



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:

02/20/2012-03/23/2012 & 5/8/2012 – 5/10/2012

Test Site/Location:

PCTEST Lab, Columbia, MD, USA

Document Serial No.:

OY1202220232 – R1.A3L

FCC ID:

A3LSCHI535

APPLICANT:

SAMSUNG ELECTRONICS, CO. LTD.

DUT Type:

Portable Handset

Application Type:

Certification

FCC Rule Part(s):

CFR §2.1093

Model(s):

SCH-I535

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	24.73	0.23	0.42	0.42
PCS CDMA/EVDO	1851.25 - 1908.75 MHz	24.87	0.35	0.93	0.93
GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	33.14	0.21	0.43	0.62
GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	29.57	0.09	0.37	0.37
LTE Band 13	782 MHz	22.78	0.10	0.34	0.34
2.4 GHz WLAN	2412 - 2462 MHz	15.89	0.10	0.22	0.22
5.8 GHz WLAN	5745 - 5825 MHz	12.24	0.03	0.17	
5.2 GHz WLAN	5180 - 5240 MHz	11.70	0.03	0.22	
5.3 GHz WLAN	5260 - 5320 MHz	11.82	0.03	0.19	
5.5 GHz WLAN	5500 - 5700 MHz	12.40	0.07	0.27	
Bluetooth	2402 - 2480 MHz	9.19	N/A		
Simultaneous SAR per KDB 690783 D01:			0.48	1.29	1.29

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 OY1202220232-R1.A3L) supersedes and replaces the previously issued test report on the same subject DUT for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of 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 denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.


Randy Ortanez
President



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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode		Tx Frequency
CDMA/EVDO	Cell. CDMA/EVDO	824.70 - 848.31 MHz
	PCS CDMA/EVDO	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz
	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz
LTE	LTE Band 13	782 MHz
WLAN	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	Bluetooth	2402 - 2480 MHz
NFC	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.

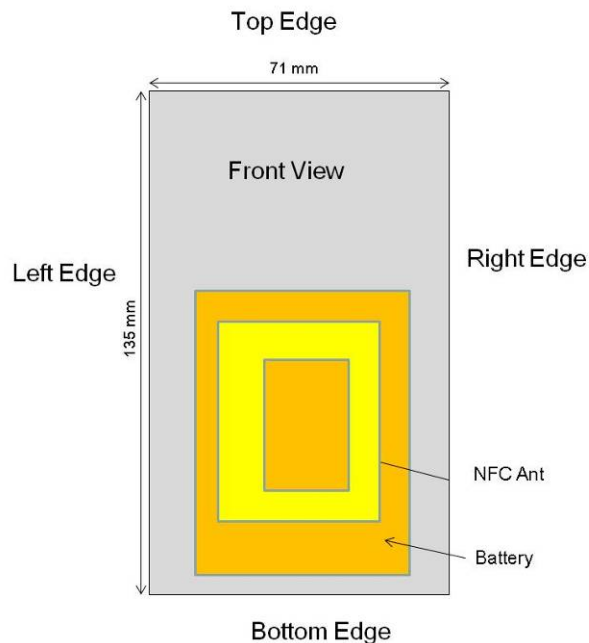


Figure 1-1
NFC Antenna Location

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1.3 DUT Antenna Locations

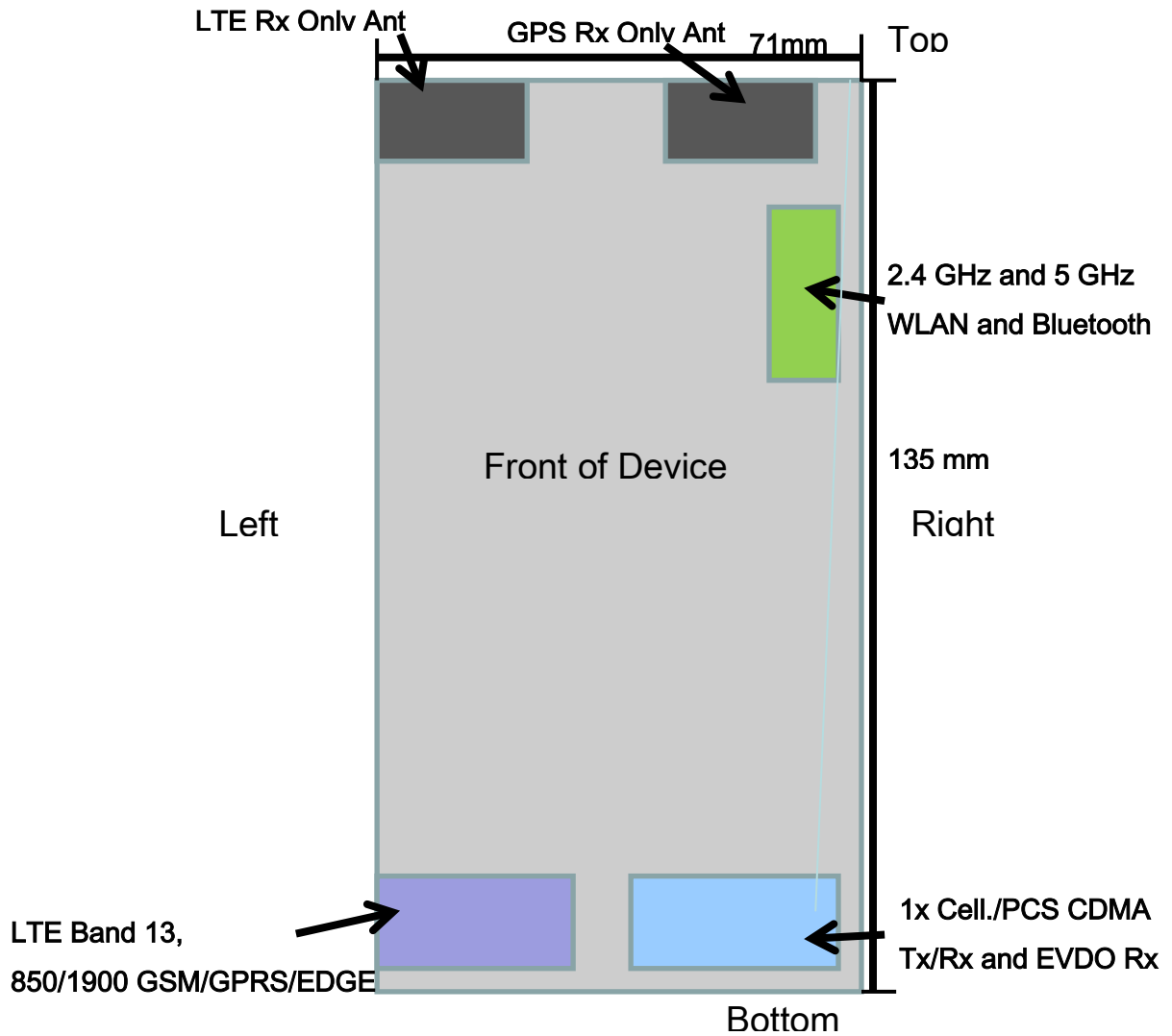


Figure 1-2
DUT Antenna Locations

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Table1-1
Mobile Hotspot Sides required for SAR Testing per KDB 941225 D06

Mobile Hotspot Sides for SAR Testing						
Mode	Back	Front	Top	Bottom	Right	Left
1x Cell. CDMA	Yes	Yes	No	Yes	Yes	No
1x PCS CDMA	Yes	Yes	No	Yes	Yes	No
Cell. EVDO	Yes	Yes	No	Yes	No	Yes
PCS EVDO	Yes	Yes	No	Yes	No	Yes
GPRS 850	Yes	Yes	No	Yes	No	Yes
GPRS 1900	Yes	Yes	No	Yes	No	Yes
LTE Band 13	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 Power Reduction for SAR

This device uses power reduction mechanisms for EVDO and LTE during SVLTE (voice + LTE data) and SVDO (voice + EVDO) operations for SAR compliance. See Section 11 and Section 12 for more details.

1.5 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.

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Table 1-2
Simultaneous Transmission Scenarios

Ref.	Simultaneous Transmit Configurations	Power Reduction	SAR Report Section	Head	Body-Worn Accessory	Hot Spot	Note
				IEEE 1528, Supp C	Supplement C	FCC KDB 941225 D06 edges/sides	
A	1X CDMA 850 Voice + LTE 782 MHz Data	LTE	Section 15.6	✓	✓	-	SVLTE
B	1X CDMA 1900 Voice + LTE 782 MHz Data			✓	✓	-	SVLTE
C	1X CDMA 850 Voice + EVDO 850 Data			✓	✓	-	SVDO
D	1X CDMA 850 Voice + EVDO 1900 Data	EVDO	Section 15.7	✓	✓	-	SVDO
E	1X CDMA 1900 Voice + EVDO 850 Data			✓	✓	-	SVDO
F	1X CDMA 1900 Voice + EVDO 1900 Data			✓	✓	-	SVDO
G	1X CDMA 850 Voice + 2.4 GHz WIFI	None	Section 15.4	✓	✓	-	
H	1X CDMA 850 Voice + 5 GHz WIFI			✓	✓	-	
I	1X CDMA 1900 Voice + 2.4 GHz WIFI			✓	✓	-	
J	1X CDMA 1900 Voice + 5 GHz WIFI			✓	✓	-	
K	GSM850 Voice + 2.4 GHz WIFI			✓	✓	-	
L	GSM850 Voice + 5 GHz WIFI			✓	✓	-	
M	GSM1900 Voice + 2.4 GHz WIFI			✓	✓	-	
N	GSM1900 Voice + 5 GHz WIFI			✓	✓	-	
O	1X CDMA 850 Voice + LTE 782 MHz Data + 2.4 GHz WIFI	LTE	Section 15.6	✓	✓	✓	Voice + LTE + WIFI Hotspot
P	1X CDMA 1900 Voice + LTE 782 MHz Data + 2.4 GHz WIFI			✓	✓	✓	Voice + LTE + WIFI Hotspot
Q	1X CDMA 850 Voice + EVDO 850 Data + 2.4 GHz WIFI	EVDO	Section 15.7	✓	✓	✓	Voice + EVDO + WIFI Hotspot
R	1X CDMA 1900 Voice + EVDO 850 Data + 2.4 GHz WIFI			✓	✓	✓	Voice + EVDO + WIFI Hotspot
S	1X CDMA 850 Voice + EVDO 1900 Data + 2.4 GHz WIFI			✓	✓	✓	Voice + EVDO + WIFI Hotspot
T	1X CDMA 1900 Voice + EVDO 1900 Data + 2.4 GHz WIFI			✓	✓	✓	Voice + EVDO + WIFI Hotspot
U	1X CDMA 850 Data + 2.4 GHz WIFI	None	Section 15.5	-	-	✓	1X CDMA Data +WIFI Hotspot
V	1X CDMA 1900 Data + 2.4 GHz WIFI			-	-	✓	1X CDMA Data +WIFI Hotspot
W	EVDO 850 Data + 2.4 GHz WIFI			-	-	✓	EVDO+WIFI Hotspot
X	EVDO 1900 Data + 2.4 GHz WIFI			-	-	✓	EVDO+WIFI Hotspot
Y	LTE 782 MHz Data + 2.4 GHz WIFI			-	-	✓	LTE+WIFI Hotspot
Z	GPRS/EDGE 850 Data + 2.4 GHz WIFI			-	-	✓	GPRS/EDGE + WIFI Hotspot
AA	GPRS/EDGE 1900 Data + 2.4 GHz WIFI			-	-	✓	GPRS/EDGE + WIFI Hotspot
AB	GSM 850/1900 Voice + 850/1900 1X-RTT CDMA Data						Not Supported by SW
AC	GSM 850/1900 Voice + EVDO/LTE/GPRS/EDGE Data						Not Supported by HW
AD	GSM 850/1900 Voice + 850/1900 1X-RTT CDMA + 2.4/5 GHz WIFI						Not Supported by SW
AE	GSM 850/1900 Voice + EVDO/LTE/GPRS/EDGE + 2.4/5 GHz WIFI						Not supported by HW
AF	1X CDMA 850 Voice + LTE 782 MHz Data + 5 GHz WIFI						Not Supported by SW
AG	1X CDMA 1900 Voice + LTE 782 MHz Data + 5 GHz WIFI						Not Supported by SW
AH	GPRS/EDGE 850/1900 Data + 5 GHz WIFI						Not Supported by SW
AI	LTE 782MHz Data + 5 GHz WIFI						Not Supported by SW
AJ	1X 850/1900 Data + 5 GHz WIFI						Not Supported by SW
AK	EVDO 850/1900 Data + 5 GHz WIFI						Not Supported by SW
AL	850/1900 GPRS/EDGE Data + LTE 782 MHz Data						Not Supported by HW
AM	850/1900 EVDO Data + 850/1900 GPRS/EDGE Data						Not Supported by HW
AN	850/1900 EVDO data + LTE 782 MHz Data						Not Supported by HW
AO	GSM 850/1900 Voice + 850/1900 1X-RTT CDMA Voice						Not Supported by SW
AP	850/1900 1X-RTT CDMA Voice + GPRS/EDGE Data						Not Supported by SW
AQ	850/1900 1X-RTT CDMA Voice + GPRS/EDGE Data + 2.4/5 GHz WIFI						Not Supported by SW

1.6 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 based on KDB 941225 D06.

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The separation between the CDMA 1x-RTT Antenna and the Bluetooth/ WLAN antenna is 82.3 mm.

The separation between the EVDO/LTE/GSM/GPRS/EDGE Antenna and the Bluetooth/ WLAN antenna is 87.7 mm.

The maximum RF Conducted Power of Bluetooth Tx is 8.299 mW (See DSS Report for a full set of Bluetooth powers). The maximum RF Conducted Power of 2.4 GHz WLAN is 38.99 mW. The maximum RF Conducted Power of 5 GHz WLAN is 17.78 mW.

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

This device supports 20MHz and 40MHz Bandwidths for IEEE 802.11n for 5 GHz WIFI only. 802.11n was not evaluated for SAR since the average output power of 20 MHz and 40 MHz bandwidths was not more than 0.25 dB higher than the average output power of 802.11a.

(B) Licensed Transmitter(s)

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

CDMA 1x-RTT and EVDO operate on separate transmission paths. Therefore, these modes were evaluated independently to determine compliance for different simultaneous transmission scenarios.

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 Samples Used for SAR Testing

Several samples were used with identical hardware. Reduced power levels were configured by the manufacturer via software to support SAR test cases.

Mode/Band:	CDMA 850			CDMA 1900		
Target Maximum Power (dBm):	24.5	18	15	24.5	18	15
Serial Number:	D2-0581	D2-0585	D2-0584	D2-1660	D2-0585	D2-0584

Mode/Band:	EVDO 850		EVDO 1900		LTE		GSM850	GSM1900
Target Maximum Power (dBm):	24.5	18.5	24.5	18.5	23	19	33	29.5
Serial Number:	D2-0579	D2-0581	D2-0579	D2-0582	D2-1661	D2-1660	D2-3064	D2-3064

Mode/Band:	2.4 + 5 GHz WIFI
Serial Number:	D2-0445

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KDB 941225 Pub LTE Information			
KDB 941225 Section	FCC ID	A3LSCHI535	
	Form Factor	Handset	
1)	Frequency Range of each LTE transmission band	Band 13: 782 MHz	
2)	Channel Bandwidths	Band 13: 10 MHz	
3)	Channel Numbers and Frequencies (MHz)	Low	Mid
			782 MHz (23230)
4)(a)	UE Category	UE category 3	
(b)	Modulations Supported in UL	QPSK, 16QAM	
	LTE Transmitter and Antenna Implementation	CDMA 1x RTT and LTE/EVDO/GSM operate on separate transmission paths	
5)	Description of LTE Tx and Ant. Implementation	1 TX/RX Ant, 1 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
	Cell. CDMA/EVDO	See page 1	
	PCS CDMA/EVDO		
	850 MHz GSM/GPRS/EDGE		
	1900 MHz GSM/GPRS/EDGE		
	Bluetooth		
	2.4 GHz WLAN		
5 GHz WLAN			
11)	Simultaneous Tx Conditions (Voice and Data Configurations)	See Section 1.5	
12)	Power Reduction used for SAR Compliance?	Yes	
13)	Describe Power Reduction (LTE Modes)	See Section 12	
14)	SAR Test Plan	See Section 12	
15)	SAR test data	See Section 14	

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3

INTRODUCTION

The FCF 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/m³)
- 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]

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

See next page for 750 MHz Tissue Information

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Table 4-2
Composition of 750 MHz Head and Body Tissue Equivalent Matter

2 Composition / Information on ingredients	
The Item is composed of the following ingredients:	
H ₂ O	Water, 35 – 58%
Sucrose	Sugar, white, refined, 40 – 80%
NaCl	Sodium Chloride, 0 – 6%
Hydroxyethyl-cellulose	Medium Viscosity (CAS# 9004-82-0), <0.3%
Preventol-D7	Preservative: aqueous preparation, (CAS# 55965-84-9), containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyl-3(2H)-isothiazolone, 0.1 – 0.7%
Relevant for safety; Refer to the respective Safety Data Sheet*.	

Note: 750MHz liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

Measurement Certificate / Material Test

Item Name	Body Tissue Simulating Liquid (MSL 750)
Product No.	SL AAM 075 AA (Charge: 110606-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated OCP probe (type DAK).

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

Test Condition

Ambient Condition 22°C ; 30% humidity
TSL Temperature 22°C
Test Date 8-Jun-11

Additional information

TSL Density 1.212 g/cm³
TSL Heat-capacity 3.006 kJ/(kg*K)

Results

f (MHz)	Measured			Target		Diff. to Target (%)	
	HP-ε'	HP-ε''	sigma	eps	sigma	Δ-eps	Δ-sigma
600	57.4	24.88	0.83	56.1	0.95	2.4	-12.7
625	57.2	24.53	0.85	56.0	0.95	2.1	-10.6
650	57.0	24.18	0.87	55.9	0.96	1.8	-8.5
675	56.7	23.90	0.90	55.8	0.96	1.5	-6.3
700	56.4	23.61	0.92	55.7	0.96	1.2	-4.2
725	56.2	23.37	0.94	55.6	0.96	0.9	-2.0
750	55.9	23.12	0.96	55.5	0.96	0.7	0.1
775	55.7	22.95	0.99	55.4	0.97	0.4	2.5
800	55.4	22.78	1.01	55.3	0.97	0.1	4.8
825	55.2	22.61	1.04	55.2	0.98	-0.2	6.1
850	55.0	22.52	1.05	55.2	0.98	-0.3	6.7
875	54.9	22.44	1.06	55.2	0.99	-0.4	7.3
900	54.7	22.30	1.09	55.1	1.02	-0.7	6.5
925	54.5	22.17	1.11	55.0	1.05	-1.0	5.7
950	54.2	22.05	1.13	55.0	1.06	-1.3	6.8
975	54.0	21.94	1.16	54.9	1.08	-1.7	7.8
1000	53.8	21.85	1.18	54.9	1.09	-2.0	9.0
1000	53.6	21.75	1.21	54.8	1.10	-2.3	10.2

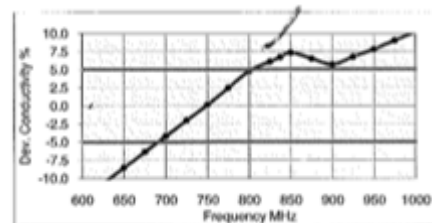
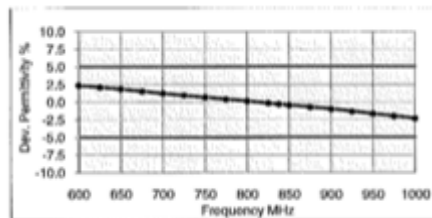


Figure 4-3
750MHz Body Tissue Equivalent Matter

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Measurement Certificate / Material Test

Item Name **Head Tissue Simulating Liquid (HSL 750)**
 Product No. **SL AAH 075 (Charge: 110601-1)**
 Manufacturer **SPEAG**

Measurement Method

TSL dielectric parameters measured using calibrated OCP probe (type DAK).

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

Test Condition

Ambient Condition **22°C ; 30% humidity**
 TSL Temperature **22°C**
 Test Date **8-Jun-11**

Additional Information

TSL Density **1.284 g/cm³**
 TSL Heat-capacity **2.701 kJ/(kg*K)**

Results

f (MHz)	Measured			Target		Diff.to Target (%)	
	HP-e'	HP-e''	sigma	eps	sigma	Δ-eps	Δ-sigma
600	43.9	23.01	0.77	42.7	0.88	2.7	-12.9
625	43.5	22.75	0.79	42.6	0.88	2.1	-10.5
650	43.1	22.49	0.81	42.5	0.89	1.5	-8.2
675	42.7	22.26	0.84	42.3	0.89	1.0	-5.9
700	42.4	22.03	0.86	42.2	0.89	0.4	-3.5
725	42.0	21.84	0.88	42.1	0.89	-0.1	-1.2
750	41.7	21.65	0.90	41.9	0.89	-0.6	1.1
775	41.4	21.50	0.93	41.8	0.90	-1.1	3.5
800	41.0	21.34	0.95	41.7	0.90	-1.6	5.9
825	40.7	21.19	0.97	41.6	0.91	-2.1	7.3
850	40.5	21.12	0.98	41.5	0.91	-2.4	8.0
875	40.4	21.05	1.00	41.5	0.92	-2.7	8.6
900	40.1	20.91	1.02	41.5	0.94	-3.3	7.9
925	39.8	20.77	1.04	41.5	0.97	-4.0	7.2
950	39.6	20.66	1.06	41.5	0.98	-4.6	8.2
975	39.3	20.55	1.09	41.4	0.99	-5.2	9.2
1000	39.0	20.44	1.11	41.4	1.00	-5.8	10.3
1000	38.7	20.32	1.13	41.3	1.01	-6.4	11.4

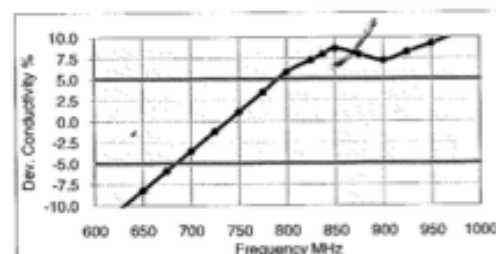
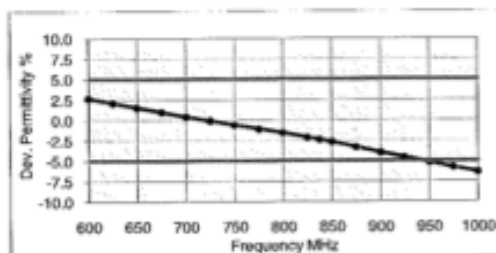


Figure 4-4
750MHz Head Tissue Equivalent Matter

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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.
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.

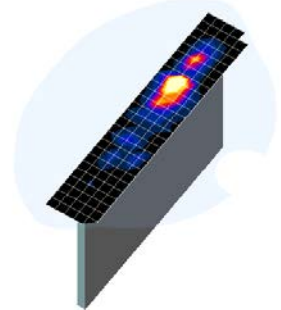


Figure 5-1
Sample SAR Area Scan

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6

DEFINITION OF REFERENCE POINTS

6.1 EAR REFERENCE POINT

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

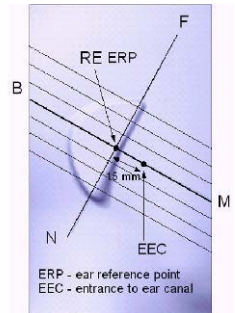


Figure 6-1
Close-Up Side view
of ERP

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 then 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

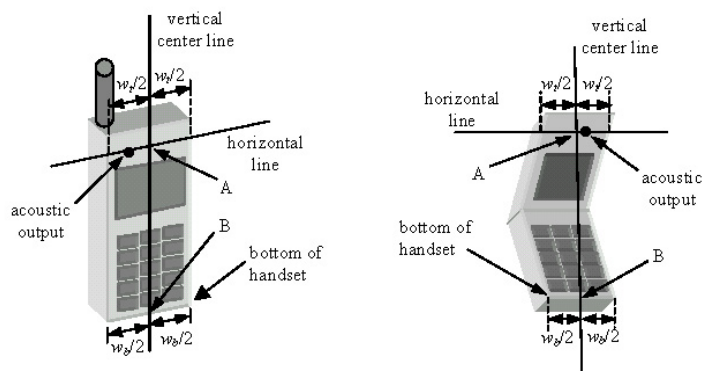


Figure 6-3
Handset Vertical Center & Horizontal Line Reference Points

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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 $\epsilon = 3$ and loss tangent $\delta = 0.02$.

7.2 Positioning for Cheek/Touch

1. The test device was positioned with the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 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.

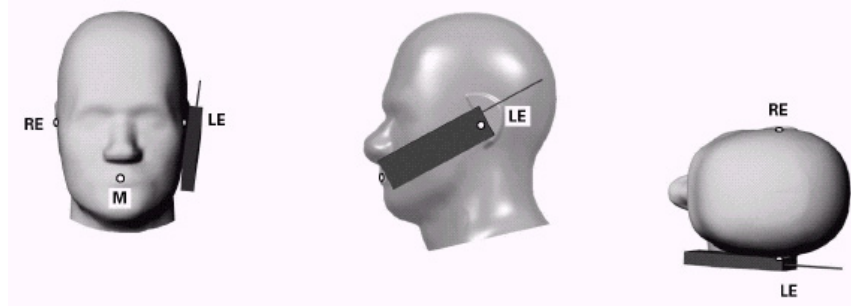


Figure 7-1 Front, Side and Top View of Cheek/Touch Position

2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the ear.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the plane normal to MB-NF including the line MB (reference plane).
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical with 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 / 15° Tilt

With the test device aligned in the “Cheek/Touch Position”:

1. While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15 degree.
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).

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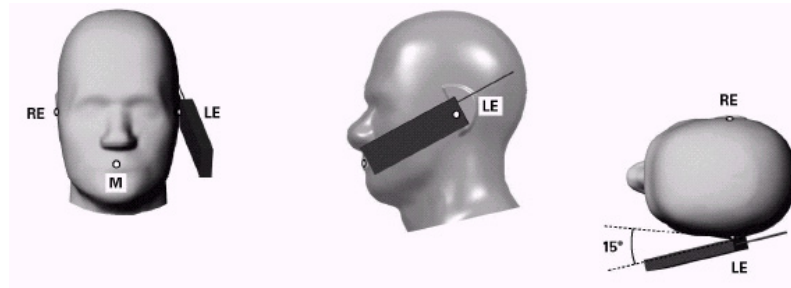


Figure 7-2 Front, Side and Top View of Ear/15° Tilt Position

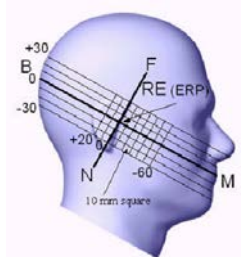


Figure 7-3
Side view w/ relevant markings



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 $\frac{1}{2}$ 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.

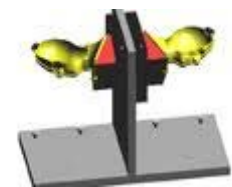


Figure 7-5 Twin SAM
Chin20

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

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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 ($L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$) 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. Since this device meets the minimum size requirements, procedures in KDB Publication 941225 D06 were used for SAR testing. See Figure 1-2 for device dimensions.

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.

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8

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 <i>General Population</i> (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT <i>Occupational</i> (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.

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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 SCH₀ 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.

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
I_{or}	dBm/1.23 MHz	-104
$\frac{Pilot E_c}{I_{or}}$	dB	-7
$\frac{Traffic E_c}{I_{or}}$	dB	-7.4

Table 9-2
Parameters for Max. Power for RC3

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-86
$\frac{Pilot E_c}{I_{or}}$	dB	-7
$\frac{Traffic E_c}{I_{or}}$	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.

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SAR was additionally measured with EVDO Rev.0 to support simultaneous transmission scenarios operating with a CDMA voice call. 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. 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.

9.2.3 Body-Worn and Hotspot SAR Measurements

CDMA 1x 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 SCH₀ 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.

EVDO Rev. 0 SAR was also tested in the body-worn and hotspot configurations. SAR for Rev. A is not required when the maximum average output of each channel is less than that measured in Rev. 0. Otherwise, SAR is measured on the maximum output channel for Rev. A for the configuration that produced the highest SAR with Rev. 0.

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 implemented for this device by the manufacturer when the transmit power is not limited by the power reduction mechanism. 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 10.3 and Section 12.3.1 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.

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9.3.3 Required RB Size and RB Offsets for SAR Testing

Per FCC KDB 941225 D05, Page 2, footnote 1, the available channels are tested when LTE bands that do not support at least 3 channels in certain bandwidths. There is only one 10 MHz channel in LTE Band 13.

According to FCC KDB 941225 D05:

- a. Per Page 4, 3) A), QPSK with 50% RB is required.
- b. Per Page 4, 3) B), QPSK with 1 RB for both channel edges are required.
- c. Per Page 4, 4) A), 16QAM with 50% RB is required.
- d. Per Page 4, 4) B), 16 QAM with 1 RB for both channel edges are required.
- e. Per Page 4, 4), A) I) and Page 5, 4), A)I, 100% RB Allocation is not required to be tested when the 50% RB SAR is not > 1.45 W/kg.

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 than 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.

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10 STANDALONE RF CONDUCTED POWERS

10.1 Standalone CDMA Conducted Powers

Table 10-1
CDMA/EVDO Average RF Power

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	24.67	24.65	24.74	24.72	24.59	24.54
	384	836.52	24.60	24.57	24.71	24.73	24.45	24.43
	777	848.31	24.80	24.79	24.91	24.91	24.36	24.35
PCS	25	1851.25	24.55	24.62	24.61	24.52	24.55	24.54
	600	1880	24.81	24.87	24.86	24.84	24.61	24.60
	1175	1908.75	24.63	24.68	24.62	24.64	24.54	24.52

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

CDMA 1x Test Notes:

Per KDB Publication 941225 D01:

- 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.
- Body-Worn and Hotspot SAR was tested with 1x RTT with TDSO / SO32 FCH Only. 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.

EVDO Test Notes:

Per KDB Publication 941225 D01:

- EVDO SAR (Head, Body-worn accessory and hotspot) was tested with EVDO Rev 0 to support simultaneous transmission capabilities. SAR for Subtype 2 Physical layer configurations was not required for Rev. A since the maximum average output is less than that measured in Subtype 0/1 Physical layer configurations.

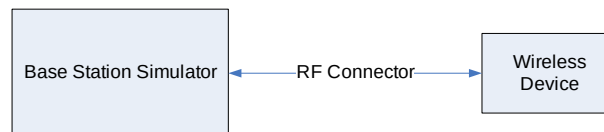


Figure 10-1
Power Measurement Setup

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10.2 Standalone GSM Conducted Powers

Table 10-2
GSM/GPRS/EDGE Average RF Power

		Maximum Burst-Averaged Output Power				
		Voice	GPRS/EDGE Data (GMSK)		EDGE Data (8-PSK)	
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot
Cellular	128	33.04	33.09	31.46	26.54	26.27
	190	33.14	33.26	31.43	26.64	26.39
	251	33.23	33.25	31.32	26.68	26.52
PCS	512	29.61	29.69	27.82	25.08	24.82
	661	29.57	29.71	27.81	25.08	24.81
	810	29.58	29.63	27.83	25.22	25.00
		Calculated Maximum Frame-Averaged Output Power				
		Voice	GPRS/EDGE Data (GMSK)		EDGE Data (8-PSK)	
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot
Cellular	128	23.31	22.96	24.92	17.03	19.81
	190	23.52	23.28	25.17	17.25	20.05
	251	24.07	23.74	25.35	17.49	20.18
PCS	512	20.11	19.76	21.20	16.06	18.83
	661	19.38	19.23	21.25	15.08	17.82
	810	19.62	19.51	21.09	14.80	17.49

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

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

GPRS/EDGE (GMSK) output powers were measured with CS1 on the base station simulator. CS1 coding scheme was used in GPRS output power measurements and SAR Testing, as a condition where GMSK modulation was ensured. Investigation has shown that CS1 - CS4 settings do not have any impact on the output levels in the GPRS modes. EDGE (8-PSK) output powers were measured with MCS7 on the base station simulator. MCS7 coding scheme was used to measure the output powers for EDGE since investigation has shown that choosing MCS7 coding scheme will ensure 8-PSK modulation and MCS levels that produce 8-PSK modulation do not have an impact on output power levels.

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



Figure 10-2
Power Measurement Setup

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10.3 Standalone LTE Conducted Powers

Table 10-3
LTE Band 13 Average RF Power

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
782	23230	10	QPSK	1	0	22.78	0	0
782	23230	10	QPSK	1	49	22.76	0	0
782	23230	10	QPSK	25	12	21.75	1	0-1
782	23230	10	QPSK	50	0	21.50	1	0-1
782	23230	10	16QAM	1	0	21.94	1	0-1
782	23230	10	16QAM	1	49	22.00	1	0-1
782	23230	10	16QAM	25	12	20.75	2	0-2
782	23230	10	16QAM	50	0	20.53	2	0-2

According to FCC KDB 941225 D05:

- 1) Per Page 4, 3) A), QPSK with 50% RB is required.
- 2) Per Page 4, 3) B), QPSK with 1 RB for both channel edges are required.
- 3) Per Page 4, 4) A), 16QAM with 50% RB is required.
- 4) Per Page 4, 4) B), 16 QAM with 1 RB for both channel edges are required.
- 5) Per Page 4, 4), A) I) and Page 5, 4), A)I, 100% RB Allocation is not required to be tested when the 50% RB SAR is not > 1.45 W/kg.
- 6) The bolded configurations in the table above were tested for SAR.



10.4 Measured WLAN Conducted Powers

Table 10-4
IEEE 802.11b Average RF Power

Mode	Freq [MHz]	Channel	802.11b Conducted Power [dBm]			
			Data Rate [Mbps]			
			1	2	5.5	11
802.11b	2412	1	15.44	15.34	15.27	15.26
802.11b	2437	6	15.56	15.66	15.58	15.59
802.11b	2462	11	15.89	15.91	15.85	15.87

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Table 10-5
IEEE 802.11g Average RF Power

Mode	Freq	Channel	802.11g Conducted Power [dBm]							
			Data Rate [Mbps]							
	[MHz]		6	9	12	18	24	36	48	54
802.11g	2412	1	12.99	12.87	12.93	12.92	12.95	12.91	13.01	13.02
802.11g	2437	6	13.43	13.45	13.41	13.38	13.34	13.38	13.27	13.39
802.11g	2462	11	13.64	13.65	13.64	13.67	13.61	13.72	13.66	13.65

Table 10-6
IEEE 802.11n Average RF Power

Mode	Freq	Channel	802.11n (2.4GHz) Conducted Power [dBm]							
			Data Rate [Mbps]							
	[MHz]		6.5	13	20	26	39	52	58	65
802.11n	2412	1	12.41	12.42	12.37	12.45	12.44	12.48	12.50	12.43
802.11n	2437	6	12.75	12.78	12.80	12.79	12.76	12.81	12.82	12.79
802.11n	2462	11	12.93	12.98	12.99	12.97	12.92	12.94	12.95	13.01

Table 10-7
IEEE 802.11a Average RF Power

Mode	Freq	Channel	802.11a Conducted Power [dBm]							
			Data Rate [Mbps]							
	[MHz]		6	9	12	18	24	36	48	54
802.11a	5180	36*	11.44	11.41	11.40	11.43	11.35	11.37	11.32	11.41
802.11a	5200	40	11.49	11.31	11.40	11.42	11.44	11.45	11.49	11.42
802.11a	5220	44	11.63	11.59	11.67	11.61	11.65	11.58	11.67	11.62
802.11a	5240	48*	11.70	11.69	11.65	11.68	11.72	11.64	11.67	11.69
802.11a	5260	52*	11.51	11.54	11.49	11.58	11.53	11.58	11.61	11.52
802.11a	5280	56	11.64	11.62	11.65	11.69	11.71	11.61	11.60	11.65
802.11a	5300	60	11.71	11.69	11.75	11.76	11.72	11.67	11.73	11.73
802.11a	5320	64*	11.82	11.89	11.86	11.81	11.94	11.90	11.87	11.92
802.11a	5500	100	12.40	12.47	12.41	12.44	12.45	12.37	12.48	12.46
802.11a	5520	104*	12.39	12.41	12.42	12.36	12.39	12.34	12.49	12.39
802.11a	5540	108	12.21	12.30	12.32	12.35	12.36	12.38	12.41	12.38
802.11a	5560	112	12.22	12.28	12.36	12.35	12.27	12.33	12.27	12.39
802.11a	5580	116*	12.27	12.25	12.24	12.25	12.20	12.33	12.37	12.34
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	11.86	11.93	11.97	11.94	11.92	11.95	11.99	11.98
802.11a	5680	136*	11.84	11.89	11.89	11.88	11.92	11.89	11.95	11.93
802.11a	5700	140	11.79	11.75	11.76	11.78	11.75	11.83	11.80	11.79
802.11a	5745	149*	12.24	12.18	12.12	12.22	12.23	12.25	12.20	12.19
802.11a	5765	153	12.03	11.99	12.01	12.04	12.01	12.06	12.05	12.07
802.11a	5785	157*	11.85	11.87	11.91	11.86	11.93	11.88	11.91	11.87
802.11a	5805	161*	11.75	11.76	11.74	11.75	11.78	11.81	11.84	11.82
802.11a	5825	165	11.79	11.80	11.80	11.87	11.87	11.89	11.93	11.91

Per FCC KDB Publication 443999, 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.

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Table 10-8
IEEE 802.11n (20 MHz) Average RF Power

Mode	Freq	Channel	802.11n (5GHz) Conducted Power [dBm]							
			Data Rate [Mbps]							
	[MHz]		6.5	13	20	26	39	52	58	65
802.11n	5180	36*	11.21	11.11	11.13	11.18	11.23	11.19	11.17	11.22
802.11n	5200	40	11.26	11.31	11.27	11.25	11.32	11.30	11.29	11.26
802.11n	5220	44	11.37	11.41	11.33	11.32	11.43	11.38	11.41	11.42
802.11n	5240	48*	11.49	11.45	11.44	11.47	11.43	11.48	11.51	11.47
802.11n	5260	52*	11.56	11.47	11.58	11.59	11.60	11.63	11.64	11.62
802.11n	5280	56	11.67	11.70	11.56	11.68	11.71	11.67	11.64	11.75
802.11n	5300	60	11.76	11.70	11.69	11.68	11.72	11.74	11.73	11.75
802.11n	5320	64*	11.75	11.78	11.84	11.81	11.80	11.88	11.89	11.84
802.11n	5500	100	12.42	12.37	12.41	12.41	12.42	12.44	12.49	12.44
802.11n	5520	104*	12.33	12.43	12.44	12.35	12.32	12.30	12.50	12.42
802.11n	5540	108	12.16	12.26	12.32	12.37	12.33	12.32	12.34	12.34
802.11n	5560	112	12.22	12.27	12.37	12.35	12.20	12.34	12.27	12.38
802.11n	5580	116*	12.24	12.22	12.26	12.28	12.16	12.26	12.40	12.36
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	11.89	11.92	11.94	11.90	11.94	11.96	11.94	11.96
802.11n	5680	136*	11.82	11.89	11.89	11.85	11.95	11.88	11.88	11.91
802.11n	5700	140	11.80	11.75	11.79	11.71	11.74	11.85	11.80	11.72
802.11n	5745	149*	12.28	12.30	12.31	12.34	12.36	12.38	12.37	12.38
802.11n	5765	153	12.24	12.22	12.23	12.24	12.26	12.24	12.29	12.31
802.11n	5785	157*	12.00	12.05	12.08	12.07	12.11	12.13	12.12	12.09
802.11n	5805	161*	11.88	11.90	11.91	11.96	12.01	12.03	12.00	11.99
802.11n	5825	165	11.86	11.87	11.86	11.91	11.89	11.92	11.92	11.93

Per FCC KDB Publication 443999, 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.

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Table 10-9
IEEE 802.11n (40 MHz) Average RF Power

Mode	Freq	Channel	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*	10.89	10.94	10.82	10.93	10.97	10.93	10.89	10.98
802.11n	5230	46	11.01	11.08	11.09	11.12	11.14	11.03	11.19	11.16
802.11n	5270	54	11.23	11.31	11.32	11.28	11.35	11.34	11.39	11.41
802.11n	5310	62*	11.46	11.49	11.42	11.57	11.58	11.51	11.49	11.49
802.11n	5510	102*	12.12	12.19	12.18	12.24	12.23	12.28	12.25	12.29
802.11n	5550	110	12.09	12.16	12.19	12.17	12.23	12.21	12.13	12.25
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	11.87	11.83	11.79	11.86	11.92	11.89	11.87	11.81
802.11n	5755	151*	11.38	11.43	11.52	11.43	11.36	11.45	11.53	11.39
802.11n	5795	159	11.13	11.12	11.21	11.18	11.13	11.25	11.28	11.25

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.

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) and data rates 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 MHz and 40 MHz bandwidths) and data rates 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.
- Because 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 for all bands and configurations, SAR testing on other channels was not required.
- SAR was evaluated on the channels and data rates indicated in bold.

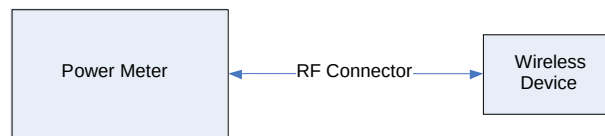


Figure 10-3
Power Measurement Setup

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11 EVDO POWER REDUCTION

11.1 Introduction to EVDO Power Reduction

This device is capable of Simultaneous Voice and EVDO Data (SVDO) calls, with the voice call supported by a CDMA 1xRTT transmitter and the data connection supported by a separate EVDO transmitter. An EVDO power reduction scheme is applied during a EVDO connection operating simultaneously with the 1xRTT voice calls. The maximum transmit power of EVDO is limited depending on the CDMA 1x voice transmit power level. When CDMA 1x Voice is operating at a certain range of high power levels, maximum EVDO transmit power is limited. When CDMA 1x Voice transmit power is below a certain threshold transmit power level, EVDO can transmit at the maximum power. Target levels of power reduction and CDMA voice threshold levels are provided in Table 11-1.

Table 11-1
SVDO Power Reduction Scheme

Mode	Voice Avg Power(P) 1x 850/1900 MHz (dBm)	Max. EVDO Data Avg Power (dBm)
SVDO	$P \geq 15$	18.5
	$P < 15$	24.5

11.2 Output Power Verification

Output powers were measured in SVDO mode to determine that the power reduction mechanism was operating reliably and consistently. The power reduction was investigated by simultaneously connecting the device to two CDMA base station simulators. EVDO output powers were measured through conducted RF connections by first connecting the device in an EVDO data call and subsequently a CDMA 1xRTT call. CDMA powers were controlled by configuring the CDMA base station simulator to active bits. The EVDO output power was monitored the output power while changing the CDMA cell output power level.

The power reduction targets and threshold level described in Table 11-1 were confirmed. Please see results in Table 11-2 - Table 11-7.

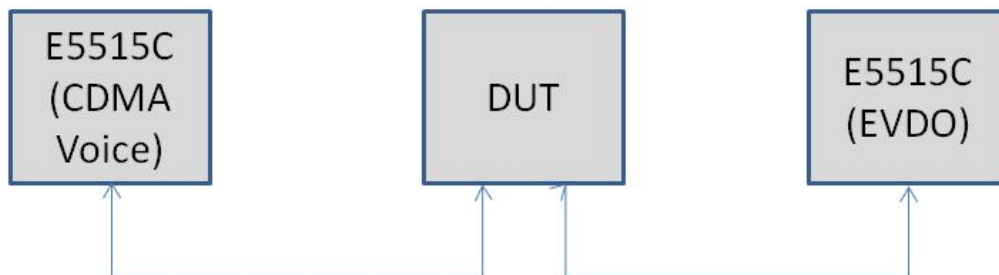


Figure 11-1
SVDO Conducted Test Setup Diagram

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Table 11-2
EVDO Power Reduction Verification – Low Ch. Cell. CDMA

Note: EVDO base station simulator was configured using “All up Bits”

1x-RTT CDMA Voice Band	BC0 1x-RTT CDMA Voice Channel	BC0 1x-RTT CDMA Voice Tx (dBm)	EVDO Data Conducted Power (dBm)											
			850 MHz						1900 MHz					
			Rev. 0			Rev. A			Rev. 0			Rev. A		
			low	mid	high	low	mid	high	low	mid	high	low	mid	high
835 MHz	1013	25	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	24	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	23	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	22	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	21	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	20	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	19	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	18	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	17	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	16	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	15	18.5	18.4	18.6	18.4	18.4	18.3	18.4	18.5	18.3	18.6	18.5	18.4
	1013	14	24.4	24.5	24.3	24.5	24.5	24.4	24.5	24.4	24.3	24.4	24.3	24.3
	1013	13	24.4	24.5	24.3	24.5	24.5	24.4	24.5	24.4	24.3	24.4	24.3	24.3
	1013	12	24.4	24.5	24.3	24.5	24.5	24.4	24.5	24.4	24.3	24.4	24.3	24.3
	1013	11	24.4	24.5	24.3	24.5	24.5	24.4	24.5	24.4	24.3	24.4	24.3	24.3

Table 11-3
EVDO Power Reduction Verification – Mid. Ch. Cell. CDMA

1x-RTT CDMA Voice Band	BC0 1x-RTT CDMA Voice Channel	BC0 1x-RTT CDMA Voice Tx (dBm)	EVDO Data Conducted Power (dBm)											
			850 MHz						1900 MHz					
			Rev. 0			Rev. A			Rev. 0			Rev. A		
			low	mid	high	low	mid	high	low	mid	high	low	mid	high
835 MHz	384	25	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	24	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	23	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	22	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	21	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	20	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	19	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	18	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	17	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	16	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	15	18.5	18.6	18.3	18.5	18.6	18.4	18.5	18.4	18.3	18.5	18.6	18.4
	384	14	24.3	24.6	24.5	24.6	24.3	24.4	24.3	24.3	24.4	24.4	24.3	24.5
	384	13	24.3	24.6	24.5	24.6	24.3	24.4	24.3	24.3	24.4	24.4	24.3	24.5
	384	12	24.3	24.6	24.5	24.6	24.3	24.4	24.3	24.3	24.4	24.4	24.3	24.5
	384	11	24.3	24.6	24.5	24.6	24.3	24.4	24.3	24.3	24.4	24.4	24.3	24.5

Table 11-4
EVDO Power Reduction Verification – High Ch. Cell. CDMA

1x-RTT CDMA Voice Band	BC0 1x-RTT CDMA Voice Channel	BC0 1x-RTT CDMA Voice Tx (dBm)	EVDO Data Conducted Power (dBm)											
			850 MHz						1900 MHz					
			Rev. 0			Rev. A			Rev. 0			Rev. A		
			low	mid	high	low	mid	high	low	mid	high	low	mid	high
835 MHz	777	25	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	24	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	23	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	22	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	21	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	20	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	19	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	18	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	17	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	16	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	15	18.5	18.3	18.4	18.5	18.4	18.3	18.6	18.5	18.4	18.5	18.6	18.3
	777	14	24.4	24.3	24.4	24.5	24.6	24.6	24.3	24.4	24.3	24.4	24.3	24.5
	777	13	24.4	24.3	24.4	24.5	24.6	24.6	24.3	24.4	24.3	24.4	24.3	24.5
	777	12	24.4	24.3	24.4	24.5	24.6	24.6	24.3	24.4	24.3	24.4	24.3	24.5
	777	11	24.4	24.3	24.4	24.5	24.6	24.6	24.3	24.4	24.3	24.4	24.3	24.5

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Table 11-5
EVDO Power Reduction Verification – Low Ch. PCS CDMA

1x-RTT CDMA Voice Band	BC1 1x-RTT CDMA Voice Channel	BC1 1x-RTT CDMA Voice Tx (dBm)	EVDO Data Conducted Power (dBm)											
			850 MHz						1900 MHz					
			Rev. 0			Rev. A			Rev. 0			Rev. A		
			low	mid	high	low	mid	high	low	mid	high	low	mid	high
1900 MHz	25	25	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	24	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	23	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	22	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	21	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	20	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	19	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	18	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	17	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	16	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	15	18.6	18.4	18.6	18.5	18.3	18.4	18.4	18.5	18.3	18.5	18.3	18.4
	25	14	24.3	24.4	24.5	24.5	24.3	24.5	24.4	24.3	24.4	24.3	24.4	24.5
	25	13	24.3	24.4	24.5	24.5	24.3	24.5	24.4	24.3	24.4	24.3	24.4	24.5
	25	12	24.3	24.4	24.5	24.5	24.3	24.5	24.4	24.3	24.4	24.3	24.4	24.5
	25	11	24.3	24.4	24.5	24.5	24.3	24.5	24.4	24.3	24.4	24.3	24.4	24.5

Table 11-6
EVDO Power Reduction Verification – Mid. Ch. PCS CDMA

1x-RTT CDMA Voice Band	BC1 1x-RTT CDMA Voice Channel	BC1 1x-RTT CDMA Voice Tx (dBm)	EVDO Data Conducted Power (dBm)											
			850 MHz						1900 MHz					
			Rev. 0			Rev. A			Rev. 0			Rev. A		
			low	mid	high	low	mid	high	low	mid	high	low	mid	high
1900 MHz	600	25	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	24	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	23	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	22	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	21	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	20	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	19	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	18	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	17	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	16	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	15	18.3	18.5	18.3	18.5	18.4	18.3	18.5	18.4	18.5	18.5	18.4	18.5
	600	14	24.3	24.3	24.5	24.5	24.4	24.5	24.4	24.3	24.3	24.3	24.4	24.5
	600	13	24.3	24.3	24.5	24.5	24.4	24.5	24.4	24.3	24.3	24.3	24.4	24.5
	600	12	24.3	24.3	24.5	24.5	24.4	24.5	24.4	24.3	24.3	24.3	24.4	24.5
	600	11	24.3	24.3	24.5	24.5	24.4	24.5	24.4	24.3	24.3	24.3	24.4	24.5

Table 11-7
EVDO Power Reduction Verification – High Ch. PCS CDMA

1x-RTT CDMA Voice Band	BC1 1x-RTT CDMA Voice Channel	BC1 1x-RTT CDMA Voice Tx (dBm)	EVDO Data Conducted Power (dBm)											
			850 MHz						1900 MHz					
			Rev. 0			Rev. A			Rev. 0			Rev. A		
			low	mid	high	low	mid	high	low	mid	high	low	mid	high
1900 MHz	1175	25	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	24	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	23	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	22	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	21	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	20	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	19	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	18	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	17	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	16	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	15	18.4	18.3	18.5	18.4	18.5	18.4	18.5	18.4	18.5	18.5	18.4	18.5
	1175	14	24.3	24.4	24.5	24.5	24.4	24.5	24.4	24.3	24.3	24.3	24.4	24.5
	1175	13	24.3	24.4	24.5	24.5	24.4	24.5	24.4	24.3	24.3	24.3	24.4	24.5
	1175	12	24.3	24.4	24.5	24.5	24.4	24.5	24.4	24.3	24.3	24.3	24.4	24.5
	1175	11	24.3	24.4	24.5	24.5	24.4	24.5	24.4	24.3	24.3	24.3	24.4	24.5

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11.3 SVDO SAR Testing Procedures

SAR testing was additionally performed on the devices at the standalone threshold 1x-RTT CDMA and reduced EVDO power levels with respect to the various SVDO simultaneous transmission scenarios. Additional samples were tuned to reduced power levels for the purpose of evaluating simultaneous SAR based on the sum SAR of standalone 1x-RTT CDMA and standalone EVDO combinations. While the power reduction mechanism is activated at the CDMA Voice power level of 15 dBm, simultaneous SAR summations were evaluated at maximum power EVDO. SAR was additionally evaluated at reduced power EVDO levels to perform simultaneous SAR analysis when CDMA voice is at maximum output power.

