Exhibit 11: SAR Test Report IHDT6EY1

Date of test: 17 November to 8 December, 2004
Date of Report: 10 December, 2004

Laboratory:
Motorola Personal Communications Sector Product Safety & Compliance Laboratory
600 N. US Highway 45
Room: MW113
Libertyville, Illinois 60048

Test Responsible:
Albert Patapack
Senior Staff Engineer

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

Tests:	Procedures:
Electromagnetic Specific Absorption Rate	ANSI/IEEE C95.1-1992, 1999 (SAR) IEEE C95.3-1991 IEEE P1528 (*DRAFT*) FCC OET Bulletin 65 (*including Supplements A, B, C*) Australian Communications Authority Radio Communications (Electromagnetic Radiation – Human Exposure) Standard 1999 CENELEC EN 50361 (2001)
Simulated Tissue Preparation	APP-0247
RF Power Measurement	DOI-0876, 0900, 0902, 0904, 0915

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 IHDT6EY1 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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1 Introduction

The Motorola Personal Communications Sector Product Safety Laboratory has performed measurements of the maximum potential exposure to the user of portable cellular phone (FCC ID IHDT6EY1). 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	
Location	Upper Portion of Rear of Phone	
Dimensions	Length	45mm
	Width	10mm
Configuration	Helix	

2.2 Device description

FCC ID Number	**IHDT6EY1**								
Serial number	LM10560042								
Mode(s) of Operation	GSM 900	GSM 1800	GSM 1900	GPRS 850	GPRS 1800	GPRS 1900	UMTS	BlueTooth	WiFi
Modulation Mode(s)	GSM	GSM	GSM	GSM	GSM	GSM	WCDMA	BlueTooth	802.11b
Maximum Output Power Setting	33.00dBm	30.00dBm	30.00dBm	33.00dBm	30.00dBm	30.00dBm	22.00 dBm	4.00dBm	16.50dBm
Duty Cycle	1:8	1:8	1:8	2:8	2:8	2:8	1:1	1:1	1:1
Transmitting Frequency Rang(s)	880.2-914.8MHz	1710.2-1784.8 MHz	1850.2 – 1909.8 MHz	824.2-848.8 MHz	1710.2-1784.8 MHz	1850.2 – 1909.8 MHz	1920.3-1979.7MHz	2400 - 2483.5 MHz	2412 – 2472 Mhz
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 Personal Communications Sector Product Safety & Compliance Laboratory utilizes a Dosimetric Assessment System (Dasy3™ v3.1d) 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 ±11.7% (K=1) with an expanded uncertainty of ±23.0% (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
DASY3 DAE V1	398	16-Feb-05
E-Field Probe ET3DV6	1514	22-Jul-05
Dipole Validation Kit, D1800V2	272TR	02-Apr-05
Dipole Validation Kit, D2450V2	740	16-Jan-05
S.A.M. Phantom used for 1900MHz	TP-1250	
S.A.M. Phantom used for 2400MHz	TP-1250	

3.2 Additional Equipment

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	3847A04822	6-Feb-05
Power Meter E4419B	GB39511086	5-Apr-05
Power Sensor #1 - E9301A	US39210929	21-Jul-05
Power Sensor #2 - E9301A	US39210930	21-Jul-05
Network Analyzer HP8753ES	US39171846	03-Sept-04
Dielectric Probe Kit HP85070B	US99360074	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)
1880	**Head**	**Measured, 11/17/04**	38.0	1.45	19.7
		Recommended Limits	40.0 ±5%	1.40 ±5%	18-25
	Body	**Measured, 11/17/04**	50.9	1.58	19.9
		Measured, 11/19/04	50.8	1.58	18.9
		Measured, 12/08/04	52.3	1.58	18.6
		Recommended Limits	53.3 ±5%	1.52 ±5%	18-25
2450	**Head**	**Measured, 11/18/04**	38.1	1.91	19.5
		Recommended Limits	39.2 ±5%	1.80 ±5%	18-25
	Body	**Measured, 11/30/04**	50.1	2.04	19.7
		Measured, 12/08/04	51.9	2.04	24.5
		Recommended Limits	52.7 ±5%	1.95 ±5%	18-25

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

Ingredient	1900MHz Head	1900MHz Body	2450MHz Head	2450MHz Body
Sugar	--	--	--	--
DGBE	47.0	30.80	--	30.0
Diacetin	--	--	51.0	
Water	52.8	68.91	48.75	70.0
Salt	0.2	0.29	0.15	--
HEC	--	--	--	--
Bact.	--	--	0.1	--

5 System Accuracy Verification

A system accuracy verification of the DASY3 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 +/- 10% from the target SAR indicated on the dipole certification sheet. 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 ±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)		
1800	**Measured, 11/17/04**	38.78	38.3	1.36	21.0	19.8
	Measured, 11/19/04	37.20	39.1	1.35	20.0	19.2
	Measured, 12/08/04	38.95	39.5	1.37	21.0	19.2
	Recommended Limits	38.1	40.0 ±5%	1.4 ±5%	18-25	18-25
2450	**Measured, 11/18/04**	56.25	38.1	1.91	20.0	19.5
	Measured, 11/30/04	58.75	37.9	1.92	21.1	19.2
	Measured, 12/07/04	60.75	37.5	1.93	20.0	19.8
	Recommended Limits	57.6	39.2 ±5%	1.80 ±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	1514	1800	5.03	7 of 8
		2450	4.46	7 of 8

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 DASY v3.1d 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 DASY 3.1d 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 (± 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.

SAR measurements were taken separately in the 1900Mhz and 2400Mhz bands. The resulting SAR values were then added together to get an SAR value representative of the cotransmission case in which the phone is transmitting in both bands simultaneously. This method gives a conservation SAR value as suggested in IEC62209 Part 2.

