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SAR EVALUATION REPORT

Applicant Name:
LG Electronics MobileComm U.S.A., Inc.
10101 Old Grove Road,
San Diego, CA 92131
USA

Date of Testing:
02/15/12 - 02/20/12
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
0Y1202140195.ZNF

FCC ID: **ZNFP705G**

APPLICANT: **LG ELECTRONICS MOBILECOMM U.S.A., INC.**

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model(s): LG-P705g, P705g, P705G, LGP705g, LGP705G, LG-P705G, P708g, LGP708g, LG-P708g, P708G, LGP708G, LG-P708G

Band & Mode	Tx Frequency	Conducted Power [dBm]	SAR		
			1 gm Head (W/kg)	1 gm Body-Worn (W/kg)	1 gm Hotspot (W/kg)
GSM/GPRS/EDGE Rx only 850	824.20 - 848.80 MHz	33.33	0.56	0.91	0.91
WCDMA/HSDPA 850	826.40 - 846.60 MHz	23.00	0.68	0.88	0.88
GSM/GPRS/EDGE Rx only 1900	1850.20 - 1909.80 MHz	29.34	0.49	0.54	0.46
WCDMA/HSDPA 1900	1852.4 - 1907.6 MHz	22.88	0.94	0.91	0.91
2.4 GHz WLAN	2412 - 2462 MHz	18.92	0.17	0.07	0.07
Bluetooth	2402 - 2480 MHz	9.32	N/A		
Simultaneous SAR per KDB 690783 D01:			1.04	0.98	0.98

Note: Powers in the above table represent output powers for the SAR test configurations and may not represent the highest output powers for all configurations for each mode.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in FCC/OET Bulletin 65 Supplement C (2001), IEEE 1528-2003 and in applicable Industry Canada Radio Standards Specifications (RSS); for North American frequency bands only.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

Randy Ortanez
President

ilac-MRA
ACCREDITED
TESTING LABORATORY
CERTIFICATE #2041.01

T A B L E   O F   C O N T E N T S

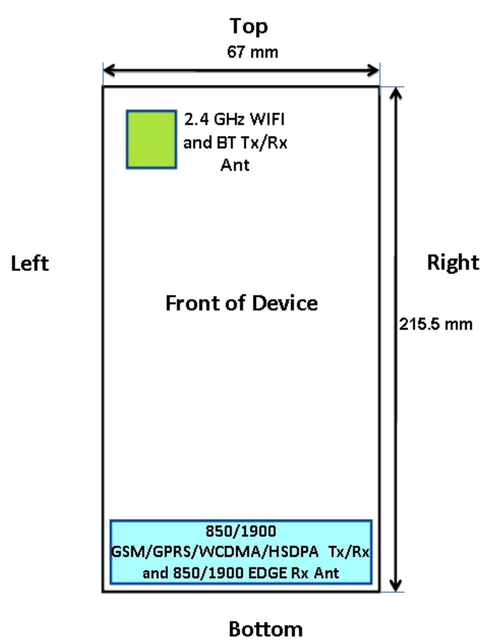
1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Tx Frequency
GSM/GPRS/EDGE Rx only 850	824.20 - 848.80 MHz
WCDMA/HSDPA 850	826.40 - 846.60 MHz
GSM/GPRS/EDGE Rx only 1900	1850.20 - 1909.80 MHz
WCDMA/HSDPA 1900	1852.4 - 1907.6 MHz
2.4 GHz WLAN	2412 - 2462 MHz
Bluetooth	2402 - 2480 MHz

1.2 DUT Antenna Locations

Figure 1-1
DUT Antenna Locations



1.3 Samples used for SAR testing

Several samples with identical hardware were used to facilitate SAR testing only

Table 1-1
SAR Test Sample Serial Numbers

Mode/Band	Serial Number
GSM/GPRS/WCDMA 850	SAR #2
GSM/GPRS/WCDMA 1900	SAR #1
2.4 GHz WLAN	BT/WIFI

Table 1-2
Mobile Hotspot Sides for SAR Testing

Mode	Back	Front	Top	Bottom	Right	Left
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
WCDMA 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
WCDMA 1900	Yes	Yes	No	Yes	Yes	Yes
2.4 GHz WLAN	Yes	Yes	Yes	No	No	Yes

Note: Particular DUT edges were not required to be evaluated for Wireless Router SAR if the edges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication 941225 D06 guidance, page 2. The antenna document shows the distances between the transmit antennas and the edges of the device.

1.4 SAR Test Exclusions Applied

(A) WIFI/BT

The separation between the main antenna and the Bluetooth and WLAN antenna is 94.1 mm.
RF Conducted Power of Bluetooth Tx is 8.551 mW. RF Conducted Power of WLAN is 79.616 mW.

2.4 GHz WIFI and Bluetooth share the same antenna path and cannot transmit simultaneously.

Per KDB Publication 648474, **Bluetooth SAR was not required** based on the maximum conducted power, the Bluetooth/WLAN to main antenna separation distance and Body-SAR of the main antenna.

(B) Licensed Transmitter(s)

This model does not support Simultaneous Voice and Data for the licensed transmitter in any modes except in WCDMA that allows Multi-RAB transmissions that share voice and data operations on a single physical channel.

GSM/GPRS/EDGE DTM is not supported. Therefore GSM Voice cannot transmit simultaneously with GPRS/EDGE Data.

When the user utilizes multiple services in WCDMA 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the WCDMA+WLAN scenario also represents the WCDMA Voice/DATA + WLAN Hotspot scenario.

1.5 Power Reduction for SAR

There is no power reduction for any band/mode implemented in this device for SAR purposes.

1.6 FCC Guidance Applied

- FCC OET Bulletin 65 Supplement C [June 2001]
- IEEE 1528-2003
- FCC KDB 941225 (2G/3G and Hotspot)
- FCC KDB 248227 (802.11)
- FCC KDB 648474 (Simultaneous)

2 INTRODUCTION

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [3] and Health Canada RF Exposure Guidelines Safety Code 6 [24]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

2.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 2-1).

Equation 2-1
SAR Mathematical Equation

$$\boxed{SAR = \frac{d}{dt}\left(\frac{dU}{dm}\right) = \frac{d}{dt}\left(\frac{dU}{\rho\, dv}\right)}$$

SAR is expressed in units of Watts per Kilogram (W/kg).

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

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

3 SAR MEASUREMENT SETUP

3.1 Automated SAR Measurement System

Measurements are performed using the DASY automated dosimetric SAR assessment system. The DASY is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland and consists of a high precision robotics system (Staubli), robot controller, desktop computer, near-field probe, probe alignment sensor, and the SAM phantom containing the head or body equivalent material. The robot is a six-axis industrial robot, performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). See www.speag.com for more information about the specification of the SAR assessment system.

Figure 3-1
SAR Measurement System

Figure 3-2
Near-Field Probe

Table 3-1
Composition of the Tissue Equivalent Matter

Frequency (MHz)	835	835	1900	1900	2450	2450
Tissue	Head	Body	Head	Body	Head	Body
Ingredients (% by weight)						
Bactericide	0.1	0.1				
DGBE			44.92	29.44	7.99	26.7
HEC	1	1				
NaCl	1.45	0.94	0.18	0.39	0.16	0.1
Sucrose	57	44.9				
Triton X-100					19.97	
Water	40.45	53.06	54.9	70.17	71.88	73.2

4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

The evaluation was performed using the following procedure:

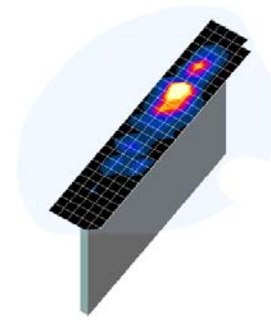


Figure 4-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head interface and the horizontal grid resolution was 15mm and 15mm for frequencies < 3 GHz in the x and y directions respectively. When applicable, for frequencies above 3 GHz, a 10 mm by 10 mm resolution was used.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1 gram cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak area of the maximum absorption was determined by spline interpolation. Around this point, a volume of 32mm x 32mm x 30mm (fine resolution volume scan, zoom scan) was assessed by measuring at least 5 x 5 x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

   a. The data was extrapolated to the surface of the outer-shell of the phantom. The combined distance extrapolated was the combined distance from the center of the dipoles 2.7mm away from the tip of the probe housing plus the 1.2 mm distance between the surface and the lowest measuring point. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

5 DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

Figure 8-1 shows the front, back and side views of the SAM Twin Phantom. The point “M” is the reference point for the center of the mouth, “LE” is the left ear reference point (ERP), and “RE” is the right ERP. The ERP is 15mm posterior to the entrance to the ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 8-1. The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front) is perpendicular to the reference plane and passing through the RE (or LE) is called the Reference Pivoting Line (see Figure 5-2). Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning [5].

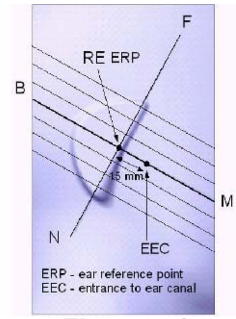


Figure 5-1
Close-Up Side view of ERP

5.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the “test device reference point” located along the “vertical centerline” on the front of the device aligned to the “ear reference point” (See Figure 5-3). The “test device reference point” was than located at the same level as the center of the ear reference point. The test device was positioned so that the “vertical centerline” was bisecting the front surface of the handset at it’s top and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point.

Figure 5-2
Front, back and side view of SAM Twin Phantom

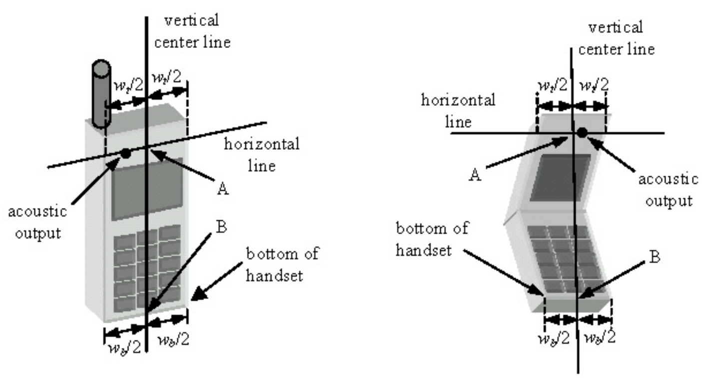


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

6 TEST CONFIGURATION POSITIONS FOR HANDSETS

6.1 Device Holder

The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity $\varepsilon = 3$ and loss tangent $\delta = 0.02$.

6.2 Positioning for Cheek/Touch

1. The test device was positioned with the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 6-1), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.

Figure 6-1 Front, Side and Top View of Cheek/Touch Position

2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the ear.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the plane normal to MB-NF including the line MB (reference plane).
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical was respect to the line NF.
5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the phone contact with the ear, the handset was rotated about the line NF until any point on the handset made contact with a phantom point below the ear (cheek) (See Figure 6-2).

6.3 Positioning for Ear / 15º Tilt

With the test device aligned in the "Cheek/Touch Position":

1. While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15degree.
2. The phone was then rotated around the horizontal line by 15 degree.
3. While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the phone touches the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. The tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head (see Figure 6-2).

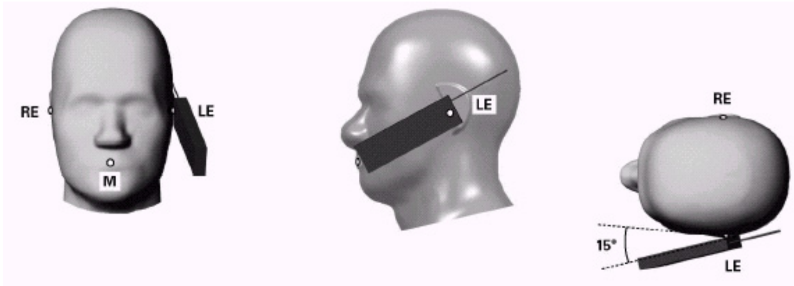


Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

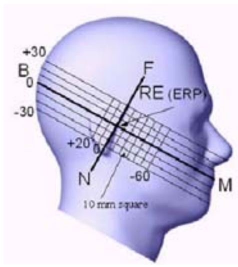


Figure 6-3
Side view w/ relevant markings

Figure 6-4 Body SAR Sample Photo
(Not Actual EUT)

6.4 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document publication 648474. The SAR required in these regions of SAM should be measured using a flat phantom. **Rectangular shaped phones** should be positioned with its bottom edge positioned from the flat phantom with the same distance provided by the cheek touching position using SAM. The ear reference point (ERP, as defined for SAM) of the phone should be positioned ½ cm from the flat phantom shell. **Clam-shell phones** should be positioned with the hinge against a smooth edge of the flat phantom where the upper half of the phone is unfolded and extended beyond the phantom side wall. The lower half of the phone is secured in the test device holder at a fixed distance below the flat phantom determined by the minimum separation along the lower edge of the phone in the cheek touching position using SAM. Any case with substantial variation in separation distance along the lower edge of a clam shell is discussed with the FCC for best-to-use methodology.

The latest IEEE 1528 committee developments propose the usage of a tilted phantom when the antenna of the phone is mounted at the bottom or in all cases the peak absorption is in the chin region. Both SAM heads of the TwinSAM-Chin20 are rotated 20 degrees around the NF line. Each head can be removed individually from the table for emptying and cleaning.

Figure 6-5 Twin SAM Chin20

6.5 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 6-4). A device with a headset output is tested with a headset connected to the device.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

6.6 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive internet connectivity through simultaneous transmission of WIFI in conjunction with a separate licensed transmitter. The FCC has provided guidance in KDB Publication 941225 D06 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device with antennas 2.5 cm or closer to the edge of the device, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. Therefore, SAR must be evaluated for each frequency transmission and mode separately and summed with the WIFI transmitter according to KDB 648474 publication procedures. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

7 FCC RF EXPOSURE LIMITS

7.1 Uncontrolled Environment

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

7.2 Controlled Environment

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). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Table 7-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
SPATIAL PEAK SAR Brain	1.6	8.0
SPATIAL AVERAGE SAR Whole Body	0.08	0.4
SPATIAL PEAK SAR Hands, Feet, Ankles, Wrists	4.0	20

1. 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.
2. The Spatial Average value of the SAR averaged over the whole body.
3. 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.

8 FCC MEASUREMENT PROCEDURES

Power measurements were performed using a base station simulator under digital average power.

8.1 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01 "SAR Measurement Procedures for 3G Devices" v02, October 2007.

The device was placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test were evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device was tested throughout the SAR test at maximum output power, the SAR measurement system measures a "point SAR" at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviated by more than 5%, the SAR test and drift measurements were repeated.

8.2 SAR Measurement Conditions for WCDMA

8.2.1 Output Power Verification

Maximum output power is measured on the High, Middle and Low channels for each applicable transmission band according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1s".

8.2.2 Head SAR Measurements for Handsets

SAR for head exposure configurations is measured using the 12.2 kbps RMC with TPC bits configured to all "1s". SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2 kbps AMR is less than 0.25 dB higher than that measured in 12.2 kbps RMC. Otherwise, SAR is measured on the maximum output channel in 12.2 AMR with a 3.4 kbps SRB (signaling radio bearer) using the exposure configuration that resulted in the highest SAR for that RF channel in the 12.2 kbps RMC mode.

8.2.3 Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all "1s".

8.3 SAR Testing with 802.11 Transmitters

Normal network operating configurations are not suitable for measuring the SAR of 802.11 b/g/n transmitters. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 for more details.

8.3.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

8.3.2 Frequency Channel Configurations [27]

For 2.4 GHz, the highest average RF output power channel between the low, mid and high channel at the lowest data rate was selected for SAR evaluation in 802.11b mode. 802.11g/n modes and higher data rates for 802.11b were additionally evaluated for SAR if the output power of the respective mode was 0.25 dB or higher than the powers of the SAR configurations tested in the 802.11b mode.

If the maximum extrapolated peak SAR of the zoom scan for the highest output channel was less than 1.6 W/kg or if the 1g averaged SAR was less than 0.8 W/kg, SAR testing was not required for the other test channels in the band.

9 RF CONDUCTED POWERS

9.1 GSM Conducted Powers

Maximum Burst-Averaged Output Power				
		Voice	GPRS Data (GMSK)	
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot
Cellular	128	33.25	**33.33**	30.30
	190	33.24	**33.27**	30.29
	251	33.10	**33.13**	30.18
PCS	512	29.10	**29.29**	26.25
	661	29.17	**29.34**	26.27
	810	29.21	**29.38**	26.34

Calculated Maximum Frame-Averaged Output Power				
		Voice	GPRS Data (GMSK)	
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot
Cellular	128	24.22	**24.30**	24.28
	190	24.21	**24.24**	24.27
	251	24.07	**24.10**	24.16
PCS	512	20.07	**20.26**	20.23
	661	20.14	**20.31**	20.25
	810	20.18	**20.35**	20.32

Note: Both burst-averaged and calculated frame-averaged powers are included. Frame-averaged power was calculated from the measured burst-averaged power by converting the slot powers into linear units and calculating the energy over 8 timeslots.

The bolded GPRS modes and channels were selected according to the highest frame-averaged output power table according to KDB 941225 D03.

GPRS (GMSK) output powers were measured with CS1 on the base station simulator.

GSM Class: B
GPRS Multislot class: 10 (max 2 Tx Uplink slots)
EDGE Multislot class: EDGE Rx only
DTM Multislot Class: N/A

9.2 WCDMA Conducted Powers

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			PCS Band [dBm]			MPR (dB)
			4132	4183	4233	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	22.95	**23.00**	22.80	**22.88**	22.83	22.78	-
99		12.2 kbps AMR	22.88	22.93	22.85	22.76	22.80	22.81	-
5	HSDPA	Subtest 1	22.78	**22.82**	22.76	22.86	22.76	**22.89**	0
5		Subtest 2	22.56	22.71	22.63	22.60	22.55	22.60	0
5		Subtest 3	22.17	22.24	22.14	22.15	22.13	22.12	0.5
5		Subtest 4	22.23	22.31	22.26	22.11	22.07	22.14	0.5

WCDMA SAR was tested under RMC 12.2 kbps with HSDPA Inactive per KDB Publication 941225 D01. HSDPA SAR was not required since the average output power of the HSDPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg.

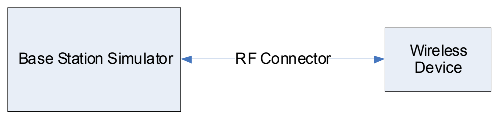


Figure 9-1
Power Measurement Setup

9.3 WLAN Conducted Powers

Table 9-1
IEEE 802.11b Average RF Power

Freq [MHz]	Channel	Data Rate [Mbps]	Average Power (dBm)
2412	1	1	18.86
		2	18.82
		5.5	19.01
		11	18.84
2437	6	1	18.24
		2	18.05
		5.5	18.04
		11	18.16
2462	11	1	**18.92**
		2	18.89
		5.5	18.91
		11	18.9

Table 9-2
IEEE 802.11g Average RF Power

Freq [MHz]	Channel	Data Rate [Mbps]	Average Power (dBm)
2412	1	6	17.23
		9	17.13
		12	16.24
		18	16.11
		24	15.26
		36	14.89
		48	14.52
		54	14.01
2437	6	6	16.44
		9	16.45
		12	15.46
		18	15.19
		24	14.23
		36	14.51
		48	13.18
		54	13.36
2462	11	6	16.66
		9	16.69
		12	15.71
		18	15.81
		24	14.86
		36	14.82
		48	13.78
		54	13.57

Table 9-3
IEEE 802.11n Average RF Power

Freq [MHz]	Channel	Data Rate [Mbps]	Average Power (dBm)
2412	1	6.5/7.2	12.22
		13/14.40	12.42
		19.5/21.70	12.08
		26/28.90	12.19
		29/43.3	12.26
		52/57.80	12.17
		58.50/65	12.15
		65/72.2	11.96
2437	6	6.5/7.2	11.36
		13/14.40	11.27
		19.5/21.70	11.39
		26/28.90	11.25
		29/43.3	11.24
		52/57.80	11.46
		58.50/65	11.31
		65/72.2	11.38
2462	11	6.5/7.2	11.44
		13/14.40	11.42
		19.5/21.70	11.51
		26/28.90	11.71
		29/43.3	11.56
		52/57.80	11.41
		58.50/65	11.44
		65/72.2	11.36

Justification for reduced test configurations for WIFI channels per KDB Publication 248227 and April 2010 FCC/TCB Meeting Notes:

- For 2.4 GHz, highest average RF output power channel for the lowest data rate for IEEE 802.11b were selected for SAR evaluation. Other IEEE 802.11 modes (including 802.11g/n) were not investigated since the average output powers over all channels and data rates were not more than 0.25 dB higher than the tested channel in the lowest data rate of IEEE 802.11b mode.
- When the maximum extrapolated peak SAR of the zoom scan for the maximum output channel is <1.6 W/kg and the 1g averaged SAR is <0.8 W/kg, SAR testing on other channels is not required. Otherwise, the other default (or corresponding required) test channels were additionally tested using the lowest data rate.
- The bolded data rate and channel above were tested for SAR.

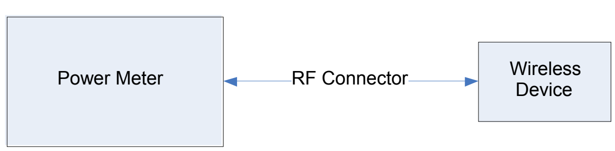


Figure 9-2
Power Measurement Setup

10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Tissue Properties

Tissue Type	Calibrated for Tests Performed on:	Tissue Temp During Calibration (C°)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
835H	02/16/2012	24.0	820	0.900	43.41	0.898	41.571	0.22%	4.42%
			835	0.916	43.29	0.900	41.500	1.78%	4.31%
			850	0.930	43.08	0.916	41.500	1.53%	3.81%
1900H	02/17/2012	22.3	1850	1.394	39.32	1.400	40.000	-0.43%	-1.70%
			1880	1.426	39.18	1.400	40.000	1.86%	-2.05%
			1910	1.457	39.09	1.400	40.000	4.07%	-2.27%
2450H	02/20/2012	22.2	2401	1.816	39.45	1.758	39.298	3.30%	0.39%
			2450	1.883	39.33	1.800	39.200	4.61%	0.33%
			2499	1.943	39.07	1.852	39.135	4.91%	-0.17%
835B	02/15/2012	22.3	820	0.960	54.66	0.969	55.284	-0.93%	-1.13%
			835	0.972	54.40	0.970	55.200	0.21%	-1.45%
			850	0.995	54.27	0.988	55.154	0.71%	-1.60%
1900B	02/15/2012	22.8	1850	1.516	51.84	1.520	53.300	-0.26%	-2.74%
			1880	1.549	51.75	1.520	53.300	1.91%	-2.91%
			1910	1.587	51.65	1.520	53.300	4.41%	-3.10%
2450B	02/20/2012	22.0	2401	1.936	50.33	1.903	52.765	1.73%	-4.61%
			2450	1.999	50.14	1.950	52.700	2.51%	-4.86%
			2499	2.062	50.04	2.019	52.638	2.13%	-4.94%

Note: KDB Publication 450824 was ensured to be applied for probe calibration frequencies greater than or equal to 50 MHz of the DUT frequencies.

The above measured tissue parameters were used in the DASY software to perform interpolation via the DASY software to determine actual dielectric parameters at the test frequencies (per IEEE 1528 6.6.1.2). The SAR test plots may slightly differ from the table above since the DASY software rounds to three significant digits.

10.2 Measurement Procedure for Tissue verification

1) The network analyzer and probe system was configured and calibrated.
2) The probe was immersed in the sample which was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
3) The complex admittance with respect to the probe aperture was measured
4) The complex relative permittivity , for example from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\varepsilon_r\varepsilon_0}{[\ln(b/a)]^2}\int_a^b\int_a^b\int_0^\pi \cos\phi' \frac{\exp\left[-j\omega r(\mu_0\varepsilon_r'\varepsilon_0)^{1/2}\right]}{r} d\phi' d\rho' d\rho$$

where *Y* is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively, $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$, ω is the angular frequency, and $j = \sqrt{-1}$.

10.3 Test System Verification

Prior to assessment, the system is verified to ±10% of the manufacturer SAR measurement on the reference dipole at the time of calibration.

Table 10-2
System Verification Results

System Verification TARGET & MEASURED											
Tissue Frequency (MHz)	Tissue Type	Date:	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Dipole SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	Deviation (%)
835	Head	02/16/2012	23.8	22.8	0.100	4d026	3209	1.00	9.460	10.000	5.71%
1900	Head	02/17/2012	21.8	21.0	0.040	5d141	3022	1.62	39.500	40.500	2.53%
2450	Head	02/20/2012	22.1	21.4	0.040	797	3213	2.18	52.100	54.500	4.61%
835	Body	02/15/2012	24.9	23.7	0.100	4d026	3209	1.02	9.660	10.200	5.59%
1900	Body	02/15/2012	23.1	21.2	0.040	5d141	3022	1.75	41.400	43.750	5.68%
2450	Body	02/20/2012	23.2	21.5	0.040	797	3213	2.11	50.800	52.750	3.84%

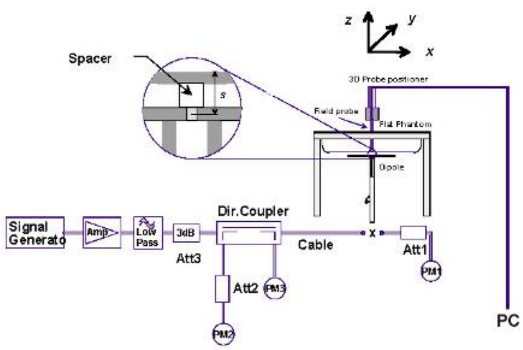


Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
GSM 850 Head SAR Results

MEASUREMENT RESULTS								
FREQUENCY		Mode/Band	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.							(W/kg)
836.60	190	GSM 850	33.24	0.01	Right	Touch	SAR #2	0.560
836.60	190	GSM 850	33.24	0.06	Right	Tilt	SAR #2	0.353
836.60	190	GSM 850	33.24	0.05	Left	Touch	SAR #2	0.488
836.60	190	GSM 850	33.24	0.03	Left	Tilt	SAR #2	0.349
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-2
WCDMA 850 Head SAR Results

MEASUREMENT RESULTS								
FREQUENCY		Mode/Band	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.							(W/kg)
836.60	4183	WCDMA 850	23.00	-0.04	Right	Touch	SAR #2	0.683
836.60	4183	WCDMA 850	23.00	0.04	Right	Tilt	SAR #2	0.380
836.60	4183	WCDMA 850	23.00	0.01	Left	Touch	SAR #2	0.594
836.60	4183	WCDMA 850	23.00	-0.01	Left	Tilt	SAR #2	0.380
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-3
GSM 1900 Head SAR Results

MEASUREMENT RESULTS								
FREQUENCY		Mode/Band	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.							(W/kg)
1880.00	661	GSM 1900	29.17	-0.16	Right	Touch	SAR #1	0.398
1880.00	661	GSM 1900	29.17	0.18	Right	Tilt	SAR #1	0.254
1880.00	661	GSM 1900	29.17	-0.19	Left	Touch	SAR #1	0.492
1880.00	661	GSM 1900	29.17	0.00	Left	Tilt	SAR #1	0.267
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-4
WCDMA 1900 Head SAR Results

MEASUREMENT RESULTS								
FREQUENCY		Mode	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.							(W/kg)
1880.00	9400	WCDMA 1900	22.83	0.04	Right	Touch	SAR #1	0.691
1880.00	9400	WCDMA 1900	22.83	0.04	Right	Tilt	SAR #1	0.443
1852.40	9262	WCDMA 1900	22.88	0.11	Left	Touch	SAR #1	0.903
1880.00	9400	WCDMA 1900	22.83	0.00	Left	Touch	SAR #1	0.944
1907.60	9538	WCDMA 1900	22.78	0.08	Left	Touch	SAR #1	0.928
1880.00	9400	WCDMA 1900	22.83	0.03	Left	Tilt	SAR #1	0.466
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-5
2.4 GHz WLAN Head SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	SAR (1g)
MHz	Ch.									(W/kg)
2462	11	IEEE 802.11b	DSSS	18.92	0.05	Right	Touch	BT/WIFI	1	0.170
2462	11	IEEE 802.11b	DSSS	18.92	0.13	Right	Tilt	BT/WIFI	1	0.091
2462	11	IEEE 802.11b	DSSS	18.92	0.10	Left	Touch	BT/WIFI	1	0.095
2462	11	IEEE 802.11b	DSSS	18.92	0.07	Left	Tilt	BT/WIFI	1	0.095
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Head 1.6 W/kg (mW/g) averaged over 1 gram				

11.2 Standalone Body-Worn SAR Data

Table 11-6
Licensed Transmitter Body-Worn SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Side	SAR (1g)
MHz	Ch.									(W/kg)
836.60	190	GSM 850	GSM	33.24	0.02	1.0 cm	SAR #2	1	back	0.649
824.20	128	GSM 850	GPRS	33.33	-0.02	1.0 cm	SAR #2	1	back	0.910
836.60	190	GSM 850	GPRS	33.27	-0.01	1.0 cm	SAR #2	1	back	0.811
848.80	251	GSM 850	GPRS	33.13	-0.05	1.0 cm	SAR #2	1	back	0.757
826.40	4132	WCDMA 850	RMC	22.95	0.00	1.0 cm	SAR #2	N/A	back	0.822
836.60	4183	WCDMA 850	RMC	23.00	0.00	1.0 cm	SAR #2	N/A	back	0.883
846.60	4233	WCDMA 850	RMC	22.80	0.01	1.0 cm	SAR #2	N/A	back	0.745
1880.00	661	GSM 1900	GSM	29.17	-0.06	1.0 cm	SAR #1	1	back	0.536
1880.00	661	GSM 1900	GPRS	29.34	-0.01	1.0 cm	SAR #1	1	back	0.458
1852.40	9262	WCDMA 1900	RMC	22.88	0.01	1.0 cm	SAR #1	N/A	back	0.911
1880.00	9400	WCDMA 1900	RMC	22.83	0.02	1.0 cm	SAR #1	N/A	back	0.867
1907.60	9538	WCDMA 1900	RMC	22.78	-0.04	1.0 cm	SAR #1	N/A	back	0.823
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram				

Table 11-7
WLAN Body-Worn SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	SAR (1g)
MHz	Ch.									(W/kg)
2462	11	IEEE 802.11b	DSSS	18.92	-0.03	1.0 cm	BT/WIFI	1	back	0.065
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram				

11.3 Standalone Wireless Router SAR Data

Table 11-8
Licensed Transmitter Hotspot SAR Data

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of GPRS Slots	Side	SAR (1g)
MHz	Ch.									(W/kg)
824.20	128	GSM 850	GPRS	33.33	-0.02	1.0 cm	SAR #2	1	back	0.910
836.60	190	GSM 850	GPRS	33.27	-0.01	1.0 cm	SAR #2	1	back	0.811
848.80	251	GSM 850	GPRS	33.13	-0.05	1.0 cm	SAR #2	1	back	0.757
836.60	190	GSM 850	GPRS	33.27	0.02	1.0 cm	SAR #2	1	front	0.602
836.60	190	GSM 850	GPRS	33.27	0.06	1.0 cm	SAR #2	1	bottom	0.110
836.60	190	GSM 850	GPRS	33.27	0.01	1.0 cm	SAR #2	1	right	0.692
836.60	190	GSM 850	GPRS	33.27	-0.02	1.0 cm	SAR #2	1	left	0.515
826.40	4132	WCDMA 850	RMC	22.95	0.00	1.0 cm	SAR #2	N/A	back	0.822
836.60	4183	WCDMA 850	RMC	23.00	0.00	1.0 cm	SAR #2	N/A	back	0.883
846.60	4233	WCDMA 850	RMC	22.80	0.01	1.0 cm	SAR #2	N/A	back	0.745
836.60	4183	WCDMA 850	RMC	23.00	0.00	1.0 cm	SAR #2	N/A	front	0.702
836.60	4183	WCDMA 850	RMC	23.00	0.04	1.0 cm	SAR #2	N/A	bottom	0.105
836.60	4183	WCDMA 850	RMC	23.00	-0.01	1.0 cm	SAR #2	N/A	right	0.669
836.60	4183	WCDMA 850	RMC	23.00	0.06	1.0 cm	SAR #2	N/A	left	0.526
1880.00	661	GSM 1900	GPRS	29.34	-0.01	1.0 cm	SAR #1	1	back	0.458
1880.00	661	GSM 1900	GPRS	29.34	0.02	1.0 cm	SAR #1	1	front	0.416
1880.00	661	GSM 1900	GPRS	29.34	-0.12	1.0 cm	SAR #1	1	bottom	0.392
1880.00	661	GSM 1900	GPRS	29.34	0.02	1.0 cm	SAR #1	1	right	0.180
1880.00	661	GSM 1900	GPRS	29.34	0.02	1.0 cm	SAR #1	1	left	0.240
1852.40	9262	WCDMA 1900	RMC	22.88	0.01	1.0 cm	SAR #1	N/A	back	0.911
1880.00	9400	WCDMA 1900	RMC	22.83	0.02	1.0 cm	SAR #1	N/A	back	0.867
1907.60	9538	WCDMA 1900	RMC	22.78	-0.04	1.0 cm	SAR #1	N/A	back	0.823
1880.00	9400	WCDMA 1900	RMC	22.83	-0.03	1.0 cm	SAR #1	N/A	front	0.694
1880.00	9400	WCDMA 1900	RMC	22.83	0.04	1.0 cm	SAR #1	N/A	bottom	0.764
1880.00	9400	WCDMA 1900	RMC	22.83	-0.05	1.0 cm	SAR #1	N/A	right	0.343
1880.00	9400	WCDMA 1900	RMC	22.83	-0.05	1.0 cm	SAR #1	N/A	left	0.483
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram				

Table 11-9
WLAN Hotspot SAR Data

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	SAR (1g)
MHz	Ch.									(W/kg)
2462	11	IEEE 802.11b	DSSS	18.92	-0.03	1.0 cm	BT/WIFI	1	back	0.065
2462	11	IEEE 802.11b	DSSS	18.92	0.08	1.0 cm	BT/WIFI	1	front	0.037
2462	11	IEEE 802.11b	DSSS	18.92	0.01	1.0 cm	BT/WIFI	1	top	0.043
2462	11	IEEE 802.11b	DSSS	18.92	0.01	1.0 cm	BT/WIFI	1	left	0.030
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**Body 1.6 W/kg (mW/g)** averaged over 1 gram				

11.4 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR value with the position set in a typical configuration. Test procedures used were according to FCC/OET Bulletin 65, Supplement C [June 2001].
2. Batteries are fully charged for all readings. The standard battery was used.
3. Tissue parameters and temperatures are listed on the SAR plots.
4. Liquid tissue depth was at least 15.0 cm. To confirm the proper SAR liquid depth, the z-axis plots from the system verifications were included since the system verifications were performed using the same liquid, probe and DAE as the SAR tests in the same time period.
5. All samples tested were electrically identical per the applicant.
6. Per FCC/OET Bulletin 65 Supplement C and Public Notice DA-02-1438, if the SAR measured at the middle channel for each test configuration is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
7. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10 mm was tested because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.