11.3.1 Reduced EVDO Conducted Powers

Table 11-8
Reduced EVDO Conducted Powers

Band	Channel	Frequency	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC	MHz	(RTAP)	(RETAP)
Cellular	1013	824.7	18.90	18.83
	384	836.52	18.80	18.78
	777	848.31	18.90	18.88
PCS	25	1851.25	18.63	18.60
	600	1880	18.68	18.65
	1175	1908.75	18.60	18.58

Per KDB Publication 941225 D01: EVDO SAR was tested with EVDO Rev 0. When the average output power of Rev A is less than Rev.0 for each channel, SAR tests with Rev. A are not required.

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11.3.2 Fixed CDMA Conducted Powers

Table 11-9
Fixed CDMA Conducted Powers

Band	Channel	Frequency	SO55 [dBm]	SO55 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]
	F-RC	MHz	RC1	RC3	FCH+SCH	FCH
Cellular	1013	824.7	14.62	14.66	14.78	14.78
	384	836.52	14.55	14.60	14.73	14.60
	777	848.31	14.45	14.68	14.62	14.73
PCS	25	1851.25	14.65	14.82	14.76	14.68
	600	1880	14.73	14.89	14.85	14.86
	1175	1908.75	14.63	14.88	14.82	14.76

Note: There is no power reduction applied to the CDMA Voice modes, however the device with output powers represented in the table above was tuned down (for SAR Test purposes only) to analyze simultaneous SAR scenarios in the SVDO condition where EVDO is operating at maximum output power in conjunction with a lower CDMA voice level (See Table 11-1).

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 and Hotspot SAR was tested with 1x RTT with TDSO / SO32 FCH Only. 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.

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12 LTE POWER REDUCTION

12.1 Introduction to LTE Power Reduction

This device is capable of Simultaneous Voice and LTE (SVLTE) calls, with the voice call supported by a CDMA 1xRTT transmitter and the data connection supported by separate LTE transmitter. A LTE power reduction scheme is applied during a LTE connection operating simultaneously with 1x-RTT voice calls. The maximum transmit power of LTE is limited depending on the CDMA 1x voice power level. When CDMA 1x Voice is operating at a certain range of high power levels, maximum LTE transmit power is limited. When CDMA 1x Voice power is below a certain threshold transmit power level, LTE can transmit at the maximum power. Target levels of power reduction and CDMA voice threshold levels are provided in Table 12-1.

Table 12-1
SVLTE Power Reduction Scheme

Mode	Voice Avg Power(P) 1x 850/1900 MHz (dBm)	Max. B13 LTE Data Avg Power (dBm)
SVLTE	$P \geq 18$	19
	$P < 18$	23

12.2 Output Power Verification

Per page 7 of KDB Publication 941225 D05, 5) B), output powers were measured in SVLTE mode to determine that the power reduction mechanism was operating reliably and consistently. The power reduction was investigated by simultaneously connecting the device to both LTE and CDMA base station simulators. LTE output powers were measured through conducted RF connections by first connecting the device in a LTE data call and subsequently a CDMA 1xRTT call. CDMA powers were controlled by setting the CDMA base station simulator to active bits. The LTE output power was monitored while changing the CDMA cell output power level.

The power reduction targets and threshold level described in Table 12-1 were confirmed. Please see results in Table 12-2 - Table 12-7.

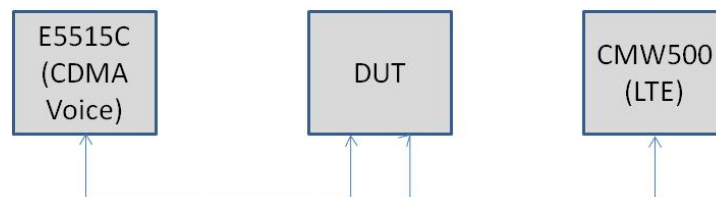


Figure 12-1
SVLTE Conducted Test Setup Diagram

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Table 12-2
SVLTE Power Reduction Verification Results – Low Ch. Cell CDMA

1x-RTT CDMA Voice Band	BC0 1x-RTT CDMA Voice Channel	BC0 1x-RTT CDMA Voice Tx (dBm)	LTE Band 13 Conducted Power (dBm)							
			QPSK 1 RB (0 RB Offset)	QPSK 1 RB (49 RB Offset)	QPSK 25 RB (12 RB Offset)	QPSK 50 RB (0 RB Offset)	16QAM 1 RB (0 RB Offset)	16QAM 1 RB (49 RB Offset)	16QAM 25 RB (12 RB Offset)	16QAM 50 RB (0 RB Offset)
835 MHz	1013 (Low)	25	19.10	18.87	19.18	19.21	18.97	18.89	19.23	19.14
		24	19.10	18.87	19.18	19.21	18.97	18.89	19.23	19.14
		23	19.10	18.87	19.18	19.21	18.97	18.89	19.23	19.14
		22	19.10	18.87	19.18	19.21	18.97	18.89	19.23	19.14
		21	19.10	18.87	19.18	19.21	18.97	18.89	19.23	19.14
		20	19.10	18.87	19.18	19.21	18.97	18.89	19.23	19.14
		19	19.10	18.87	19.18	19.21	18.97	18.89	19.23	19.14
		18	19.10	18.87	19.18	19.21	18.97	18.89	19.23	19.14
		17	22.80	22.92	22.10	22.05	21.93	22.01	21.09	21.03
		16	22.80	22.92	22.10	22.05	21.93	22.01	21.09	21.03
		15	22.80	22.92	22.10	22.05	21.93	22.01	21.09	21.03
		14	22.80	22.92	22.10	22.05	21.93	22.01	21.09	21.03
		13	22.80	22.92	22.10	22.05	21.93	22.01	21.09	21.03
		12	22.80	22.92	22.10	22.05	21.93	22.01	21.09	21.03
		11	22.80	22.92	22.10	22.05	21.93	22.01	21.09	21.03

Table 12-3
SVLTE Power Reduction Verification Results – Mid. Ch. Cell CDMA

1x-RTT CDMA Voice Band	BC0 1x-RTT CDMA Voice Channel	BC0 1x-RTT CDMA Voice Tx (dBm)	LTE Band 13 Conducted Power (dBm)							
			QPSK 1 RB (0 RB Offset)	QPSK 1 RB (49 RB Offset)	QPSK 25 RB (12 RB Offset)	QPSK 50 RB (0 RB Offset)	16QAM 1 RB (0 RB Offset)	16QAM 1 RB (49 RB Offset)	16QAM 25 RB (12 RB Offset)	16QAM 50 RB (0 RB Offset)
835 MHz	384 (Mid)	25	19.33	19.19	19.20	19.16	18.73	18.80	19.18	19.00
		24	19.33	19.19	19.20	19.16	18.73	18.80	19.18	19.00
		23	19.33	19.19	19.20	19.16	18.73	18.80	19.18	19.00
		22	19.33	19.19	19.20	19.16	18.73	18.80	19.18	19.00
		21	19.33	19.19	19.20	19.16	18.73	18.80	19.18	19.00
		20	19.33	19.19	19.20	19.16	18.73	18.80	19.18	19.00
		19	19.33	19.19	19.20	19.16	18.73	18.80	19.18	19.00
		18	19.33	19.19	19.20	19.16	18.73	18.80	19.18	19.00
		17	23.12	22.97	22.04	21.98	21.80	21.90	21.15	20.90
		16	23.12	22.97	22.04	21.98	21.80	21.90	21.15	20.95
		15	23.12	22.97	22.04	21.98	21.80	21.90	21.15	20.95
		14	23.12	22.97	22.04	21.98	21.80	21.90	21.15	20.95
		13	23.12	22.97	22.04	21.98	21.80	21.90	21.15	20.95
		12	23.12	22.97	22.04	21.98	21.80	21.90	21.15	20.90
		11	23.12	22.97	22.04	21.98	21.80	21.90	21.15	20.95

Table 12-4
SVLTE Power Reduction Verification Results – High Ch. Cell CDMA

1x-RTT CDMA Voice Band	BC0 1x-RTT CDMA Voice Channel	BC0 1x-RTT CDMA Voice Tx (dBm)	LTE Band 13 Conducted Power (dBm)							
			QPSK 1 RB (0 RB Offset)	QPSK 1 RB (49 RB Offset)	QPSK 25 RB (12 RB Offset)	QPSK 50 RB (0 RB Offset)	16QAM 1 RB (0 RB Offset)	16QAM 1 RB (49 RB Offset)	16QAM 25 RB (12 RB Offset)	16QAM 50 RB (0 RB Offset)
835 MHz	777 (High)	25	18.98	18.91	19.21	19.18	19.07	18.86	19.20	19.19
		24	18.98	18.91	19.21	19.18	19.07	18.86	19.20	19.19
		23	18.98	18.91	19.21	19.18	19.07	18.86	19.20	19.19
		22	18.98	18.91	19.21	19.18	19.07	18.86	19.20	19.19
		21	18.98	18.91	19.21	19.18	19.07	18.86	19.20	19.19
		20	18.98	18.91	19.21	19.18	19.07	18.86	19.20	19.19
		19	18.98	18.91	19.21	19.18	19.07	18.86	19.20	19.19
		18	18.98	18.91	19.21	19.18	19.07	18.86	19.20	19.19
		17	23.04	22.86	21.98	22.07	21.98	22.05	21.01	21.03
		16	23.04	22.86	21.98	22.07	21.98	22.05	21.01	21.03
		15	23.04	22.86	21.98	22.07	21.98	22.05	21.01	21.03
		14	23.04	22.86	21.98	22.07	21.98	22.05	21.01	21.03
		13	23.04	22.86	21.98	22.07	21.98	22.05	21.01	21.03
		12	23.04	22.86	21.98	22.07	21.98	22.05	21.01	21.03
		11	23.04	22.86	21.98	22.07	21.98	22.05	21.01	21.03

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Table 12-5
SVLTE Power Reduction Verification Results – Low Ch. PCS CDMA

1x-RTT CDMA Voice Band	BC1 1x-RTT CDMA Voice Channel	BC1 1x-RTT CDMA Voice Tx (dBm)	LTE Band 13 Conducted Power (dBm)							
			QPSK 1 RB (0 RB Offset)	QPSK 1 RB (49 RB Offset)	QPSK 25 RB (12 RB Offset)	QPSK 50 RB (0 RB Offset)	16QAM 1 RB (0 RB Offset)	16QAM 1 RB (49 RB Offset)	16QAM 25 RB (12 RB Offset)	16QAM 50 RB (0 RB Offset)
1900 MHz	25 (Low)	25	19.11	18.93	19.15	19.19	18.99	18.79	19.21	19.20
		24	19.11	18.93	19.15	19.19	18.99	18.79	19.21	19.20
		23	19.11	18.93	19.15	19.19	18.99	18.79	19.21	19.20
		22	19.11	18.93	19.15	19.19	18.99	18.79	19.21	19.20
		21	19.11	18.93	19.15	19.19	18.99	18.79	19.21	19.20
		20	19.11	18.93	19.15	19.19	18.99	18.79	19.21	19.20
		19	19.11	18.93	19.15	19.19	18.99	18.79	19.21	19.20
		18	19.11	18.93	19.15	19.19	18.99	18.79	19.21	19.20
		17	23.05	22.88	22.01	21.99	21.97	22.03	21.11	21.08
		16	23.05	22.88	22.01	21.99	21.97	22.03	21.11	21.08
		15	23.05	22.88	22.01	21.99	21.97	22.03	21.11	21.08
		14	23.05	22.88	22.01	21.99	21.97	22.03	21.11	21.08
		13	23.05	22.88	22.01	21.99	21.97	22.03	21.11	21.08
		12	23.05	22.88	22.01	21.99	21.97	22.03	21.11	21.08
		11	23.05	22.88	22.01	21.99	21.97	22.03	21.11	21.08

Table 12-6
SVLTE Power Reduction Verification Results – Mid. Ch. PCS CDMA

1x-RTT CDMA Voice Band	BC1 1x-RTT CDMA Voice Channel	BC1 1x-RTT CDMA Voice Tx (dBm)	LTE Band 13 Conducted Power (dBm)							
			QPSK 1 RB (0 RB Offset)	QPSK 1 RB (49 RB Offset)	QPSK 25 RB (12 RB Offset)	QPSK 50 RB (0 RB Offset)	16QAM 1 RB (0 RB Offset)	16QAM 1 RB (49 RB Offset)	16QAM 25 RB (12 RB Offset)	16QAM 50 RB (0 RB Offset)
1900 MHz	600 (Mid)	25	19.21	18.91	19.17	19.03	18.82	18.42	19.18	19.09
		24	19.21	18.91	19.17	19.03	18.82	18.42	19.18	19.09
		23	19.21	18.91	19.17	19.03	18.82	18.42	19.18	19.09
		22	19.21	18.91	19.17	19.03	18.82	18.42	19.18	19.09
		21	19.21	18.91	19.17	19.03	18.82	18.42	19.18	19.09
		20	19.21	18.91	19.17	19.03	18.82	18.42	19.18	19.09
		19	19.21	18.91	19.17	19.03	18.82	18.42	19.18	19.09
		18	19.21	18.91	19.17	19.03	18.82	18.42	19.18	19.09
		17	23.07	22.58	22.10	22.12	21.43	21.08	20.93	20.96
		16	23.07	22.58	22.10	22.12	21.43	21.08	20.93	20.96
		15	23.07	22.58	22.10	22.12	21.43	21.08	20.93	20.96
		14	23.07	22.58	22.10	22.12	21.43	21.08	20.93	20.96
		13	23.07	22.58	22.10	22.12	21.43	21.08	20.93	20.96
		12	23.07	22.58	22.10	22.12	21.43	21.08	20.93	20.96
		11	23.07	22.58	22.10	22.12	21.43	21.08	20.93	20.96

Table 12-7
SVLTE Power Reduction Verification Results – High Ch. PCS CDMA

1x-RTT CDMA Voice Band	BC1 1x-RTT CDMA Voice Channel	BC1 1x-RTT CDMA Voice Tx (dBm)	LTE Band 13 Conducted Power (dBm)							
			QPSK 1 RB (0 RB Offset)	QPSK 1 RB (49 RB Offset)	QPSK 25 RB (12 RB Offset)	QPSK 50 RB (0 RB Offset)	16QAM 1 RB (0 RB Offset)	16QAM 1 RB (49 RB Offset)	16QAM 25 RB (12 RB Offset)	16QAM 50 RB (0 RB Offset)
1900 MHz	1175 (High)	25	19.11	18.98	19.26	19.27	19.02	18.84	19.21	19.26
		24	19.11	18.98	19.26	19.27	19.02	18.84	19.21	19.26
		23	19.11	18.98	19.26	19.27	19.02	18.84	19.21	19.26
		22	19.11	18.98	19.26	19.27	19.02	18.84	19.21	19.26
		21	19.11	18.98	19.26	19.27	19.02	18.84	19.21	19.26
		20	19.11	18.98	19.26	19.27	19.02	18.84	19.21	19.26
		19	19.11	18.98	19.26	19.27	19.02	18.84	19.21	19.26
		18	19.11	18.98	19.26	19.27	19.02	18.84	19.21	19.26
		17	23.05	23.10	21.99	22.02	22.03	22.07	21.11	21.09
		16	23.05	23.10	21.99	22.02	22.03	22.07	21.11	21.09
		15	23.05	23.10	21.99	22.02	22.03	22.07	21.11	21.09
		14	23.05	23.10	21.99	22.02	22.03	22.07	21.11	21.09
		13	23.05	23.10	21.99	22.02	22.03	22.07	21.11	21.09
		12	23.05	23.10	21.99	22.02	22.03	22.07	21.11	21.09
		11	23.05	23.10	21.99	22.02	22.03	22.07	21.11	21.09

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12.3 SVLTE SAR Testing Procedures

SAR testing was additionally performed at the reduced CDMA and LTE power levels with respect to the various SVLTE simultaneous transmission scenarios. Additional samples were tuned to reduced power levels for the purpose of evaluating the simultaneous SAR based on the sum SAR of standalone 1x-RTT CDMA and standalone LTE combinations. While the power reduction mechanism is activated at the CDMA Voice power level of 18 dBm, simultaneous SAR summations were evaluated maximum power LTE. SAR was additionally evaluated at reduced power LTE levels to perform simultaneous SAR analysis when CDMA voice is at maximum output power.

12.3.1 Reduced LTE Conducted Powers

Table 12-8
Reduced LTE Conducted Powers

Frequency [MHz]	Channel	Bandwidth [MHz]	Modulation	RB Size	RB Offset	Conducted Power [dBm]	Target MPR [dB]	MPR Allowed per 3GPP [dB]
782	23230	10	QPSK	1	0	19.30	0	0
782	23230	10	QPSK	1	49	19.10	0	0
782	23230	10	QPSK	25	12	19.30	0	0-1
782	23230	10	QPSK	50	0	19.30	0	0-1
782	23230	10	16QAM	1	0	18.97	0	0-1
782	23230	10	16QAM	1	49	18.92	0	0-1
782	23230	10	16QAM	25	12	19.43	0	0-2
782	23230	10	16QAM	50	0	19.29	0	0-2

According to FCC KDB 941225 D05:

- 1) Per Page 4, 3) A), QPSK with 50% RB is required.
- 2) Per Page 4, 3) B), QPSK with 1 RB for both channel edges are required.
- 3) Per Page 4, 4) A), 16QAM with 50% RB is required.
- 4) Per Page 4, 4) B), 16 QAM with 1 RB for both channel edges are required.
- 5) Per Page 4, 4), A) I) and Page 5, 4), A)I, 100% RB Allocation is not required to be tested when the 50% RB SAR is not > 1.45 W/kg.
- 6) The bolded configurations in the table above were tested for SAR.

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12.3.2 Fixed CDMA Conducted Powers

Table 12-9
Fixed CDMA Conducted Powers

Band	Channel	Frequency	SO55 [dBm]	SO55 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]
	F-RC	MHz	RC1	RC3	FCH+SCH	FCH
Cellular	1013	824.7	18.18	18.17	18.15	18.18
	384	836.52	18.21	18.15	18.04	18.06
	777	848.31	18.31	18.23	18.24	18.22
PCS	25	1851.25	18.36	18.42	18.47	18.41
	600	1880	18.42	18.38	18.11	18.36
	1175	1908.75	18.25	18.17	18.20	18.14

Note: There is no power reduction applied to the CDMA Voice modes, however the device with output powers represented in the table above was tuned down (for SAR Test purposes only) to analyze simultaneous SAR scenarios in the SVLTE condition where LTE is operating at maximum output power in conjunction with a lower CDMA voice level (See Table 12-1).

CDMA 1x Test Notes:

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 and Hotspot SAR was tested with 1x RTT with TDSO / SO32 FCH Only. 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.

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13 SYSTEM VERIFICATION

13.1 Tissue Verification

Table 13-1
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
3/23/2012	750H	23.5	740	0.887	42.26	0.889	41.953	-0.22%	0.73%
			755	0.901	42.05	0.891	41.876	1.12%	0.42%
			770	0.911	41.71	0.892	41.806	2.13%	-0.23%
			785	0.923	41.59	0.894	41.735	3.24%	-0.35%
2/24/2012	835H	22.9	820	0.929	41.98	0.898	41.571	3.45%	0.98%
			835	0.942	41.79	0.900	41.500	4.67%	0.70%
			850	0.957	41.61	0.916	41.500	4.48%	0.27%
			820	0.894	40.16	0.898	41.571	-0.45%	-3.39%
3/1/2012	835H	23.5	835	0.906	40.00	0.900	41.500	0.67%	-3.61%
			850	0.921	39.85	0.916	41.500	0.55%	-3.98%
			820	0.914	39.99	0.898	41.571	1.78%	-3.80%
5/10/2012	835H	23.3	835	0.937	40.01	0.900	41.500	4.11%	-3.59%
			850	0.954	39.58	0.916	41.500	4.15%	-4.63%
			1850	1.351	40.81	1.400	40.000	-3.50%	2.03%
3/1/2012	1900H	23.1	1880	1.383	40.69	1.400	40.000	-1.21%	1.72%
			1910	1.415	40.60	1.400	40.000	1.07%	1.50%
			1850	1.360	41.28	1.400	40.000	-2.86%	3.20%
3/14/2012	1900H	23.5	1880	1.391	41.16	1.400	40.000	-0.64%	2.90%
			1910	1.419	41.06	1.400	40.000	1.36%	2.65%
			1850	1.412	39.08	1.400	40.000	0.86%	-2.30%
5/9/2012	1900H	22.0	1880	1.440	38.94	1.400	40.000	2.86%	-2.65%
			1910	1.468	38.82	1.400	40.000	4.86%	-2.95%
			2401	1.816	39.45	1.758	39.298	3.30%	0.39%
2/20/2012	2450H	22.2	2450	1.883	39.33	1.800	39.200	4.61%	0.33%
			2499	1.943	39.07	1.852	39.135	4.91%	-0.17%
			5200	4.780	35.30	4.660	36.000	2.58%	-1.94%
2/21/2012	5200H-5800H	20.7	5240	4.828	35.22	4.700	35.960	2.72%	-2.06%
			5320	4.901	35.10	4.780	35.880	2.53%	-2.17%
			5500	5.102	34.84	4.965	35.650	2.76%	-2.27%
			5745	5.379	34.30	5.215	35.355	3.14%	-2.98%
			5800	5.468	34.16	5.270	35.300	3.76%	-2.23%
			740	0.942	55.28	0.961	55.733	-1.98%	-0.81%
3/22/2012	750B	23.6	755	0.957	55.33	0.963	55.649	-0.62%	-0.57%
			770	0.966	55.11	0.964	55.564	0.21%	-0.82%
			785	0.982	54.84	0.965	55.480	1.76%	-1.15%
2/23/2012	835B	23.0	820	0.987	55.98	0.969	55.284	1.86%	1.26%
			835	1.009	55.77	0.970	55.200	4.02%	1.03%
			850	1.023	55.60	0.988	55.154	3.54%	0.81%
3/1/2012	835B	22.7	820	0.997	54.25	0.969	55.284	2.89%	-1.87%
			835	1.012	54.19	0.970	55.200	4.33%	-1.83%
			850	1.030	54.00	0.988	55.154	4.25%	-2.09%
5/9/2012	835B	23.1	820	0.977	52.79	0.969	55.284	0.83%	-4.51%
			835	0.993	52.71	0.970	55.200	2.37%	-4.51%
			850	1.009	52.57	0.988	55.154	2.13%	-4.69%
2/28/2012	1900B	23.3	1850	1.458	53.16	1.520	53.300	-4.08%	-0.26%
			1880	1.492	53.05	1.520	53.300	-1.84%	-0.47%
			1910	1.528	52.96	1.520	53.300	0.53%	-0.64%
3/13/2012	1900B	23.9	1850	1.458	52.31	1.520	53.300	-4.08%	-1.86%
			1880	1.494	52.20	1.520	53.300	-1.71%	-2.06%
			1910	1.529	52.10	1.520	53.300	0.59%	-2.25%
5/8/2012	1900B	22.9	1850	1.457	51.87	1.520	53.300	-4.14%	-2.68%
			1880	1.505	51.84	1.520	53.300	-0.99%	-2.74%
			1910	1.535	51.92	1.520	53.300	0.59%	-2.59%
2/20/2012	2450B	22.0	2401	1.936	50.33	1.903	52.765	1.73%	-4.61%
			2450	1.999	50.14	1.950	52.700	2.51%	-4.86%
			2499	2.062	50.04	2.019	52.638	2.13%	-4.94%
2/20/2012	5200B-5800B	22.1	5200	5.357	47.67	5.299	49.014	1.09%	-2.74%
			5240	5.409	47.59	5.346	48.933	1.18%	-2.74%
			5320	5.537	47.40	5.439	48.607	1.80%	-2.48%
			5500	5.805	46.89	5.650	48.580	2.74%	-3.48%
			5745	6.185	46.28	5.936	48.248	4.19%	-4.08%
			5800	6.262	46.21	6.000	48.200	4.37%	-4.13%

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

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).

13.2 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):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

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 $j = \sqrt{-1}$.

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13.3 Test System Verification

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

Table 13-2
System Verification Results

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 (%)
750	Head	03/23/2012	23.2	21.6	0.100	1046	3561	0.789	8.400	7.890	-6.07%
835	Head	02/24/2012	23.4	22.1	0.063	4d119	3561	0.637	9.400	10.111	7.56%
835	Head	03/01/2012	23.8	22.0	0.100	4d119	3561	1.01	9.400	10.100	7.45%
835	Head	05/10/2012	24.8	23.6	0.100	4d026	3258	1.02	9.460	10.200	7.82%
1900	Head	03/01/2012	21.9	21.2	0.100	5d080	3561	3.99	39.900	39.900	0.00%
1900	Head	03/14/2012	23.7	22.4	0.100	5d080	3561	4.12	39.900	41.200	3.26%
1900	Head	05/09/2012	22.8	21.4	0.100	502	3022	4.08	39.200	40.800	4.08%
2450	Head	02/20/2012	22.1	21.4	0.040	797	3213	2.18	52.100	54.500	4.61%
5200	Head	02/21/2012	23.8	22.4	0.100	1007	3589	7.68	79.800	76.800	-3.76%
5500	Head	02/21/2012	23.2	21.9	0.025	1007	3589	2.08	86.300	83.200	-3.59%
5800	Head	02/21/2012	21.8	20.9	0.100	1007	3589	7.94	79.400	79.400	0.00%
750	Body	03/22/2012	23.6	22.4	0.100	1046	3561	0.879	8.800	8.790	-0.11%
835	Body	02/23/2012	23.4	22.1	0.100	4d119	3263	0.988	9.540	9.880	3.56%
835	Body	03/01/2012	22.8	21.1	0.100	4d119	3263	1.03	9.540	10.300	7.97%
835	Body	05/09/2012	23.2	23.1	0.100	4d026	3258	1.03	9.660	10.300	6.63%
1900	Body	02/28/2012	22.6	21.7	0.100	5d080	3263	3.97	40.900	39.700	-2.93%
1900	Body	03/13/2012	24.0	22.9	0.100	5d080	3263	3.89	40.900	38.900	-4.89%
1900	Body	05/08/2012	24.4	22.9	0.100	5d149	3561	4.23	39.300	42.300	7.63%
2450	Body	02/20/2012	23.2	21.5	0.040	797	3213	2.11	50.800	52.750	3.84%
5200	Body	02/20/2012	22.0	20.8	0.100	1007	3589	7.17	75.500	71.700	-5.03%
5500	Body	02/20/2012	21.9	20.7	0.100	1007	3589	7.44	81.300	74.400	-8.49%
5800	Body	02/20/2012	21.8	20.5	0.100	1007	3589	7.06	75.300	70.600	-6.24%

Note: Per KDB Publication 865664, when a reference dipole is not defined within $\pm 100\text{MHz}$ of the test frequency, the system verification may be conducted within $\pm 200\text{ MHz}$ 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.

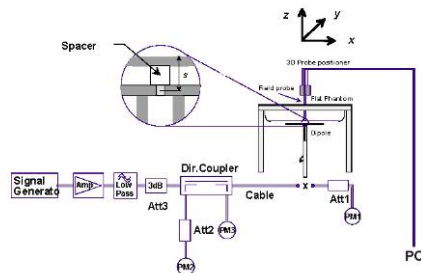


Figure 13-1
System Verification Setup Diagram



Figure 13-2
System Verification Setup Photo

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14 SAR DATA SUMMARY

14.1 Standalone Head SAR Data

Table 14-1
Cell. CDMA Head SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode/Band	Service	Target Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.									(W/kg)
836.52	384	Cell. CDMA	SO55	24.5	24.57	0.00	Right	Touch	D2-0581	0.230
836.52	384	Cell. CDMA	SO55	24.5	24.57	0.02	Right	Tilt	D2-0581	0.123
836.52	384	Cell. CDMA	SO55	24.5	24.57	0.02	Left	Touch	D2-0581	0.201
836.52	384	Cell. CDMA	SO55	24.5	24.57	-0.02	Left	Tilt	D2-0581	0.143
836.52	384	Cell. CDMA	SO55	18	18.15	0.13	Right	Touch	D2-0585	0.045
836.52	384	Cell. CDMA	SO55	18	18.15	0.04	Right	Tilt	D2-0585	0.020
836.52	384	Cell. CDMA	SO55	18	18.15	0.02	Left	Touch	D2-0585	0.038
836.52	384	Cell. CDMA	SO55	18	18.15	0.02	Left	Tilt	D2-0585	0.021
836.52	384	Cell. CDMA	SO55	15	14.60	0.04	Right	Touch	D2-0584	0.020
836.52	384	Cell. CDMA	SO55	15	14.60	0.06	Left	Touch	D2-0584	0.006
836.52	384	Cell. CDMA	SO55	15	14.60	0.02	Left	Touch	D2-0584	0.026
836.52	384	Cell. CDMA	SO55	15	14.60	0.02	Left	Tilt	D2-0584	0.013
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 14-2
PCS CDMA Head SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode/Band	Service	Target Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.									(W/kg)
1880.00	600	PCS CDMA	SO55	24.5	24.87	0.05	Right	Touch	D2-1660	0.143
1880.00	600	PCS CDMA	SO55	24.5	24.87	0.02	Right	Tilt	D2-1660	0.057
1880.00	600	PCS CDMA	SO55	24.5	24.87	0.02	Left	Touch	D2-1660	0.138
1880.00	600	PCS CDMA	SO55	24.5	24.87	0.12	Left	Tilt	D2-1660	0.050
1880.00	600	PCS CDMA	SO55	18	18.38	0.03	Right	Touch	D2-0585	0.040
1880.00	600	PCS CDMA	SO55	18	18.38	0.03	Right	Tilt	D2-0585	0.014
1880.00	600	PCS CDMA	SO55	18	18.38	0.03	Left	Touch	D2-0585	0.026
1880.00	600	PCS CDMA	SO55	18	18.38	0.04	Left	Tilt	D2-0585	0.011
1880.00	600	PCS CDMA	SO55	15	14.89	0.04	Right	Touch	D2-0584	0.020
1880.00	600	PCS CDMA	SO55	15	14.89	0.06	Right	Tilt	D2-0584	0.006
1880.00	600	PCS CDMA	SO55	15	14.89	0.08	Left	Touch	D2-0584	0.012
1880.00	600	PCS CDMA	SO55	15	14.89	0.07	Left	Tilt	D2-0584	0.007
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram			

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Table 14-3
Cell. EVDO Head SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode/Band	Service	Target Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.									(W/kg)
836.52	384	Cell. EVDO	EVDO Rev. 0	24.5	24.45	0.06	Right	Touch	D2-0579	0.145
836.52	384	Cell. EVDO	EVDO Rev. 0	24.5	24.45	0.08	Right	Tilt	D2-0579	0.096
836.52	384	Cell. EVDO	EVDO Rev. 0	24.5	24.45	0.05	Left	Touch	D2-0579	0.225
836.52	384	Cell. EVDO	EVDO Rev. 0	24.5	24.45	-0.07	Left	Tilt	D2-0579	0.124
836.52	384	Cell. EVDO	EVDO Rev. 0	18.5	18.80	-0.03	Right	Touch	D2-0581	0.031
836.52	384	Cell. EVDO	EVDO Rev. 0	18.5	18.80	-0.09	Right	Tilt	D2-0581	0.018
836.52	384	Cell. EVDO	EVDO Rev. 0	18.5	18.80	-0.05	Left	Touch	D2-0581	0.040
836.52	384	Cell. EVDO	EVDO Rev. 0	18.5	18.80	-0.10	Left	Tilt	D2-0581	0.023
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 14-4
PCS EVDO Head SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode/Band	Service	Target Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.									(W/kg)
1880.00	600	PCS EVDO	EVDO Rev. 0	24.5	24.61	0.03	Right	Touch	D2-0579	0.179
1880.00	600	PCS EVDO	EVDO Rev. 0	24.5	24.61	-0.03	Right	Tilt	D2-0579	0.152
1880.00	600	PCS EVDO	EVDO Rev. 0	24.5	24.61	0.00	Left	Touch	D2-0579	0.348
1880.00	600	PCS EVDO	EVDO Rev. 0	24.5	24.61	-0.14	Left	Tilt	D2-0579	0.126
1880.00	600	PCS EVDO	EVDO Rev. 0	18.5	18.68	0.03	Right	Touch	D2-0582	0.034
1880.00	600	PCS EVDO	EVDO Rev. 0	18.5	18.68	0.02	Right	Tilt	D2-0582	0.034
1880.00	600	PCS EVDO	EVDO Rev. 0	18.5	18.68	-0.01	Left	Touch	D2-0582	0.072
1880.00	600	PCS EVDO	EVDO Rev. 0	18.5	18.68	0.04	Left	Tilt	D2-0582	0.027
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram			

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Table 14-5
LTE Head SAR Results – Maximum Power

MEASUREMENT RESULTS														
FREQUENCY		Mode	Bandwidth [MHz]	Target Power [dBm]	MPR [dB]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Modulation	# of RB	RB Offset	Device Serial Number	SAR (1g) (W/kg)
MHz	Ch.													
782	23230	LTE Band 13	10	22	1	21.75	0.20	Right	Touch	QPSK	25	12	D2-1661	0.046
782	23230	LTE Band 13	10	23	0	22.78	0.10	Right	Touch	QPSK	1	0	D2-1661	0.062
782	23230	LTE Band 13	10	23	0	22.76	0.11	Right	Touch	QPSK	1	49	D2-1661	0.062
782	23230	LTE Band 13	10	21	2	20.75	0.03	Right	Touch	16 QAM	25	12	D2-1661	0.037
782	23230	LTE Band 13	10	22	1	21.94	0.12	Right	Touch	16 QAM	1	0	D2-1661	0.045
782	23230	LTE Band 13	10	22	1	22.00	0.09	Right	Touch	16 QAM	1	49	D2-1661	0.047
782	23230	LTE Band 13	10	22	1	21.75	0.04	Right	Tilt	QPSK	25	12	D2-1661	0.021
782	23230	LTE Band 13	10	23	0	22.78	0.08	Right	Tilt	QPSK	1	0	D2-1661	0.020
782	23230	LTE Band 13	10	23	0	22.76	0.09	Right	Tilt	QPSK	1	49	D2-1661	0.024
782	23230	LTE Band 13	10	21	2	20.75	0.05	Right	Tilt	16 QAM	25	12	D2-1661	0.014
782	23230	LTE Band 13	10	22	1	21.94	0.09	Right	Tilt	16 QAM	1	0	D2-1661	0.015
782	23230	LTE Band 13	10	22	1	22.00	0.03	Right	Tilt	16 QAM	1	49	D2-1661	0.018
782	23230	LTE Band 13	10	22	1	21.75	0.05	Left	Touch	QPSK	25	12	D2-1661	0.082
782	23230	LTE Band 13	10	23	0	22.78	0.01	Left	Touch	QPSK	1	0	D2-1661	0.097
782	23230	LTE Band 13	10	23	0	22.76	0.13	Left	Touch	QPSK	1	49	D2-1661	0.093
782	23230	LTE Band 13	10	21	2	20.75	-0.12	Left	Touch	16 QAM	25	12	D2-1661	0.072
782	23230	LTE Band 13	10	22	1	21.94	-0.07	Left	Touch	16 QAM	1	0	D2-1661	0.081
782	23230	LTE Band 13	10	22	1	22.00	0.03	Left	Touch	16 QAM	1	49	D2-1661	0.078
782	23230	LTE Band 13	10	22	1	21.75	0.03	Left	Tilt	QPSK	25	12	D2-1661	0.033
782	23230	LTE Band 13	10	23	0	22.78	0.07	Left	Tilt	QPSK	1	0	D2-1661	0.035
782	23230	LTE Band 13	10	23	0	22.76	0.06	Left	Tilt	QPSK	1	49	D2-1661	0.039
782	23230	LTE Band 13	10	21	2	20.75	0.02	Left	Tilt	16 QAM	25	12	D2-1661	0.028
782	23230	LTE Band 13	10	22	1	21.94	0.01	Left	Tilt	16 QAM	1	0	D2-1661	0.025
782	23230	LTE Band 13	10	22	1	22.00	0.05	Left	Tilt	16 QAM	1	49	D2-1661	0.028
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram						

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Table 14-6
LTE Head SAR Results – Reduced Power

MEASUREMENT RESULTS														
FREQUENCY		Mode	Bandwidth [MHz]	Target Power [dBm]	MPR [dB]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Modulation	# of RB	RB Offset	Device Serial Number	SAR (1g)
MHz	Ch.													(W/kg)
782	23230	LTE Band 13	10	19	0	19.30	0.10	Right	Touch	QPSK	25	12	D2-1660	0.029
782	23230	LTE Band 13	10	19	0	19.30	-0.01	Right	Touch	QPSK	1	0	D2-1660	0.025
782	23230	LTE Band 13	10	19	0	19.10	0.15	Right	Touch	QPSK	1	49	D2-1660	0.023
782	23230	LTE Band 13	10	19	0	19.43	0.20	Right	Touch	16 QAM	25	12	D2-1660	0.030
782	23230	LTE Band 13	10	19	0	18.97	0.04	Right	Touch	16 QAM	1	0	D2-1660	0.023
782	23230	LTE Band 13	10	19	0	18.92	0.05	Right	Touch	16 QAM	1	49	D2-1660	0.020
782	23230	LTE Band 13	10	19	0	19.30	0.05	Right	Tilt	QPSK	25	12	D2-1660	0.013
782	23230	LTE Band 13	10	19	0	19.30	0.10	Right	Tilt	QPSK	1	0	D2-1660	0.008
782	23230	LTE Band 13	10	19	0	19.10	0.11	Right	Tilt	QPSK	1	49	D2-1660	0.007
782	23230	LTE Band 13	10	19	0	19.43	0.05	Right	Tilt	16 QAM	25	12	D2-1660	0.014
782	23230	LTE Band 13	10	19	0	18.97	0.10	Right	Tilt	16 QAM	1	0	D2-1660	0.007
782	23230	LTE Band 13	10	19	0	18.92	0.08	Right	Tilt	16 QAM	1	49	D2-1660	0.006
782	23230	LTE Band 13	10	19	0	19.30	0.04	Left	Touch	QPSK	25	12	D2-1660	0.044
782	23230	LTE Band 13	10	19	0	19.30	-0.06	Left	Touch	QPSK	1	0	D2-1660	0.042
782	23230	LTE Band 13	10	19	0	19.10	0.06	Left	Touch	QPSK	1	49	D2-1660	0.038
782	23230	LTE Band 13	10	19	0	19.43	0.02	Left	Touch	16 QAM	25	12	D2-1660	0.046
782	23230	LTE Band 13	10	19	0	18.97	0.10	Left	Touch	16 QAM	1	0	D2-1660	0.039
782	23230	LTE Band 13	10	19	0	18.92	0.16	Left	Touch	16 QAM	1	49	D2-1660	0.036
782	23230	LTE Band 13	10	19	0	19.30	0.02	Left	Tilt	QPSK	25	12	D2-1660	0.019
782	23230	LTE Band 13	10	19	0	19.30	0.20	Left	Tilt	QPSK	1	0	D2-1660	0.014
782	23230	LTE Band 13	10	19	0	19.10	0.15	Left	Tilt	QPSK	1	49	D2-1660	0.014
782	23230	LTE Band 13	10	19	0	19.43	0.01	Left	Tilt	16 QAM	25	12	D2-1660	0.020
782	23230	LTE Band 13	10	19	0	18.97	0.05	Left	Tilt	16 QAM	1	0	D2-1660	0.014
782	23230	LTE Band 13	10	19	0	18.92	0.00	Left	Tilt	16 QAM	1	49	D2-1660	0.013
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 14-7
GSM Head SAR Results

MEASUREMENT RESULTS									
FREQUENCY		Mode	Target Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	SAR (1g)
MHz	Ch.								(W/kg)
836.60	190	GSM 850	33	33.14	0.17	Right	Touch	D2-3064	0.174
836.60	190	GSM 850	33	33.14	0.01	Right	Tilt	D2-3064	0.132
836.60	190	GSM 850	33	33.14	0.04	Left	Touch	D2-3064	0.214
836.60	190	GSM 850	33	33.14	-0.02	Left	Tilt	D2-3064	0.147
1880.00	661	GSM 1900	29.5	29.57	-0.01	Right	Touch	D2-3064	0.089
1880.00	661	GSM 1900	29.5	29.57	0.17	Right	Tilt	D2-3064	0.033
1880.00	661	GSM 1900	29.5	29.57	-0.04	Left	Touch	D2-3064	0.061
1880.00	661	GSM 1900	29.5	29.57	-0.13	Left	Tilt	D2-3064	0.033
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Head 1.6 W/kg (mW/g) averaged over 1 gram			

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Table 14-8
2.4 GHz WIFI 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	15.89	0.09	Right	Touch	D2-0445	1	0.052
2462	11	IEEE 802.11b	DSSS	15.89	0.08	Right	Tilt	D2-0445	1	0.041
2462	11	IEEE 802.11b	DSSS	15.89	0.10	Left	Touch	D2-0445	1	0.101
2462	11	IEEE 802.11b	DSSS	15.89	0.05	Left	Tilt	D2-0445	1	0.050
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 14-9
5 GHz WIFI 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)
5745	149	IEEE 802.11a	OFDM	12.24	0.01	Right	Touch	D2-0445	6	0.032
5745	149	IEEE 802.11a	OFDM	12.24	0.03	Right	Tilt	D2-0445	6	0.027
5745	149	IEEE 802.11a	OFDM	12.24	0.13	Left	Touch	D2-0445	6	0.033
5745	149	IEEE 802.11a	OFDM	12.24	0.20	Left	Tilt	D2-0445	6	0.016
5240	48	IEEE 802.11a	OFDM	11.70	0.05	Right	Touch	D2-0445	6	0.012
5240	48	IEEE 802.11a	OFDM	11.70	0.16	Right	Tilt	D2-0445	6	0.014
5240	48	IEEE 802.11a	OFDM	11.70	0.03	Left	Touch	D2-0445	6	0.027
5240	48	IEEE 802.11a	OFDM	11.70	0.05	Left	Tilt	D2-0445	6	0.022
5320	64	IEEE 802.11a	OFDM	11.82	0.06	Right	Touch	D2-0445	6	0.024
5320	64	IEEE 802.11a	OFDM	11.82	0.12	Right	Tilt	D2-0445	6	0.029
5320	64	IEEE 802.11a	OFDM	11.82	0.09	Left	Touch	D2-0445	6	0.034
5320	64	IEEE 802.11a	OFDM	11.82	0.05	Left	Tilt	D2-0445	6	0.022
5500	100	IEEE 802.11a	OFDM	12.40	0.03	Right	Touch	D2-0445	6	0.062
5500	100	IEEE 802.11a	OFDM	12.40	0.08	Right	Tilt	D2-0445	6	0.063
5500	100	IEEE 802.11a	OFDM	12.40	0.01	Left	Touch	D2-0445	6	0.062
5500	100	IEEE 802.11a	OFDM	12.40	0.01	Left	Tilt	D2-0445	6	0.072
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Head 1.6 W/kg (mW/g) averaged over 1 gram				

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14.2 Standalone Body-Worn SAR Data

Table 14-10
CDMA Body-Worn SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Target Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Side	SAR (1g)
MHz	Ch.									(W/kg)
836.52	384	Cell. CDMA	TDSO / SO32	24.5	24.73	0.04	1.0 cm	D2-0581	back	0.367
836.52	384	Cell. CDMA	TDSO / SO32	18	18.06	-0.03	1.0 cm	D2-0585	back	0.133
836.52	384	Cell. CDMA	TDSO / SO32	15	14.60	-0.02	1.0 cm	D2-0584	back	0.054
1851.25	25	PCS CDMA	TDSO / SO32	24.5	24.52	0.05	1.0 cm	D2-1660	back	0.589
1880.00	600	PCS CDMA	TDSO / SO32	24.5	24.84	0.02	1.0 cm	D2-1660	back	0.934
1908.75	1175	PCS CDMA	TDSO / SO32	24.5	24.64	0.02	1.0 cm	D2-1660	back	0.854
1880.00	600	PCS CDMA	TDSO / SO32	18	18.36	-0.03	1.0 cm	D2-0585	back	0.297
1880.00	600	PCS CDMA	TDSO / SO32	15	14.86	-0.03	1.0 cm	D2-0584	back	0.127
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, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06.

Table 14-11
EVDO Body-Worn SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Target Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Side	SAR (1g)
MHz	Ch.									(W/kg)
836.52	384	Cell. EVDO	EVDO Rev. 0	24.5	24.45	-0.06	1.0 cm	D2-0579	back	0.417
836.52	384	Cell. EVDO	EVDO Rev. 0	18.5	18.80	0.02	1.0 cm	D2-0581	back	0.092
1880.00	600	PCS EVDO	EVDO Rev. 0	24.5	24.61	-0.02	1.0 cm	D2-0579	back	0.411
1880.00	600	PCS EVDO	EVDO Rev. 0	18.5	18.68	0.00	1.0 cm	D2-0582	back	0.087
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 EVDO mode, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06. EVDO SAR was required to be evaluated for body-worn exposure configurations since there are simultaneous combinations per **Table 1-2** that allow transmissions using EVDO.

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Table 14-12
LTE Body-Worn SAR Results

MEASUREMENT RESULTS														
FREQUENCY		Mode	Bandwidth [MHz]	Target Power [dBm]	MPR [dB]	Conducted Power [dBm]	Power Drift [dB]	Device Serial Number	Modulation	# of RB	RB Offset	Spacing	Side	SAR (1g)
MHz	Ch.													(W/kg)
782	23230	LTE Band 13	10	22	1	21.75	-0.14	D2-1661	QPSK	25	12	1.0 cm	back	0.267
782	23230	LTE Band 13	10	23	0	22.78	-0.06	D2-1661	QPSK	1	0	1.0 cm	back	0.330
782	23230	LTE Band 13	10	23	0	22.76	-0.02	D2-1661	QPSK	1	49	1.0 cm	back	0.342
782	23230	LTE Band 13	10	21	2	20.75	0.12	D2-1661	16 QAM	25	12	1.0 cm	back	0.187
782	23230	LTE Band 13	10	22	1	21.94	0.12	D2-1661	16 QAM	1	0	1.0 cm	back	0.252
782	23230	LTE Band 13	10	22	1	22.00	0.02	D2-1661	16 QAM	1	49	1.0 cm	back	0.248
782	23230	LTE Band 13	10	19	0	19.30	0.13	D2-1660	QPSK	25	12	1.0 cm	back	0.129
782	23230	LTE Band 13	10	19	0	19.30	0.19	D2-1660	QPSK	1	0	1.0 cm	back	0.141
782	23230	LTE Band 13	10	19	0	19.10	0.15	D2-1660	QPSK	1	49	1.0 cm	back	0.127
782	23230	LTE Band 13	10	19	0	19.43	0.02	D2-1660	16 QAM	25	12	1.0 cm	back	0.132
782	23230	LTE Band 13	10	19	0	18.97	0.06	D2-1660	16 QAM	1	0	1.0 cm	back	0.136
782	23230	LTE Band 13	10	19	0	18.92	0.05	D2-1660	16 QAM	1	49	1.0 cm	back	0.126
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 LTE mode, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06.

Table 14-13
GSM Body-Worn SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Side	SAR (1g)
MHz	Ch.									(W/kg)
836.60	190	GSM 850	GSM	33.14	0.01	1.0 cm	D2-3064	1	back	0.365
836.60	190	GSM 850	GPRS	31.43	-0.06	1.0 cm	D2-3064	2	back	0.430
1880.00	661	GSM 1900	GSM	29.57	-0.02	1.0 cm	D2-3064	1	back	0.307
1880.00	661	GSM 1900	GPRS	27.81	-0.08	1.0 cm	D2-3064	2	back	0.374
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 GPRS mode, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06.

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Table 14-14
WIFI 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	15.89	-0.04	1.0 cm	D2-0445	1	back	0.219
5745	149	IEEE 802.11a	OFDM	12.24	-0.08	1.0 cm	D2-0445	6	back	0.172
5240	48	IEEE 802.11a	OFDM	11.70	-0.11	1.0 cm	D2-0445	6	back	0.216
5320	64	IEEE 802.11a	OFDM	11.82	0.11	1.0 cm	D2-0445	6	back	0.190
5500	100	IEEE 802.11a	OFDM	12.40	-0.17	1.0 cm	D2-0445	6	back	0.267
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, Hotspot back side SAR Data was considered as body-worn accessory SAR data per FCC KDB Publication 941225 D06.