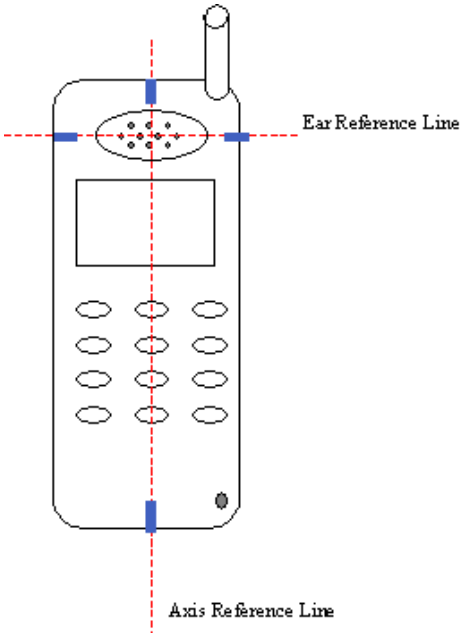
The Cellular Phone (FCC ID IHDT6EY1) has the SNN5746A as the only available battery option. This battery was used to do all of the SAR testing. The phone was placed in the SAR measurement system with a fully charged battery.

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 and 2 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 New SAR = Old SAR * 10^(-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.

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	1514	1800	5.03	7 of 8
		2450	4.46	7 of 8

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 1900MHz	Channel 512	30.04								
	Channel 661	29.92	**0.294**	**-0.00**	**0.30**	**19.7**	**0.436**	**0.2**	**0.44**	**19.5**
	Channel 810	30.04								
WiFi 2400Mhz	Channel 1	16.5								
	Channel 6	16.5	**0.36**	**-0.50**	**0.40**	**19.5**	**0.13**	**-0.60**	**0.15**	**19.5**
	Channel 11	16.5								
Digital 1900MHz & WiFi 2400Mhz	summation of extrapolated SAR values	N/A			0.70				0.59	

Table 1: SAR measurement results for the portable cellular telephone FCC ID IHDT6EY1 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 1900MHz	Channel 512	30.04								
	Channel 661	29.92	**0.369**	**-0.01**	**0.37**	**19.7**	**0.351**	**-0.02**	**0.35**	**19.4**
	Channel 810	30.04								
WiFi 2400Mhz	Channel 1	16.5								
	Channel 6	16.5	**0.037**	**-0.40**	**0.04**	**19.4**	**0.037**	**-0.30**	**0.04**	**19.4**
	Channel 11	16.5								
Digital 1900MHz & WiFi 2400Mhz	summation of extrapolated SAR values	N/A			0.41				0.39	

Table 2: SAR measurement results for the portable cellular telephone FCC ID IHDT6EY1 at highest possible output power. Measured against the right head in the 15° Tilt Position.

6.2 Body Worn Test Results

The SAR results shown in tables 3, 4 and 5 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 New SAR = Old SAR * 10^(-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. 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.

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	1514	1800	4.46	7 of 8
		2450	4.24	7 of 8

A leather pouch with belt clip, model number SYN1113A, is the only body-worn accessory available for this phone. This leather pouch was used for all GSM voice and WiFi body worn SAR measurements. The software that resides on the phone does not allow cotransmission of Bluetooth and WiFi. As such, no testing was performed in this cotransmission mode.

f (MHz)	Description	Conducted Output Power (dBm)	Body Worn							
			with SYN1113A				with SYN1113A and Bluetooth			
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)
Digital 1900MHz	Channel 512	30.04								
	Channel 661	29.92	**0.49**	**-0.2**	**0.51**	**18.6**	**0.407**	**-0.1**	**0.42**	**19.5**
	Channel 810	30.04								
WiFi 2400Mhz	Channel 1	16.5								
	Channel 6	16.5	**0.049**	**-0.7**	**0.06**	**19.5**				
	Channel 11	16.5								
Digital 1900MHz & WiFi 2400Mhz	summation of extrapolated SAR values	N/A			0.57					

Table 3: SAR measurement results for the portable cellular telephone FCC ID IHDT6EY1 at highest possible output power. Measured against the body.

The SYN1113A pouch covers the GPRS connector on the phone so this pouch does not permit GPRS network connections. Additional SAR measurements were performed with the DUT 25mm from the phantom to demonstrate SAR compliance in GPRS mode. The software that resides on the phone will permit the cotransmission of GPRS and WiFi. Additional WiFi testing was performed with the back of the phone 25mm from the phantom.

f (MHz)	Description	Conducted Output Power (dBm)	Body Worn							
			25mm Separation between Front of Phone and Phantom				25mm Separation between Back of Phone and Phantom			
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Simulate Temp (°C)
GPRS 1900MHz	Channel 512	30.04								
	Channel 661	29.92	**0.164**	**-0.1**	**0.17**	**18.9**	**0.277**	**-0.1**	**0.28**	**19.9**
	Channel 810	30.04								
WiFi 2400Mhz	Channel 1	16.5								
	Channel 6	16.5					**0.0014**	**-1.1**	**0.0018**	**24.5**
	Channel 11	16.5								
GPRS 1900MHz & WiFi 2400Mhz	summation of extrapolated SAR values	N/A							0.28	

Table 4: SAR measurement results for the portable cellular telephone FCC ID IHDT56EY1 at highest possible output power. Measured against the body.

