W/kg	1.6 W/kg	21.4/--- °C
9262 / 1852.4 MHz	cheek	0.647 W/kg	--- W/kg	1.6 W/kg	21.4/--- °C

Table 13: Test results (Head SAR UMTS (WCDMA) FDD II 1900MHz)

The table contains the measured SAR values averaged over a mass of 1 g				
Channel / frequency	Position	Body worn	Limit	Liquid temperature
U1000-5				
9400 / 1880 MHz	front	0.145 W/kg	1.6 W/kg	21.4 °C
9400 / 1880 MHz	rear	0.434 W/kg	1.6 W/kg	21.4 °C
9538 / 1907.6 MHz	rear	0.488 W/kg	1.6 W/kg	21.4 °C
9262 / 1852.4 MHz	rear	0.389 W/kg	1.6 W/kg	21.4 °C
U1000-5 with Headset				
9538 / 1907.6 MHz	rear	0.532 W/kg	1.6 W/kg	21.4 °C

Table 14: Test results (Body SAR UMTS (WCDMA) FDD II 1900MHz

Note: The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8 W/kg), testing at the high and low channels is optional.
Tests in body position were performed with 15 mm air gap between DUT and SAM to simulate the use of a non-metallic belt-clip or holster.

UMTS (WCDAM) FDD V

The table contains the measured SAR values averaged over a mass of 1 g					
Channel / frequency	Position	Left hand position	Right hand position	Limit	Liquid temperature
U1000-5					
4183 / 836.6 MHz	cheek	0.806 W/kg	0.854 W/kg	1.6 W/kg	21.3/21.3 °C
4183 / 836.6 MHz	tilted 15°	0.541 W/kg	0.52 W/kg	1.6 W/kg	21.3/21.3 °C
4233 / 846.6 MHz	cheek	--- W/kg	0.904 W/kg	1.6 W/kg	---/21.3 °C
4132 / 826.4 MHz	cheek	--- W/kg	0.955 W/kg	1.6 W/kg	---/21.3 °C

Table 15: Test results (Head SAR UMTS (WCDMA) FDD V 850MHz)

The table contains the measured SAR values averaged over a mass of 1 g				
Channel / frequency	Position	Body worn	Limit	Liquid temperature
U1000-5				
4183 / 836.6 MHz	front	0.33 W/kg	1.6 W/kg	21.3 °C
4183 / 836.6 MHz	rear	0.829 W/kg	1.6 W/kg	21.3 °C
4233 / 846.6 MHz	rear	0.715 W/kg	1.6 W/kg	21.3 °C
4132 / 826.4 MHz	rear	0.753 W/kg	1.6 W/kg	21.3 °C
U1000-5 with Headset				
4183 / 836.6 MHz	rear	0.545 W/kg	1.6 W/kg	21.3 °C

Table 16: Test results (Body SAR UMTS (WCDMA) FDD V 850MHz)

Note: The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8 W/kg), testing at the high and low channels is optional.
Tests in body position were performed with 15 mm air gap between DUT and SAM to simulate the use of a non-metallic belt-clip or holster.

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PCS 1900

The table contains the measured SAR values averaged over a mass of 1 g					
Channel / frequency	Position	Left hand position	Right hand position	Limit	Liquid temperature
U1000-5					
661 / 1880.0 MHz	cheek	0.373 W/kg	0.322 W/kg	1.6 W/kg	21.4/21.4 °C
661 / 1880.0 MHz	tilted 15°	0.362 W/kg	0.297 W/kg	1.6 W/kg	21.4/21.4 °C
810 / 1909.8 MHz	cheek	0.403 W/kg	--- W/kg	1.6 W/kg	21.4/--- °C
512 / 1850.2 MHz	cheek	0.394 W/kg	--- W/kg	1.6 W/kg	21.4/--- °C

Table 17: Test results (Head SAR PCS 1900 MHz)

The table contains the measured SAR values averaged over a mass of 1 g				
Channel / frequency	Position	Body worn	Limit	Liquid temperature
U1000-5 GPRS, 2 Time Slots				
661 / 1880.0 MHz	front 2TS	0.0926 W/kg	1.6 W/kg	21.4 °C
661 / 1880.0 MHz	rear 2TS	0.308 W/kg	1.6 W/kg	21.4 °C
810 / 1909.8 MHz	rear 2TS	0.306 W/kg	1.6 W/kg	21.4 °C
512 / 1850.2 MHz	rear 2TS	0.396 W/kg	1.6 W/kg	21.4 °C
U1000-5 Speech mode, with Headset				
512 / 1850.2 MHz	rear	0.309 W/kg	1.6 W/kg	21.4 °C

Table 18: Test results (Body SAR PCS 1900 MHz)

Note: The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8 W/kg), testing at the high and low channels is optional.
Tests in body position were performed with 15 mm air gap between DUT and SAM to simulate the use of a non-metallic belt-clip or holster.
The addition body test was performed at worst case with 1 time slot in uplink.

GSM 850

The table contains the measured SAR values averaged over a mass of 1 g					
Channel / frequency	Position	Left hand position	Right hand position	Limit	Liquid temperature
U1000-5					
190 / 836.6 MHz	cheek	0.79 W/kg	0.852 W/kg	1.6 W/kg	21.3/21.3 °C
190 / 836.6 MHz	tilted 15°	0.499 W/kg	0.502 W/kg	1.6 W/kg	21.3/21.3 °C
251/ 848.8 MHz	cheek	--- W/kg	1.09 W/kg	1.6 W/kg	---/21.3 °C
128 / 824.2 MHz	cheek	--- W/kg	0.847 W/kg	1.6 W/kg	---/21.3 °C

Table 19: Test results (Head SAR GSM850 MHz)

The table contains the measured SAR values averaged over a mass of 1 g				
Channel / frequency	Position	Body worn	Limit	Liquid temperature
U1000-5				
190 / 836.6 MHz	front	0.47 W/kg	1.6 W/kg	21.3 °C
190 / 836.6 MHz	rear	1.01 W/kg	1.6 W/kg	21.3 °C
251/ 848.8 MHz	rear	1.04 W/kg	1.6 W/kg	21.3 °C
128 / 824.2 MHz	rear	1.08 W/kg	1.6 W/kg	21.3 °C
U1000-5 Speech mode， with Headset				
128 / 824.2 MHz	rear	0.585 W/kg	1.6 W/kg	21.3 °C

Table 20: Test results (Body SAR GSM850 MHz)

Note: The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8 W/kg), testing at the high and low channels is optional.
Tests in body position were performed with 15 mm air gap between DUT and SAM to simulate the use of a non-metallic belt-clip or holster.
The addition body test was performed at worst case with 1 time slot in uplink.

2.6.1 General description of test procedures

The DUT is tested using a CMU 200 communications tester as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted peak power.
Test positions as described in the tables above are in accordance with the specified test standard.
Tests in body position are performed with the maximum number of timeslots in uplink.
Tests in head position are performed in voice mode with 1 timeslot unless GPRS/EGPRS function allows parallel voice and data traffic on 2 or more timeslots (see chapter 1.5 for details).
Conducted output power was measured using an integrated RF connector and attached RF cable.

Annex 1 System performance verification

Date/Time: 2010-02-01 21:05:21

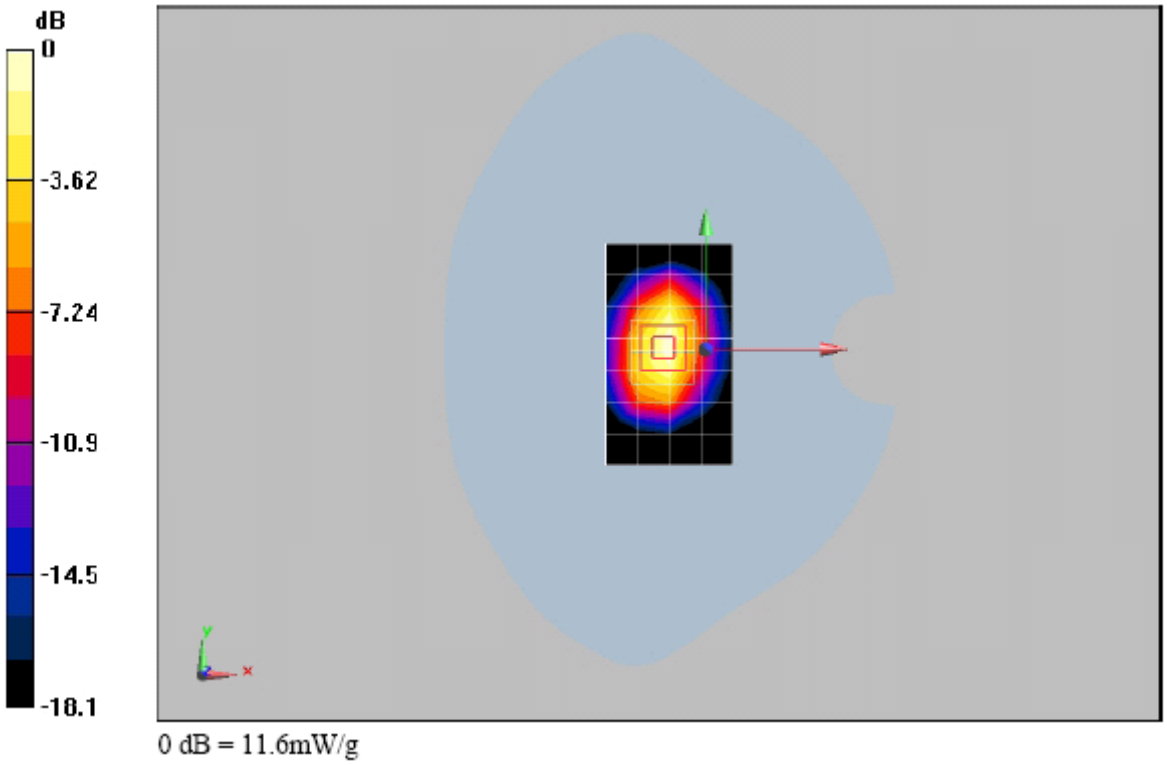
SystemPerformanceCheck-D1900 head

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d091

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.4 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

d=10mm, Pin=250mW/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 10.8 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.9 V/m; Power Drift = 0.106 dB
Peak SAR (extrapolated) = 19.4 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.28 mW/g
Maximum value of SAR (measured) = 11.6 mW/g



0 dB = 11.6mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-03 21:08:12

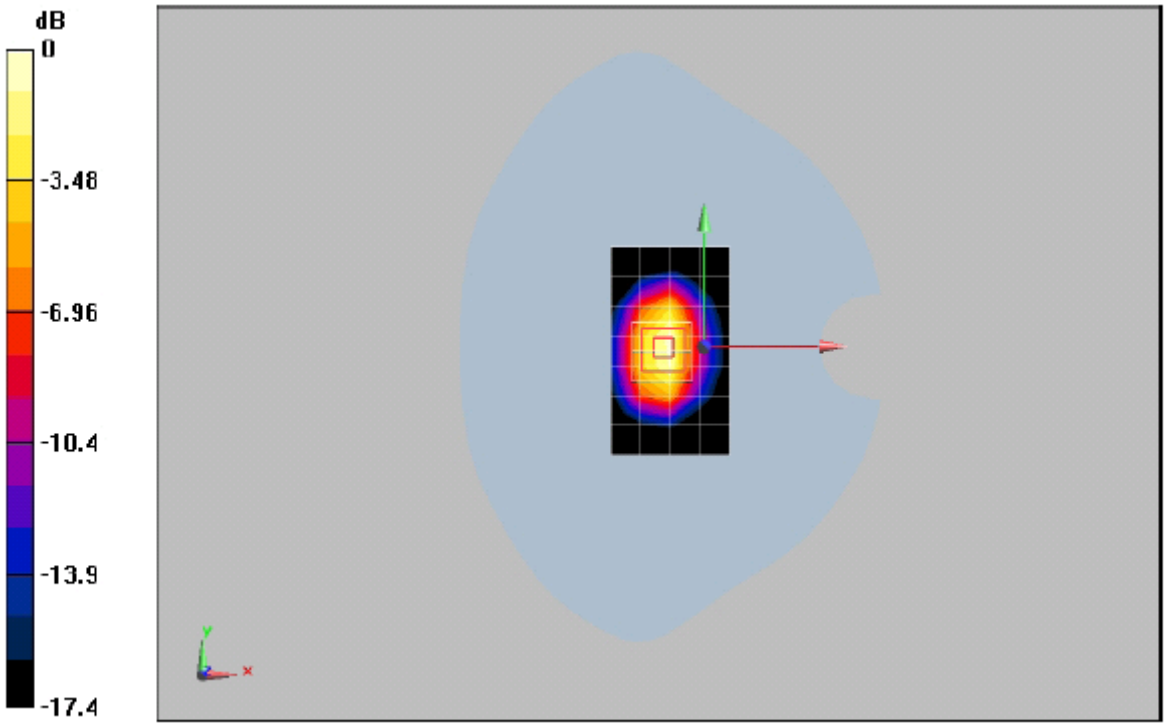
SystemPerformanceCheck-D1900 body

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d091

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.49 mho/m; ε_r = 53.4; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

d=10mm, Pin=250mW/Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 9.75 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 84.8 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 9.96 mW/g; SAR(10 g) = 5.14 mW/g
Maximum value of SAR (measured) = 11.2 mW/g



0 dB = 11.2mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-02 21:10:31

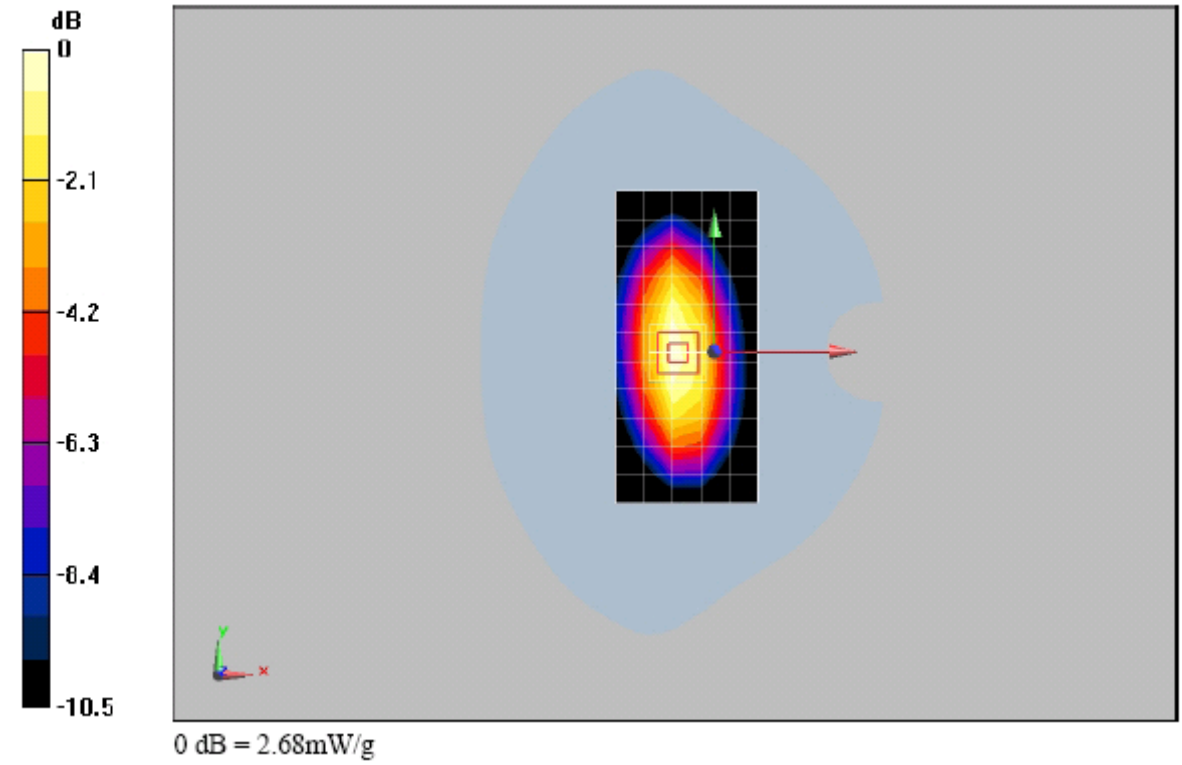
SystemPerformanceCheck-D835 head

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d059

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.936 mho/m; ε_r = 41.8; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

d=15mm, Pin=250mW/Area Scan (6x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.57 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.1 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 3.6 W/kg
SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.54 mW/g
Maximum value of SAR (measured) = 2.68 mW/g



0 dB = 2.68mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-04 21:14:14

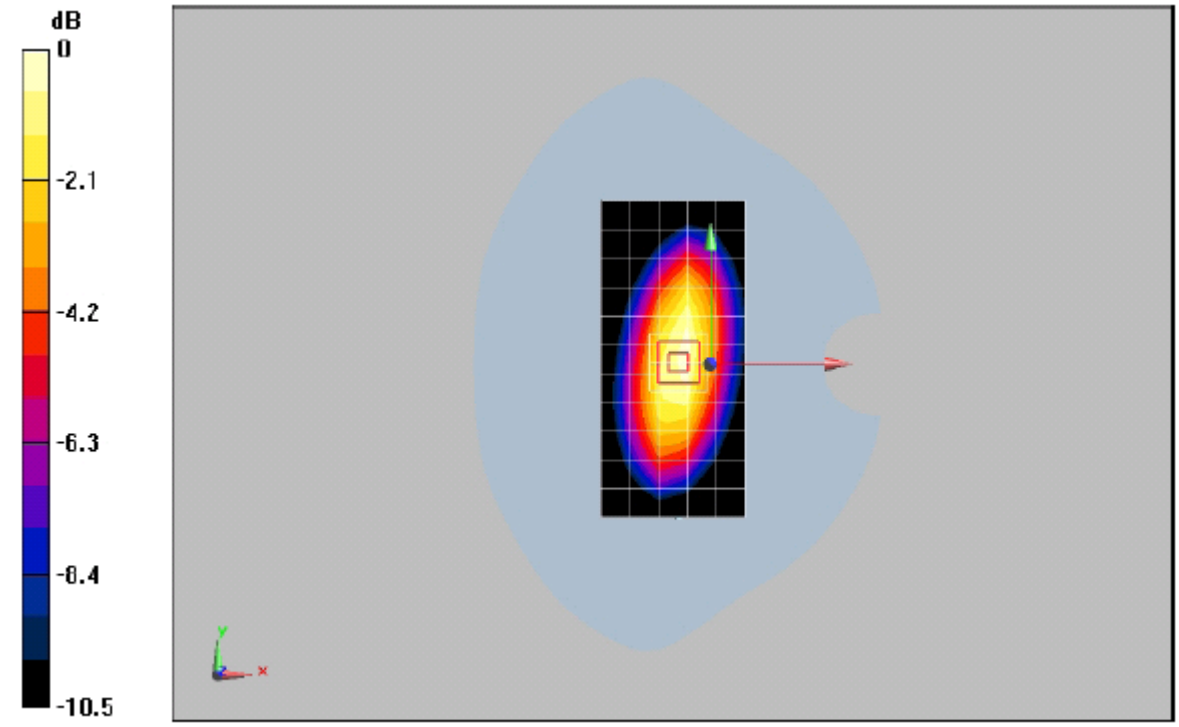
SystemPerformanceCheck-D835 body

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d059

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.983 mho/m; ε_r = 53.7; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

d=15mm, Pin=250mW/Area Scan (6x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.59 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.9 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 3.78 W/kg
SAR(1 g) = 2.58 mW/g; SAR(10 g) = 1.69 mW/g
Maximum value of SAR (measured) = 2.8 mW/g



0 dB = 2.8mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Annex 2 Measurement results (printout from DASY TM)

Remark: results of conducted power measurements: see chapter 2.5/2.6 (if applicable)

Annex 2.1 UMTS (WCDMA) FDD II 1900MHz head

Date/Time: 2010-02-01 21:45:11

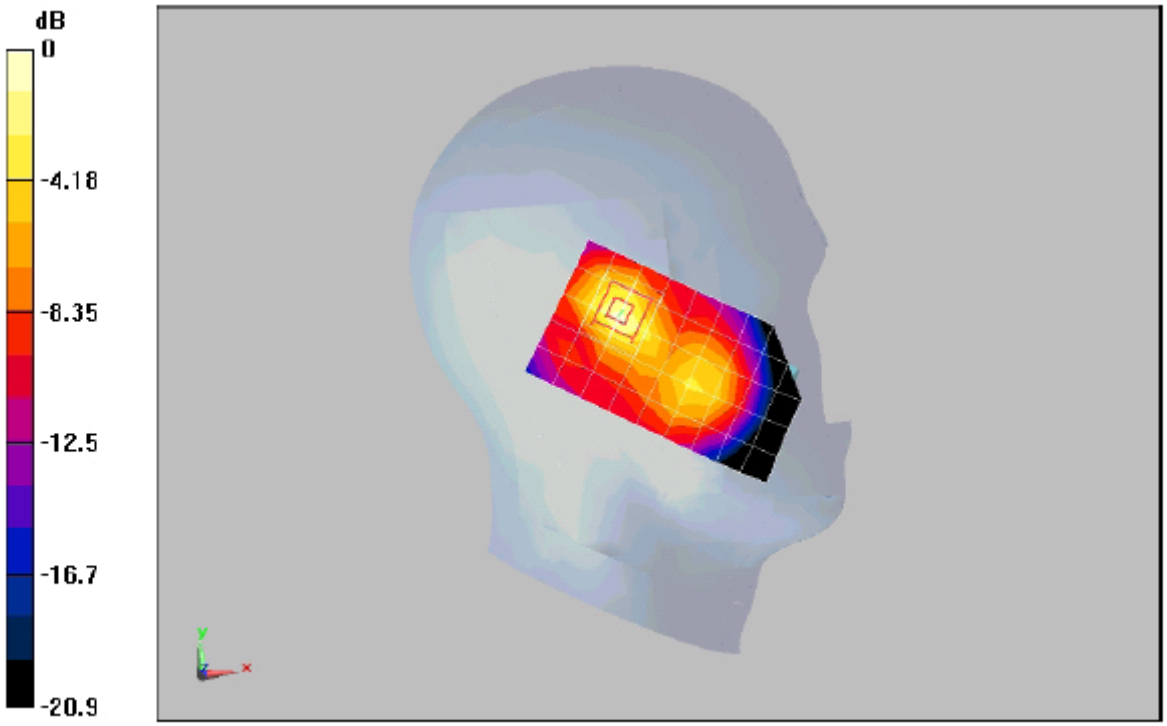
P1528_OET65_EN62209-LeftHandSide touched -WCDMA FDD II

DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.751 mW/g

head/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.4 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.735 mW/g; SAR(10 g) = 0.357 mW/g
Maximum value of SAR (measured) = 0.833 mW/g



0 dB = 0.833mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 23.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-01 22:32:21

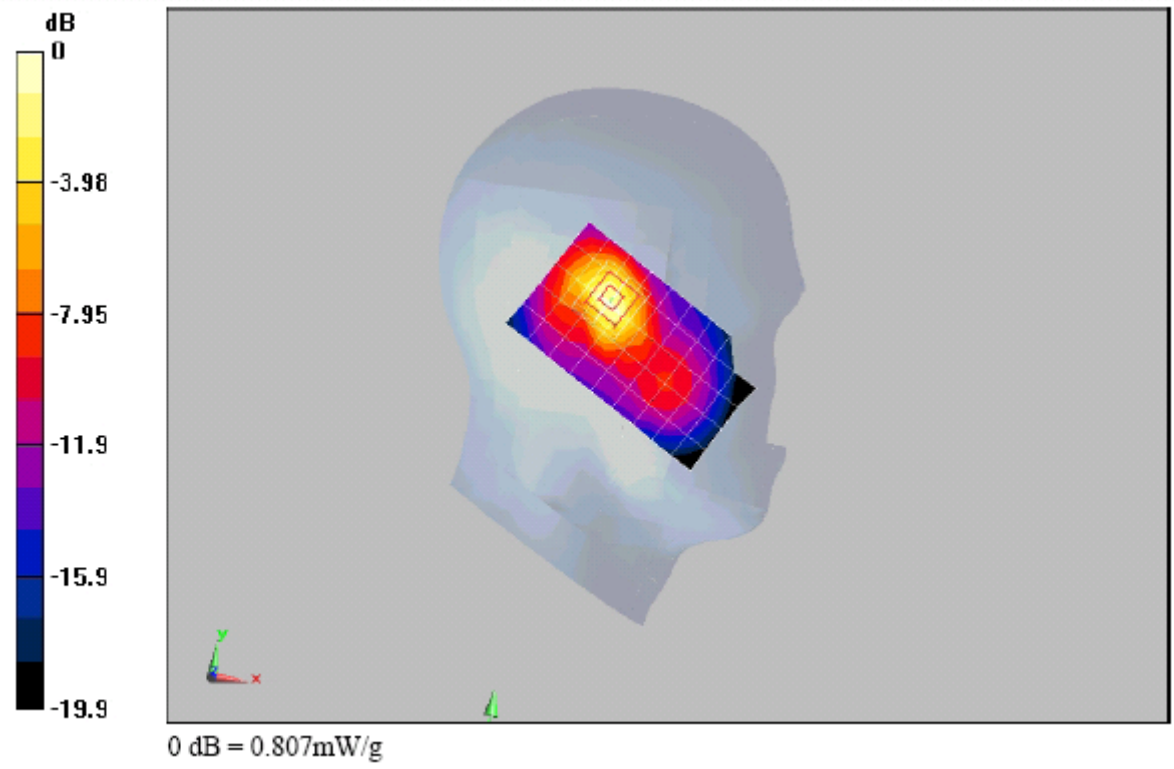
P1528_OET65_EN62209-LeftHandSide tilted 15° - WCDMA FDD II

DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.642 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.9 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.717 mW/g; SAR(10 g) = 0.356 mW/g
Maximum value of SAR (measured) = 0.807 mW/g



0 dB = 0.807mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-01 23:08:24

P1528_OET65_EN62209-RightHandSide touched -WCDMA FDD II

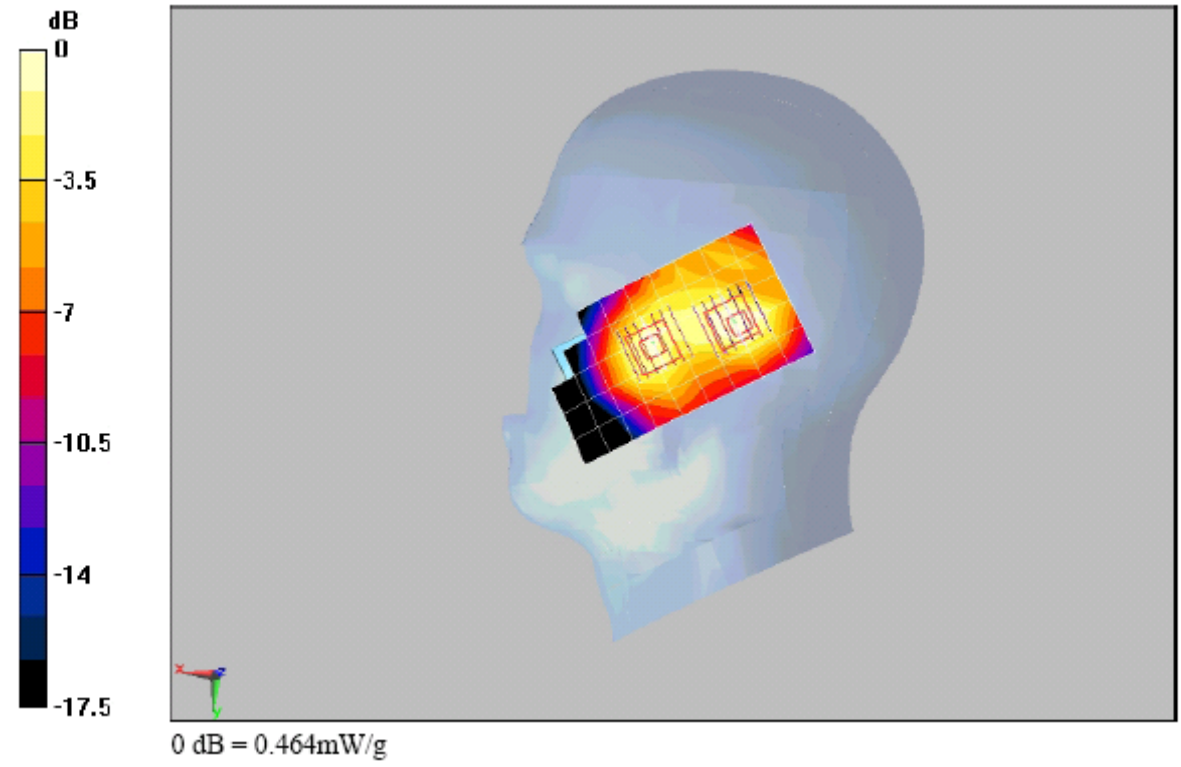
DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.577 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17 V/m; Power Drift = 0.172 dB
Peak SAR (extrapolated) = 0.971 W/kg
SAR(1 g) = 0.539 mW/g; SAR(10 g) = 0.283 mW/g
Maximum value of SAR (measured) = 0.601 mW/g

head /Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17 V/m; Power Drift = 0.172 dB
Peak SAR (extrapolated) = 0.586 W/kg
SAR(1 g) = 0.431 mW/g; SAR(10 g) = 0.266 mW/g
Maximum value of SAR (measured) = 0.464 mW/g



Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-01 23:57:44

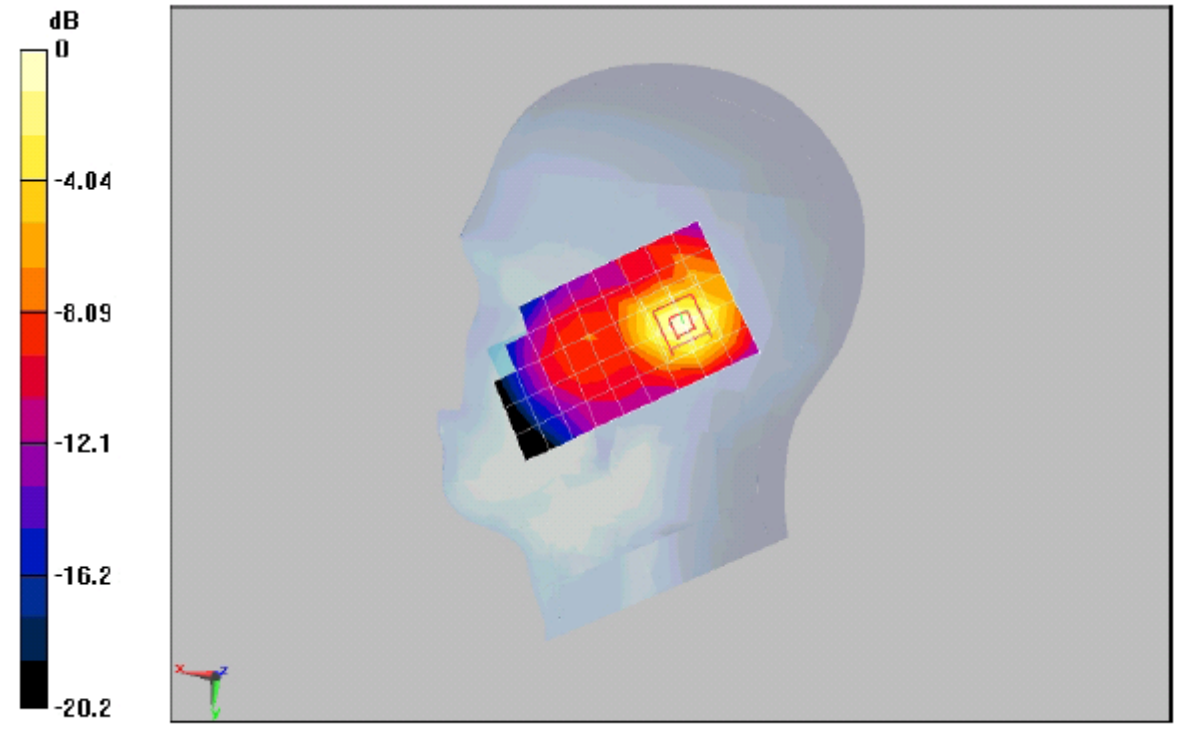
P1528_OET65_EN62209-RightHandSide tilted 15° -WCDMA FDD II

DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.595 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.8 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.929 W/kg
SAR(1 g) = 0.528 mW/g; SAR(10 g) = 0.278 mW/g
Maximum value of SAR (measured) = 0.587 mW/g



0 dB = 0.587mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-02 00:38:21

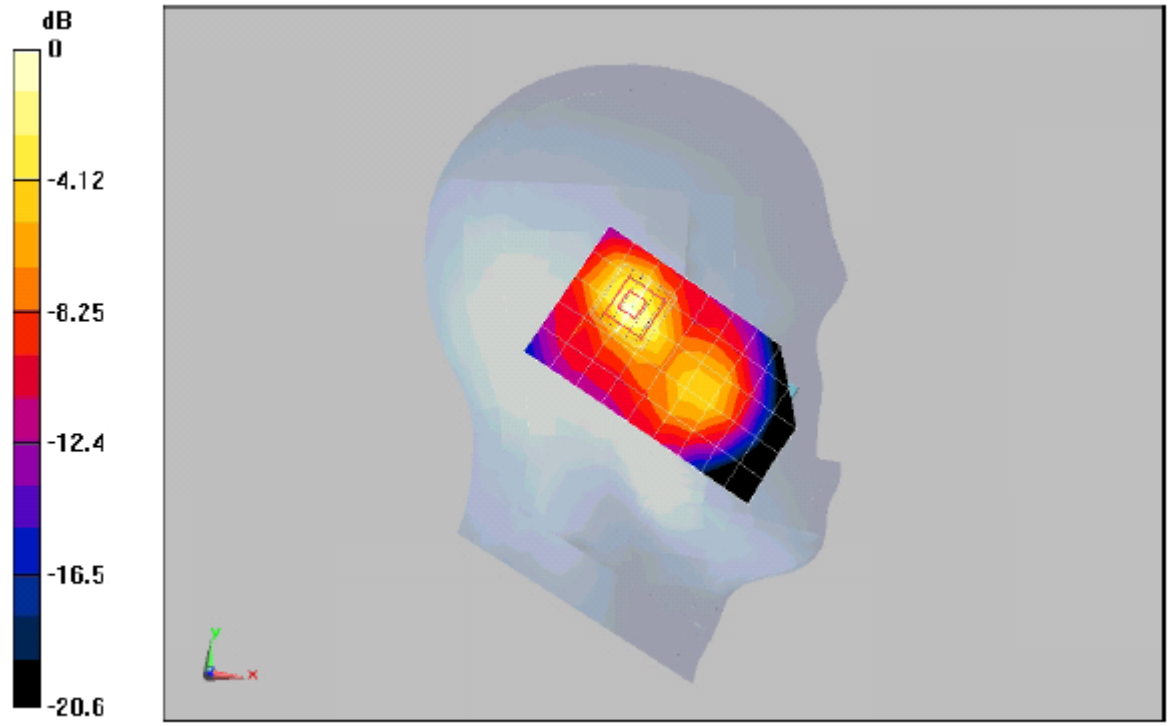
P1528_OET65_EN62209- LeftHandSide touched -WCDMA FDD II

DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.41 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.844 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.1 V/m; Power Drift = 0.010 dB
Peak SAR (extrapolated) = 1.6 W/kg
SAR(1 g) = 0.827 mW/g; SAR(10 g) = 0.399 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.946 mW/g



0 dB = 0.946mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-02 03:05:41

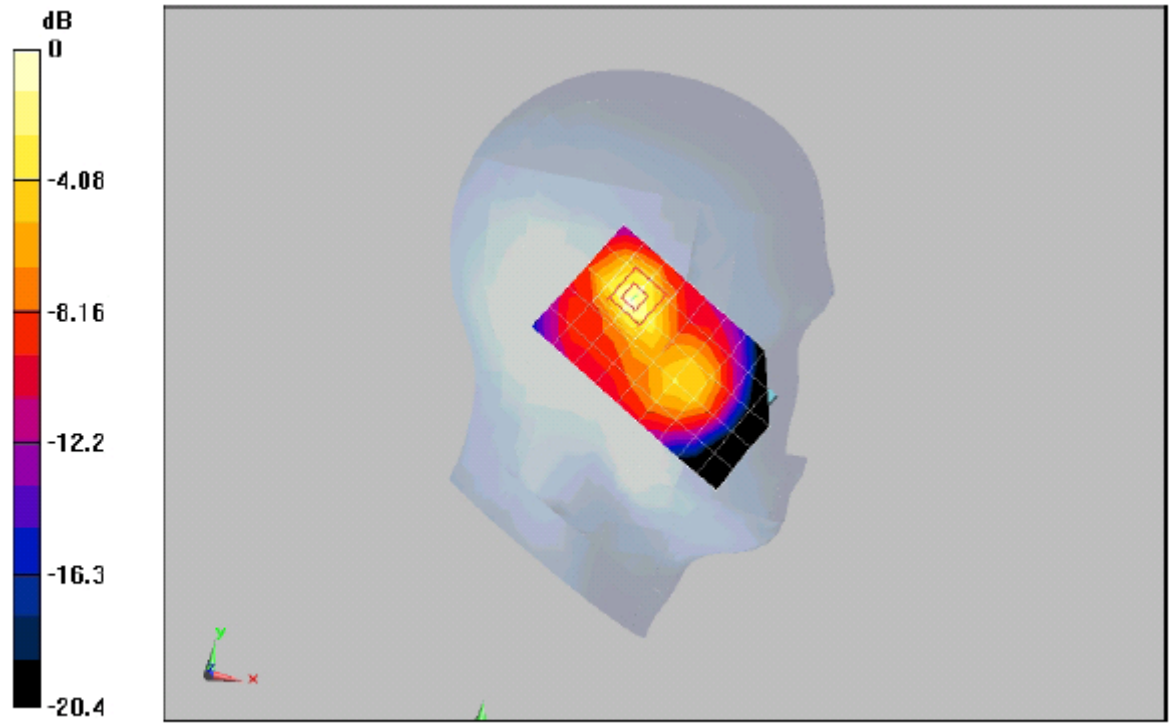
P1528_OET65_EN62209- LeftHandSide touched -WCDMA FDD II

DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.35 mho/m; ε_r = 40.9; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.654 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.5 V/m; Power Drift = -0.00127 dB
Peak SAR (extrapolated) = 1.2 W/kg
SAR(1 g) = 0.647 mW/g; SAR(10 g) = 0.315 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.736 mW/g



0 dB = 0.736mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Annex 2.2 UMTS (WCDMA) FDD II 1900MHz body

Date/Time: 2010-02-03 21:47:51

P1528_OET65_EN62209- WCDMA FDD II towards phantom

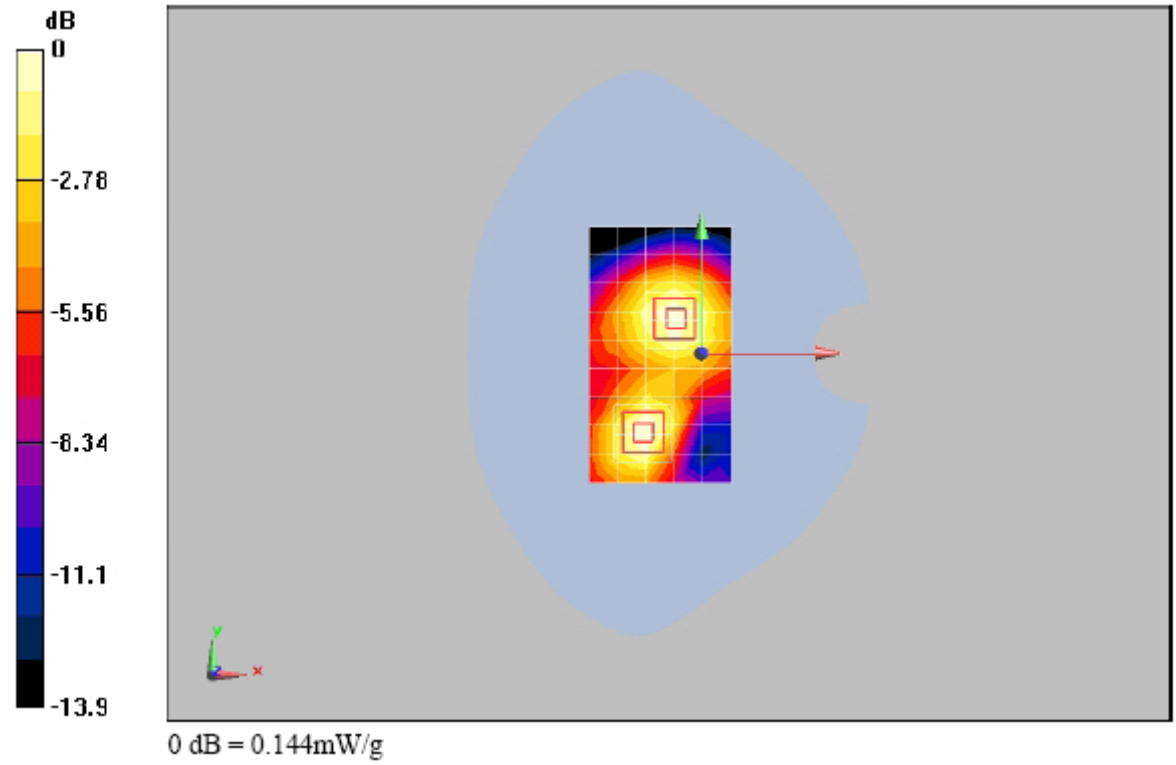
DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.46 mho/m; ε_r = 53.4; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.154 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.99 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 0.231 W/kg
SAR(1 g) = 0.145 mW/g; SAR(10 g) = 0.084 mW/g
Maximum value of SAR (measured) = 0.160 mW/g

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.99 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 0.199 W/kg
SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.085 mW/g
Maximum value of SAR (measured) = 0.144 mW/g



0 dB = 0.144mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-03 22:34:21

P1528_OET65_EN62209- WCDMA FDD II towards ground

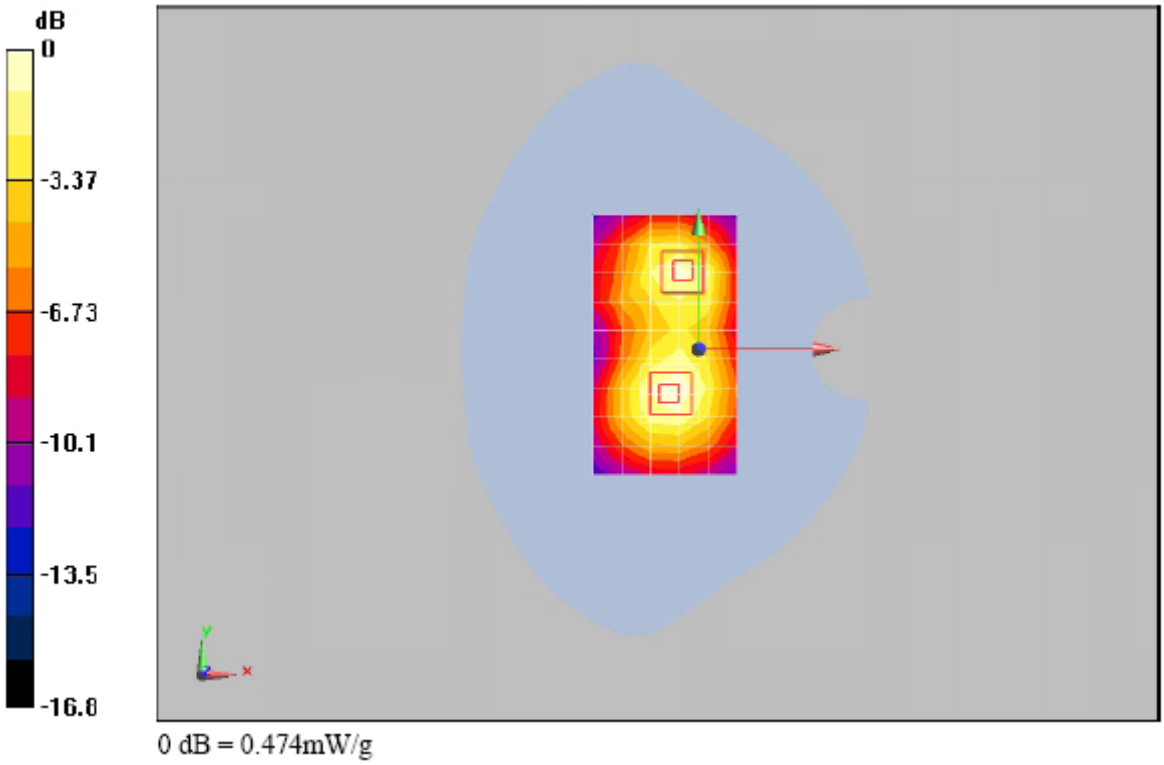
DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.46 mho/m; ε_r = 53.4; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.439 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.5 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 0.653 W/kg
SAR(1 g) = 0.434 mW/g; SAR(10 g) = 0.274 mW/g
Maximum value of SAR (measured) = 0.474 mW/g

