



Exhibit 11: SAR Test Report IHDT56FT1

Date of test: 08/01/2005 through 08/06/2005
Date of Report: 08/10/2005

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Accreditation: This laboratory is accredited to ISO/IEC 17025-1999 to perform the following tests:



Tests:
 Electromagnetic Specific Absorption Rate

Procedures:
 ANSI/IEEE C95.1-1992, 1999
 (SAR) IEEE C95.3-1991
 IEEE 1528, IEC 62209-1
 FCC OET Bulletin 65 (*including Supplements A, B, C*)
 Australian Communications Authority Radio
 Communications (Electromagnetic Radiation – Human
 Exposure) Standard 1999
 CENELEC EN 50361 (2001)
 APP-0247
 DOI-0876, 0900, 0902, 0904, 0915

Simulated Tissue Preparation
 RF Power Measurement

On the following products or types of products:

Wireless Communications Devices (Examples): Two Way Radios; Portable Phones (including Cellular, Licensed Non-Broadcast and PCS); Low Frequency Readers; and Pagers

A2LA certificate #1651-01

Statement of Compliance:

Motorola declares under its sole responsibility that portable cellular telephone FCC ID IHDT56FT1 to which this declaration relates, is in conformity with the appropriate General Population/Uncontrolled RF exposure standards, recommendations and guidelines (FCC 47 CFR §2.1093). It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices. Any deviations from these standards, guidelines and recommended practices are noted below:

(none)

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This test report shall not be reproduced except in full, without written approval of the laboratory.

The results and statements contained herein relate only to the items tested. The names of individuals involved may be mentioned only in connection with the statements or results from this report.

Motorola encourages all feedback, both positive and negative, on this test report.

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1 Introduction

The Motorola Mobile Devices Business Product Safety Laboratory has performed measurements of the maximum potential exposure to the user of portable cellular phone (FCC ID IHDT56FT1). The Specific Absorption Rate (SAR) of this product was measured. The portable cellular phone was tested in accordance with FCC OET Bulletin 65 Supplement C 01-01.

2 Description of the Device Under Test

2.1 Antenna description

Type	Internal Antenna	
Location	Back of Phone	
Dimensions	Length	15 mm
	Width	40 mm
Configuration	FICA Antenna	

2.2 Device description

FCC ID Number	IHDT56FT1		
Serial number	5281F21B		
Mode(s) of Operation	800 CDMA	1900 CDMA	BlueTooth
Modulation Mode(s)	CDMA	CDMA	BlueTooth
Maximum Output Power Setting	25.00dBm	25.00dBm	4.00dBm
Duty Cycle	1:1	1:1	1:1
Transmitting Frequency Rang(s)	824-849MHz	1851-1909MHz	2400 - 2483.5MHz
Production Unit or Identical Prototype (47 CFR §2.908)	Identical Prototype		
Device Category	Portable		
RF Exposure Limits	General Population / Uncontrolled		

3 Test Equipment Used

3.1 Dosimetric System

The Motorola Mobile Devices Business Product Safety & Compliance Laboratory utilizes a Dosimetric Assessment System (Dasy4™ v4.5) manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. All the SAR measurements are taken within a shielded enclosure. The overall RSS uncertainty of the measurement system is $\pm 11.1\%$ (K=1) with an expanded uncertainty of $\pm 22.2\%$ (K=2). The measurement uncertainty budget is given in Appendix 6. Per IEEE 1528, this uncertainty budget is applicable to the SAR range of 0.4 W/kg to 10 W/kg. The list of calibrated equipment used for the measurements is shown below.

Description	Serial Number	Cal Due Date
DASY4 DAE4	316	01/13/2006
E-Field Probe ET3DV6	1398	02/24/2006
Dipole Validation Kit, D900V2	91	06/02/2006
S.A.M. Phantom used for 800MHz	TP-1005	
Dipole Validation Kit, D1800V2	259tr	
S.A.M. Phantom used for 1900MHz	TP-1154	

3.2 Additional Equipment

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	3847A04832	09/03/2005
Power Meter E4419B	GB39511088	12/16/2005
Power Sensor #1 – E9301A	US39210915	09/16/2005
Power Sensor #2 - 8481A	US39210932	09/16/2005
Network Analyzer HP8753ES	US39171846	09/03/2005
Dielectric Probe Kit HP85070B	US99360070	N/A

4 Electrical parameters of the tissue simulating liquid

Prior to conducting SAR measurements, the relative permittivity, ϵ_r , and the conductivity, σ , of the tissue simulating liquids were measured with the HP85070 Dielectric Probe Kit. These values, along with the temperature of the tissue simulate are shown in the table below. The recommended limits for maximum permittivity and minimum conductivity are also shown. These come from the Federal Communication Commission, OET Bulletin 65 Supplement C 01-01. It is seen that the measured parameters are satisfactory for compliance testing.

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			ϵ_r	σ (S/m)	Temp (°C)
835	Head	Measured, 08/02/2005	41.2	0.90	20.0
		Measured, 08/08/2005	42.8	0.92	19.5
		Recommended Limits	41.5 $\pm$ 5%	0.90 $\pm$ 5%	18-25
	Body	Measured, 08/02/2005	54.0	0.98	19.8
		Measured, 08/04/2005	53.5	0.97	20.5
		Recommended Limits	55.2 $\pm$ 5%	0.97 $\pm$ 5%	18-25
1880	Head	Measured, 08/01/2005	38.5	1.44	19.7
		Measured, 08/05/2005	38.2	1.45	19.9
		Recommended Limits	40.0 $\pm$ 5%	1.40 $\pm$ 5%	18-25
	Body	Measured, 08/05/2005	52.1	1.58	20.1
		Measured, 08/06/2005	52.0	1.58	20.3
		Recommended Limits	53.3 $\pm$ 5%	1.52 $\pm$ 5%	18-25

The list of ingredients and the percent composition used for the tissue simulates are indicated in the table below.

Ingredient	800MHz Head	800MHz Body	1900MHz Head	1900MHz Body
Sugar	57.0	44.9	--	--
DGBE	--	--	47.0	30.80
Water	40.45	53.06	52.8	68.91
Salt	1.45	0.94	0.2	0.29
HEC	1.0	1.0	--	--
Bact.	0.1	0.1	--	--

5 System Accuracy Verification

A system accuracy verification of the DASY4 v4.5 was performed using the measurement equipment listed in Section 3.1. The daily system accuracy verification occurs within center section of the SAM phantom.

A SAR measurement was performed to see if the measured SAR was within $\pm$ 10% from the target SAR indicated in Section 8.3.7 Reference SAR Values in IEEE 1528. These tests were done at 900MHz and/or 1800MHz. These frequencies are within 100MHz of the mid-band frequency of the test device. This is within the allowable window given in Supplement C 01-01 *Appendix D System Verification* section item #5. The test was conducted on the same days as the measurement of the DUT. Recommended limits for maximum permittivity, minimum conductivity are shown in the table below. These come from the Federal Communication Commission, OET Bulletin 65 Supplement C 01-01. The obtained results from the system accuracy verification are displayed in the table below. The distributions of SAR compare well with those of the reference measurements (see Appendix 1). The tissue stimulant depth was verified to be 15.0cm $\pm$ 0.5cm. Z-axis scans showing the SAR penetration are also included in Appendix 1. SAR values are normalized to 1W forward power delivered to the dipole.

f (MHz)	Description	SAR (W/kg), 1gram	Dielectric Parameters		Ambient Temp (°C)	Tissue Temp (°C)
			ϵ_r	σ (S/m)		
900	Measured, 08/02/2005	10.58	40.5	0.96	21.0	20.1
	Measured, 08/04/2005	10.93	40.4	0.96	21.0	20.3
	Measured, 08/08/2005	10.93	42.1	0.98	22.0	20.6
	Recommended Limits	10.8	41.5 $\pm$ 5%	0.97 $\pm$ 5%	18-25	18-25
1800	Measured, 08/01/2005	37.70	38.9	1.35	21.0	19.9
	Measured, 08/05/2005	38.35	38.6	1.38	22.0	20.1
	Measured, 08/06/2005	38.35	38.6	1.36	22.0	20.1
	Recommended Limits	38.1	40.0 $\pm$ 5%	1.4 $\pm$ 5%	18-25	18-25

The following probe conversion factors were used on the E-Field probe(s) used for the system accuracy verification measurements:

Description	Serial Number	f (MHz)	Conversion Factor	Cal Cert pg #
E-Field Probe ET3DV6	1398	900	6.42	8 of 9
		1810	5.12	8 of 9

6 Test Results

The test sample was operated in a test mode that allows control of the transmitter without the need to place actual phone calls. For the purposes of this test the unit is commanded to test mode and manually set to the proper channel, transmitter power level and transmit mode of operation. The phone was tested in the configurations stipulated in OET Bulletin 65 Supplement C 01-01. Motorola also followed the requirements in Supplement. C / Appendix D: SAR Measurement Procedures, section titled “*Devices Operating Next To A Person’s Ear* “. These directions state “The device should be tested on the left and right side of the head phantom in the “Cheek/Touch” and “Ear/Tilt” positions. When applicable, each configuration should be tested with the antenna in its fully extended and fully retracted positions. These test configurations should be tested at the high, middle and low frequency channels of each operating mode; for example, AMPS, CDMA, and TDMA. If the SAR measured at the middle channel for each test configuration (left, right, Cheek/Touch, Tile/Ear, extended and retracted) is at least 2.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).”

The DASY4 v4.5 SAR measurement system specified in section 3.1 was utilized within the intended operations as set by the SPEAG™ setup. The phone was positioned into the measurement configurations using the positioner supplied with the DASY4 v4.5 SAR measurement system. The measured dielectric constant of the material used for the positioner is less than 2.9 and the loss tangent is less than 0.02 ($\pm$ 30%) at 850MHz. The default settings for the “coarse” and “cube” scans were chosen and use for measurements. The grid spacing of the course scan was set to 15cm as shown in the SAR plots included in appendix 2 and 3. Please refer to the DASY manual for additional information on SAR scanning procedures and algorithms used.

The Cellular Phone (FCC ID IHDT56FT1) has the following battery options:

Model #SNN5777A - 710mAH Battery
Model #SNN5696B - 710mAH Battery

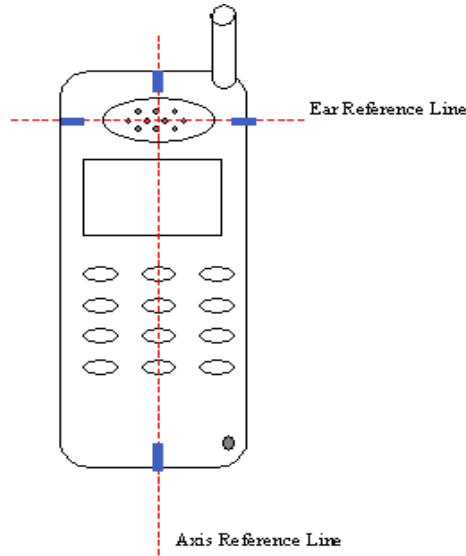
Both batteries have the same capacity. Model #SNN5777A was used to do most of the SAR testing. The phone was placed in the SAR measurement system with a fully charged battery. The configuration that resulted in the highest SAR values were tested using the other battery listed above.

6.1 Head Adjacent Test Results

To aid in positioning repeatability, the ear reference line of the device and the axis reference line of the device have been physically added using a non-metallic marker.

- Per Figure 1, the "Ear Reference Line" is centered vertically through the center of the listening area (as defined by the speaker holes in the housing).
- The "Axis Reference Line" bisects the front surface of the device at its top and bottom edges.
- The intersection of these two lines defines the location of the "Ear Reference Point".

The lines drawn on the device extended to the outside edges, as shown in blue in the figure below, & wrap around the sides of the device.



The SAR results shown in tables 1 through 3 are maximum SAR values averaged over 1 gram of phantom tissue. Also shown are the measured conducted output powers, the temperature of the test facility during the test, the temperature of the tissue simulate after the test, the measured drift and the extrapolated SAR. The exact method of extrapolation is $\text{New SAR} = \text{Old SAR} * 10^{(-\text{drift}/10)}$. The SAR reported at the end of the measurement process by the DASY™ measurement system can be scaled up by the measured drift to determine the SAR at the beginning of the measurement process. This is the most conservative SAR because it corresponds to the average output power at the beginning of the SAR test. This extrapolation has been done because when the DUT is operating properly it may exhibit a slump in radiated power and SAR over time. This is verified by measuring the SAR drift after the test. The test conditions indicated as bold numbers in the following table are included in Appendix 2

The SAR measurements were performed using the SAM phantoms listed in section 3.1. Since same phantoms and tissue simulate are used for the system accuracy verification as the device SAR measurements, the Z-axis scans included in within Appendix 1 are applicable for verification of tissue simulate depth to be 15.0cm ±0.5cm. All other test conditions measured lower SAR values than those included in Appendix 2. Note that 800MHz digital mode SAR measurements were performed in accordance with Supplement C.

The following probe conversion factors were used on the E-Field probe(s) used for the head adjacent measurements:

Description	Serial Number	f (MHz)	Conversion Factor	Cal Cert pg #
E-Field Probe ET3DV6	1398	900	6.42	8 of 9
		1810	5.12	8 of 9

f (MHz)	Description	Conducted Output Power (dBm)	Cheek / Touch Position							
			Left Head				Right Head			
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)
Digital 800MHz	Channel 1013	25.06	1.03	-0.151	1.07	20.0				
	Channel 384	25.08	1.01	0.06	1.01	20.0	0.70	0.12	0.70	20.0
	Channel 777	25.07	1.09	-0.01	1.09	20.0				
Digital 1900MHz	Channel 25	24.95					0.684	-0.23	0.72	20.0
	Channel 600	25.06	0.704	-0.209	0.74	20.0	0.973	-0.124	1.00	20.0
	Channel 1175	24.96					1.06	-0.177	1.10	20.0

Table 1: SAR measurement results for the portable cellular telephone FCC ID IHDT56FT1 at highest possible output power. Measured against the left head in the Cheek/Touch Position.

f (MHz)	Description	Conducted Output Power (dBm)	15° Tilt Position							
			Left Head				Right Head			
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)
Digital 800MHz	Channel 1013	25.06								
	Channel 384	25.08	0.467	0.12	0.47	20.0	0.444	-0.02	0.45	20.0
	Channel 777	25.07								
Digital 1900MHz	Channel 25	24.95								
	Channel 600	25.06	0.273	-0.04	0.28	20.0	0.338	0.07	0.34	20.0
	Channel 1175	24.96								

Table 2: SAR measurement results for the portable cellular telephone FCC ID IHDT56FT1 at highest possible output power. Measured against the left head in the 15° Tilt Position.

f (MHz)	Description	Conducted Output Power (dBm)	Left or Right Head With SNN5696B battery							
			Cheek / Touch Position				15° Tilt Position			
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)
800MHz Left Head	Channel 1013	25.06								
	Channel 384	25.08					0.508	0.155	0.51	20.6
	Channel 777	25.07	1.07	-0.10	1.09	20.0				
1900MHz Right Head	Channel 25	24.95	0.782	-0.01	0.80	19.9				
	Channel 600	25.06	1.12	0.008	1.12	19.9	0.357	-0.117	0.37	19.9
	Channel 1175	24.96	1.14	-0.01	1.14	19.9				

Table 3: SAR measurement results for the portable cellular telephone FCC ID IHDT56FT1 at highest possible output power. Measured against the head in the Cheek/Touch & 15° Tilt Positions .

6.2 Body Worn Test Results

The SAR results shown in tables 4 through 7 are the maximum SAR values averaged over 1 gram of phantom tissue. Also shown are the measured conducted output powers, the temperature of the test facility during the test, the temperature of the tissue simulate after the test, the measured drift and the extrapolated SAR. The exact method of extrapolation is $\text{New SAR} = \text{Old SAR} * 10^{(-\text{drift}/10)}$. The SAR reported at the end of the measurement process by the DASY™ measurement system can be scaled up by the measured drift to determine the SAR at the beginning of the measurement process. This is the most conservative SAR because it corresponds to the average output power at the beginning of the SAR test. This extrapolation has been done because when the DUT is operating properly it may exhibit a slump in radiated power and SAR over time. This is verified by measuring the SAR drift after the test. The test conditions indicated as bold numbers in the following table are included in Appendix 3. Note that 800MHz digital mode SAR measurements were performed in accordance with OET Bulletin 65 Supplement C 01-01. All other test conditions measured lower SAR values than those included in Appendix 3.

A “flat” phantom was for the body-worn tests. This “flat” phantom is made out of 1” thick natural High Density Polyethylene with a thickness at the bottom equal to 2.0mm. It measures 52.7cm(long) x 26.7cm(wide) x 21.2cm(tall). The measured dielectric constant of the material used is less than 2.3 and the loss tangent is less than 0.0046 all the way up to 2.184GHz.

The tissue stimulant depth was verified to be 15.0cm ±0.5cm. The same device holder described in section 6 was used for positioning the phone. The functional accessories were divided into two categories, the ones with metal components and the ones with non-metal components. For non-metallic component accessories’, testing was performed on the accessory that displayed the closest proximity to the flat phantom. Each metallic component accessory, if any, was checked for uniqueness of metal component so that each is tested with the device. If multiple accessories shared an identical metal component, only the accessory that dictates the closest spacing to the body was tested. The cellular phone was tested with a headset connected to the device for all body-worn SAR measurements.

There are three Body-Worn Accessories available for this phone:

A leather pouch and Belt Clip: Model #CHYN4647A

A leather pouch: Model #CERZH1 with belt clip SYN8631A

A leather pouch: Model #SYN1066B with belt clip SYN8631A

All three leather pouches were used for the body worn SAR measurements. In addition, body worn testing was performed with the front and the back of the phone place a maximum of 25mm from the phantom.

The following probe conversion factors were used on the E-Field probe(s) used for the body worn measurements:

Description	Serial Number	f (MHz)	Conversion Factor	Cal Cert pg #
E-Field Probe ET3DV6	1398	900	6.04	8 of 9
		1810	4.65	8 of 9

f (MHz)	Description	Conducted Output Power (dBm)	Body Worn 15mm or 25mm from phantom							
			Front				Back			
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)
Digital 800MHz 25mm	Channel 1013	25.06								
	Channel 384	25.08	0.332	-0.06	0.34	19.8	0.496	0.024	0.50	19.8
	Channel 777	25.07								
Digital 1900MHz 15mm	Channel 25	24.95								
	Channel 600	25.06	0.434	0.05	0.43	20.0	0.446	0.03	0.45	20.0
	Channel 1175	24.96								

Table 4: SAR measurement results for the portable cellular telephone FCC ID IHDT56FT1 at highest possible output power. Measured against the body.

f (MHz)	Description	Conducted Output Power (dBm)	Body Worn 15mm or 25mm from phantom							
			Back with Bluetooth				Back with Bluetooth & SNN5696B			
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)
Digital 800MHz 25mm	Channel 1013	25.06								
	Channel 384	25.08	0.514	0.01	0.51	19.8	0.511	0.02	0.51	19.8
	Channel 777	25.07								
Digital 1900MHz 15mm	Channel 25	24.95								
	Channel 600	25.06	0.522	0.03	0.52	20.0	0.47	-0.03	0.47	20.0
	Channel 1175	24.96								

Table 5: SAR measurement results for the portable cellular telephone FCC ID IHDT56FT1 at highest possible output power. Measured against the body.

f (MHz)	Description	Conducted Output Power (dBm)	Body Worn with Bluetooth & SNN5696B or SNN5777A							
			CHYN4647A				CERZH1			
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)
Digital 800MHz SNN5696B	Channel 1013	25.06	1.52	-0.12	1.56	19.8	1.29	-0.02	1.30	19.8
	Channel 384	25.08	1.20	0.06	1.20	19.8	1.20	0.07	1.20	19.8
	Channel 777	25.07	1.49	-0.17	1.55	19.8	1.46	-0.02	1.47	19.8
Digital 1900MHz SNN5777A	Channel 25	24.95								
	Channel 600	25.06	0.781	-0.019	0.78	19.6	0.719	0.02	0.72	20.0
	Channel 1175	24.96								

Table 6: SAR measurement results for the portable cellular telephone FCC ID IHDT56FT1 at highest possible output power. Measured against the body.

f (MHz)	Description	Conducted Output Power (dBm)	Body Worn with Bluetooth & SNN5696B or SNN5777A			
			SYN1066A			
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)
Digital 800MHz SNN5696B	Channel 1013	25.06	1.20	-0.02	1.21	19.8
	Channel 384	25.08	1.05	0.06	1.05	19.8
	Channel 777	25.07	0.94	-0.04	0.95	19.8
Digital 1900MHz SNN5777A	Channel 25	24.95				
	Channel 600	25.06	0.524	0.06	0.52	20.0
	Channel 1175	24.96				

Table 7: SAR measurement results for the portable cellular telephone FCC ID IHDT56FT1 at highest possible output power. Measured against the body.

