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SAR EVALUATION REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
416, Maetan 3-dong, Yeongtong-gu, Suwon-si
Gyeonggi-do, 443-742
Republic of Korea

Date of Testing:
07/23/12 - 07/30/12 and 09/04/2012 - 09/05/2012
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
0Y1207230995-R7.A3L

FCC ID: **A3LSCHR530M**

APPLICANT: **SAMSUNG ELECTRONICS CO., LTD.**

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model(s): SCH-R530M

Band & Mode	Tx Frequency	Conducted Power [dBm]	SAR		
			1 gm Head (W/kg)	1 gm Body-Worn (W/kg)	1 gm Hotspot (W/kg)
Cell. CDMA/EVDO	824.70 - 848.31 MHz	24.20	0.19	0.45	0.45
AWS CDMA/EVDO	1711.25 - 1753.75 MHz	24.64	0.22	0.71	0.81
PCS CDMA/EVDO	1851.25 - 1908.75 MHz	24.98	0.18	0.70	0.72
LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	22.93	0.42	0.62	0.62
LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	23.45	0.44	0.50	0.50
2.4 GHz WLAN	2412 - 2462 MHz	15.43	0.07	0.20	0.20
5.8 GHz WLAN	5745 - 5825 MHz	12.01	0.00	0.11	
5.2 GHz WLAN	5180 - 5240 MHz	12.01	0.02	0.10	
5.3 GHz WLAN	5260 - 5320 MHz	11.80	0.04	0.12	
5.5 GHz WLAN	5500 - 5700 MHz	11.78	0.00	0.07	
Bluetooth	2402 - 2480 MHz	9.53	N/A		
Simultaneous SAR per KDB 690783 D01:			0.67	1.53	1.53

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.

Note: This revised Test Report (S/N: 0Y1207230995-R7.A3L) supersedes and replaces the previously issued test report on the same subject EUT for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

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.

PCTEST certifies that no party to this application has been subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.

Randy Ortanez
President

ACCREDITED
TESTING LABORATORY
CERTIFICATE #2041.01

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Tx Frequency
Cell. CDMA/EVDO	824.70 - 848.31 MHz
AWS CDMA/EVDO	1711.25 - 1753.75 MHz
PCS CDMA/EVDO	1851.25 - 1908.75 MHz
LTE Band 4 (AWS)	1710.7 - 1754.3 MHz
LTE Band 2 (PCS)	1850.7 - 1909.3 MHz
2.4 GHz WLAN	2412 - 2462 MHz
5.8 GHz WLAN	5745 - 5825 MHz
5.2 GHz WLAN	5180 - 5240 MHz
5.3 GHz WLAN	5260 - 5320 MHz
5.5 GHz WLAN	5500 - 5700 MHz
Bluetooth	2402 - 2480 MHz
NFC	13.56 MHz

1.2 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the standard battery and will be the only battery available from the manufacturer for this model. Therefore all SAR tests were performed with the standard battery which already integrates the NFC antenna. The device restricts the battery used to battery model: EB-L1G6LLZ.

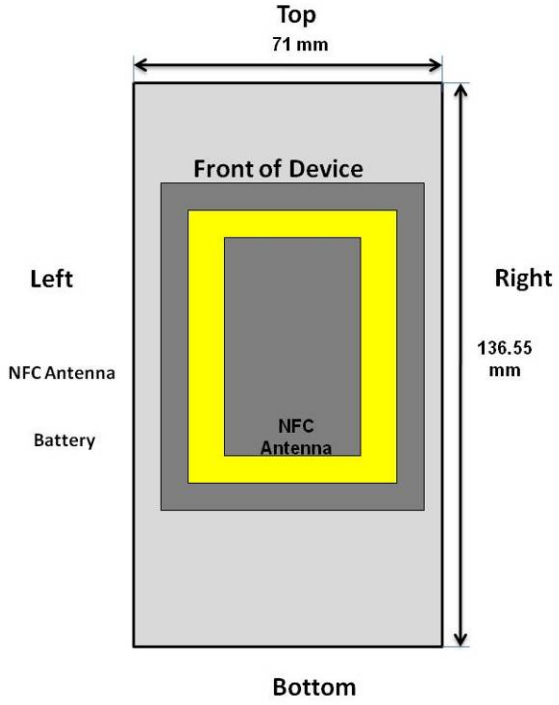

Figure 1-1
NFC Antenna Locations

1.3 DUT Antenna Locations

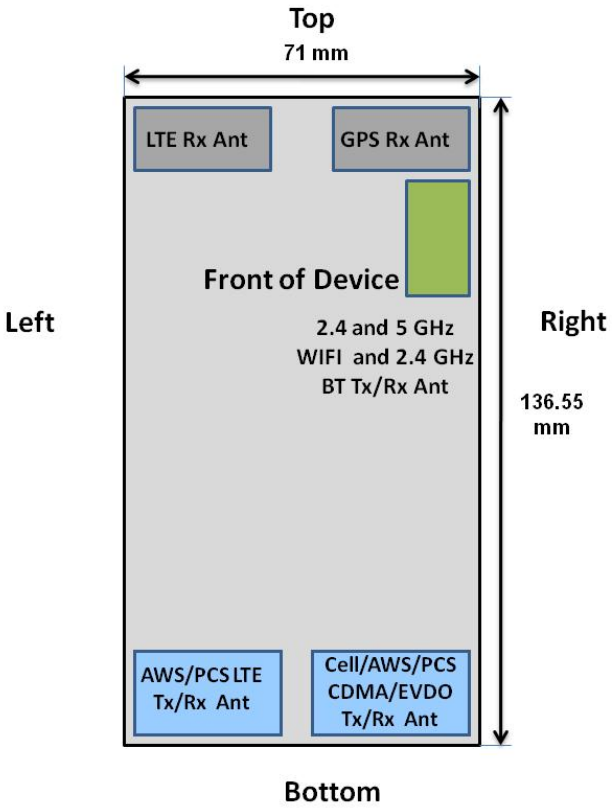

Figure 1-2
DUT Antenna Locations

Table 1-1
Mobile Hotspot Sides for SAR Testing

Mobile Hotspot Sides for SAR Testing						
Mode	Back	Front	Top	Bottom	Right	Left
Cell EVDO	Yes	Yes	No	Yes	Yes	No
AWS EVDO	Yes	Yes	No	Yes	Yes	No
PCS EVDO	Yes	Yes	No	Yes	Yes	No
LTE Band 4 (AWS)	Yes	Yes	No	Yes	No	Yes
LTE Band 2 (PCS)	Yes	Yes	No	Yes	No	Yes
2.4 GHz WLAN	Yes	Yes	Yes	No	Yes	No

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. When the wireless router mode is enabled, all 5 GHz bands are disabled. Therefore 5 GHz WIFI is not considered in this section.

1.4 Simultaneous Transmission Capabilities

According to KDB 648474, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds. Possible transmission paths for the DUT are shown in Figure 1-3 and are color-coded to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

Figure 1-3
Simultaneous Transmission Paths

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to KDB 447498 3) procedures.

Table 1-2
Simultaneous Transmission Scenarios Supported by DUT

No.	Capable Transmit Configurations	Head	Body-Worn Accessory	Hot Spot	Note
		IEEE 1528, Supp C	Supplement C	FCC KDB 941225 D06	
1	1X CDMA 850 Voice + LTE 1700 MHz Data	√	√	N/A	SVLTE
2	1X CDMA 1700 Voice + LTE 1700 MHz Data	√	√	N/A	SVLTE
3	1X CDMA 1900 Voice + LTE 1700 MHz Data	√	√	N/A	SVLTE
4	1X CDMA 850 Voice + LTE 1900 MHz Data	√	√	N/A	SVLTE
5	1X CDMA 1700 Voice + LTE 1900 MHz Data	√	√	N/A	SVLTE
6	1X CDMA 1900 Voice + LTE 1900 MHz Data	√	√	N/A	SVLTE
7	1X CDMA 850 Voice + LTE 1700 MHz Data + 2.4 GHz WIFI	√	√	√	Voice and LTE+WIFI Hotspot
8	1X CDMA 1700 Voice + LTE 1700 MHz Data + 2.4 GHz WIFI	√	√	√	Voice and LTE+WIFI Hotspot
9	1X CDMA 1900 Voice + LTE 1700 MHz Data + 2.4 GHz WIFI	√	√	√	Voice and LTE+WIFI Hotspot
10	1X CDMA 850 Voice + LTE 1900 MHz Data + 2.4 GHz WIFI	√	√	√	Voice and LTE+WIFI Hotspot
11	1X CDMA 1700 Voice + LTE 1900 MHz Data + 2.4 GHz WIFI	√	√	√	Voice and LTE+WIFI Hotspot
12	1X CDMA 1900 Voice + LTE 1900 MHz Data + 2.4 GHz WIFI	√	√	√	Voice and LTE+WIFI Hotspot
13	1X CDMA 850 Voice + 2.4 GHz WIFI	√	√	N/A	1X voice and WiFi Data
14	1X CDMA 1700 Voice + 2.4 GHz WIFI	√	√	N/A	1X voice and WiFi Data
15	1X CDMA 1900 Voice + 2.4 GHz WIFI	√	√	N/A	1X voice and WiFi Data
16	1X CDMA 850 Voice + 5 GHz WIFI	√	√	N/A	1X voice and WiFi Data
17	1X CDMA 1700 Voice + 5 GHz WIFI	√	√	N/A	1X voice and WiFi Data
18	1X CDMA 1900 Voice + 5 GHz WIFI	√	√	N/A	1X voice and WiFi Data
19	1X/EVDO 850 Data + 2.4 GHz WIFI	√	√	√	EVDO+WIFI Hotspot
20	1X/EVDO 1700 Data + 2.4 GHz WIFI	√	√	√	EVDO+WIFI Hotspot
21	1X/EVDO 1900 Data + 2.4 GHz WIFI	√	√	√	EVDO+WIFI Hotspot
22	LTE 1700 MHz Data + 2.4 GHz WIFI	√	√	√	LTE+WIFI Hotspot
23	LTE 1900 MHz Data + 2.4 GHz WIFI	√	√	√	LTE+WIFI Hotspot
24	LTE 1700MHz Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
25	LTE 1800MHz Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
26	1X/EVDO 850 Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
27	1X/EVDO 1900 Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
28	1X/EVDO 1900 Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
29	1X CDMA 850 Voice + LTE 1700 MHz Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
30	1X CDMA 1900 Voice + LTE 1700 MHz Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
31	1X CDMA 1900 Voice + LTE 1700 MHz Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
32	1X CDMA 850 Voice + LTE 1900 MHz Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
33	1X CDMA 1900 Voice + LTE 1900 MHz Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
34	1X CDMA 1900 Voice + LTE 1900 MHz Data + 5 GHz WIFI	N/A	N/A	N/A	5GHz WiFi Hotspot Not available by SW
35	1X CDMA 850 Voice + EVDO	N/A	N/A	N/A	Not available by HW
36	1X CDMA 1900 Voice + EVDO	N/A	N/A	N/A	Not available by HW
37	1X CDMA 1900 Voice + EVDO	N/A	N/A	N/A	Not available by HW
38	850/1900 EVDO data + LTE 700/800/1700/1900 MHz Data	N/A	N/A	N/A	Not available by SW

Notes:
1. CDMA and EVDO share the same antenna path and cannot transmit simultaneously. (Non SVDO)
2. Bluetooth and 2.4 GHz WLAN share the same antenna path and cannot transmit simultaneously.
3. NFC can transmit simultaneously with all transmitter.

1.5 SAR Test Exclusions Applied

(A) WIFI/BT

Since Wireless Router operations are not allowed by the chipset firmware using 5 GHz WIFI, only 2.4 GHz WIFI Hotspot SAR tests and combinations are considered for SAR with respect to Wireless Router configurations in KDB 941225 D06.

The separation between the CDMA/EVDO antenna and the Bluetooth and WLAN antenna is 86.3 mm. The separation between the LTE antenna and the Bluetooth and WLAN antenna is 92.1 mm.

RF Conducted Power of Bluetooth Tx is 8.974 mW (Please refer to the EMC DSS Report for a full set of Bluetooth conducted powers).

2.4 GHz and 5 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.

Per FCC Guidance, additional NFC SAR tests were not required due to the low output power of the transmitter.

(B) Licensed Transmitter(s)

LTE SAR for the lower BWs was not tested since the maximum average output power of all channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and LTE SAR for the highest BW was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05.

1.6 Power Reduction for SAR

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

1.7 Guidance Applied

- FCC OET Bulletin 65 Supplement C [June 2001]
- IEEE 1528-2003
- FCC KDB 941225 (2G/3G/4G and Hotspot)
- FCC KDB 248227 (802.11)
- FCC KDB 648474 (Simultaneous)
- FCC KDB 865664 (5 GHz)

1.8 Serial Numbers for SAR Testing

Band/Mode	Device SN used for Testing
Cell. CDMA/EVDO	FCC #4, FCC #1
AWS CDMA/EVDO	FCC #1
PCS CDMA/EVDO	FCC #3
LTE Band 4	FCC #5
LTE Band 2	FCC #4
2.4 GHz WLAN	FCC #3
5 GHz WLAN	FCC #1

The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units

2 LTE CHECKLIST PER KDB 941225 D05

KDB 941225 Pub LTE Information				
KDB 941225 Section	FCC ID	A3LSCHR530M		
	Form Factor	Portable Handset		
1)	Frequency Range of each LTE transmission band	BAND2 : Tx (1850.7 to 1909.3 MHz) BAND4 : Tx (1710.7 to 1754.3MHz)		
2)	Channel Bandwidths	BAND2 : 1.4MHz, 3MHz, 5.0MHz, 10MHz BAND4 : 1.4MHz, 3MHz, 5.0MHz, 10MHz		
3)	Channel Numbers and Frequencies (MHz)	Low	Mid	High
	LTE Band 2 and BW 1.4MHz	1850.7MHz(18607)	1880MHz(18900)	1909.3MHz(19193)
	LTE Band 2 and BW 3MHz	1851.5MHz(18615)	1880MHz(18900)	1908.5MHz(19185)
	LTE Band 2 and BW 5MHz	1852.5MHz(18625)	1880MHz(18900)	1907.5MHz(19175)
	LTE Band 2 and BW 10MHz	1855MHz(18650)	1880MHz(18900)	1905MHz(19150)
	LTE Band 4 and BW 1.4MHz	1710.7MHz (19957)	1732.5MHz(20175)	1754.3MHz(20393)
	LTE Band 4 and BW 3MHz	1711.5MHz(19965)	1732.5MHz(20175)	1753.5MHz(20385)
	LTE Band 4 and BW 5MHz	1712.5MHz(19975)	1732.5MHz(20175)	1752.5MHz(20375)
	LTE Band 4 and BW 10MHz	1715MHz(20000)	1732.5MHz(20175)	1750MHz(20350)
4)(a)	UE Category	3		
(b)	Modulations Supported in UL	QPSK, 16QAM		
	LTE Transmitter and Antenna Implementation	LTE and CDMA/EVDO share different transmission paths.		
5)	Description of LTE Tx and Ant. Implementation	1 Main TX/RX Ant and 1 Diversity RX Ant		
6)	LTE Voice available?	No		
	Hotspot with LTE+WIFI	Yes		
	Hotspot with LTE+WIFI active with 1XVoice sessions?	Yes		
7)	LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	Yes		
	A-MPR (Additional MPR) disabled for SAR Testing?	Yes		
8)	Conducted power Table provided for 1RB (low and high offset), 50% RB (centered), 100% RB	Yes		
9-10)	Non-LTE US Wireless Operating Modes/Band	RF Output Power	RF Exposure Configurations	
	800MHz CDMA	See Page 1		
	1700MHz CDMA	See Page 1		
	1800MHz CDMA	See Page 1		
	2.4GHz Bluetooth	See Page 1		
	2.4GHz WI-FI	See Page 1		
	5GHz WI-FI	See Page 1		
11)	Simultaneous Tx Conditions (Voice and Data Configurations)	See Section 1.4		
12)	Power Reduction used for SAR Compliance?	No		
13)	Describe Power Reduction (LTE Modes)	N/A		
14)	SAR Test Plan	N/A		
15)	SAR test data, preliminary	N/A		

3 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.

3.1 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 3-1).

Equation 3-1
SAR Mathematical Equation

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

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]

4 SAR MEASUREMENT SETUP

4.1 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 4-1
SAR Measurement System

Figure 4-2
Near-Field Probe

Table 4-1
Composition of the Tissue Equivalent Matter

Frequency (MHz)	835	835	1750	1750	1900	1900	2450	2450	5200-5800	5200-5800
Tissue	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Ingredients (% by weight)										
Bactericide	0.1	0.1								
DGBE			47	31	44.92	29.44	7.99	26.7		
HEC	1	1								
NaCl	1.45	0.94	0.4	0.2	0.18	0.39	0.16	0.1		
Sucrose	57	44.9								
Triton X-100							19.97		17.24	
Diethylenglycol monohexylether									17.24	
Polysorbate (Tween) 80										20
Water	40.45	53.06	52.6	68.8	54.9	70.17	71.88	73.2	65.52	80

5 DOSIMETRIC ASSESSMENT

5.1 Measurement Procedure

The evaluation was performed using the following procedure:

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.

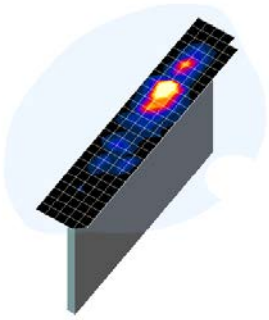

Figure 5-1
Sample SAR Area Scan

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. For testing 5 GHz devices, finer resolution zoom scans were performed as specified by FCC SAR Measurement Requirements for 3 – 6 GHz, KDB 865664 publication. The 5 GHz zoom scan requires a minimum volume of 24mm x 24mm x 20mm and 7 x 7 x 11 points.

6 DEFINITION OF REFERENCE POINTS

6.1 EAR REFERENCE POINT

Figure 6-2 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 6-1. 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 6-2). 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].

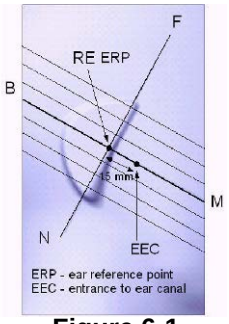

Figure 6-1
Close-Up Side view of ERP

6.2 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 6-3). 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.

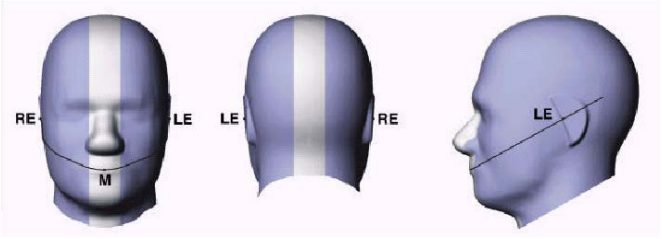

Figure 6-2
Front, back and side view of SAM Twin Phantom

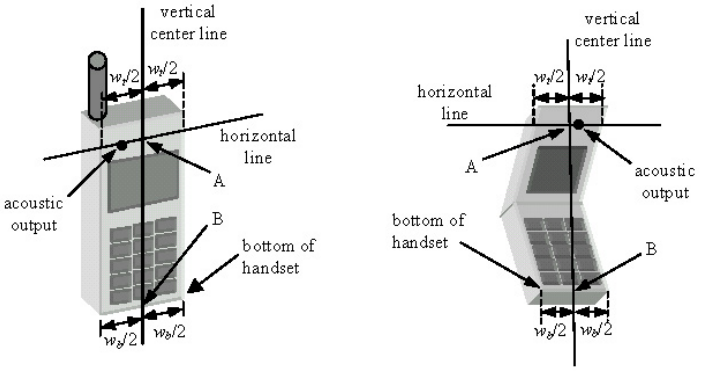

Figure 6-3
Handset Vertical Center & Horizontal Line Reference Points

7 TEST CONFIGURATION POSITIONS FOR HANDSETS

7.1 Device Holder

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

7.2 Positioning for Cheek

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 7-1), 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 7-1 Front, Side and Top View of Cheek 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 7-2).

7.3 Positioning for Ear / 15º Tilt

With the test device aligned in the “Cheek 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 7-2).

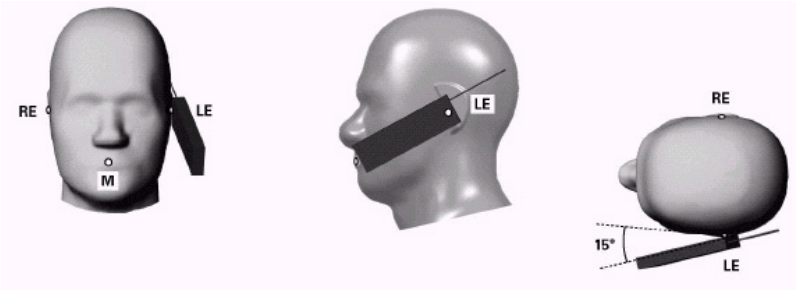

Figure 7-2 Front, Side and Top View of Ear/15º Tilt Position

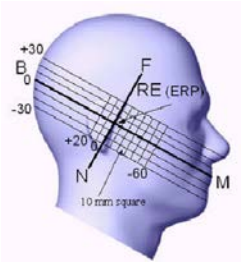

Figure 7-3
Side view w/ relevant markings

Figure 7-4 Body SAR Sample Photo
(Not Actual EUT)

7.4 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.

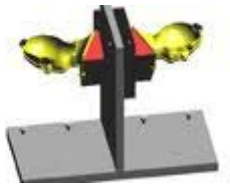

Figure 7-5 Twin SAM Chin20

7.5 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 7-4). 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.

7.6 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.

8 FCC RF EXPOSURE LIMITS

8.1 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.

8.2 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 8-1
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.

9 FCC MEASUREMENT PROCEDURES

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

9.1 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.

9.2 SAR Measurement Conditions for CDMA2000

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

9.2.1 Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by "SAR Measurement Procedures for 3G Devices" v02, October 2007. Maximum output power is verified on the High, Middle and Low channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. SO55 tests were measured with power control bits in the "All Up" condition.

1. If the mobile station (MS) supports Reverse TCH RC 1 and Forward TCH RC 1, set up a call using Fundamental Channel Test Mode 1 (RC=1/1) with 9600 bps data rate only.
2. Under RC1, C.S0011 Table 4.4.5.2-1, Table 9-1 parameters were applied.
3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH_0 and demodulation of RC 3,4, or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9600 bps Fundamental Channel and 9600 bps SCH0 data rate.
4. Under RC3, C.S0011 Table 4.4.5.2-2, Table 9-2 was applied.
5. FCHs were configured at full rate for maximum SAR with "All Up" power control bits.

Table 9-1
Parameters for Max. Power for RC1

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1.23 MHz	-104
$\frac{\text{Pilot } E_c}{\hat{I}_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{\hat{I}_{or}}$	dB	-7.4

Table 9-2
Parameters for Max. Power for RC3

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1.23 MHz	-86
$\frac{\text{Pilot } E_c}{\hat{I}_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{\hat{I}_{or}}$	dB	-7.4

9.2.2 Head SAR Measurements

SAR for head exposure configurations is measured in RC3 with the DUT configured to transmit at full rate using Loopback Service Option SO55. SAR for RC1 is not required when the maximum average output of each channel is less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC1 using the exposure configuration that results in the highest SAR for that channel in RC3. Head SAR was additionally evaluated for

EVDO Rev A to determine VoIP compliance. See Section 9.2.5 for EVDO Rev A configuration parameters.

9.2.3 Body SAR Measurements

SAR for body exposure configurations is measured in RC3 with the DUT configured to transmit at full rate on FCH with all other code channels disabled using TDSO / SO32. SAR for multiple code channels (FCH + SCH_n) is not required when the maximum average output of each RF channel is less than ¼ dB higher than that measured with FCH only. Otherwise, SAR is measured on the maximum output channel (FCH + SCH_n) with FCH at full rate and SCH_0 enabled at 9600 bps using the exposure configuration that results in the highest SAR for that channel with FCH only. When multiple code channels are enabled, the DUT output may shift by more than 0.5 dB and lead to higher SAR drifts and SCH dropouts. Body SAR was measured using TDSO / SO32 with power control bits in the "All Up"

Body SAR in RC1 is not required when the maximum average output of each channel is less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC1; with Loopback Service Option SO55, at full rate, using the body exposure configuration that results in the highest SAR for that channel in RC3.

9.2.4 Handsets with EVDO

For handsets with Ev-Do capabilities, when the maximum average output of each channel in Rev. 0 is less than ¼ dB higher than that measured in RC3 (1x RTT), body SAR for EV-DO is not required. Otherwise, SAR for Rev. 0 is measured on the maximum output channel at 153.6 kbps using the body exposure configuration that results in the highest SAR for that channel in RC3. SAR for Rev. A is not required when the maximum average output of each channel is less than that measured in Rev. 0 or less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel for Rev. A using a Reverse Data Channel payload size of 4096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations. A Forward Traffic Channel data rate corresponding to the 2-slot version of 307.2 kbps with the ACK Channel transmitting in all slots would be configured in the downlink for both Rev. 0 and Rev. A.

9.2.5 Body SAR Measurements for EVDO Hotspot

Hotspot Body SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 per KDB Publication 941225 D01 procedures for "1x Ev-Do data Devices". SAR for Subtype 2 Physical layer configurations is not required for Rev. A when the maximum average output of each RF channels is less than that measured in Subtype 0/1 Physical layer configurations. Otherwise, SAR is measured on the maximum output channel for Rev. A using the exposure configuration that results in the highest SAR for the RF channels in Rev. 0. The AT is tested with a Reverse Data Channel rate of 153.6 kbps in Subtype 0/1 Physical Layer configurations; and a Reverse Data Channel payload size of 4096 bits and Termination Target of 16 slots in Subtype 2 Physical Layer configurations. Both FTAP and FETAP are configured with a Forward Traffic Channel data rate corresponding to the 2-slot version of 307.2 kbps with the ACK Channel transmitting in all slots. AT power control should be in "All Bits Up" conditions for TAP/ETAP

SAR is not required for 1x RTT for Ev-Do devices that also support 1x RTT voice and/or data operations, when the maximum average output of each channel is less than ¼ dB higher than that measured in Subtype 0/1 Physical Layer configurations for Rev. 0. Otherwise, CDMA "Body-SAR Measurement" procedures for "CDMA 2000 1x Handsets" were applied.

9.3 SAR Measurement Conditions for LTE

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes following SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 was used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing.

9.3.1 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1. See Section 10.2 for MPR targets.

9.3.2 A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

9.3.3 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05:

a. Per Page 4, 3) A), QPSK with 50% RB is required for the highest bandwidth.
b. Per Page 4, footnote 2, when the maximum output power across high, mid., and low channels is < 0.5 dB, mid channel is tested. Low and high channel SAR tests are not required for QPSK, 50% RB allocation when the SAR is < 0.8 W/kg.
c. Per Page 4, 3) B), QPSK with 1 RB for both channel edges are required for the highest bandwidth.
d. Per Page 4, footnote 6, QPSK 1 RB allocation SAR tests were performed on the highest output power channel for the RB allocation when the average output power of the 1 RB allocation was > 0.5 dB higher than the 50% RB allocation for QPSK. Otherwise, SAR tests are performed on the channel that produced the highest SAR for QPSK with 50% RB. 1 RB low and high offset configurations are considered together for a single channel selection.
e. Per Page 4, 3) B), I), when the SAR for QPSK 1 RB allocation tests is <1.45 W/kg, testing on the other channels is not required.
f. Per Page 4, 4) A), 16QAM with 50% RB is required for the highest bandwidth on the channel with the highest measured SAR for QPSK with 50% RB allocation.
g. Per Page 4, 4) A), I), when the SAR for 16 QAM, 50 % allocation tests is <1.45 W/kg, testing on the other channels is not required.
h. Per Page 4, 4) B) and Page 5 footnote 9, 16QAM with 1RB for both channel edges are required for the highest bandwidth on the highest output power channel for the 1 RB allocation when the average output power of the 1 RB allocation is >0.5 dB higher than the 50% allocation for 16 QAM. Otherwise, SAR tests are performed on the channel that produced the highest SAR for 16 QAM with 50% RB. 1 RB low and high offset configurations are considered together for a single channel selection.
i. Per Page 5, 4) B), I), when the SAR for 16 QAM 1 RB allocation tests is <1.45 W/kg, testing on the other channels is not required.
j. Per Page 4, 4), A) I) and Page 5, 4), A)I, 100% RB Allocation is not required to be tested when the SAR is not > 1.45 W/kg for the highest bandwidth.
k. Per Page 5, 5) B) I), smaller bandwidths are not required to be tested when SAR is not > 1.45 W/kg for the highest bandwidth and the maximum average output power of the smaller bandwidths across all channels and configurations is not more than 0.5 dB higher than the higher bandwidths.

9.4 SAR Testing with 802.11 Transmitters

Normal network operating configurations are not suitable for measuring the SAR of 802.11 a/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.

9.4.1 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.

9.4.2 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.

For 5 GHz, the highest average RF output power channel across the default test channels at the lowest data rate was selected for SAR evaluation in 802.11a. When the adjacent channels are higher in power then the default channels, these “required channels” were considered instead of the default channels for SAR testing. 802.11n modes and higher data rates for 802.11a/n were evaluated only if the respective mode was 0.25 dB or higher than the 802.11a 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.

10 RF CONDUCTED POWERS

10.1 CDMA Conducted Powers

Band	Channel	Frequency	SO55 [dBm]	SO55 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC	MHz	RC1	RC3	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	1013	824.7	24.11	24.15	24.11	24.14	24.15	24.14
	384	836.52	24.15	24.16	24.14	24.15	24.20	24.16
	777	848.31	24.49	24.50	24.46	24.49	24.50	24.25
AWS	25	1711.25	24.35	24.33	24.24	24.31	24.28	24.26
	450	1732.5	24.65	24.58	24.53	24.58	24.64	24.56
	875	1753.75	24.70	24.64	24.55	24.66	24.61	24.55
PCS	25	1851.25	24.98	24.98	24.85	24.89	24.89	24.82
	600	1880	24.91	24.68	24.64	24.72	24.75	24.71
	1175	1908.75	24.68	24.44	24.58	24.58	24.66	24.59

Note: RC1 is only applicable for IS-95 compatibility.

Per KDB Publication 941225 D01:

1. Head SAR was tested with SO55 RC3. SO55 RC1 was not required since the average output power was not more than 0.25 dB than the SO55 RC3 powers.
2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. Ev-Do and TDSO / SO32 FCH+SCH SAR tests were not required since the average output power was not more than 0.25 dB higher than the TDSO / SO32 FCH only powers.
3. CDMA Wireless Router SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 according to KDB 941225 D01 procedures for data devices. Since the average output power of Subtype 2 for Rev. A is less than the Rev. 0 power levels, then Rev. A SAR is not required. SAR is not required for 1x RTT for Ev-Do hotspot devices since the maximum average output of each channel is less than ¼ dB higher than that measured in Subtype 0/1 Physical Layer configurations for Rev. 0.
4. CDMA 1x-RTT SAR was additionally required to be evaluated for Hotspot exposure conditions to support simultaneous capabilities per Table 1-2.
5. Head SAR was additionally evaluated using EVDO Rev A to address compliance for VoIP operations.

Figure 10-1
Power Measurement Setup

10.2 LTE Conducted Powers

10.2.1 LTE Band 4 (AWS)

Table 10-1
LTE Band 4 (AWS) Conducted Powers - 1.4 MHz Bandwidth

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
1710.7	19957	1.4	QPSK	1	0	22.70	0	0
1710.7	19957	1.4	QPSK	1	5	22.74	0	0
1710.7	19957	1.4	QPSK	3	2	22.79	0	0
1710.7	19957	1.4	QPSK	6	0	22.00	1	0-1
1710.7	19957	1.4	16-QAM	1	0	21.52	1	0-1
1710.7	19957	1.4	16-QAM	1	5	21.90	1	0-1
1710.7	19957	1.4	16-QAM	3	2	22.09	1	0-1
1710.7	19957	1.4	16-QAM	6	0	20.70	2	0-2
1732.5	20175	1.4	QPSK	1	0	23.03	0	0
1732.5	20175	1.4	QPSK	1	5	23.19	0	0
1732.5	20175	1.4	QPSK	3	2	23.07	0	0
1732.5	20175	1.4	QPSK	6	0	22.04	1	0-1
1732.5	20175	1.4	16-QAM	1	0	21.91	1	0-1
1732.5	20175	1.4	16-QAM	1	5	22.06	1	0-1
1732.5	20175	1.4	16-QAM	3	2	22.07	1	0-1
1732.5	20175	1.4	16-QAM	6	0	21.19	2	0-2
1754.3	20393	1.4	QPSK	1	0	22.64	0	0
1754.3	20393	1.4	QPSK	1	5	22.53	0	0
1754.3	20393	1.4	QPSK	3	2	22.59	0	0
1754.3	20393	1.4	QPSK	6	0	21.65	1	0-1
1754.3	20393	1.4	16-QAM	1	0	21.97	1	0-1
1754.3	20393	1.4	16-QAM	1	5	21.74	1	0-1
1754.3	20393	1.4	16-QAM	3	2	21.60	1	0-1
1754.3	20393	1.4	16-QAM	6	0	20.61	2	0-2

Table 10-2
LTE Band 4 (AWS) Conducted Powers - 3 MHz Bandwidth

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
1711.5	19965	3	QPSK	1	0	22.59	0	0
1711.5	19965	3	QPSK	1	14	22.69	0	0
1711.5	19965	3	QPSK	8	4	21.77	1	0-1
1711.5	19965	3	QPSK	15	0	21.66	1	0-1
1711.5	19965	3	16-QAM	1	0	21.55	1	0-1
1711.5	19965	3	16-QAM	1	14	21.74	1	0-1
1711.5	19965	3	16-QAM	8	4	20.70	2	0-2
1711.5	19965	3	16-QAM	15	0	20.76	2	0-2
1732.5	20175	3	QPSK	1	0	23.11	0	0
1732.5	20175	3	QPSK	1	14	23.15	0	0
1732.5	20175	3	QPSK	8	4	22.10	1	0-1
1732.5	20175	3	QPSK	15	0	22.03	1	0-1
1732.5	20175	3	16-QAM	1	0	22.48	1	0-1
1732.5	20175	3	16-QAM	1	14	22.49	1	0-1
1732.5	20175	3	16-QAM	8	4	21.20	2	0-2
1732.5	20175	3	16-QAM	15	0	21.00	2	0-2
1753.5	20385	3	QPSK	1	0	22.87	0	0
1753.5	20385	3	QPSK	1	14	22.50	0	0
1753.5	20385	3	QPSK	8	4	21.78	1	0-1
1753.5	20385	3	QPSK	15	0	21.70	1	0-1
1753.5	20385	3	16-QAM	1	0	21.62	1	0-1
1753.5	20385	3	16-QAM	1	14	21.53	1	0-1
1753.5	20385	3	16-QAM	8	4	20.70	2	0-2
1753.5	20385	3	16-QAM	15	0	20.68	2	0-2

Table 10-3
LTE Band 4 (AWS) Conducted Powers - 5 MHz Bandwidth

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
1712.5	19975	5	QPSK	1	0	22.57	0	0
1712.5	19975	5	QPSK	1	24	22.77	0	0
1712.5	19975	5	QPSK	12	6	21.76	1	0-1
1712.5	19975	5	QPSK	25	0	21.64	1	0-1
1712.5	19975	5	16-QAM	1	0	21.52	1	0-1
1712.5	19975	5	16-QAM	1	24	21.54	1	0-1
1712.5	19975	5	16-QAM	12	6	20.72	2	0-2
1712.5	19975	5	16-QAM	25	0	20.67	2	0-2
1732.5	20175	5	QPSK	1	0	23.15	0	0
1732.5	20175	5	QPSK	1	24	23.19	0	0
1732.5	20175	5	QPSK	12	6	22.00	1	0-1
1732.5	20175	5	QPSK	25	0	21.87	1	0-1
1732.5	20175	5	16-QAM	1	0	22.38	1	0-1
1732.5	20175	5	16-QAM	1	24	22.25	1	0-1
1732.5	20175	5	16-QAM	12	6	21.01	2	0-2
1732.5	20175	5	16-QAM	25	0	20.73	2	0-2
1752.5	20375	5	QPSK	1	0	22.62	0	0
1752.5	20375	5	QPSK	1	24	22.52	0	0
1752.5	20375	5	QPSK	12	6	21.78	1	0-1
1752.5	20375	5	QPSK	25	0	21.64	1	0-1
1752.5	20375	5	16-QAM	1	0	21.85	1	0-1
1752.5	20375	5	16-QAM	1	24	21.50	1	0-1
1752.5	20375	5	16-QAM	12	6	20.84	2	0-2
1752.5	20375	5	16-QAM	25	0	20.57	2	0-2

Table 10-4
LTE Band 4 (AWS) Conducted Powers - 10 MHz Bandwidth

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
1715	20000	10	QPSK	1	0	22.52	0	0
1715	20000	10	QPSK	1	49	22.87	0	0
1715	20000	10	QPSK	25	12	21.63	1	0-1
1715	20000	10	QPSK	50	0	21.51	1	0-1
1715	20000	10	16QAM	1	0	21.56	1	0-1
1715	20000	10	16QAM	1	49	21.99	1	0-1
1715	20000	10	16QAM	25	12	20.74	2	0-2
1715	20000	10	16QAM	50	0	20.52	2	0-2
1732.5	20175	10	QPSK	1	0	**22.93**	0	0
1732.5	20175	10	QPSK	1	49	**22.85**	0	0
1732.5	20175	10	QPSK	25	12	**21.82**	1	0-1
1732.5	20175	10	QPSK	50	0	21.70	1	0-1
1732.5	20175	10	16QAM	1	0	21.94	1	0-1
1732.5	20175	10	16QAM	1	49	21.91	1	0-1
1732.5	20175	10	16QAM	25	12	**20.87**	2	0-2
1732.5	20175	10	16QAM	50	0	20.69	2	0-2
1750	20350	10	QPSK	1	0	22.71	0	0
1750	20350	10	QPSK	1	49	22.58	0	0
1750	20350	10	QPSK	25	12	21.52	1	0-1
1750	20350	10	QPSK	50	0	21.50	1	0-1
1750	20350	10	16QAM	1	0	**22.21**	1	0-1
1750	20350	10	16QAM	1	49	**22.29**	1	0-1
1750	20350	10	16QAM	25	12	20.57	2	0-2
1750	20350	10	16QAM	50	0	20.50	2	0-2

10.2.2 LTE Band 2 (PCS)

Table 10-5
LTE Band 2 (PCS) Conducted Powers - 1.4 MHz Bandwidth

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
1850.7	18607	1.4	QPSK	1	0	23.15	0	0
1850.7	18607	1.4	QPSK	1	5	23.23	0	0
1850.7	18607	1.4	QPSK	3	2	23.33	0	0
1850.7	18607	1.4	QPSK	6	0	22.20	1	0-1
1850.7	18607	1.4	16-QAM	1	0	22.28	1	0-1
1850.7	18607	1.4	16-QAM	1	5	22.35	1	0-1
1850.7	18607	1.4	16-QAM	3	2	22.43	1	0-1
1850.7	18607	1.4	16-QAM	6	0	21.23	2	0-2
1880.0	18900	1.4	QPSK	1	0	23.16	0	0
1880.0	18900	1.4	QPSK	1	5	23.30	0	0
1880.0	18900	1.4	QPSK	3	2	23.38	0	0
1880.0	18900	1.4	QPSK	6	0	22.37	1	0-1
1880.0	18900	1.4	16-QAM	1	0	22.37	1	0-1
1880.0	18900	1.4	16-QAM	1	5	22.45	1	0-1
1880.0	18900	1.4	16-QAM	3	2	22.48	1	0-1
1880.0	18900	1.4	16-QAM	6	0	21.35	2	0-2
1909.3	19193	1.4	QPSK	1	0	23.31	0	0
1909.3	19193	1.4	QPSK	1	5	23.28	0	0
1909.3	19193	1.4	QPSK	3	2	23.40	0	0
1909.3	19193	1.4	QPSK	6	0	22.34	1	0-1
1909.3	19193	1.4	16-QAM	1	0	22.39	1	0-1
1909.3	19193	1.4	16-QAM	1	5	22.40	1	0-1
1909.3	19193	1.4	16-QAM	3	2	22.44	1	0-1
1909.3	19193	1.4	16-QAM	6	0	21.45	2	0-2

Table 10-6
LTE Band 2 (PCS) Conducted Powers - 3 MHz Bandwidth

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
1851.5	18615	3	QPSK	1	0	23.28	0	0
1851.5	18615	3	QPSK	1	14	23.41	0	0
1851.5	18615	3	QPSK	8	4	22.36	1	0-1
1851.5	18615	3	QPSK	15	0	22.38	1	0-1
1851.5	18615	3	16-QAM	1	0	22.29	1	0-1
1851.5	18615	3	16-QAM	1	14	22.30	1	0-1
1851.5	18615	3	16-QAM	8	4	21.48	2	0-2
1851.5	18615	3	16-QAM	15	0	21.45	2	0-2
1880.0	18900	3	QPSK	1	0	23.18	0	0
1880.0	18900	3	QPSK	1	14	23.24	0	0
1880.0	18900	3	QPSK	8	4	22.34	1	0-1
1880.0	18900	3	QPSK	15	0	22.27	1	0-1
1880.0	18900	3	16-QAM	1	0	21.96	1	0-1
1880.0	18900	3	16-QAM	1	14	21.97	1	0-1
1880.0	18900	3	16-QAM	8	4	21.30	2	0-2
1880.0	18900	3	16-QAM	15	0	21.23	2	0-2
1908.5	19185	3	QPSK	1	0	23.32	0	0
1908.5	19185	3	QPSK	1	14	23.45	0	0
1908.5	19185	3	QPSK	8	4	22.30	1	0-1
1908.5	19185	3	QPSK	15	0	22.19	1	0-1
1908.5	19185	3	16-QAM	1	0	22.03	1	0-1
1908.5	19185	3	16-QAM	1	14	22.02	1	0-1
1908.5	19185	3	16-QAM	8	4	21.31	2	0-2
1908.5	19185	3	16-QAM	15	0	21.20	2	0-2

Table 10-7
LTE Band 2 (PCS) Conducted Powers - 5 MHz Bandwidth

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
1852.5	18625	5	QPSK	1	0	23.35	0	0
1852.5	18625	5	QPSK	1	24	23.43	0	0
1852.5	18625	5	QPSK	12	6	22.33	1	0-1
1852.5	18625	5	QPSK	25	0	22.11	1	0-1
1852.5	18625	5	16-QAM	1	0	22.45	1	0-1
1852.5	18625	5	16-QAM	1	24	22.12	1	0-1
1852.5	18625	5	16-QAM	12	6	21.18	2	0-2
1852.5	18625	5	16-QAM	25	0	21.10	2	0-2
1880.0	18900	5	QPSK	1	0	23.18	0	0
1880.0	18900	5	QPSK	1	24	23.32	0	0
1880.0	18900	5	QPSK	12	6	22.37	1	0-1
1880.0	18900	5	QPSK	25	0	22.32	1	0-1
1880.0	18900	5	16-QAM	1	0	22.16	1	0-1
1880.0	18900	5	16-QAM	1	24	22.35	1	0-1
1880.0	18900	5	16-QAM	12	6	21.29	2	0-2
1880.0	18900	5	16-QAM	25	0	21.24	2	0-2
1907.5	19175	5	QPSK	1	0	23.08	0	0
1907.5	19175	5	QPSK	1	24	23.48	0	0
1907.5	19175	5	QPSK	12	6	22.38	1	0-1
1907.5	19175	5	QPSK	25	0	22.30	1	0-1
1907.5	19175	5	16-QAM	1	0	22.40	1	0-1
1907.5	19175	5	16-QAM	1	24	22.47	1	0-1
1907.5	19175	5	16-QAM	12	6	21.32	2	0-2
1907.5	19175	5	16-QAM	25	0	21.25	2	0-2

Table 10-8
LTE Band 2 (PCS) Conducted Powers - 10 MHz Bandwidth

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
1855	18650	10	QPSK	1	0	23.40	0	0
1855	18650	10	QPSK	1	49	23.02	0	0
1855	18650	10	QPSK	25	12	22.00	1	0-1
1855	18650	10	QPSK	50	0	21.93	1	0-1
1855	18650	10	16QAM	1	0	22.34	1	0-1
1855	18650	10	16QAM	1	49	21.84	1	0-1
1855	18650	10	16QAM	25	12	21.08	2	0-2
1855	18650	10	16QAM	50	0	20.98	2	0-2
1880.0	18900	10	QPSK	1	0	**23.12**	0	0
1880.0	18900	10	QPSK	1	49	**23.45**	0	0
1880.0	18900	10	QPSK	25	12	**22.34**	1	0-1
1880.0	18900	10	QPSK	50	0	22.25	1	0-1
1880.0	18900	10	16QAM	1	0	22.08	1	0-1
1880.0	18900	10	16QAM	1	49	22.33	1	0-1
1880.0	18900	10	16QAM	25	12	**21.22**	2	0-2
1880.0	18900	10	16QAM	50	0	21.19	2	0-2
1905	19150	10	QPSK	1	0	22.92	0	0
1905	19150	10	QPSK	1	49	23.42	0	0
1905	19150	10	QPSK	25	12	21.95	1	0-1
1905	19150	10	QPSK	50	0	21.85	1	0-1
1905	19150	10	16QAM	1	0	**21.96**	1	0-1
1905	19150	10	16QAM	1	49	**22.48**	1	0-1
1905	19150	10	16QAM	25	12	20.93	2	0-2
1905	19150	10	16QAM	50	0	20.91	2	0-2

Notes:

1) Please reference Section 9.3.3 for LTE for LTE testing requirements per FCC KDB 941225 D05.
2) The bolded powers are tested for SAR.

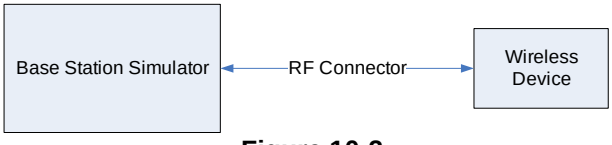

Figure 10-2
Power Measurement Setup

10.3 WLAN Conducted Powers

Table 10-9
IEEE 802.11b Average RF Power

Mode	Freq [MHz]	Channel	Conducted Power [dBm] Data Rate [Mbps] 1	2	5.5	11
802.11b	2412	1	15.06	15.12	15.20	15.17
802.11b	2437	6	15.36	15.35	15.28	15.34
802.11b	2462	11	**15.43**	15.40	15.46	15.47

Table 10-10
IEEE 802.11g Average RF Power

Mode	Freq [MHz]	Channel	Conducted Power [dBm] Data Rate [Mbps] 6	9	12	18	24	36	48	54
802.11g	2412	1	12.64	12.63	12.59	12.59	12.62	12.61	12.70	12.63
802.11g	2437	6	12.82	12.83	12.78	12.79	12.78	12.77	12.83	12.79
802.11g	2462	11	12.97	12.98	12.90	12.90	12.92	12.88	12.96	12.94

Table 10-11
IEEE 802.11n Average RF Power

Mode	Freq [MHz]	Channel	Conducted Power [dBm] Data Rate [Mbps] 6.5	13	20	26	39	52	58	65
802.11n	2412	1	11.56	11.63	11.54	11.60	11.53	11.56	11.56	11.62
802.11n	2437	6	11.73	11.72	11.70	11.71	11.68	11.84	11.77	11.78
802.11n	2462	11	11.87	11.94	11.86	11.88	11.84	11.89	11.94	11.88

Table 10-12
IEEE 802.11a Average RF Power

Mode	Freq [MHz]	Channel	Conducted Power [dBm] Data Rate [Mbps] 6	9	12	18	24	36	48	54
802.11a	5180	36*	**12.01**	12.06	12.06	12.12	12.07	12.16	11.85	11.99
802.11a	5200	40	11.91	11.92	11.90	12.00	11.92	12.11	11.71	11.86
802.11a	5220	44	11.93	11.96	11.93	12.13	11.95	12.15	11.75	11.92
802.11a	5240	48*	11.91	11.96	11.96	12.00	11.94	12.03	11.66	11.82
802.11a	5260	52*	**11.80**	11.85	11.83	11.84	11.86	11.90	11.62	11.79
802.11a	5280	56	11.72	11.77	11.72	11.76	11.79	11.86	11.52	11.70
802.11a	5300	60	11.74	11.79	11.78	11.82	11.78	11.86	11.53	11.63
802.11a	5320	64*	11.68	11.76	11.77	11.76	11.78	11.89	11.45	11.67
802.11a	5500	100	11.20	11.20	11.23	11.31	11.24	11.37	11.10	11.14
802.11a	5520	104*	11.23	11.27	11.28	11.27	11.29	11.41	11.02	11.28
802.11a	5540	108	11.28	11.29	11.31	11.45	11.38	11.42	11.11	11.21
802.11a	5560	112	11.33	11.29	11.42	11.45	11.37	11.46	11.14	11.33
802.11a	5580	116*	11.36	11.41	11.37	11.49	11.38	11.54	11.20	11.34
802.11a	5600	120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11a	5620	124	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11a	5640	128	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11a	5660	132	11.66	11.67	11.68	11.70	11.68	11.81	11.48	11.64
802.11a	5680	136*	11.66	11.72	11.68	11.80	11.74	11.82	11.51	11.59
802.11a	5700	140	**11.78**	11.88	11.75	11.86	11.77	11.98	11.60	11.77
802.11a	5745	149*	11.95	11.88	11.84	11.94	11.82	11.85	11.98	11.94
802.11a	5765	153	11.90	11.78	11.83	11.85	11.84	11.82	11.84	11.82
802.11a	5785	157*	**12.01**	11.90	11.92	11.92	11.88	11.90	11.99	11.98
802.11a	5805	161*	11.92	11.86	11.86	11.87	11.82	11.81	11.94	11.94
802.11a	5825	165	11.92	11.75	11.79	11.85	11.84	11.78	11.84	11.81

Per FCC KDB Publication 443999 and RSS-210 A9.2(3), transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Band. (*) – indicates default channels per KDB Publication 248227. When the adjacent channels are higher in power then the default channels, these “required channels” are considered instead of the default channels for SAR testing.

Table 10-13
IEEE 802.11n (20 MHz) Average RF Power

Mode	Freq	Channel	Conducted Power [dBm]							
			Data Rate [Mbps]							
	[MHz]		6.5	13	20	26	39	52	58	65
802.11n	5180	36*	11.07	11.09	11.04	11.07	11.10	11.15	11.13	11.16
802.11n	5200	40	11.01	11.03	11.00	10.96	11.02	11.06	10.99	11.17
802.11n	5220	44	10.88	10.90	10.84	10.87	10.92	10.92	10.96	10.96
802.11n	5240	48*	10.82	10.87	10.80	10.87	10.82	10.88	10.86	10.86
802.11n	5260	52*	10.72	10.70	10.74	10.70	10.79	10.84	10.80	10.75
802.11n	5280	56	10.68	10.71	10.64	10.69	10.68	10.73	10.80	10.81
802.11n	5300	60	10.67	10.67	10.66	10.71	10.72	10.75	10.71	10.74
802.11n	5320	64*	10.66	10.67	10.61	10.63	10.65	10.75	10.72	10.69
802.11n	5500	100	10.21	10.20	10.20	10.22	10.24	10.33	10.34	10.26
802.11n	5520	104*	10.15	10.16	10.06	10.15	10.14	10.18	10.26	10.27
802.11n	5540	108	10.32	10.32	10.34	10.33	10.43	10.31	10.40	10.33
802.11n	5560	112	10.26	10.25	10.25	10.23	10.34	10.34	10.30	10.34
802.11n	5580	116*	10.30	10.35	10.21	10.30	10.30	10.33	10.34	10.30
802.11n	5600	120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5620	124	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5640	128	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5660	132	10.60	10.59	10.53	10.63	10.59	10.65	10.63	10.72
802.11n	5680	136*	10.61	10.66	10.64	10.63	10.67	10.65	10.73	10.70
802.11n	5700	140	10.64	10.70	10.53	10.56	10.66	10.77	10.70	10.72
802.11n	5745	149*	10.77	10.61	10.77	10.84	10.88	10.75	10.79	10.75
802.11n	5765	153	11.80	11.65	11.83	11.85	11.84	11.75	11.88	11.82
802.11n	5785	157*	10.80	10.67	10.69	10.87	10.90	10.75	10.91	10.83
802.11n	5805	161*	10.82	10.64	10.78	10.94	10.88	10.76	10.84	10.90
802.11n	5825	165	10.88	10.72	10.84	10.93	10.91	10.84	10.92	10.93

Per FCC KDB Publication 443999 and RSS-210 A9.2(3), transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Bands. (*) – indicates default channels per KDB Publication 248227. When the adjacent channels are higher in power then the default channels, these “required channels” are considered instead of the default channels for SAR testing

Table 10-14
IEEE 802.11n (40 MHz) Average RF Power

Mode	Freq	Channel	40MHz BW 802.11n (5GHz) Conducted Power [dBm]							
			Data Rate [Mbps]							
	[MHz]		13.5/15	27/30	40.5/45	54/60	81/90	108/120	121.5/135	135/150
802.11n	5190	38	11.27	11.23	11.25	11.34	11.33	11.37	11.31	11.32
802.11n	5230	46	11.06	11.07	11.06	11.14	11.13	11.19	11.03	11.15
802.11n	5270	54	11.00	10.89	10.95	11.10	11.11	11.16	11.10	11.06
802.11n	5310	62	10.89	10.78	10.86	10.90	10.97	10.90	10.89	10.95
802.11n	5510	102	10.45	10.42	10.43	10.51	10.51	10.57	10.46	10.41
802.11n	5550	110	10.54	10.57	10.48	10.62	10.60	10.68	10.60	10.56
802.11n	5590	118	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5630	126	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
802.11n	5670	134	10.92	10.84	10.92	10.98	10.93	11.05	11.01	10.94
802.11n	5755	151	11.02	11.15	11.12	11.20	11.34	11.23	11.26	11.26
802.11n	5795	159	11.12	11.25	11.17	11.20	11.33	11.29	11.34	11.34

Per FCC KDB Publication 443999 and RSS-210 A9.2(3), transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Bands. (*) – indicates default channels per KDB Publication 248227. When the adjacent channels are higher in power then the default channels, these “required channels” are considered instead of the default channels for SAR testing.

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.
- For 5 GHz, highest average RF output power channel for the lowest data rate for IEEE 802.11a were selected for SAR evaluation. Other IEEE 802.11 modes (including 802.11n for 20 and 40 MHz Bandwidth) 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 802.11a mode.
- Since 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.
- The bolded data rate and channel above were tested for SAR.

Figure 10-3
Power Measurement Setup

11 SYSTEM VERIFICATION

11.1 Tissue Verification

Table 11-1
Measured Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	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
07/26/2012	835H	23.9	820	0.901	40.89	0.90	41.57	0.33%	-1.64%
			835	0.917	40.72	0.90	41.50	1.89%	-1.88%
			850	0.932	40.49	0.92	41.50	1.75%	-2.43%
09/05/2012	835H	23.7	820	0.887	41.30	0.90	41.57	-1.22%	-0.65%
			835	0.900	41.41	0.90	41.50	0.00%	-0.22%
			850	0.904	40.98	0.92	41.50	-1.31%	-1.25%
07/25/2012	1750H	24.8	1710	1.329	38.71	1.35	40.14	-1.41%	-3.55%
			1750	1.365	38.57	1.37	40.10	-0.36%	-3.82%
			1790	1.403	38.39	1.39	40.02	0.65%	-4.07%
09/05/2012	1750H	23.5	1710	1.315	39.63	1.35	40.14	-2.45%	-1.26%
			1750	1.360	39.47	1.37	40.10	-0.73%	-1.57%
			1790	1.391	39.28	1.39	40.02	-0.22%	-1.85%
07/23/2012	1900H	23.6	1850	1.340	39.30	1.40	40.00	-4.29%	-1.75%
			1880	1.348	39.20	1.40	40.00	-3.71%	-2.00%
			1910	1.379	39.11	1.40	40.00	-1.50%	-2.23%
07/24/2012	1900H	22.4	1850	1.334	39.27	1.40	40.00	-4.71%	-1.82%
			1880	1.375	38.92	1.40	40.00	-1.79%	-2.70%
			1910	1.403	38.82	1.40	40.00	0.21%	-2.95%
09/05/2012	1900H	23.9	1850	1.343	38.46	1.40	40.00	-4.07%	-3.85%
			1880	1.385	38.24	1.40	40.00	-1.07%	-4.40%
			1910	1.401	38.11	1.40	40.00	0.07%	-4.73%
07/26/2012	2450H	22.3	2401	1.832	40.65	1.76	39.30	4.21%	3.44%
			2450	1.885	40.29	1.80	39.20	4.72%	2.78%
			2499	1.939	40.15	1.85	39.14	4.70%	2.59%
07/30/2012	5200H-5800H	24.4	5180	4.427	37.71	4.64	36.02	-4.57%	4.69%
			5200	4.453	37.67	4.66	36.00	-4.44%	4.64%
			5260	4.497	37.59	4.72	35.94	-4.72%	4.59%
			5500	4.723	37.31	4.97	35.65	-4.87%	4.66%
			5700	4.936	37.00	5.17	35.40	-4.53%	4.52%
			5785	5.007	36.90	5.26	35.32	-4.72%	4.49%
			5800	5.025	36.87	5.27	35.30	-4.65%	4.45%
07/26/2012	835B	23.1	820	0.972	54.91	0.97	55.28	0.31%	-0.68%
			835	0.987	54.79	0.97	55.20	1.75%	-0.74%
			850	1.001	54.70	0.99	55.15	1.32%	-0.82%
07/30/2012	835B	22.9	820	0.960	55.08	0.97	55.28	-0.93%	-0.37%
			835	0.971	54.86	0.97	55.20	0.10%	-0.62%
			850	0.983	54.84	0.99	55.15	-0.51%	-0.57%
07/23/2012	1750B	24.5	1710	1.463	51.58	1.46	53.54	0.21%	-3.66%
			1750	1.486	51.59	1.49	53.43	-0.27%	-3.44%
			1790	1.522	51.45	1.51	53.33	0.79%	-3.53%
09/04/2012	1750B	22.5	1710	1.390	51.73	1.46	53.54	-4.79%	-3.38%
			1750	1.465	51.65	1.49	53.43	-1.68%	-3.33%
			1790	1.479	51.54	1.51	53.33	-2.05%	-3.36%
07/23/2012	1900B	22.2	1850	1.482	52.60	1.52	53.30	-2.50%	-1.31%
			1880	1.528	52.61	1.52	53.30	0.53%	-1.29%
			1910	1.558	52.39	1.52	53.30	2.50%	-1.71%
09/04/2012	1900B	21.9	1850	1.478	53.99	1.52	53.30	-2.76%	1.29%
			1880	1.518	53.79	1.52	53.30	-0.13%	0.92%
			1910	1.557	53.71	1.52	53.30	2.43%	0.77%
07/25/2012	2450B	22.2	2401	1.877	50.38	1.90	52.77	-1.37%	-4.52%
			2450	1.957	50.28	1.95	52.70	0.36%	-4.59%
			2499	2.001	50.30	2.02	52.64	-0.89%	-4.44%
09/04/2012	2450B	22.8	2401	1.860	51.13	1.90	52.77	-2.26%	-3.10%
			2450	1.971	50.99	1.95	52.70	1.08%	-3.24%
			2499	2.024	50.76	2.02	52.64	0.25%	-3.57%
07/30/2012	5200B-5800B	24.9	5180	5.220	50.27	5.28	49.04	-1.06%	2.51%
			5200	5.182	50.26	5.30	49.01	-2.21%	2.54%
			5260	5.367	50.03	5.37	48.91	-0.04%	2.30%
			5500	5.688	49.47	5.65	48.58	0.67%	1.83%
			5700	6.061	49.12	5.88	48.28	3.08%	1.75%
			5785	6.194	48.83	5.98	48.24	3.54%	1.22%
			5800	6.236	48.81	6.00	48.20	3.93%	1.27%

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).