Appendix 1

SAR distribution comparison for the system accuracy verification

Test Laboratory: Motorola 111704 1800 MHz GOOD +1.8%

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:xxx; DUT Notes: Not Specified
Procedure Notes: 1800 MHz System Performance Check / Dipole Sn# 272tr PM1 Power = 200mW

Acceptable Room Temp is 18-25 ┌C
Sim.Temp@meas=19.7*C Sim.Temp@SPC = 19.8*C Room Temp @ SPC = 21*C
Communication System: CW - Dipole; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: σ = 1.36; mho/m, ε_r = 38.3; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(5.03, 5.03, 5.03); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

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

Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 8.39 mW/g

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

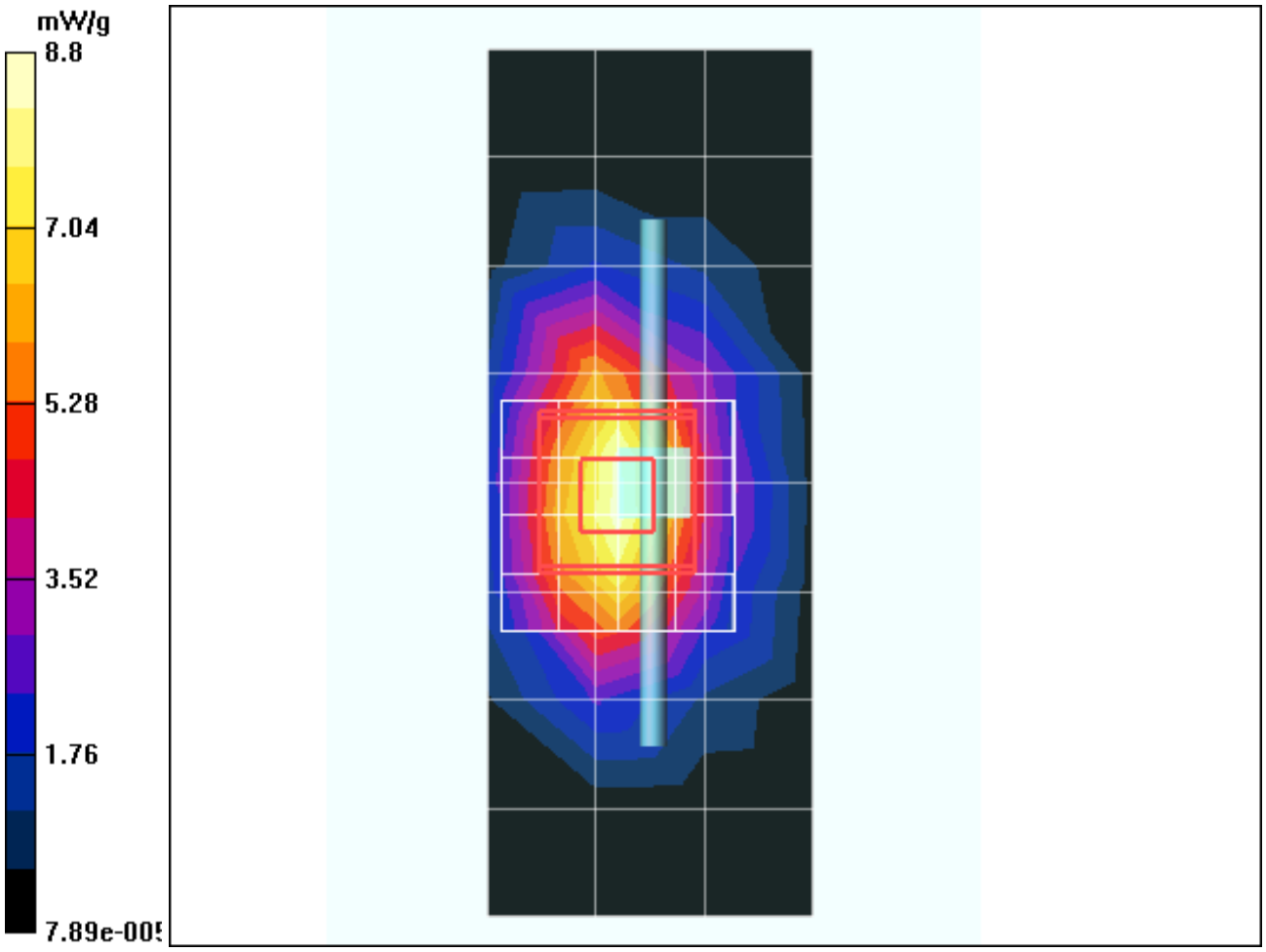
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 78.8 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 13.6 W/kg
SAR(1 g) = 7.81 mW/g; SAR(10 g) = 4.18 mW/g
Maximum value of SAR (measured) = 8.73 mW/g