Appendix 1

SAR distribution comparison for the system accuracy verification

Date/Time: 8/1/2005 10:31:41AM

Test Laboratory: Motorola

080105 1800Mhz GOOD-1.0%

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:259tr;

Procedure Notes: 1800 MHz System Performance Check / Dipole Sn# 259tr PM1 Power = 200 mW

Sim.Temp@meas = 19.9 °C Sim.Temp@SPC = 19.9 °C Room Temp @ SPC = 21 °CCommunication System: CW - Dipole; Frequency: 1800 MHz; Channel Number: 8; Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: $\sigma = 1.35$ mho/m, $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(5.12, 5.12, 5.12); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Daily SPC Check/Dipole Area Scan (9x4x1):

Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 7.33 mW/g

Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:

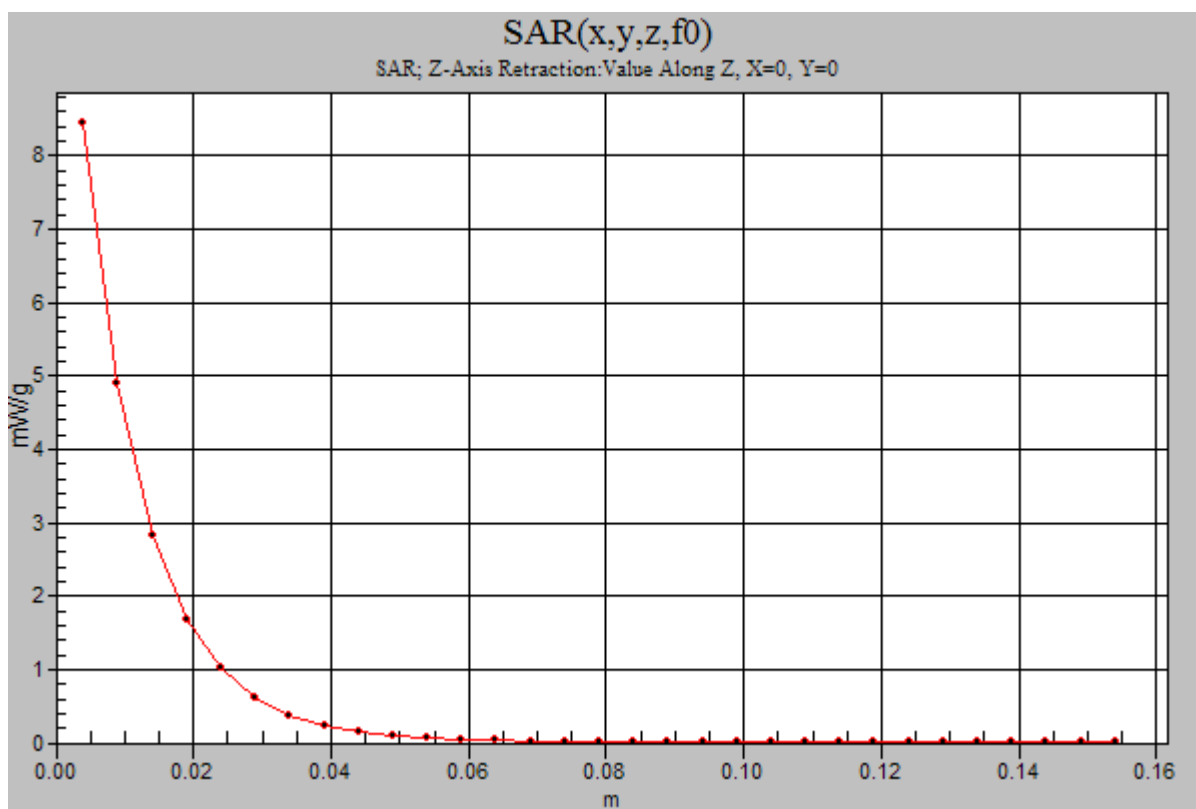
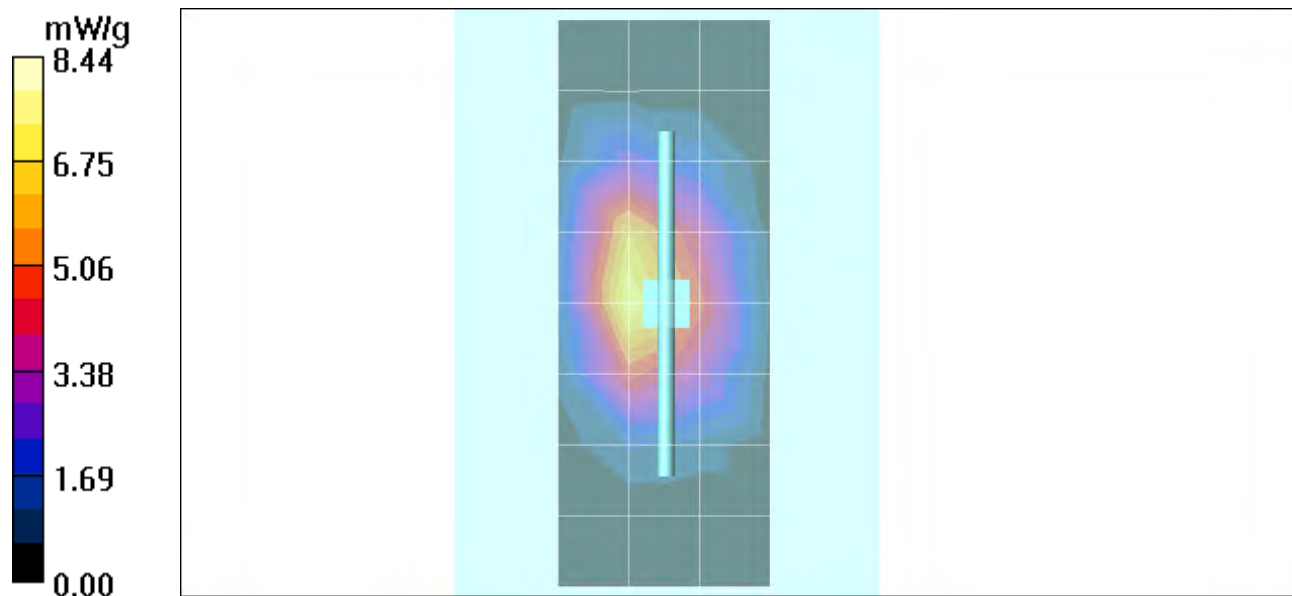
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 81.6 V/m; **Power Drift = -0.028 dB** Peak SAR (extrapolated) = 12.7 W/kg**SAR(1 g) = 7.51 mW/g; SAR(10 g) = 4.05 mW/g** Maximum value of SAR (measured) = 8.43 mW/g**Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 81.6 V/m; **Power Drift = -0.028 dB** Peak SAR (extrapolated) = 12.7 W/kg**SAR(1 g) = 7.57 mW/g; SAR(10 g) = 4.1 mW/g** Maximum value of SAR (measured) = 8.38 mW/g**Daily SPC Check/Z-Axis Retraction (1x1x31):**

Measurement grid: dx=20mm, dy=20mm, dz=5mm Maximum value of SAR (measured) = 8.44 mW/g



Date/Time: 8/2/2005 7:07:15AM

Test Laboratory: Motorola

080205 900Mhz GOOD-6.4%**DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:xxx;**

Procedure Notes: 900 MHz System Performance Check / Dipole Sn# 91 PM1 Power = 200 mW

Sim.Temp@meas = 20.1 Sim.Temp@SPC = 20.1 Room Temp @ SPC = 21Communication System: CW - Dipole; Frequency: 900 MHz; Channel Number: 4; Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: $\sigma = 0.96$ mho/m, $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.42, 6.42, 6.42); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sugar SAM; Type: SAM; Serial: TP-1005;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Daily SPC Check/Dipole Area Scan (4x9x1):

Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 2.21 mW/g

Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:

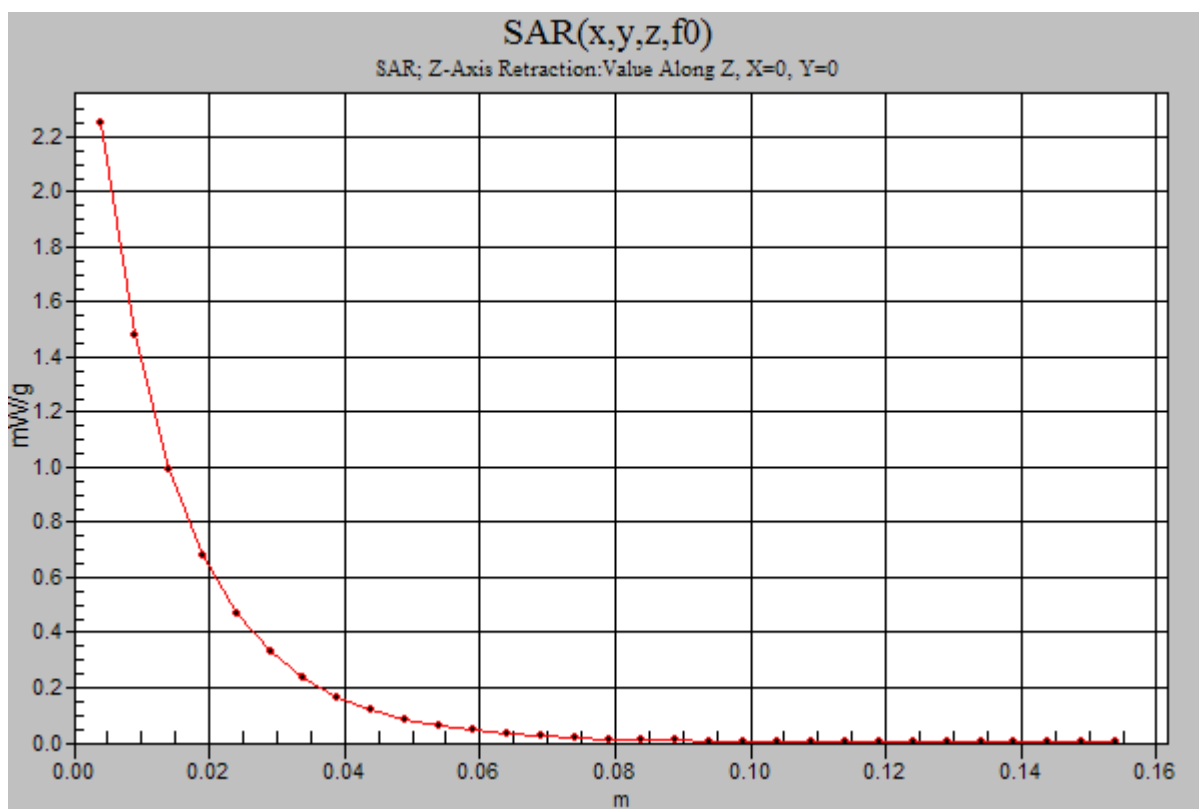
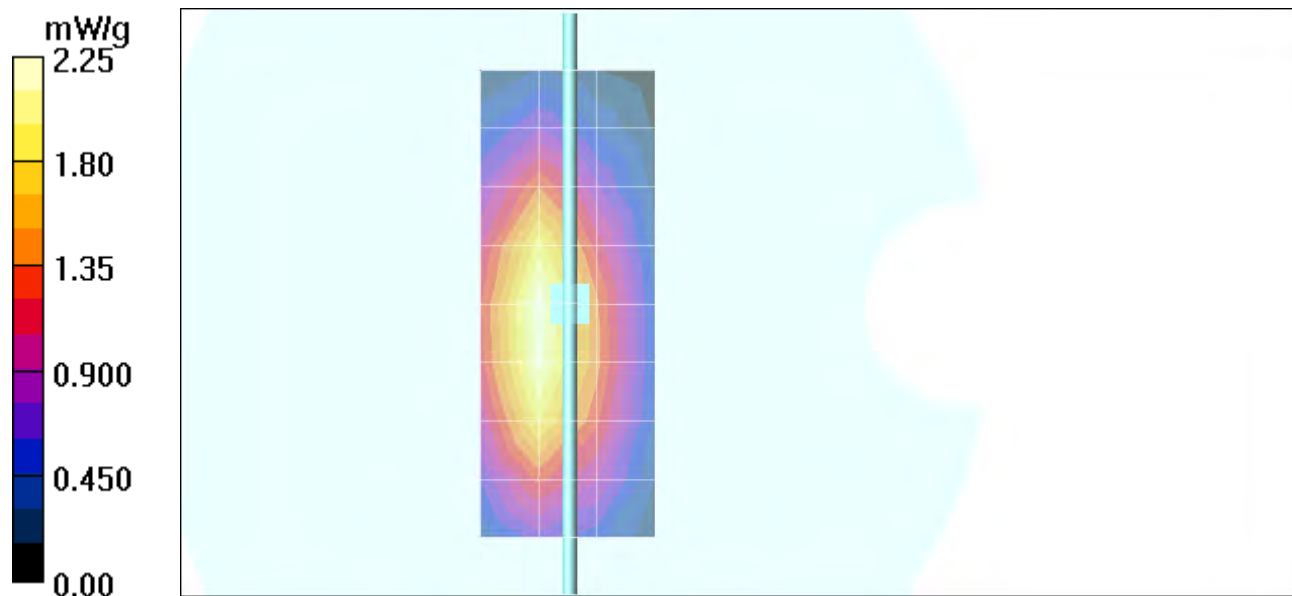
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 46.4 V/m; **Power Drift = 0.168 dB** Peak SAR (extrapolated) = 3.16 W/kg**SAR(1 g) = 2.08 mW/g; SAR(10 g) = 1.33 mW/g** Maximum value of SAR (measured) = 2.26 mW/g**Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 46.4 V/m; **Power Drift = 0.168 dB** Peak SAR (extrapolated) = 3.22 W/kg**SAR(1 g) = 2.15 mW/g; SAR(10 g) = 1.38 mW/g** Maximum value of SAR (measured) = 2.32 mW/g**Daily SPC Check/Z-Axis Retraction (1x1x31):**

Measurement grid: dx=20mm, dy=20mm, dz=5mm Maximum value of SAR (measured) = 2.25 mW/g



Date/Time: 8/4/2005 7:13:57AM

Test Laboratory: Motorola

080405 900Mhz GOOD-3.3%

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:xxx;

Procedure Notes: 900 MHz System Performance Check / Dipole Sn# 91 PM1 Power = 200 mW

Sim.Temp@meas = 20.3 Sim.Temp@SPC = 20.3 Room Temp @ SPC = 21

Communication System: CW - Dipole; Frequency: 900 MHz; Channel Number: 4; Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: $\sigma = 0.96$ mho/m, $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.42, 6.42, 6.42); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sugar SAM; Type: SAM; Serial: TP-1005;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Daily SPC Check/Dipole Area Scan (4x9x1):

Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 2.27 mW/g

Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 49.0 V/m; **Power Drift = 0.083 dB** Peak SAR (extrapolated) = 3.24 W/kg

SAR(1 g) = 2.16 mW/g; SAR(10 g) = 1.39 mW/g Maximum value of SAR (measured) = 2.33 mW/g

Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:

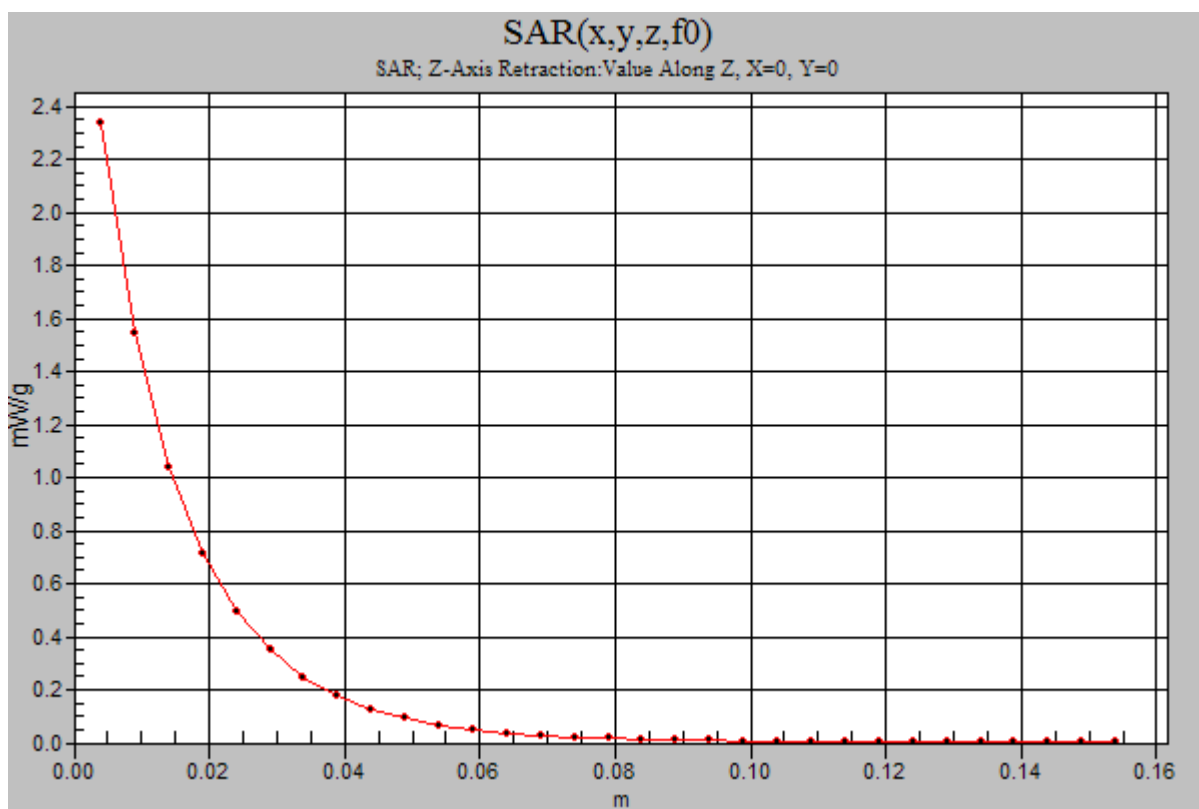
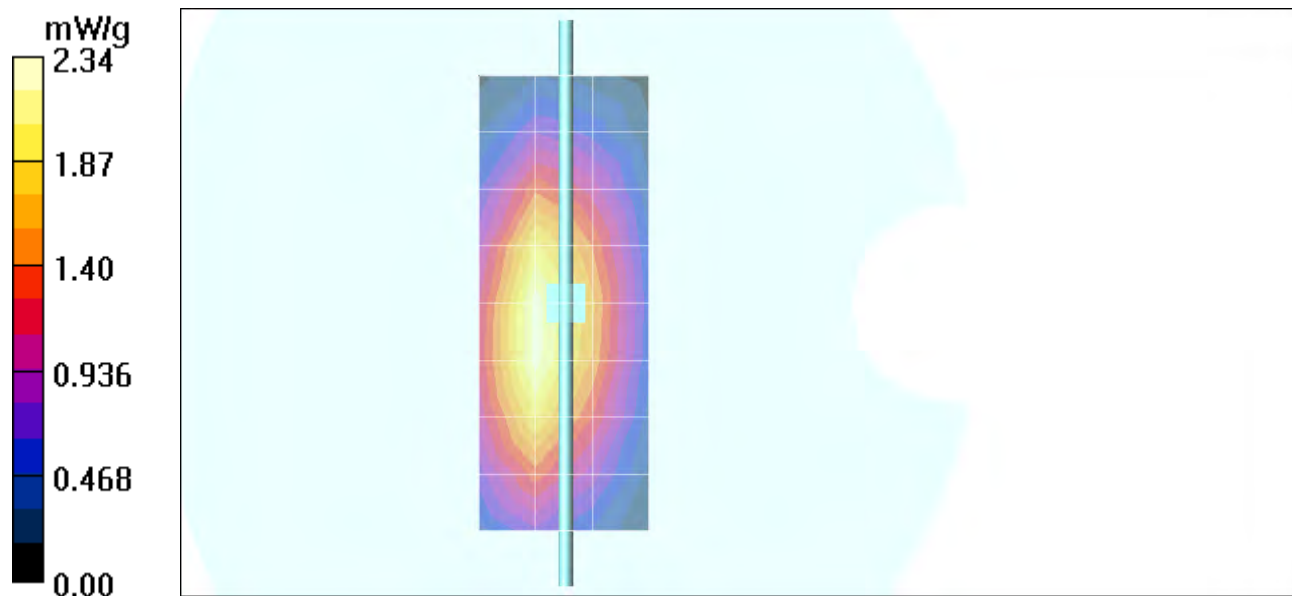
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 49.0 V/m; **Power Drift = 0.083 dB** Peak SAR (extrapolated) = 3.29 W/kg

SAR(1 g) = 2.21 mW/g; SAR(10 g) = 1.43 mW/g Maximum value of SAR (measured) = 2.39 mW/g

Daily SPC Check/Z-Axis Retraction (1x1x31):

Measurement grid: dx=20mm, dy=20mm, dz=5mm Maximum value of SAR (measured) = 2.34 mW/g



Date/Time: 8/5/2005 10:07:30AM

Test Laboratory: Motorola

080505 1800Mhz GOOD 0.7%**DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:259tr;**

Procedure Notes: 1800 MHz System Performance Check / Dipole Sn# 259tr PM1 Power = 200 mW

Sim.Temp@meas = 20.1C Sim.Temp@SPC = 20.1C Room Temp @ SPC = 22C

Communication System: CW - Dipole; Frequency: 1800 MHz; Channel Number: 8; Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: $\sigma = 1.38$ mho/m, $\epsilon_r = 38.6$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(5.12, 5.12, 5.12); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Glycol SAM; Type: SAM; Serial: TP-1154;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Daily SPC Check/Dipole Area Scan (4x9x1):

Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 7.74 mW/g

Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:

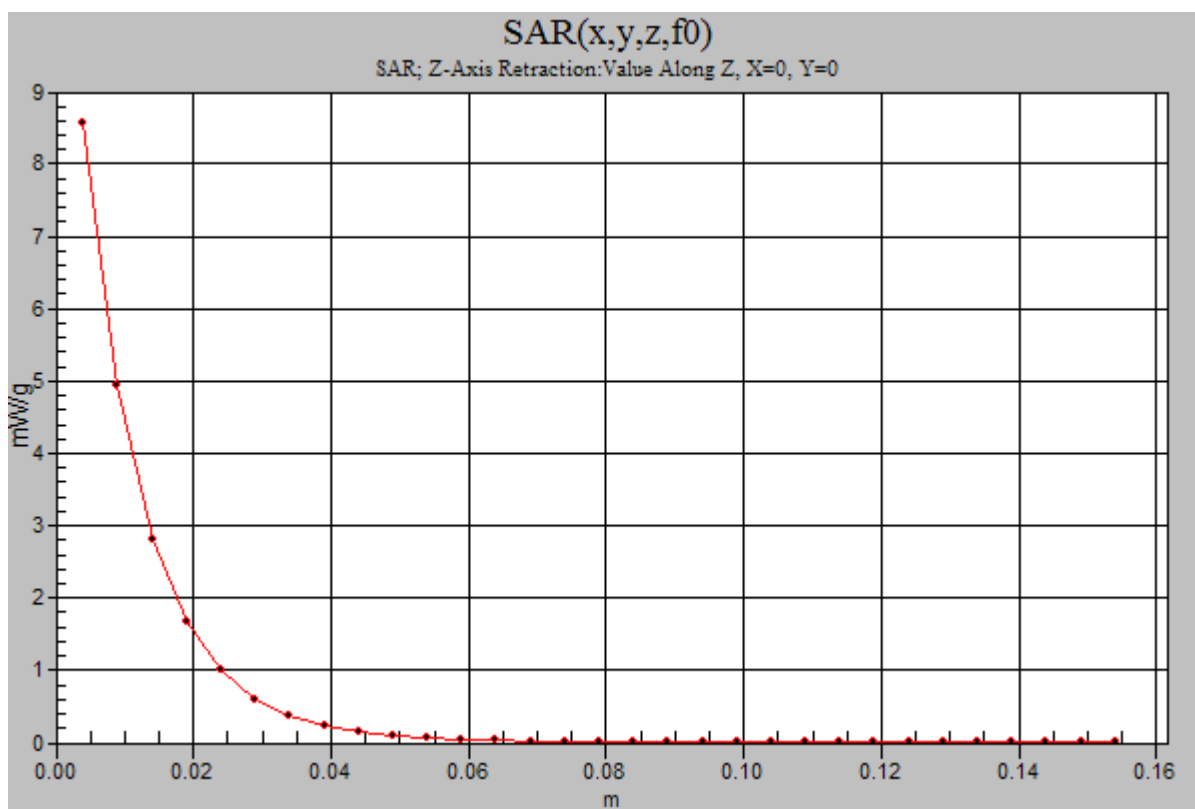
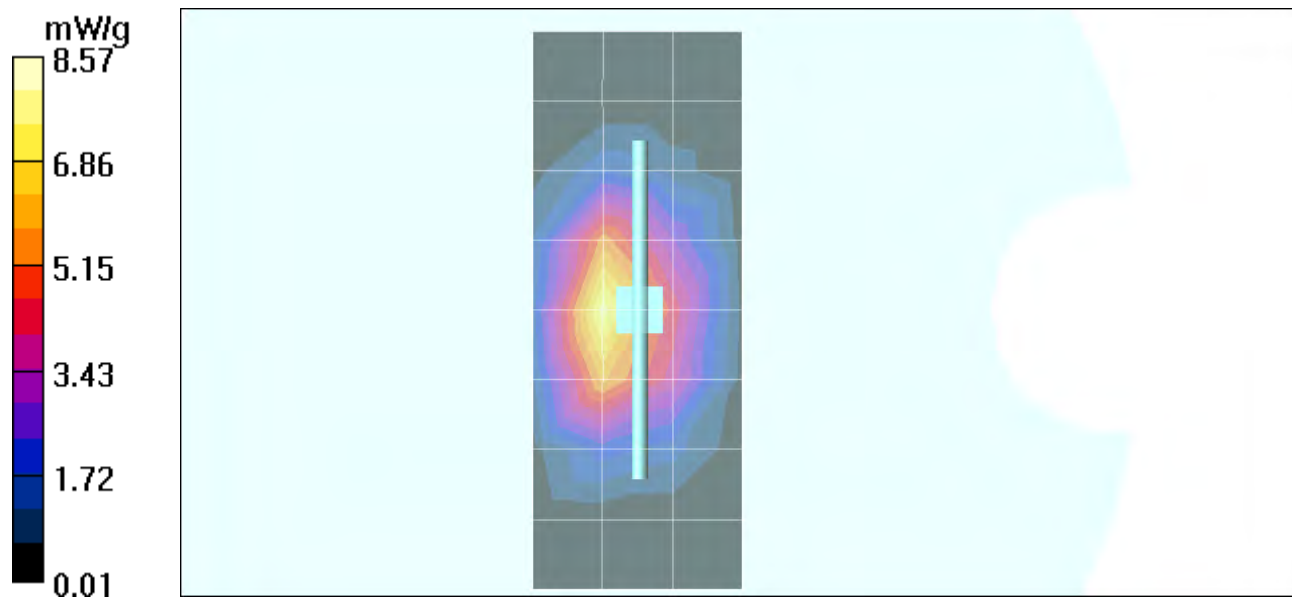
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 79.7 V/m; **Power Drift = 0.161 dB** Peak SAR (extrapolated) = 12.8 W/kg**SAR(1 g) = 7.56 mW/g; SAR(10 g) = 4.06 mW/g** Maximum value of SAR (measured) = 8.52 mW/g**Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 79.7 V/m; **Power Drift = 0.161 dB** Peak SAR (extrapolated) = 13.0 W/kg**SAR(1 g) = 7.78 mW/g; SAR(10 g) = 4.2 mW/g** Maximum value of SAR (measured) = 8.79 mW/g**Daily SPC Check/Z-Axis Retraction (1x1x31):**

Measurement grid: dx=20mm, dy=20mm, dz=5mm Maximum value of SAR (measured) = 8.57 mW/g



Date/Time: 8/6/2005 6:58:16AM

Test Laboratory: Motorola

080605 1800Mhz GOOD 0.7%**DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:259tr;**

Procedure Notes: 1800 MHz System Performance Check / Dipole Sn# 259tr PM1 Power = 200 mW

Sim.Temp@meas = 20.4C Sim.Temp@SPC = 20.1C Room Temp @ SPC = 22C

Communication System: CW - Dipole; Frequency: 1800 MHz; Channel Number: 8; Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: $\sigma = 1.36$ mho/m, $\epsilon_r = 38.6$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(5.12, 5.12, 5.12); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Daily SPC Check/Dipole Area Scan (9x4x1):

Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 6.41 mW/g

Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:

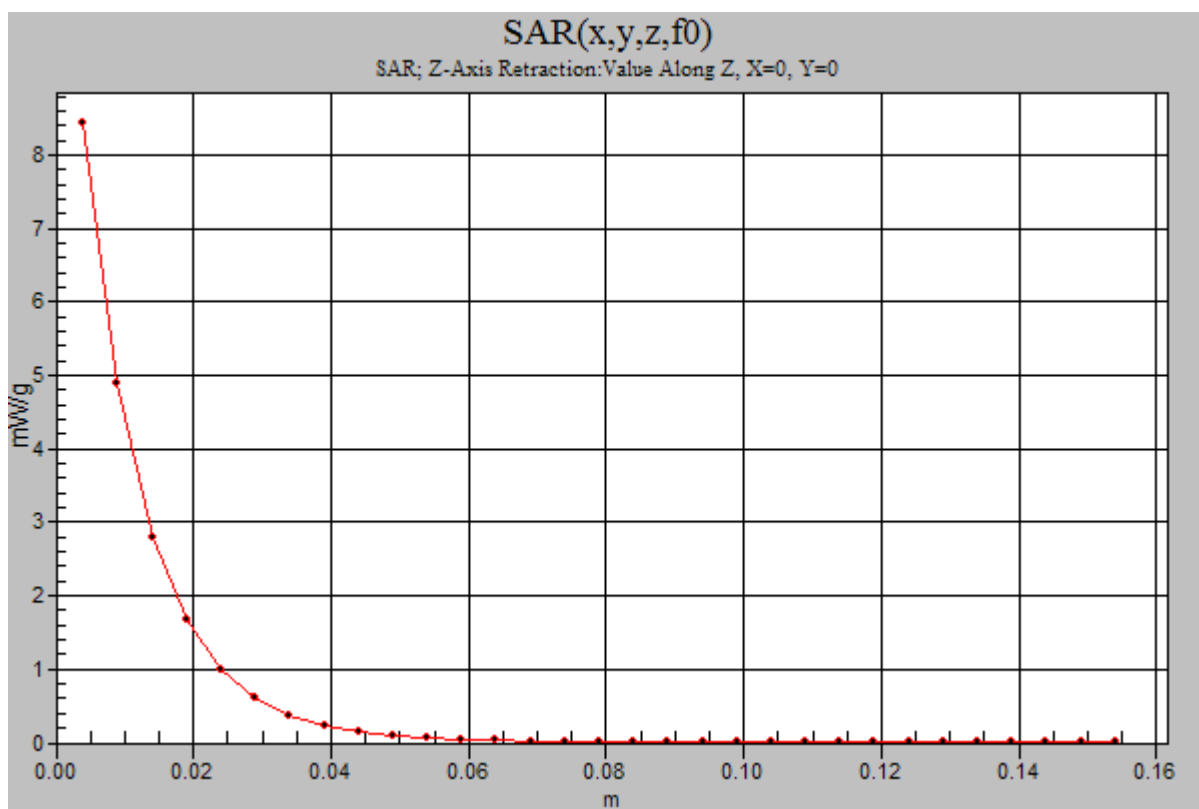
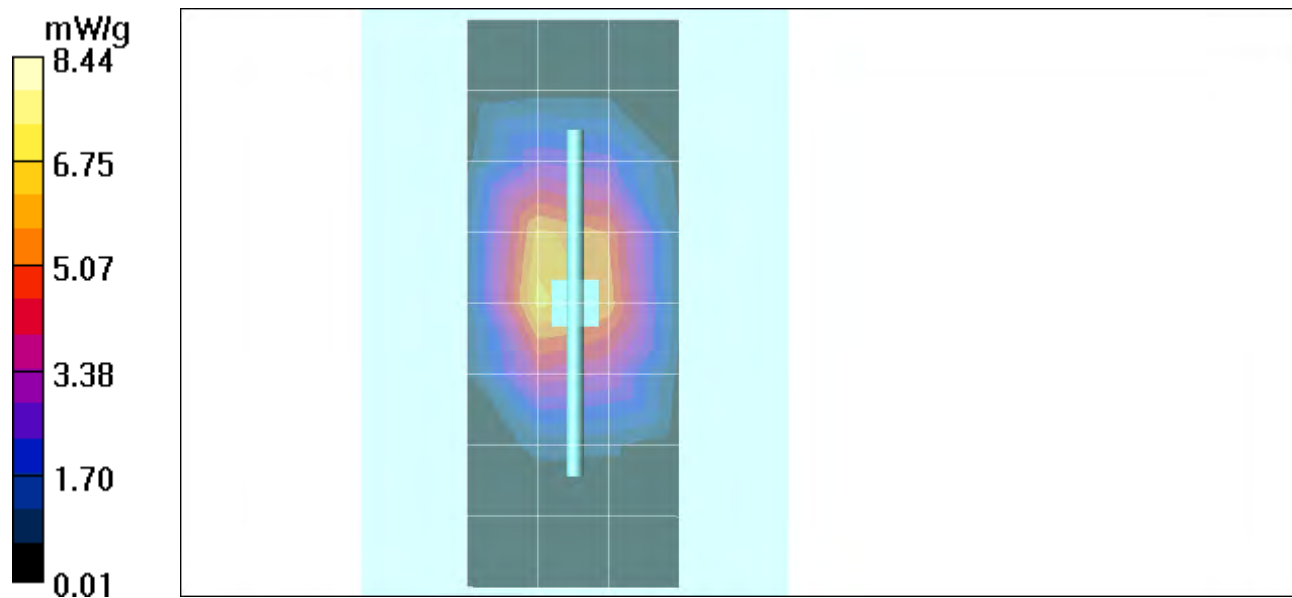
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 82.3 V/m; **Power Drift = -0.055 dB** Peak SAR (extrapolated) = 12.7 W/kg**SAR(1 g) = 7.52 mW/g; SAR(10 g) = 4.04 mW/g** Maximum value of SAR (measured) = 8.48 mW/g**Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:**

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 82.3 V/m; **Power Drift = -0.055 dB** Peak SAR (extrapolated) = 13.1 W/kg**SAR(1 g) = 7.82 mW/g; SAR(10 g) = 4.23 mW/g** Maximum value of SAR (measured) = 8.75 mW/g**Daily SPC Check/Z-Axis Retraction (1x1x31):**

Measurement grid: dx=20mm, dy=20mm, dz=5mm Maximum value of SAR (measured) = 8.44 mW/g



Date/Time: 8/8/2005 8:18:24AM

Test Laboratory: Motorola

080805 900Mhz GOOD-3.3%

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:xxx;

Procedure Notes: 900 MHz System Performance Check / Dipole Sn# 091 PM1 Power = 200 mW

Sim.Temp@meas = 20.6C Sim.Temp@SPC = 20.6C Room Temp @ SPC = 22C

Communication System: CW - Dipole; Frequency: 900 MHz; Channel Number: 4; Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: $\sigma = 0.98$ mho/m, $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.42, 6.42, 6.42); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sugar SAM; Type: SAM; Serial: TP-1005;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Daily SPC Check/Dipole Area Scan (4x9x1):

Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 2.23 mW/g

Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:

Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 49.8 V/m; **Power Drift = -0.01 dB** Peak SAR (extrapolated) = 3.31 W/kg

SAR(1 g) = 2.19 mW/g; SAR(10 g) = 1.4 mW/g Maximum value of SAR (measured) = 2.38 mW/g

Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:

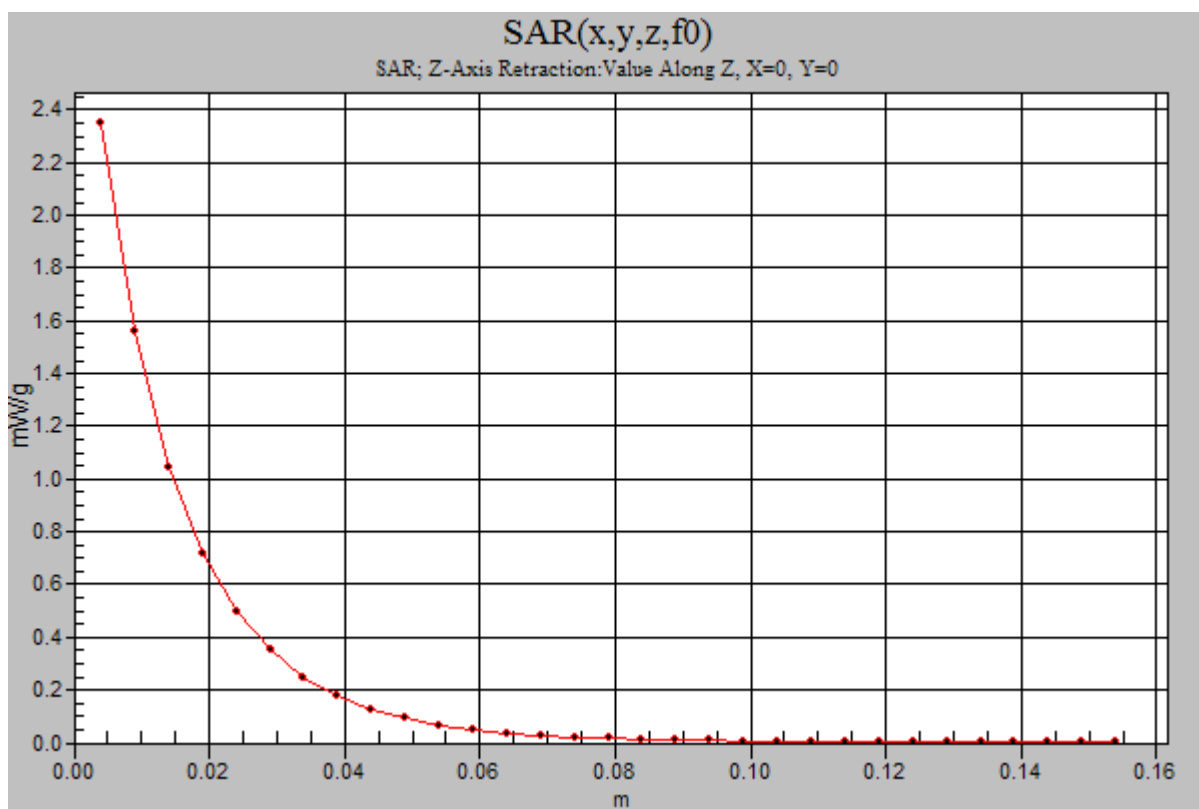
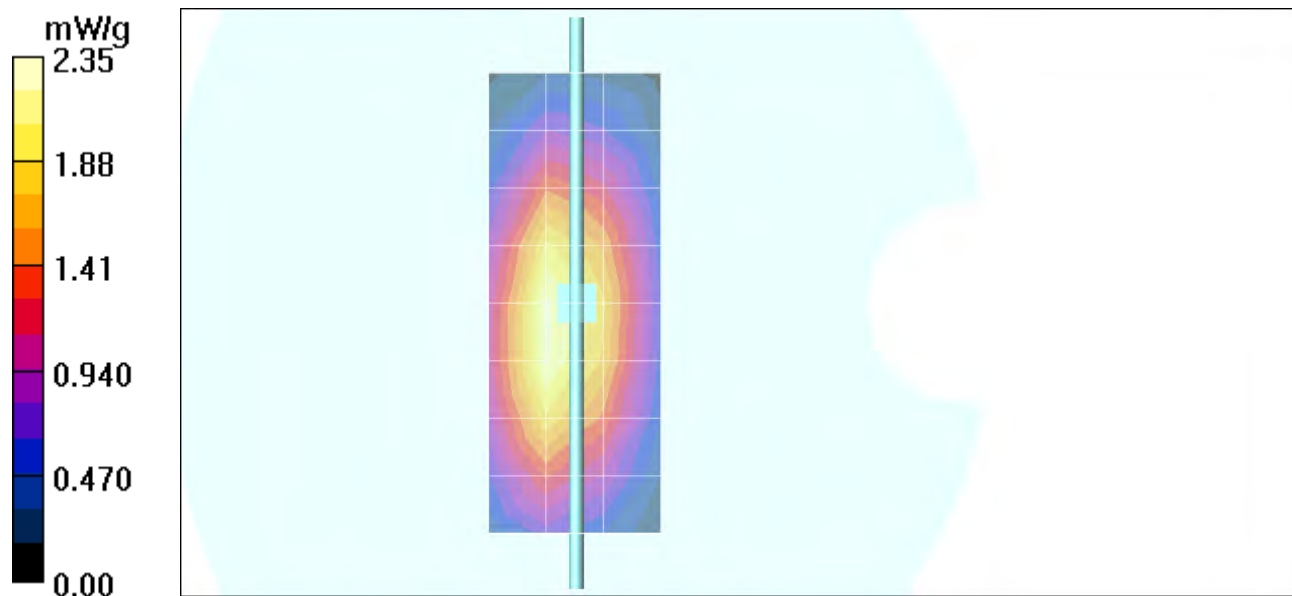
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 49.8 V/m; **Power Drift = -0.01 dB** Peak SAR (extrapolated) = 3.26 W/kg

SAR(1 g) = 2.18 mW/g; SAR(10 g) = 1.4 mW/g Maximum value of SAR (measured) = 2.35 mW/g

Daily SPC Check/Z-Axis Retraction (1x1x31):

Measurement grid: dx=20mm, dy=20mm, dz=5mm



Appendix 2

SAR distribution plots for Phantom Head Adjacent Use

Date/Time: 8/4/2005 3:31:05PM

Test Laboratory: Motorola 800 RH Cheek ch384**Serial: 5281F21B**

Procedure Notes: Pwr Step: ALWAYS UP Antenna Position: INTERNAL Accessory Model #: ???

Battery Model #: SNN5777A DEVICE POSITION (cheek or rotated): CHEEK

Communication System: CDMA 835; Frequency: 836.52 MHz; Channel Number: 384; Duty Cycle: 1:1

Medium: Low Freq Head; Medium parameters used: $\sigma = 0.9$ mho/m, $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³**DASY4 Configuration:**

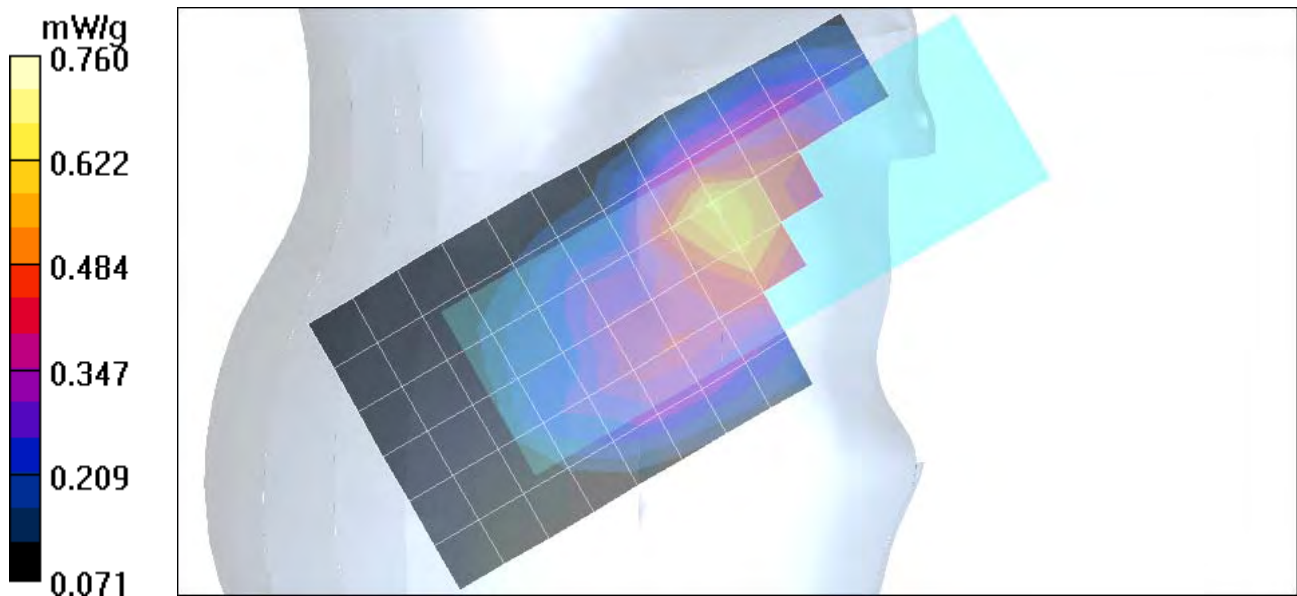
- Probe: ET3DV6 - SN1398; ConvF(6.42, 6.42, 6.42); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sugar SAM; Type: SAM; Serial: TP-1005;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Right Head Template/Area Scan - Normal (15mm) (7x17x1):

Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.592 mW/g

Right Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.0 V/m; **Power Drift = 0.115 dB** Peak SAR (extrapolated) = 1.77 W/kg**SAR(1 g) = 0.700 mW/g; SAR(10 g) = 0.427 mW/g** Maximum value of SAR (measured) = 0.760 mW/g

Date/Time: 8/4/2005 11:56:25AM

Test Laboratory: Motorola 800 LH Tilt ch384

Serial: 5281F21B

Procedure Notes: Pwr Step: ALWAYS UP Antenna Position: INTERNAL Accessory Model #: ???