Probe calibration used within ±100 MHz of the test frequency in either 5.725 - 5.85 or 5.47-5.725 GHz is acceptable per KDB Publication 865664 since the design of the SAR probe supports the extended frequency, provided the DASY software version recommended is used for the tests, and the expanded calibration uncertainty (k=2) is less than or equal to 15% (See SAR probe calibration certificate for this information). The dielectric and conductivities measured are within 10% and 5% respectively of the target parameters specified in Supplement C 01-01.

11.2 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 ε' can be calculated from the below equation (Pournaropoulos and Misra):

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

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 $j = \sqrt{-1}$.

11.3 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 11-2
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	07/26/2012	24.2	23.3	0.100	4d119	3258	0.979	9.420	9.790	3.93%
835	Head	09/05/2012	24.8	24.1	0.100	4d047	3213	0.977	9.410	9.770	3.83%
1750	Head	07/25/2012	24.7	23.4	0.100	1008	3209	3.66	36.400	36.600	0.55%
1750	Head	09/05/2012	24.8	23.1	0.100	1051	3213	3.73	36.600	37.300	1.91%
1900	Head	07/23/2012	23.4	22.2	0.100	5d148	3288	3.95	40.500	39.500	-2.47%
1900	Head	07/24/2012	23.8	21.9	0.100	5d148	3288	4.15	40.500	41.500	2.47%
1900	Head	09/05/2012	23.3	24.0	0.100	5d149	3288	4.22	39.300	42.200	7.38%
2450	Head	07/26/2012	20.8	21.0	0.100	882	3287	5.34	53.500	53.400	-0.19%
5200	Head	07/30/2012	23.7	23.0	0.100	1057	3589	7.24	79.100	72.400	-8.47%
5500	Head	07/30/2012	23.4	22.9	0.100	1057	3589	7.97	84.900	79.700	-6.12%
5800	Head	07/30/2012	23.5	22.8	0.100	1057	3589	7.75	79.500	77.500	-2.52%
835	Body	07/26/2012	24.5	23.8	0.100	4d119	3258	1.01	9.560	10.100	5.65%
835	Body	07/30/2012	24.1	23.4	0.100	4d119	3258	0.974	9.560	9.740	1.88%
1750	Body	07/23/2012	24.8	23.2	0.100	1008	3209	3.8	37.400	38.000	1.60%
1750	Body	09/04/2012	24.7	24.0	0.100	1051	3213	4	37.600	40.000	6.38%
1900	Body	07/23/2012	23.1	22.2	0.100	5d149	3287	4.16	39.300	41.600	5.85%
1900	Body	09/04/2012	23.6	21.7	0.100	5d149	3288	3.85	39.300	38.500	-2.04%
2450	Body	07/25/2012	20.6	20.3	0.040	882	3288	2.02	50.300	50.500	0.40%
2450	Body	09/04/2012	22.4	22.4	0.100	882	3287	5.33	50.300	53.300	5.96%
5200	Body	07/30/2012	24.3	23.2	0.100	1057	3589	7.44	73.400	74.400	1.36%
5500	Body	07/30/2012	24.5	23.5	0.100	1057	3589	7.97	78.900	79.700	1.01%
5800	Body	07/30/2012	24.7	23.6	0.100	1057	3589	7.24	74.300	72.400	-2.56%

Note: Per KDB Publication 865664, when a reference dipole is not defined within ±100MHz of the test frequency, the system verification may be conducted within ± 200 MHz of the center frequency of the measurement frequencies if the SAR probe calibration is valid and the same tissue-equivalent matter is used for verification and test measurements.

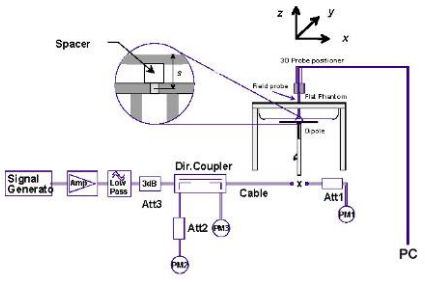

Figure 11-1
System Verification Setup Diagram

Figure 11-2
System Verification Setup Photo

12 SAR DATA SUMMARY

12.1 Standalone Head SAR Data

Table 12-1
Cell. CDMA Head SAR Results

MEASUREMENT RESULTS									
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.								(W/kg)
836.52	384	Cell. CDMA	SO55	24.16	0.00	Right	Cheek	FCC #4	0.180
836.52	384	Cell. CDMA	SO55	24.16	0.14	Right	Tilt	FCC #4	0.110
836.52	384	Cell. CDMA	SO55	24.16	0.00	Left	Cheek	FCC #4	0.161
836.52	384	Cell. CDMA	SO55	24.16	0.05	Left	Tilt	FCC #4	0.099
836.52	384	Cell. CDMA	EVDO Rev. A	24.16	0.10	Right	Cheek	FCC #1	**0.189**
836.52	384	Cell. CDMA	EVDO Rev. A	24.16	0.10	Right	Tilt	FCC #1	0.119
836.52	384	Cell. CDMA	EVDO Rev. A	24.16	0.09	Left	Cheek	FCC #1	0.159
836.52	384	Cell. CDMA	EVDO Rev. A	24.16	0.11	Left	Tilt	FCC #1	0.103
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 12-2
AWS CDMA Head SAR Results

MEASUREMENT RESULTS									
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.								(W/kg)
1732.50	450	AWS CDMA	SO55	24.58	0.11	Right	Cheek	FCC #1	0.165
1732.50	450	AWS CDMA	SO55	24.58	0.05	Right	Tilt	FCC #1	0.096
1732.50	450	AWS CDMA	SO55	24.58	0.08	Left	Cheek	FCC #1	0.150
1732.50	450	AWS CDMA	SO55	24.58	0.10	Left	Tilt	FCC #1	0.068
1732.50	450	AWS CDMA	EVDO Rev. A	24.56	0.01	Right	Cheek	FCC #1	**0.223**
1732.50	450	AWS CDMA	EVDO Rev. A	24.56	-0.12	Right	Tilt	FCC #1	0.066
1732.50	450	AWS CDMA	EVDO Rev. A	24.56	0.04	Left	Cheek	FCC #1	0.137
1732.50	450	AWS CDMA	EVDO Rev. A	24.56	0.15	Left	Tilt	FCC #1	0.059
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 12-3
PCS CDMA Head SAR Results

MEASUREMENT RESULTS									
FREQUENCY		Mode/Band	Service	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.								(W/kg)
1851.25	25	PCS CDMA	SO55	24.98	0.00	Right	Cheek	FCC #3	**0.179**
1851.25	25	PCS CDMA	SO55	24.98	0.01	Right	Tilt	FCC #3	0.066
1851.25	25	PCS CDMA	SO55	24.98	-0.09	Left	Cheek	FCC #3	0.162
1851.25	25	PCS CDMA	SO55	24.98	0.09	Left	Tilt	FCC #3	0.049
1880.00	600	PCS CDMA	EVDO Rev. A	24.71	0.07	Right	Cheek	FCC #3	0.178
1880.00	600	PCS CDMA	EVDO Rev. A	24.71	-0.10	Right	Tilt	FCC #3	0.062
1880.00	600	PCS CDMA	EVDO Rev. A	24.71	-0.07	Left	Cheek	FCC #3	0.154
1880.00	600	PCS CDMA	EVDO Rev. A	24.71	0.09	Left	Tilt	FCC #3	0.052
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Head 1.6 W/kg (mW/g) averaged over 1 gram			

Per October 2010 TCB Workshop, when the output power deviation across channels is >0.5 dB, the maximum output power channel must be tested. Therefore low channel was tested for PCS CDMA SO55.

Table 12-4
LTE Band 4 (AWS) Head SAR Results

MEASUREMENT RESULTS														
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	# of RB	RB Offset	Device Serial Number	SAR (1g)
MHz	Ch.													(W/kg)
1732.50	20175	Mid	LTE Band 4 (AWS)	10	21.82	0.00	1	Right	Cheek	QPSK	25	12	FCC #5	0.156
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.93	0.08	0	Right	Cheek	QPSK	1	0	FCC #5	0.181
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.85	-0.06	0	Right	Cheek	QPSK	1	49	FCC #5	0.241
1732.50	20175	Mid	LTE Band 4 (AWS)	10	20.87	0.09	2	Right	Cheek	16 QAM	25	12	FCC #5	0.123
1750.00	20350	High	LTE Band 4 (AWS)	10	22.21	0.00	1	Right	Cheek	16 QAM	1	0	FCC #5	**0.265**
1750.00	20350	High	LTE Band 4 (AWS)	10	22.29	0.07	1	Right	Cheek	16 QAM	1	49	FCC #5	0.212
1732.50	20175	Mid	LTE Band 4 (AWS)	10	21.82	0.03	1	Right	Tilt	QPSK	25	12	FCC #5	0.119
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.93	0.17	0	Right	Tilt	QPSK	1	0	FCC #5	0.133
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.85	-0.19	0	Right	Tilt	QPSK	1	49	FCC #5	0.186
1732.50	20175	Mid	LTE Band 4 (AWS)	10	20.87	-0.06	2	Right	Tilt	16 QAM	25	12	FCC #5	0.096
1750.00	20350	High	LTE Band 4 (AWS)	10	22.21	0.05	1	Right	Tilt	16 QAM	1	0	FCC #5	**0.198**
1750.00	20350	High	LTE Band 4 (AWS)	10	22.29	0.10	1	Right	Tilt	16 QAM	1	49	FCC #5	0.145
1732.50	20175	Mid	LTE Band 4 (AWS)	10	21.82	0.07	1	Left	Cheek	QPSK	25	12	FCC #5	0.240
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.93	-0.11	0	Left	Cheek	QPSK	1	0	FCC #5	0.282
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.85	0.10	0	Left	Cheek	QPSK	1	49	FCC #5	0.387
1732.50	20175	Mid	LTE Band 4 (AWS)	10	20.87	-0.01	2	Left	Cheek	16 QAM	25	12	FCC #5	0.189
1750.00	20350	High	LTE Band 4 (AWS)	10	22.21	-0.03	1	Left	Cheek	16 QAM	1	0	FCC #5	**0.420**
1750.00	20350	High	LTE Band 4 (AWS)	10	22.29	0.05	1	Left	Cheek	16 QAM	1	49	FCC #5	0.342
1732.50	20175	Mid	LTE Band 4 (AWS)	10	21.82	0.10	1	Left	Tilt	QPSK	25	12	FCC #5	0.138
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.93	-0.12	0	Left	Tilt	QPSK	1	0	FCC #5	0.158
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.85	0.15	0	Left	Tilt	QPSK	1	49	FCC #5	0.210
1732.50	20175	Mid	LTE Band 4 (AWS)	10	20.87	0.17	2	Left	Tilt	16 QAM	25	12	FCC #5	0.113
1750.00	20350	High	LTE Band 4 (AWS)	10	22.21	0.14	1	Left	Tilt	16 QAM	1	0	FCC #5	**0.218**
1750.00	20350	High	LTE Band 4 (AWS)	10	22.29	-0.03	1	Left	Tilt	16 QAM	1	49	FCC #5	0.167
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram						

Note: QPSK and 16 QAM 1 RB allocation SAR tests were performed on the highest output power channel for the RB allocation when the average output power of the 1 RB allocation was > 0.5 dB higher than the 50% RB allocation for QPSK and 16 QAM, respectively. Therefore, mid. channel was tested for LTE Band 4 (AWS) for QPSK 1 RB cases and high channel was tested for LTE Band 4 (AWS) for 16 QAM 1 RB cases.

Table 12-5
LTE Band 2 (PCS) Head SAR Results

MEASUREMENT RESULTS														
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	# of RB	RB Offset	Device Serial Number	SAR (1g)
MHz	Ch.													(W/kg)
1880.00	18900	Mid	LTE Band 2 (PCS)	10	22.34	0.02	1	Right	Cheek	QPSK	25	12	FCC #4	0.255
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.12	0.08	0	Right	Cheek	QPSK	1	0	FCC #4	0.185
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.45	-0.09	0	Right	Cheek	QPSK	1	49	FCC #4	**0.299**
1880.00	18900	Mid	LTE Band 2 (PCS)	10	21.22	0.00	2	Right	Cheek	16 QAM	25	12	FCC #4	0.247
1905.00	19150	High	LTE Band 2 (PCS)	10	21.96	0.03	1	Right	Cheek	16 QAM	1	0	FCC #4	0.163
1905.00	19150	High	LTE Band 2 (PCS)	10	22.48	0.01	1	Right	Cheek	16 QAM	1	49	FCC #4	0.273
1880.00	18900	Mid	LTE Band 2 (PCS)	10	22.34	0.02	1	Right	Tilt	QPSK	25	12	FCC #4	0.209
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.12	0.17	0	Right	Tilt	QPSK	1	0	FCC #4	0.157
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.45	-0.02	0	Right	Tilt	QPSK	1	49	FCC #4	**0.241**
1880.00	18900	Mid	LTE Band 2 (PCS)	10	21.22	0.01	2	Right	Tilt	16 QAM	25	12	FCC #4	0.207
1905.00	19150	High	LTE Band 2 (PCS)	10	21.96	0.05	1	Right	Tilt	16 QAM	1	0	FCC #4	0.132
1905.00	19150	High	LTE Band 2 (PCS)	10	22.48	0.01	1	Right	Tilt	16 QAM	1	49	FCC #4	0.214
1880.00	18900	Mid	LTE Band 2 (PCS)	10	22.34	0.04	1	Left	Cheek	QPSK	25	12	FCC #4	0.399
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.12	-0.01	0	Left	Cheek	QPSK	1	0	FCC #4	0.305
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.45	0.05	0	Left	Cheek	QPSK	1	49	FCC #4	0.407
1880.00	18900	Mid	LTE Band 2 (PCS)	10	21.22	0.06	2	Left	Cheek	16 QAM	25	12	FCC #4	0.287
1905.00	19150	High	LTE Band 2 (PCS)	10	21.96	0.06	1	Left	Cheek	16 QAM	1	0	FCC #4	0.208
1905.00	19150	High	LTE Band 2 (PCS)	10	22.48	-0.04	1	Left	Cheek	16 QAM	1	49	FCC #4	**0.437**
1880.00	18900	Mid	LTE Band 2 (PCS)	10	22.34	0.01	1	Left	Tilt	QPSK	25	12	FCC #4	0.177
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.12	0.03	0	Left	Tilt	QPSK	1	0	FCC #4	0.122
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.45	0.15	0	Left	Tilt	QPSK	1	49	FCC #4	**0.247**
1880.00	18900	Mid	LTE Band 2 (PCS)	10	21.22	0.00	2	Left	Tilt	16 QAM	25	12	FCC #4	0.173
1905.00	19150	High	LTE Band 2 (PCS)	10	21.96	0.01	1	Left	Tilt	16 QAM	1	0	FCC #4	0.138
1905.00	19150	High	LTE Band 2 (PCS)	10	22.48	-0.02	1	Left	Tilt	16 QAM	1	49	FCC #4	0.233
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram					

Note: QPSK and 16 QAM 1 RB allocation SAR tests were performed on the highest output power channel for the RB allocation when the average output power of the 1 RB allocation was > 0.5 dB higher than the 50% RB allocation for QPSK and 16 QAM, respectively. Therefore, mid. channel was tested for LTE Band 2 (PCS) for QPSK 1 RB cases and high channel was tested for LTE Band 2 (PCS) for 16 QAM 1 RB cases.

Table 12-6
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	15.43	0.10	Right	Cheek	FCC #3	1	0.033
2462	11	IEEE 802.11b	DSSS	15.43	-0.05	Right	Tilt	FCC #3	1	0.028
2462	11	IEEE 802.11b	DSSS	15.43	0.06	Left	Cheek	FCC #3	1	**0.073**
2462	11	IEEE 802.11b	DSSS	15.43	0.10	Left	Tilt	FCC #3	1	0.042
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 12-7
5.8 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)
5785	157	IEEE 802.11a	OFDM	12.01	0.16	Right	Cheek	FCC #1	6	0.000
5785	157	IEEE 802.11a	OFDM	12.01	0.00	Right	Tilt	FCC #1	6	0.000
5785	157	IEEE 802.11a	OFDM	12.01	0.00	Left	Cheek	FCC #1	6	**0.000**
5785	157	IEEE 802.11a	OFDM	12.01	0.00	Left	Tilt	FCC #1	6	0.000
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 12-8
5.2 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)
5180	36	IEEE 802.11a	OFDM	12.01	-0.18	Right	Cheek	FCC #1	6	0.001
5180	36	IEEE 802.11a	OFDM	12.01	0.00	Right	Tilt	FCC #1	6	0.000
5180	36	IEEE 802.11a	OFDM	12.01	0.18	Left	Cheek	FCC #1	6	**0.015**
5180	36	IEEE 802.11a	OFDM	12.01	-0.19	Left	Tilt	FCC #1	6	0.006
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 12-9
5.3 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)
5260	52	IEEE 802.11a	OFDM	11.80	0.12	Right	Cheek	FCC #1	6	0.013
5260	52	IEEE 802.11a	OFDM	11.80	0.00	Right	Tilt	FCC #1	6	0.007
5260	52	IEEE 802.11a	OFDM	11.80	0.15	Left	Cheek	FCC #1	6	**0.043**
5260	52	IEEE 802.11a	OFDM	11.80	0.17	Left	Tilt	FCC #1	6	0.034
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 12-10
5.5 - 5.7 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)
5700	140	IEEE 802.11a	OFDM	11.78	-0.20	Right	Cheek	FCC #1	6	0.000
5700	140	IEEE 802.11a	OFDM	11.78	0.00	Right	Tilt	FCC #1	6	0.000
5700	140	IEEE 802.11a	OFDM	11.78	0.11	Left	Cheek	FCC #1	6	**0.000**
5700	140	IEEE 802.11a	OFDM	11.78	0.20	Left	Tilt	FCC #1	6	0.000
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Head 1.6 W/kg (mW/g) averaged over 1 gram				

12.2 Standalone Body-Worn SAR Data

Table 12-11
CDMA Hotspot Representing Body-Worn SAR Results

MEASUREMENT RESULTS									
FREQUENCY		Mode	Service	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Side	SAR (1g)
MHz	Ch.								(W/kg)
836.52	384	Cell. CDMA	TDSO / SO32	24.15	0.11	1.0 cm	FCC #4	back	**0.445**
1732.50	450	AWS CDMA	TDSO / SO32	24.58	-0.03	1.0 cm	FCC #1	back	**0.712**
1880.00	600	PCS CDMA	TDSO / SO32	24.72	-0.01	1.0 cm	FCC #3	back	**0.699**
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram			

Note: For CDMA 1x mode, when the reported SAR measured for 1 cm air-gap without headset cable is >1.2 W/kg, the highest reported SAR configuration for the mode and band should be repeated with headset attached, per past FCC guidance. Since the measured SAR was not >1.2 W/kg, CDMA 1xRTT hotspot data for the back side configuration additionally shows body-worn compliance. CDMA 1x-RTT SAR was required to be evaluated for Hotspot exposure conditions to support simultaneous capabilities per Table 1-2.

Table 12-12
LTE Hotspot Representing Body-Worn SAR Results

MEASUREMENT RESULTS														
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	# of RB	RB Offset	Spacing	Side	SAR (1g)
MHz	Ch.													(W/kg)
1732.50	20175	Mid	LTE Band 4 (AWS)	10	21.82	-0.02	1	FCC #5	QPSK	25	12	1.0 cm	back	0.407
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.93	0.13	0	FCC #5	QPSK	1	0	1.0 cm	back	0.471
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.85	-0.03	0	FCC #5	QPSK	1	49	1.0 cm	back	**0.616**
1732.50	20175	Mid	LTE Band 4 (AWS)	10	20.87	0.18	2	FCC #5	16 QAM	25	12	1.0 cm	back	0.311
1750.00	20350	High	LTE Band 4 (AWS)	10	22.21	0.05	1	FCC #5	16 QAM	1	0	1.0 cm	back	0.576
1750.00	20350	High	LTE Band 4 (AWS)	10	22.29	0.03	1	FCC #5	16 QAM	1	49	1.0 cm	back	0.457
1880.00	18900	Mid	LTE Band 2 (PCS)	10	22.34	0.02	1	FCC #4	QPSK	25	12	1.0 cm	back	0.391
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.12	0.07	0	FCC #4	QPSK	1	0	1.0 cm	back	0.303
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.45	0.03	0	FCC #4	QPSK	1	49	1.0 cm	back	**0.498**
1880.00	18900	Mid	LTE Band 2 (PCS)	10	21.22	0.02	2	FCC #4	16 QAM	25	12	1.0 cm	back	0.392
1905.00	19150	High	LTE Band 2 (PCS)	10	21.96	-0.01	1	FCC #4	16 QAM	1	0	1.0 cm	back	0.279
1905.00	19150	High	LTE Band 2 (PCS)	10	22.48	-0.15	1	FCC #4	16 QAM	1	49	1.0 cm	back	0.447
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note:

1. For LTE mode, when the reported SAR measured for 1 cm air-gap without headset cable is >1.2 W/kg, the highest reported SAR configuration for the mode and band should be repeated with headset attached, per past FCC guidance. Since the measured SAR was not >1.2 W/kg, LTE hotspot data for the back side configuration additionally shows body-worn compliance..
2. QPSK and 16 QAM 1 RB allocation SAR tests were performed on the highest output power channel for the RB allocation when the average output power of the 1 RB allocation was > 0.5 dB higher than the 50% RB allocation for QPSK and 16 QAM, respectively. Therefore, mid. channel was tested for LTE Band 4 (AWS) for QPSK 1 RB cases and high channel was tested for LTE Band 4 (AWS) for 16 QAM 1 RB cases.
3. QPSK and 16 QAM 1 RB allocation SAR tests were performed on the highest output power channel for the RB allocation when the average output power of the 1 RB allocation was > 0.5 dB higher than the 50% RB allocation for QPSK and 16 QAM, respectively. Therefore, mid. channel was tested for LTE Band 2 (PCS) for QPSK 1 RB cases and high channel was tested for LTE Band 2 (PCS) for 16 QAM 1 RB cases.

Table 12-13
WLAN Hotspot Representing Body-Worn and 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	15.43	0.05	1.0 cm	FCC #3	1	back	**0.201**
5785	157	IEEE 802.11a	OFDM	12.01	0.11	1.0 cm	FCC #1	6	back	0.111
5180	36	IEEE 802.11a	OFDM	12.01	0.17	1.0 cm	FCC #1	6	back	0.097
5260	52	IEEE 802.11a	OFDM	11.80	-0.19	1.0 cm	FCC #1	6	back	**0.119**
5700	140	IEEE 802.11a	OFDM	11.78	-0.16	1.0 cm	FCC #1	6	back	0.074
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram				

Note: For IEEE 802.11b mode, when the reported SAR measured for 1 cm air-gap without headset cable is >1.2 W/kg, the highest reported SAR configuration for the mode and band should be repeated with headset attached, per past FCC guidance. Since the measured SAR was not >1.2 W/kg, IEEE 802.11b hotspot data for the back side configuration additionally shows body-worn compliance. For IEEE 802.11a mode, SAR tests were performed with the use of headphones.

12.3 Standalone Wireless Router SAR Data

Table 12-14
CDMA Hotspot SAR Data

MEASUREMENT RESULTS									
FREQUENCY		Mode	Service	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Side	SAR (1g)
MHz	Ch.								(W/kg)
836.52	384	Cell. CDMA	TDSO / SO32	24.15	0.11	1.0 cm	FCC #4	back	**0.445**
836.52	384	Cell. CDMA	TDSO / SO32	24.15	0.01	1.0 cm	FCC #4	front	0.259
836.52	384	Cell. CDMA	TDSO / SO32	24.15	-0.02	1.0 cm	FCC #4	bottom	0.157
836.52	384	Cell. CDMA	TDSO / SO32	24.15	-0.03	1.0 cm	FCC #4	right	0.381
836.52	384	Cell. CDMA	EVDO Rev. 0	24.20	0.02	1.0 cm	FCC #4	back	**0.422**
836.52	384	Cell. CDMA	EVDO Rev. 0	24.20	-0.02	1.0 cm	FCC #4	front	0.285
836.52	384	Cell. CDMA	EVDO Rev. 0	24.20	-0.07	1.0 cm	FCC #4	bottom	0.166
836.52	384	Cell. CDMA	EVDO Rev. 0	24.20	-0.01	1.0 cm	FCC #4	right	0.314
1732.50	450	AWS CDMA	TDSO / SO32	24.58	-0.03	1.0 cm	FCC #1	back	0.712
1732.50	450	AWS CDMA	TDSO / SO32	24.58	-0.02	1.0 cm	FCC #1	front	0.548
1732.50	450	AWS CDMA	TDSO / SO32	24.58	0.00	1.0 cm	FCC #1	bottom	**0.781**
1732.50	450	AWS CDMA	TDSO / SO32	24.58	-0.18	1.0 cm	FCC #1	right	0.160
1732.50	450	AWS CDMA	EVDO Rev. 0	24.64	-0.02	1.0 cm	FCC #1	back	0.775
1732.50	450	AWS CDMA	EVDO Rev. 0	24.64	-0.01	1.0 cm	FCC #1	front	0.535
1711.25	25	AWS CDMA	EVDO Rev. 0	24.28	0.01	1.0 cm	FCC #1	bottom	0.585
1732.50	450	AWS CDMA	EVDO Rev. 0	24.64	-0.04	1.0 cm	FCC #1	bottom	**0.809**
1753.75	875	AWS CDMA	EVDO Rev. 0	24.61	-0.07	1.0 cm	FCC #1	bottom	0.643
1732.50	450	AWS CDMA	EVDO Rev. 0	24.64	-0.21	1.0 cm	FCC #1	right	0.160
1880.00	600	PCS CDMA	TDSO / SO32	24.72	-0.01	1.0 cm	FCC #3	back	**0.699**
1880.00	600	PCS CDMA	TDSO / SO32	24.72	-0.02	1.0 cm	FCC #3	front	0.509
1880.00	600	PCS CDMA	TDSO / SO32	24.72	-0.05	1.0 cm	FCC #3	bottom	0.503
1880.00	600	PCS CDMA	TDSO / SO32	24.72	-0.02	1.0 cm	FCC #3	right	0.168
1880.00	600	PCS CDMA	EVDO Rev. 0	24.75	0.02	1.0 cm	FCC #3	back	**0.716**
1880.00	600	PCS CDMA	EVDO Rev. 0	24.75	-0.02	1.0 cm	FCC #3	front	0.465
1880.00	600	PCS CDMA	EVDO Rev. 0	24.75	0.02	1.0 cm	FCC #3	bottom	0.483
1880.00	600	PCS CDMA	EVDO Rev. 0	24.75	-0.13	1.0 cm	FCC #3	right	0.173
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 12-15
LTE Band 4 (AWS) Hotspot SAR Data

MEASUREMENT RESULTS														
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	# of RB	RB Offset	Spacing	Side	SAR (1g)
MHz	Ch.	High												(W/kg)
1732.50	20175	Mid	LTE Band 4 (AWS)	10	21.82	-0.02	1	FCC #5	QPSK	25	12	1.0 cm	back	0.407
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.93	0.13	0	FCC #5	QPSK	1	0	1.0 cm	back	0.471
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.85	-0.03	0	FCC #5	QPSK	1	49	1.0 cm	back	**0.616**
1732.50	20175	Mid	LTE Band 4 (AWS)	10	20.87	0.18	2	FCC #5	16 QAM	25	12	1.0 cm	back	0.311
1750.00	20350	High	LTE Band 4 (AWS)	10	22.21	0.05	1	FCC #5	16 QAM	1	0	1.0 cm	back	0.576
1750.00	20350	High	LTE Band 4 (AWS)	10	22.29	0.03	1	FCC #5	16 QAM	1	49	1.0 cm	back	0.457
1732.50	20175	Mid	LTE Band 4 (AWS)	10	21.82	0.01	1	FCC #5	QPSK	25	12	1.0 cm	front	0.405
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.93	0.08	0	FCC #5	QPSK	1	0	1.0 cm	front	0.472
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.85	0.14	0	FCC #5	QPSK	1	49	1.0 cm	front	**0.584**
1732.50	20175	Mid	LTE Band 4 (AWS)	10	20.87	0.20	2	FCC #5	16 QAM	25	12	1.0 cm	front	0.321
1750.00	20350	High	LTE Band 4 (AWS)	10	22.21	0.06	1	FCC #5	16 QAM	1	0	1.0 cm	front	0.532
1750.00	20350	High	LTE Band 4 (AWS)	10	22.29	-0.03	1	FCC #5	16 QAM	1	49	1.0 cm	front	0.437
1732.50	20175	Mid	LTE Band 4 (AWS)	10	21.82	0.05	1	FCC #5	QPSK	25	12	1.0 cm	bottom	0.137
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.93	0.08	0	FCC #5	QPSK	1	0	1.0 cm	bottom	0.151
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.85	0.14	0	FCC #5	QPSK	1	49	1.0 cm	bottom	**0.209**
1732.50	20175	Mid	LTE Band 4 (AWS)	10	20.87	-0.08	2	FCC #5	16 QAM	25	12	1.0 cm	bottom	0.107
1750.00	20350	High	LTE Band 4 (AWS)	10	22.21	0.14	1	FCC #5	16 QAM	1	0	1.0 cm	bottom	0.130
1750.00	20350	High	LTE Band 4 (AWS)	10	22.29	0.03	1	FCC #5	16 QAM	1	49	1.0 cm	bottom	0.170
1732.50	20175	Mid	LTE Band 4 (AWS)	10	21.82	-0.12	1	FCC #5	QPSK	25	12	1.0 cm	left	0.142
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.93	0.07	0	FCC #5	QPSK	1	0	1.0 cm	left	0.160
1732.50	20175	Mid	LTE Band 4 (AWS)	10	22.85	-0.09	0	FCC #5	QPSK	1	49	1.0 cm	left	0.216
1732.50	20175	Mid	LTE Band 4 (AWS)	10	20.87	0.18	2	FCC #5	16 QAM	25	12	1.0 cm	left	0.105
1750.00	20350	High	LTE Band 4 (AWS)	10	22.21	-0.06	1	FCC #5	16 QAM	1	0	1.0 cm	left	**0.232**
1750.00	20350	High	LTE Band 4 (AWS)	10	22.29	0.04	1	FCC #5	16 QAM	1	49	1.0 cm	left	0.174
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: QPSK and 16 QAM 1 RB allocation SAR tests were performed on the highest output power channel for the RB allocation when the average output power of the 1 RB allocation was > 0.5 dB higher than the 50% RB allocation for QPSK and 16 QAM, respectively. Therefore, mid. channel was tested for LTE Band 4 (AWS) for QPSK 1 RB cases and high channel was tested for LTE Band 4 (AWS) for 16 QAM 1 RB cases.

Table 12-16
LTE Band 2 (PCS) Hotspot SAR Data

MEASUREMENT RESULTS														
FREQUENCY			Mode	Bandwidth [MHz]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	# of RB	RB Offset	Spacing	Side	SAR (1g)
MHz	Ch.													(W/kg)
1880.00	18900	Mid	LTE Band 2 (PCS)	10	22.34	0.02	1	FCC #4	QPSK	25	12	1.0 cm	back	0.391
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.12	0.07	0	FCC #4	QPSK	1	0	1.0 cm	back	0.303
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.45	0.03	0	FCC #4	QPSK	1	49	1.0 cm	back	**0.498**
1880.00	18900	Mid	LTE Band 2 (PCS)	10	21.22	0.02	2	FCC #4	16 QAM	25	12	1.0 cm	back	0.392
1905.00	19150	High	LTE Band 2 (PCS)	10	21.96	-0.01	1	FCC #4	16 QAM	1	0	1.0 cm	back	0.279
1905.00	19150	High	LTE Band 2 (PCS)	10	22.48	-0.15	1	FCC #4	16 QAM	1	49	1.0 cm	back	0.447
1880.00	18900	Mid	LTE Band 2 (PCS)	10	22.34	0.07	1	FCC #4	QPSK	25	12	1.0 cm	front	0.382
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.12	0.00	0	FCC #4	QPSK	1	0	1.0 cm	front	0.295
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.45	0.04	0	FCC #4	QPSK	1	49	1.0 cm	front	**0.445**
1880.00	18900	Mid	LTE Band 2 (PCS)	10	21.22	-0.04	2	FCC #4	16 QAM	25	12	1.0 cm	front	0.377
1905.00	19150	High	LTE Band 2 (PCS)	10	21.96	-0.02	1	FCC #4	16 QAM	1	0	1.0 cm	front	0.249
1905.00	19150	High	LTE Band 2 (PCS)	10	22.48	-0.02	1	FCC #4	16 QAM	1	49	1.0 cm	front	0.369
1880.00	18900	Mid	LTE Band 2 (PCS)	10	22.34	-0.03	1	FCC #4	QPSK	25	12	1.0 cm	bottom	0.257
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.12	-0.06	0	FCC #4	QPSK	1	0	1.0 cm	bottom	0.183
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.45	-0.01	0	FCC #4	QPSK	1	49	1.0 cm	bottom	**0.328**
1880.00	18900	Mid	LTE Band 2 (PCS)	10	21.22	0.09	2	FCC #4	16 QAM	25	12	1.0 cm	bottom	0.225
1905.00	19150	High	LTE Band 2 (PCS)	10	21.96	-0.01	1	FCC #4	16 QAM	1	0	1.0 cm	bottom	0.167
1905.00	19150	High	LTE Band 2 (PCS)	10	22.48	-0.05	1	FCC #4	16 QAM	1	49	1.0 cm	bottom	0.270
1880.00	18900	Mid	LTE Band 2 (PCS)	10	22.34	0.18	1	FCC #4	QPSK	25	12	1.0 cm	left	0.296
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.12	0.04	0	FCC #4	QPSK	1	0	1.0 cm	left	0.230
1880.00	18900	Mid	LTE Band 2 (PCS)	10	23.45	-0.01	0	FCC #4	QPSK	1	49	1.0 cm	left	**0.352**
1880.00	18900	Mid	LTE Band 2 (PCS)	10	21.22	0.00	2	FCC #4	16 QAM	25	12	1.0 cm	left	0.259
1905.00	19150	High	LTE Band 2 (PCS)	10	21.96	-0.03	1	FCC #4	16 QAM	1	0	1.0 cm	left	0.210
1905.00	19150	High	LTE Band 2 (PCS)	10	22.48	0.02	1	FCC #4	16 QAM	1	49	1.0 cm	left	0.327
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: QPSK and 16 QAM 1 RB allocation SAR tests were performed on the highest output power channel for the RB allocation when the average output power of the 1 RB allocation was > 0.5 dB higher than the 50% RB allocation for QPSK and 16 QAM, respectively. Therefore, mid. channel was tested for LTE Band 2 (PCS) for QPSK 1 RB cases and high channel was tested for LTE Band 2 (PCS) for 16 QAM 1 RB cases.

Table 12-17
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	15.43	0.05	1.0 cm	FCC #3	1	back	**0.201**
2462	11	IEEE 802.11b	DSSS	15.43	-0.11	1.0 cm	FCC #3	1	front	0.018
2462	11	IEEE 802.11b	DSSS	15.43	-0.16	1.0 cm	FCC #3	1	top	0.012
2462	11	IEEE 802.11b	DSSS	15.43	0.07	1.0 cm	FCC #3	1	right	0.068
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram			

12.4 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.
3. The standard battery contains a near field communications (NFC) antenna, and is the only battery that comes with the device. All tests were performed using the standard NFC battery. The technical description contains detailed information about the near field communications antenna. As described in Operational Description, the device does not allow any other battery other than model: EB-L1G6LLZ.
4. Tissue parameters and temperatures are listed on the SAR plots.
5. 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.
6. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
7. Per October 2010 TCB Workshop Slides, the mid. channel may be used as a default test channel when the output power deviation across the channels is <0.5 dB, otherwise the maximum output power must be used. If the SAR measured at for each test configuration for the default channel is at least 3.0 dB lower than the SAR limit, testing at the other channels is optional for such test configuration(s).
8. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
9. When the reported SAR measured for 1 cm air-gap without headset cable is >1.2 W/kg, the highest reported SAR configuration for the mode and band should be repeated with headset attached, per past FCC guidance. The measured SAR was not >1.2 W/kg for all modes and bands. Therefore, the CDMA 1xRTT, LTE and WLAN hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.

CDMA Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per KDB Publication 941225 D01.
2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. Ev-Do and TDSO / SO32 FCH+SCH SAR tests were not required since the average output power was not more than 0.25 dB higher than the TDSO / SO32 FCH only powers.
3. According to FCC KDB 941225 D01 publication, EVDO SAR (Hotspot) is measured using Subtype 0/1 Physical Layer configurations for Rev. 0. Rev. A was not tested since the maximum output power of Rev. A for each channel was not greater than the Rev. 0 power. CDMA 1x- RTT SAR was required to be evaluated for Hotspot exposure conditions to support simultaneous capabilities per Table 1-2.
4. AWS CDMA SAR was measured with a probe calibrated at 1750 MHz and is valid for measuring SAR from ± 50 MHz. The 1750MHz specific liquid was verified with specific probe calibration factors as required per FCC KDB Publication 450824 D01.
5. Head SAR was additionally evaluated for EVDO Rev. A to determine VoIP compliance.

LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Test Considerations for LTE handsets and Data Modems KDB 941225 D05 Publication and were determined independently of position. General test procedures can be found in Section 9.3.3.

2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 on the base station simulator.
4. LTE Band 4 (AWS) SAR was measured with a probe calibrated at 1750 MHz and is valid for measuring SAR from ± 50 MHz. The 1750MHz specific liquid was verified with specific probe calibration factors as required per FCC KDB Publication 450824 D01.

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. Justification for reduced test configurations for WIFI channels per KDB Publication 248227 and April 2010 FCC/TCB Meeting Notes for 5 GHz WIFI: Highest average RF output power channel for the lowest data rate was selected for SAR evaluation in 802.11a. Other IEEE 802.11 modes (including 802.11n including 20 and 40 MHz Bandwidth) 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 802.11a mode.
3. When Hotspot is enabled, all 5 GHz bands are disabled.
4. WLAN transmission was verified using an uncalibrated spectrum analyzer.
5. 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.

Hotspot Notes:

1. Top and Left Edges for the CDMA/EVDO transmitter were 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. Top and Right Edges for the LTE transmitter were 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).
3. Left and Bottom 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).
4. 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 7.6.)

13 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

13.1 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 802.11a/b/g/n and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

13.2 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 13-1
Output Power Thresholds for Unlicensed Transmitters

	Individual Transmitter	Simultaneous Transmission
Licensed Transmitters	Routine evaluation required	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
Unlicensed Transmitters	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	

Figure 13-2
SAR Evaluation Requirements for Multiple Transmitter Handsets

According to Figure 13-1 and Figure 13-2, simultaneous transmission analysis of SAR may be required for this device for the licensed and unlicensed transmitters. Possible simultaneous transmissions for this device were numerically summed using stand-alone SAR data and are shown in the following tables.

Per KDB Publication 648474, standalone Bluetooth SAR tests were not required. Standalone SAR tests for WLAN were required. See Section 1.5(A) for more information.

13.3 Head SAR Simultaneous Transmission Analysis

Table 13-1
Simultaneous Transmission Scenario (Held to Ear)

Simult Tx	Configuration	Cell. CDMA SAR (W/kg)	LTE Band 4 (AWS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)			
		1	2	3	1+2	1+3	2+3	1+2+3
Head SAR	Right Cheek	0.180	0.265	0.033	0.445	0.213	0.298	0.478
	Right Tilt	0.110	0.198	0.028	0.308	0.138	0.226	0.336
	Left Cheek	0.161	0.420	0.073	0.581	0.234	0.493	**0.654**
	Left Tilt	0.099	0.218	0.042	0.317	0.141	0.260	0.359

Simult Tx	Configuration	AWS CDMA SAR (W/kg)	LTE Band 4 (AWS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)			
		1	2	3	1+2	1+3	2+3	1+2+3
Head SAR	Right Cheek	0.165	0.265	0.033	0.430	0.198	0.298	0.463
	Right Tilt	0.096	0.198	0.028	0.294	0.124	0.226	0.322
	Left Cheek	0.150	0.420	0.073	0.570	0.223	0.493	**0.643**
	Left Tilt	0.068	0.218	0.042	0.286	0.110	0.260	0.328

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	LTE Band 4 (AWS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)			
		1	2	3	1+2	1+3	2+3	1+2+3
Head SAR	Right Cheek	0.179	0.265	0.033	0.444	0.212	0.298	0.477
	Right Tilt	0.066	0.198	0.028	0.264	0.094	0.226	0.292
	Left Cheek	0.162	0.420	0.073	0.582	0.235	0.493	**0.655**
	Left Tilt	0.049	0.218	0.042	0.267	0.091	0.260	0.309

Simult Tx	Configuration	Cell. CDMA SAR (W/kg)	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)			
		1	2	3	1+2	1+3	2+3	1+2+3
Head SAR	Right Cheek	0.180	0.299	0.033	0.479	0.213	0.332	0.512
	Right Tilt	0.110	0.241	0.028	0.351	0.138	0.269	0.379
	Left Cheek	0.161	0.437	0.073	0.598	0.234	0.510	**0.671**
	Left Tilt	0.099	0.247	0.042	0.346	0.141	0.289	0.388

Simult Tx	Configuration	AWS CDMA SAR (W/kg)	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)			
		1	2	3	1+2	1+3	2+3	1+2+3
Head SAR	Right Cheek	0.165	0.299	0.033	0.464	0.198	0.332	0.497
	Right Tilt	0.096	0.241	0.028	0.337	0.124	0.269	0.365
	Left Cheek	0.150	0.437	0.073	0.587	0.223	0.510	**0.660**
	Left Tilt	0.068	0.247	0.042	0.315	0.110	0.289	0.357

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)			
		1	2	3	1+2	1+3	2+3	1+2+3
Head SAR	Right Cheek	0.179	0.299	0.033	0.478	0.212	0.332	0.511
	Right Tilt	0.066	0.241	0.028	0.307	0.094	0.269	0.335
	Left Cheek	0.162	0.437	0.073	0.599	0.235	0.510	**0.672**
	Left Tilt	0.049	0.247	0.042	0.296	0.091	0.289	0.338

Simult Tx	Configuration	Cell EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.189	0.033	0.222
	Right Tilt	0.119	0.028	0.147
	Left Cheek	0.159	0.073	**0.232**
	Left Tilt	0.103	0.042	0.145

Simult Tx	Configuration	AWS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.223	0.033	**0.256**
	Right Tilt	0.066	0.028	0.094
	Left Cheek	0.137	0.073	0.210
	Left Tilt	0.059	0.042	0.101

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.178	0.033	0.211
	Right Tilt	0.062	0.028	0.090
	Left Cheek	0.154	0.073	**0.227**
	Left Tilt	0.052	0.042	0.094

Table 13-2
Simultaneous Transmission Scenario (Held to Ear)

Simult Tx	Configuration	Cell. CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.180	0.013	0.193
	Right Tilt	0.110	0.007	0.117
	Left Cheek	0.161	0.043	0.204
	Left Tilt	0.099	0.034	0.133

Simult Tx	Configuration	AWS CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.165	0.013	0.178
	Right Tilt	0.096	0.007	0.103
	Left Cheek	0.150	0.043	0.193
	Left Tilt	0.068	0.034	0.102

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Head SAR	Right Cheek	0.179	0.013	0.192
	Right Tilt	0.066	0.007	0.073
	Left Cheek	0.162	0.043	0.205
	Left Tilt	0.049	0.034	0.083

13.4 Body-Worn Simultaneous Transmission Analysis

Table 13-3
Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)

Configuration	Mode	CDMA SAR (W/kg)	LTE Band 4 (AWS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Back Side	Cell. CDMA	0.445	0.616	0.201	1.061	0.646	1.262
Back Side	AWS CDMA	0.712	0.616	0.201	1.328	0.913	**1.529**
Back Side	PCS CDMA	0.699	0.616	0.201	1.315	0.900	1.516

Configuration	Mode	CDMA SAR (W/kg)	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Back Side	Cell. CDMA	0.445	0.498	0.201	0.943	0.646	1.144
Back Side	AWS CDMA	0.712	0.498	0.201	1.210	0.913	**1.411**
Back Side	PCS CDMA	0.699	0.498	0.201	1.197	0.900	1.398

Table 13-4
Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)

Configuration	Mode	CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Back Side	Cell. CDMA	0.445	0.119	0.564
Back Side	AWS CDMA	0.712	0.119	**0.831**
Back Side	PCS CDMA	0.699	0.119	0.818

13.5 Hotspot SAR Simultaneous Transmission Analysis

Table 13-5
Simultaneous Transmission Scenario (Hotspot at 1.0 cm)

Simult Tx	Configuration	Cell. EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.422	0.201	**0.623**
	Front	0.285	0.018	0.303
	Top	-	0.012	0.012
	Bottom	0.166	-	0.166
	Right	0.314	0.068	0.382
	Left	-	-	0.000

Simult Tx	Configuration	AWS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.775	0.201	**0.976**
	Front	0.535	0.018	0.553
	Top	-	0.012	0.012
	Bottom	0.809	-	0.809
	Right	0.160	0.068	0.228
	Left	-	-	0.000

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.716	0.201	**0.917**
	Front	0.465	0.018	0.483
	Top	-	0.012	0.012
	Bottom	0.483	-	0.483
	Right	0.173	0.068	0.241
	Left	-	-	0.000

Simult Tx	Configuration	LTE Band 4 (AWS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.616	0.201	**0.817**
	Front	0.584	0.018	0.602
	Top	-	0.012	0.012
	Bottom	0.209	-	0.209
	Right	-	0.068	0.068
	Left	0.232	-	0.232

Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.498	0.201	**0.699**
	Front	0.445	0.018	0.463
	Top	-	0.012	0.012
	Bottom	0.328	-	0.328
	Right	-	0.068	0.068
	Left	0.352	-	0.352

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.

Table 13-6
Simultaneous Transmission Scenario (Hotspot with Voice Call at 1.0 cm)

Simult Tx	Configuration	Cell. CDMA SAR (W/kg)	LTE Band 4 (AWS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.445	0.616	0.201	**1.262**
	Front	0.259	0.584	0.018	0.861
	Top	-	-	0.012	0.012
	Bottom	0.157	0.209	-	0.366
	Right	0.381	-	0.068	0.449
	Left	-	0.232	-	0.232

Simult Tx	Configuration	AWS CDMA SAR (W/kg)	LTE Band 4 (AWS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.712	0.616	0.201	**1.529**
	Front	0.548	0.584	0.018	1.150
	Top	-	-	0.012	0.012
	Bottom	0.781	0.209	-	0.990
	Right	0.160	-	0.068	0.228
	Left	-	0.232	-	0.232

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	LTE Band 4 (AWS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.699	0.616	0.201	**1.516**
	Front	0.509	0.584	0.018	1.111
	Top	-	-	0.012	0.012
	Bottom	0.503	0.209	-	0.712
	Right	0.168	-	0.068	0.236
	Left	-	0.232	-	0.232

Simult Tx	Configuration	Cell. CDMA SAR (W/kg)	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.445	0.498	0.201	**1.144**
	Front	0.259	0.445	0.018	0.722
	Top	-	-	0.012	0.012
	Bottom	0.157	0.328	-	0.485
	Right	0.381	-	0.068	0.449
	Left	-	0.352	-	0.352

Simult Tx	Configuration	AWS CDMA SAR (W/kg)	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.712	0.498	0.201	**1.411**
	Front	0.548	0.445	0.018	1.011
	Top	-	-	0.012	0.012
	Bottom	0.781	0.328	-	1.109
	Right	0.160	-	0.068	0.228
	Left	-	0.352	-	0.352

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
Body SAR	Back	0.699	0.498	0.201	**1.398**
	Front	0.509	0.445	0.018	0.972
	Top	-	-	0.012	0.012
	Bottom	0.503	0.328	-	0.831
	Right	0.168	-	0.068	0.236
	Left	-	0.352	-	0.352

Note: Per FCC KDB Publication 941225 D06, the edges with antennas more than 2.5 cm are not required to be evaluated for SAR ("-").

13.6 Scaled SAR Simultaneous Transmission Analysis

The measured SAR was evaluated to determine compliance at the maximum tune-up power level for all standalone and simultaneous transmission configurations. All standalone configurations remain compliant. Additional analysis was performed on combinations that produced a sum greater than 1.6 W/kg after extrapolation: Body-Worn Voice Calls using AWS and PCS CDMA while operating with AWS LTE Hotspot. For these combinations, the SPLS ratios were determined to be > 0.3 for some combinations, therefore simultaneous transmission SAR was performed.

	Configuration	Mode	Standalone 1g SAR (W/kg)	Power [dBm]	Target Power + Tolerance (0.5 dB) [dBm]	Scaling Factor	Scaled Standalone 1g SAR (W/kg)	Plot Number	Volume Scan 1g SAR for Simult Tx (W/kg)	Plot Number	Scaled Multi-Band 1g SAR (W/kg)	Plot Number
A	Back Side	AWS CDMA	0.712	24.58	25.0	1.10	0.784	A34	0.805	A56	1.41	A60
	Back Side	LTE Band 4	0.616	22.85	23.5	1.16	0.715	A38	0.687	A57		
	Back Side	2.4 GHz WLAN	0.201	15.43	15.5	1.02	0.204	A51	0.248	A59		
B	Configuration	Mode	Standalone 1g SAR (W/kg)	Power [dBm]	Target Power + Tolerance (0.5 dB) [dBm]	Scaling Factor	Scaled Standalone 1g SAR (W/kg)	Plot Number	Volume Scan 1g SAR for Simult Tx (W/kg)	Plot Number	Scaled Multi-Band 1g SAR (W/kg)	Plot Number
	Back Side	PCS CDMA	0.699	24.72	25.0	1.07	0.746	A43	0.665	A58	1.21	A61
	Back Side	LTE Band 4	0.616	22.85	23.5	1.16	0.715	A38	0.687	A57		
	Back Side	2.4 GHz WLAN	0.201	15.43	15.5	1.02	0.204	A51	0.248	A59		

Test Notes:

1. Each antenna was evaluated independently using the channel/configuration that produced the highest measured SAR when the standalone SAR was tested.
2. LTE and CDMA SAR volume scans were evaluated with a resolution of Δx=8mm, Δy=8mm and Δz=5mm with a 14x22x7 (# points) grid.
3. WLAN SAR volume scan was evaluated with a resolution of Δx=5mm, Δy=5mm and Δz=5mm with a 22x35x7 (# points) grid.
4. DASY52.8(1) and SEMCAD X 14.6.5 multi-band combiner required scans to overlap but does not require measurement point resolutions within the volumes to be identical for interpolation and superposition.
5. The simultaneous transmission SAR results of the individual transmitters were scaled using SEMCAD X before processing.

13.7 Simultaneous Transmission Conclusion

Based on the simultaneous transmission analysis guidance described in KDB Publication 648474 and the April 2012 TCB/FCC Workshop, the above simultaneous transmission SAR analyses indicate that the device operating in any of the simultaneous transmission scenarios will not exceed the SAR limit.

14 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	85047A	S-Parameter Test Set	N/A	N/A	N/A	2904A00579
Agilent	85070E	Dielectric Probe Kit	3/8/2012	Annual	3/8/2013	MY44300633
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	8648D	(9kHz-4GHz) Signal Generator	10/10/2011	Annual	10/10/2012	3613A00315
Agilent	8648D	Signal Generator	4/3/2012	Annual	4/3/2013	3629U00687
Agilent	8753E	(30kHz-6GHz) Network Analyzer	4/4/2012	Annual	4/4/2013	JP38020182
Agilent	8753E	(30kHz-6GHz) Network Analyzer	4/3/2012	Annual	4/3/2013	US37390350
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 Tester	4/4/2012	Annual	4/4/2013	US41140256
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/5/2012	Annual	4/5/2013	MY45470194
Amplifier Research	5S1G4	5W, 800MHz-4.2GHz	CBT	N/A	CBT	21910
Anritsu	MA2411B	Pulse Sensor	10/13/2011	Annual	10/13/2012	1027293
Anritsu	MA2481A	Power Sensor	2/14/2012	Annual	2/14/2013	5318
Anritsu	MA2481A	Power Sensor	2/14/2012	Annual	2/14/2013	5442
Anritsu	MA2481A	Power Sensor	2/14/2012	Annual	2/14/2013	5821
Anritsu	MA2481A	Power Sensor	2/14/2012	Annual	2/14/2013	8013
Anritsu	MA2481A	Power Sensor	4/5/2012	Annual	4/5/2013	5605
Anritsu	MA2481A	Power Sensor	2/14/2012	Annual	2/14/2013	2400
Anritsu	ML2438A	Power Meter	2/14/2012	Annual	2/14/2013	1190013
Anritsu	ML2438A	Power Meter	2/14/2012	Annual	2/14/2013	98150041
Anritsu	ML2438A	Power Meter	10/13/2011	Annual	10/13/2012	1070030
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
COMTech	AR85729-5	Solid State Amplifier	CBT	N/A	CBT	M1S5A00-009
COMTECH	AR85729-5/5759E	Solid State Amplifier	CBT	N/A	CBT	M3W1A00-1002
Control Company	36934-158	Wall-Mounted Thermometer	1/4/2012	Biennial	1/4/2014	122014497
Control Company	61220-416	Long-Stem Thermometer	2/15/2011	Biennial	2/15/2013	111331322
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
Intelligent Weigh	PD-3000	Electronic Balance	3/27/2012	Annual	3/27/2013	11081534
ntelligent Weighing	PD-3000	Electronic Balance	6/29/2012	Annual	6/29/2013	120405017
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Rohde & Schwarz	CMU200	Base Station Simulator	5/22/2012	Annual	5/22/2013	109892
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	8/25/2011	Annual	8/25/2012	100976
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	10/7/2011	Annual	10/7/2012	103962
Rohde & Schwarz	NRVD	Dual Channel Power Meter	4/8/2011	Biennial	4/8/2013	101695
Rohde & Schwarz	SMIQ03B	Signal Generator	4/5/2012	Annual	4/5/2013	DE27259
Seekonk	NC-100	Torque Wrench (8" lb)	11/29/2011	Triennial	11/29/2014	21053
Seekonk	NC-100	Torque Wrench (8" lb)	3/5/2012	Triennial	3/5/2015	N/A
Seekonk	NC-100	Torque Wrench (8" lb)	3/5/2012	Triennial	3/5/2015	N/A
SPEAG	D1750V2	1750 MHz SAR Dipole	4/24/2012	Annual	4/24/2013	1051
SPEAG	D1765V2	1765 MHz SAR Dipole	5/18/2012	Annual	5/18/2013	1008
SPEAG	D1900V2	1900 MHz SAR Dipole	2/22/2012	Annual	2/22/2013	5d149
SPEAG	D1900V2	1900 MHz SAR Dipole	2/8/2012	Annual	2/8/2013	5d148
SPEAG	D2450V2	2450 MHz SAR Dipole	2/7/2012	Annual	2/7/2013	882
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/19/2012	Annual	1/19/2013	1057
SPEAG	D835V2	835 MHz SAR Dipole	1/25/2012	Annual	1/25/2013	4d047
SPEAG	D835V2	835 MHz SAR Dipole	4/20/2012	Annual	4/20/2013	4d119
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/19/2012	Annual	4/19/2013	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/20/2012	Annual	2/20/2013	649
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/18/2012	Annual	1/18/2013	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/15/2012	Annual	2/15/2013	1323
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/12/2012	Annual	4/12/2013	1333
SPEAG	DAK-3.5	Dielectic Assessment Kit	6/19/2012	Annual	6/19/2013	1070
SPEAG	ES3DV3	SAR Probe	4/24/2012	Annual	4/24/2013	3213
SPEAG	ES3DV3	SAR Probe	3/16/2012	Annual	3/16/2013	3209
SPEAG	ES3DV3	SAR Probe	2/21/2012	Annual	2/21/2013	3258
SPEAG	ES3DV3	SAR Probe	2/7/2012	Annual	2/7/2013	3288
SPEAG	ES3DV3	SAR Probe	2/7/2012	Annual	2/7/2013	3287
SPEAG	EX3DV4	SAR Probe	1/27/2012	Annual	1/27/2013	3589
Tektronix	RSA-6114A	Real Time Spectrum Analyzer	4/5/2012	Annual	4/5/2013	B010177
VWR	36934-158	Wall-Mounted Thermometer	1/21/2011	Biennial	1/21/2013	111286445
VWR	62344-925	Mini-Thermometer	10/24/2011	Biennial	10/24/2013	111886430

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, attenuator, amplifier, 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.

15 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

Applicable for frequencies up to 6 GHz.