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14.3 Standalone Wireless Router SAR Data

Table 14-15
CDMA Hotspot SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Target Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Side	SAR (1g)
MHz	Ch.									(W/kg)
836.52	384	Cell. CDMA	TDSO / SO32	24.5	24.73	0.04	1.0 cm	D2-0581	back	0.367
836.52	384	Cell. CDMA	TDSO / SO32	24.5	24.73	-0.05	1.0 cm	D2-0581	front	0.261
836.52	384	Cell. CDMA	TDSO / SO32	24.5	24.73	-0.08	1.0 cm	D2-0581	bottom	0.171
836.52	384	Cell. CDMA	TDSO / SO32	24.5	24.73	-0.03	1.0 cm	D2-0581	right	0.346
836.52	384	Cell. CDMA	TDSO / SO32	18	18.06	-0.03	1.0 cm	D2-0585	back	0.133
836.52	384	Cell. CDMA	TDSO / SO32	18	18.06	-0.04	1.0 cm	D2-0585	front	0.062
836.52	384	Cell. CDMA	TDSO / SO32	18	18.06	-0.01	1.0 cm	D2-0585	bottom	0.107
836.52	384	Cell. CDMA	TDSO / SO32	18	18.06	0.09	1.0 cm	D2-0585	right	0.016
836.52	384	Cell. CDMA	TDSO / SO32	15	14.60	-0.02	1.0 cm	D2-0584	back	0.054
836.52	384	Cell. CDMA	TDSO / SO32	15	14.60	-0.02	1.0 cm	D2-0584	front	0.038
836.52	384	Cell. CDMA	TDSO / SO32	15	14.60	-0.02	1.0 cm	D2-0584	bottom	0.009
836.52	384	Cell. CDMA	TDSO / SO32	15	14.60	0.04	1.0 cm	D2-0584	right	0.034
1851.25	25	PCS CDMA	TDSO / SO32	24.5	24.52	0.05	1.0 cm	D2-1660	back	0.589
1880.00	600	PCS CDMA	TDSO / SO32	24.5	24.84	0.02	1.0 cm	D2-1660	back	0.934
1908.75	1175	PCS CDMA	TDSO / SO32	24.5	24.64	0.02	1.0 cm	D2-1660	back	0.854
1880.00	600	PCS CDMA	TDSO / SO32	24.5	24.84	-0.03	1.0 cm	D2-1660	front	0.440
1880.00	600	PCS CDMA	TDSO / SO32	24.5	24.84	0.03	1.0 cm	D2-1660	bottom	0.636
1880.00	600	PCS CDMA	TDSO / SO32	24.5	24.84	-0.18	1.0 cm	D2-1660	right	0.102
1880.00	600	PCS CDMA	TDSO / SO32	18	18.36	-0.03	1.0 cm	D2-0585	back	0.297
1880.00	600	PCS CDMA	TDSO / SO32	18	18.36	-0.03	1.0 cm	D2-0585	front	0.137
1880.00	600	PCS CDMA	TDSO / SO32	18	18.36	0.00	1.0 cm	D2-0585	bottom	0.226
1880.00	600	PCS CDMA	TDSO / SO32	18	18.36	0.04	1.0 cm	D2-0585	right	0.036
1880.00	600	PCS CDMA	TDSO / SO32	15	14.86	-0.03	1.0 cm	D2-0584	back	0.127
1880.00	600	PCS CDMA	TDSO / SO32	15	14.86	0.12	1.0 cm	D2-0584	front	0.063
1880.00	600	PCS CDMA	TDSO / SO32	15	14.86	0.04	1.0 cm	D2-0584	bottom	0.128
1880.00	600	PCS CDMA	TDSO / SO32	15	14.86	0.03	1.0 cm	D2-0584	right	0.017
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram			

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Table 14-16
EVDO Hotspot SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Target Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Side	SAR (1g)
MHz	Ch.									(W/kg)
836.52	384	Cell. EVDO	EVDO Rev. 0	24.5	24.45	-0.06	1.0 cm	D2-0579	back	0.417
836.52	384	Cell. EVDO	EVDO Rev. 0	24.5	24.45	-0.01	1.0 cm	D2-0579	front	0.355
836.52	384	Cell. EVDO	EVDO Rev. 0	24.5	24.45	0.10	1.0 cm	D2-0579	bottom	0.223
836.52	384	Cell. EVDO	EVDO Rev. 0	24.5	24.45	-0.03	1.0 cm	D2-0579	left	0.237
836.52	384	Cell. EVDO	EVDO Rev. 0	18.5	18.80	0.02	1.0 cm	D2-0581	back	0.092
836.52	384	Cell. EVDO	EVDO Rev. 0	18.5	18.80	-0.02	1.0 cm	D2-0581	front	0.084
836.52	384	Cell. EVDO	EVDO Rev. 0	18.5	18.80	-0.15	1.0 cm	D2-0581	bottom	0.048
836.52	384	Cell. EVDO	EVDO Rev. 0	18.5	18.80	0.00	1.0 cm	D2-0581	left	0.041
1880.00	600	PCS EVDO	EVDO Rev. 0	24.5	24.61	-0.02	1.0 cm	D2-0579	back	0.411
1880.00	600	PCS EVDO	EVDO Rev. 0	24.5	24.61	-0.01	1.0 cm	D2-0579	front	0.391
1880.00	600	PCS EVDO	EVDO Rev. 0	24.5	24.61	0.09	1.0 cm	D2-0579	bottom	0.206
1880.00	600	PCS EVDO	EVDO Rev. 0	24.5	24.61	-0.04	1.0 cm	D2-0579	left	0.257
1880.00	600	PCS EVDO	EVDO Rev. 0	18.5	18.68	0.00	1.0 cm	D2-0582	back	0.087
1880.00	600	PCS EVDO	EVDO Rev. 0	18.5	18.68	-0.01	1.0 cm	D2-0582	front	0.085
1880.00	600	PCS EVDO	EVDO Rev. 0	18.5	18.68	-0.10	1.0 cm	D2-0582	bottom	0.053
1880.00	600	PCS EVDO	EVDO Rev. 0	18.5	18.68	-0.02	1.0 cm	D2-0582	left	0.057
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram			

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Table 14-17
LTE Hotspot SAR Results – Maximum Power

MEASUREMENT RESULTS														
FREQUENCY		Mode	Bandwidth [MHz]	Target Power [dBm]	MPR [dB]	Conducted Power [dBm]	Power Drift [dB]	Device Serial Number	Modulation	# of RB	RB Offset	Spacing	Side	SAR (1g)
MHz	Ch.													(W/kg)
782	23230	LTE Band 13	10	22	1	21.75	-0.14	D2-1661	QPSK	25	12	1.0 cm	back	0.267
782	23230	LTE Band 13	10	23	0	22.78	-0.06	D2-1661	QPSK	1	0	1.0 cm	back	0.330
782	23230	LTE Band 13	10	23	0	22.76	-0.02	D2-1661	QPSK	1	49	1.0 cm	back	0.342
782	23230	LTE Band 13	10	21	2	20.75	0.12	D2-1661	16 QAM	25	12	1.0 cm	back	0.187
782	23230	LTE Band 13	10	22	1	21.94	0.12	D2-1661	16 QAM	1	0	1.0 cm	back	0.252
782	23230	LTE Band 13	10	22	1	22.00	0.02	D2-1661	16 QAM	1	49	1.0 cm	back	0.248
782	23230	LTE Band 13	10	22	1	21.75	0.02	D2-1661	QPSK	25	12	1.0 cm	front	0.148
782	23230	LTE Band 13	10	23	0	22.78	-0.01	D2-1661	QPSK	1	0	1.0 cm	front	0.181
782	23230	LTE Band 13	10	23	0	22.76	-0.03	D2-1661	QPSK	1	49	1.0 cm	front	0.199
782	23230	LTE Band 13	10	21	2	20.75	-0.07	D2-1661	16 QAM	25	12	1.0 cm	front	0.121
782	23230	LTE Band 13	10	22	1	21.94	-0.15	D2-1661	16 QAM	1	0	1.0 cm	front	0.151
782	23230	LTE Band 13	10	22	1	22.00	0.07	D2-1661	16 QAM	1	49	1.0 cm	front	0.164
782	23230	LTE Band 13	10	22	1	21.75	-0.08	D2-1661	QPSK	25	12	1.0 cm	bottom	0.090
782	23230	LTE Band 13	10	23	0	22.78	-0.14	D2-1661	QPSK	1	0	1.0 cm	bottom	0.113
782	23230	LTE Band 13	10	23	0	22.76	-0.19	D2-1661	QPSK	1	49	1.0 cm	bottom	0.125
782	23230	LTE Band 13	10	21	2	20.75	0.09	D2-1661	16 QAM	25	12	1.0 cm	bottom	0.061
782	23230	LTE Band 13	10	22	1	21.94	-0.03	D2-1661	16 QAM	1	0	1.0 cm	bottom	0.090
782	23230	LTE Band 13	10	22	1	22.00	0.03	D2-1661	16 QAM	1	49	1.0 cm	bottom	0.094
782	23230	LTE Band 13	10	22	1	21.75	0.03	D2-1661	QPSK	25	12	1.0 cm	left	0.078
782	23230	LTE Band 13	10	23	0	22.78	0.01	D2-1661	QPSK	1	0	1.0 cm	left	0.091
782	23230	LTE Band 13	10	23	0	22.76	0.02	D2-1661	QPSK	1	49	1.0 cm	left	0.087
782	23230	LTE Band 13	10	21	2	20.75	-0.03	D2-1661	16 QAM	25	12	1.0 cm	left	0.063
782	23230	LTE Band 13	10	22	1	21.94	-0.11	D2-1661	16 QAM	1	0	1.0 cm	left	0.067
782	23230	LTE Band 13	10	22	1	22.00	0.15	D2-1661	16 QAM	1	49	1.0 cm	left	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						

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Table 14-18
LTE Hotspot SAR Results – Reduced Power

MEASUREMENT RESULTS														
FREQUENCY		Mode	Bandwidth [MHz]	Target Power [dBm]	MPR [dB]	Conducted Power [dBm]	Power Drift [dB]	Device Serial Number	Modulation	# of RB	RB Offset	Spacing	Side	SAR (1g)
MHz	Ch.													(W/kg)
782	23230	LTE Band 13	10	19	0	19.30	0.13	D2-1660	QPSK	25	12	1.0 cm	back	0.129
782	23230	LTE Band 13	10	19	0	19.30	0.19	D2-1660	QPSK	1	0	1.0 cm	back	0.141
782	23230	LTE Band 13	10	19	0	19.10	0.15	D2-1660	QPSK	1	49	1.0 cm	back	0.127
782	23230	LTE Band 13	10	19	0	19.43	0.02	D2-1660	16 QAM	25	12	1.0 cm	back	0.132
782	23230	LTE Band 13	10	19	0	18.97	0.06	D2-1660	16 QAM	1	0	1.0 cm	back	0.136
782	23230	LTE Band 13	10	19	0	18.92	0.05	D2-1660	16 QAM	1	49	1.0 cm	back	0.126
782	23230	LTE Band 13	10	19	0	19.30	0.20	D2-1660	QPSK	25	12	1.0 cm	front	0.079
782	23230	LTE Band 13	10	19	0	19.30	0.17	D2-1660	QPSK	1	0	1.0 cm	front	0.085
782	23230	LTE Band 13	10	19	0	19.10	0.04	D2-1660	QPSK	1	49	1.0 cm	front	0.082
782	23230	LTE Band 13	10	19	0	19.43	0.14	D2-1660	16 QAM	25	12	1.0 cm	front	0.082
782	23230	LTE Band 13	10	19	0	18.97	0.06	D2-1660	16 QAM	1	0	1.0 cm	front	0.081
782	23230	LTE Band 13	10	19	0	18.92	0.14	D2-1660	16 QAM	1	49	1.0 cm	front	0.077
782	23230	LTE Band 13	10	19	0	19.30	0.21	D2-1660	QPSK	25	12	1.0 cm	bottom	0.040
782	23230	LTE Band 13	10	19	0	19.30	0.05	D2-1660	QPSK	1	0	1.0 cm	bottom	0.056
782	23230	LTE Band 13	10	19	0	19.10	0.14	D2-1660	QPSK	1	49	1.0 cm	bottom	0.055
782	23230	LTE Band 13	10	19	0	19.43	0.15	D2-1660	16 QAM	25	12	1.0 cm	bottom	0.044
782	23230	LTE Band 13	10	19	0	18.97	0.06	D2-1660	16 QAM	1	0	1.0 cm	bottom	0.056
782	23230	LTE Band 13	10	19	0	18.92	0.08	D2-1660	16 QAM	1	49	1.0 cm	bottom	0.053
782	23230	LTE Band 13	10	19	0	19.30	-0.03	D2-1660	QPSK	25	12	1.0 cm	left	0.043
782	23230	LTE Band 13	10	19	0	19.30	0.17	D2-1660	QPSK	1	0	1.0 cm	left	0.039
782	23230	LTE Band 13	10	19	0	19.10	0.06	D2-1660	QPSK	1	49	1.0 cm	left	0.031
782	23230	LTE Band 13	10	19	0	19.43	0.06	D2-1660	16 QAM	25	12	1.0 cm	left	0.045
782	23230	LTE Band 13	10	19	0	18.97	0.10	D2-1660	16 QAM	1	0	1.0 cm	left	0.037
782	23230	LTE Band 13	10	19	0	18.92	0.04	D2-1660	16 QAM	1	49	1.0 cm	left	0.031
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram						

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Table 14-19
GPRS Hotspot SAR Results

MEASUREMENT RESULTS										
FREQUENCY		Mode	Service	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of GPRS Slots	Side	SAR (1g)
MHz	Ch.									(W/kg)
836.60	190	GSM 850	GPRS	31.43	-0.06	1.0 cm	D2-3064	2	back	0.430
836.60	190	GSM 850	GPRS	31.43	-0.10	1.0 cm	D2-3064	2	front	0.351
836.60	190	GSM 850	GPRS	31.43	0.03	1.0 cm	D2-3064	2	bottom	0.519
836.60	190	GSM 850	GPRS	31.43	0.01	1.0 cm	D2-3064	2	left	0.618
1880.00	661	GSM 1900	GPRS	27.81	-0.08	1.0 cm	D2-3064	2	back	0.374
1880.00	661	GSM 1900	GPRS	27.81	-0.03	1.0 cm	D2-3064	2	front	0.324
1880.00	661	GSM 1900	GPRS	27.81	0.01	1.0 cm	D2-3064	2	bottom	0.362
1880.00	661	GSM 1900	GPRS	27.81	0.02	1.0 cm	D2-3064	2	left	0.078
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 14-20
WIFI Hotspot 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	15.89	-0.04	1.0 cm	D2-0445	1	back	0.219
2462	11	IEEE 802.11b	DSSS	15.89	-0.03	1.0 cm	D2-0445	1	front	0.025
2462	11	IEEE 802.11b	DSSS	15.89	0.14	1.0 cm	D2-0445	1	top	0.018
2462	11	IEEE 802.11b	DSSS	15.89	-0.03	1.0 cm	D2-0445	1	right	0.097
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram				

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14.4 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], IEEE 1528-2003.
2. Batteries are fully charged for all readings. The standard battery was used.
3. Tissue parameters and temperatures are listed on the SAR plots.
4. Liquid tissue depth was at least 15.0 cm. To confirm the proper SAR liquid depth, the z-axis plots from the system verifications were included since the system verifications were performed using the same liquid, probe and DAE as the SAR tests in the same time period.
5. Justification for reduced test configurations: Per FCC/OET Bulletin 65 Supplement C (June 2001) and Public Notice DA-02-1438, if the 2G/3G SAR measured at the middle channel for each test configuration is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
6. 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.

CDMA/EVDO Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per KDB Publication 941225 D01.
2. Body-Worn and CDMA 1x RTT wireless router SAR was tested with 1x RTT with TDSO / SO32 FCH Only. 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. EVDO SAR (head, body-worn accessory and hotspot) was tested with EVDO Rev 0 to support simultaneous transmission capabilities. SAR for Subtype 2 Physical layer configurations was not required for Rev. A when the maximum average output is less than that measured in Subtype 0/1 Physical layer configurations.
4. Head and Body-worn SAR were additionally evaluated for EVDO to support simultaneous transmission scenarios with a CDMA Voice Call.

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 evaluated independently of position. General test procedures can be found in Section 9.3.3.
2. MPR is implemented for this device by the manufacturer when the transmit power is not limited by the power reduction mechanism. 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. Per FCC KDB Publication 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode, it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.

WLAN Notes:

1. Justification for reduced test configurations for WIFI channels per KDB Publication 248227 and April 2010 FCC/TCB Meeting Notes for 2.4 GHz WIFI: Highest average RF output power channel for the lowest data rate was selected for SAR evaluation in 802.11b. Other IEEE 802.11 modes (including 802.11g/n) were not investigated since the average output powers over all channels and data rates were not more than 0.25 dB higher than the tested channel in the lowest data rate of IEEE 802.11b mode.

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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 for 20 MHz and 40 MHz bandwidths) 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. WLAN transmission was verified using an uncalibrated spectrum analyzer.
4. Because the maximum extrapolated peak SAR of the zoom scan for the maximum output channel of the lowest data rate is <1.6 W/kg and the 1g averaged SAR is <0.8 W/kg for all bands and configurations, SAR testing on other channels was not required.
5. Per FCC KDB Publication 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode, it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.

GSM Test Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR using headphones.
2. Per FCC guidance, GPRS Data Mode is additionally required for body-worn configuration. Per KDB 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode, it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configurations additionally shows body-worn compliance at the same distance.
3. Justification for reduced test configurations per KDB Publication 941225 D03: The source-based time-averaged output power was evaluated for all multi-slot operations. In addition to the worst-case reported, all source-based time-averaged powers within 10% of the worst-case were additionally included in the evaluation for data modes.

Hotspot Notes:

1. Top and left edges for the CDMA 1x 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 1.3).
2. Top and right edges for the EVDO/LTE/GSM 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 1.3).
3. Bottom and left edges for the WLAN transmitter was not tested since the antenna distance from the edge was greater than 2.5 cm per FCC KDB Publication 941225 D06 (see Section 1.3).
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.)

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15 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

15.1 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.

15.2 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 15-1
Output Power Thresholds for Unlicensed Transmitters

	Individual Transmitter	Simultaneous Transmission
Licensed Transmitters	<u>Routine evaluation required</u>	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
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 – <u>Stand-alone SAR not required when</u> - output $\leq 2 \cdot P_{Ref}$ and antenna is ≥ 5.0 cm from other antennas - output $\leq P_{Ref}$ and antenna is ≥ 2.5 cm from other antennas - output $\leq P_{Ref}$ and antenna is < 2.5 cm from other antennas, each with either output power $\leq P_{Ref}$ or 1-g SAR < 1.2 W/kg <u>Otherwise stand-alone SAR is required</u> 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	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

Figure 15-2
SAR Evaluation Requirements for Multiple Transmitter Handsets

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15.3 Simultaneous Transmission Capabilities

According to Figure 15-1 and Figure 15-2, simultaneous transmission analysis of SAR may be required for this device for the two licensed and unlicensed transmitters. Possible simultaneous transmissions (between the two licensed transmitters and the unlicensed transmitter) for this device indicated in **Table 15-1** 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 2.4 GHz and 5 GHz WLAN were required. See Section 1.6(A) for more information.

Table 15-1
Possible Simultaneous Transmission Scenarios

Ref.	Simultaneous Transmit Configurations	Power Reduction	SAR Report Section	Head	Body-Worn Accessory	Hot Spot	Note
				IEEE 1528, Supp C	Supplement C	FCC KDB 941225 D06 edges/sides	
A	1X CDMA 850 Voice + LTE 782 MHz Data	LTE	Section 15.6	Table 15-7	Table 15-8	-	SVLTE
B	1X CDMA 1900 Voice + LTE 782 MHz Data			Table 15-7	Table 15-8	-	SVLTE
C	1X CDMA 850 Voice + EVDO 850 Data	EVDO	Section 15.7	Table 15-10	Table 15-11	-	SVDO
D	1X CDMA 850 Voice + EVDO 1900 Data			Table 15-10	Table 15-11	-	SVDO
E	1X CDMA 1900 Voice + EVDO 850 Data			Table 15-10	Table 15-11	-	SVDO
F	1X CDMA 1900 Voice + EVDO 1900 Data			Table 15-10	Table 15-11	-	SVDO
G	1X CDMA 850 Voice + 2.4 GHz WIFI	None	Section 15.4	Table 15-2	Table 15-4	-	
H	1X CDMA 850 Voice + 5 GHz WIFI			Table 15-3	Table 15-5	-	
I	1X CDMA 1900 Voice + 2.4 GHz WIFI			Table 15-2	Table 15-4	-	
J	1X CDMA 1900 Voice + 5 GHz WIFI			Table 15-3	Table 15-5	-	
K	GSM850 Voice + 2.4 GHz WIFI			Table 15-2	Table 15-4	-	
L	GSM850 Voice + 5 GHz WIFI			Table 15-3	Table 15-5	-	
M	GSM1900 Voice + 2.4 GHz WIFI			Table 15-2	Table 15-4	-	
N	GSM1900 Voice + 5 GHz WIFI			Table 15-3	Table 15-5	-	
O	1X CDMA 850 Voice + LTE 782 MHz Data + 2.4 GHz WIFI	LTE	Section 15.6	Table 15-7	Table 15-8	Table 15-9	Voice + LTE + WIFI Hotspot
P	1X CDMA 1900 Voice + LTE 782 MHz Data + 2.4 GHz WIFI			Table 15-7	Table 15-8	Table 15-9	Voice + LTE + WIFI Hotspot
Q	1X CDMA 850 Voice + EVDO 850 Data + 2.4 GHz WIFI	EVDO	Section 15.7	Table 15-10	Table 15-11	Table 15-12	Voice + EVDO + WIFI Hotspot
R	1X CDMA 1900 Voice + EVDO 850 Data + 2.4 GHz WIFI			Table 15-10	Table 15-11	Table 15-12	Voice + EVDO + WIFI Hotspot
S	1X CDMA 850 Voice + EVDO 1900 Data + 2.4 GHz WIFI			Table 15-10	Table 15-11	Table 15-12	Voice + EVDO + WIFI Hotspot
T	1X CDMA 1900 Voice + EVDO 1900 Data + 2.4 GHz WIFI			Table 15-10	Table 15-11	Table 15-12	Voice + EVDO + WIFI Hotspot
U	1X CDMA 850 Data + 2.4 GHz WIFI	None	Section 15.5	-	-	Table 15-6	1X CDMA Data +WIFI Hotspot
V	1X CDMA 1900 Data + 2.4 GHz WIFI			-	-	Table 15-6	1X CDMA Data +WIFI Hotspot
W	EVDO 850 Data + 2.4 GHz WIFI			-	-	Table 15-6	EVDO+WIFI Hotspot
X	EVDO 1900 Data + 2.4 GHz WIFI			-	-	Table 15-6	EVDO+WIFI Hotspot
Y	LTE 782 MHz Data + 2.4 GHz WIFI			-	-	Table 15-6	LTE+WIFI Hotspot
Z	GPRS/EDGE 850 Data + 2.4 GHz WIFI			-	-	Table 15-6	GPRS/EDGE + WIFI Hotspot
AA	GPRS/EDGE 1900 Data + 2.4 GHz WIFI			-	-	Table 15-6	GPRS/EDGE + WIFI Hotspot

Note: The specific section report number and table number of the analysis of each condition is listed. The reference letters are included in the tables below.

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15.4 Voice + WIFI Simultaneous Transmission Analysis

Table 15-2
Simultaneous Transmission Scenario (Held to Ear)

Table 1-2 Simult Tx Ref.	Configuration	Cell. CDMA SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	Table 1-2 Simult Tx Ref.	Configuration	PCS CDMA SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
G	Target Power (dBm)	24.5	-		I	Target Power (dBm)	24.5	-	
	Reference	Table 14-1	Table 14-8			Reference	Table 14-2	Table 14-8	
	Right Cheek	0.230	0.052	0.282		Right Cheek	0.143	0.052	0.195
	Right Tilt	0.123	0.041	0.164		Right Tilt	0.057	0.041	0.098
	Left Cheek	0.201	0.101	0.302		Left Cheek	0.138	0.101	0.239
	Left Tilt	0.143	0.050	0.193		Left Tilt	0.050	0.050	0.100
Table 1-2 Simult Tx Ref.	Configuration	GSM 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	Table 1-2 Simult Tx Ref.	Configuration	GSM 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
K	Target Power (dBm)	33	-		M	Target Power (dBm)	29.5	-	
	Reference	Table 14-7	Table 14-8			Reference	Table 14-7	Table 14-8	
	Right Cheek	0.174	0.052	0.226		Right Cheek	0.089	0.052	0.141
	Right Tilt	0.132	0.041	0.173		Right Tilt	0.033	0.041	0.074
	Left Cheek	0.214	0.101	0.315		Left Cheek	0.061	0.101	0.162
	Left Tilt	0.147	0.050	0.197		Left Tilt	0.033	0.050	0.083

Table 15-3
Simultaneous Transmission Scenario (Held to Ear)

Table 1-2 Simult Tx Ref.	Configuration	Cell. CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	Table 1-2 Simult Tx Ref.	Configuration	PCS CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
H	Target Power (dBm)	24.5	-		J	Target Power (dBm)	24.5	-	
	Reference	Table 14-1	Table 14-9			Reference	Table 14-2	Table 14-9	
	Right Cheek	0.230	0.062	0.292		Right Cheek	0.143	0.062	0.205
	Right Tilt	0.123	0.063	0.186		Right Tilt	0.057	0.063	0.120
	Left Cheek	0.201	0.062	0.263		Left Cheek	0.138	0.062	0.200
	Left Tilt	0.143	0.072	0.215		Left Tilt	0.050	0.072	0.122
Table 1-2 Simult Tx Ref.	Configuration	GSM 850 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	Table 1-2 Simult Tx Ref.	Configuration	GSM 1900 SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
L	Target Power (dBm)	33	-		N	Target Power (dBm)	29.5	-	
	Reference	Table 14-7	Table 14-9			Reference	Table 14-7	Table 14-9	
	Right Cheek	0.174	0.062	0.236		Right Cheek	0.089	0.062	0.151
	Right Tilt	0.132	0.063	0.195		Right Tilt	0.033	0.063	0.096
	Left Cheek	0.214	0.062	0.276		Left Cheek	0.061	0.062	0.123
	Left Tilt	0.147	0.072	0.219		Left Tilt	0.033	0.072	0.105

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Table 15-4
Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)

Table 1-2 Simult Tx Ref.	Mode		CDMA SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
			Table 14-10	Table 14-14	
		Target Power (dBm)	Table 14-10	Table 14-14	
G	Cell. CDMA	24.5	0.367	0.219	0.586
I	PCS CDMA	24.5	0.934	0.219	1.153
Table 1-2 Simult Tx Ref.	Mode		GSM SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
			Table 14-13	Table 14-14	
		Target Power (dBm)	Table 14-13	Table 14-14	
K	GSM 850	33	0.365	0.219	0.584
M	GSM 1900	29.5	0.307	0.219	0.526

Table 15-5
Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)

Table 1-2 Simult Tx Ref.	Mode		CDMA SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
			Table 14-10	Table 14-14	
		Target Power (dBm)	Table 14-10	Table 14-14	
H	Cell. CDMA	24.5	0.367	0.267	0.634
J	PCS CDMA	24.5	0.934	0.267	1.201
Table 1-2 Simult Tx Ref.	Mode		GSM SAR (W/kg)	5 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
			Table 14-13	Table 14-14	
		Target Power (dBm)	Table 14-13	Table 14-14	
L	GSM 850	33	0.365	0.267	0.632
N	GSM 1900	29.5	0.307	0.267	0.574

15.5 Hotspot Simultaneous Transmission Analysis

Table 15-6
Simultaneous Transmission Scenario (Hotspot at 1.0 cm)

Table 1-2 Simult Tx Ref.	Configuration	Cell. CDMA SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	Table 1-2 Simult Tx Ref.	Configuration	PCS CDMA SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
	Target Power (dBm)	24.5	-			Target Power (dBm)	24.5	-	
U	Reference	Table 14-15	Table 14-20		V	Reference	Table 14-15	Table 14-20	
	Back	0.367	0.219	0.586		Back	0.934	0.219	1.153
	Front	0.261	0.025	0.286		Front	0.440	0.025	0.465
	Top	-	0.018	0.018		Top	-	0.018	0.018
	Bottom	0.171	-	0.171		Bottom	0.636	-	0.636
	Right	0.346	0.097	0.443		Right	0.102	0.097	0.199
	Left	-	-	0.000		Left	-	-	0.000
Table 1-2 Simult Tx Ref.	Configuration	Cell. EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	Table 1-2 Simult Tx Ref.	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
	Target Power (dBm)	24.5	-			Target Power (dBm)	24.5	-	
W	Reference	Table 14-16	Table 14-20		X	Reference	Table 14-16	Table 14-20	
	Back	0.417	0.219	0.636		Back	0.411	0.219	0.630
	Front	0.355	0.025	0.380		Front	0.391	0.025	0.416
	Top	-	0.018	0.018		Top	-	0.018	0.018
	Bottom	0.223	-	0.223		Bottom	0.206	-	0.206
	Right	-	0.097	0.097		Right	-	0.097	0.097
	Left	0.237	-	0.237		Left	0.257	-	0.257
Table 1-2 Simult Tx Ref.	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	Table 1-2 Simult Tx Ref.	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
	Target Power (dBm)	31	-			Target Power (dBm)	27.5	-	
Z	Reference	Table 14-19	Table 14-20		AA	Reference	Table 14-19	Table 14-20	
	Back	0.430	0.219	0.649		Back	0.374	0.219	0.593
	Front	0.351	0.025	0.376		Front	0.324	0.025	0.349
	Top	-	0.018	0.018		Top	-	0.018	0.018
	Bottom	0.519	-	0.519		Bottom	0.362	-	0.362
	Right	-	0.097	0.097		Right	-	0.097	0.097
	Left	0.618	-	0.618		Left	0.078	-	0.078
	Table 1-2 Simult Tx Ref.	Configuration	LTE Band 13 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)				
	Target Power (dBm)	23	-						
Y	Reference	Table 14-17	Table 14-20						
	Back	0.342	0.219	0.561					
	Front	0.199	0.025	0.224					
	Top	-	0.018	0.018					
	Bottom	0.125	-	0.125					
	Right	-	0.097	0.097					
	Left	0.091	-	0.091					

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

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15.6 SVLTE Simultaneous Transmission Scenario Analysis

Table 15-7
Simultaneous Transmission Scenario (Held to Ear)

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	Cell. CDMA SAR (W/kg)	LTE Band 13 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	
		Tx Ant	1	2	3	1+2	1+2+3
A,O	P $\geq$ 18	Target Power (dBm)	24.5	19	-	1+2	1+2+3
		Reference	Table 14-1	Table 14-6	Table 14-8		
		Right Cheek	0.230	0.030	0.052	0.260	0.312
		Right Tilt	0.123	0.014	0.041	0.137	0.178
		Left Cheek	0.201	0.046	0.101	0.247	0.348
		Left Tilt	0.143	0.020	0.050	0.163	0.213
	P < 18	Target Power (dBm)	18	23	-		
		Reference	Table 14-1	Table 14-5	Table 14-8		
		Right Cheek	0.045	0.062	0.052	0.107	0.159
		Right Tilt	0.020	0.024	0.041	0.044	0.085
		Left Cheek	0.038	0.097	0.101	0.135	0.236
		Left Tilt	0.021	0.039	0.050	0.060	0.110

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	PCS CDMA SAR (W/kg)	LTE Band 13 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	
		Tx Ant	1	2	3	1+2	1+2+3
B,P	P $\geq$ 18	Target Power (dBm)	24.5	19	-	1+2	1+2+3
		Reference	Table 14-2	Table 14-6	Table 14-8		
		Right Cheek	0.143	0.030	0.052	0.173	0.225
		Right Tilt	0.057	0.014	0.041	0.071	0.112
		Left Cheek	0.138	0.046	0.101	0.184	0.285
		Left Tilt	0.050	0.020	0.050	0.070	0.120
	P < 18	Target Power (dBm)	18	23	-		
		Reference	Table 14-2	Table 14-5	Table 14-8		
		Right Cheek	0.040	0.062	0.052	0.102	0.154
		Right Tilt	0.014	0.024	0.041	0.038	0.079
		Left Cheek	0.026	0.097	0.101	0.123	0.224
		Left Tilt	0.011	0.039	0.050	0.050	0.100

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Table 15-8
Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Mode	CDMA SAR (W/kg)	LTE Band 13 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	
			1	2	3	1+2	1+2+3
		Reference	Table 14-10	Table 14-12	Table 14-14		
		Target Power (dBm)	24.5	19	-		
A, O	P ≥ 18	Cell. CDMA	0.367	0.141	0.219	0.508	0.727
B, P		PCS CDMA	0.934	0.141	0.219	1.075	1.294
			Table 14-10	Table 14-12	Table 14-14		
			18	23	-		
A, O	P < 18	Cell. CDMA	0.133	0.342	0.219	0.475	0.694
B, P		PCS CDMA	0.297	0.342	0.219	0.639	0.858

Table 15-9
Simultaneous Transmission Scenario (Hotspot at 1.0 cm)

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	Cell. CDMA SAR (W/kg)	LTE Band 13 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
		Tx Ant	1	2	3	1+2+3
O	$P \geq 18$	Target Power (dBm)	24.5	19	-	
		Reference	Table 14-15	Table 14-18	Table 14-20	
		Back	0.367	0.141	0.219	0.727
		Front	0.261	0.085	0.025	0.371
		Top	-	-	0.018	0.018
		Bottom	0.171	0.056	-	0.227
		Right	0.346	-	0.097	0.443
		Left	-	0.045	-	0.045
	$P < 18$	Target Power (dBm)	18	23	-	
		Reference	Table 14-15	Table 14-17	Table 14-20	
		Back	0.133	0.342	0.219	0.694
		Front	0.062	0.199	0.025	0.286
		Top	-	-	0.018	0.018
		Bottom	0.107	0.125	-	0.232
		Right	0.016	-	0.097	0.113
		Left	-	0.091	-	0.091

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	PCS CDMA SAR (W/kg)	LTE Band 13 SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
		Tx Ant	1	2	3	1+2+3
P	P $\geq$ 18	Target Power (dBm)	24.5	19	-	1+2+3
		Reference	Table 14-15	Table 14-18	Table 14-20	
		Back	0.934	0.141	0.219	
		Front	0.440	0.085	0.025	
		Top	-	-	0.018	0.018
		Bottom	0.636	0.056	-	0.692
		Right	0.102	-	0.097	0.199
		Left	-	0.045	-	0.045
	P < 18	Target Power (dBm)	18	23	-	
		Reference	Table 14-15	Table 14-17	Table 14-20	
		Back	0.297	0.342	0.219	
		Front	0.137	0.199	0.025	
		Top	-	-	0.018	0.018
		Bottom	0.226	0.125	-	0.351
		Right	0.036	-	0.097	0.133
		Left	-	0.091	-	0.091

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

15.7 SVDO Simultaneous Transmission Scenario Analysis

Table 15-10
Simultaneous Transmission Scenario (Held to Ear)

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	Cell. CDMA SAR (W/kg)	Cell. EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	
		Tx Ant	1	2	3	1+2	1+2+3
C,Q	P $\geq$ 15	Target Power (dBm)	24.5	18.5	-	1+2	1+2+3
		Reference	Table 14-1	Table 14-3	Table 14-8		
		Right Cheek	0.230	0.031	0.052		
		Right Tilt	0.123	0.018	0.041	0.141	0.182
		Left Cheek	0.201	0.040	0.101	0.241	0.342
		Left Tilt	0.143	0.023	0.050	0.166	0.216
	P < 15	Target Power (dBm)	15	24.5	-		
		Reference	Table 14-1	Table 14-3	Table 14-8		
		Right Cheek	0.020	0.145	0.052	0.165	0.217
		Right Tilt	0.006	0.096	0.041	0.102	0.143
		Left Cheek	0.026	0.225	0.101	0.251	0.352
		Left Tilt	0.013	0.124	0.050	0.137	0.187

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Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	Cell. CDMA SAR (W/kg)	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	
		Tx Ant	1	2	3	1+2	1+2+3
D,S	$P \geq 15$	Target Power (dBm)	24.5	18.5	-	1+2	1+2+3
		Reference	Table 14-1	Table 14-4	Table 14-8		
		Right Cheek	0.230	0.034	0.052	0.264	0.316
		Right Tilt	0.123	0.034	0.041	0.157	0.198
		Left Cheek	0.201	0.072	0.101	0.273	0.374
		Left Tilt	0.143	0.027	0.050	0.170	0.220
	$P < 15$	Target Power (dBm)	15	24.5	-		
		Reference	Table 14-1	Table 14-4	Table 14-8		
		Right Cheek	0.020	0.179	0.052	0.199	0.251
		Right Tilt	0.006	0.152	0.041	0.158	0.199
		Left Cheek	0.026	0.348	0.101	0.374	0.475
		Left Tilt	0.013	0.126	0.050	0.139	0.189
Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	PCS CDMA SAR (W/kg)	Cell. EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	
		Tx Ant	1	2	3	1+2	1+2+3
E,R	$P \geq 15$	Target Power (dBm)	24.5	18.5	-	1+2	1+2+3
		Reference	Table 14-2	Table 14-3	Table 14-8		
		Right Cheek	0.143	0.031	0.052	0.174	0.226
		Right Tilt	0.057	0.018	0.041	0.075	0.116
		Left Cheek	0.138	0.040	0.101	0.178	0.279
		Left Tilt	0.050	0.023	0.050	0.073	0.123
	$P < 15$	Target Power (dBm)	15	24.5	-		
		Reference	Table 14-2	Table 14-3	Table 14-8		
		Right Cheek	0.020	0.145	0.052	0.165	0.217
		Right Tilt	0.006	0.096	0.041	0.102	0.143
		Left Cheek	0.012	0.225	0.101	0.237	0.338
		Left Tilt	0.007	0.124	0.050	0.131	0.181

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Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	PCS CDMA SAR (W/kg)	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	
		Tx Ant	1	2	3	1+2	1+2+3
F,T	$P \geq 15$	Target Power (dBm)	24.5	18.5	-	1+2	1+2+3
		Reference	Table 14-2	Table 14-4	Table 14-8		
		Right Cheek	0.143	0.034	0.052		
		Right Tilt	0.057	0.034	0.041	0.091	0.132
		Left Cheek	0.138	0.072	0.101	0.210	0.311
		Left Tilt	0.050	0.027	0.050	0.077	0.127
	$P < 15$	Target Power (dBm)	15	24.5	-		
		Reference	Table 14-2	Table 14-4	Table 14-8		
		Right Cheek	0.020	0.179	0.052	0.199	0.251
		Right Tilt	0.006	0.152	0.041	0.158	0.199
		Left Cheek	0.012	0.348	0.101	0.360	0.461
		Left Tilt	0.007	0.126	0.050	0.133	0.183

Table 15-11
Simultaneous Transmission Scenario (Body-Worn at 1.0 cm)

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Mode	CDMA SAR (W/kg)	Cell. EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)	
			1	2	3	1+2	1+2+3
C,Q E,R	$P \geq 15$	Reference	Table 14-10	Table 14-11	Table 14-14	1+2	1+2+3
		Target Power (dBm)	24.5	18.5	-		
		Cell. CDMA	0.367	0.092	0.219	0.459	0.678
		PCS CDMA	0.934	0.092	0.219	1.026	1.245
		Reference	Table 14-10	Table 14-11	Table 14-14		
		Target Power (dBm)	15	24.5	-		
C,Q E,R	$P < 15$	Cell. CDMA	0.054	0.417	0.219	0.471	0.690
		PCS CDMA	0.127	0.417	0.219	0.544	0.763
D,S F,T	$P \geq 15$	Reference	Table 14-10	Table 14-11	Table 14-14	1+2	1+2+3
		Target Power (dBm)	24.5	18.5	-		
		Cell. CDMA	0.367	0.087	0.219	0.454	0.673
		PCS CDMA	0.934	0.087	0.219	1.021	1.240
		Reference	Table 14-10	Table 14-11	Table 14-14		
		Target Power (dBm)	15	24.5	-		
D,S F,T	$P < 15$	Cell. CDMA	0.054	0.411	0.219	0.465	0.684
		PCS CDMA	0.127	0.411	0.219	0.538	0.757

Table 15-12
Simultaneous Transmission Scenario (Hotspot at 1.0 cm)

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	Cell. CDMA SAR (W/kg)	Cell. EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
		Tx Ant	1	2	3	
Q	P ≥ 15	Target Power (dBm)	24.5	18.5	-	1+2+3
		Reference	Table 14-15	Table 14-16	Table 14-20	
		Back	0.367	0.092	0.219	0.678
		Front	0.261	0.084	0.025	0.370
		Top	-	-	0.018	0.018
		Bottom	0.171	0.048	-	0.219
		Right	0.346	-	0.097	0.443
		Left	-	0.041	-	0.041
	P < 15	Target Power (dBm)	15	24.5	-	
		Reference	Table 14-15	Table 14-16	Table 14-20	
		Back	0.054	0.417	0.219	0.690
		Front	0.038	0.355	0.025	0.418
		Top	-	-	0.018	0.018
		Bottom	0.009	0.223	-	0.232
		Right	0.034	-	0.097	0.131
		Left	-	0.237	-	0.237

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	Cell. CDMA SAR (W/kg)	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
		Tx Ant	1	2	3	
S	P ≥ 15	Target Power (dBm)	24.5	18.5	-	1+2+3
		Reference	Table 14-15	Table 14-16	Table 14-20	
		Back	0.367	0.087	0.219	0.673
		Front	0.261	0.085	0.025	0.371
		Top	-	-	0.018	0.018
		Bottom	0.171	0.053	-	0.224
		Right	0.346	-	0.097	0.443
		Left	-	0.057	-	0.057
	P < 15	Target Power (dBm)	15	24.5	-	
		Reference	Table 14-15	Table 14-16	Table 14-20	
		Back	0.054	0.411	0.219	0.684
		Front	0.038	0.391	0.025	0.454
		Top	-	-	0.018	0.018
		Bottom	0.009	0.206	-	0.215
		Right	0.034	-	0.097	0.131
		Left	-	0.257	-	0.257

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	PCS CDMA SAR (W/kg)	Cell. EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
		Tx Ant	1	2	3	1+2+3
R	P ≥ 15	Target Power (dBm)	24.5	18.5	-	
		Reference	Table 14-15	Table 14-16	Table 14-20	
		Back	0.934	0.092	0.219	1.245
		Front	0.440	0.084	0.025	0.549
		Top	-	-	0.018	0.018
		Bottom	0.636	0.048	-	0.684
		Right	0.102	-	0.097	0.199
		Left	-	0.041	-	0.041
	P < 15	Target Power (dBm)	15	24.5	-	
		Reference	Table 14-15	Table 14-16	Table 14-20	
		Back	0.127	0.417	0.219	0.763
		Front	0.063	0.355	0.025	0.443
		Top	-	-	0.018	0.018
		Bottom	0.128	0.223	-	0.351
		Right	0.017	-	0.097	0.114
		Left	-	0.237	-	0.237

Table 1-2 Simult Tx Ref.	CDMA Power Level (dBm)	Configuration	PCS CDMA SAR (W/kg)	PCS EVDO SAR (W/kg)	2.4 GHz WLAN SAR (W/kg)	Σ SAR (W/kg)
		Tx Ant	1	2	3	1+2+3
T	P ≥ 15	Target Power (dBm)	24.5	18.5	-	
		Reference	Table 14-15	Table 14-16	Table 14-20	
		Back	0.934	0.087	0.219	1.240
		Front	0.440	0.085	0.025	0.550
		Top	-	-	0.018	0.018
		Bottom	0.636	0.053	-	0.689
		Right	0.102	-	0.097	0.199
		Left	-	0.057	-	0.057
	P < 15	Target Power (dBm)	15	24.5	-	
		Reference	Table 14-15	Table 14-16	Table 14-20	
		Back	0.127	0.411	0.219	0.757
		Front	0.063	0.391	0.025	0.479
		Top	-	-	0.018	0.018
		Bottom	0.128	0.206	-	0.334
		Right	0.017	-	0.097	0.114
		Left	-	0.257	-	0.257

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

15.8 Simultaneous Transmission Conclusion

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

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16 EQUIPMENT LIST

Equipment List from 2/20/2012 to 3/23/2012

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
SPEAG	ES3DV3	SAR Probe	3/24/2011	Annual	3/24/2012	3213
Agilent	8648D	Signal Generator	4/5/2011	Annual	4/5/2012	3629U00687
Rohde & Schwarz	SMIQ03B	Signal Generator	4/6/2011	Annual	4/6/2012	DE27259
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/8/2011	Annual	4/8/2012	MY45470194
Rohde & Schwarz	CMU200	Base Station Simulator	4/19/2011	Annual	4/19/2012	107826
Agilent	8753E	(30kHz-6GHz) Network Analyzer	4/21/2011	Annual	4/21/2012	JP38020182
Agilent	E5515C	Wireless Communications Tester	4/21/2011	Annual	4/21/2012	US41140256
VWR	36934-158	Wall-Mounted Thermometer	5/26/2010	Biennial	5/26/2012	101718589
Rohde & Schwarz	CMU200	Base Station Simulator	6/1/2011	Annual	6/1/2012	833855/0010
Pasternack	PE2208-6	Bidirectional Coupler	6/3/2011	Annual	6/3/2012	N/A
Pasternack	PE2209-10	Bidirectional Coupler	6/3/2011	Annual	6/3/2012	N/A
SPEAG	D1900V2	1900 MHz SAR Dipole	7/22/2011	Annual	7/22/2012	5d080
SPEAG	D5GHZV2	5 GHz SAR Dipole	7/26/2011	Annual	7/26/2012	1007
SPEAG	EX3DV4	SAR Probe	7/27/2011	Annual	7/27/2012	3561
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	8/5/2011	Annual	8/5/2012	112347
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	8/25/2011	Annual	8/25/2012	100976
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/16/2011	Annual	9/16/2012	704
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	10/7/2011	Annual	10/7/2012	103962
Agilent	8648D	(9kHz-4GHz) Signal Generator	10/10/2011	Annual	10/10/2012	3613A00315
Agilent	E5515C	Wireless Communications Test Set	10/10/2011	Annual	10/10/2012	GB46110872
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
Anritsu	ML2438A	Power Meter	10/13/2011	Annual	10/13/2012	1070030
Anritsu	MA2411B	Pulse Sensor	10/13/2011	Annual	10/13/2012	1027293
Anritsu	ML2495A	Power Meter	10/13/2011	Annual	10/13/2012	1039008
Agilent	E5515C	Wireless Communications Test Set	10/14/2011	Annual	10/14/2012	GB41450275
Agilent	E5515C	Wireless Communications Test Set	10/20/2011	Annual	10/20/2012	GB46310798
SPEAG	D750V3	750 MHz Dipole	10/27/2011	Annual	10/27/2012	1046
SPEAG	DAE3	Dasy Data Acquisition Electronics	11/9/2011	Annual	11/9/2012	455
Anritsu	MT8820C	Radio Communication Tester	11/11/2011	Annual	11/11/2012	6200901190
SPEAG	ES3DV3	SAR Probe	11/18/2011	Annual	11/18/2012	3263
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	11/30/2011	Annual	11/30/2012	101699
Speag	DAK-3.5	Dielectric Assessment Kit	12/1/2011	Annual	12/1/2012	1031
SPEAG	D835V2	835 MHz SAR Dipole	12/21/2011	Annual	12/21/2012	4d119
VWR	36934-158	Wall-Mounted Thermometer	1/21/2011	Biennial	1/21/2013	111286445
SPEAG	D2450V2	2450 MHz SAR Dipole	1/24/2012	Annual	1/24/2013	797
Agilent	E5515C	Wireless Communications Test Set	2/9/2012	Annual	2/9/2013	GB43460554
Agilent	E5515C	Wireless Communications Test Set	2/12/2012	Annual	2/12/2013	GB45360985
Anritsu	MA2481A	Power Sensor	2/14/2012	Annual	2/14/2013	5318
Anritsu	MA2481A	Power Sensor	2/14/2012	Annual	2/14/2013	5442
Agilent	E5515C	Wireless Communications Test Set	2/14/2012	Annual	2/14/2013	GB43304447
Agilent	E5515C	Wireless Communications Test Set	2/14/2012	Annual	2/14/2013	GB43163447
Control Company	61220-416	Long-Stem Thermometer	2/15/2011	Biennial	2/15/2013	111331322
Control Company	61220-416	Long-Stem Thermometer	2/15/2011	Biennial	2/15/2013	111331323
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/20/2012	Annual	2/20/2013	649
Control Company	61220-416	Long-Stem Thermometer	3/16/2011	Biennial	3/16/2013	111391601
Rohde & Schwarz	NRVD	Dual Channel Power Meter	4/8/2011	Biennial	4/8/2013	101695
VWR	61220-416	Long stem thermometer	7/1/2011	Biennial	7/1/2013	111642916
VWR	61220-416	Long Stem Thermometer	7/1/2011	Biennial	7/1/2013	111642941
VWR	36934-158	Wall Thermometer	9/30/2011	Biennial	9/30/2013	111859323
VWR	36934-158	Wall Thermometer	9/30/2011	Biennial	9/30/2013	111859332
MiniCircuits	VLF-6000+	Low Pass Filter	CBT		CBT	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT		CBT	N/A
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT		CBT	N/A
Index SAR	IXTL-010	Dielectric Measurement Kit	N/A		N/A	N/A
Index SAR	IXTL-030	30MM TEM line for 6 GHz	N/A		N/A	N/A
Amplifier Research	5S1G4	5W, 800MHz-4.2GHz	CBT		CBT	21910
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT		CBT	N/A
MiniCircuits	SLP-2400+	Low Pass Filter	CBT		CBT	R897950903
Narda	4772-3	Attenuator (3dB)	CBT		CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT		CBT	120
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT		CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT		CBT	N/A
SPEAG	EX3DV4	SAR Probe	1/27/2012	Annual	1/27/2013	3589

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Equipment List from 5/8/2012 to 5/10/2012

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	85070E	Dielectric Probe Kit	3/8/2012	Annual	3/8/2013	MY44300633
Agilent	8648D	(9kHz-4GHz) Signal Generator	10/10/2011	Annual	10/10/2012	3613A00315
Agilent	8753E	(30kHz-6GHz) Network Analyzer	4/4/2012	Annual	4/4/2013	JP38020182
Agilent	E5515C	Wireless Communications Test Set	2/14/2012	Annual	2/14/2013	GB43304447
Agilent	E5515C	Wireless Communications Test Set	2/14/2012	Annual	2/14/2013	GB43163447
Amplifier Research	5S1G4	5W, 800MHz-4.2GHz	CBT		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	5821
Anritsu	MA2481A	Power Sensor	2/14/2012	Annual	2/14/2013	8013
Anritsu	ML2438A	Power Meter	10/13/2011	Annual	10/13/2012	1070030
Anritsu	ML2438A	Power Meter	2/14/2012	Annual	2/14/2013	98150041
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	AR85729-5/5759B	Solid State Amplifier	CBT		CBT	M3W1A00-1002
Control Company	36934-158	Wall-Mounted Thermometer	1/4/2012	Biennial	1/4/2014	122014497
Control Company	36934-158	Wall-Mounted Thermometer	1/4/2012	Biennial	1/4/2014	122014488
Control Company	61220-416	Long-Stem Thermometer	10/12/2011	Biennial	10/12/2013	111860775
Control Company	61220-416	Long-Stem Thermometer	10/12/2011	Biennial	10/12/2013	111860844
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
MCL	BW-N6W5+	6dB Attenuator	CBT		CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT		CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT		CBT	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT		CBT	N/A
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT		CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT		CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT		CBT	N/A
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT		CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT		CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT		CBT	120
Pasternack	PE2208-6	Bidirectional Coupler	6/3/2011	Annual	6/3/2012	N/A
Pasternack	PE2209-10	Bidirectional Coupler	6/3/2011	Annual	6/3/2012	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	6/1/2011	Annual	6/1/2012	833855/0010
Rohde & Schwarz	NRVD	Dual Channel Power Meter	4/8/2011	Biennial	4/8/2013	101695
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	D1900V2	1900 MHz SAR Dipole	2/22/2012	Annual	2/22/2013	502
SPEAG	D1900V2	1900 MHz SAR Dipole	2/22/2012	Annual	2/22/2013	5d149
SPEAG	D835V2	835 MHz SAR Dipole	8/15/2011	Annual	8/15/2012	4d026
SPEAG	DAE3	Dasy Data Acquisition Electronics	11/9/2011	Annual	11/9/2012	455
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/19/2011	Annual	5/19/2012	859
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/18/2012	Annual	1/18/2013	1272
Speag	DAK-3.5	Dielectric Assessment Kit	12/1/2011	Annual	12/1/2012	1031
SPEAG	ES3DV2	SAR Probe	8/25/2011	Annual	8/25/2012	3022
SPEAG	ES3DV3	SAR Probe	2/21/2012	Annual	2/21/2013	3258
SPEAG	EX3DV4	SAR Probe	7/27/2011	Annual	7/27/2012	3561
VWR	36934-158	Wall-Mounted Thermometer	5/26/2010	Biennial	5/26/2012	101718589
VWR	36934-158	Wall-Mounted Thermometer	1/21/2011	Biennial	1/21/2013	111286445

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

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17 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 _f 1gm	c _g 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
Expanded Uncertainty (95% CONFIDENCE LEVEL)							k=2	24.2	23.5

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

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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
Expanded Uncertainty (95% CONFIDENCE LEVEL)							k=2	24.7	24.0

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

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18 CONCLUSION

18.1 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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19 REFERENCES

- [1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Aug. 1996.
- [2] ANSI/IEEE C95.1-2005, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, 2006.
- [3] ANSI/IEEE C95.1-1992, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, Sept. 1992.
- [4] ANSI/IEEE C95.3-2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, December 2002.
- [5] Federal Communications Commission, OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01), Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, June 2001.
- [6] IEEE Standards Coordinating Committee 34 – IEEE Std. 1528-2003, Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices.
- [7] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for RadioFrequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.
- [8] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.
- [9] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 120-124.
- [10] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.
- [11] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.
- [12] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Head Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.
- [13] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.
- [14] G. Hartsgrrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectromagnetics, Canada: 1987, pp. 29-36.
- [15] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.
- [16] W. Gander, Computermathematick, Birkhaeuser, Basel, 1992.
- [17] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.
- [18] Federal Communications Commission, OET Bulletin 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields. Supplement C, Dec. 1997.

FCC ID: A3LSCHI535		SAR EVALUATION REPORT		Reviewed by: Quality Manager
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- [19] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.
- [20] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10kHz-300GHz, Jan. 1995.
- [21] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hochschule Zürich, Dosimetric Evaluation of the Cellular Phone.
- [22] IEC 62209-1, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz), Feb. 2005.
- [23] Industry Canada RSS-102 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 4, March 2010.
- [24] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2009
- [25] FCC Public Notice DA-02-1438. Office of Engineering and Technology Announces a Transition Period for the Phantom Requirements of Supplement C to OET Bulletin 65, June 19, 2002
- [26] FCC SAR Measurement Procedures for 3G Devices KDB Publication 941225
- [27] SAR Measurement procedures for IEEE 802.11a/b/g KDB Publication 248227
- [28] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publication 648474
- [29] FCC Application Note for SAR Probe Calibration and System Verification Consideration for Measurements at 150 MHz – 3 GHz, KDB Publication 450824
- [30] FCC SAR Evaluation Considerations for Laptop Computers with Antennas Built-in on Display Screens, KDB Publication 616217
- [31] FCC SAR Measurement Requirements for 3 – 6 GHz, KDB Publication 865664
- [32] FCC Mobile Portable RF Exposure Procedure, KDB Publication 447498
- [33] FCC SAR Procedures for Dongle Transmitters, KDB Publication 447498
- [34] Anexo à Resolução No. 533, de 10 de Setembro de 2009.
- [35] FCC SAR Test Considerations for LTE Handsets and Data Modems, KDB Publication 941225.
- [36] IEC 62209-2, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz), Mar. 2010.
- [37] FCC Hot Spot SAR v01, KDB Publication 941225 D06.