Battery Model #: SNN 5777A DEVICE POSITION (cheek or rotated): tilted

Communication System: CDMA 835; Frequency: 836.52 MHz; Channel Number: 384; Duty Cycle: 1:1

Medium: Low Freq Head; Medium parameters used: $\sigma = 0.9$ mho/m, $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.42, 6.42, 6.42); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sugar SAM; Type: SAM; Serial: TP-1005;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Left Head Template/Area Scan - Normal (15mm) (7x17x1):

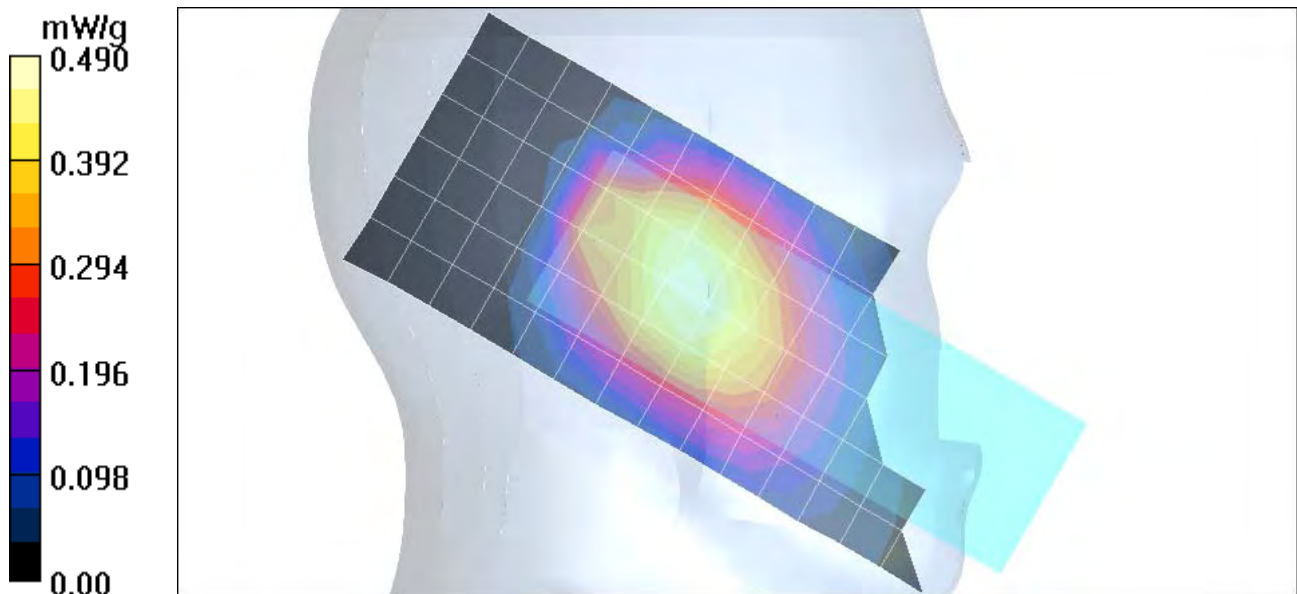
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.474 mW/g

Left Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.2 V/m; **Power Drift = 0.123 dB** Peak SAR (extrapolated) = 0.594 W/kg

SAR(1 g) = 0.467 mW/g; SAR(10 g) = 0.359 mW/g Maximum value of SAR (measured) = 0.483 mW/g



Date/Time: 8/8/2005 11:47:49AM

Test Laboratory: Motorola 800 LH Tilt ch384 with SNN5696B

Serial: 5281F21B

Procedure Notes: Pwr Step: ALWAYS UP Antenna Position: INTERNAL Accessory Model #: none

Battery Model #: SNN 5696B DEVICE POSITION: ROTATED 15*

Communication System: CDMA 835; Frequency: 836.52 MHz; Channel Number: 384; Duty Cycle: 1:1

Medium: Low Freq Head; Medium parameters used: $\sigma = 0.92$ mho/m, $\epsilon_r = 42.8$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.42, 6.42, 6.42); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sugar SAM; Type: SAM; Serial: TP-1005;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Left Head Template/Area Scan - Normal (15mm) (7x17x1):

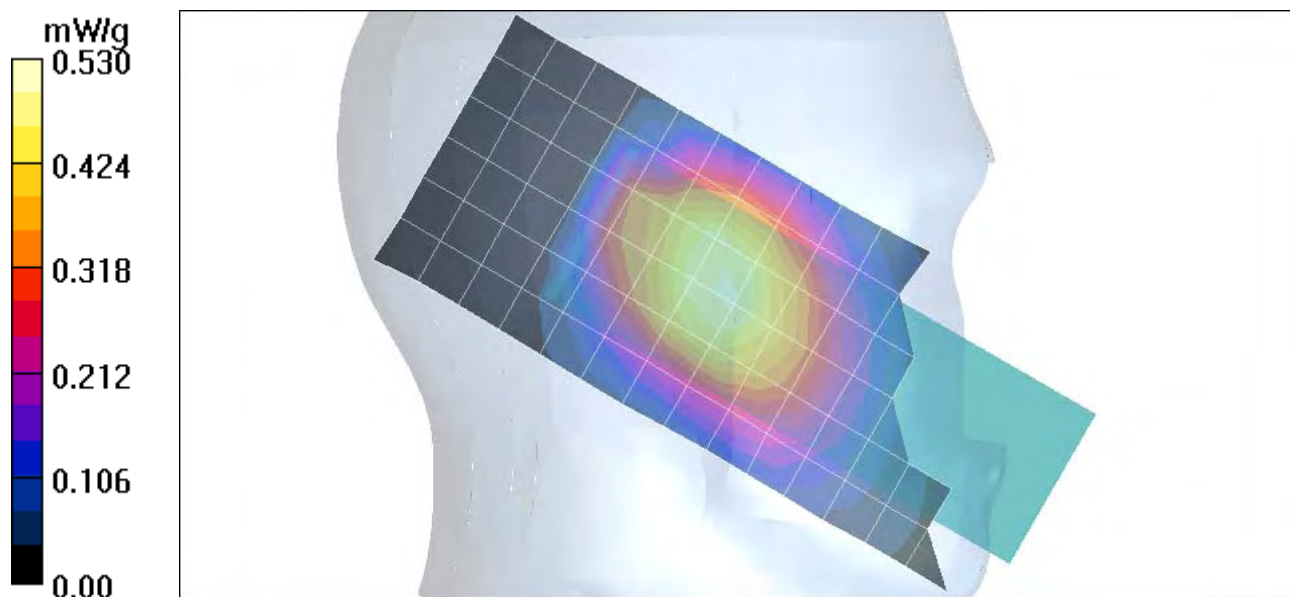
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.506 mW/g

Left Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.5 V/m; **Power Drift = 0.155 dB** Peak SAR (extrapolated) = 0.634 W/kg

SAR(1 g) = 0.508 mW/g; SAR(10 g) = 0.385 mW/g Maximum value of SAR (measured) = 0.530 mW/g



Date/Time: 8/4/2005 10:49:31AM

Test Laboratory: Motorola 800 LH Cheek ch777

Serial: 5281F21B

Procedure Notes: Pwr Step: ALWAYS UP Antenna Position: INTERNAL Accessory Model #: ???

Battery Model #: SNN 5777A DEVICE POSITION (cheek or rotated): CHEEK

Communication System: CDMA 835; Frequency: 848.31 MHz; Channel Number: 777; Duty Cycle: 1:1

Medium: Low Freq Head; Medium parameters used: $\sigma = 0.9$ mho/m, $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.42, 6.42, 6.42); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sugar SAM; Type: SAM; Serial: TP-1005;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Left Head Template/Area Scan - Normal (15mm) (7x17x1):

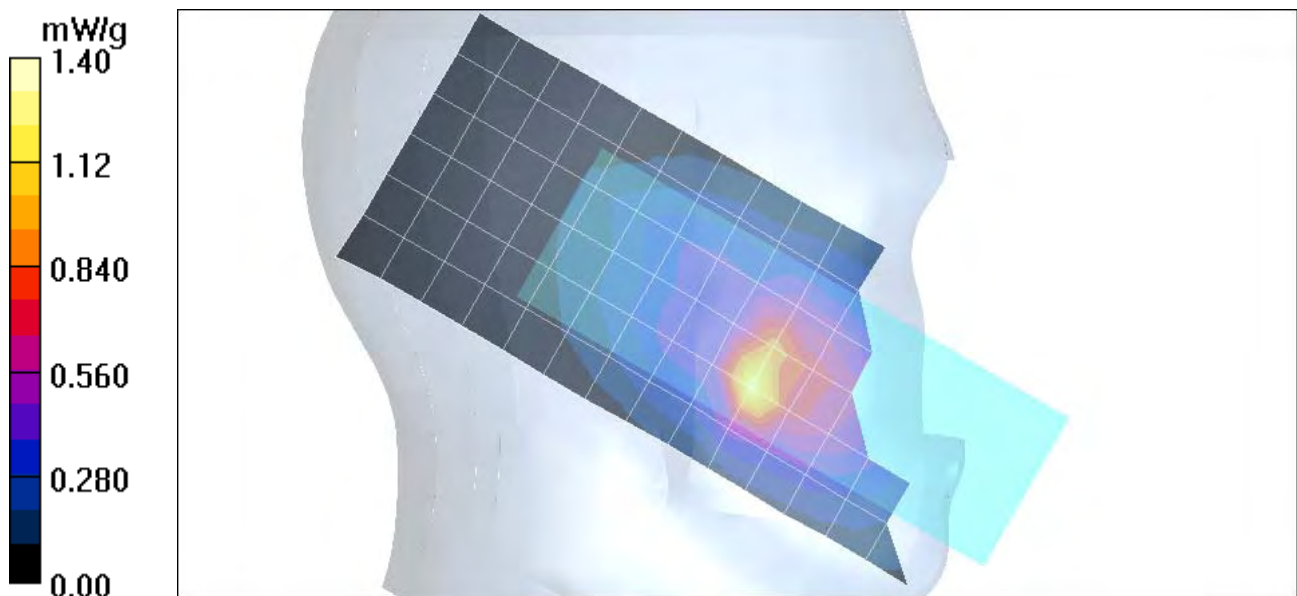
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.26 mW/g

Left Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 31.4 V/m; **Power Drift = -0.01 dB** Peak SAR (extrapolated) = 2.57 W/kg

SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.646 mW/g Maximum value of SAR (measured) = 1.16 mW/g



Date/Time: 8/4/2005 1:13:04PM

Test Laboratory: Motorola 800 LH Cheek ch777 with SNN5696B

Serial: 5281F21B

Procedure Notes: Pwr Step: ALWAYS UP Antenna Position: INTERNAL Accessory Model #: ???

Battery Model #: SNN 5696A DEVICE POSITION (cheek or rotated): CHEEK

Communication System: CDMA 835; Frequency: 848.31 MHz; Channel Number: 777; Duty Cycle: 1:1

Medium: Low Freq Head; Medium parameters used: $\sigma = 0.9$ mho/m, $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.42, 6.42, 6.42); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sugar SAM; Type: SAM; Serial: TP-1005;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Left Head Template/Area Scan - Normal (15mm) (7x17x1):

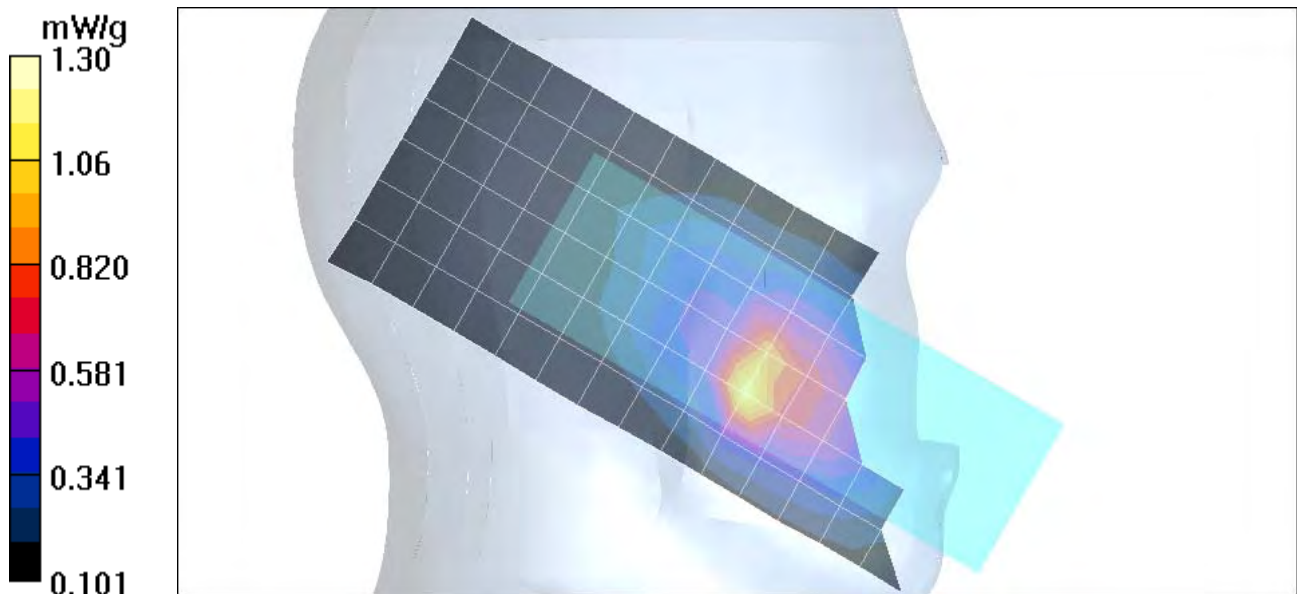
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.14 mW/g

Left Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 32.0 V/m; **Power Drift = -0.099 dB** Peak SAR (extrapolated) = 2.56 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.643 mW/g Maximum value of SAR (measured) = 1.16 mW/g



Date/Time: 8/4/2005 12:38:38PM

Test Laboratory: Motorola 800 RH Tilt ch384

Serial: 5281F21B

Procedure Notes: Pwr Step: always up Antenna Position: internal Accessory Model #: ???

Battery Model #: snn5777a DEVICE POSITION (cheek or rotated): tilted

Communication System: CDMA 835; Frequency: 836.52 MHz; Channel Number: 384; Duty Cycle: 1:1

Medium: Low Freq Head; Medium parameters used: $\sigma = 0.9$ mho/m, $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.42, 6.42, 6.42); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sugar SAM; Type: SAM; Serial: TP-1005;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Right Head Template/Area Scan - Normal (15mm) (7x17x1):

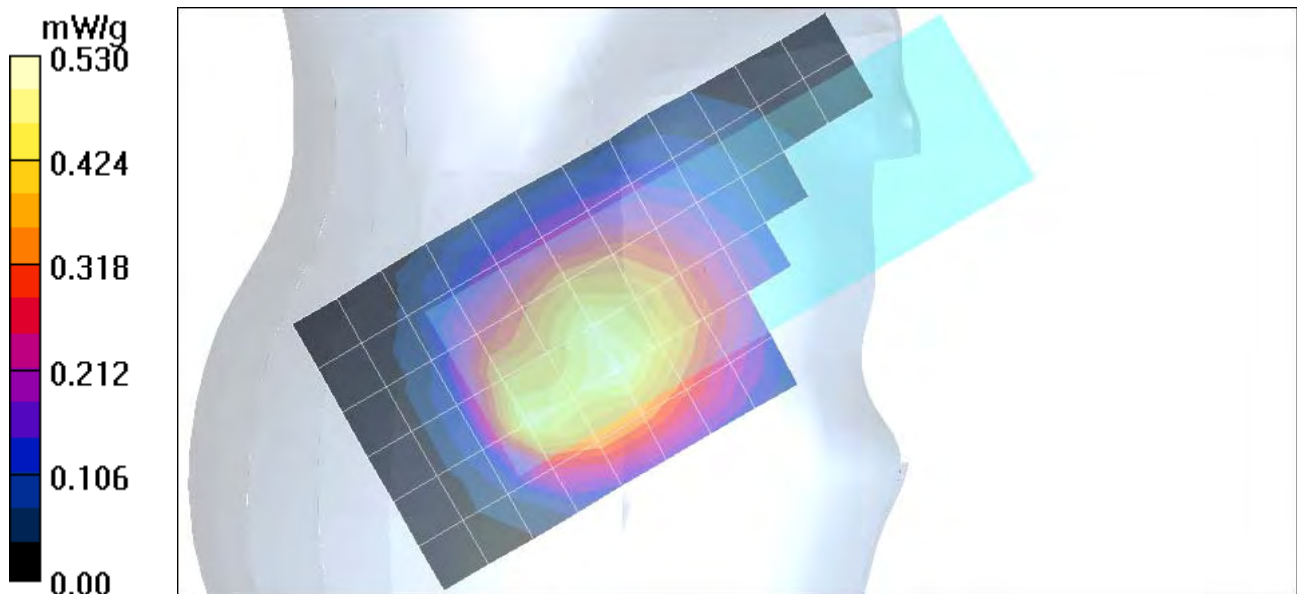
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.509 mW/g

Right Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 24.5 V/m; **Power Drift = -0.023 dB** Peak SAR (extrapolated) = 0.978 W/kg

SAR(1 g) = 0.444 mW/g; SAR(10 g) = 0.309 mW/g Maximum value of SAR (measured) = 0.487 mW/g



Date/Time: 8/5/2005 12:03:51PM

Test Laboratory: Motorola 1900 RH Tilt ch600 with SNN5696B

Serial: 5281F21B

Procedure Notes: Pwr Step: Always Up Antenna Position: Internal Accessory Model #: ???

Battery Model #: SNN5696B DEVICE POSITION (cheek or rotated): Rotated

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Back-Up Glycol Head; Medium parameters used: $\sigma = 1.45$ mho/m, $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(5.12, 5.12, 5.12); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Glycol SAM; Type: SAM; Serial: TP-1154;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Right Head Template/Area Scan - Normal (15mm) (7x17x1):

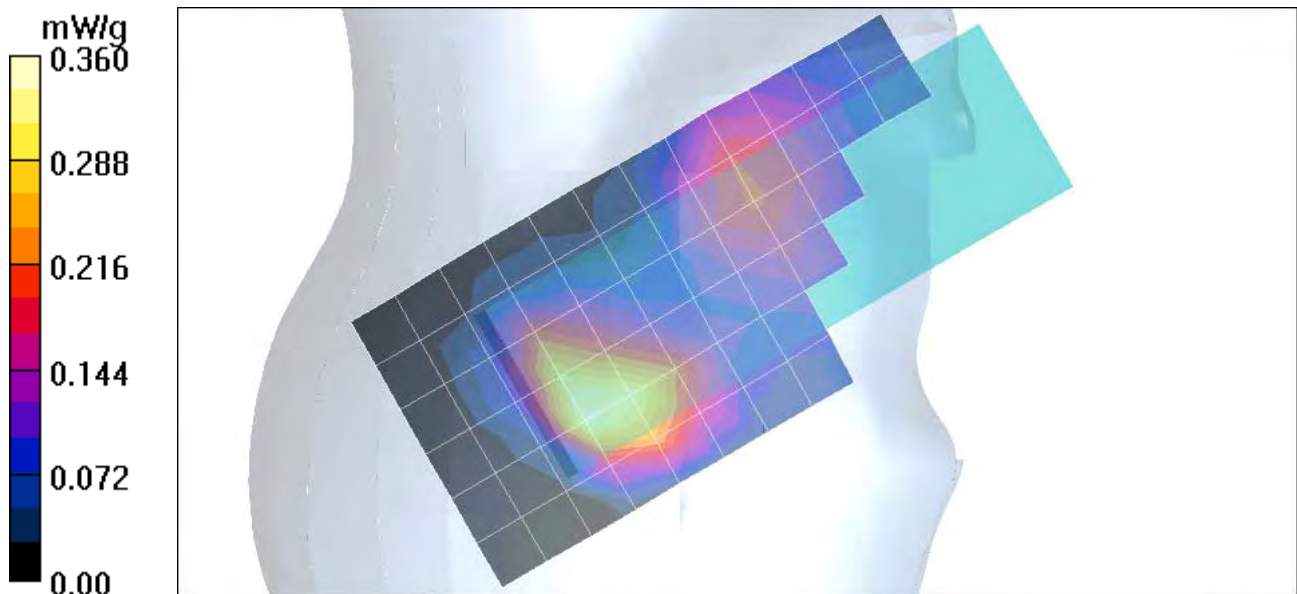
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.346 mW/g

Right Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.5 V/m; **Power Drift = -0.117 dB** Peak SAR (extrapolated) = 0.579 W/kg

SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.213 mW/g Maximum value of SAR (measured) = 0.393 mW/g



Date/Time: 8/5/2005 11:35:44AM

Test Laboratory: Motorola 1900 RH Cheek ch1175with SNN5696B

Serial: 5281F21B

Procedure Notes: Pwr Step: Always Up Antenna Position: Internal Accessory Model #: ???