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	6.55	N	1	1.0	1.0	6.6	6.6	∞
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				12.4	12.0	299
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.7	24.0	

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

16 CONCLUSION

16.1 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: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

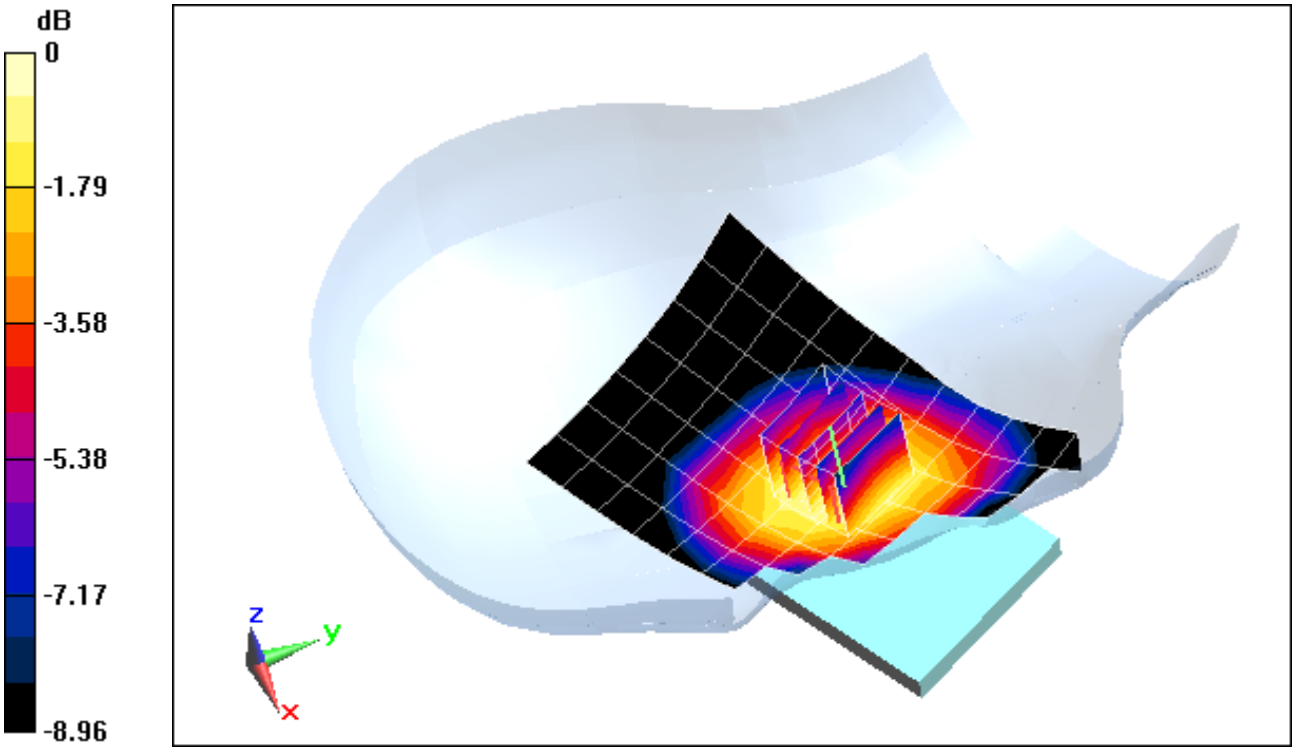
Communication System: CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
$f = 836.52$ MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 41.366$; $\rho = 1000$ kg/m^3
Phantom section: Right Section

Test Date: 09-05-2012; Ambient Temp: 24.8°C; Tissue Temp: 24.1°C

Probe: ES3DV3 - SN3213; ConvF(6.07, 6.07, 6.07); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Front; Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: Cell. EVDO Rev. A, Right Head, Cheek, Mid.ch

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.841 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.229 mW/g
SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.145 mW/g



0 dB = 0.199 mW/g = -14.02 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

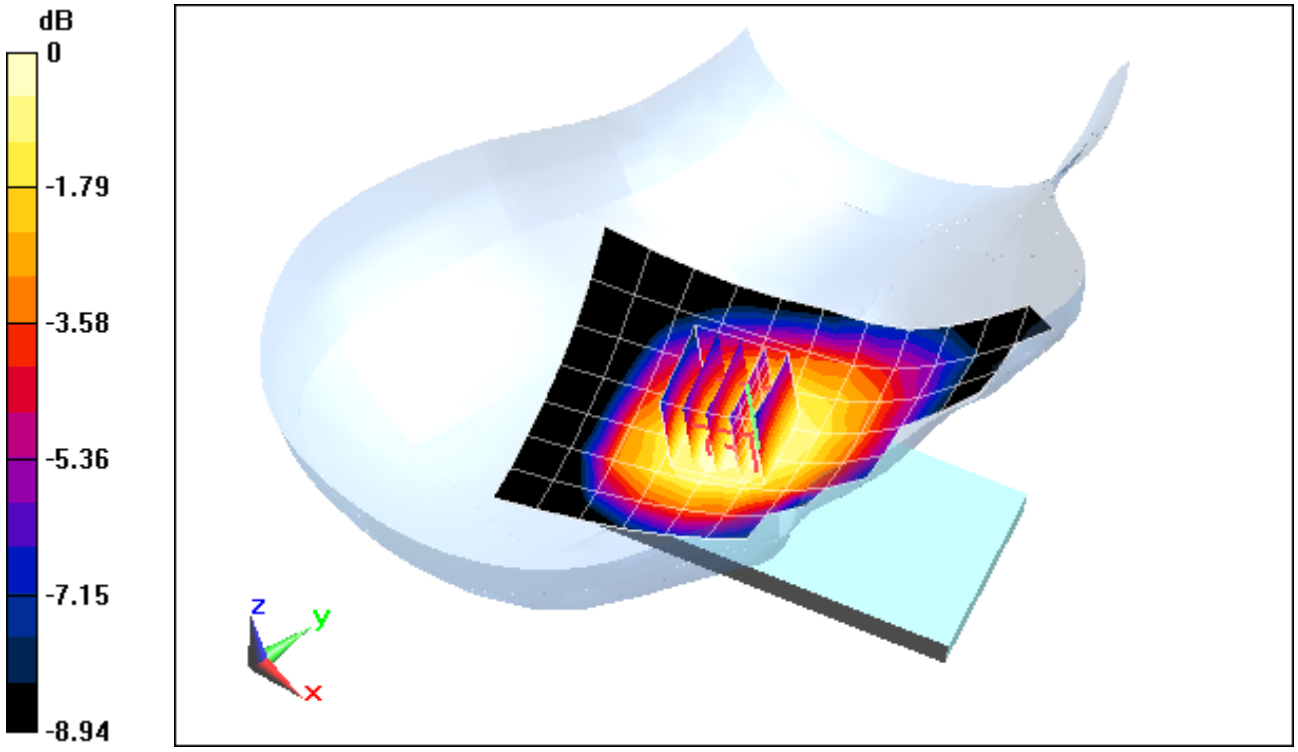
Communication System: CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.9 mho/m; ε_r = 41.366; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 09-05-2012; Ambient Temp: 24.8°C; Tissue Temp: 24.1°C

Probe: ES3DV3 - SN3213; ConvF(6.07, 6.07, 6.07); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Front; Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: Cell. EVDO Rev. A, Right Head, Tilt, Mid.ch

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.994 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.144 mW/g
SAR(1 g) = 0.119 mW/g; SAR(10 g) = 0.094 mW/g



0 dB = 0.123 mW/g = -18.20 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

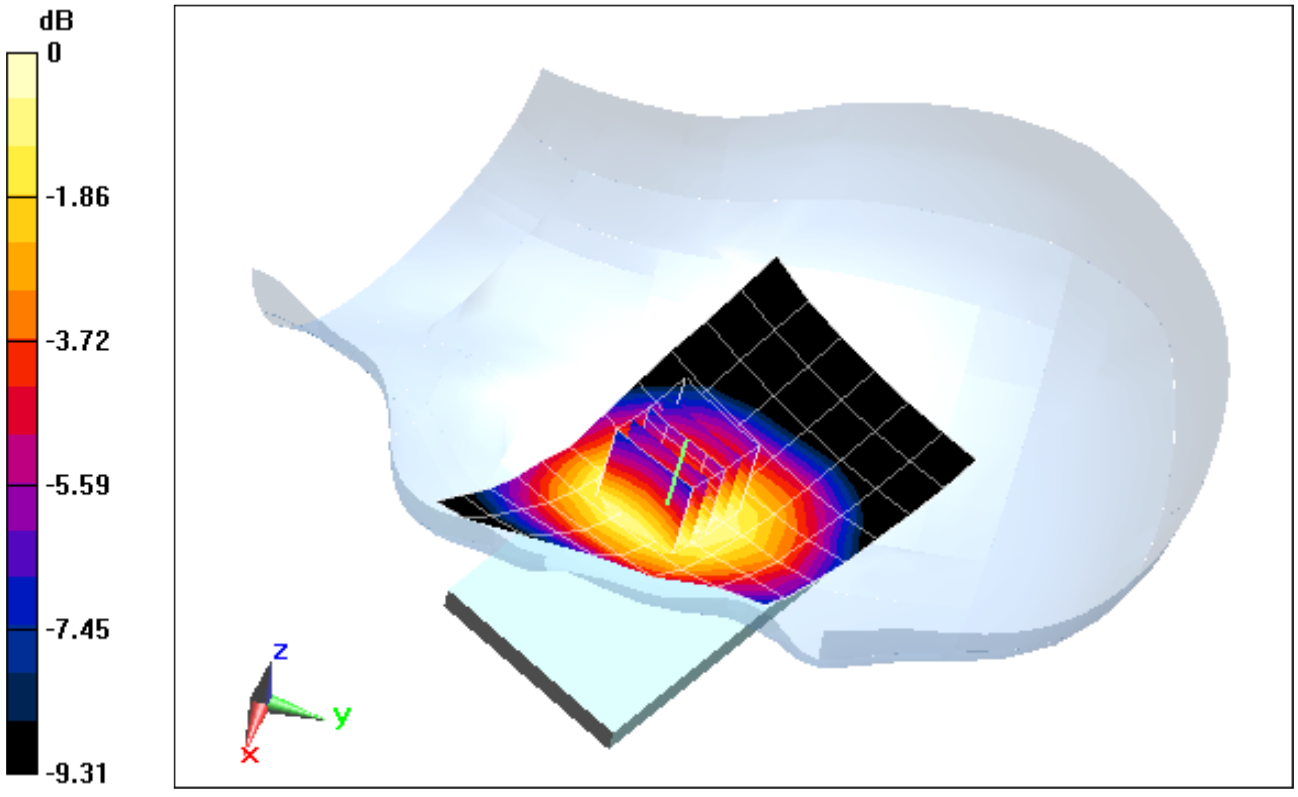
Communication System: Cellular CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.919 mho/m; ε_r = 40.697; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-26-2012; Ambient Temp: 24.2°C; Tissue Temp: 23.3°C

Probe: ES3DV3 - SN3258; ConvF(6.01, 6.01, 6.01); Calibrated: 2/21/2012;
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, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

Mode: Cellular CDMA, Left Head, Cheek, 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 = 14.229 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.198 mW/g
SAR(1 g) = 0.161 mW/g; SAR(10 g) = 0.123 mW/g



0 dB = 0.167 mW/g = -15.55 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

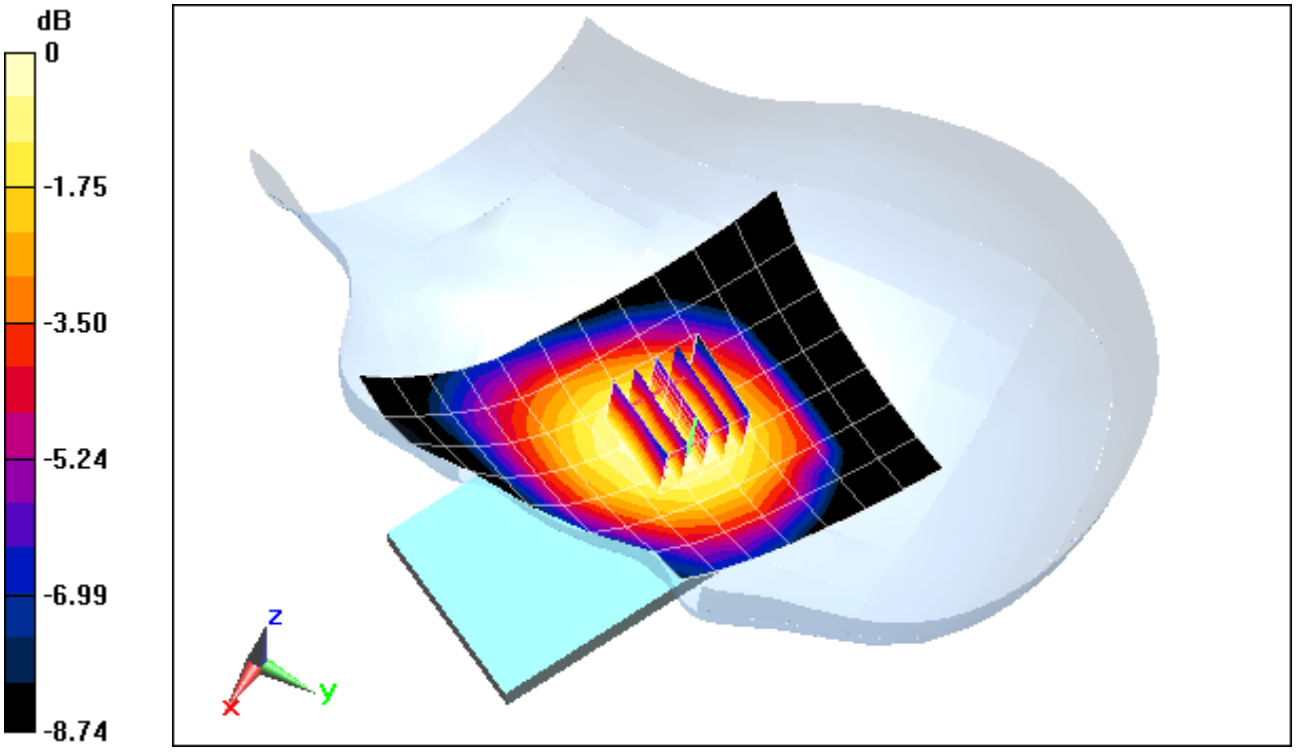
Communication System: CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
$f = 836.52$ MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 41.366$; $\rho = 1000$ kg/m^3
Phantom section: Left Section

Test Date: 09-05-2012; Ambient Temp: 24.8°C; Tissue Temp: 24.1°C

Probe: ES3DV3 - SN3213; ConvF(6.07, 6.07, 6.07); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Front; Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: Cell. EVDO Rev. A, Left Head, Tilt, Mid.ch

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.009 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.126 mW/g
SAR(1 g) = 0.103 mW/g; SAR(10 g) = 0.080 mW/g



0 dB = 0.107 mW/g = -19.41 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

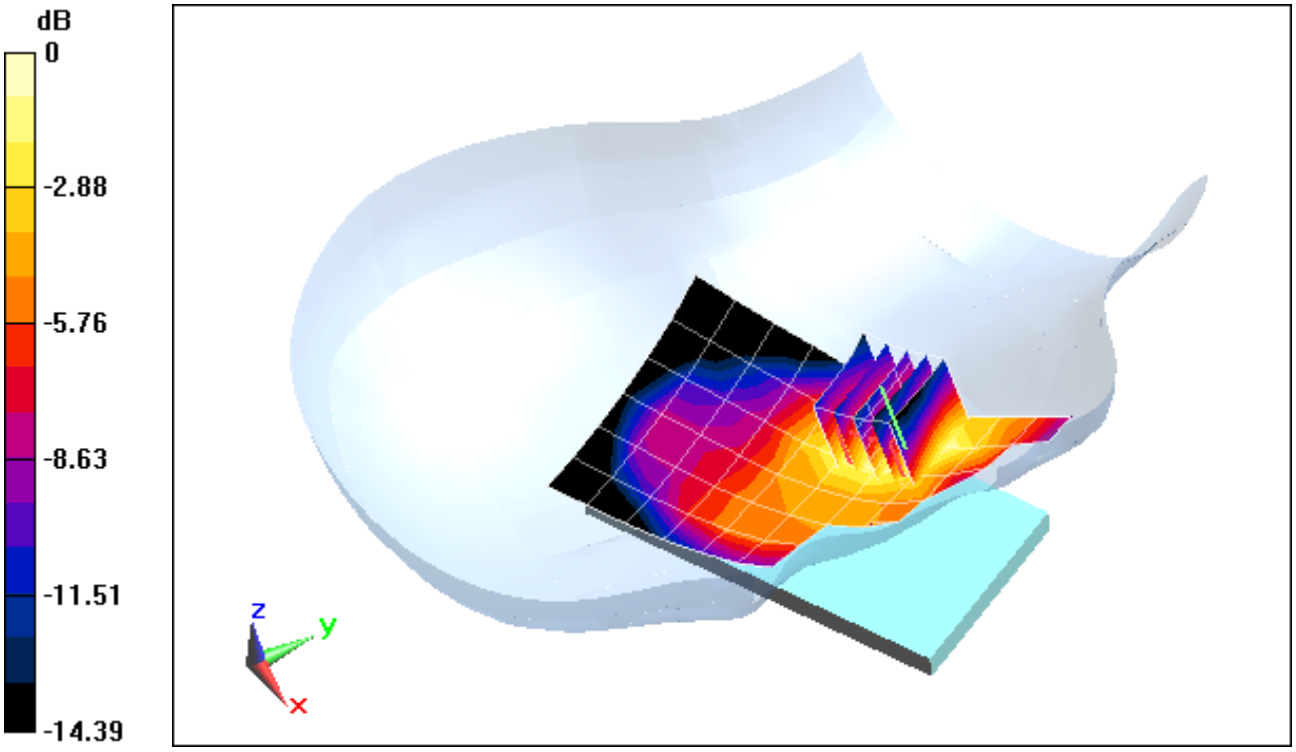
Communication System: AWS CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.34 mho/m; ε_r = 39.54; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 09-05-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3213; ConvF(5.22, 5.22, 5.22); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Right; Type: QD000P40CD; Serial: 1686
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: AWS EVDO Rev. A, Right Head, Cheek, 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 = 14.103 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.334 mW/g
SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.139 mW/g



0 dB = 0.245 mW/g = -12.22 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

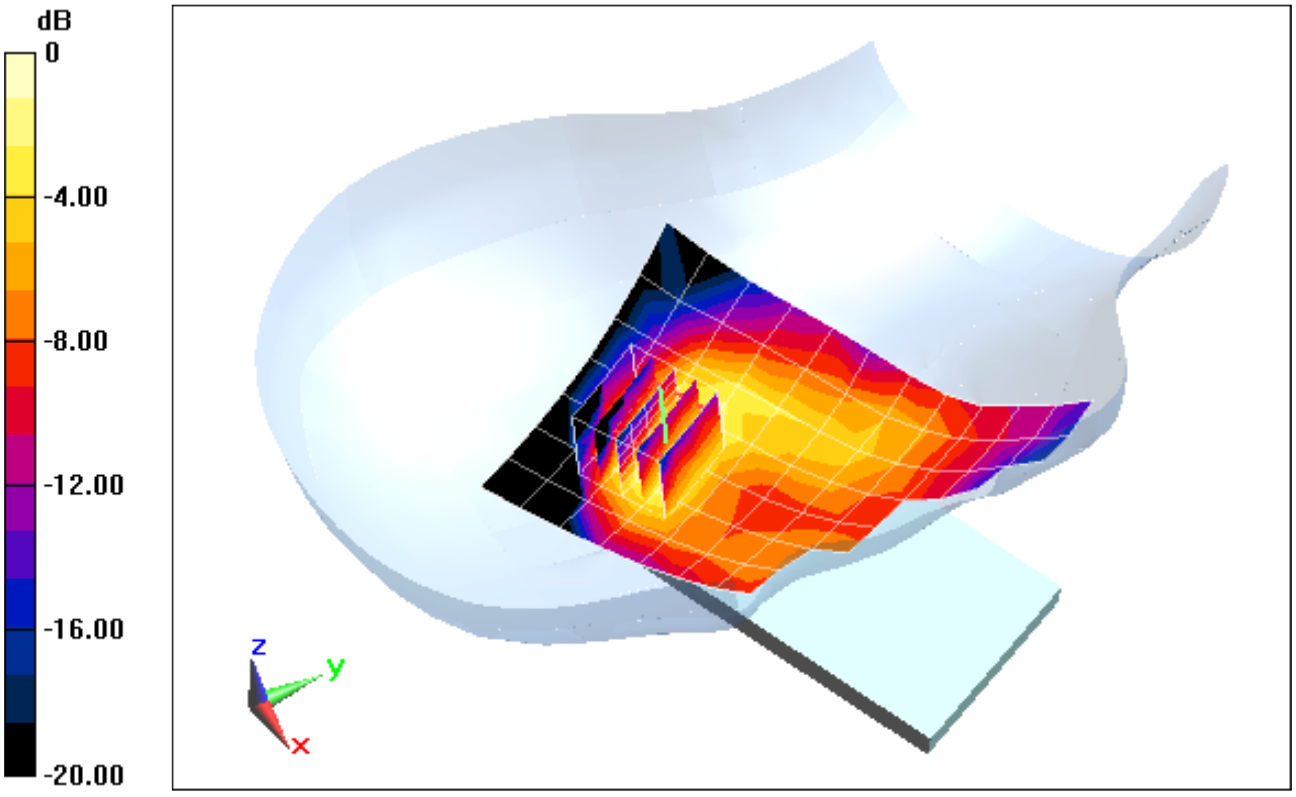
Communication System: AWS CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.349 mho/m; ε_r = 38.631; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-25-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3209; ConvF(5.26, 5.26, 5.26); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

Mode: AWS CDMA, Right Head, Tilt, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.707 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.152 mW/g
SAR(1 g) = 0.096 mW/g; SAR(10 g) = 0.053 mW/g



0 dB = 0.109 mW/g = -19.25 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

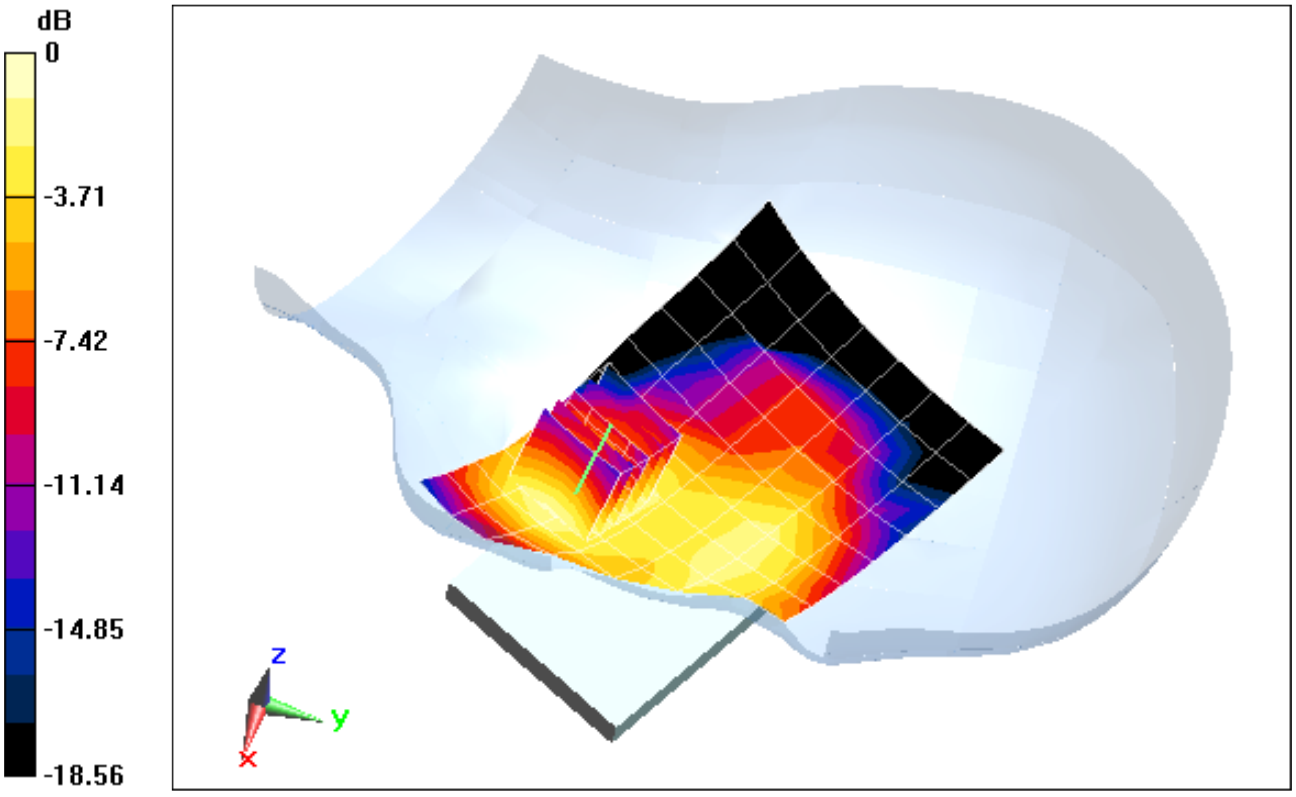
Communication System: AWS CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.349 mho/m; ε_r = 38.631; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-25-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3209; ConvF(5.26, 5.26, 5.26); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

Mode: AWS CDMA, Left Head, Cheek, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.393 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.216 mW/g
SAR(1 g) = 0.150 mW/g; SAR(10 g) = 0.098 mW/g



0 dB = 0.161 mW/g = -15.86 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

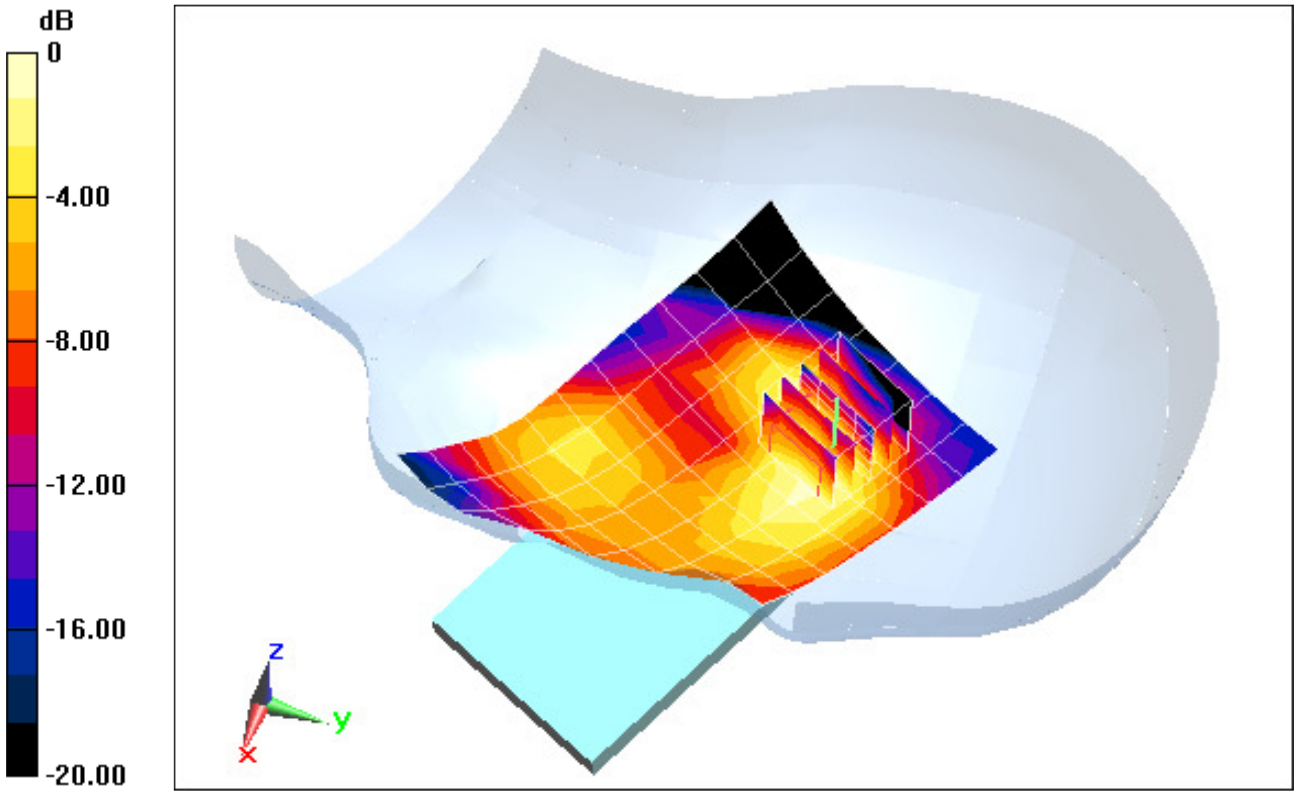
Communication System: AWS CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.349 mho/m; ε_r = 38.631; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-25-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3209; ConvF(5.26, 5.26, 5.26); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

Mode: AWS CDMA, Left Head, Tilt, Mid.ch

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.769 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.111 mW/g
SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.043 mW/g



0 dB = 0.0720 mW/g = -22.85 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#5

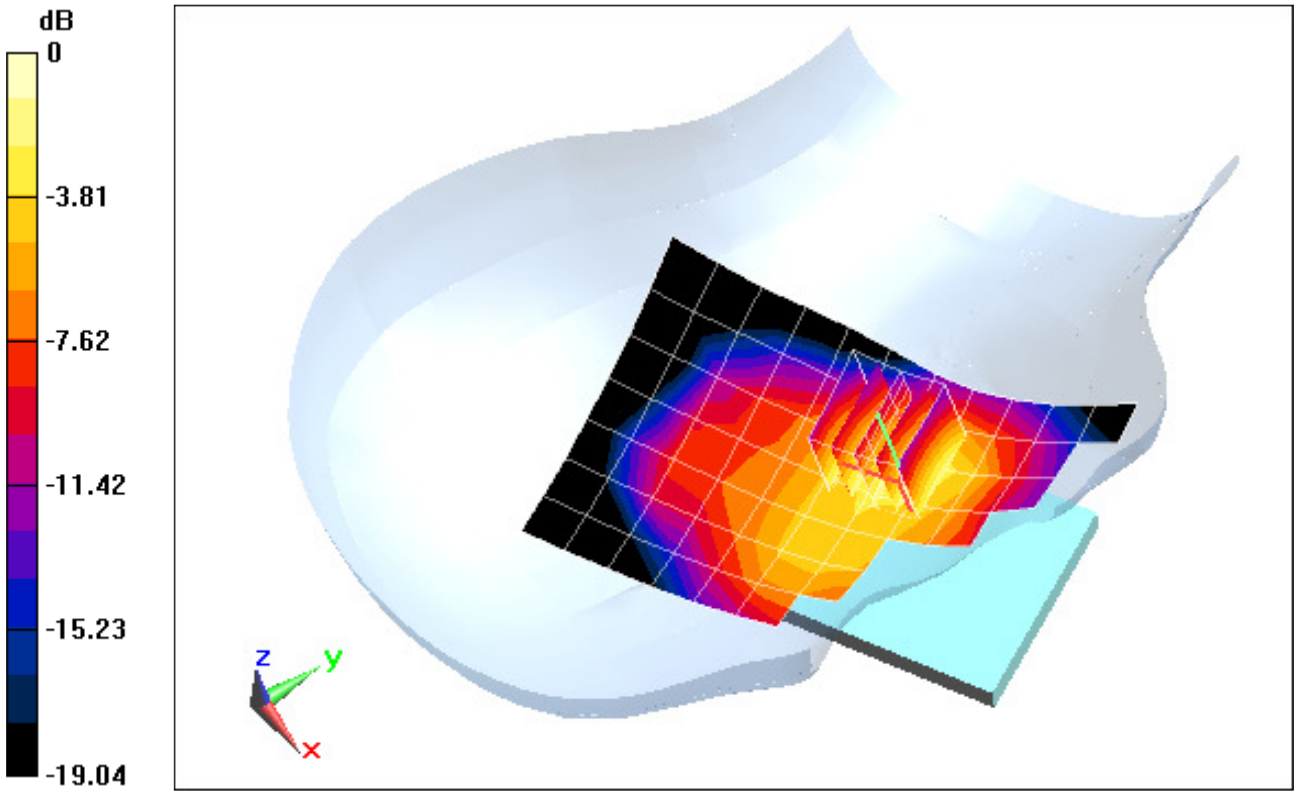
Communication System: LTE RF; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1750 MHz; σ = 1.365 mho/m; ε_r = 38.57; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-25-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3209; ConvF(5.26, 5.26, 5.26); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 4 (AWS), Right Head, Cheek, High.ch
10 MHz Bandwidth, 16QAM, 1 RB, 0 RB Offset

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.575 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.384 mW/g
SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.174 mW/g



0 dB = 0.282 mW/g = -11.00 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#5

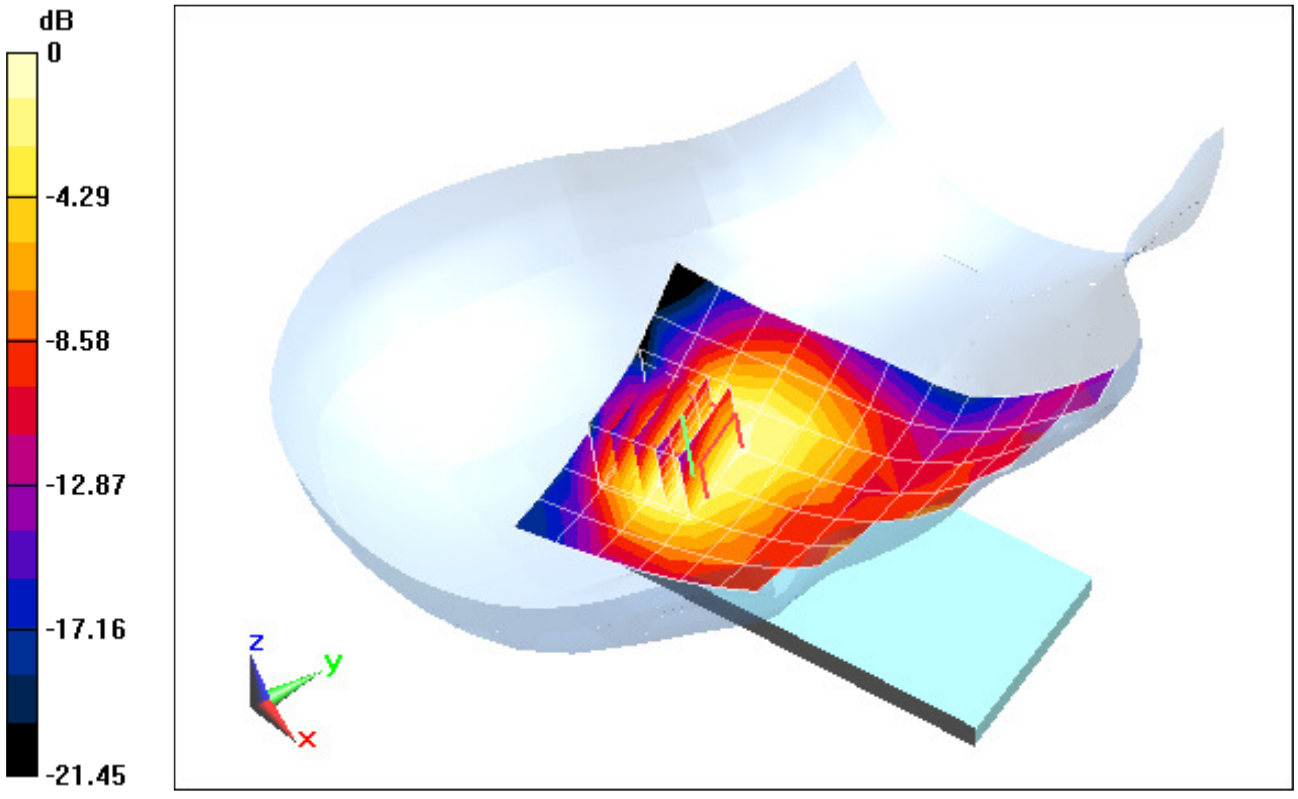
Communication System: LTE RF; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1750 MHz; σ = 1.365 mho/m; ε_r = 38.57; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-25-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3209; ConvF(5.26, 5.26, 5.26); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 4 (AWS), Right Head, Tilt, High.ch
10 MHz Bandwidth, 16QAM, 1 RB, 0 RB Offset

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.380 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.296 mW/g
SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.125 mW/g



0 dB = 0.206 mW/g = -13.72 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#5

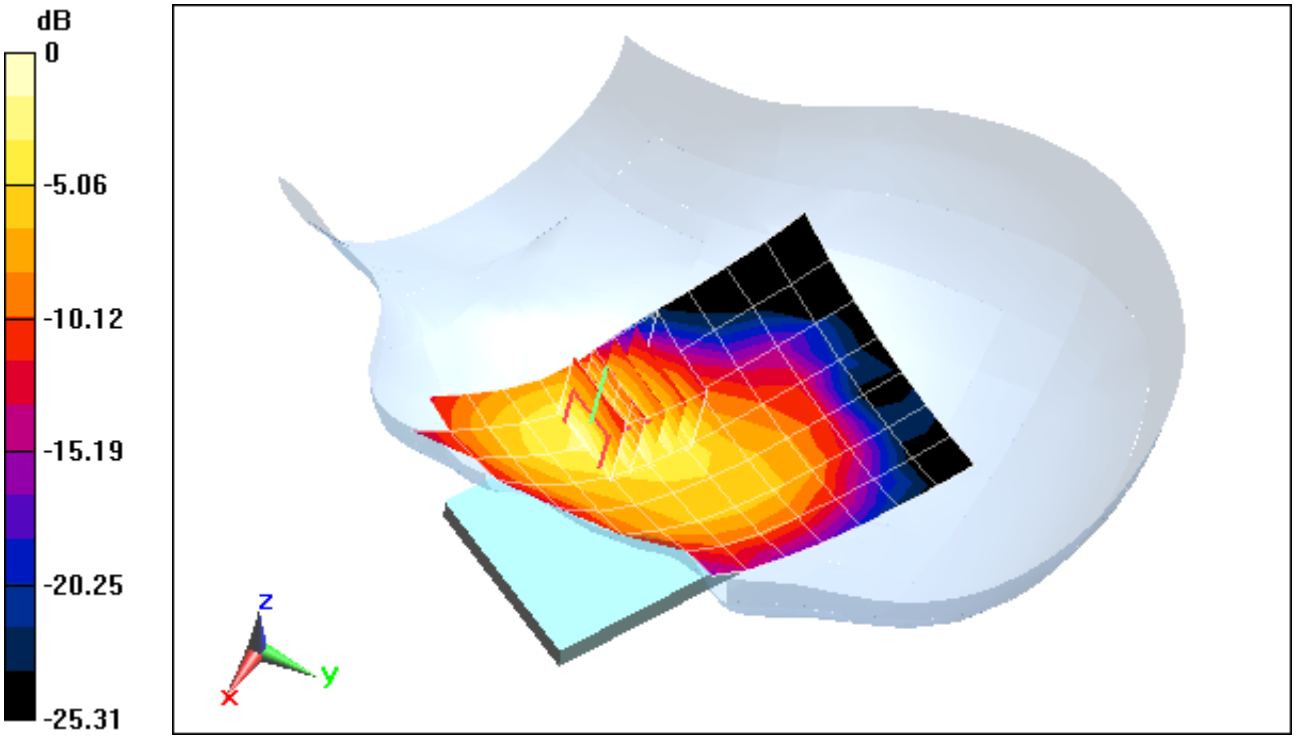
Communication System: LTE RF; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1750 MHz; σ = 1.365 mho/m; ε_r = 38.57; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-25-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3209; ConvF(5.26, 5.26, 5.26); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 4 (AWS), Left Head, Cheek, High.ch
10 MHz Bandwidth, 16QAM, 1 RB, 0 RB Offset

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.129 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.635 mW/g
SAR(1 g) = 0.420 mW/g; SAR(10 g) = 0.269 mW/g



0 dB = 0.440 mW/g = -7.13 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#5

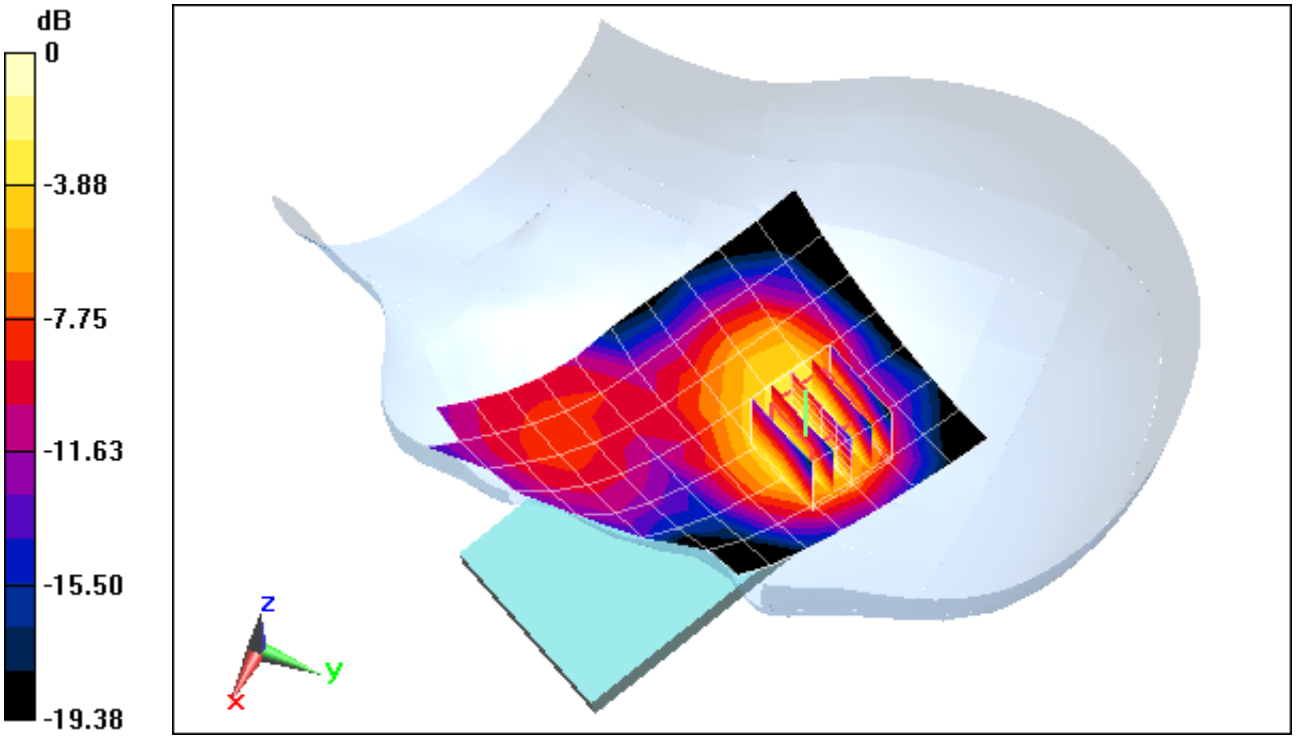
Communication System: LTE RF; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1750 MHz; σ = 1.365 mho/m; ε_r = 38.57; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-25-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3209; ConvF(5.26, 5.26, 5.26); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 4 (AWS), Left Head, Tilt, High.ch
10 MHz Bandwidth, 16QAM, 1 RB, 0 RB Offset

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.161 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.307 mW/g
SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.137 mW/g



0 dB = 0.231 mW/g = -12.73 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

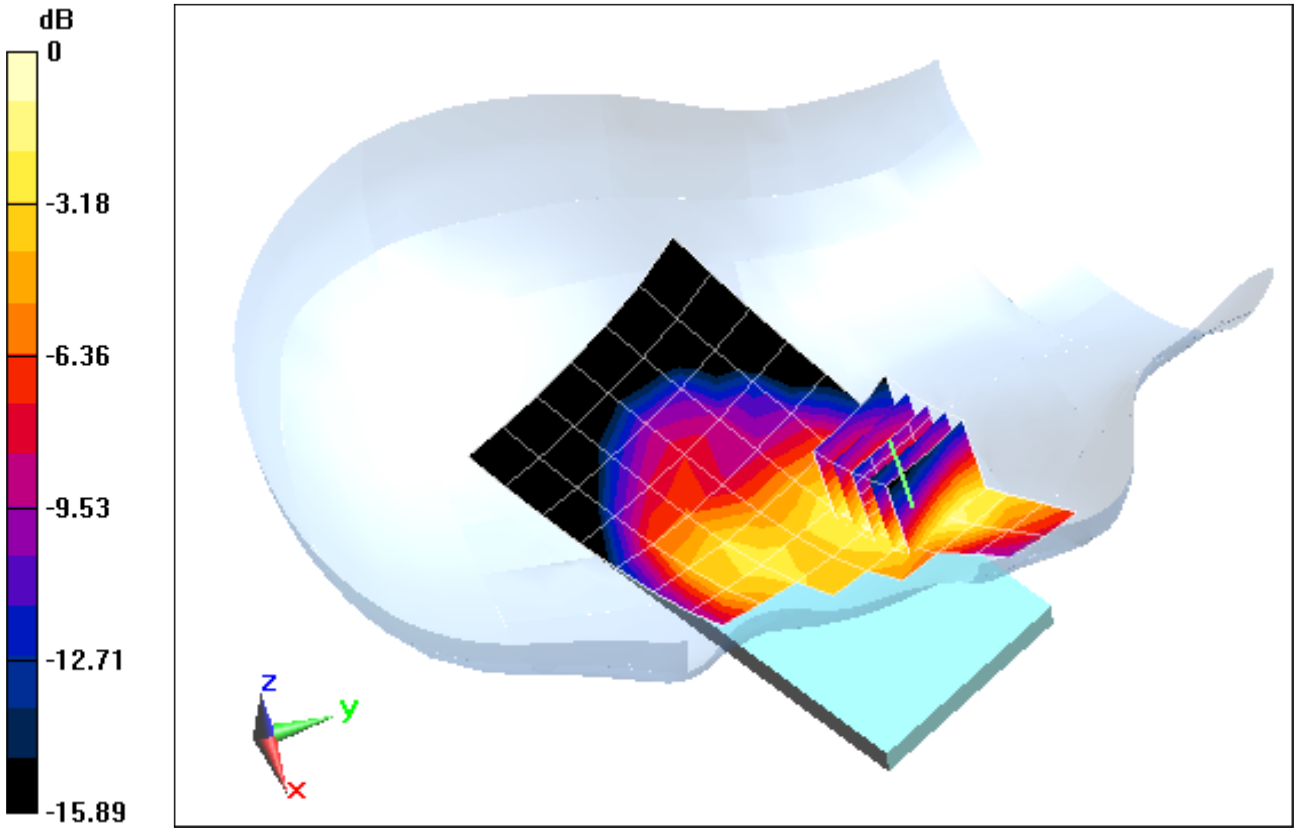
Communication System: CDMA; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1851.25 MHz; σ = 1.34 mho/m; ε_r = 39.296; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

Mode: PCS CDMA, Right Head, Cheek, Low.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 = 11.980 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.276 mW/g
SAR(1 g) = 0.179 mW/g; SAR(10 g) = 0.110 mW/g



0 dB = 0.194 mW/g = -14.24 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

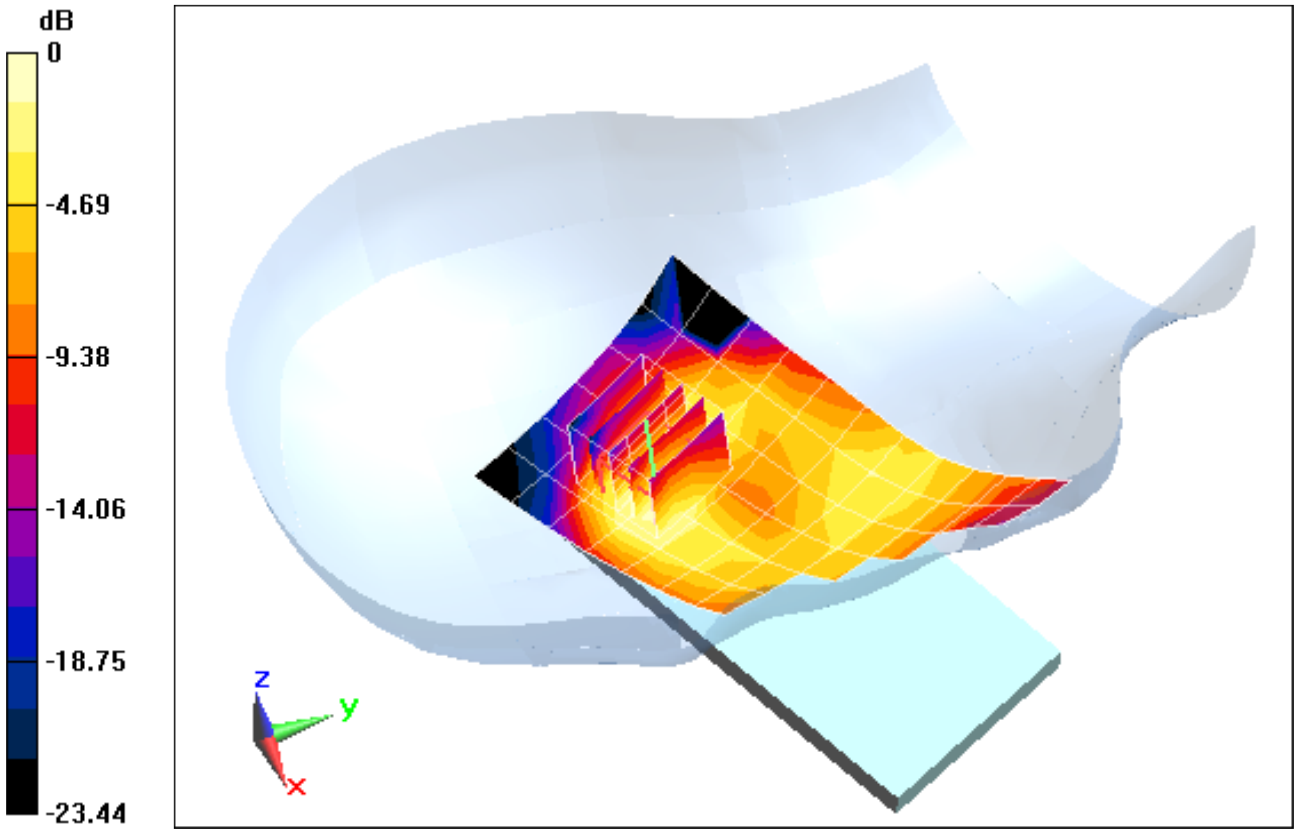
Communication System: CDMA; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1851.25 MHz; σ = 1.34 mho/m; ε_r = 39.296; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

Mode: PCS CDMA, Right Head, Tilt, Low 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 = 7.397 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.111 mW/g
SAR(1 g) = 0.066 mW/g; SAR(10 g) = 0.038 mW/g



0 dB = 0.0713 mW/g = -22.94 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

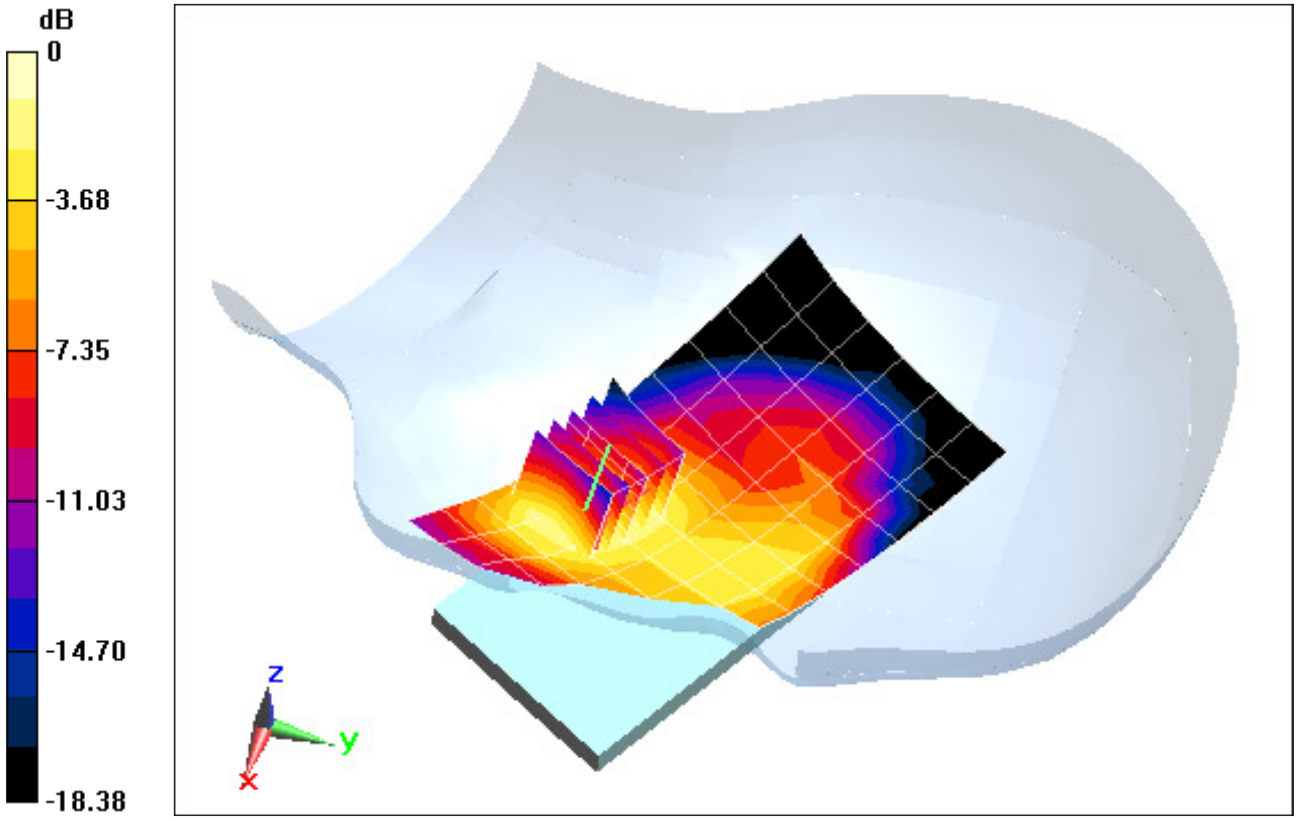
Communication System: CDMA; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1851.25 MHz; σ = 1.34 mho/m; ε_r = 39.296; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

Mode: PCS CDMA, Left Head, Cheek, Low.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 = 11.302 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.249 mW/g
SAR(1 g) = 0.162 mW/g; SAR(10 g) = 0.102 mW/g



0 dB = 0.177 mW/g = -15.04 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

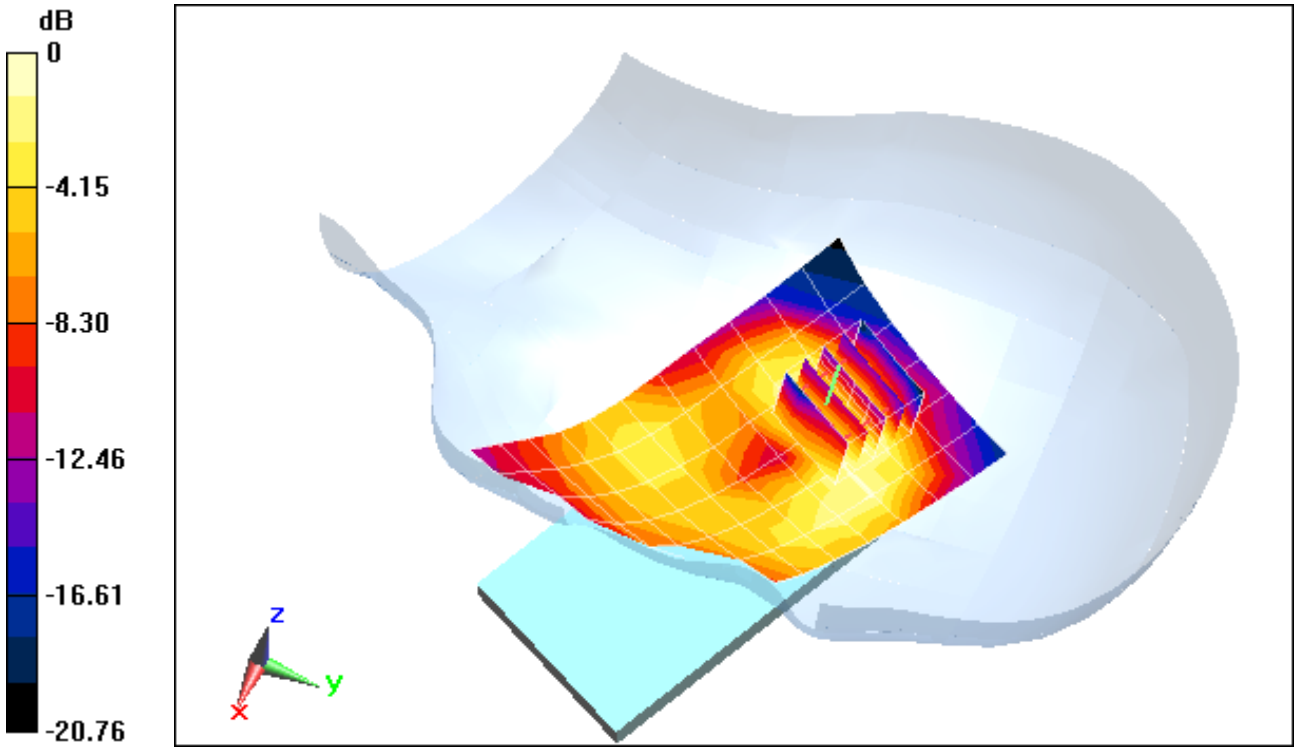
Communication System: CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.385 mho/m; ε_r = 38.24; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 09-05-2012; Ambient Temp: 23.3°C; Tissue Temp: 24.0°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: PCS EVDO RevA, Left Head, Tilt, 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 = 5.985 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.087 mW/g
SAR(1 g) = 0.052 mW/g; SAR(10 g) = 0.030 mW/g



0 dB = 0.0578 mW/g = -24.76 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

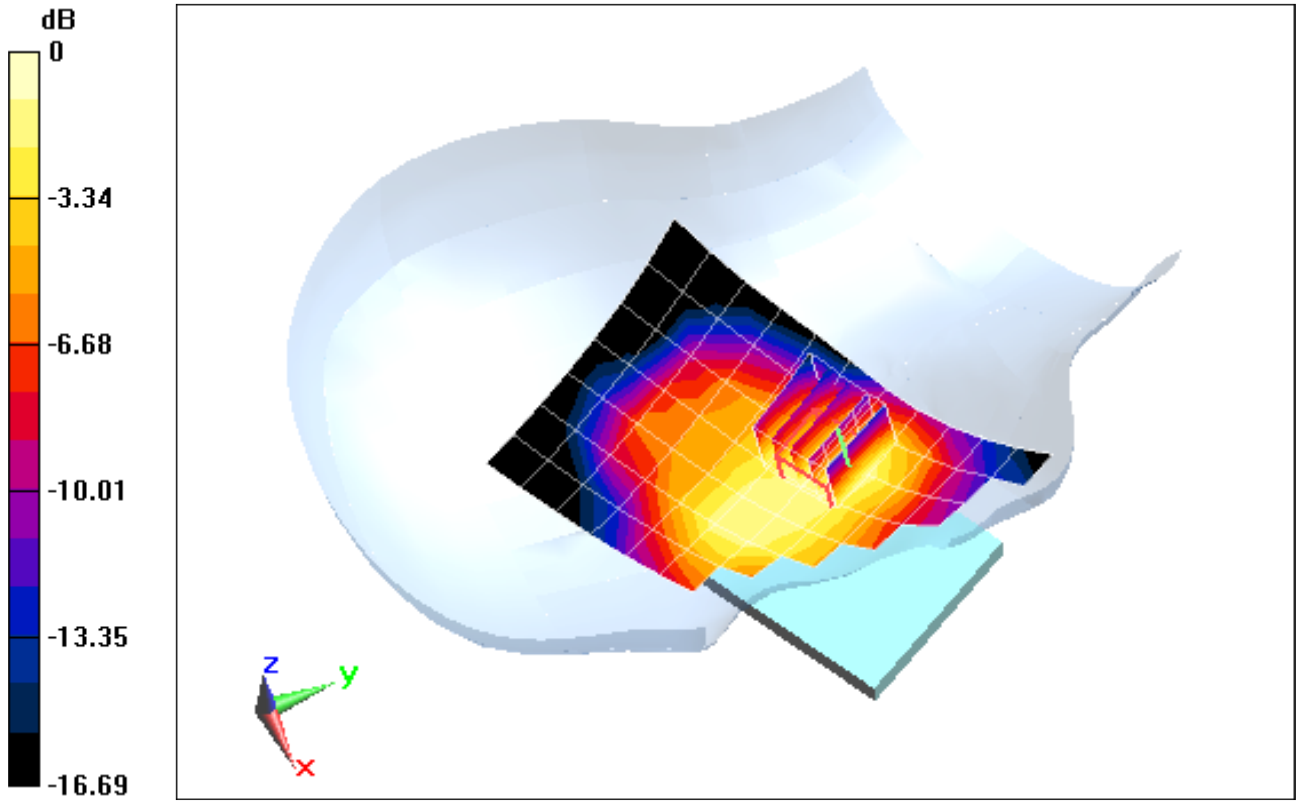
Communication System: LTE Band 2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.375 mho/m; ε_r = 38.92; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-24-2012; Ambient Temp: 23.8°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 2 (PCS), Right Head, Cheek, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.263 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.435 mW/g
SAR(1 g) = 0.299 mW/g; SAR(10 g) = 0.198 mW/g



0 dB = 0.315 mW/g = -10.03 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

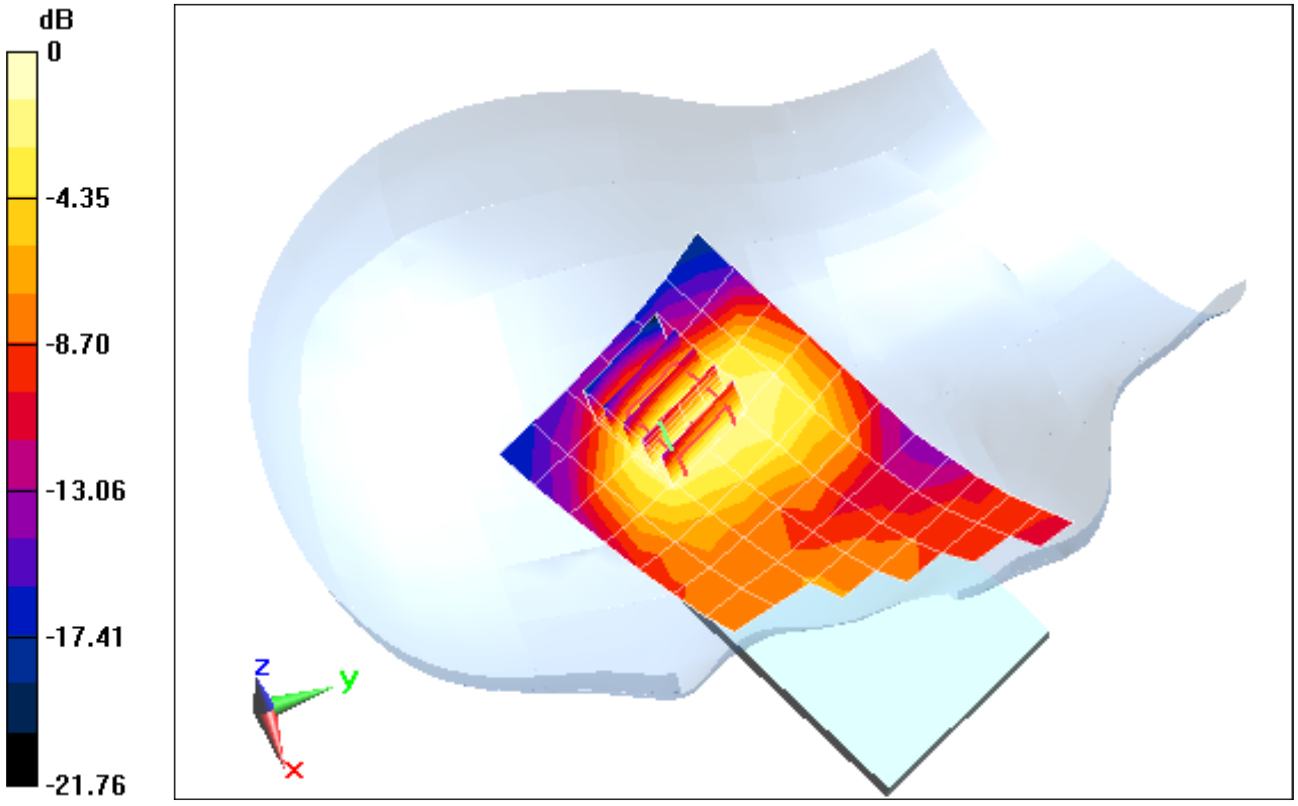
Communication System: LTE Band 2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.375 mho/m; ε_r = 38.92; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-24-2012; Ambient Temp: 23.8°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 2 (PCS), Right Head, Tilt, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.137 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.381 mW/g
SAR(1 g) = 0.241 mW/g; SAR(10 g) = 0.148 mW/g