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.5 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 0.669 W/kg
SAR(1 g) = 0.432 mW/g; SAR(10 g) = 0.255 mW/g



Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-03 23:04:13

P1528_OET65_EN62209- WCDMA FDD II towards ground

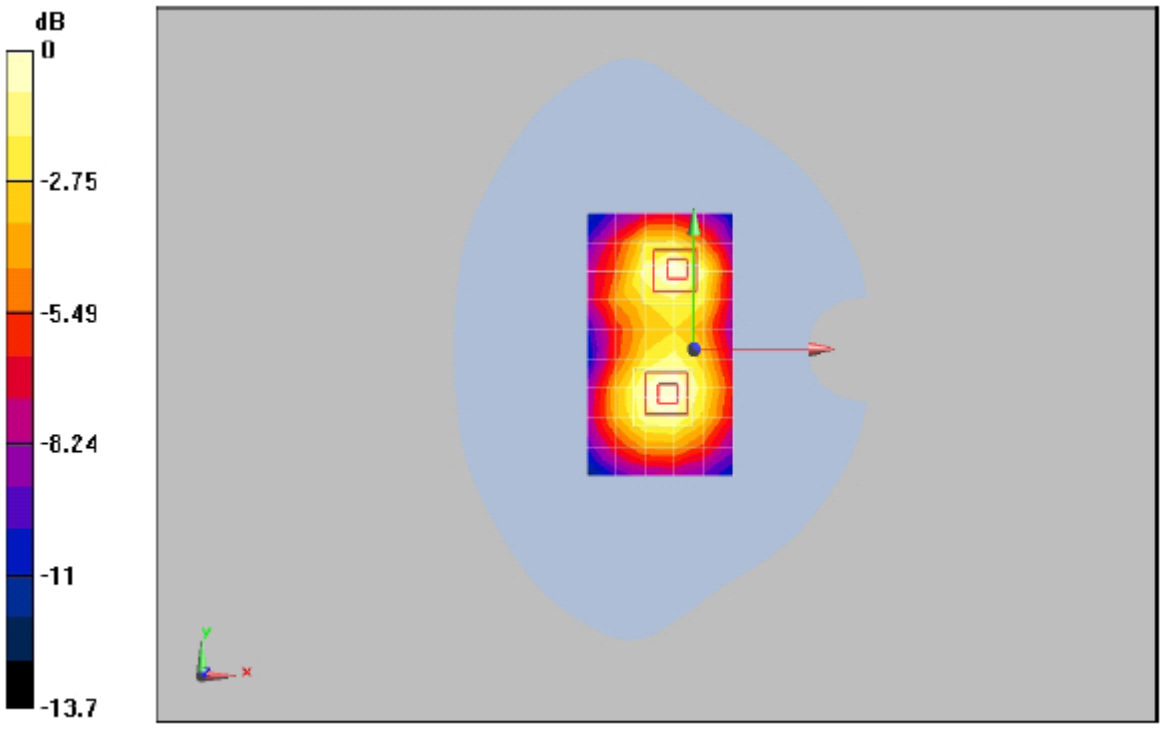
DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.49 mho/m; ε_r = 53.3; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.529 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.4 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 0.757 W/kg
SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.289 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.533 mW/g

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.4 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 0.711 W/kg
SAR(1 g) = 0.472 mW/g; SAR(10 g) = 0.300 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.505 mW/g



0 dB = 0.505mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-03 23:54:12

P1528_OET65_EN62209- WCDMA FDD II towards ground

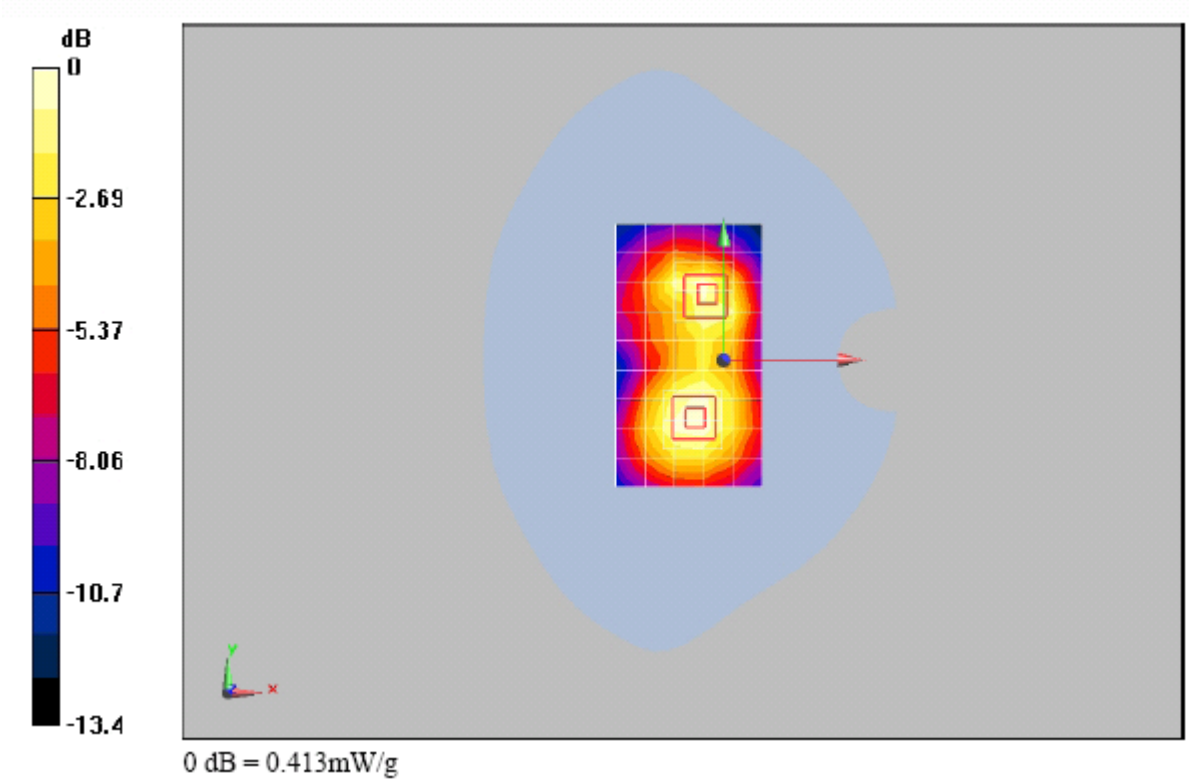
DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.44 mho/m; ε_r = 53.4; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.383 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.597 W/kg
SAR(1 g) = 0.389 mW/g; SAR(10 g) = 0.229 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.430 mW/g

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.567 W/kg
SAR(1 g) = 0.384 mW/g; SAR(10 g) = 0.247 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.413 mW/g



0 dB = 0.413mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-03 00:48:13

P1528_OET65_EN62209- WCDMA FDD II towards ground with Headset

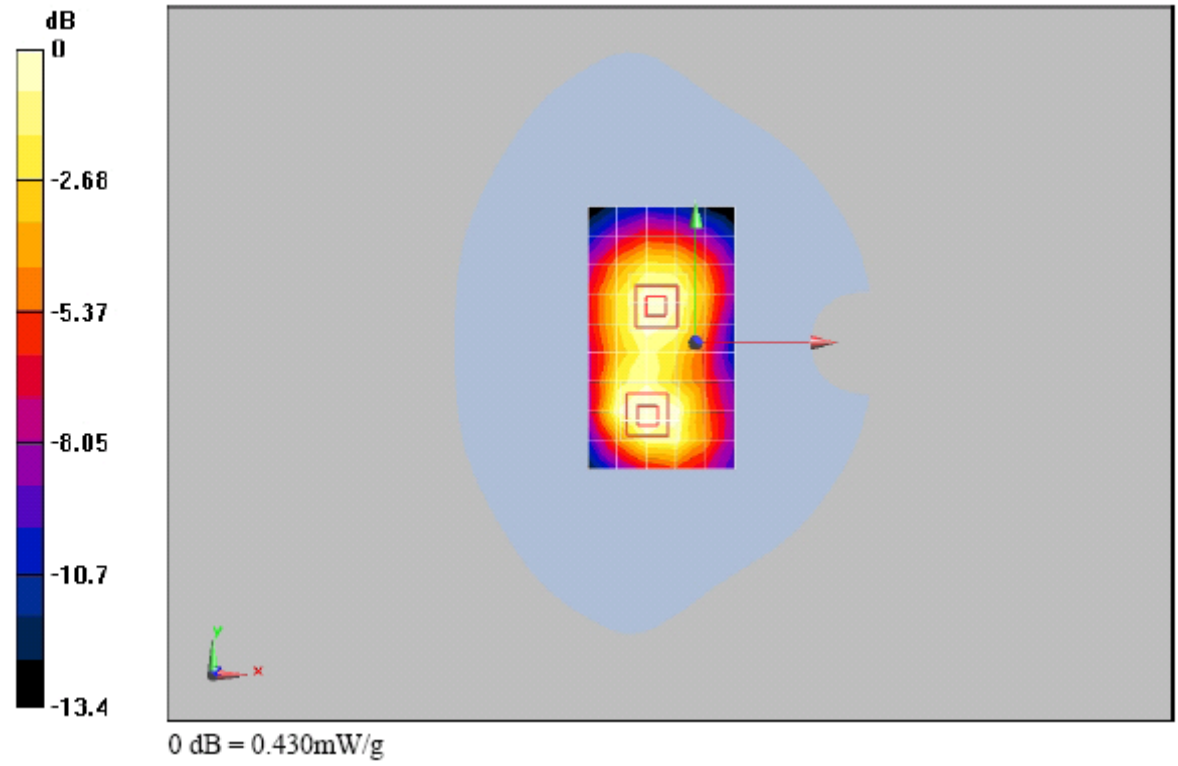
DUT: U1000-5

Communication System: WCDMA1900; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.49 mho/m; ε_r = 53.3; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.565 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = 0.061 dB
Peak SAR (extrapolated) = 0.823 W/kg
SAR(1 g) = 0.532 mW/g; SAR(10 g) = 0.310 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.578 mW/g

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = 0.061 dB
Peak SAR (extrapolated) = 0.600 W/kg
SAR(1 g) = 0.398 mW/g; SAR(10 g) = 0.255 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.430 mW/g



0 dB = 0.430mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Annex 2.3 UMTS (WCDMA) FDD V 850MHz head

Date/Time: 2010-02-02 21:50:11

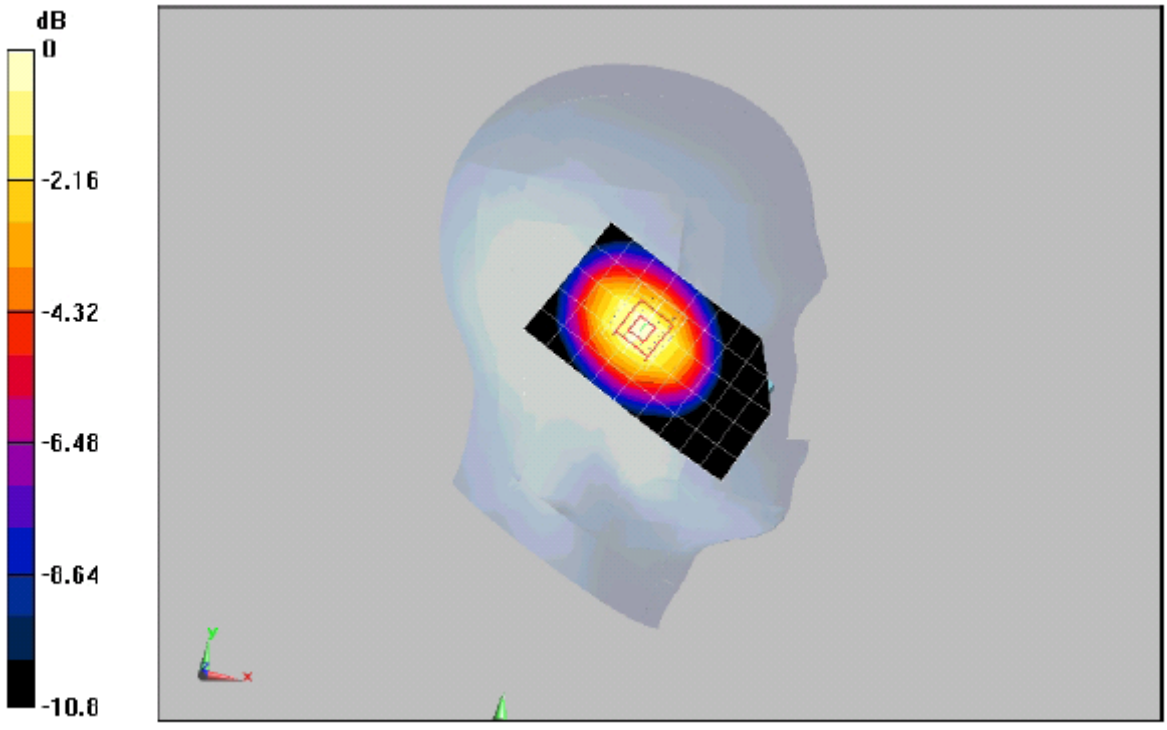
P1528_OET65_EN62209-LeftHandSide touched -WCDMA FDD V

DUT: U1000-5

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.938 mho/m; ε_r = 41.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.806 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.9 V/m; Power Drift = 0.111 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.806 mW/g; SAR(10 g) = 0.559 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.866 mW/g



0 dB = 0.866mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 23.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-02 22:38:21

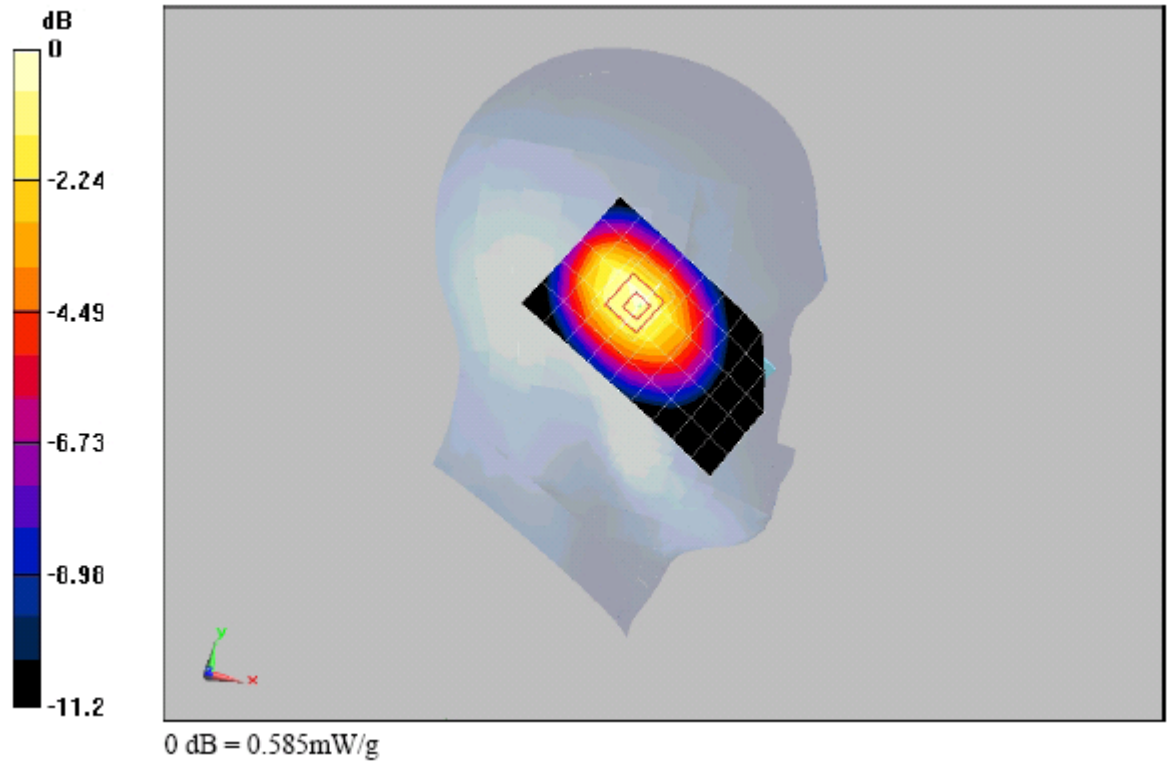
P1528_OET65_EN62209-LeftHandSide tilted 15° - WCDMA FDD V

DUT: U1000-5

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.938 mho/m; ε_r = 41.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.516 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.8 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 0.712 W/kg
SAR(1 g) = 0.541 mW/g; SAR(10 g) = 0.371 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.585 mW/g



0 dB = 0.585mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-02 23:12:21

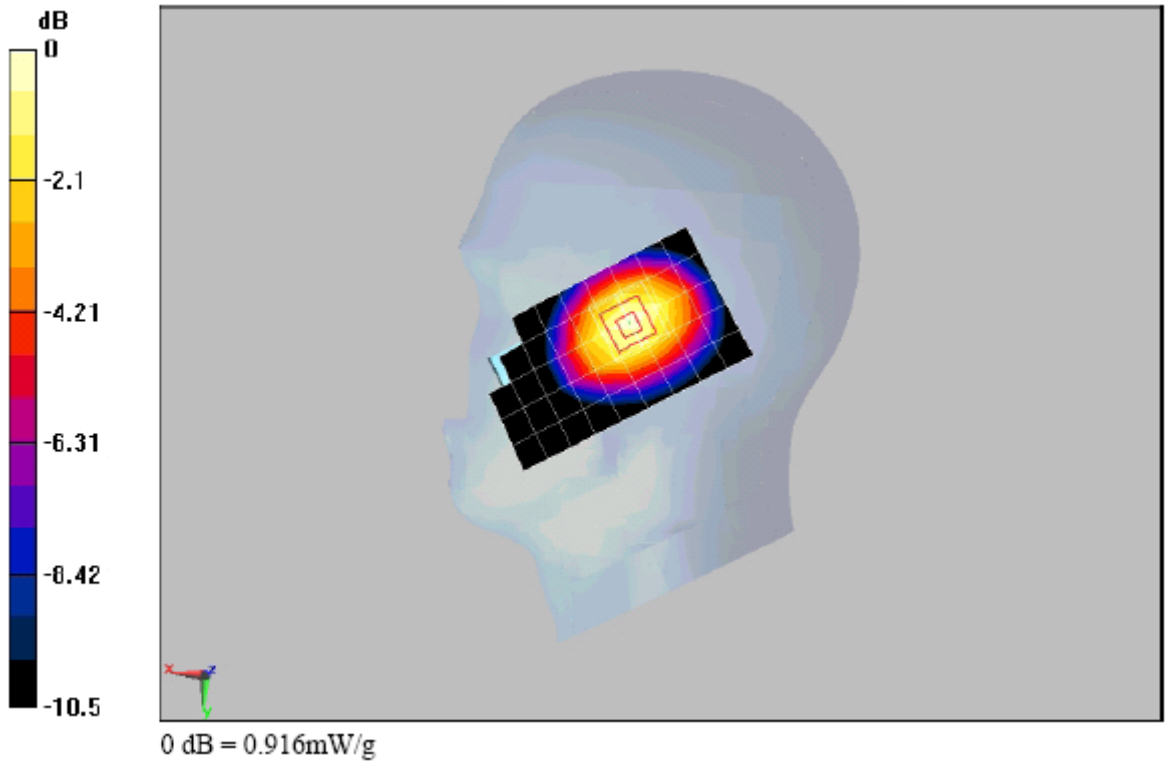
P1528_OET65_EN62209-RightHandSide touched -WCDMA FDD V

DUT: U1000-5

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.938 mho/m; ε_r = 41.8; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.874 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.9 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.854 mW/g; SAR(10 g) = 0.591 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.916 mW/g



0 dB = 0.916mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-03 00: 04:21

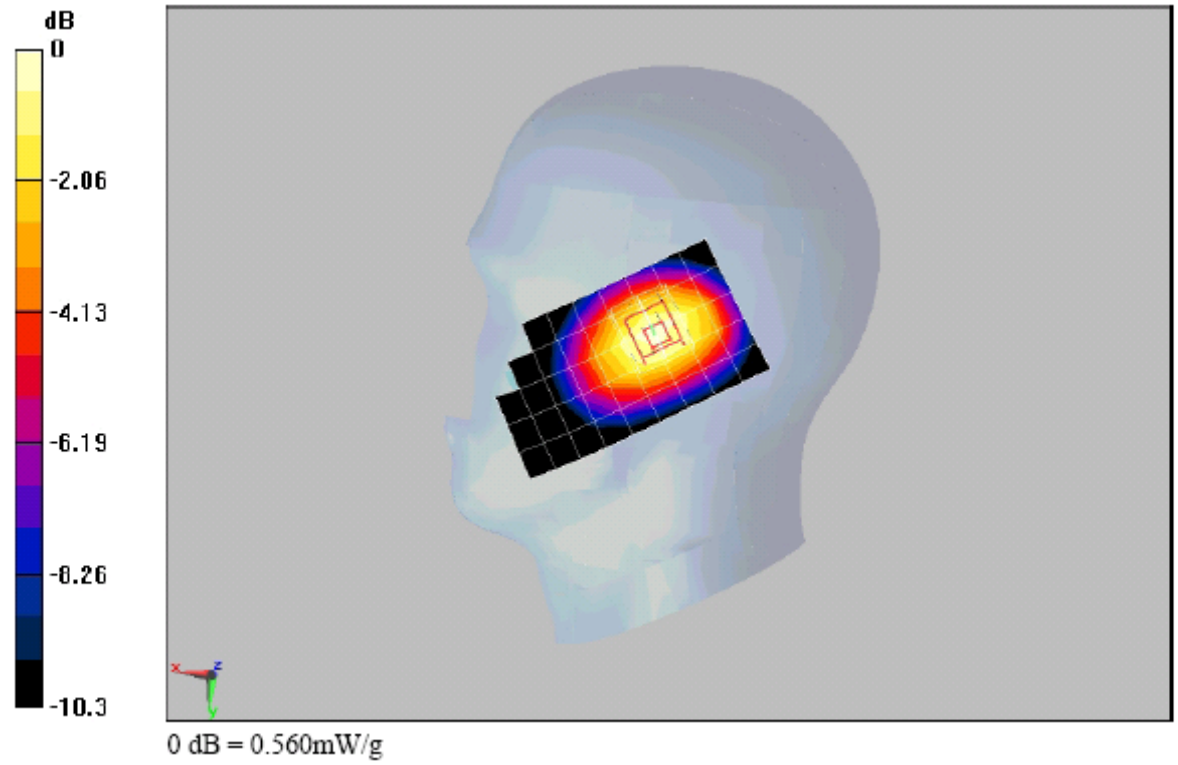
P1528_OET65_EN62209-RightHandSide tilted 15° -WCDMA FDD V

DUT: U1000-5

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.938 mho/m; ε_r = 41.8; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.538 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22 V/m; Power Drift = 0.066 dB
Peak SAR (extrapolated) = 0.687 W/kg
SAR(1 g) = 0.520 mW/g; SAR(10 g) = 0.360 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.560 mW/g



0 dB = 0.560mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-03 00: 44:21

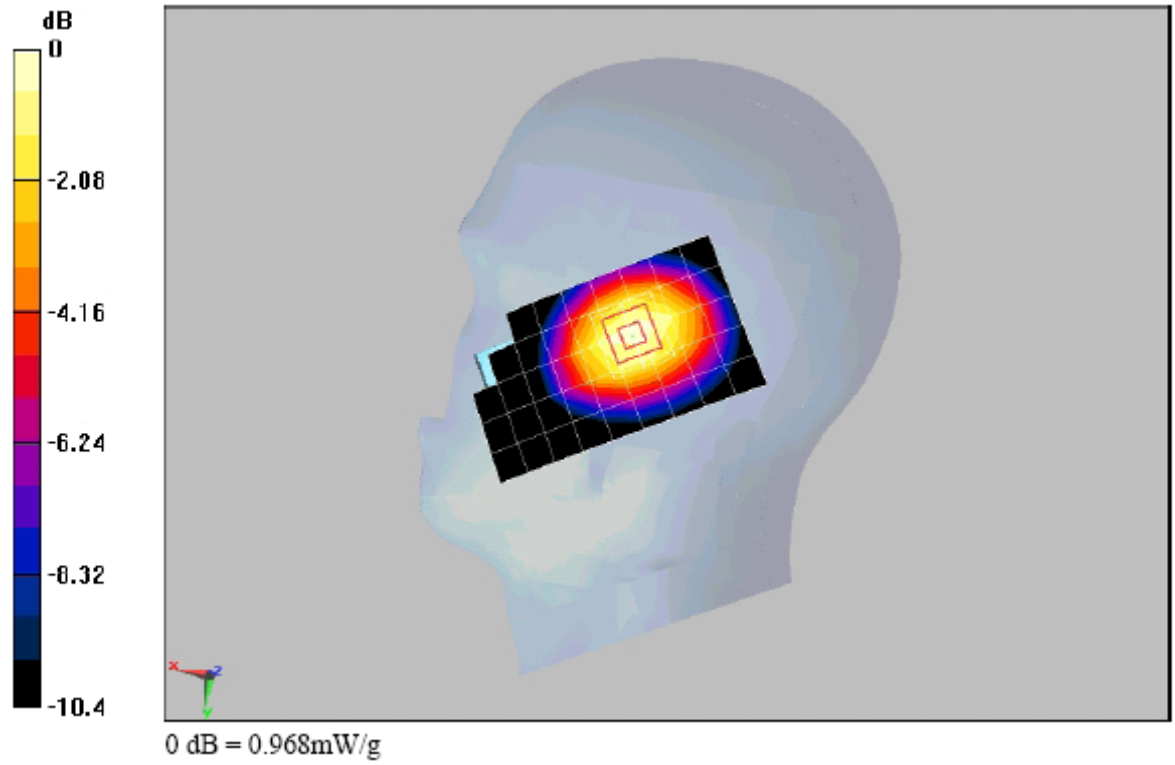
P1528_OET65_EN62209-RightHandSide touched -WCDMA FDD V

DUT: U1000-5

Communication System: WCDMA850; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.947 mho/m; ε_r = 41.7; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.954 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.5 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.904 mW/g; SAR(10 g) = 0.627 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.968 mW/g



0 dB = 0.968mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-03 03:44:21

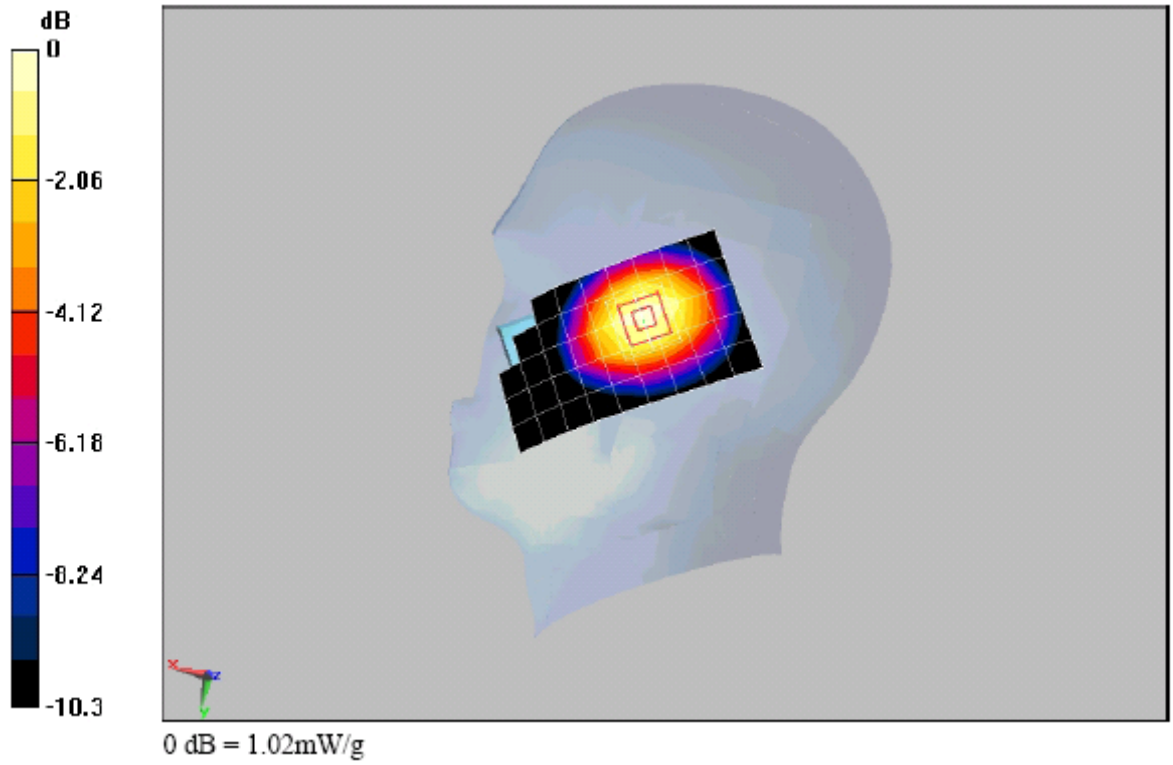
P1528_OET65_EN62209-RightHandSide touched -WCDMA FDD V

DUT: U1000-5

Communication System: WCDMA850; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.929 mho/m; ε_r = 41.9; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.01 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.9 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.955 mW/g; SAR(10 g) = 0.665 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.02 mW/g



0 dB = 1.02mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Annex 2.4 UMTS (WCDMA) FDD V 850MHz body

Date/Time: 2010-02-04 21:54:12

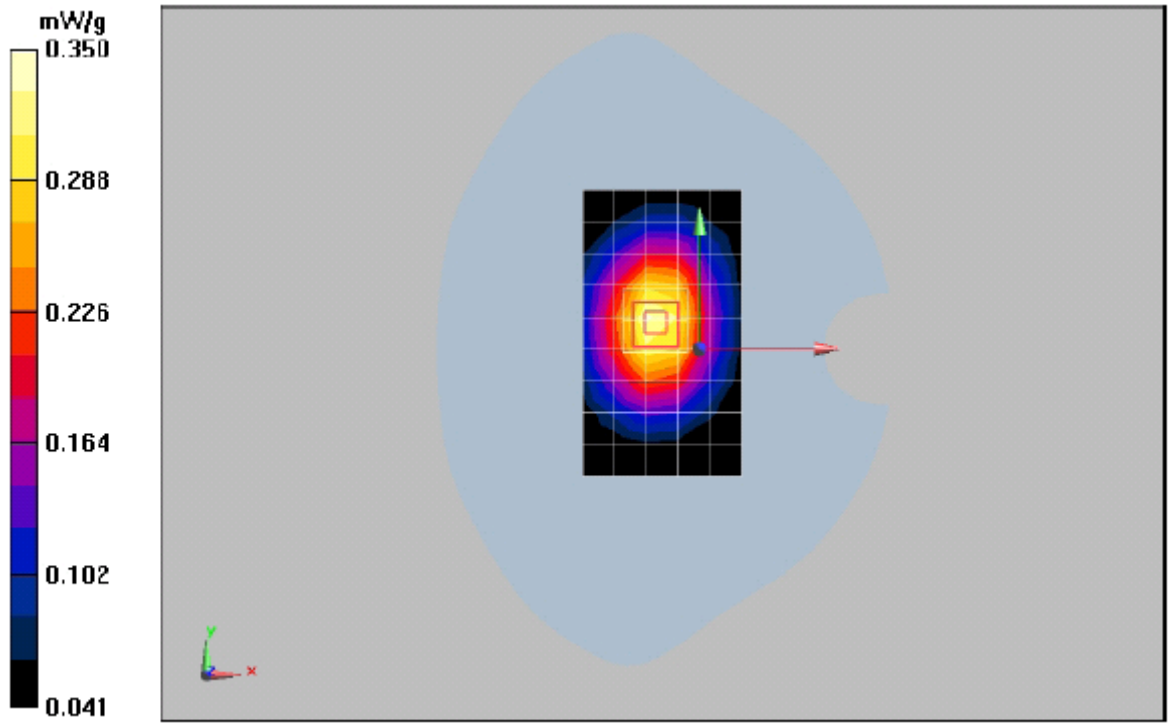
P1528_OET65_EN62209- WCDMA FDD V towards phantom

DUT: U1000-5

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.985 mho/m; ε_r = 53.7; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.334 mW/g

body /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18 V/m; Power Drift = 0.158 dB
Peak SAR (extrapolated) = 0.431 W/kg
SAR(1 g) = 0.330 mW/g; SAR(10 g) = 0.236 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.350 mW/g



Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-04 22:34:21

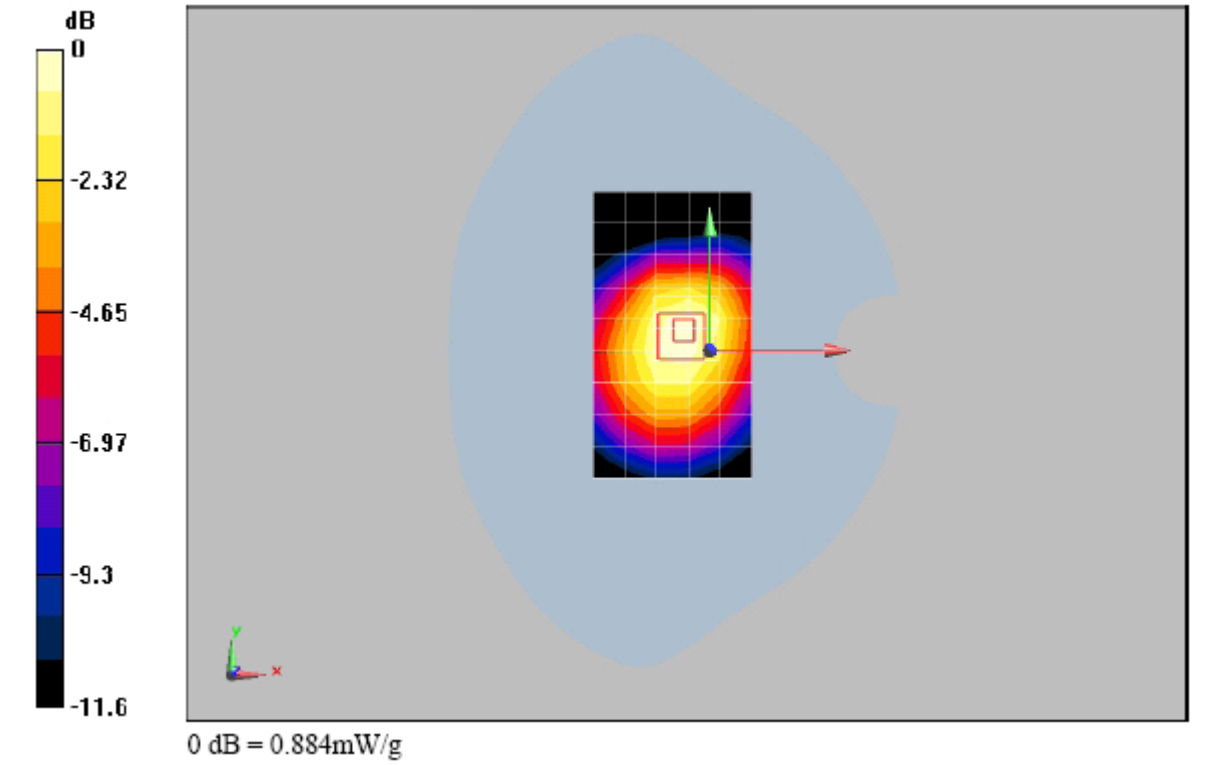
P1528_OET65_EN62209- WCDMA FDD V towards ground

DUT: U1000-5

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.985 mho/m; ε_r = 53.7; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.859 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.6 V/m; Power Drift = -0.00391 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.829 mW/g; SAR(10 g) = 0.587 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.884 mW/g



0 dB = 0.884mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-04 23:04:21

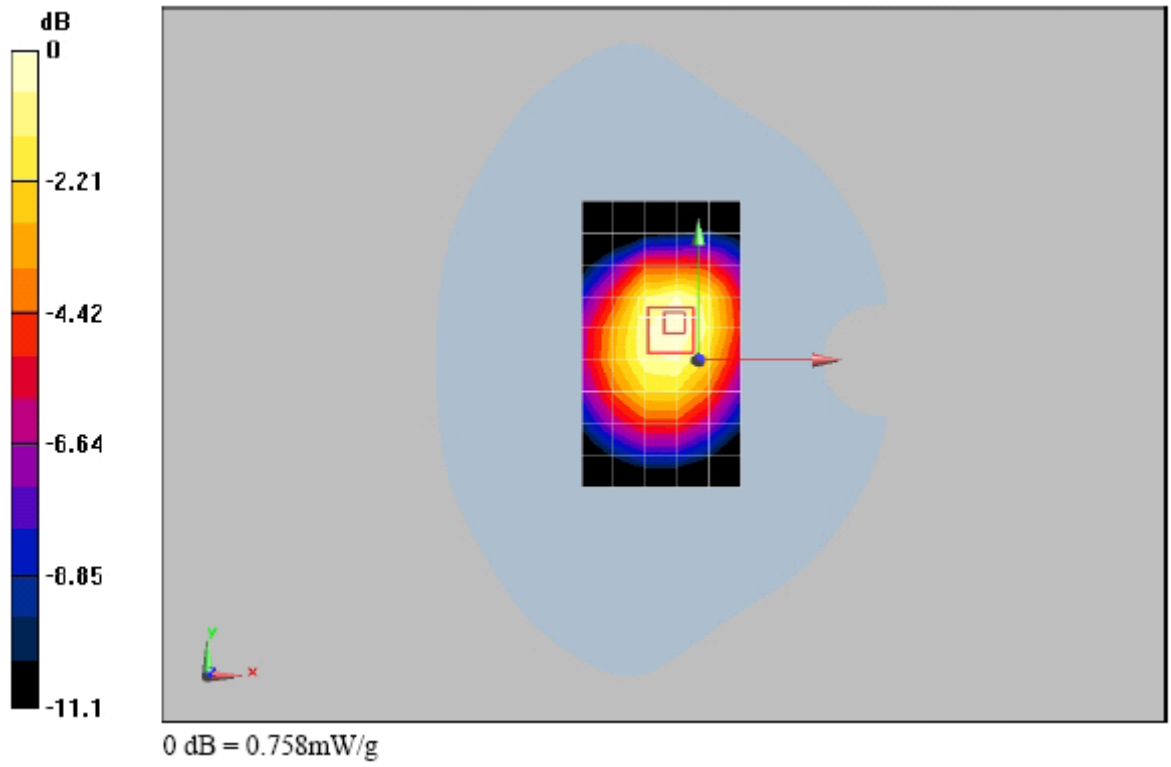
P1528_OET65_EN62209- WCDMA FDD V towards ground

DUT: U1000-5

Communication System: WCDMA850; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.995 mho/m; ε_r = 53.6; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.760 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.3 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 0.972 W/kg
SAR(1 g) = 0.715 mW/g; SAR(10 g) = 0.503 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.758 mW/g



0 dB = 0.758mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-04 23:51:31

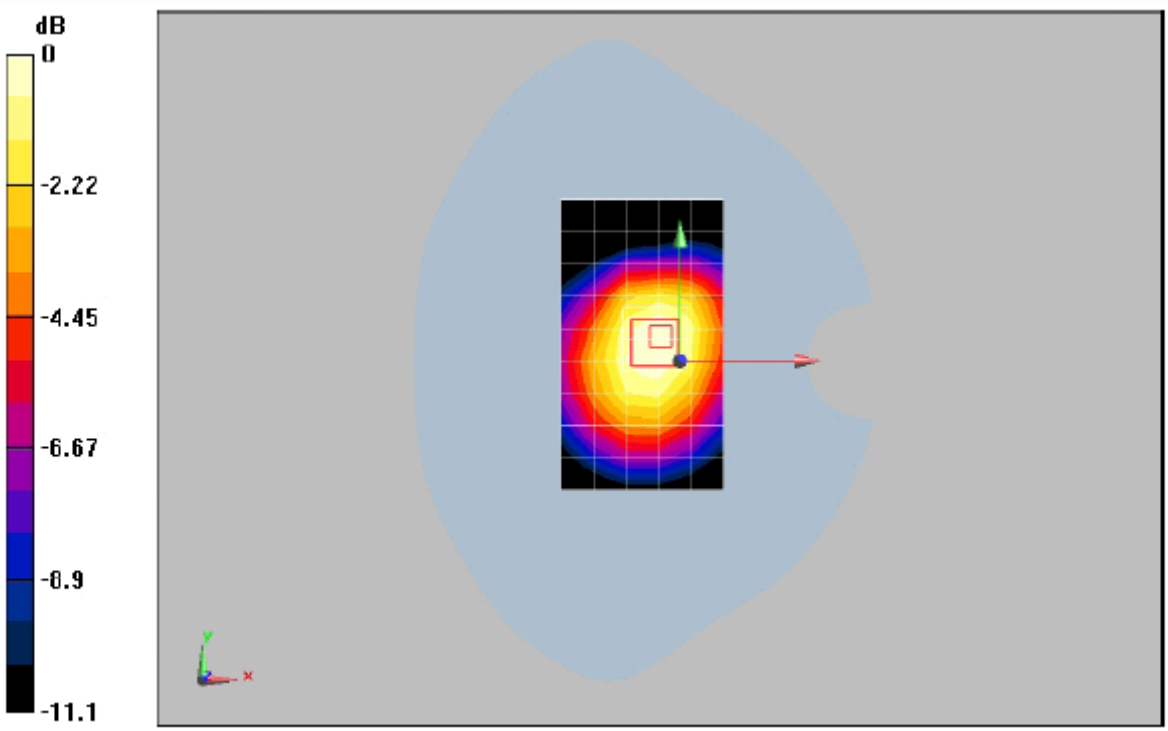
P1528_OET65_EN62209- WCDMA FDD V towards ground

DUT: U1000-5

Communication System: WCDMA850; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.975 mho/m; ε_r = 53.8; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.843 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.4 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.753 mW/g; SAR(10 g) = 0.528 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.802 mW/g



0 dB = 0.802mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-05 00:12:14

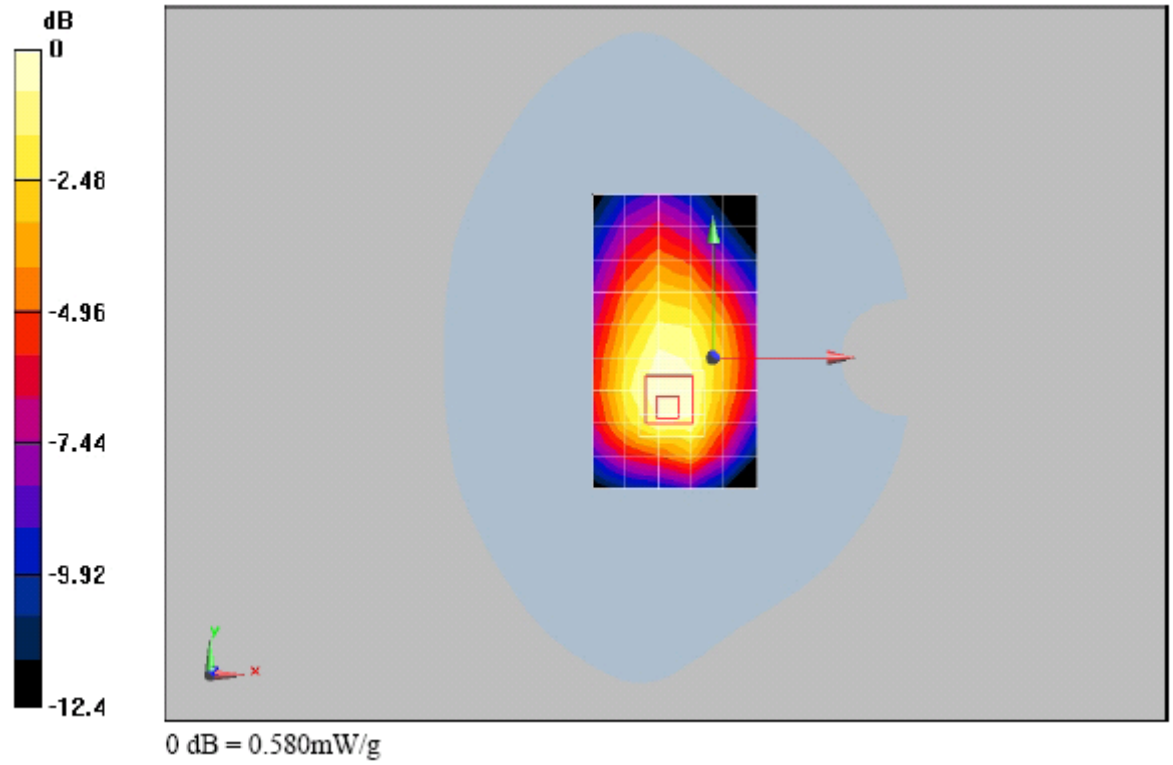
P1528_OET65_EN62209- WCDMA FDD V towards ground with Headset