Battery Model #: SNN5696B DEVICE POSITION (cheek or rotated): Cheek

Communication System: CDMA 1900; Frequency: 1908.75 MHz; Channel Number: 1175; Duty Cycle: 1:1

Medium: Back-Up Glycol Head; Medium parameters used: $\sigma = 1.45$ mho/m, $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(5.12, 5.12, 5.12); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Glycol SAM; Type: SAM; Serial: TP-1154;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Right Head Template/Area Scan - Normal (15mm) (7x17x1):

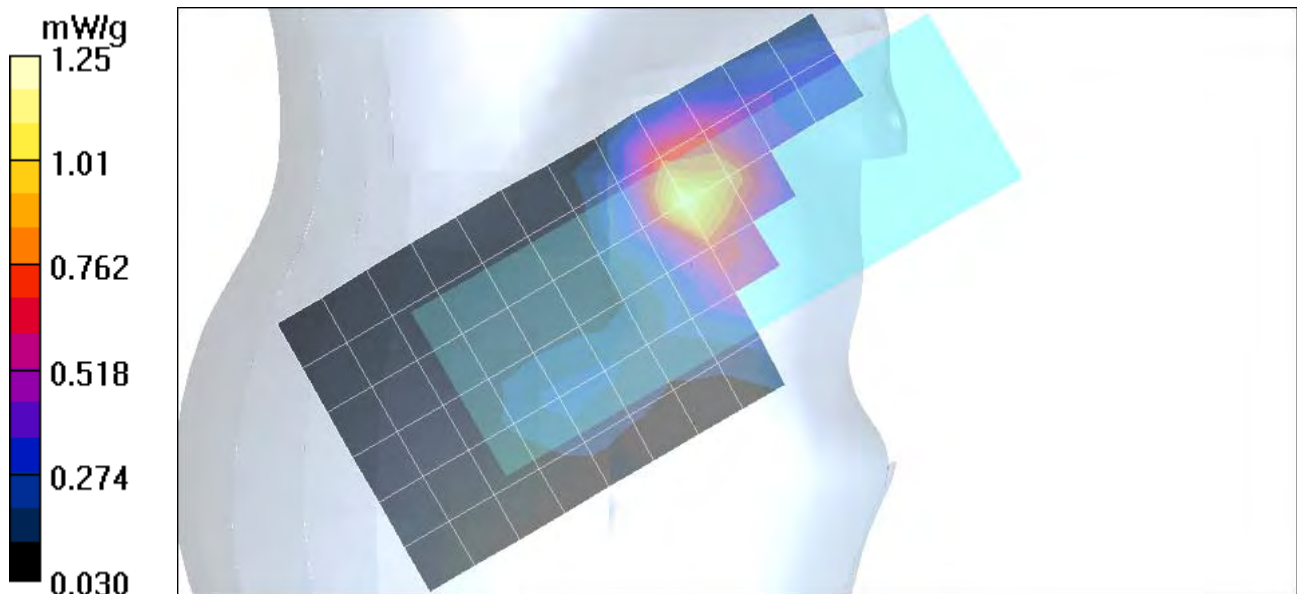
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.17 mW/g

Right Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.3 V/m; **Power Drift = -0.013 dB** Peak SAR (extrapolated) = 1.84 W/kg

SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.672 mW/g Maximum value of SAR (measured) = 1.23 mW/g



Date/Time: 8/2/2005 1:42:00AM

Test Laboratory: Motorola 1900 RH Cheek ch1175

Serial: 5281F21B

Procedure Notes: Pwr Step: always up Antenna Position: none Battery Model #: snn5777a

DEVICE POSITION cheek

Communication System: CDMA 1900; Frequency: 1908.75 MHz; Channel Number: 1175; Duty Cycle: 1:1

Medium: Regular Glycol Head; Medium parameters used: $\sigma = 1.44$ mho/m, $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(5.12, 5.12, 5.12); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1_Glycol SAM (extended range), Rev.1 (25-Mar-05); Type: SAM v4.0; Serial: TP-1154;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Right Head Template/Area Scan - Normal (15mm) (7x17x1):

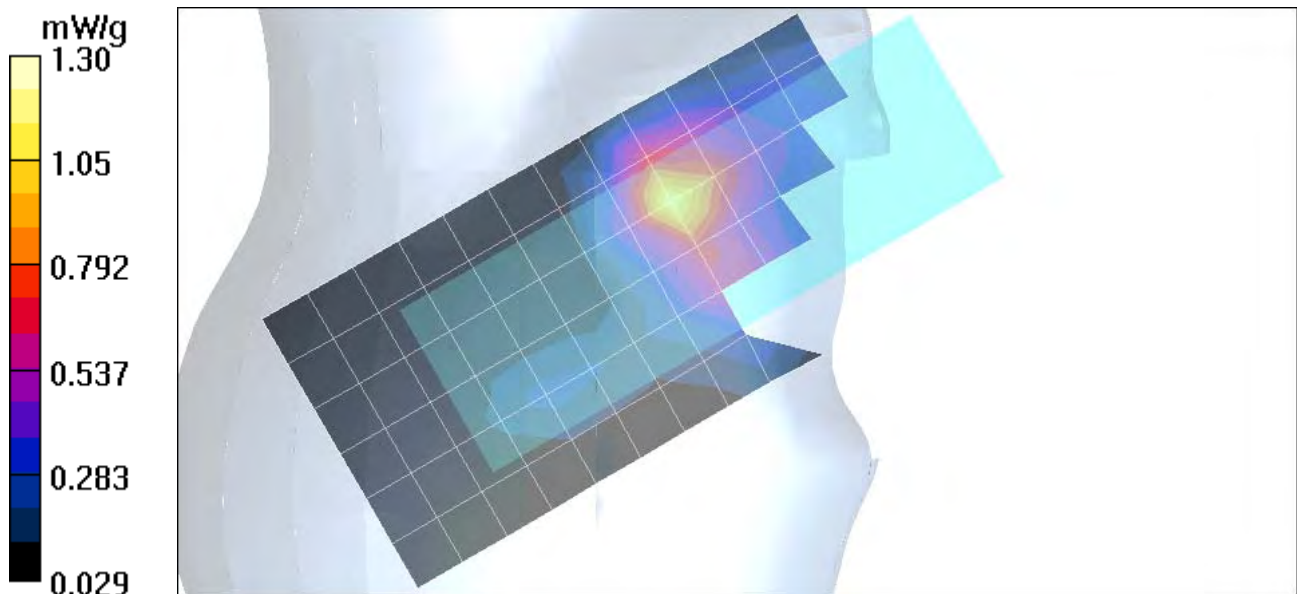
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.14 mW/g

Right Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.5 V/m; **Power Drift = -0.177 dB** Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.618 mW/g Maximum value of SAR (measured) = 1.16 mW/g



Date/Time: 8/1/2005 10:59:20PM

Test Laboratory: Motorola 1900 LH Tilt ch600

Serial: 5281F21B

Procedure Notes: Pwr Step: always up Antenna Position: none Battery Model #: snn5777a

DEVICE POSITION tilt

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Regular Glycol Head; Medium parameters used: $\sigma = 1.44$ mho/m, $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(5.12, 5.12, 5.12); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1_Glycol SAM (extended range), Rev.1 (25-Mar-05); Type: SAM v4.0; Serial: TP-1154;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Left Head Template/Area Scan - Normal (15mm) (7x17x1):

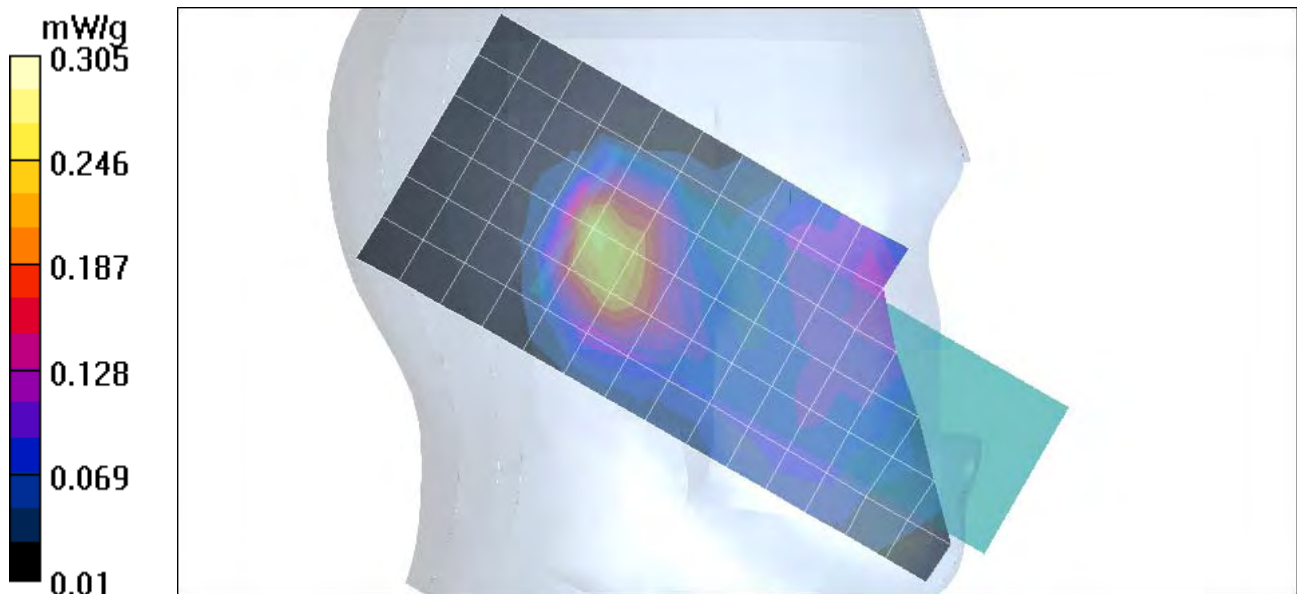
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.261 mW/g

Left Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.8 V/m; **Power Drift = -0.039 dB** Peak SAR (extrapolated) = 0.423 W/kg

SAR(1 g) = 0.273 mW/g; SAR(10 g) = 0.160 mW/g Maximum value of SAR (measured) = 0.305 mW/g



Date/Time: 8/1/2005 7:19:22PM

Test Laboratory: Motorola 1900 LH Cheek ch600

Serial: 5281F21B

Procedure Notes: Pwr Step: always up Antenna Position: none Battery Model #: snn5777a

DEVICE POSITION cheek

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Regular Glycol Head; Medium parameters used: $\sigma = 1.44$ mho/m, $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(5.12, 5.12, 5.12); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1_Glycol SAM (extended range), Rev.1 (25-Mar-05); Type: SAM v4.0; Serial: TP-1154;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Left Head Template/Area Scan - Normal (15mm) (7x17x1):

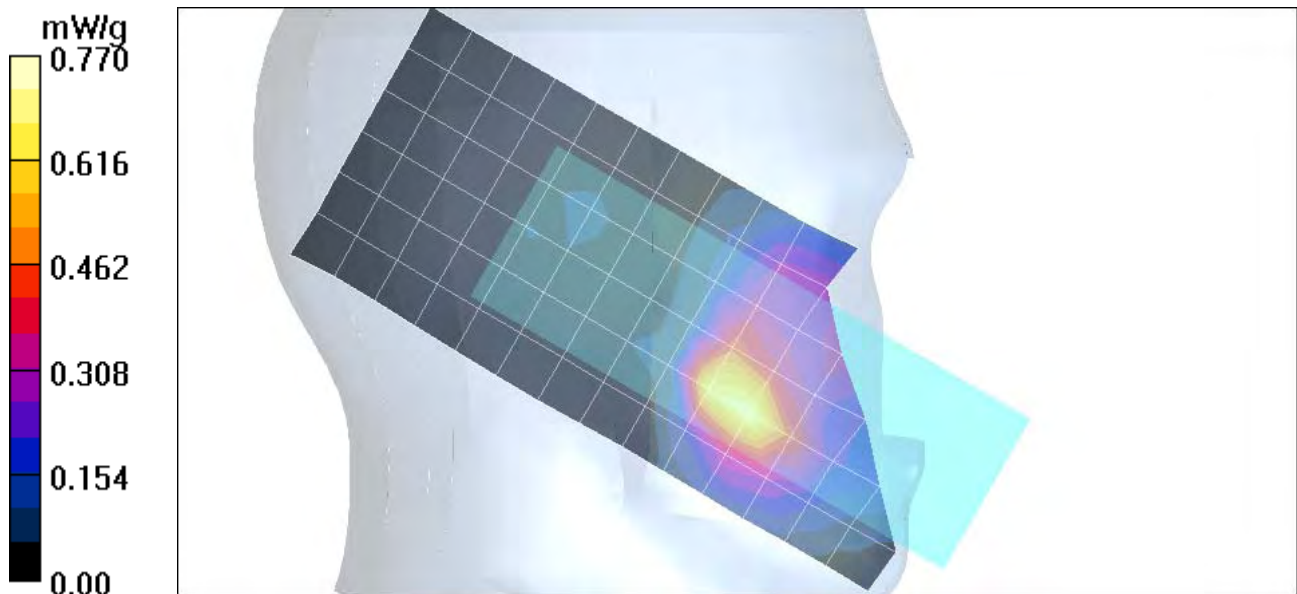
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.715 mW/g

Left Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 24.3 V/m; **Power Drift = -0.209 dB** Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.704 mW/g; SAR(10 g) = 0.414 mW/g Maximum value of SAR (measured) = 0.759 mW/g



Date/Time: 8/2/2005 12:06:54AM

Test Laboratory: Motorola 1900 RH Tilt ch600

Serial: 5281F21B

Procedure Notes: Pwr Step: always up Antenna Position: none Battery Model #: snn5777a

DEVICE POSITION tilt

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Regular Glycol Head; Medium parameters used: $\sigma = 1.44$ mho/m, $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(5.12, 5.12, 5.12); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1_Glycol SAM (extended range), Rev.1 (25-Mar-05); Type: SAM v4.0; Serial: TP-1154;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Right Head Template/Area Scan - Normal (15mm) (7x17x1):

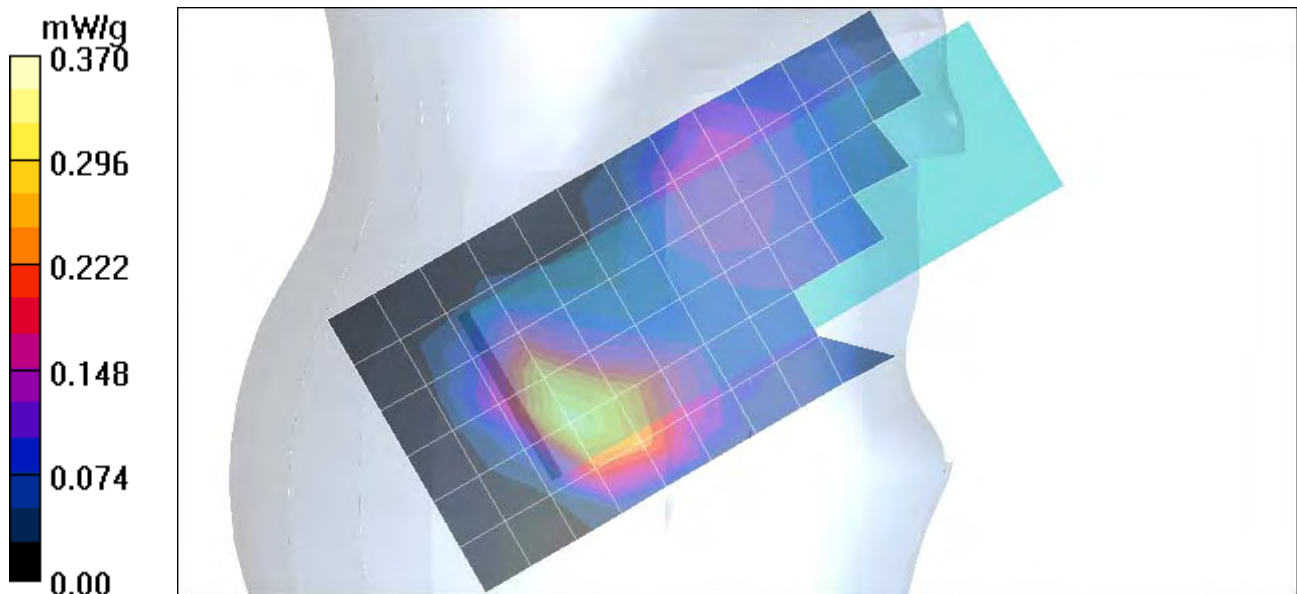
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.345 mW/g

Right Head Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.7 V/m; **Power Drift = 0.069 dB** Peak SAR (extrapolated) = 0.593 W/kg

SAR(1 g) = 0.338 mW/g; SAR(10 g) = 0.197 mW/g Maximum value of SAR (measured) = 0.370 mW/g



Appendix 3

SAR distribution plots for Body Worn Configuration

Date/Time: 8/2/2005 6:08:44PM

Test Laboratory: Motorola 800 BW ch1013 CHYN4646A with Bluetooth & SNN5696B

Serial: 5281F21B

Procedure Notes: Pwr Step: OTA Antenna Position: internal Battery Model #: SNN5696B

Accessory Model # = CASE CHYN4647A /BLUETOOTH

Communication System: CDMA 835; Frequency: 824.7 MHz; Channel Number: 1013; Duty Cycle: 1:1

Medium: Low Freq Body; Medium parameters used: $\sigma = 0.98$ mho/m, $\epsilon_r = 54$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.04, 6.04, 6.04); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.1, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

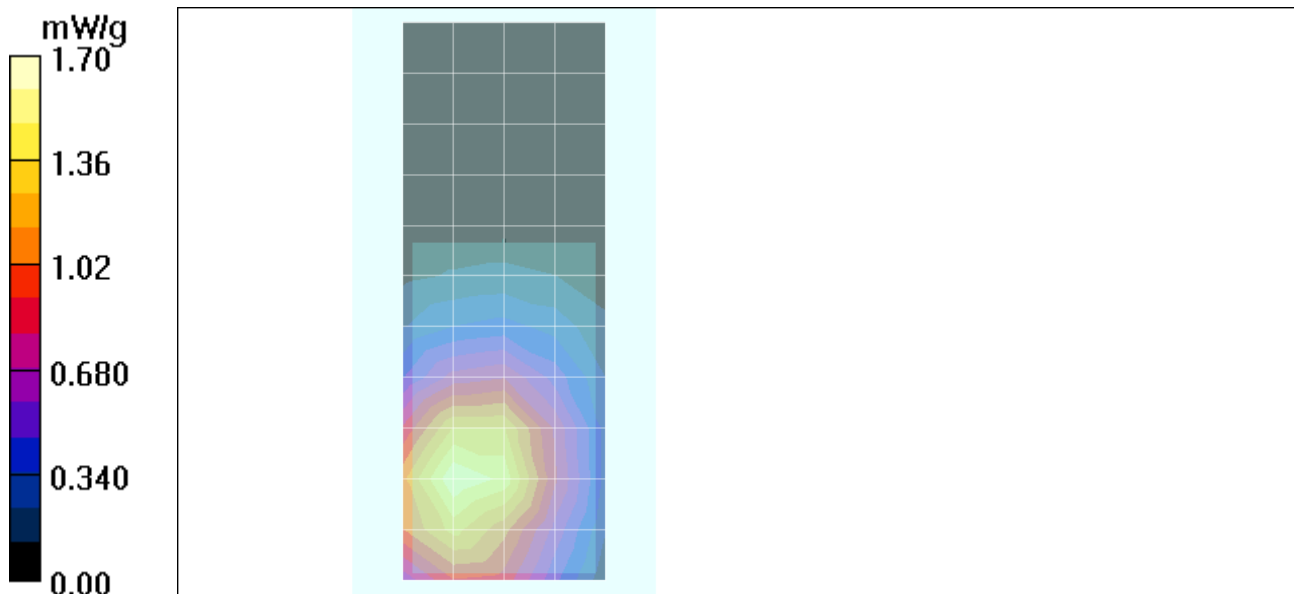
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.58 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 36.6 V/m; **Power Drift = -0.117 dB** Peak SAR (extrapolated) = 2.02 W/kg

SAR(1 g) = 1.52 mW/g; SAR(10 g) = 1.08 mW/g Maximum value of SAR (measured) = 1.62 mW/g



Date/Time: 8/4/2005 9:01:08AM

Test Laboratory: Motorola 800 BW ch777 CERZH1 with Bluetooth & SNN5696B

Serial: 5281F21B

Procedure Notes: Pwr Step: ALWAYS UP Antenna Position: internal Battery Model #: SNN5696B

Accessory Model # = CASE CERZH1/BLUETOOTH

Communication System: CDMA 835; Frequency: 848.31 MHz; Channel Number: 777; Duty Cycle: 1:1

Medium: Low Freq Body; Medium parameters used: $\sigma = 0.97$ mho/m, $\epsilon_r = 53.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.04, 6.04, 6.04); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.1, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

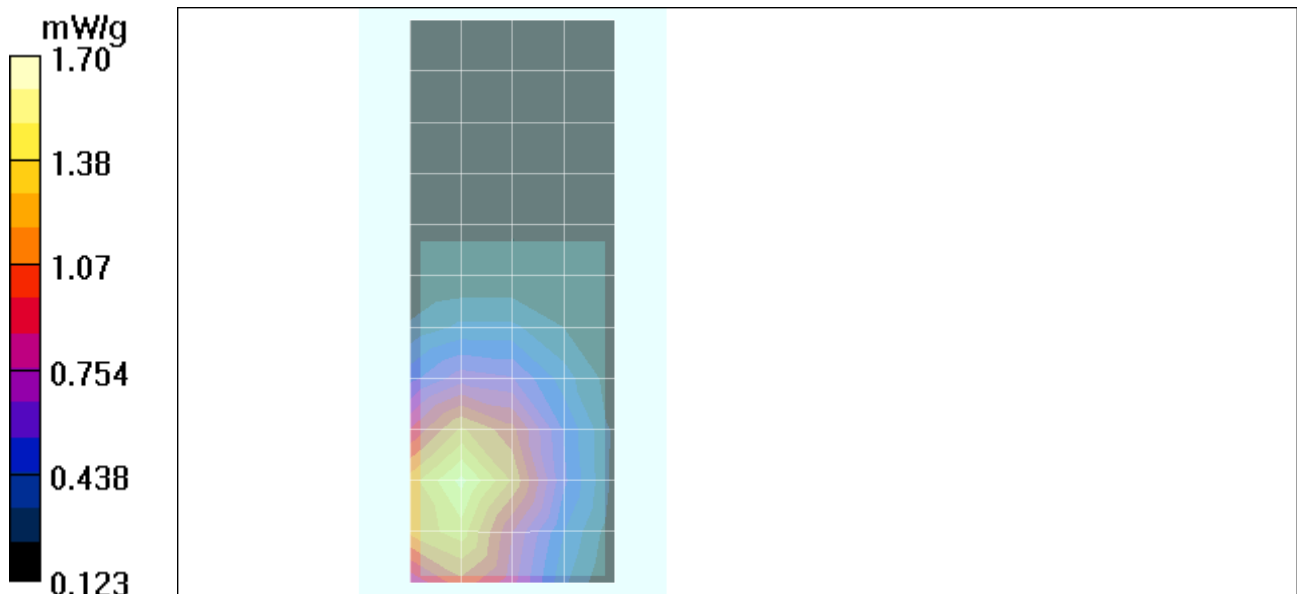
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.53 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 37.9 V/m; **Power Drift = -0.026 dB** Peak SAR (extrapolated) = 1.98 W/kg

SAR(1 g) = 1.46 mW/g; SAR(10 g) = 1.02 mW/g Maximum value of SAR (measured) = 1.57 mW/g



Date/Time: 8/2/2005 2:14:36PM

Test Laboratory: Motorola 800 BW ch384 front 25mm

Serial: 5281F21B

Procedure Notes: Pwr Step: always up Antenna Position: internal Battery Model #: SNN5777A

Accessory Model # = 25 MM FRONT

Communication System: CDMA 835; Frequency: 836.52 MHz; Channel Number: 384; Duty Cycle: 1:1

Medium: Low Freq Body; Medium parameters used: $\sigma = 0.98$ mho/m, $\epsilon_r = 54$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.04, 6.04, 6.04); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.1, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