GSM Test Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore body-worn SAR testing was additionally performed in GSM voice mode. GPRS Data mode is covered in the Hotspot SAR Testing at the same test distance
2. Per FCC KDB Publication 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode (GPRS), it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.
3. Justification for reduced test configurations per KDB Publication 941225 D03: The source-based time-averaged output power was evaluated for all multi-slot operations. The slot configuration with the highest frame-averaged output power was tested.

WCDMA Notes:

1. WCDMA mode in Body SAR was tested under RMC 12.2 kbps with HSDPA Inactive per KDB Publication 941225 D01. HSDPA SAR was not required since the average output power of the HSDPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg.
2. Per FCC KDB Publication 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode, it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.

WLAN Notes:

1. Justification for reduced test configurations for WIFI channels per KDB Publication 248227 and April 2010 FCC/TCB Meeting Notes for 2.4 GHz WIFI: Highest average RF output power channel for the lowest data rate was selected for SAR evaluation in 802.11b. Other IEEE 802.11 modes (including 802.11g/n) were not investigated since the average output powers over all channels and data rates were not more than 0.25 dB higher than the tested channel in the lowest data rate of IEEE 802.11b mode.
2. WLAN transmission was verified using an uncalibrated spectrum analyzer.
3. When the maximum extrapolated peak SAR of the zoom scan for the maximum output channel is <1.6 W/kg and the 1g averaged SAR is <0.8 W/kg, SAR testing on other channels is not required. Otherwise, the other default (or corresponding required) test channels were additionally tested using the lowest data rate.
4. Per FCC KDB Publication 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode, it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.

Hotspot Notes:

1. Top Edge for the licensed transmitter was not tested since the antenna distance from the edge was greater than 2.5 cm per FCC KDB Publication 941225 D06 guidance (see Section 1.2).
2. Bottom and Right Edges for the WLAN transmitter were not tested since the antenna distance from the edge was greater than 2.5 cm per FCC KDB Publication 941225 D06 (see Section 1.2).
3. During SAR Testing for the Wireless Router conditions per KDB 941225 D06, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.6.)

12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” FCC KDB Publication 648474 are applicable to handsets with built-in unlicensed transmitters such as 802.11b/g/n and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

12.2 FCC Power Tables & Conditions

	2.45	5.15 - 5.35	5.47 - 5.85	GHz
P_{Ref}	12	6	5	mW
Device output power should be rounded to the nearest mW to compare with values specified in this table.				

Figure 12-1
Output Power Thresholds for Unlicensed Transmitters

<table>
<tr><th></th><th>Individual Transmitter</th><th>Simultaneous Transmission</th></tr>
<tr><td>Licensed Transmitters</td><td>Routine evaluation required</td><td rowspan="2">SAR not required:
Unlicensed only
○ when stand-alone 1-g SAR is not required and antenna is ≥ 5 cm from other antennas
Licensed & Unlicensed
○ when the sum of the 1-g SAR is < 1.6 W/kg for all simultaneous transmitting antennas
○ when SAR to peak location separation ratio of simultaneous transmitting antenna pair is < 0.3
SAR required:
Licensed & Unlicensed
antenna pairs with SAR to peak location separation ratio ≥ 0.3; test is only required for the configuration that results in the highest SAR in stand-alone configuration for each wireless mode and exposure condition
Note: simultaneous transmission exposure conditions for head and body can be different for different style phones; therefore, different test requirements may apply</td></tr>
<tr><td>Unlicensed Transmitters</td><td>When there is no simultaneous transmission –
○ output ≤ 60/f: SAR not required
○ output > 60/f: stand-alone SAR required
When there is simultaneous transmission –
Stand-alone SAR not required when
○ output ≤ 2·P_{Ref} and antenna is ≥ 5.0 cm from other antennas
○ output ≤ P_{Ref} and antenna is ≥ 2.5 cm from other antennas
○ output ≤ P_{Ref} and antenna is < 2.5 cm from other antennas, each with either output power ≤ P_{Ref} or 1-g SAR < 1.2 W/kg
Otherwise stand-alone SAR is required
When stand-alone SAR is required
○ test SAR on highest output channel for each wireless mode and exposure condition
○ if SAR for highest output channel is > 50% of SAR limit, evaluate all channels according to normal procedures</td></tr>
</table>

Figure 12-2
SAR Evaluation Requirements for Multiple Transmitter Handsets

12.3 Head SAR Simultaneous Transmission Analysis

Table 12-1
Simultaneous Transmission Scenario (Held to Ear)

Simult Tx	Configuration	GSM 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.560	0.170	**0.730**
	Right Tilt	0.353	0.091	0.444
	Left Cheek	0.488	0.095	0.583
	Left Tilt	0.349	0.095	0.444

Simult Tx	Configuration	WCDMA 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.683	0.170	**0.853**
	Right Tilt	0.380	0.091	0.471
	Left Cheek	0.594	0.095	0.689
	Left Tilt	0.380	0.095	0.475

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.398	0.170	0.568
	Right Tilt	0.254	0.091	0.345
	Left Cheek	0.492	0.095	**0.587**
	Left Tilt	0.267	0.095	0.362

Simult Tx	Configuration	WCDMA 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.691	0.170	0.861
	Right Tilt	0.443	0.091	0.534
	Left Cheek	0.944	0.095	**1.039**
	Left Tilt	0.466	0.095	0.561

The above tables represent a held to ear voice call potentially simultaneously operating with 2.4 GHz WLAN.

12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-2
Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Back Side	GSM 850	0.649	0.065	0.714
Back Side	WCDMA 850	0.883	0.065	0.948
Back Side	GSM 1900	0.536	0.065	0.601
Back Side	WCDMA 1900	0.911	0.065	**0.976**

The above table represents a body-worn voice call potentially simultaneously operating with 2.4 GHz WLAN.

12.5 Hotspot SAR Simultaneous Transmission Analysis

Table 12-3
Simultaneous Transmission Scenario (Hotspot at 1.0 cm)

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.910	0.065	**0.975**
	Front	0.602	0.037	0.639
	Top	-	0.043	0.043
	Bottom	0.110	-	0.110
	Right	0.692	-	0.692
	Left	0.515	0.030	0.545

Simult Tx	Configuration	WCDMA 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.883	0.065	**0.948**
	Front	0.702	0.037	0.739
	Top	-	0.043	0.043
	Bottom	0.105	-	0.105
	Right	0.669	-	0.669
	Left	0.526	0.030	0.556

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.458	0.065	**0.523**
	Front	0.416	0.037	0.453
	Top	-	0.043	0.043
	Bottom	0.392	-	0.392
	Right	0.180	-	0.180
	Left	0.240	0.030	0.270

Simult Tx	Configuration	WCDMA 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.911	0.065	**0.976**
	Front	0.694	0.037	0.731
	Top	-	0.043	0.043
	Bottom	0.764	-	0.764
	Right	0.343	-	0.343
	Left	0.483	0.030	0.513

Note: Per FCC KDB Publication 941225 D06, the edges with antennas more than 2.5 cm are not required to be evaluated for SAR ("-"). The above tables represent a portable hotspot condition.

12.6 Simultaneous Transmission Conclusion

The above numerical summed SAR was below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit. No volumetric SAR summation is required per FCC KDB Publication 648474.

13 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8648D	(9kHz-4GHz) Signal Generator	10/10/2011	Annual	10/10/2012	3613A00315
Agilent	8753E	(30kHz-6GHz) Network Analyzer	4/21/2011	Annual	4/21/2012	JP38020182
Agilent	E5515C	Wireless Communications Test Set	10/10/2011	Annual	10/10/2012	GB46110872
Agilent	E5515C	Wireless Communications Test Set	10/20/2011	Annual	10/20/2012	GB46310798
Agilent	E5515C	Wireless Communications Test Set	10/14/2011	Annual	10/14/2012	GB41450275
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/8/2011	Annual	4/8/2012	MY45470194
Agilent	8648D	Signal Generator	4/5/2011	Annual	4/5/2012	3629U00687
Agilent	E5515C	Wireless Communications Test Set	2/14/2012	Annual	2/14/2013	GB43304447
Agilent	E5515C	Wireless Communications Tester	4/21/2011	Annual	4/21/2012	US41140256
Agilent	E5515C	Wireless Communications Test Set	2/14/2012	Annual	2/14/2013	GB43163447
Agilent	E5515C	Wireless Communications Test Set	2/9/2012	Annual	2/9/2013	GB43460554
Amplifier Research	5S1G4	5W, 800MHz-4.2GHz	CBT*	N/A	N/A	21910
Anritsu	ML2438A	Power Meter	10/13/2011	Annual	10/13/2012	1070030
Anritsu	MA2411B	Pulse Sensor	10/13/2011	Annual	10/13/2012	1027293
Anritsu	ML2495A	Power Meter	10/13/2011	Annual	10/13/2012	1039008
Anritsu	MT8820C	Radio Communication Tester	11/11/2011	Annual	11/11/2012	6200901190
Gigatronics	80701A	(0.05-18GHz) Power Sensor	10/12/2011	Annual	10/12/2012	1833460
Gigatronics	8651A	Universal Power Meter	10/12/2011	Annual	10/12/2012	8650319
Index SAR	IXTL-010	Dielectric Measurement Kit	CBT*	N/A	N/A	N/A
Index SAR	IXTL-030	30MM TEM line for 6 GHz	CBT*	N/A	N/A	N/A
MiniCircuits	SLP-2400+	Low Pass Filter	CBT*	N/A	N/A	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT*	N/A	N/A	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT*	N/A	N/A	N/A
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT*	N/A	N/A	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT*	N/A	N/A	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT*	N/A	N/A	N/A
Narda	4772-3	Attenuator (3dB)	CBT*	N/A	N/A	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT*	N/A	N/A	120
Pasternack	PE2208-6	Bidirectional Coupler	6/3/2011	Annual	6/3/2012	N/A
Pasternack	PE2209-10	Bidirectional Coupler	6/3/2011	Annual	6/3/2012	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	6/1/2011	Annual	6/1/2012	833855/0010
Rohde & Schwarz	CMU200	Base Station Simulator	4/19/2011	Annual	4/19/2012	107826
Rohde & Schwarz	NRVD	Dual Channel Power Meter	4/8/2011	Biennial	4/8/2013	101695
Rohde & Schwarz	SMIQ03B	Signal Generator	4/6/2011	Annual	4/6/2012	DE27259
SPEAG	D835V2	835 MHz SAR Dipole	1/25/2012	Annual	1/25/2013	4d047
SPEAG	D2450V2	2450 MHz SAR Dipole	1/24/2012	Annual	1/24/2013	797
SPEAG	D835V2	835 MHz SAR Dipole	8/15/2011	Annual	8/15/2012	4d026
SPEAG	DAE3	Dasy Data Acquisition Electronics	11/9/2011	Annual	11/9/2012	455
SPEAG	ES3DV2	SAR Probe	8/25/2011	Annual	8/25/2012	3022
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/19/2011	Annual	5/19/2012	859
SPEAG	ES3DV3	SAR Probe	3/24/2011	Annual	3/24/2012	3213
SPEAG	ES3DV3	SAR Probe	4/18/2011	Annual	4/18/2012	3209
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/18/2012	Annual	1/18/2013	1272
SPEAG	D1900V2	1900 MHz SAR Dipole	7/11/2011	Annual	7/11/2012	5d141
VWR	61220-416	Long Stem Thermometer	7/1/2011	Biennial	7/1/2013	111642834
VWR	36934-158	Wall Thermometer	9/30/2011	Biennial	9/30/2013	111859332

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.

14 MEASUREMENT UNCERTAINTIES

Applicable for frequencies less than 3000 MHz.

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	**IEEE 1528 Sec.**	**Tol. (± %)**	**Prob. Dist.**	**Div.**	**c_i 1gm**	**c_i 10 gms**	**1gm u_i (± %)**	**10gms u_i (± %)**	**v_i**
Measurement System									
Probe Calibration	E.2.1	6.0	N	1	1.0	1.0	6.0	6.0	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	1.0	1.0	1.3	1.3	∞
Boundary Effect	E.2.3	0.4	N	1	1.0	1.0	0.4	0.4	∞
Linearity	E.2.4	0.3	N	1	1.0	1.0	0.3	0.3	∞
System Detection Limits	E.2.5	5.1	N	1	1.0	1.0	5.1	5.1	∞
Readout Electronics	E.2.6	1.0	N	1	1.0	1.0	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1.0	1.0	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1.0	1.0	1.5	1.5	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.4	R	1.73	1.0	1.0	0.2	0.2	∞
Probe Positioning w/ respect to Phantom	E.6.3	2.9	R	1.73	1.0	1.0	1.7	1.7	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	1.0	R	1.73	1.0	1.0	0.6	0.6	∞
Test Sample Related									
Test Sample Positioning	E.4.2	6.0	N	1	1.0	1.0	6.0	6.0	287
Device Holder Uncertainty	E.4.1	3.32	R	1.73	1.0	1.0	1.9	1.9	∞
Output Power Variation - SAR drift measurement	6.6.2	5.0	R	1.73	1.0	1.0	2.9	2.9	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	4.0	R	1.73	1.0	1.0	2.3	2.3	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity - measurement uncertainty	E.3.3	3.8	N	1	0.64	0.43	2.4	1.6	6
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Liquid Permittivity - measurement uncertainty	E.3.3	4.5	N	1	0.60	0.49	2.7	2.2	6
Combined Standard Uncertainty (k=1)			RSS				12.1	11.7	299
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.2	23.5	

The above measurement uncertainties are according to IEEE Std. 1528-2003

15 CONCLUSION

15.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Industry Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

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APPENDIX A: SAR TEST DATA

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

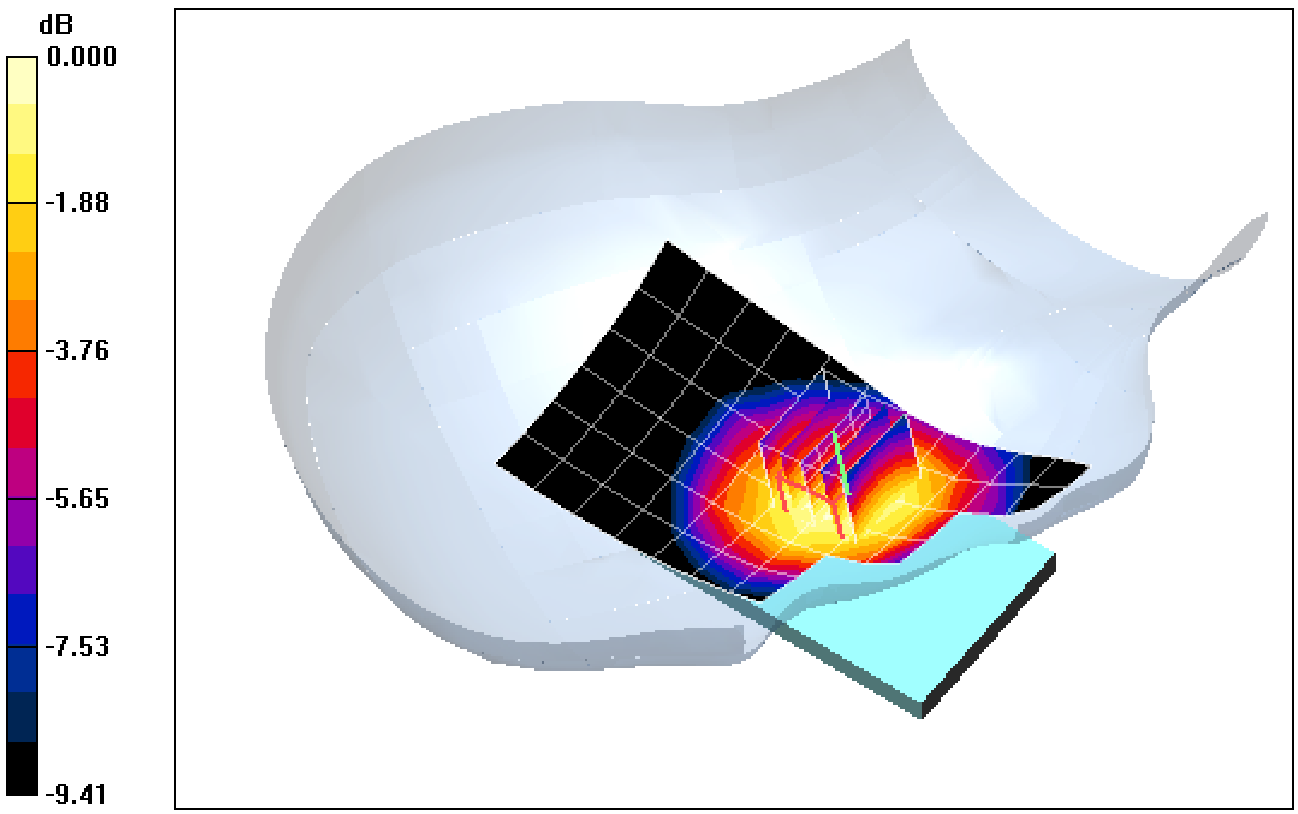
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.917 mho/m; ε_r = 43.3; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 850, Right Head, Touch, Mid.ch

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.0 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.711 W/kg
SAR(1 g) = 0.560 mW/g; SAR(10 g) = 0.428 mW/g



0 dB = 0.587mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

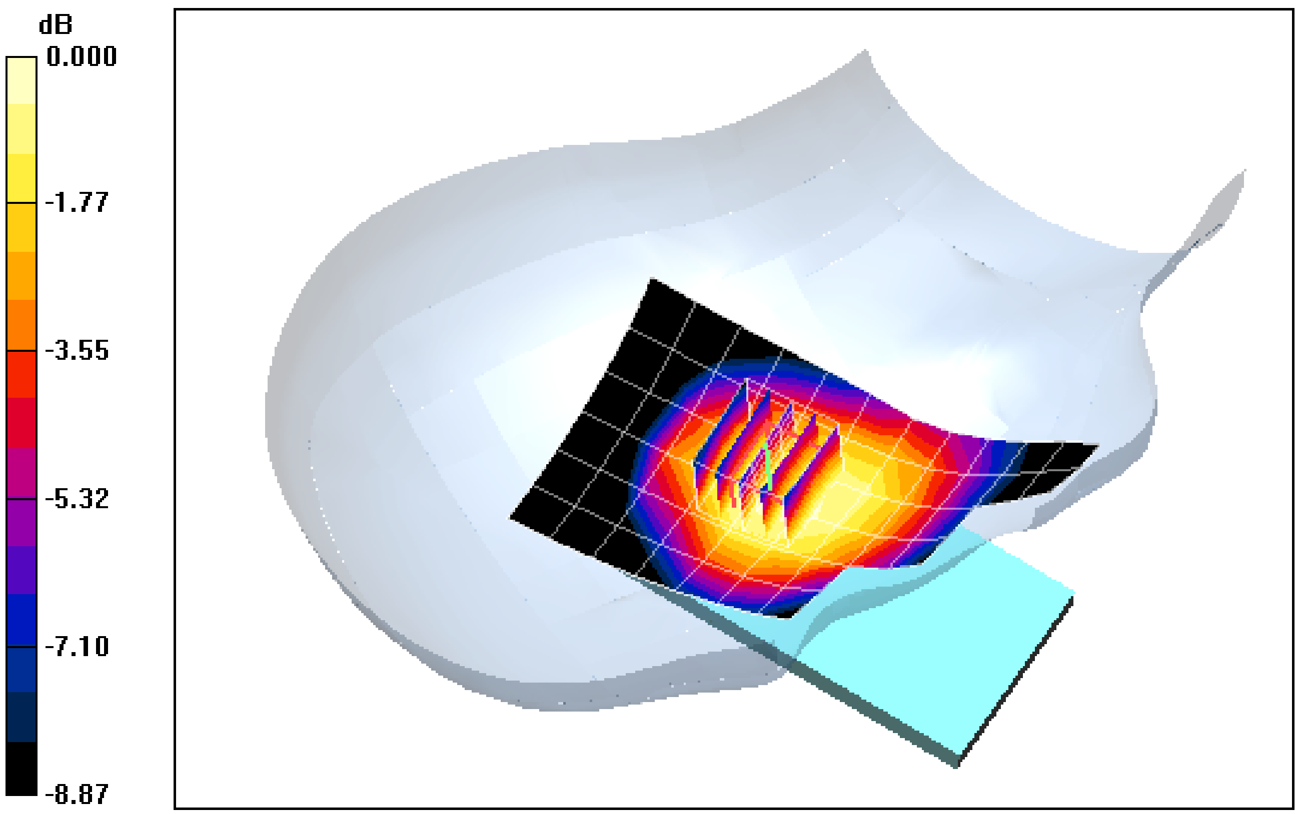
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.917 mho/m; ε_r = 43.3; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 850, Right Head, Tilt, Mid.ch

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.0 V/m; Power Drift = 0.060 dB
Peak SAR (extrapolated) = 0.422 W/kg
SAR(1 g) = 0.353 mW/g; SAR(10 g) = 0.274 mW/g



0 dB = 0.370mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

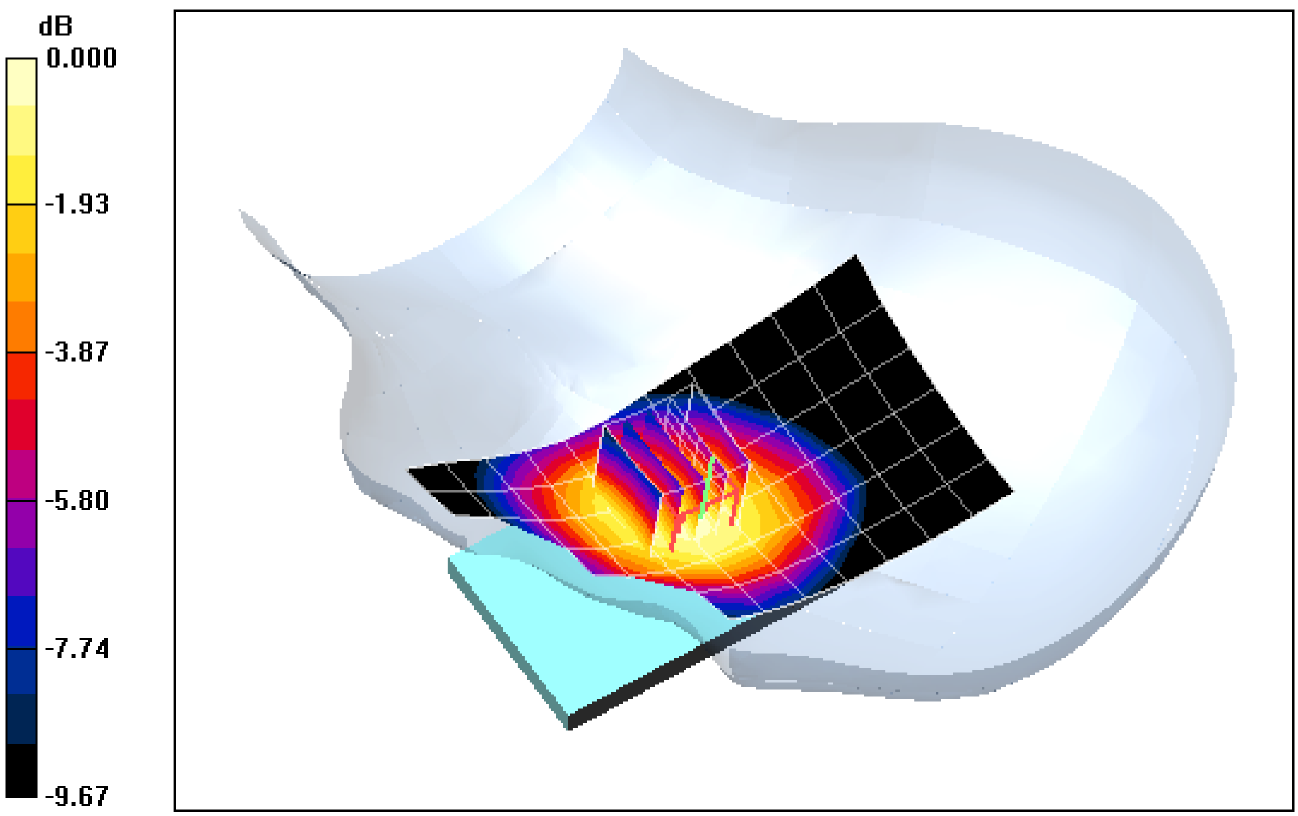
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.917 mho/m; ε_r = 43.3; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 850, Left Head, Touch, Mid.ch

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.6 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 0.597 W/kg
SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.369 mW/g



0 dB = 0.504mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

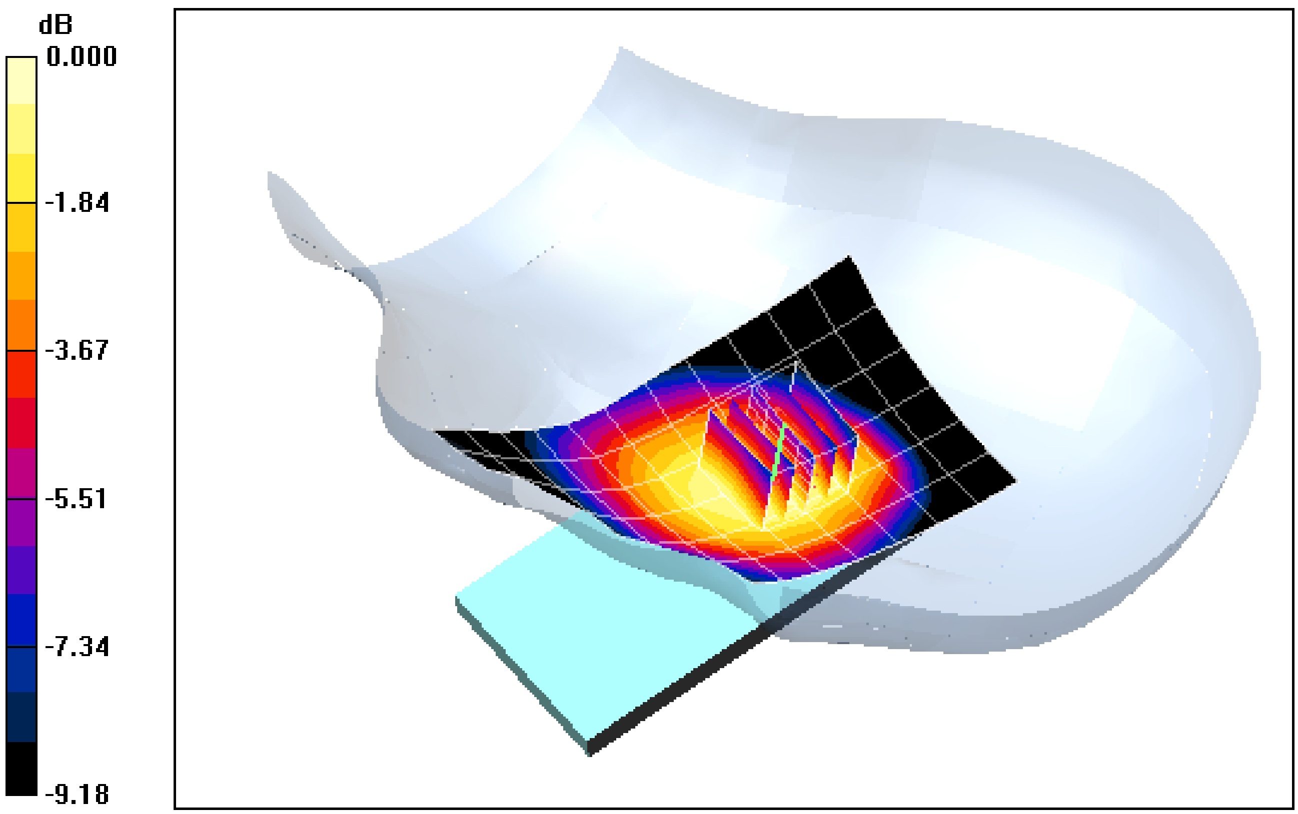
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.917 mho/m; ε_r = 43.3; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 850, Left Head, Tilt, Mid.ch