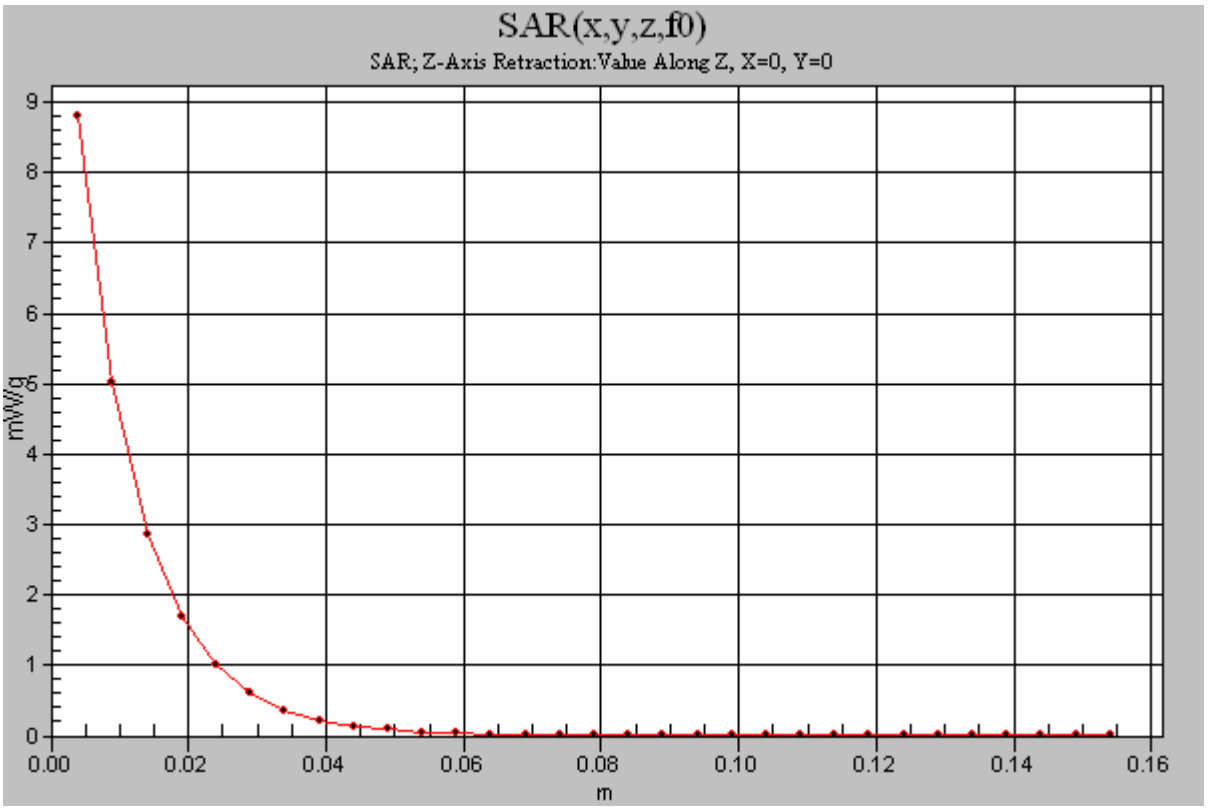
Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:

Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 78.8 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 13.4 W/kg
SAR(1 g) = 7.7 mW/g; SAR(10 g) = 4.13 mW/g
Maximum value of SAR (measured) = 8.53 mW/g

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

Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 8.8 mW/g


mW/g
8.8
7.04
5.28
3.52
1.76
7.89e-005


SAR(x,y,z,f0)
SAR; Z-Axis Retraction:Value Along Z, X=0, Y=0
mW/g
m
0
1
2
3
4
5
6
7
8
9
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16

Test Laboratory: Motorola 111804 2450MHz GOOD 7.3%

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:xxx; DUT Notes: Not Specified
Procedure Notes: 2450 MHz System Performance Check / Dipole Sn# 740 PM1 Power = 200mW

Acceptable Room Temp is 18-25 ┌C
Sim.Temp@meas=19.7*C Sim.Temp@SPC = 19.5*C Room Temp @ SPC = 20.0*C

Communication System: CW - Dipole; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: σ = 1.91; mho/m, ε_r = 38.1; ρ = 1000 kg/m^3

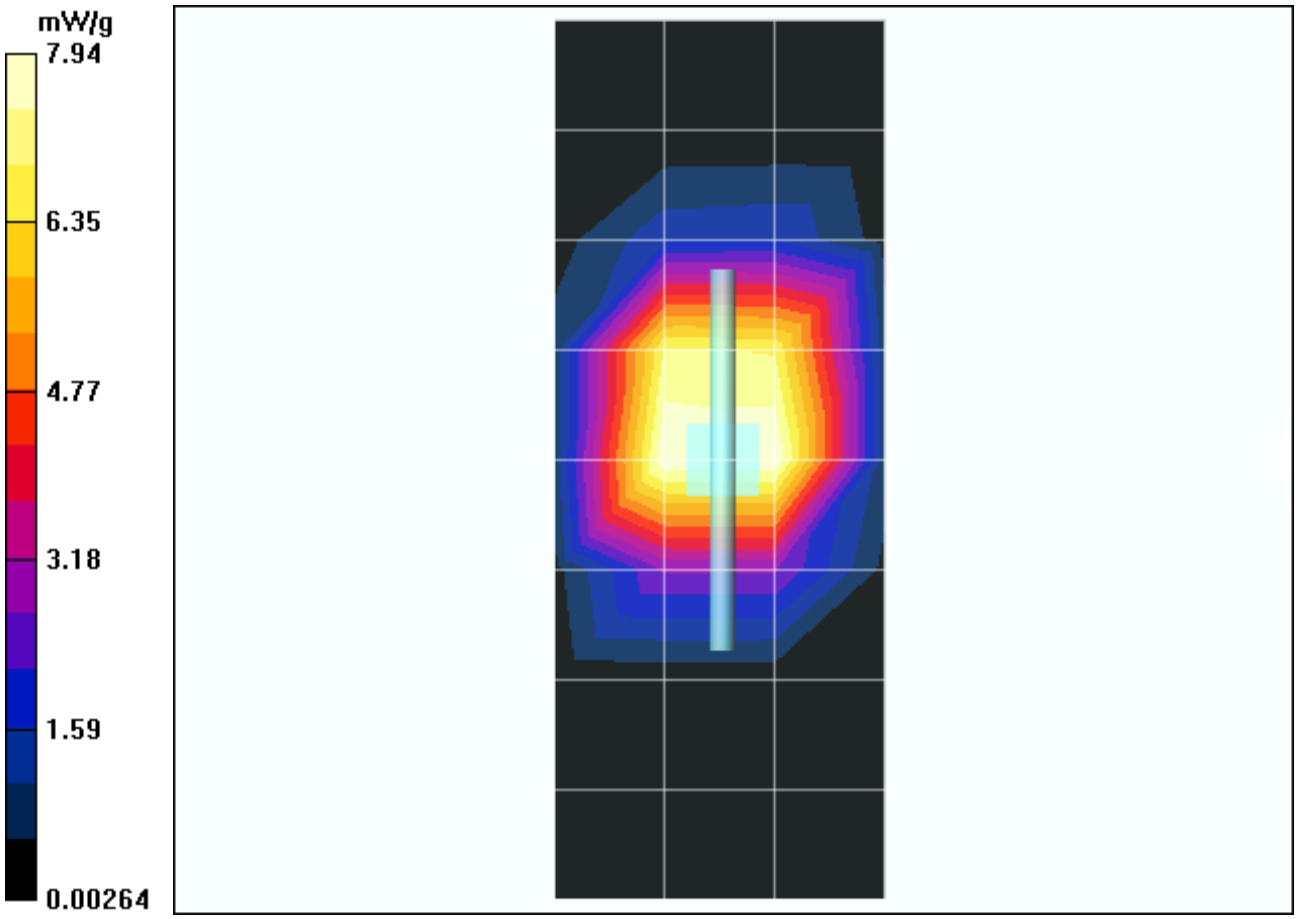
DASY4 Configuration:
- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