DUT: U1000-5

Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.985 mho/m; ε_r = 53.7; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.578 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.3 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.753 W/kg
SAR(1 g) = 0.545 mW/g; SAR(10 g) = 0.378 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.580 mW/g



0 dB = 0.580mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Annex 2.5 PCS 1900 MHz head

Date/Time: 2010-02-02 03:44:14

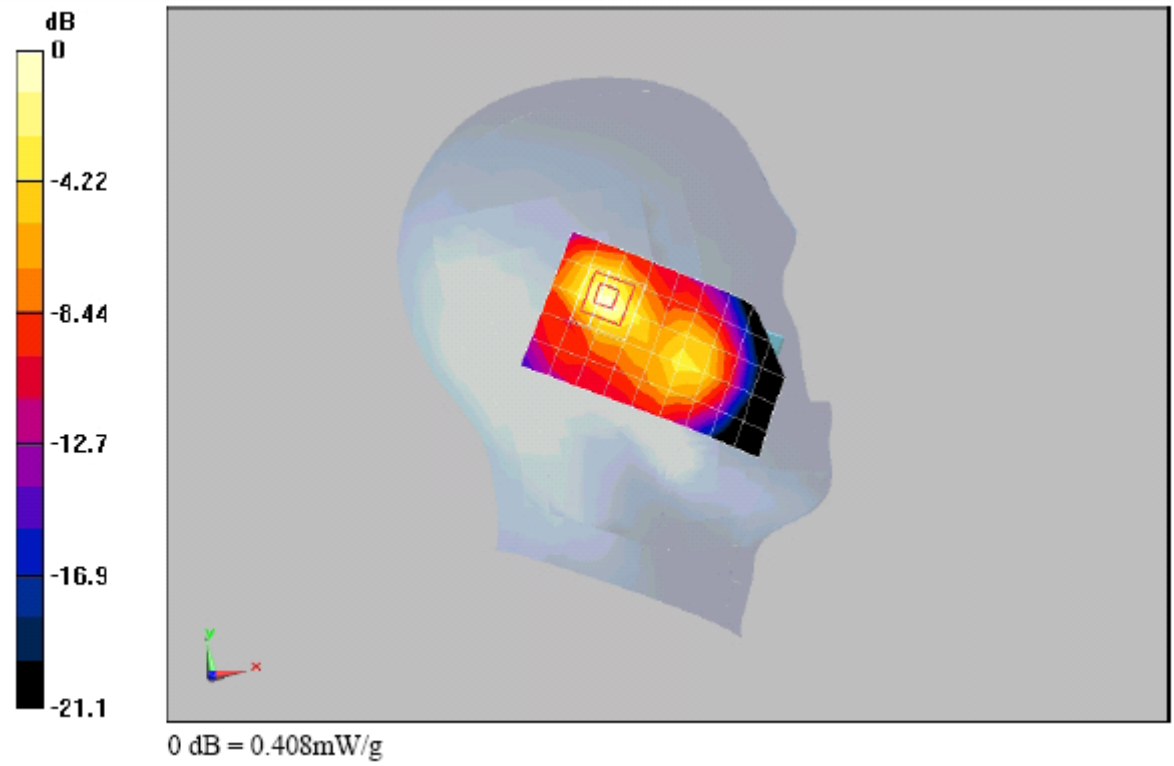
P1528_OET65_EN62209-LeftHandSide touched–GSM1900

DUT: U1000-5

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.386 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.3 V/m; Power Drift = 0.125 dB
Peak SAR (extrapolated) = 0.709 W/kg
SAR(1 g) = 0.373 mW/g; SAR(10 g) = 0.181 mW/g
Maximum value of SAR (measured) = 0.408 mW/g



0 dB = 0.408mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-02 04:37:21

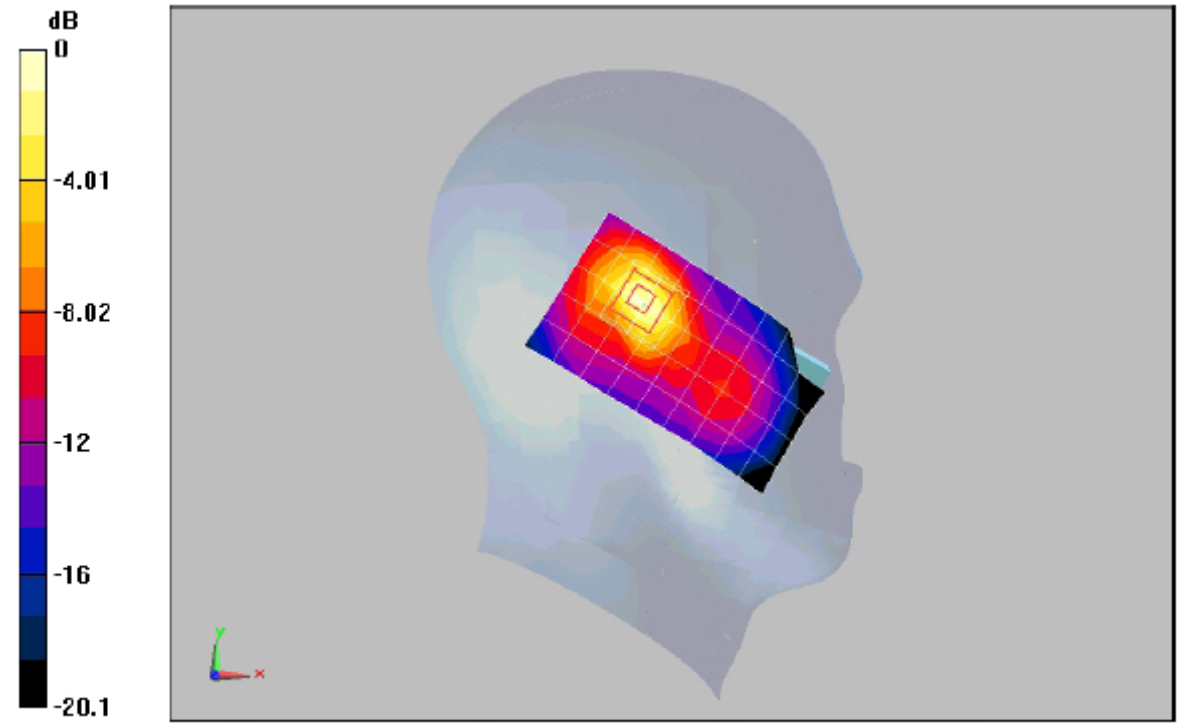
P1528_OET65_EN62209-LeftHandSide tilted 15°- GSM1900

DUT: U1000-5

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.336 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 0.683 W/kg
SAR(1 g) = 0.362 mW/g; SAR(10 g) = 0.179 mW/g
Maximum value of SAR (measured) = 0.404 mW/g



0 dB = 0.404mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-02 05:13:25

P1528_OET65_EN62209-RightHandSide touched–GSM1900

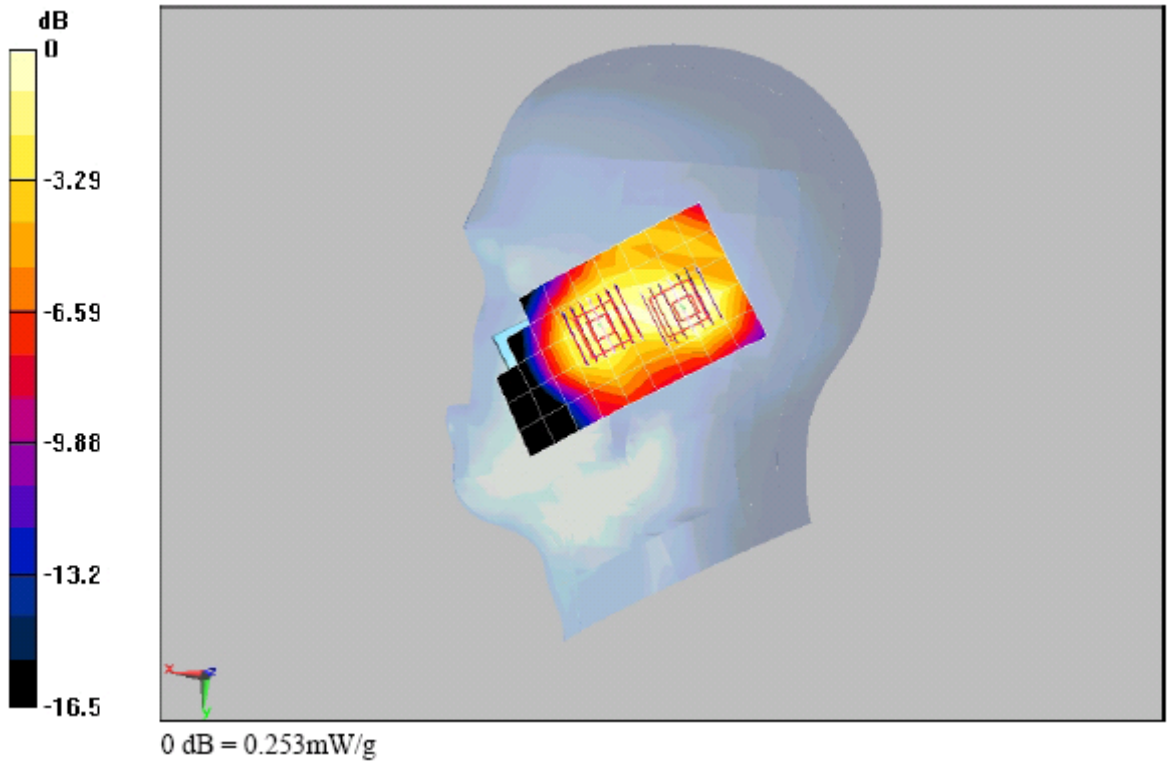
DUT: U1000-5

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.364 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 0.562 W/kg
SAR(1 g) = 0.322 mW/g; SAR(10 g) = 0.173 mW/g
Maximum value of SAR (measured) = 0.358 mW/g

head /Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 0.321 W/kg
SAR(1 g) = 0.235 mW/g; SAR(10 g) = 0.147 mW/g
Maximum value of SAR (measured) = 0.253 mW/g



0 dB = 0.253mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-02 05:54:31

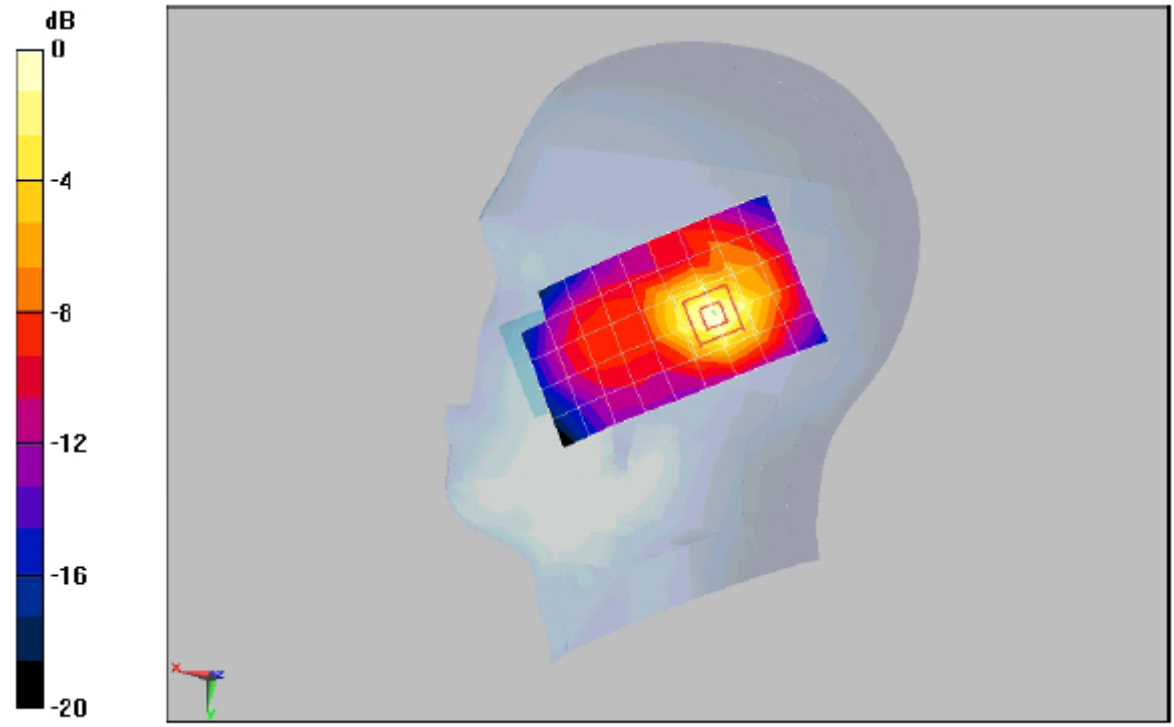
P1528_OET65_EN62209-RightHandSide tilted 15°-GSM1900

DUT: U1000-5

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.332 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = 0.00114 dB
Peak SAR (extrapolated) = 0.537 W/kg
SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.154 mW/g
Maximum value of SAR (measured) = 0.336 mW/g



0 dB = 0.336mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-02 06:41:11

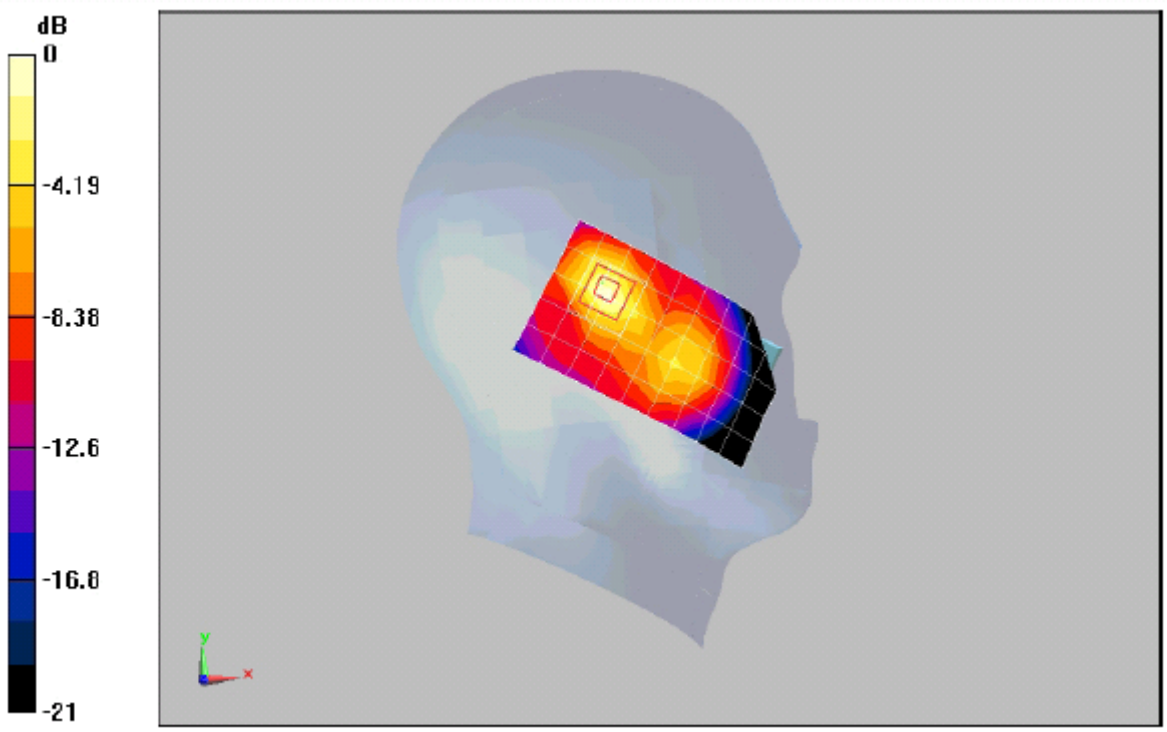
P1528_OET65_EN62209- LeftHandSide touched–GSM1900

DUT: U1000-5

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.41 mho/m; ε_r = 40.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.410 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.750 W/kg
SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.190 mW/g
Maximum value of SAR (measured) = 0.434 mW/g



0 dB = 0.434mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-02 07:35:31

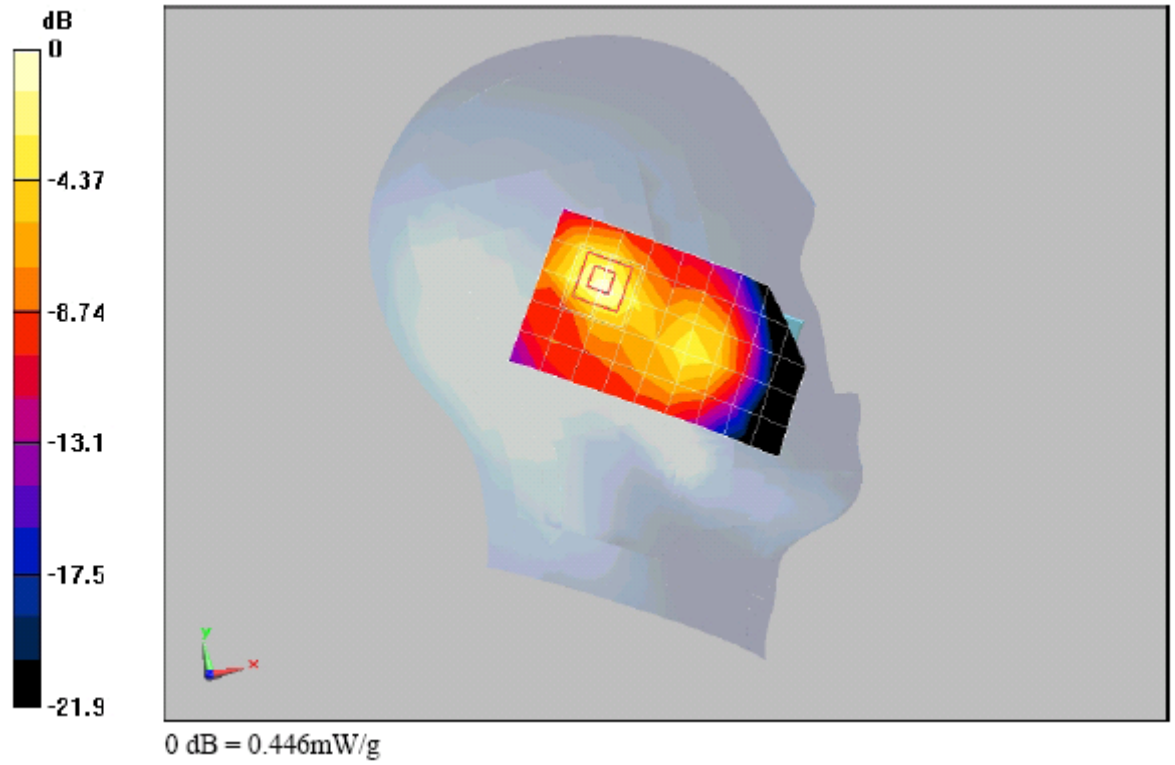
P1528_OET65_EN62209- LeftHandSide touched–GSM1900

DUT: U1000-5

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; ε_r = 40.9; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.99, 4.99, 4.99); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.417 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = 0.073 dB
Peak SAR (extrapolated) = 0.758 W/kg
SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.197 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.446 mW/g



0 dB = 0.446mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Annex 2.6 PCS 1900 MHz body

Date/Time: 2010-02-04 03:11:12

P1528_OET65_EN62209- GSM1900 GPRS 2TS towards phantom

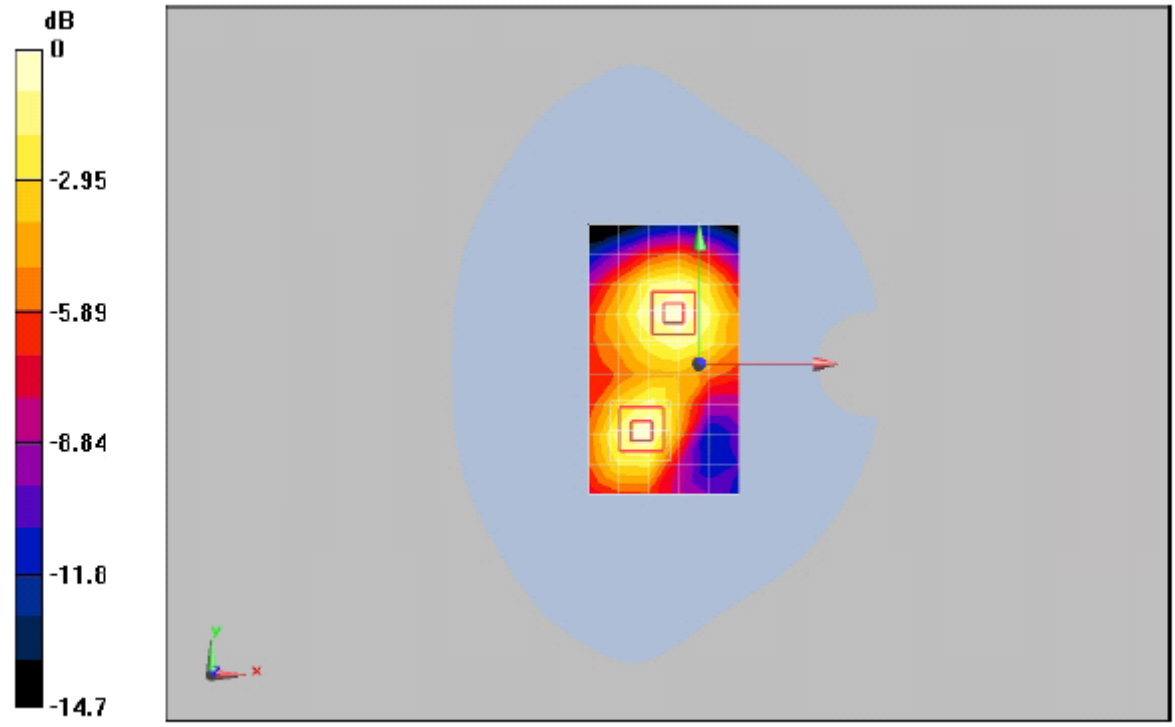
DUT: U1000-5

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4.1
Medium parameters used: f = 1880 MHz; σ = 1.46 mho/m; ε_r = 53.4; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.099 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.58 V/m; Power Drift = 0.102 dB
Peak SAR (extrapolated) = 0.147 W/kg
SAR(1 g) = 0.093 mW/g; SAR(10 g) = 0.054 mW/g
Maximum value of SAR (measured) = 0.102 mW/g

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.58 V/m; Power Drift = 0.102 dB
Peak SAR (extrapolated) = 0.139 W/kg
SAR(1 g) = 0.092 mW/g; SAR(10 g) = 0.058 mW/g



0 dB = 0.099mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-04 03:52:14

P1528_OET65_EN62209- GSM1900 GPRS 2TS towards ground

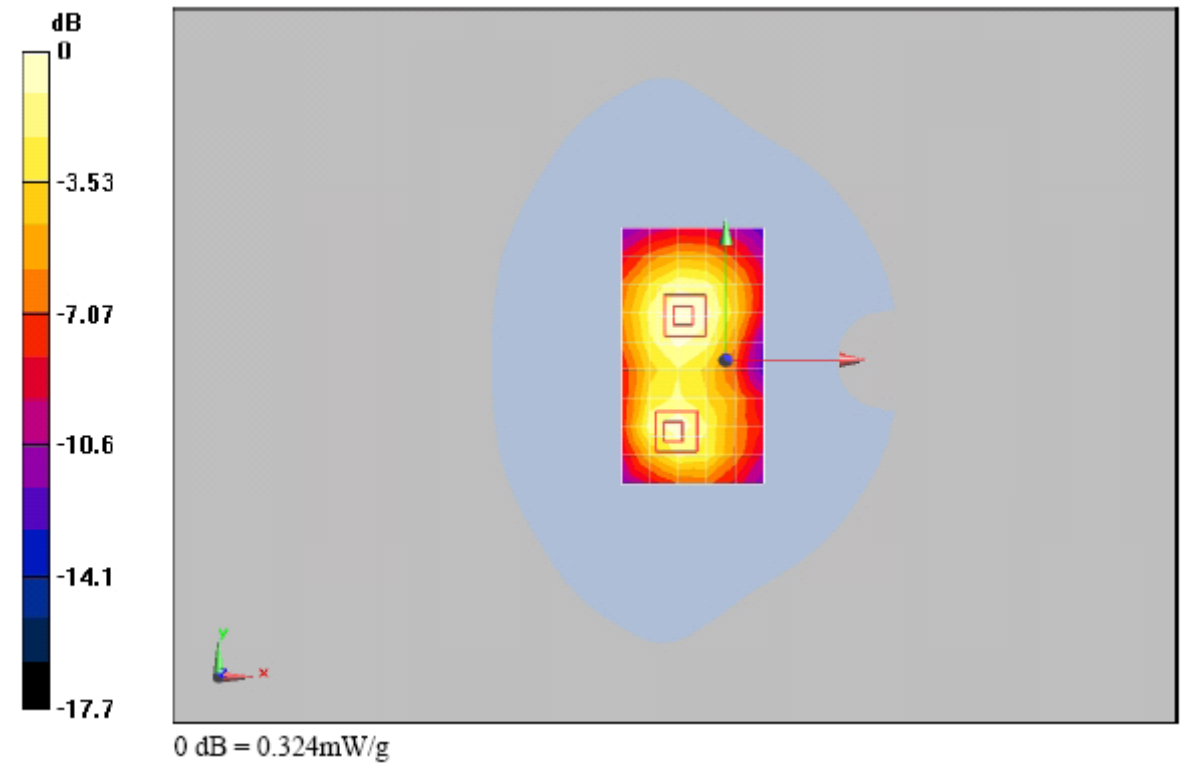
DUT: U1000-5

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4.1
Medium parameters used: f = 1880 MHz; σ = 1.46 mho/m; ε_r = 53.4; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.326 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.459 W/kg
SAR(1 g) = 0.308 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.329 mW/g

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.464 W/kg
SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.175 mW/g
Maximum value of SAR (measured) = 0.324 mW/g



0 dB = 0.324mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-04 04:45:41

P1528_OET65_EN62209- GSM1900 GPRS 2TS towards ground

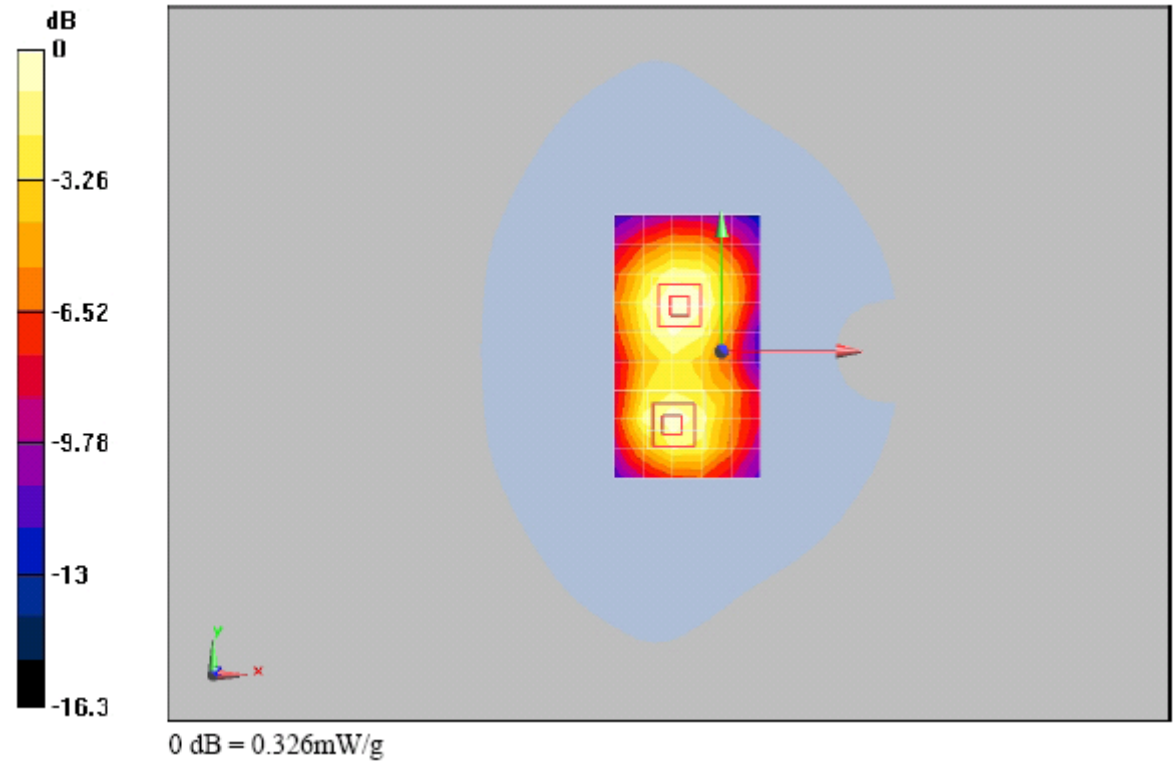
DUT: U1000-5

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:4.1
Medium parameters used: f = 1910 MHz; σ = 1.49 mho/m; ε_r = 53.3; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.326 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.458 W/kg
SAR(1 g) = 0.306 mW/g; SAR(10 g) = 0.194 mW/g
Maximum value of SAR (measured) = 0.330 mW/g

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.460 W/kg
SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.177 mW/g



0 dB = 0.326mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-04 05: 34:12

P1528_OET65_EN62209- GSM1900 GPRS 2TS towards ground

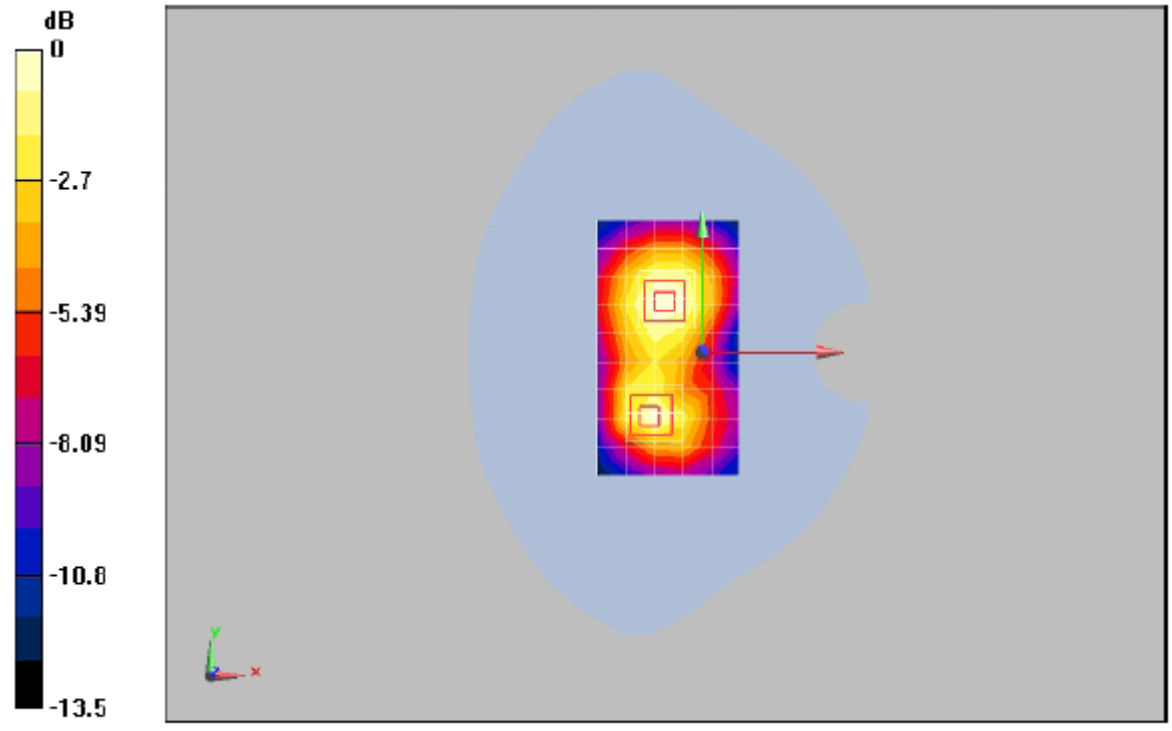
DUT: U1000-5

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.1
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; ε_r = 53.6; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.439 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 0.625 W/kg
SAR(1 g) = 0.396 mW/g; SAR(10 g) = 0.228 mW/g
Info: Interpolated medium parameters used for SAR evaluation.

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 0.605 W/kg
SAR(1 g) = 0.405 mW/g; SAR(10 g) = 0.260 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.436 mW/g



0 dB = 0.436mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Date/Time: 2010-02-04 06 :44:31

P1528_OET65_EN62209- GSM1900 towards ground with Headset

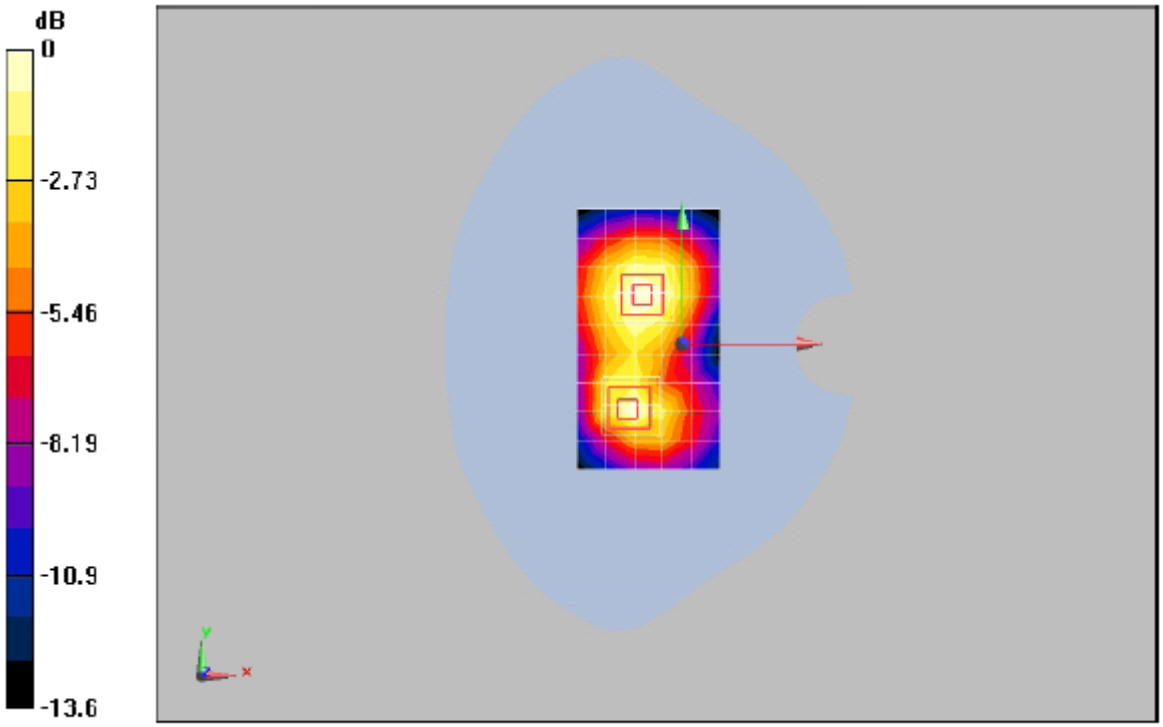
DUT: U1000-5

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; ε_r = 53.6; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(4.62, 4.62, 4.62); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.338 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = 0.00844 dB
Peak SAR (extrapolated) = 0.491 W/kg
SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.176 mW/g
Info: Interpolated medium parameters used for SAR evaluation.

body/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = 0.00844 dB
Peak SAR (extrapolated) = 0.472 W/kg
SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.204 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.342 mW/g



0 dB = 0.342mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.4°C

Annex 2.7 GSM 850 MHz head

Date/Time: 2010-02-03 04:27:12

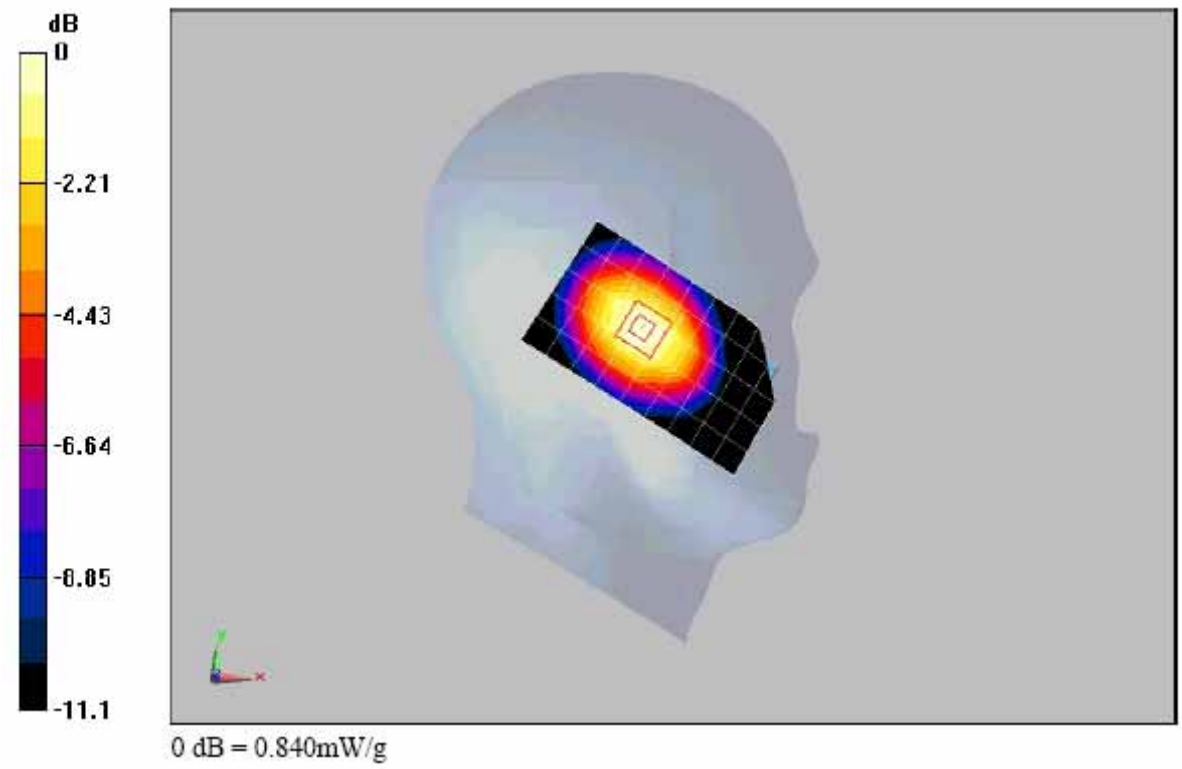
P1528_OET65_EN62209-LeftHandSide touched–GSM850

DUT: U1000-5

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.938 mho/m; ε_r = 41.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.798 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.4 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.790 mW/g; SAR(10 g) = 0.547 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.840 mW/g



Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-03 04:58:31

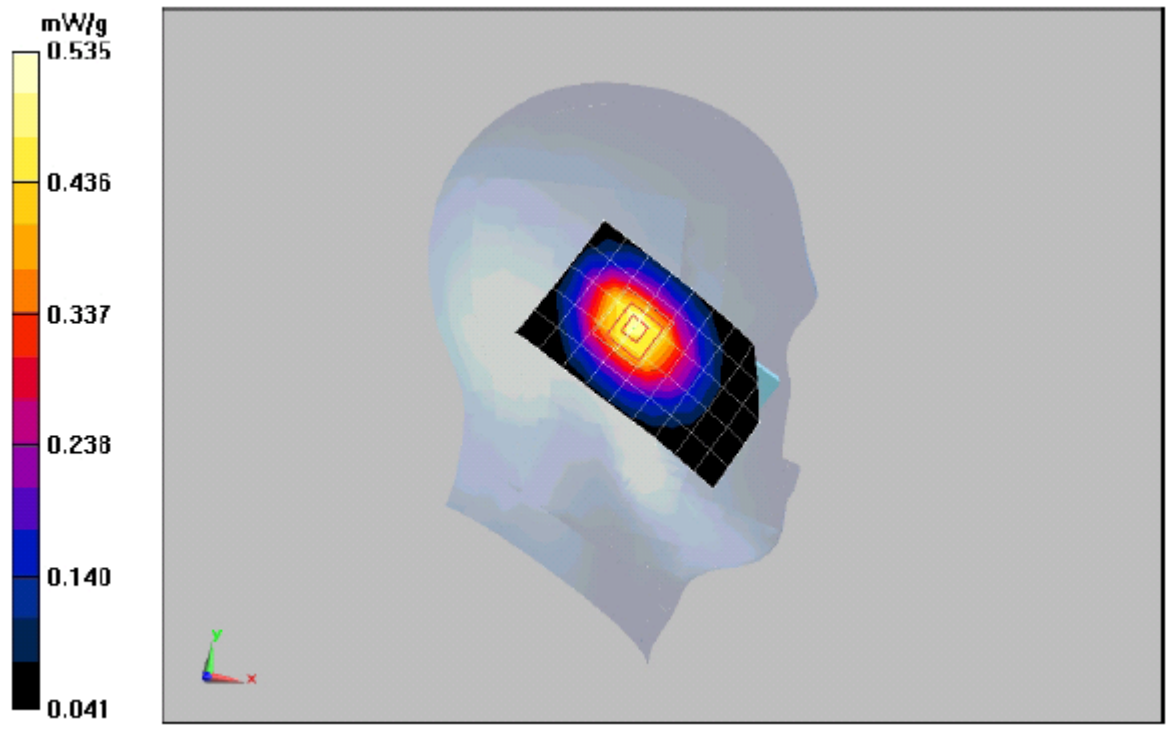
P1528_OET65_EN62209-LeftHandSide tilted 15°- GSM850

DUT: U1000-5

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.938 mho/m; ε_r = 41.8; ρ = 1000 kg/m3
Phantom section: Left Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.503 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22 V/m; Power Drift = 0.0063 dB
Peak SAR (extrapolated) = 0.674 W/kg
SAR(1 g) = 0.499 mW/g; SAR(10 g) = 0.343 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.535 mW/g



Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-03 05:37:41

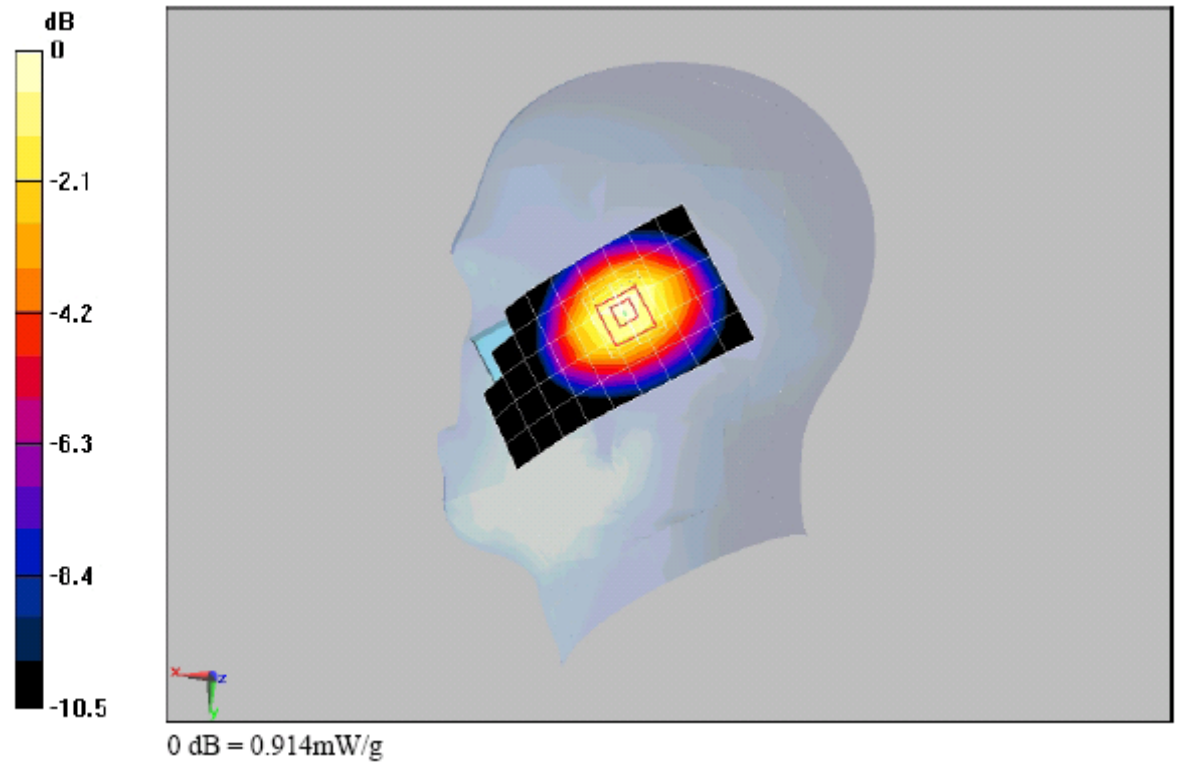
P1528_OET65_EN62209-RightHandSide touched–GSM850