0 dB = 0.250 mW/g = -12.04 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

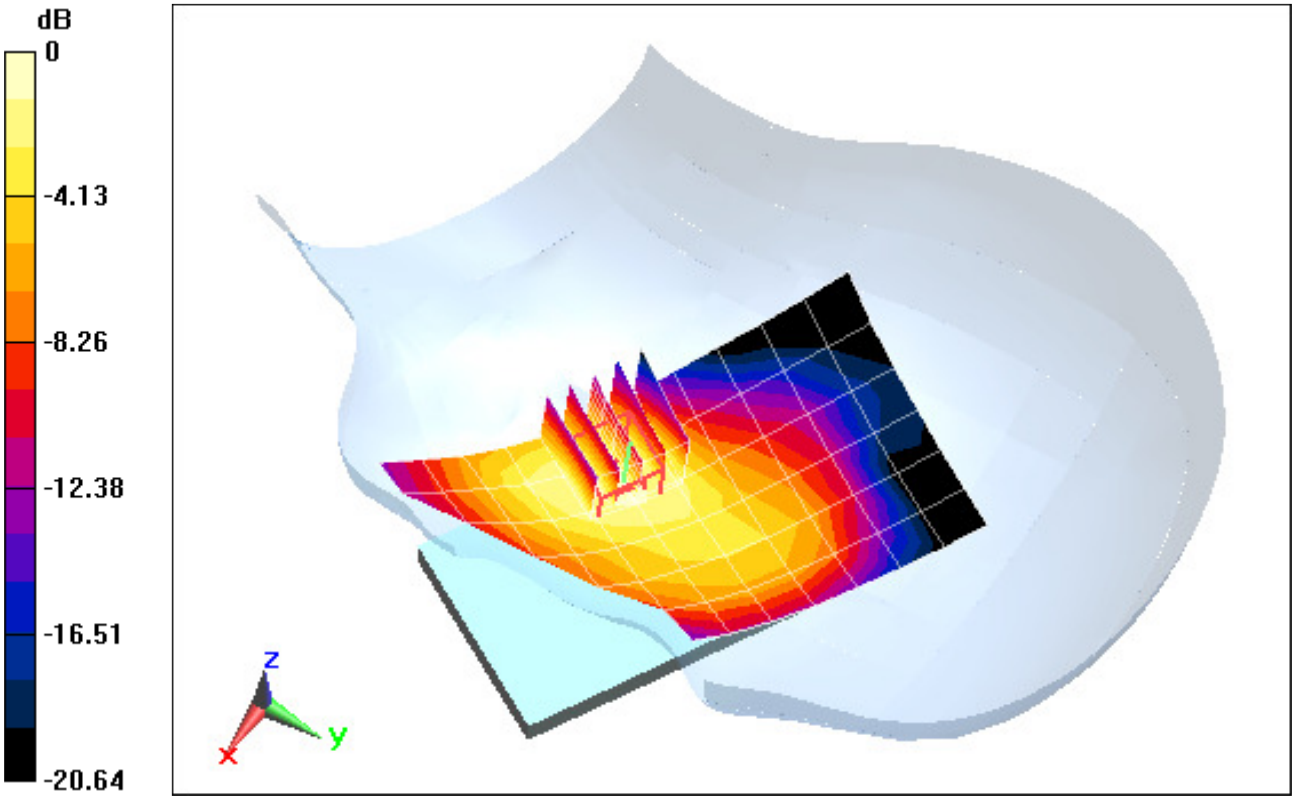
Communication System: LTE Band 2; Frequency: 1905 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1905 MHz; σ = 1.398 mho/m; ε_r = 38.837; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-24-2012; Ambient Temp: 23.8°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 2 (PCS), Left Head, Cheek, High.ch
16QAM, 10 MHz Bandwidth, 1 RB, 49 RB Offset

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.576 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.664 mW/g
SAR(1 g) = 0.437 mW/g; SAR(10 g) = 0.270 mW/g



0 dB = 0.471 mW/g = -6.54 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

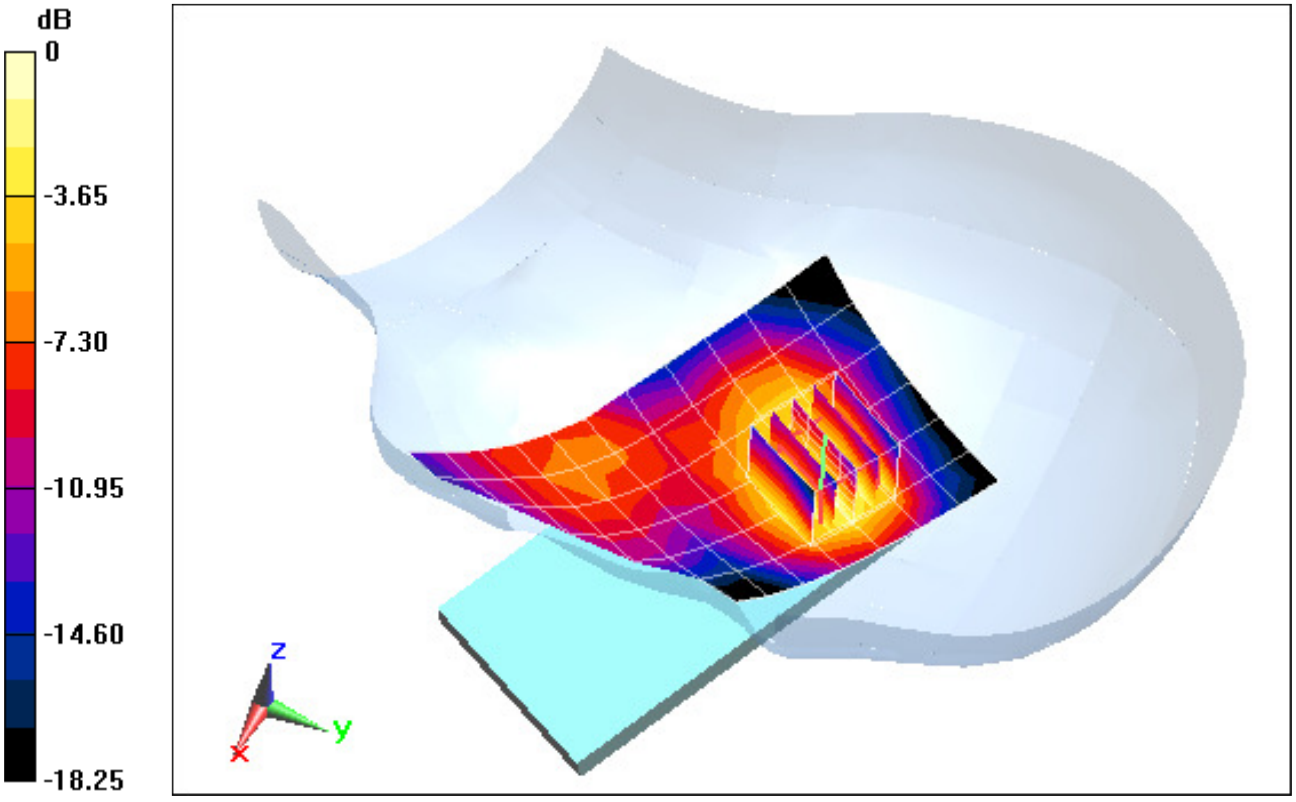
Communication System: LTE Band 2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.375 mho/m; ε_r = 38.92; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-24-2012; Ambient Temp: 23.8°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 2 (PCS), Left Head, Tilt, Mid.ch
QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.773 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.368 mW/g
SAR(1 g) = 0.247 mW/g; SAR(10 g) = 0.156 mW/g



0 dB = 0.260 mW/g = -11.70 dB mW/g

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DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

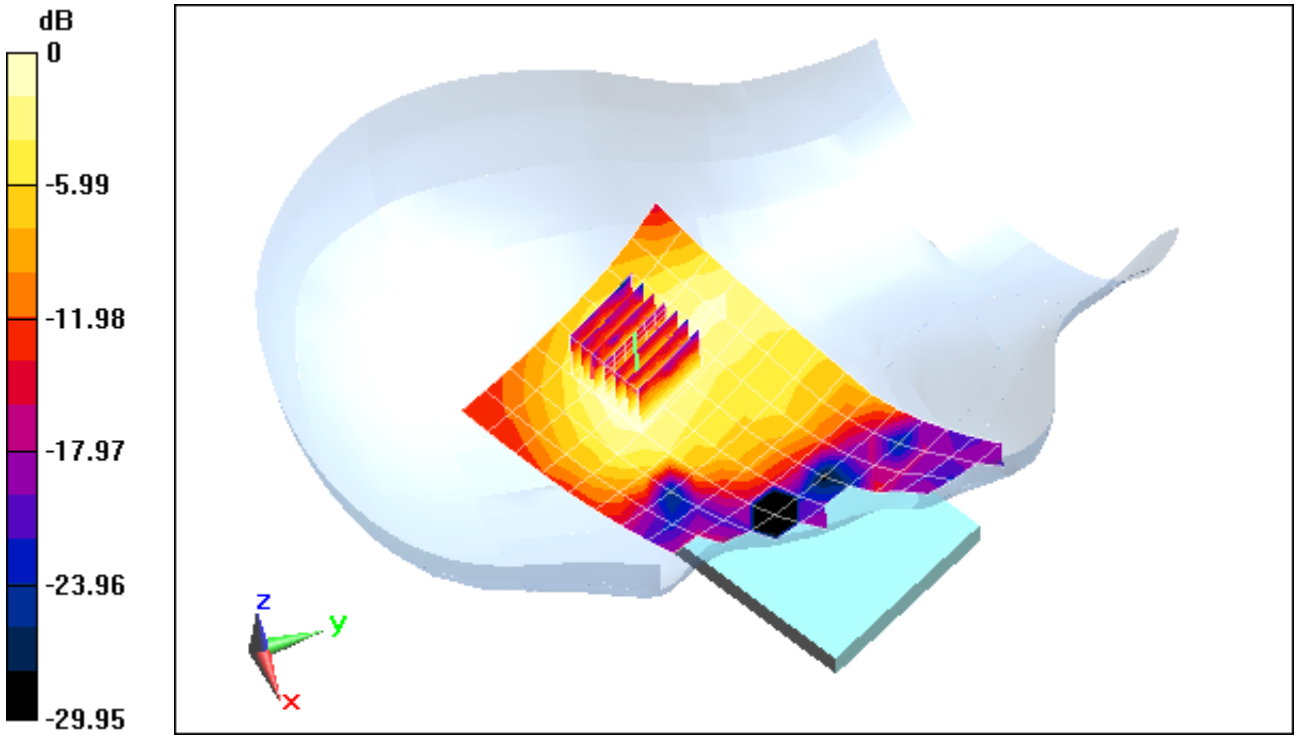
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.898 mho/m; ε_r = 40.256; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-26-2012; Ambient Temp: 20.8°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3287; ConvF(4.44, 4.44, 4.44); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 4/19/2012
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Area Scan (9x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.422 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.063 mW/g
SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.018 mW/g



0 dB = 0.0408 mW/g = -27.79 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

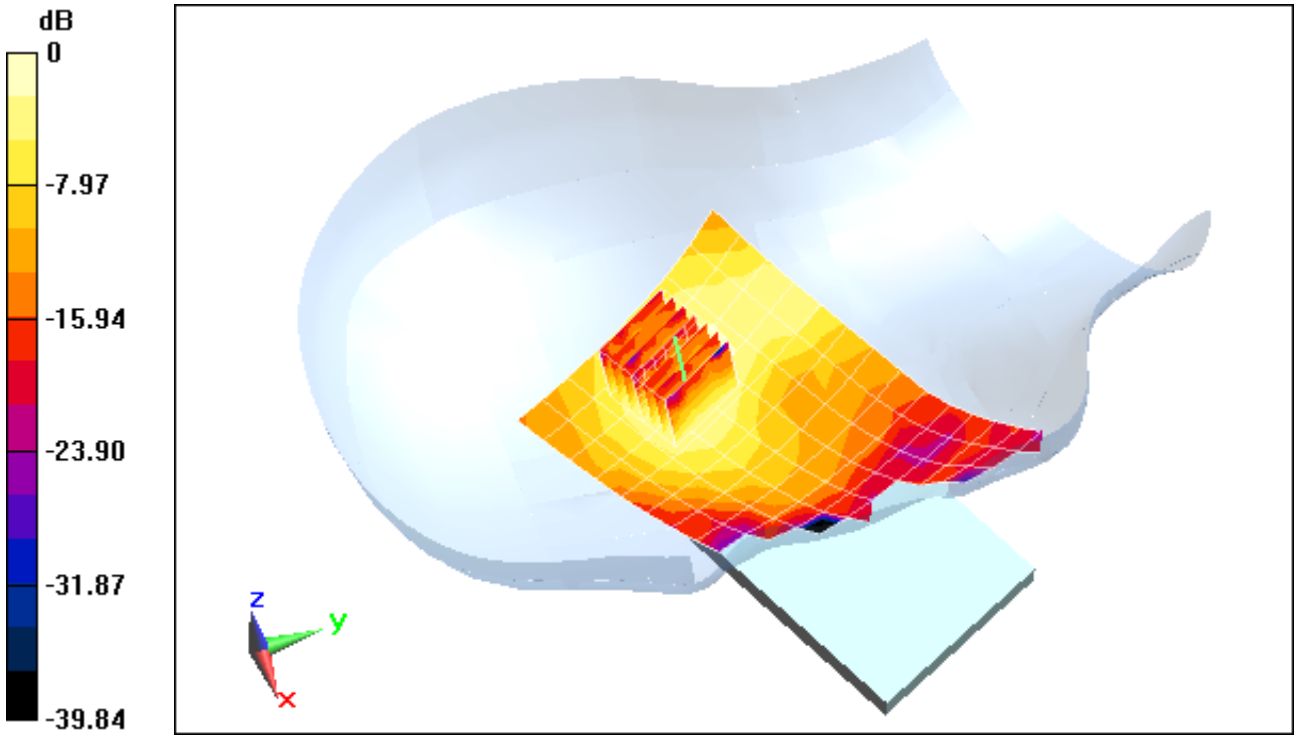
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.898 mho/m; ε_r = 40.256; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-26-2012; Ambient Temp: 20.8°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3287; ConvF(4.44, 4.44, 4.44); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 4/19/2012
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Area Scan (9x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.952 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.056 mW/g
SAR(1 g) = 0.028 mW/g; SAR(10 g) = 0.014 mW/g



0 dB = 0.0344 mW/g = -29.27 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

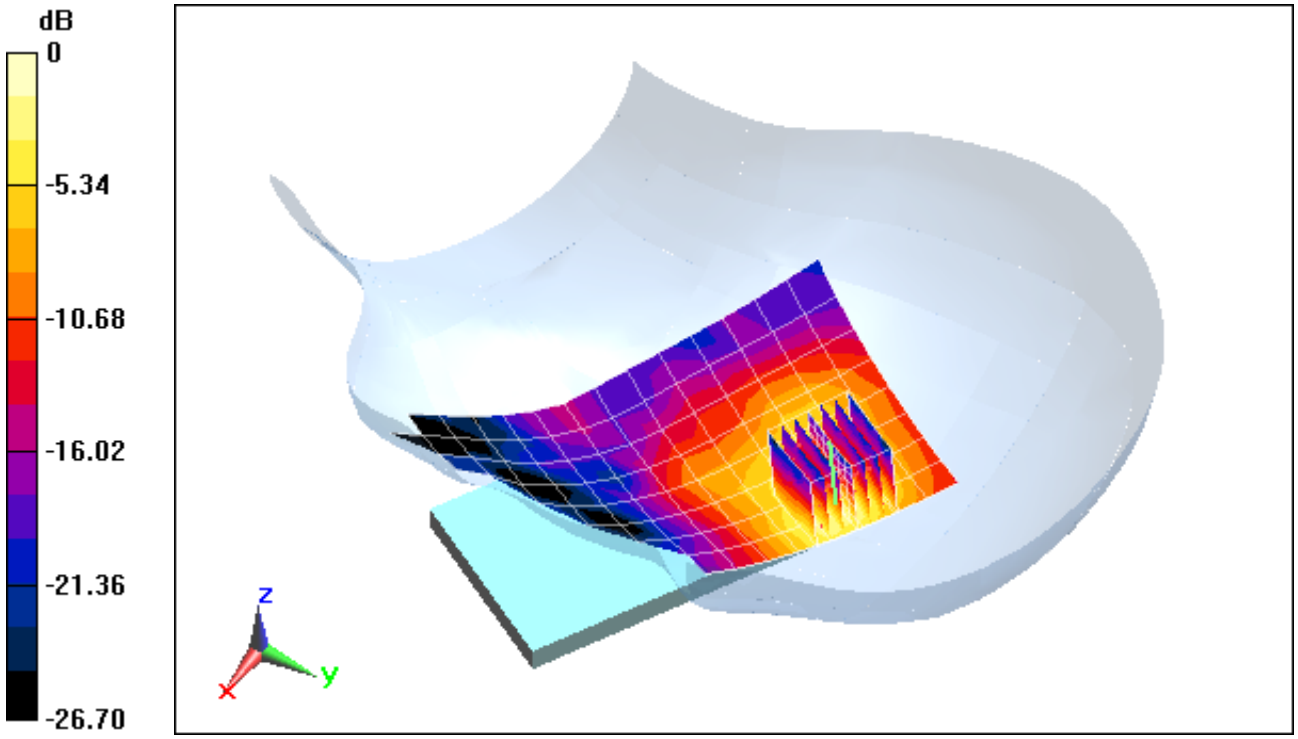
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.898 mho/m; ε_r = 40.256; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-26-2012; Ambient Temp: 20.8°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3287; ConvF(4.44, 4.44, 4.44); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 4/19/2012
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Area Scan (9x15x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.495 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.164 mW/g
SAR(1 g) = 0.073 mW/g; SAR(10 g) = 0.035 mW/g



0 dB = 0.0949 mW/g = -20.45 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

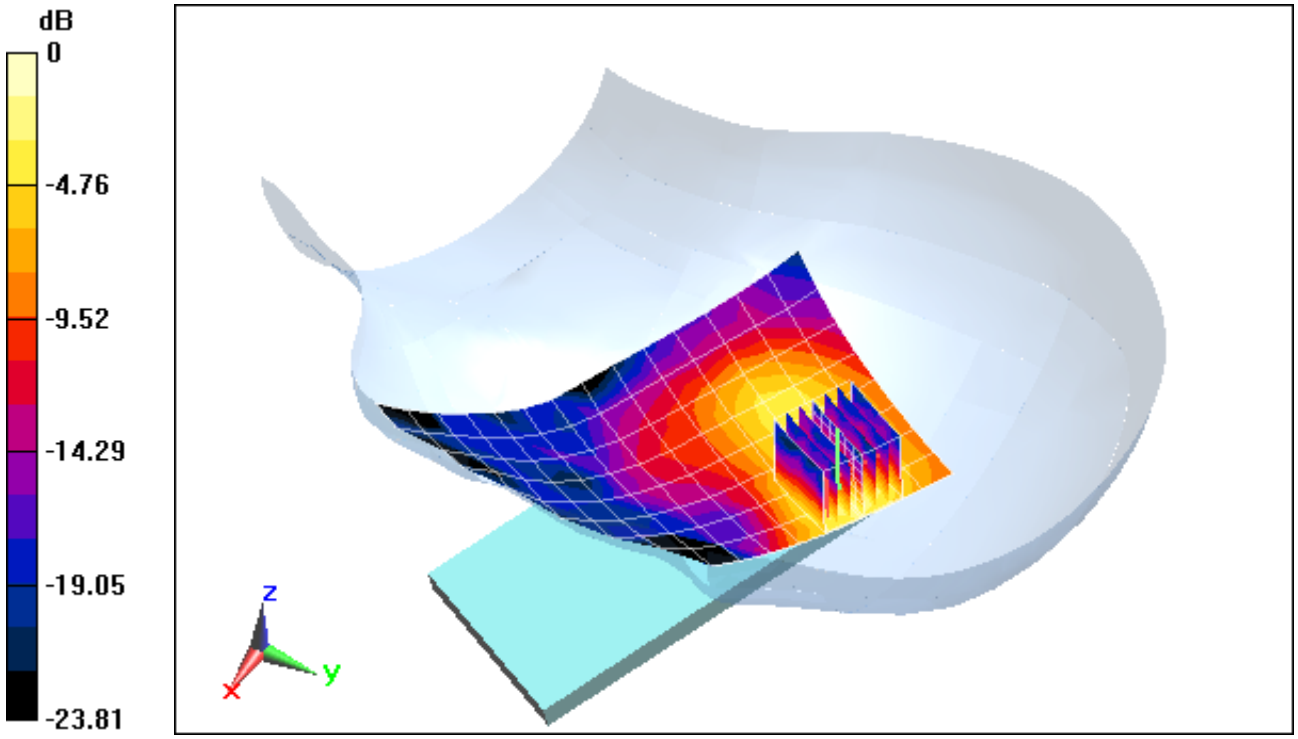
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.898 mho/m; ε_r = 40.256; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-26-2012; Ambient Temp: 20.8°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3287; ConvF(4.44, 4.44, 4.44); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 4/19/2012
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Area Scan (9x15x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.898 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.088 mW/g
SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.020 mW/g



0 dB = 0.0547 mW/g = -25.24 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

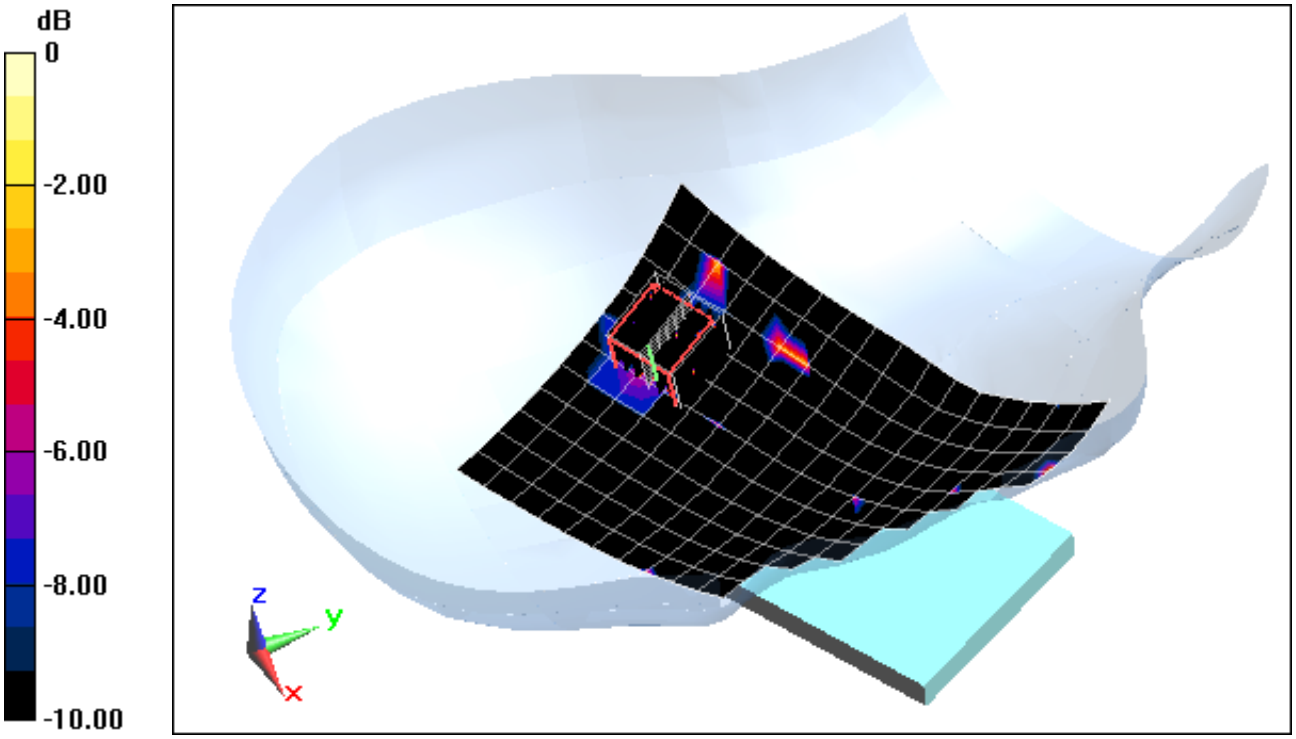
Communication System: IEEE 802.11a 5.2-5.8 GHz Band; Frequency: 5260 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5260 MHz; σ = 4.497 mho/m; ε_r = 37.59; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-30-2012; Ambient Temp: 23.7°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN3589 ConvF(4.36, 4.36, 4.36); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: IEEE 802.11a 5.3 GHz, Right Head, Cheek, Ch 52, 6 Mbps

Area Scan (12x17x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.605 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.168 mW/g
SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00252 mW/g



0 dB = 0.0439 mW/g = -27.15 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

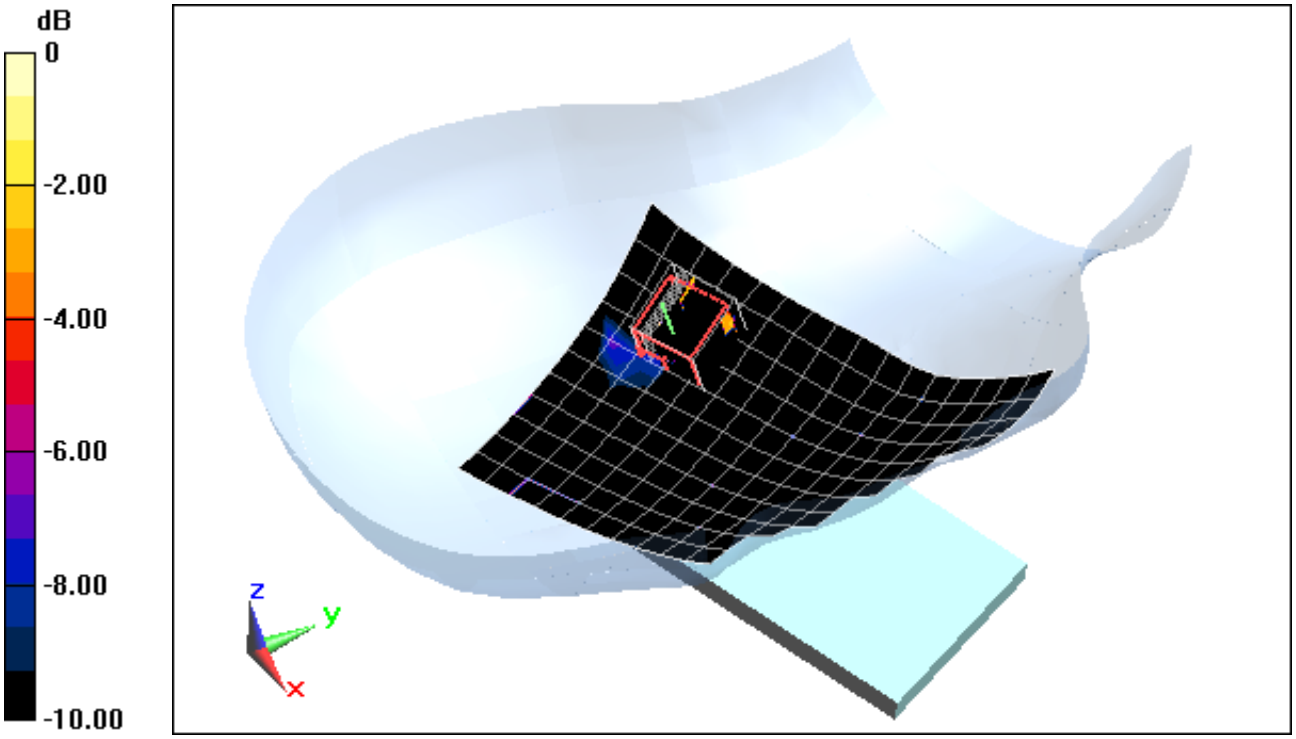
Communication System: IEEE 802.11a 5.2-5.8 GHz Band; Frequency: 5260 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5260 MHz; σ = 4.497 mho/m; ε_r = 37.59; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-30-2012; Ambient Temp: 23.7°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN3589; ConvF(4.36, 4.36, 4.36); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: IEEE 802.11a 5.3 GHz, Right Head, Tilt, Ch 52, 6 Mbps

Area Scan (12x17x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.149 mW/g
SAR(1 g) = 0.00711 mW/g; SAR(10 g) = 0.000797 mW/g



0 dB = 0.0488 mW/g = -26.23 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

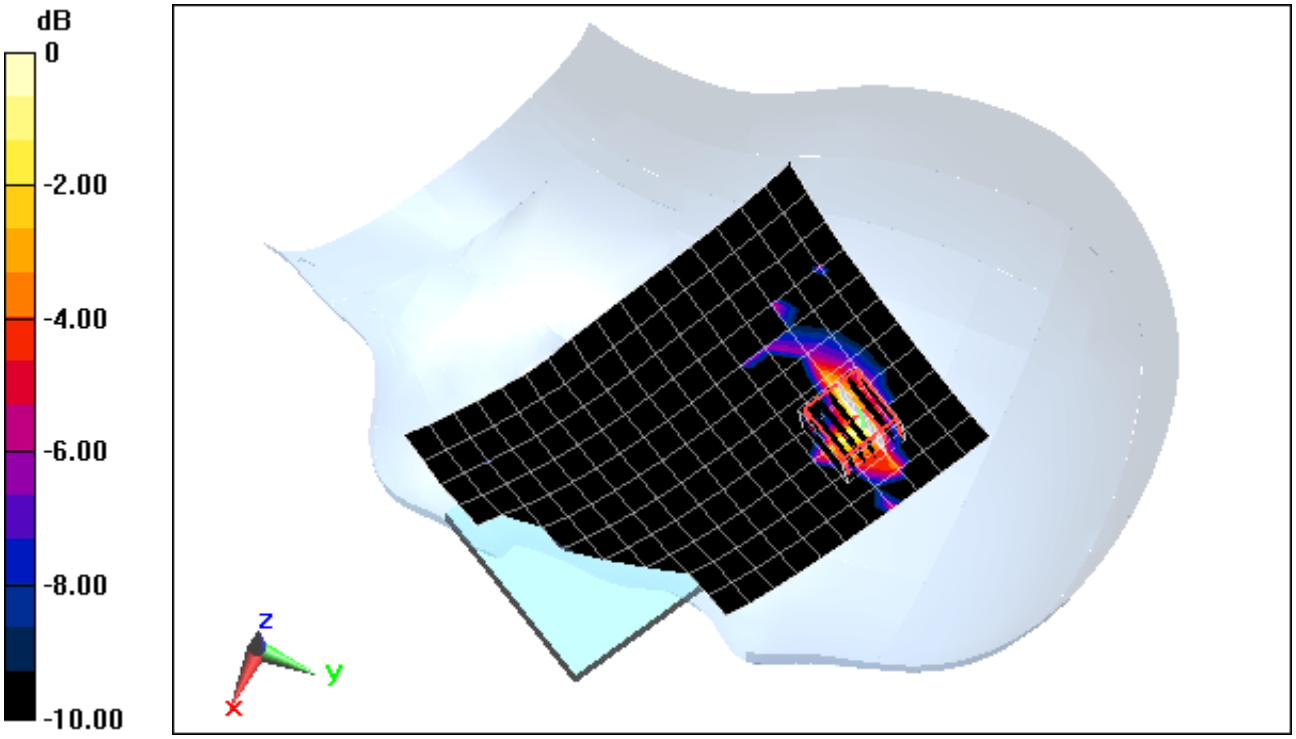
Communication System: IEEE 802.11a 5.2-5.8 GHz Band; Frequency: 5260 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5260 MHz; σ = 4.497 mho/m; ε_r = 37.59; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-30-2012; Ambient Temp: 23.7°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN3589; ConvF(4.36, 4.36, 4.36); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: IEEE 802.11a, 5.3 GHz Left Head, Cheek, Ch 52, 6 Mbps

Area Scan (12x17x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.749 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.559 mW/g
SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.013 mW/g



0 dB = 0.0931 mW/g = -20.62 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

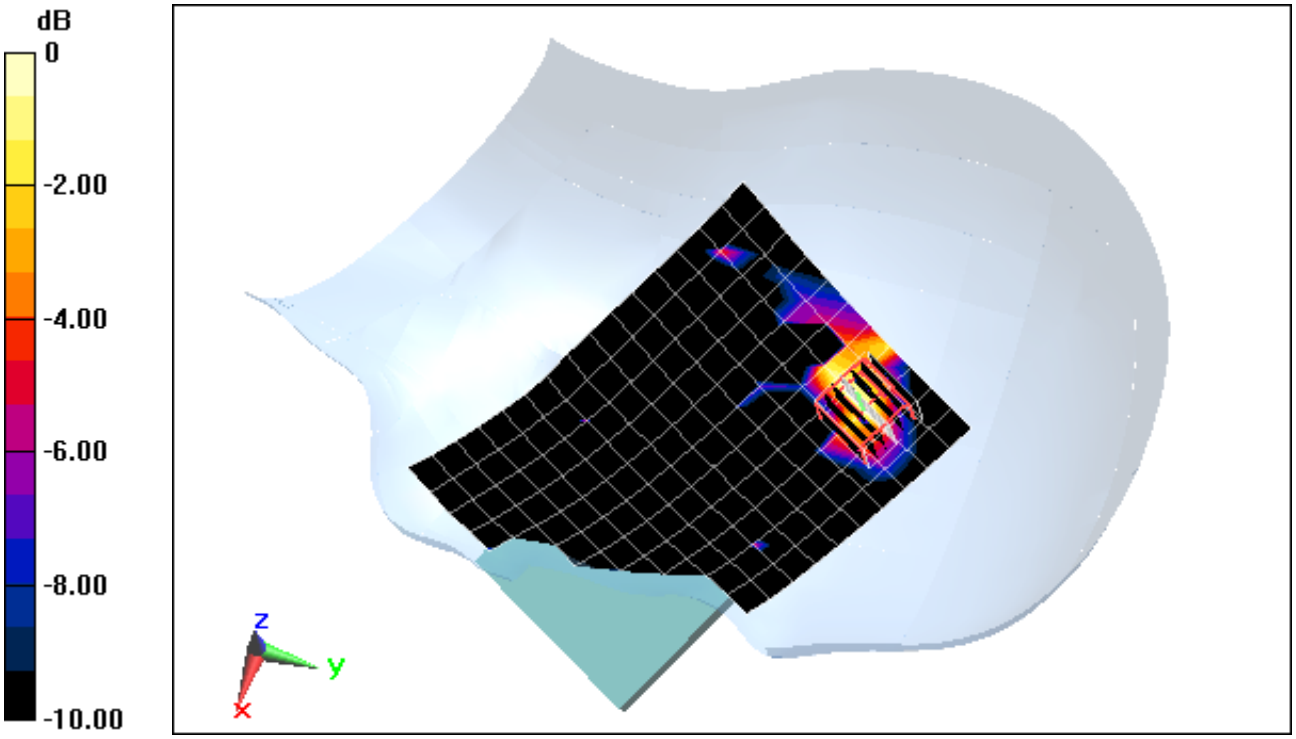
Communication System: IEEE 802.11a 5.2-5.8 GHz Band; Frequency: 5260 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5260 MHz; σ = 4.497 mho/m; ε_r = 37.59; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-30-2012; Ambient Temp: 23.7°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN3589; ConvF(4.36, 4.36, 4.36); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: IEEE 802.11a, 5.3 GHz Left Head, Tilt, Ch 52, 6 Mbps

Area Scan (12x16x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.372 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.567 mW/g
SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.00639 mW/g



0 dB = 0.0687 mW/g = -23.26 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

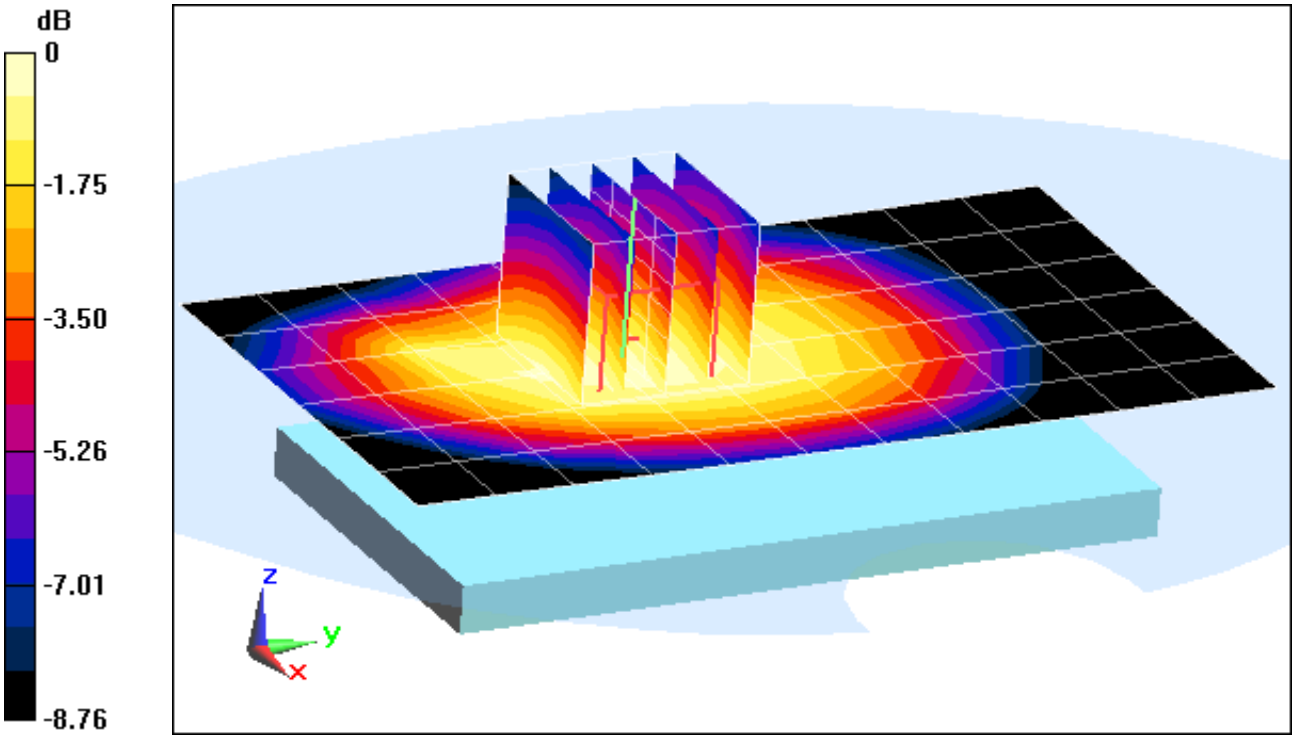
Communication System: Cellular CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.988 mho/m; ε_r = 54.781; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-26-2012; Ambient Temp: 24.5°C; Tissue Temp: 23.8°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012;
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, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: Cellular TDSO, 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 = 22.908 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.544 mW/g
SAR(1 g) = 0.445 mW/g; SAR(10 g) = 0.343 mW/g



0 dB = 0.469 mW/g = -6.58 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

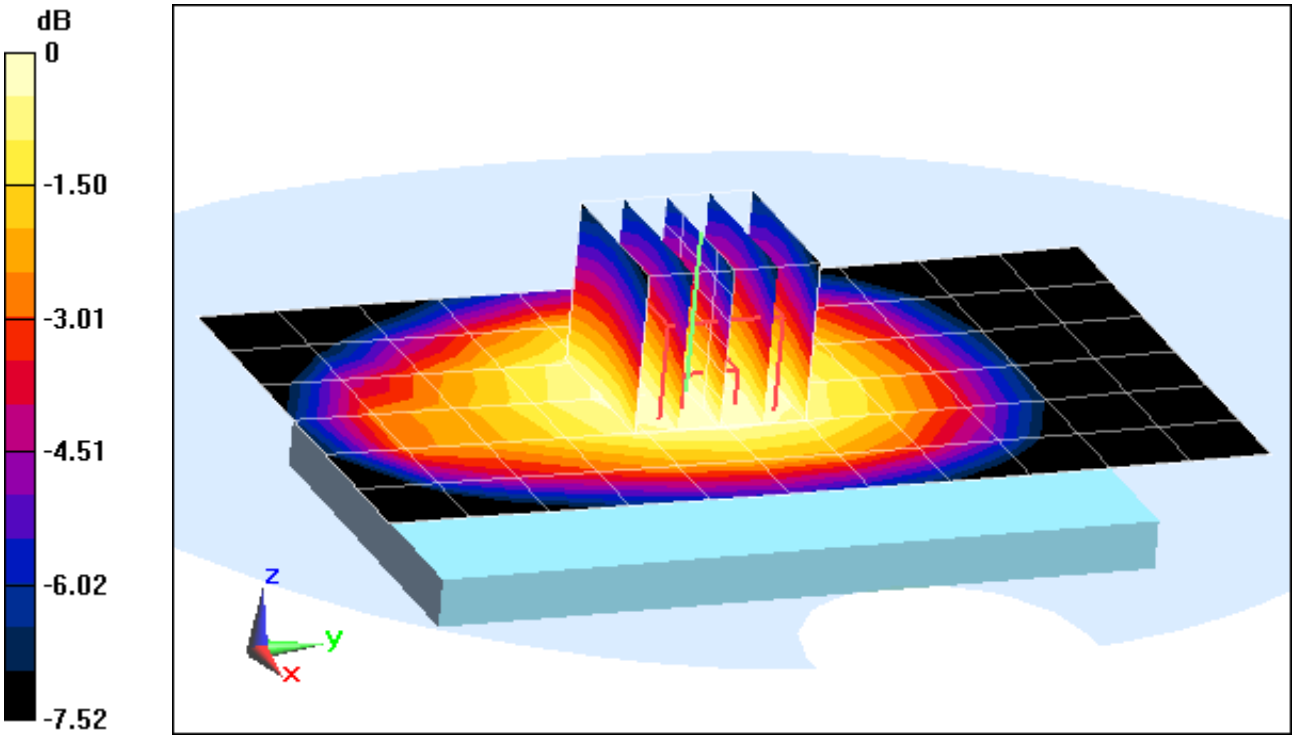
Communication System: Cellular CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
$f = 836.52$ MHz; $\sigma = 0.988$ mho/m; $\varepsilon_r = 54.781$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-26-2012; Ambient Temp: 24.5°C; Tissue Temp: 23.8°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012;
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, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: Cellular EVDO Rev. 0, 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 = 18.480 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.349 mW/g
SAR(1 g) = 0.285 mW/g; SAR(10 g) = 0.223 mW/g



0 dB = 0.296 mW/g = -10.57 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

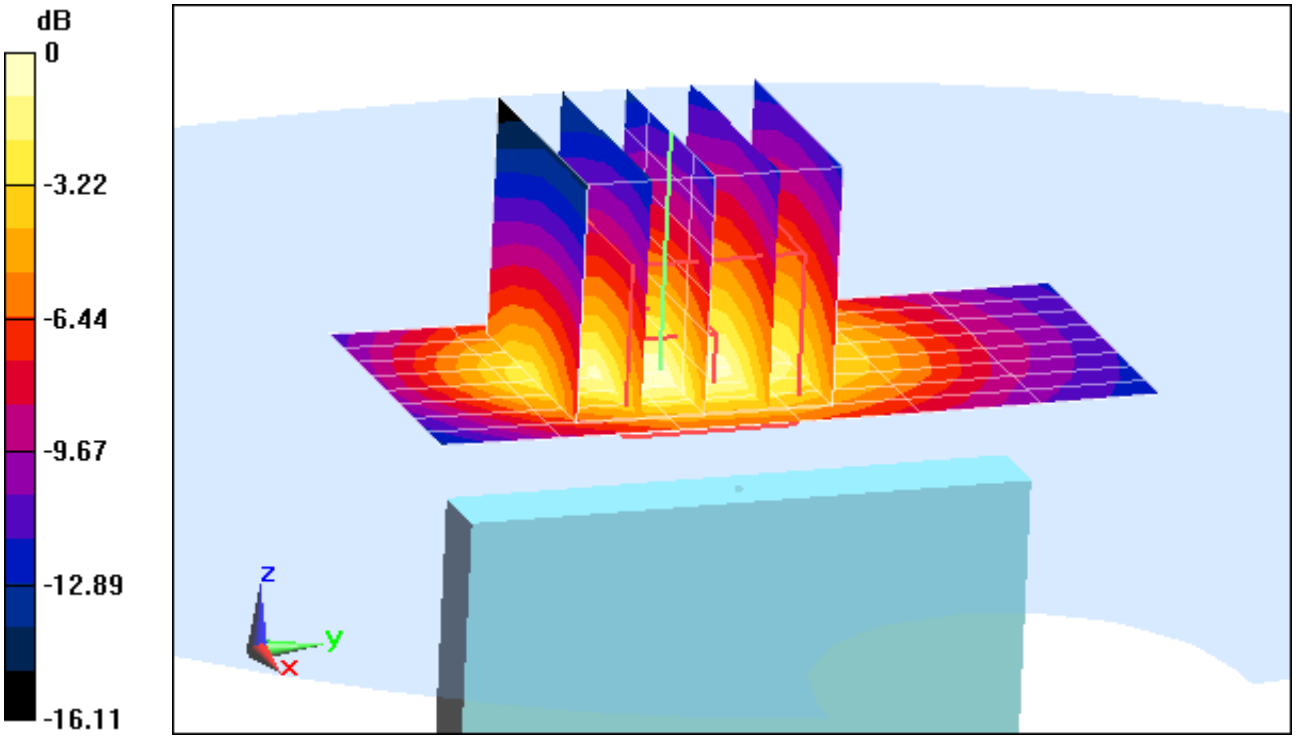
Communication System: Cellular CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.988 mho/m; ε_r = 54.781; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-26-2012; Ambient Temp: 24.5°C; Tissue Temp: 23.8°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012;
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, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: Cellular EVDO Rev. 0, Body SAR, Bottom Edge, Mid.ch

Area Scan (9x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.271 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.308 mW/g
SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.092 mW/g



0 dB = 0.187 mW/g = -14.56 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

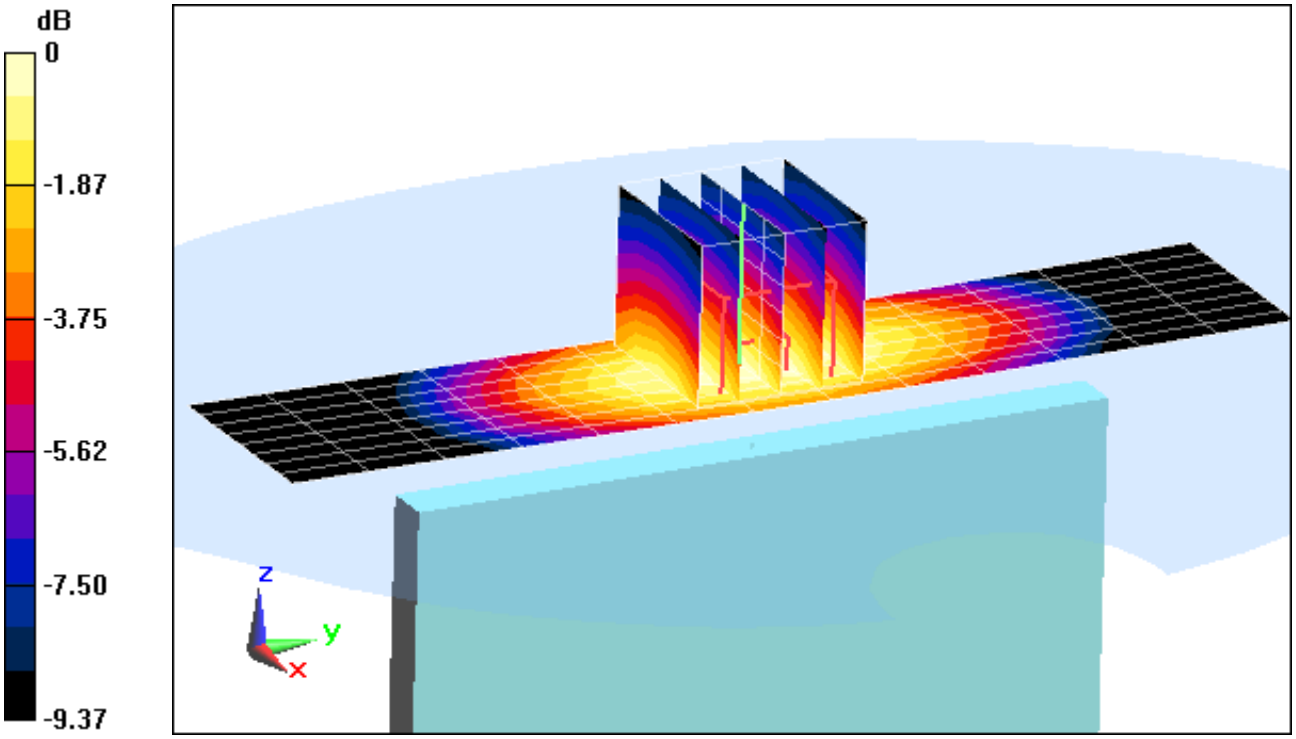
Communication System: Cellular CDMA; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.972 mho/m; ε_r = 54.858; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 24.1°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012;
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, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: Cellular TDSO, Body SAR, Right Edge, Mid.ch

Area Scan (9x14x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.929 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.532 mW/g
SAR(1 g) = 0.381 mW/g; SAR(10 g) = 0.263 mW/g



0 dB = 0.409 mW/g = -7.77 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

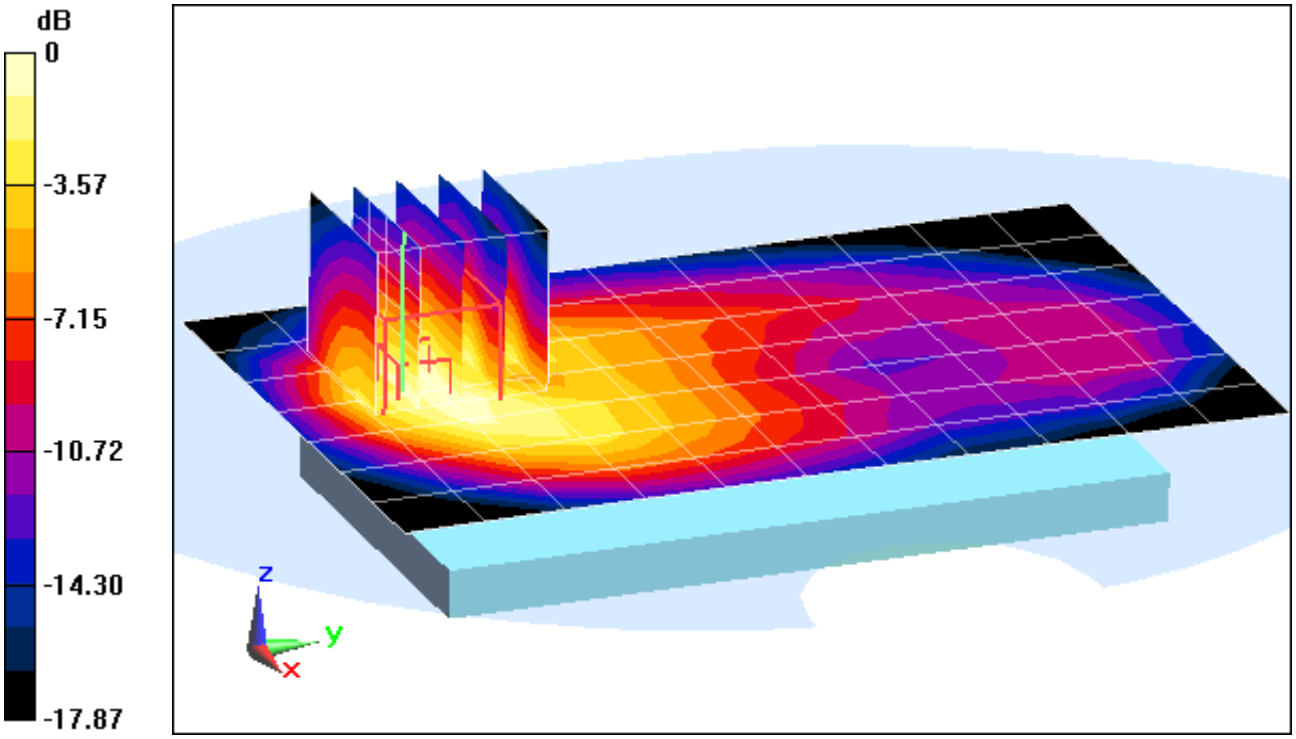
Communication System: AWS CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
$f = 1732.5$ MHz; $\sigma = 1.476$ mho/m; $\varepsilon_r = 51.586$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: AWS EVDO Rev. 0, 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 = 25.399 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.374 mW/g
SAR(1 g) = 0.775 mW/g; SAR(10 g) = 0.418 mW/g



0 dB = 0.845 mW/g = -1.46 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

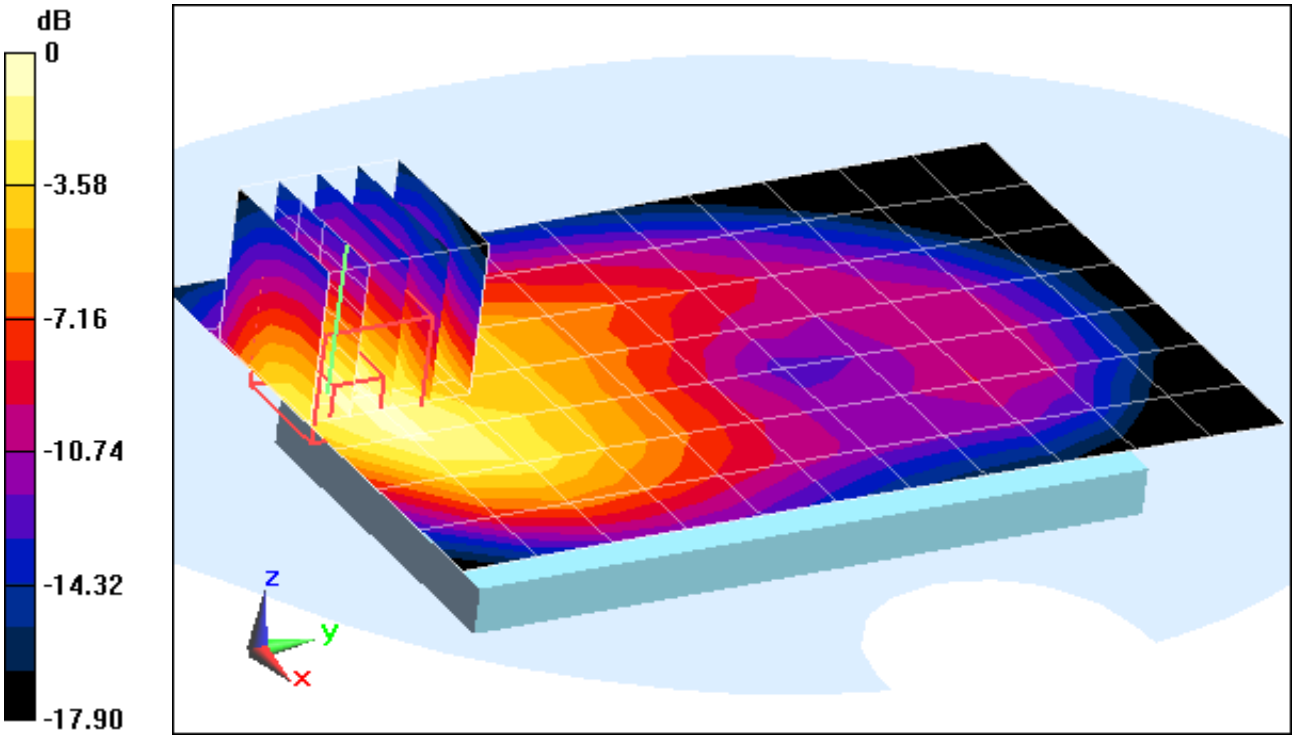
Communication System: AWS CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.476 mho/m; ε_r = 51.586; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: AWS TDSO32, 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 = 23.151 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.249 mW/g
SAR(1 g) = 0.712 mW/g; SAR(10 g) = 0.384 mW/g



0 dB = 0.791 mW/g = -2.04 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

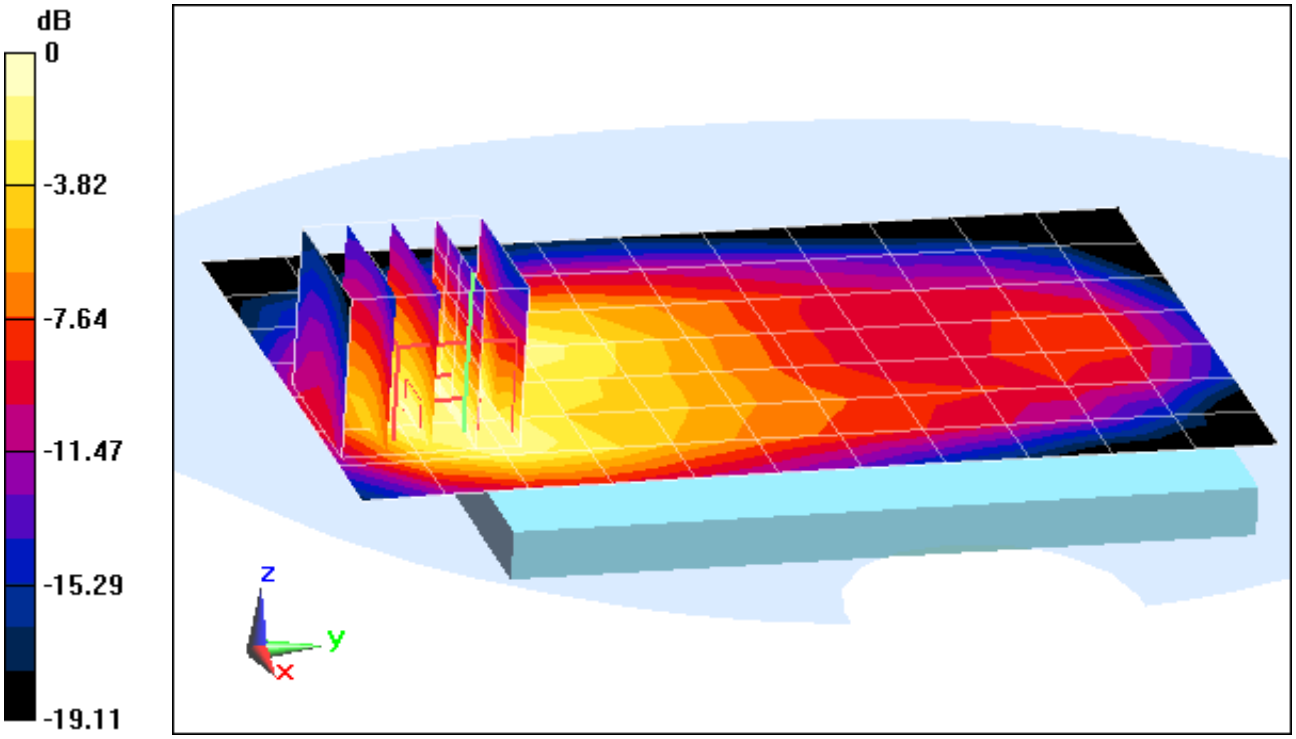
Communication System: AWS CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.476 mho/m; ε_r = 51.586; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: AWS TDSO, Body SAR, Front 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 = 20.311 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.951 mW/g
SAR(1 g) = 0.548 mW/g; SAR(10 g) = 0.300 mW/g