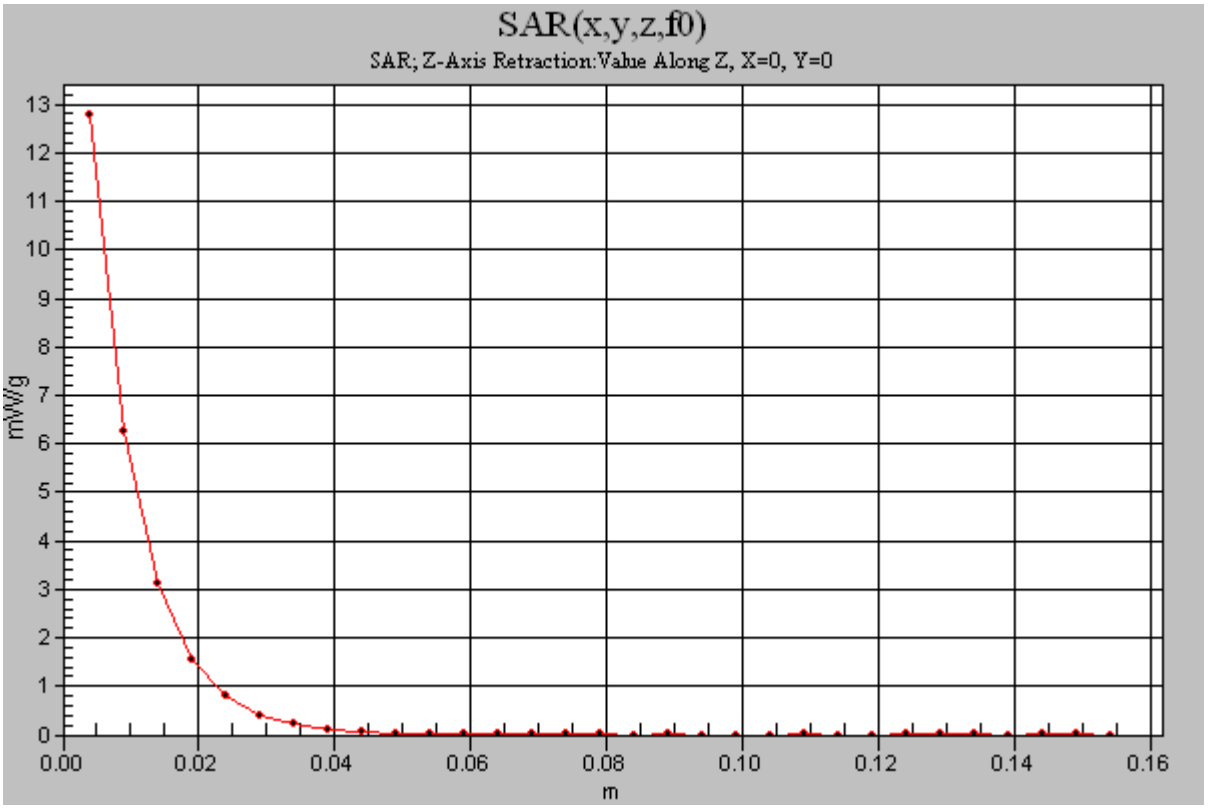
Daily SPC Check/Dipole Area Scan (4x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.94 mW/g

Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 83.9 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 24.3 W/kg
SAR(1 g) = 11.3 mW/g; SAR(10 g) = 5.2 mW/g
Maximum value of SAR (measured) = 12.8 mW/g

Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 83.9 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 24.1 W/kg
SAR(1 g) = 11.2 mW/g; SAR(10 g) = 5.14 mW/g
Maximum value of SAR (measured) = 12.6 mW/g

Daily SPC Check/Z-Axis Retraction (1x1x31):
Measurement grid: dx=20mm, dy=20mm, dz=5mm


mW/g
7.94
6.35
4.77
3.18
1.59
0.00264


SAR(x,y,z,f0)
SAR; Z-Axis Retraction:Value Along Z, X=0, Y=0
mW/g
m
0
1
2
3
4
5
6
7
8
9
10
11
12
13
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16

Test Laboratory: Motorola 111904 1800 MHz GOOD -2.4%

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:xxx; DUT Notes: Not Specified
Procedure Notes: 1800 MHz System Performance Check / Dipole Sn# 272tr PM1 Power = 200mW

Acceptable Room Temp is 18-25 ┌C
Sim.Temp@meas=19.2*C Sim.Temp@SPC = 19.2*C Room Temp @ SPC = 20*C