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.2 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.429 W/kg
SAR(1 g) = 0.349 mW/g; SAR(10 g) = 0.268 mW/g



0 dB = 0.368mW/g

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

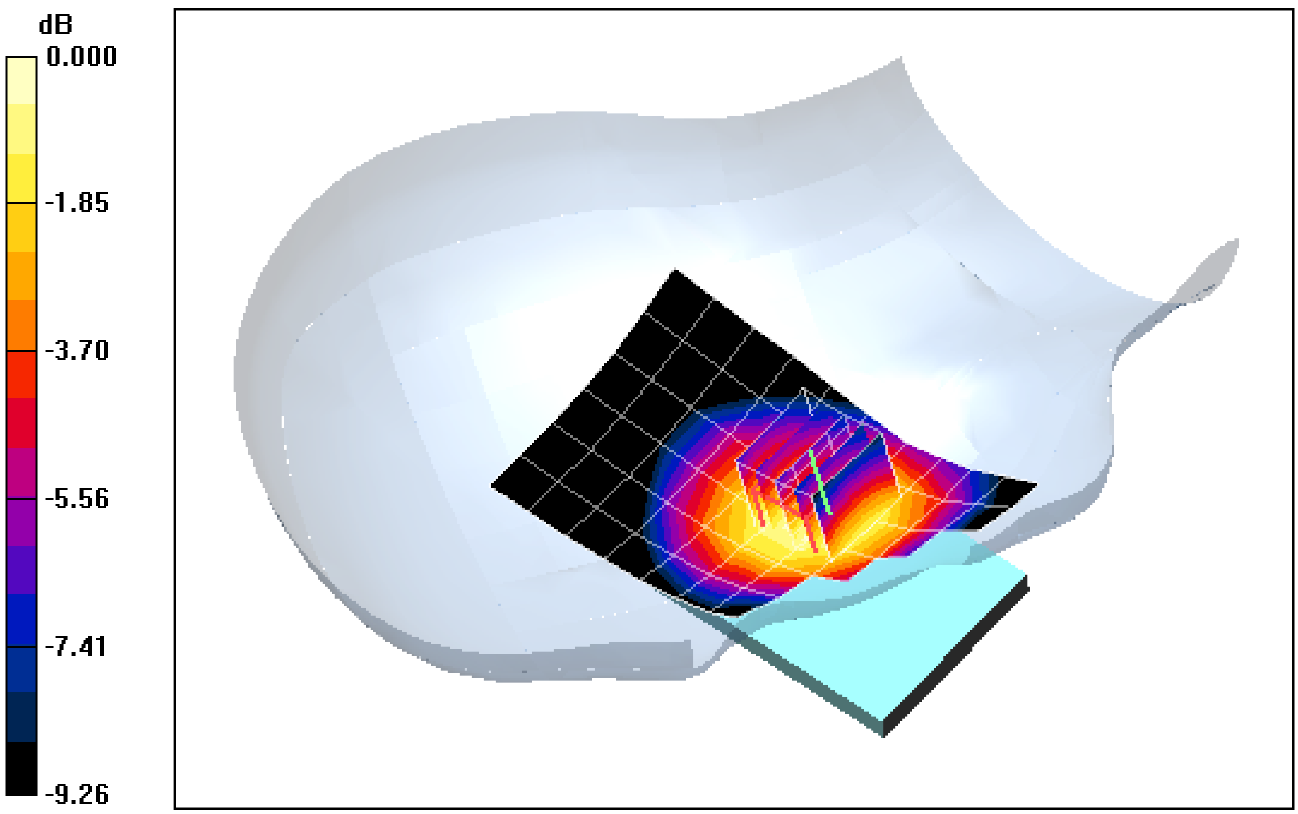
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.917 mho/m; ε_r = 43.3; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 850, Right Head, Touch, Mid.ch

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.9 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 0.883 W/kg
SAR(1 g) = 0.683 mW/g; SAR(10 g) = 0.514 mW/g



0 dB = 0.709mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

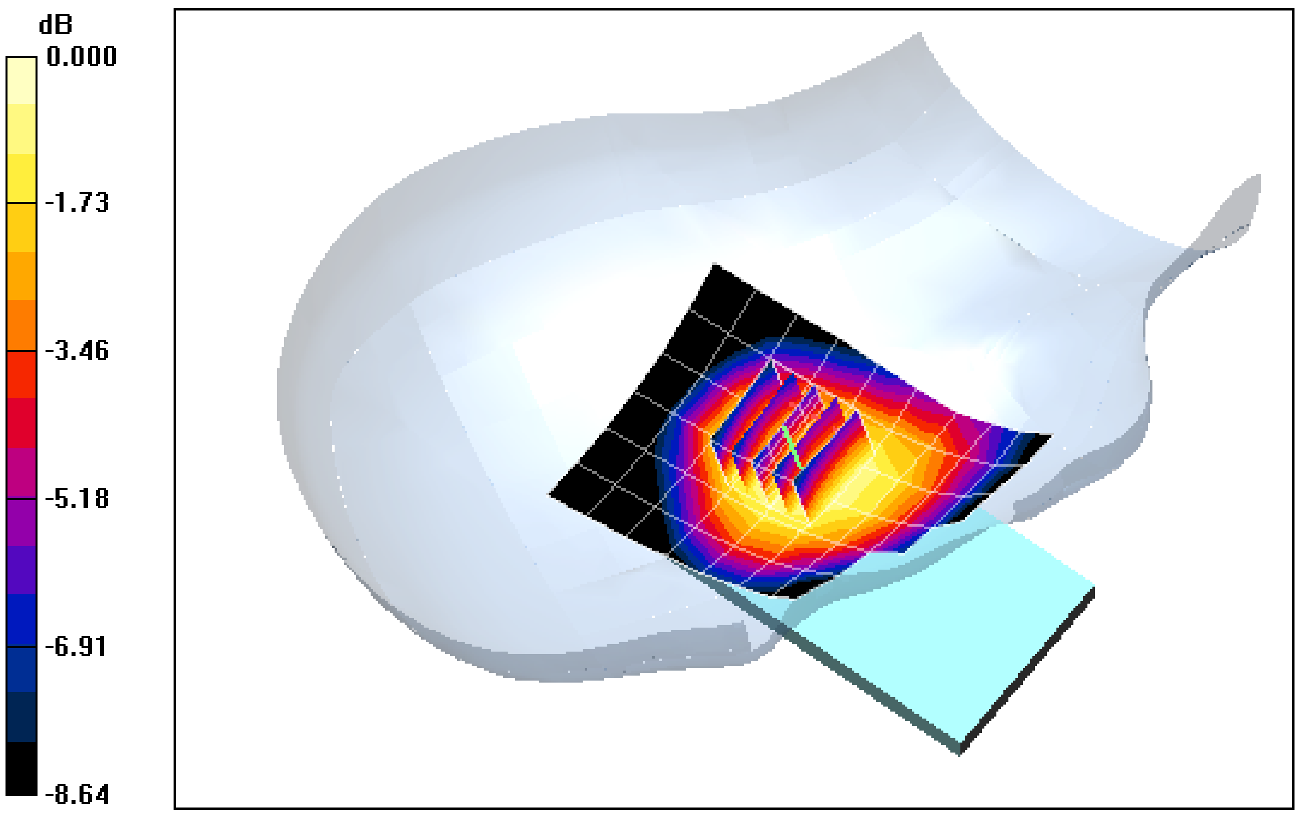
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; $\sigma = 0.917$ mho/m; $\varepsilon_r = 43.3$; $\rho = 1000$ kg/m^3
Phantom section: Right Section

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 850, Right Head, Tilt, Mid.ch

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.7 V/m; Power Drift = 0.039 dB
Peak SAR (extrapolated) = 0.466 W/kg
SAR(1 g) = 0.380 mW/g; SAR(10 g) = 0.292 mW/g



0 dB = 0.397mW/g

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

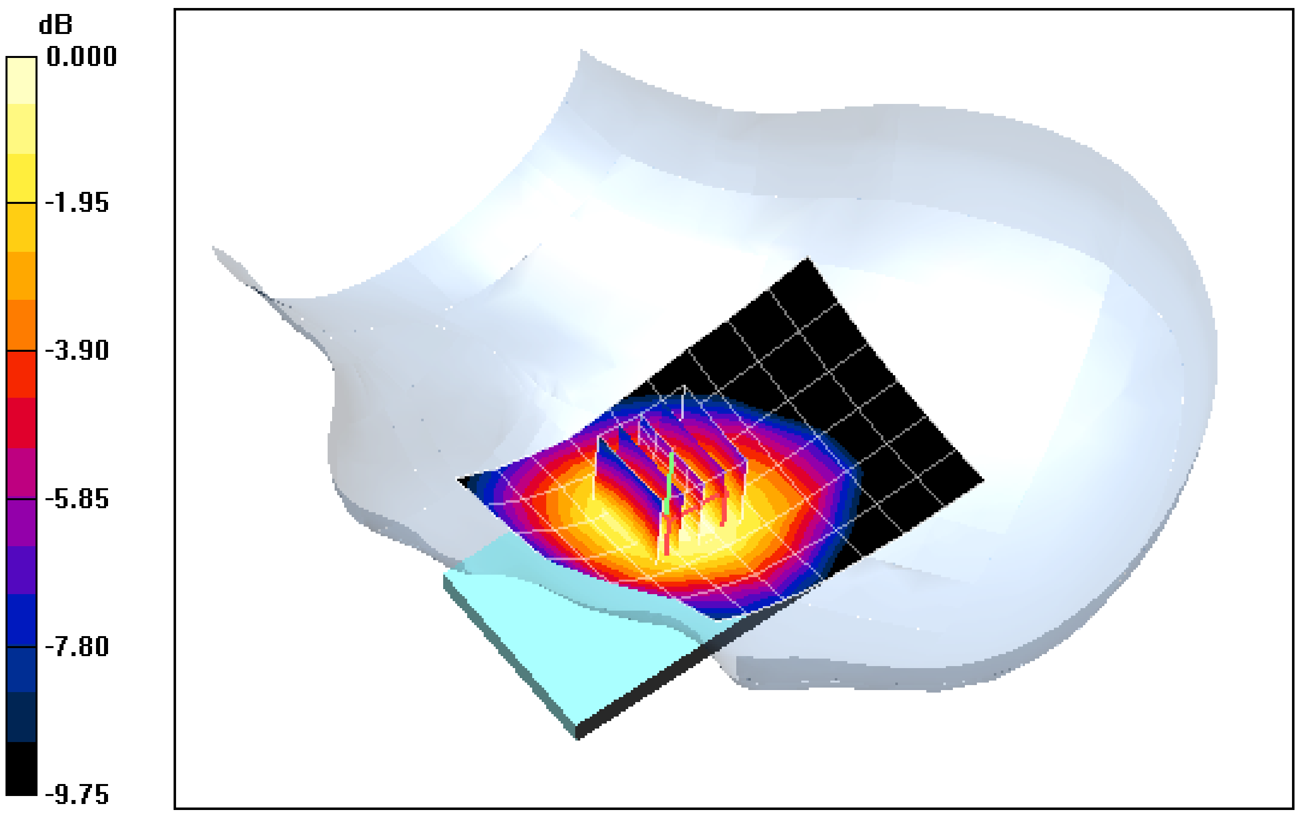
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.917 mho/m; ε_r = 43.3; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 850, Left Head, Touch, Mid.ch

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.7 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.741 W/kg
SAR(1 g) = 0.594 mW/g; SAR(10 g) = 0.450 mW/g



0 dB = 0.621mW/g

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

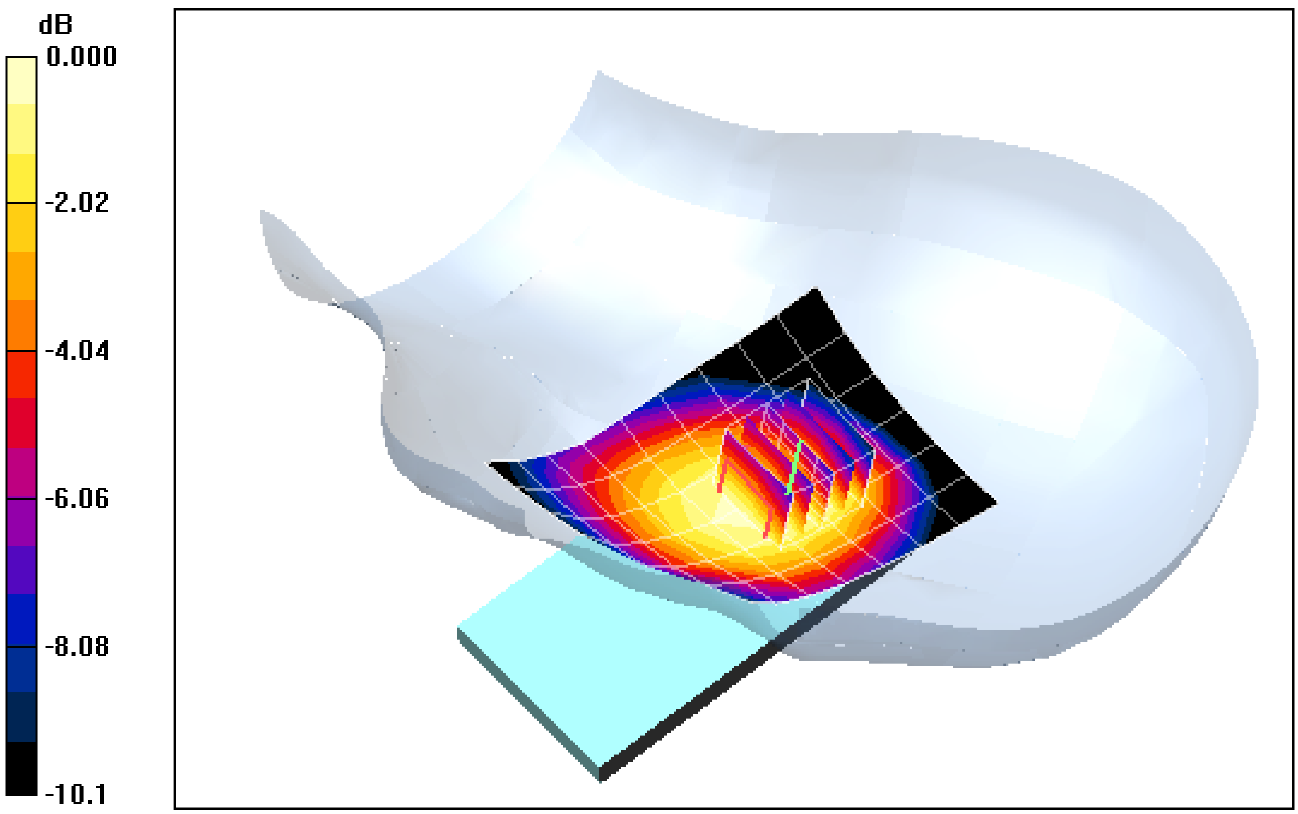
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; $\sigma = 0.917$ mho/m; $\varepsilon_r = 43.3$; $\rho = 1000$ kg/m^3
Phantom section: Left Section

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1403
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 850, Left Head, Tilt, Mid.ch

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.6 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.466 W/kg
SAR(1 g) = 0.380 mW/g; SAR(10 g) = 0.290 mW/g



0 dB = 0.401mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

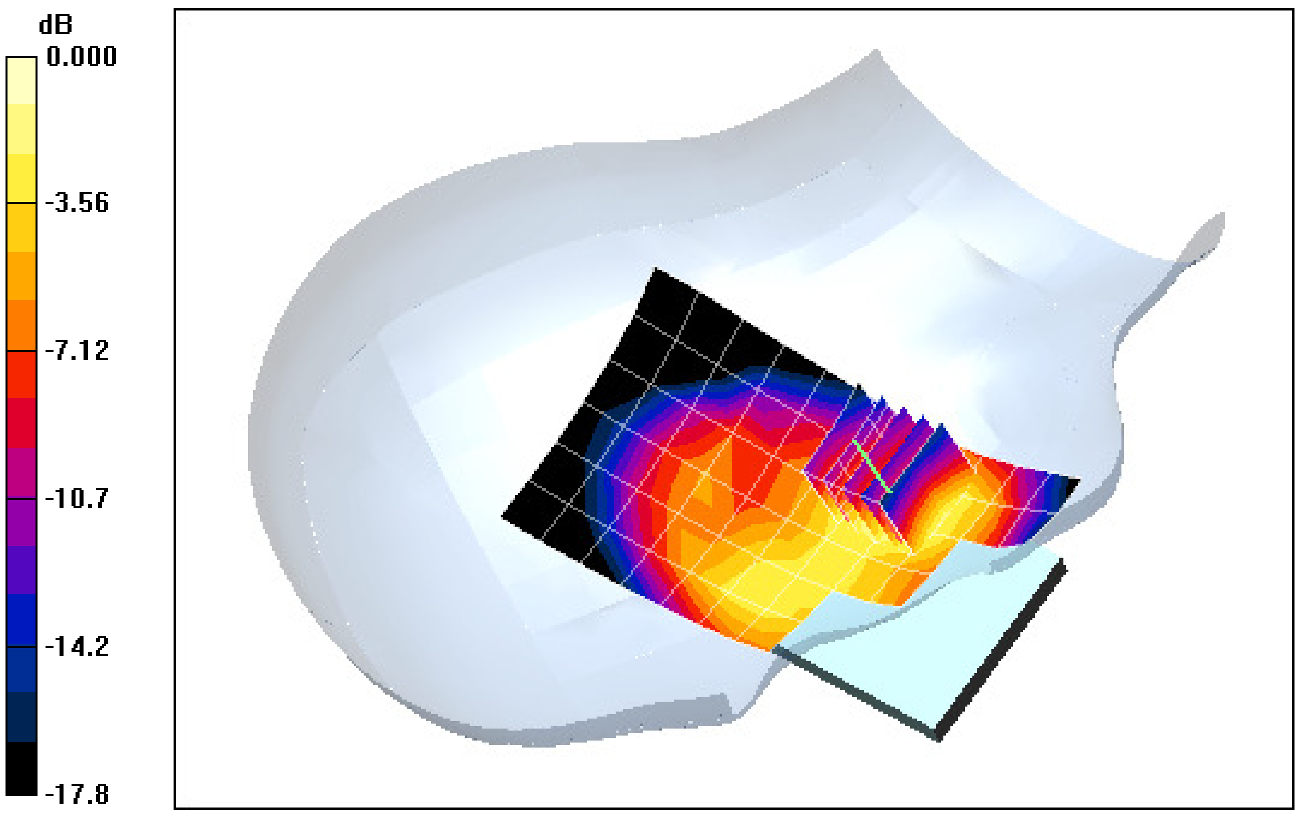
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-17-2012; Ambient Temp: 21.8 °C ; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 1900, Right Head, Touch, Mid.ch

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.5 V/m; Power Drift = -0.160 dB
Peak SAR (extrapolated) = 0.630 W/kg
SAR(1 g) = 0.398 mW/g; SAR(10 g) = 0.237 mW/g



0 dB = 0.433mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

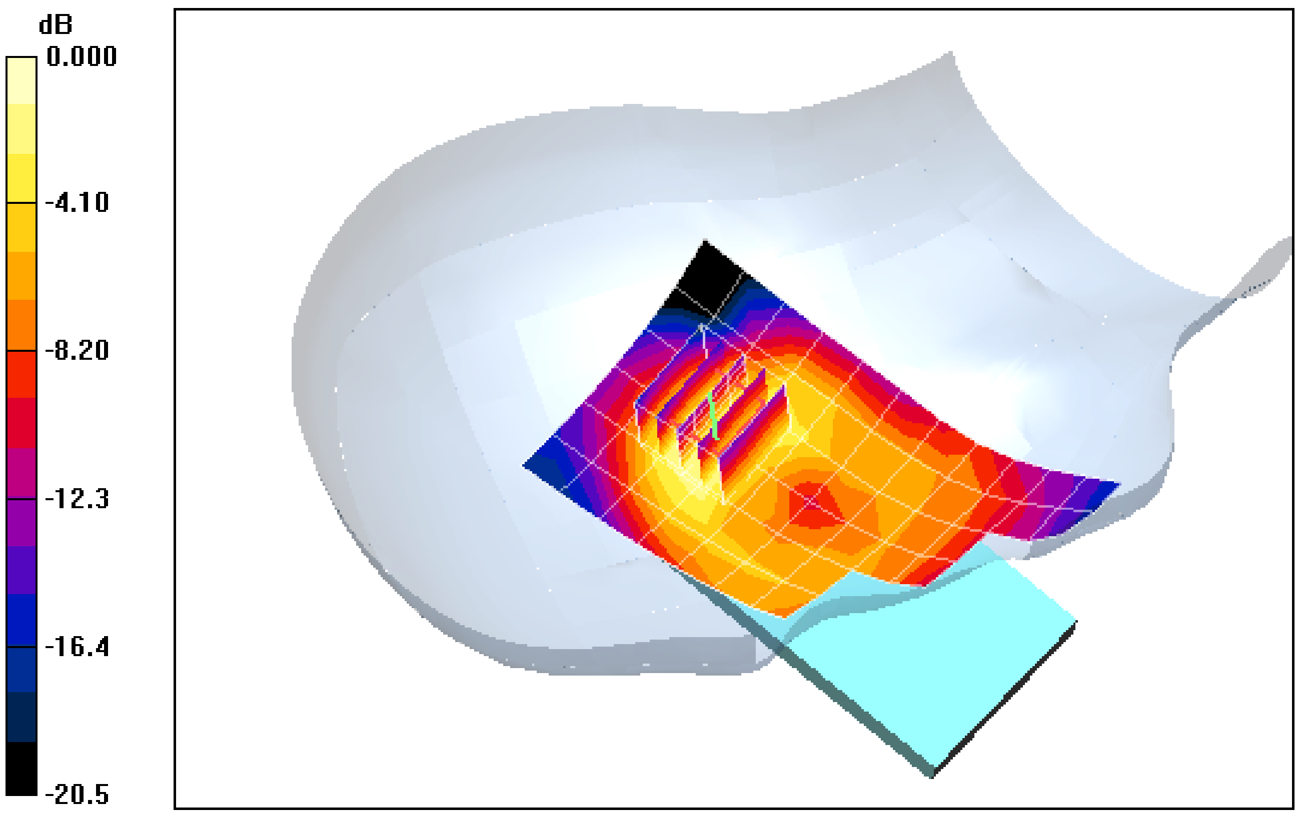
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Head Medium parameters used:
$f = 1880$ MHz; $\sigma = 1.43$ mho/m; $\varepsilon_r = 39.2$; $\rho = 1000$ kg/m^3
Phantom section: Right Section

Test Date: 02-17-2012; Ambient Temp: 21.8 °C ; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 1900, Right Head, Tilt, Mid.ch

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.0 V/m; Power Drift = 0.184 dB
Peak SAR (extrapolated) = 0.418 W/kg
SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.147 mW/g



0 dB = 0.280mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

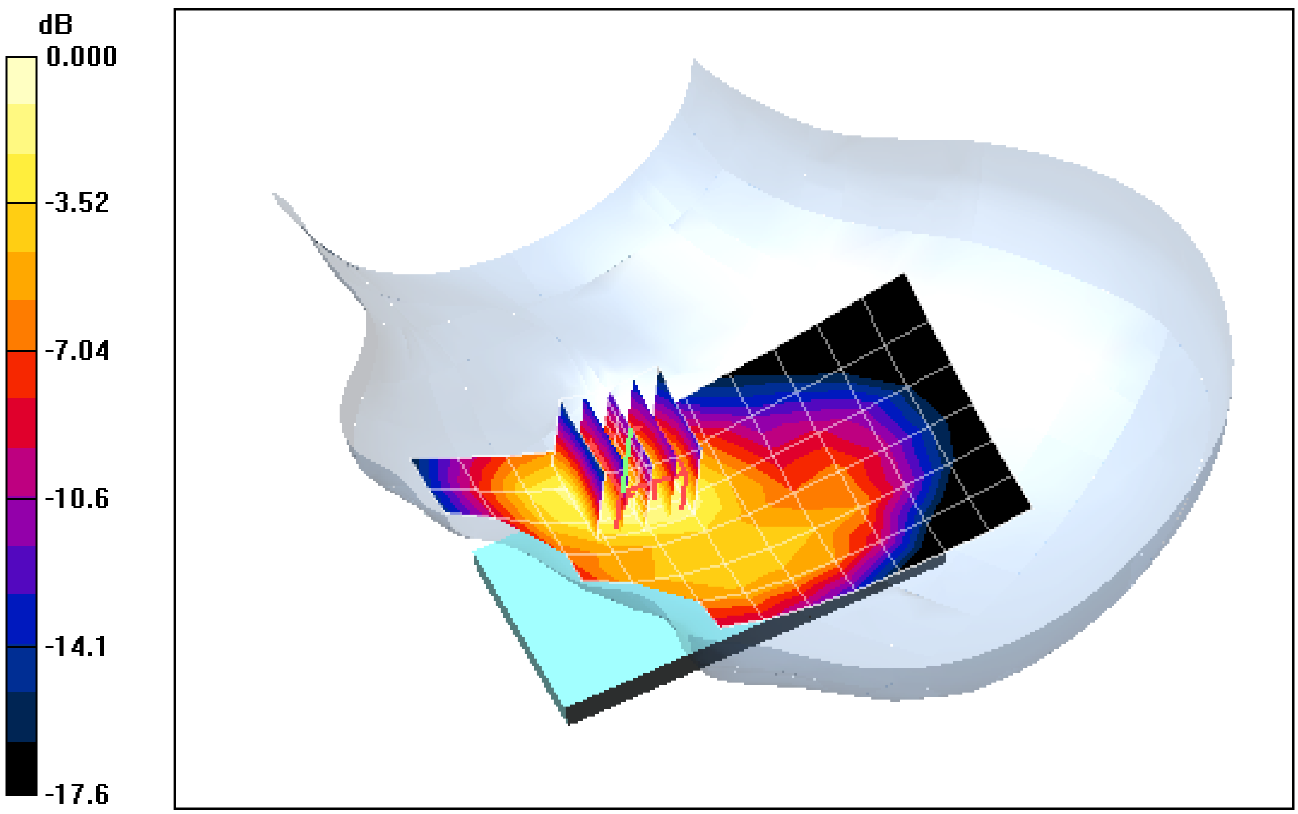
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 02-17-2012; Ambient Temp: 21.8 °C ; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 1900, Left Head, Touch, Mid.ch

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.9 V/m; Power Drift = -0.187 dB
Peak SAR (extrapolated) = 0.808 W/kg
SAR(1 g) = 0.492 mW/g; SAR(10 g) = 0.287 mW/g



0 dB = 0.547mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

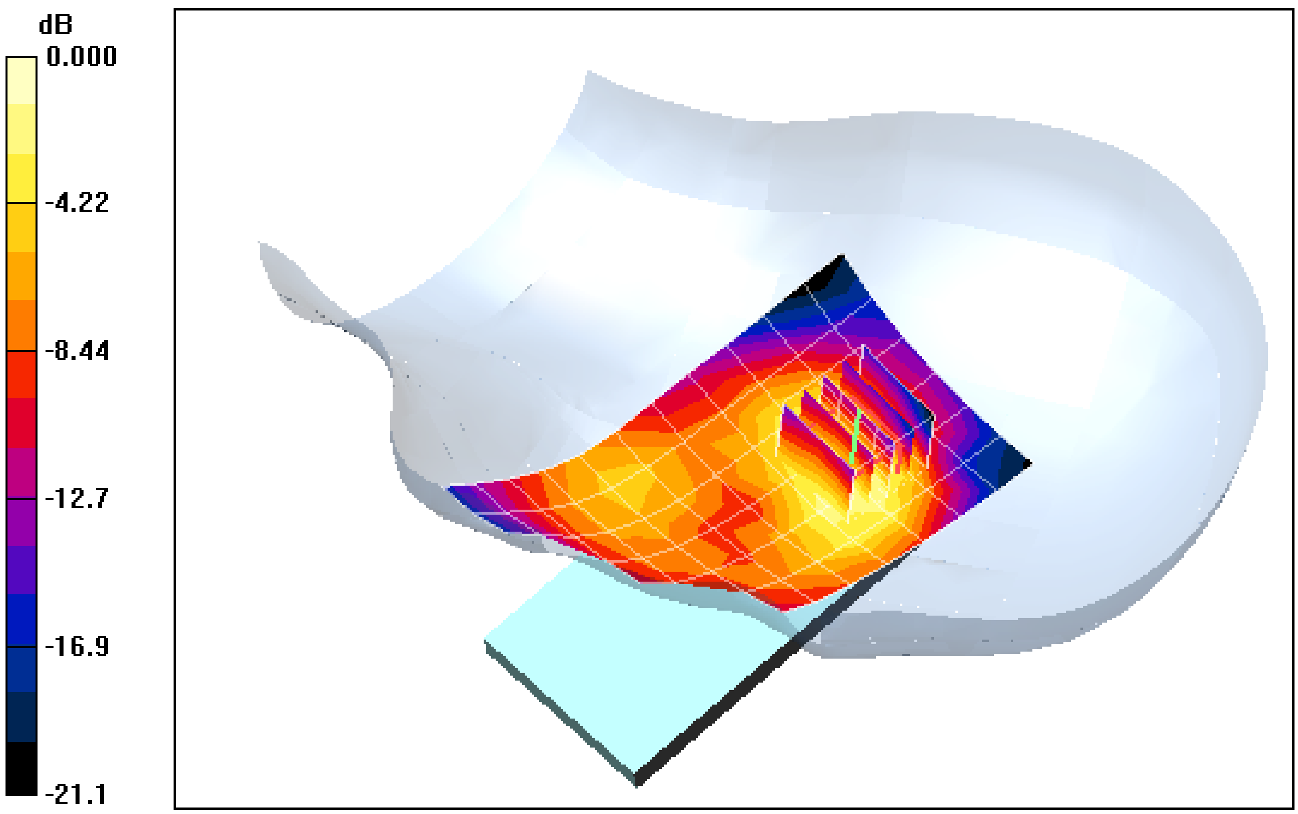
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 02-17-2012; Ambient Temp: 21.8 °C ; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 1900, Left Head, Tilt, Mid.ch

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.0 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 0.424 W/kg
SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.160 mW/g