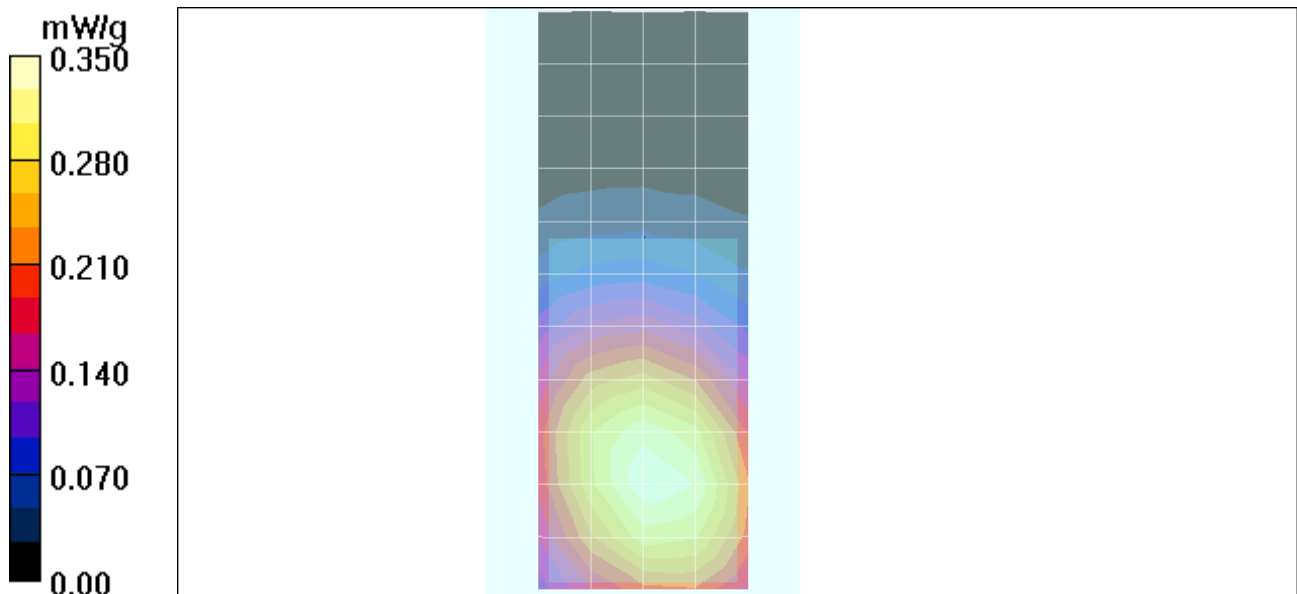
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.347 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.8 V/m; **Power Drift = -0.064 dB** Peak SAR (extrapolated) = 0.413 W/kg

SAR(1 g) = 0.332 mW/g; SAR(10 g) = 0.245 mW/g Maximum value of SAR (measured) = 0.352 mW/g



Date/Time: 8/2/2005 1:52:22PM

Test Laboratory: Motorola 800 BW ch384 back 25mm

Serial: 5281F21B

Procedure Notes: Pwr Step: always up Antenna Position: internal Battery Model #: SNN5777A

Accessory Model # = 25 MM BACK

Communication System: CDMA 835; Frequency: 836.52 MHz; Channel Number: 384; Duty Cycle: 1:1

Medium: Low Freq Body; Medium parameters used: $\sigma = 0.98$ mho/m, $\epsilon_r = 54$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.04, 6.04, 6.04); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.1, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

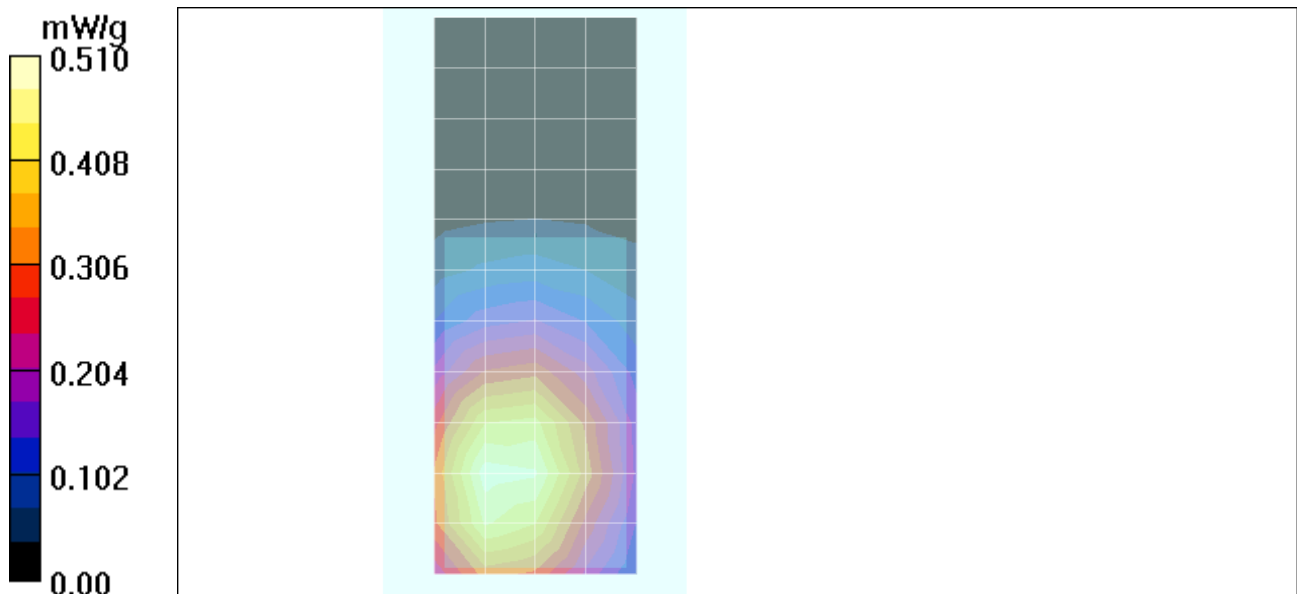
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.496 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.2 V/m; **Power Drift = 0.024 dB** Peak SAR (extrapolated) = 0.650 W/kg

SAR(1 g) = 0.496 mW/g; SAR(10 g) = 0.356 mW/g Maximum value of SAR (measured) = 0.528 mW/g



Date/Time: 8/2/2005 2:43:34PM

Test Laboratory: Motorola 800 BW ch384 back 25mm with Bluetooth

Serial: 5281F21B

Procedure Notes: Pwr Step: always up Antenna Position: internal Battery Model #: SNN5777A

Accessory Model # = 25 MM BACK BLUETOOTH

Communication System: CDMA 835; Frequency: 836.52 MHz; Channel Number: 384; Duty Cycle: 1:1

Medium: Low Freq Body; Medium parameters used: $\sigma = 0.98$ mho/m, $\epsilon_r = 54$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.04, 6.04, 6.04); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.1, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

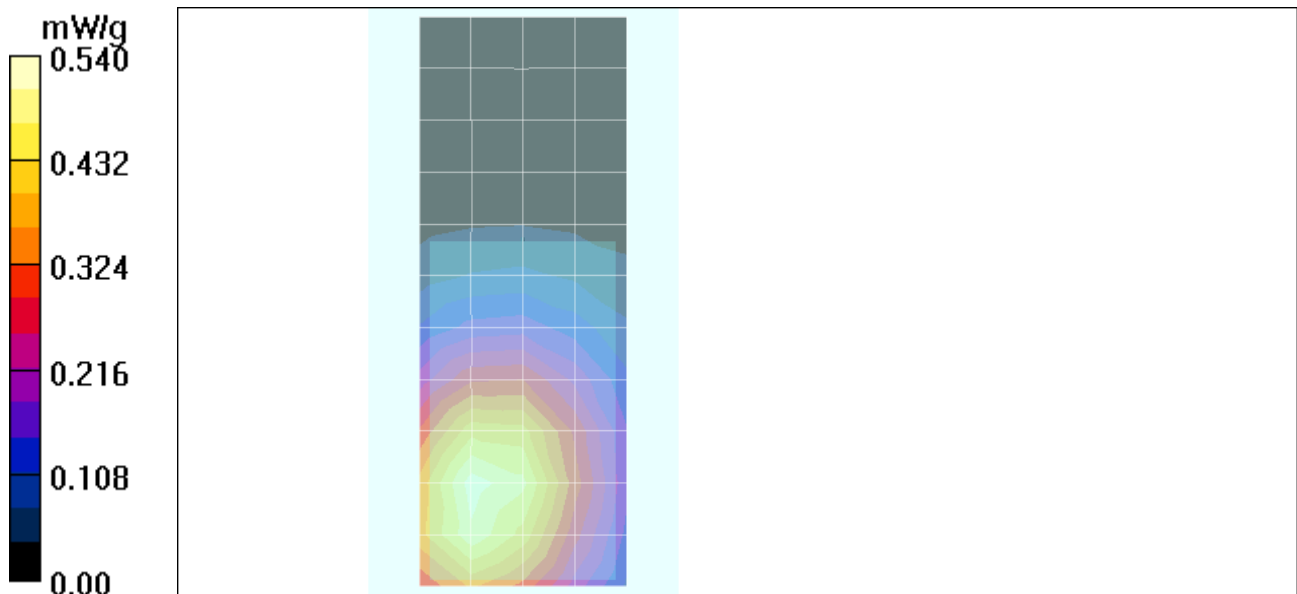
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.524 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.4 V/m; **Power Drift = 0.012 dB** Peak SAR (extrapolated) = 0.660 W/kg

SAR(1 g) = 0.514 mW/g; SAR(10 g) = 0.373 mW/g Maximum value of SAR (measured) = 0.547 mW/g



Date/Time: 8/2/2005 3:17:23PM

Test Laboratory: Motorola 800 BW ch384 back 25mm with Bluetooth & SNN5696B

Serial: 5281F21B

Procedure Notes: Pwr Step: always up Antenna Position: internal Battery Model #: SNN5696B

Accessory Model # = 25 MM BACK BLUETOOTH

Communication System: CDMA 835; Frequency: 836.52 MHz; Channel Number: 384; Duty Cycle: 1:1

Medium: Low Freq Body; Medium parameters used: $\sigma = 0.98$ mho/m, $\epsilon_r = 54$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.04, 6.04, 6.04); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.1, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

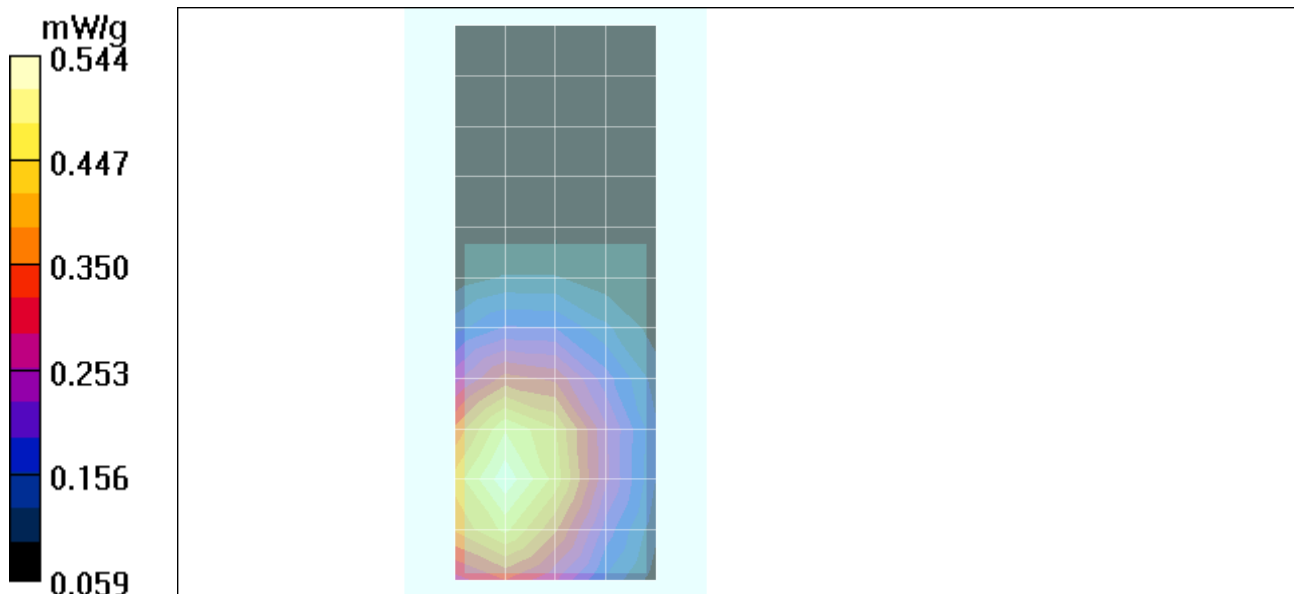
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.536 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.6 V/m; **Power Drift = 0.025 dB** Peak SAR (extrapolated) = 0.660 W/kg

SAR(1 g) = 0.511 mW/g; SAR(10 g) = 0.369 mW/g Maximum value of SAR (measured) = 0.544 mW/g



Date/Time: 8/2/2005 11:39:42PM

Test Laboratory: Motorola 800 BW ch1013 SYN1066B with Bluetooth & SNN5696B

Serial: 5281F21B

Procedure Notes: Pwr Step: OTA Antenna Position: internal Battery Model #: SNN5696B

Accessory Model # = CASE SYN1066B/BLUETOOTH

Communication System: CDMA 835; Frequency: 824.7 MHz; Channel Number: 1013; Duty Cycle: 1:1

Medium: Low Freq Body; Medium parameters used: $\sigma = 0.98$ mho/m, $\epsilon_r = 54$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(6.04, 6.04, 6.04); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.1, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

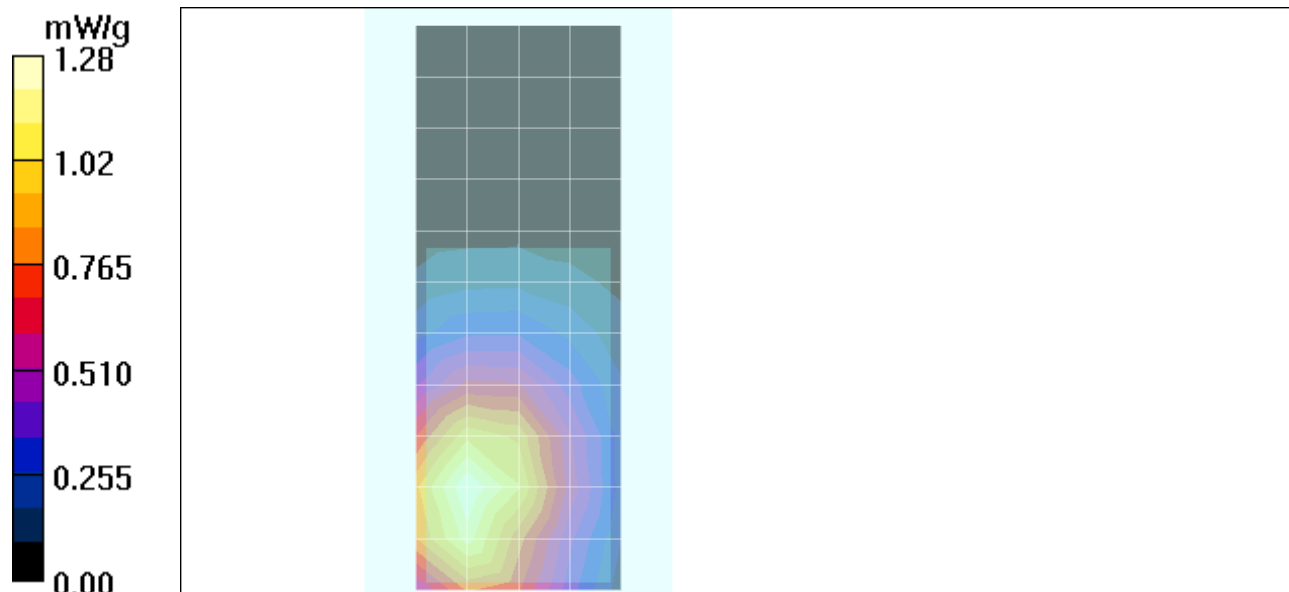
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.28 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 31.9 V/m; **Power Drift = -0.020 dB** Peak SAR (extrapolated) = 1.60 W/kg

SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.838 mW/g Maximum value of SAR (measured) = 1.27 mW/g



Date/Time: 8/5/2005 1:56:38PM

Test Laboratory: Motorola 1900 BW ch600 front 15mm

Serial: 5281F21B

Procedure Notes: Pwr Step: Always Up Antenna Position: Internal Battery Model #: SNN5777A

Accessory Model # = Front of Phone 15mm from Phantom

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Regular Glycol Body; Medium parameters used: $\sigma = 1.58$ mho/m, $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(4.65, 4.65, 4.65); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

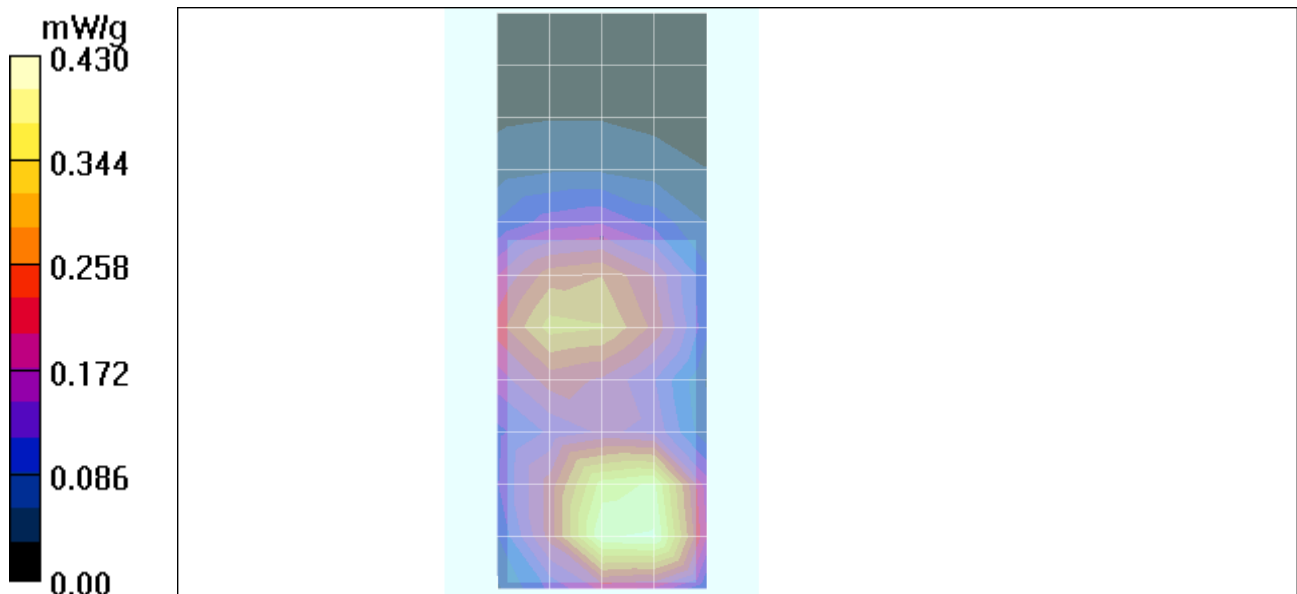
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.406 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.5 V/m; **Power Drift = 0.046 dB** Peak SAR (extrapolated) = 0.672 W/kg

SAR(1 g) = 0.434 mW/g; SAR(10 g) = 0.266 mW/g Maximum value of SAR (measured) = 0.474 mW/g



Date/Time: 8/5/2005 6:43:41PM

Test Laboratory: Motorola 1900 BW ch600 CHYN4646A with Bluetooth

Serial: 5281F21B

Procedure Notes: Pwr Step: Always Up Antenna Position: Internal Battery Model #: SNN5777A

Accessory Model # = CHYN4647A Flat Phantom #: 2

Simulate Temp when Measured: 20.4C Simulate Temp after Test: 19.6C Bluetooth Mode

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Regular Glycol Body; Medium parameters used: $\sigma = 1.58$ mho/m, $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(4.65, 4.65, 4.65); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Full Body (15mm) (18x8x1):

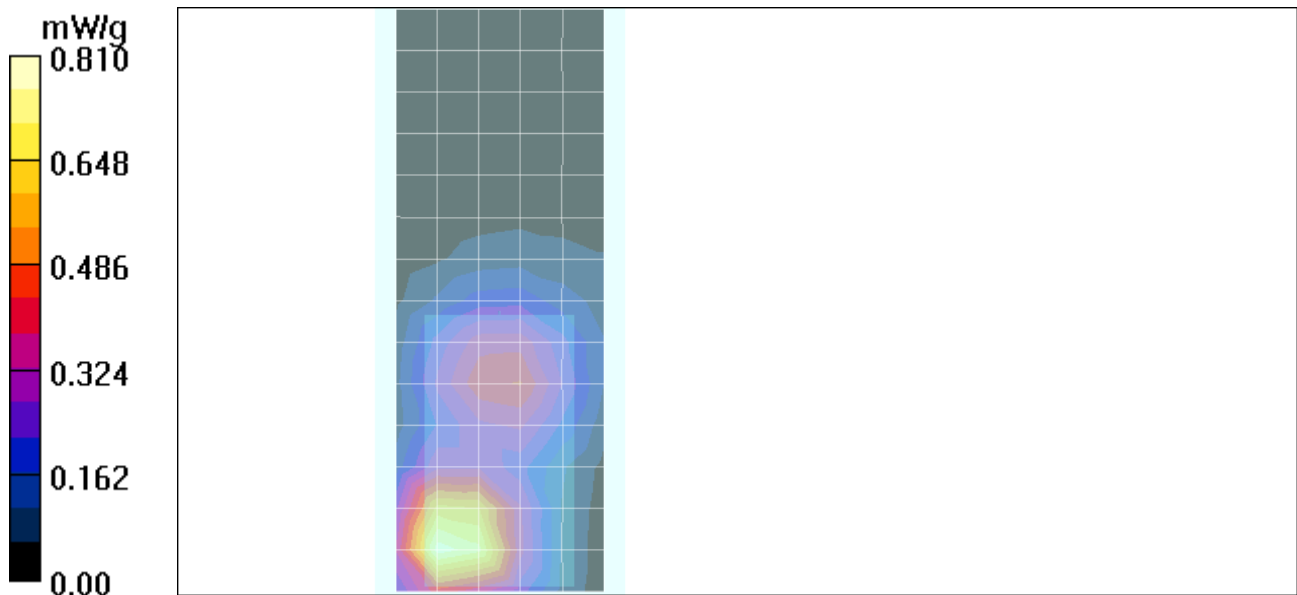
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.791 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.7 V/m; **Power Drift = -0.019 dB** Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.781 mW/g; SAR(10 g) = 0.478 mW/g Maximum value of SAR (measured) = 0.849 mW/g