Communication System: CW - Dipole; Frequency: 1800 MHz; Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: σ = 1.35; mho/m, ε_r = 39.1; ρ = 1000 kg/m^3

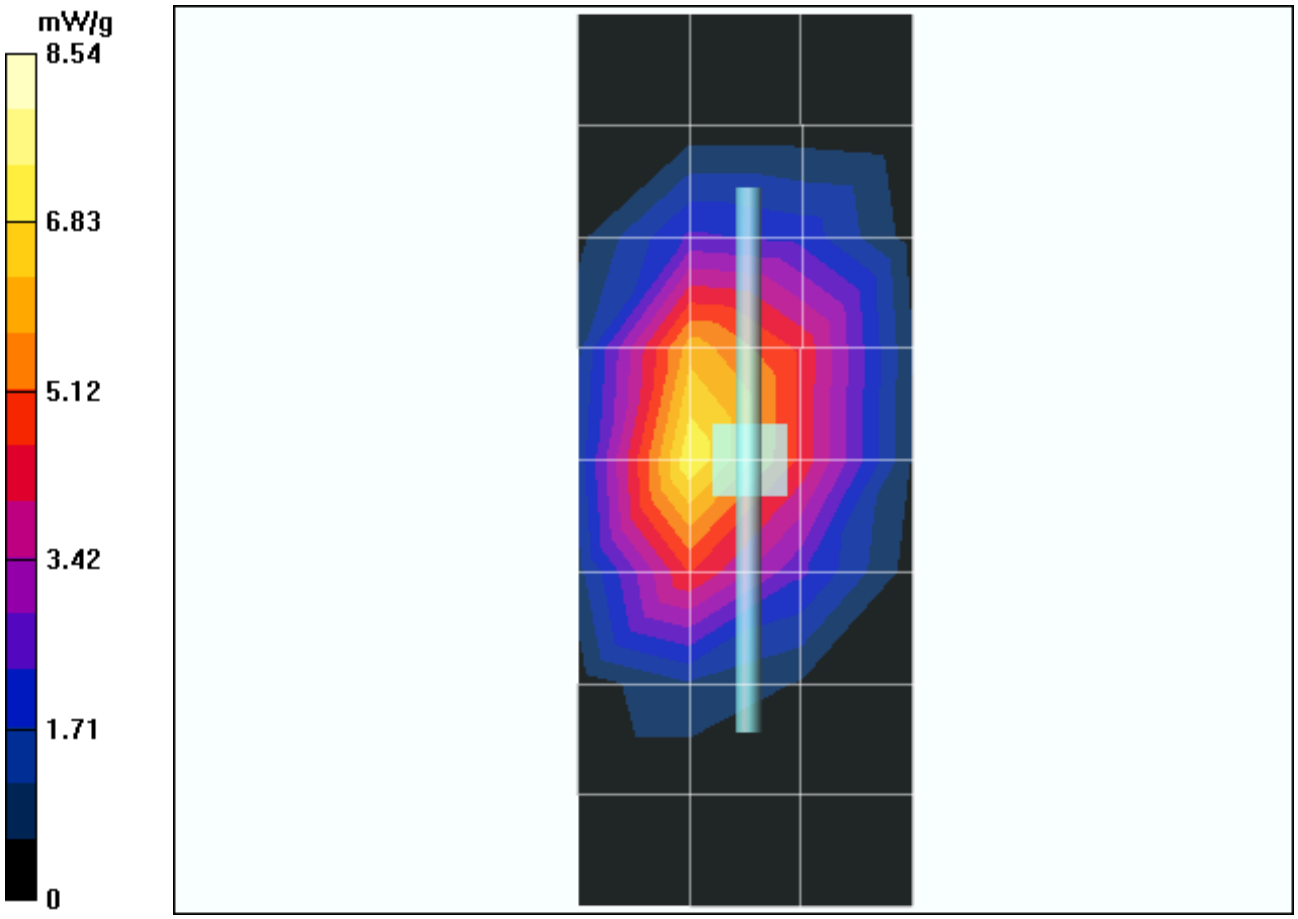
DASY4 Configuration:
- Probe: ET3DV6 - SN1514; ConvF(5.03, 5.03, 5.03); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