DUT: U1000-5

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.938 mho/m; ε_r = 41.8; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.877 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.3 V/m; Power Drift = 0.000819 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.852 mW/g; SAR(10 g) = 0.589 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.914 mW/g



0 dB = 0.914mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-03 05:59:34

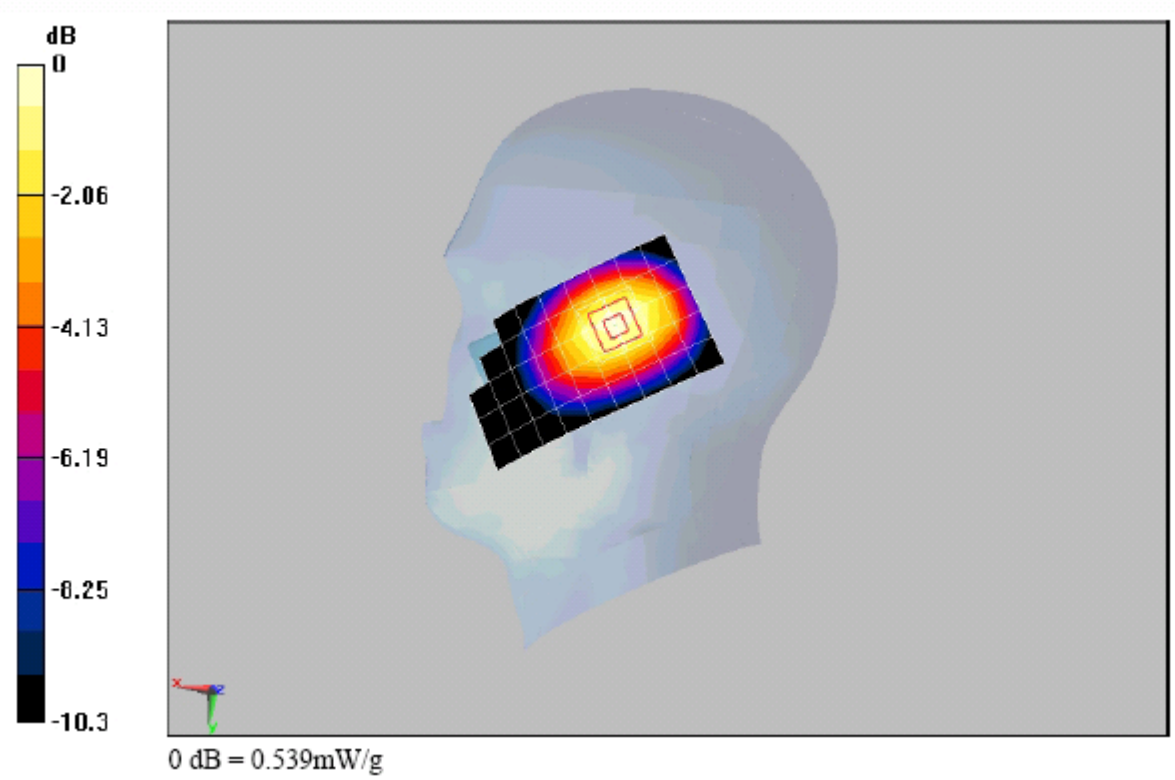
P1528_OET65_EN62209-RightHandSide tilted 15°-GSM850

DUT: U1000-5

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.938 mho/m; ε_r = 41.8; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.531 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.2 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 0.659 W/kg
SAR(1 g) = 0.502 mW/g; SAR(10 g) = 0.350 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.539 mW/g



0 dB = 0.539mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-03 06:42:12

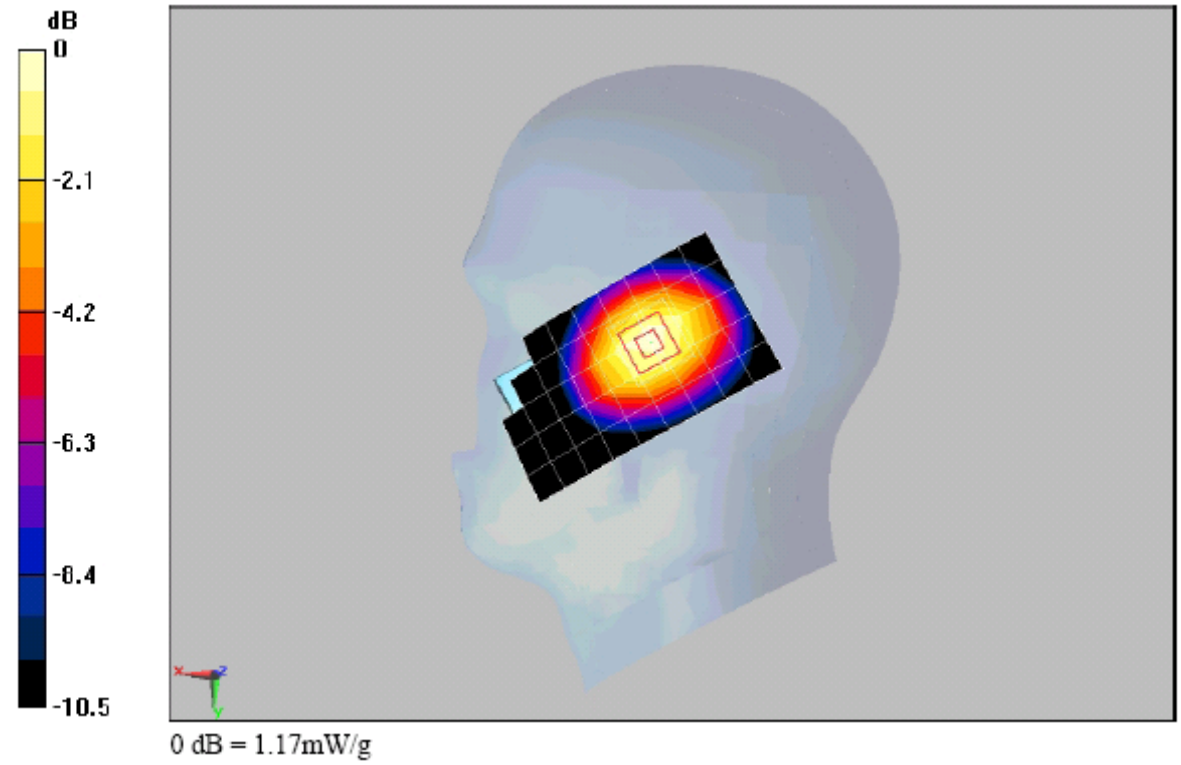
P1528_OET65_EN62209- RightHandSide touched –GSM850

DUT: U1000-5

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.949 mho/m; ε_r = 41.6; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.14 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.6 V/m; Power Drift = 0.00486 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.752 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.17 mW/g



0 dB = 1.17mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-03 07:34:14

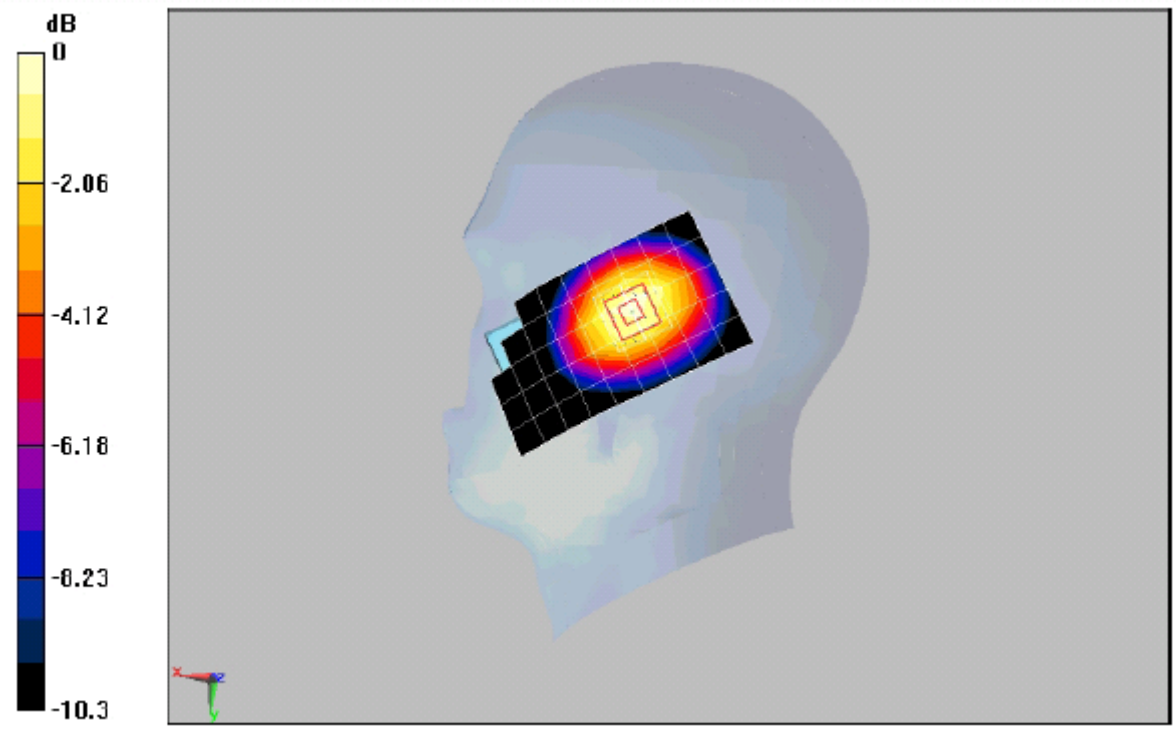
P1528_OET65_EN62209- RightHandSide touched –GSM850

DUT: U1000-5

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 825 MHz; σ = 0.927 mho/m; ε_r = 41.9; ρ = 1000 kg/m3
Phantom section: Right Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(6.06, 6.06, 6.06); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM2; Type: SAM; Serial: TP-1474
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

head /Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.880 mW/g

head /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.7 V/m; Power Drift = 0.052 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.847 mW/g; SAR(10 g) = 0.586 mW/g
Maximum value of SAR (measured) = 0.908 mW/g



0 dB = 0.908mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) :
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Annex 2.8 GSM 850 MHz body

Date/Time: 2010-02-05 00:57:12

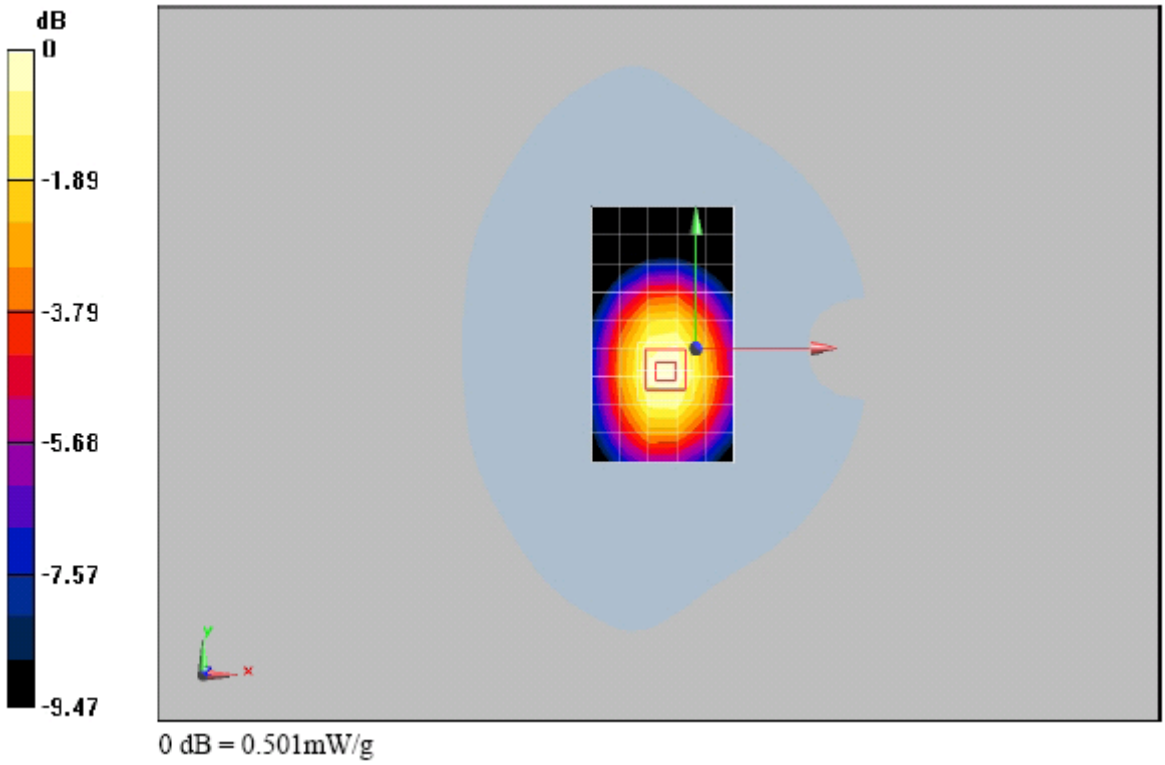
P1528_OET65_EN62209- GSM850 GPRS 2TS towards phantom

DUT: U1000-5

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:4.1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.985 mho/m; ε_r = 53.7; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.478 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.1 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 0.613 W/kg
SAR(1 g) = 0.470 mW/g; SAR(10 g) = 0.335 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.501 mW/g



0 dB = 0.501mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-05 03:04:16

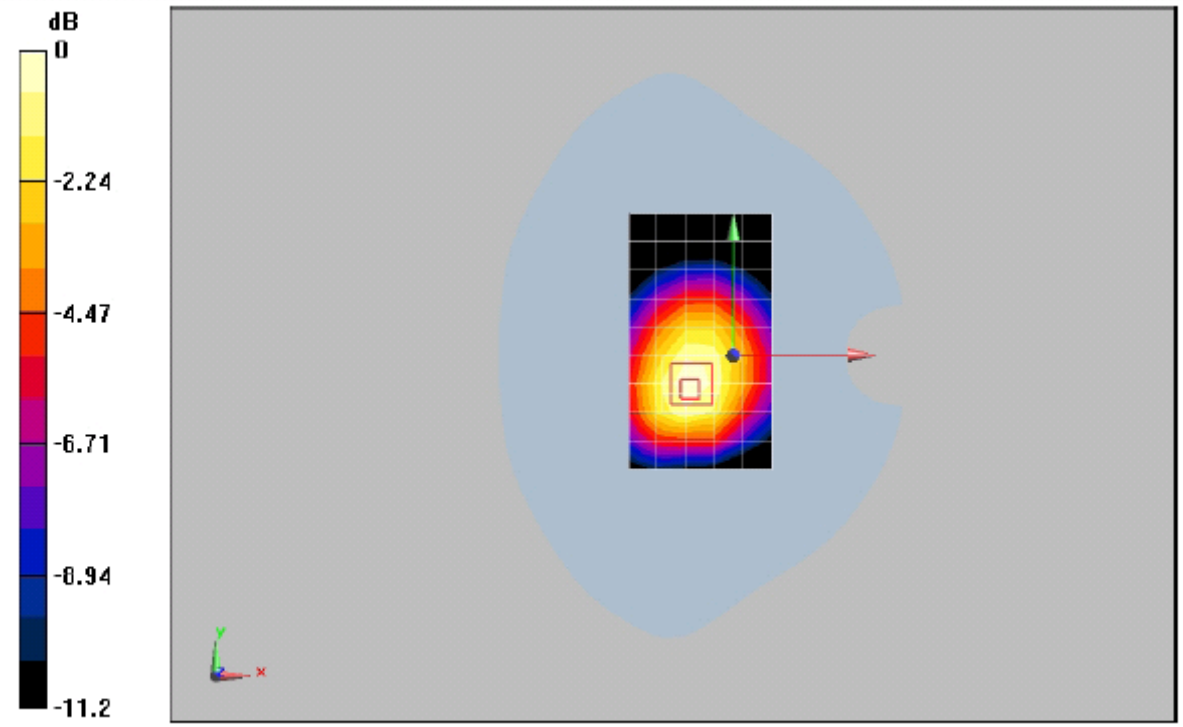
P1528_OET65_EN62209- GSM850 GPRS 2TS towards ground

DUT: U1000-5

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:4.1
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.985 mho/m; ε_r = 53.7; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.05 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.2 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.708 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.08 mW/g



0 dB = 1.08mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-05 03:52:15

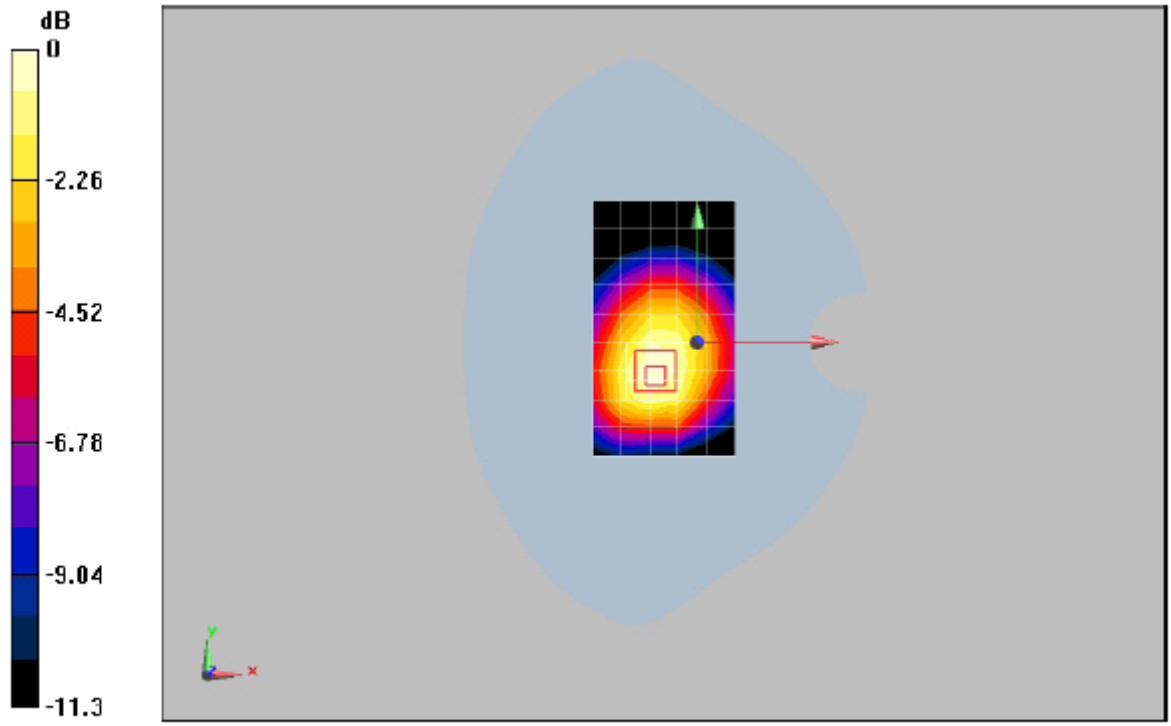
P1528_OET65_EN62209- GSM850 GPRS 2TS towards ground

DUT: U1000-5

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:4.1
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.997 mho/m; ε_r = 53.6; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.1 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.6 V/m; Power Drift = -0.054 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.730 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.11 mW/g



0 dB = 1.11mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-05 04:34:38

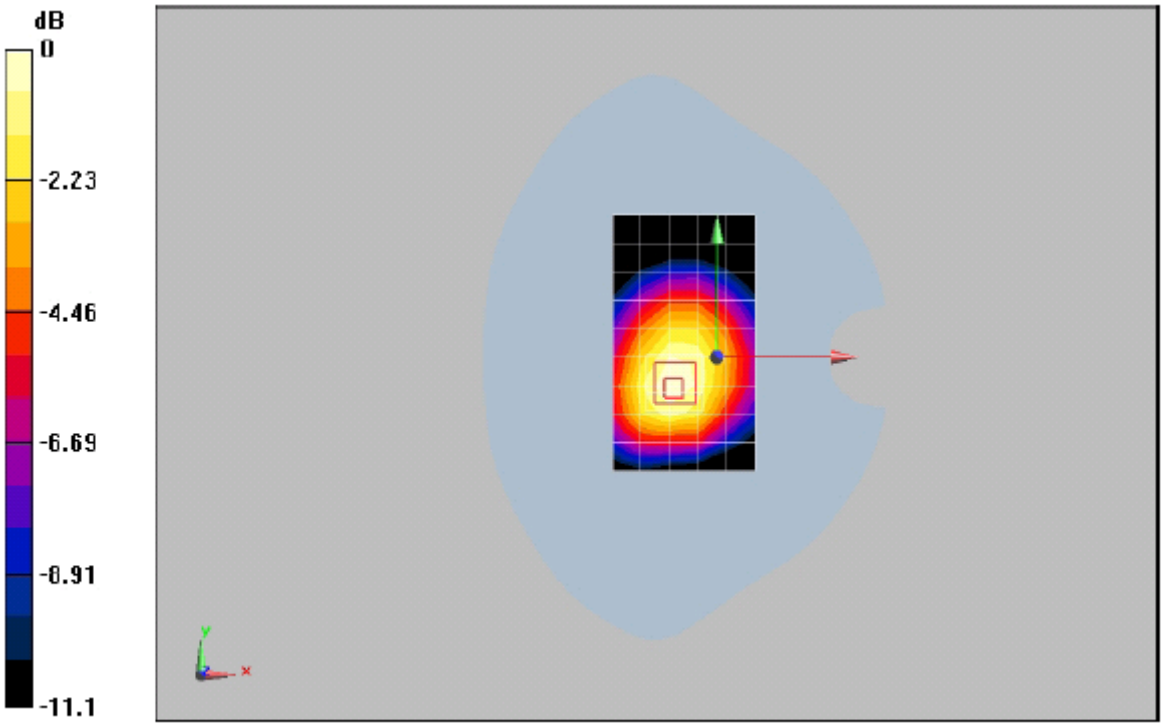
P1528_OET65_EN62209- GSM850 GPRS 2TS towards ground

DUT: U1000-5

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:4.1
Medium parameters used: f = 825 MHz; σ = 0.973 mho/m; ε_r = 53.8; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.15 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 32.6 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.758 mW/g



0 dB = 1.15mW/g

Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Date/Time: 2010-02-05 05:43:24

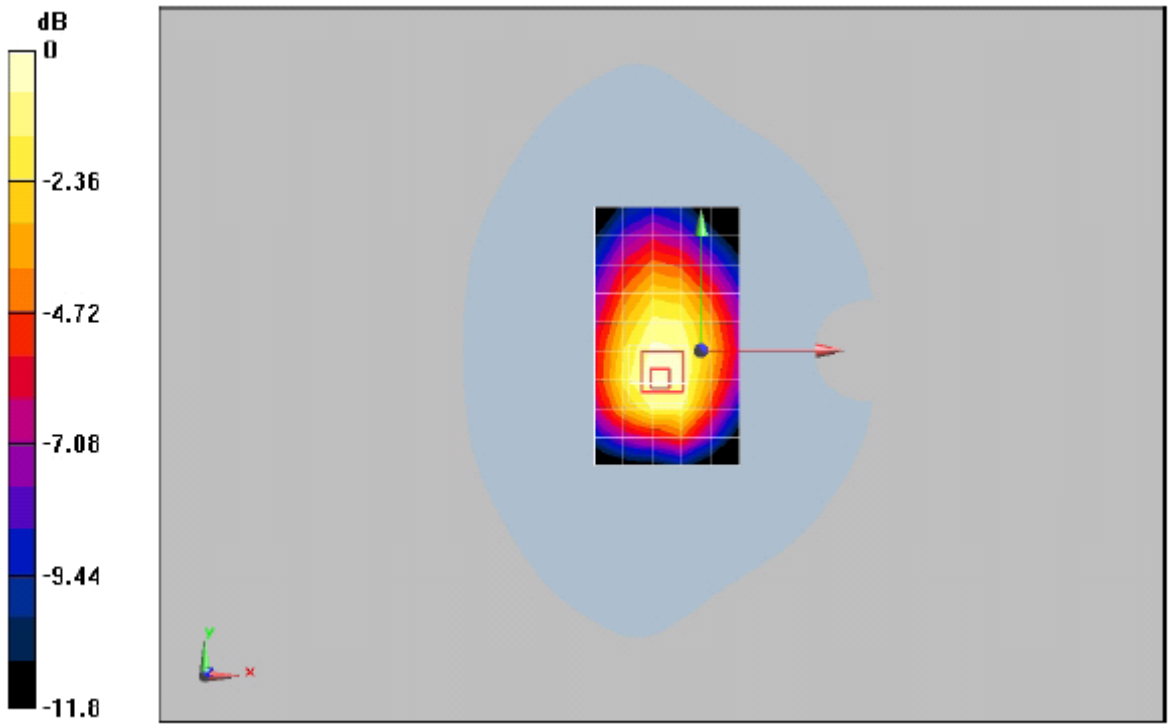
P1528_OET65_EN62209- GSM850 towards ground with Headset

DUT: U1000-5

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 825 MHz; σ = 0.973 mho/m; ε_r = 53.8; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY5 Configuration:
- Probe: ES3DV3 - SN3168; ConvF(5.97, 5.97, 5.97); Calibrated: 12/18/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn851; Calibrated: 5/14/2009
- Phantom: SAM1; Type: SAM; Serial: TP-1475
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

body/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.610 mW/g

body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.6 V/m; Power Drift = 0.00278 dB
Peak SAR (extrapolated) = 0.799 W/kg
SAR(1 g) = 0.585 mW/g; SAR(10 g) = 0.411 mW/g
Maximum value of SAR (measured) = 0.624 mW/g

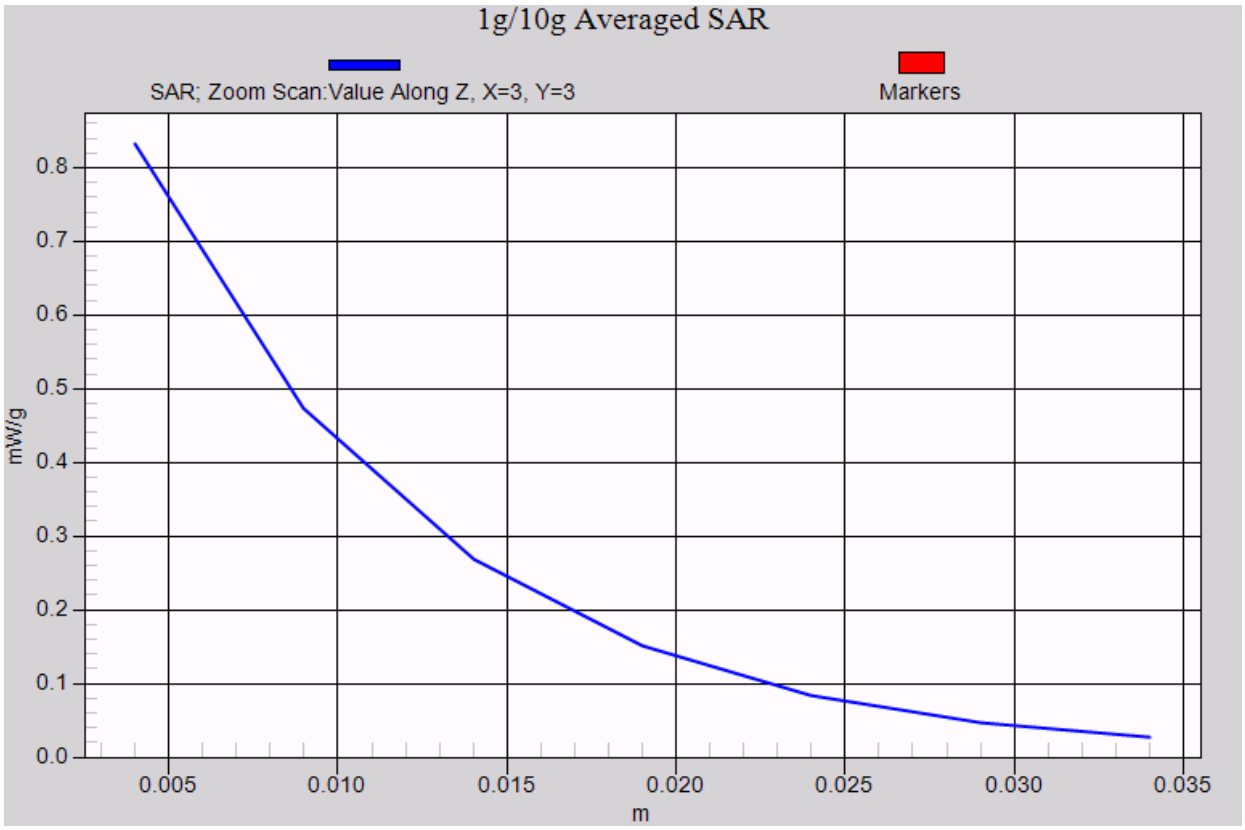


0 dB = 0.624mW/g

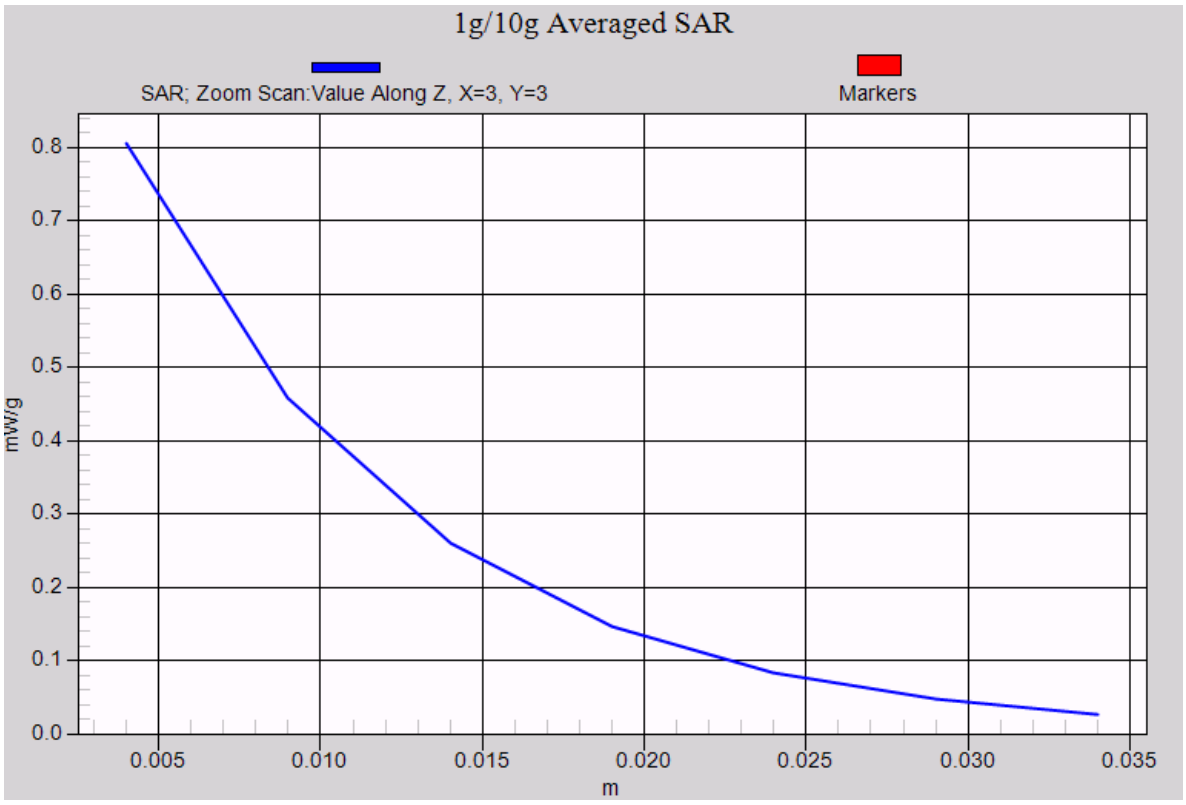
Additional information:
position or distance of DUT to SAM (if not standard head positions) : 15 mm
ambient temperature: 22.0°C; liquid temperature: 21.3°C

Annex 2.9 Z-axis scans
WCDAM FDD II head:

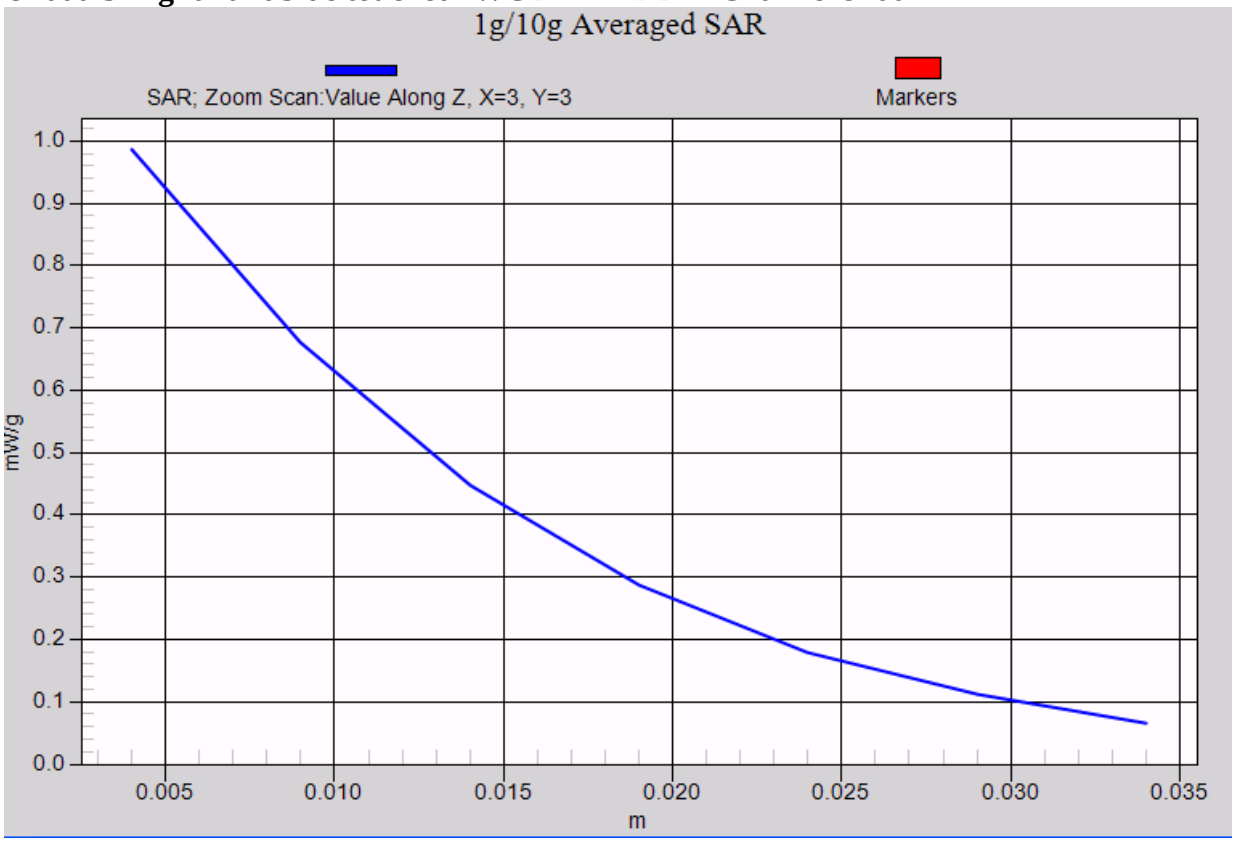
U1000-5 LeftHandSide touched- WCDAM FDD II Channel 9400



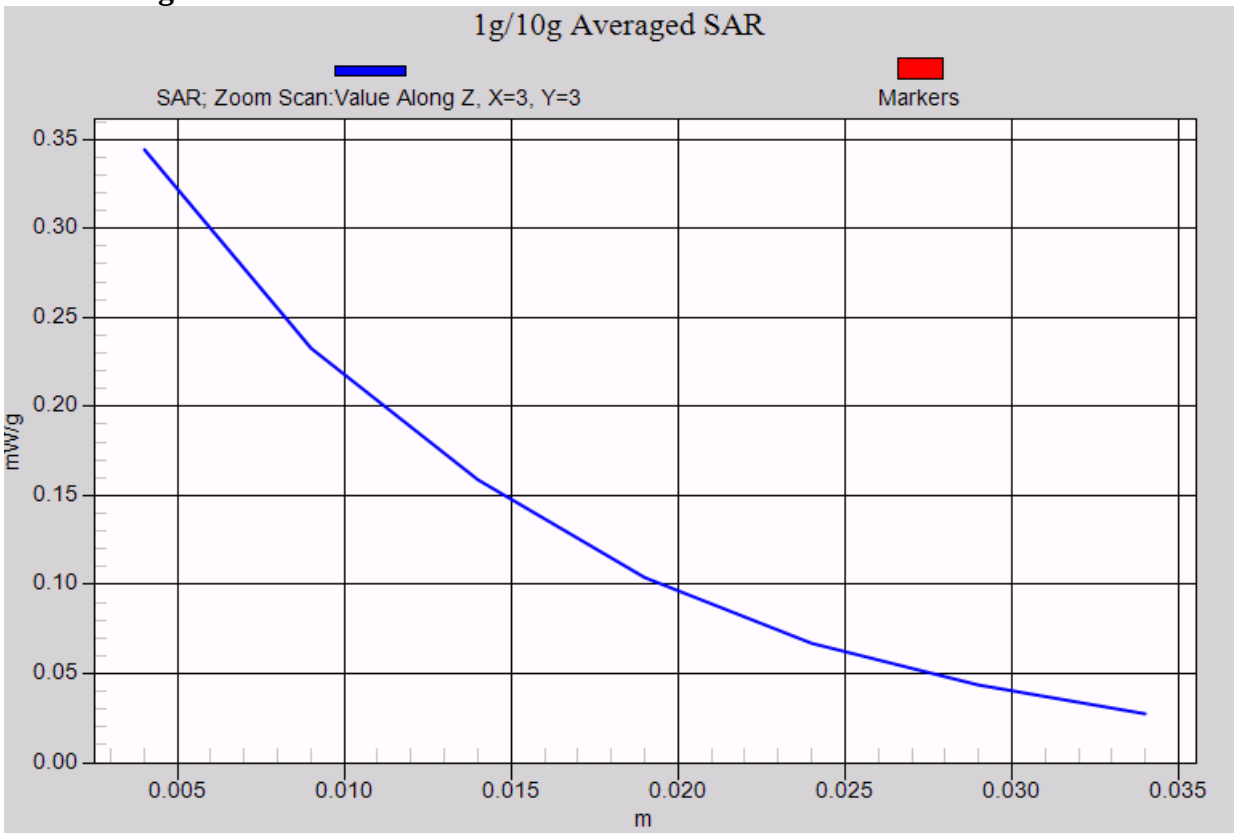
U1000-5 LeftHandSide tilted 15°-WCDAM FDD II Channel 9400



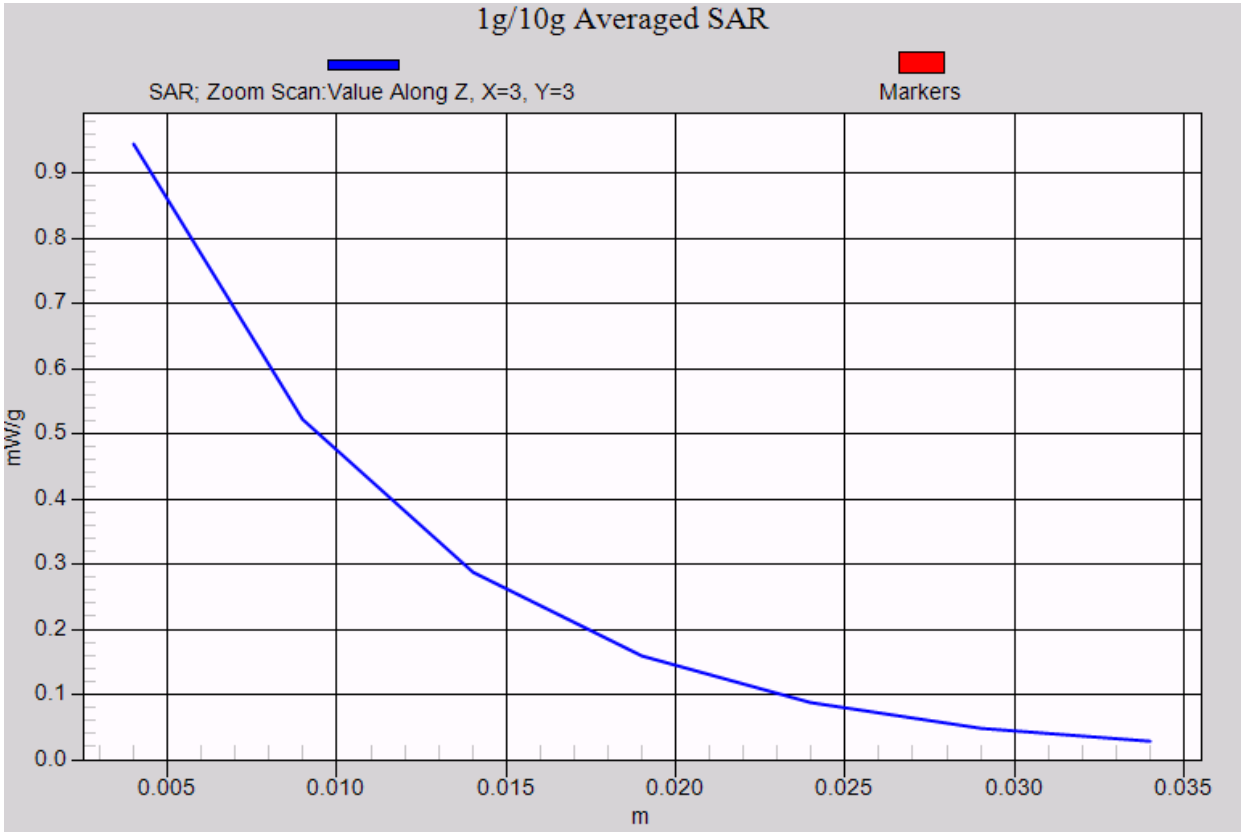
U1000-5 RightHandSide touched- WCDAM FDD II Channel 9400