Date/Time: 8/6/2005 7:44:45AM

Test Laboratory: Motorola 1900 BW ch600 CERZH1 with Bluetooth

Serial: 5281F21B

Procedure Notes: Pwr Step: Always Up Antenna Position: Internal Battery Model #: SNN5777A

Accessory Model # = CERZH1 Pouch with SYN8631A Wishbone Beltclip & Bluetooth Headset

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Regular Glycol Body; Medium parameters used: $\sigma = 1.58 \text{ mho/m}$, $\epsilon_r = 52$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

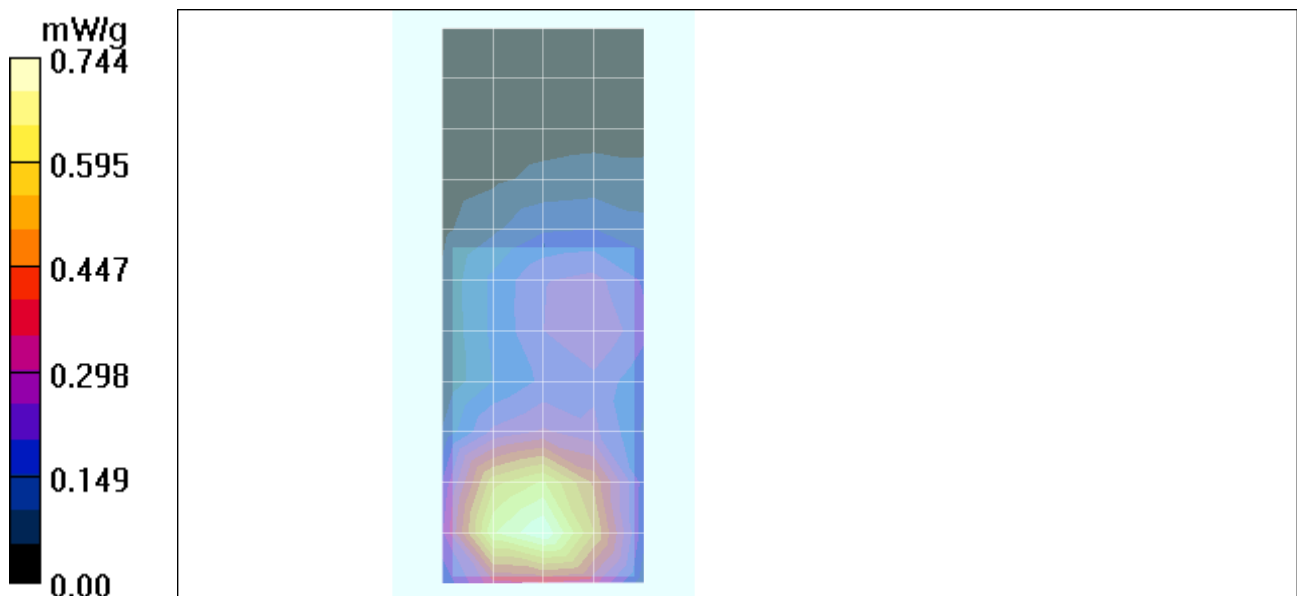
- Probe: ET3DV6 - SN1398; ConvF(4.65, 4.65, 4.65); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.744 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.6 V/m; **Power Drift = 0.021 dB** Peak SAR (extrapolated) = 1.04 W/kg**SAR(1 g) = 0.719 mW/g; SAR(10 g) = 0.458 mW/g** Maximum value of SAR (measured) = 0.777 mW/g

Date/Time: 8/5/2005 2:26:47PM

Test Laboratory: Motorola 1900 BW ch600 back 15mm

Serial: 5281F21B

Procedure Notes: Pwr Step: Always Up Antenna Position: Internal Battery Model #: SNN5777A

Accessory Model # = Back of Phone 15mm from Phantom

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Regular Glycol Body; Medium parameters used: $\sigma = 1.58$ mho/m, $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(4.65, 4.65, 4.65); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

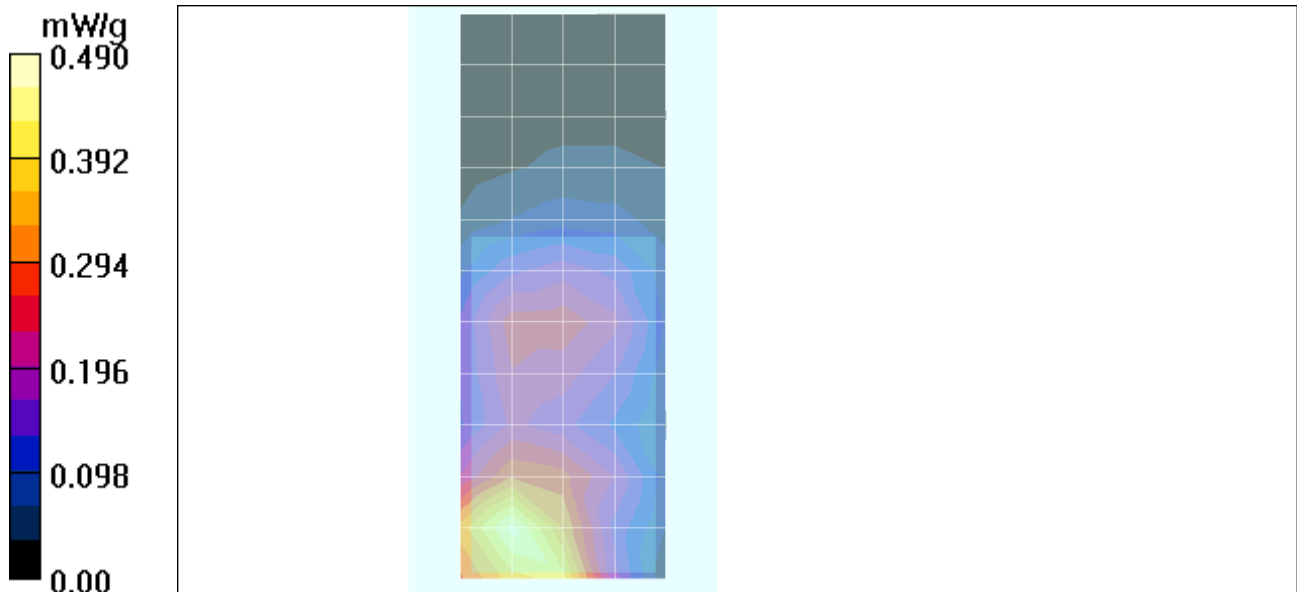
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.472 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.1 V/m; **Power Drift = 0.035 dB** Peak SAR (extrapolated) = 0.646 W/kg

SAR(1 g) = 0.446 mW/g; SAR(10 g) = 0.287 mW/g Maximum value of SAR (measured) = 0.477 mW/g



Date/Time: 8/5/2005 2:57:24PM

Test Laboratory: Motorola 1900 BW ch600 back 15mm with Bluetooth

Serial: 5281F21B

Procedure Notes: Pwr Step: Always Up Antenna Position: Internal Battery Model #: SNN5777A

Accessory Model # = Back of Phone 15mm from Phantom with Bluetooth Headset

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Regular Glycol Body; Medium parameters used: $\sigma = 1.58$ mho/m, $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

Probe: ET3DV6 - SN1398; ConvF(4.65, 4.65, 4.65); Calibrated: 2/24/2005

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn316; Calibrated: 1/13/2005

Phantom: R1: Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;

Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

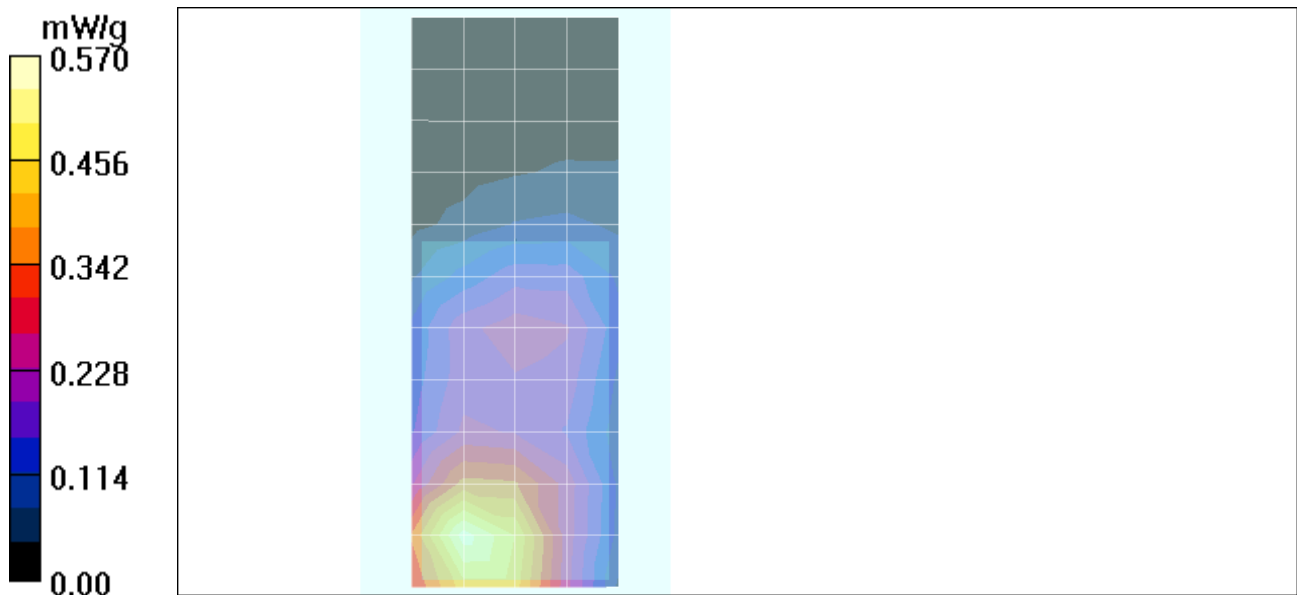
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.553 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.9 V/m; **Power Drift = 0.028 dB** Peak SAR (extrapolated) = 0.764 W/kg

SAR(1 g) = 0.522 mW/g; SAR(10 g) = 0.336 mW/g Maximum value of SAR (measured) = 0.561 mW/g



Date/Time: 8/5/2005 3:23:14PM

Test Laboratory: Motorola 1900 BW ch600 back 15mm with Bluetooth & SNN5696B

Serial: 5281F21B

Procedure Notes: Pwr Step: Always Up Antenna Position: Internal Battery Model #: SNN5696B

Accessory Model # = Back of Phone 15mm from Phantom with Bluetooth Headset

Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1

Medium: Regular Glycol Body; Medium parameters used: $\sigma = 1.58$ mho/m, $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(4.65, 4.65, 4.65); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

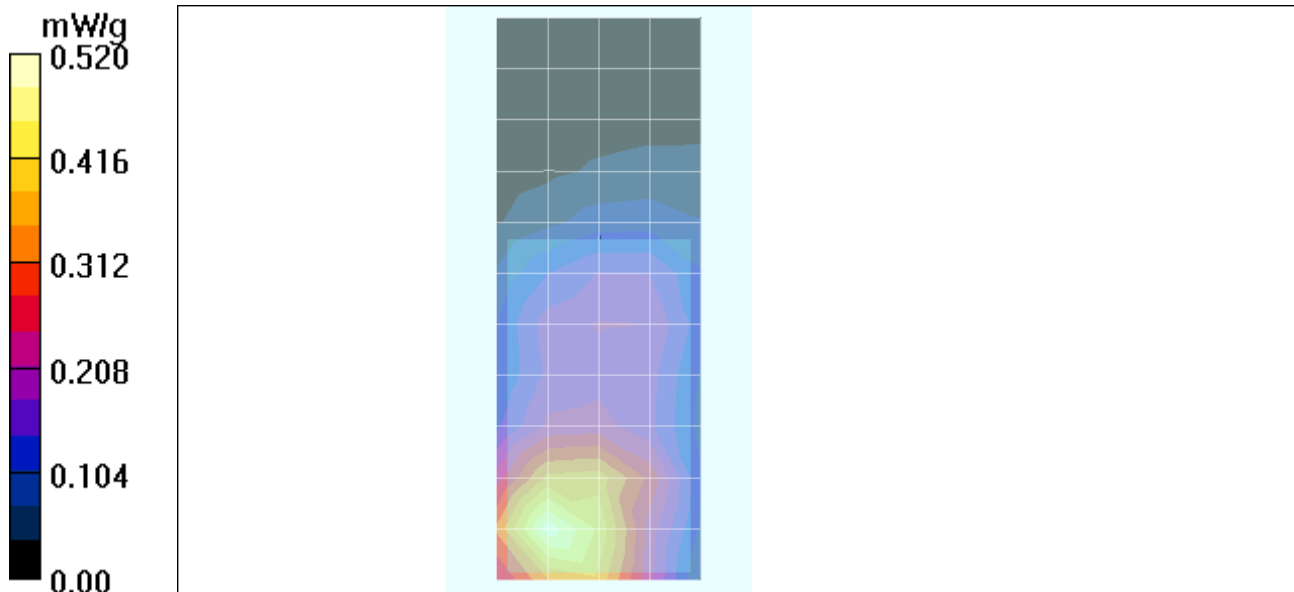
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.507 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.5 V/m; **Power Drift = -0.031 dB** Peak SAR (extrapolated) = 0.659 W/kg

SAR(1 g) = 0.470 mW/g; SAR(10 g) = 0.305 mW/g Maximum value of SAR (measured) = 0.506 mW/g



Date/Time: 8/6/2005 8:33:20AM

Test Laboratory: Motorola 1900 BW ch600 SYN1066B with Bluetooth

Serial: 5281F21B

Procedure Notes: Pwr Step: Always Up Antenna Position: Internal Battery Model #: SNN5777A
Accessory Model # = SYN1066B Pouch with SYN8631A Wishbone Beltclip & Bluetooth Headset
Communication System: CDMA 1900; Frequency: 1880 MHz; Channel Number: 600; Duty Cycle: 1:1
Medium: Regular Glycol Body; Medium parameters used: $\sigma = 1.58$ mho/m, $\epsilon_r = 52$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ET3DV6 - SN1398; ConvF(4.65, 4.65, 4.65); Calibrated: 2/24/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn316; Calibrated: 1/13/2005
- Phantom: R1: Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 147

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (13x7x1):

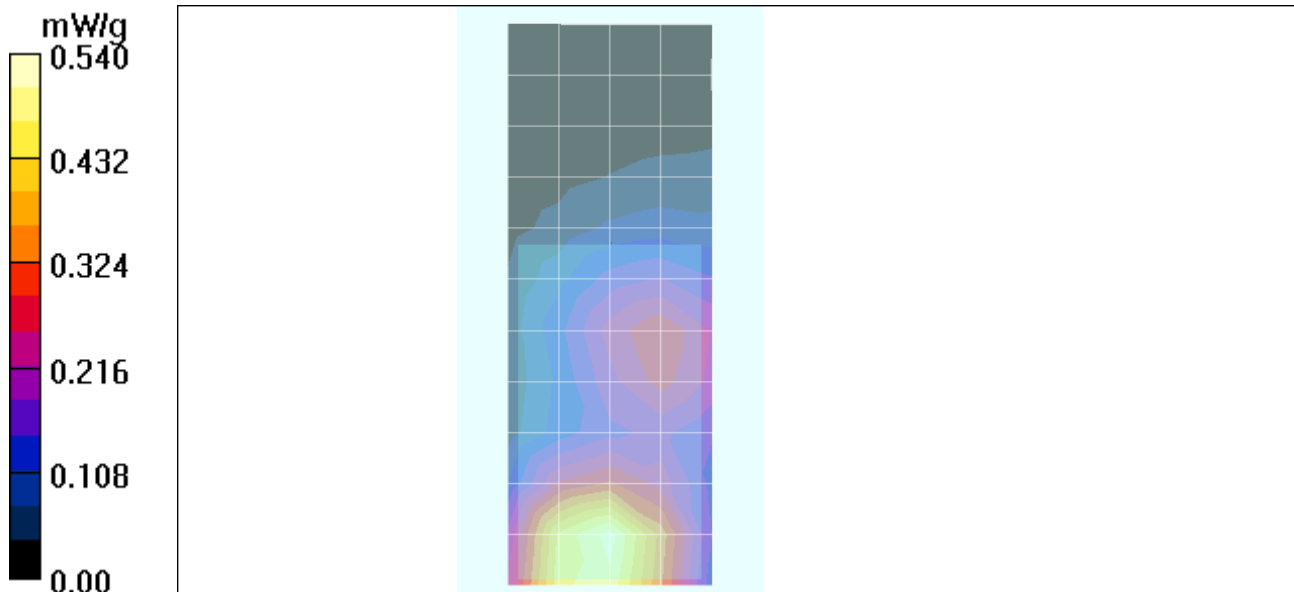
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.520 mW/g

Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.1 V/m; **Power Drift = 0.058 dB** Peak SAR (extrapolated) = 0.768 W/kg

SAR(1 g) = 0.524 mW/g; SAR(10 g) = 0.335 mW/g Maximum value of SAR (measured) = 0.569 mW/g



Appendix 4

Probe Calibration Certificate



Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Motorola Korea**

Certificate No. **ET3-1398_Feb05**

CALIBRATION CERTIFICATE

Object

ET3DV6 - SN 1398

Calibration procedure(s)

**QA CAL-01 v5
Calibration procedure for dosimetric E-field probes**

Calibration date:

February 24, 2005

Condition of the calibrated item

In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	5-May-04 (METAS, No. 251-00388)	May-05
Power sensor E4412A	MY41495277	5-May-04 (METAS, No. 251-00388)	May-05
Reference 3 dB Attenuator	SN: S5054 (3c)	10-Aug-04 (METAS, No. 251-00403)	Aug-05
Reference 20 dB Attenuator	SN: S5086 (20b)	3-May-04 (METAS, No. 251-00389)	May-05
Reference 30 dB Attenuator	SN: S5129 (30b)	10-Aug-04 (METAS, No. 251-00404)	Aug-05
Reference Probe ES3DV2	SN: 3013	7-Jan-05 (SPEAG, No. ES3-3013_Jan05)	Jan-06
DAE4	SN: 617	19-Jan-05 (SPEAG, No. DAE4-617_Jan05)	Jan-06

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092180	18-Sep-02 (SPEAG, in house check Oct-03)	In house check: Oct 05
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Dec-03)	In house check: Dec-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-04)	In house check: Nov 05

Calibrated by:

Name

Function

Signature

Nico Vetterli

Laboratory Technician

Approved by:

Kalig Pokovic

Technical Manager

Issued: February 25, 2005

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
Polarization ϕ	ϕ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}:** Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E²-field uncertainty inside TSL (see below *ConvF*).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- DCP_{x,y,z}:** DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- ConvF and Boundary Effect Parameters:** Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy):** in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset:** The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe ET3DV6

SN:1398

Manufactured:	October 24, 1999
Last calibrated:	February 16, 2004
Recalibrated:	February 24, 2005

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: ET3DV6 SN:1398

Sensitivity in Free Space^A

NormX	1.48 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$
NormY	1.61 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	1.54 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$

Diode Compression^B

DCP X	92 mV
DCP Y	92 mV
DCP Z	92 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL **900 MHz** **Typical SAR gradient: 5 % per mm**

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{be} [%]	Without Correction Algorithm	8.4	4.3
SAR _{be} [%]	With Correction Algorithm	0.6	0.2

TSL **1810 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{be} [%]	Without Correction Algorithm	13.6	9.3
SAR _{be} [%]	With Correction Algorithm	0.9	0.2

Sensor Offset

Probe Tip to Sensor Center **2.7 mm**

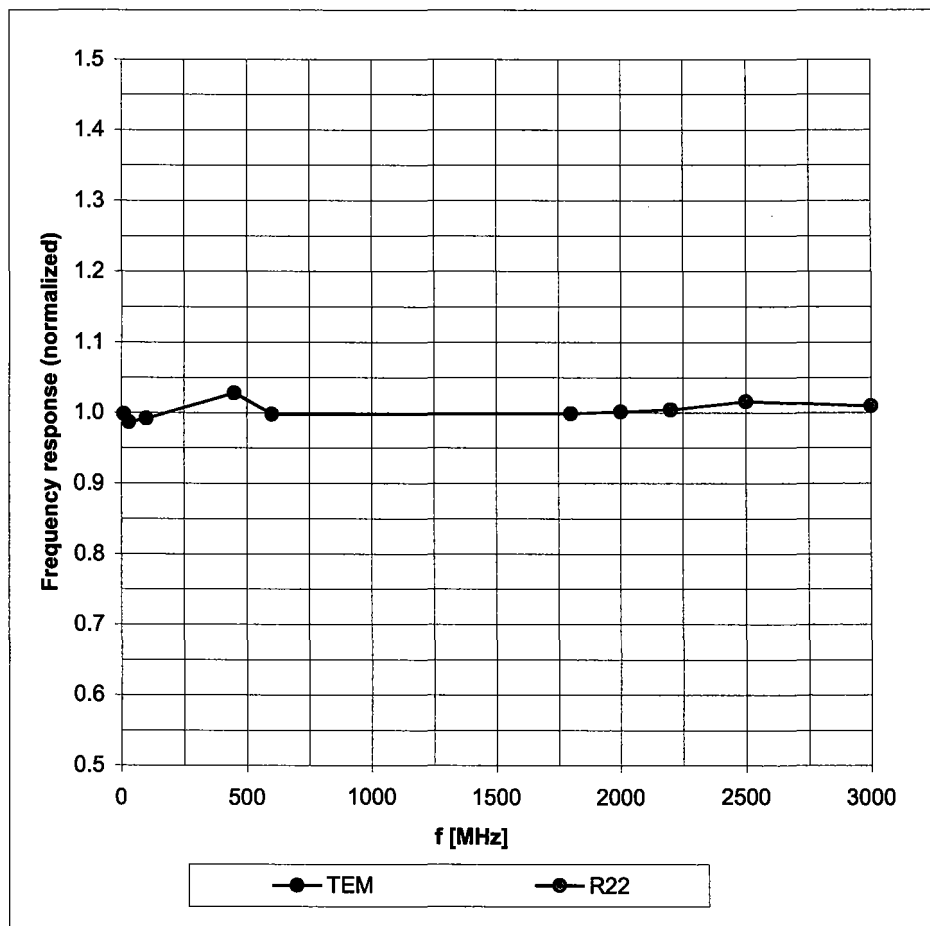
The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).