0 dB = 0.593 mW/g = -4.54 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

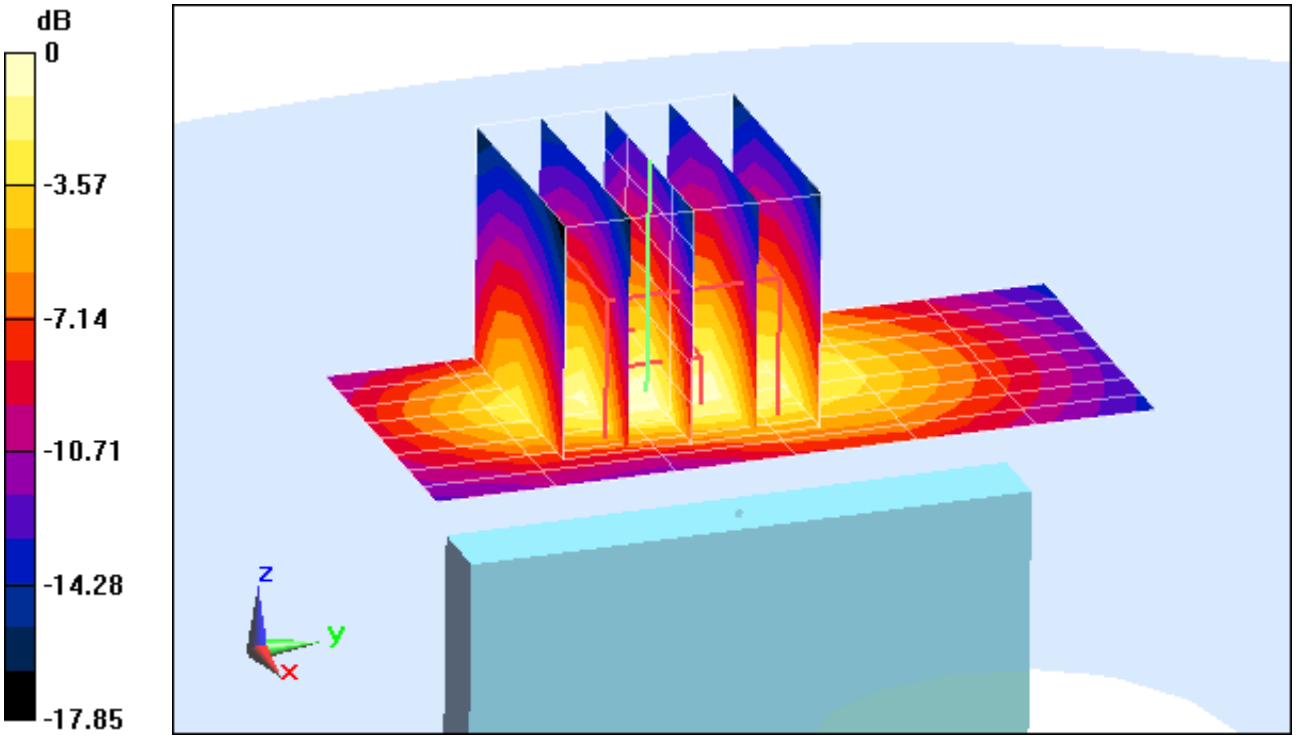
Communication System: AWS CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
$f = 1732.5$ MHz; $\sigma = 1.476$ mho/m; $\varepsilon_r = 51.586$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: AWS EVDO Rev. 0, Body SAR, Bottom Edge, Mid.ch

Area Scan (9x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.762 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.419 mW/g
SAR(1 g) = 0.809 mW/g; SAR(10 g) = 0.429 mW/g



0 dB = 0.930 mW/g = -0.63 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

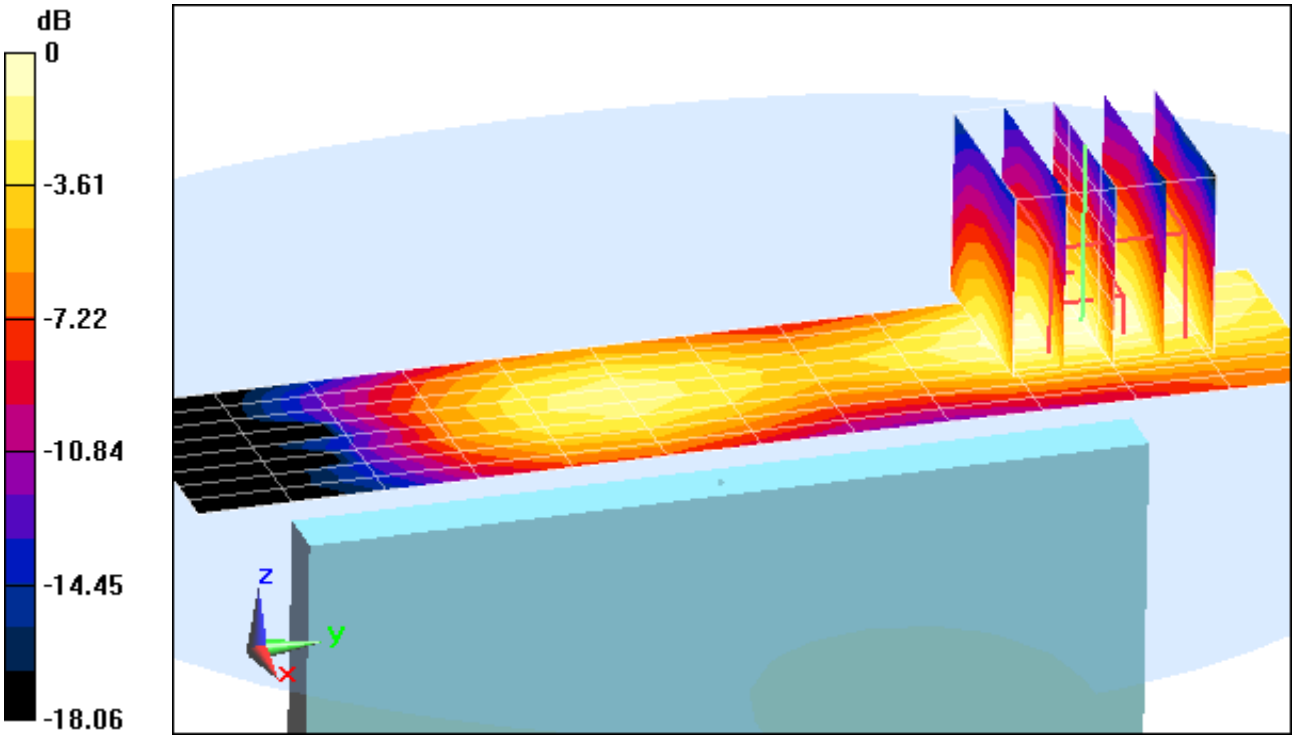
Communication System: AWS CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.476 mho/m; ε_r = 51.586; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: AWS TDSO, Body SAR, Right Edge, Mid.ch

Area Scan (9x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.705 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.261 mW/g
SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.093 mW/g



0 dB = 0.176 mW/g = -15.09 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#5

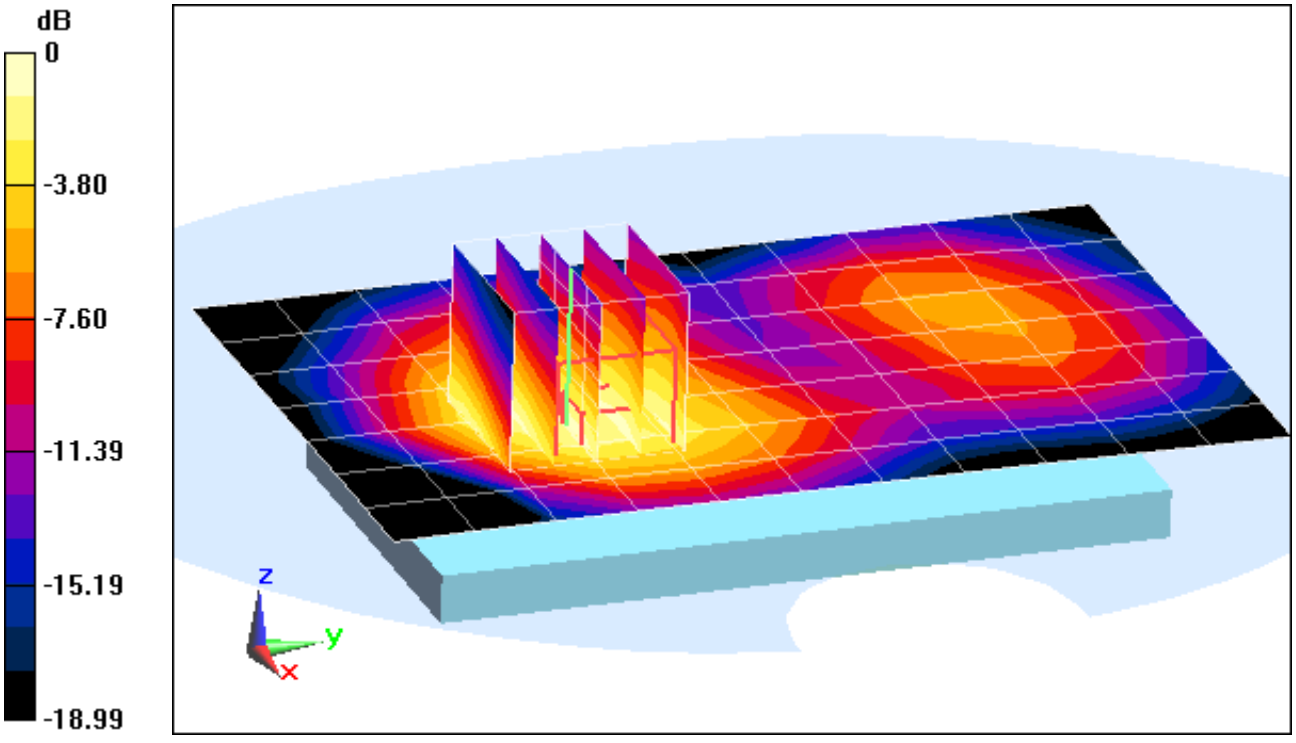
Communication System: LTE RF; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.476 mho/m; ε_r = 51.586; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 4 (AWS), Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.494 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.045 mW/g
SAR(1 g) = 0.616 mW/g; SAR(10 g) = 0.384 mW/g



0 dB = 0.654 mW/g = -3.69 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#5

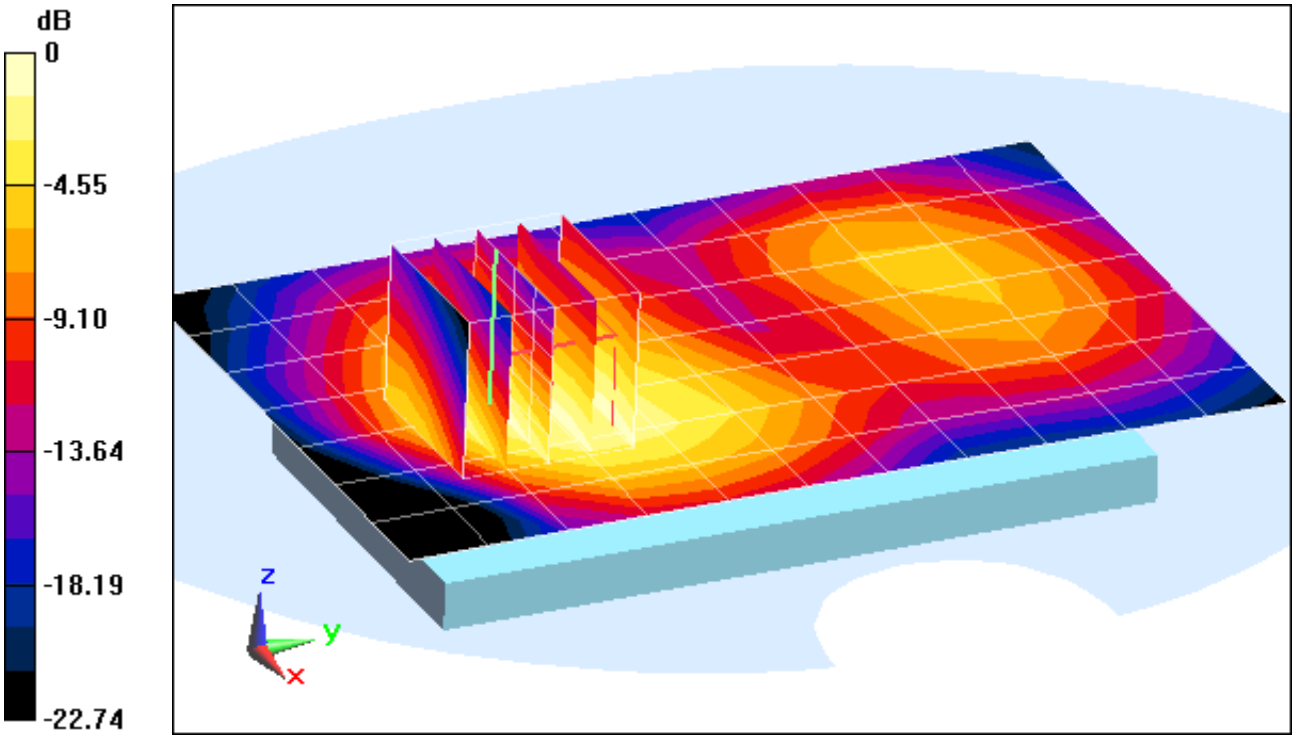
Communication System: LTE RF; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.476 mho/m; ε_r = 51.586; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 4 (AWS), Body SAR, Front side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.595 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.016 mW/g
SAR(1 g) = 0.584 mW/g; SAR(10 g) = 0.358 mW/g



0 dB = 0.615 mW/g = -4.22 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#5

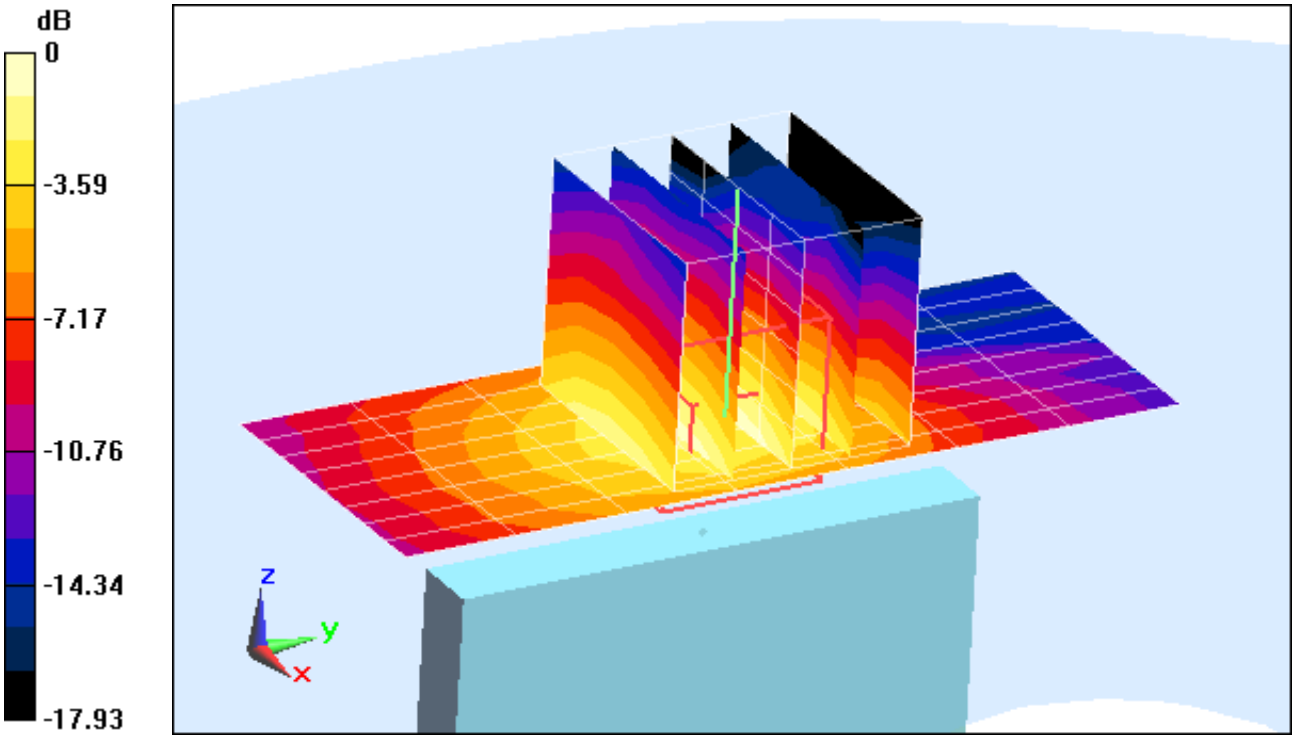
Communication System: LTE RF; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.476 mho/m; ε_r = 51.586; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 4 (AWS), Body SAR, Bottom Edge, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (9x8x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.839 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.361 mW/g
SAR(1 g) = 0.209 mW/g; SAR(10 g) = 0.119 mW/g



0 dB = 0.223 mW/g = -13.03 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#5

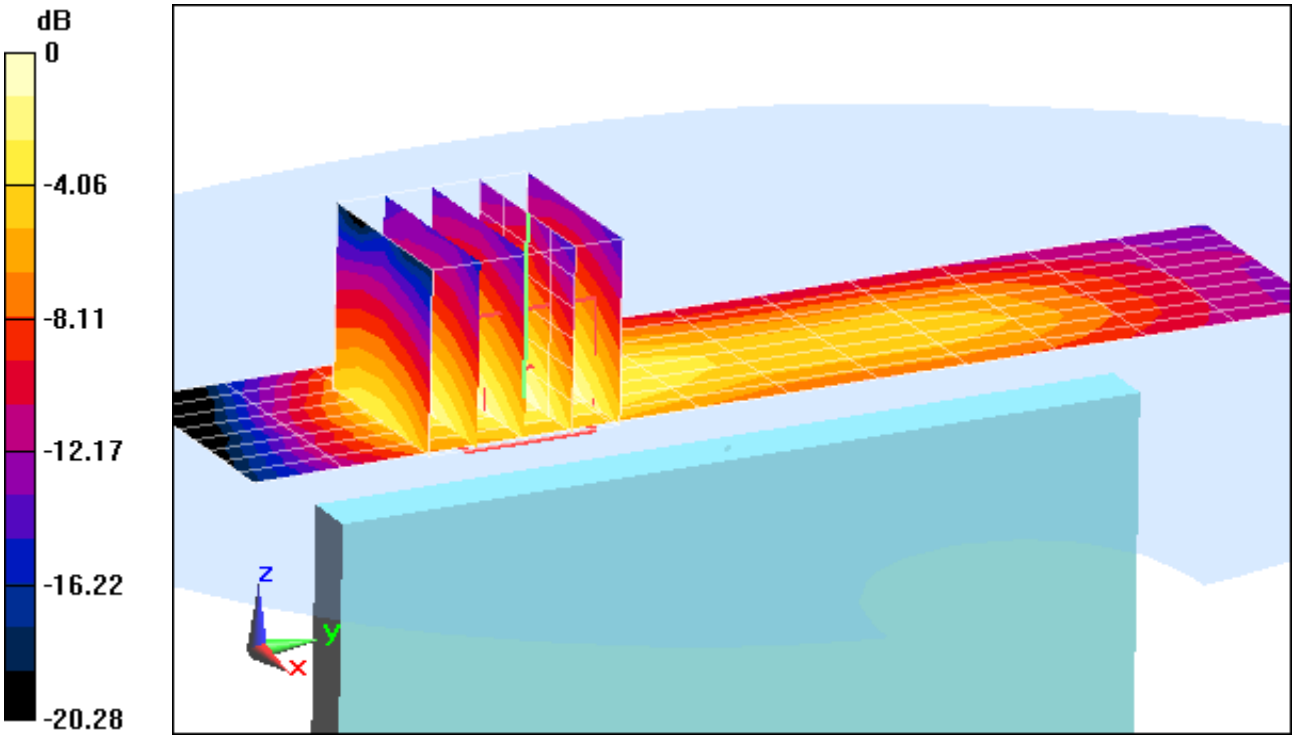
Communication System: LTE RF; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.486 mho/m; ε_r = 51.59; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 4 (AWS), Body SAR, Left Edge, High.ch
10 MHz Bandwidth, 16QAM, 1 RB, 0 RB Offset

Area Scan (9x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.349 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.348 mW/g
SAR(1 g) = 0.232 mW/g; SAR(10 g) = 0.138 mW/g



0 dB = 0.232 mW/g = -12.69 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

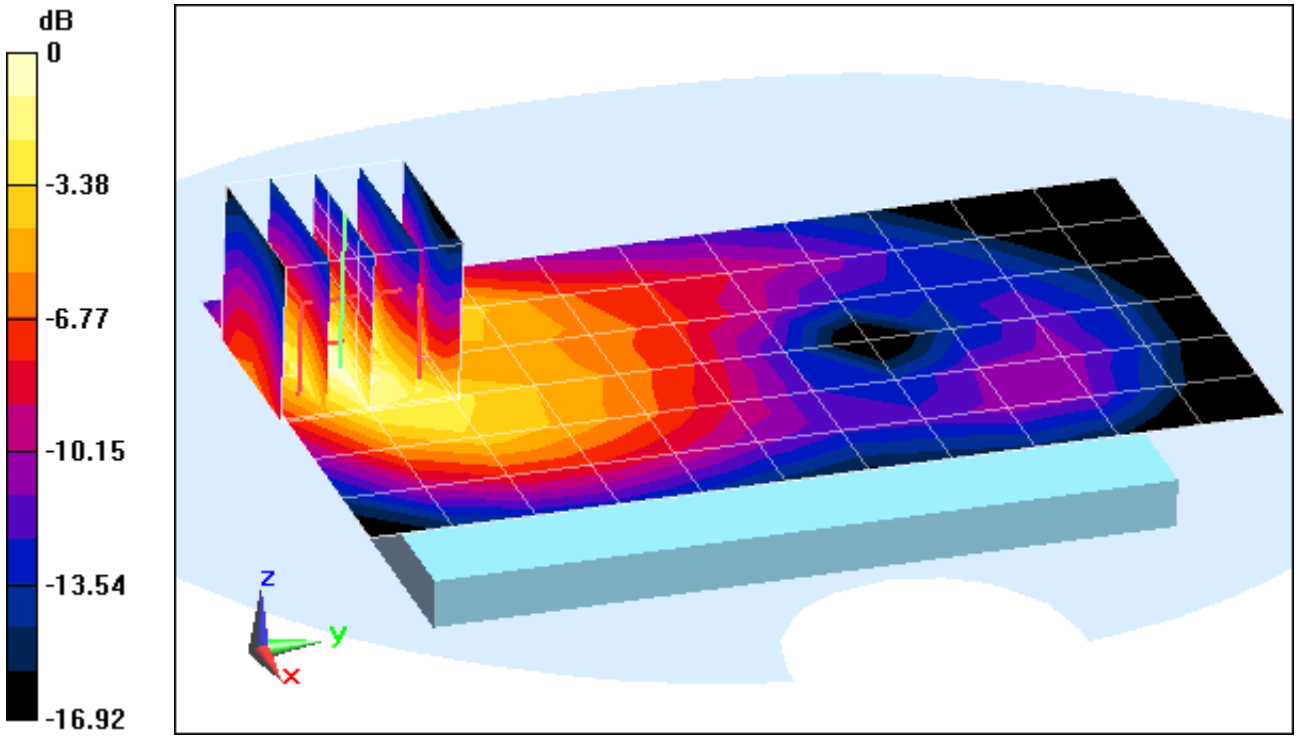
Communication System: CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 mho/m; ε_r = 52.61; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: PCS EVDO Rev. 0, 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 = 23.481 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.280 mW/g
SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.380 mW/g



0 dB = 0.809 mW/g = -1.84 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

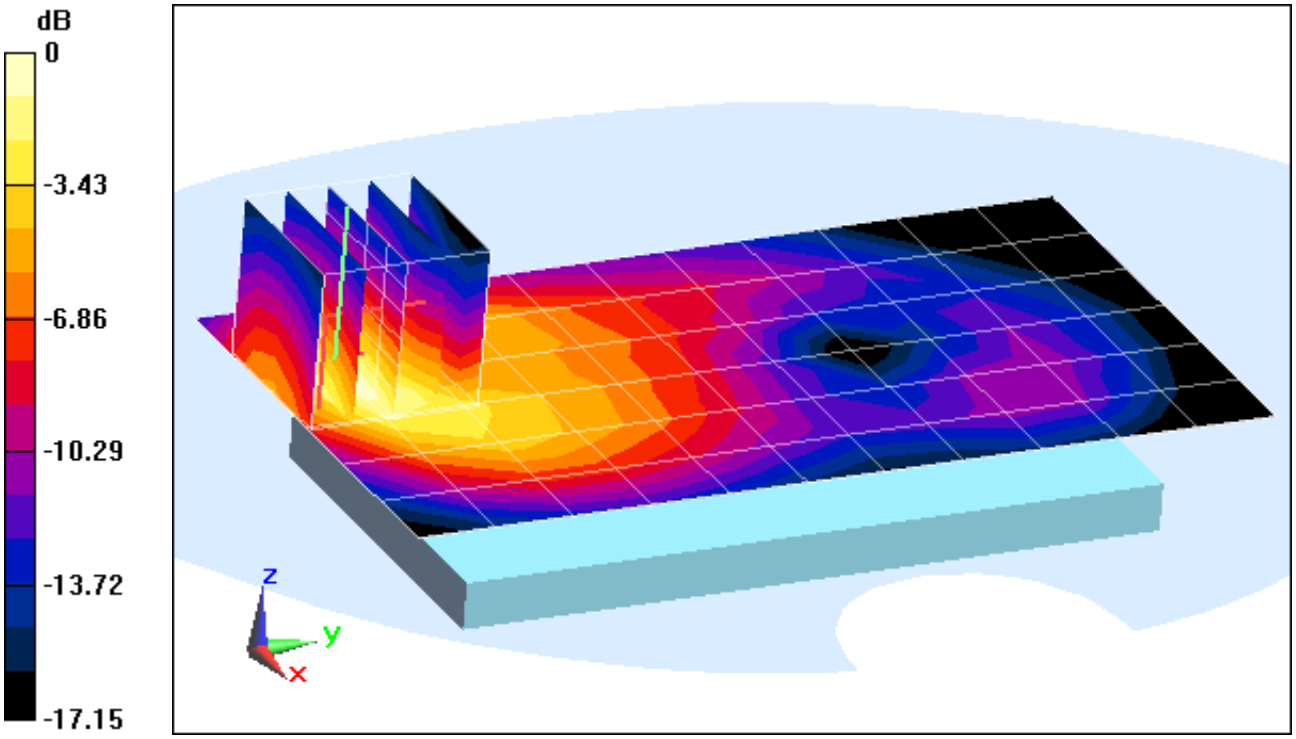
Communication System: CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 mho/m; ε_r = 52.61; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: PCS TDSO, 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 = 23.269 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.260 mW/g
SAR(1 g) = 0.699 mW/g; SAR(10 g) = 0.367 mW/g



0 dB = 0.776 mW/g = -2.20 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

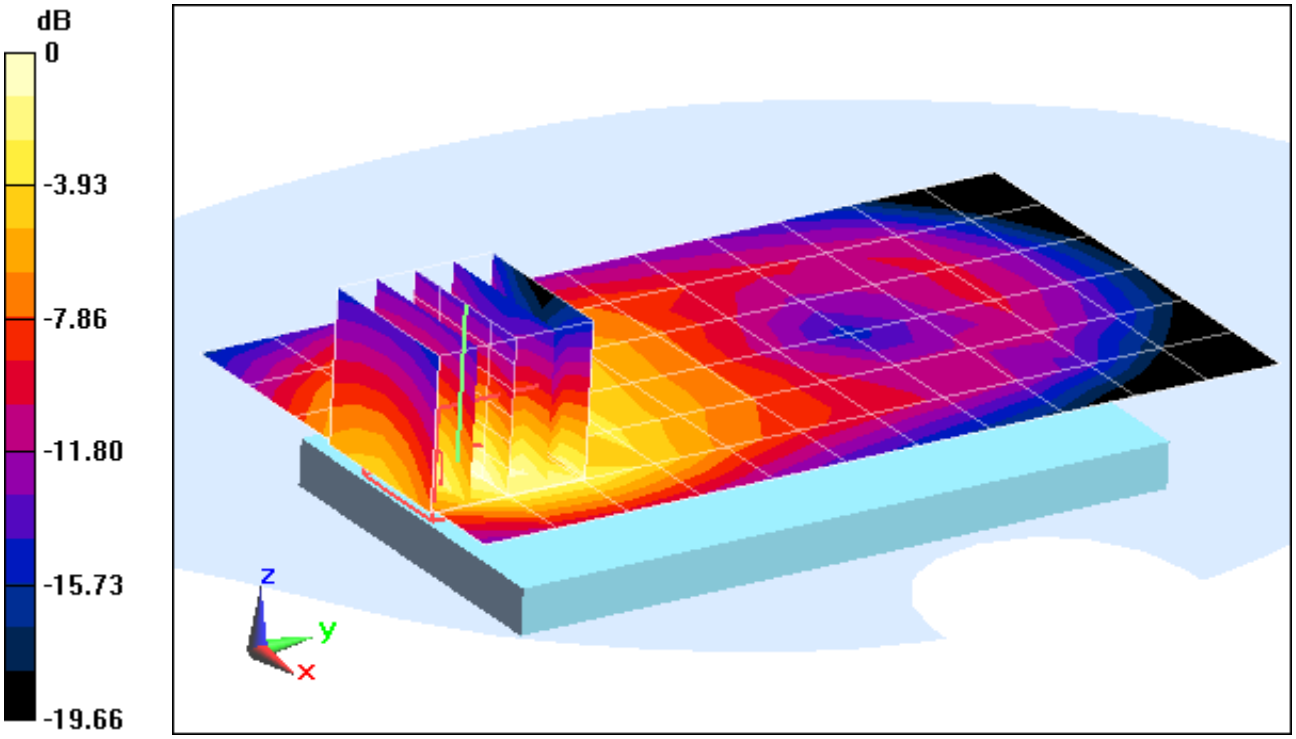
Communication System: CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 mho/m; ε_r = 52.61; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: PCS TDSO, 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 = 19.828 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.888 mW/g
SAR(1 g) = 0.509 mW/g; SAR(10 g) = 0.267 mW/g



0 dB = 0.563 mW/g = -4.99 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

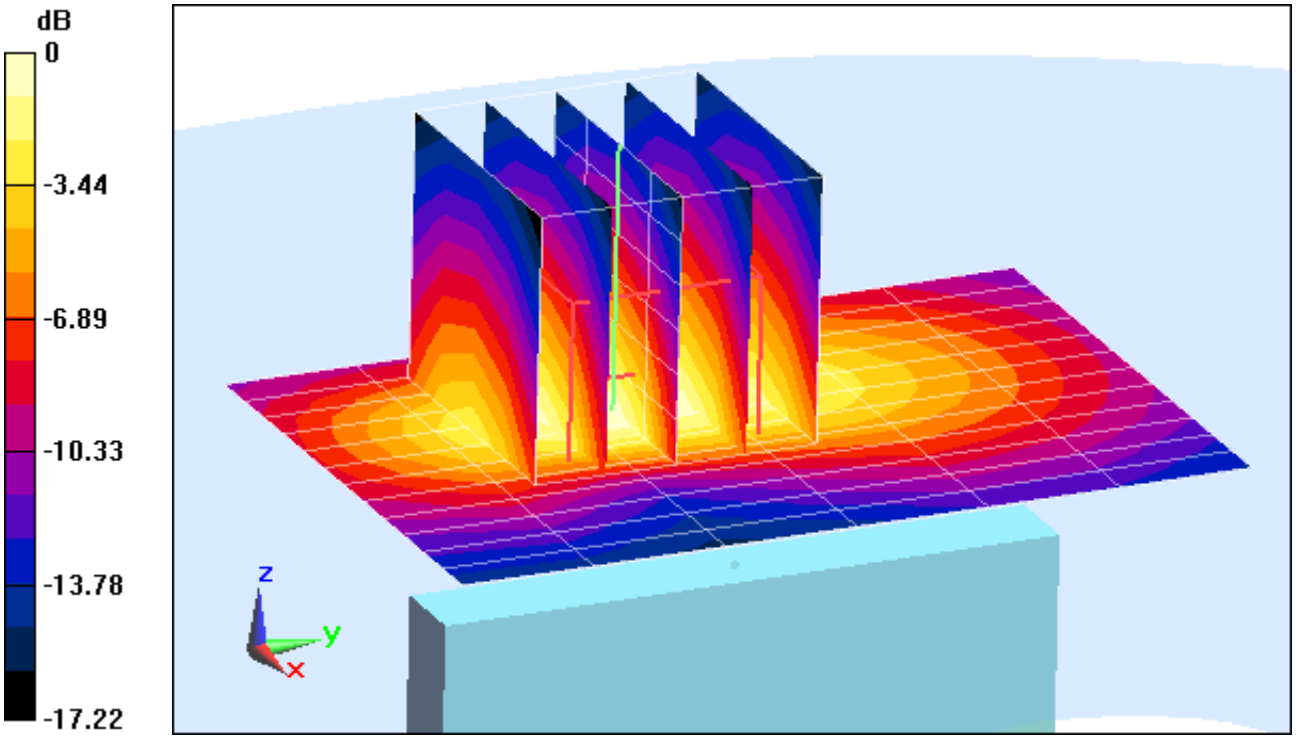
Communication System: CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 mho/m; ε_r = 52.61; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: PCS TDSO, Body SAR, Bottom Edge, Mid.ch

Area Scan (13x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.628 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.893 mW/g
SAR(1 g) = 0.503 mW/g; SAR(10 g) = 0.259 mW/g



0 dB = 0.582 mW/g = -4.70 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

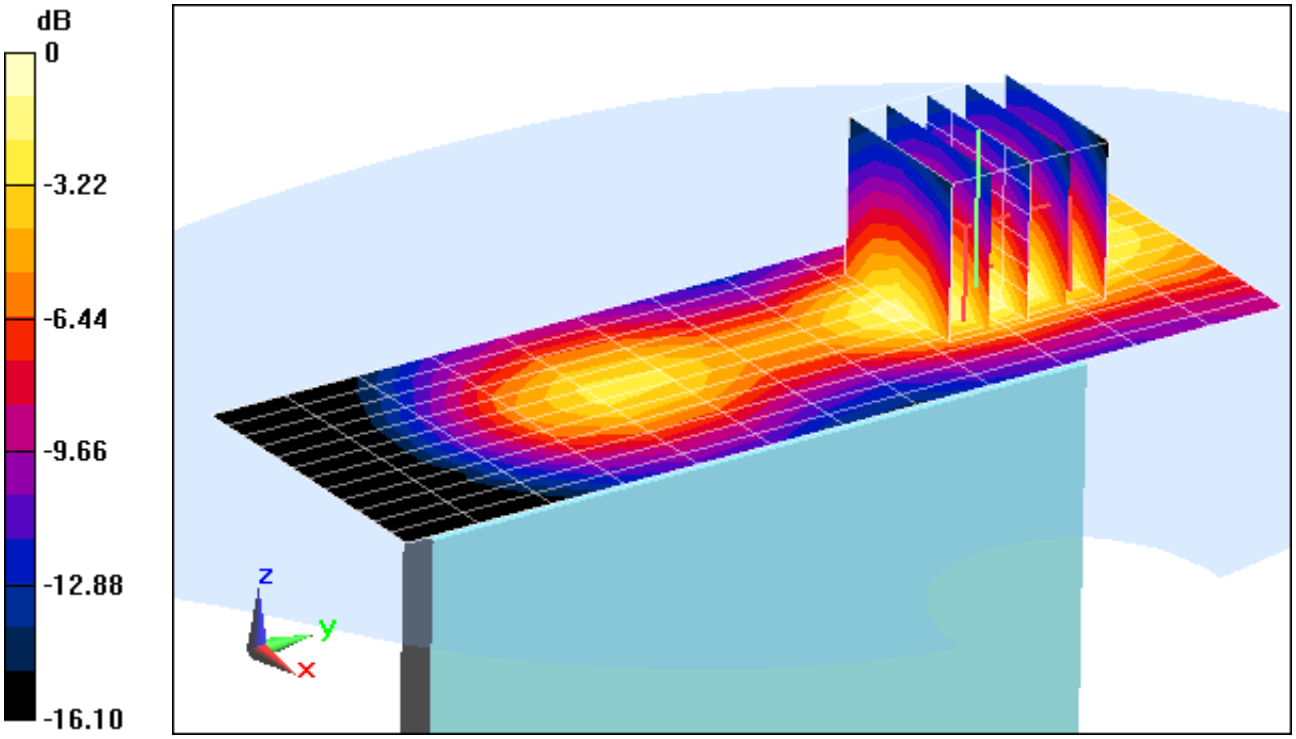
Communication System: CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 mho/m; ε_r = 52.61; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: PCS EVDO Rev. 0, Body SAR, Right Edge, Mid.ch

Area Scan (13x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.267 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.283 mW/g
SAR(1 g) = 0.173 mW/g; SAR(10 g) = 0.099 mW/g



0 dB = 0.193 mW/g = -14.29 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

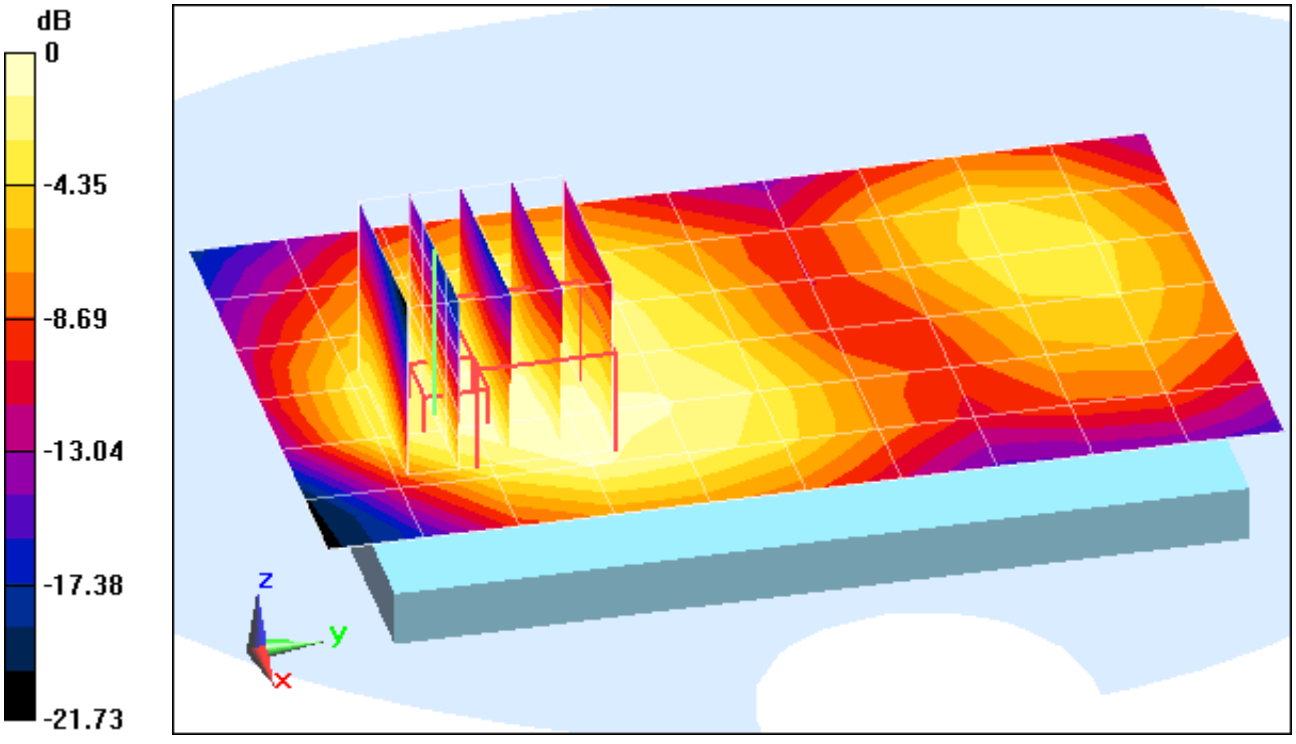
Communication System: LTE Band 2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 mho/m; ε_r = 52.61; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 2 (PCS), Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.095 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.023 mW/g
SAR(1 g) = 0.498 mW/g; SAR(10 g) = 0.279 mW/g



0 dB = 0.558 mW/g = -5.07 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

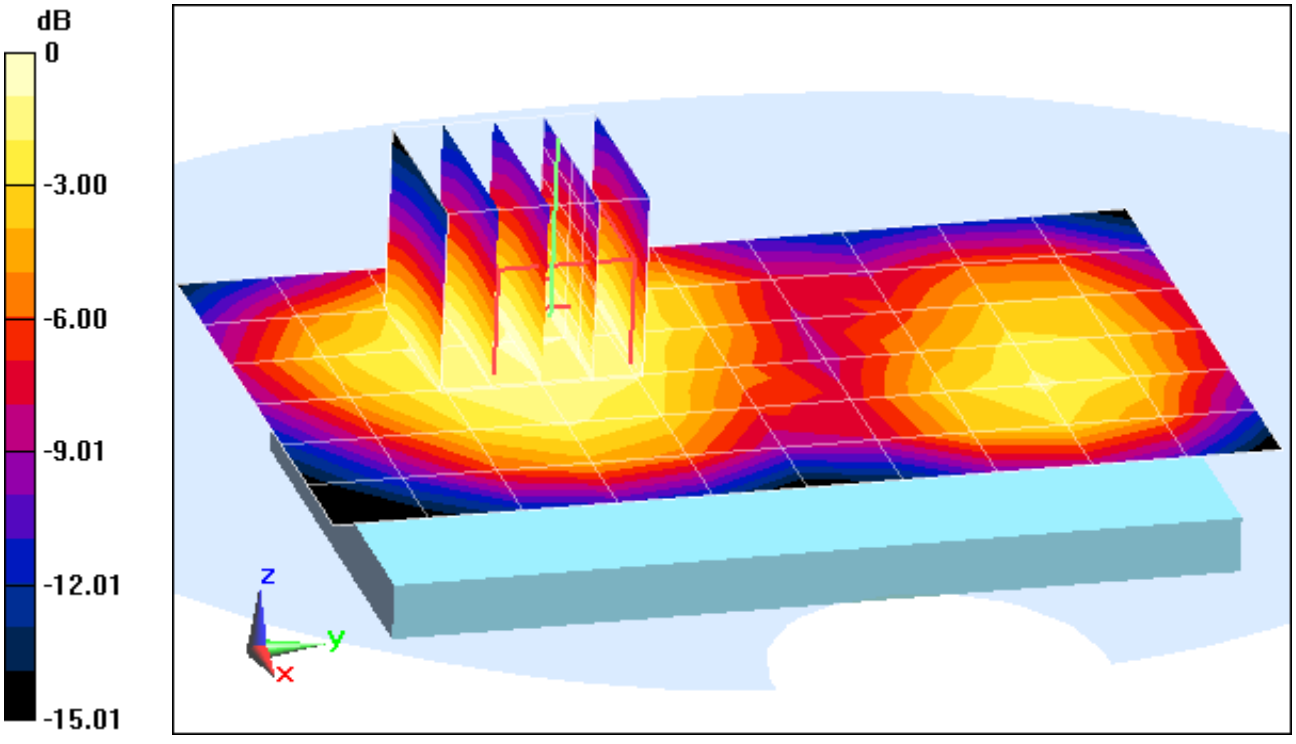
Communication System: LTE Band 2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 mho/m; ε_r = 52.61; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 2 (PCS), Body SAR, Front side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.702 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.655 mW/g
SAR(1 g) = 0.445 mW/g; SAR(10 g) = 0.296 mW/g



0 dB = 0.470 mW/g = -6.56 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

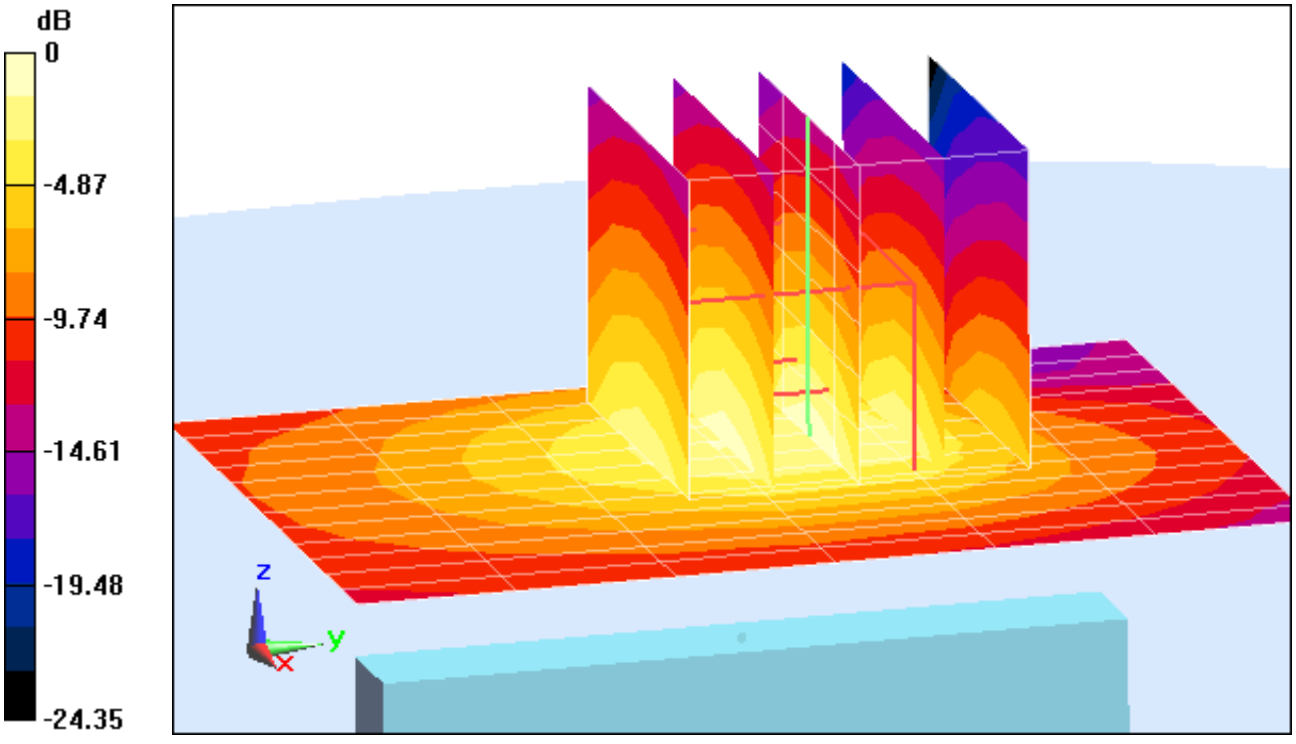
Communication System: LTE Band 2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 mho/m; ε_r = 52.61; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 2 (PCS), Body SAR, Bottom Edge, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (13x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.773 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.573 mW/g
SAR(1 g) = 0.328 mW/g; SAR(10 g) = 0.179 mW/g



0 dB = 0.362 mW/g = -8.83 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#4

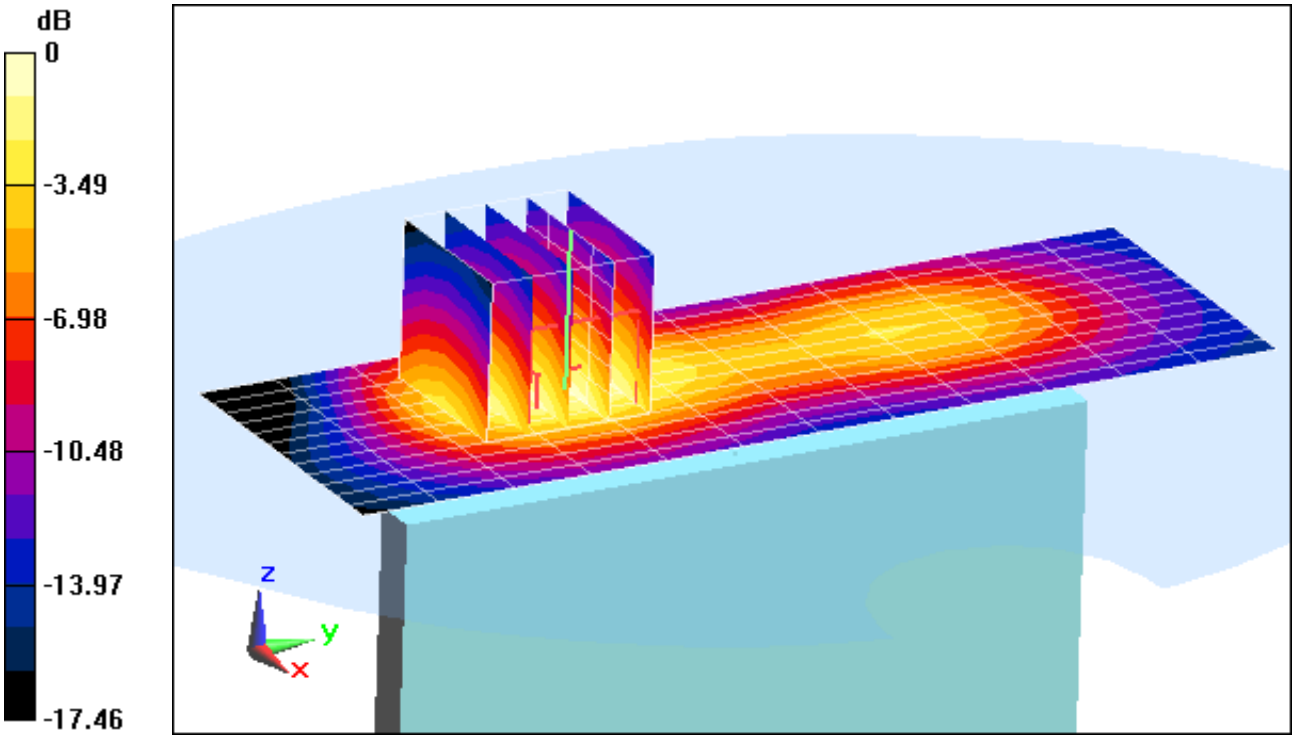
Communication System: LTE Band 2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 mho/m; ε_r = 52.61; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 2 (PCS), Body SAR, Left Edge, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (13x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.237 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.560 mW/g
SAR(1 g) = 0.352 mW/g; SAR(10 g) = 0.208 mW/g



0 dB = 0.381 mW/g = -8.38 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

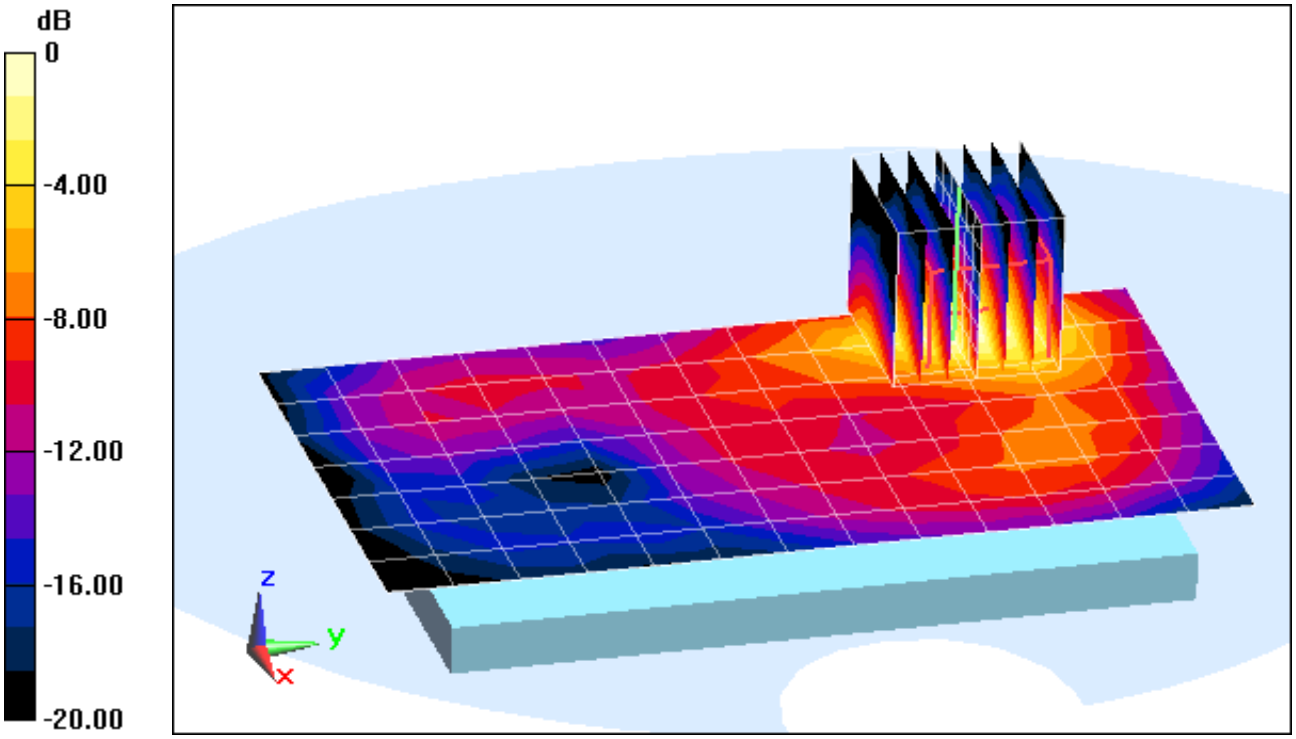
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.968 mho/m; ε_r = 50.285; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-25-2012; Ambient Temp: 20.6°C; Tissue Temp: 20.3°C

Probe: ES3DV3 - SN3288; ConvF(4.47, 4.47, 4.47); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Area Scan (8x14x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.638 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.461 mW/g
SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.086 mW/g



0 dB = 0.257 mW/g = -11.80 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

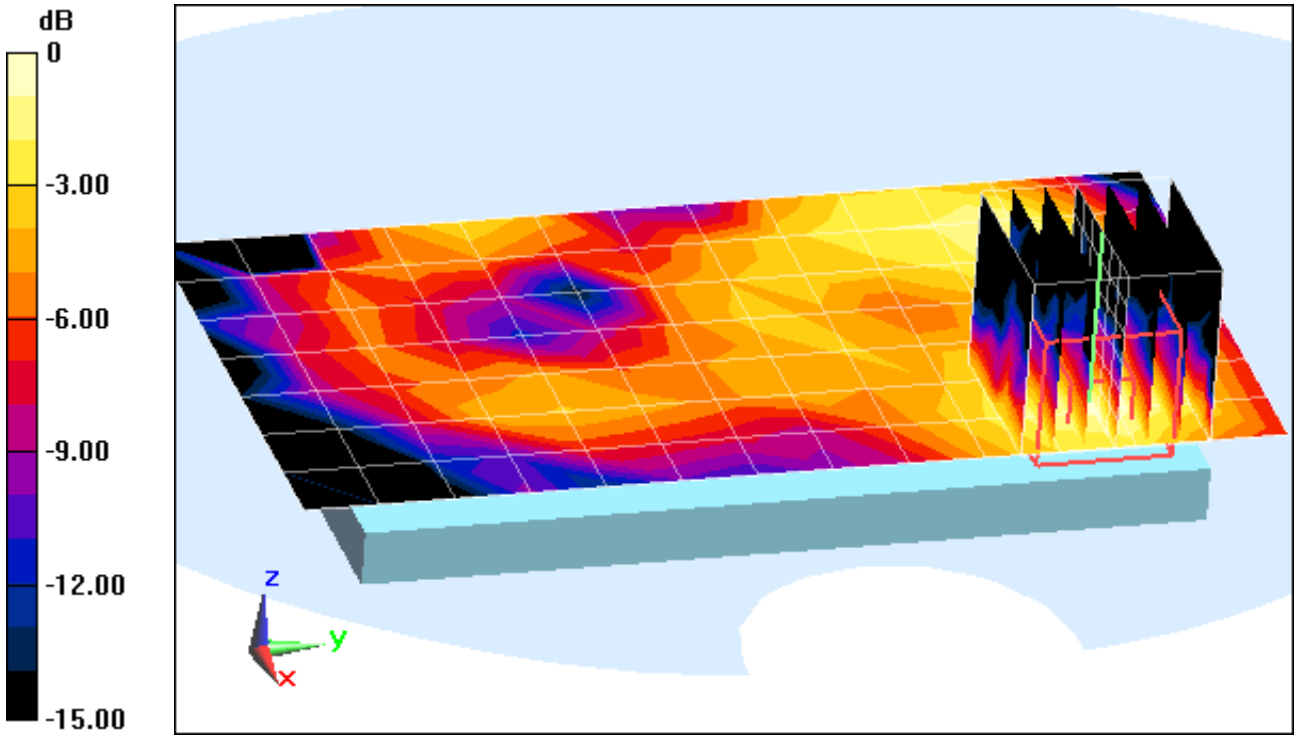
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.968 mho/m; ε_r = 50.285; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-25-2012; Ambient Temp: 20.6°C; Tissue Temp: 20.3°C

Probe: ES3DV3 - SN3288; ConvF(4.47, 4.47, 4.47); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Area Scan (8x14x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.131 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.041 mW/g
SAR(1 g) = 0.018 mW/g; SAR(10 g) = 0.00831 mW/g



0 dB = 0.0234 mW/g = -32.62 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

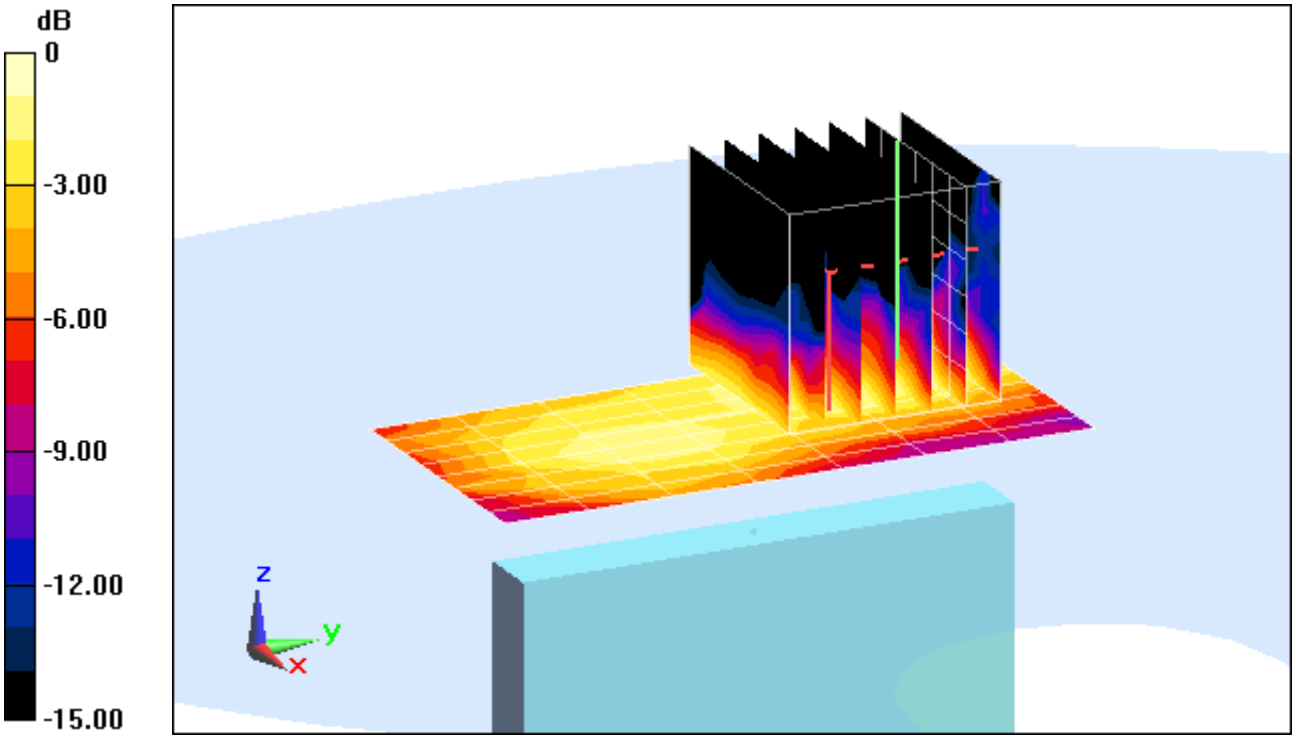
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.968 mho/m; ε_r = 50.285; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-25-2012; Ambient Temp: 20.6°C; Tissue Temp: 20.3°C