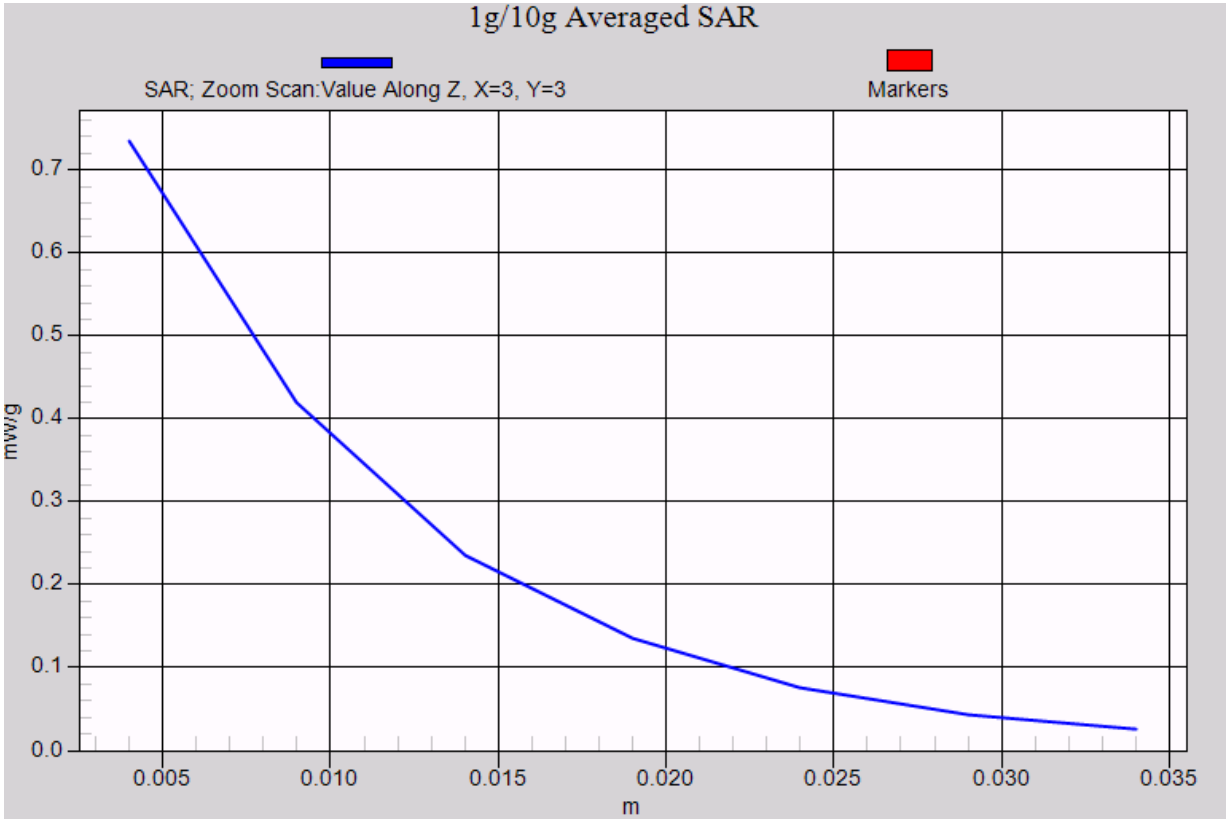
U1000-5 RightHandSide tilted 15°-WCDAM FDD II Channel 9400



U1000-5 LeftHandSide touched - WCDAM FDD II Channel 9538

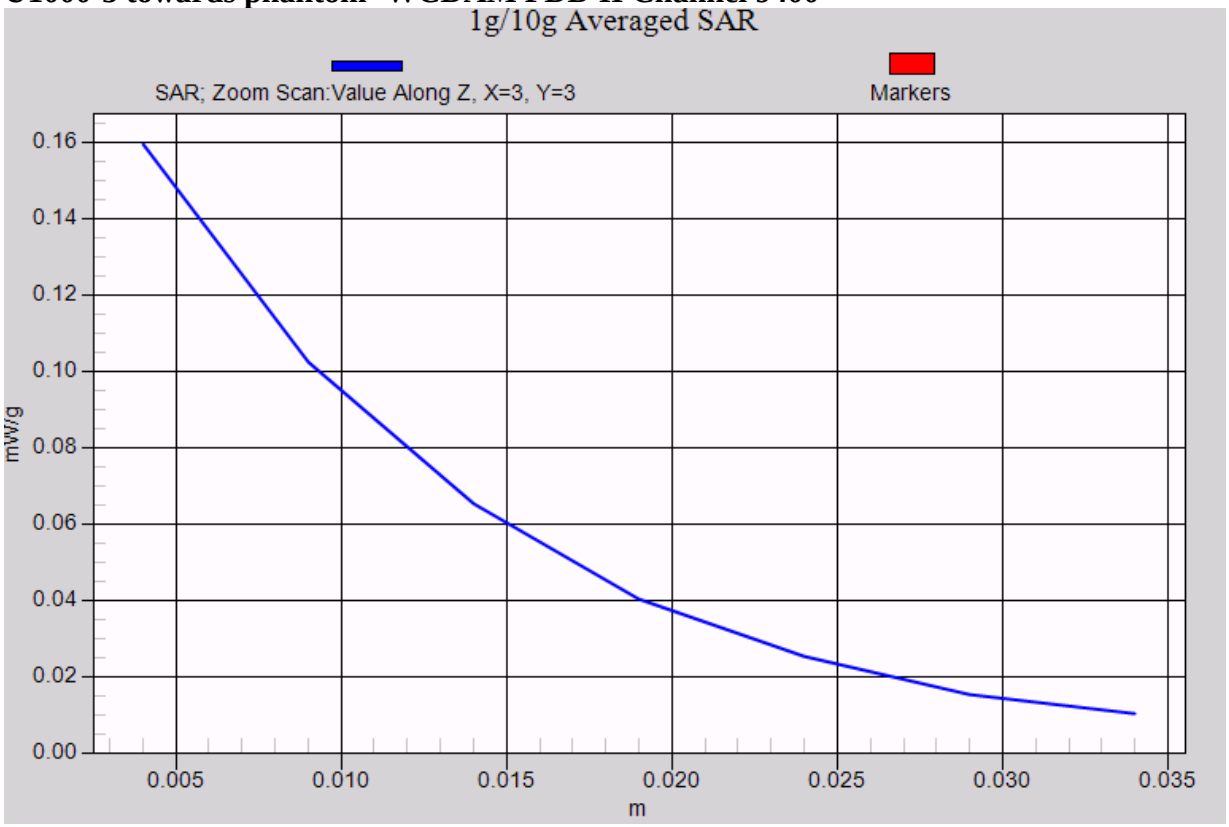


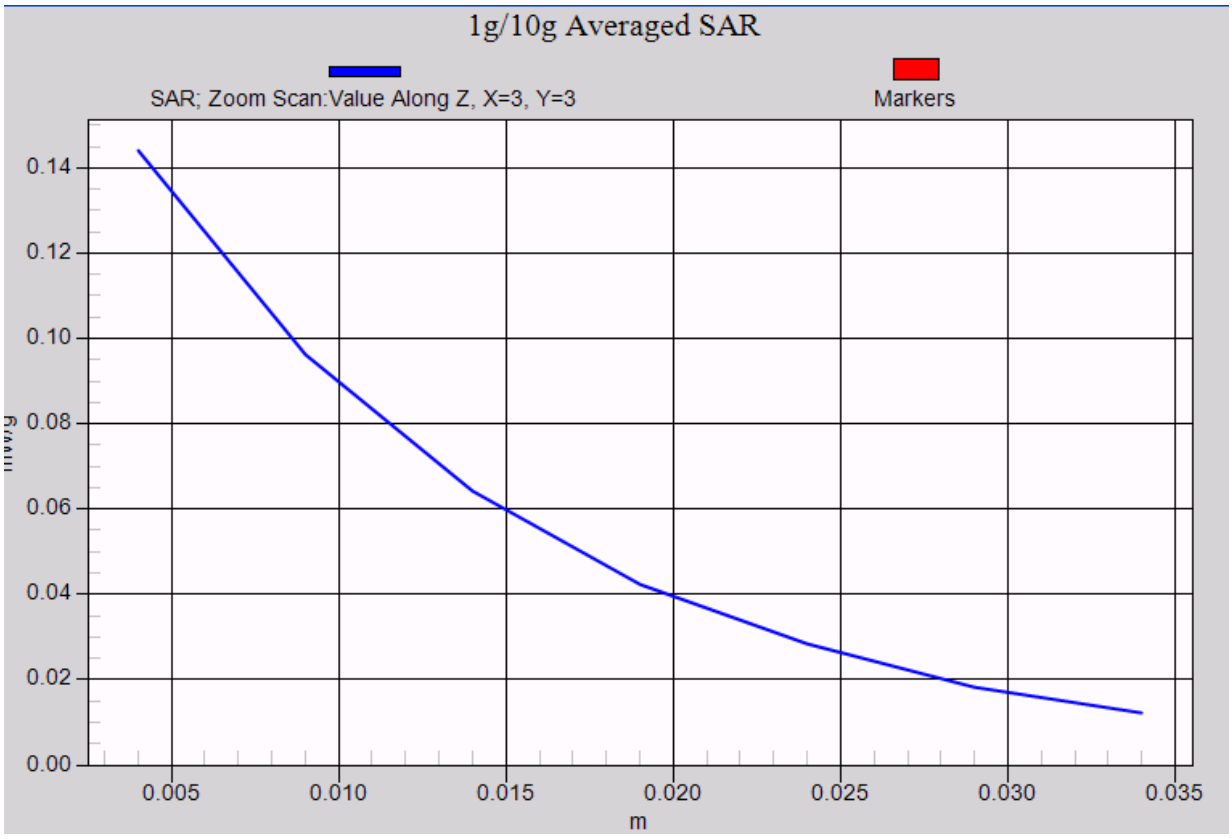
U1000-5 LeftHandSide touched - WCDAM FDD II Channel 9262



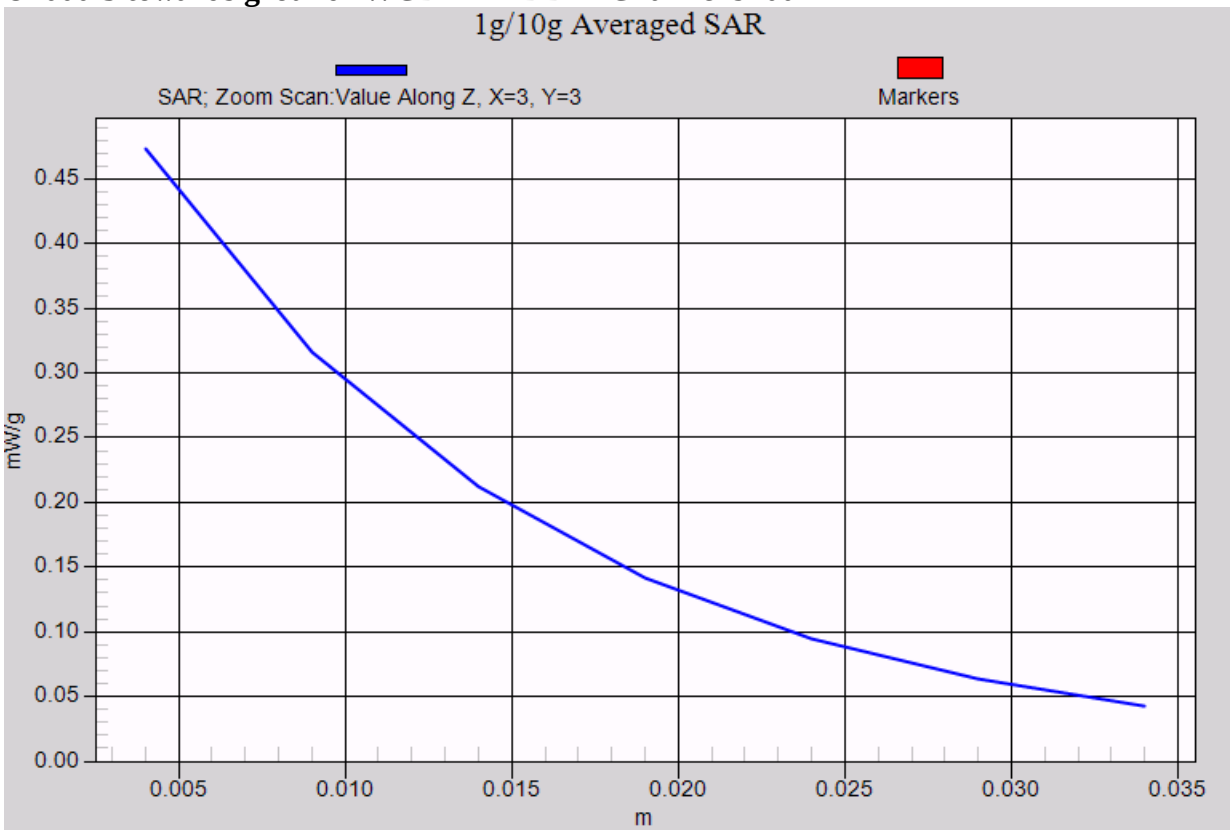
WCDAM FDD II body:

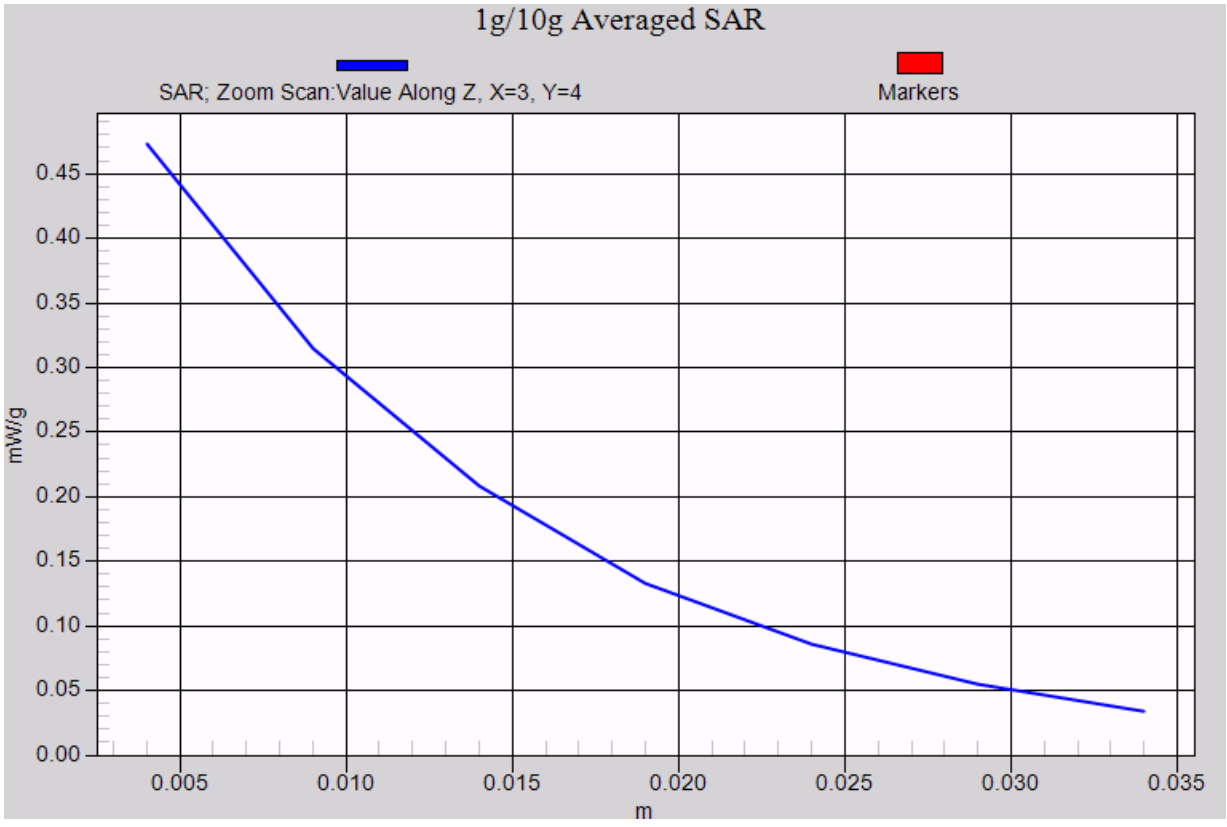
U1000-5 towards phantom- WCDAM FDD II Channel 9400



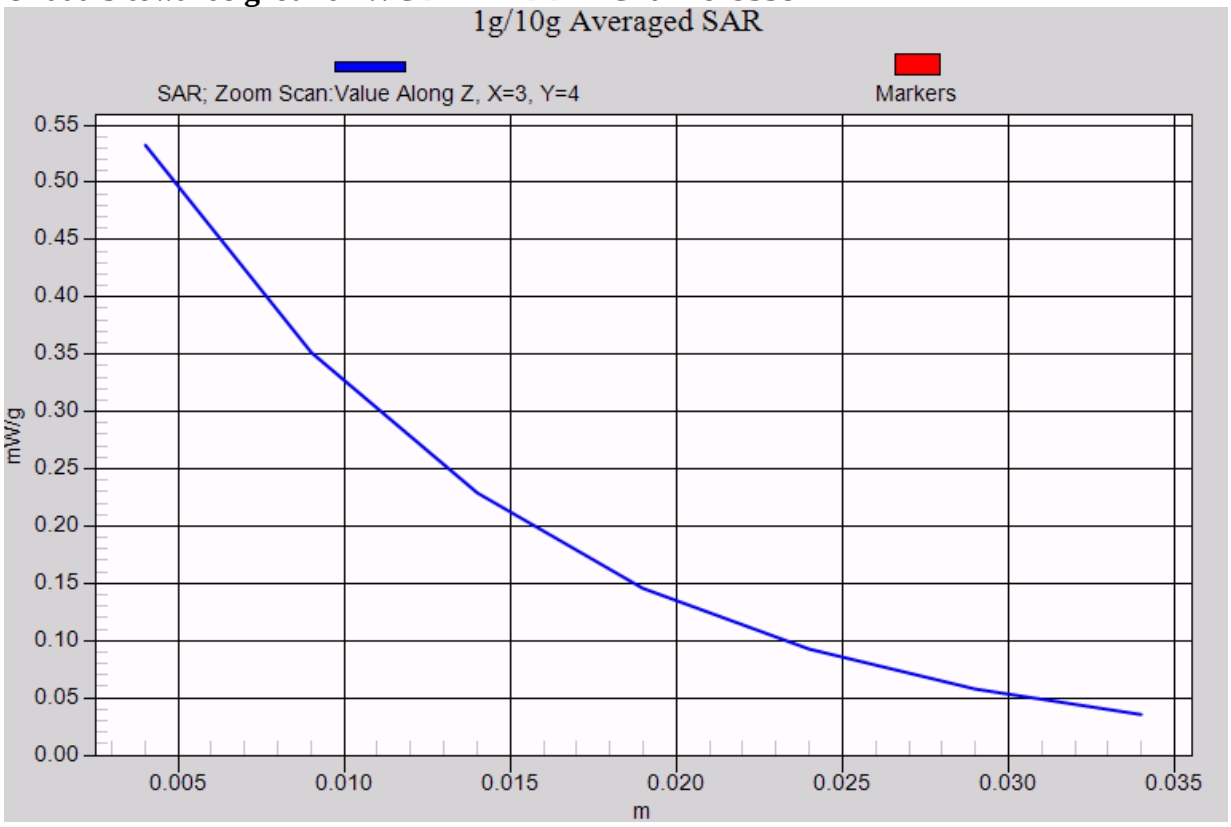


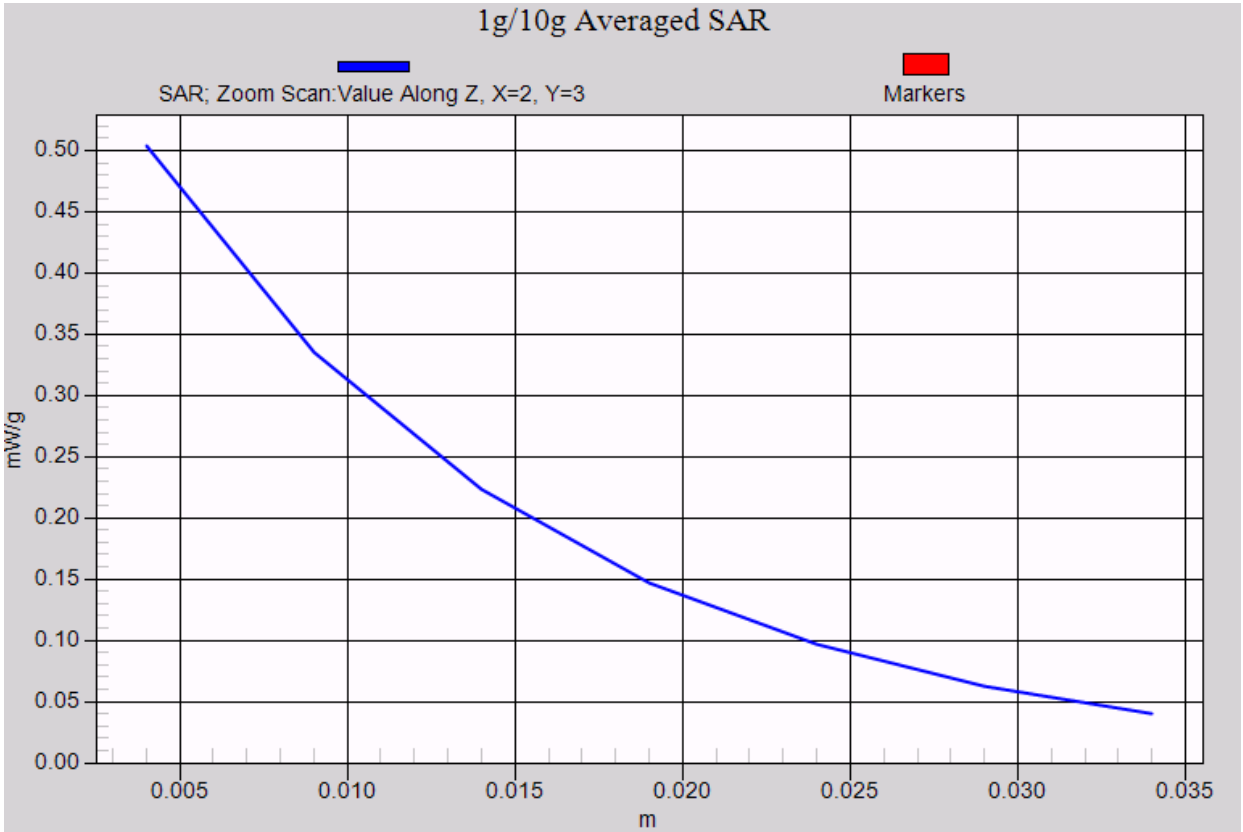
U1000-5 towards ground- WCDAM FDD II Channel 9400



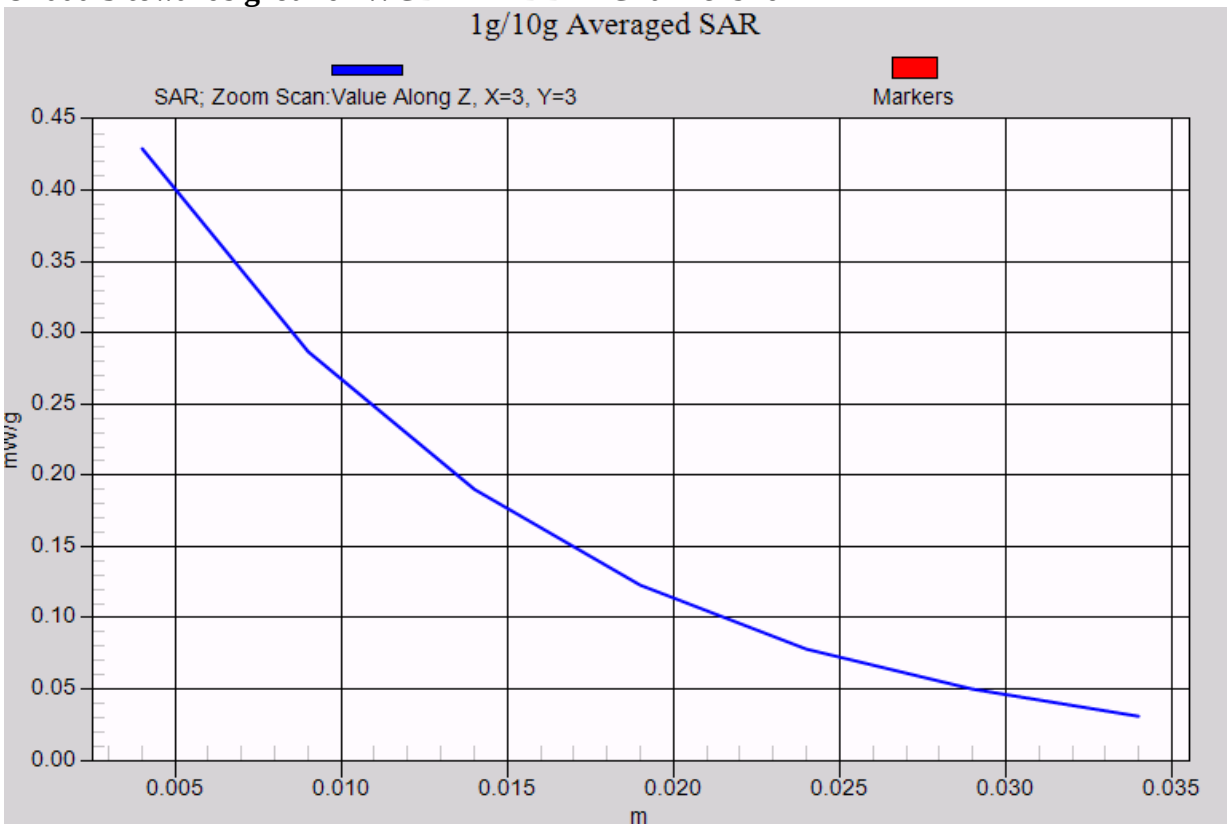


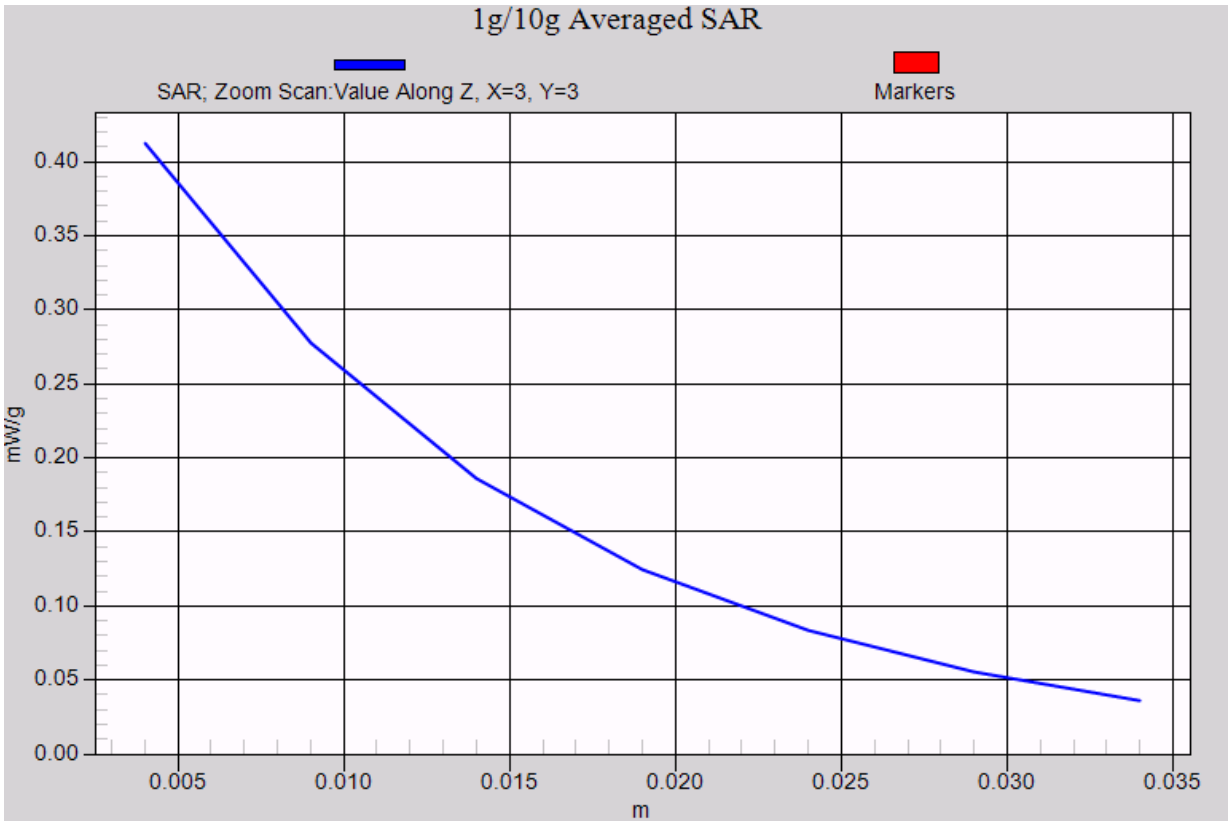
U1000-5 towards ground- WCDAM FDD II Channel 9538



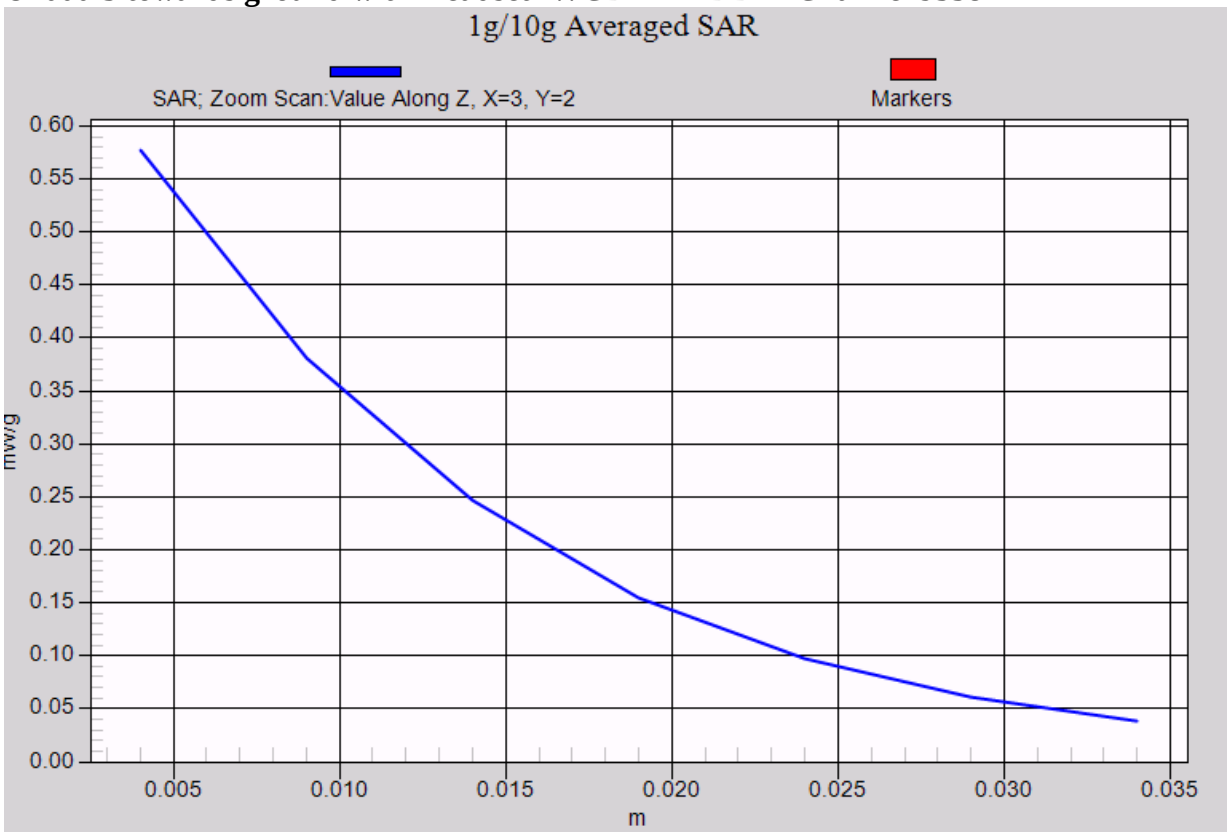


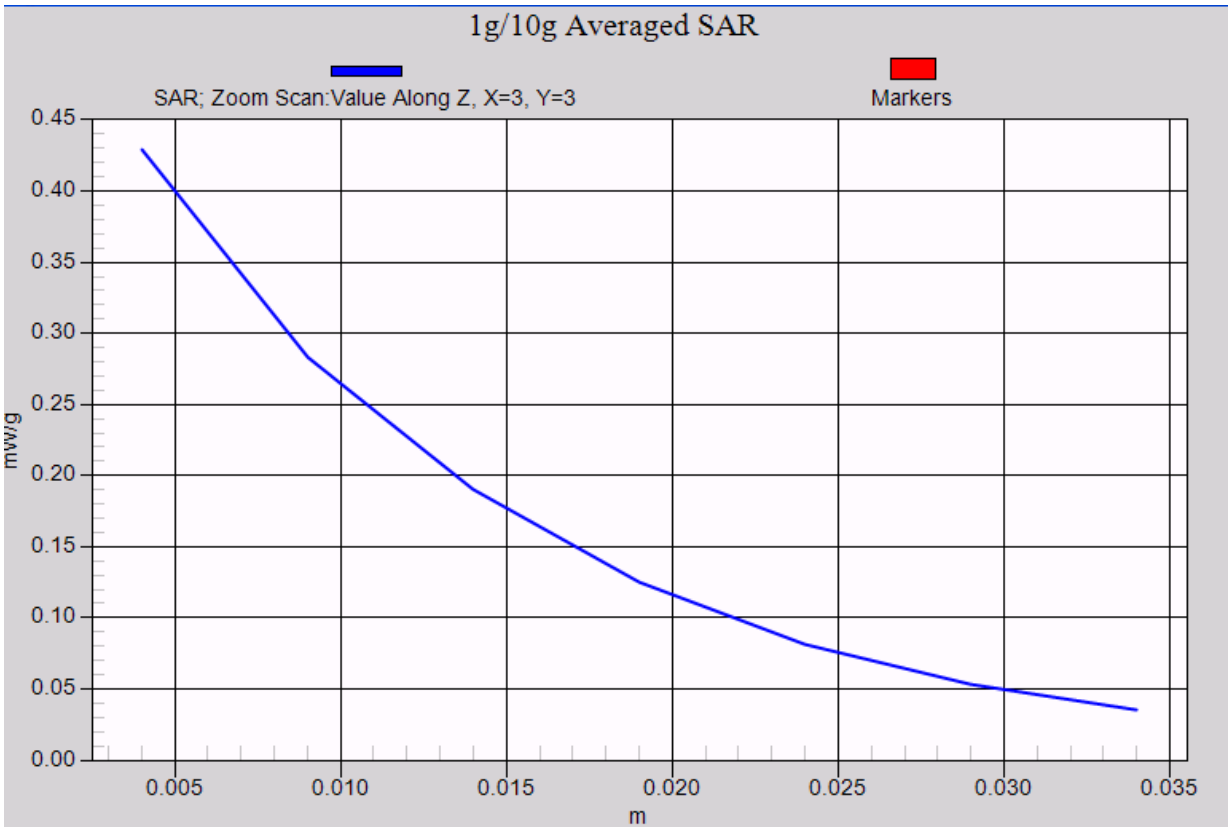
U1000-5 towards ground- WCDAM FDD II Channel 9262





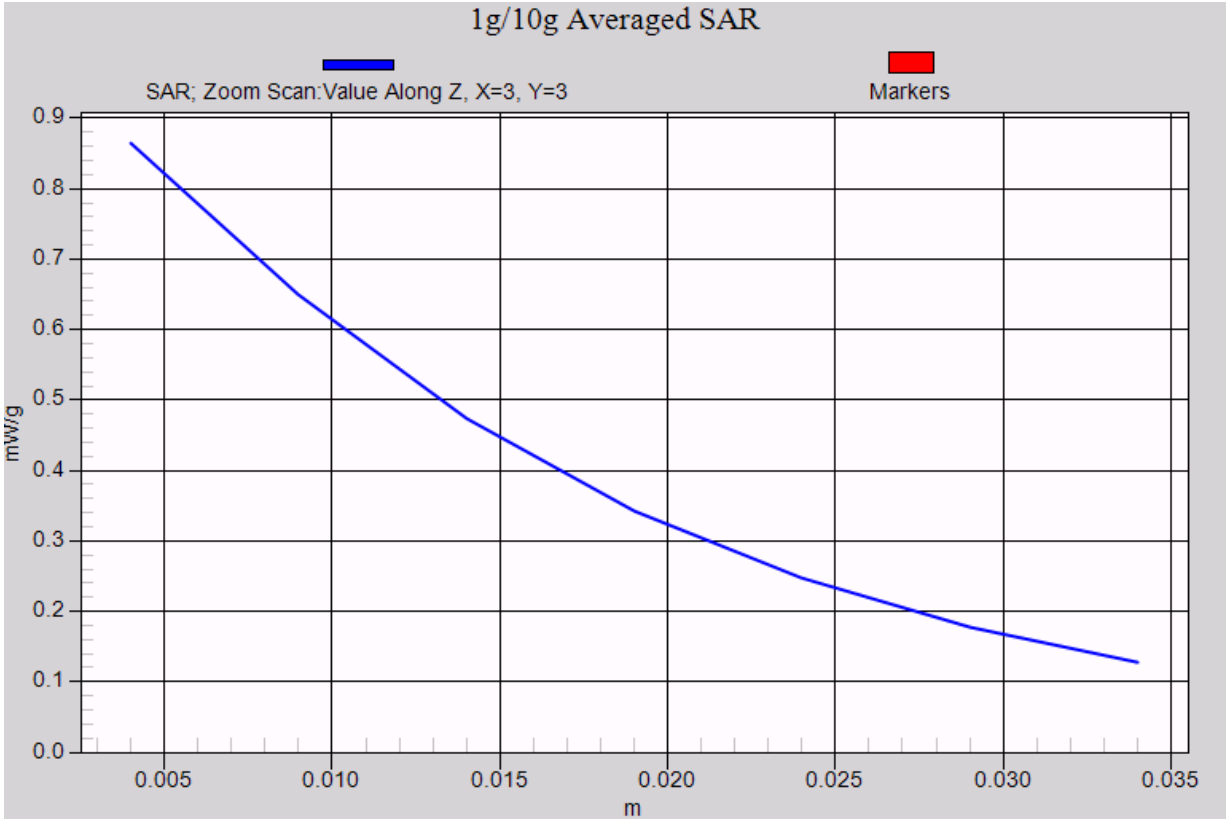
U1000-5 towards ground with Headset- WCDAM FDD II Channel 9538



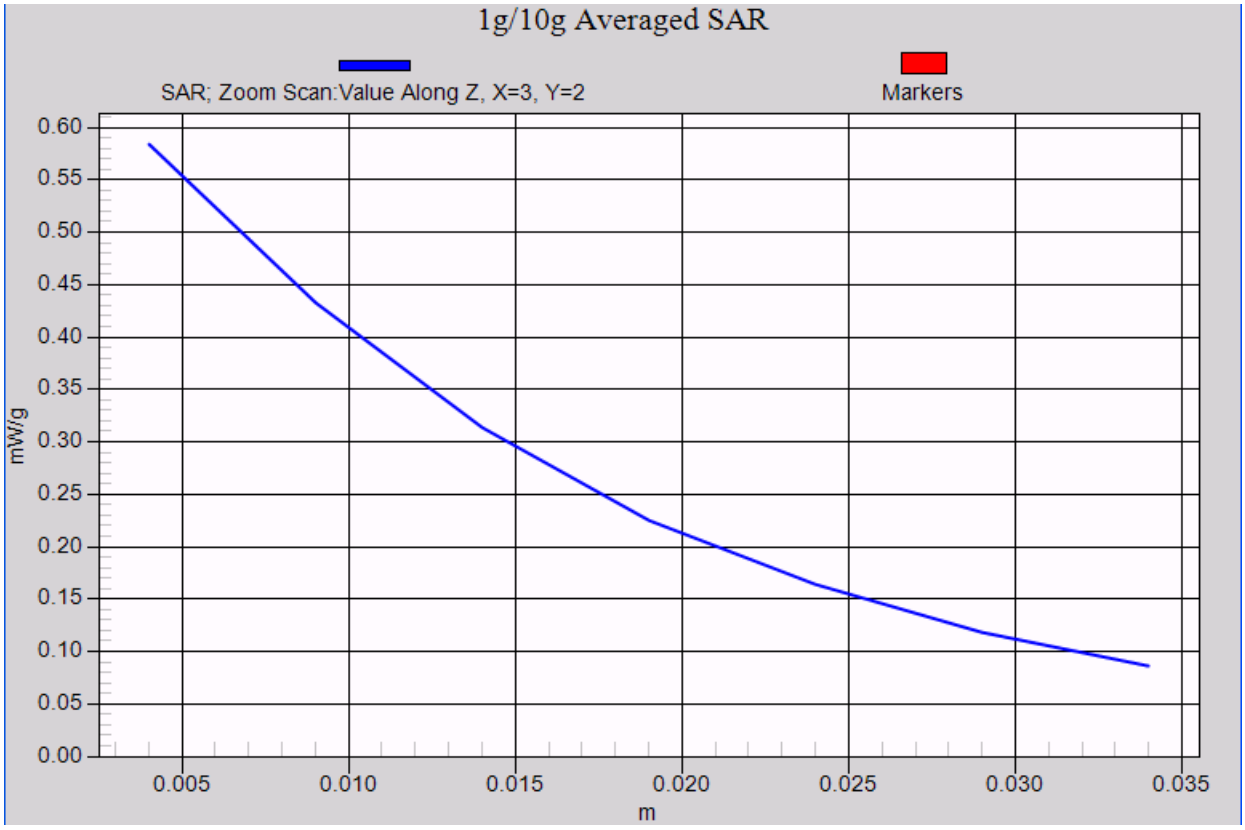


WCDAM FDD V head:

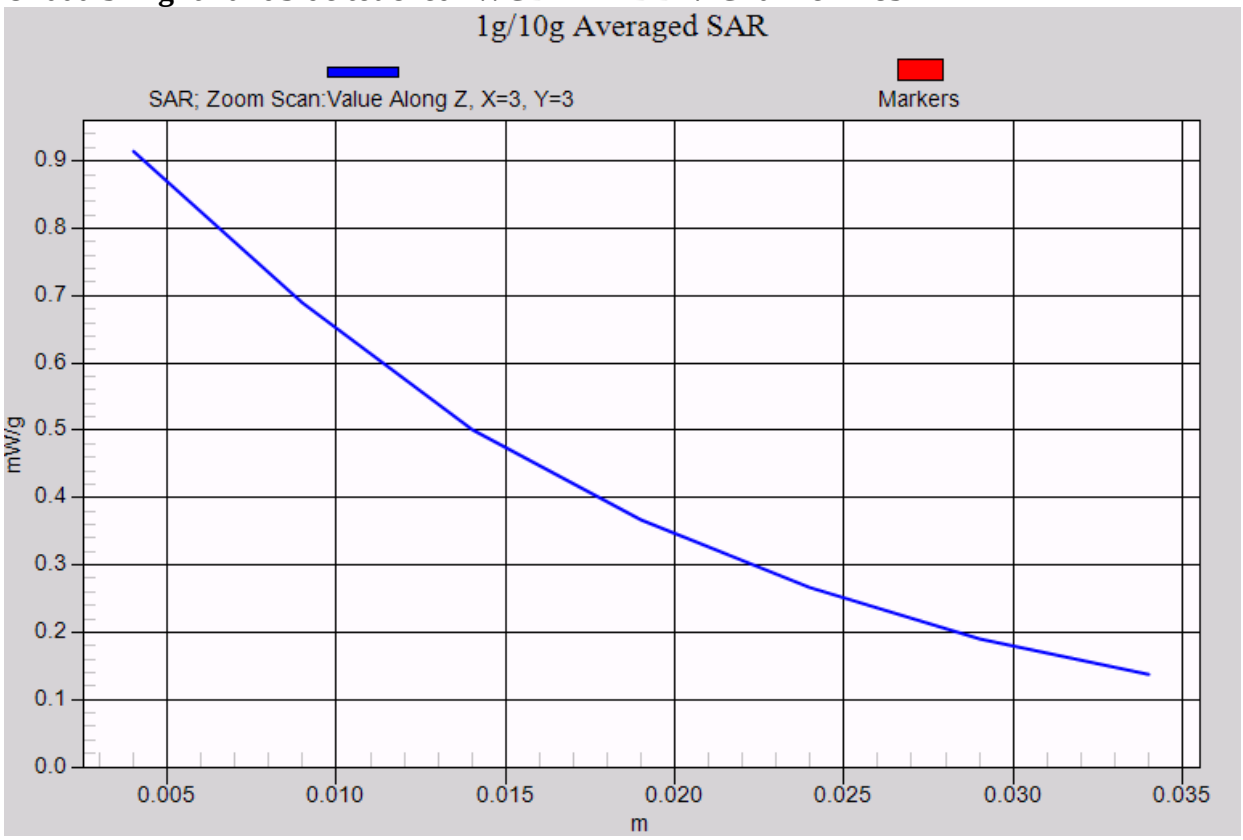
U1000-5 LeftHandSide touched- WCDAM FDD V Channel 4183