0 dB = 0.289mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

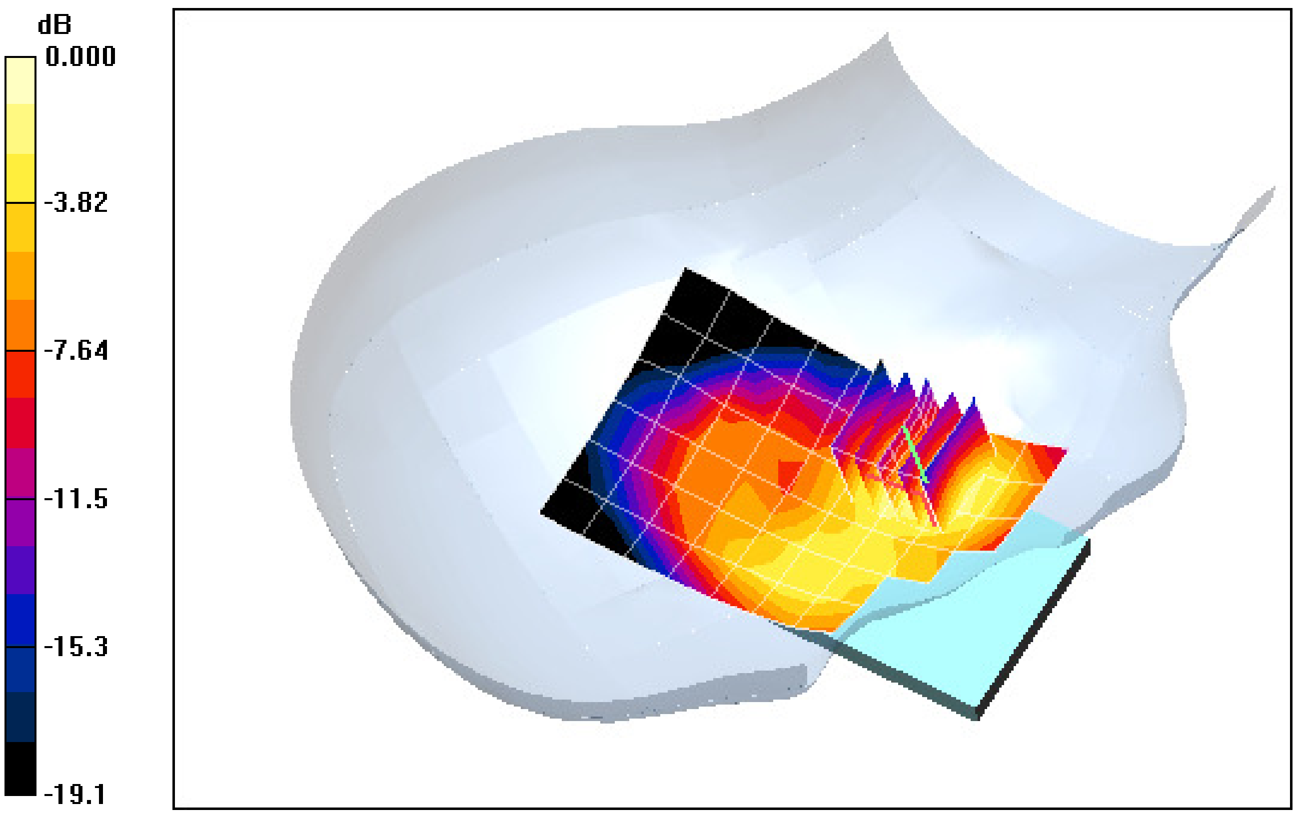
Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-17-2012; Ambient Temp: 21.8 °C ; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 1900, Right Head, Touch, Mid.ch

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.3 V/m; Power Drift = 0.041 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.691 mW/g; SAR(10 g) = 0.411 mW/g



0 dB = 0.766mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

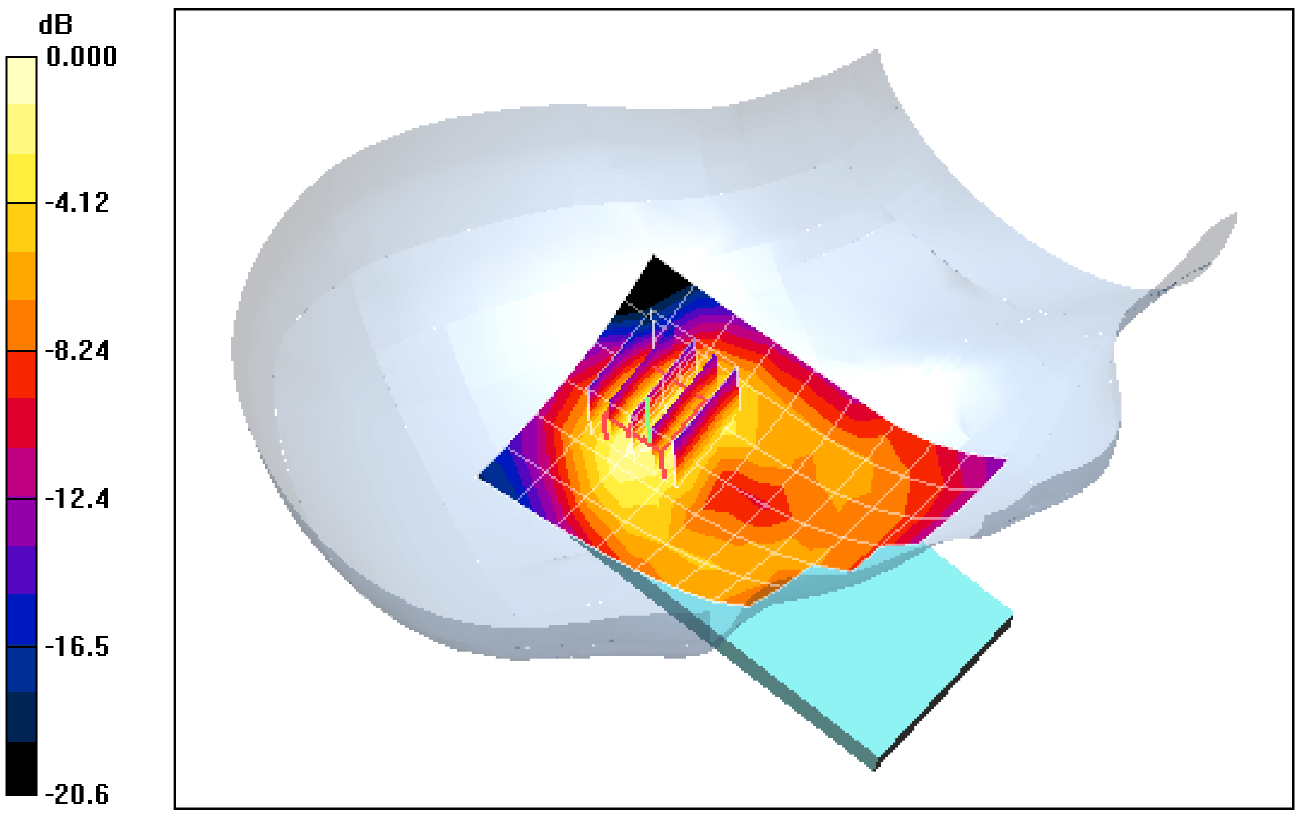
Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-17-2012; Ambient Temp: 21.8 °C ; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 1900, Right Head, Tilt, Mid.ch

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.7 V/m; Power Drift = 0.042 dB
Peak SAR (extrapolated) = 0.727 W/kg
SAR(1 g) = 0.443 mW/g; SAR(10 g) = 0.256 mW/g



0 dB = 0.486mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

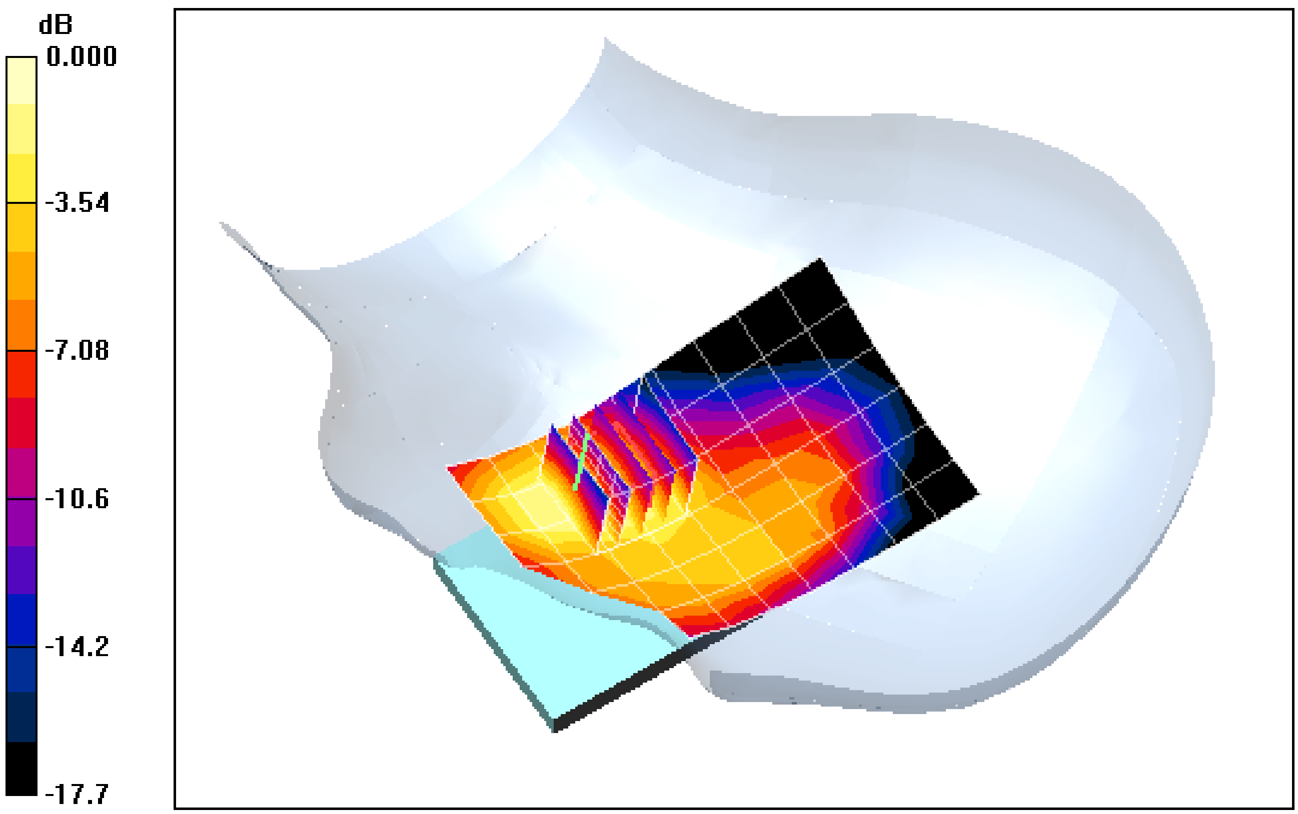
Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 02-17-2012; Ambient Temp: 21.8 °C ; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 1900, Left Head, Touch, Mid.ch

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.0 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 0.944 mW/g; SAR(10 g) = 0.551 mW/g



0 dB = 0.984mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

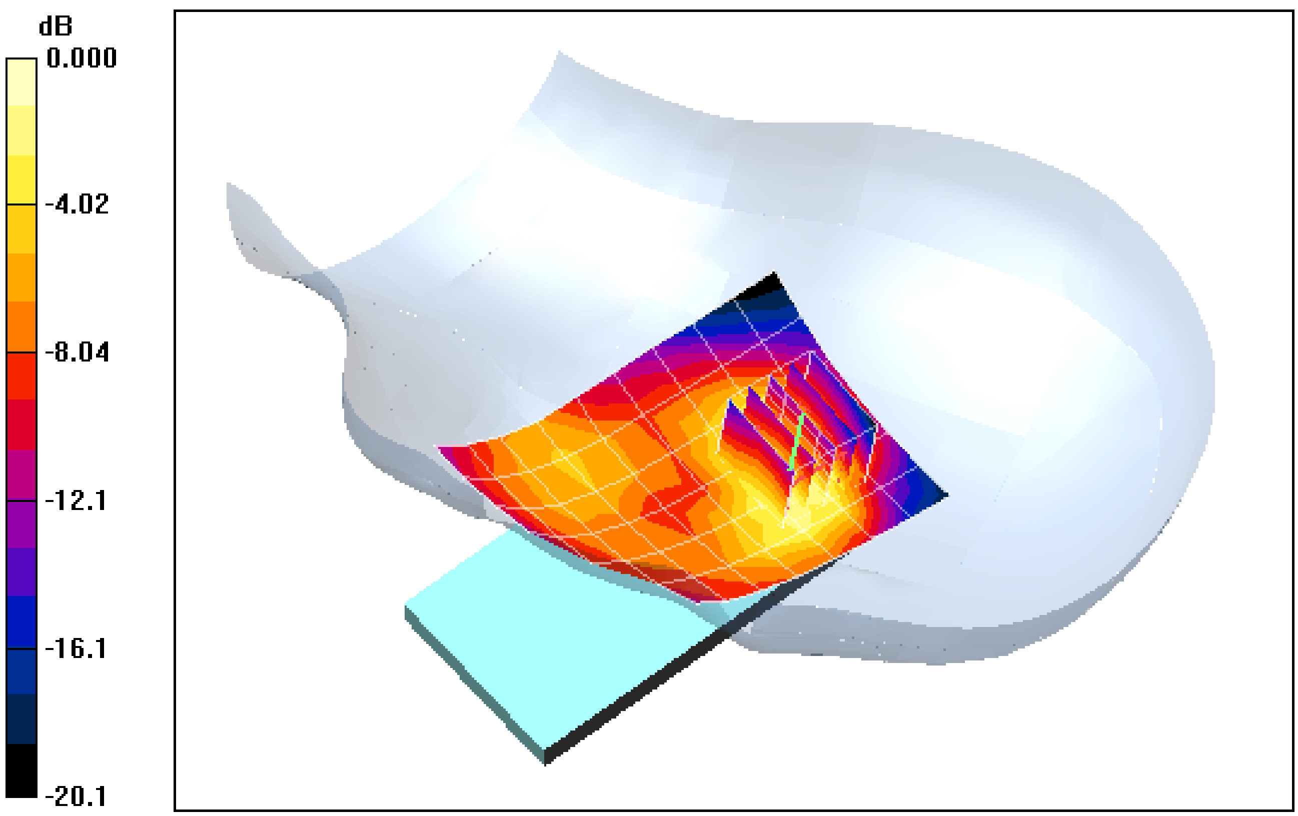
Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 02-17-2012; Ambient Temp: 21.8 °C ; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 1900, Left Head, Tilt, Mid.ch

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.5 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.730 W/kg
SAR(1 g) = 0.466 mW/g; SAR(10 g) = 0.281 mW/g



0 dB = 0.502mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFLGP705G; Type: Portable Handset; Serial: BT/WIFI

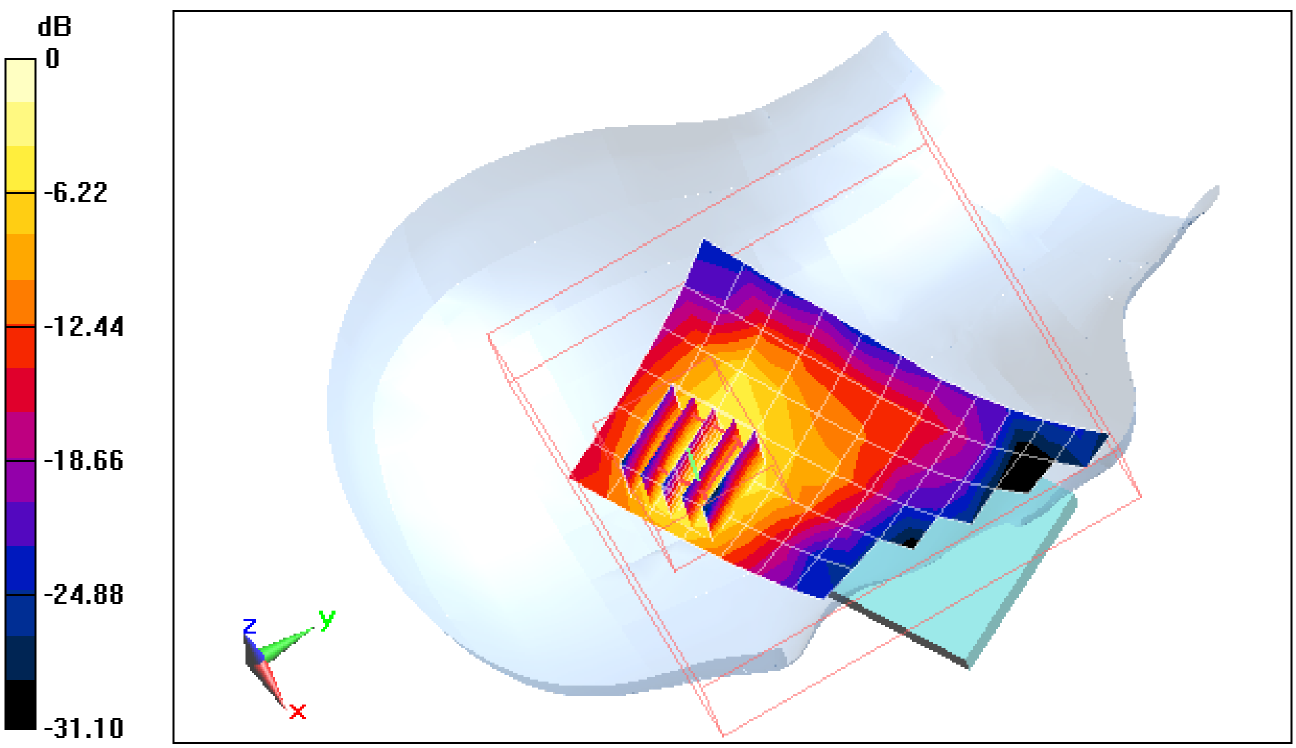
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.898 mho/m; ε_r = 39.266; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-20-2012; Ambient Temp: 22.1 C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode: IEEE 802.11b, Right Head, Touch, Ch 11, 1 Mbps

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.014 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.367 W/kg
SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.077 mW/g



0 dB = 0.230mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFLGP705G; Type: Portable Handset; Serial: BT/WIFI

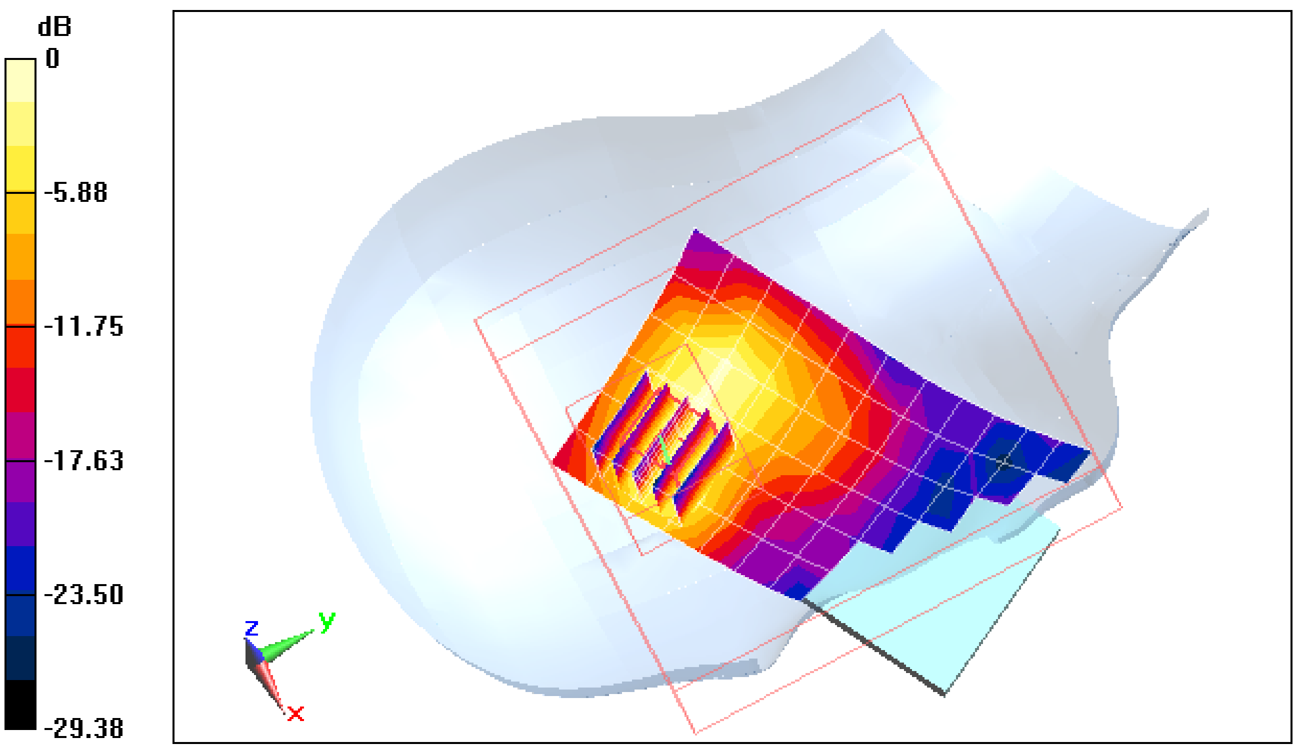
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.898 mho/m; ε_r = 39.266; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 02-20-2012; Ambient Temp: 22.1 C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode: IEEE 802.11b, Right Head, Tilt, Ch 11, 1 Mbps

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.919 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.195 W/kg
SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.044 mW/g



0 dB = 0.120mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: BT/WIFI

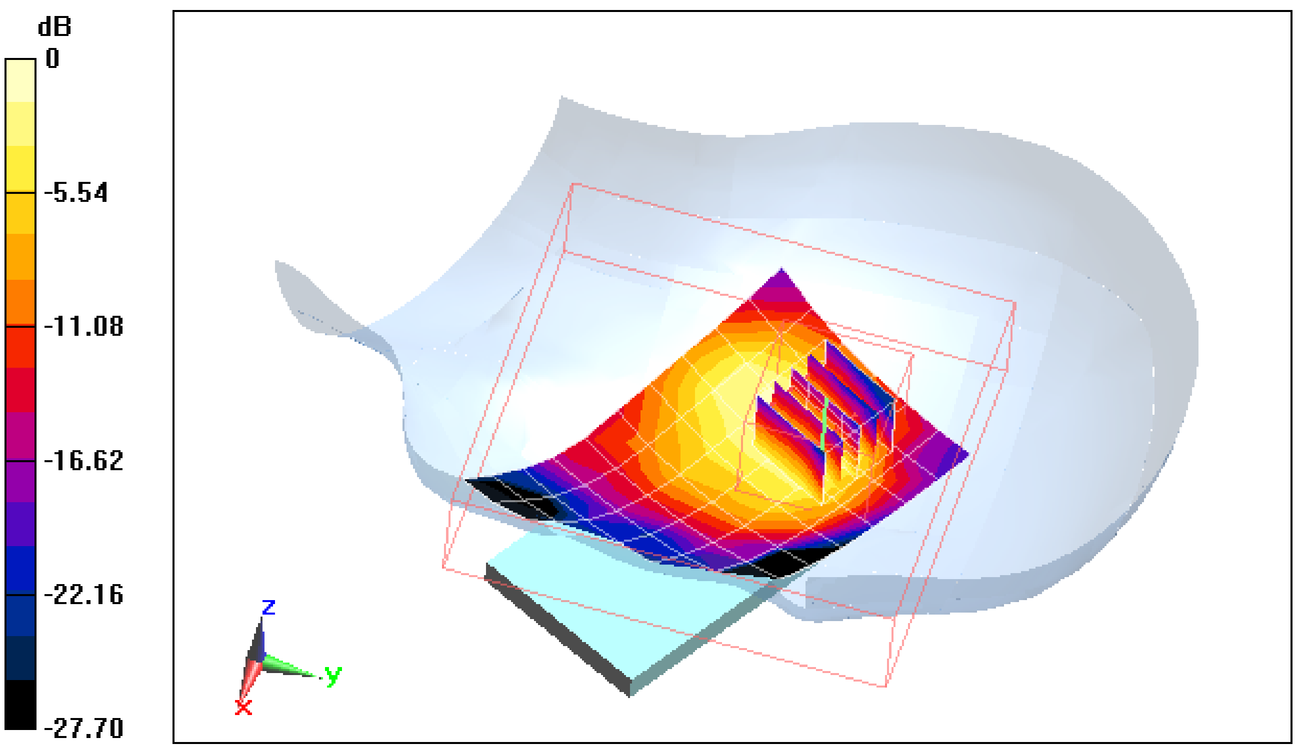
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.898 mho/m; ε_r = 39.266; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 02-20-2012; Ambient Temp: 22.1 C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode: IEEE 802.11b, Left Head, Touch, Ch 11, 1 Mbps

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.245 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.185 W/kg
SAR(1 g) = 0.095 mW/g; SAR(10 g) = 0.050 mW/g



0 dB = 0.120mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: BT/WIFI

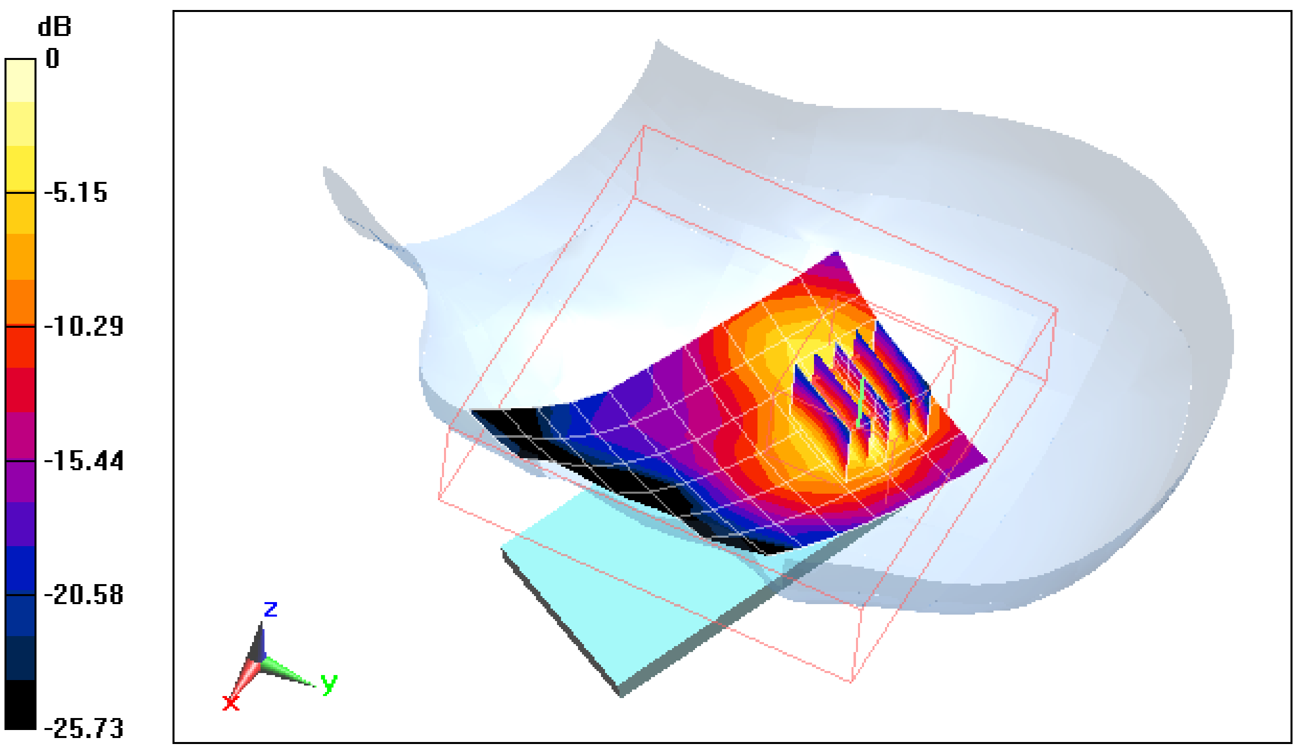
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.898 mho/m; ε_r = 39.266; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 02-20-2012; Ambient Temp: 22.1 C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode: IEEE 802.11b, Left Head, Tilt, Ch 11, 1 Mbps

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.742 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.190 W/kg
SAR(1 g) = 0.095 mW/g; SAR(10 g) = 0.046 mW/g



0 dB = 0.120mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

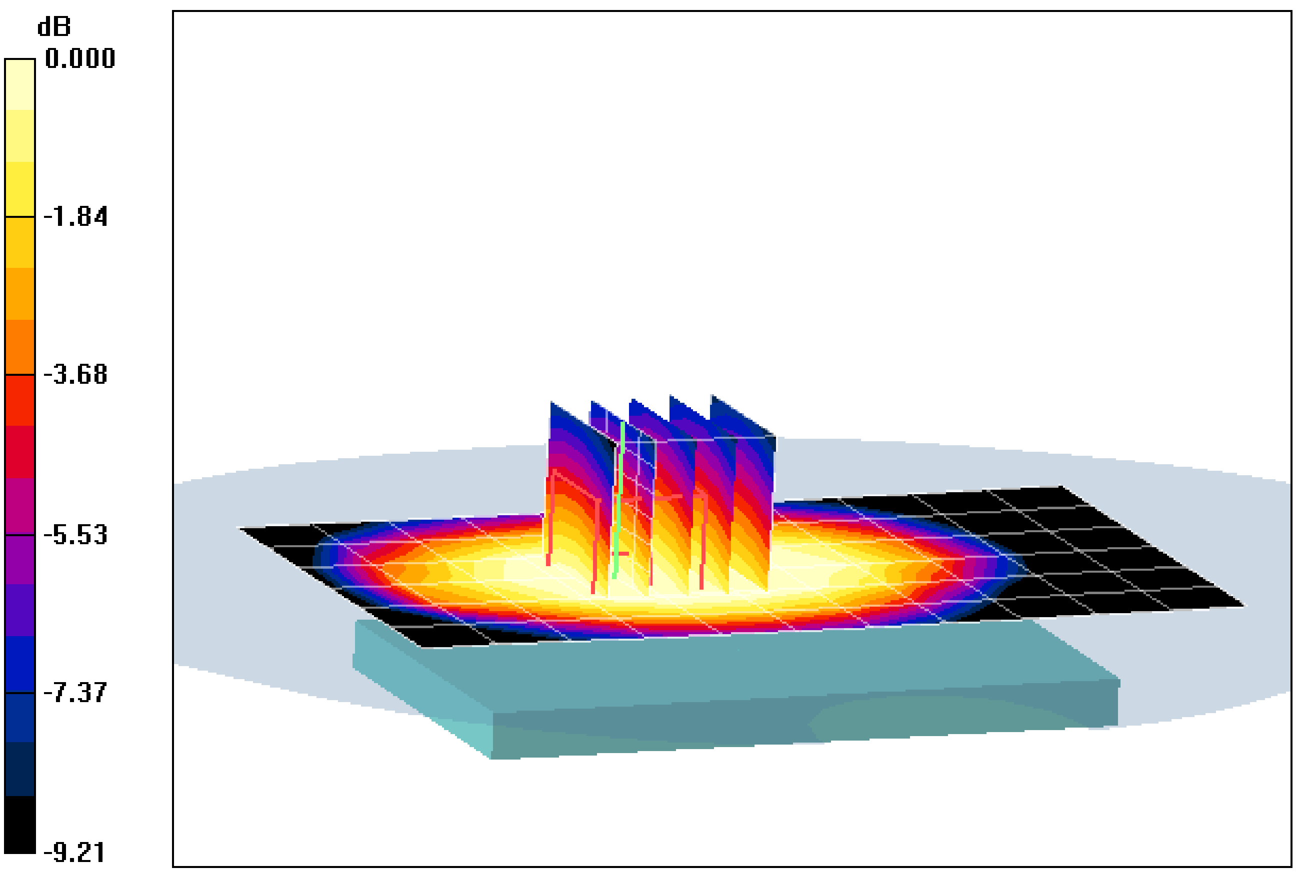
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.974 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 850, Body SAR, Back side, Mid.ch

Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.4 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.833 W/kg
SAR(1 g) = 0.649 mW/g; SAR(10 g) = 0.480 mW/g



0 dB = 0.686mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

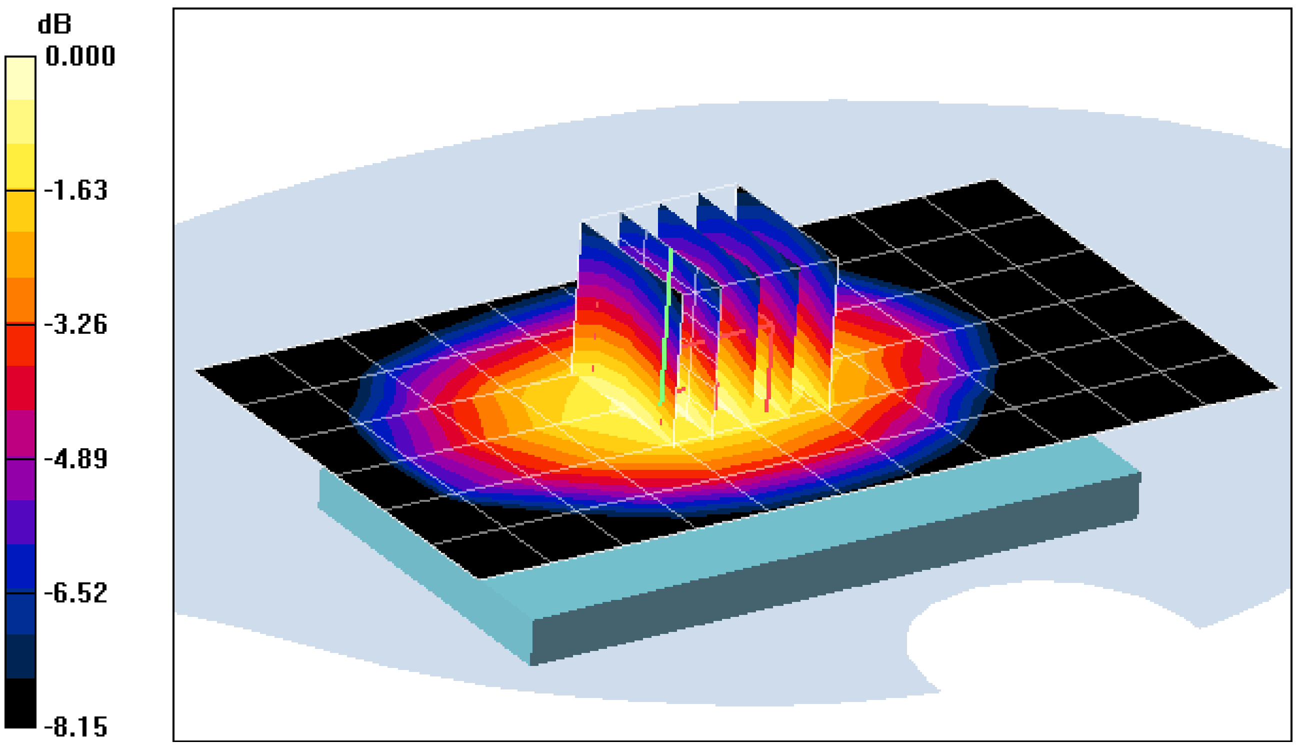
Communication System: GSM850 GPRS; 1 Tx slots; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: 835 Body Medium parameters used (interpolated):
f = 824.2 MHz; σ = 0.963 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 850, Body SAR, Back side, Low.ch, 1 Tx Slots

Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.8 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.910 mW/g; SAR(10 g) = 0.690 mW/g



0 dB = 0.950mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

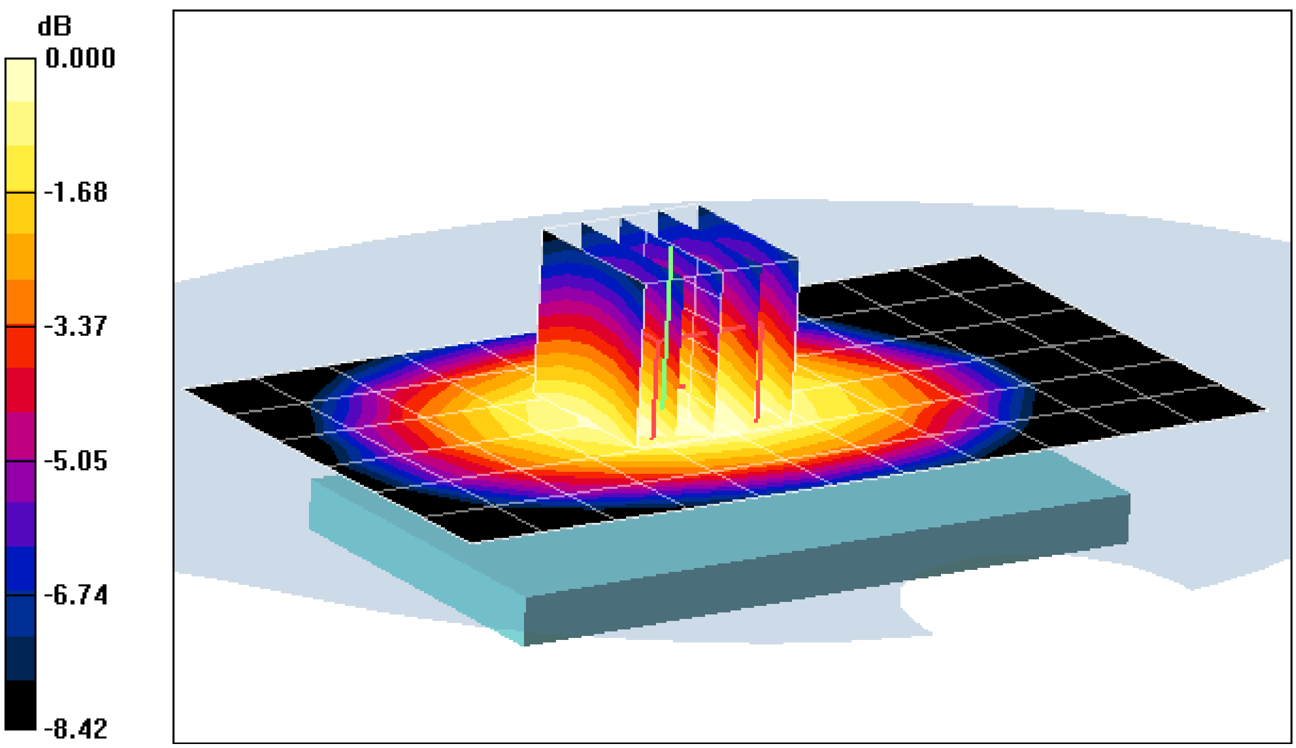
Communication System: GSM850 GPRS; 1 Tx slots; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Body Medium parameters used (interpolated):
$f = 836.6$ MHz; $\sigma = 0.974$ mho/m; $\varepsilon_r = 54.4$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 850, Body SAR, Front side, Mid.ch, 1 Tx Slots

Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.7 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.737 W/kg
SAR(1 g) = 0.602 mW/g; SAR(10 g) = 0.463 mW/g



0 dB = 0.629mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

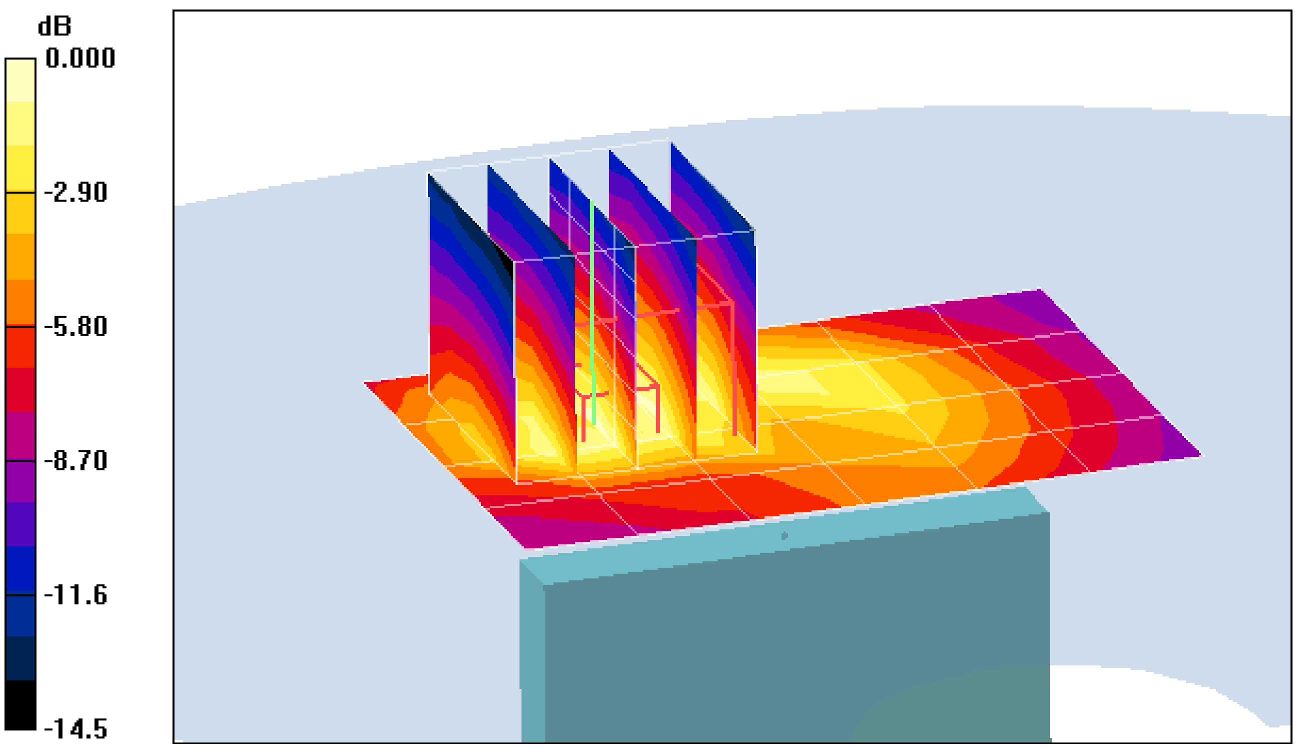
Communication System: GSM850 GPRS; 1 Tx slots; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.974 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 850, Body SAR, Bottom Edge, Mid.ch, 1 Tx Slots

Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = 0.064 dB
Peak SAR (extrapolated) = 0.201 W/kg
SAR(1 g) = 0.110 mW/g; SAR(10 g) = 0.063 mW/g



0 dB = 0.121mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

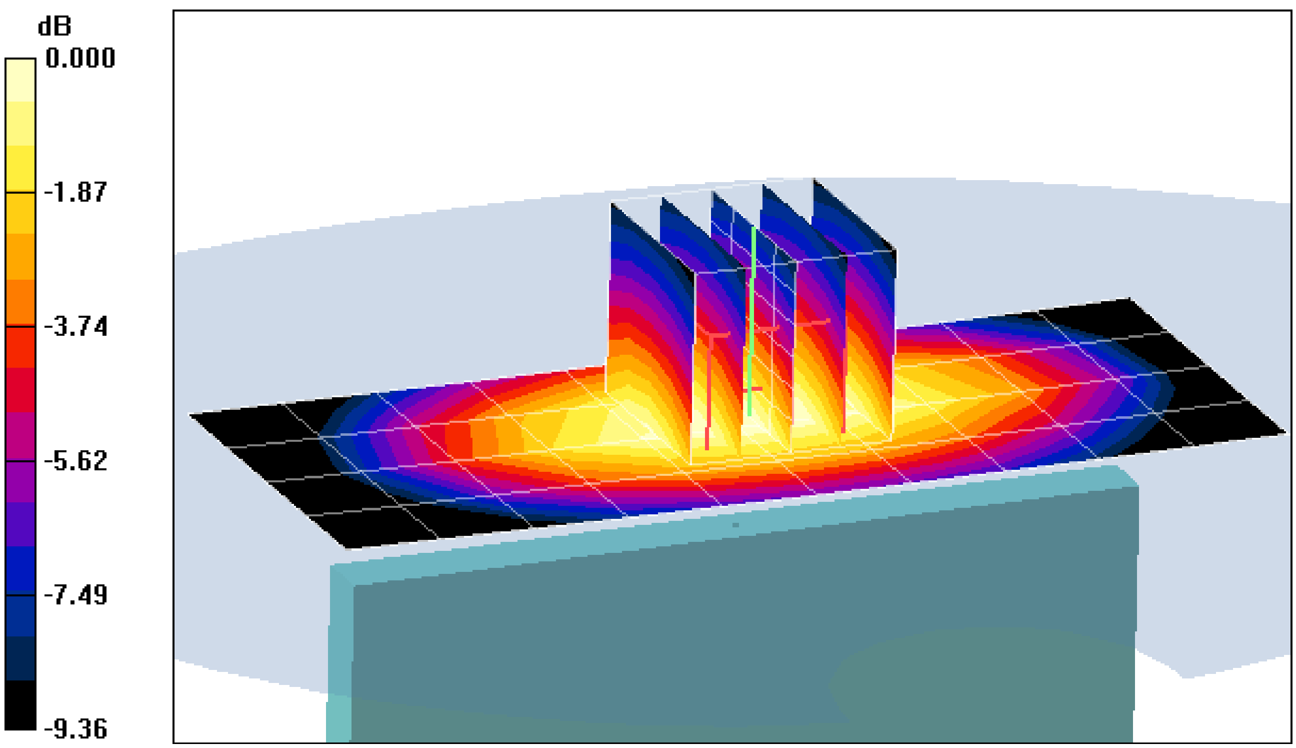
Communication System: GSM850 GPRS; 1 Tx slots; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.974 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 850, Body SAR, Right Edge, Mid.ch, 1 Tx Slots

Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.5 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.967 W/kg
SAR(1 g) = 0.692 mW/g; SAR(10 g) = 0.482 mW/g



0 dB = 0.734mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

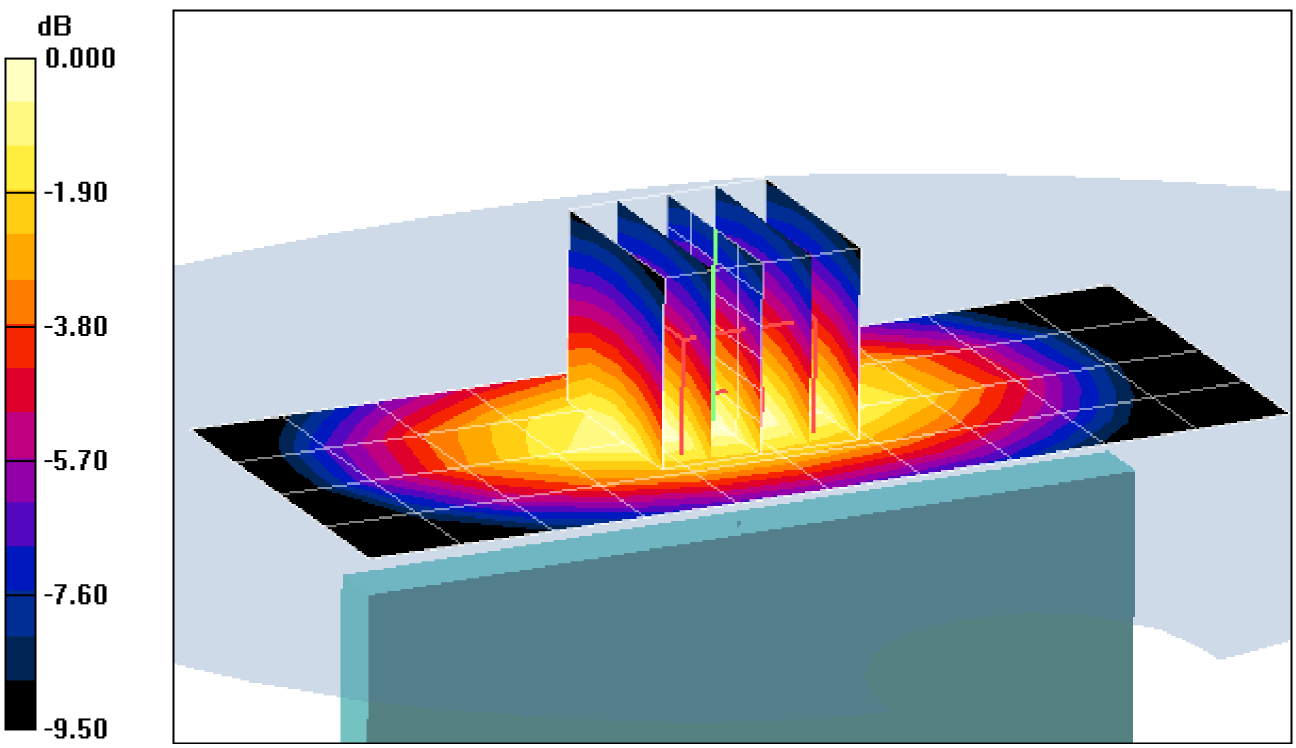
Communication System: GSM850 GPRS; 1 Tx slots; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: 835 Body Medium parameters used (interpolated):
$f = 836.6$ MHz; $\sigma = 0.974$ mho/m; $\varepsilon_r = 54.4$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 850, Body SAR, Left Edge, Mid.ch, 1 Tx Slots

Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.8 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 0.710 W/kg
SAR(1 g) = 0.515 mW/g; SAR(10 g) = 0.358 mW/g



0 dB = 0.552mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

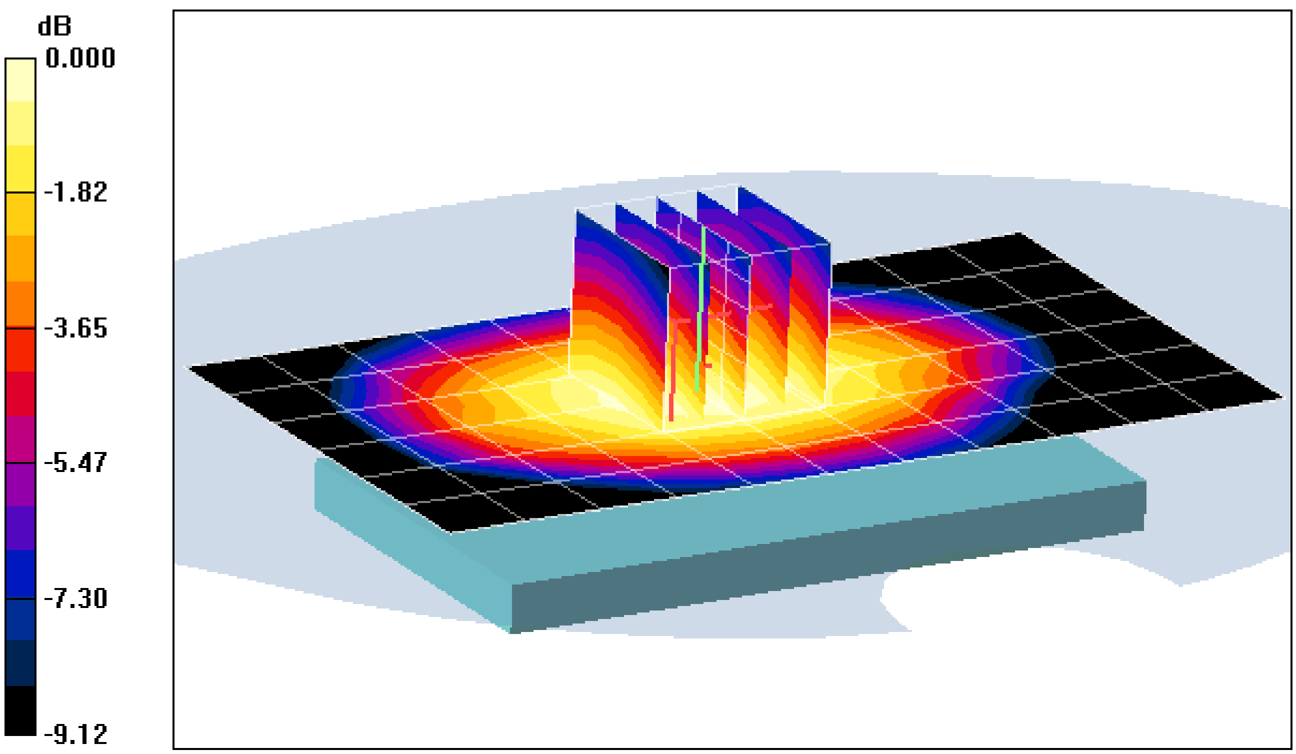
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.974 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 850, Body SAR, Back side, Mid.ch

Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.2 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.883 mW/g; SAR(10 g) = 0.665 mW/g



0 dB = 0.927mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

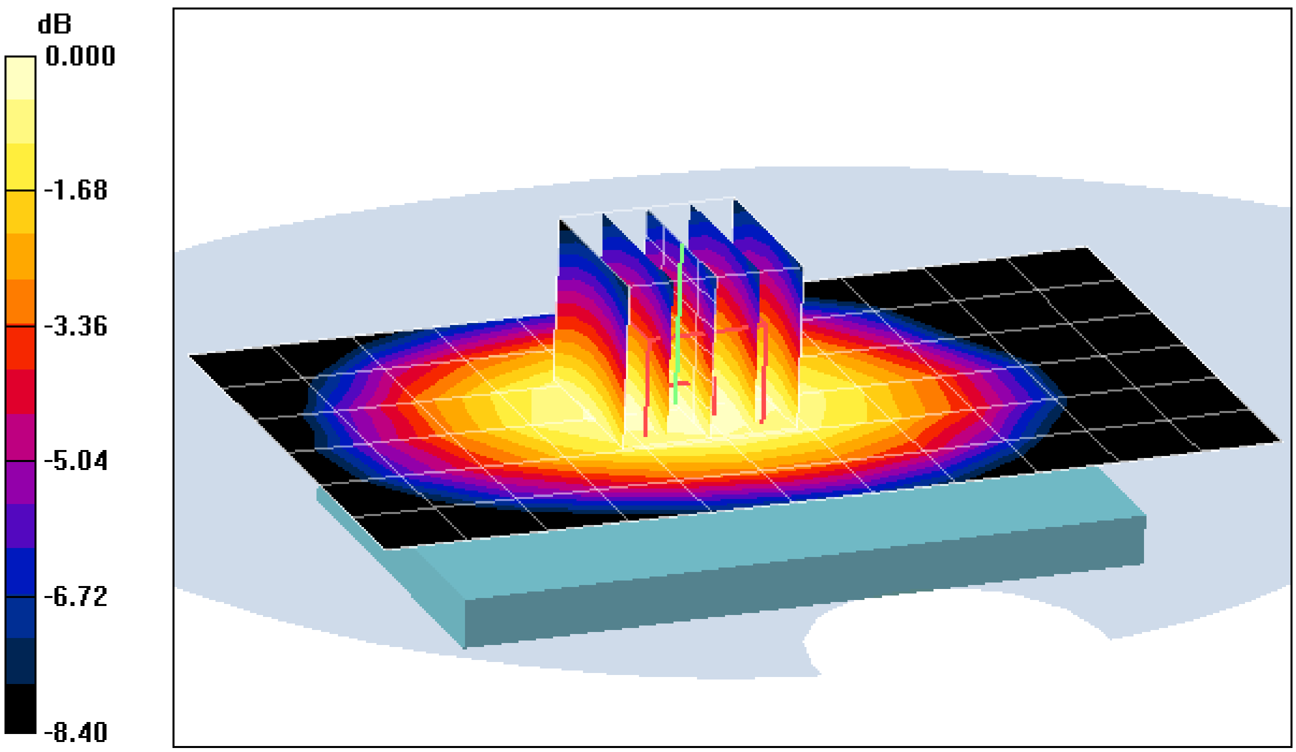
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.974 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 850, Body SAR, Front side, Mid.ch

Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.8 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 0.866 W/kg
SAR(1 g) = 0.702 mW/g; SAR(10 g) = 0.537 mW/g



0 dB = 0.737mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

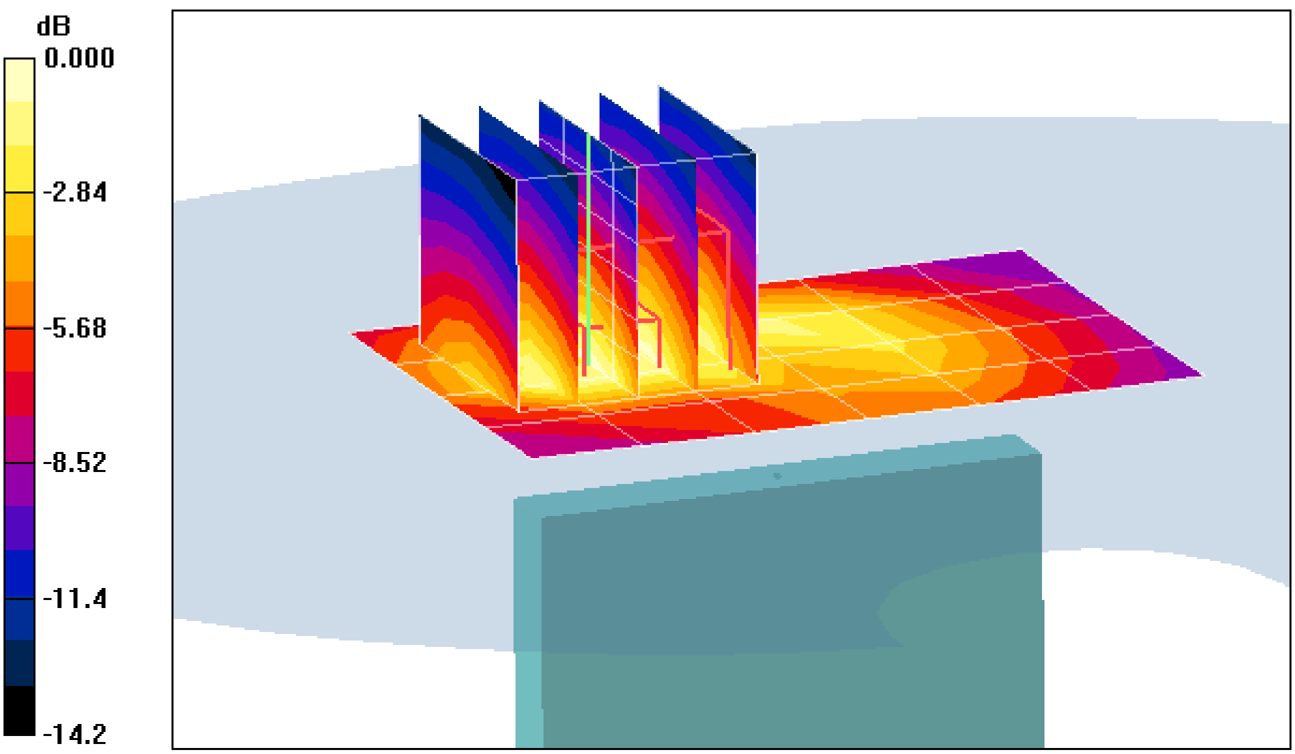
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.974 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 850, Body SAR, Bottom Edge, Mid.ch

Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.190 W/kg
SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.061 mW/g



0 dB = 0.116mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

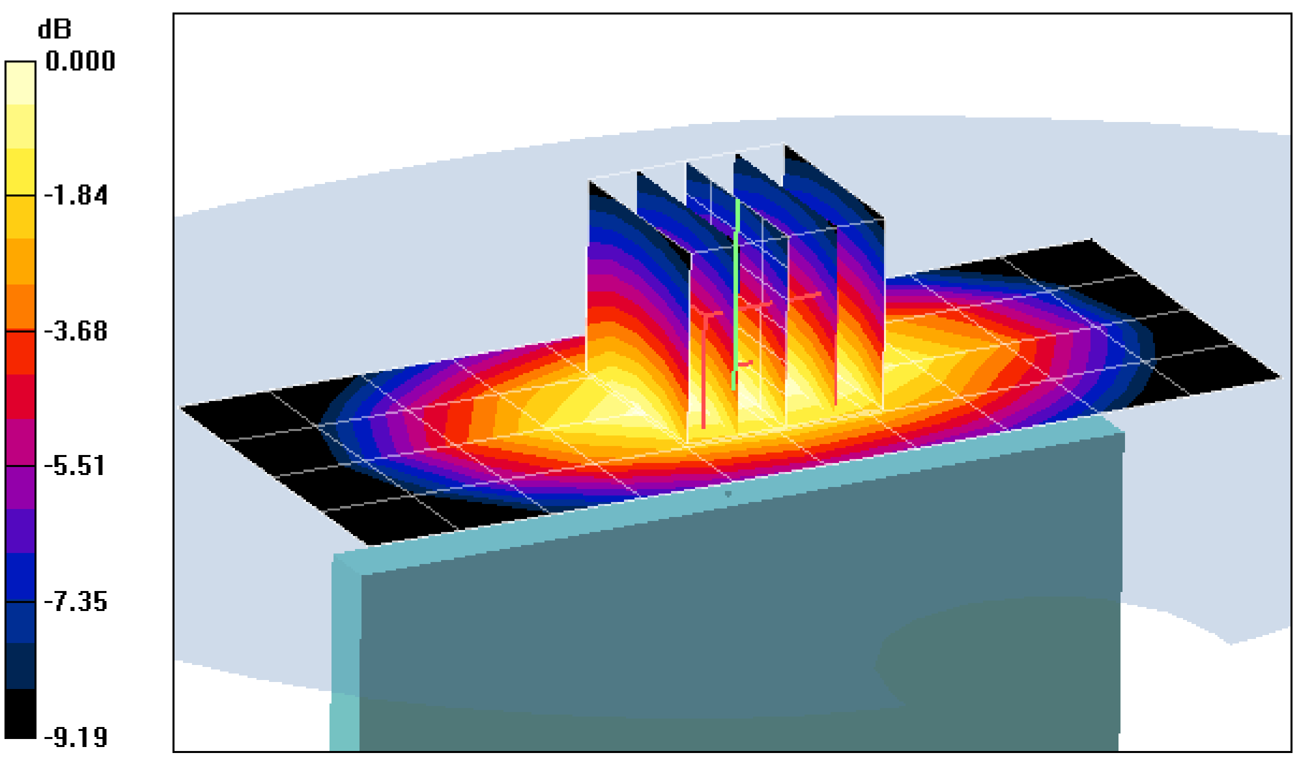
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.974 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 850, Body SAR, Right Edge, Mid.ch

Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.5 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 0.926 W/kg
SAR(1 g) = 0.669 mW/g; SAR(10 g) = 0.468 mW/g



0 dB = 0.713mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #2

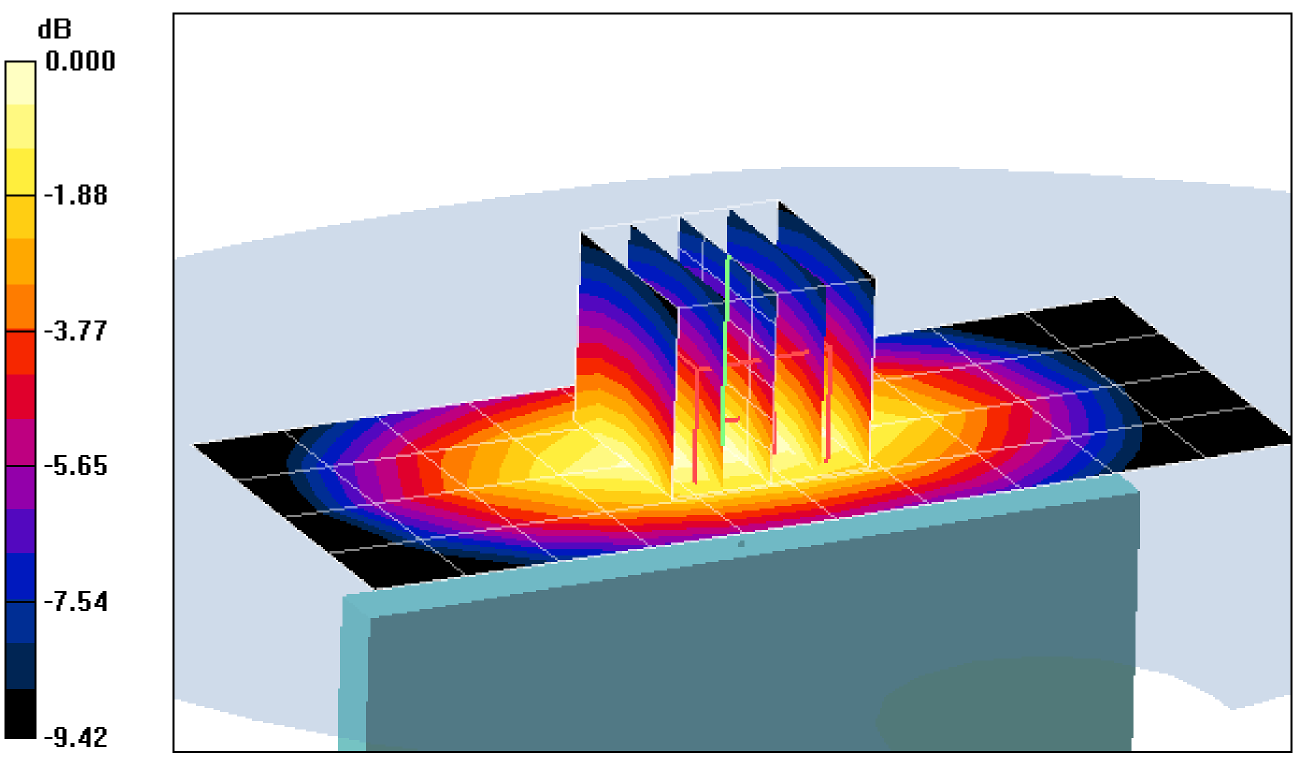
Communication System: WCDMA850; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.974 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.15, 6.15, 6.15); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 850, Body SAR, Left Edge, Mid.ch

Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.3 V/m; Power Drift = 0.061 dB
Peak SAR (extrapolated) = 0.730 W/kg
SAR(1 g) = 0.526 mW/g; SAR(10 g) = 0.365 mW/g



0 dB = 0.561mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

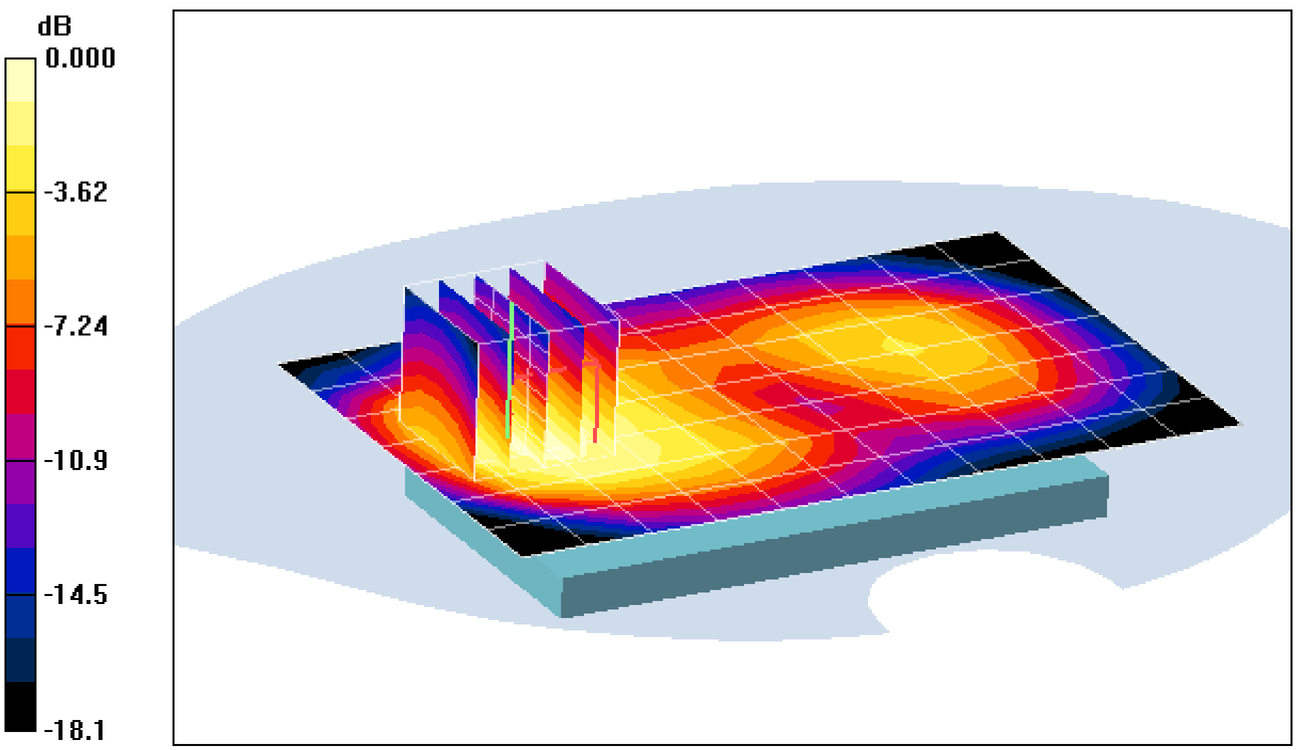
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Body Medium parameters used:
$f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\varepsilon_r = 51.8$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GSM 1900, Body SAR, Back side, Mid.ch

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.6 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 0.921 W/kg
SAR(1 g) = 0.536 mW/g; SAR(10 g) = 0.321 mW/g



0 dB = 0.571mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

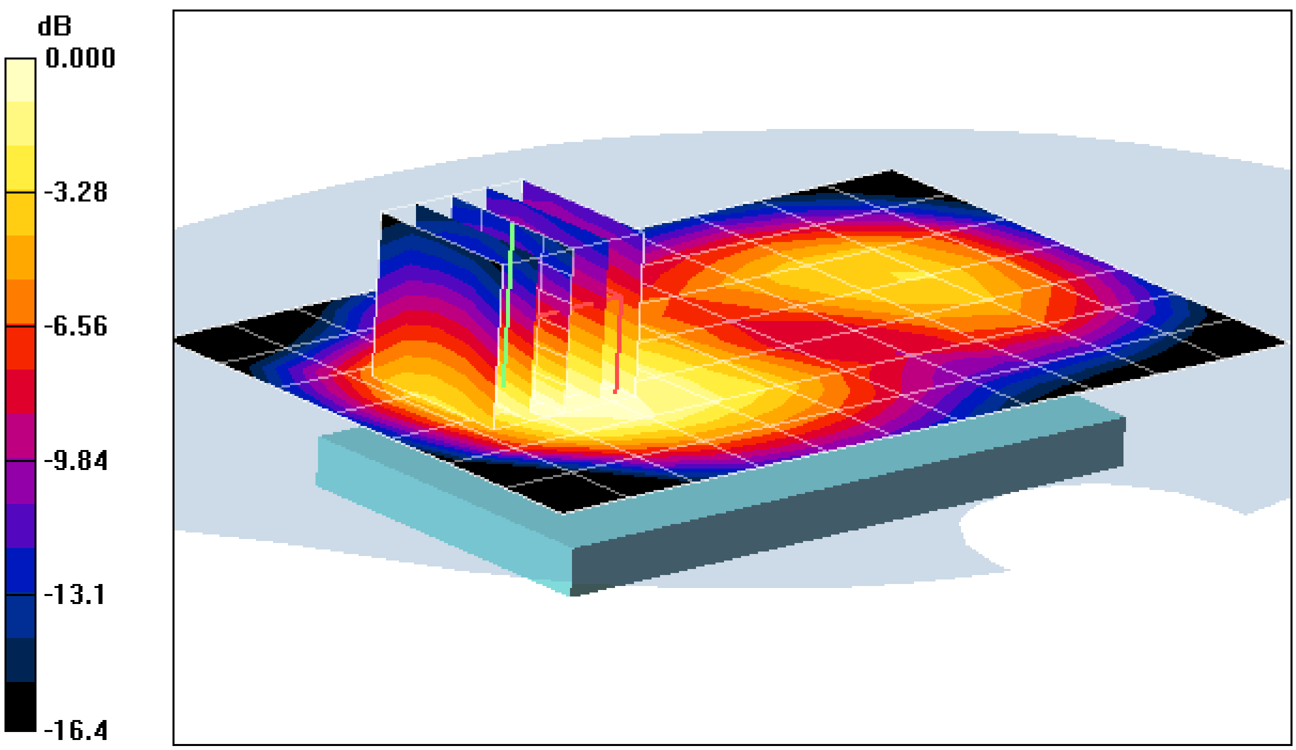
Communication System: GSM1900 GPRS; 1 Tx slots; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.55 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 1900, Body SAR, Back side, Mid.ch, 1 Tx Slots

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.0 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 0.774 W/kg
SAR(1 g) = 0.458 mW/g; SAR(10 g) = 0.283 mW/g



0 dB = 0.494mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

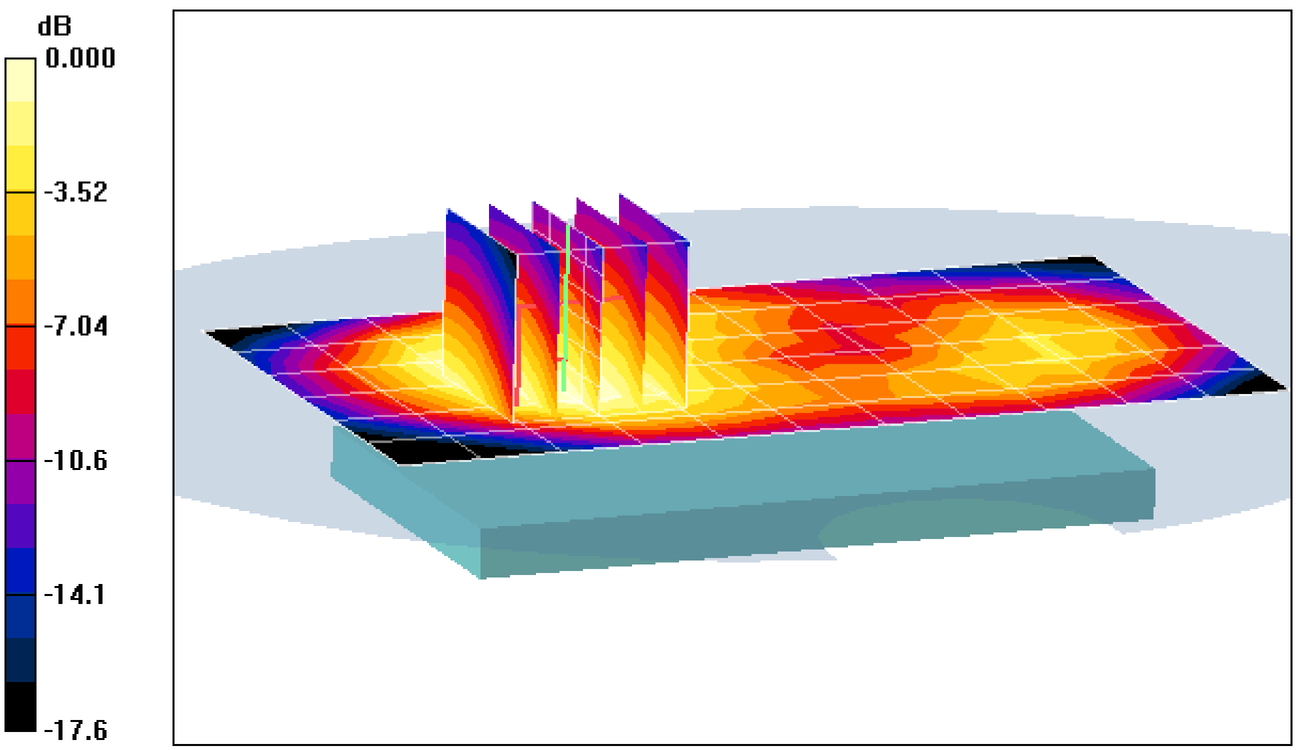
Communication System: GSM1900 GPRS; 1 Tx slots; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Body Medium parameters used:
$f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\varepsilon_r = 51.8$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 1900, Body SAR, Front side, Mid.ch, 1 Tx Slots

Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.1 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.629 W/kg
SAR(1 g) = 0.416 mW/g; SAR(10 g) = 0.263 mW/g



0 dB = 0.443mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

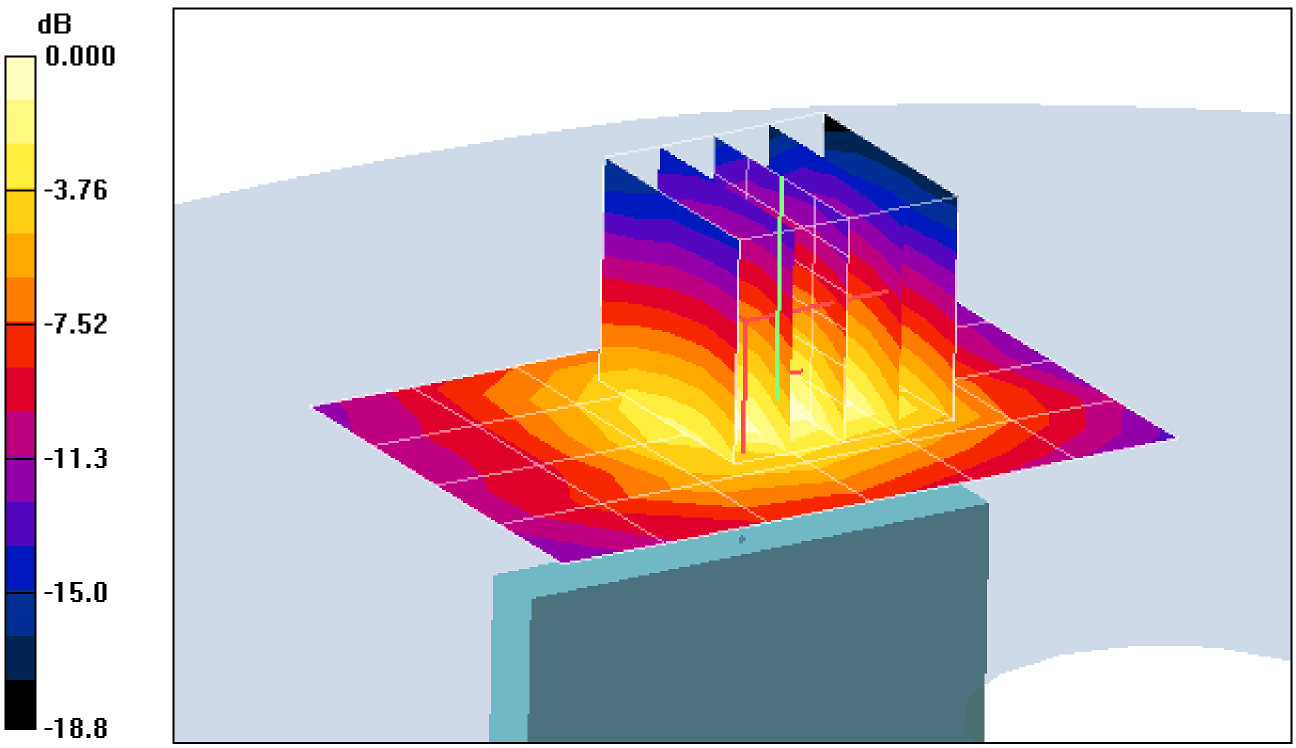
Communication System: GSM1900 GPRS; 1 Tx slots; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Body Medium parameters used:
$f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\varepsilon_r = 51.8$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 1900, Body SAR, Bottom Edge, Mid.ch, 1 Tx Slots

Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.5 V/m; Power Drift = -0.116 dB
Peak SAR (extrapolated) = 0.665 W/kg
SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.219 mW/g



0 dB = 0.435mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

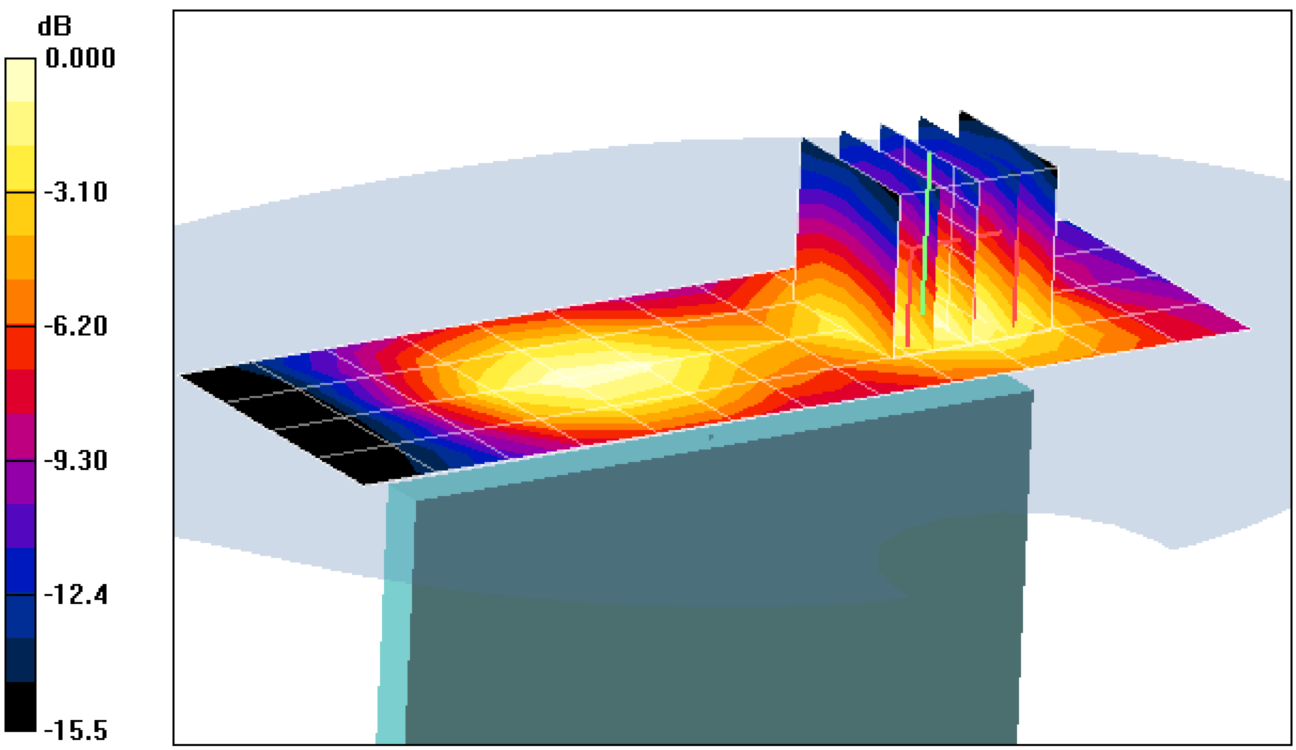
Communication System: GSM1900 GPRS; 1 Tx slots; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Body Medium parameters used:
$f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\varepsilon_r = 51.8$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 1900, Body SAR, Right Edge, Mid.ch, 1 Tx Slots

Area Scan (5x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 0.282 W/kg
SAR(1 g) = 0.180 mW/g; SAR(10 g) = 0.107 mW/g



0 dB = 0.195mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

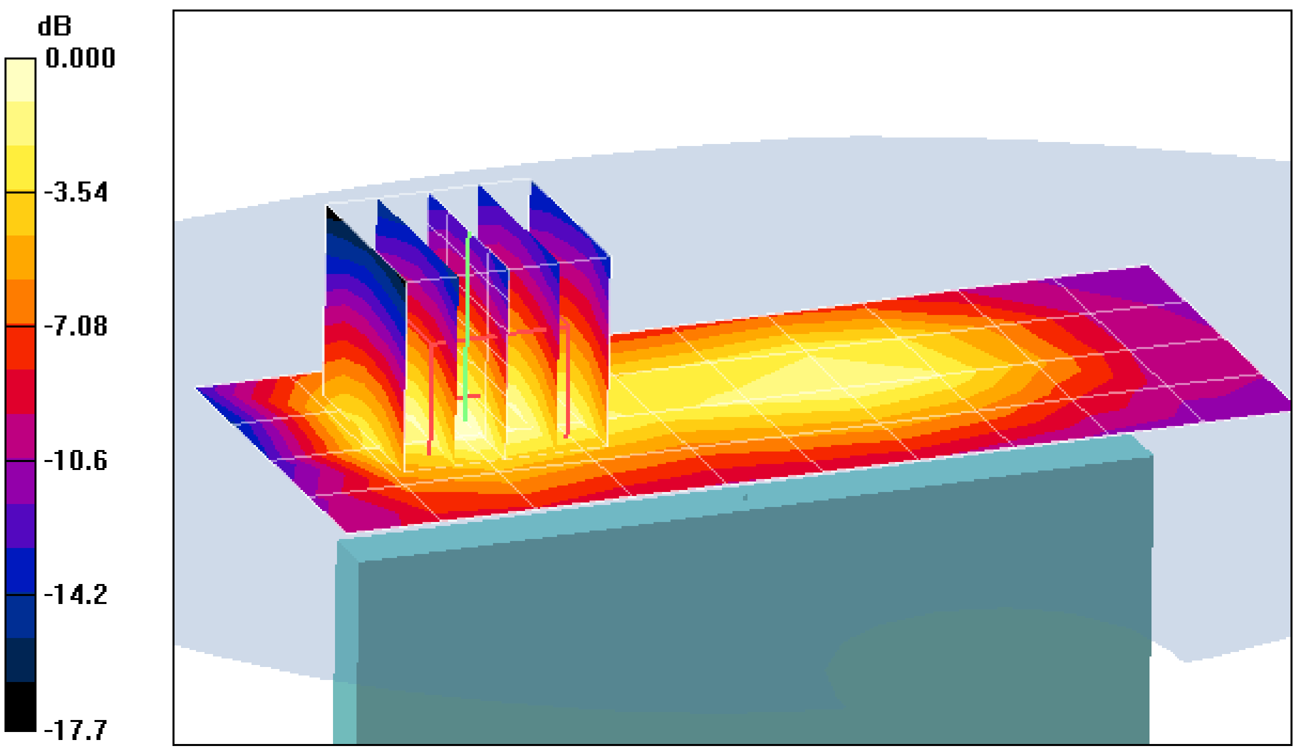
Communication System: GSM1900 GPRS; 1 Tx slots; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: 1900 Body Medium parameters used:
$f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\varepsilon_r = 51.8$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: GPRS 1900, Body SAR, Left Edge, Mid.ch, 1 Tx Slots

Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.392 W/kg
SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.138 mW/g



0 dB = 0.267mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

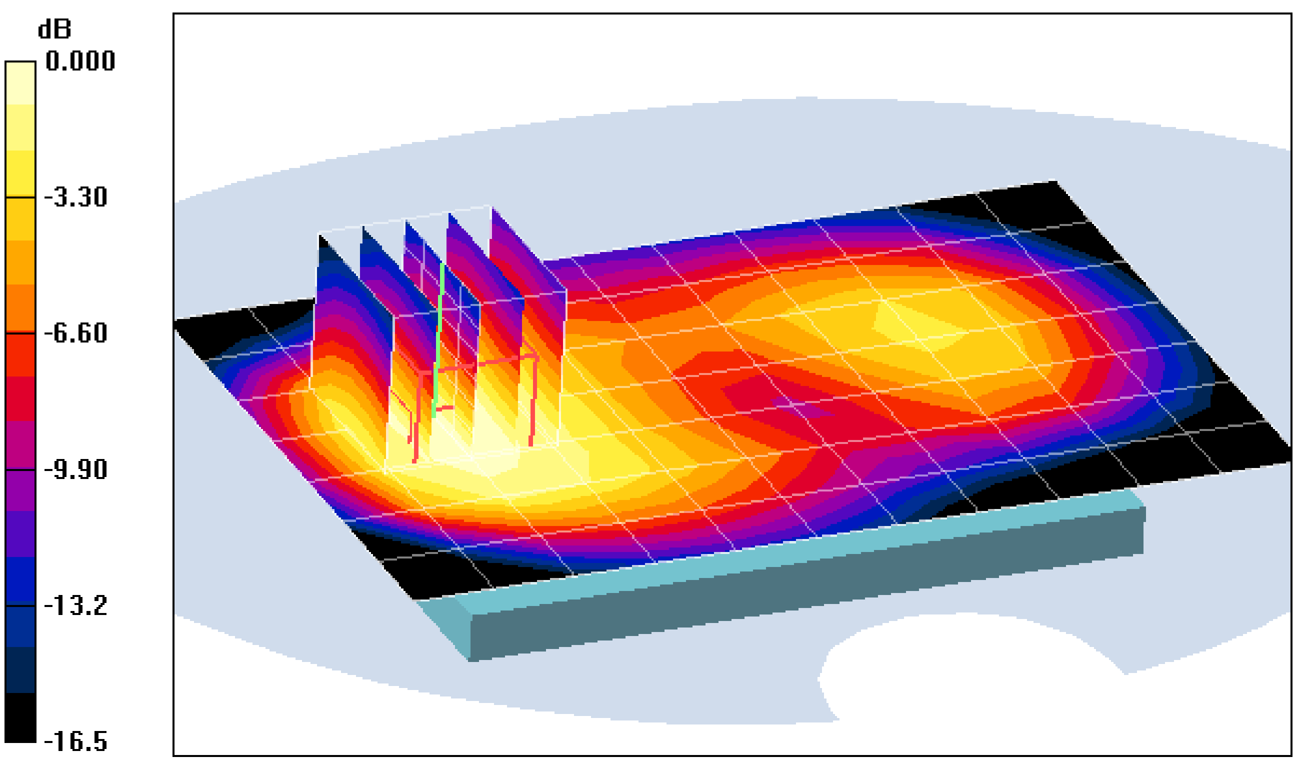
Communication System: WCDMA1900; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1852.4 MHz; σ = 1.52 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 1900, Body SAR, Back side, Low.ch

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.7 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.911 mW/g; SAR(10 g) = 0.562 mW/g



0 dB = 0.957mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

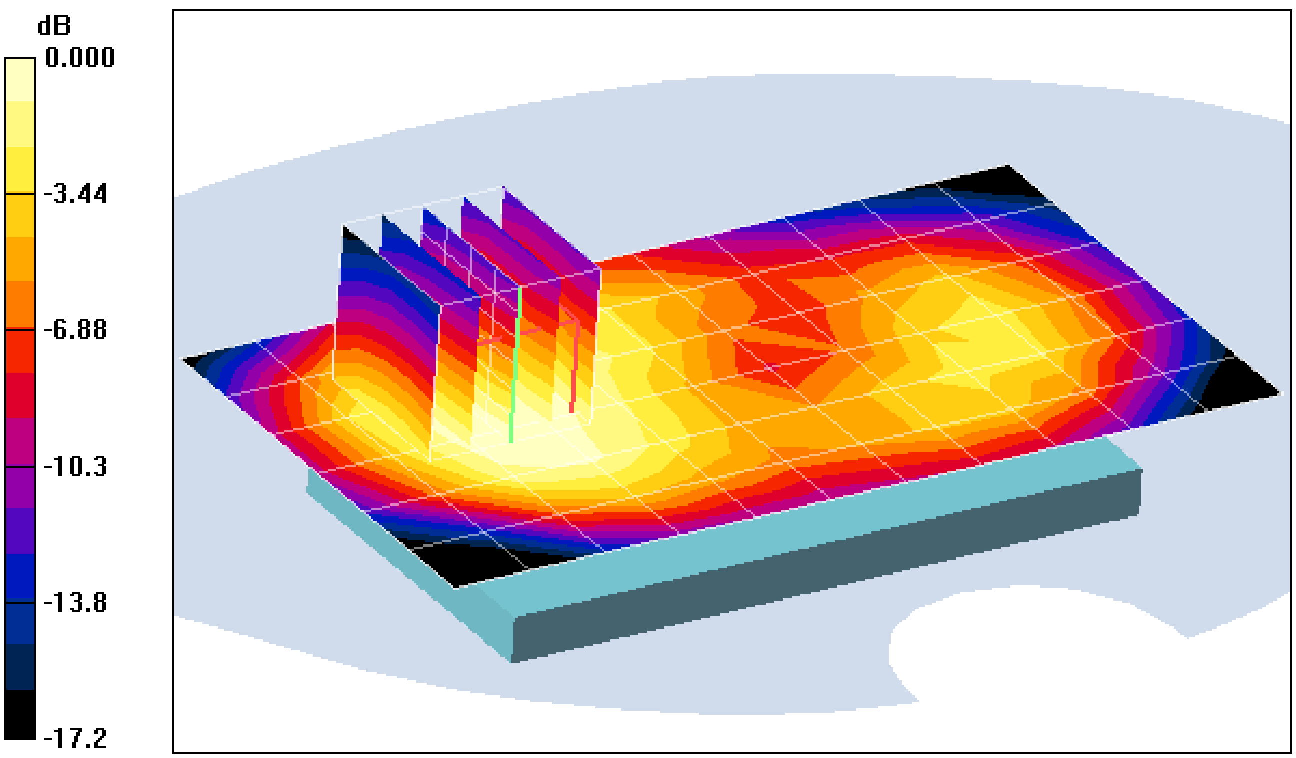
Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.55 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 1900, Body SAR, Front side, Mid.ch

Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.9 V/m; Power Drift = -0.034 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.694 mW/g; SAR(10 g) = 0.442 mW/g



0 dB = 0.763mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

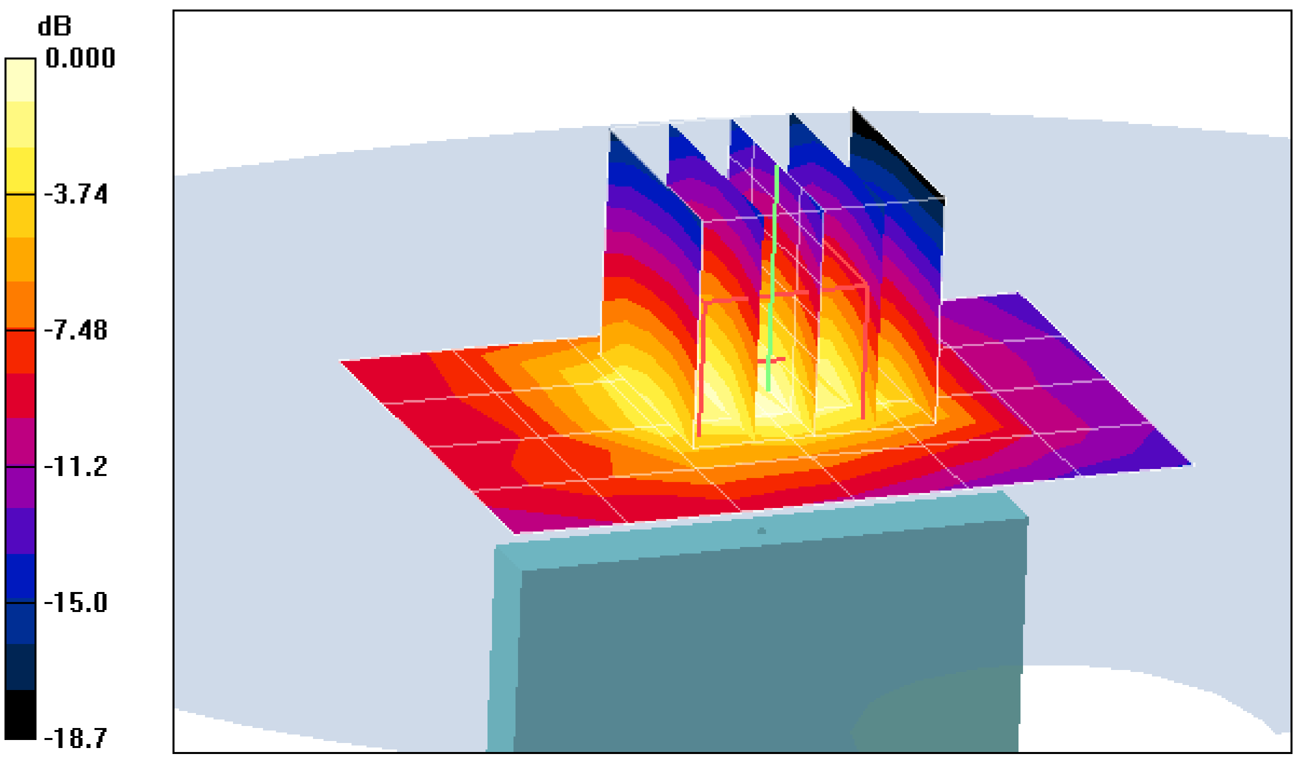
Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.55 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 1900, Body SAR, Bottom Edge, Mid.ch

Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.6 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.764 mW/g; SAR(10 g) = 0.415 mW/g



0 dB = 0.851mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

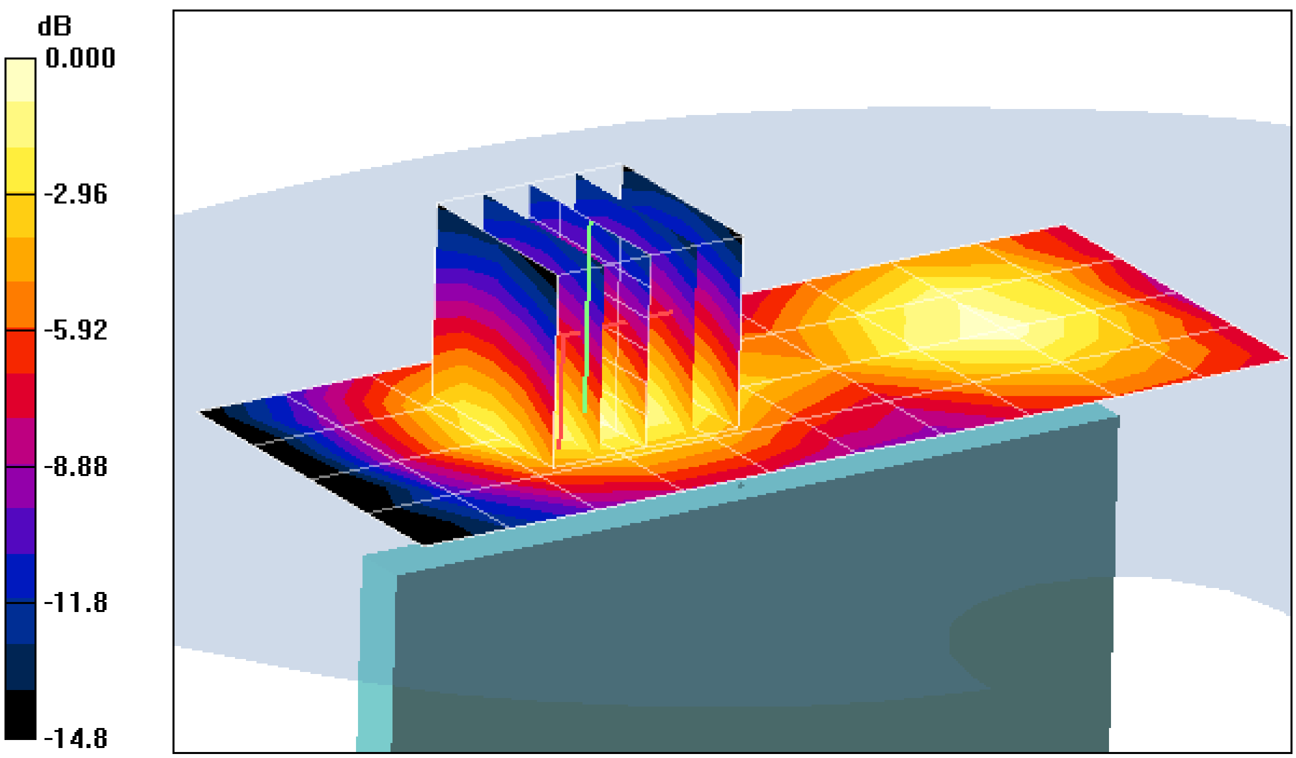
Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
$f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\varepsilon_r = 51.8$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 1900, Body SAR, Right Edge, Mid.ch

Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 0.539 W/kg
SAR(1 g) = 0.343 mW/g; SAR(10 g) = 0.204 mW/g



0 dB = 0.374mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFP705G; Type: Portable Handset; Serial: SAR #1

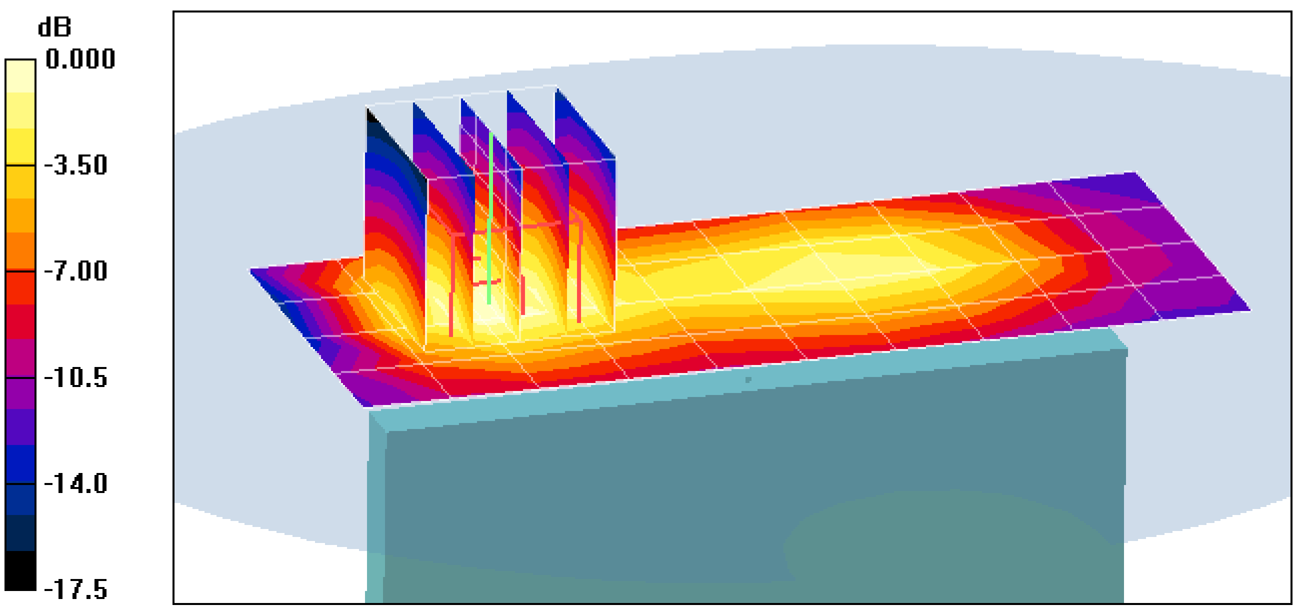
Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.55 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mode: WCDMA 1900, Body SAR, Left Edge, Mid.ch

Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.8 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 0.792 W/kg
SAR(1 g) = 0.483 mW/g; SAR(10 g) = 0.278 mW/g



0 dB = 0.530mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFLGP705G; Type: Portable Handset; Serial: BT/WIFI

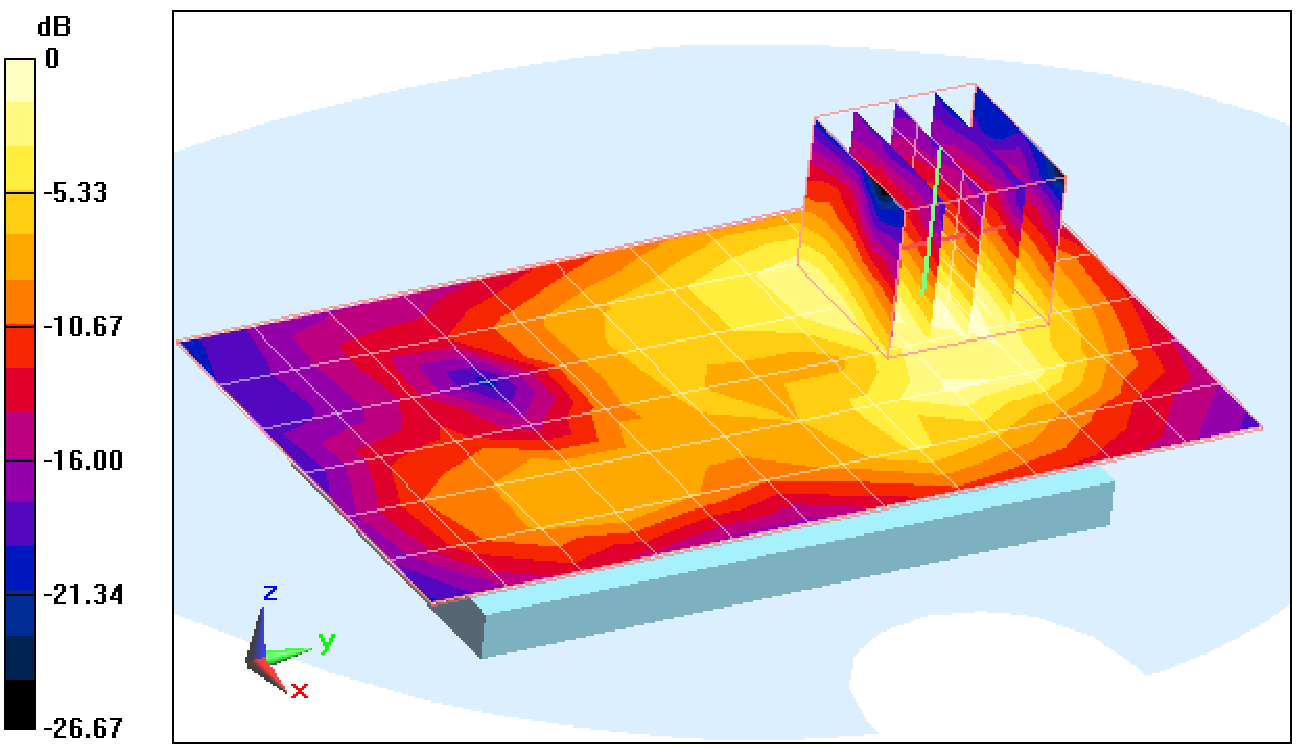
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 2.014 mho/m; ε_r = 50.116; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode: IEEE 802.11b, Body SAR, Ch 11, 1 Mbps, Back Side

Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.753 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.132 W/kg
SAR(1 g) = 0.065 mW/g; SAR(10 g) = 0.034 mW/g



0 dB = 0.080mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFLGP705G; Type: Portable Handset; Serial: BT/WIFI

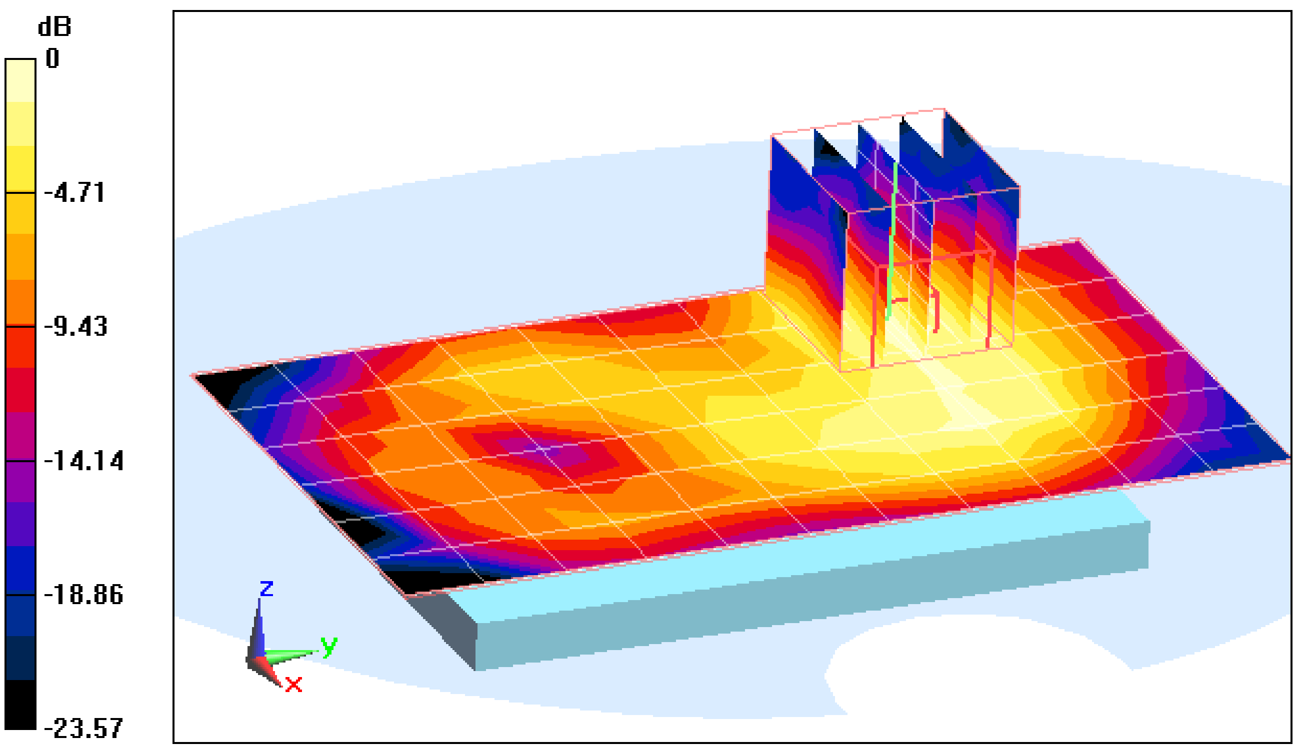
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 2.014 mho/m; ε_r = 50.116; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode: IEEE 802.11b, Body SAR, Ch 11, 1 Mbps, Front Side

Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.396 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.077 W/kg
SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.019 mW/g



0 dB = 0.050mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFLGP705G; Type: Portable Handset; Serial: BT/WIFI

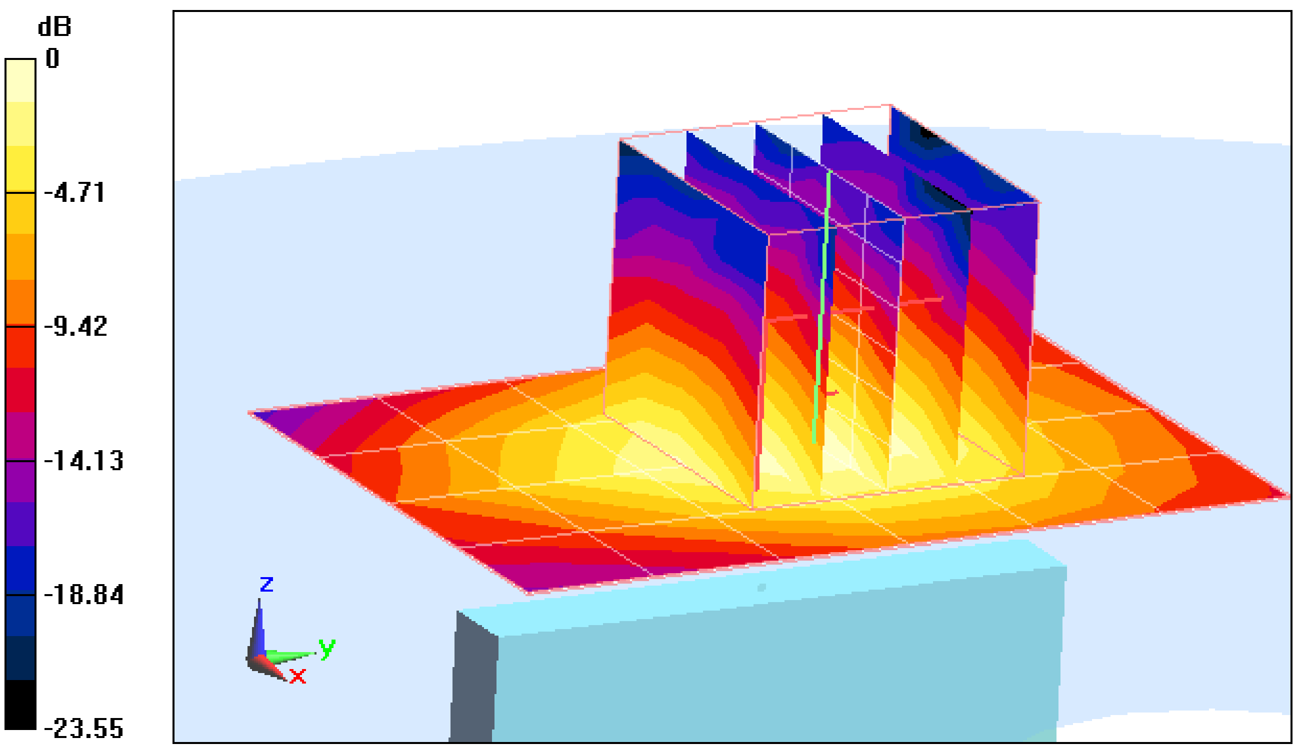
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 2.014 mho/m; ε_r = 50.116; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode: IEEE 802.11b, Body SAR, Ch 11, 1 Mbps, Top Edge

Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.774 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.090 W/kg
SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.022 mW/g



0 dB = 0.050mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFLGP705G; Type: Portable Handset; Serial: BT/WIFI

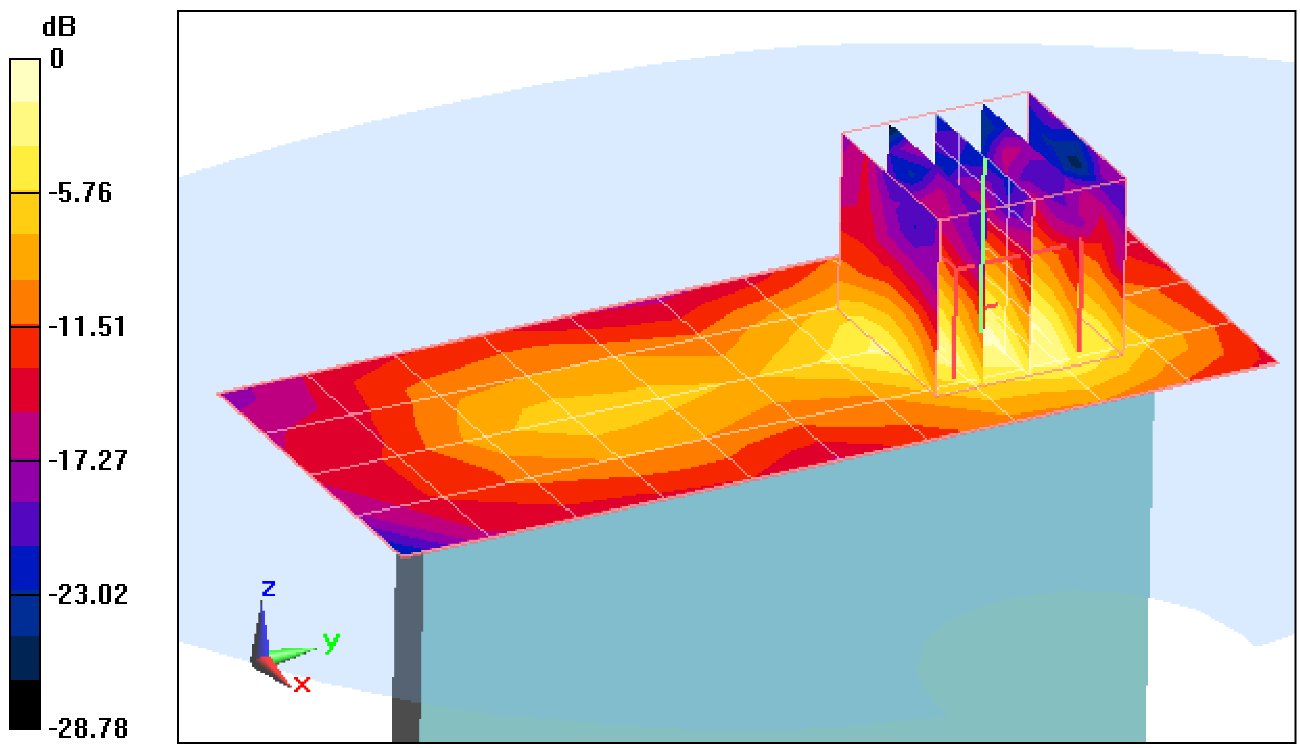
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 2.014 mho/m; ε_r = 50.116; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode: IEEE 802.11b, Body SAR, Ch 11, 1 Mbps, Left Edge

Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.808 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.069 W/kg
SAR(1 g) = 0.030 mW/g; SAR(10 g) = 0.013 mW/g



0 dB = 0.040mW/g

APPENDIX B: SYSTEM VERIFICATION

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d026

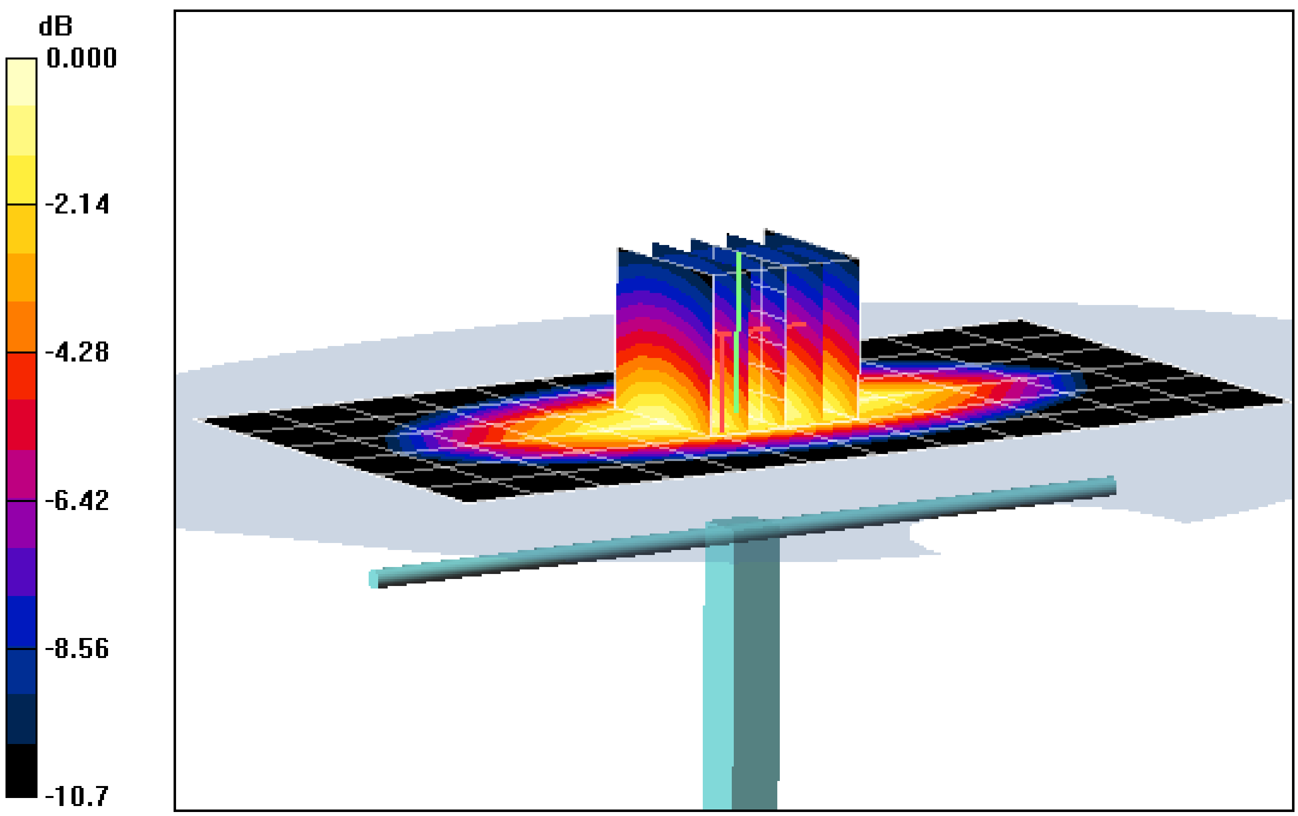
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; $\sigma = 0.916$ mho/m; $\varepsilon_r = 43.3$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

835MHz System Verification

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20.0 dBm (100 mW)
SAR(1 g) = 1 mW/g; SAR(10 g) = 0.650 mW/g
Deviation = 4.60 %



0 dB = 1.07mW/g

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d026

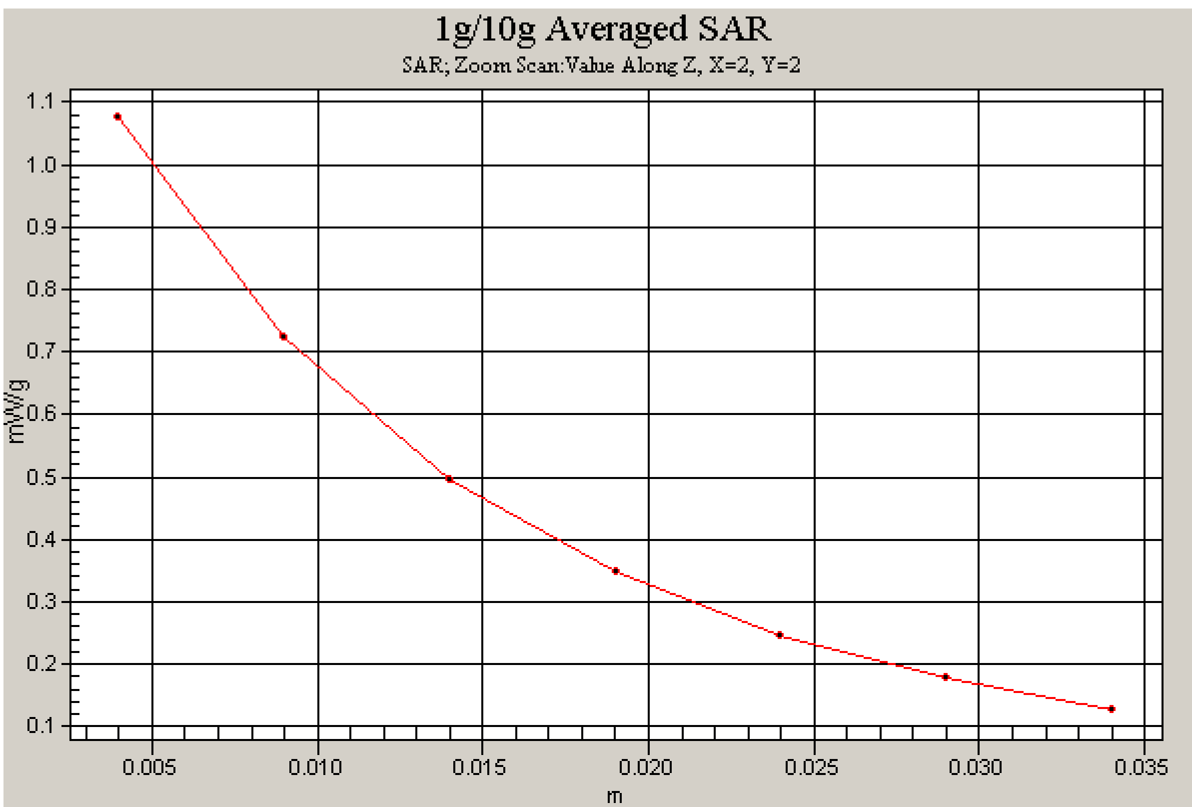
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; $\sigma = 0.916$ mho/m; $\varepsilon_r = 43.3$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 02-16-2012; Ambient Temp: 23.8 °C; Tissue Temp: 22.8 °C

Probe: ES3DV3 - SN3209; ConvF(6.17, 6.17, 6.17); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

835MHz System Verification

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20.0 dBm (100 mW)
SAR(1 g) = 1 mW/g; SAR(10 g) = 0.650 mW/g
Deviation = 4.60 %