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APPENDIX A: SAR TEST DATA

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661

Communication System: LTE RF Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.921 \text{ mho/m}$; $\epsilon_r = 41.614$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: LTE Band 13, Right Head, Touch, Mid.ch

QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49

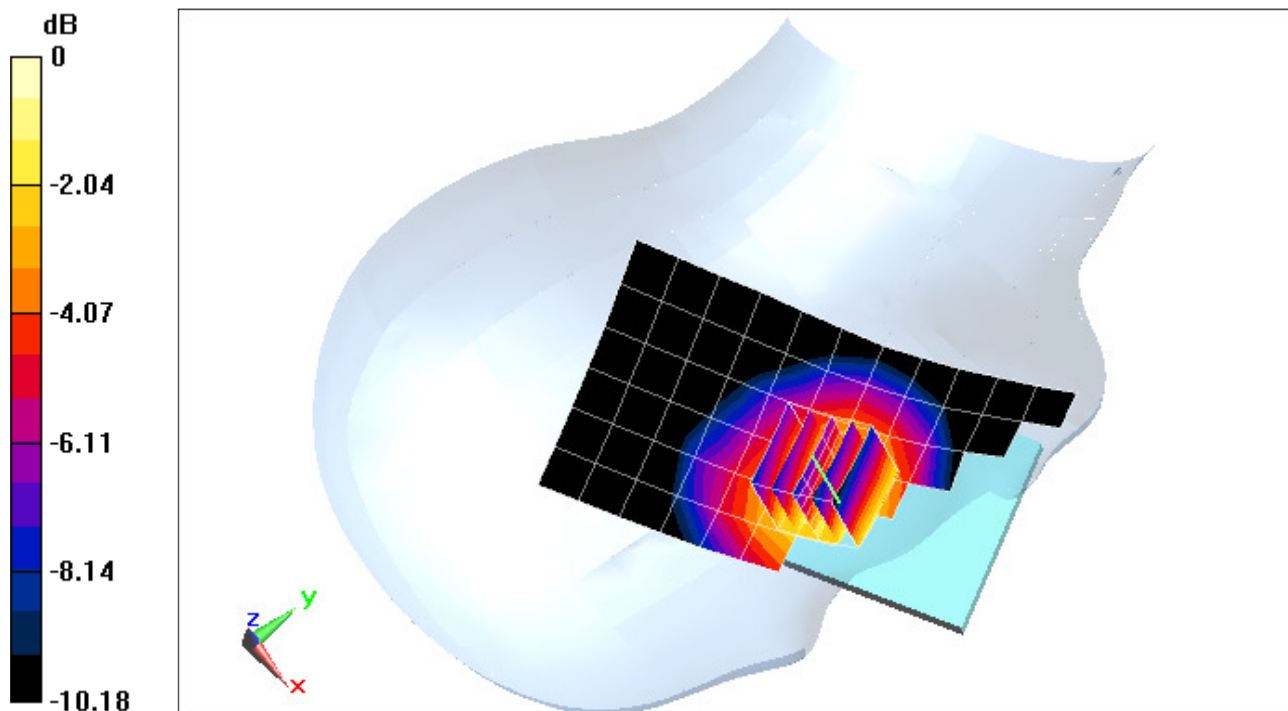
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.399 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.0810 W/kg

SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.047 mW/g



0 dB = 0.070mW/g = -23.10 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661

Communication System: LTE RF Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.921 \text{ mho/m}$; $\epsilon_r = 41.614$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: LTE Band 13, Right Head, Tilt, Mid. ch

QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49

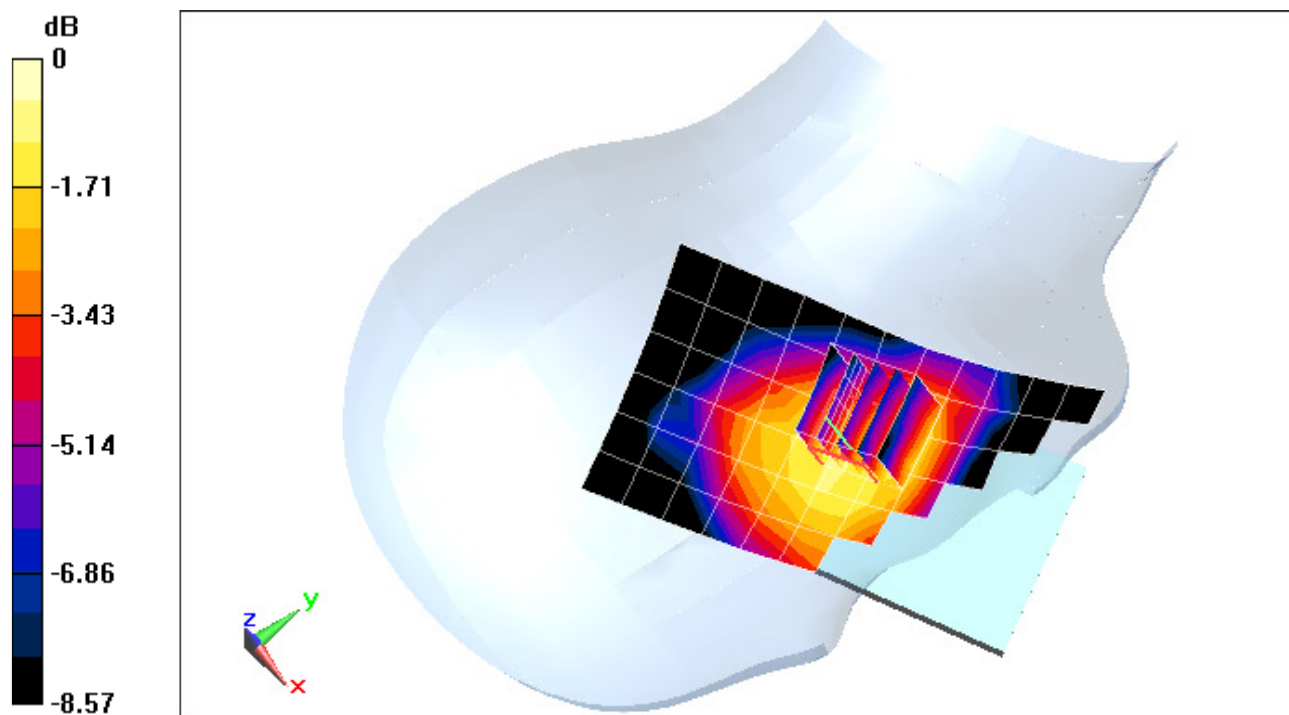
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.727 V/m; Power Drift = 0.092 dB

Peak SAR (extrapolated) = 0.0290 W/kg

SAR(1 g) = 0.024 mW/g; SAR(10 g) = 0.019 mW/g



0 dB = 0.030mW/g = -30.46 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661

Communication System: LTE RF Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.921 \text{ mho/m}$; $\epsilon_r = 41.614$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: LTE Band 13, Left Head, Touch, Mid.ch
QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 0

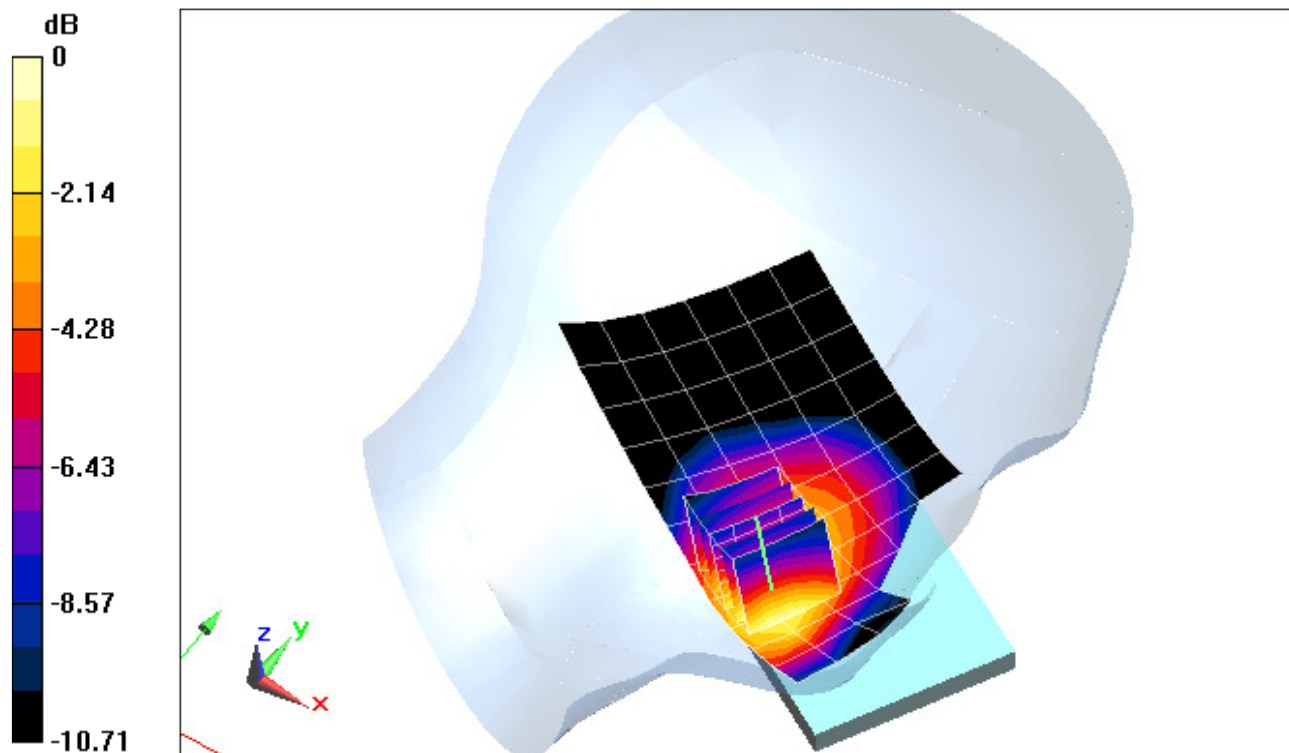
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.524 V/m; Power Drift = 0.0075 dB

Peak SAR (extrapolated) = 0.1360 W/kg

SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.067 mW/g



0 dB = 0.100mW/g = -20.00 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661

Communication System: LTE RF Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.921 \text{ mho/m}$; $\epsilon_r = 41.614$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: LTE Band 13, Left Head, Tilt, Mid. ch

QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49

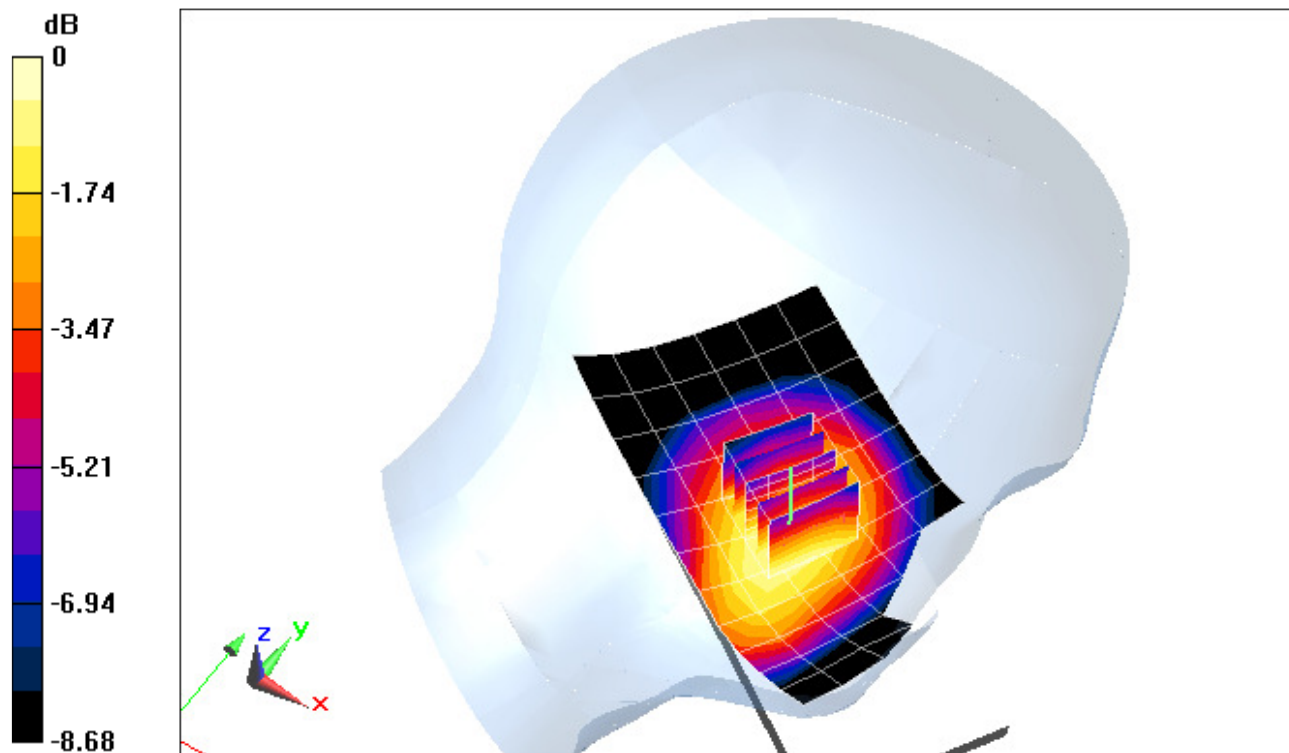
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.505 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.0480 W/kg

SAR(1 g) = 0.039 mW/g; SAR(10 g) = 0.031 mW/g



0 dB = 0.040mW/g = -27.96 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52$ MHz; $\sigma = 0.944$ mho/m; $\epsilon_r = 41.772$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: Cellular CDMA, Right Head, Touch, Mid.ch

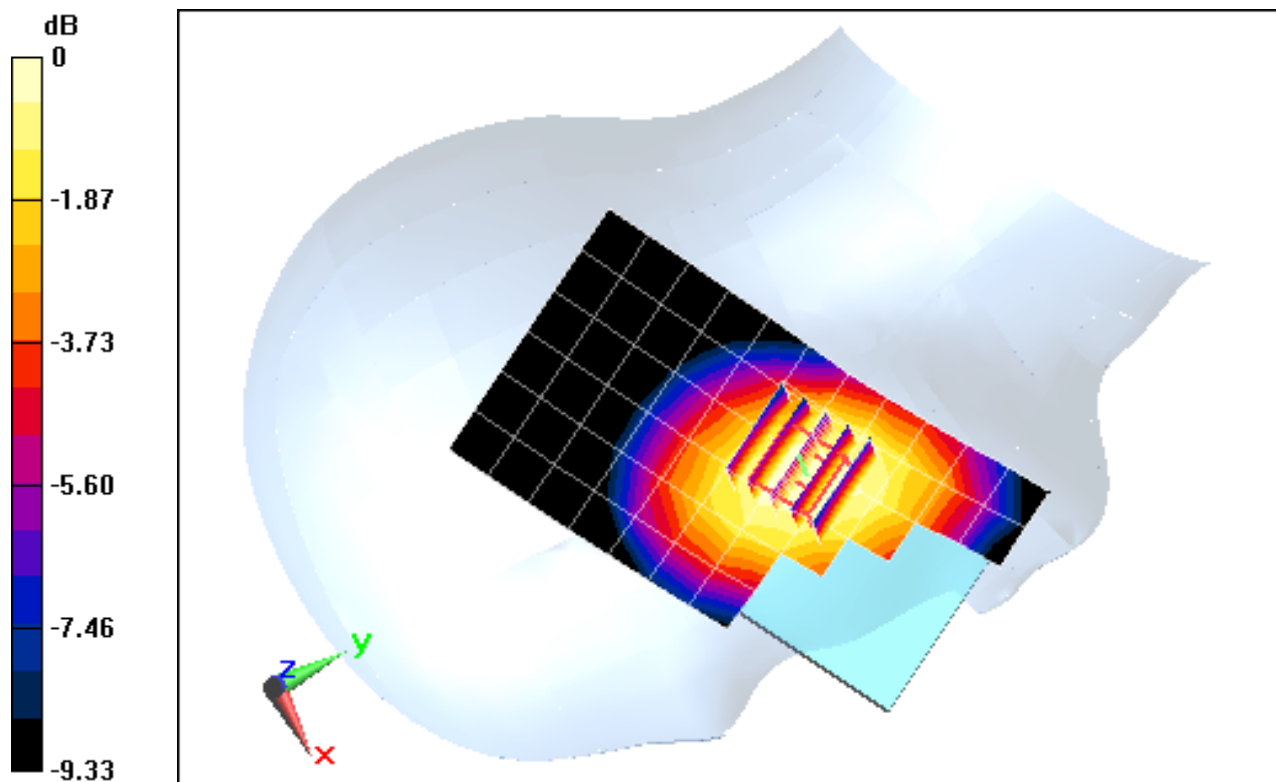
Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.896 V/m; Power Drift = 0.0018 dB

Peak SAR (extrapolated) = 0.2920 W/kg

SAR(1 g) = 0.230 mW/g; SAR(10 g) = 0.176 mW/g



0 dB = 0.240mW/g = -12.40 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52$ MHz; $\sigma = 0.944$ mho/m; $\epsilon_r = 41.772$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

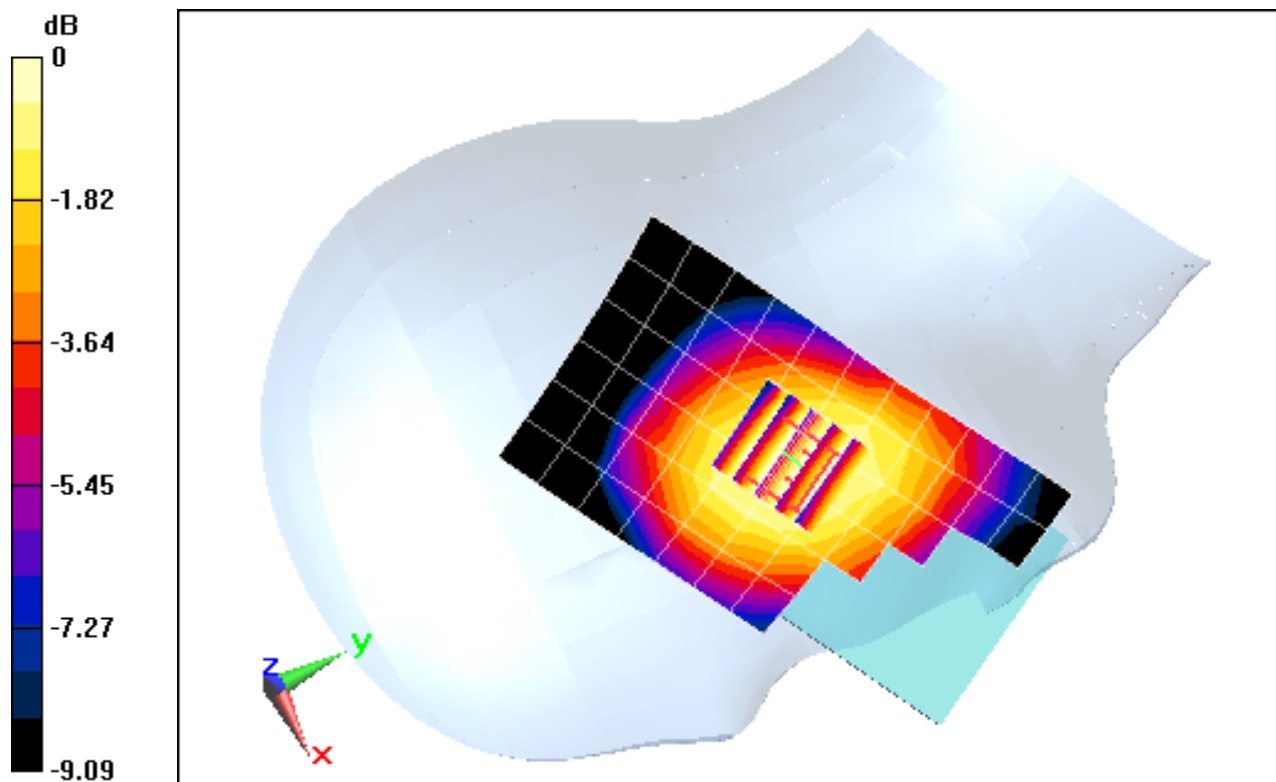
Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.650 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.1510 W/kg

SAR(1 g) = 0.123 mW/g; SAR(10 g) = 0.097 mW/g



0 dB = 0.130mW/g = -17.72 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head: Medium parameters used (interpolated):

$f = 836.52$ MHz; $\sigma = 0.944$ mho/m; $\epsilon_r = 41.772$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: Cellular CDMA, Left Head, Touch, Mid.ch

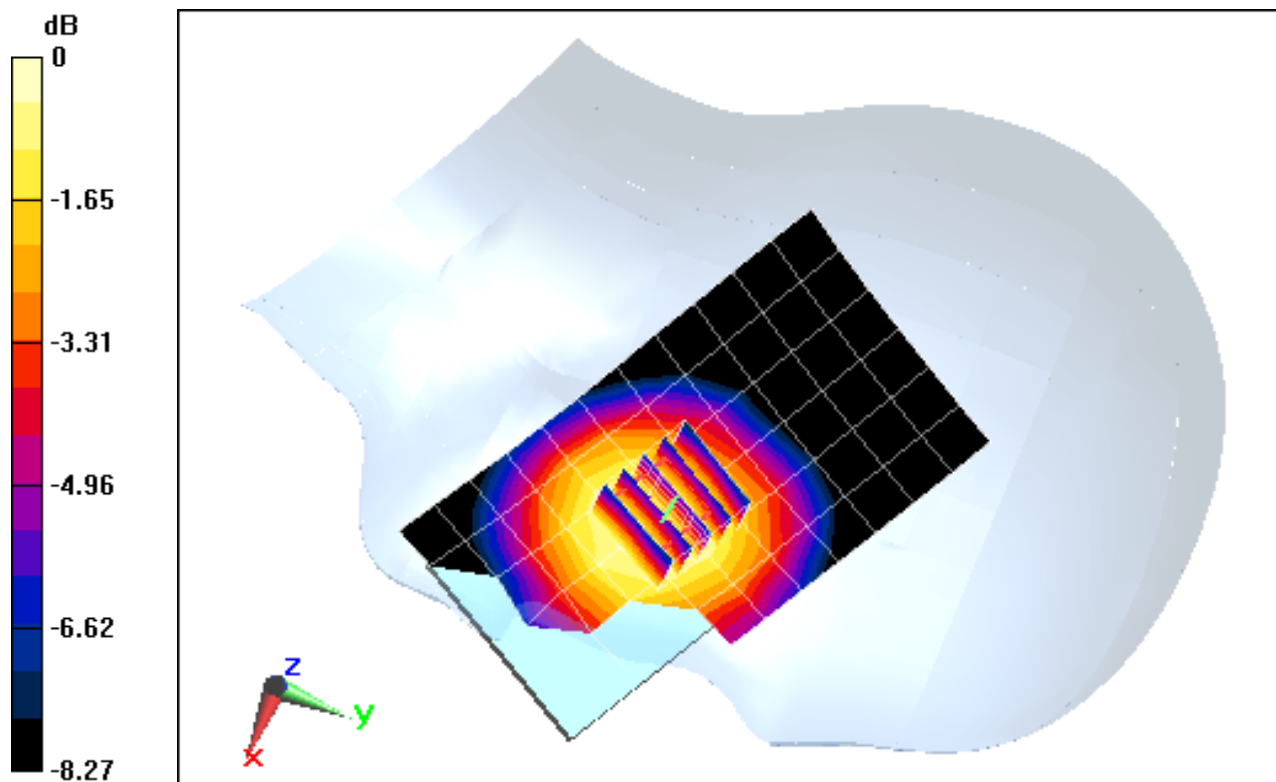
Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.782 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.2510 W/kg

SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.153 mW/g



0 dB = 0.210mW/g = -13.56 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.944 \text{ mho/m}$; $\epsilon_r = 41.772$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

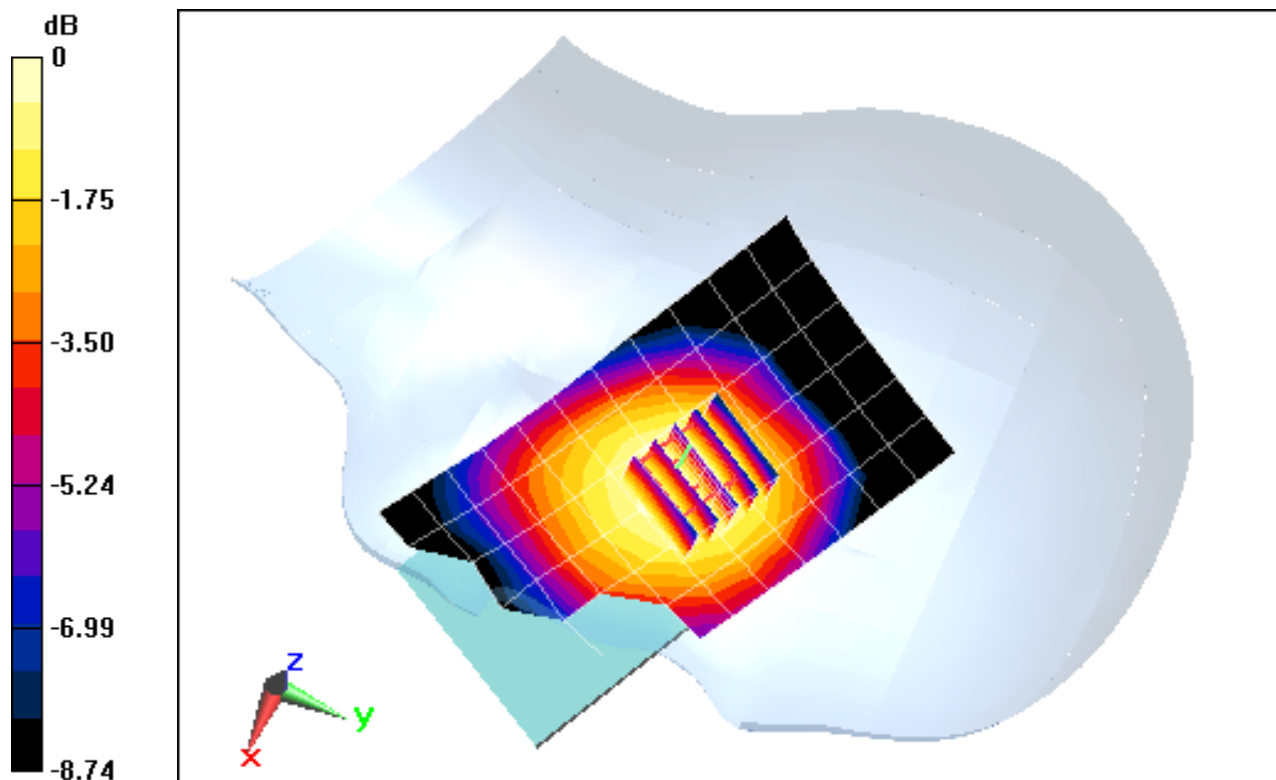
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.503 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.180 W/kg

SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.111 mW/g



0 dB = 0.150mW/g = -16.48 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.908 \text{ mho/m}$; $\epsilon_r = 39.985$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: Cellular EVDO, Right Head, Touch, Mid.ch

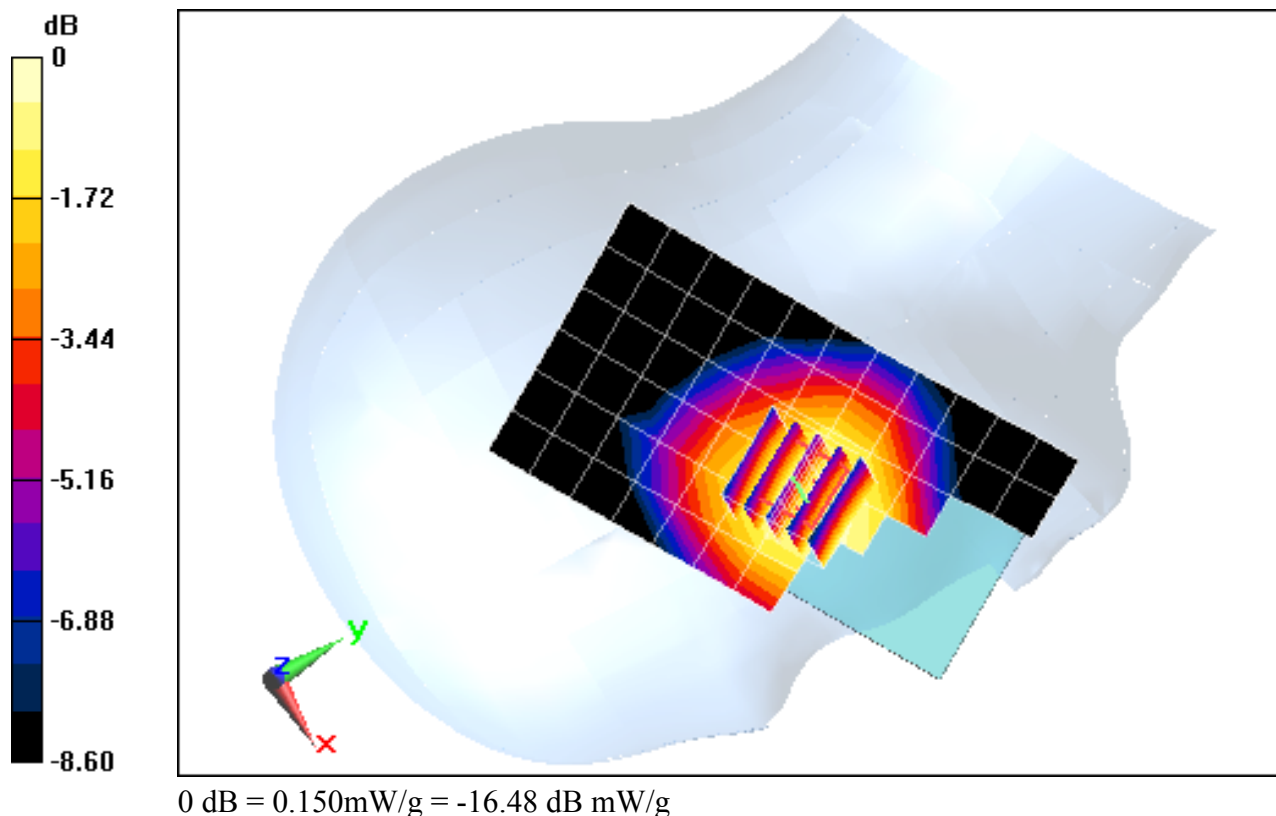
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.690 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.1780 W/kg

SAR(1 g) = 0.145 mW/g; SAR(10 g) = 0.112 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.908 \text{ mho/m}$; $\epsilon_r = 39.985$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: Cellular EVDO, Right Head, Tilt, Mid.ch

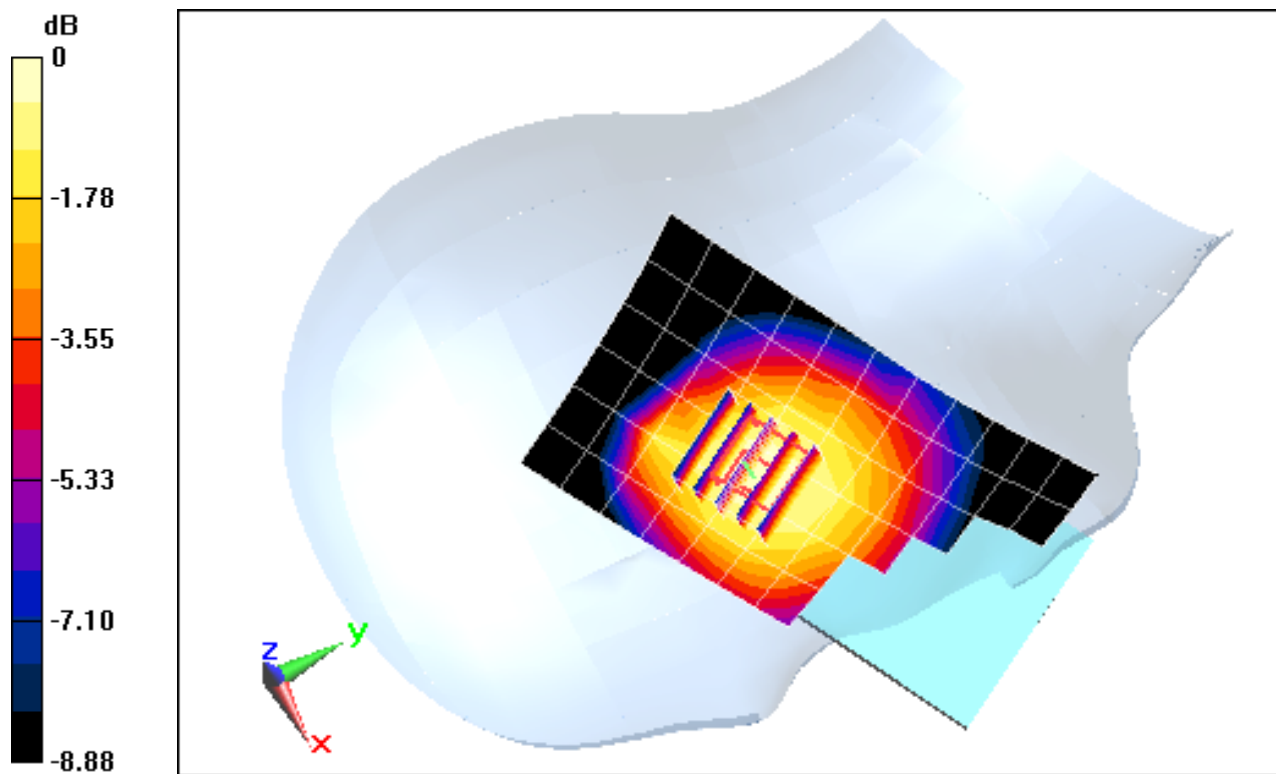
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.293 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.1250 W/kg

SAR(1 g) = 0.096 mW/g; SAR(10 g) = 0.072 mW/g



0 dB = 0.100mW/g = -20.00 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.908 \text{ mho/m}$; $\epsilon_r = 39.985$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: Cellular EVDO, Left Head, Touch, Mid.ch

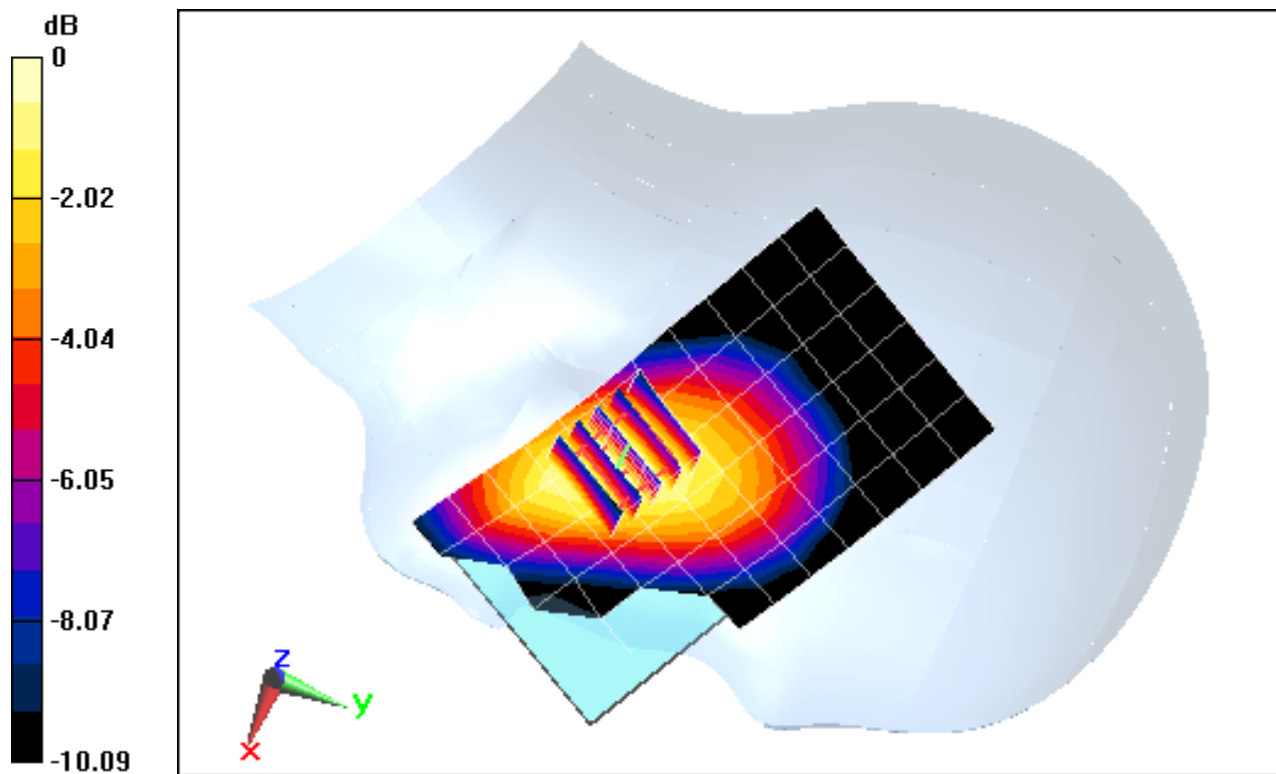
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.629 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.3060 W/kg

SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.159 mW/g



0 dB = 0.240mW/g = -12.40 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52$ MHz; $\sigma = 0.908$ mho/m; $\epsilon_r = 39.985$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: Cellular EVDO, Left Head, Tilt, Mid.ch

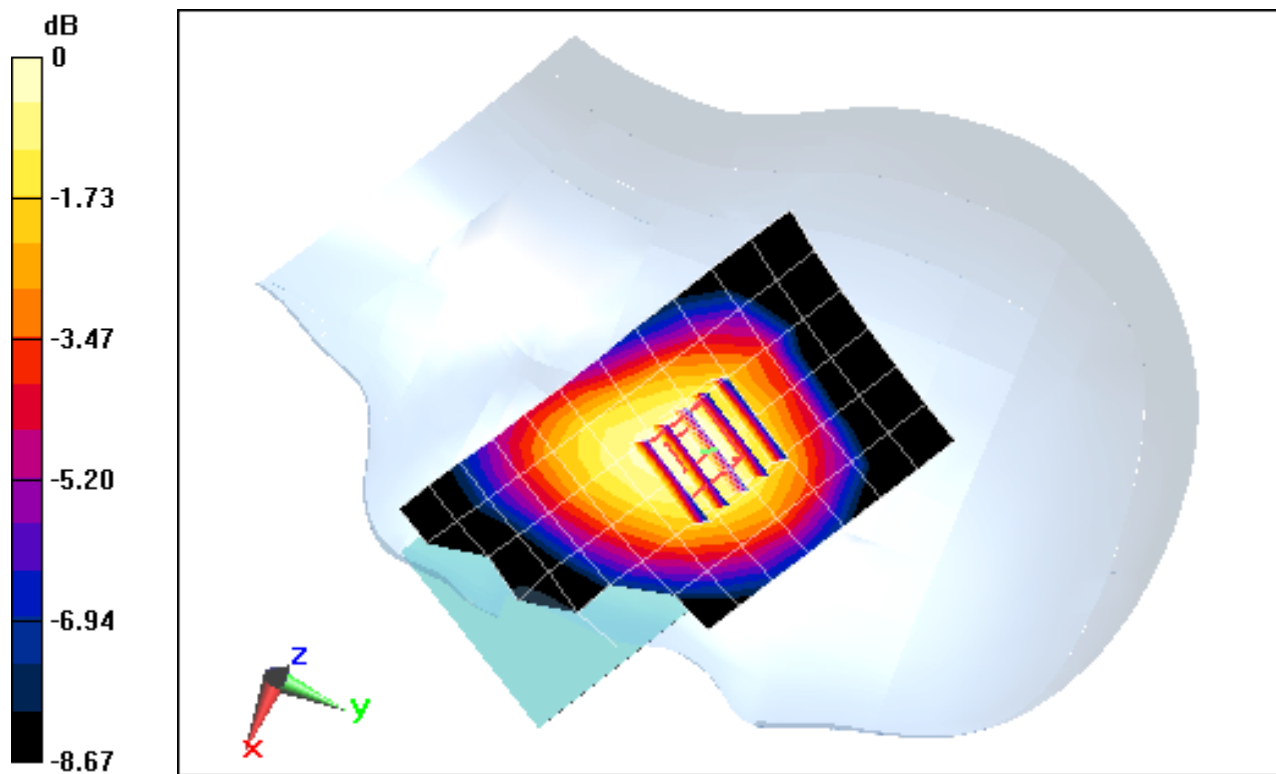
Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.779 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.1560 W/kg

SAR(1 g) = 0.124 mW/g; SAR(10 g) = 0.095 mW/g



0 dB = 0.130mW/g = -17.72 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.939 \text{ mho/m}$; $\epsilon_r = 39.964$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-10-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.6°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 14.6.4 (4989)

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

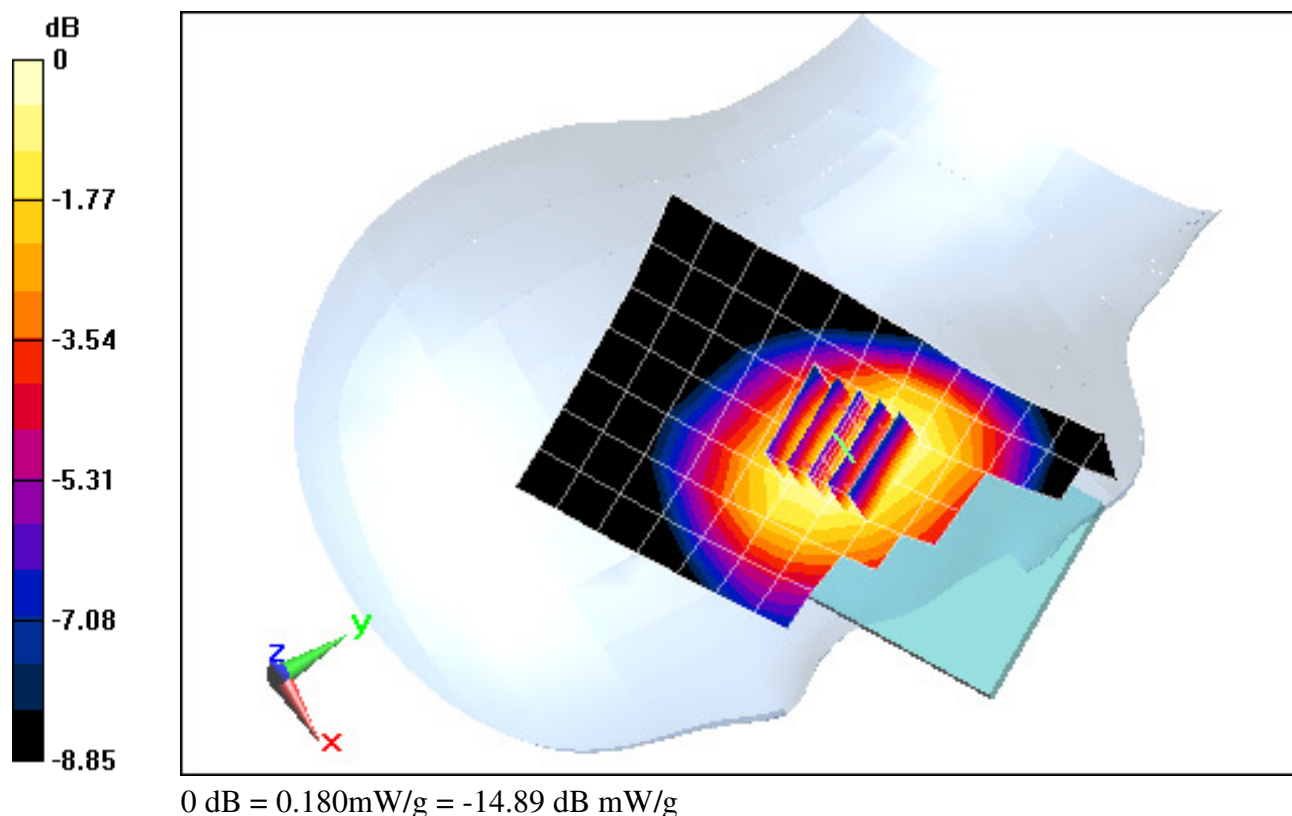
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.988 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.2140 W/kg

SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.131 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.939 \text{ mho/m}$; $\epsilon_r = 39.964$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-10-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.6°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 14.6.4 (4989)

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

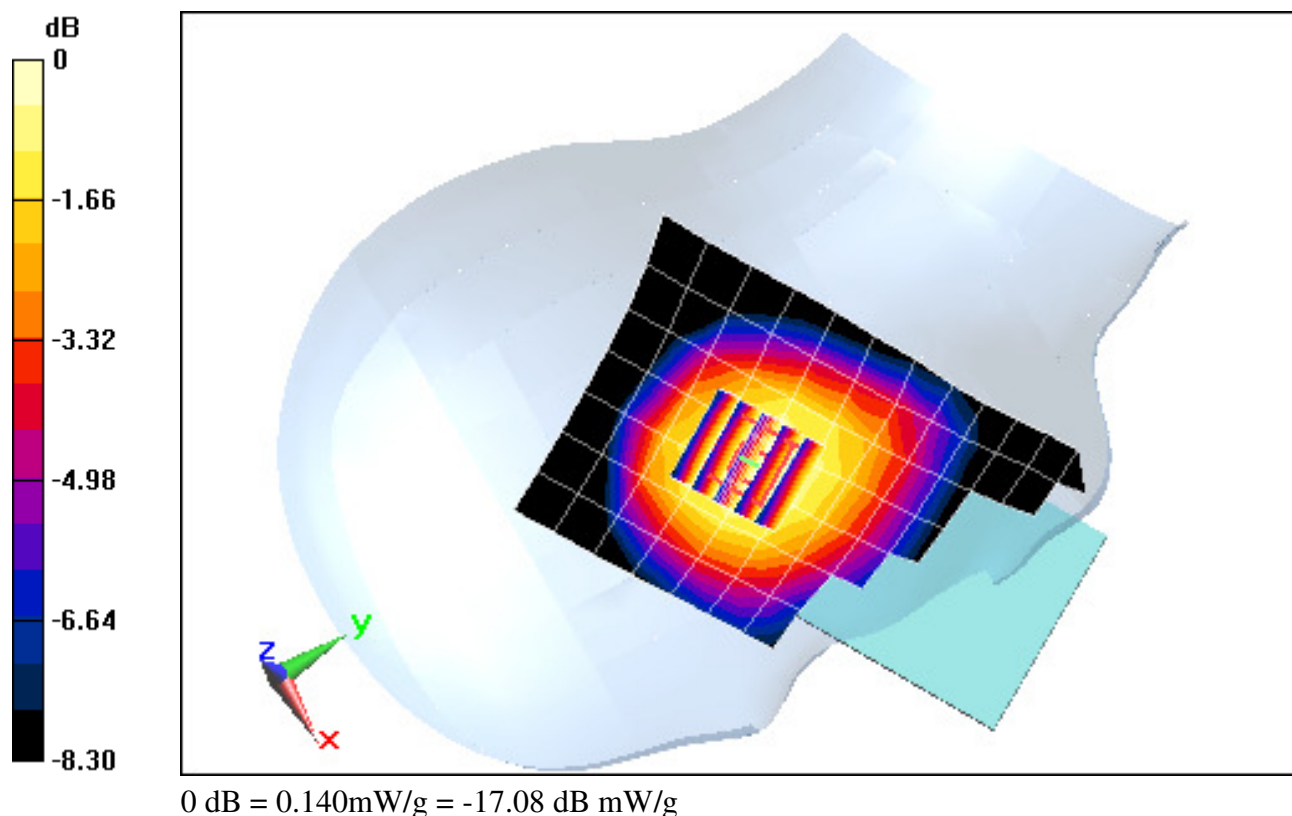
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.202 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.1610 W/kg

SAR(1 g) = 0.132 mW/g; SAR(10 g) = 0.101 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.939 \text{ mho/m}$; $\epsilon_r = 39.964$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-10-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.6°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 14.6.4 (4989)

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

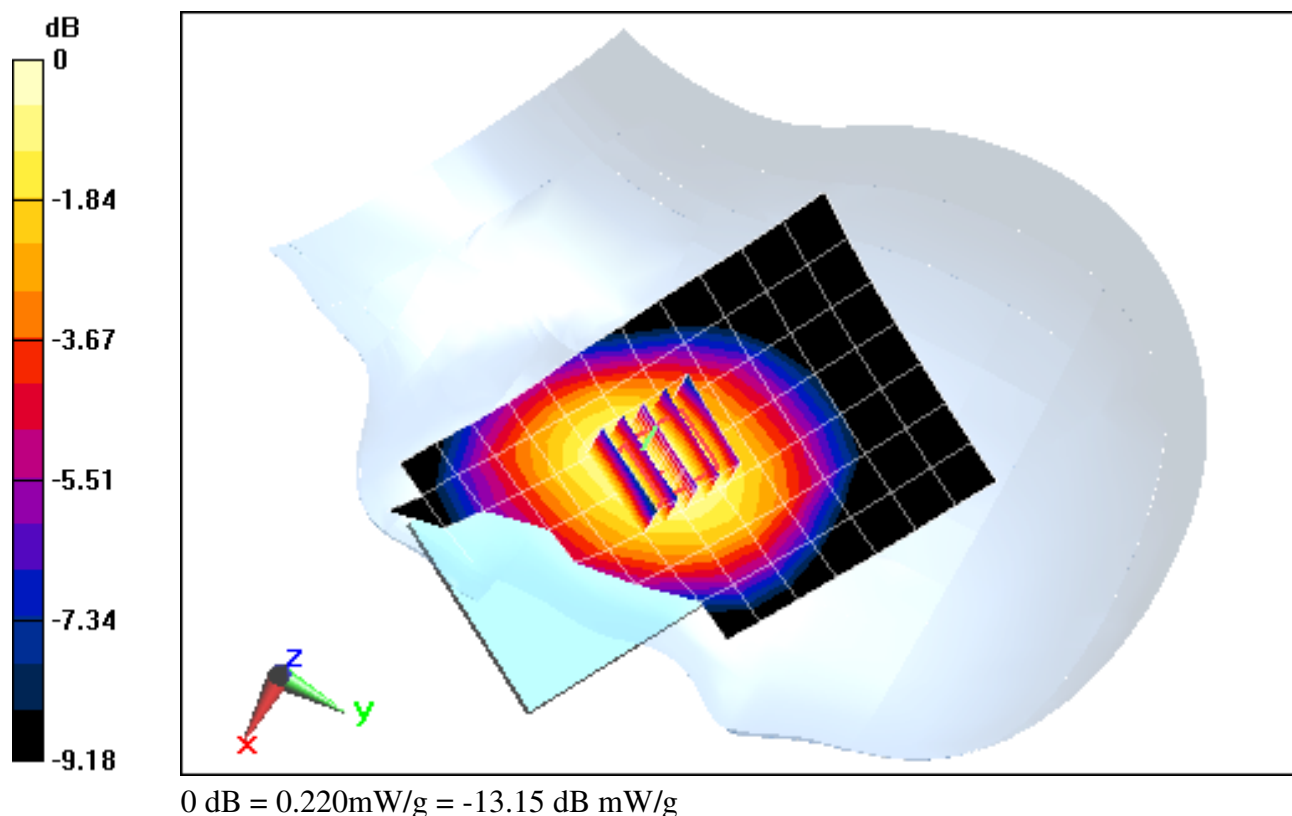
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.583 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.2640 W/kg

SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.165 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.939 \text{ mho/m}$; $\epsilon_r = 39.964$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-10-2012; Ambient Temp: 24.8°C; Tissue Temp: 23.6°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 14.6.4 (4989)

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

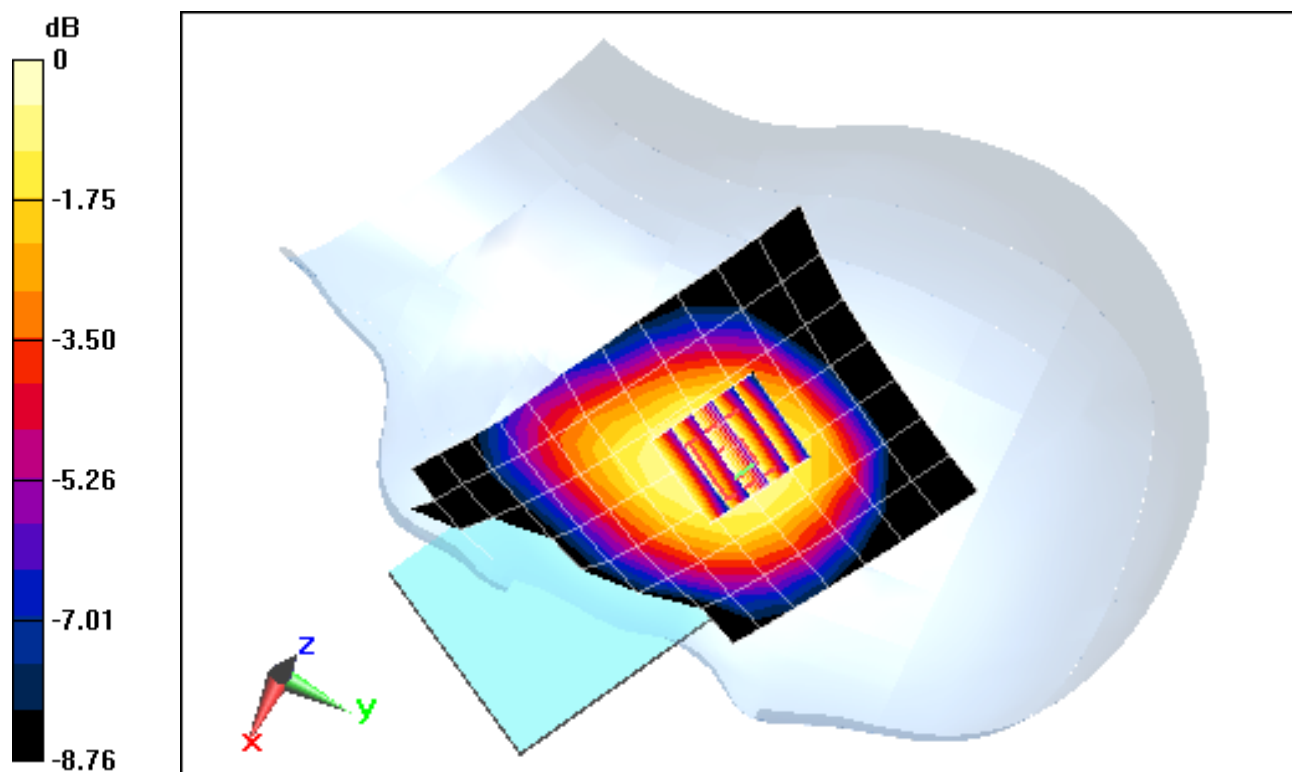
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.761 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.1790 W/kg

SAR(1 g) = 0.147 mW/g; SAR(10 g) = 0.113 mW/g



0 dB = 0.150mW/g = -16.48 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.391 \text{ mho/m}$; $\epsilon_r = 41.16$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-14-2012; Ambient Temp: 23.7°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: PCS CDMA, Right Head, Touch, Mid.ch

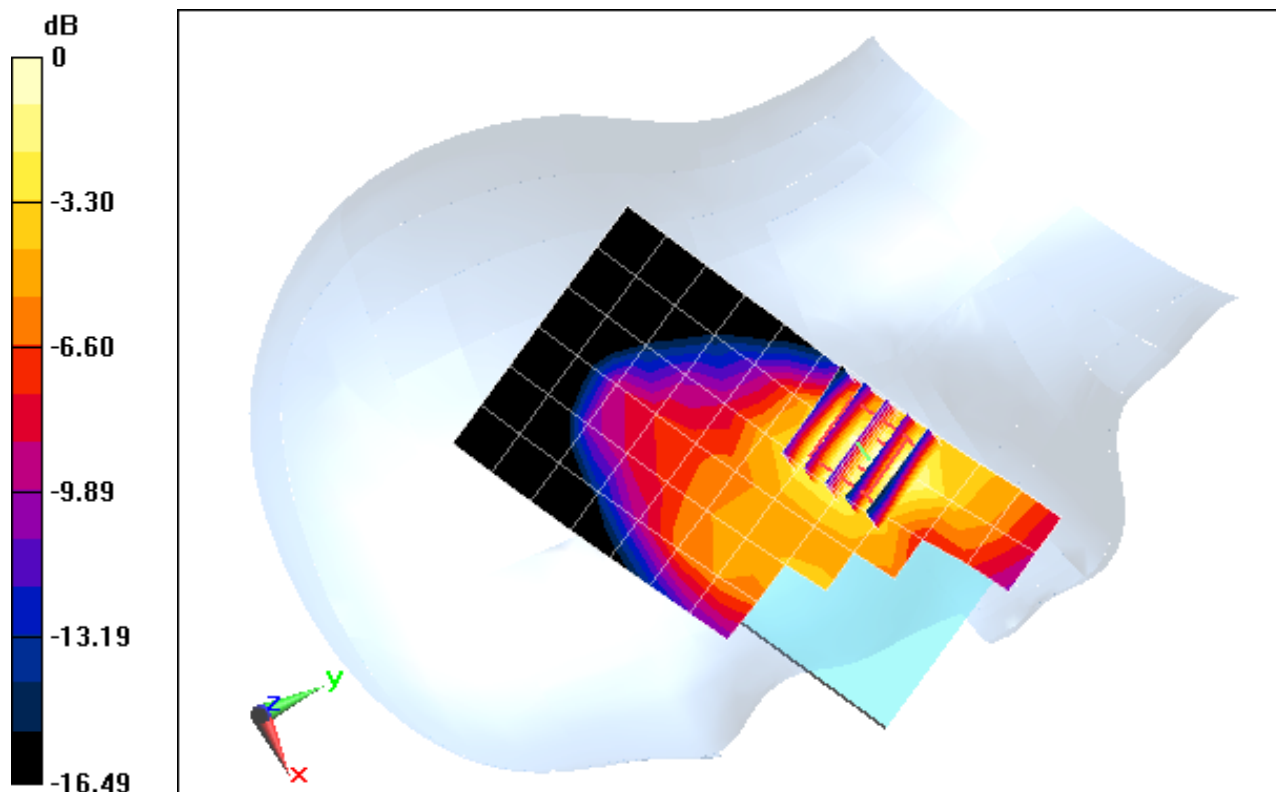
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.582 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.2120 W/kg

SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.088 mW/g



0 dB = 0.160mW/g = -15.92 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.391 \text{ mho/m}$; $\epsilon_r = 41.16$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-14-2012; Ambient Temp: 23.7°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

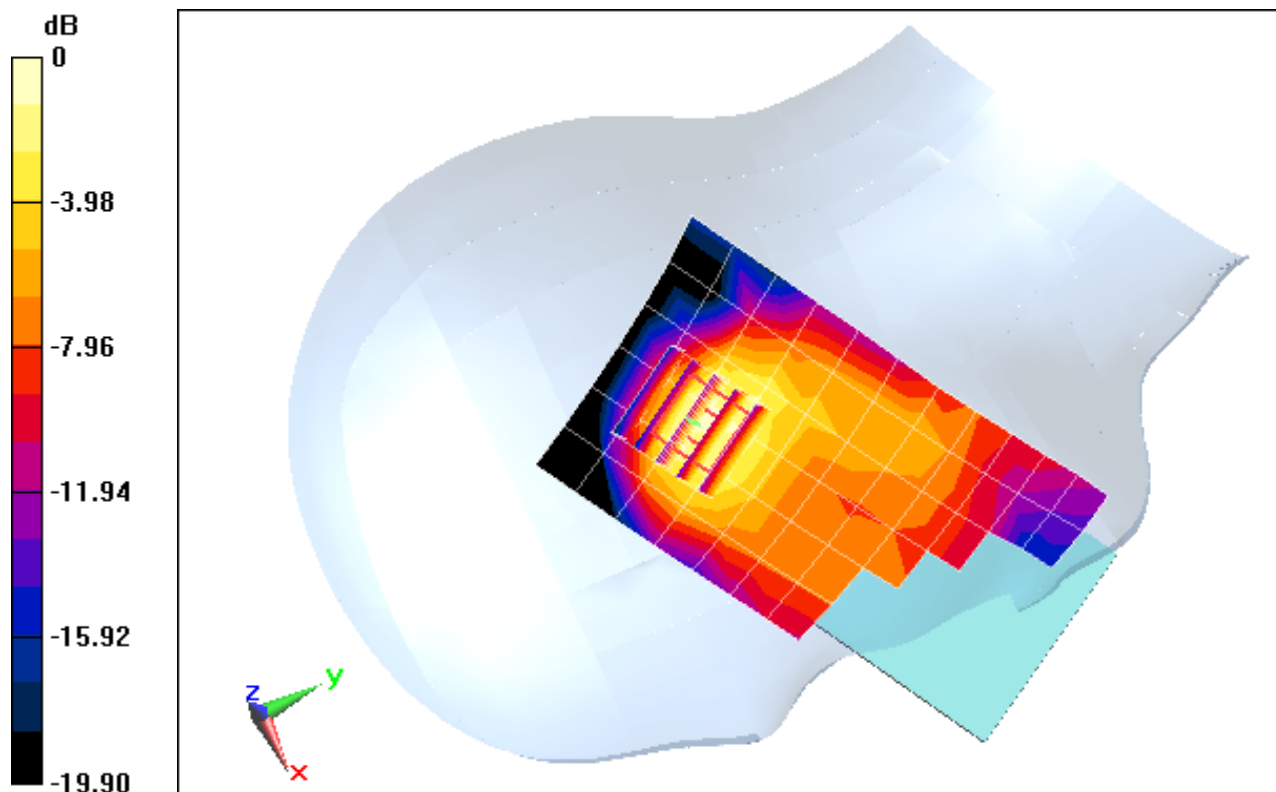
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.168 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.0910 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.032 mW/g



0 dB = 0.060mW/g = -24.44 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.391 \text{ mho/m}$; $\epsilon_r = 41.16$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-14-2012; Ambient Temp: 23.7°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: PCS CDMA, Left Head, Touch, Mid.ch

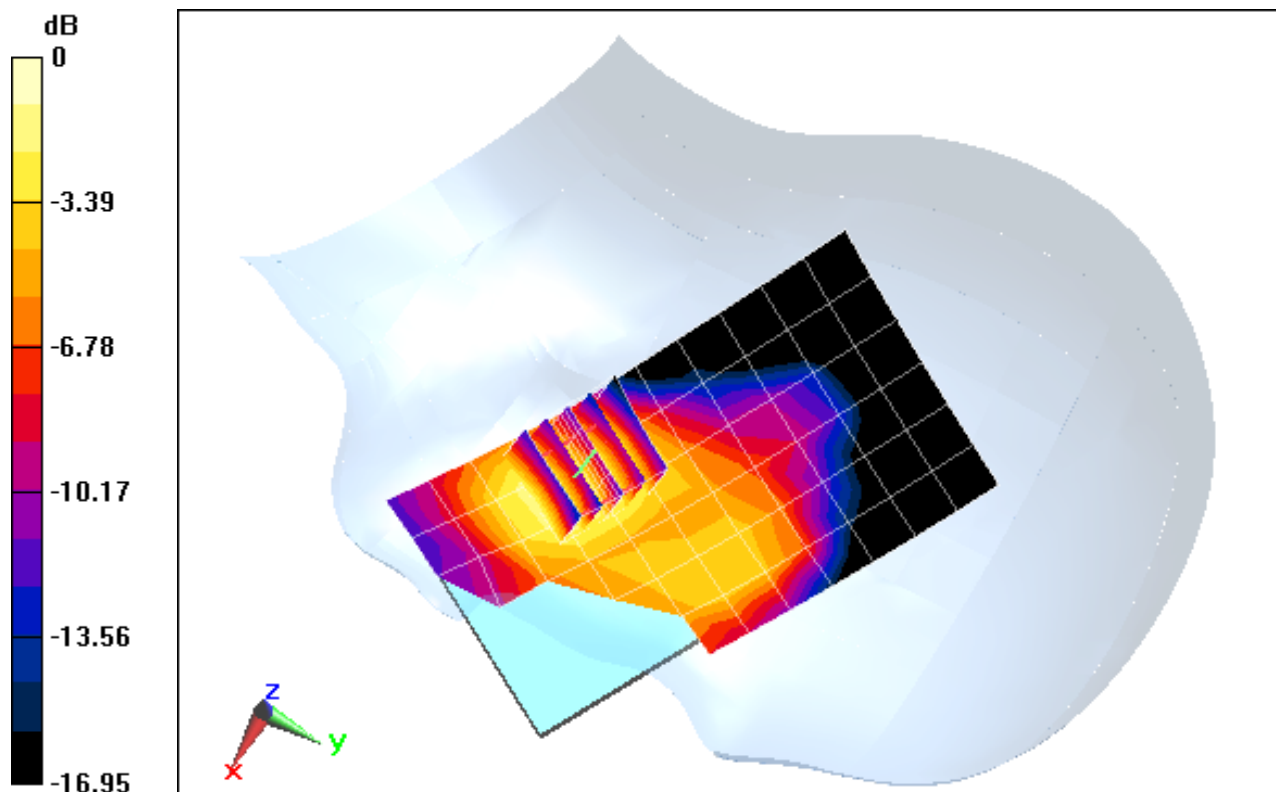
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.687 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.2160 W/kg

SAR(1 g) = 0.138 mW/g; SAR(10 g) = 0.085 mW/g



0 dB = 0.150mW/g = -16.48 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.391 \text{ mho/m}$; $\epsilon_r = 41.16$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-14-2012; Ambient Temp: 23.7°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

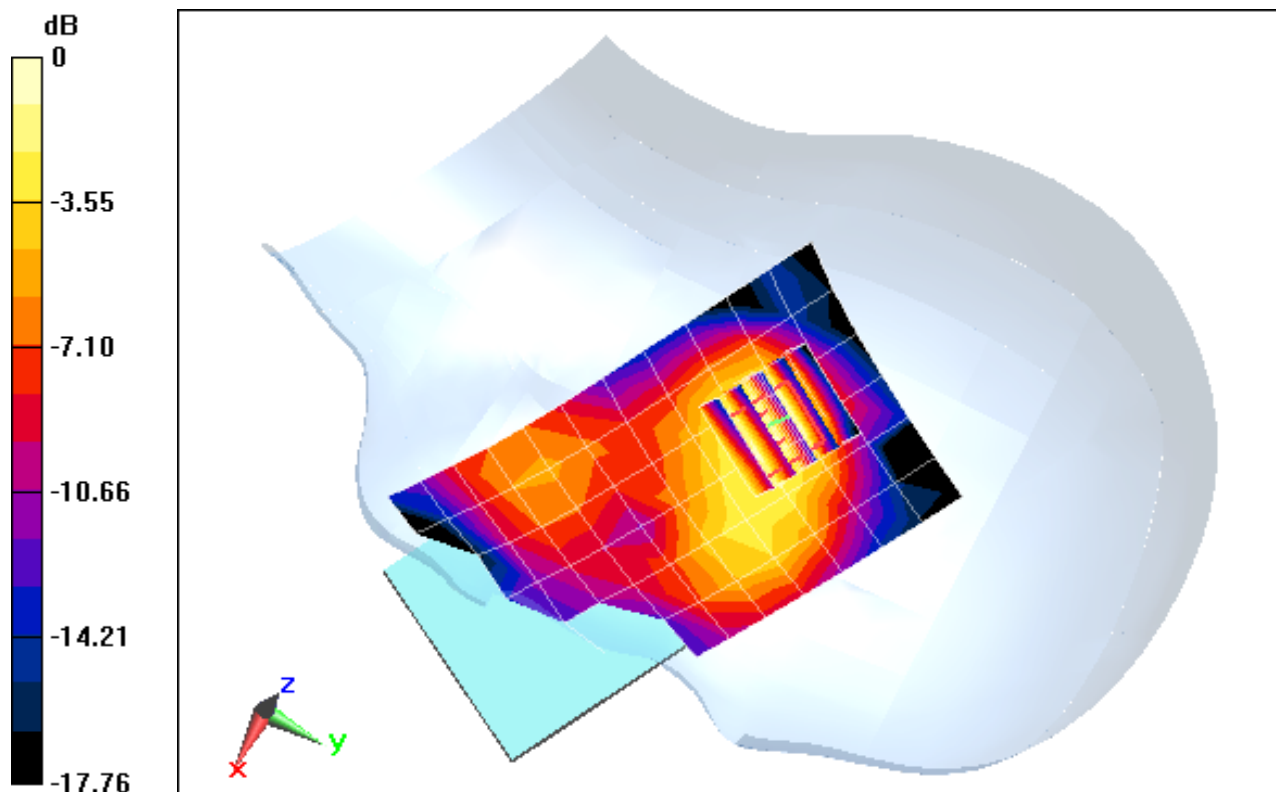
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.962 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.0800 W/kg

SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.029 mW/g



0 dB = 0.060mW/g = -24.44 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.383 \text{ mho/m}$; $\epsilon_r = 40.69$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-01-2012; Ambient Temp: 21.9°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: PCS EVDO, Right Head, Touch, Mid.ch

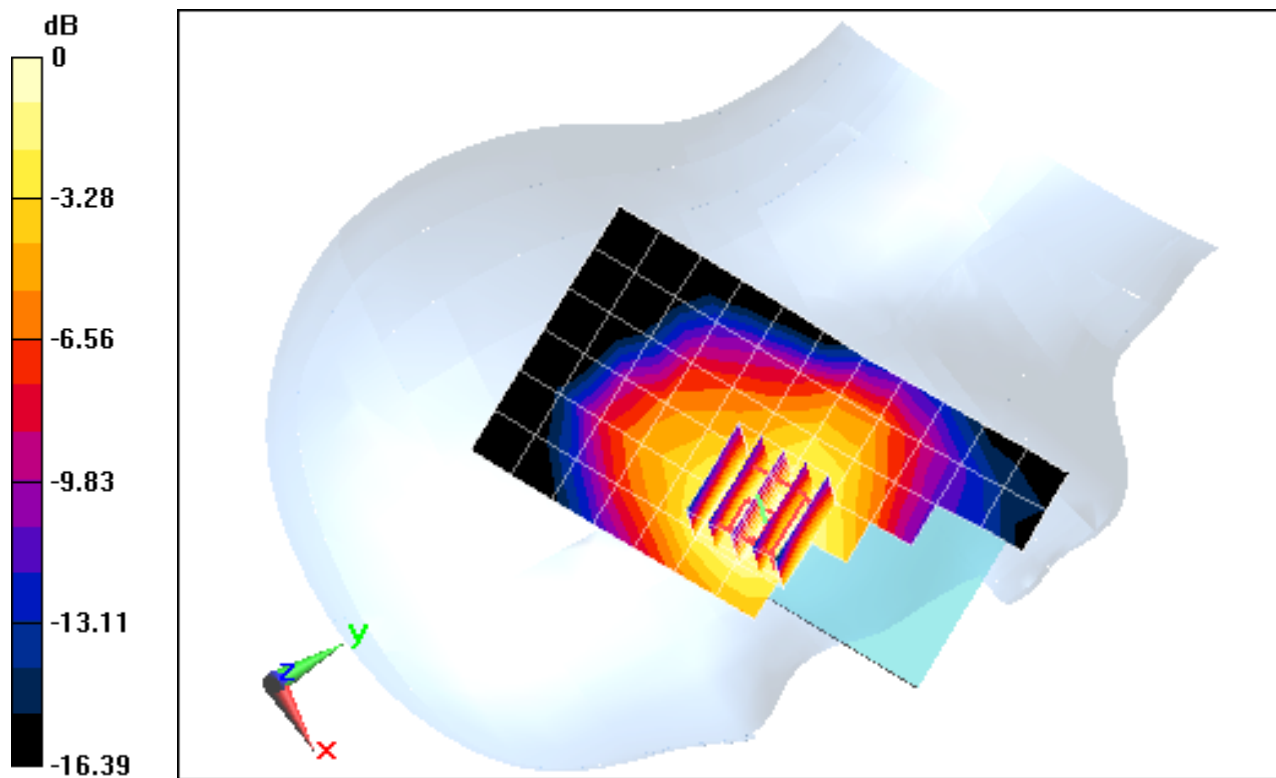
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.674 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.2670 W/kg

SAR(1 g) = 0.179 mW/g; SAR(10 g) = 0.114 mW/g



0 dB = 0.190mW/g = -14.42 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.383 \text{ mho/m}$; $\epsilon_r = 40.69$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 03-01-2012; Ambient Temp: 21.9°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: PCS EVDO, Right Head, Tilt, Mid.ch

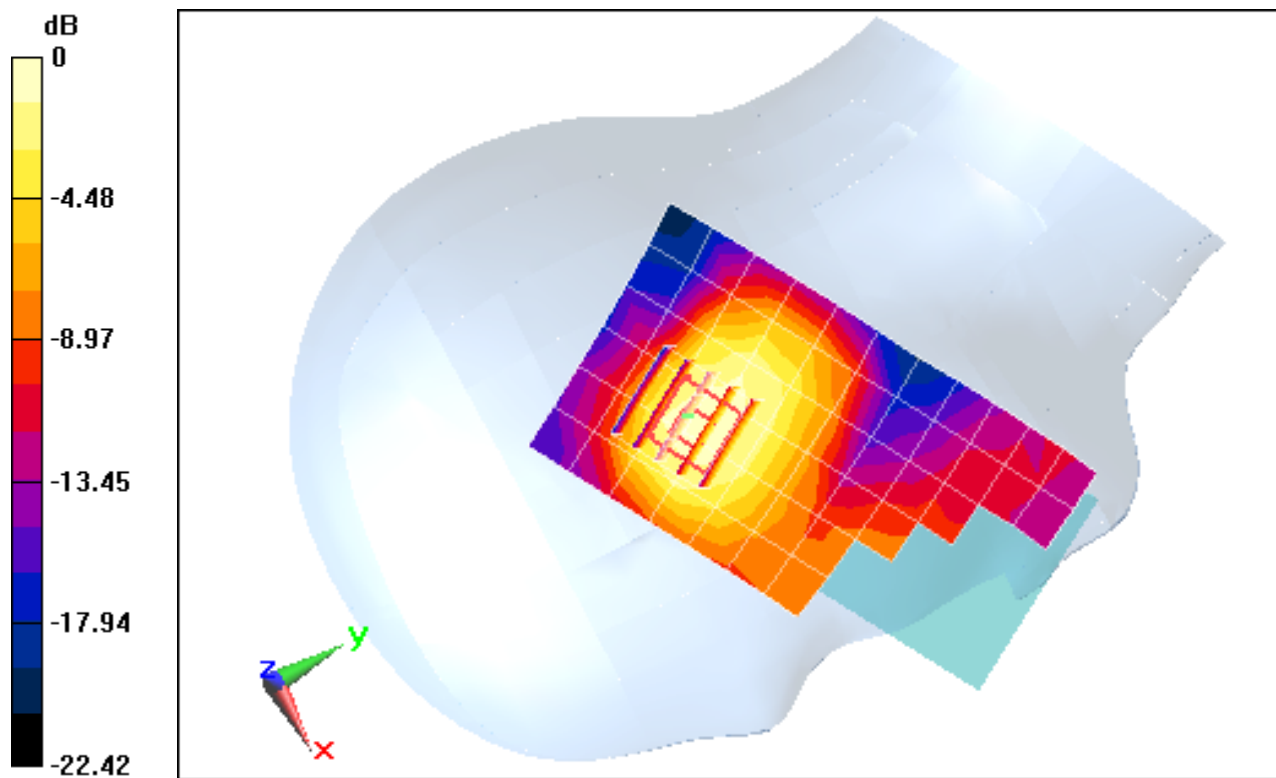
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.661 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.2350 W/kg

SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.095 mW/g



0 dB = 0.160mW/g = -15.92 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.383 \text{ mho/m}$; $\epsilon_r = 40.69$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-01-2012; Ambient Temp: 21.9°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: PCS EVDO, Left Head, Touch, Mid.ch

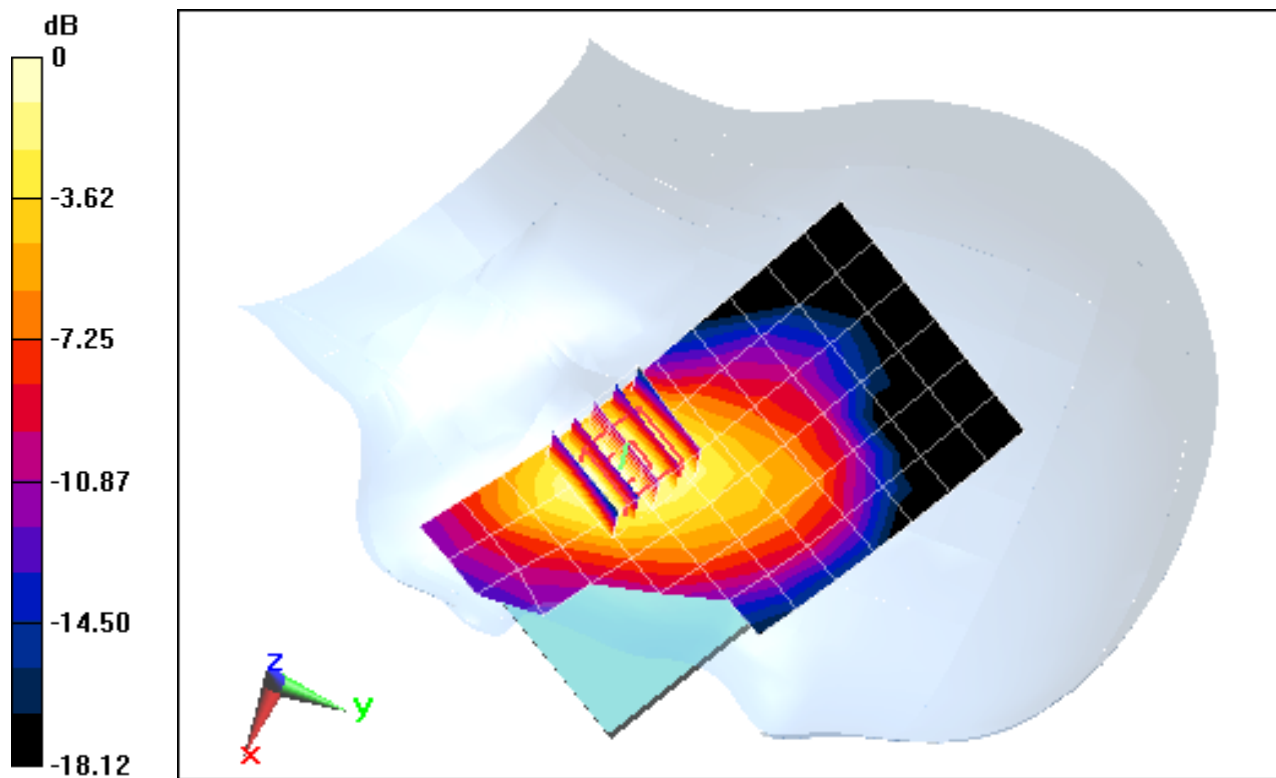
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.082 V/m; Power Drift = 0.0012 dB

Peak SAR (extrapolated) = 0.5420 W/kg

SAR(1 g) = 0.348 mW/g; SAR(10 g) = 0.216 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.383 \text{ mho/m}$; $\epsilon_r = 40.69$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 03-01-2012; Ambient Temp: 21.9°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3561; ConvF(7.16, 7.16, 7.16); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: PCS EVDO, Left Head, Tilt, Mid.ch

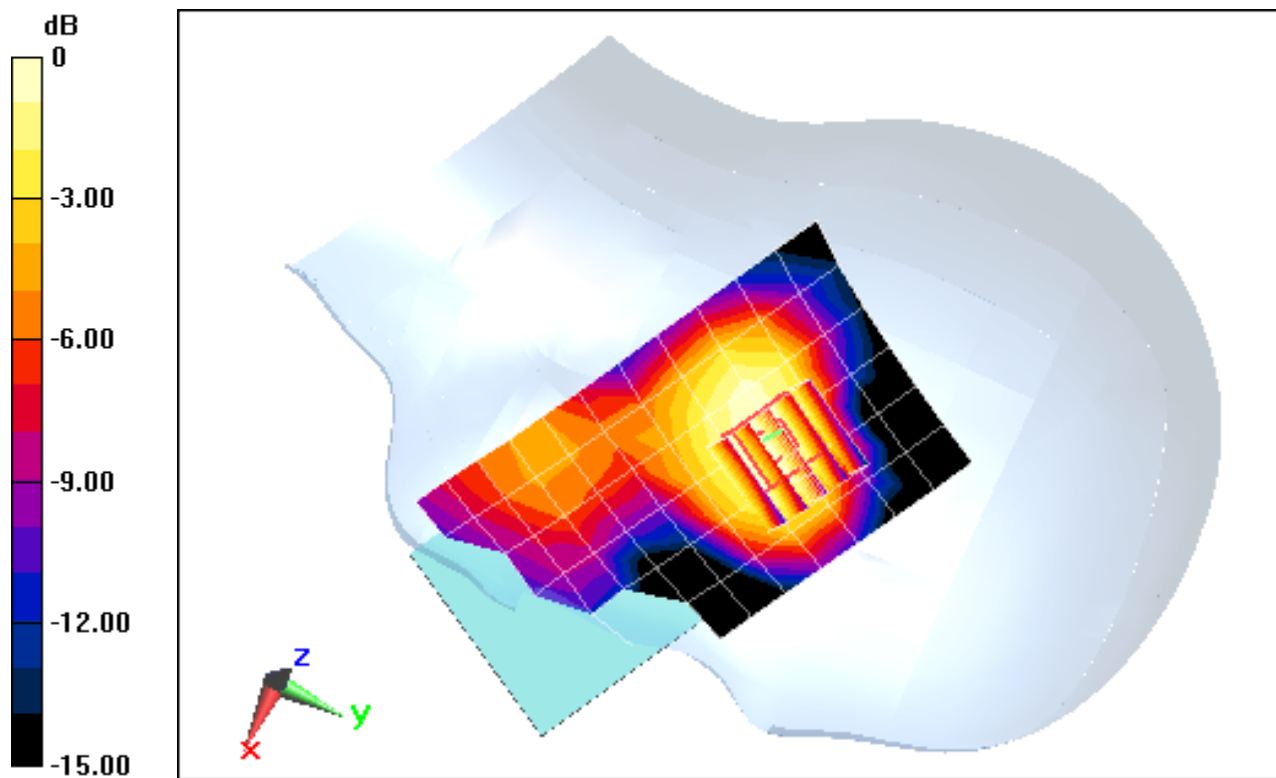
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.839 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.1830 W/kg

SAR(1 g) = 0.126 mW/g; SAR(10 g) = 0.082 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 38.94$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-09-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.4°C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 4/19/2012

Phantom: SAM with CRP; Type: SAM; Serial: TP1375

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

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

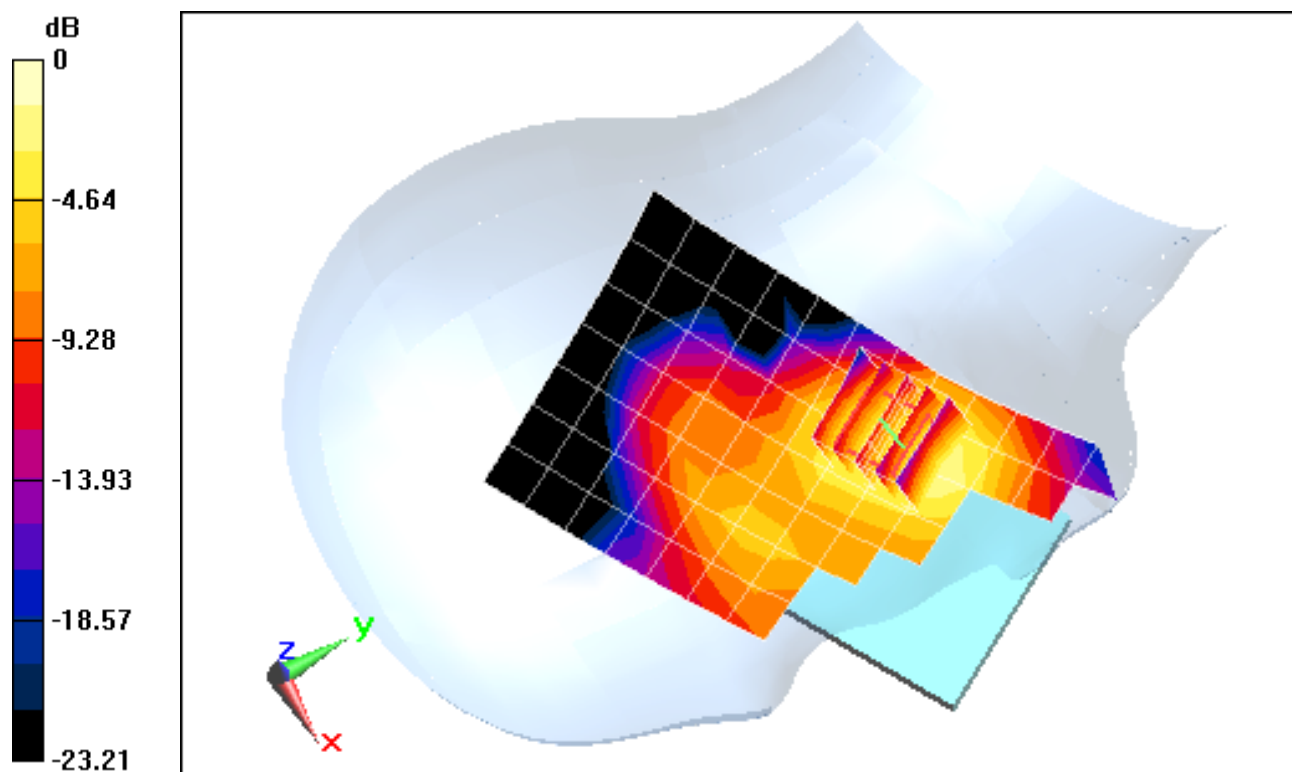
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.198 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 0.1370 W/kg

SAR(1 g) = 0.089 mW/g; SAR(10 g) = 0.055 mW/g



0 dB = 0.100mW/g = -20.00 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 38.94$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-09-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.4°C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 4/19/2012

Phantom: SAM with CRP; Type: SAM; Serial: TP1375

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

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

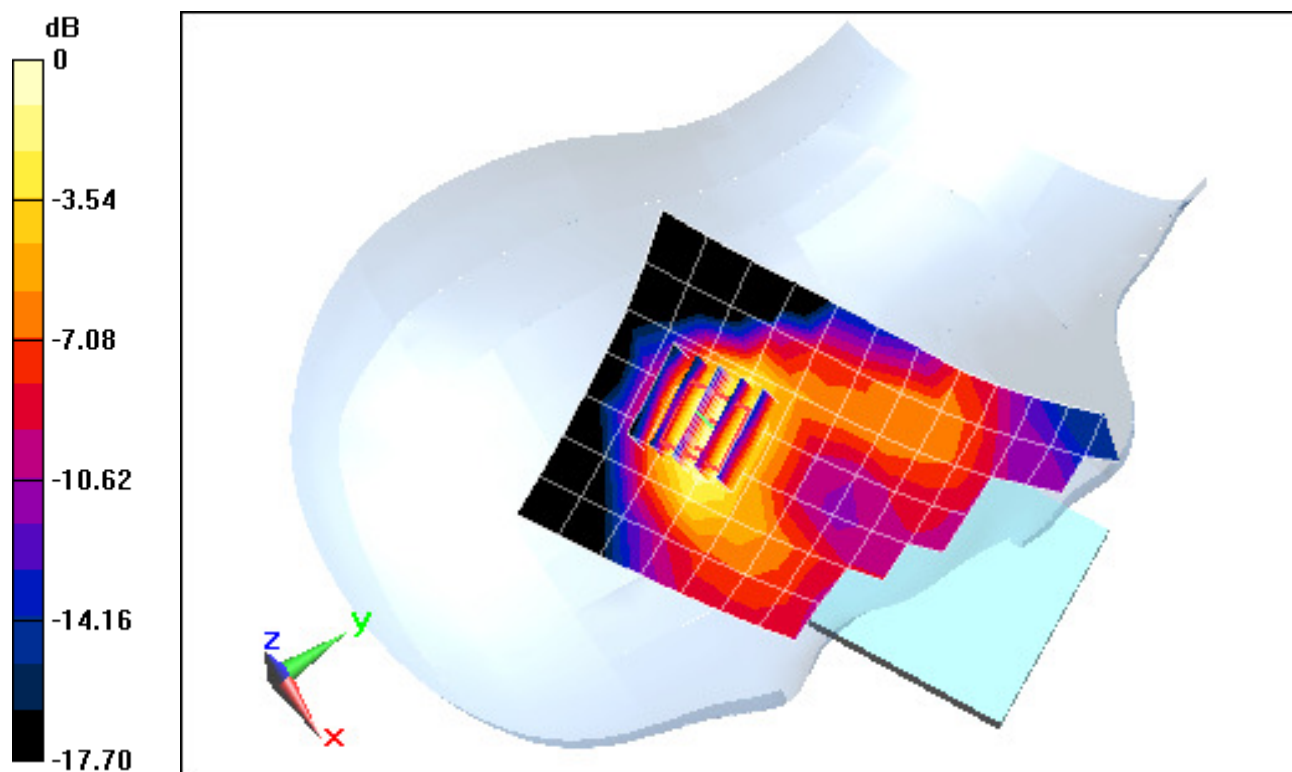
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.855 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.0520 W/kg

SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.019 mW/g



0 dB = 0.040mW/g = -27.96 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 38.94$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-09-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.4°C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 4/19/2012

Phantom: SAM with CRP; Type: SAM; Serial: TP1375

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

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

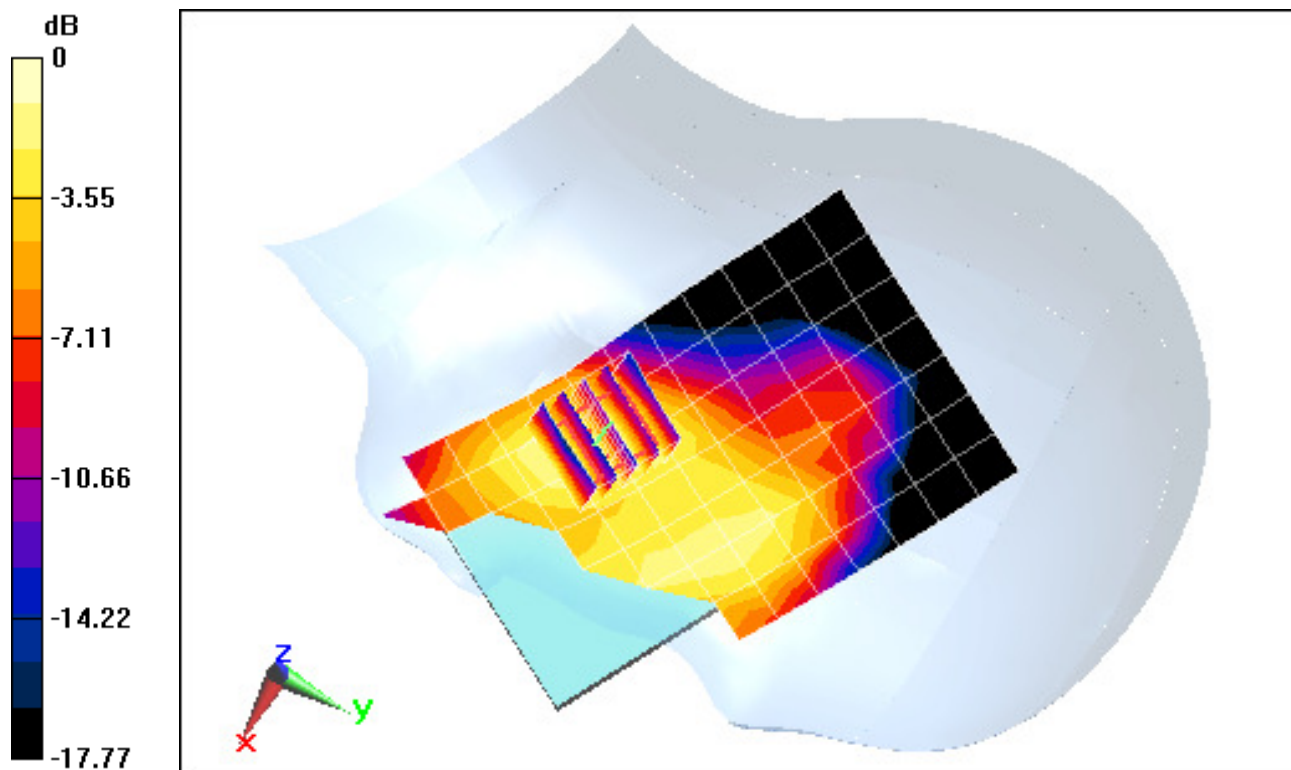
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.757 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.0990 W/kg

SAR(1 g) = 0.061 mW/g; SAR(10 g) = 0.037 mW/g



0 dB = 0.070mW/g = -23.10 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 38.94$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-09-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.4°C

Probe: ES3DV2 - SN3022; ConvF(4.98, 4.98, 4.98); Calibrated: 8/25/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 4/19/2012

Phantom: SAM with CRP; Type: SAM; Serial: TP1375

Measurement SW: DASY4, Version 4.7 (80);SEMCAD X Version 14.6.4 (4989)

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

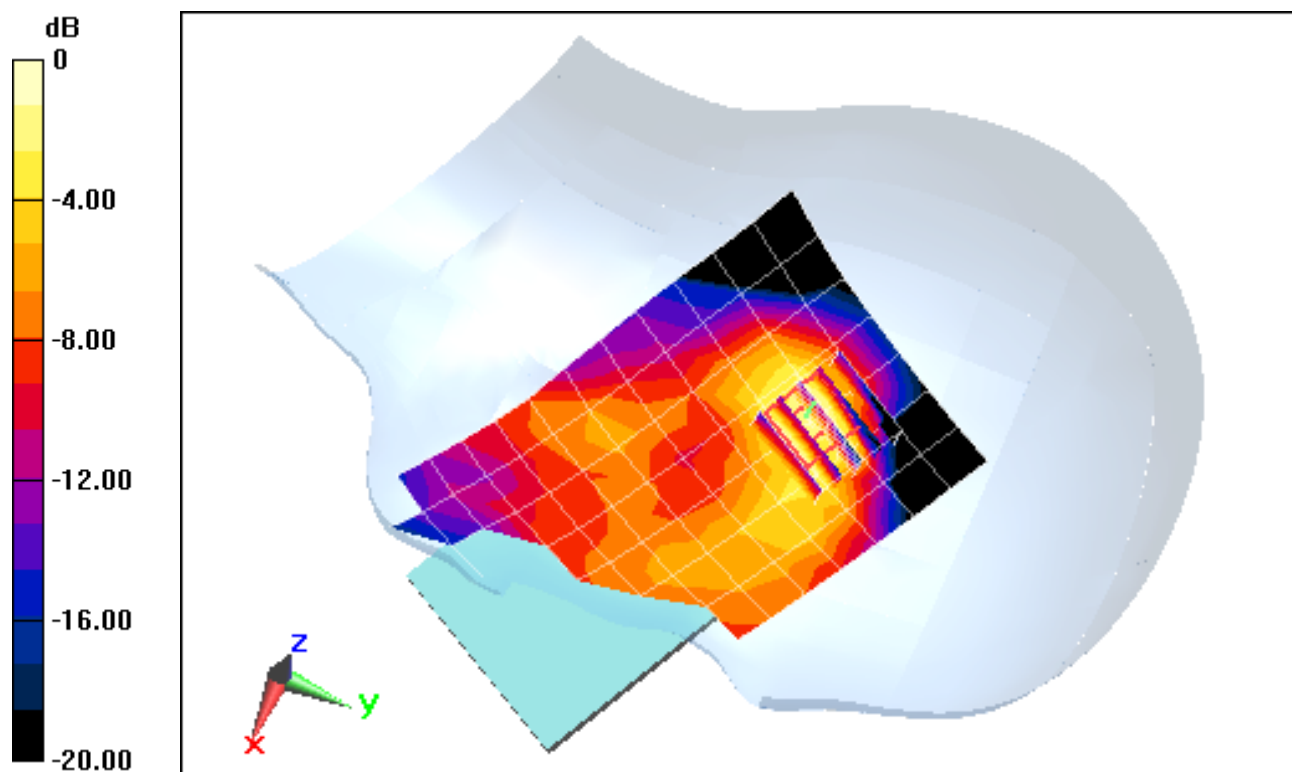
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.641 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.0540 W/kg

SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.019 mW/g



0 dB = 0.040mW/g = -27.96 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$; $\sigma = 1.898 \text{ mho/m}$; $\epsilon_r = 39.266$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

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

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

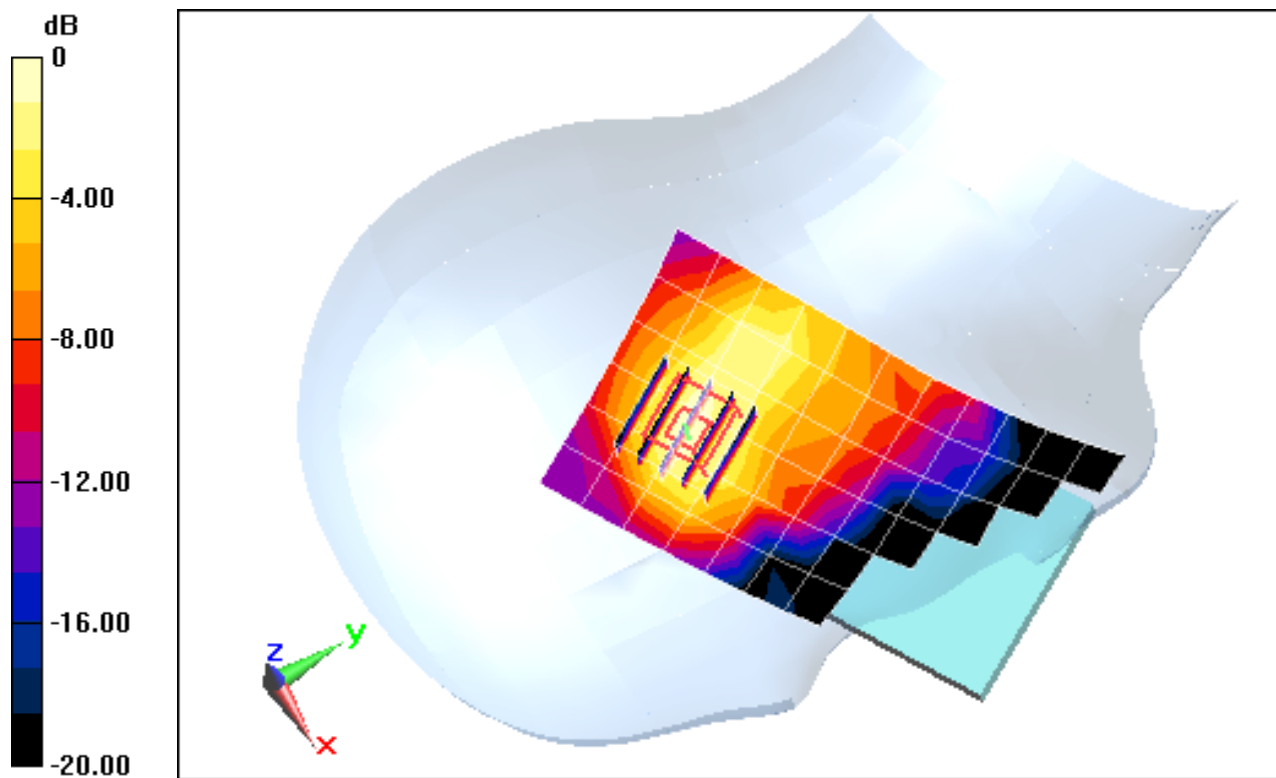
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.492 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.1000 W/kg

SAR(1 g) = 0.052 mW/g; SAR(10 g) = 0.028 mW/g



0 dB = 0.070mW/g = -23.10 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$; $\sigma = 1.898 \text{ mho/m}$; $\epsilon_r = 39.266$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

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

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

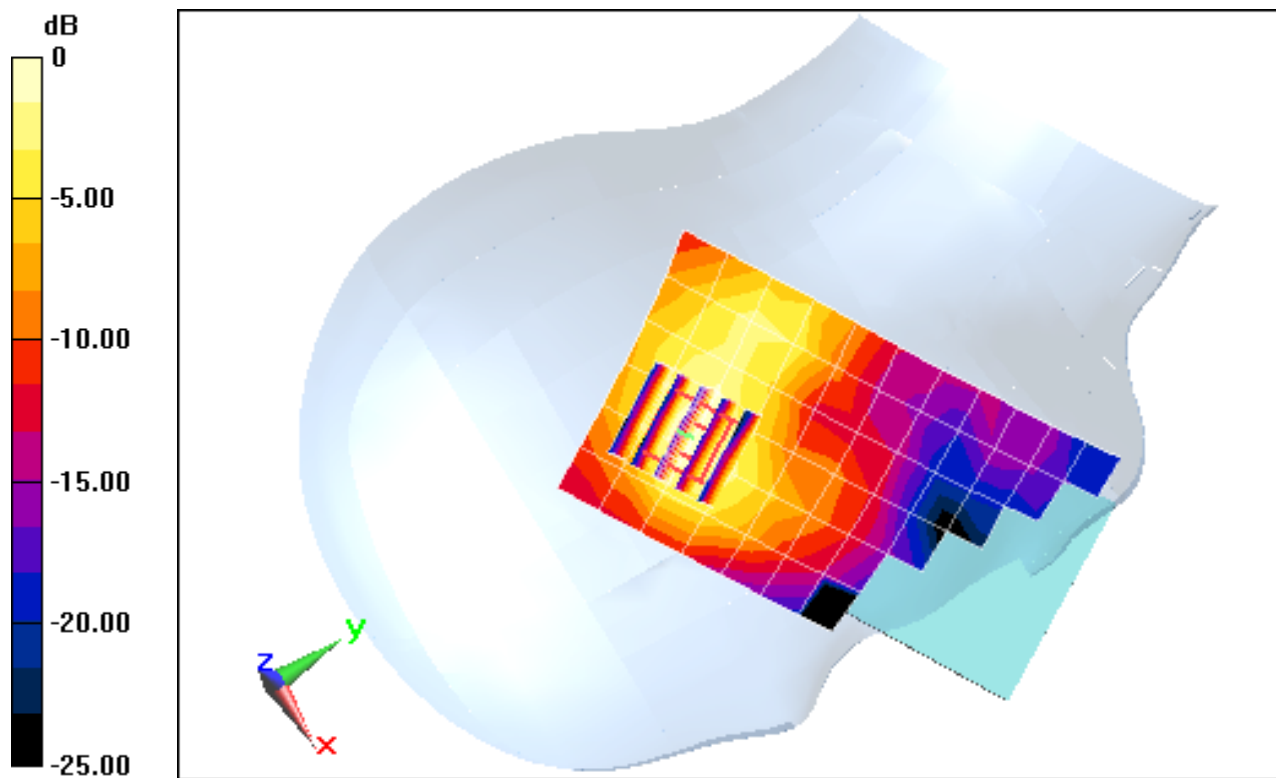
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.919 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.0800 W/kg