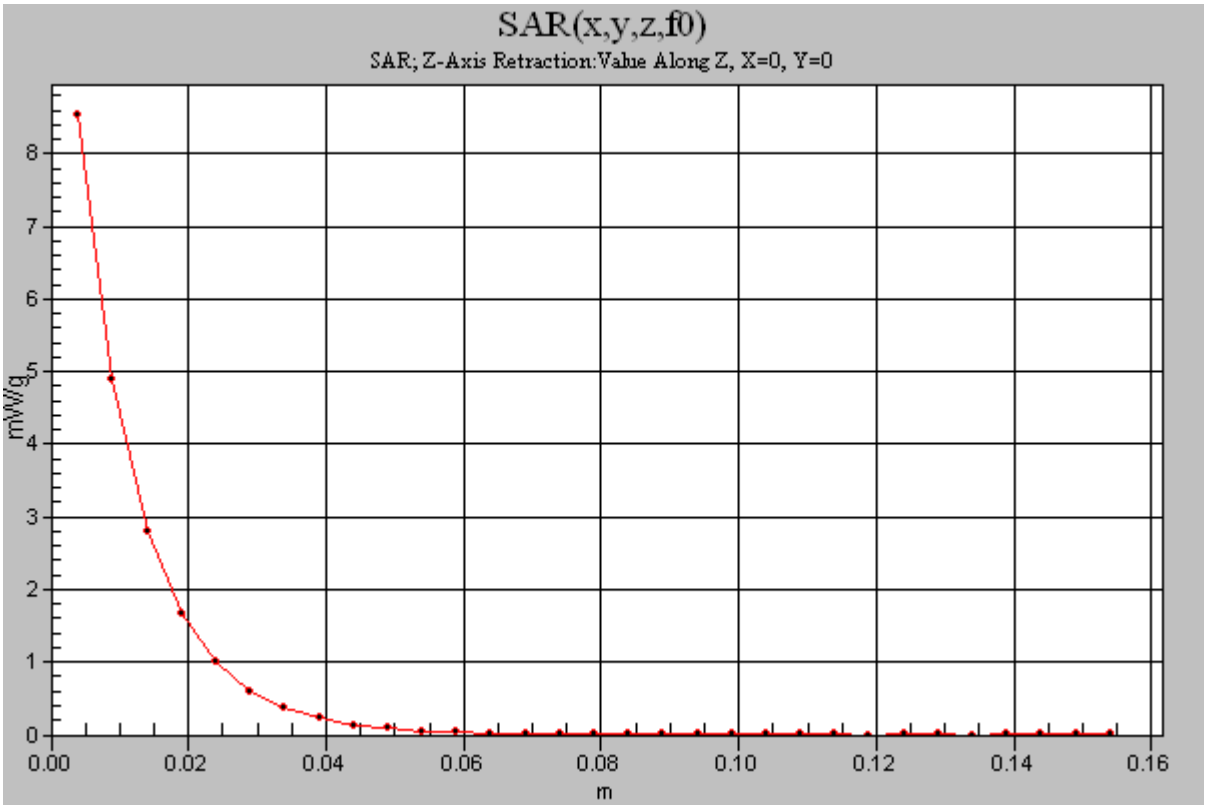
Daily SPC Check/Dipole Area Scan (4x9x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.36 mW/g

Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 79.4 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 12.9 W/kg
SAR(1 g) = 7.49 mW/g; SAR(10 g) = 4.01 mW/g
Maximum value of SAR (measured) = 8.44 mW/g

Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 79.4 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 12.8 W/kg
SAR(1 g) = 7.39 mW/g; SAR(10 g) = 3.95 mW/g
Maximum value of SAR (measured) = 8.29 mW/g

Daily SPC Check/Z-Axis Retraction (1x1x31):
Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 8.54 mW/g


mW/g
8.54
6.83
5.12
3.42
1.71
0


SAR(x,y,z,f0)
SAR; Z-Axis Retraction:Value Along Z, X=0, Y=0
mW/g
0
1
2
3
4
5
6
7
8
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
m

Test Laboratory: Motorola 113004 2450 MHz

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:xxx; DUT Notes: Not Specified
Procedure Notes: 2450 MHz System Performance Check / Dipole Sn# 740 PM1 Power = 200mW

Acceptable Room Temp is 18-25 ┌C
Sim.Temp@meas=19.2*C Sim.Temp@SPC = 19.2*C Room Temp @ SPC = 21*C

Communication System: CW - Dipole; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: σ = 1.92; mho/m, ε_r = 37.9; ρ = 1000 kg/m^3

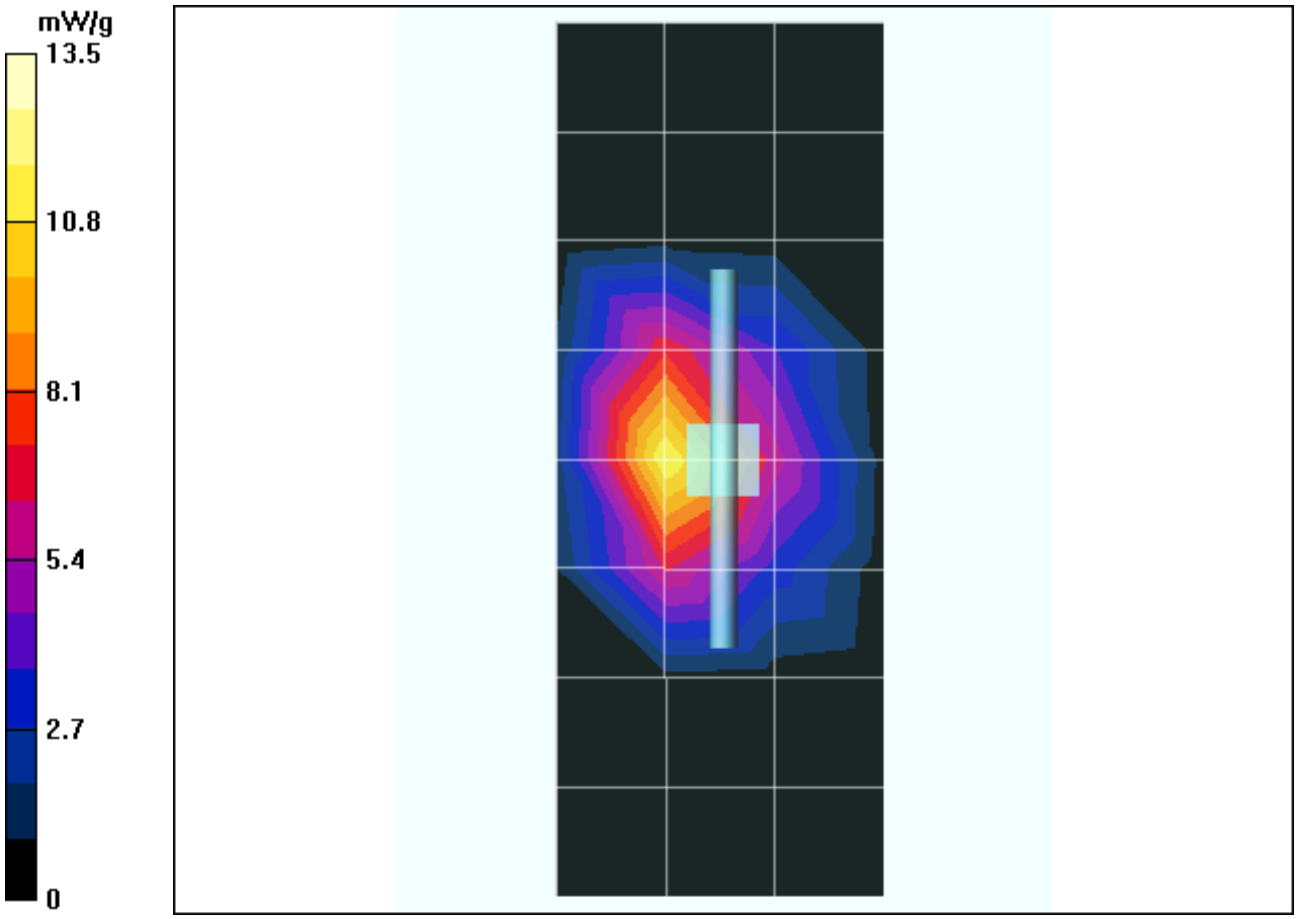
DASY4 Configuration:
- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