Probe: ES3DV3 - SN3288; ConvF(4.47, 4.47, 4.47); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Area Scan (9x8x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.495 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.023 mW/g
SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00541 mW/g



0 dB = 0.0163 mW/g = -35.76 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

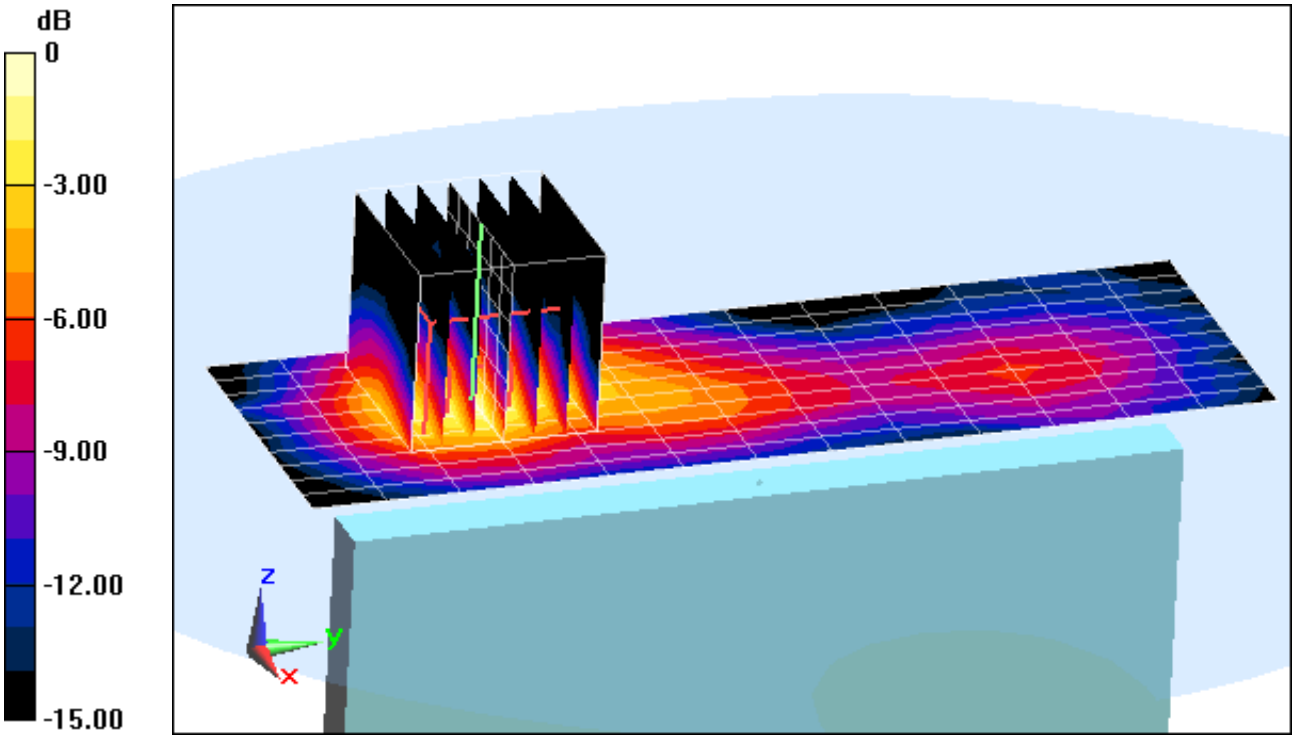
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.968 mho/m; ε_r = 50.285; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-25-2012; Ambient Temp: 20.6°C; Tissue Temp: 20.3°C

Probe: ES3DV3 - SN3288; ConvF(4.47, 4.47, 4.47); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Area Scan (11x14x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.214 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.151 mW/g
SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.031 mW/g



0 dB = 0.0891 mW/g = -21.00 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

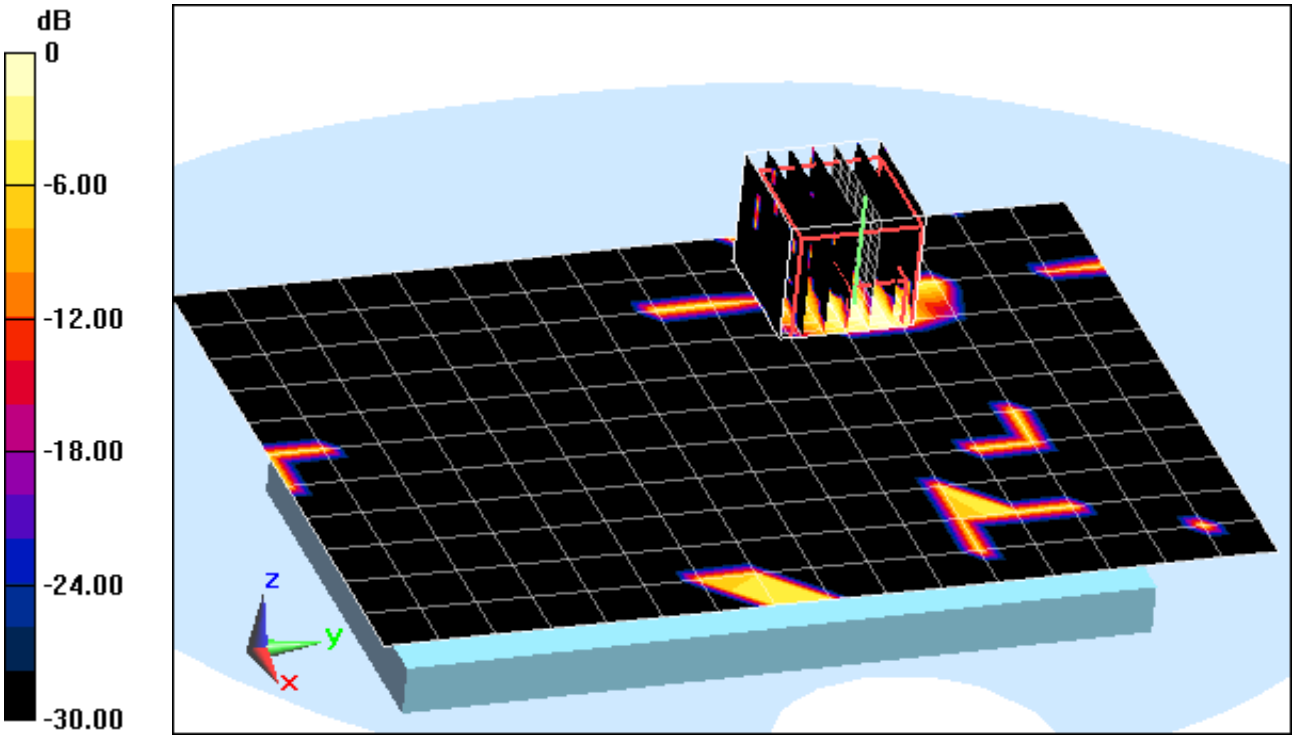
Communication System: IEEE 802.11a 5.2-5.8 GHz Band; Frequency: 5260 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5260 MHz; σ = 5.367 mho/m; ε_r = 50.03; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 24.3°C; Tissue Temp: 23.2°C

Probe: EX3DV4 - SN3589; ConvF(3.72, 3.72, 3.72); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

Mode: IEEE 802.11a, 5.3 GHz, Body SAR, Ch 52, 6 Mbps, Back Side

Area Scan (12x17x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 3.610 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 1.357 mW/g
SAR(1 g) = 0.119 mW/g; SAR(10 g) = 0.019 mW/g



0 dB = 0.0847 mW/g = -21.44 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#1

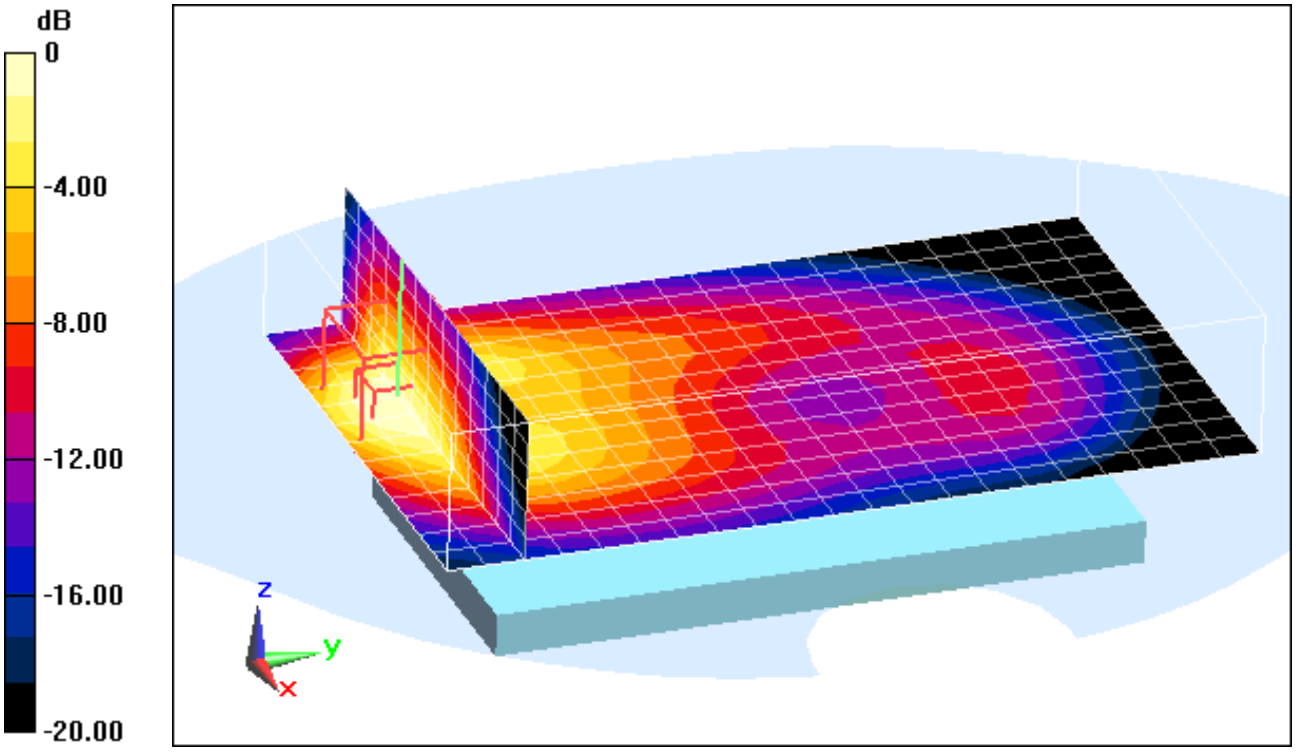
Communication System: CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.432 mho/m; ε_r = 51.685; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 24.7°C; Tissue Temp: 24.0°C

Probe: ES3DV3 - SN3213; ConvF(4.68, 4.68, 4.68); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Front; Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: AWS CDMA, Body SAR, Back side, Mid.ch

Zoom Scan (14x22x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.649 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.687 mW/g
SAR(1 g) = 0.805 mW/g; SAR(10 g) = 0.473 mW/g



0 dB = 0.96 mW/g = 0.51 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#5

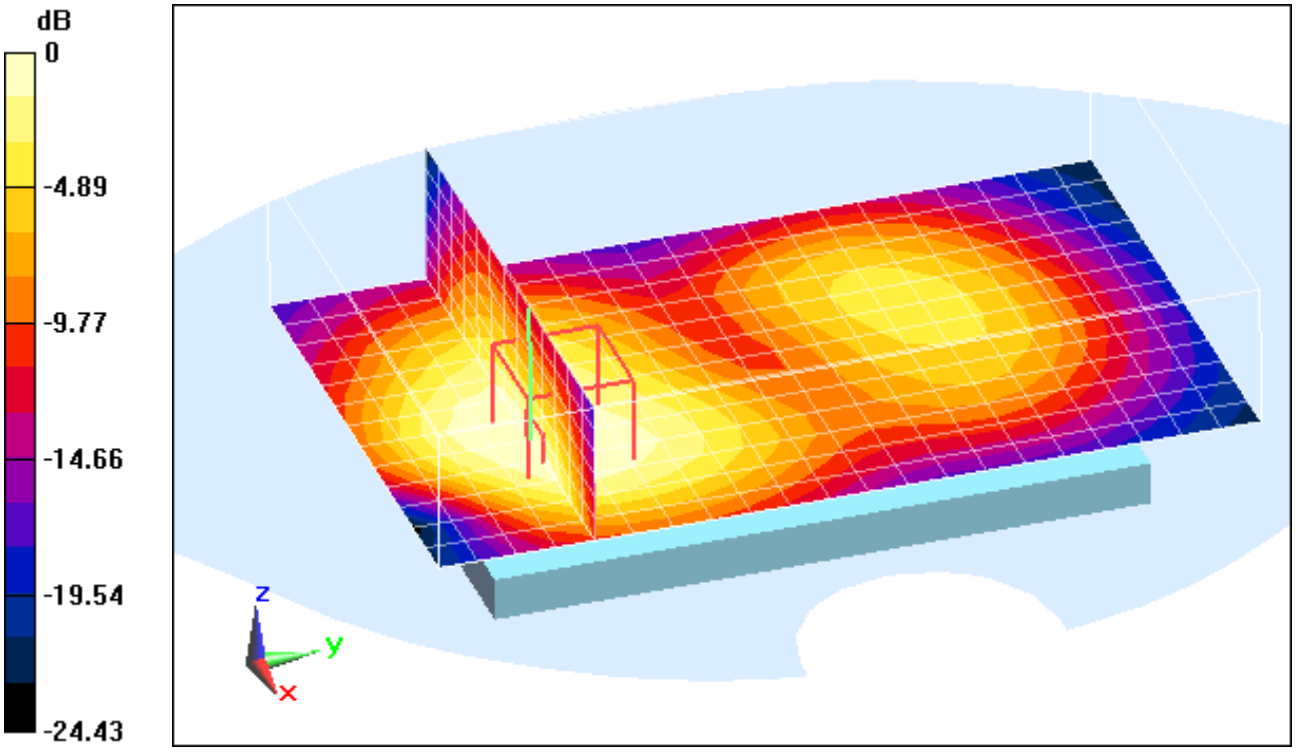
Communication System: LTE Band 4 (AWS); Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.432 mho/m; ε_r = 51.685; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 24.7°C; Tissue Temp: 24.0°C

Probe: ES3DV3 - SN3213; ConvF(4.68, 4.68, 4.68); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Front; Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: LTE Band 4 (AWS), Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Zoom Scan (14x22x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.190 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.088 mW/g
SAR(1 g) = 0.687 mW/g; SAR(10 g) = 0.432 mW/g



0 dB = 0.728 mW/g = -2.76 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

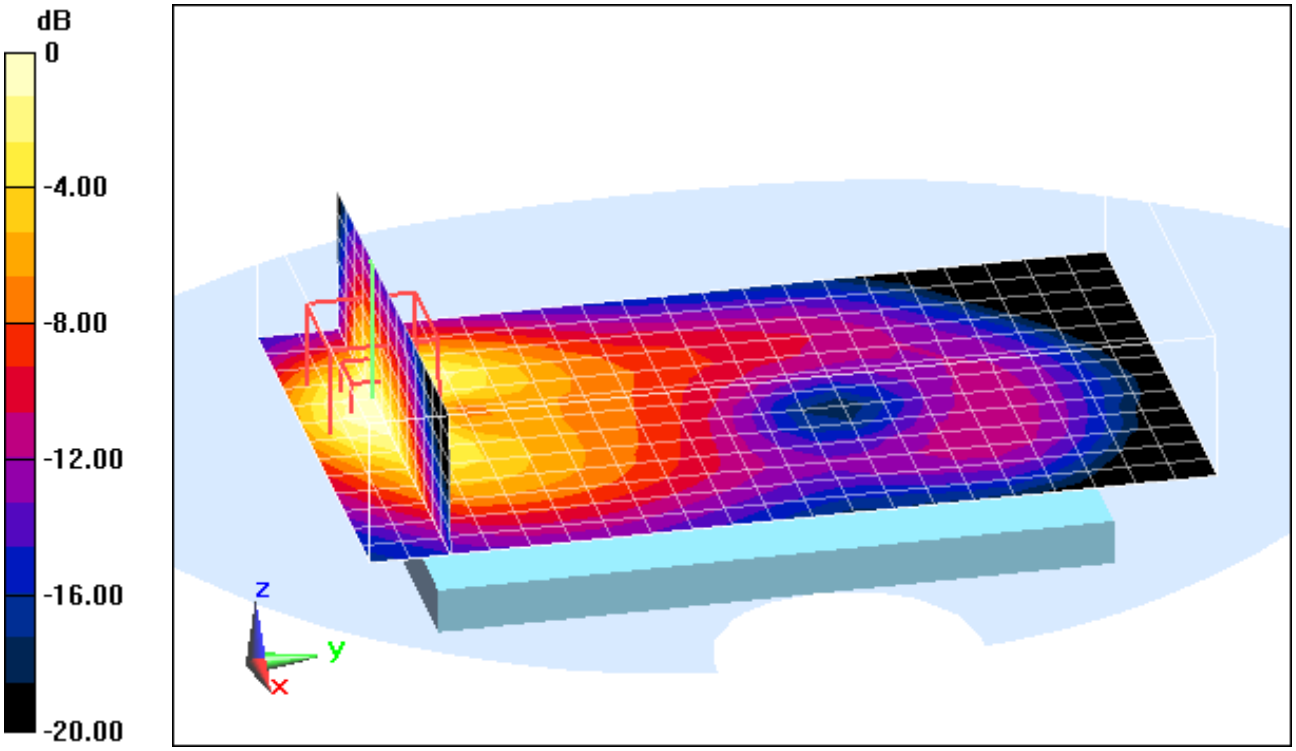
Communication System: CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.518 mho/m; ε_r = 53.79; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 23.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3288; ConvF(5.02, 5.02, 5.02); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Mode: PCS CDMA, Body SAR, Back side, Mid.ch

Zoom Scan (14x22x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.766 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.186 mW/g
SAR(1 g) = 0.665 mW/g; SAR(10 g) = 0.349 mW/g



0 dB = 0.764 mW/g = -2.34 dB mW/g

DUT: A3LSCHR530M; Type: Portable Handset; Serial: FCC#3

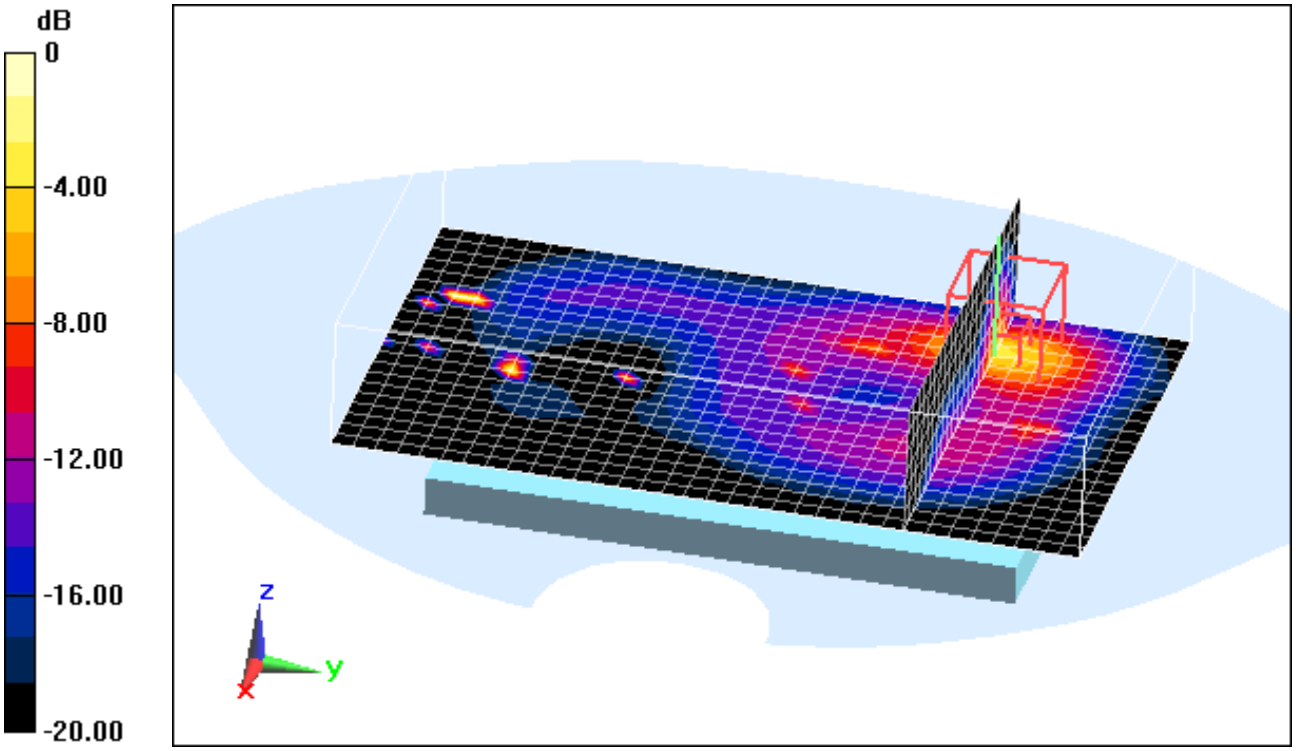
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.984 mho/m; ε_r = 50.934; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 22.4°C; Tissue Temp: 22.4°C

Probe: ES3DV3 - SN3287; ConvF(4.28, 4.28, 4.28); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Zoom Scan (22x35x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.003 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 1.141 mW/g
SAR(1 g) = 0.248 mW/g; SAR(10 g) = 0.106 mW/g



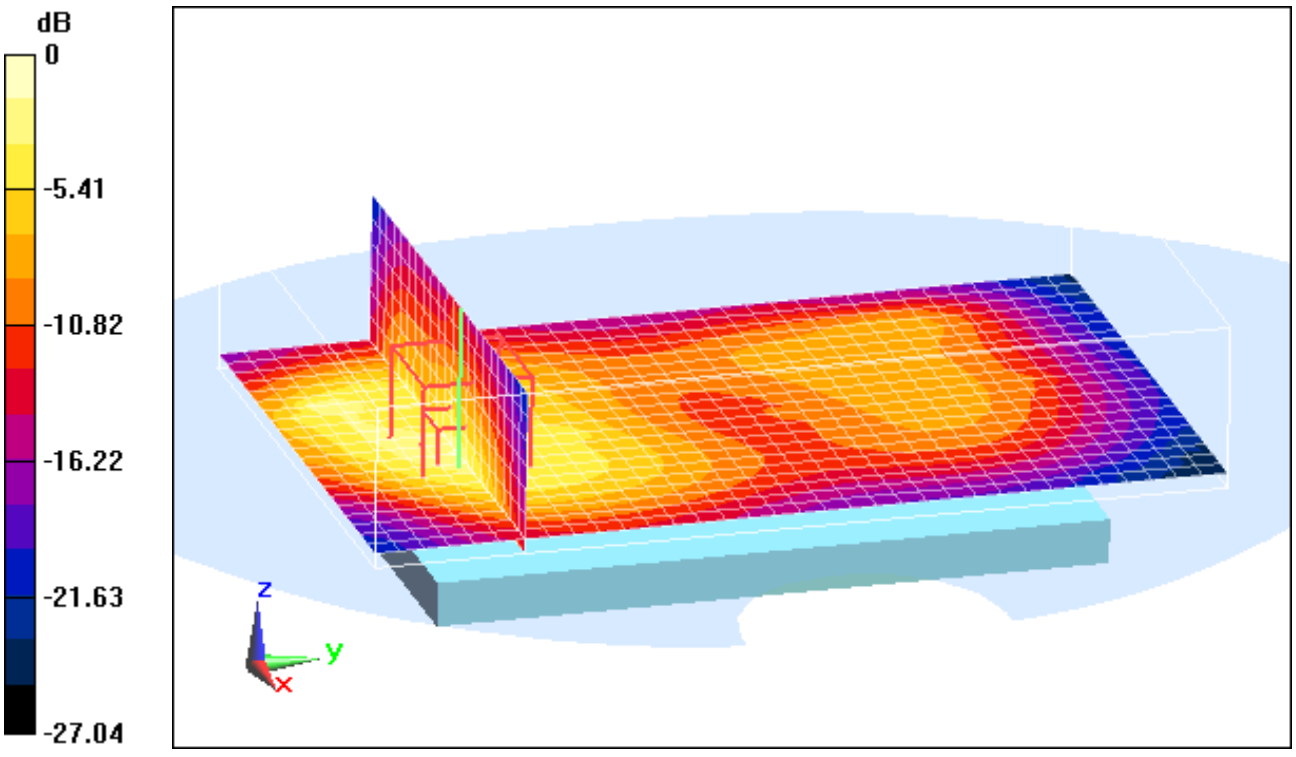
0 dB = 0.760 mW/g = -2.38 dB mW/g

Communication System: CDMA; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.432 mho/m; ε_r = 51.685; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Communication System: LTE Band 4 (AWS); Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.432 mho/m; ε_r = 51.685; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.984 mho/m; ε_r = 50.934; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Multi Band Result:
SAR(1 g) = 1.41 mW/g; SAR(10 g) = 0.819 mW/g



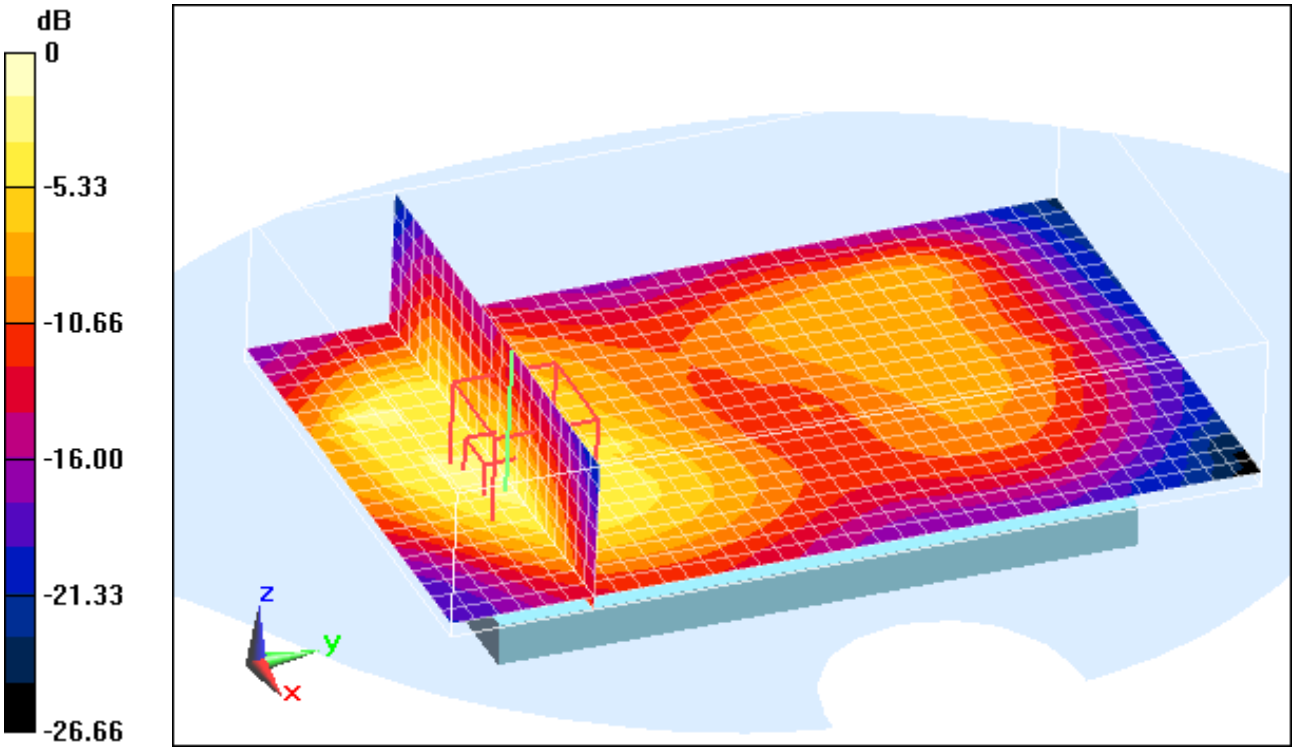
0 dB = 2.91 mW/g = 9.28 dB mW/g

Communication System: CDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.518 mho/m; ε_r = 53.79; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Communication System: LTE Band 4 (AWS); Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.5 MHz; σ = 1.432 mho/m; ε_r = 51.685; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.984 mho/m; ε_r = 50.934; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Multi Band Result:
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.698 mW/g



0 dB = 2.62 mW/g = 8.37 dB mW/g

APPENDIX B: SYSTEM VERIFICATION

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d119

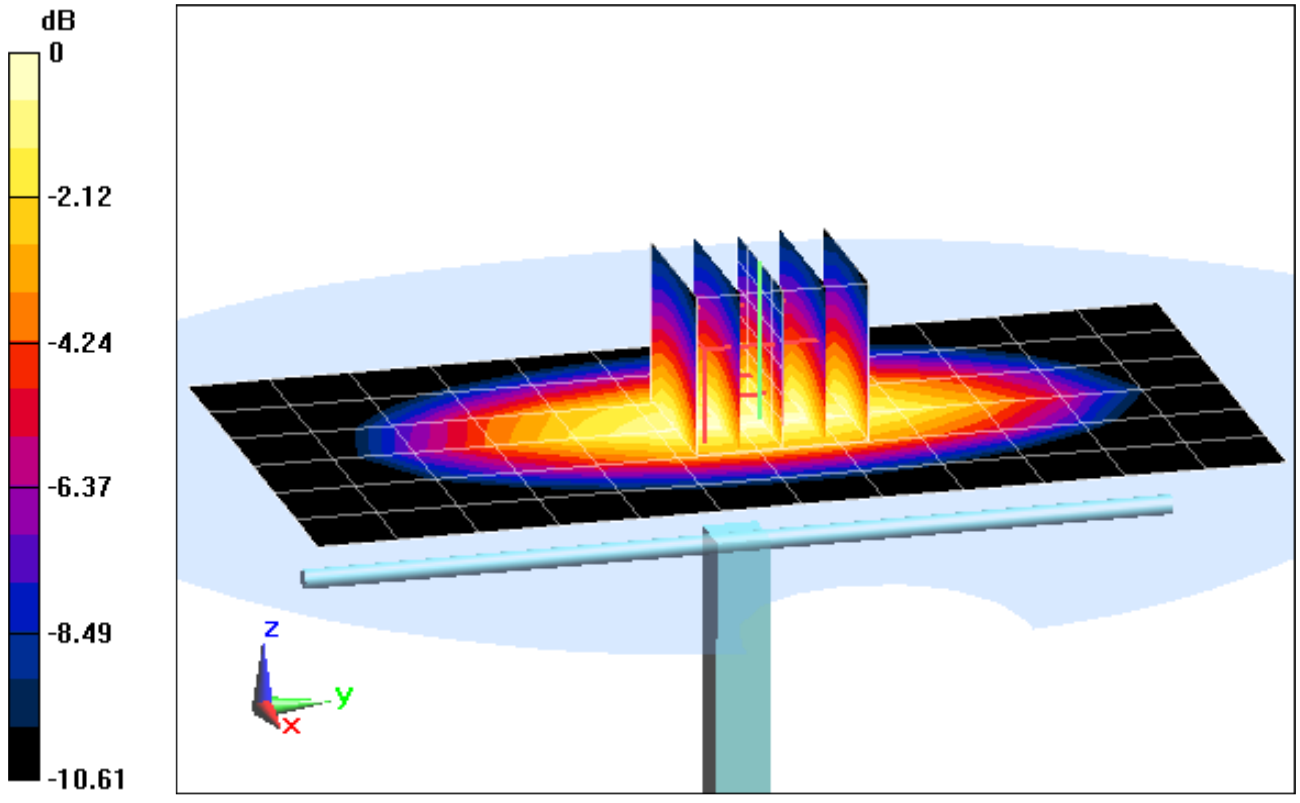
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.917 mho/m; ε_r = 40.72; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-26-2012; Ambient Temp: 24.2°C; Tissue Temp: 23.3°C

Probe: ES3DV3 - SN3258; ConvF(6.01, 6.01, 6.01); Calibrated: 2/21/2012;
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, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

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 dBm (100 mW)
Peak SAR (extrapolated) = 1.455 mW/g
SAR(1 g) = 0.979 mW/g; SAR(10 g) = 0.635 mW/g
Deviation = 3.93%



0 dB = 1.05 mW/g = 0.42 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d119

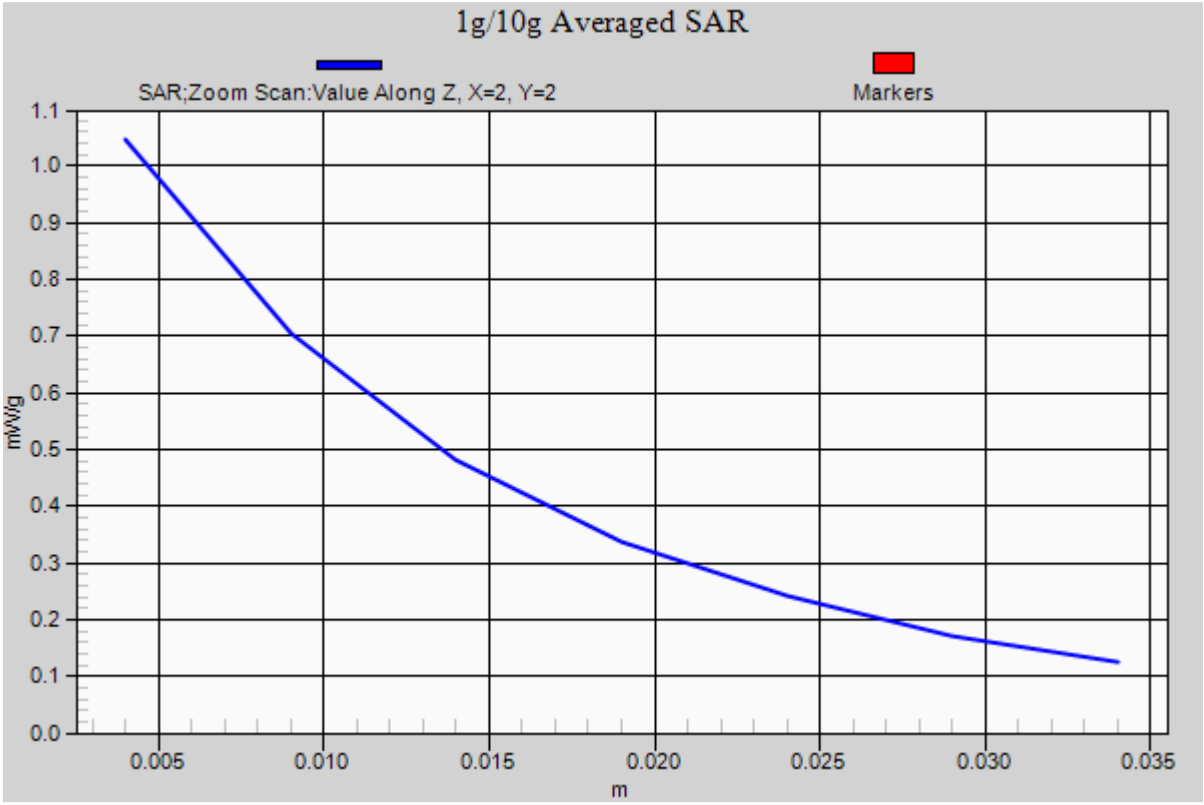
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.917 mho/m; ε_r = 40.72; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-26-2012; Ambient Temp: 24.2°C; Tissue Temp: 23.3°C

Probe: ES3DV3 - SN3258; ConvF(6.01, 6.01, 6.01); Calibrated: 2/21/2012;
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, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

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 dBm (100 mW)
Peak SAR (extrapolated) = 1.455 mW/g
SAR(1 g) = 0.979 mW/g; SAR(10 g) = 0.635 mW/g
Deviation = 3.93%



PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 835 MHz; Type: D835V2; Serial: 4d047

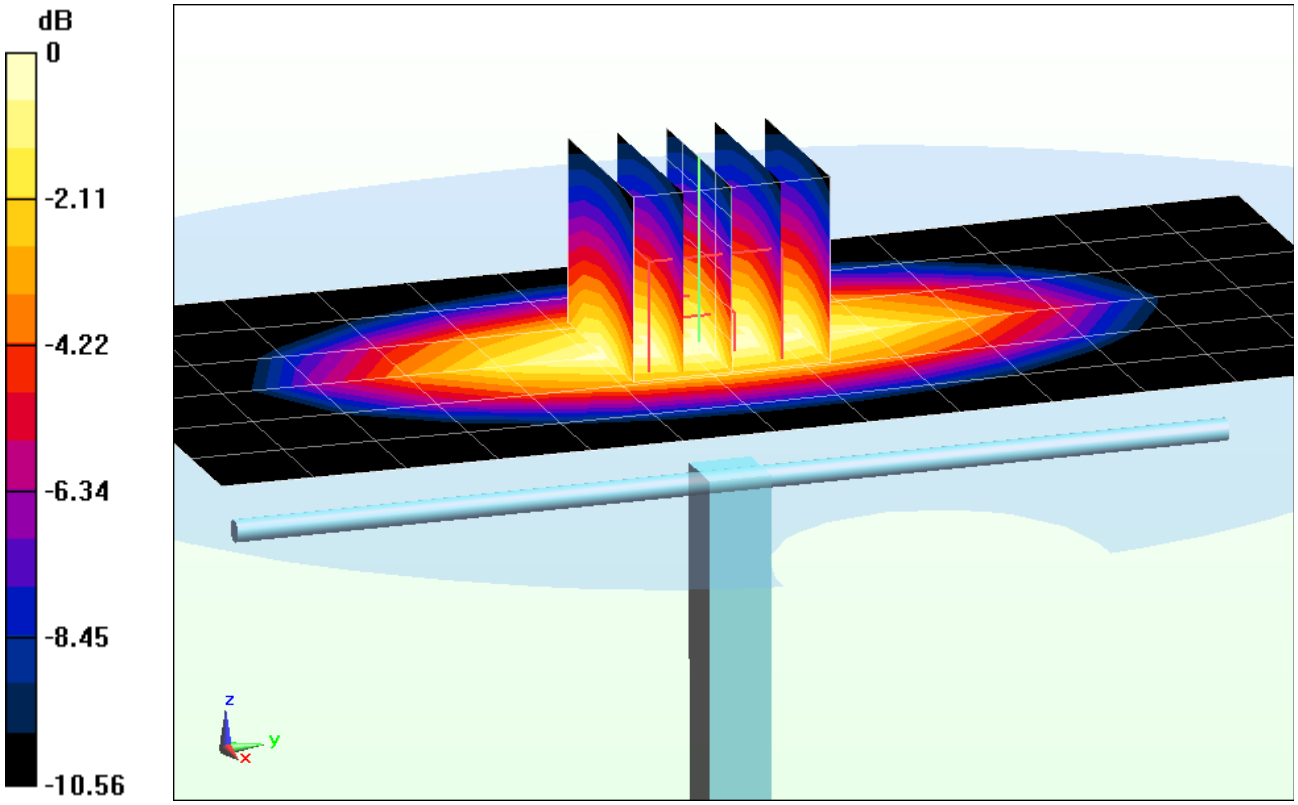
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used:
f = 835 MHz; σ = 0.9 mho/m; ε_r = 41.41; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09-05-2012; Ambient Temp: 24.8°C; Tissue Temp: 24.1°C

Probe: ES3DV3 - SN3213; ConvF(6.07, 6.07, 6.07); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Front; Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

835 MHz System Verification

Area Scan (7x14x1): 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)
Peak SAR (extrapolated) = 1.445 mW/g
SAR(1 g) = 0.977 mW/g; SAR(10 g) = 0.638 mW/g
Deviation = 3.83%



0 dB = 1.06 mW/g = 0.51 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 835 MHz; Type: D835V2; Serial: 4d047

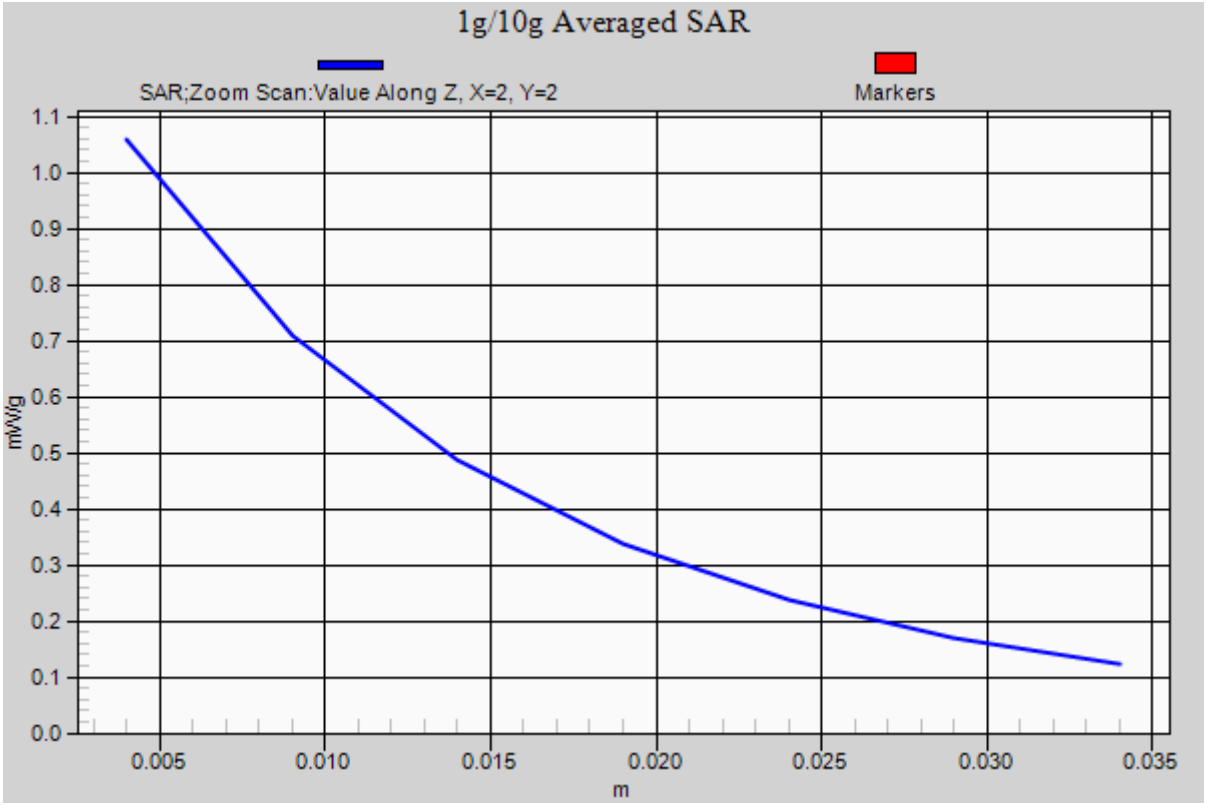
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used:
f = 835 MHz; σ = 0.9 mho/m; ε_r = 41.41; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09-05-2012; Ambient Temp: 24.8°C; Tissue Temp: 24.1°C

Probe: ES3DV3 - SN3213; ConvF(6.07, 6.07, 6.07); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Front; Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

835 MHz System Verification

Area Scan (7x14x1): 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)
Peak SAR (extrapolated) = 1.445 mW/g
SAR(1 g) = 0.977 mW/g; SAR(10 g) = 0.638 mW/g
Deviation = 3.83%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1765V2; Serial: 1008

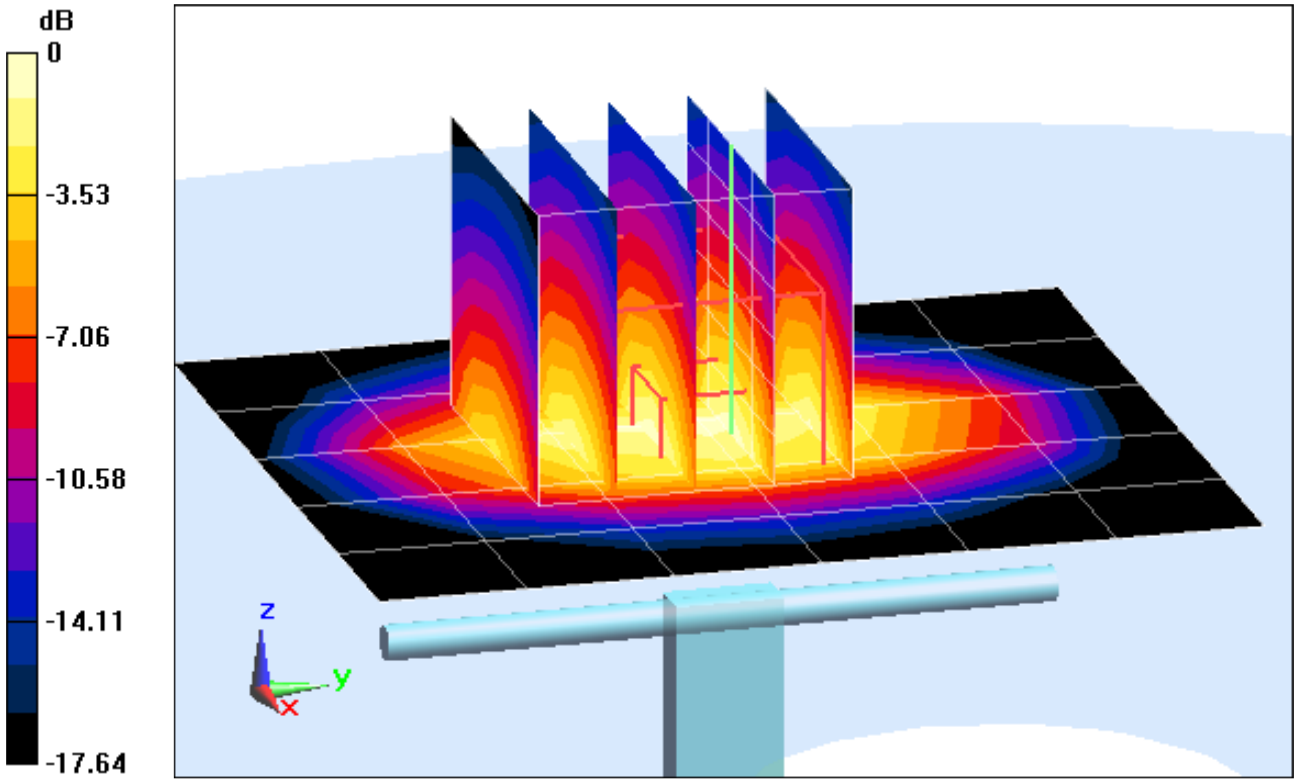
Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1750 MHz; σ = 1.365 mho/m; ε_r = 38.57; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-25-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3209; ConvF(5.26, 5.26, 5.26); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

1750 MHz System Verification

Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 6.581 mW/g
SAR(1 g) = 3.66 mW/g; SAR(10 g) = 1.93 mW/g
Deviation = 0.55%



0 dB = 4.06 mW/g = 12.17 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1765V2; Serial: 1008

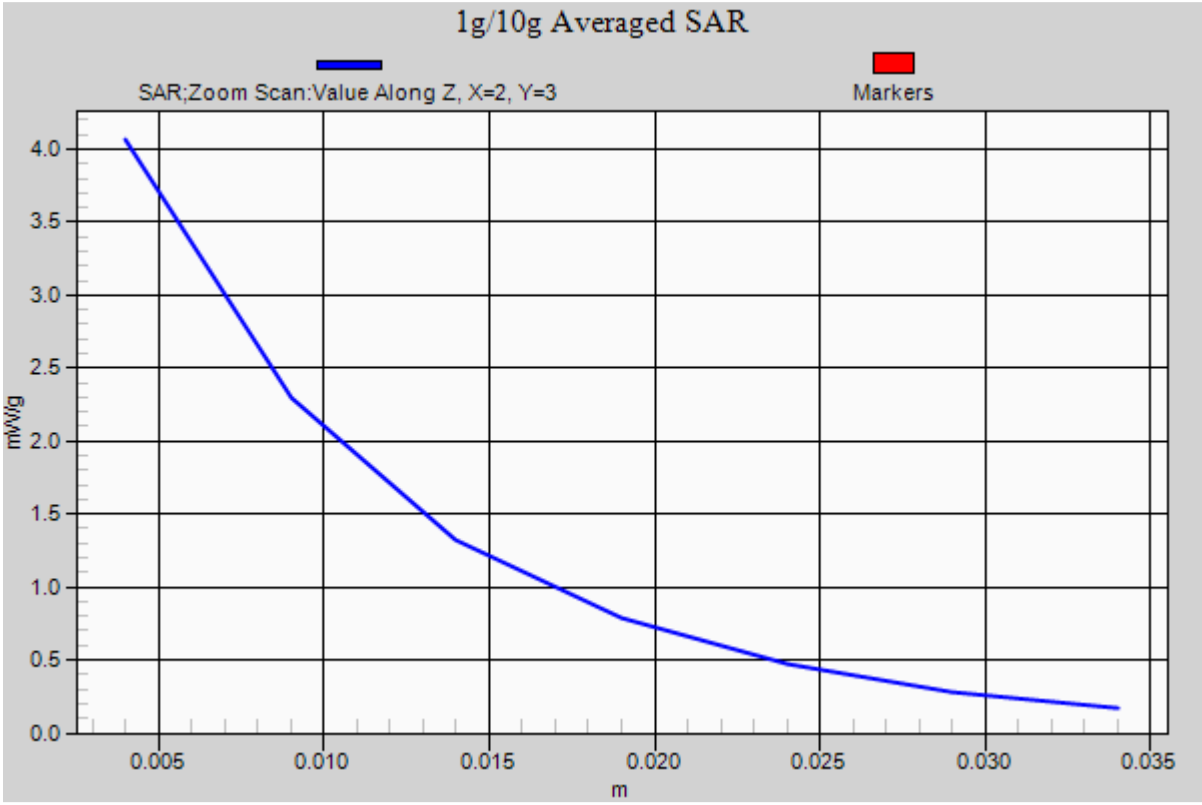
Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1750 MHz; σ = 1.365 mho/m; ε_r = 38.57; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-25-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3209; ConvF(5.26, 5.26, 5.26); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.5 (6469)

1750 MHz System Verification

Area Scan (6x7x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 6.581 mW/g
SAR(1 g) = 3.66 mW/g; SAR(10 g) = 1.93 mW/g
Deviation = 0.55%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1051

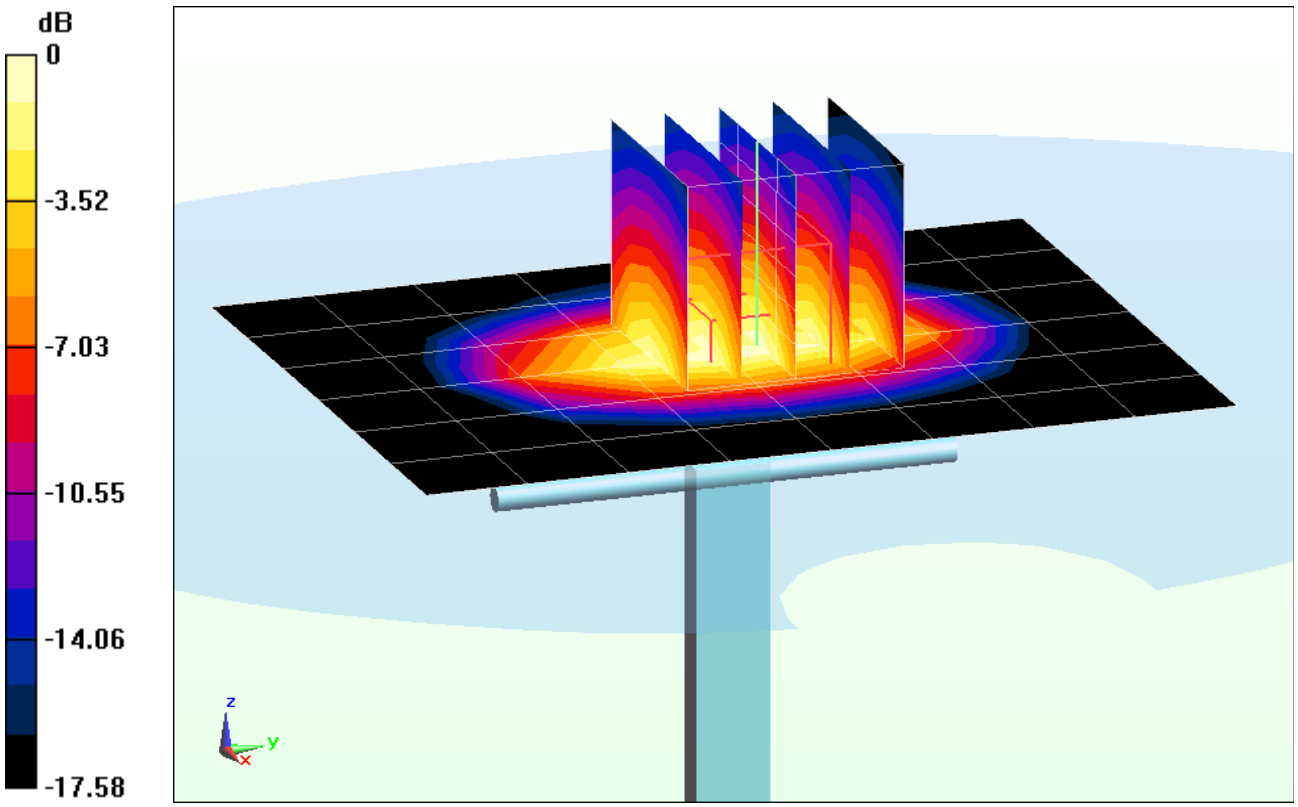
Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1750 MHz; σ = 1.36 mho/m; ε_r = 39.47; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-05-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3213; ConvF(5.22, 5.22, 5.22); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Right; Type: QD000P40CD; Serial: 1686
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1750 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 6.738 mW/g
SAR(1 g) = 3.73 mW/g; SAR(10 g) = 1.98 mW/g
Deviation = 1.91%



0 dB = 4.11 mW/g = 12.28 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1051

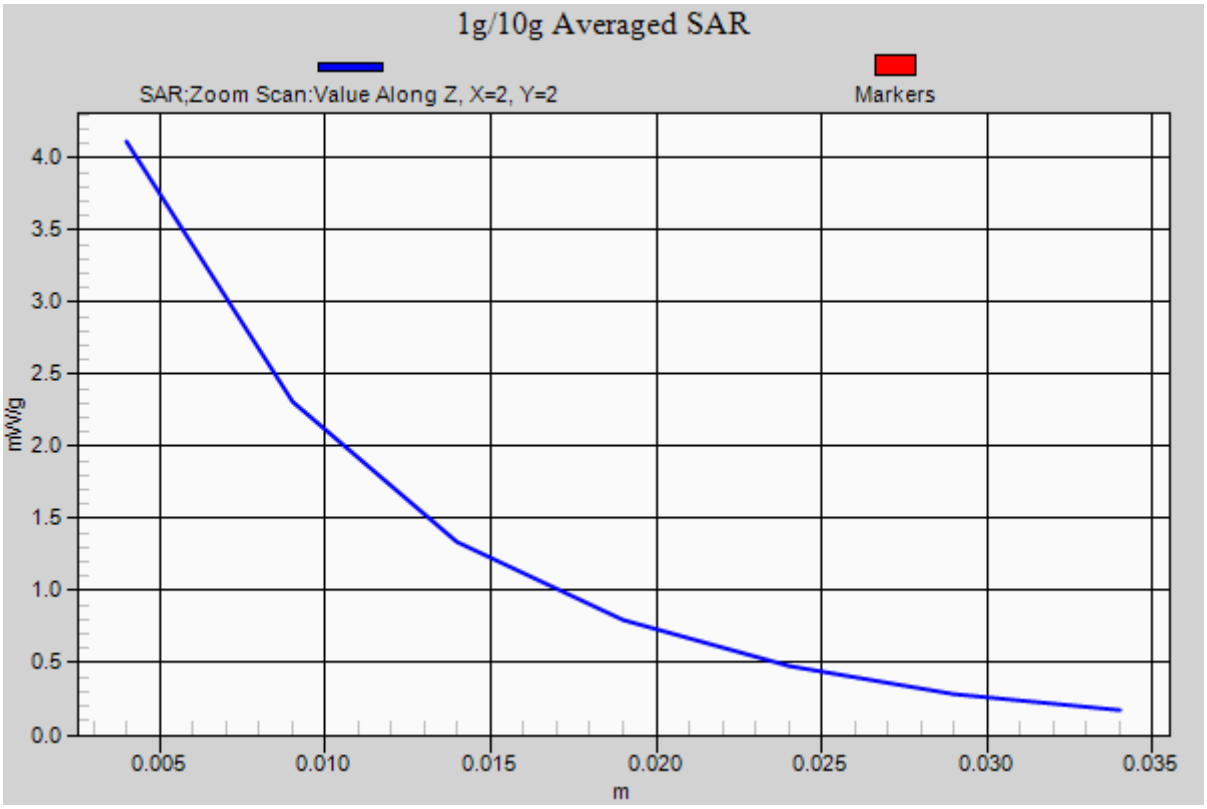
Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1750 MHz; σ = 1.36 mho/m; ε_r = 39.47; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-05-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.1°C

Probe: ES3DV3 - SN3213; ConvF(5.22, 5.22, 5.22); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Right; Type: QD000P40CD; Serial: 1686
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1750 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 6.738 mW/g
SAR(1 g) = 3.73 mW/g; SAR(10 g) = 1.98 mW/g
Deviation = 1.91%



PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

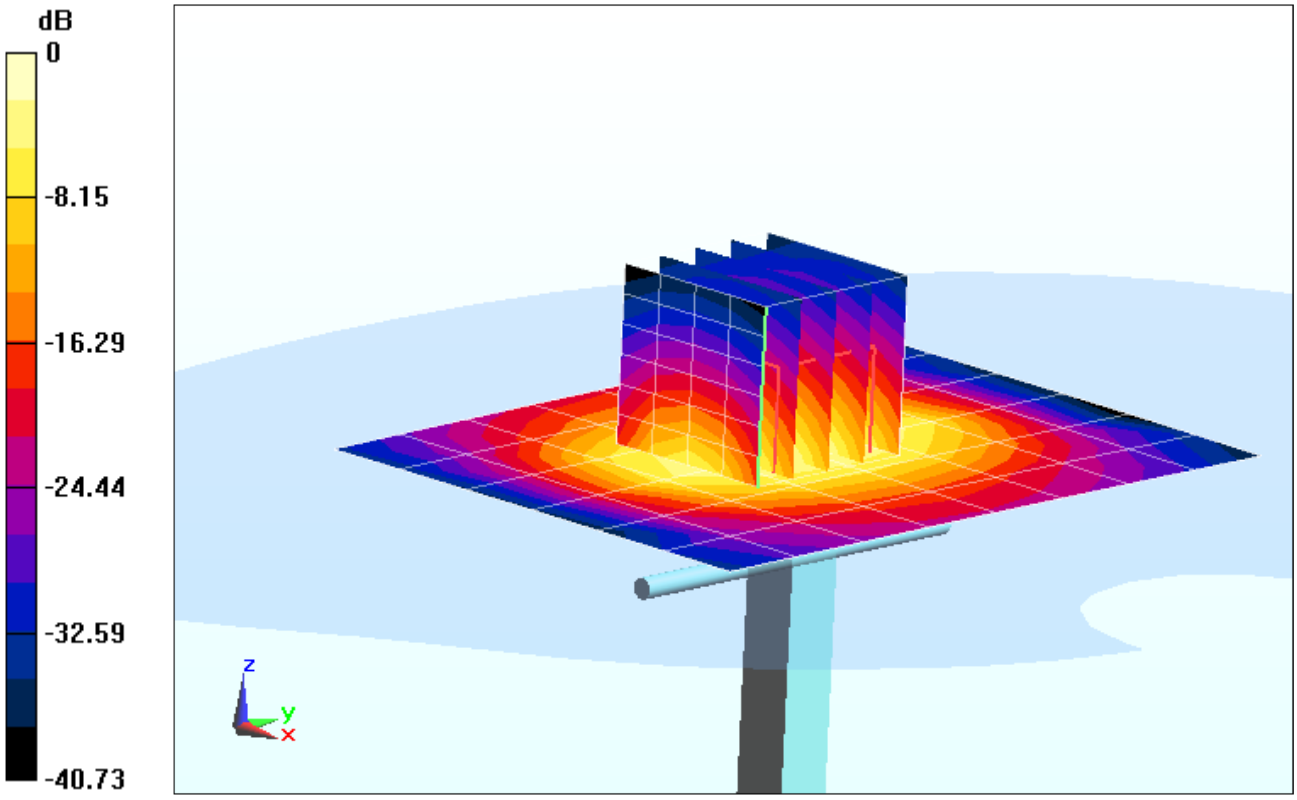
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.369 mho/m; ε_r = 39.14; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 7.425 mW/g
SAR(1 g) = 3.95 mW/g; SAR(10 g) = 2.04 mW/g
Deviation = -2.47 %



0 dB = 4.18 mW/g = 12.43 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

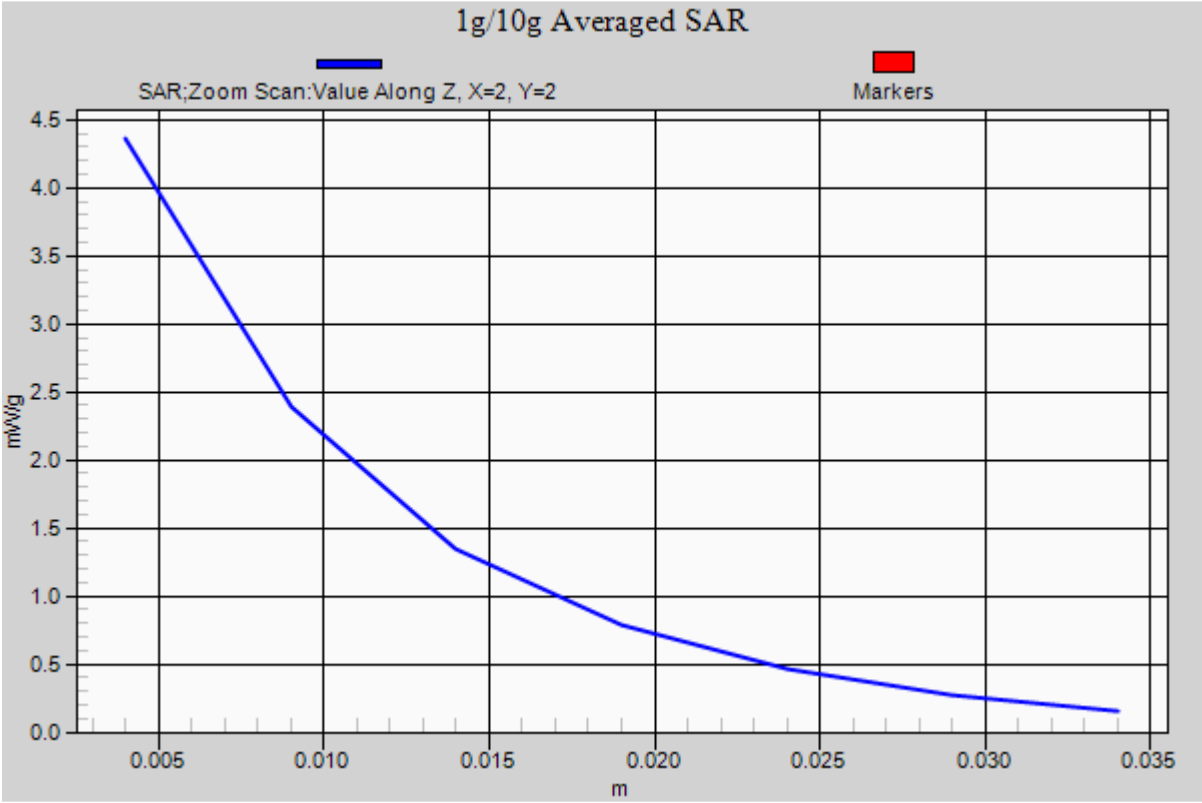
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.369 mho/m; ε_r = 39.14; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 7.425 mW/g
SAR(1 g) = 3.95 mW/g; SAR(10 g) = 2.04 mW/g
Deviation = -2.47 %



PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

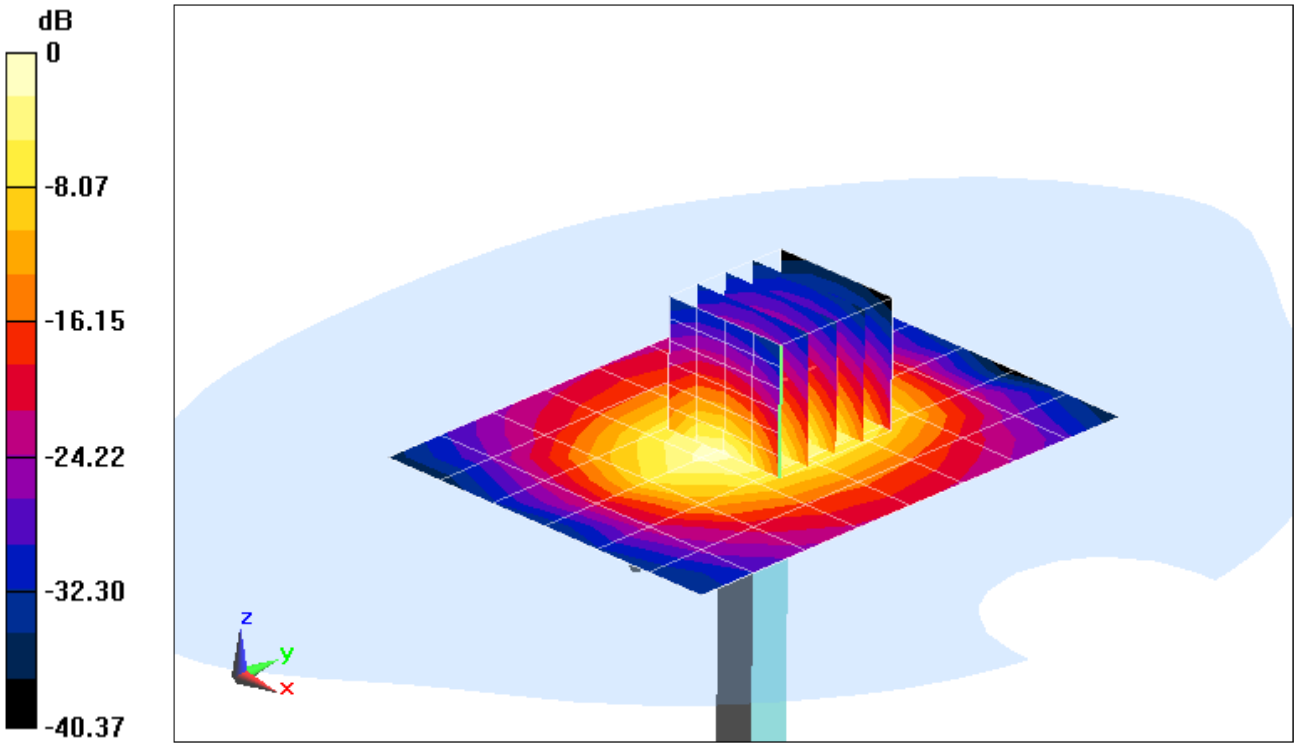
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.394 mho/m; ε_r = 38.853; ρ = 1000 kg/m^3
Phantom section: Flat Section: Space: 1.0 cm

Test Date: 07-24-2012; Ambient Temp: 23.8°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 7.777 mW/g
SAR(1 g) = 4.15 mW/g; SAR(10 g) = 2.15 mW/g
Deviation = 2.47 %



0 dB = 4.67 mW/g = 13.38 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

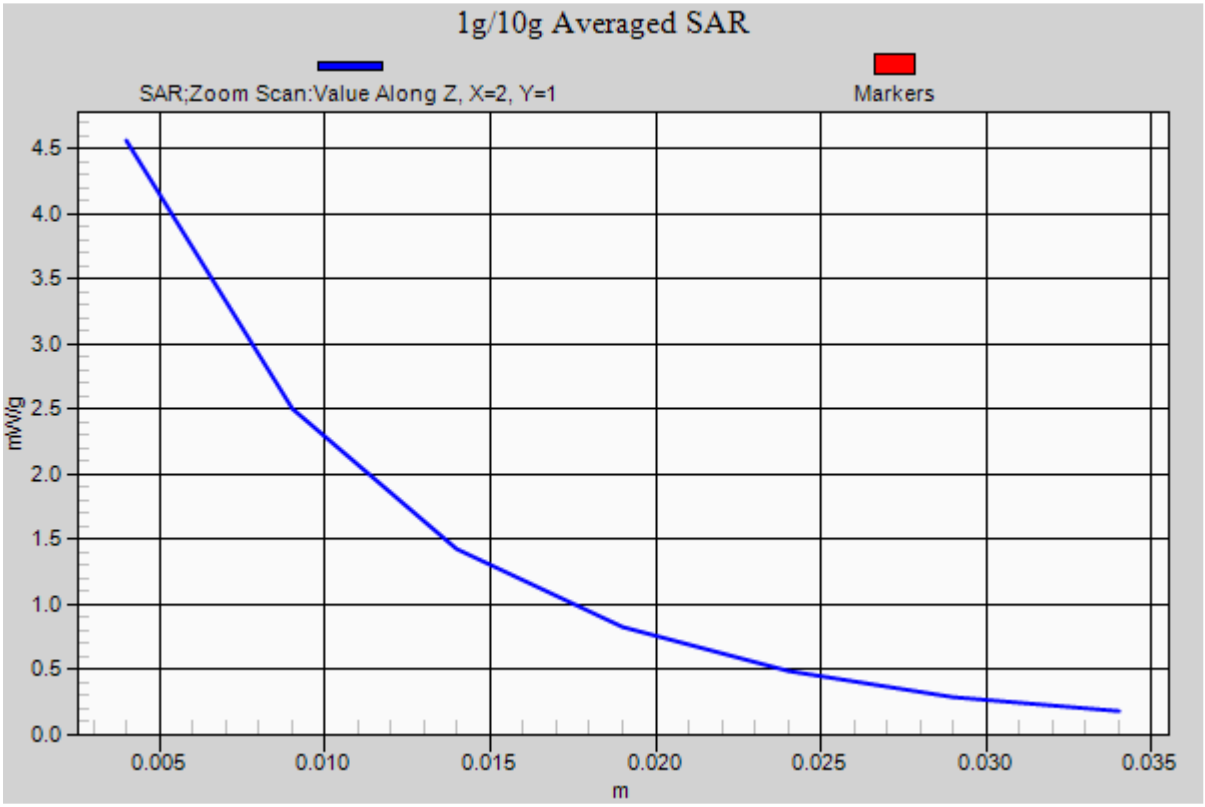
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.394 mho/m; ε_r = 38.853; ρ = 1000 kg/m^3
Phantom section: Flat Section: Space: 1.0 cm

Test Date: 07-24-2012; Ambient Temp: 23.8°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 7.777 mW/g
SAR(1 g) = 4.15 mW/g; SAR(10 g) = 2.15 mW/g
Deviation = 2.47 %



PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

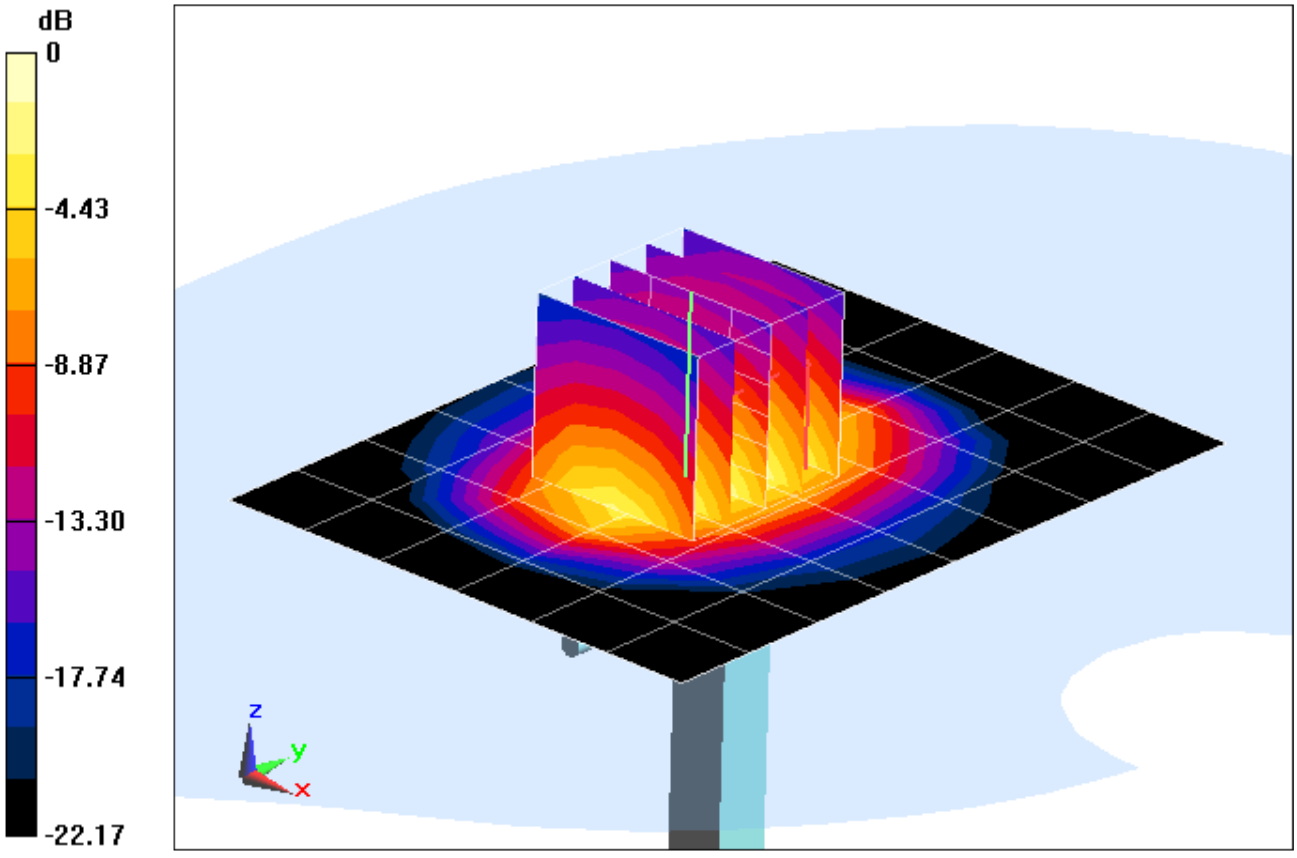
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.396 mho/m; ε_r = 38.153; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-05-2012; Ambient Temp: 23.3°C; Tissue Temp: 24.0°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 7.850 mW/g
SAR(1 g) = 4.22 mW/g; SAR(10 g) = 2.21 mW/g
Deviation = 7.38 %



0 dB = 4.63 mW/g = 13.31 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

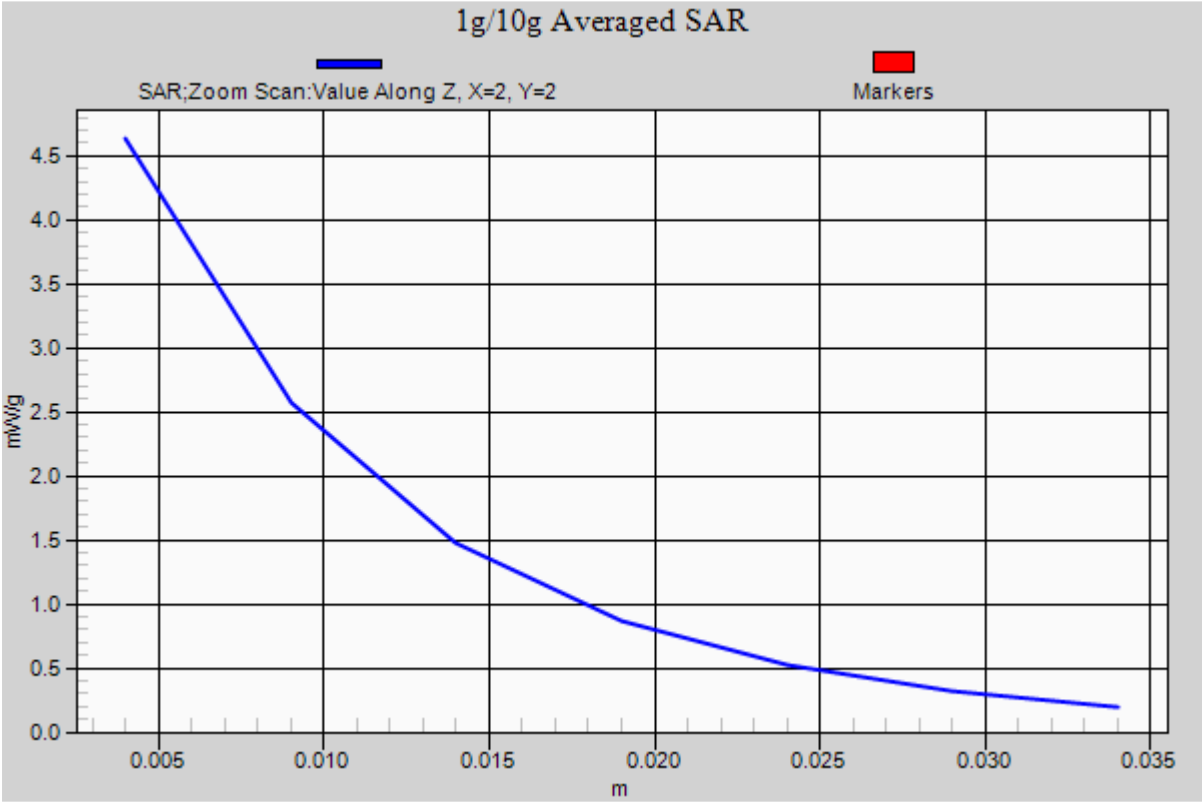
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.396 mho/m; ε_r = 38.153; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-05-2012; Ambient Temp: 23.3°C; Tissue Temp: 24.0°C

Probe: ES3DV3 - SN3288; ConvF(5.16, 5.16, 5.16); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 7.850 mW/g
SAR(1 g) = 4.22 mW/g; SAR(10 g) = 2.21 mW/g
Deviation = 7.38 %



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 882

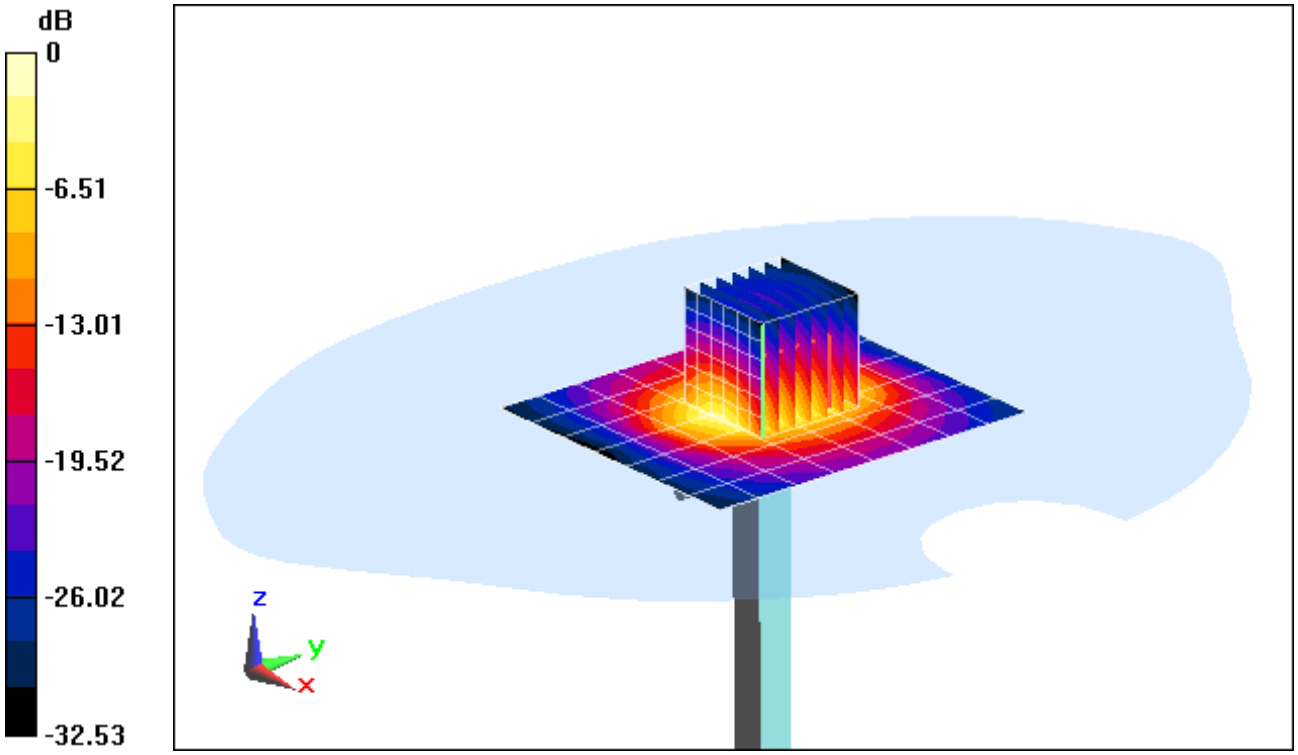
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.885 mho/m; ε_r = 40.29; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-26-2012; Ambient Temp: 20.8°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3287; ConvF(4.44, 4.44, 4.44); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 4/19/2012
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

2450 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Input Power: 20.0 dBm (100 mW)
SAR(1 g) = 5.34 mW/g; SAR(10 g) = 2.43 mW/g
Deviation: -0.19%



0 dB = 6.41 mW/g = 16.13 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 882

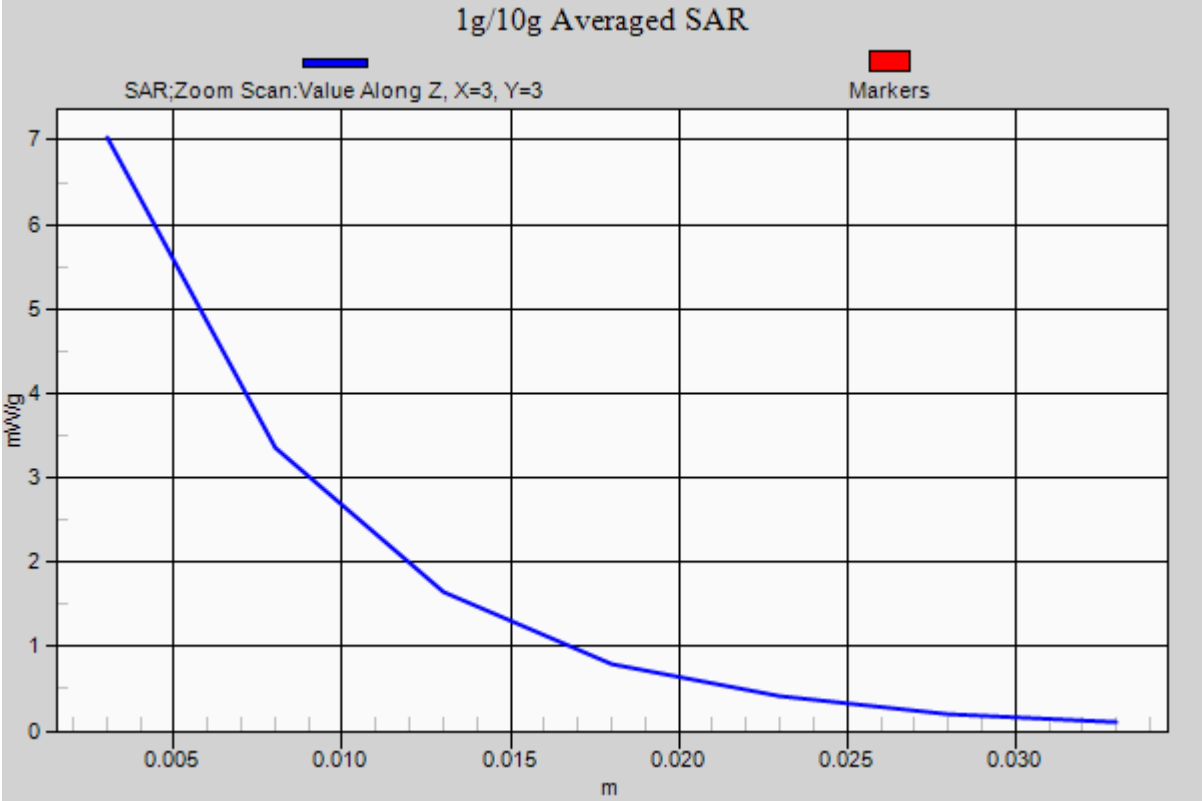
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.885 mho/m; ε_r = 40.29; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-26-2012; Ambient Temp: 20.8°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3287; ConvF(4.44, 4.44, 4.44); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 4/19/2012
Phantom: SAM v5.0 Left; Type: QD000P40CD; Serial: TP: 1687
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

2450 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Input Power: 20.0 dBm (100 mW)
SAR(1 g) = 5.34 mW/g; SAR(10 g) = 2.43 mW/g
Deviation: -0.19%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: 1057

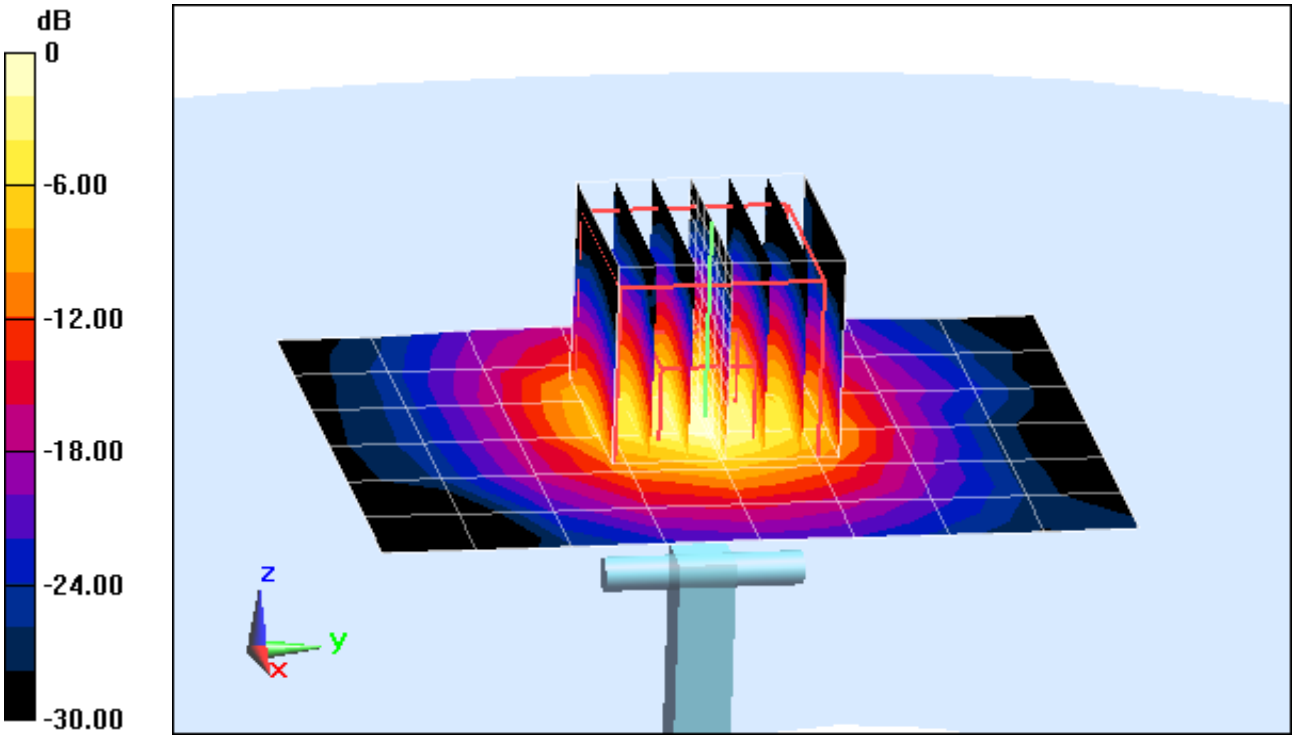
Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5200 MHz; σ = 4.453 mho/m; ε_r = 37.67; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 23.7°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN3589; ConvF(4.59, 4.59, 4.59); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5200MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 32.670 mW/g
SAR(1 g) = 7.24 mW/g; SAR(10 g) = 2.04 mW/g
Deviation = -8.47%



0 dB = 14.7 mW/g = 23.35 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: 1057

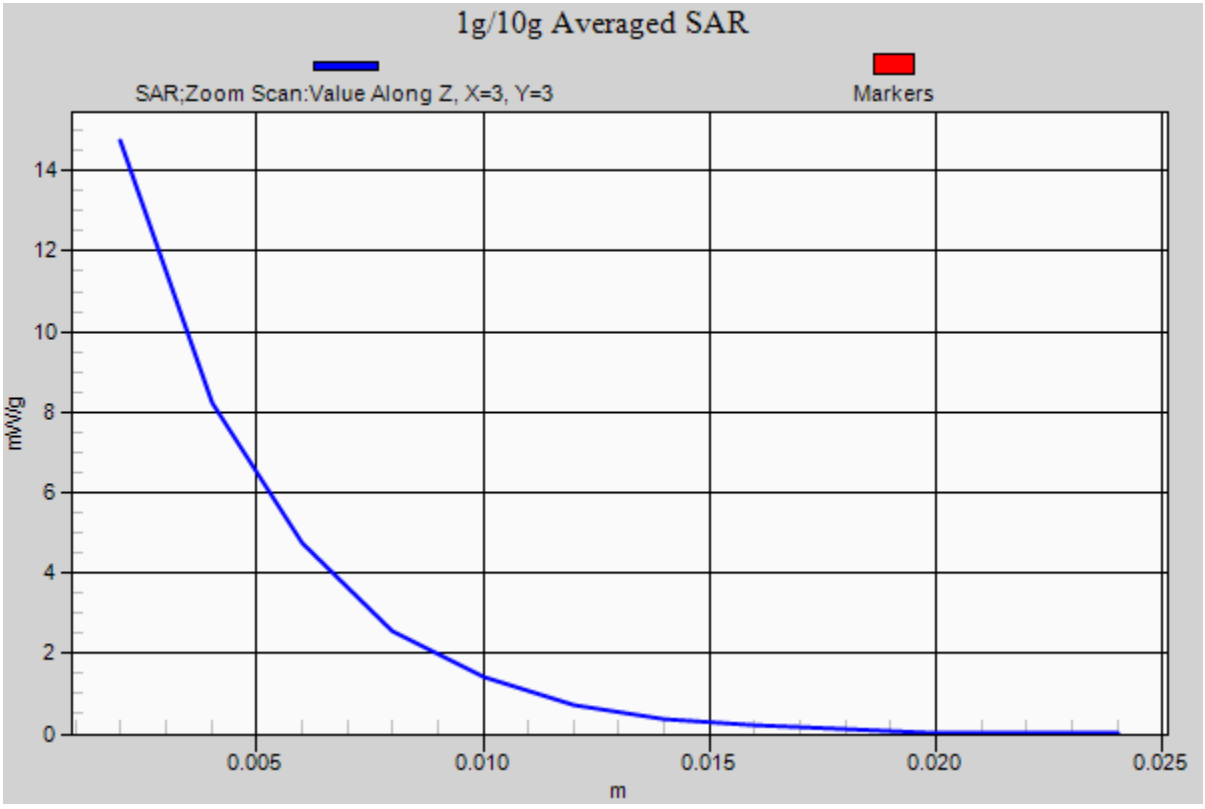
Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5200 MHz; σ = 4.453 mho/m; ε_r = 37.67; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 23.7°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN3589; ConvF(4.59, 4.59, 4.59); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5200MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 32.670 mW/g
SAR(1 g) = 7.24 mW/g; SAR(10 g) = 2.04 mW/g
Deviation = -8.47%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5500 MHz; Type: D5GHzV2; Serial: 1057

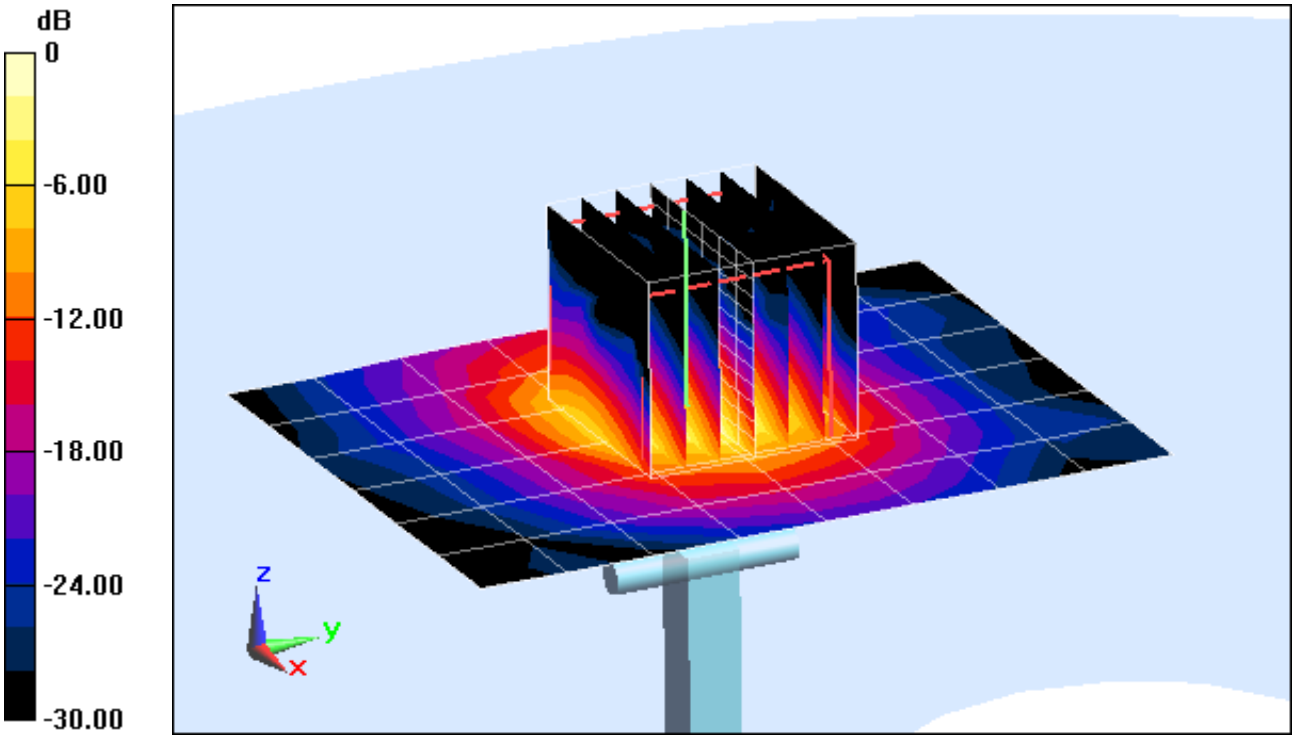
Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5500 MHz; σ = 4.723 mho/m; ε_r = 37.31; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5500MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 32.697 mW/g
SAR(1 g) = 7.97 mW/g; SAR(10 g) = 2.19 mW/g
Deviation = -6.12%



0 dB = 16.0 mW/g = 24.08 dB mW/g

DUT: Dipole 5500 MHz; Type: D5GHzV2; Serial: 1057

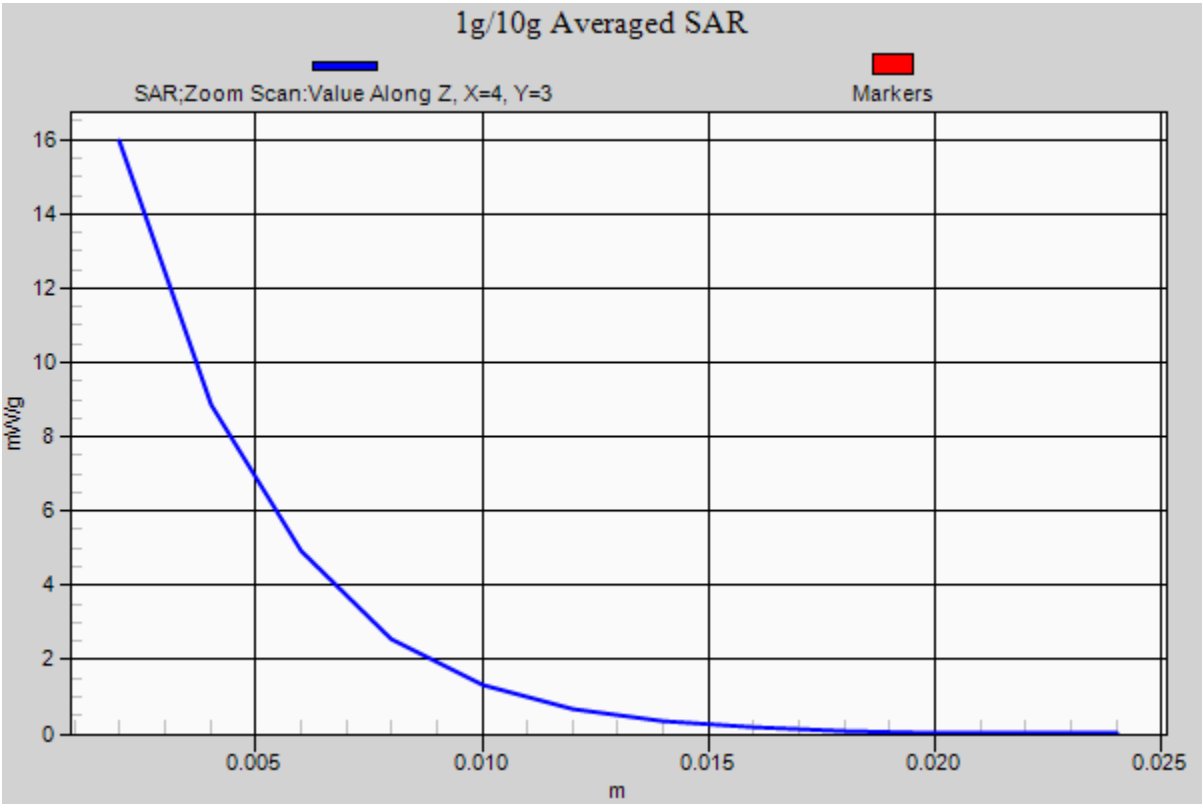
Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5500 MHz; σ = 4.723 mho/m; ε_r = 37.31; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5500MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 32.697 mW/g
SAR(1 g) = 7.97 mW/g; SAR(10 g) = 2.19 mW/g
Deviation = -6.12%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5800 MHz; Type: D5GHzV2; Serial: 1057

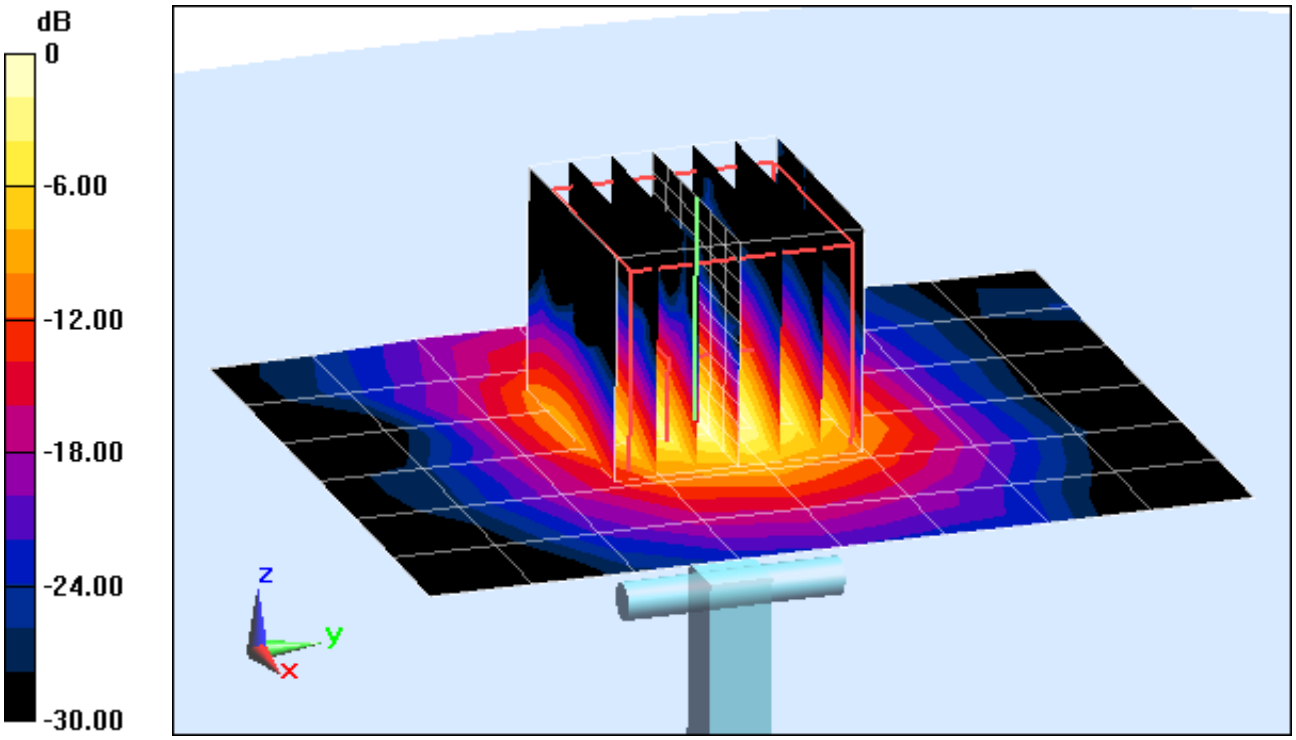
Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5800 MHz; σ = 5.025 mho/m; ε_r = 36.87; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 23.5°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN3589; ConvF(4.05, 4.05, 4.05); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5800MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 35.604 mW/g
SAR(1 g) = 7.75 mW/g; SAR(10 g) = 2.12 mW/g
Deviation = -2.52%



0 dB = 15.8 mW/g = 23.97 dB mW/g

DUT: Dipole 5800 MHz; Type: D5GHzV2; Serial: 1057

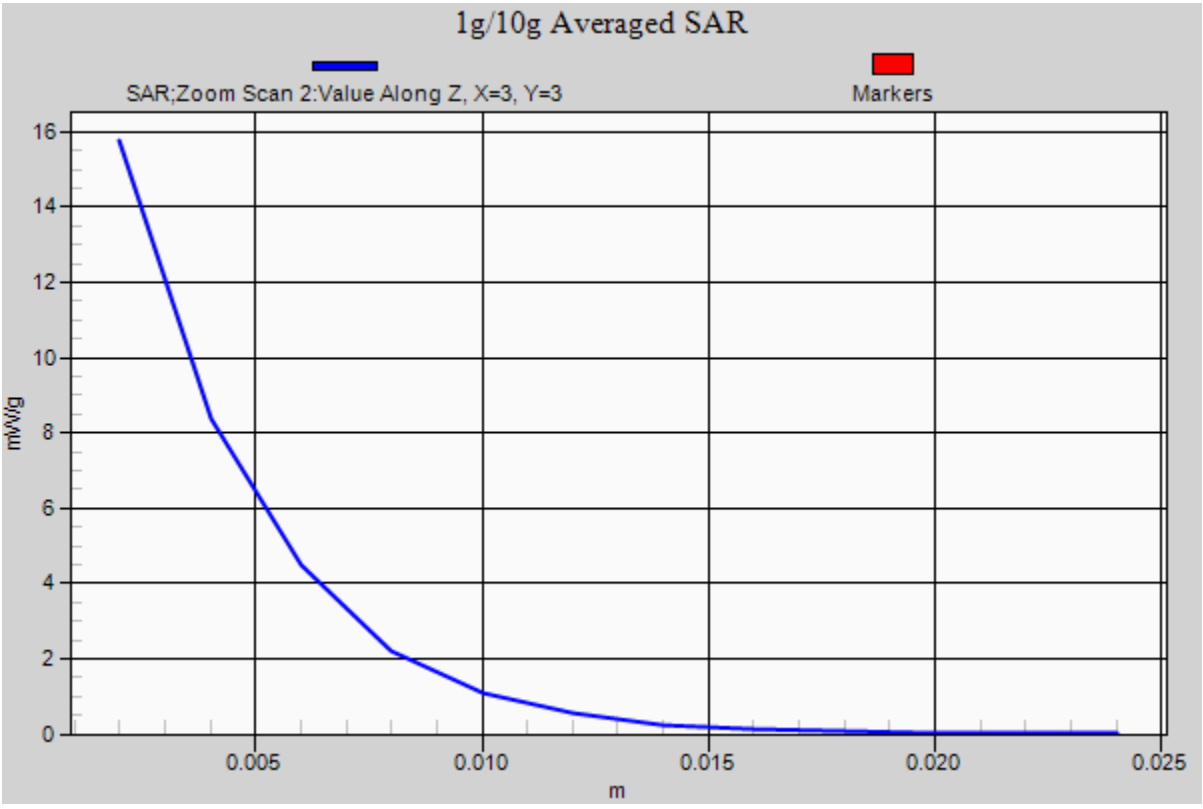
Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used:
f = 5800 MHz; σ = 5.025 mho/m; ε_r = 36.87; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 23.5°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN3589; ConvF(4.05, 4.05, 4.05); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5800MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 35.604 mW/g
SAR(1 g) = 7.75 mW/g; SAR(10 g) = 2.12 mW/g
Deviation = -2.52%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d119

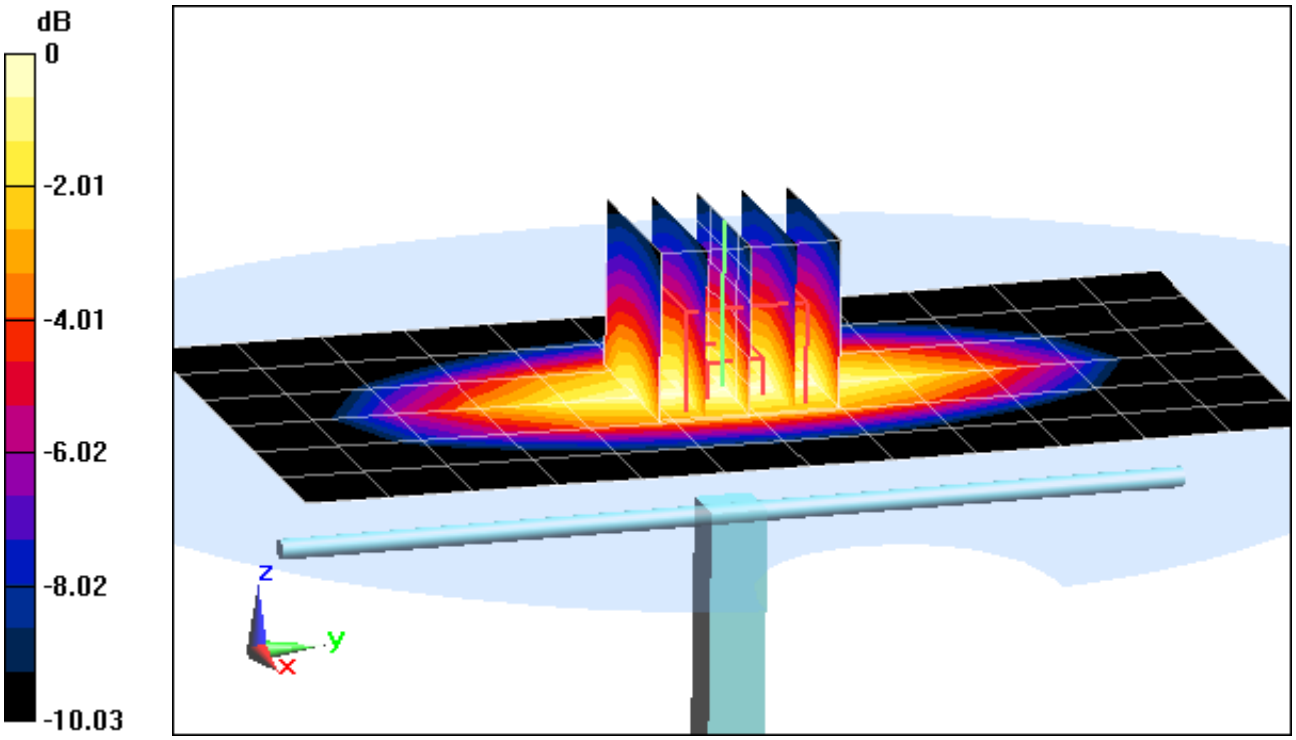
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.987 mho/m; ε_r = 54.79; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-26-2012; Ambient Temp: 24.5°C; Tissue Temp: 23.8°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012;
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, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

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 dBm (100 mW)
Peak SAR (extrapolated) = 1.465 mW/g
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.673 mW/g
Deviation = 5.65%



0 dB = 1.10 mW/g = 0.83 dB mW/g

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d119

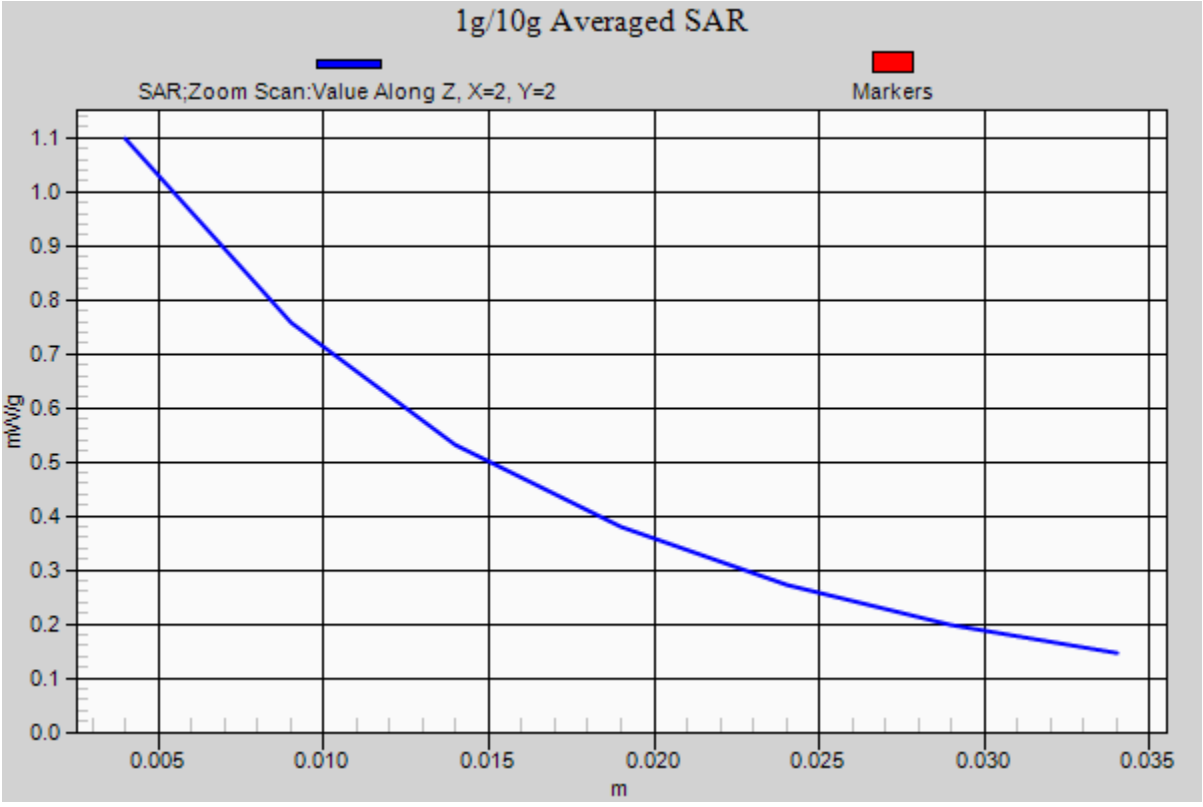
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.987 mho/m; ε_r = 54.79; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-26-2012; Ambient Temp: 24.5°C; Tissue Temp: 23.8°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012;
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, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

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 dBm (100 mW)
Peak SAR (extrapolated) = 1.465 mW/g
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.673 mW/g
Deviation = 5.65%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d119

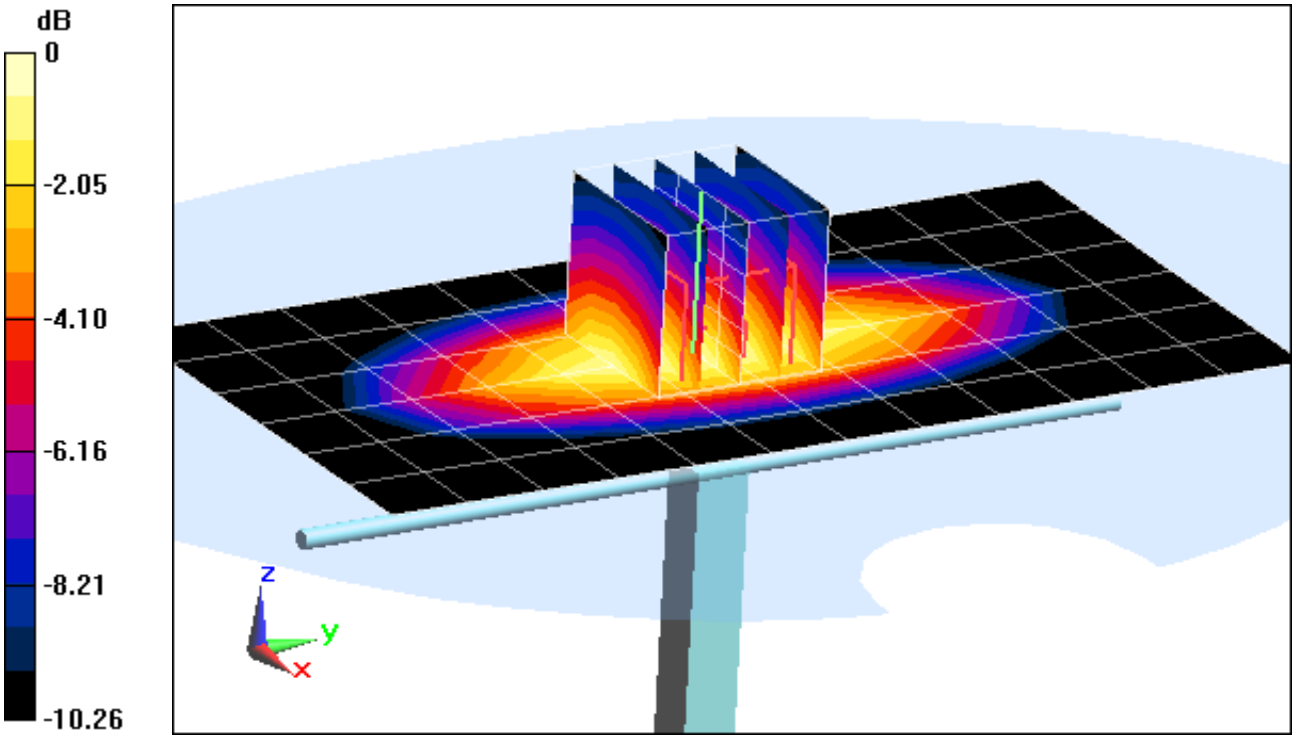
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.971 mho/m; ε_r = 54.86; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-30-2012; Ambient Temp: 24.1°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012;
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, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

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 dBm (100 mW)
Peak SAR (extrapolated) = 1.414 mW/g
SAR(1 g) = 0.974 mW/g; SAR(10 g) = 0.642 mW/g
Deviation = 1.88%



0 dB = 1.05 mW/g = 0.42 dB mW/g

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d119

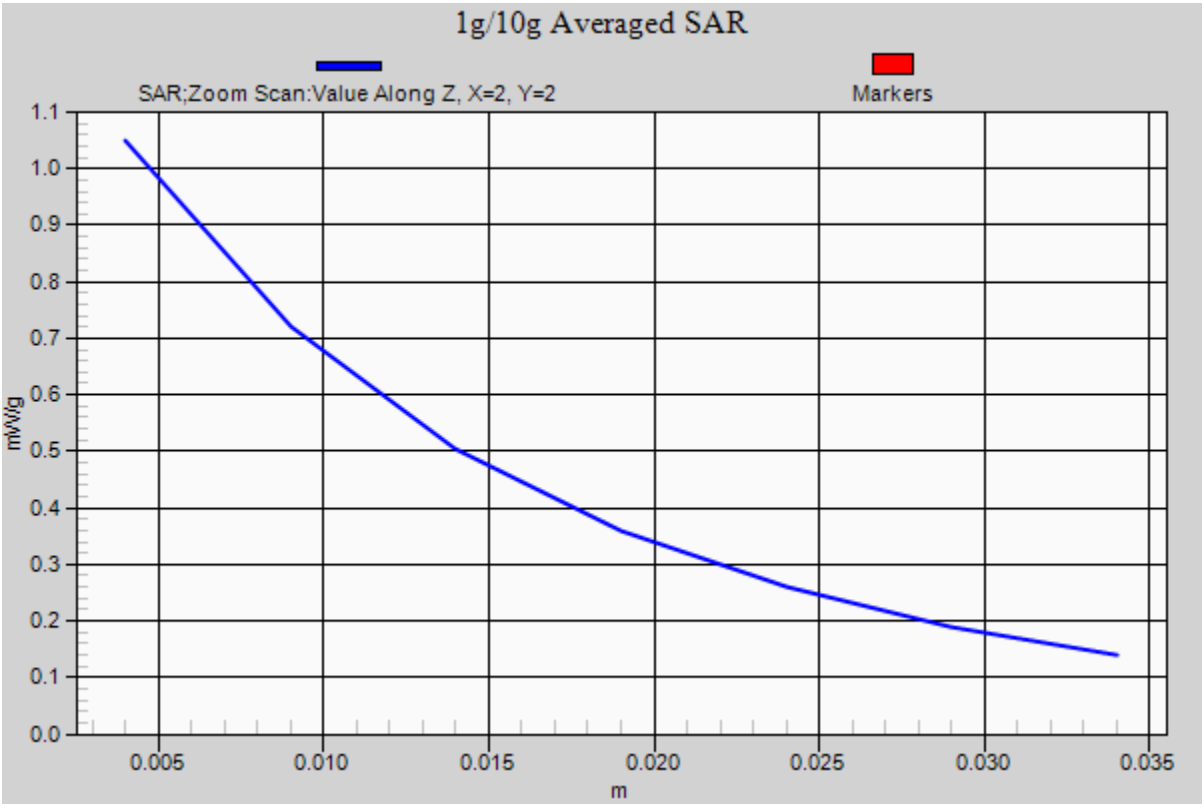
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.971 mho/m; ε_r = 54.86; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-30-2012; Ambient Temp: 24.1°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3258; ConvF(6.06, 6.06, 6.06); Calibrated: 2/21/2012;
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, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

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 dBm (100 mW)
Peak SAR (extrapolated) = 1.414 mW/g
SAR(1 g) = 0.974 mW/g; SAR(10 g) = 0.642 mW/g
Deviation = 1.88%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1008