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d141

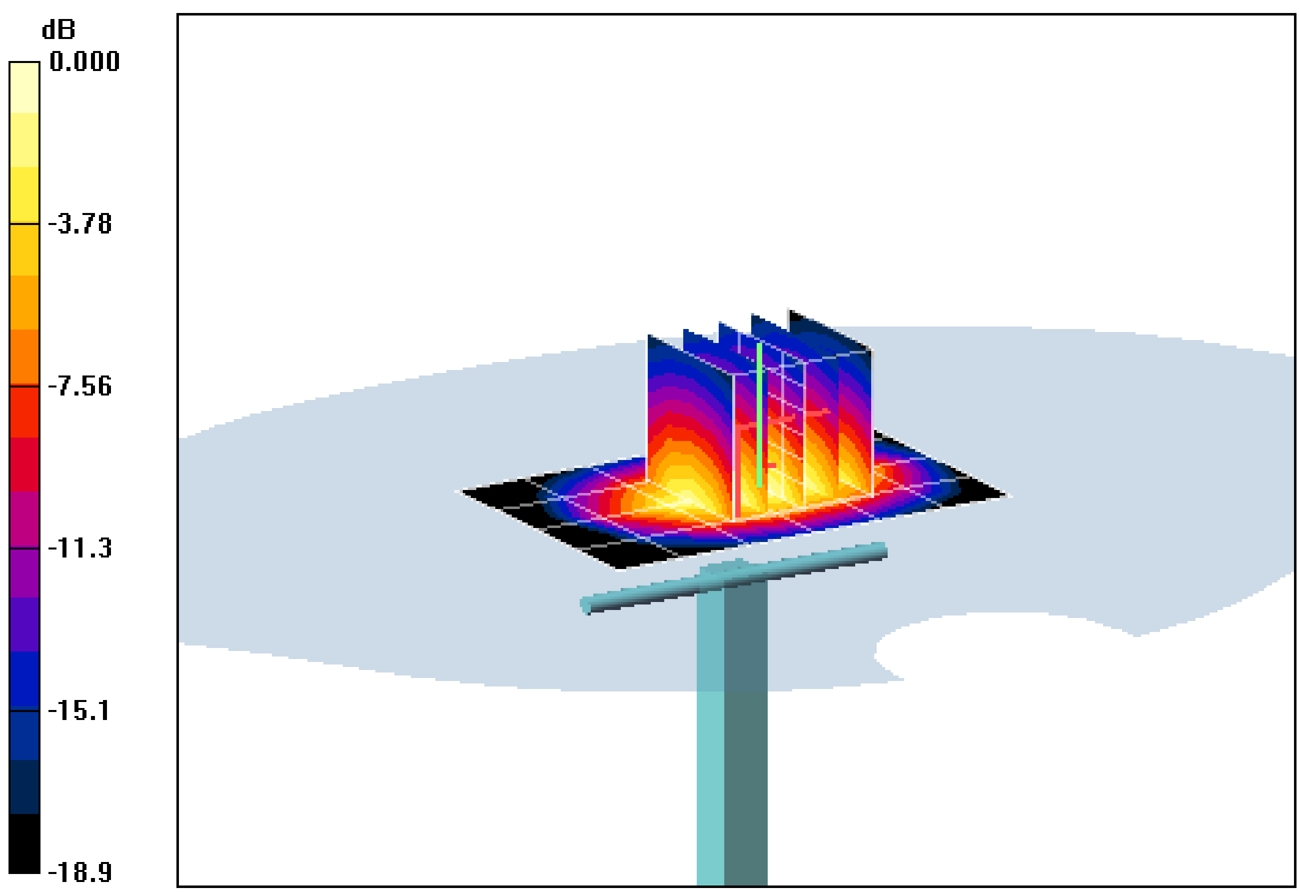
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.45 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-17-2012; Ambient Temp: 21.8 °C; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

1900MHz System Verification

Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 16.0 dBm (40 mW)
SAR(1 g) = 1.62 mW/g; SAR(10 g) = 0.835 mW/g
Deviation = 2.53 %



0 dB = 1.80mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d141

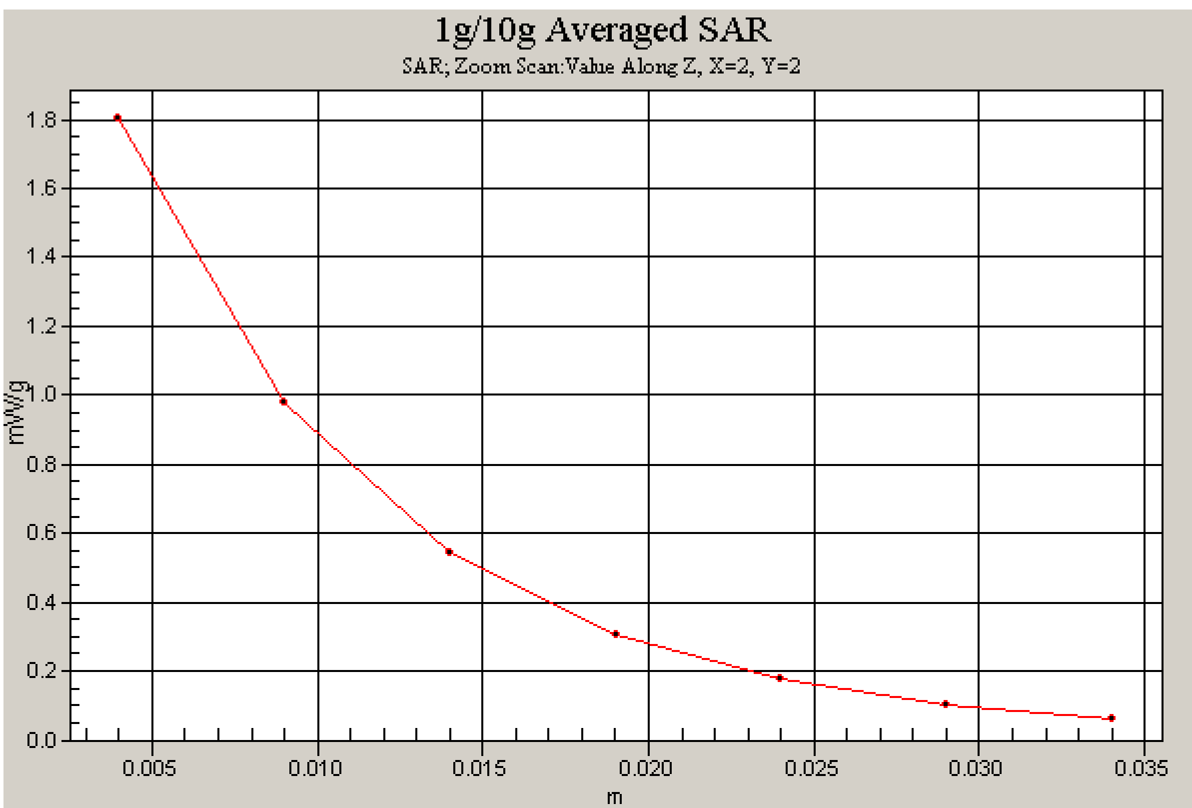
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.45 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-17-2012; Ambient Temp: 21.8 °C; Tissue Temp: 21.0 °C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM with CRP; Type: SAM; Serial: TP1375
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

1900MHz System Verification

Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 16.0 dBm (40 mW)
SAR(1 g) = 1.62 mW/g; SAR(10 g) = 0.835 mW/g
Deviation = 2.53 %



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

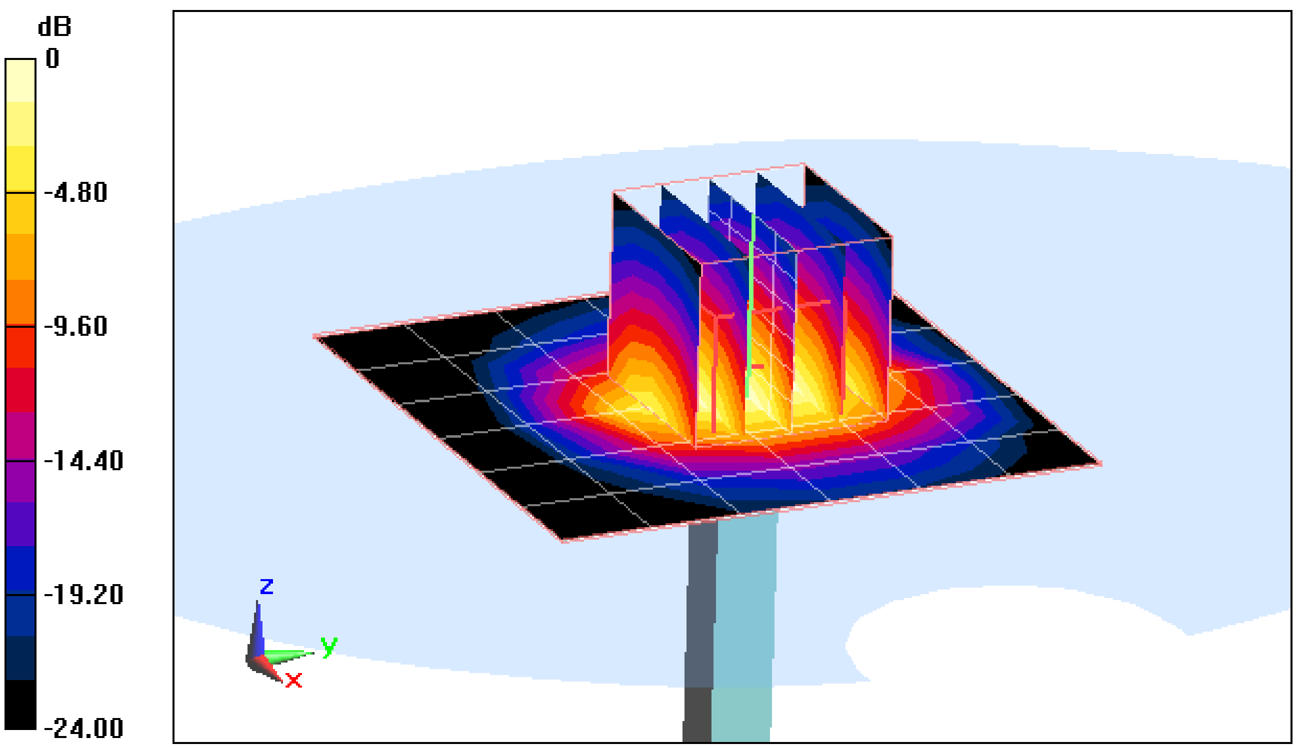
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.883 mho/m; ε_r = 39.33; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 22.1 C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

2450 MHz System Verification

Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 16 dBm (40 mW)
SAR(1 g) = 2.18 mW/g; SAR(10 g) = 0.979 mW/g
Deviation = 7.28%



0 dB = 2.900mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

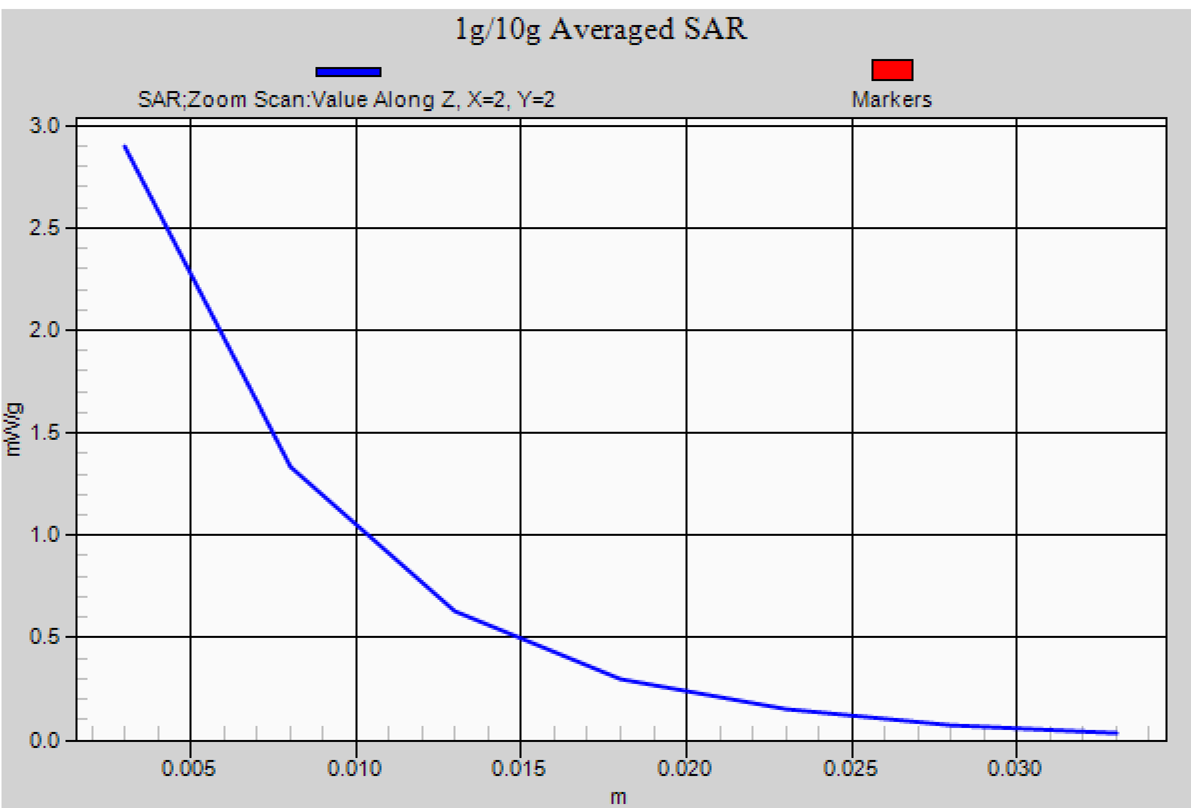
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.883 mho/m; ε_r = 39.33; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 22.1 C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

2450 MHz System Verification

Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 16 dBm (40 mW)
SAR(1 g) = 2.18 mW/g; SAR(10 g) = 0.979 mW/g
Deviation = 7.28%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d026

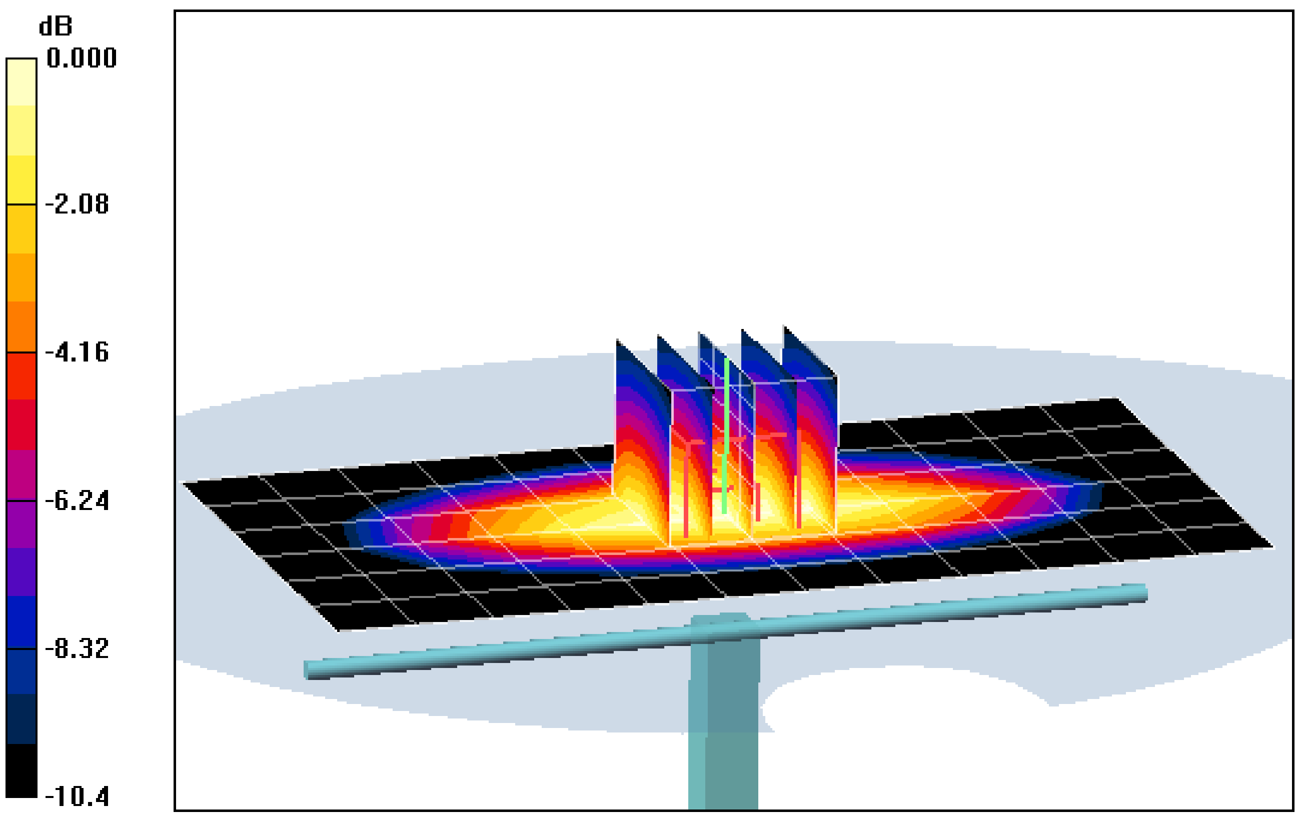
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.972 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space 1.5 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.18, 6.18, 6.18); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

835MHz System Verification

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20.0 dBm (100 mW)
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.670 mW/g
Deviation = 5.59 %



0 dB = 1.10mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d026

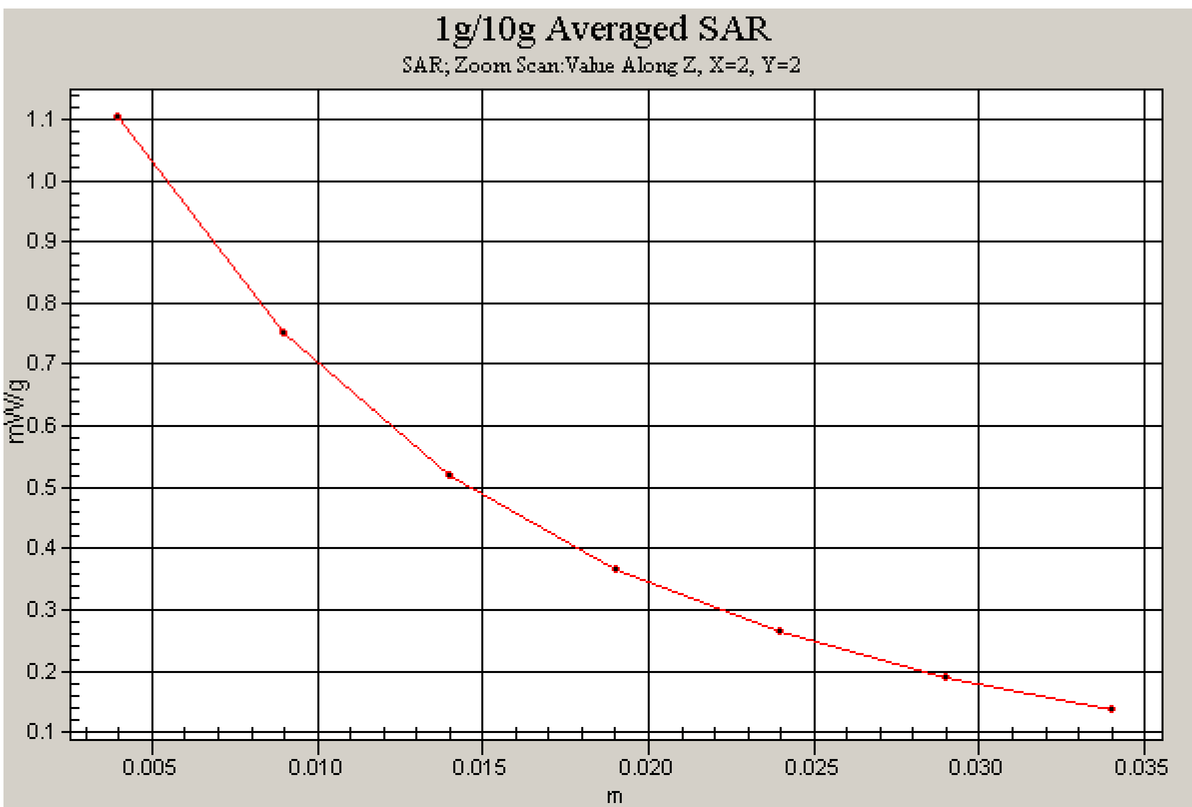
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.972 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space 1.5 cm

Test Date: 02-15-2012; Ambient Temp: 24.9°C; Tissue Temp: 23.7°C

Probe: ES3DV3 - SN3209; ConvF(6.18, 6.18, 6.18); Calibrated: 4/18/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 1/18/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

835MHz System Verification

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20.0 dBm (100 mW)
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.670 mW/g
Deviation = 5.59 %



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d141

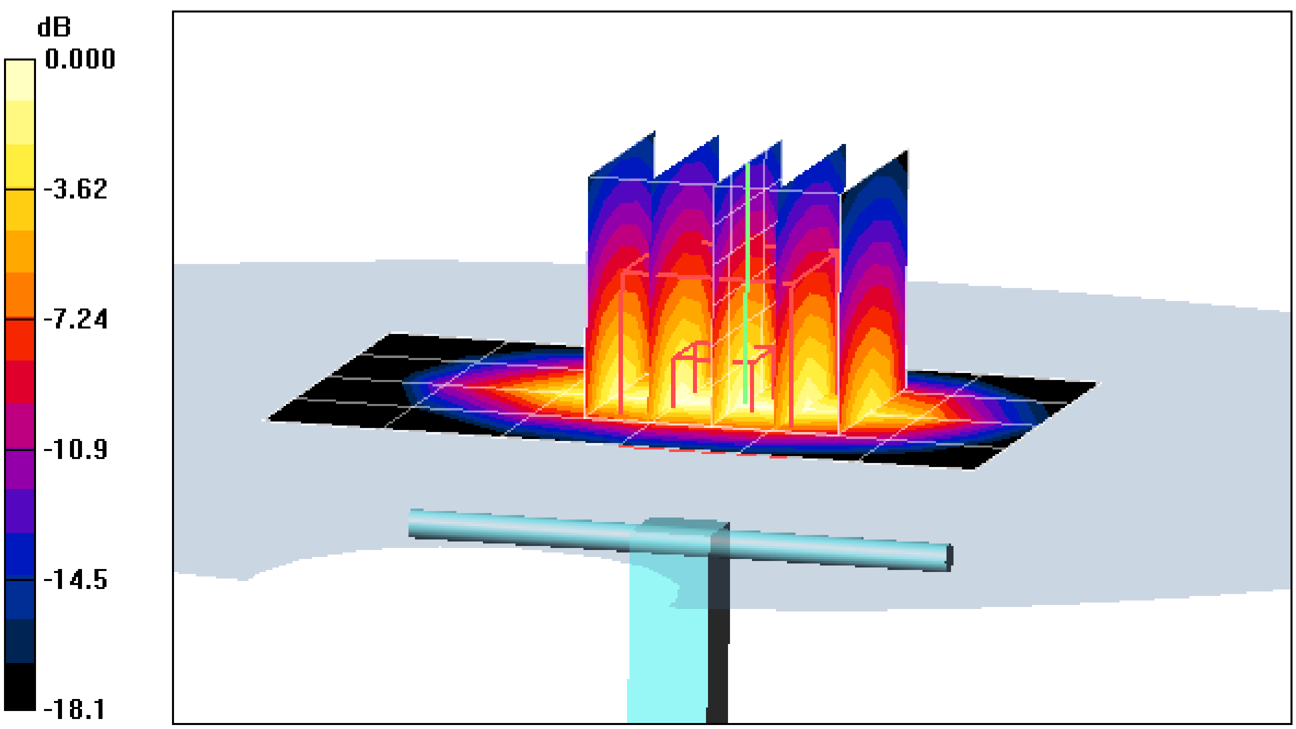
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
$f = 1900$ MHz; $\sigma = 1.57$ mho/m; $\varepsilon_r = 51.7$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

1900MHz System Verification

Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 16 dBm (40 mW)
SAR(1 g) = 1.75 mW/g; SAR(10 g) = 0.922 mW/g
Deviation = 5.68%



0 dB = 1.94mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d141

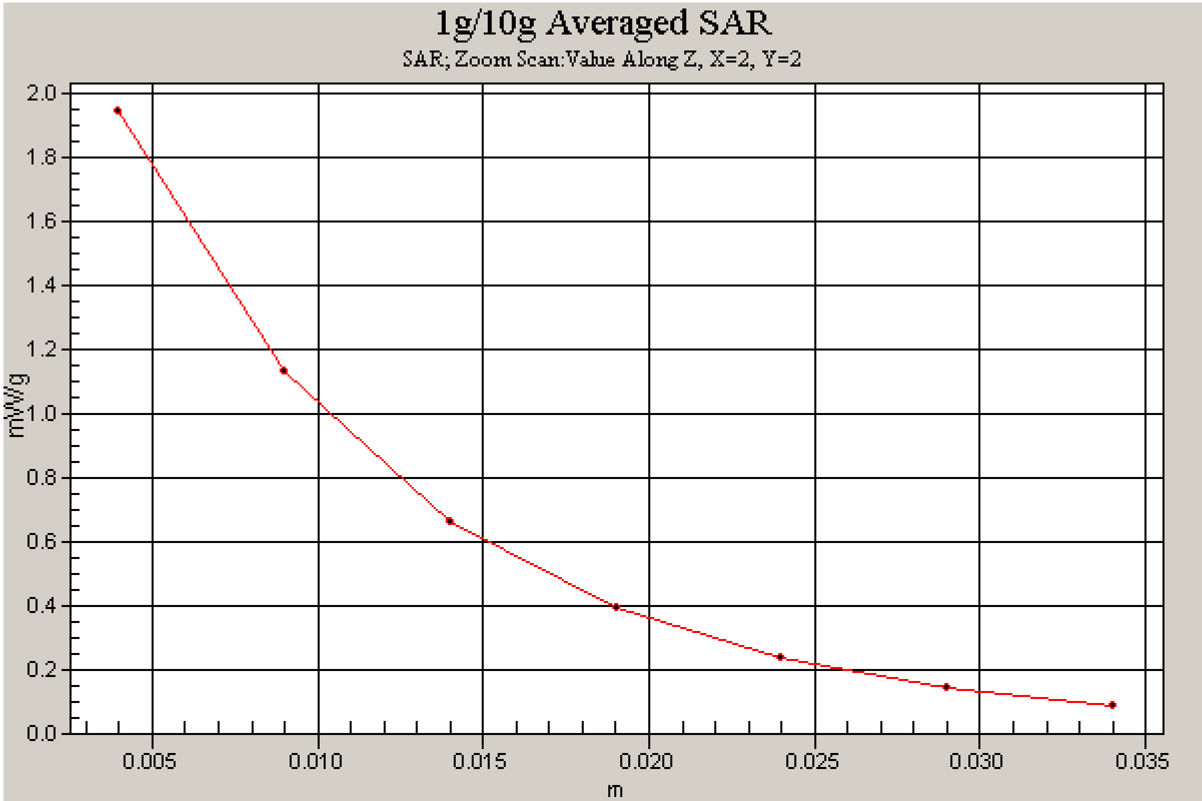
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.57 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-15-2012; Ambient Temp: 23.1°C; Tissue Temp: 21.2°C

Probe: ES3DV2 - SN3022; ConvF(4.41, 4.41, 4.41); Calibrated: 8/25/2011
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/19/2011
Phantom: SAM Sub Dasy B; Type: SAM 4.0; Serial: TP-1626
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

1900MHz System Verification

Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 16 dBm (40 mW)
SAR(1 g) = 1.75 mW/g; SAR(10 g) = 0.922 mW/g
Deviation = 5.68%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

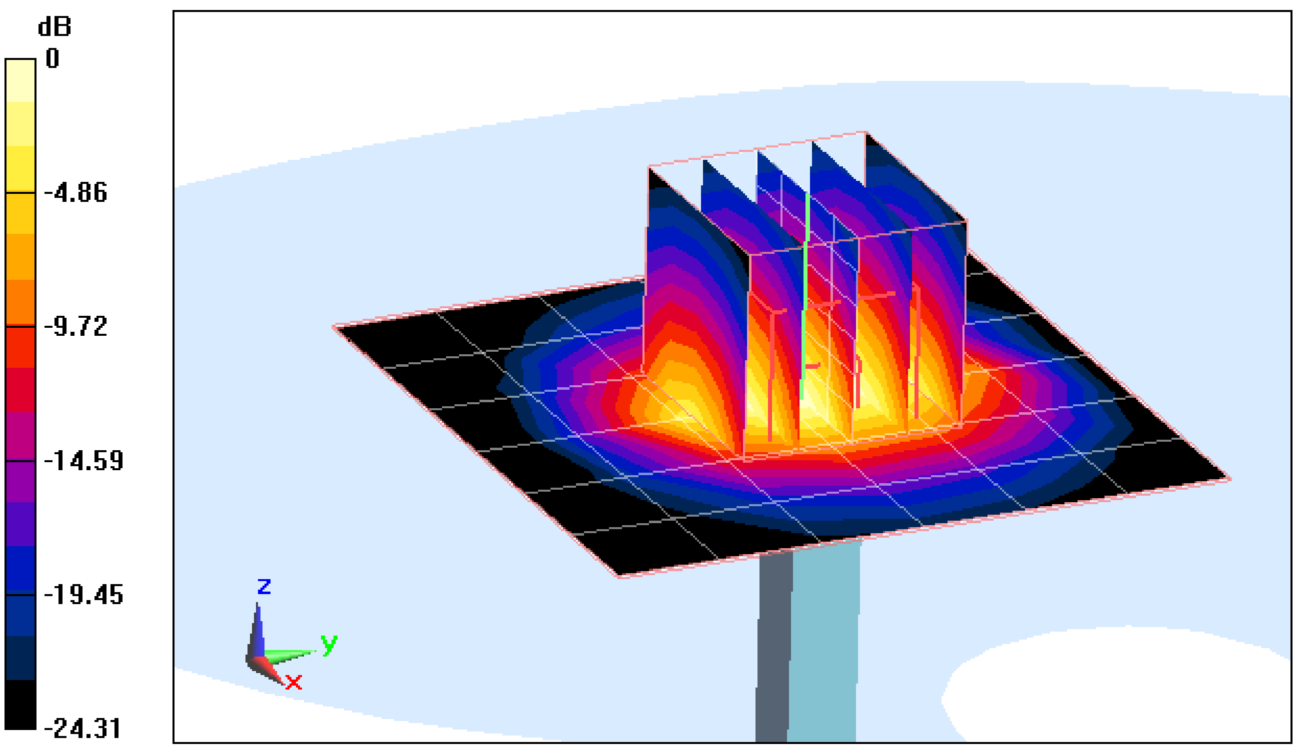
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.999 mho/m; ε_r = 50.14; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode/2450 MHz System Verification

Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 16 dBm (40 mW)
SAR(1 g) = 2.11 mW/g; SAR(10 g) = 0.937 mW/g
Deviation = 3.84%



0 dB = 2.830mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.999 mho/m; ε_r = 50.14; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE3 Sn455; Calibrated: 11/9/2011
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Mode/2450 MHz System Verification

Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 16 dBm (40 mW)
SAR(1 g) = 2.11 mW/g; SAR(10 g) = 0.937 mW/g
Deviation = 3.84%