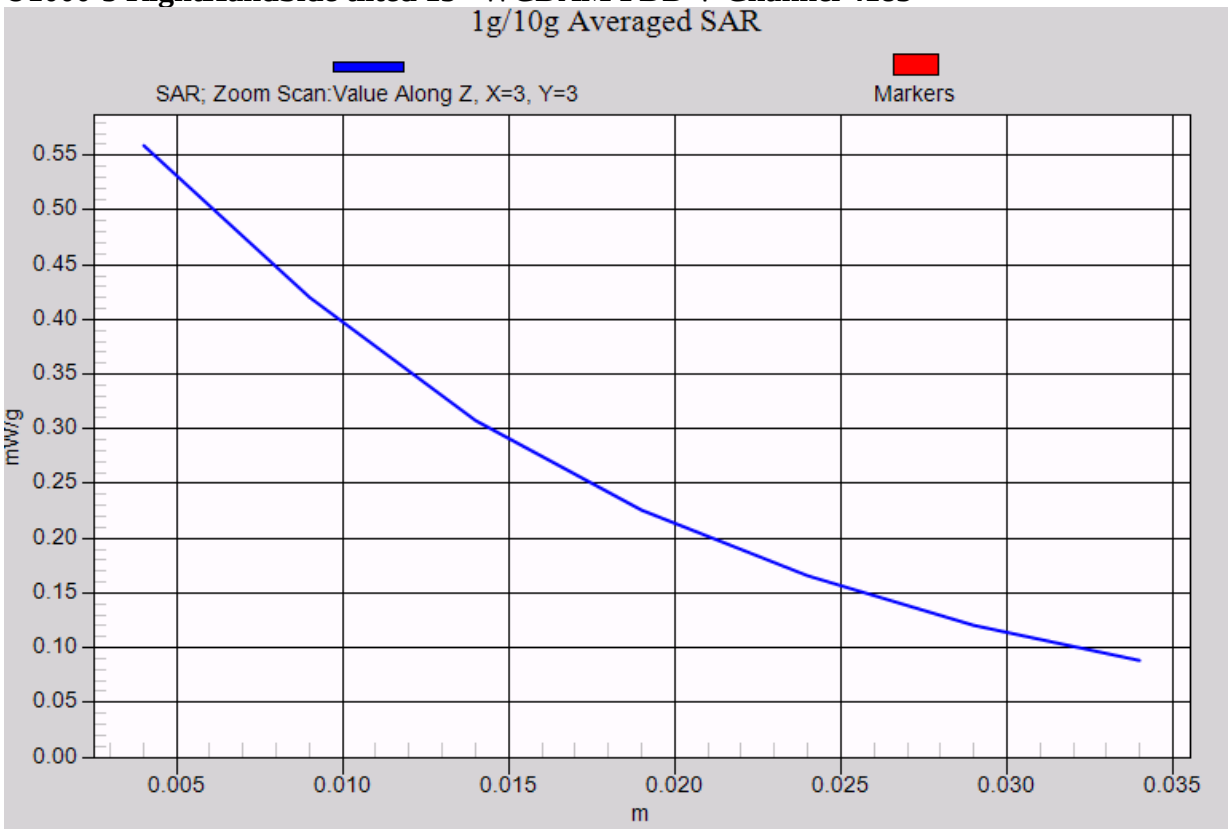
U1000-5 LeftHandSide tilted 15°-WCDAM FDD V Channel 4183



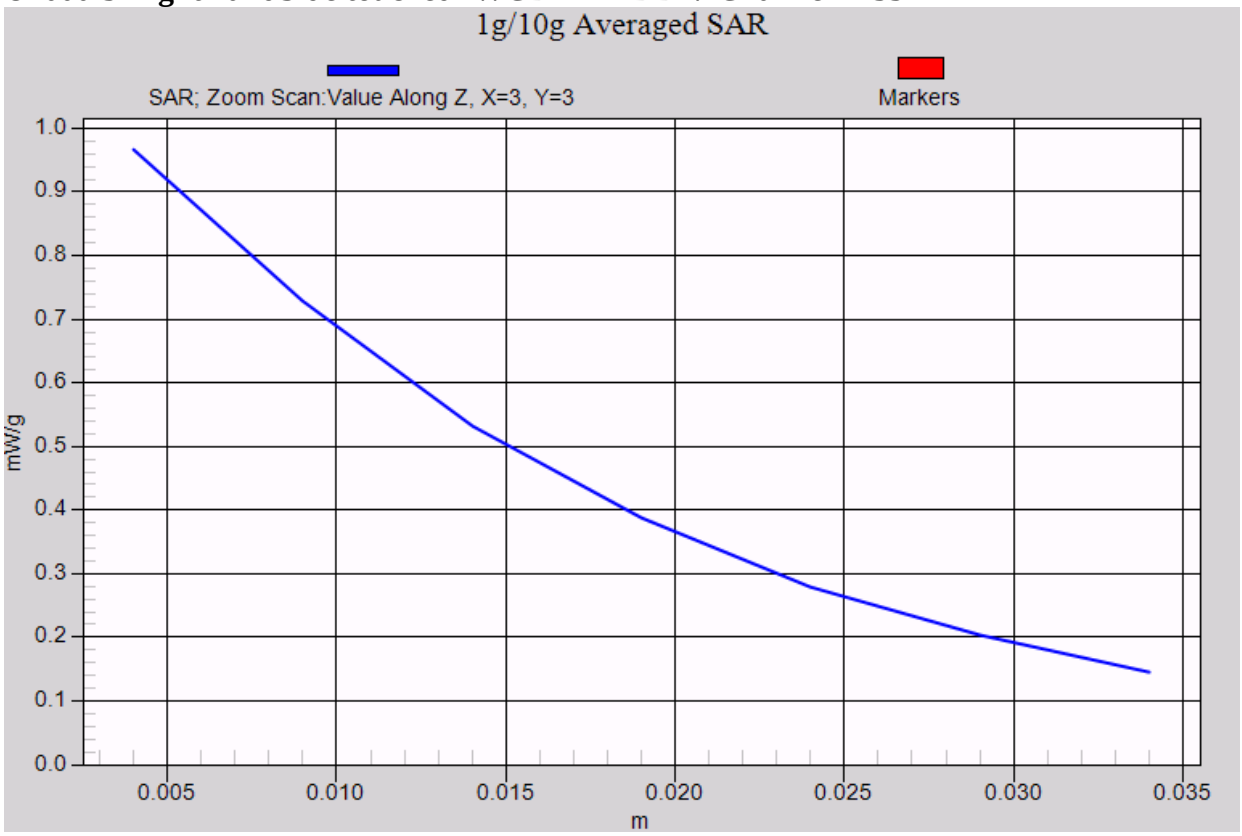
U1000-5 RightHandSide touched- WCDAM FDD V Channel 4183



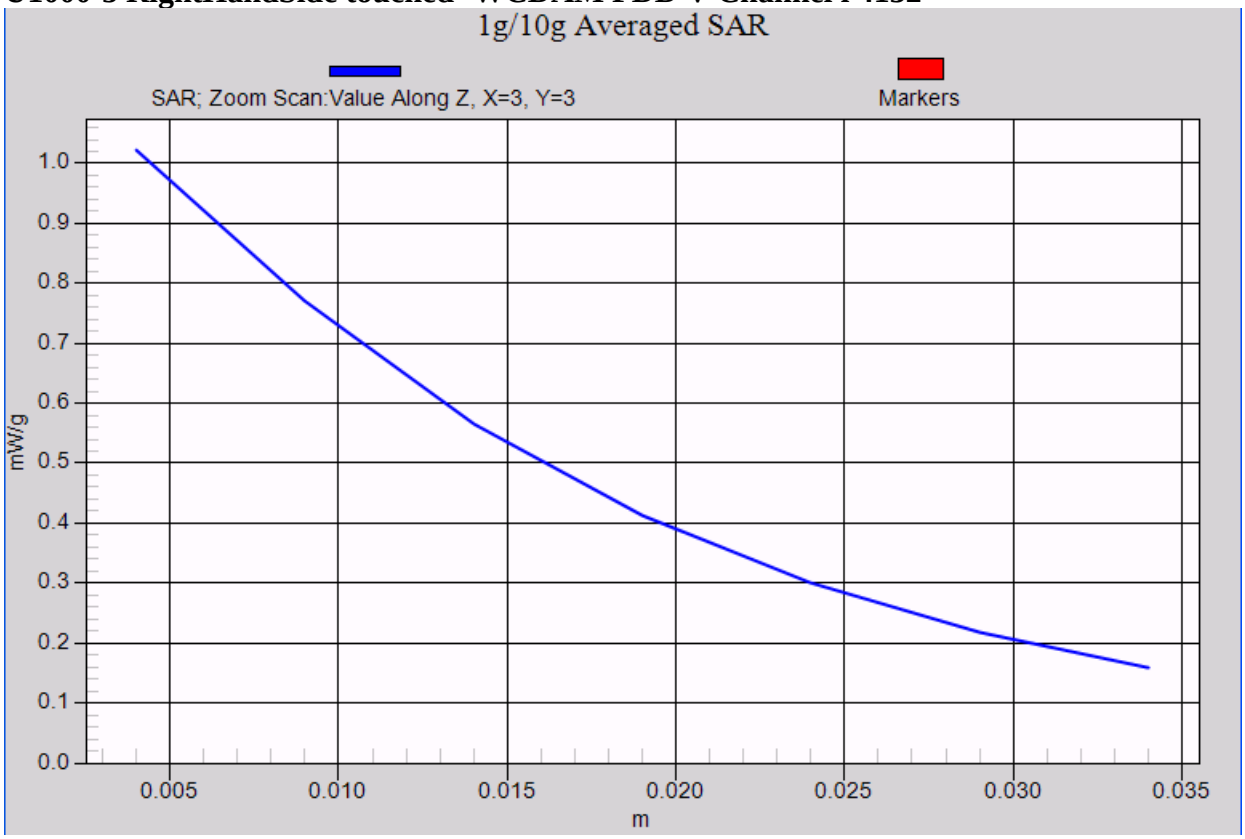
U1000-5 RightHandSide tilted 15°-WCDAM FDD V Channel 4183



U1000-5 RightHandSide touched- WCDAM FDD V Channel 4233

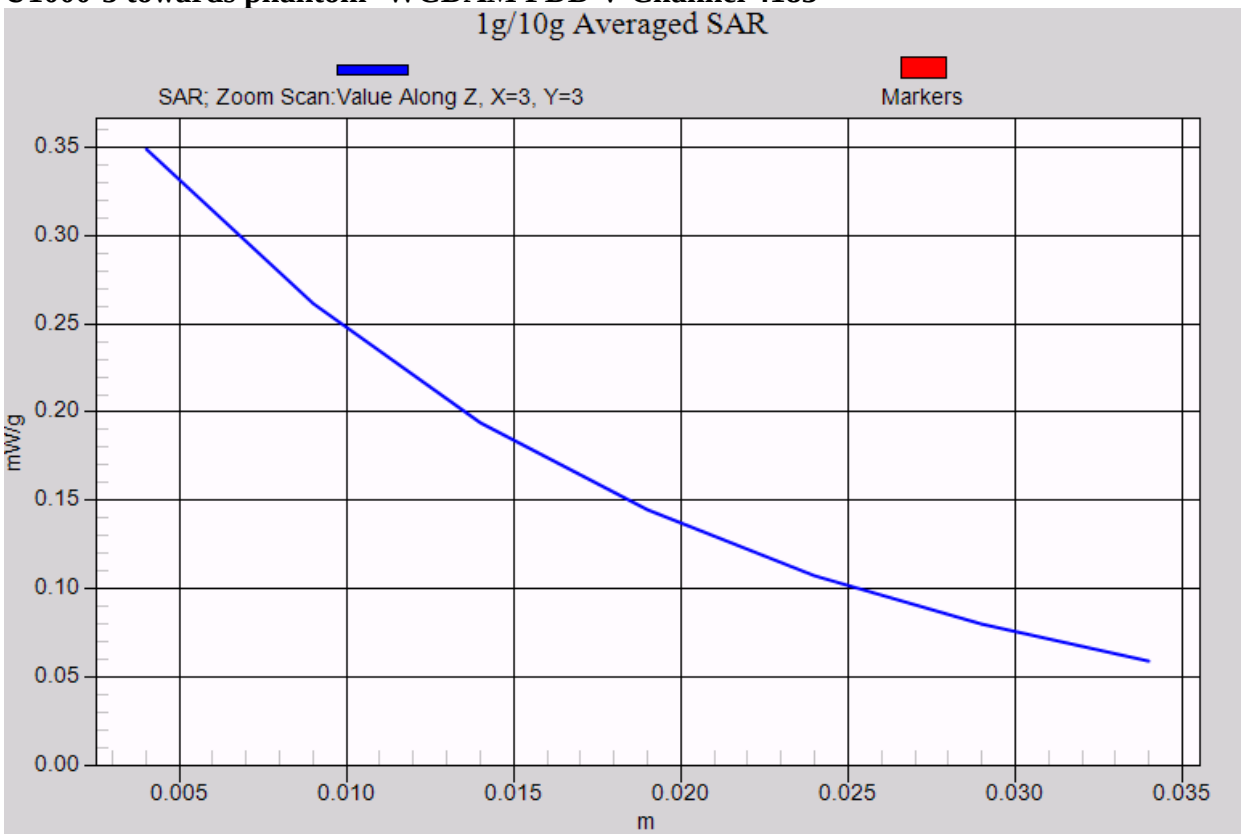


U1000-5 RightHandSide touched- WCDAM FDD V Channel l 4132

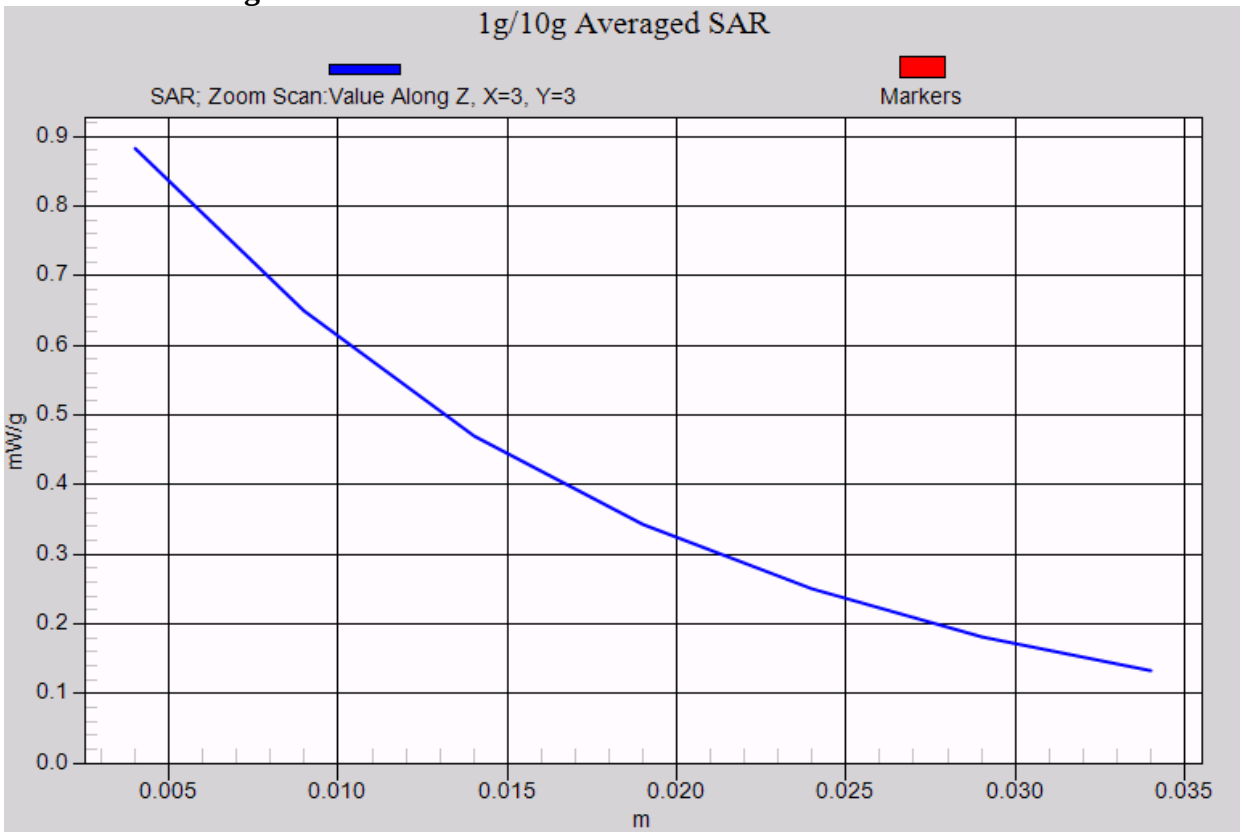


WCDAM FDD V body:

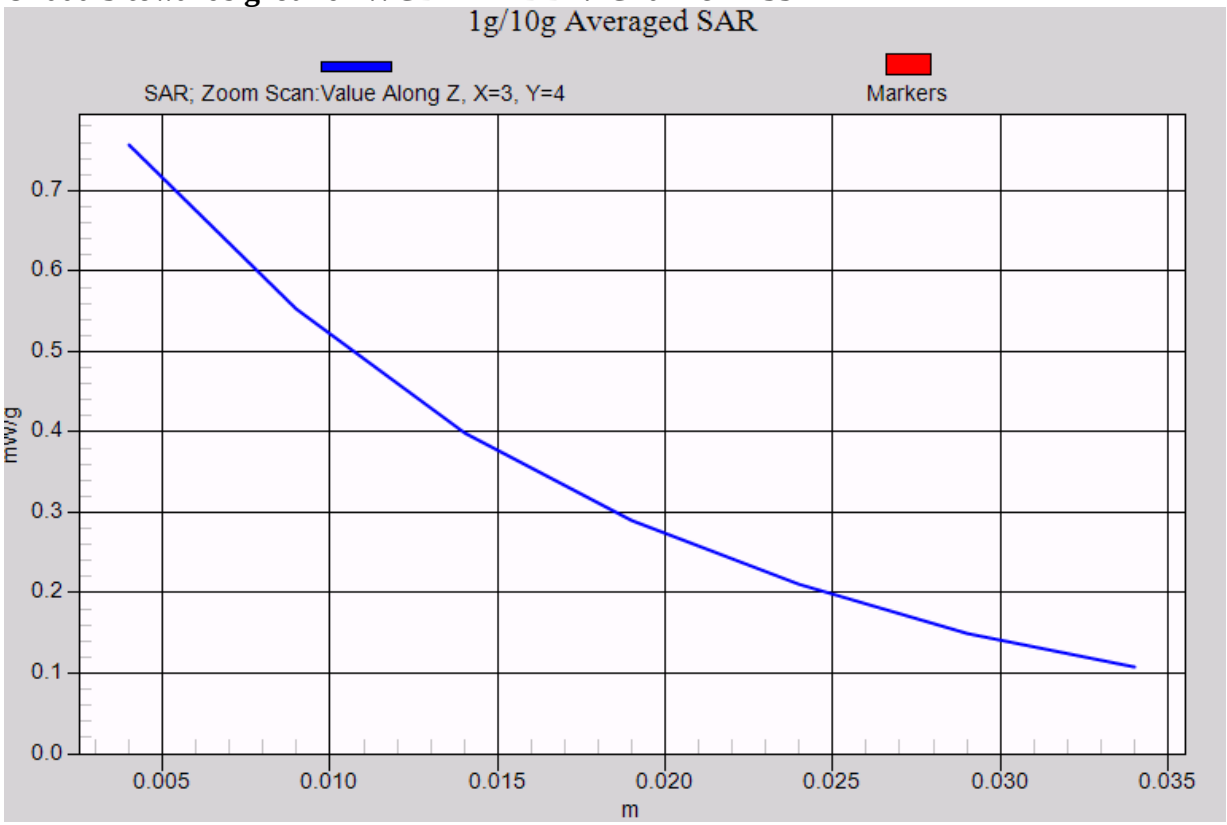
U1000-5 towards phantom- WCDAM FDD V Channel 4183



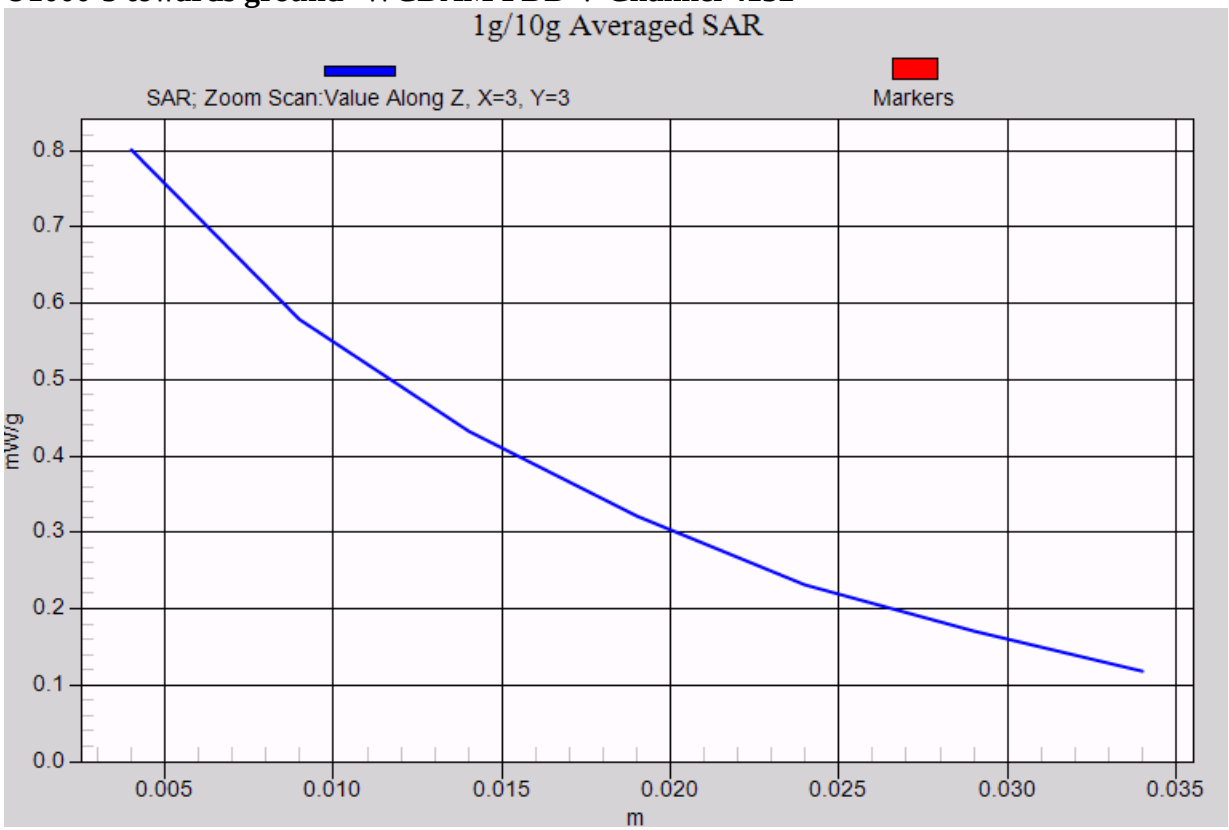
U1000-5 towards ground- WCDAM FDD V Channel 4183



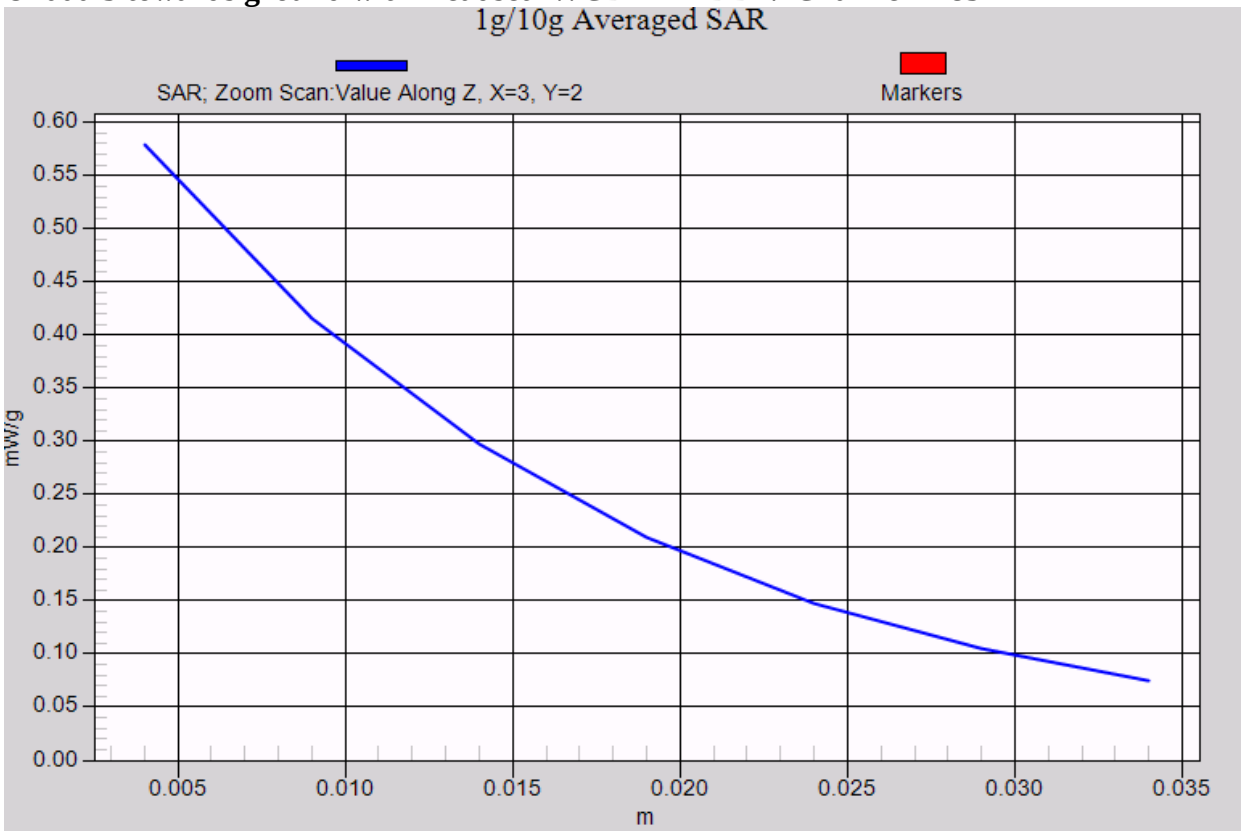
U1000-5 towards ground- WCDAM FDD V Channel 4233



U1000-5 towards ground- WCDAM FDD V Channel 4132

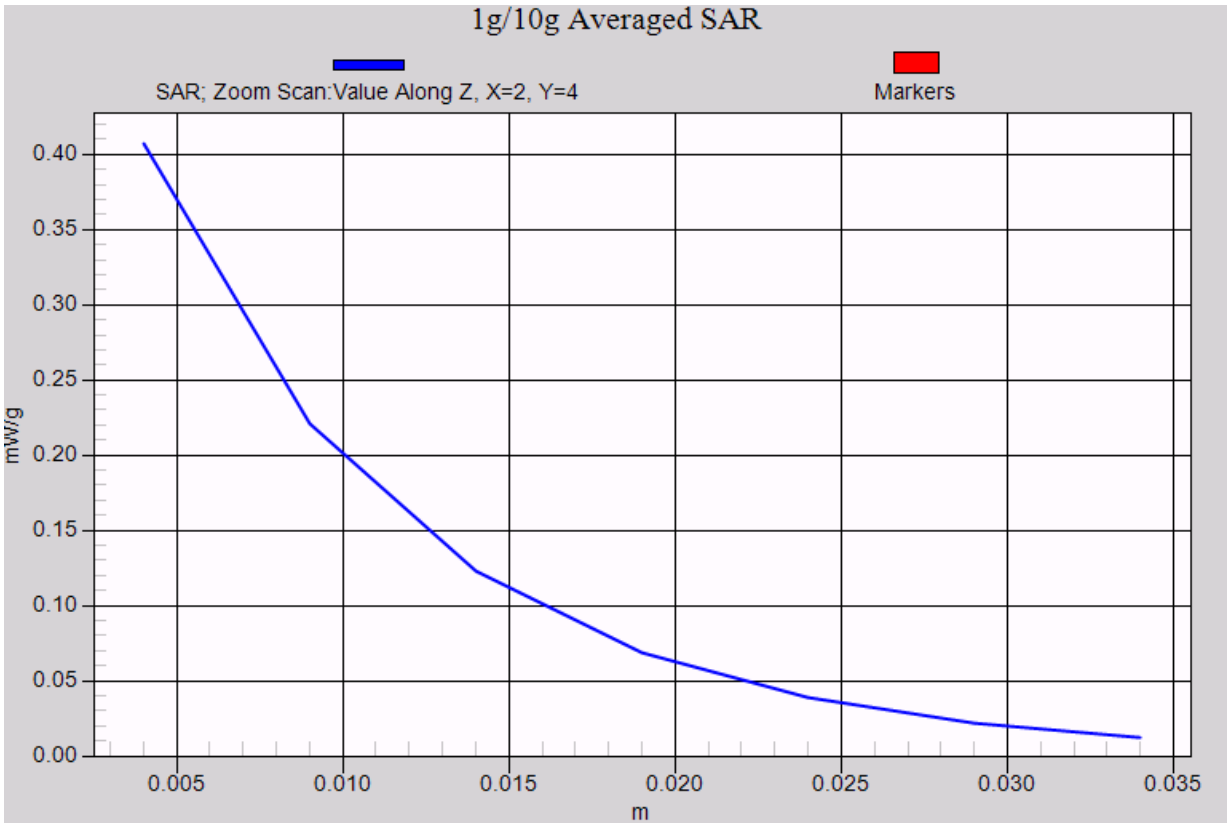


U1000-5 towards ground with Headset- WCDAM FDD V Channel 4183

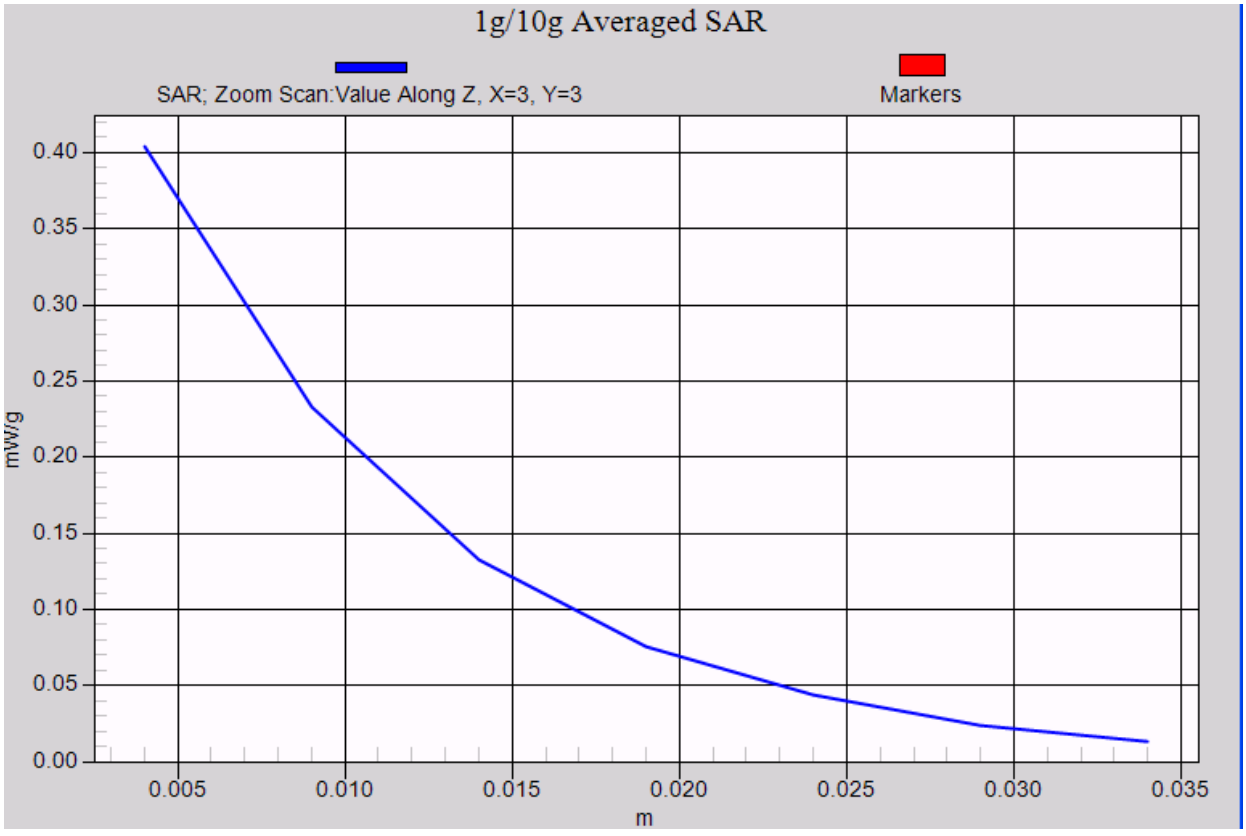


GSM1900 head:

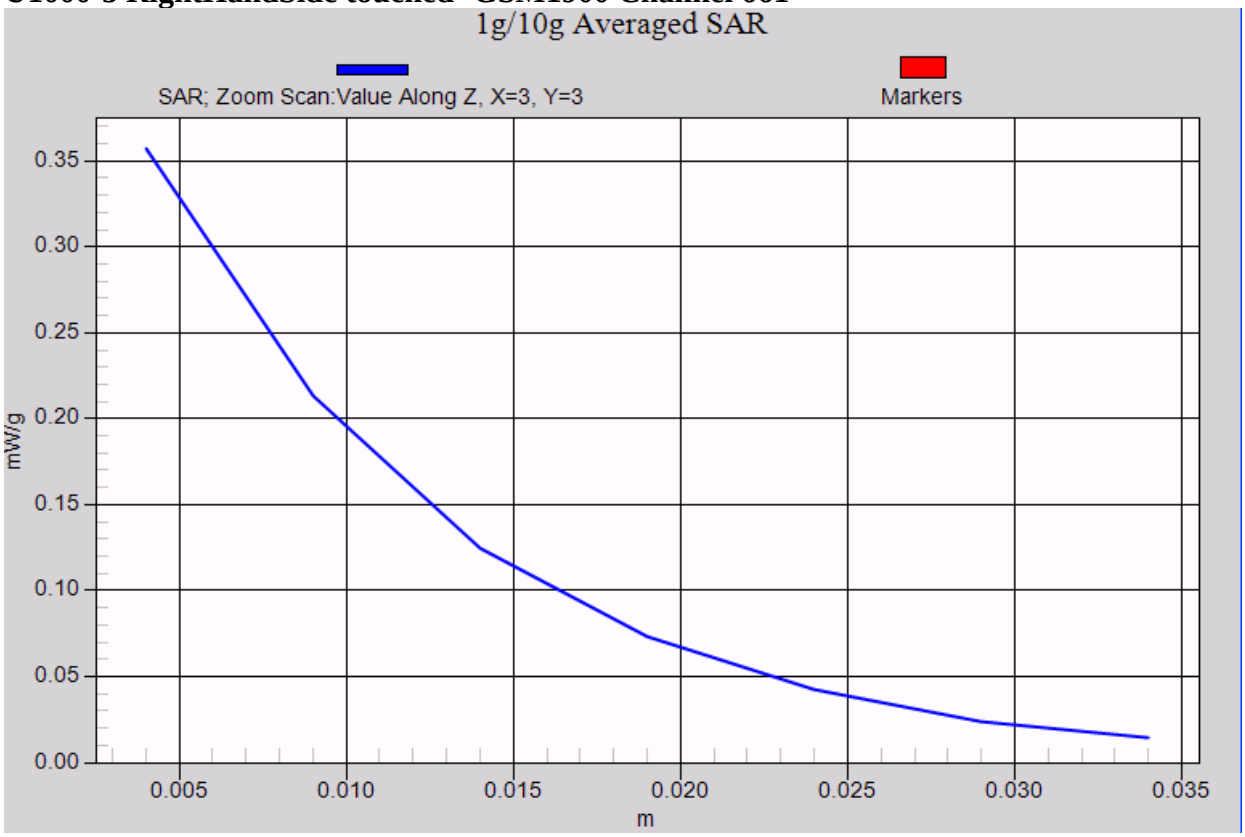
U1000-5 LeftHandSide touched- GSM1900 Channel 661

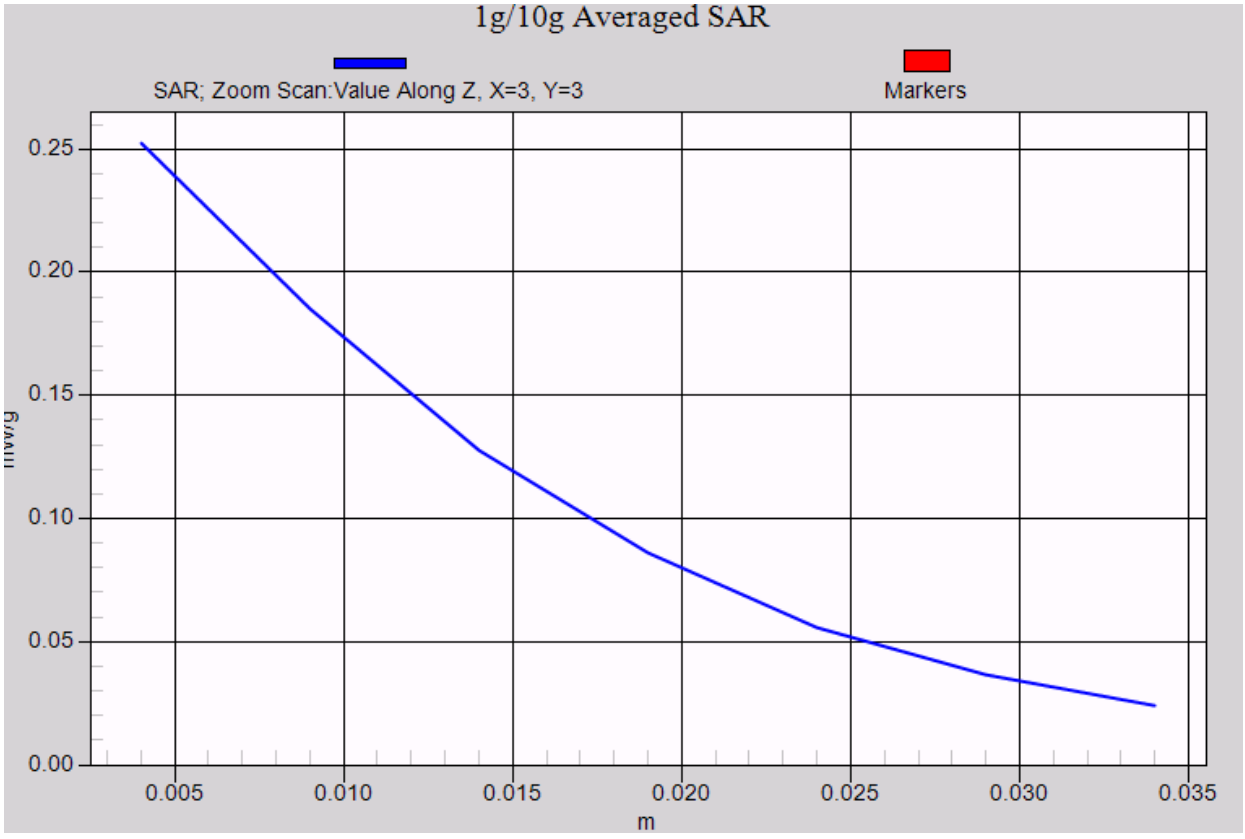


U1000-5 LeftHandSide titled 15°- GSM1900 Channel 661

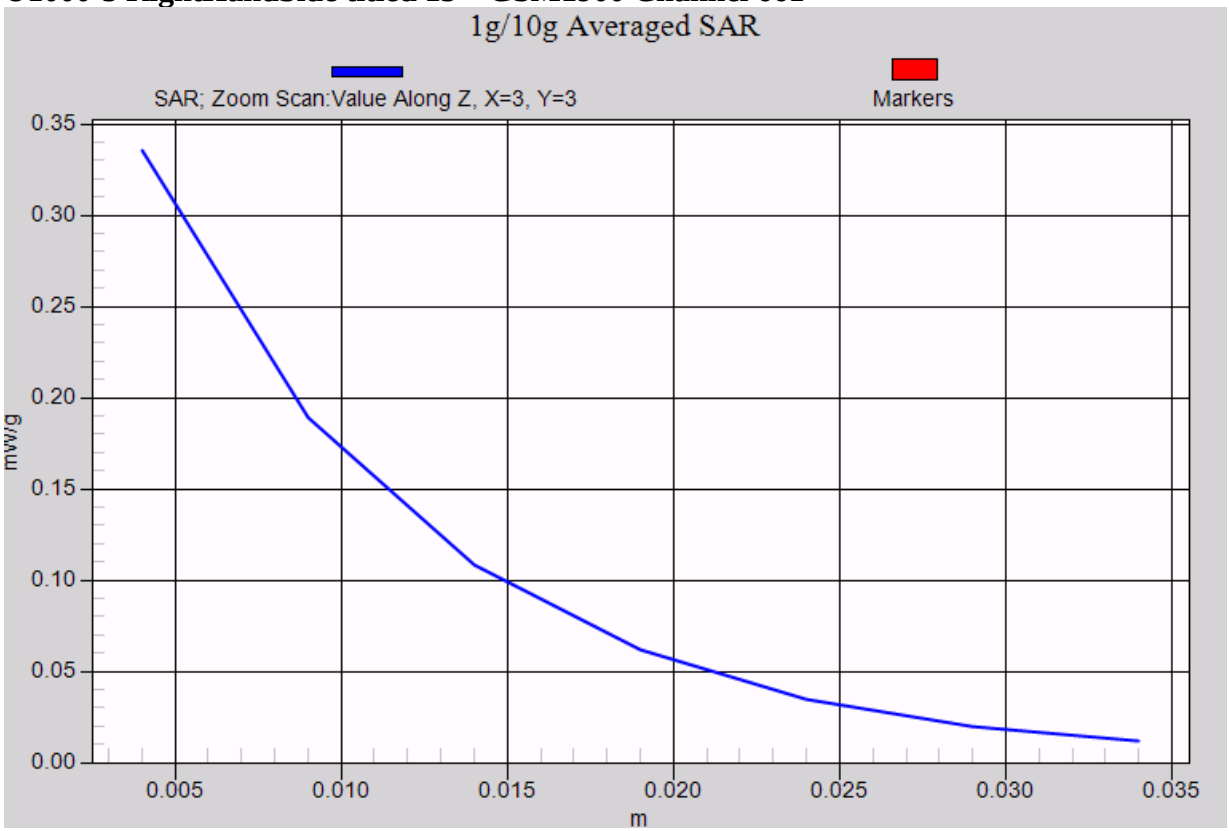


U1000-5 RightHandSide touched- GSM1900 Channel 661

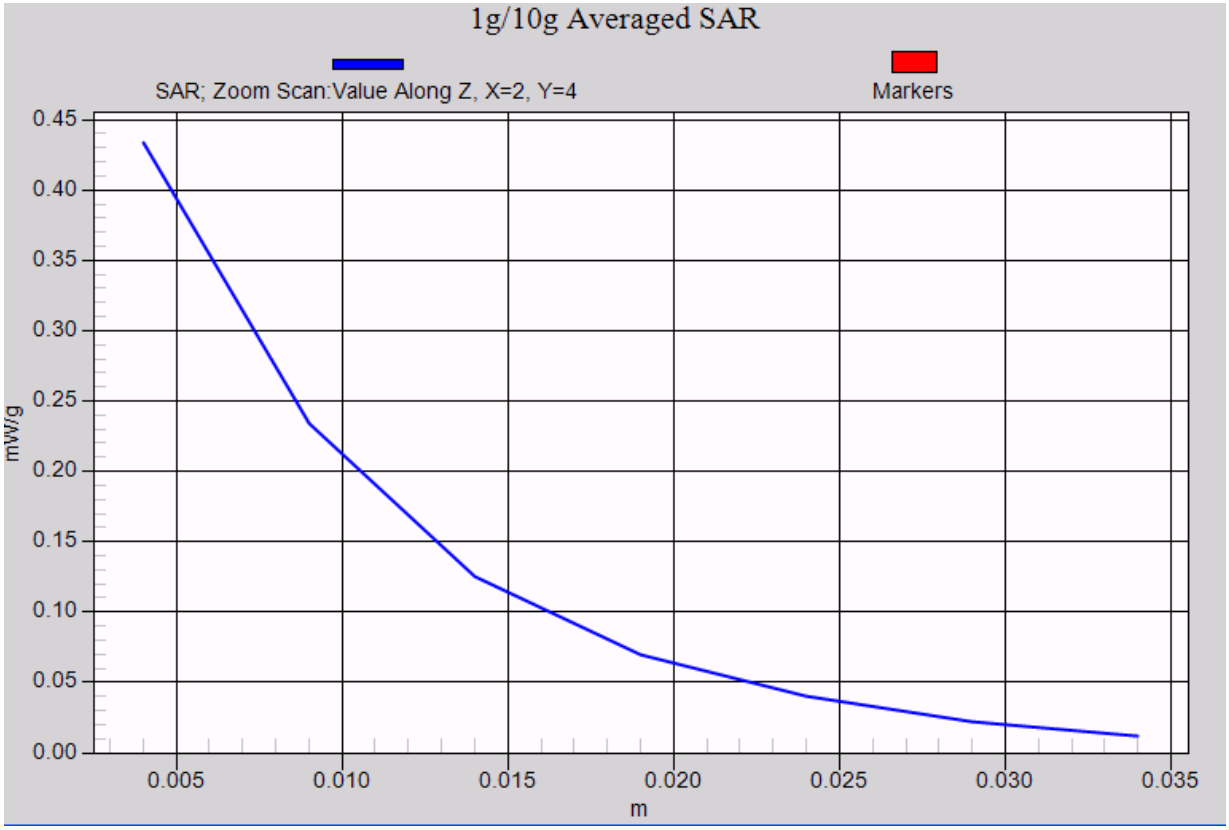




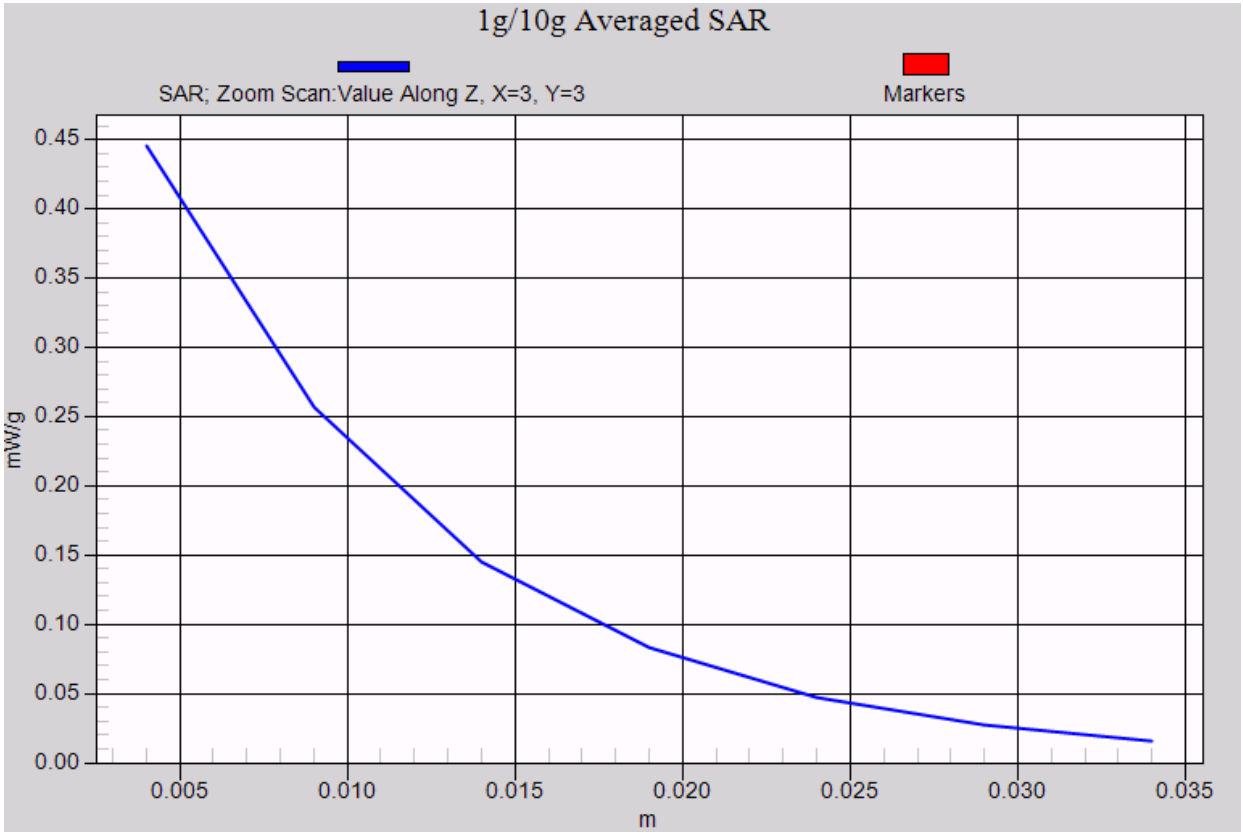
U1000-5 RightHandSide titled 15°- GSM1900 Channel 661