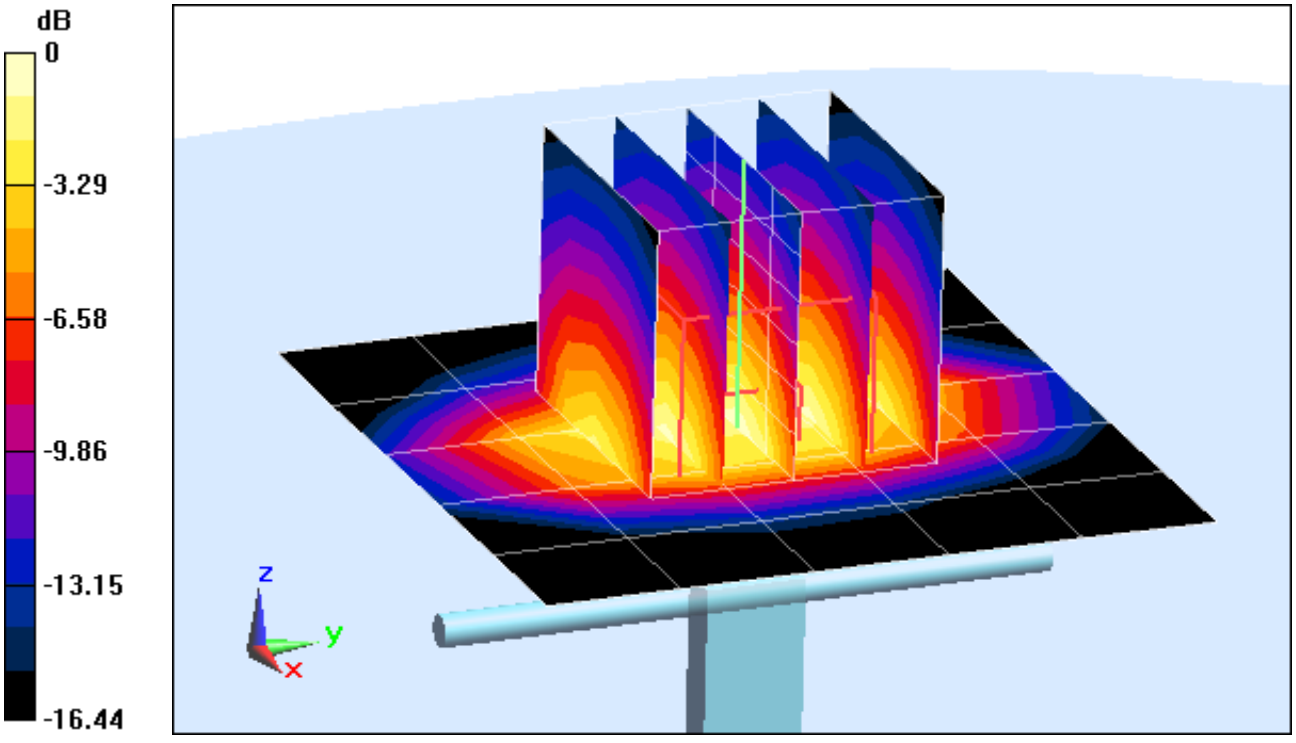
Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.486 mho/m; ε_r = 51.59; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

1750 MHz System Verification

Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 6.711 mW/g
SAR(1 g) = 3.8 mW/g; SAR(10 g) = 2.01 mW/g
Deviation = 1.60%



0 dB = 4.31 mW/g = 12.69 dB mW/g

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1008

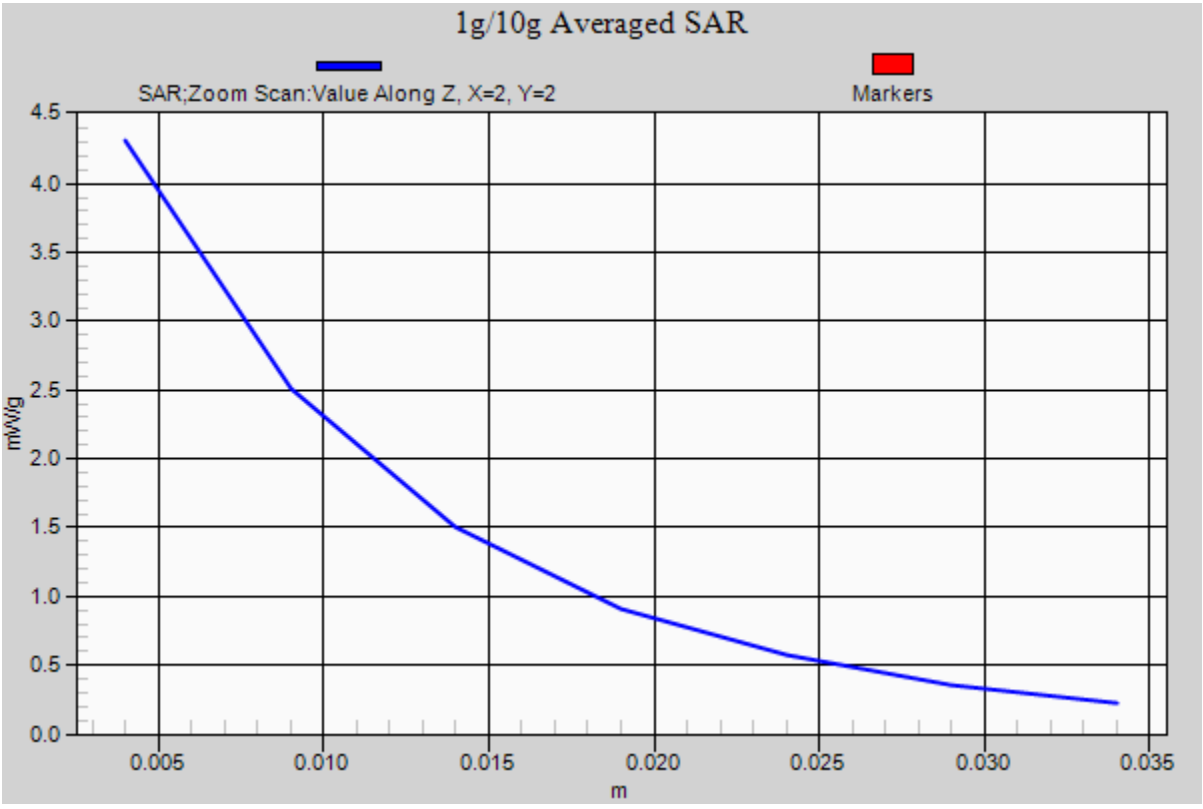
Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.486 mho/m; ε_r = 51.59; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.2°C

Probe: ES3DV3 - SN3209; ConvF(4.83, 4.83, 4.83); Calibrated: 3/16/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Sub; Type: SAM 4.0; Serial: TP-1357
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

1750 MHz System Verification

Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 6.711 mW/g
SAR(1 g) = 3.8 mW/g; SAR(10 g) = 2.01 mW/g
Deviation = 1.60%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1051

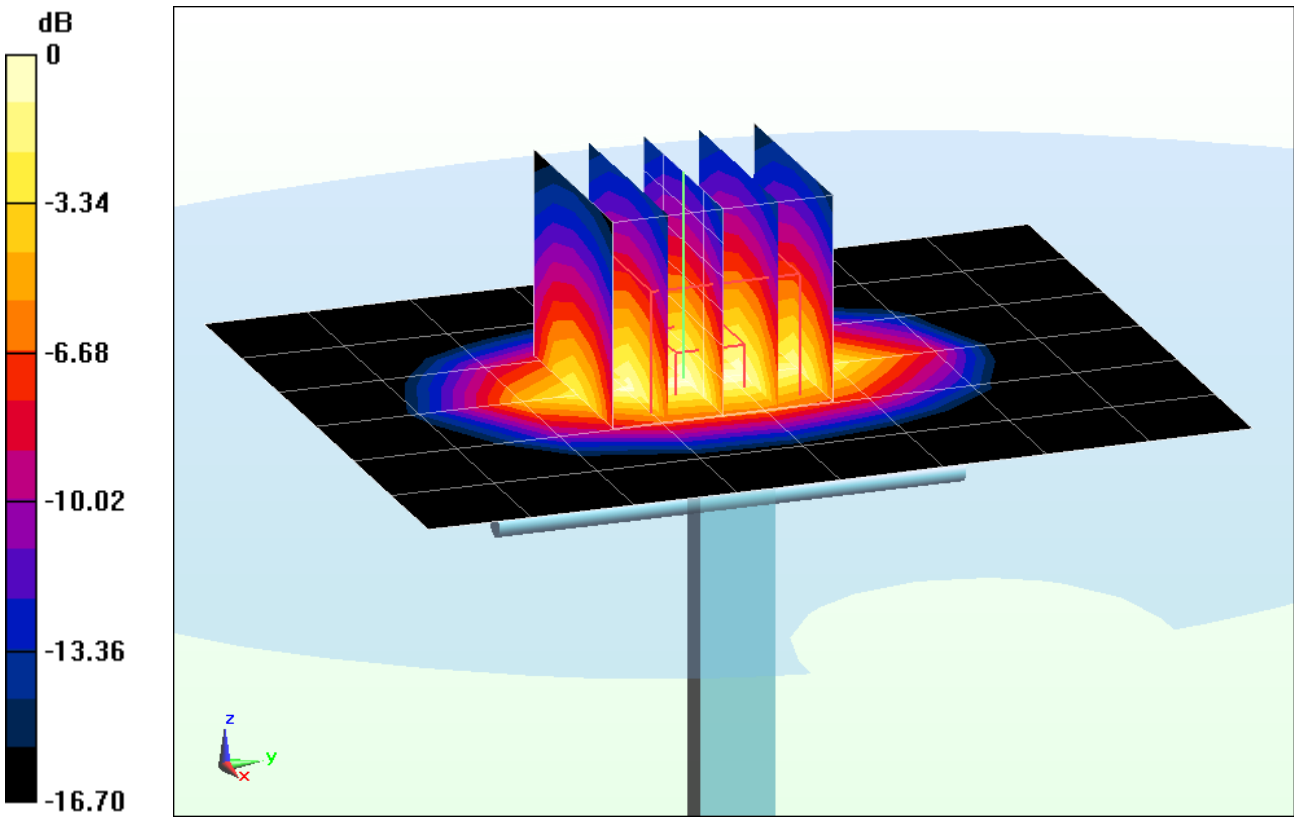
Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.465 mho/m; ε_r = 51.65; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 24.7°C; Tissue Temp: 24.0°C

Probe: ES3DV3 - SN3213; ConvF(4.68, 4.68, 4.68); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Front; Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1750 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 6.992 mW/g
SAR(1 g) = 4 mW/g; SAR(10 g) = 2.14 mW/g
Deviation = 6.38%



0 dB = 4.46 mW/g = 12.99 dB mW/g

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1051

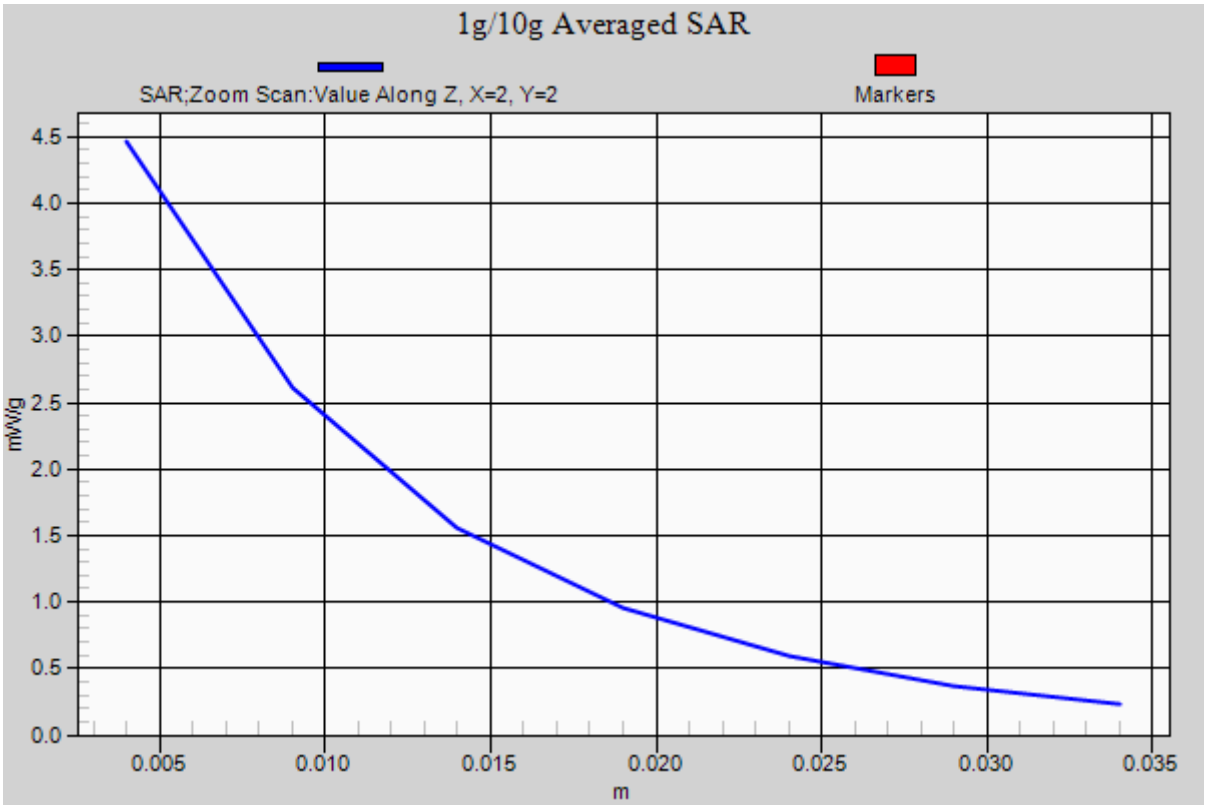
Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.465 mho/m; ε_r = 51.65; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 24.7°C; Tissue Temp: 24.0°C

Probe: ES3DV3 - SN3213; ConvF(4.68, 4.68, 4.68); Calibrated: 4/24/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 5/7/2012
Phantom: SAM Front; Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

1750 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 6.992 mW/g
SAR(1 g) = 4 mW/g; SAR(10 g) = 2.14 mW/g
Deviation = 6.38%



PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

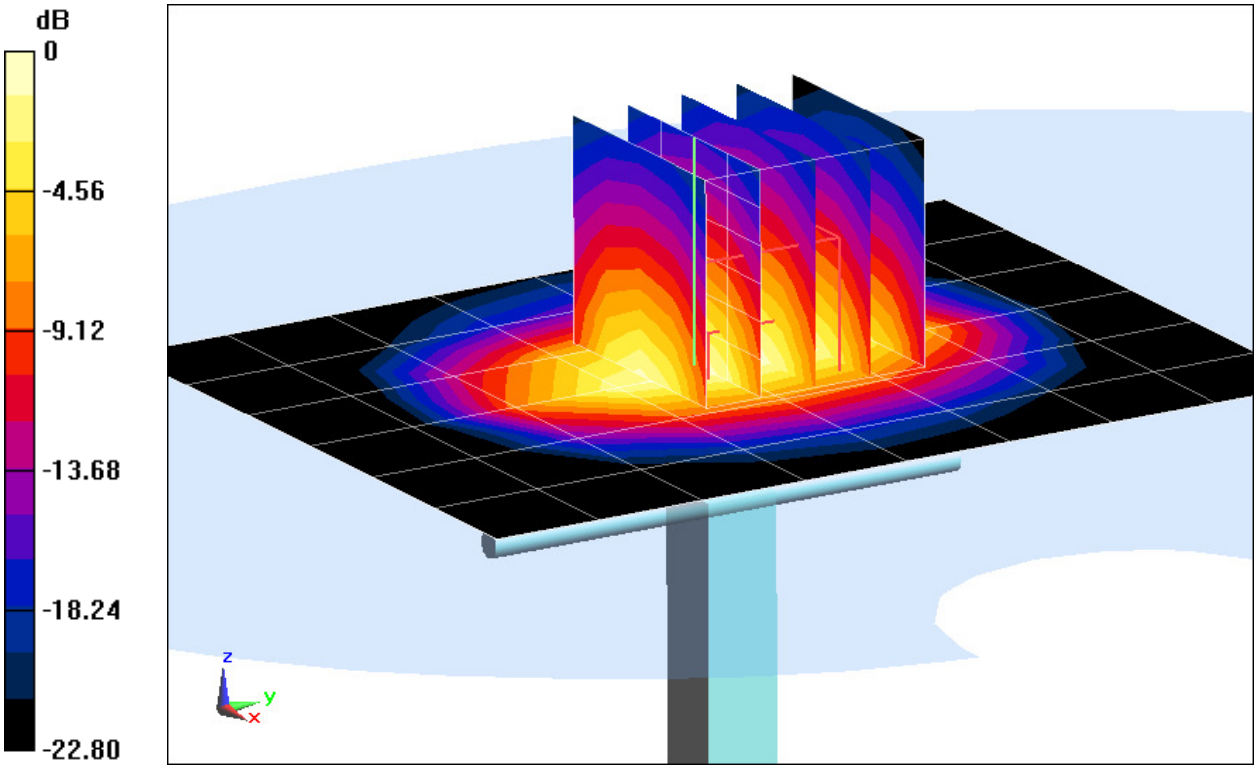
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.548 mho/m; ε_r = 52.463; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20.0 dBm (100mW)
Peak SAR (extrapolated) = 7.385 mW/g
SAR(1 g) = 4.16 mW/g; SAR(10 g) = 2.18 mW/g
Deviation = 5.85%



0 dB = 4.63 mW/g = 13.31 dB mW/g

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

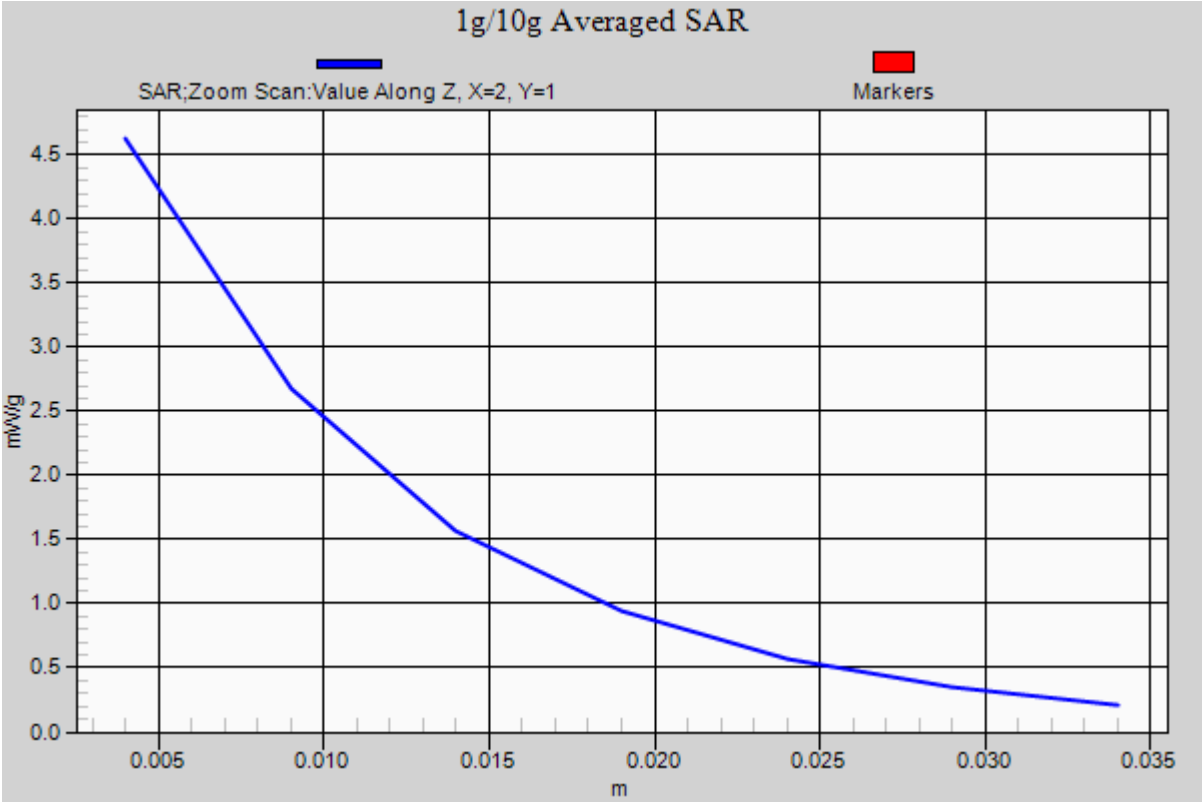
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.548 mho/m; ε_r = 52.463; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-23-2012; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3287; ConvF(4.76, 4.76, 4.76); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20.0 dBm (100mW)
Peak SAR (extrapolated) = 7.385 mW/g
SAR(1 g) = 4.16 mW/g; SAR(10 g) = 2.18 mW/g
Deviation = 5.85%



PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

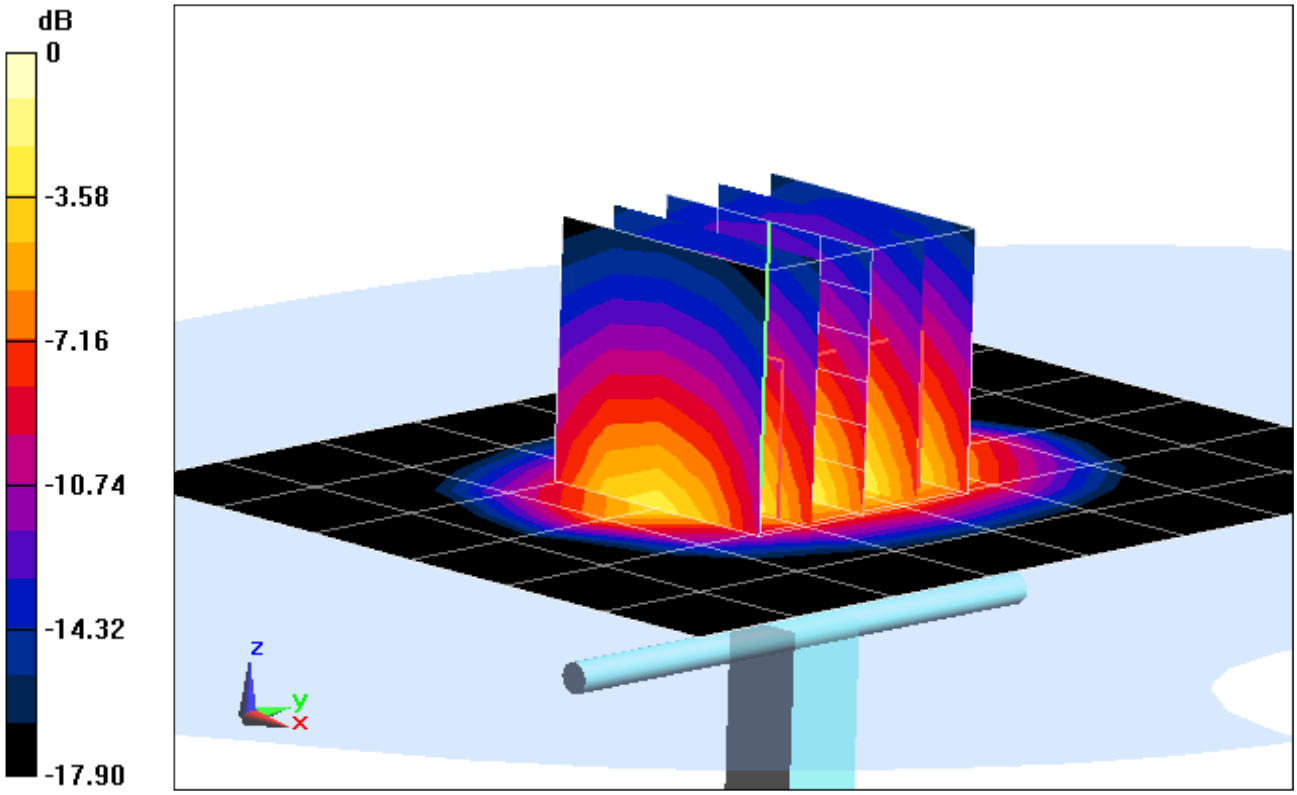
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.544 mho/m; ε_r = 53.737; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 23.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3288; ConvF(5.02, 5.02, 5.02); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 6.875 mW/g
SAR(1 g) = 3.85 mW/g; SAR(10 g) = 2.01 mW/g
Deviation = - 2.04 %



0 dB = 4.30 mW/g = 12.67 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: SAR Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

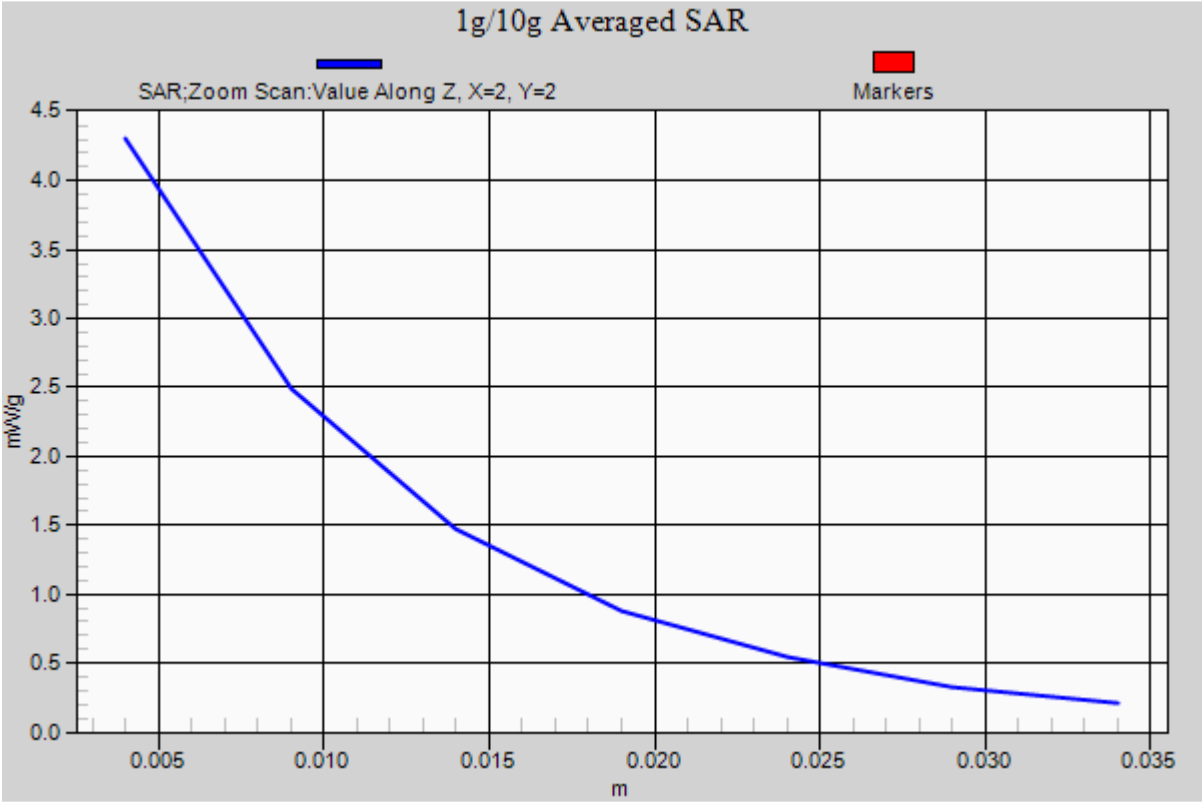
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.544 mho/m; ε_r = 53.737; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 23.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3288; ConvF(5.02, 5.02, 5.02); Calibrated: 2/7/2012;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

1900 MHz System Verification

Area Scan (7x9x1): 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)
Peak SAR (extrapolated) = 6.875 mW/g
SAR(1 g) = 3.85 mW/g; SAR(10 g) = 2.01 mW/g
Deviation = - 2.04 %



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 882

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.957 mho/m; ε_r = 50.28; ρ = 1000 kg/m^3

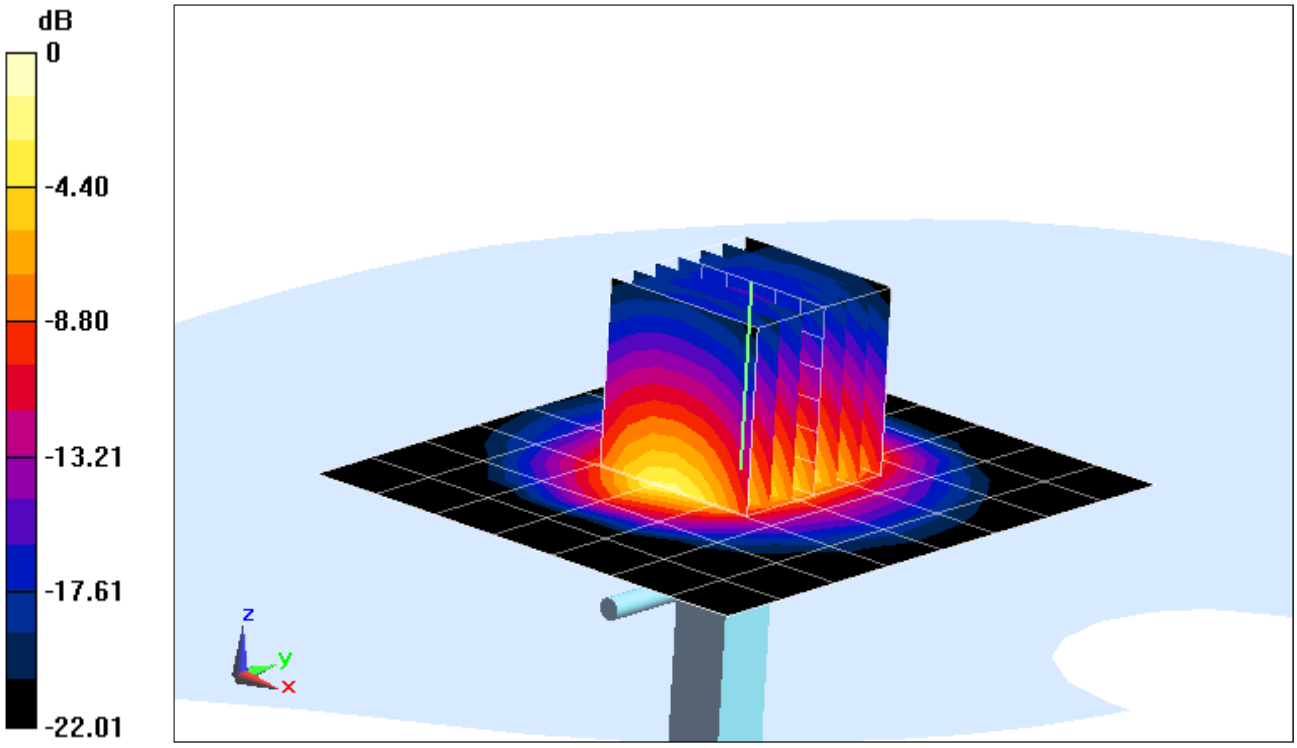
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-25-2012; Ambient Temp: 20.6°C; Tissue Temp: 20.3°C

Probe: ES3DV3 - SN3288; ConvF(4.47, 4.47, 4.47); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

2450 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Input Power = 16.0 dBm (40 mW)
Peak SAR (extrapolated) = 4.372 mW/g
SAR(1 g) = 2.02 mW/g; SAR(10 g) = 0.919 mW/g
Deviation = 0.40 %



0 dB = 2.68 mW/g = 8.56 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 882

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.957 mho/m; ε_r = 50.28; ρ = 1000 kg/m^3

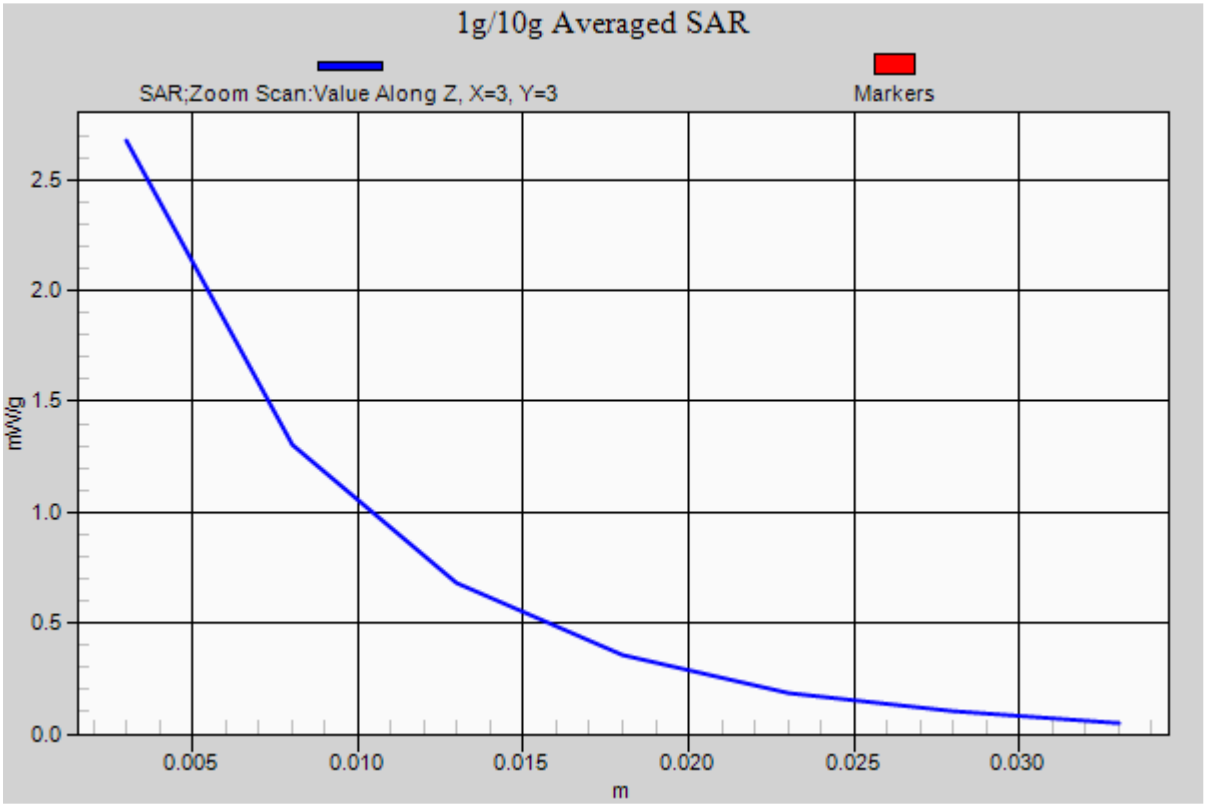
Phantom section: Flat Section: Space: 1.0 cm

Test Date: 07-25-2012; Ambient Temp: 20.6°C; Tissue Temp: 20.3°C

Probe: ES3DV3 - SN3288; ConvF(4.47, 4.47, 4.47); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 4/12/2012
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

2450 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Input Power = 16.0 dBm (40 mW)
Peak SAR (extrapolated) = 4.372 mW/g
SAR(1 g) = 2.02 mW/g; SAR(10 g) = 0.919 mW/g
Deviation = 0.40 %



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 882

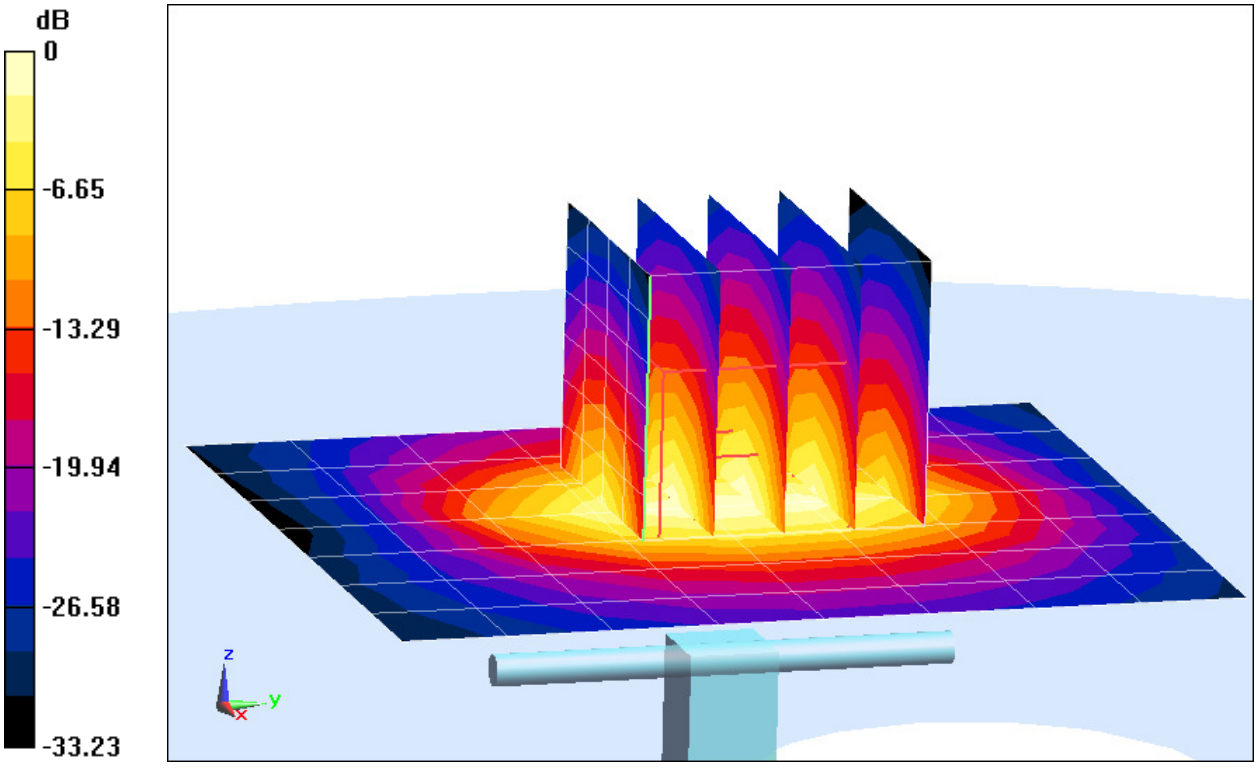
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.971 mho/m; ε_r = 50.99; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 22.4°C; Tissue Temp: 22.4°C

Probe: ES3DV3 - SN3287; ConvF(4.28, 4.28, 4.28); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1);SEMCAD X Version 14.6.5 (6469)

2450 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20.0 dBm (100 mW)
Peak SAR (extrapolated) = 11.331 mW/g
SAR(1 g) = 5.33 mW/g; SAR(10 g) = 2.44 mW/g
Deviation = 5.96 %



0 dB = 6.87 mW/g = 16.74 dB mW/g

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 882

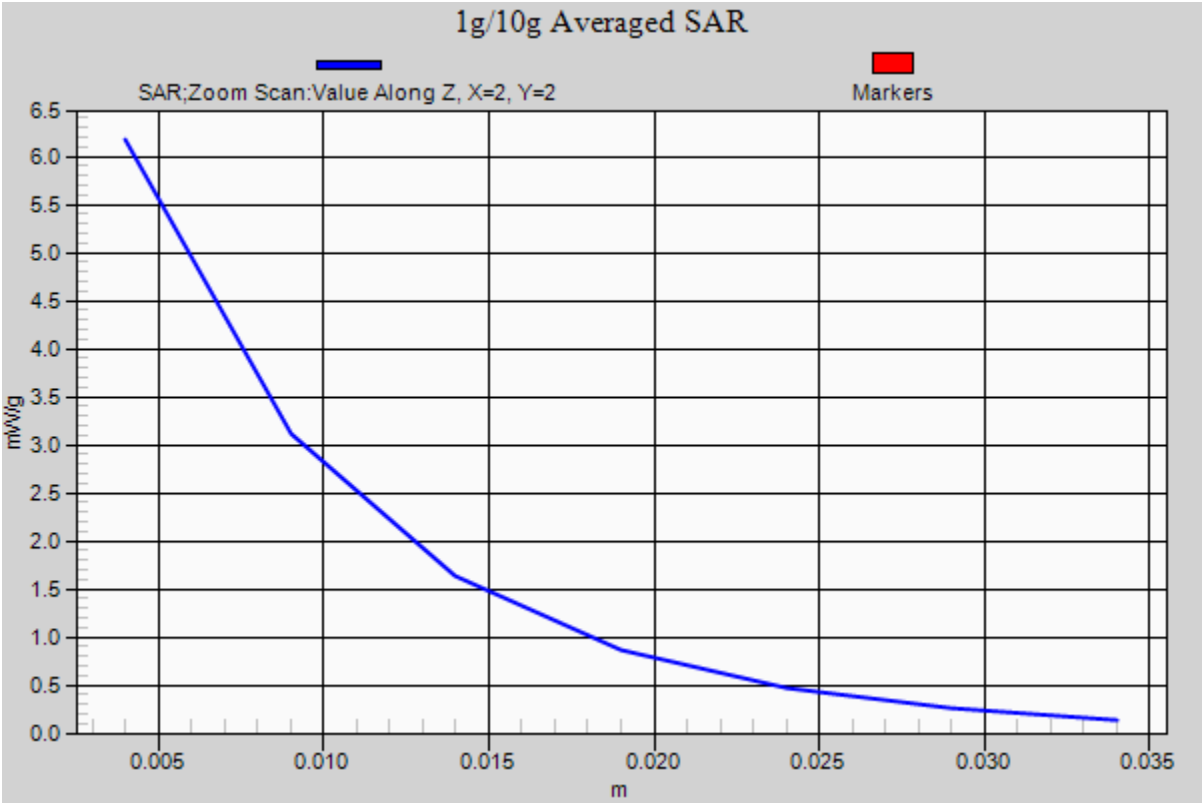
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.971 mho/m; ε_r = 50.99; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09-04-2012; Ambient Temp: 22.4°C; Tissue Temp: 22.4°C

Probe: ES3DV3 - SN3287; ConvF(4.28, 4.28, 4.28); Calibrated: 2/7/2012;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn649; Calibrated: 2/20/2012
Phantom: SAM v5.0 front; Type: QD000P40CD; Serial: TP-1646
Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

2450 MHz System Verification

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 11.550 mW/g
SAR(1 g) = 5.46 mW/g; SAR(10 g) = 2.5 mW/g
Deviation = 5.96%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: 1057

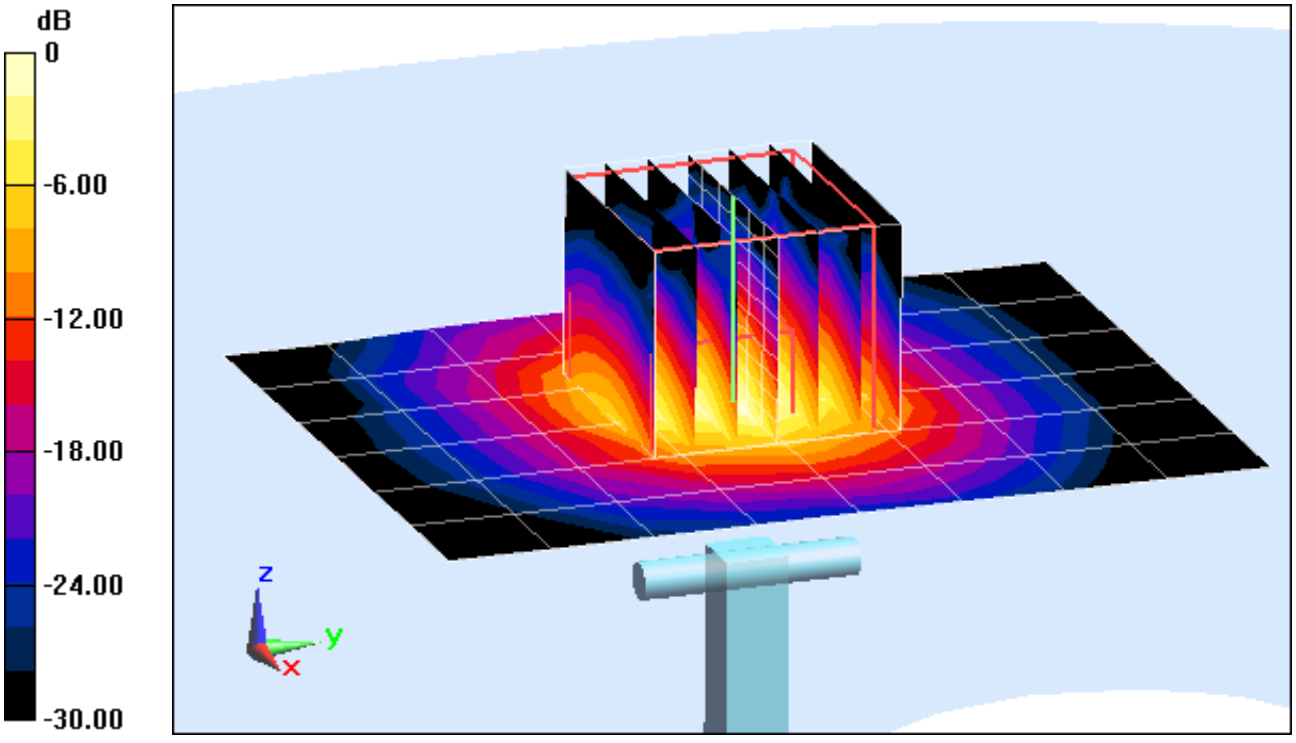
Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5200 MHz; σ = 5.182 mho/m; ε_r = 50.26; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 24.3°C; Tissue Temp: 23.2°C

Probe: EX3DV4 - SN3589; ConvF(3.92, 3.92, 3.92); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5200MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 27.850 mW/g
SAR(1 g) = 7.44 mW/g; SAR(10 g) = 2.08 mW/g
Deviation = 1.36%



0 dB = 15.1 mW/g = 23.58 dB mW/g

DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: 1057

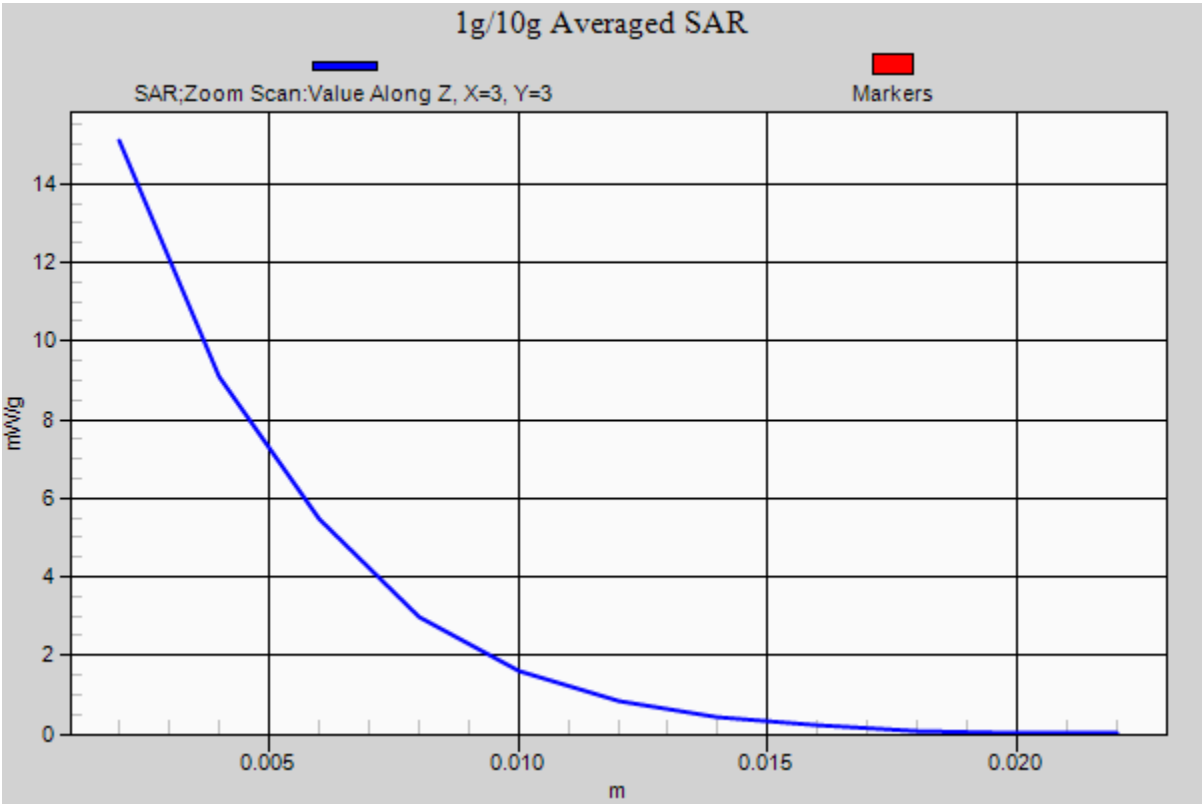
Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5200 MHz; σ = 5.182 mho/m; ε_r = 50.26; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 24.3°C; Tissue Temp: 23.2°C

Probe: EX3DV4 - SN3589; ConvF(3.92, 3.92, 3.92); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5200MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 27.850 mW/g
SAR(1 g) = 7.44 mW/g; SAR(10 g) = 2.08 mW/g
Deviation = 1.36%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5500 MHz; Type: D5GHzV2; Serial: 1057

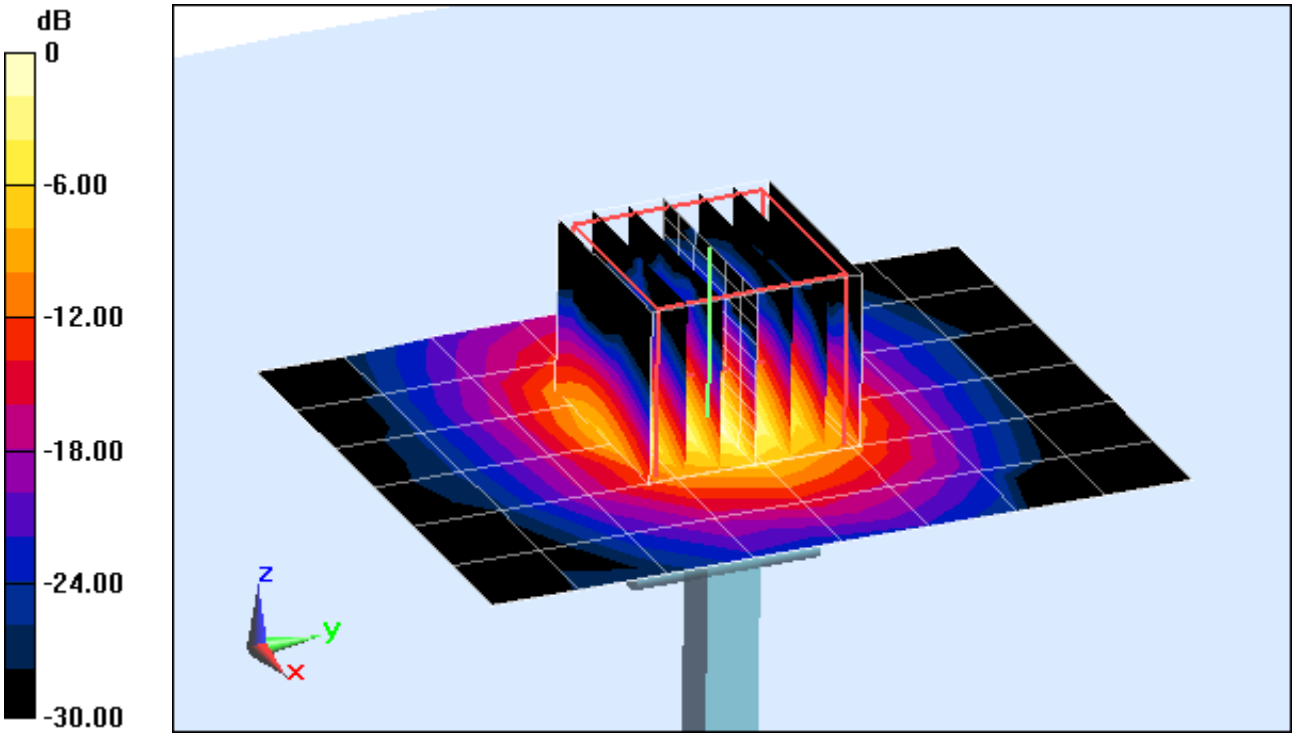
Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5500 MHz; σ = 5.688 mho/m; ε_r = 49.47; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 24.5°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN3589; ConvF(3.4, 3.4, 3.4); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5500MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 30.828 mW/g
SAR(1 g) = 7.97 mW/g; SAR(10 g) = 2.19 mW/g
Deviation = 1.01%



0 dB = 16.6 mW/g = 24.40 dB mW/g

DUT: Dipole 5500 MHz; Type: D5GHzV2; Serial: 1057

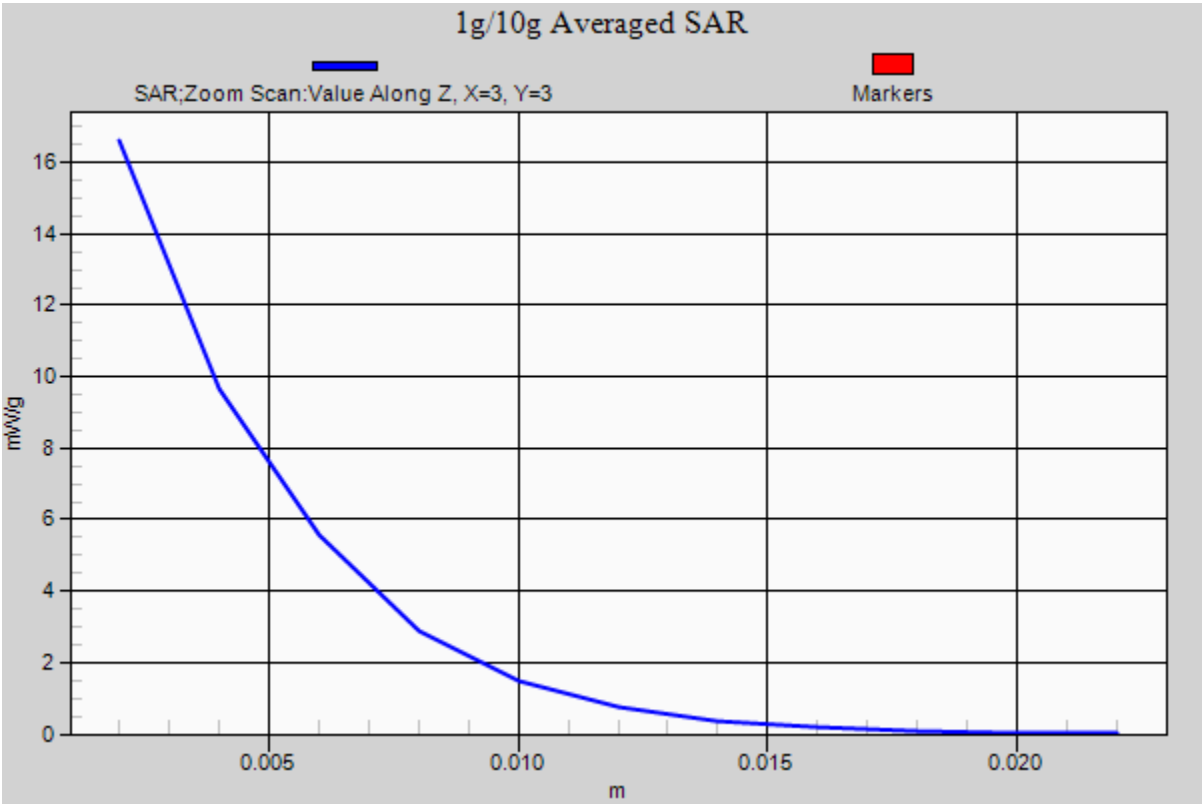
Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5500 MHz; σ = 5.688 mho/m; ε_r = 49.47; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 24.5°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN3589; ConvF(3.4, 3.4, 3.4); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5500MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 30.828 mW/g
SAR(1 g) = 7.97 mW/g; SAR(10 g) = 2.19 mW/g
Deviation = 1.01%



DUT: Dipole 5800 MHz; Type: D5GHzV2; Serial: 1057

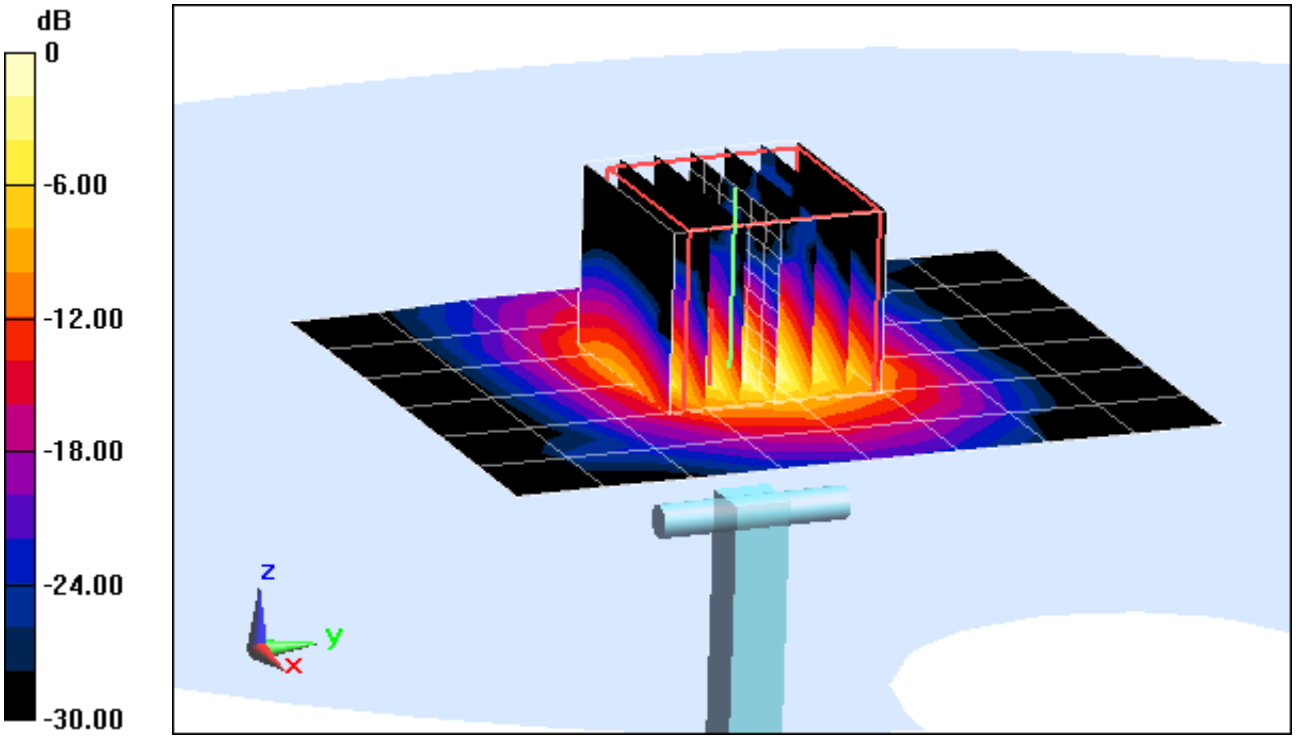
Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5800 MHz; σ = 6.236 mho/m; ε_r = 48.81; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN3589; ConvF(3.59, 3.59, 3.59); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5800MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 28.094 mW/g
SAR(1 g) = 7.24 mW/g; SAR(10 g) = 1.98 mW/g
Deviation = -2.56%



0 dB = 15.3 mW/g = 23.69 dB mW/g

DUT: Dipole 5800 MHz; Type: D5GHzV2; Serial: 1057

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: 5 GHz Body Medium parameters used:
f = 5800 MHz; σ = 6.236 mho/m; ε_r = 48.81; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2012; Ambient Temp: 24.7°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN3589; ConvF(3.59, 3.59, 3.59); Calibrated: 1/27/2012;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 2/15/2012
Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1114
Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.5 (6469)

5800MHz System Verification

Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Input Power = 20 dBm (100 mW)
Peak SAR (extrapolated) = 28.094 mW/g
SAR(1 g) = 7.24 mW/g; SAR(10 g) = 1.98 mW/g
Deviation = -2.56%