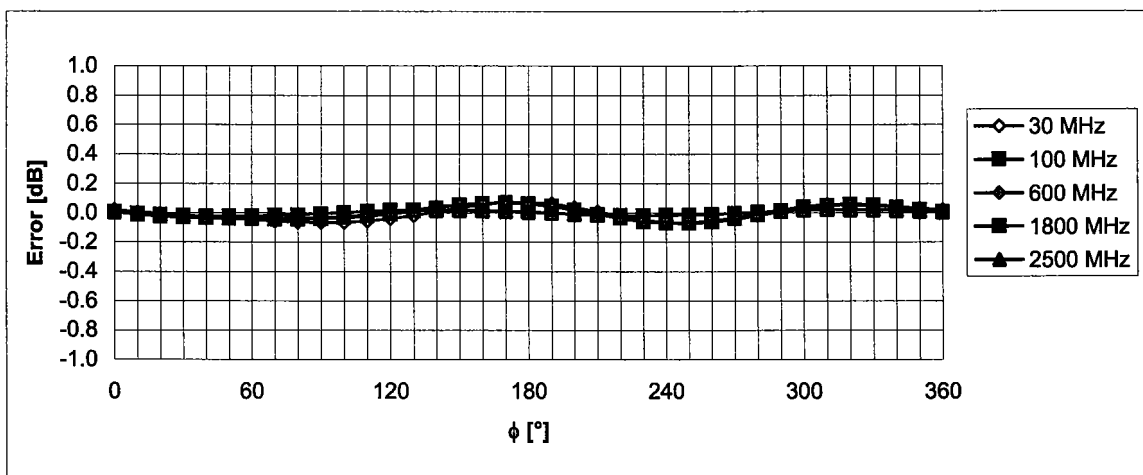
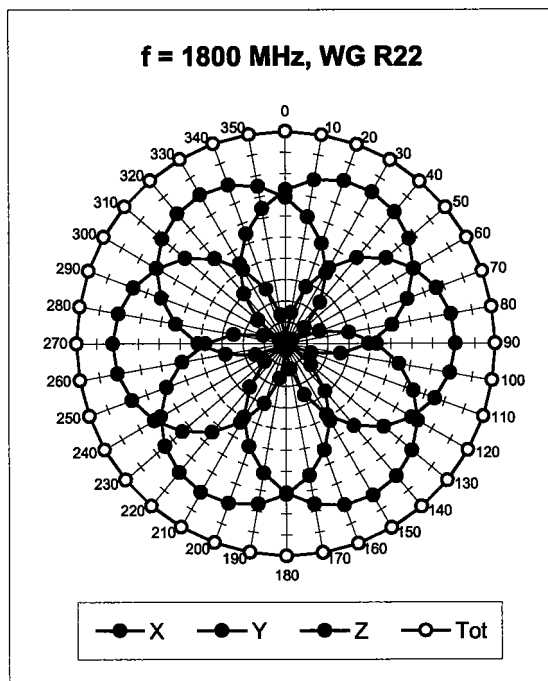
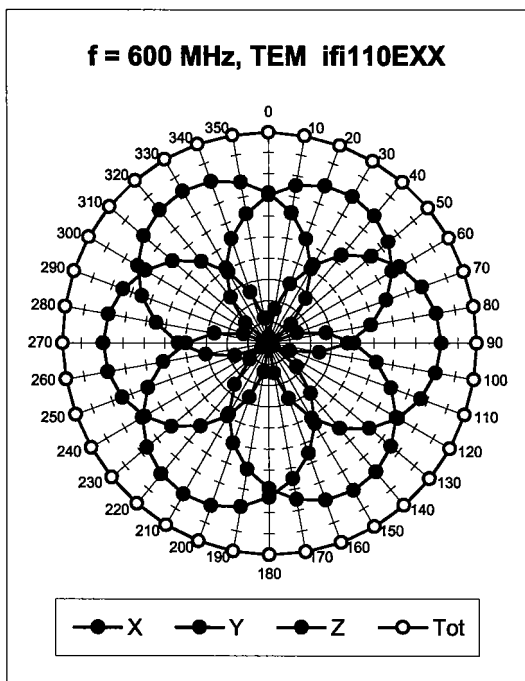
^B Numerical linearization parameter: uncertainty not required.

Frequency Response of E-Field

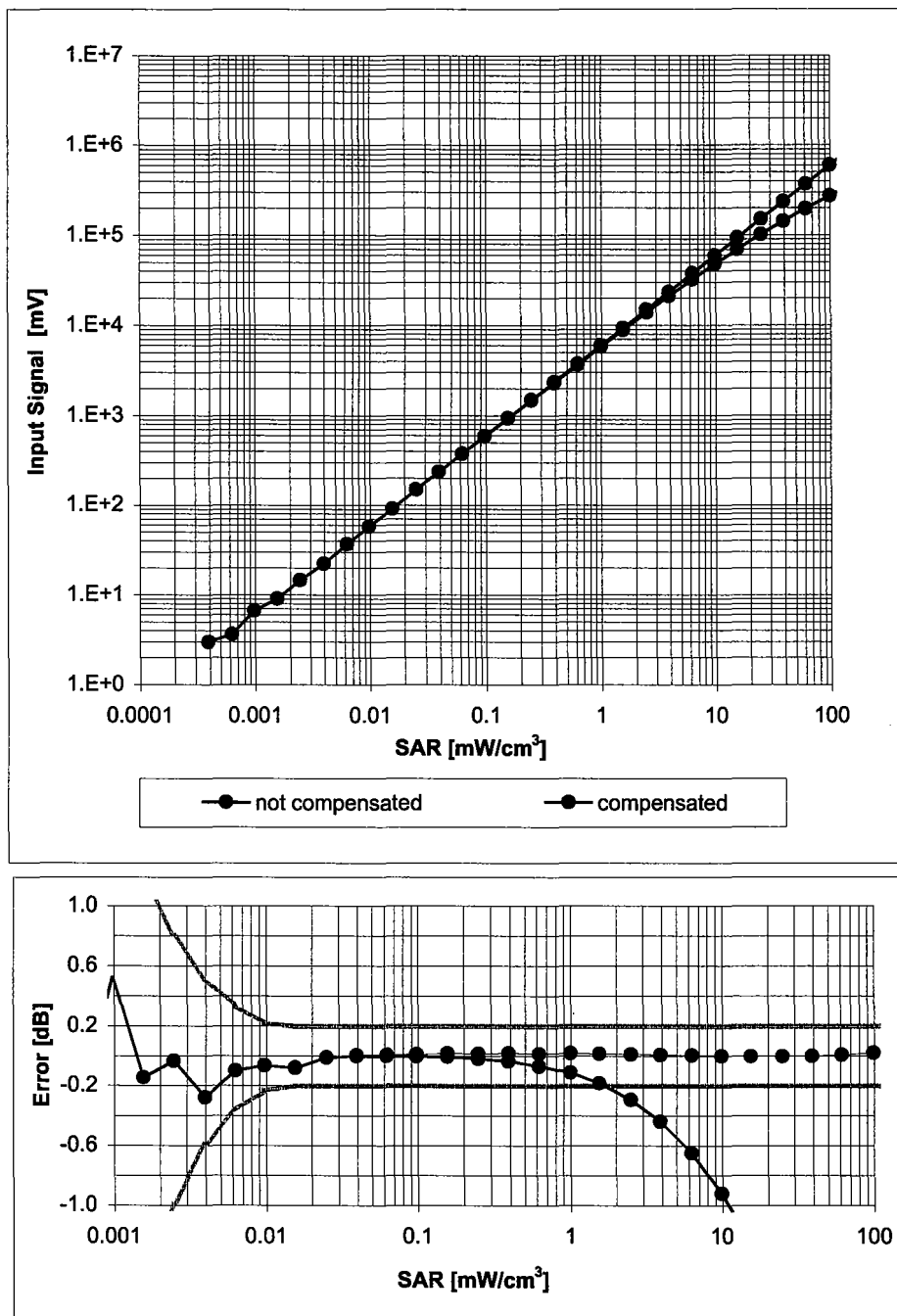
(TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

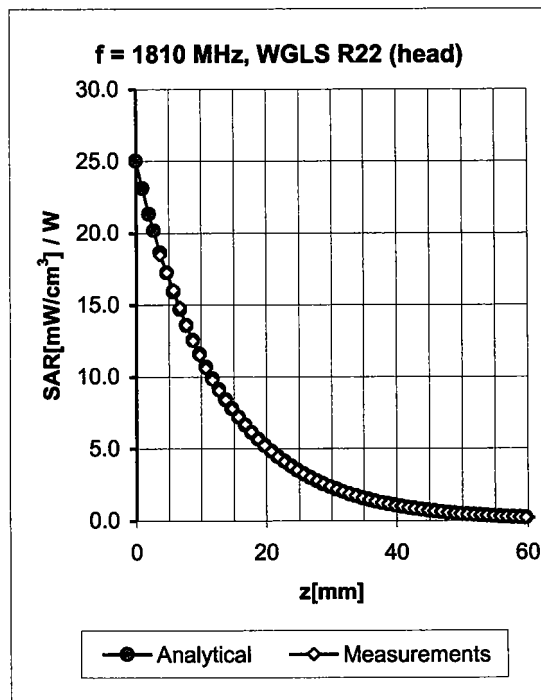
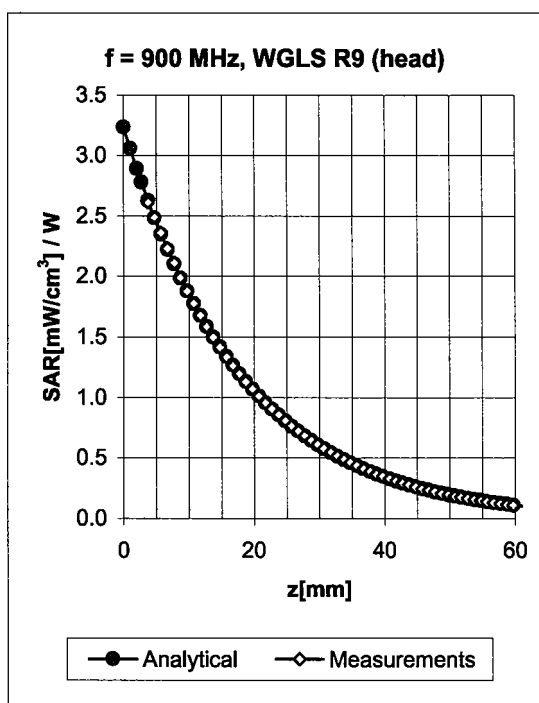
Receiving Pattern (ϕ), $\vartheta = 0^\circ$ Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide R22, $f = 1800 \text{ MHz}$)



Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment

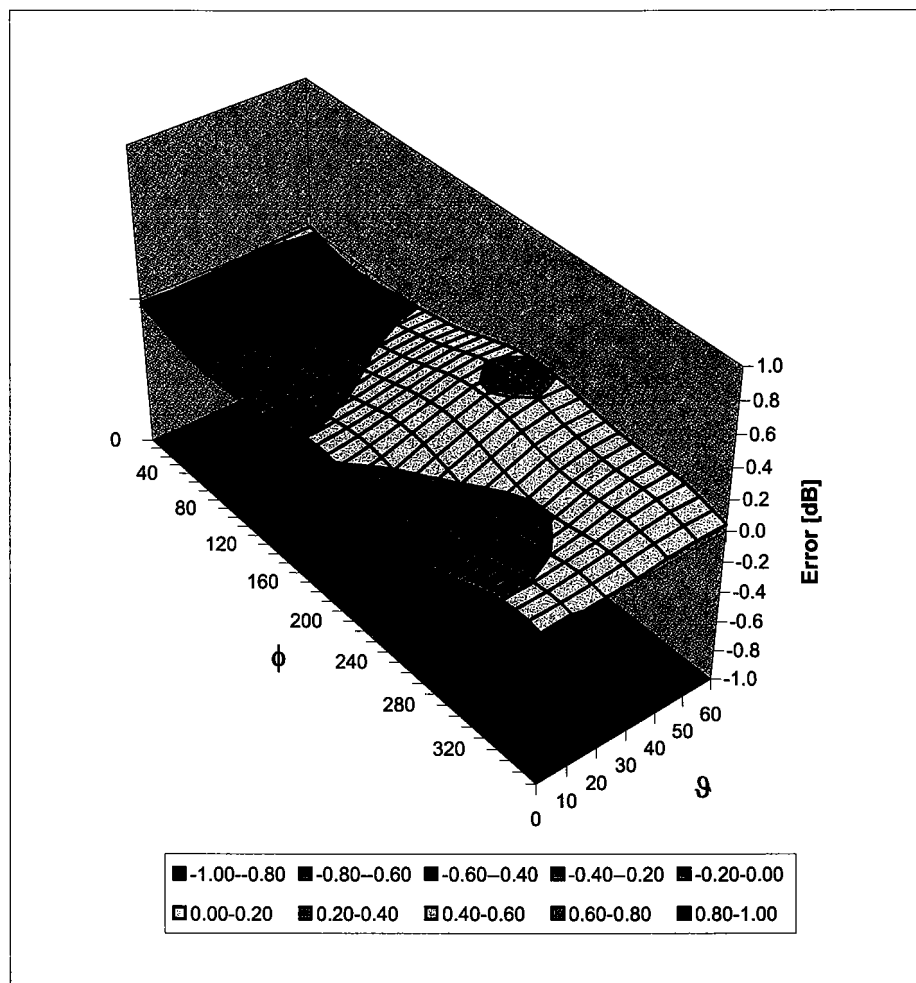


f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	1.29	1.35	6.42 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.61	2.36	5.12 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.59	2.50	4.87 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.74	2.11	4.50 ± 11.8% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	1.16	1.50	6.04 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.60	2.67	4.65 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.67	2.36	4.43 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.89	1.79	4.26 ± 11.8% (k=2)

^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Deviation from Isotropy in HSL

Error (ϕ , θ), $f = 900$ MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)

Appendix 5
Measurement Uncertainty Budget

Uncertainty Budget for Device Under Test: 30 – 3000 MHz

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e = f(d,k)</i>	<i>f</i>	<i>g</i>	<i>h = c x f / e</i>	<i>i = c x g / e</i>	<i>k</i>
Uncertainty Component	IEEE 1528 section	Tol. (± %)	Prob Dist	Div.	<i>c_i</i> (1 g)	<i>c_i</i> (10 g)	1 g <i>u_i</i> (±%)	10 g <i>u_i</i> (±%)	<i>v_i</i>
Measurement System									
Probe Calibration	E.2.1	5.9	N	1.00	1	1	5.9	5.9	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	0.3	N	1.00	1	1	0.3	0.3	∞
Response Time	E.2.7	1.1	R	1.73	1	1	0.6	0.6	∞
Integration Time	E.2.8	1.1	R	1.73	1	1	0.6	0.6	∞
RF Ambient Conditions - Noise	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	0.0	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mech. Tolerance	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning w.r.t Phantom	E.6.3	1.4	R	1.73	1	1	0.8	0.8	∞
Max. SAR Evaluation (ext., int., avg.)	E.5	3.4	R	1.73	1	1	2.0	2.0	∞
Test sample Related									
Test Sample Positioning	E.4.2	3.2	N	1.00	1	1	3.2	3.2	29
Device Holder Uncertainty	E.4.1	4.0	N	1.00	1	1	4.0	4.0	8
SAR drift	6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	E.3.3	3.3	N	1.00	0.64	0.43	2.1	1.4	∞
Liquid Permittivity (target)	E.3.2	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measurement)	E.3.3	1.9	N	1.00	0.6	0.49	1.1	0.9	∞
Combined Standard Uncertainty			RSS				11.1	10.8	411
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				22.2	21.6	

Uncertainty Budget for System Check: 30 – 3000 MHz

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e = f(d,k)</i>	<i>f</i>	<i>g</i>	<i>h = c x f / e</i>	<i>i = c x g / e</i>	<i>k</i>
Uncertainty Component	IEEE 1528 section	Tol. (± %)	Prob. Dist.	Div.	<i>c_i</i> (1 g)	<i>c_i</i> (10 g)	1 g <i>u_i</i> (±%)	10 g <i>u_i</i> (±%)	<i>v_i</i>
Measurement System									
Probe Calibration	E.2.1	5.9	N	1.00	1	1	5.9	5.9	∞
Axial Isotropy	E.2.2	4.7	R	1.73	1	1	2.7	2.7	∞
Spherical Isotropy	E.2.2	9.6	R	1.73	0	0	0.0	0.0	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	0.3	N	1.00	1	1	0.3	0.3	∞
Response Time	E.2.7	1.1	R	1.73	1	1	0.6	0.6	∞
Integration Time	E.2.8	0.0	R	1.73	1	1	0.0	0.0	∞
RF Ambient Conditions - Noise	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	0.0	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning w.r.t. Phantom	E.6.3	1.4	R	1.73	1	1	0.8	0.8	∞
Max. SAR Evaluation (ext., int., avg.)	E.5	3.4	R	1.73	1	1	2.0	2.0	∞
Dipole									
Dipole Axis to Liquid Distance	⁸ , E.4.2	2.0	R	1.73	1	1	1.2	1.2	∞
Input Power and SAR Drift Measurement	⁸ , 6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	E.3.3	3.3	R	1.73	0.64	0.43	1.2	0.8	∞
Liquid Permittivity (target)	E.3.2	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measurement)	E.3.3	1.9	R	1.73	0.6	0.49	0.6	0.5	∞
Combined Standard Uncertainty			RSS				9.0	8.8	9999 9
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				17.7	17.3	

Appendix 6

Photographs of the device under test



Figure 1. Front of Phone



Figure 2. Back of Phone



Figure 3. Phone Open



Figure 4. Front View; Cheek/Touch Position



Figure 5. Rear View; Cheek/Touch Position

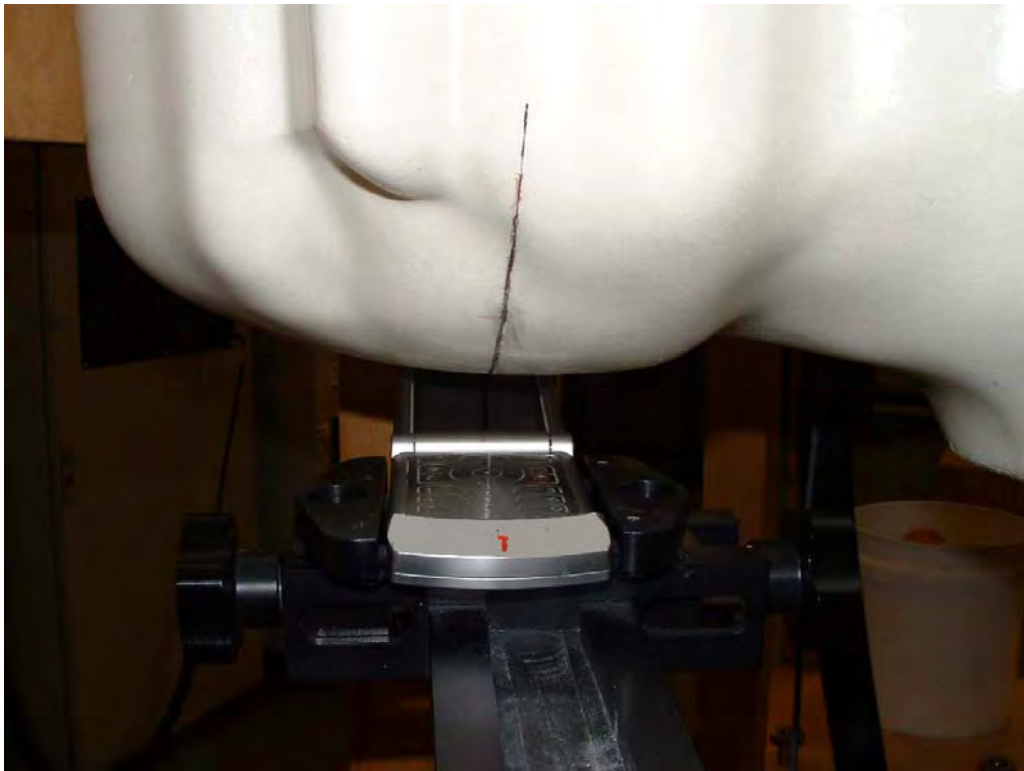


Figure 6. Front View; Tilt Position



Figure 7. Rear View; Tilt Position



Figure 8. Side View; SYN1066A Case



Figure 9. Back View; SYN1066A Case



Figure 10. Side View; CERZH1 Case



Figure 11. Back View; SYN1066A Case



Figure 12. Side View; CERZH1 Case



Figure 13. Back View; SYN1066A Case



Figure 14. Side View; CHYN4647A Case



Figure 15. Back View; CHYN4647A Case



Figure 16. Body Worn Testing

Appendix 7

Dipole Characterization Certificate

Certification of System Performance Check Targets

Based on APP-0396

-Historical Data-

	900MHz	
IEEE1528 Target:	10.8	(W/kg)
Measurement Uncertainty (k=1):	9.0%	
Measurement Period:	9-Nov-04 to 2-June-05	
# of tests performed:	813	
Grand Average:	11.3	(W/kg)
% Delta (Average - IEEE1528 Target)	4.4%	
Is % Delta <= Expanded Measurement Uncertainty (k=2)?	Yes	
Accept/Reject <u>Average</u> as new system performance check target?	ACCEPT	
	Historic data included the following 900MHz Dipoles:	
	69, 77	
	79, 80	
	91, 94	
	96, 97	

-New System Performance Check Targets- per APP-0396
(based on analysis of historical data)

Frequency	SAR Target (W/kg)	Permittivity	Conductivity (S/m)
900MHz	11.3	41.5 ± 5%	0.97 ± 5%

-Approvals-

Submitted by:

Marge Kaunas

Date:

2-Jun-05

Signed:



Comments:

Spreadsheet detailing referenced historical measurements is available upon request.

Approved by:

Mark Douglas

Date:

2-Jun-05

Signed:



Comments:

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