U1000-5 LeftHandSide touched- GSM1900 Channel 810

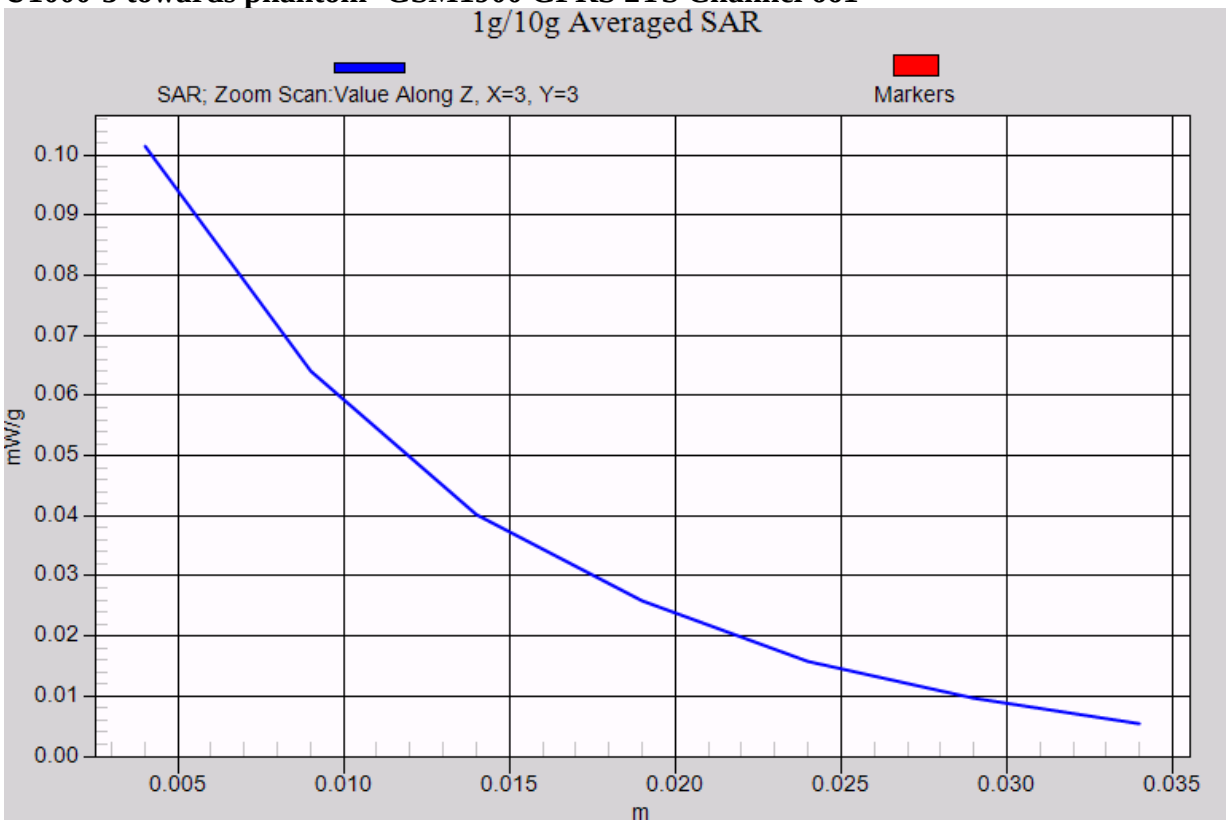


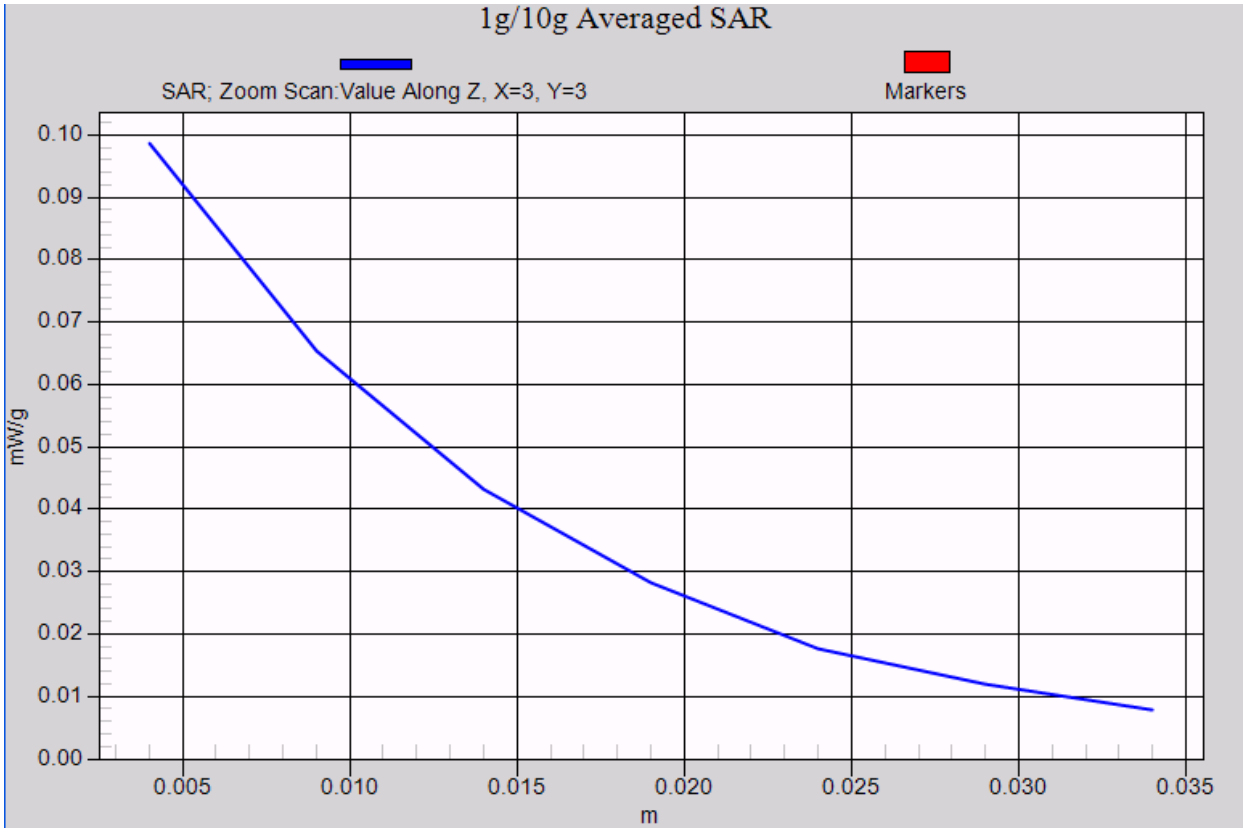
U1000-5 LeftHandSide titled 15°- GSM1900 Channel 512



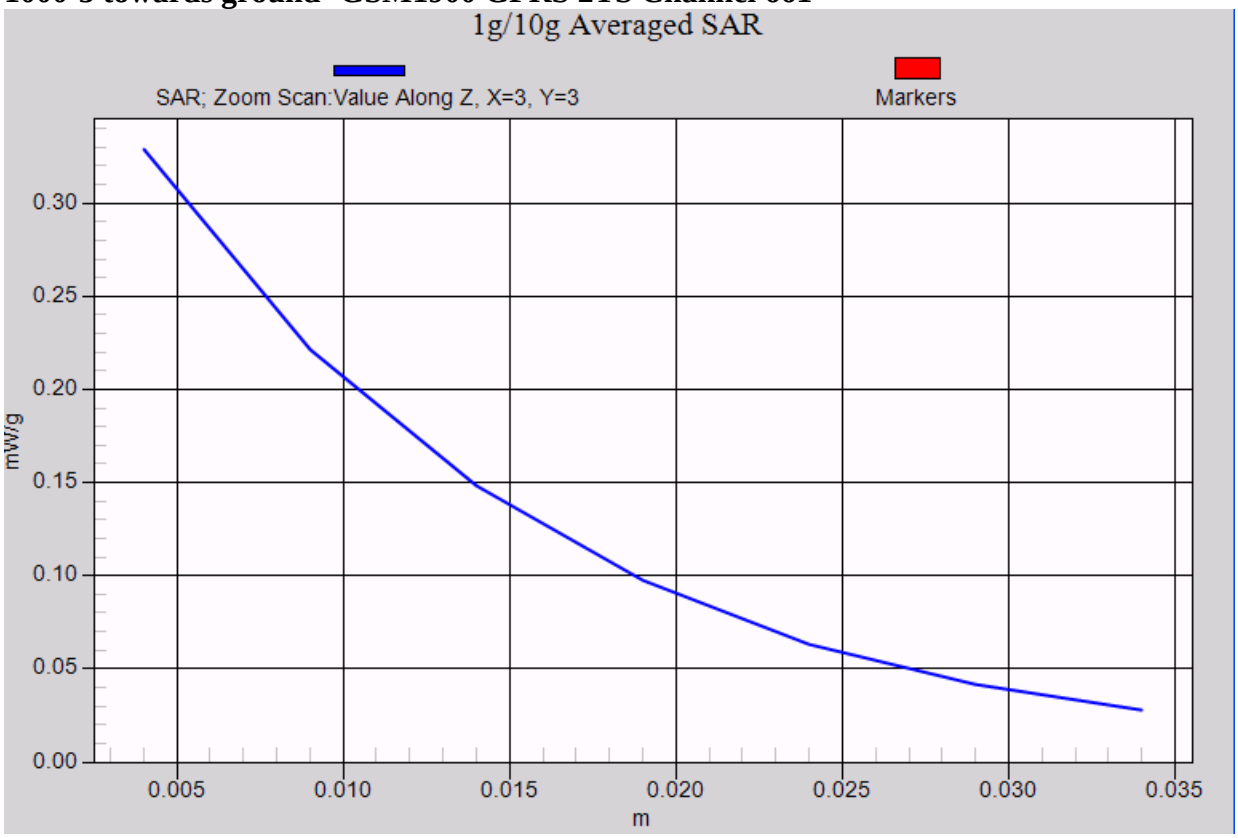
GSM1900 body:

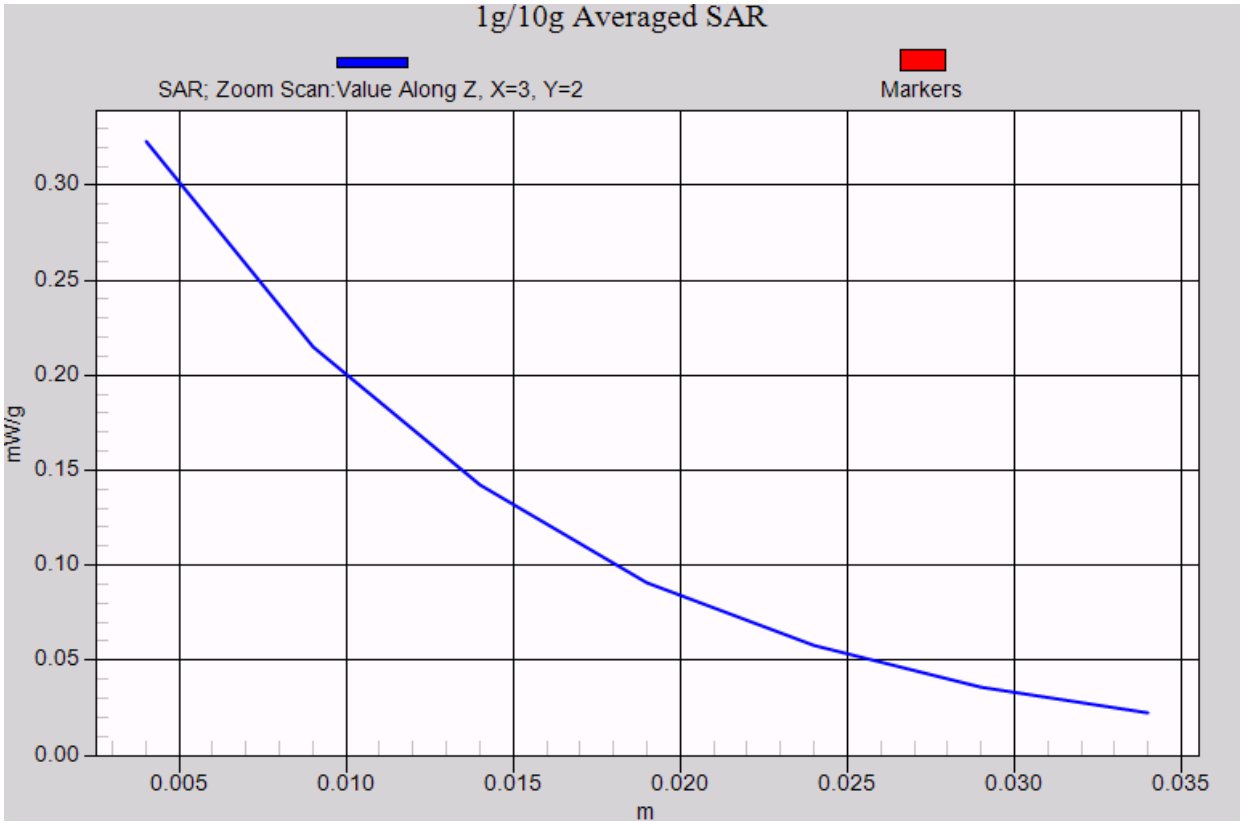
U1000-5 towards phantom- GSM1900 GPRS 2TS Channel 661



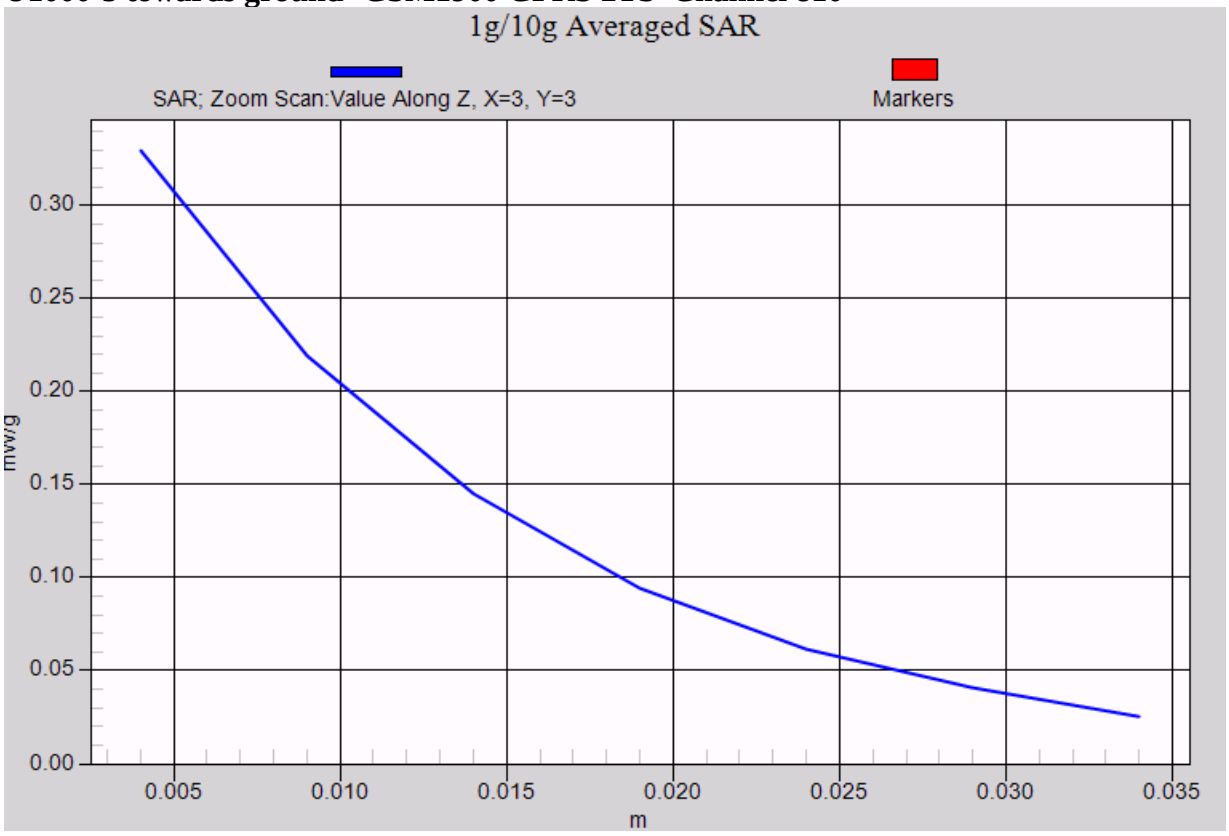


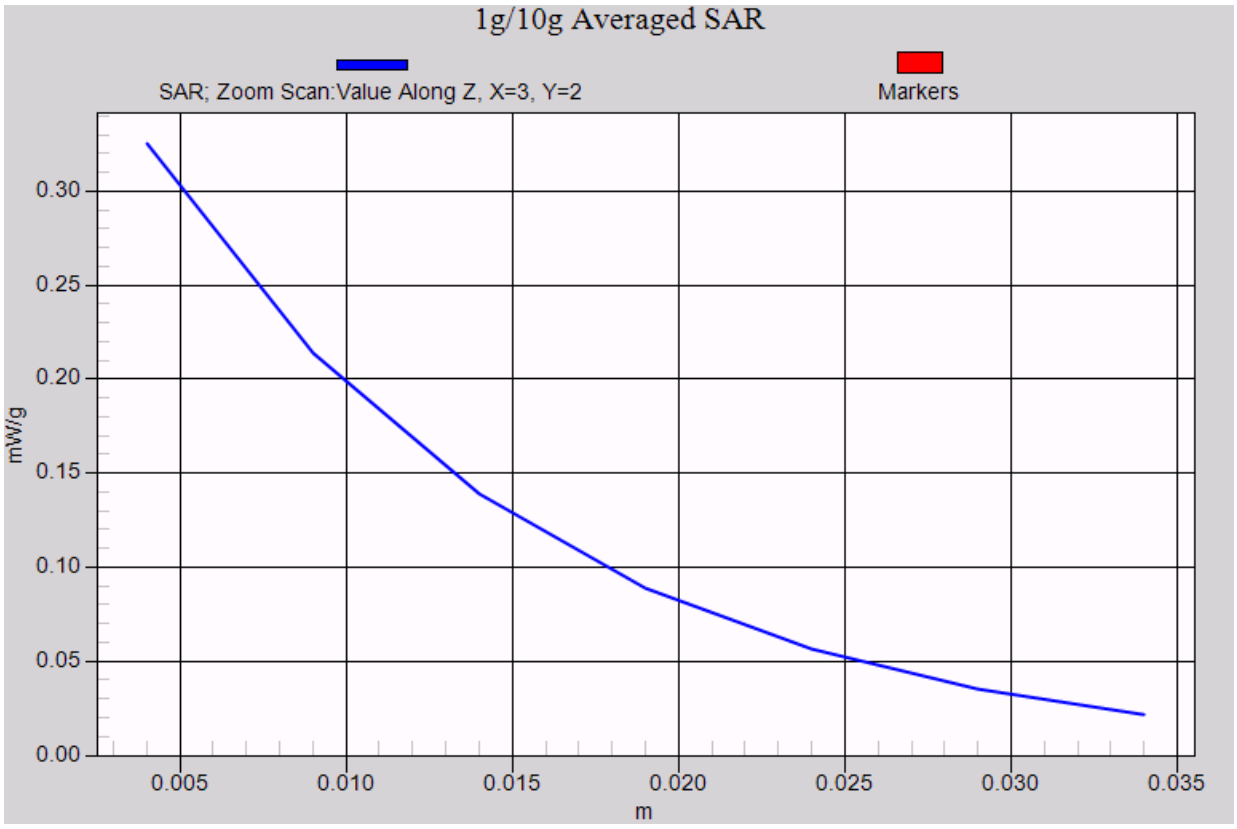
1000-5 towards ground- GSM1900 GPRS 2TS Channel 661



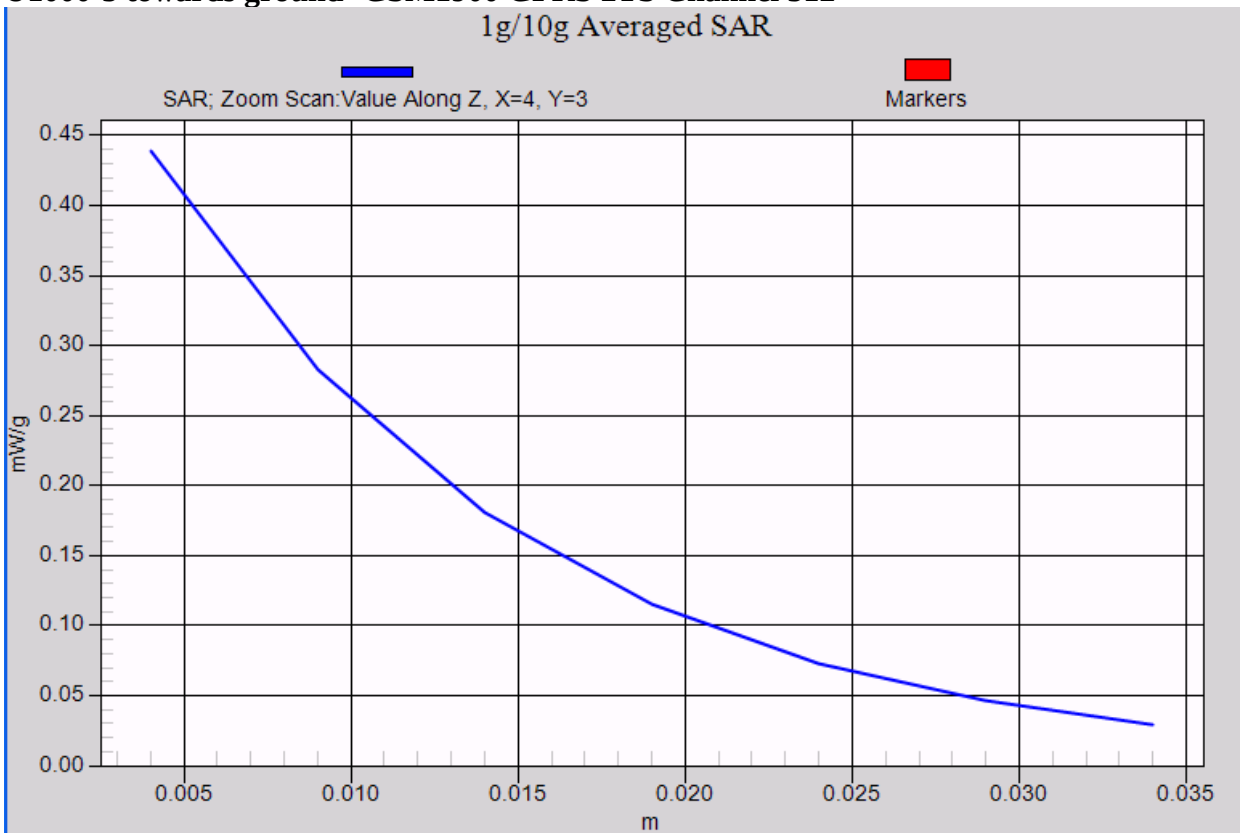


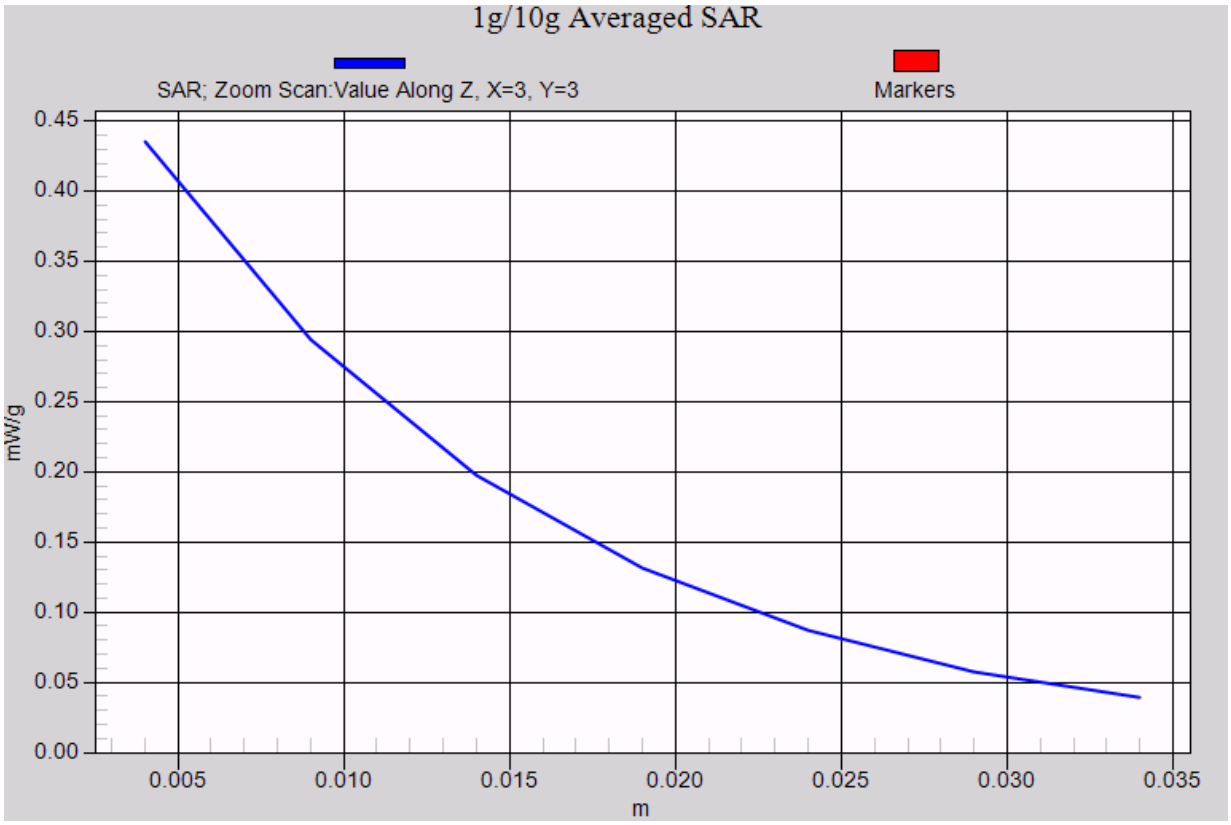
U1000-5 towards ground- GSM1900 GPRS 2TS Channel 810



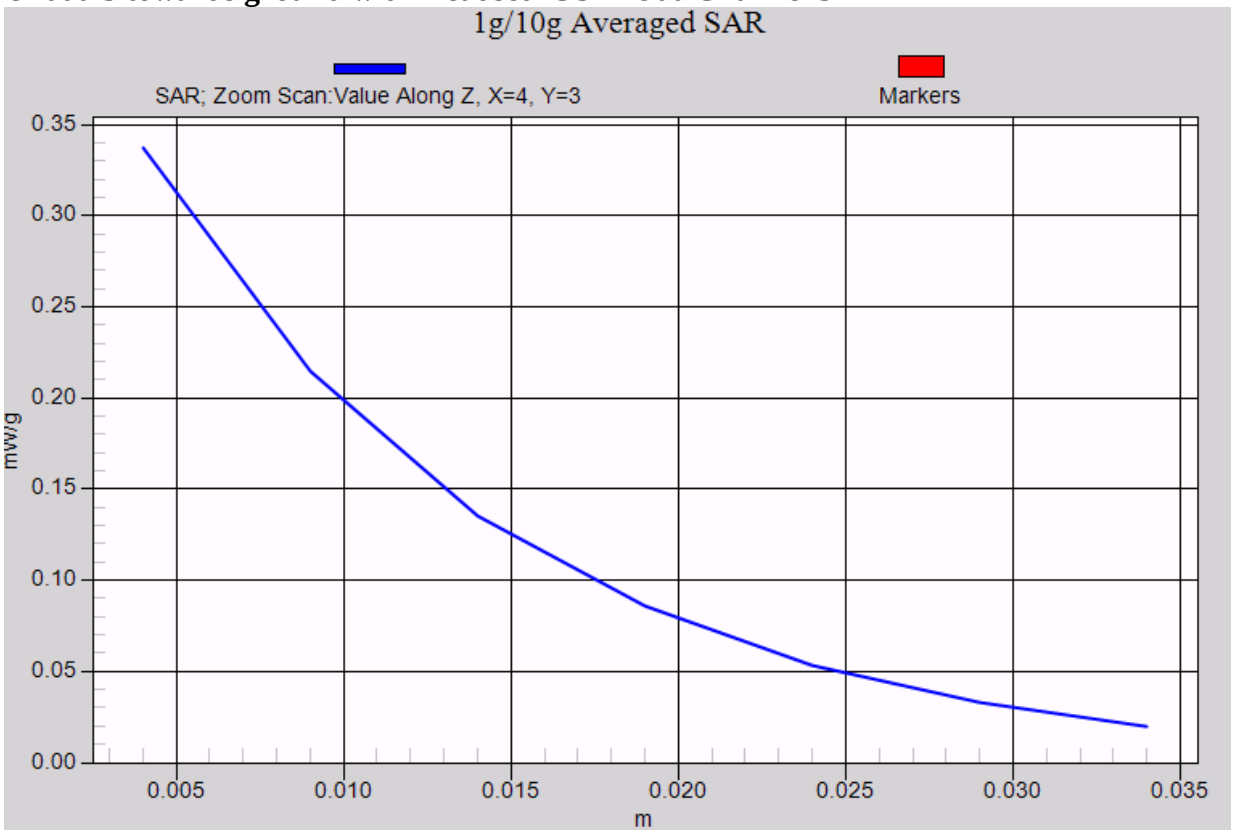


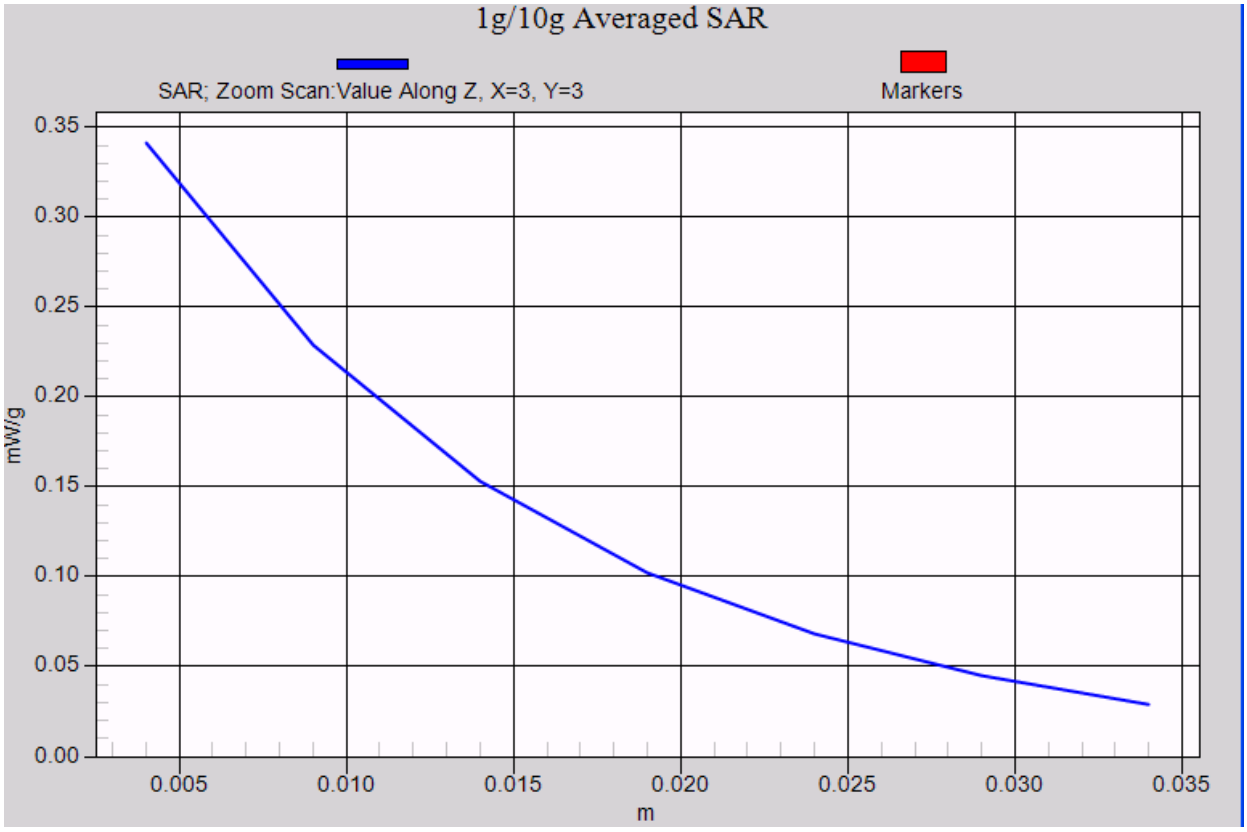
U1000-5 towards ground- GSM1900 GPRS 2TS Channel 512





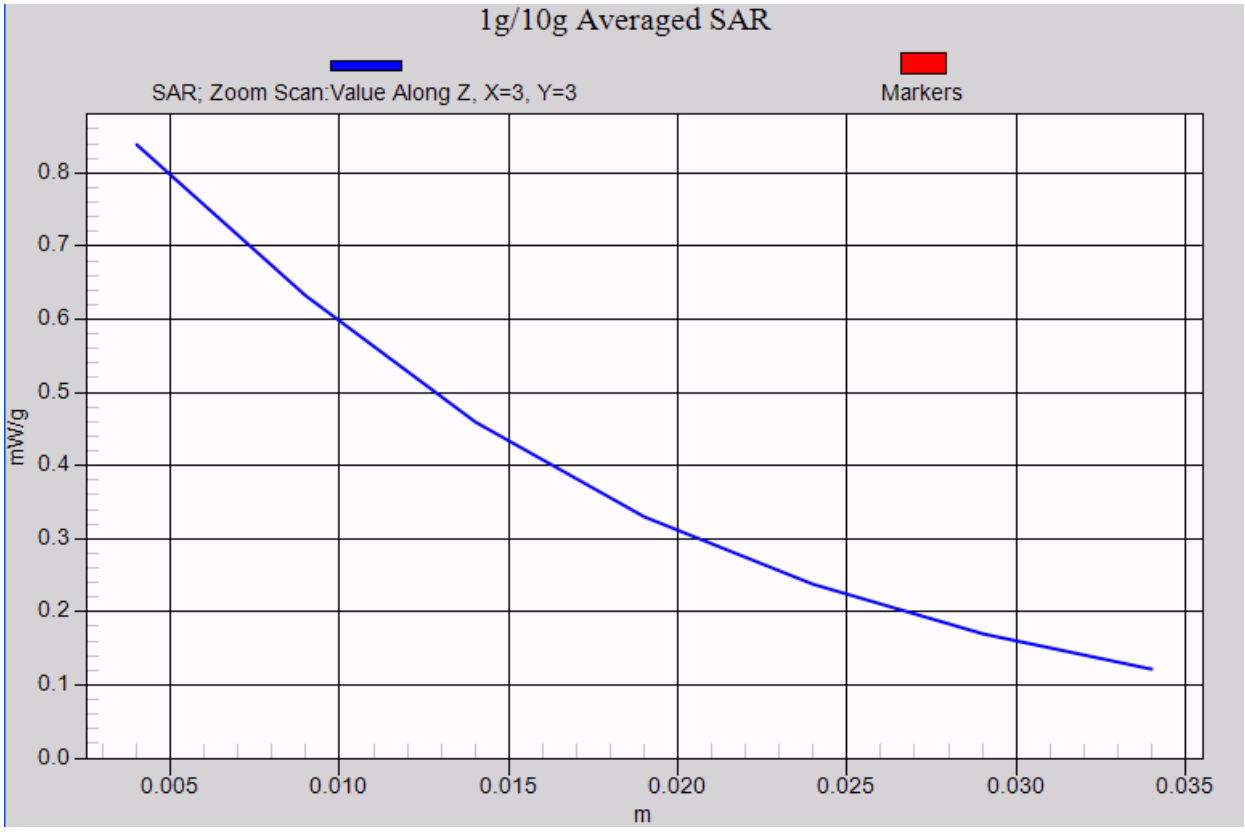
U1000-5 towards ground with Headset- GSM1900 Channel 512



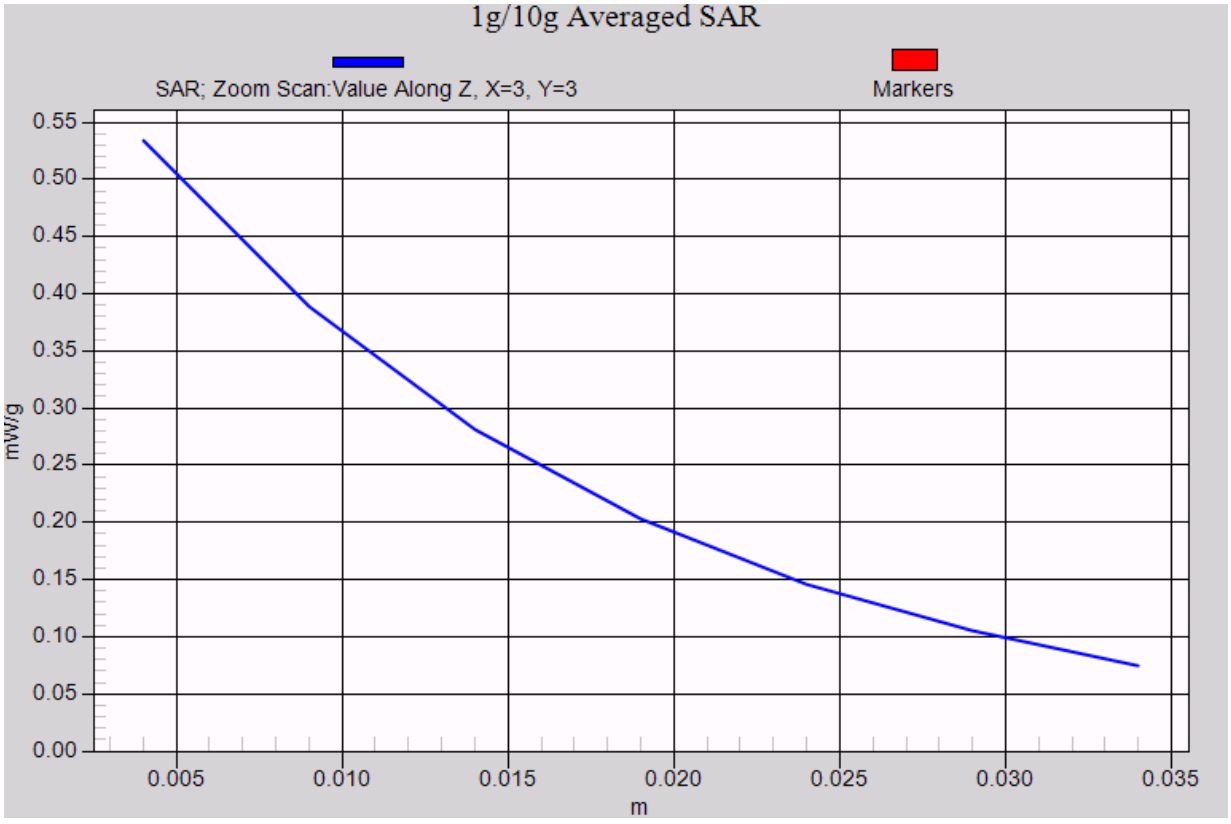


GSM850 head:

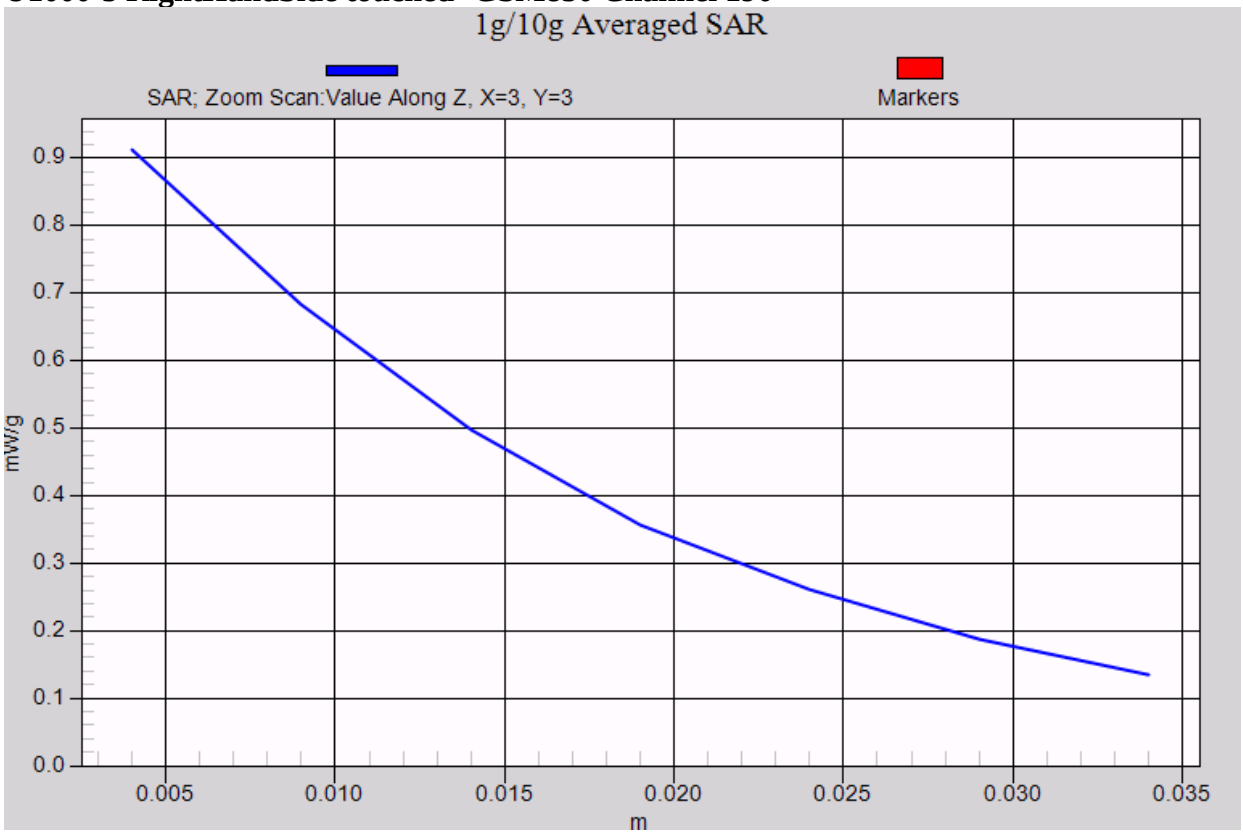
U1000-5 LeftHandSide touched- GSM850 Channel 190



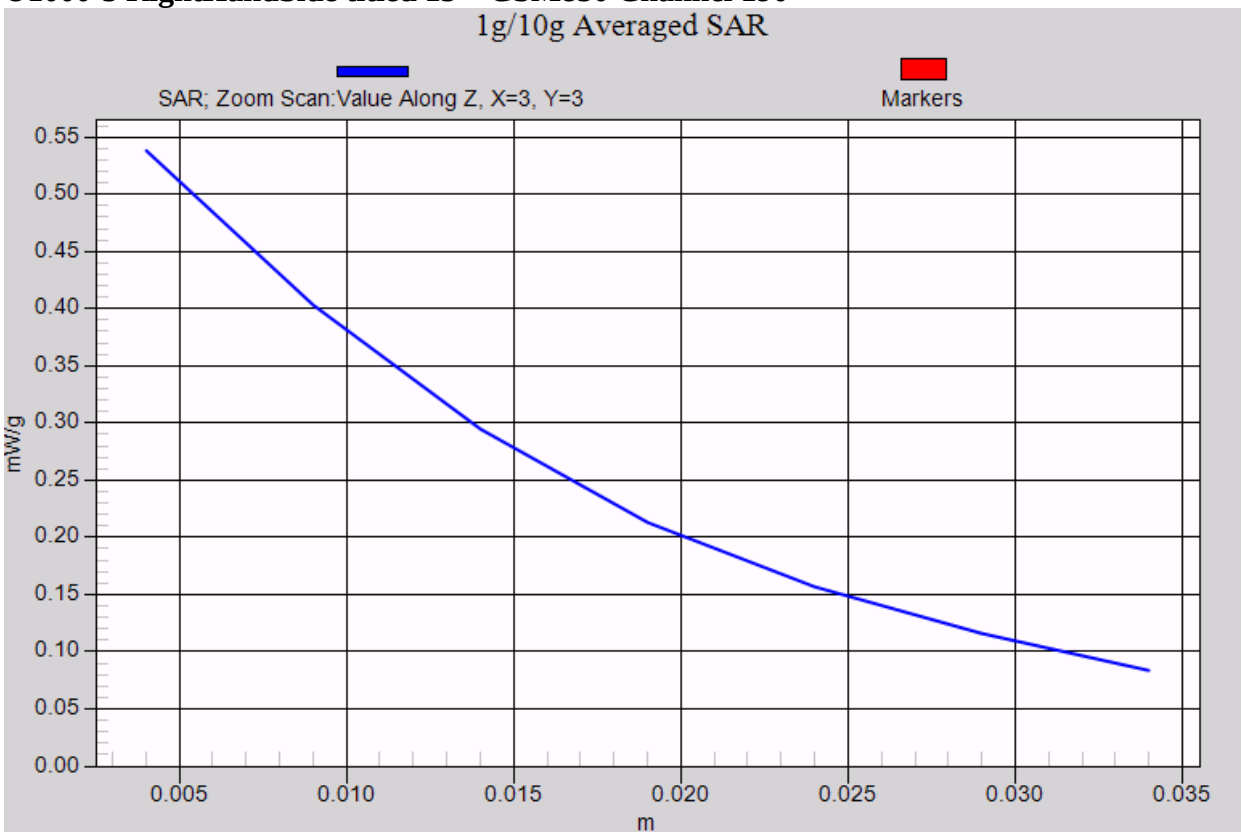
U1000-5 LeftHandSide titled 15°- GSM1850 Channel 190



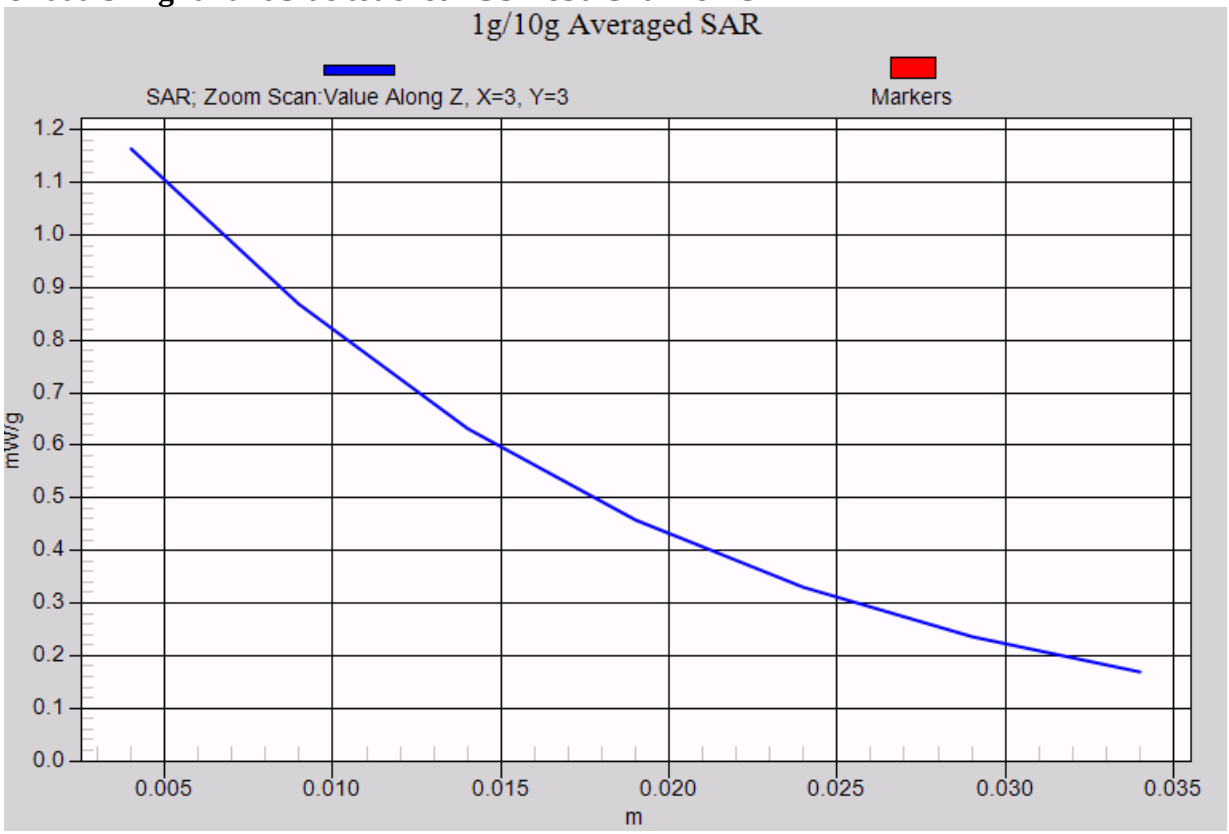
U1000-5 RightHandSide touched- GSM850 Channel 190



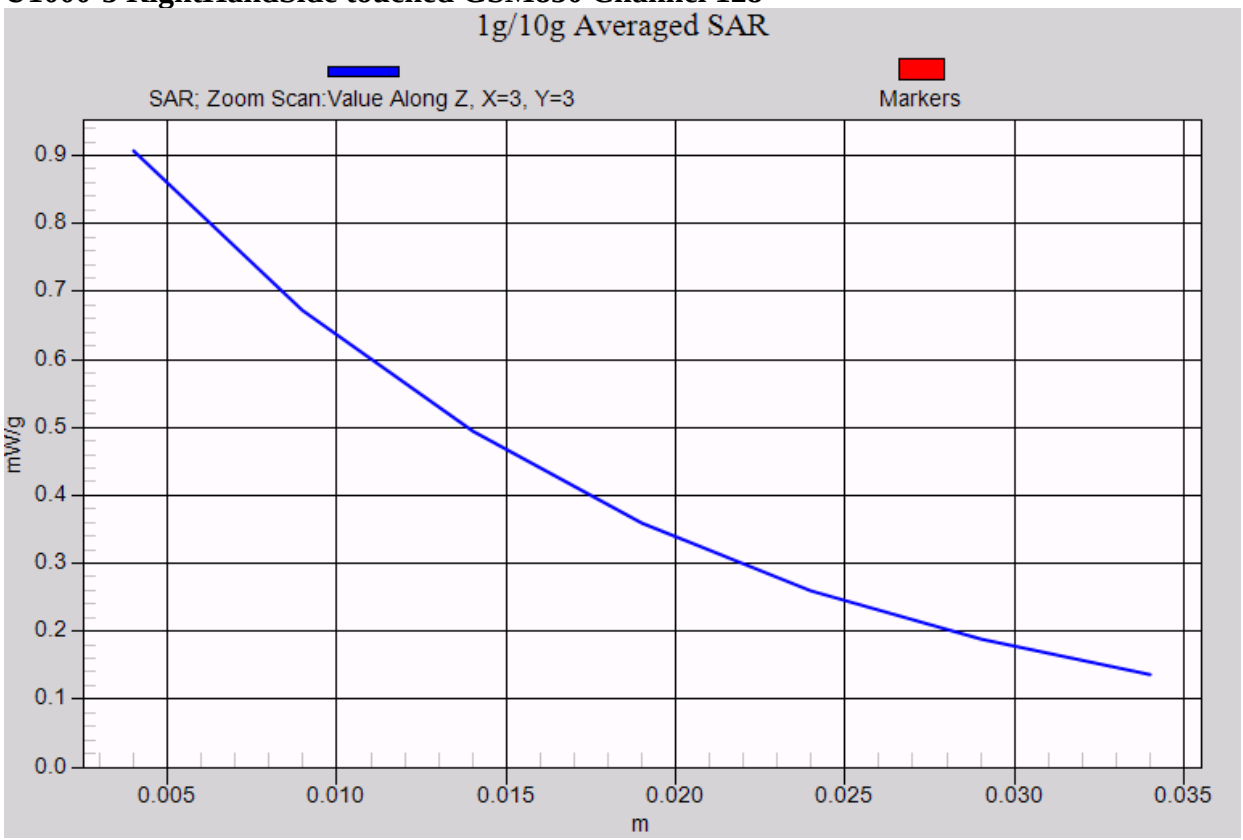
U1000-5 RightHandSide titled 15°- GSM850 Channel 190



U1000-5 RightHandSide touched- GSM850 Channel 251

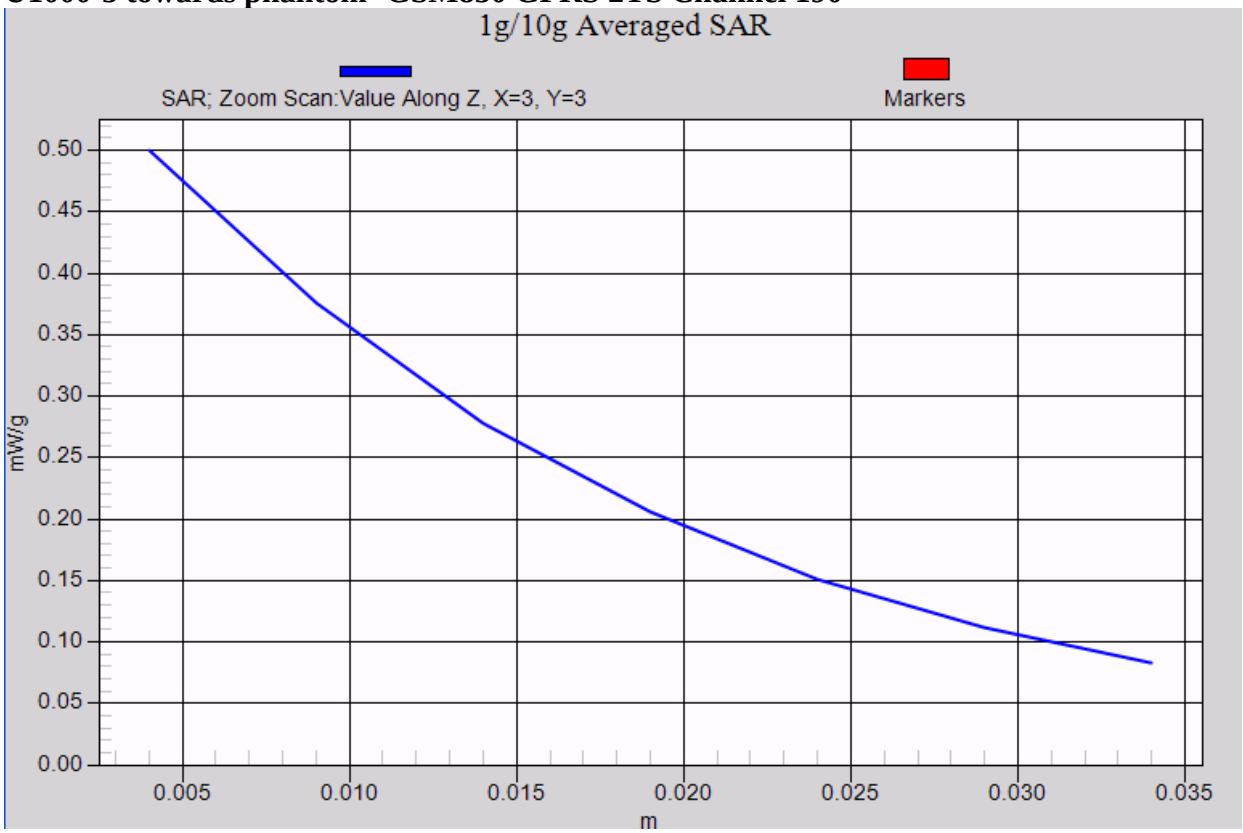


U1000-5 RightHandSide touched GSM850 Channel 128

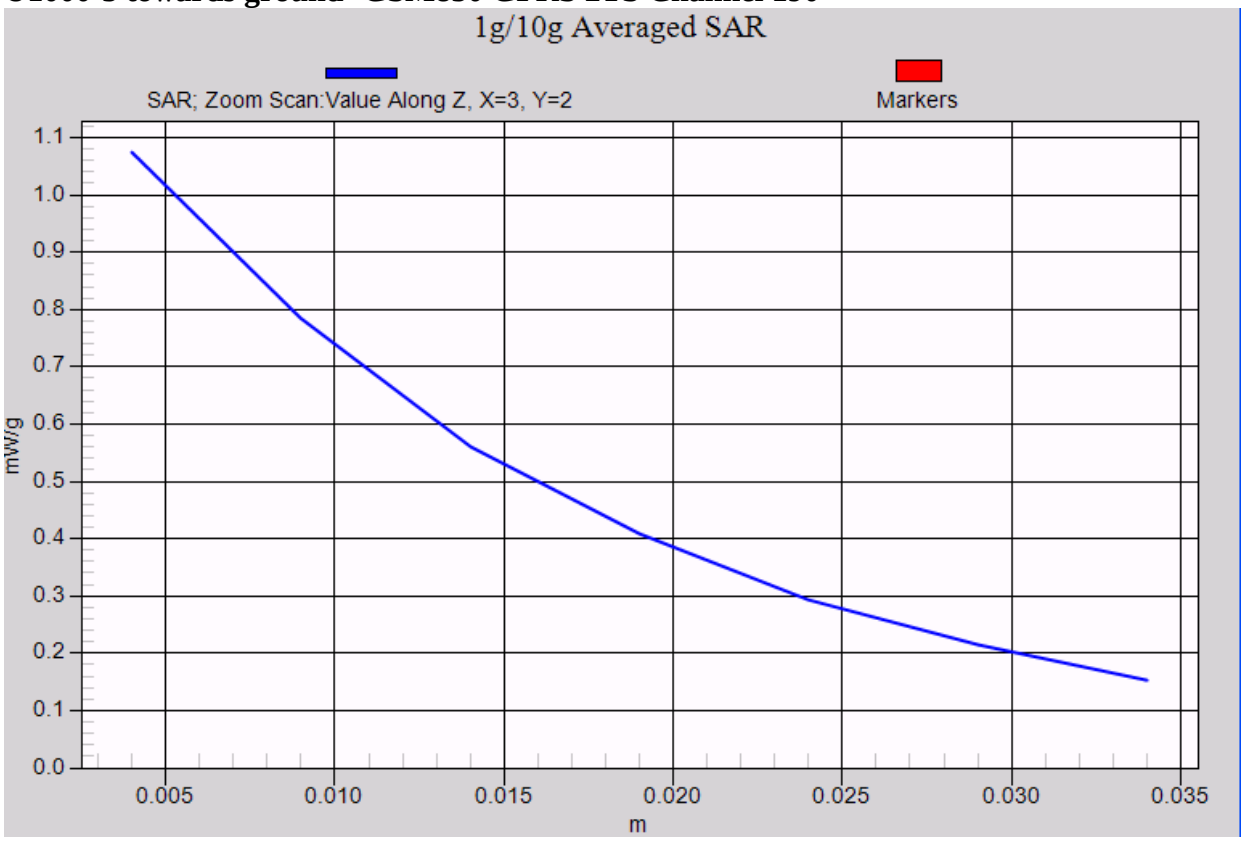


GSM850 body:

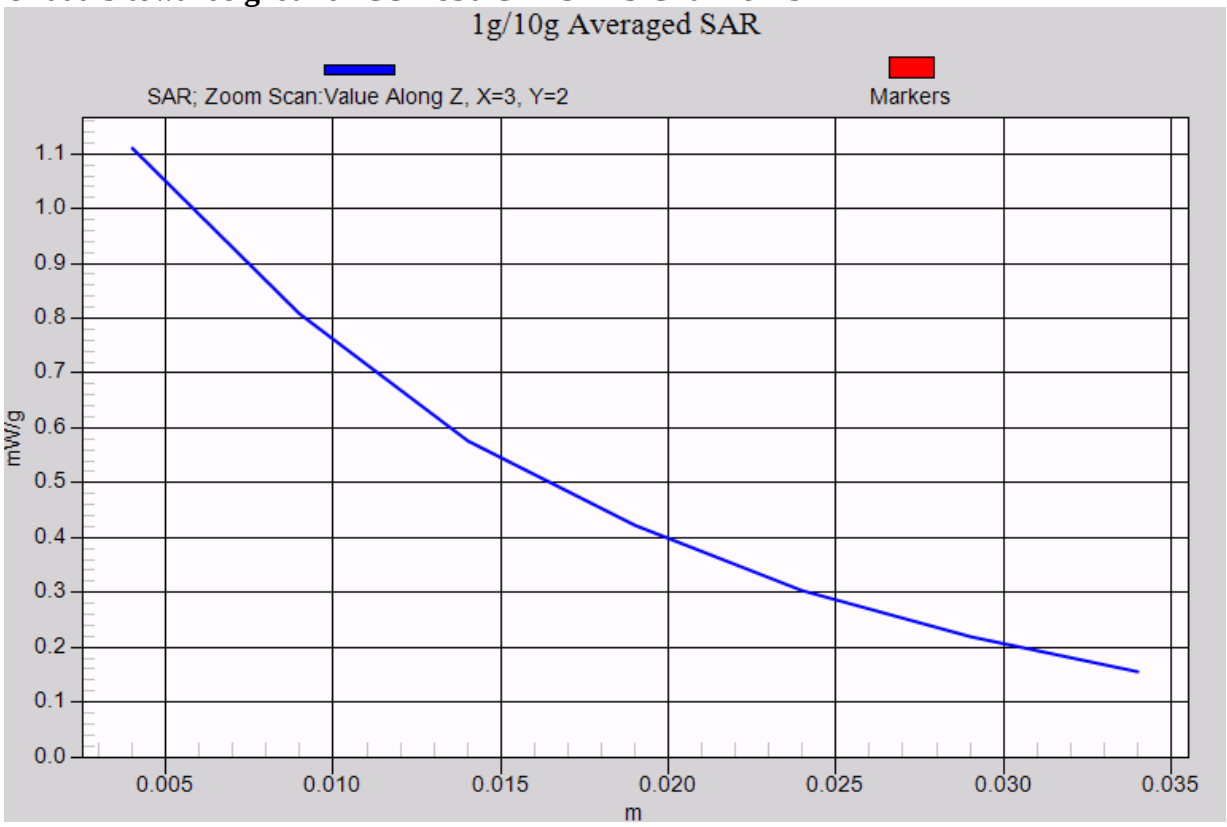
U1000-5 towards phantom- GSM850 GPRS 2TS Channel 190



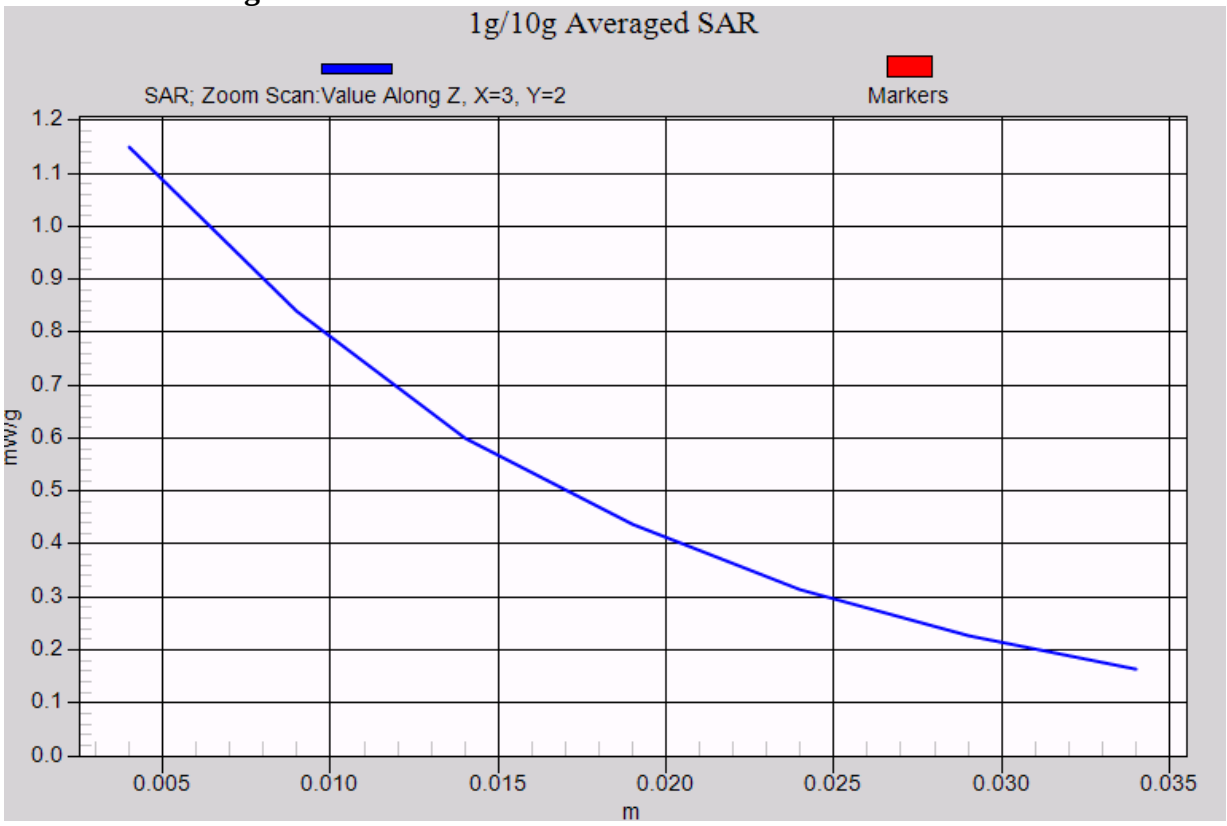
U1000-5 towards ground- GSM850 GPRS 2TS Channel 190



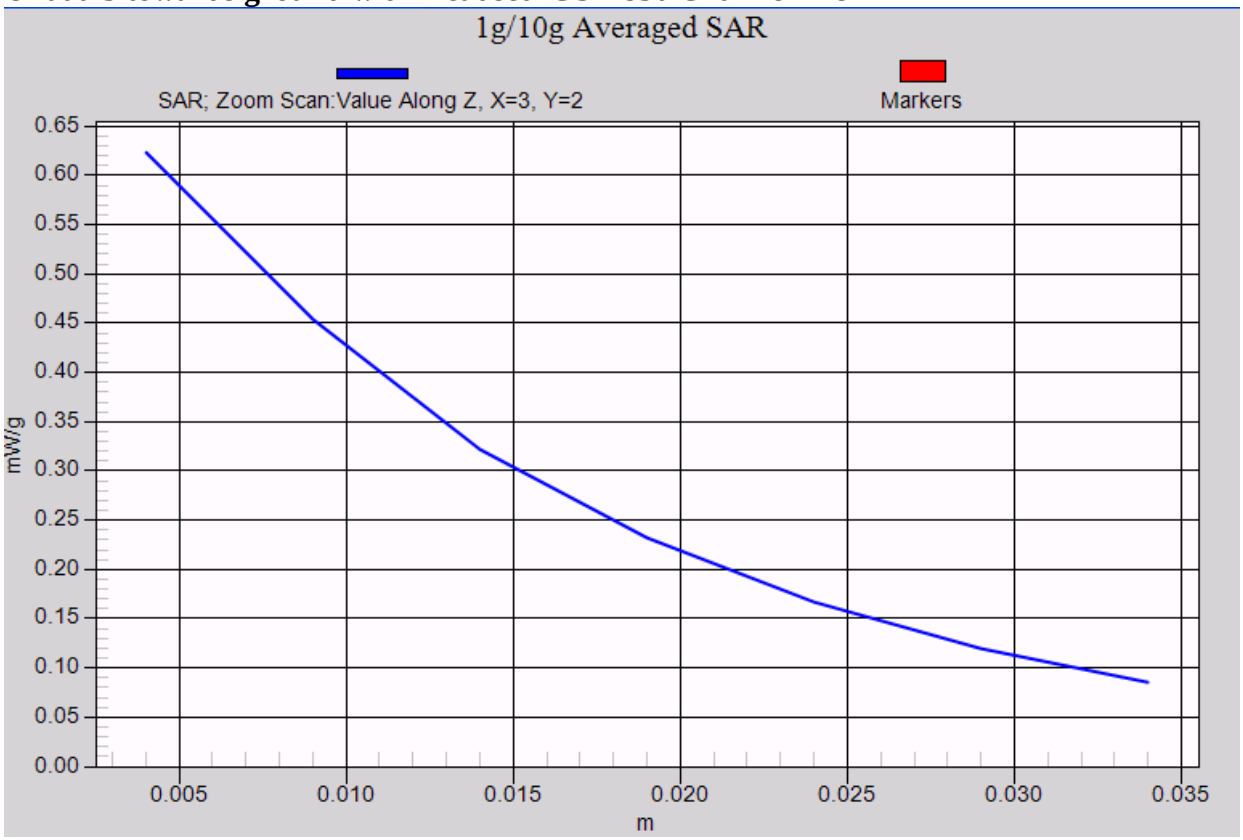
U1000-5 towards ground- GSM850 GPRS 2TS Channel 251



U1000-5 towards ground- GSM850 GPRS 2TS Channel 128



U1000-5 towards ground with Headset- GSM850 Channel 128



Annex 3 Calibration parameters

Calibration parameters are described in the additional document:

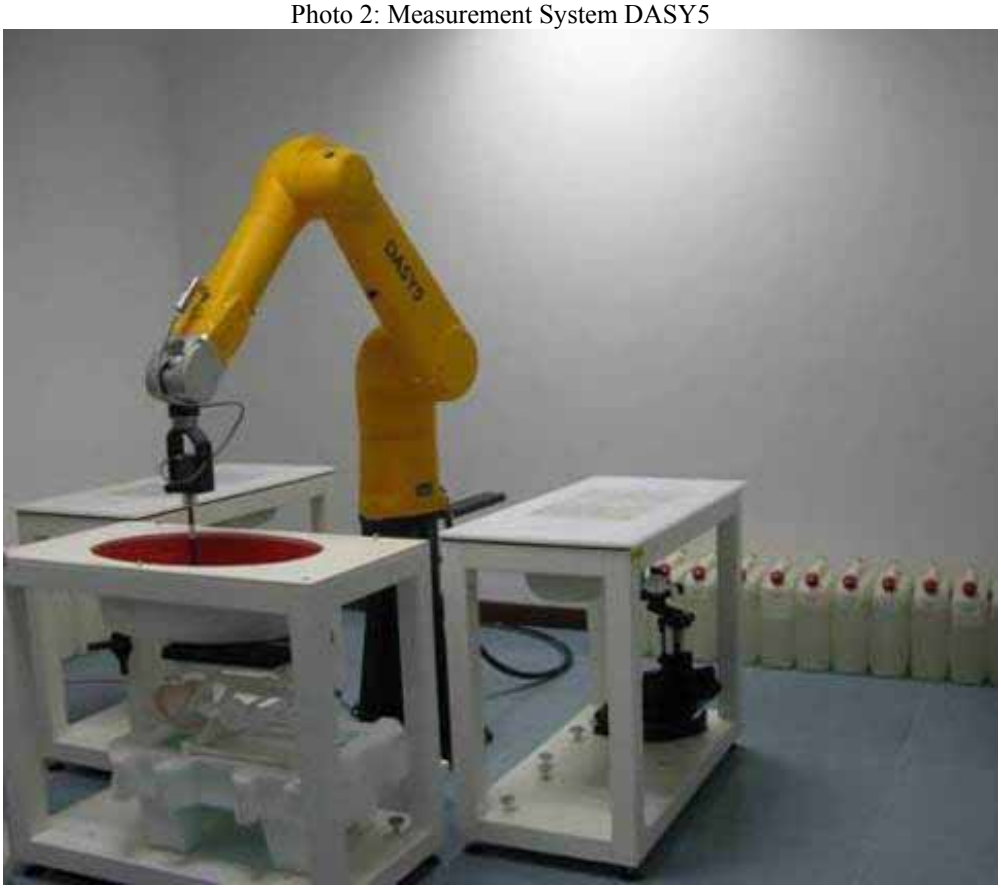
Appendix to test report no. SYBH(Z-SAR)001022010
Calibration data, Phantom certificate
and detail information of the DASY5 System

Annex 4 Photo documentation

Annex 4.1 Test Facility

Photo 1: Measurement System DASY5

Photo 2: Measurement System DASY5



Annex 4.2 Test Positions

Photo 3: U1000-5- front view

Photo 4: U1000-5 - rear view

Photo 5: U1000-5 Test position left hand touched

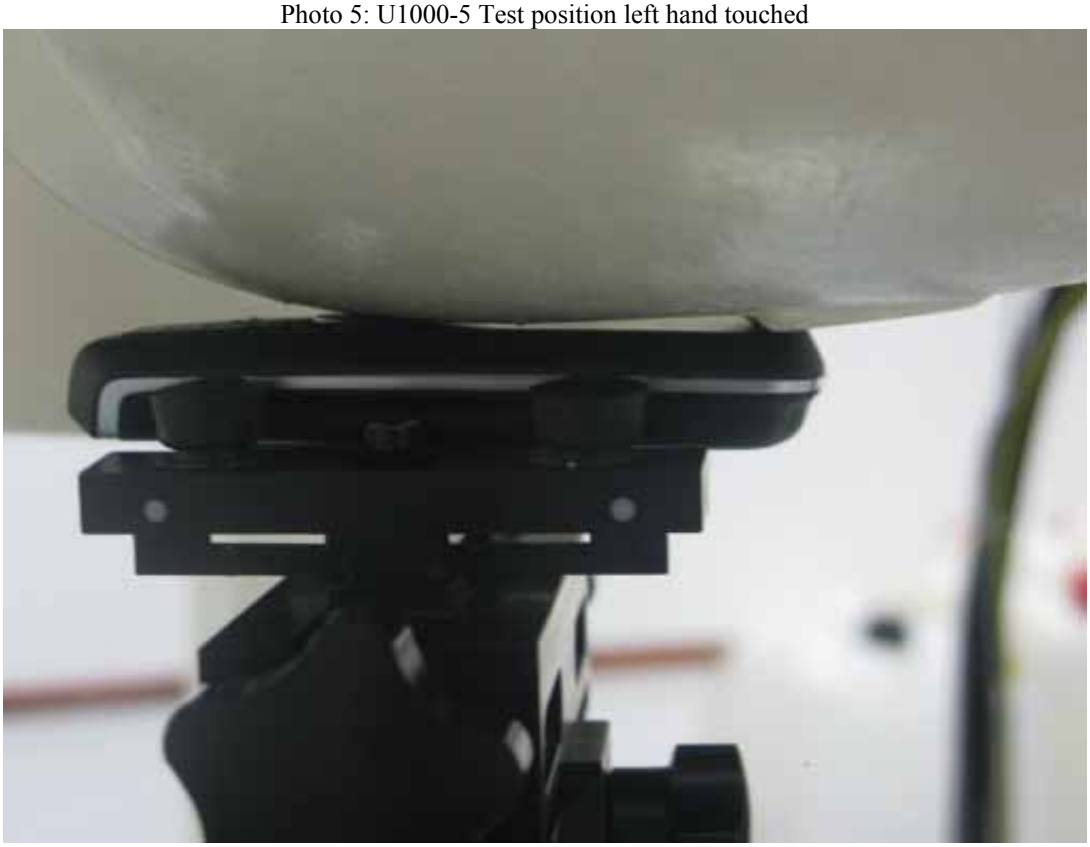


Photo 6: U1000-5 Test position left hand tilted 15°

Photo 7: U1000-5 Test position right hand touched

Photo 8: U1000-5 Test position right hand tilted 15°

Photo 9: U1000-5 Test position body worn front side with15 mm distance

Photo 10: U1000-5 Test position body worn rear side with 15 mm distance

Photo 11: U1000-5 Test position body worn rear side (15 mm distance) with headset

Annex 4.3 Liquid depth

Photo 12: Liquid depth 900 MHz head simulating liquid

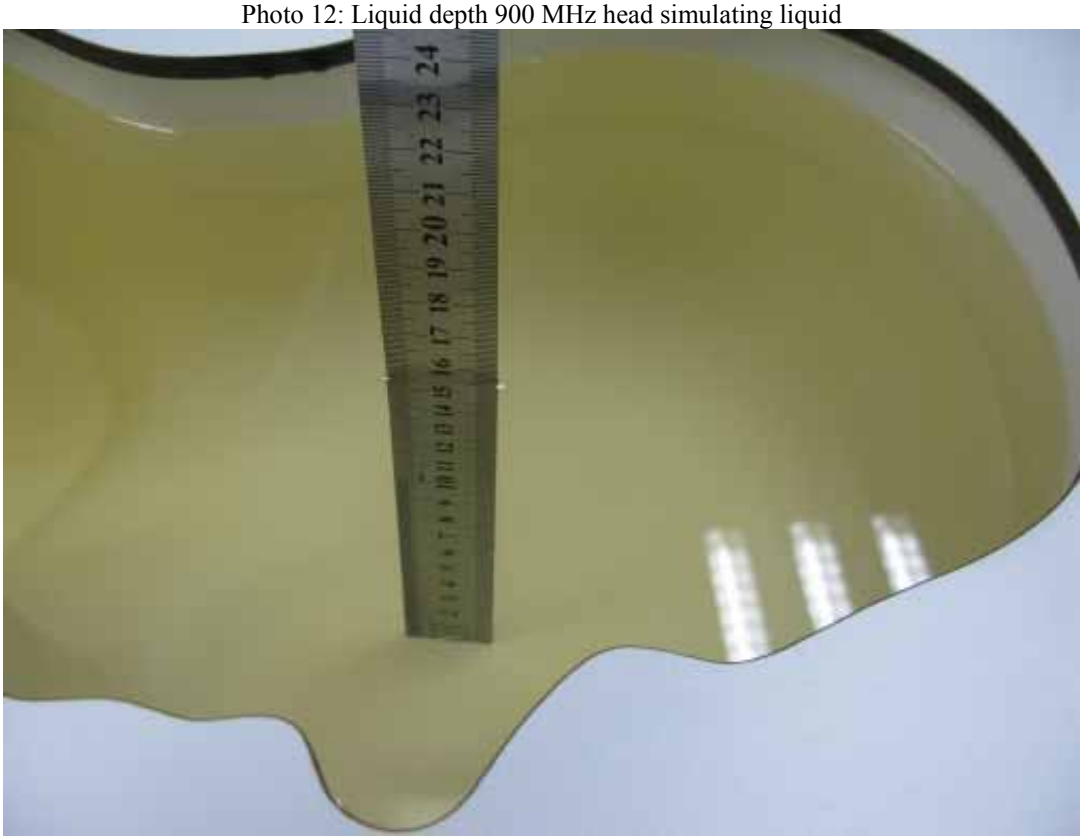


Photo 13: Liquid depth 900 MHz body simulating liquid

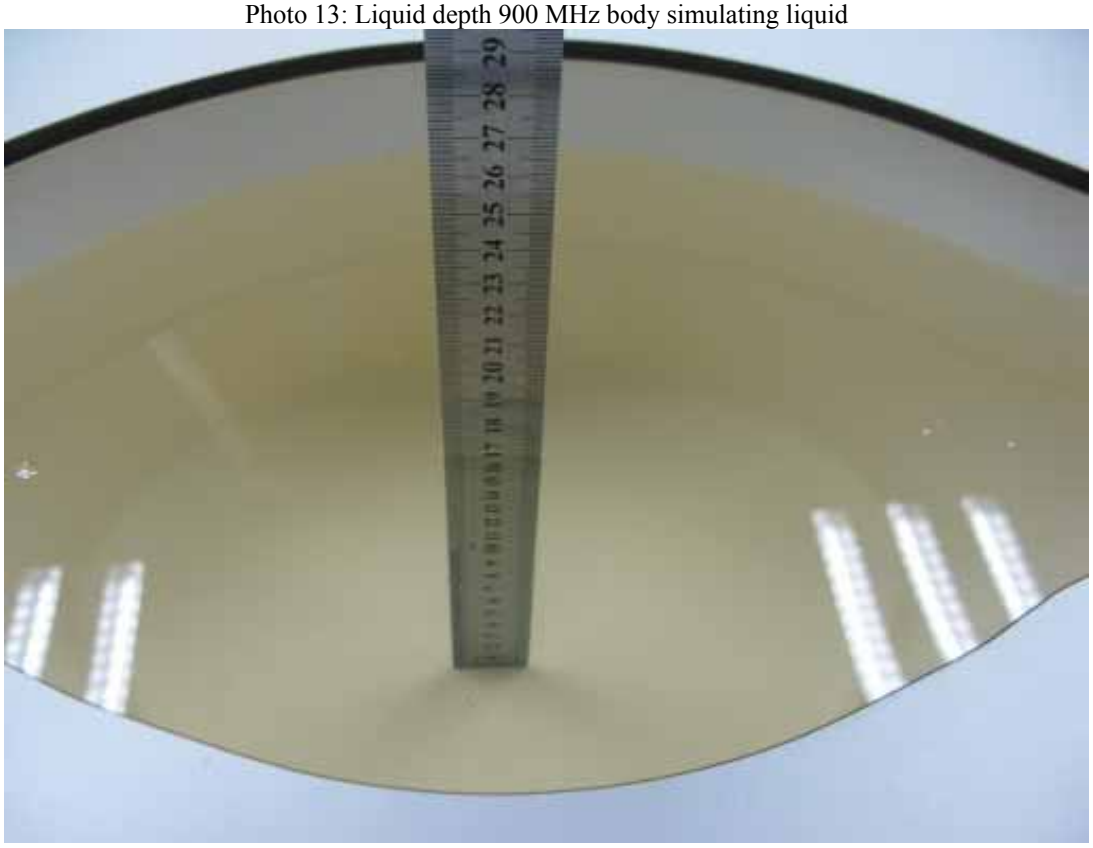


Photo 14: Liquid depth 1950 MHz head simulating liquid

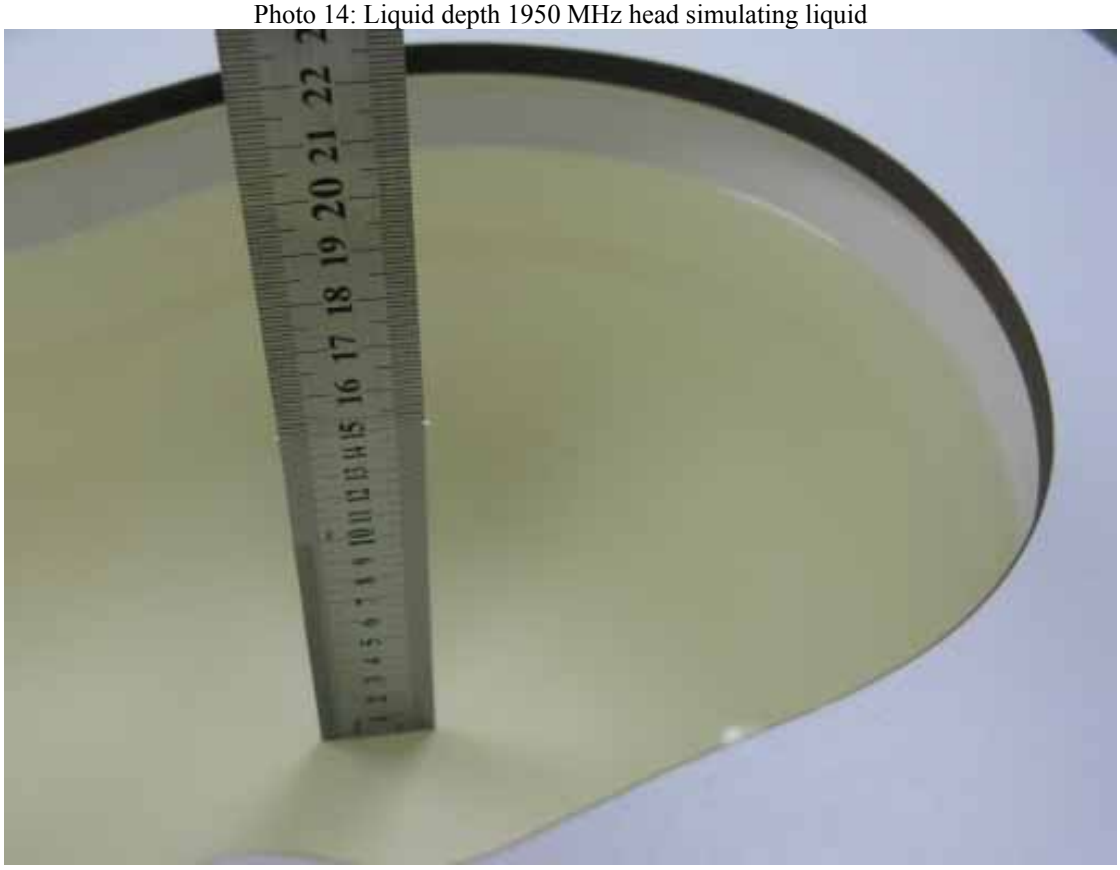


Photo 15: Liquid depth 1950 MHz body simulating liquid