SAR(1 g) = 0.041 mW/g; SAR(10 g) = 0.021 mW/g



0 dB = 0.050mW/g = -26.02 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$; $\sigma = 1.898 \text{ mho/m}$; $\epsilon_r = 39.266$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

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

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

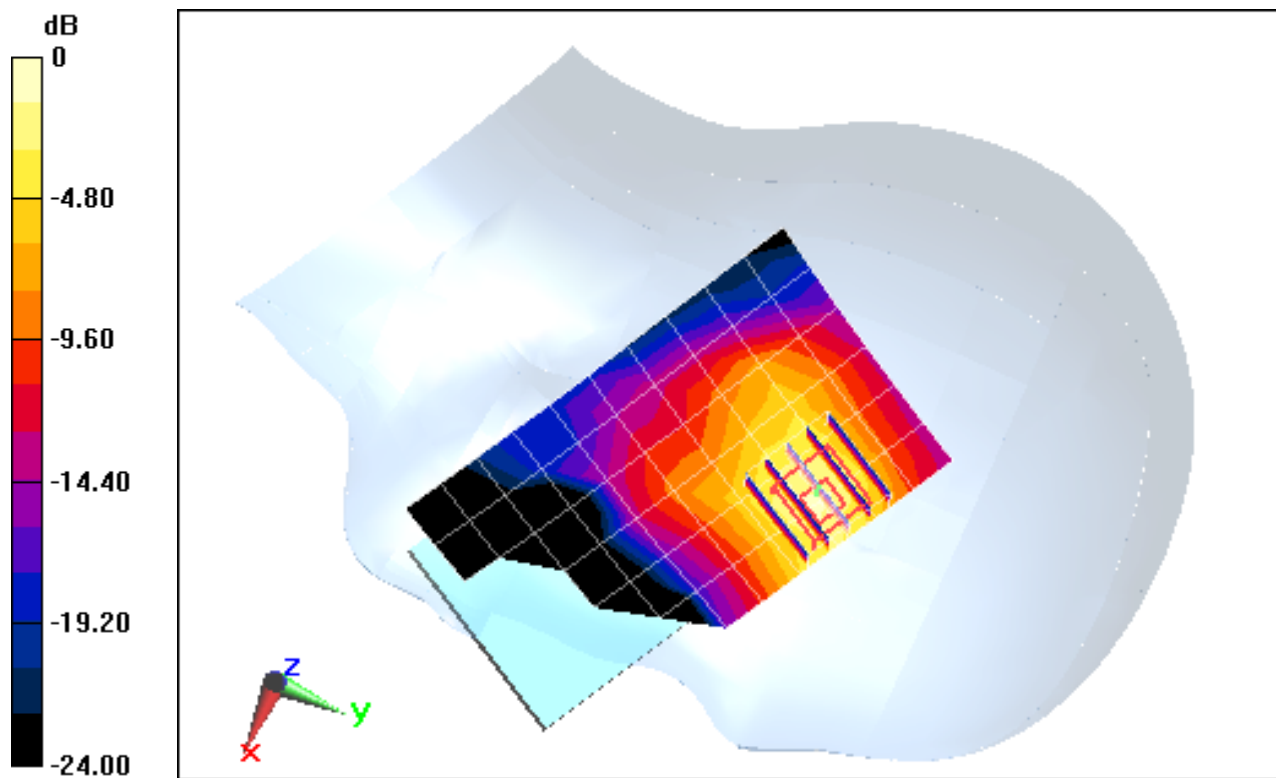
Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.298 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 0.2280 W/kg

SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.046 mW/g



0 dB = 0.130mW/g = -17.72 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$; $\sigma = 1.898 \text{ mho/m}$; $\epsilon_r = 39.266$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

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

Probe: ES3DV3 - SN3213; ConvF(4.45, 4.45, 4.45); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

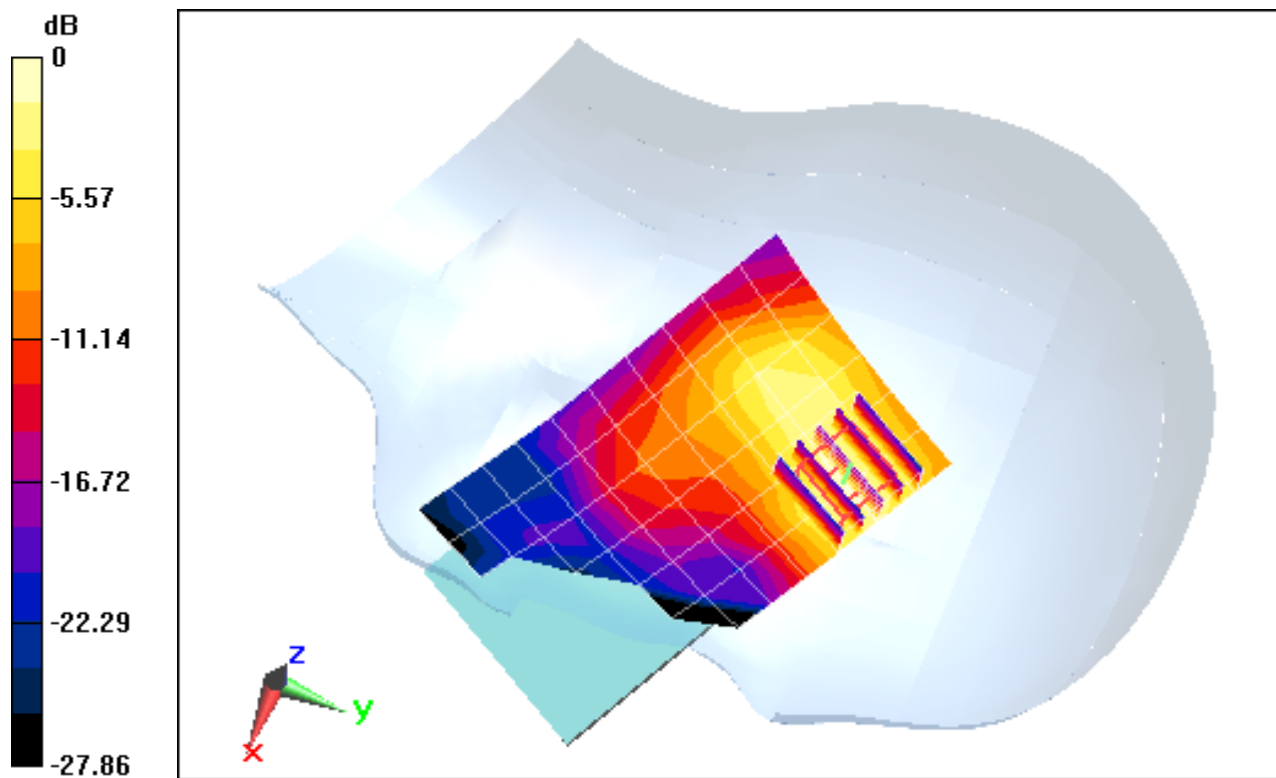
Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.559 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.1050 W/kg

SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.024 mW/g



0 dB = 0.070mW/g = -23.10 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Head; Medium parameters used:

$f = 5500 \text{ MHz}$; $\sigma = 5.102 \text{ mho/m}$; $\epsilon_r = 34.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 02-21-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: IEEE 802.11a, 5.5 GHz, Right Head, Touch, Ch 100, 6 Mbps

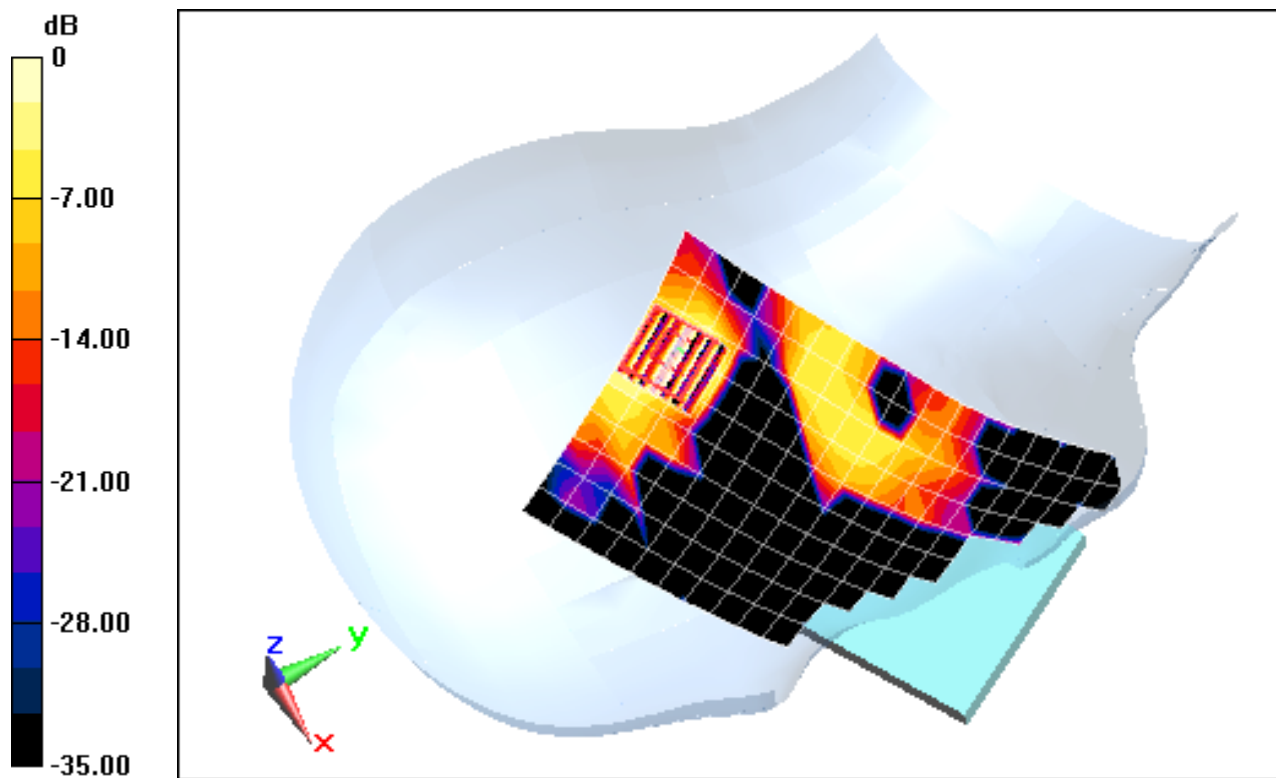
Area Scan (11x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x11)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 3.508 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 0.2310 W/kg

SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.023 mW/g



0 dB = 0.130mW/g = -17.72 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Head; Medium parameters used:

$f = 5500 \text{ MHz}$; $\sigma = 5.102 \text{ mho/m}$; $\epsilon_r = 34.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 02-21-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: IEEE 802.11a, 5.5 GHz, Right Head, Tilt, Ch 100, 6 Mbps

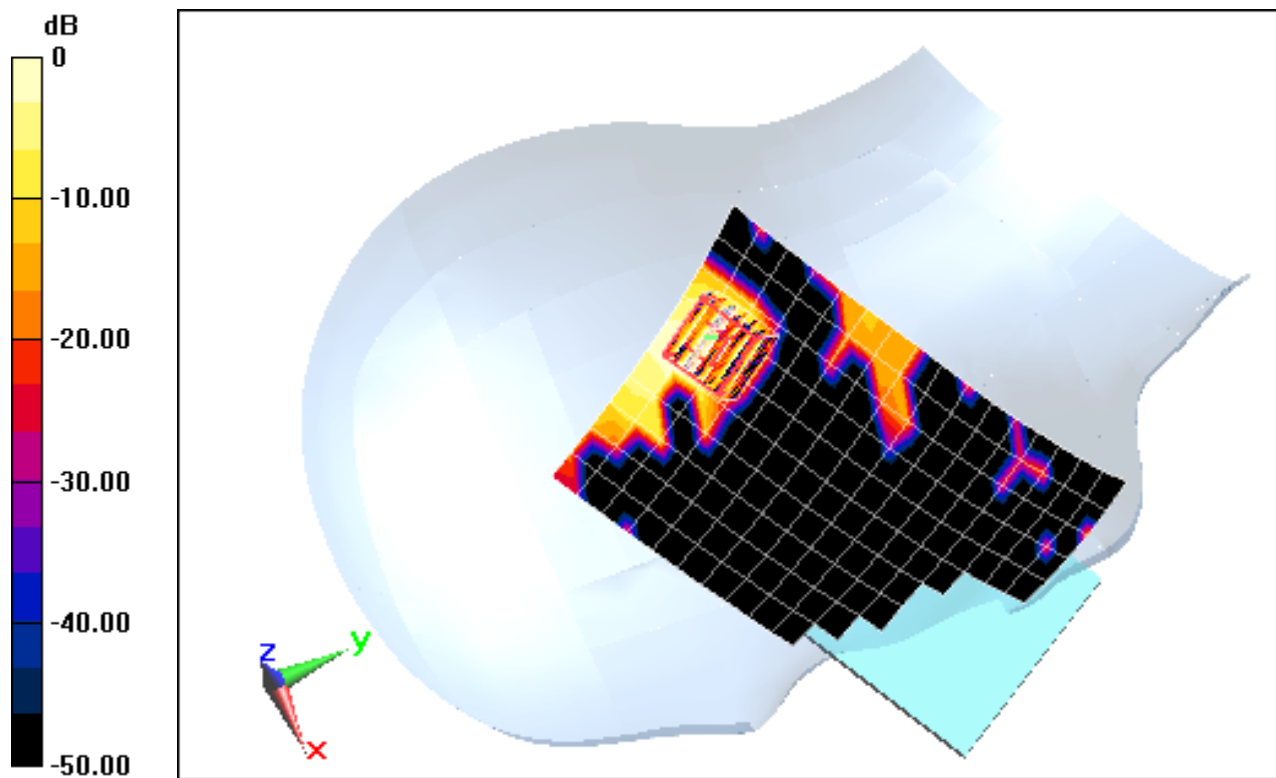
Area Scan (11x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x11)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 3.348 V/m; Power Drift = 0.078 dB

Peak SAR (extrapolated) = 0.2800 W/kg

SAR(1 g) = 0.063 mW/g; SAR(10 g) = 0.021 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Head; Medium parameters used:

$f = 5500 \text{ MHz}$; $\sigma = 5.102 \text{ mho/m}$; $\epsilon_r = 34.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 02-21-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: IEEE 802.11a, 5.5 GHz, Left Head, Touch, Ch 100, 6 Mbps

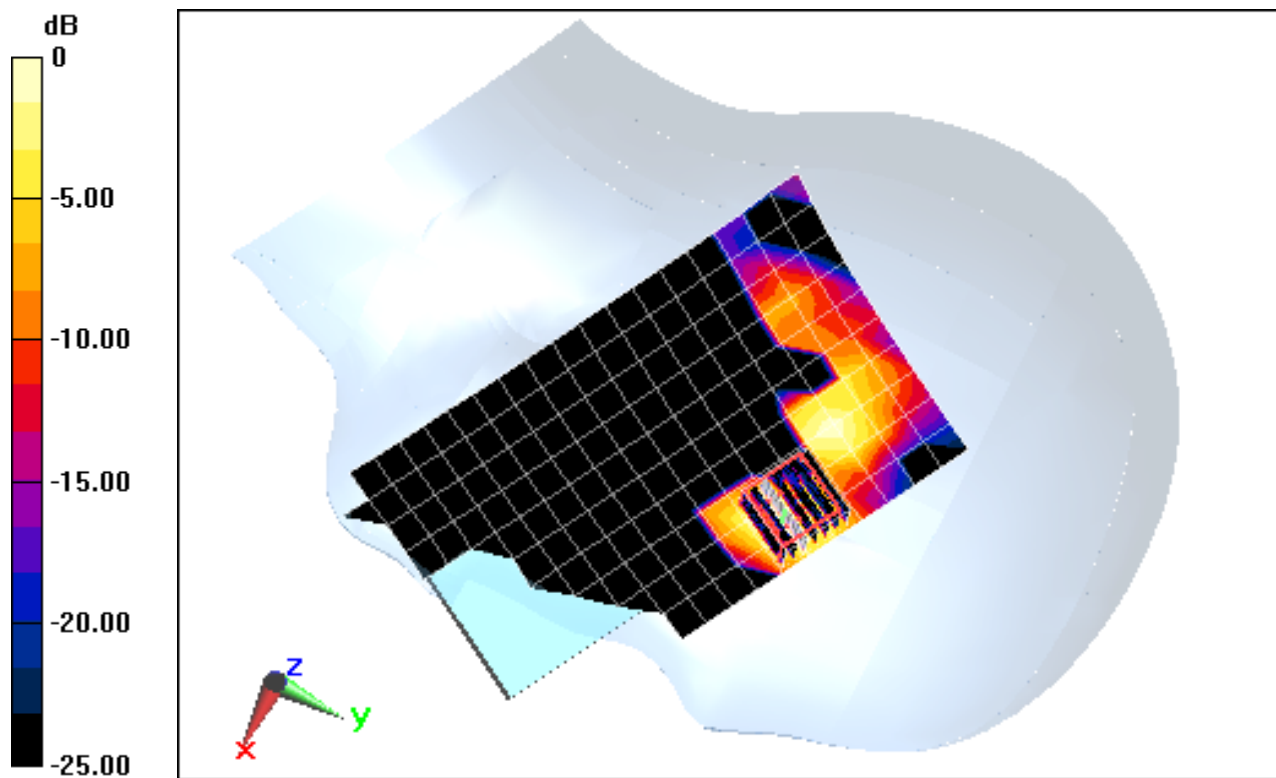
Area Scan (11x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x11)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 0.368 V/m; Power Drift = 0.01161 dB

Peak SAR (extrapolated) = 0.2840 W/kg

SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.019 mW/g



0 dB = 0.140mW/g = -17.08 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Head; Medium parameters used:

$f = 5500 \text{ MHz}$; $\sigma = 5.102 \text{ mho/m}$; $\epsilon_r = 34.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 02-21-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN3589; ConvF(4.33, 4.33, 4.33); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: IEEE 802.11a, 5.5 GHz, Left Head, Tilt, Ch 100, 6 Mbps

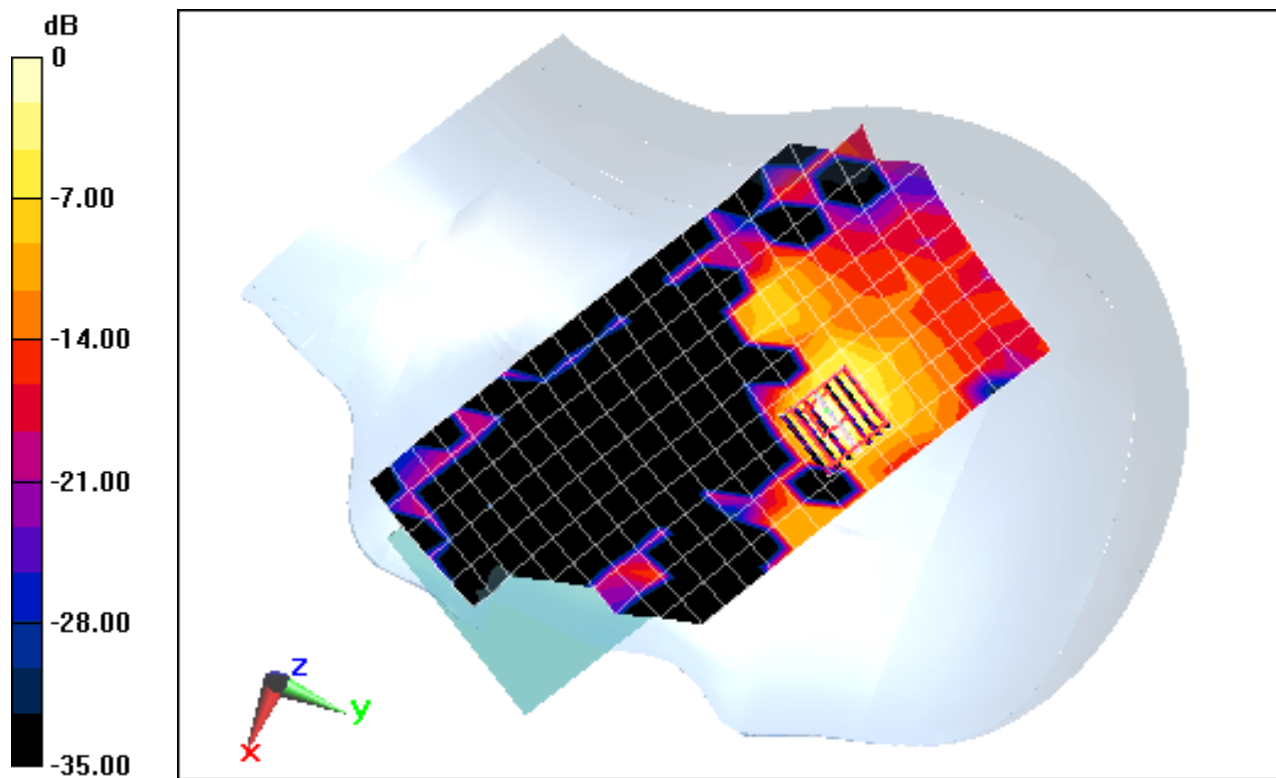
Area Scan (11x21x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x11)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 0 V/m; Power Drift = 0.010 dB

Peak SAR (extrapolated) = 0.2980 W/kg

SAR(1 g) = 0.072 mW/g; SAR(10 g) = 0.020 mW/g



0 dB = 0.160mW/g = -15.92 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661

Communication System: LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.979 \text{ mho/m}$; $\epsilon_r = 54.894$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-22-2012; Ambient Temp: 23.6°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(8.34, 8.34, 8.34); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: LTE Band 13, Body SAR, Back side, Mid.ch

QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49

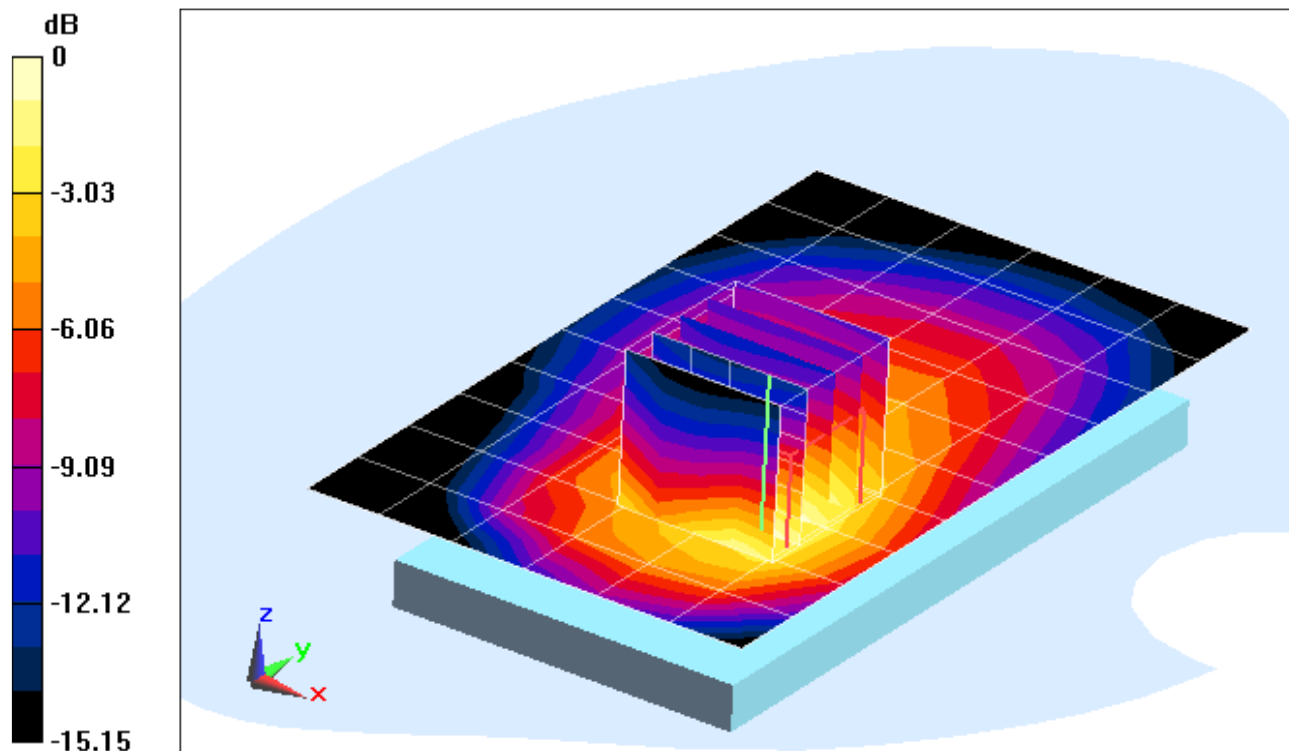
Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 19.167 V/m; Power Drift = -0.020 dB

Peak SAR (extrapolated) = 0.6060 W/kg

SAR(1 g) = 0.342 mW/g; SAR(10 g) = 0.202 mW/g



0 dB = 0.360mW/g = -8.87 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661

Communication System: LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.979 \text{ mho/m}$; $\epsilon_r = 54.894$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-22-2012; Ambient Temp: 23.6°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(8.34, 8.34, 8.34); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: LTE Band 13, Body SAR, Front side, Mid.ch

QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset

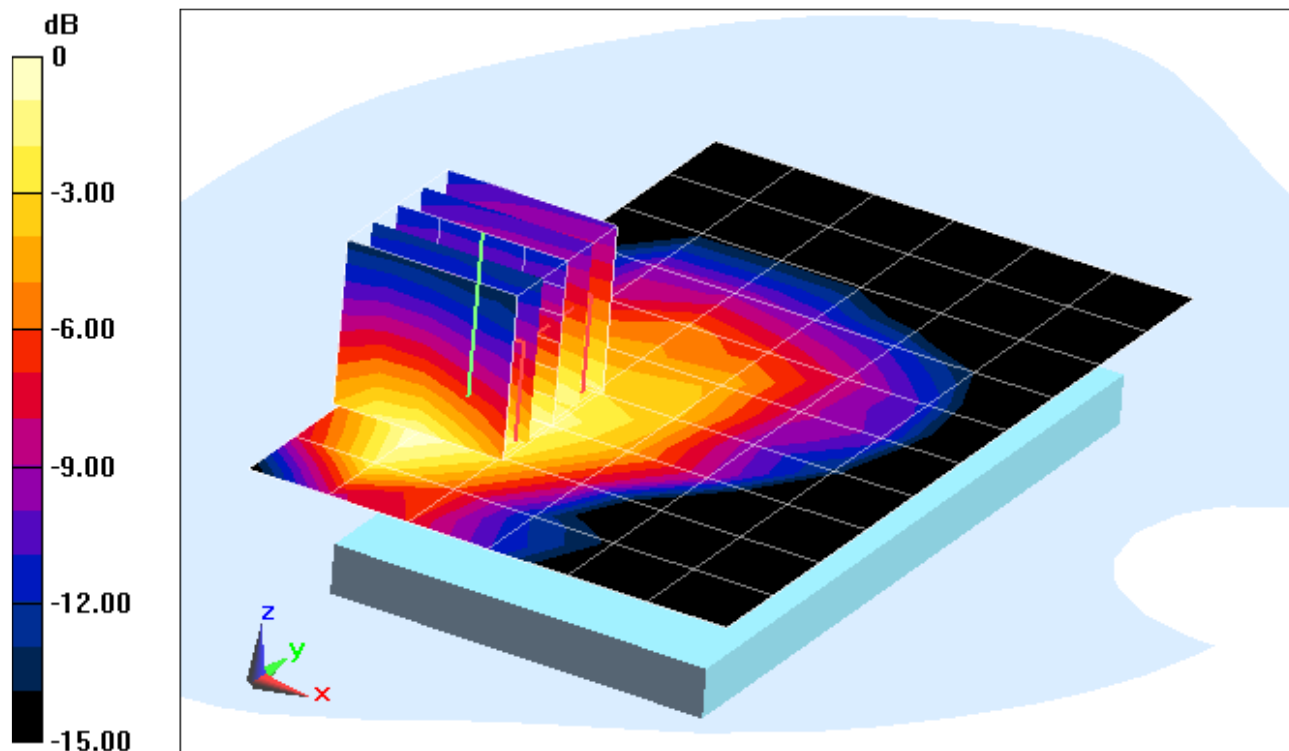
Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.447 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.3310 W/kg

SAR(1 g) = 0.199 mW/g; SAR(10 g) = 0.123 mW/g



0 dB = 0.190mW/g = -14.42 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661

Communication System: LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.979 \text{ mho/m}$; $\epsilon_r = 54.894$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-22-2012; Ambient Temp: 23.6°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(8.34, 8.34, 8.34); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: LTE Band 13, Body SAR, Bottom Edge, Mid.ch

QPSK, 10 MHz Bandwidth, 1 RB, RB Offset 49

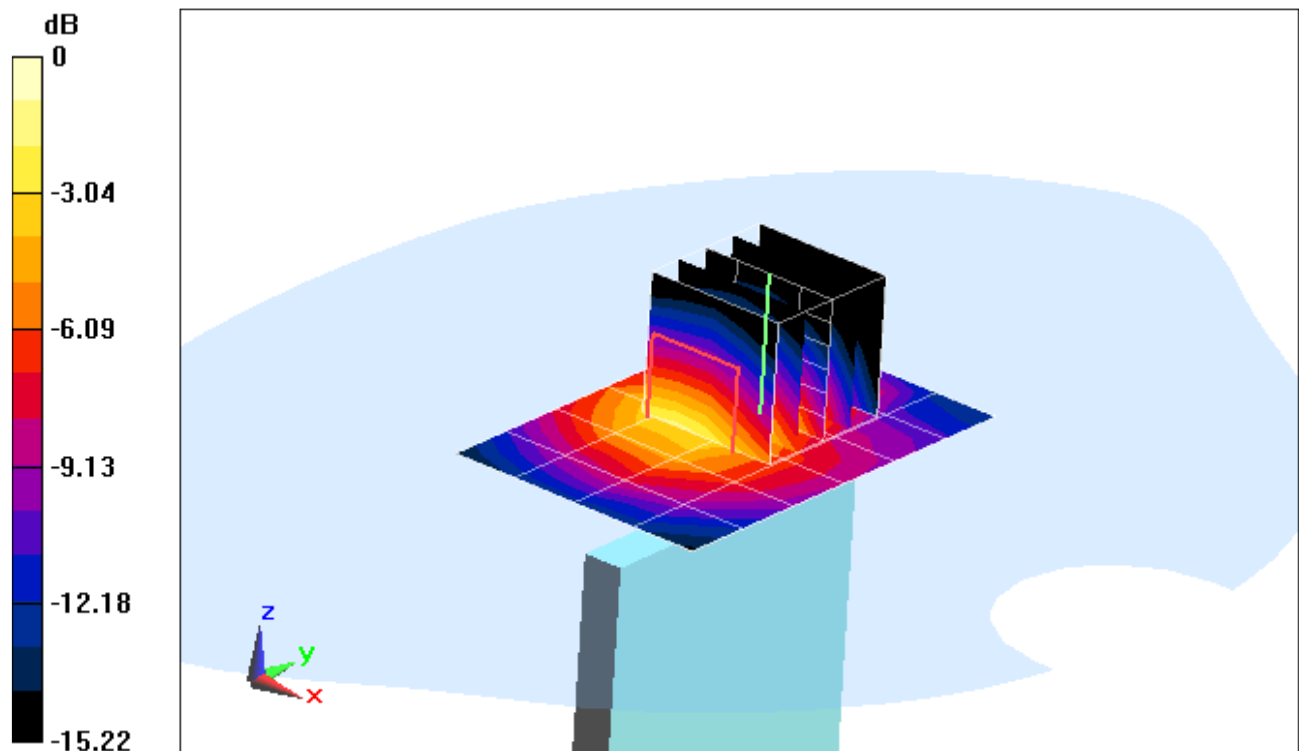
Area Scan (5x7x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.910 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.2010 W/kg

SAR(1 g) = 0.125 mW/g; SAR(10 g) = 0.076 mW/g



0 dB = 0.140mW/g = -17.08 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1661

Communication System: LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 770 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.979 \text{ mho/m}$; $\epsilon_r = 54.894$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-22-2012; Ambient Temp: 23.6°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN3561; ConvF(8.34, 8.34, 8.34); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: LTE Band 13, Body SAR, Left Edge, Mid.ch

QPSK, 10 MHz Bandwith, 1 RB, RB Offset 0

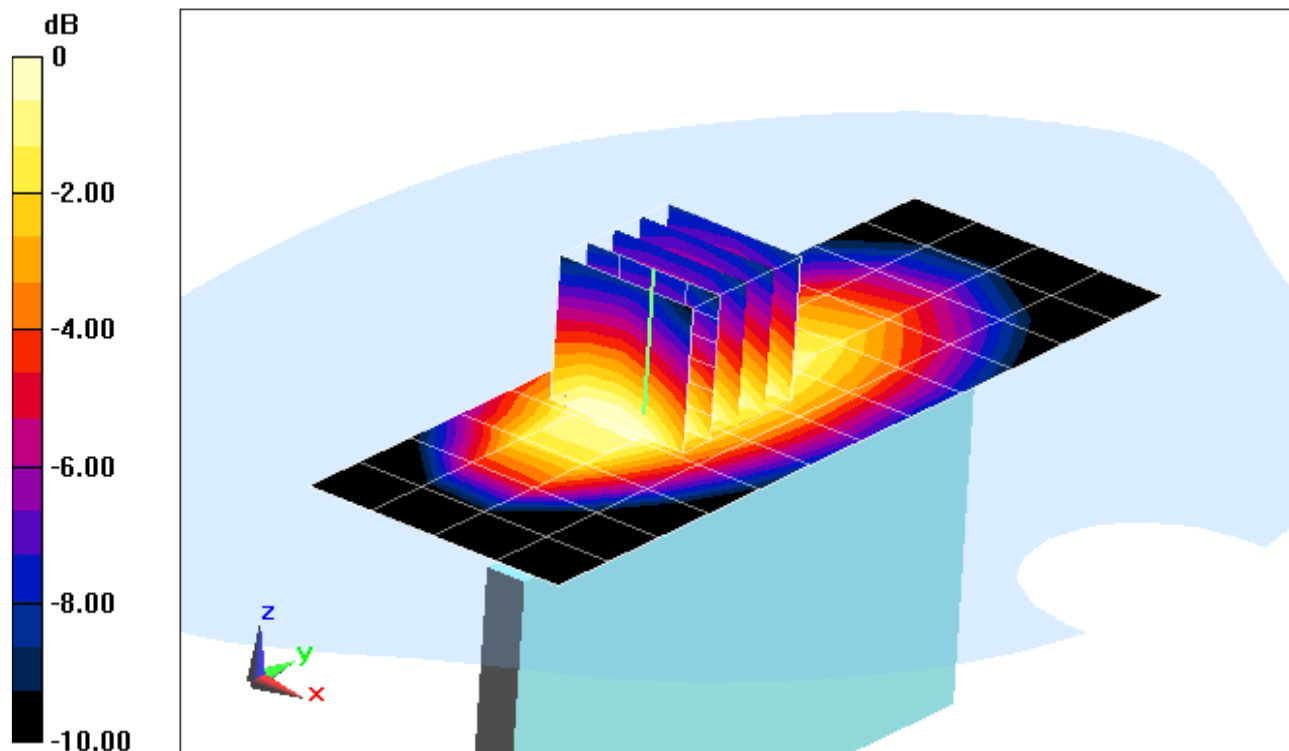
Area Scan (5x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.914 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.1300 W/kg

SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.062 mW/g



0 dB = 0.080mW/g = -21.94 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 55.753$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

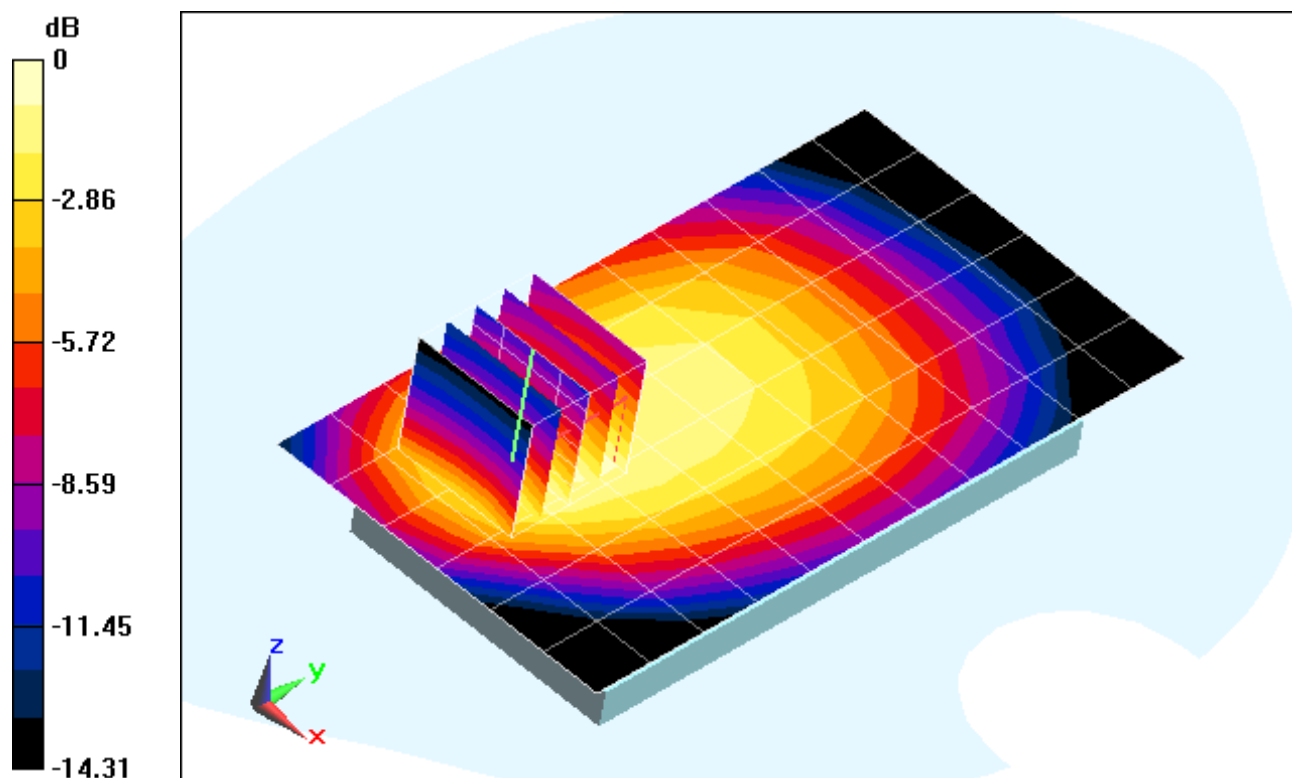
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 19.183 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.5640 W/kg

SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.242 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 55.753$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: Cellular CDMA, Body SAR, Front side, Mid.ch

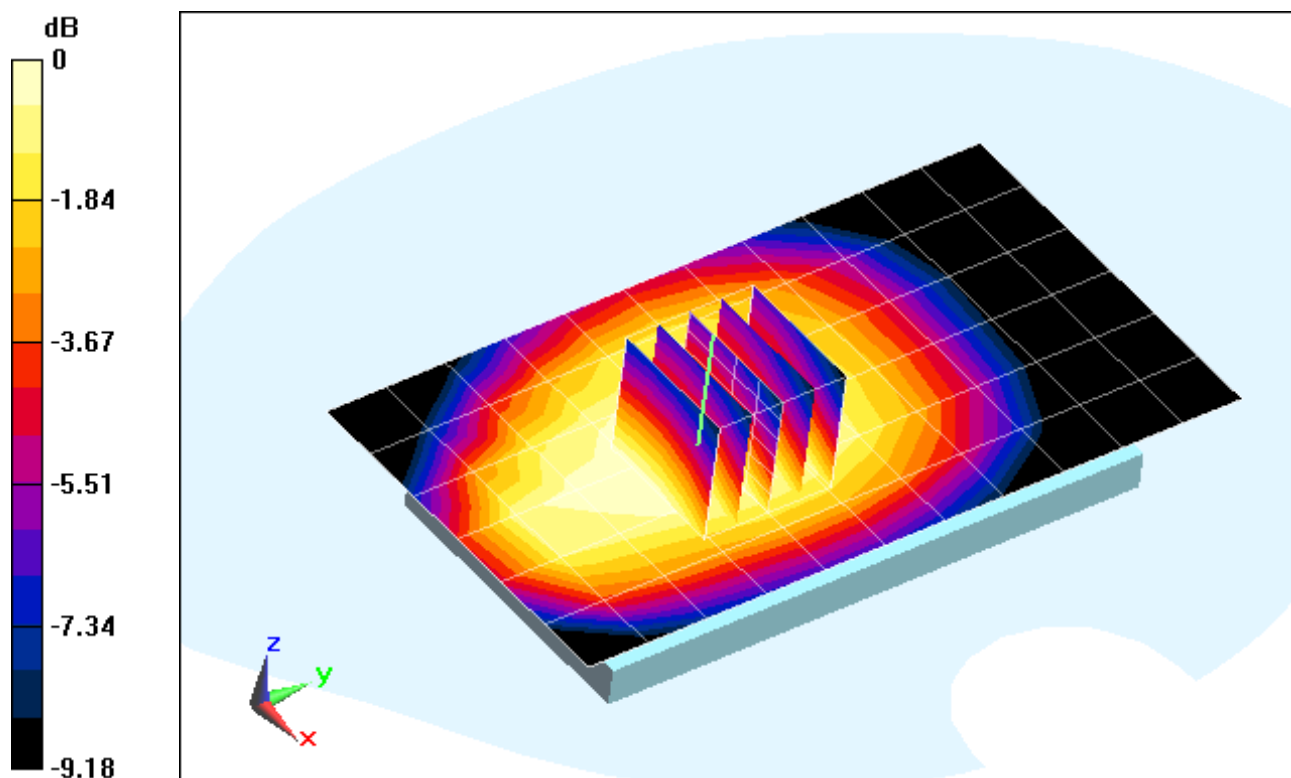
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.591 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.3340 W/kg

SAR(1 g) = 0.261 mW/g; SAR(10 g) = 0.199 mW/g



0 dB = 0.270mW/g = -11.37 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 55.753$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: Cellular CDMA, Body SAR, Bottom Edge, Mid.ch

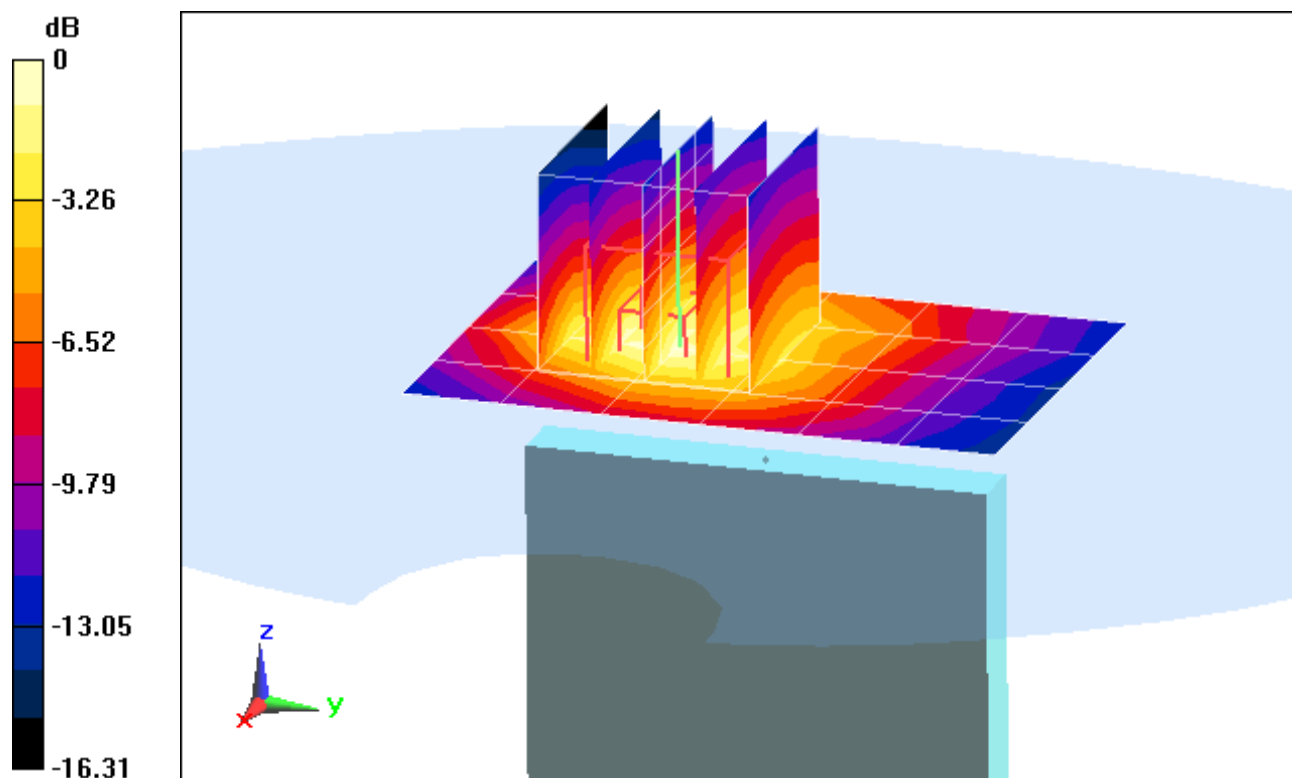
Area Scan (5x7x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.817 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.3330 W/kg

SAR(1 g) = 0.171 mW/g; SAR(10 g) = 0.093 mW/g



0 dB = 0.190mW/g = -14.42 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0581

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 55.753$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-23-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

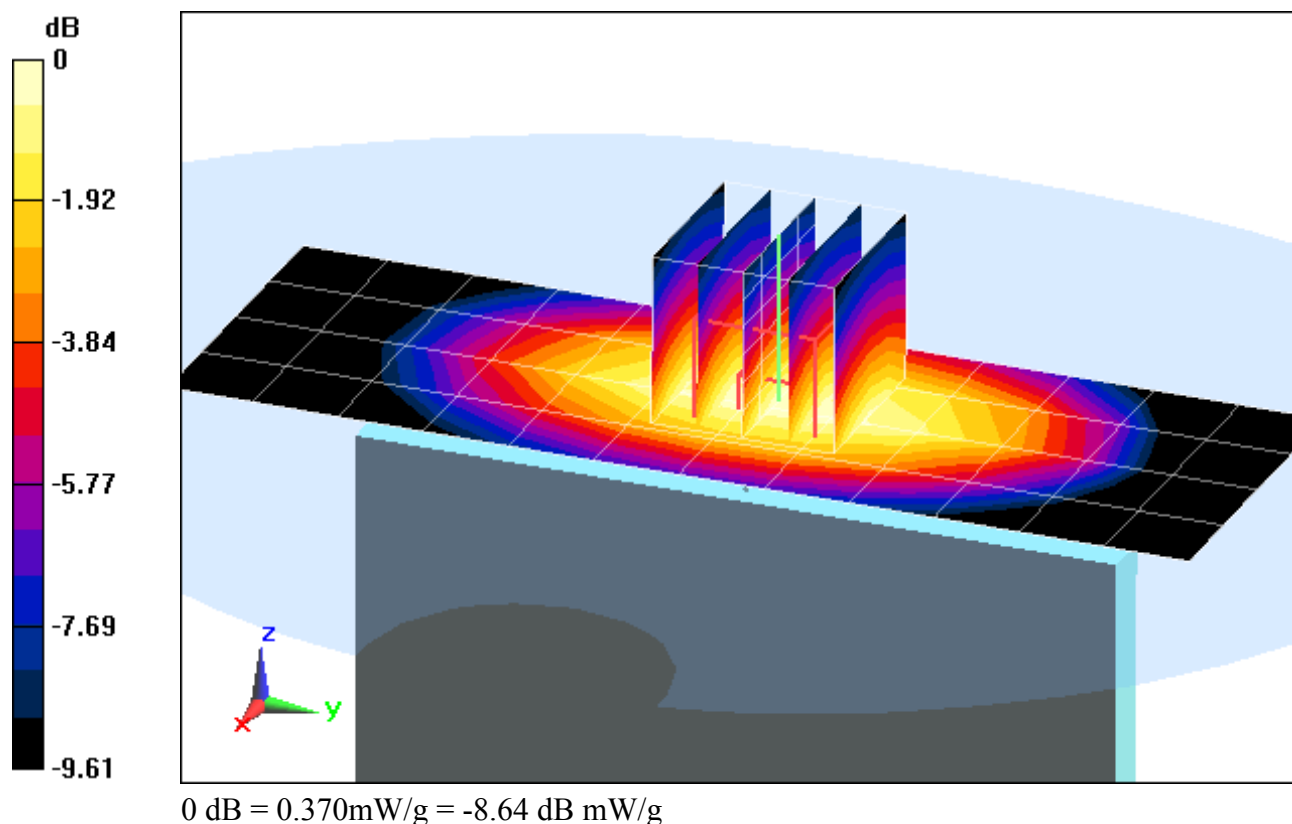
Area Scan (5x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 18.939 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.5010 W/kg

SAR(1 g) = 0.346 mW/g; SAR(10 g) = 0.236 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 1.014 \text{ mho/m}$; $\epsilon_r = 54.171$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-01-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: Cellular EVDO, Body SAR, Back side, Mid.ch

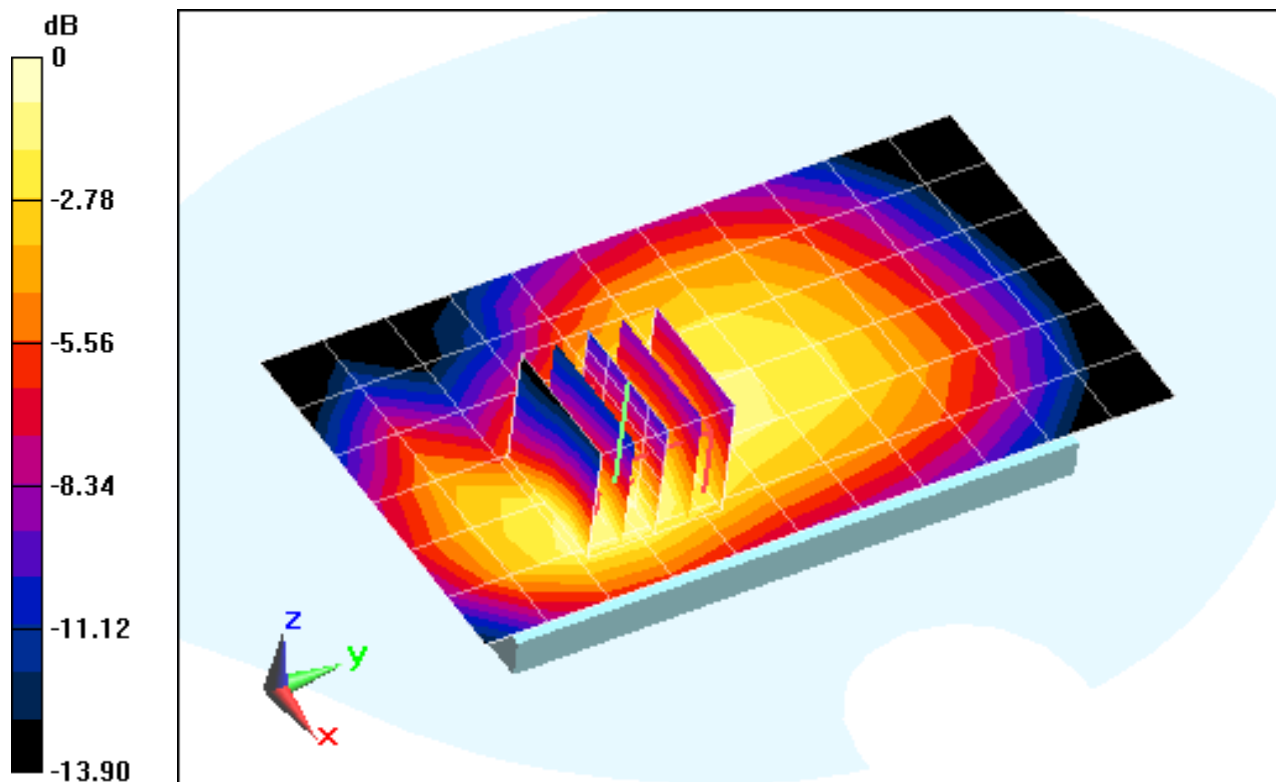
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.070 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.6740 W/kg

SAR(1 g) = 0.417 mW/g; SAR(10 g) = 0.272 mW/g



0 dB = 0.450mW/g = -6.94 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 1.014 \text{ mho/m}$; $\epsilon_r = 54.171$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-01-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: Cellular EVDO, Body SAR, Front side, Mid.ch

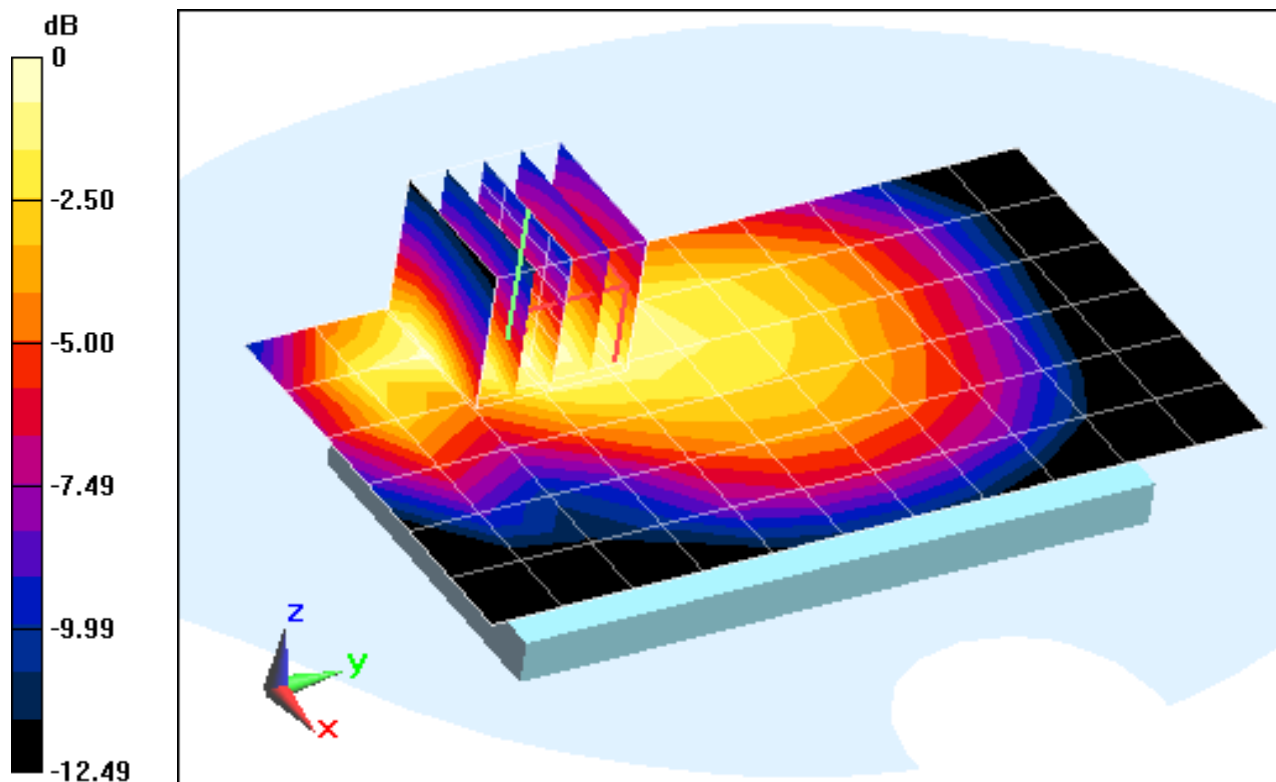
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 19.429 V/m; Power Drift = -0.0086 dB

Peak SAR (extrapolated) = 0.5530 W/kg

SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.234 mW/g



0 dB = 0.380mW/g = -8.40 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 1.014 \text{ mho/m}$; $\epsilon_r = 54.171$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-01-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

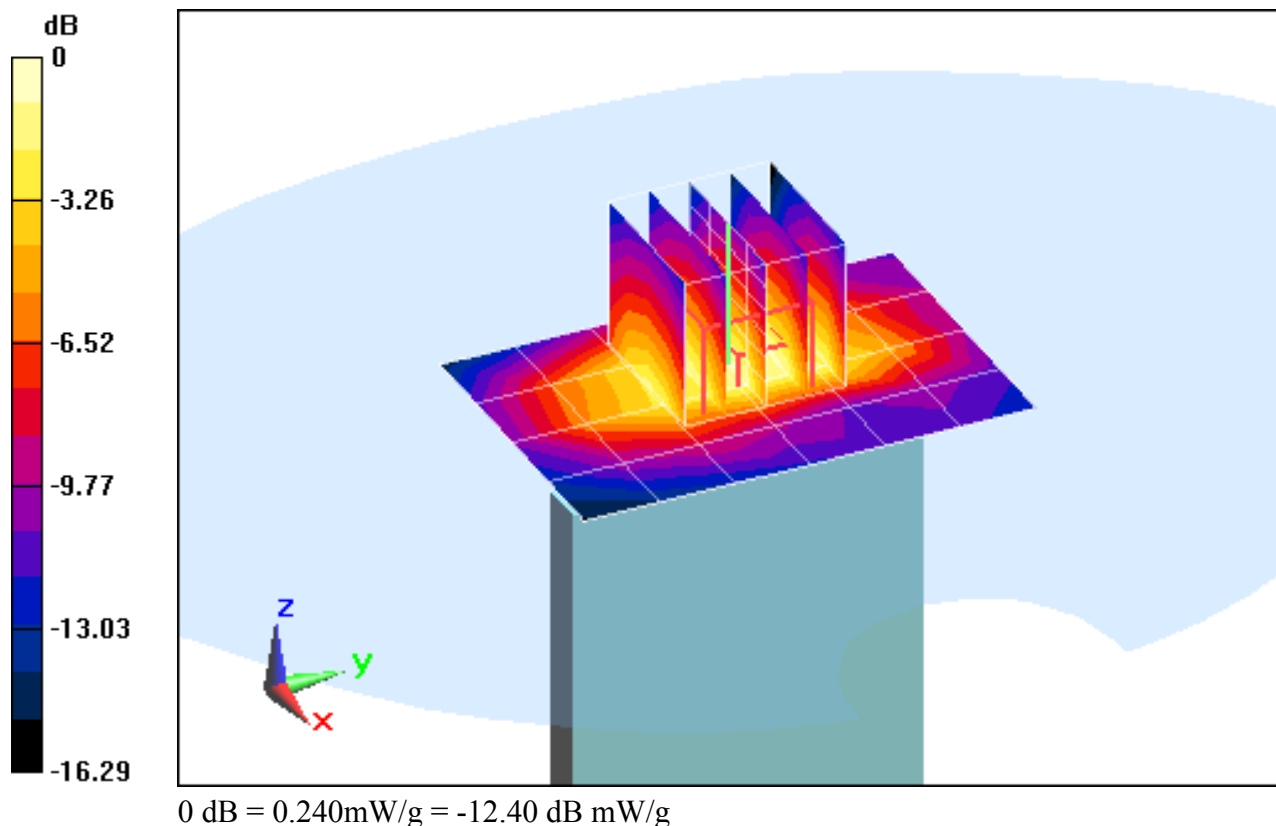
Area Scan (5x7x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.368 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.4020 W/kg

SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.123 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52$ MHz; $\sigma = 1.014$ mho/m; $\epsilon_r = 54.171$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-01-2012; Ambient Temp: 22.8°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3263; ConvF(6.22, 6.22, 6.22); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: Cellular EVDO, Body SAR, Left Edge, Mid.ch

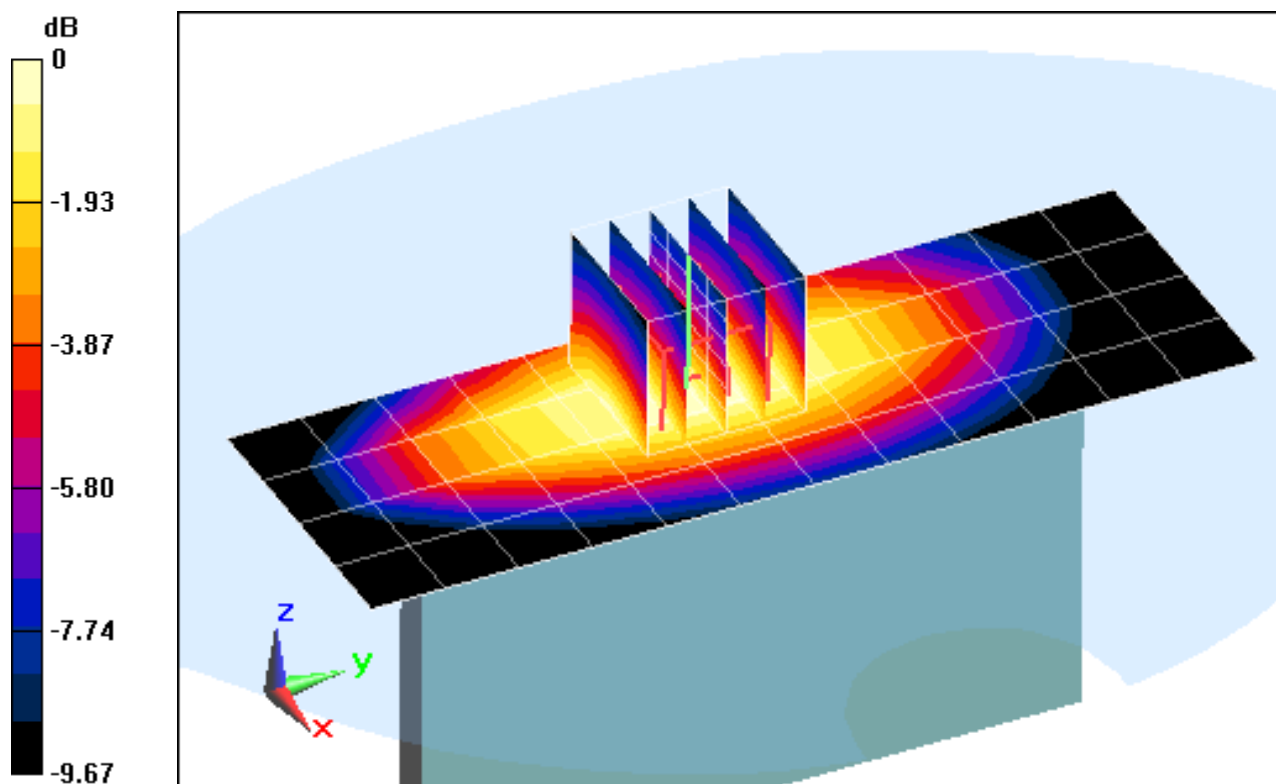
Area Scan (5x13x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.050 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.3420 W/kg

SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.163 mW/g



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

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM850 GPRS; 2 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.995 \text{ mho/m}$; $\epsilon_r = 52.695$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-09-2012; Ambient Temp: 23.2°C; Tissue Temp: 23.1°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 14.6.4 (4989)

Mode: GPRS 850, Body SAR, Back side, Mid.ch, 2 Tx Slots

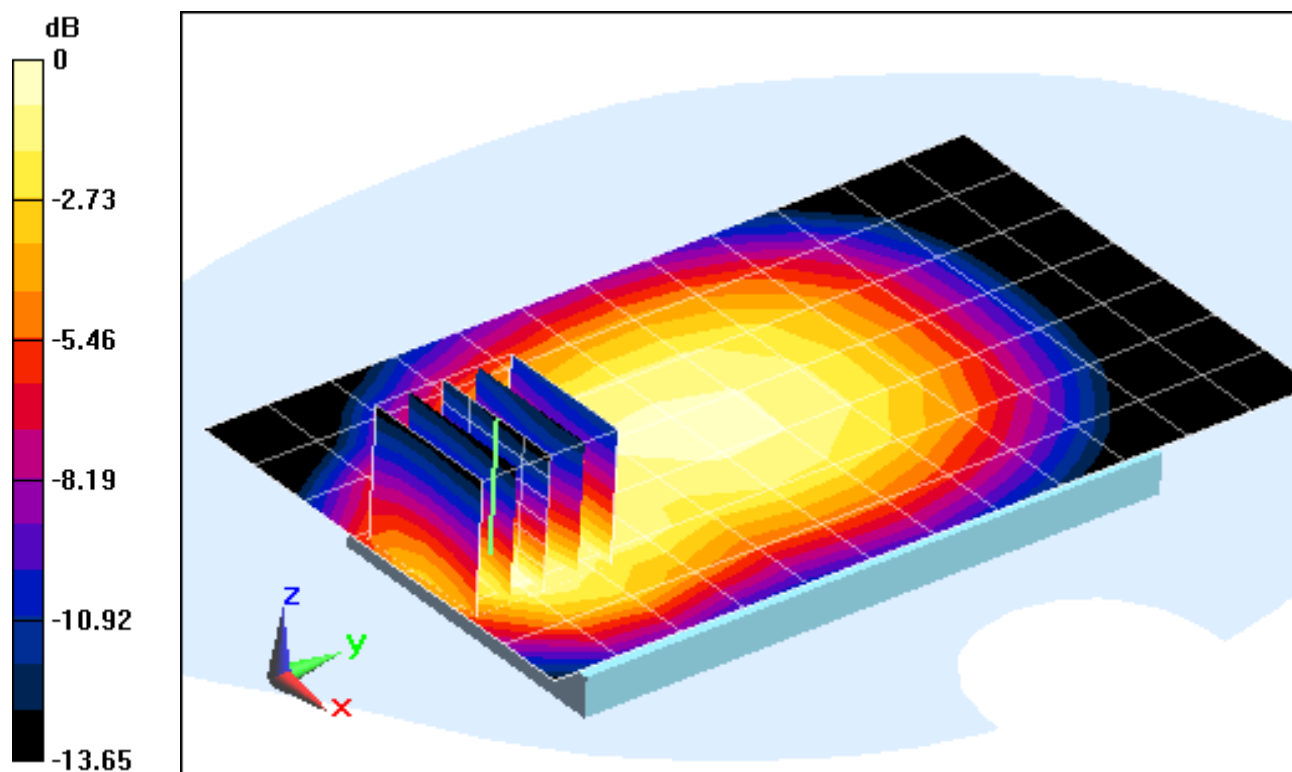
Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.789 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.8480 W/kg

SAR(1 g) = 0.430 mW/g; SAR(10 g) = 0.246 mW/g



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

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM 850 GPRS; 2 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.995 \text{ mho/m}$; $\epsilon_r = 52.695$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-09-2012; Ambient Temp: 23.2°C; Tissue Temp: 23.1°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 14.6.4 (4989)

Mode: GPRS 850, Body SAR, Front side, Mid.ch, 2 Tx Slots

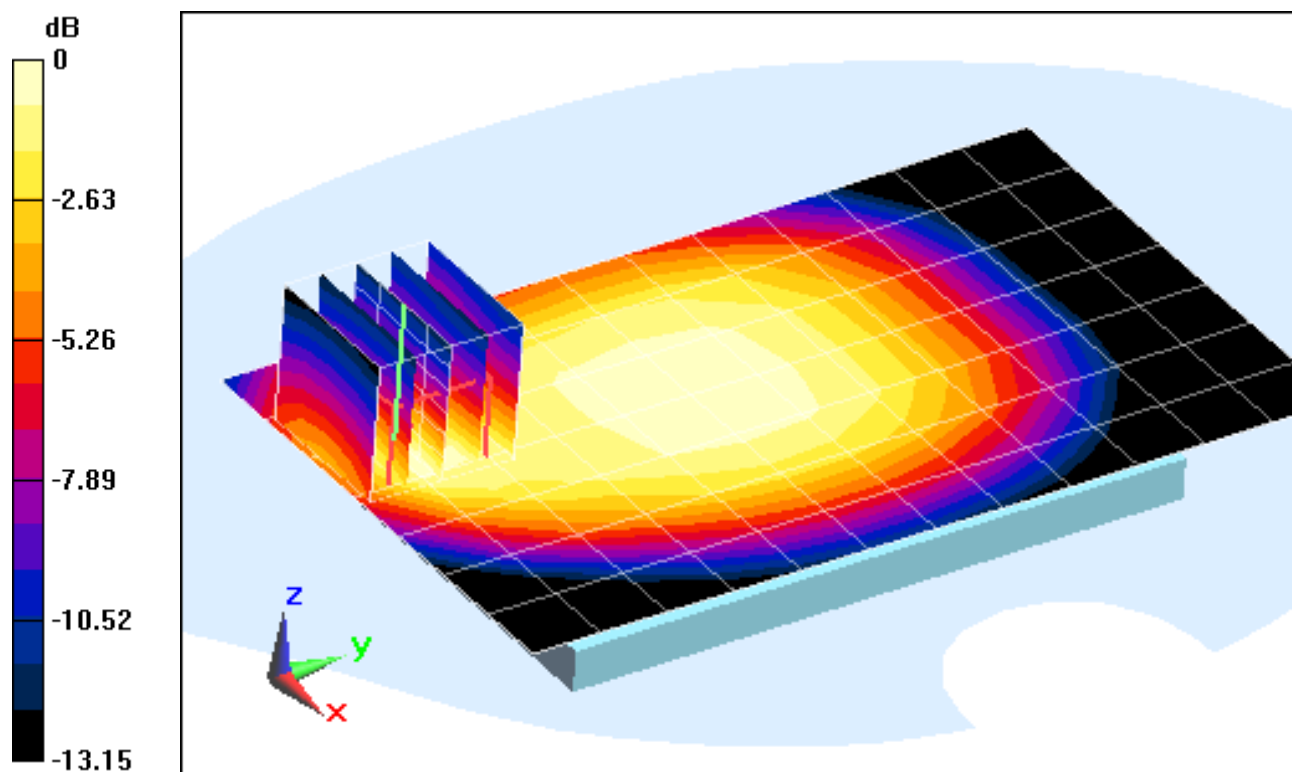
Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 20.085 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.6190 W/kg

SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.205 mW/g



0 dB = 0.390mW/g = -8.18 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM 850 GPRS; 2 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.995 \text{ mho/m}$; $\epsilon_r = 52.695$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-09-2012; Ambient Temp: 23.2°C; Tissue Temp: 23.1°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: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: GPRS 850, Body SAR, Bottom Edge, Mid.ch, 2 Tx Slots

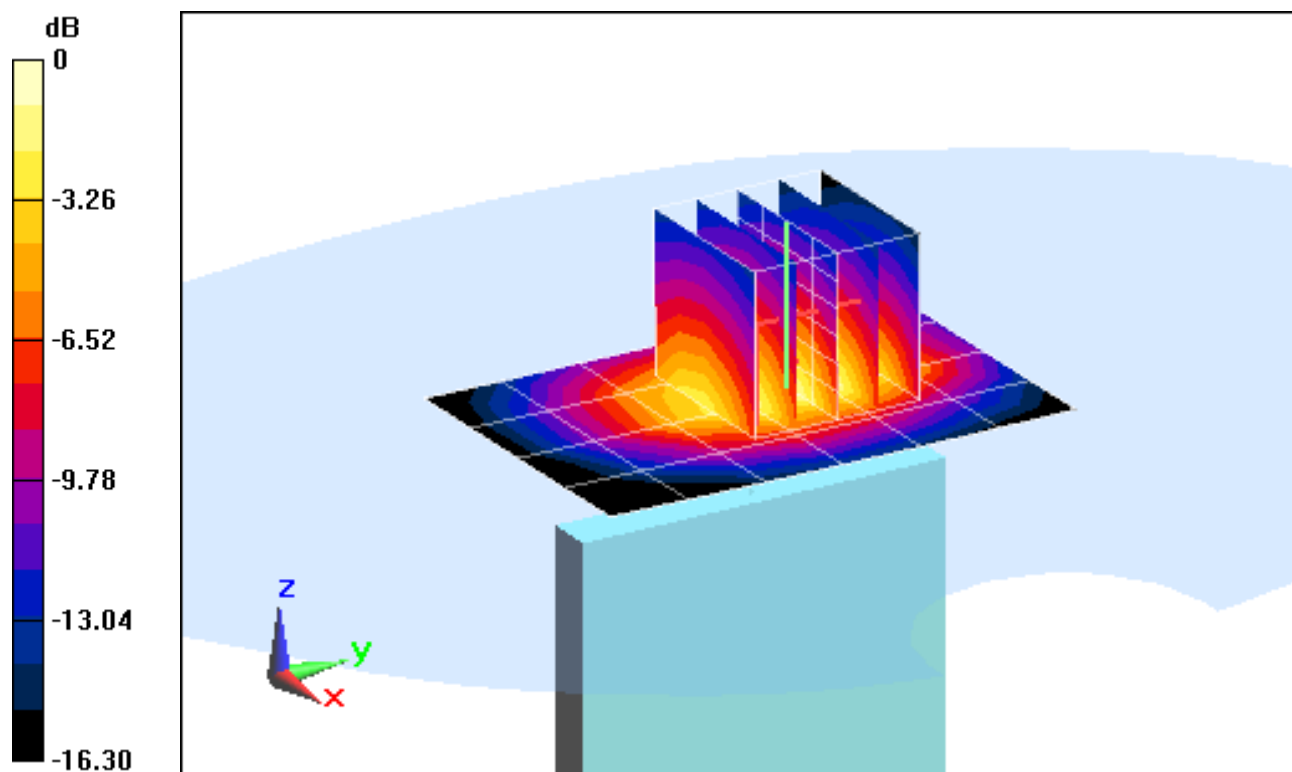
Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.429 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.9930 W/kg

SAR(1 g) = 0.519 mW/g; SAR(10 g) = 0.271 mW/g



0 dB = 0.590mW/g = -4.58 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM 850 GPRS; 2 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.995 \text{ mho/m}$; $\epsilon_r = 52.695$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-09-2012; Ambient Temp: 23.2°C; Tissue Temp: 23.1°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: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: GPRS 850, Body SAR, Left Edge, Mid.ch, 2 Tx Slots

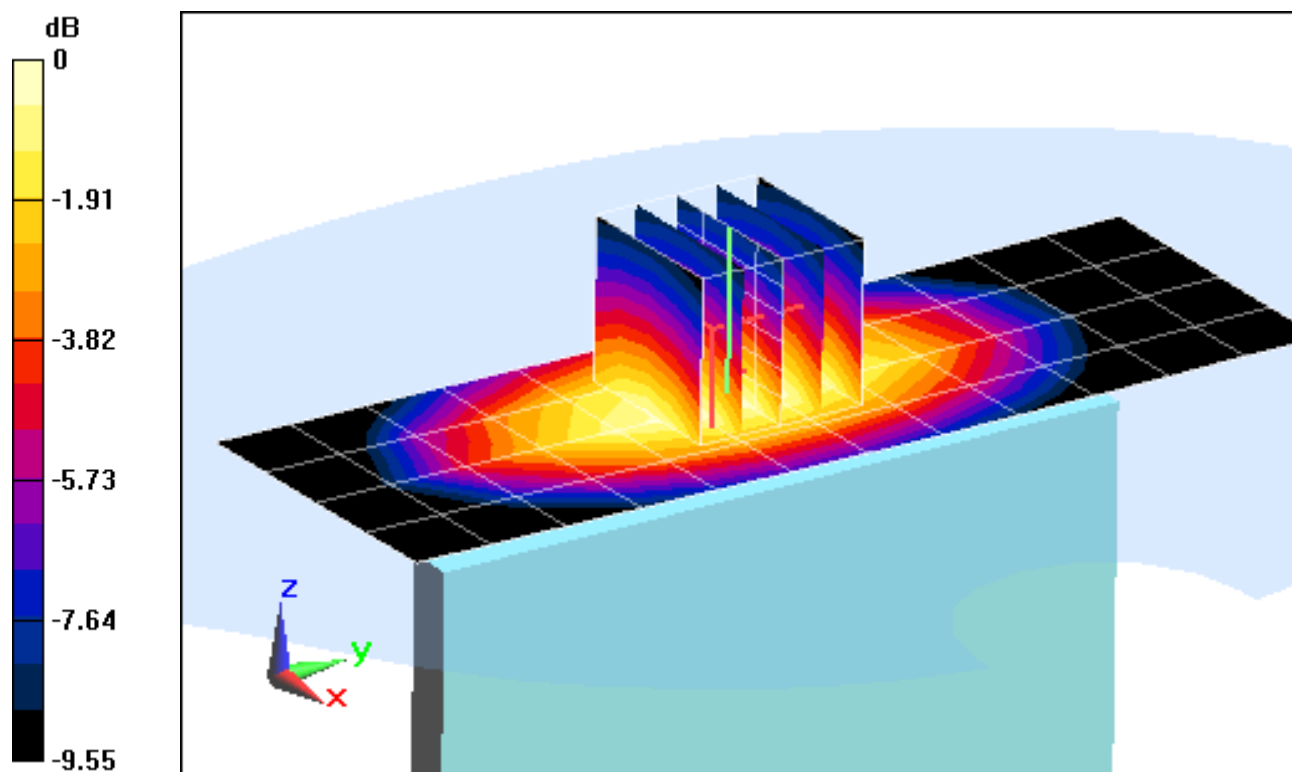
Area Scan (5x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 25.772 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.8680 W/kg

SAR(1 g) = 0.618 mW/g; SAR(10 g) = 0.424 mW/g



0 dB = 0.660mW/g = -3.61 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.494 \text{ mho/m}$; $\epsilon_r = 52.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-13-2012; Ambient Temp: 24.0°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn649; Calibrated: 2/20/2012

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

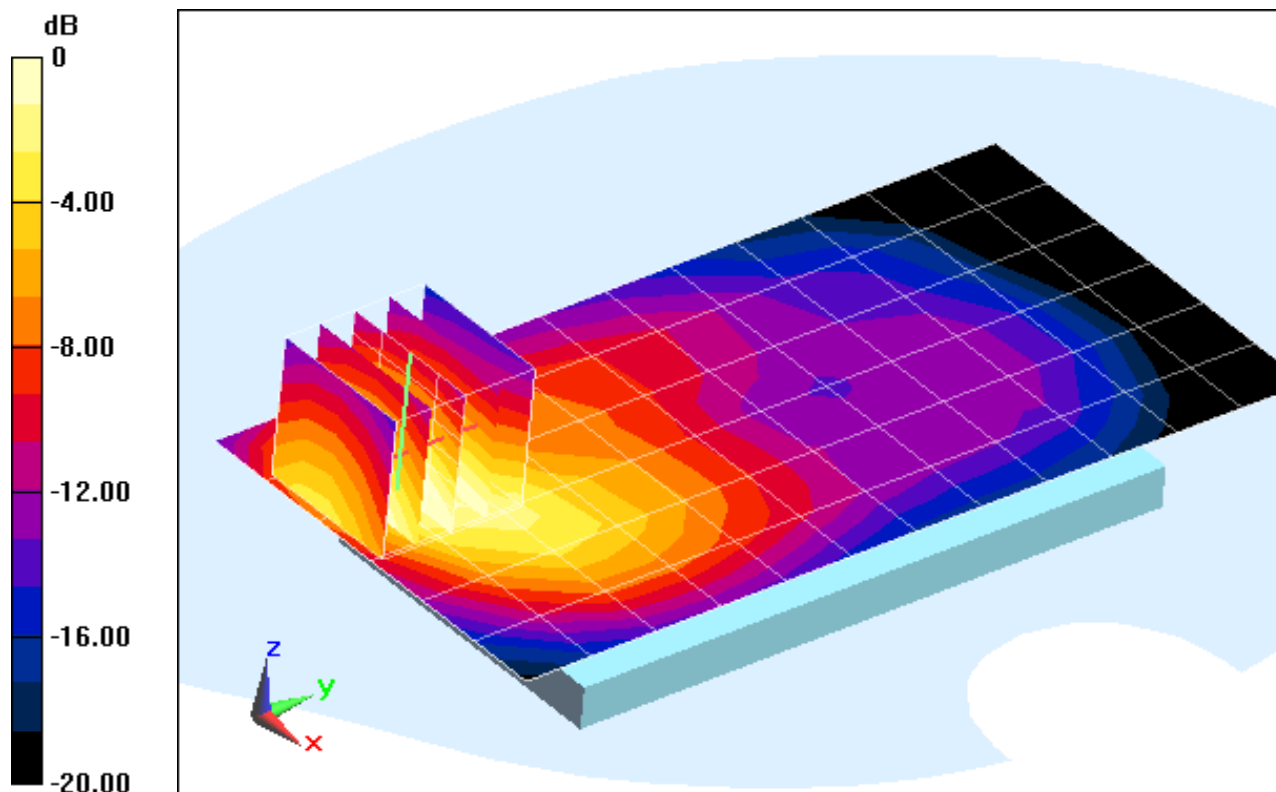
Area Scan (7x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.908 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.6200 W/kg

SAR(1 g) = 0.934 mW/g; SAR(10 g) = 0.486 mW/g



0 dB = 0.590mW/g = -4.58 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.494 \text{ mho/m}$; $\epsilon_r = 52.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-13-2012; Ambient Temp: 24.0°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn649; Calibrated: 2/20/2012

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

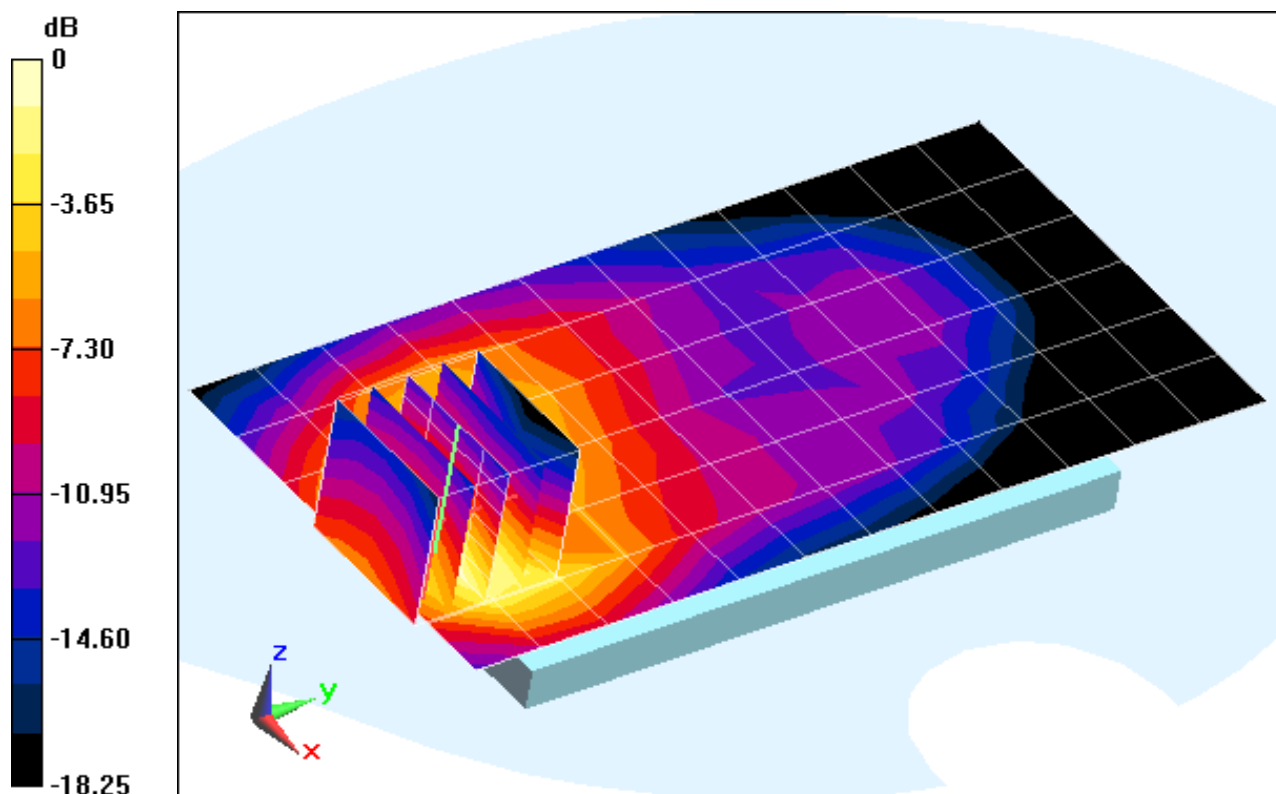
Area Scan (7x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.998 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.7560 W/kg

SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.235 mW/g



0 dB = 0.490mW/g = -6.20 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.494 \text{ mho/m}$; $\epsilon_r = 52.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-13-2012; Ambient Temp: 24.0°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn649; Calibrated: 2/20/2012

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

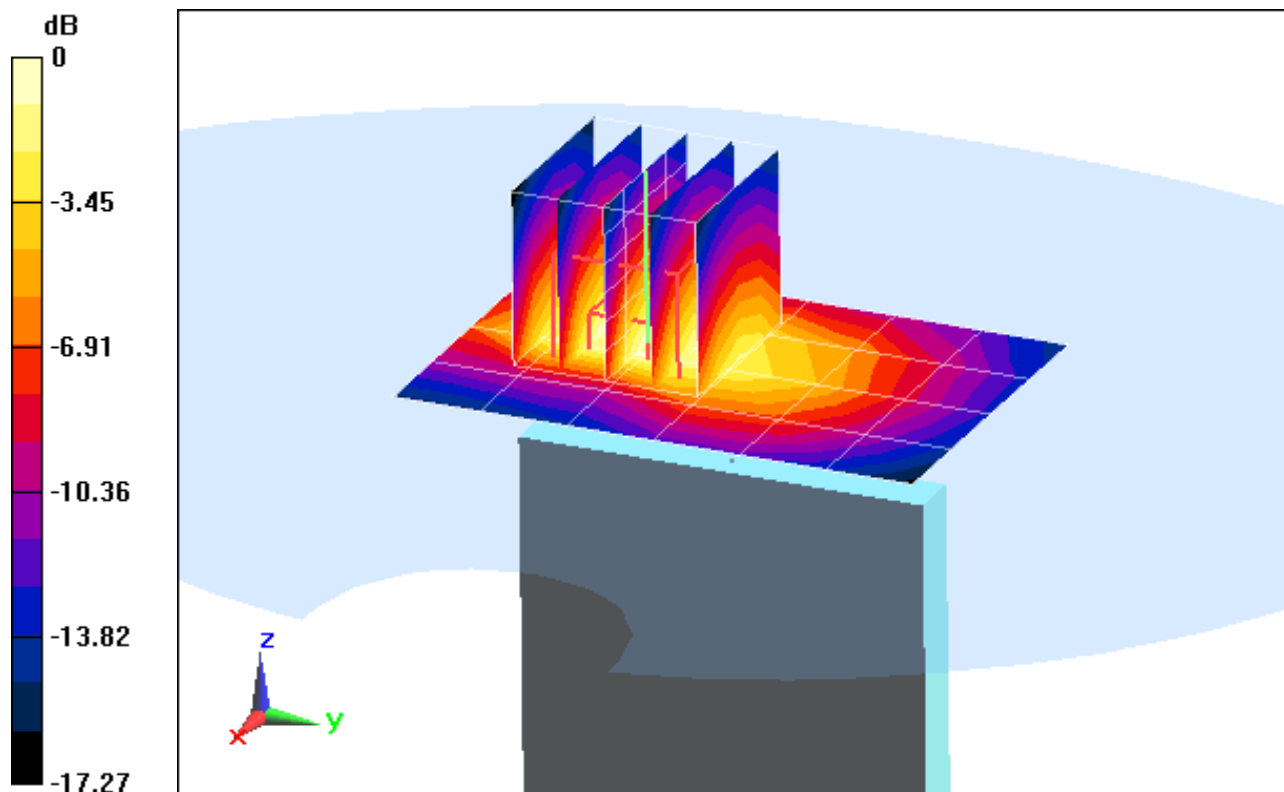
Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.300 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.1110 W/kg

SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.335 mW/g



0 dB = 0.710mW/g = -2.97 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-1660

Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.494 \text{ mho/m}$; $\epsilon_r = 52.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 03-13-2012; Ambient Temp: 24.0°C; Tissue Temp: 22.9°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn649; Calibrated: 2/20/2012

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: PCS CDMA, Body SAR, Right Edge, Mid.ch

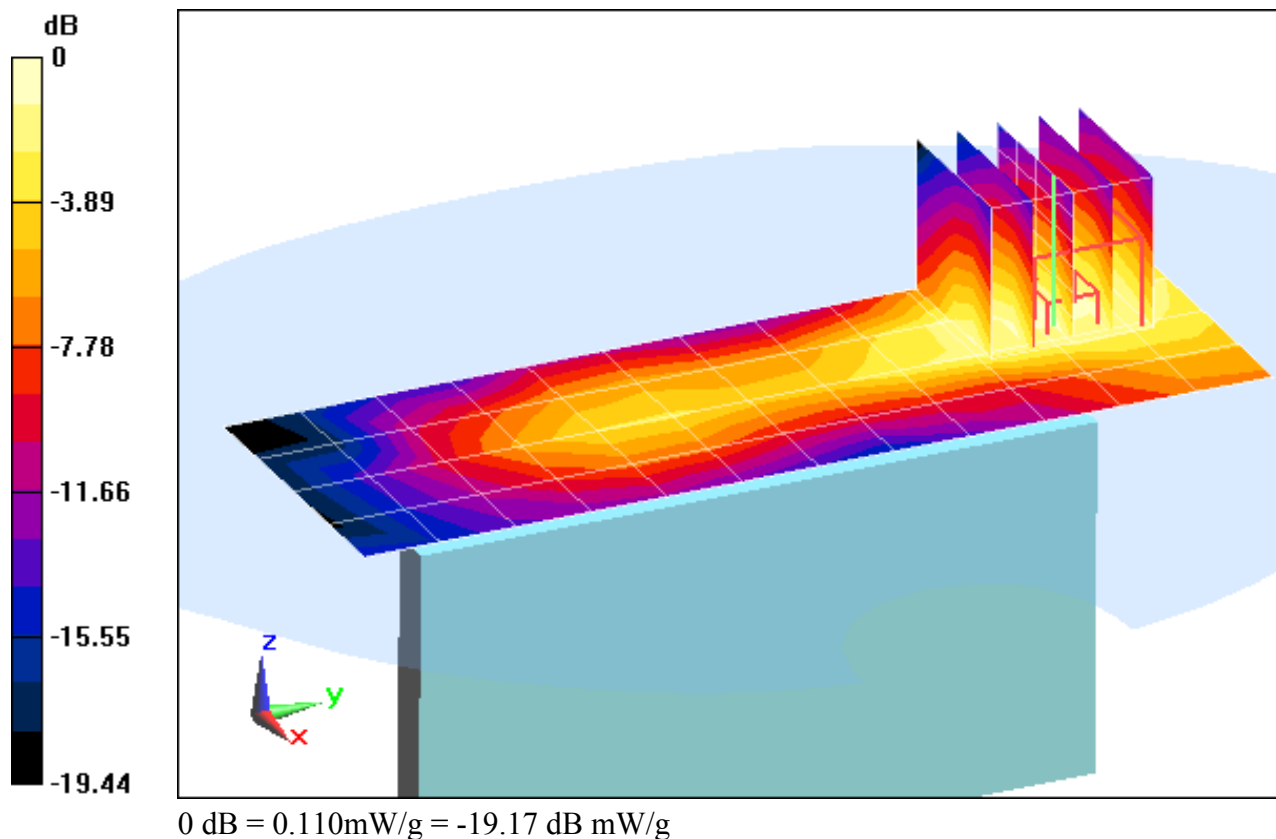
Area Scan (5x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.479 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.1670 W/kg

SAR(1 g) = 0.102 mW/g; SAR(10 g) = 0.059 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.492 \text{ mho/m}$; $\epsilon_r = 53.05$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-28-2012; Ambient Temp: 22.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

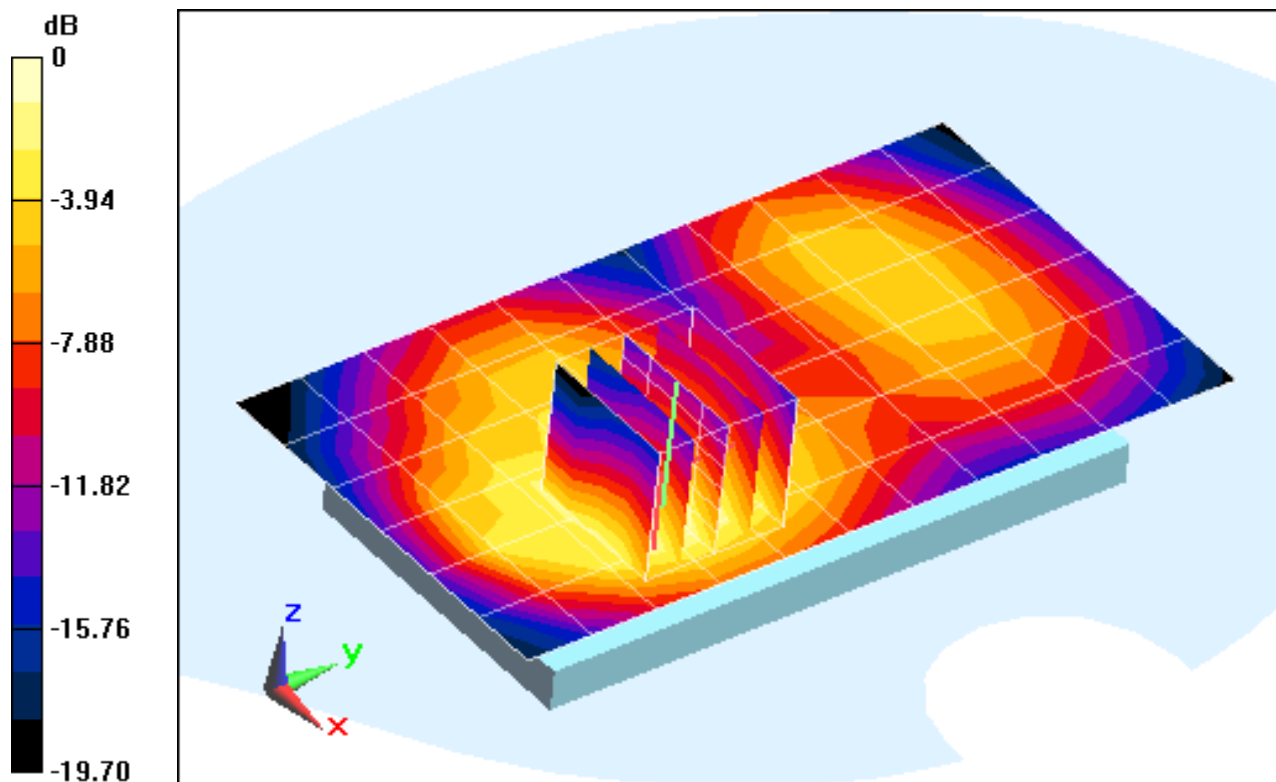
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.826 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.6710 W/kg

SAR(1 g) = 0.411 mW/g; SAR(10 g) = 0.241 mW/g



0 dB = 0.450mW/g = -6.94 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.492 \text{ mho/m}$; $\epsilon_r = 53.05$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-28-2012; Ambient Temp: 22.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: PCS EVDO, Body SAR, Front side, Mid.ch

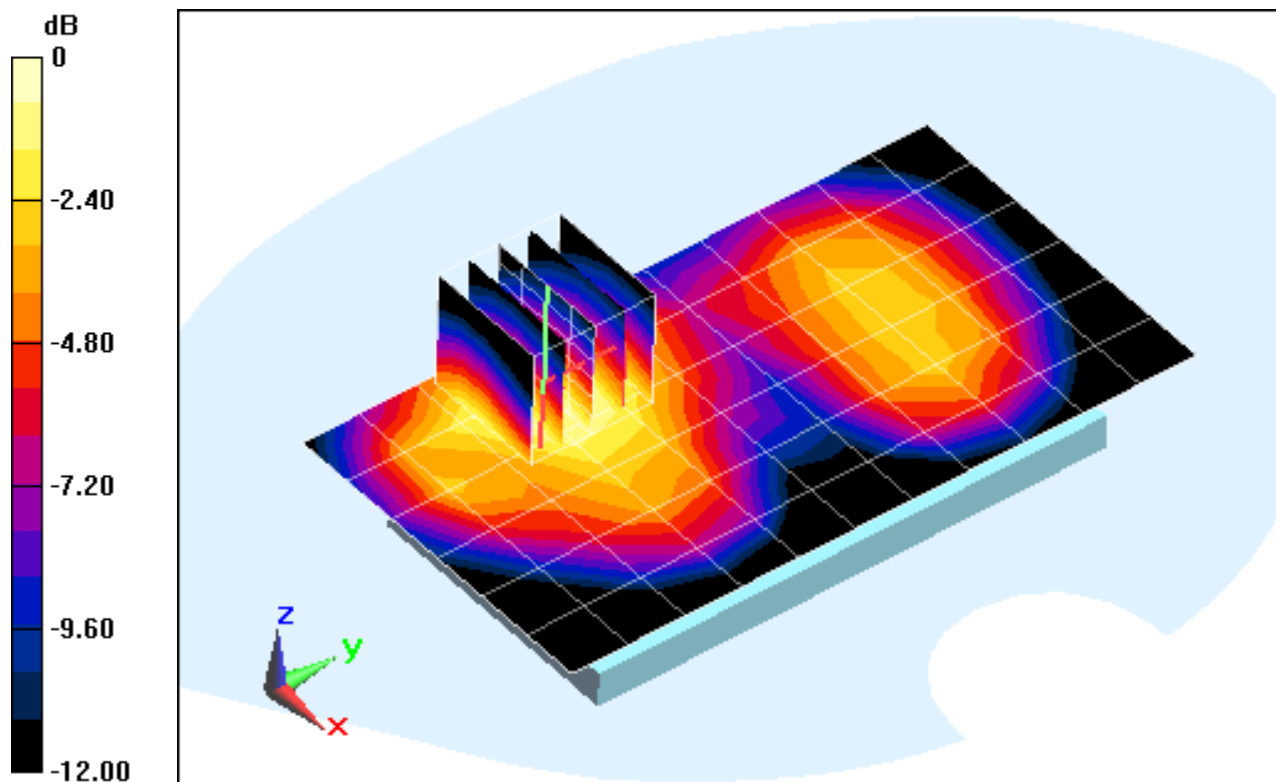
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.919 V/m; Power Drift = -0.0063 dB

Peak SAR (extrapolated) = 0.5950 W/kg

SAR(1 g) = 0.391 mW/g; SAR(10 g) = 0.244 mW/g



0 dB = 0.420mW/g = -7.54 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.492 \text{ mho/m}$; $\epsilon_r = 53.05$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-28-2012; Ambient Temp: 22.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

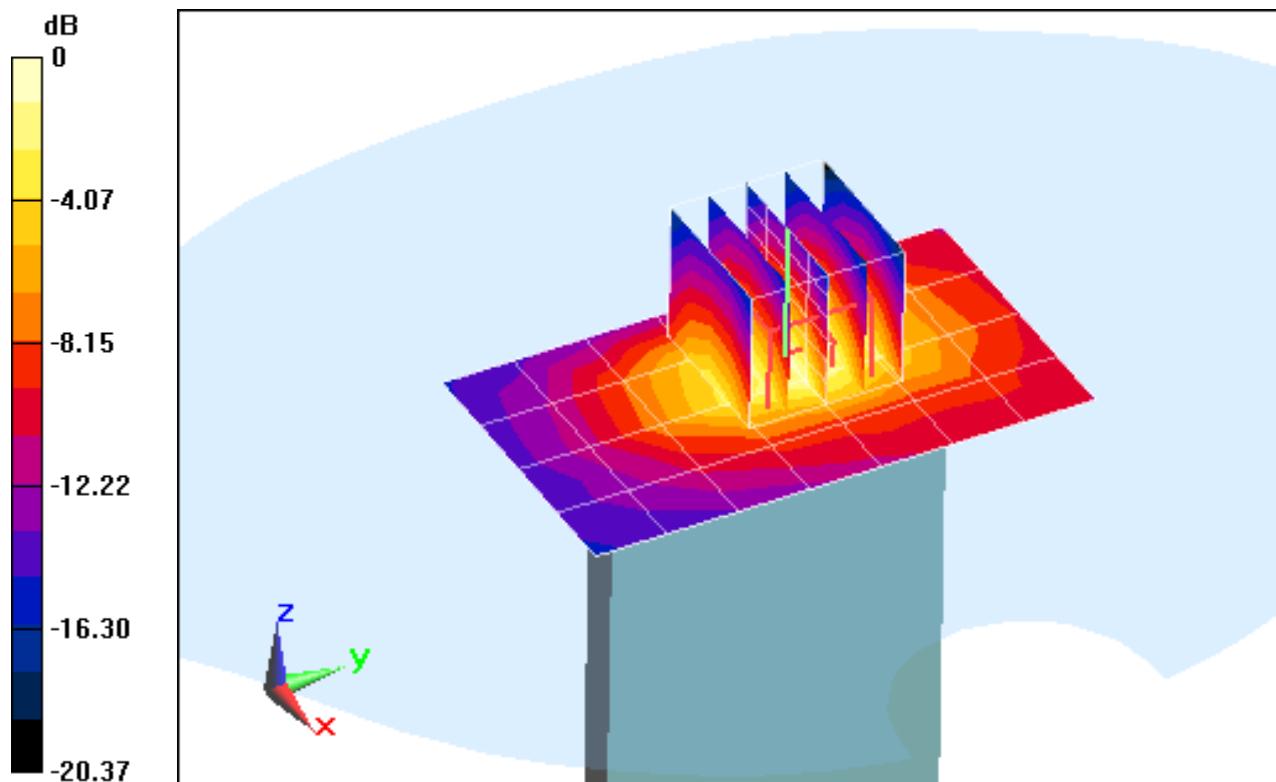
Area Scan (5x8x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.763 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.3900 W/kg

SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.102 mW/g



0 dB = 0.230mW/g = -12.77 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0579

Communication System: PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.492 \text{ mho/m}$; $\epsilon_r = 53.05$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-28-2012; Ambient Temp: 22.6°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3263; ConvF(4.81, 4.81, 4.81); Calibrated: 11/18/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn704; Calibrated: 9/16/2011

Phantom: SAM v5.0 front; Type: SAM v5.0; Serial: TP-1646

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: PCS EVDO, Body SAR, Left Edge, Mid.ch

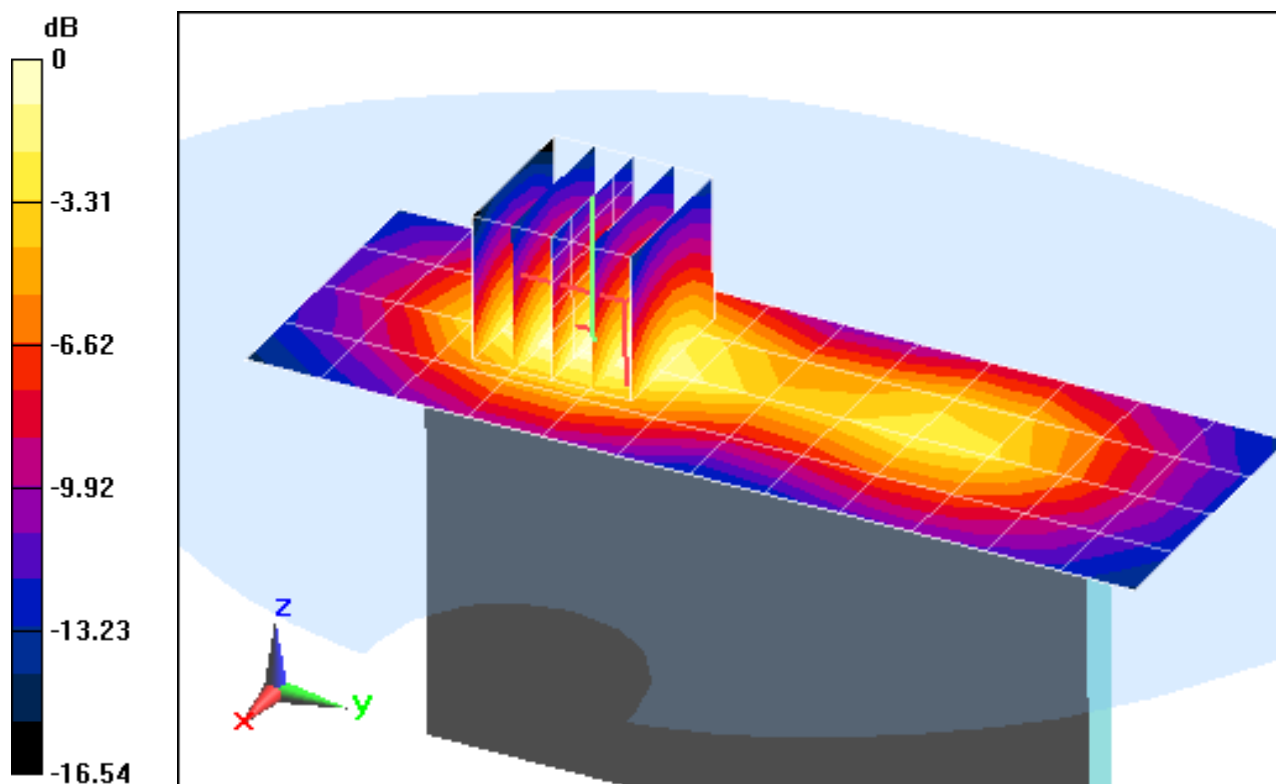
Area Scan (5x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.392 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.4150 W/kg

SAR(1 g) = 0.257 mW/g; SAR(10 g) = 0.152 mW/g



0 dB = 0.280mW/g = -11.06 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM GPRS; 2 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.505 \text{ mho/m}$; $\epsilon_r = 51.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-08-2012; Ambient Temp: 24.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3561; ConvF(6.58, 6.58, 6.58); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: GPRS 1900, Body SAR, Back side, Mid.ch, 2 Tx slots

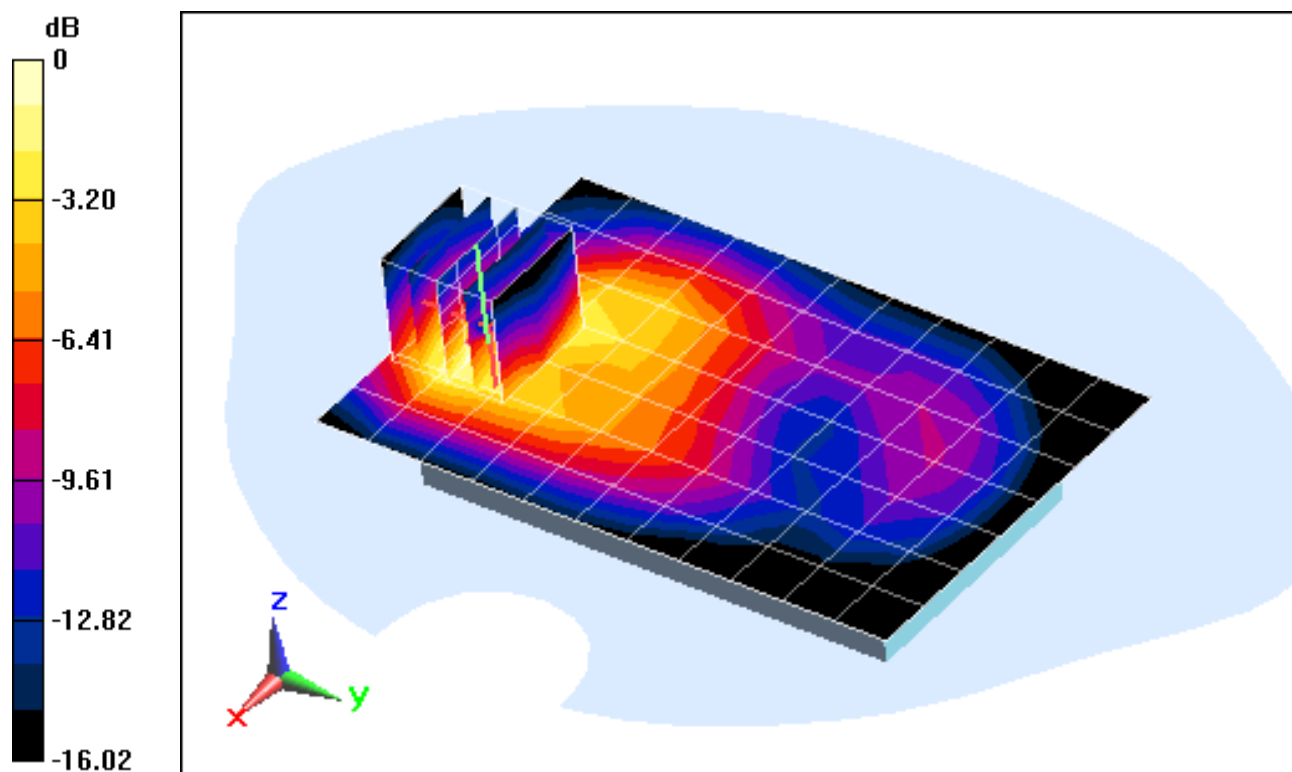
Area Scan (8x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.977 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.6260 W/kg

SAR(1 g) = 0.374 mW/g; SAR(10 g) = 0.202 mW/g



0 dB = 0.420mW/g = -7.54 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM GPRS; 2 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.505 \text{ mho/m}$; $\epsilon_r = 51.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-08-2012; Ambient Temp: 24.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3561; ConvF(6.58, 6.58, 6.58); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: GPRS 1900, Body SAR, Front side, Mid.ch, 2 Tx Slots

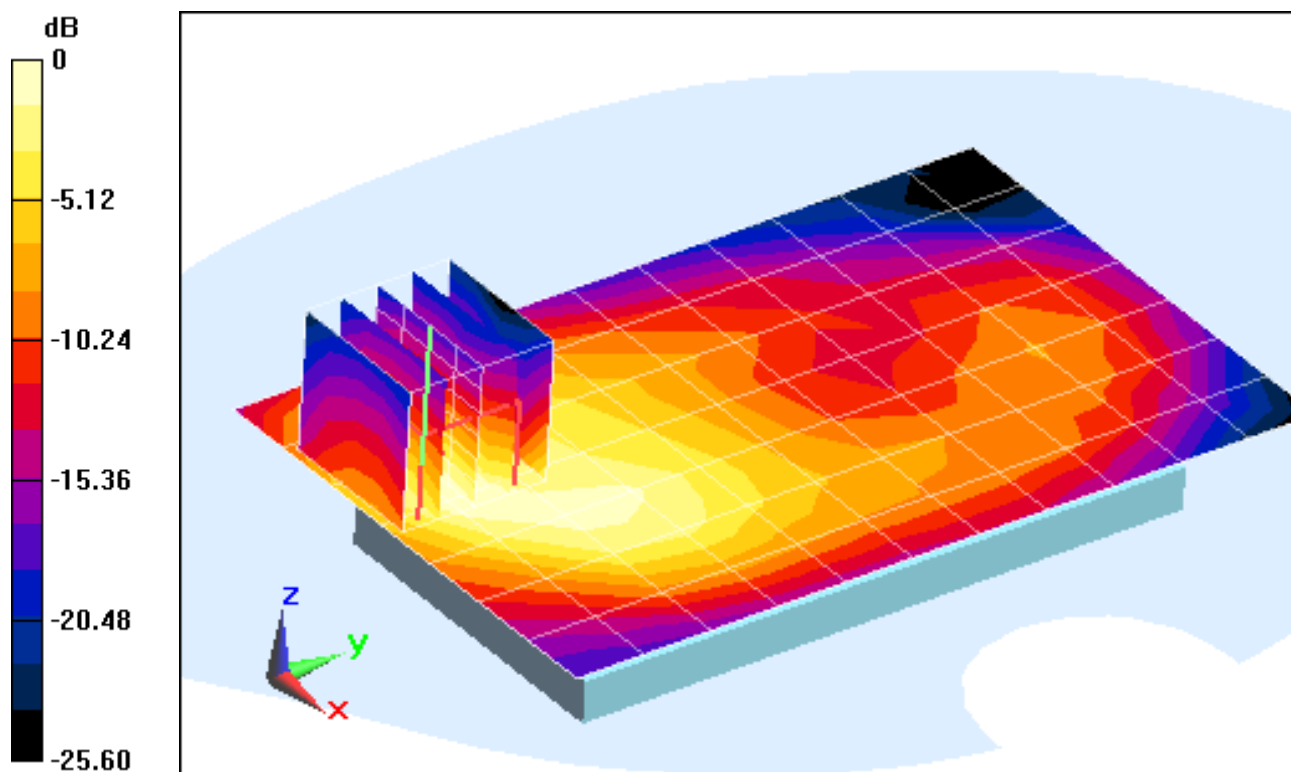
Area Scan (8x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.515 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.5480 W/kg

SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.176 mW/g



0 dB = 0.320mW/g = -9.90 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM GPRS; 2 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.505 \text{ mho/m}$; $\epsilon_r = 51.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-08-2012; Ambient Temp: 24.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3561; ConvF(6.58, 6.58, 6.58); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: GPRS 1900, Body SAR, Bottom Edge, Mid.ch, 2 Tx Slots

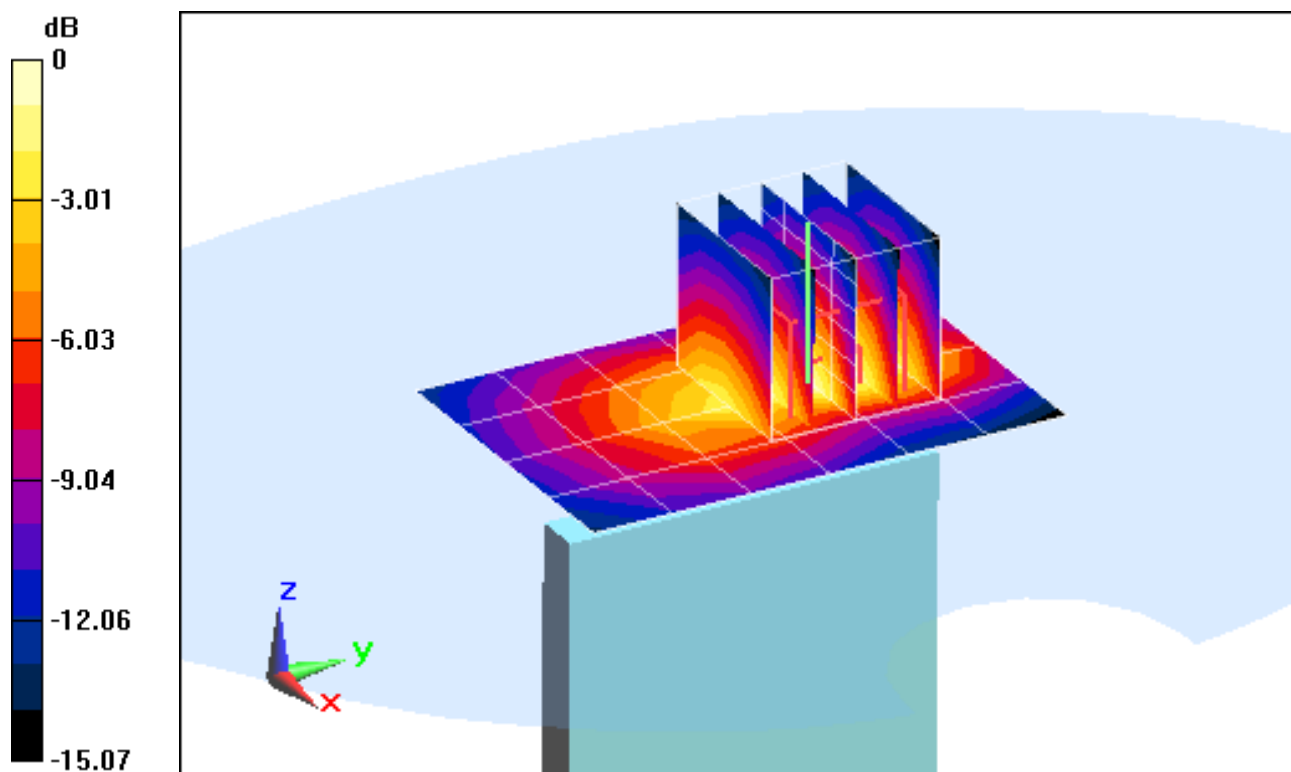
Area Scan (5x7x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.247 V/m; Power Drift = 0.0097 dB

Peak SAR (extrapolated) = 0.6280 W/kg

SAR(1 g) = 0.362 mW/g; SAR(10 g) = 0.186 mW/g



0 dB = 0.400mW/g = -7.96 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-3064

Communication System: GSM GPRS; 2 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.505 \text{ mho/m}$; $\epsilon_r = 51.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-08-2012; Ambient Temp: 24.4°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3561; ConvF(6.58, 6.58, 6.58); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

Mode: GPRS 1900, Body SAR, Left Edge, Mid.ch, 2 Tx Slots

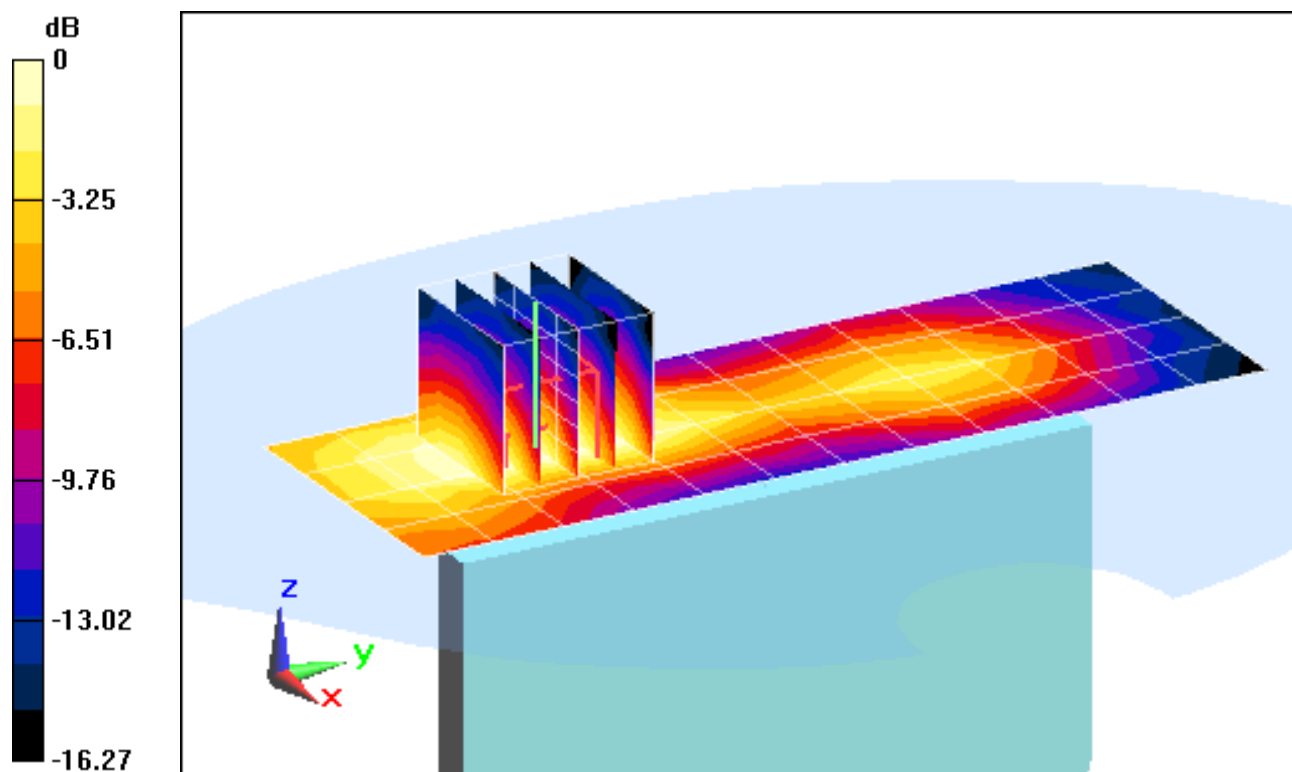
Area Scan (5x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.991 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.1290 W/kg

SAR(1 g) = 0.078 mW/g; SAR(10 g) = 0.045 mW/g



0 dB = 0.070mW/g = -23.10 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$; $\sigma = 2.014 \text{ mho/m}$; $\epsilon_r = 50.116$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

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

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0 ; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0);SEMCAD X Version 14.6.4 (4989)

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

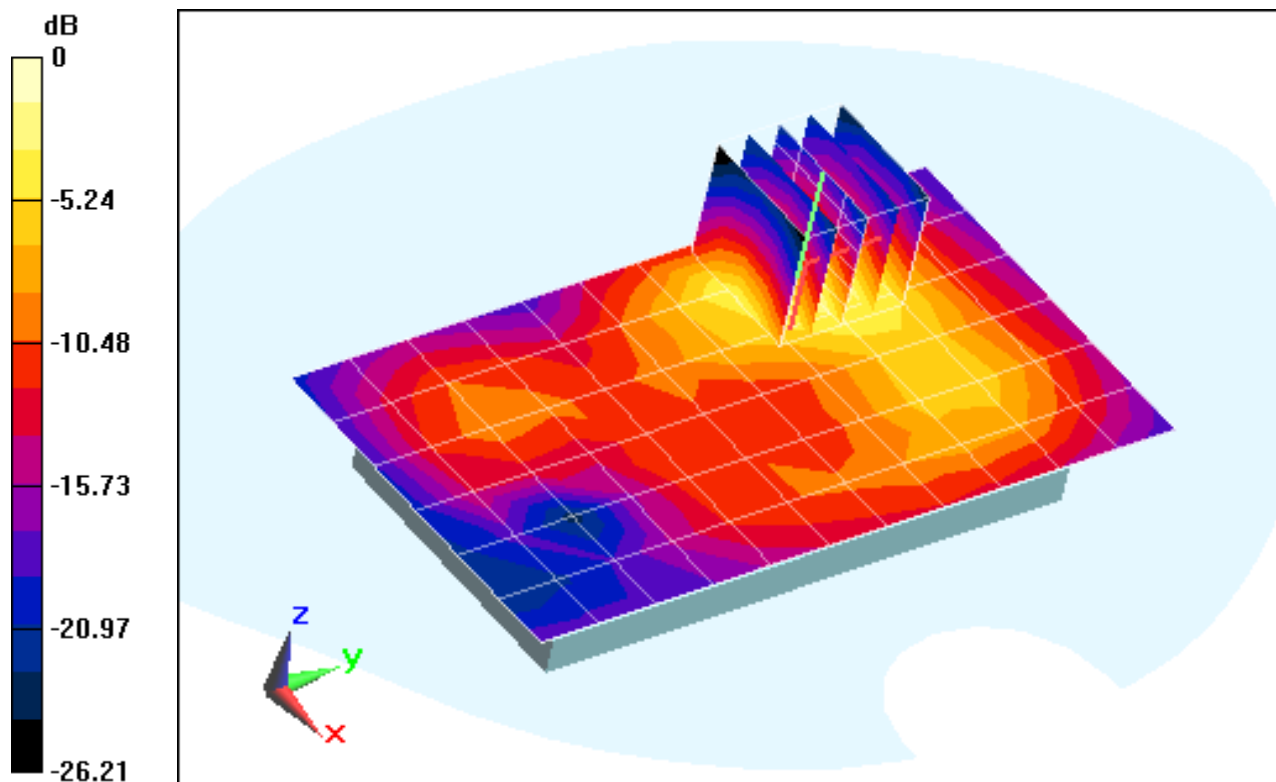
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.500 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.5070 W/kg

SAR(1 g) = 0.219 mW/g; SAR(10 g) = 0.096 mW/g



0 dB = 0.290mW/g = -10.75 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$; $\sigma = 2.014 \text{ mho/m}$; $\epsilon_r = 50.116$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

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

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

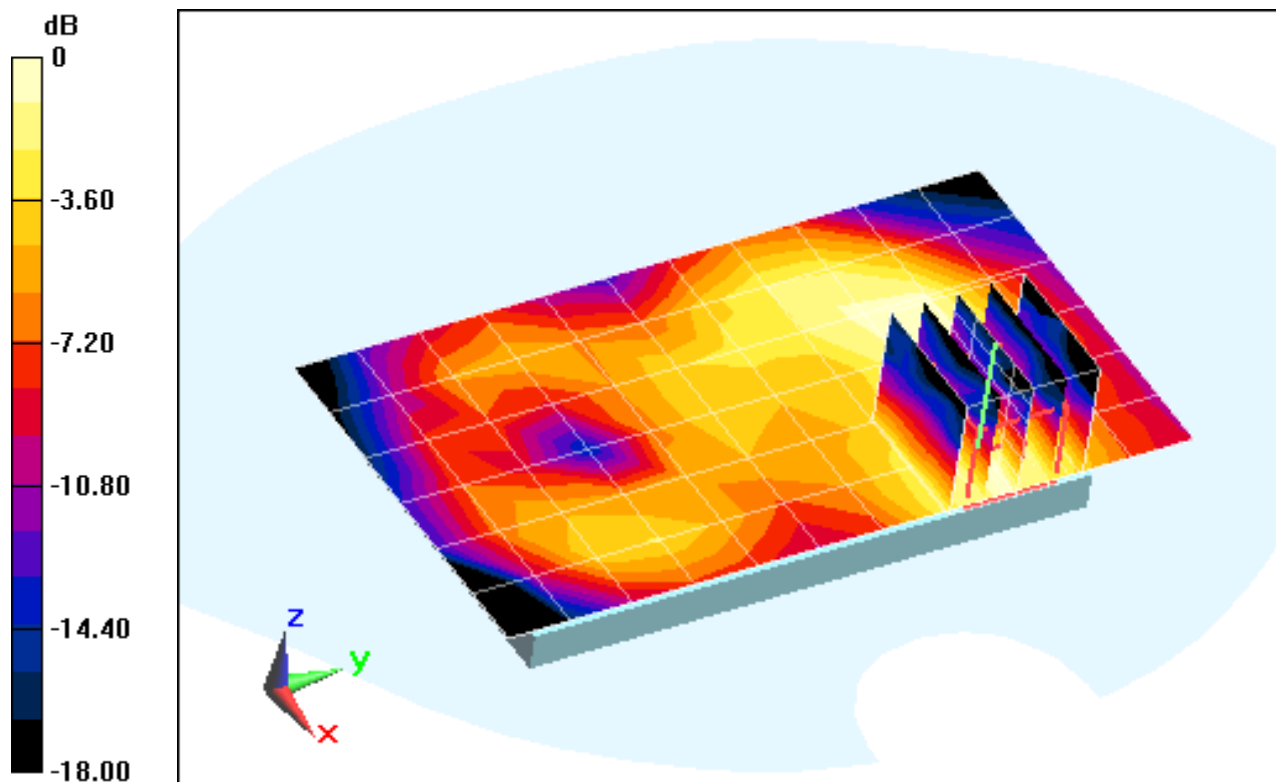
Area Scan (7x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.673 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.0530 W/kg

SAR(1 g) = 0.025 mW/g; SAR(10 g) = 0.012 mW/g



0 dB = 0.030mW/g = -30.46 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$; $\sigma = 2.014 \text{ mho/m}$; $\epsilon_r = 50.116$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

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

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

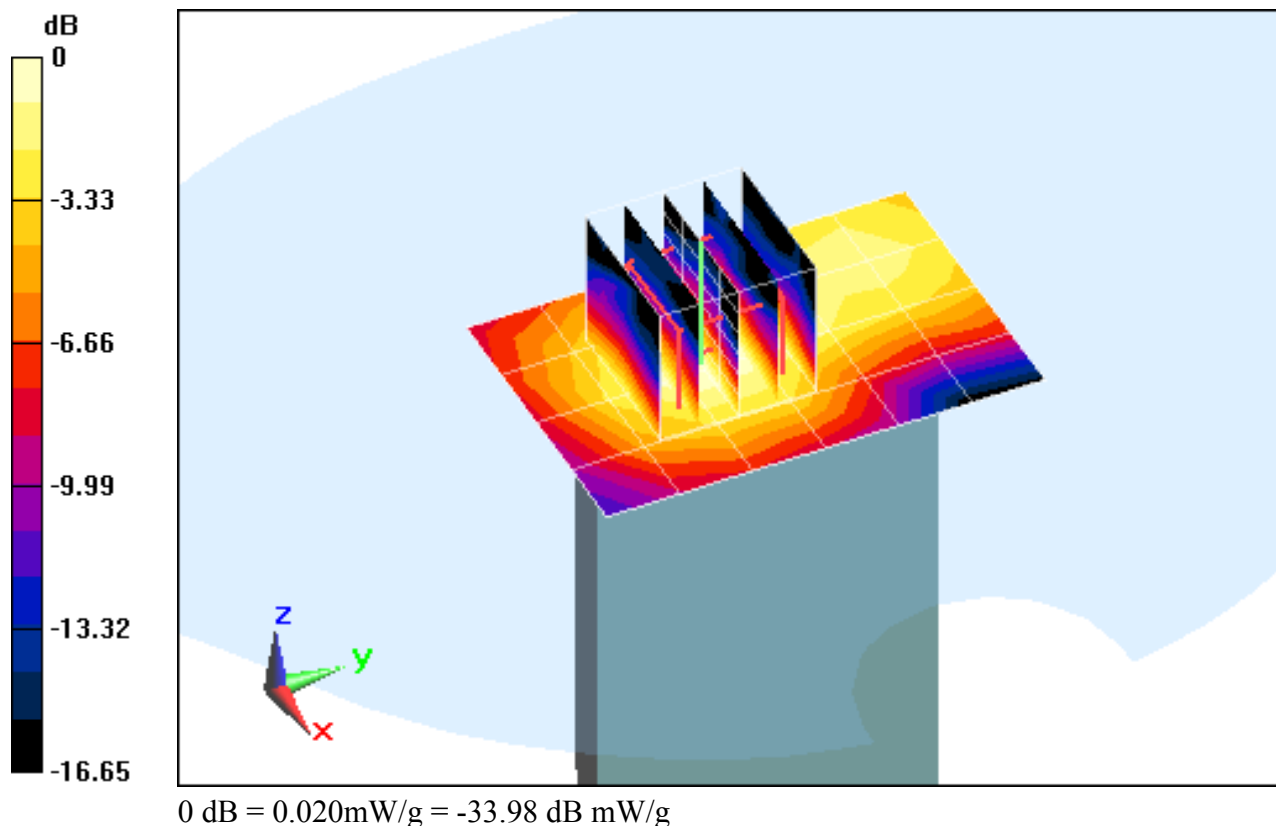
Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.985 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.0350 W/kg

SAR(1 g) = 0.018 mW/g; SAR(10 g) = 0.00905 mW/g



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Body; Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$; $\sigma = 2.014 \text{ mho/m}$; $\epsilon_r = 50.116$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

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

Probe: ES3DV3 - SN3213; ConvF(4.2, 4.2, 4.2); Calibrated: 3/24/2011

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: SAM v5.0; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

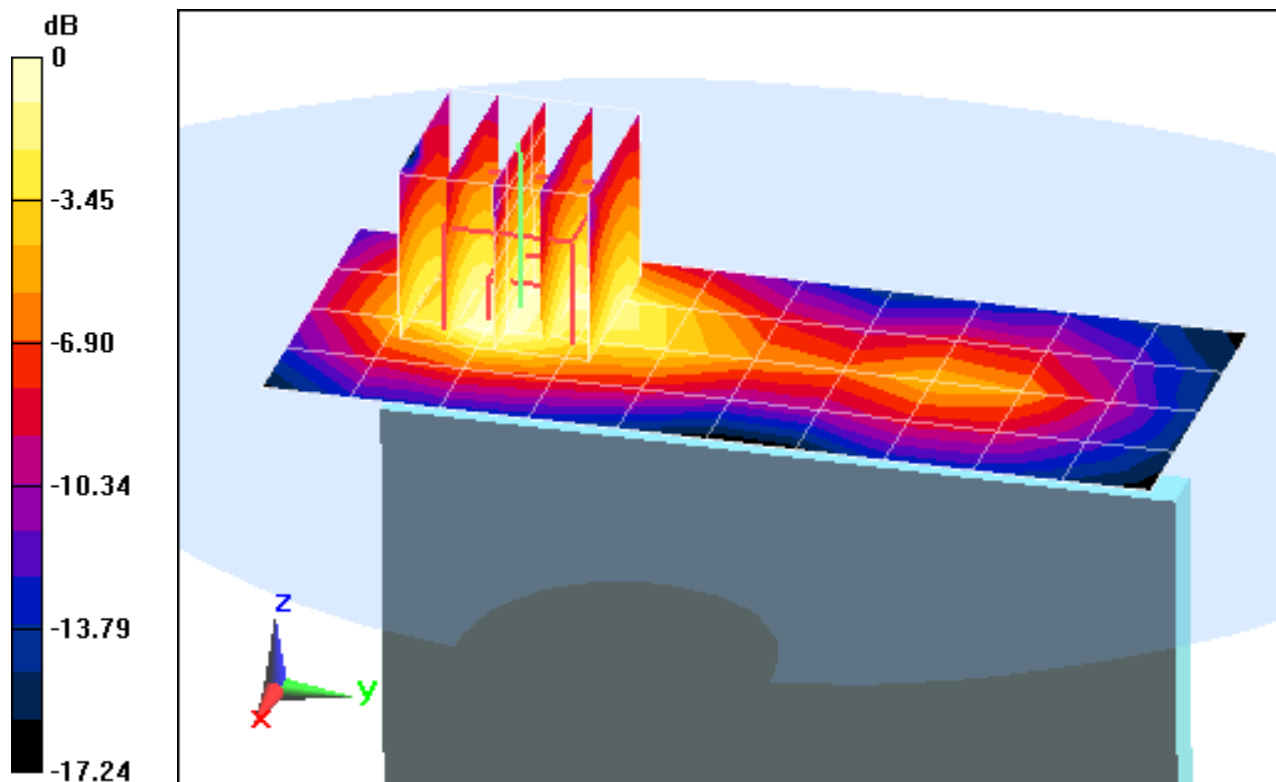
Area Scan (5x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.413 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.2210 W/kg

SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.044 mW/g



0 dB = 0.090mW/g = -20.92 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSCHI535; Type: Portable Handset; Serial: D2-0445

Communication System: IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body Medium parameters used:

$f = 5500 \text{ MHz}$; $\sigma = 5.805 \text{ mho/m}$; $\epsilon_r = 46.89$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 02-20-2012; Ambient Temp: 21.9°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN3589; ConvF(3.4, 3.4, 3.4); Calibrated: 1/27/2012

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Mode: IEEE 802.11a, 5.5 GHz, Body SAR, Ch 100, 6 Mbps, Back Side

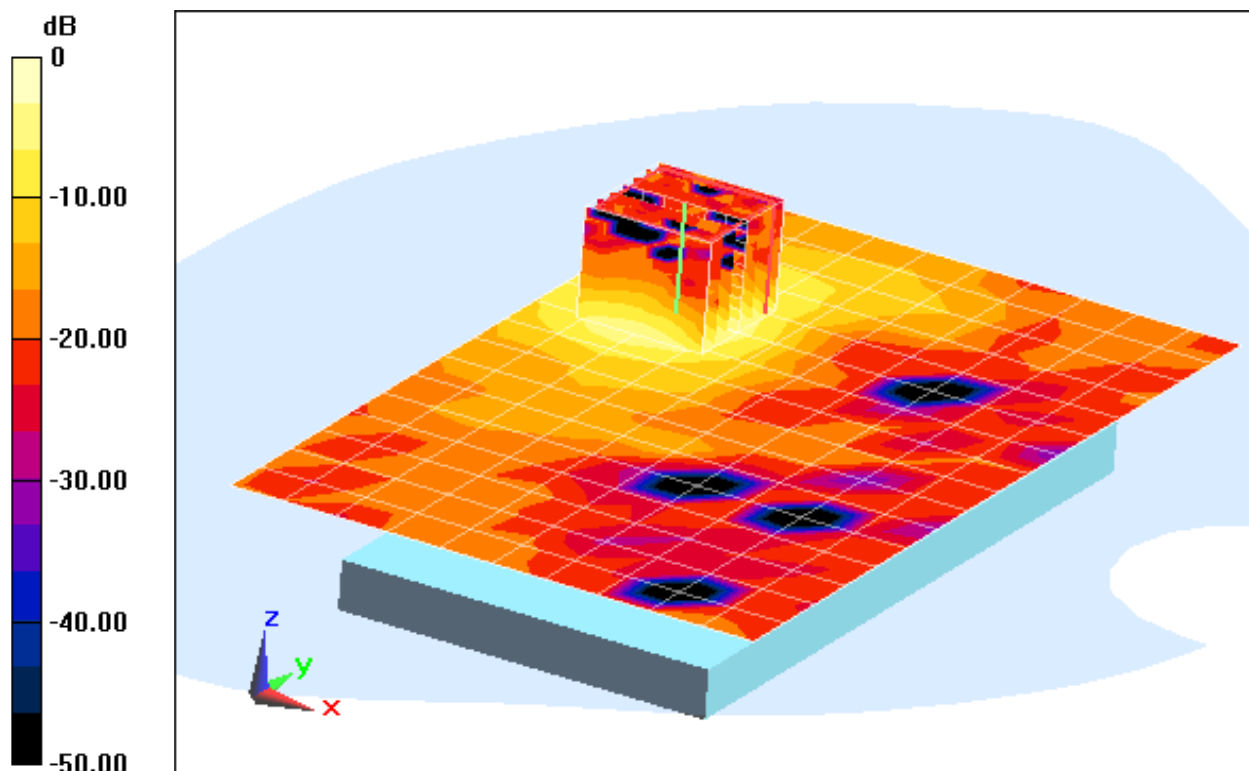
Area Scan (11x17x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x11)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 7.472 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.9960

SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.089 mW/g



0 dB = 0.520mW/g = -5.68 dB mW/g

APPENDIX B: SYSTEM VERIFICATION

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1046

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 740 Head Medium parameters used (interpolated):

$f = 750 \text{ MHz}$; $\sigma = 0.896 \text{ mho/m}$; $\epsilon_r = 42.12$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

750 MHz System Verification

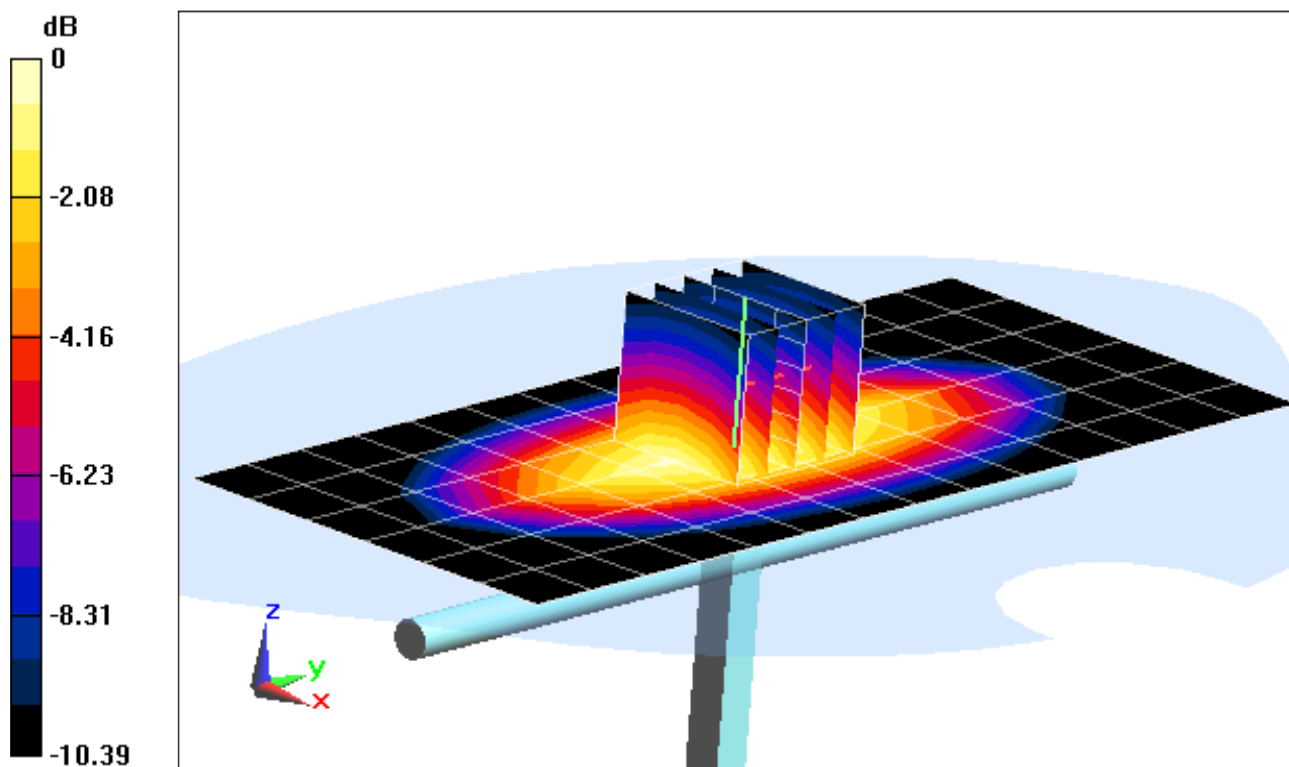
Area Scan (7x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Input Power = 20.0 dBm (100 mW)

SAR(1 g) = 0.789 mW/g; SAR(10 g) = 0.518 mW/g

Deviation = - 6.07%



0 dB = 0.850mW/g = -1.41 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1046

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 740 Head Medium parameters used (interpolated):

$f = 750 \text{ MHz}$; $\sigma = 0.896 \text{ mho/m}$; $\epsilon_r = 42.12$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 03-23-2012; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3561; ConvF(8.38, 8.38, 8.38); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

750 MHz System Verification

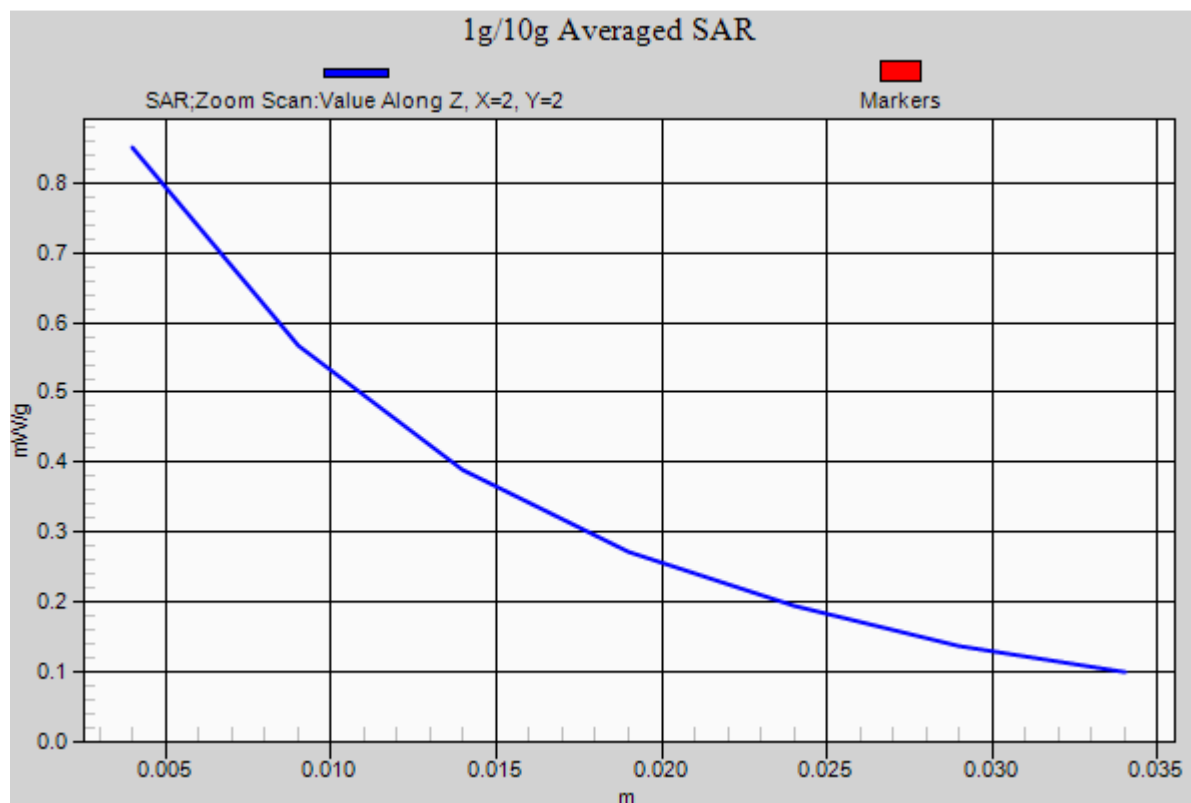
Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Input Power = 20.0 dBm (100 mW)

SAR(1 g) = 0.789 mW/g; SAR(10 g) = 0.518 mW/g

Deviation = - 6.07%



PCTEST ENGINEERING LABORATORY, INC.

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

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

Medium: 835 Head; Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 0.942 \text{ mho/m}$; $\epsilon_r = 41.79$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.6.4 (4989)

835 MHz System Verification

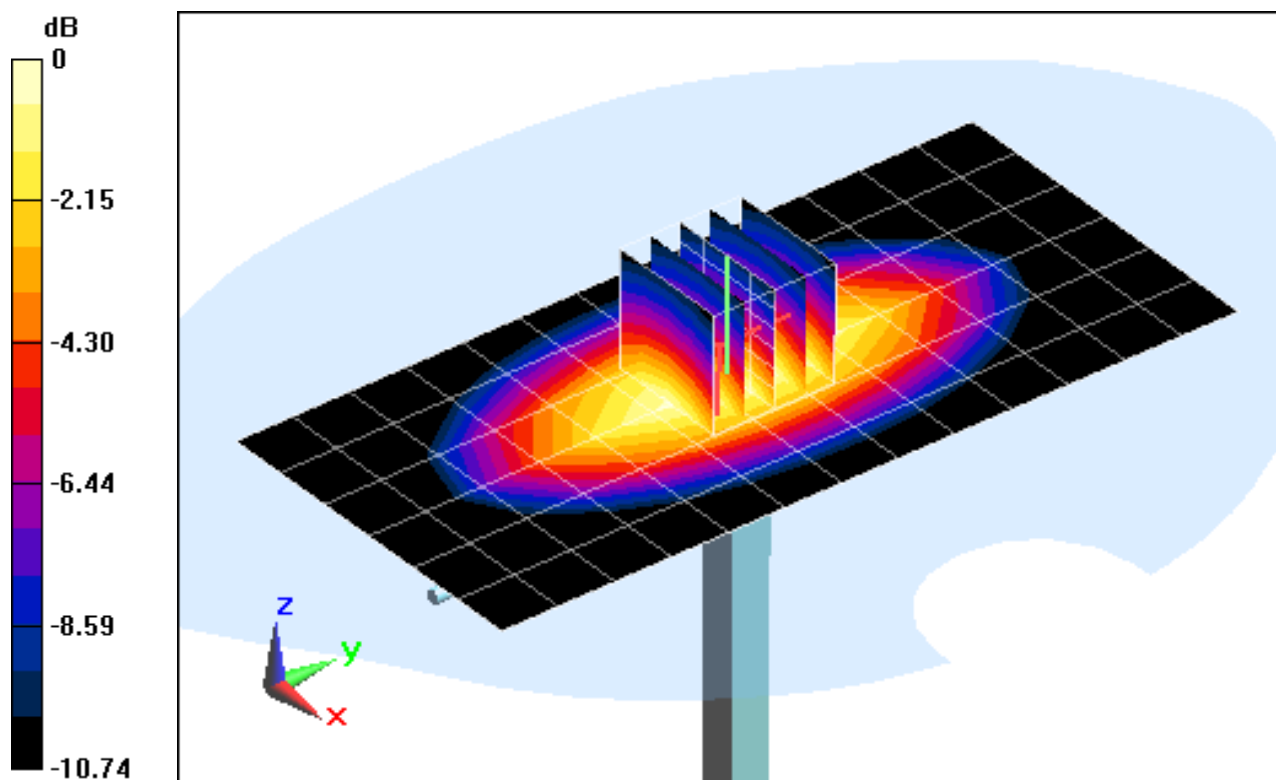
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Input Power = 18.0 dBm (63 mW)

SAR(1 g) = 0.637 mW/g; SAR(10 g) = 0.414 mW/g

Deviation = 7.56%



0 dB = 0.690mW/g = -3.22 dB mW/g

PCTEST ENGINEERING LABORATORY, INC.

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

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

Medium: 835 Head; Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 0.942 \text{ mho/m}$; $\epsilon_r = 41.79$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 02-24-2012; Ambient Temp: 23.4°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM V5.0 Right; Type: SAM v5.0; Serial: 1647

Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.6.4 (4989)

835 MHz System Verification

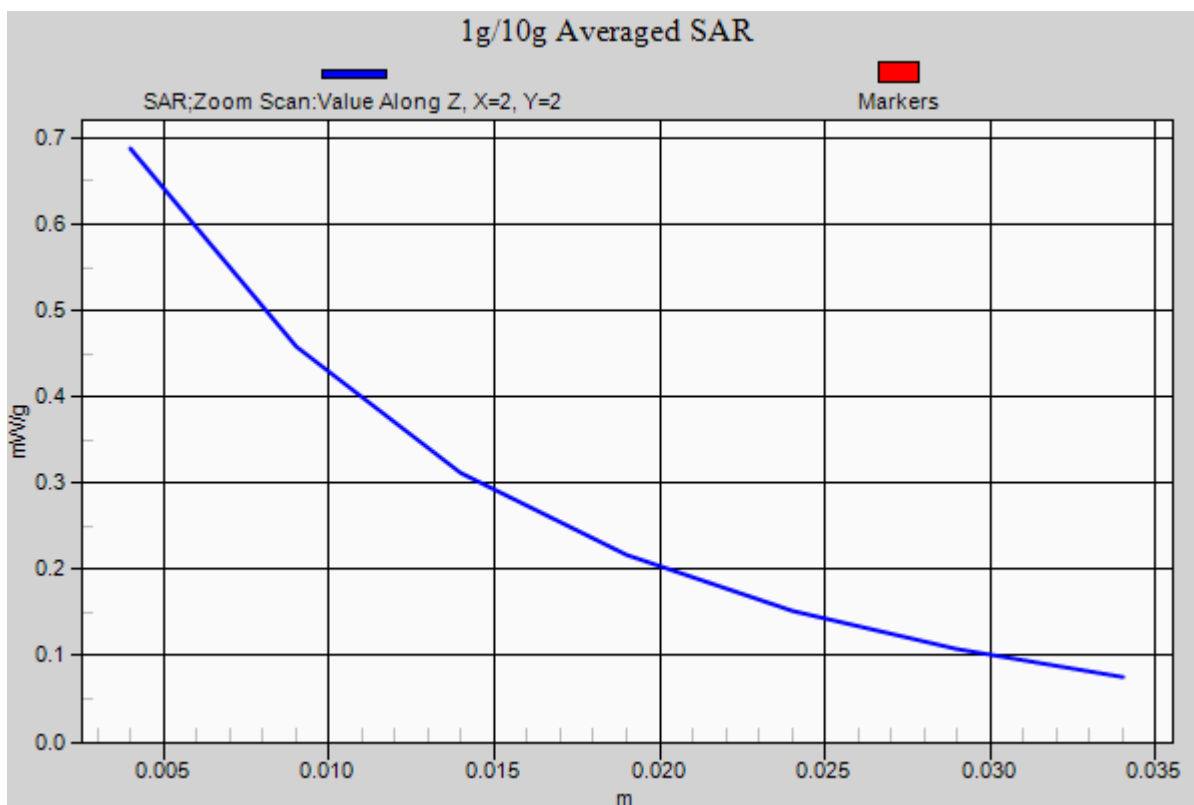
Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Input Power = 18.0 dBm (63 mW)

SAR(1 g) = 0.637 mW/g; SAR(10 g) = 0.414 mW/g

Deviation = 7.56%



PCTEST ENGINEERING LABORATORY, INC.

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

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

Medium: 835 Head; Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 0.906 \text{ mho/m}$; $\epsilon_r = 40$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 03-01-2012; Ambient Temp: 23.8°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN3561; ConvF(8.07, 8.07, 8.07); Calibrated: 7/27/2011

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE3 Sn455; Calibrated: 11/9/2011

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

835 MHz System Verification

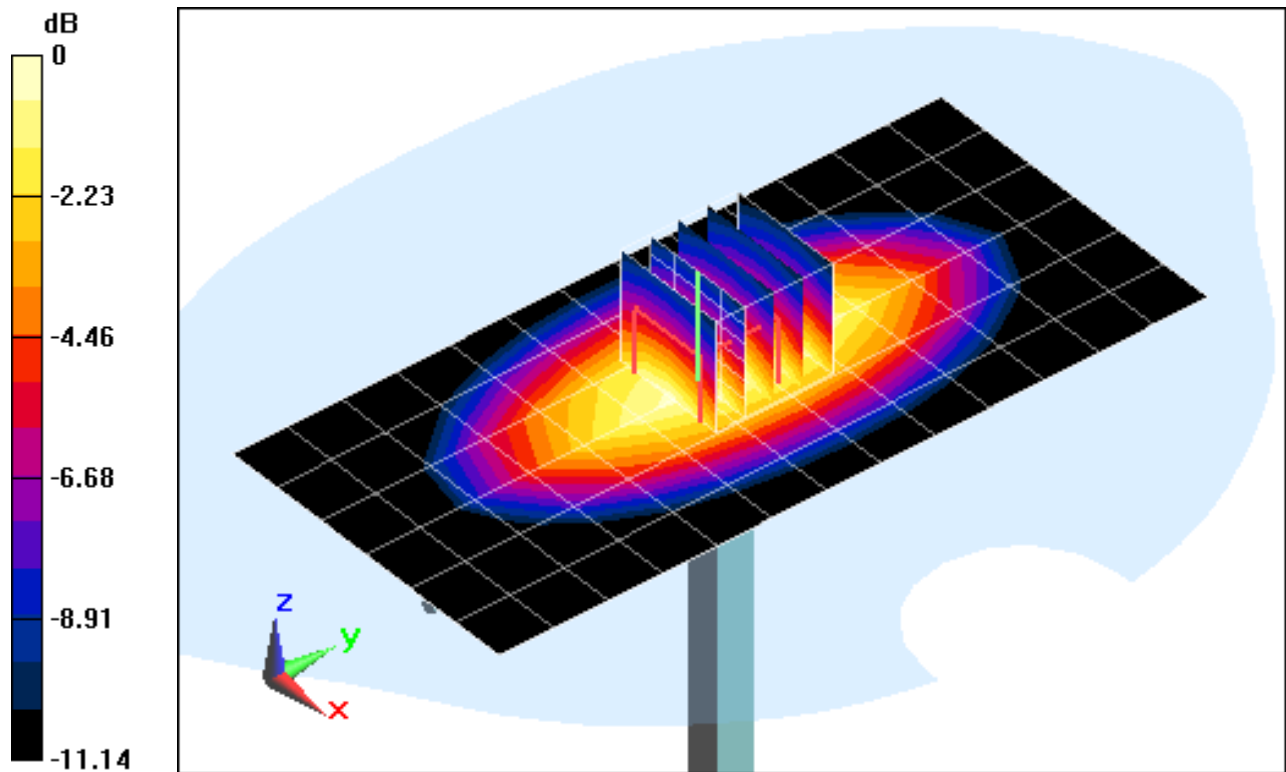
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Input Power = 20.0 dBm (100 mW)

SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.658 mW/g

Deviation = 7.45%



0 dB = 1.090mW/g = 0.75 dB mW/g