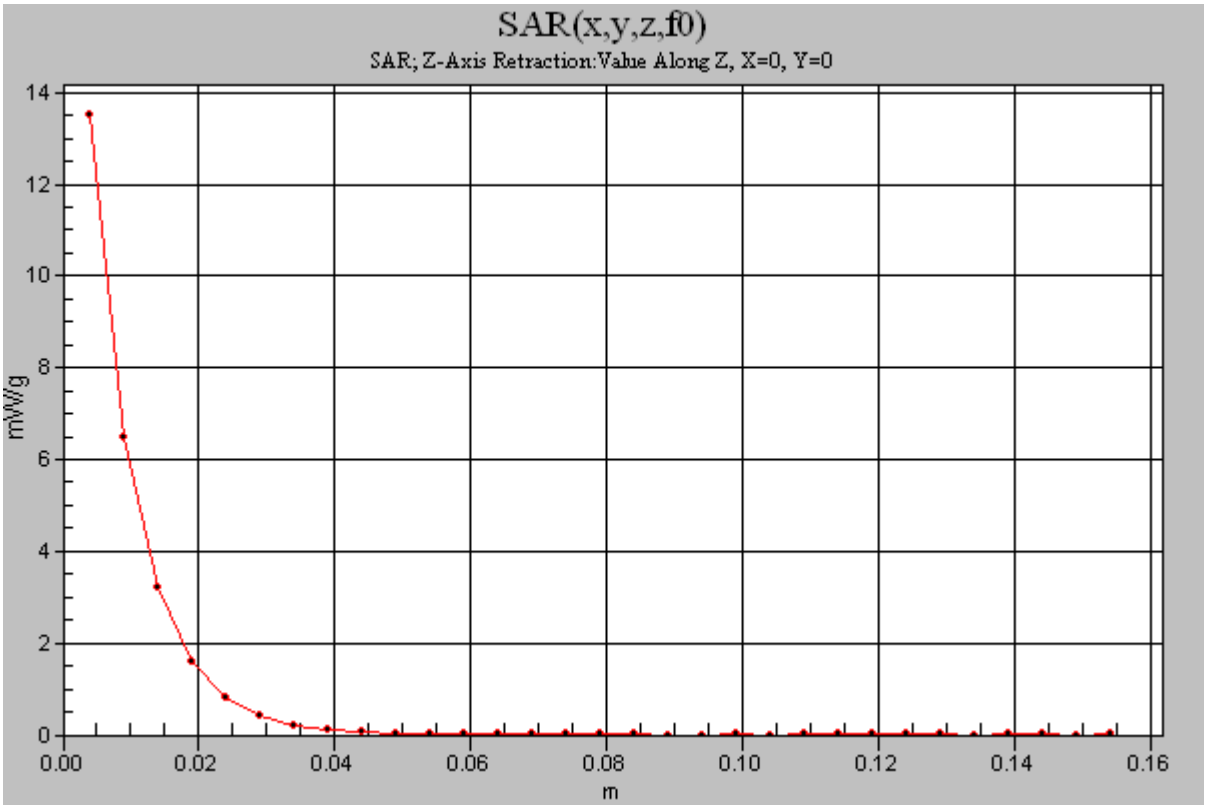
Daily SPC Check/Dipole Area Scan (9x4x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 11.8 mW/g

Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 83.8 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 25.7 W/kg
SAR(1 g) = 11.8 mW/g; SAR(10 g) = 5.42 mW/g
Maximum value of SAR (measured) = 13.1 mW/g

Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 83.8 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 25.7 W/kg
SAR(1 g) = 11.7 mW/g; SAR(10 g) = 5.34 mW/g
Maximum value of SAR (measured) = 12.9 mW/g

Daily SPC Check/Z-Axis Retraction (1x1x31):
Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 13.5 mW/g


mW/g
13.5
10.8
8.1
5.4
2.7
0


SAR(x,y,z,f0)
SAR; Z-Axis Retraction:Value Along Z, X=0, Y=0
mW/g
14
12
10
8
6
4
2
0
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
m

Test Laboratory: Motorola 120704 2450 MHz GOOD +5.5%

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:xxx; DUT Notes: Not Specified
Procedure Notes: 2450 MHz System Performance Check / Dipole Sn# 740 PM1 Power = 200mW

Sim.Temp@meas=19.8°C Sim.Temp@SPC = 19.8°C Room Temp @ SPC = 20°C
Communication System: CW - Dipole; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: σ = 1.93; mho/m, ε_r = 37.5; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

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

Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 8.92 mW/g

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

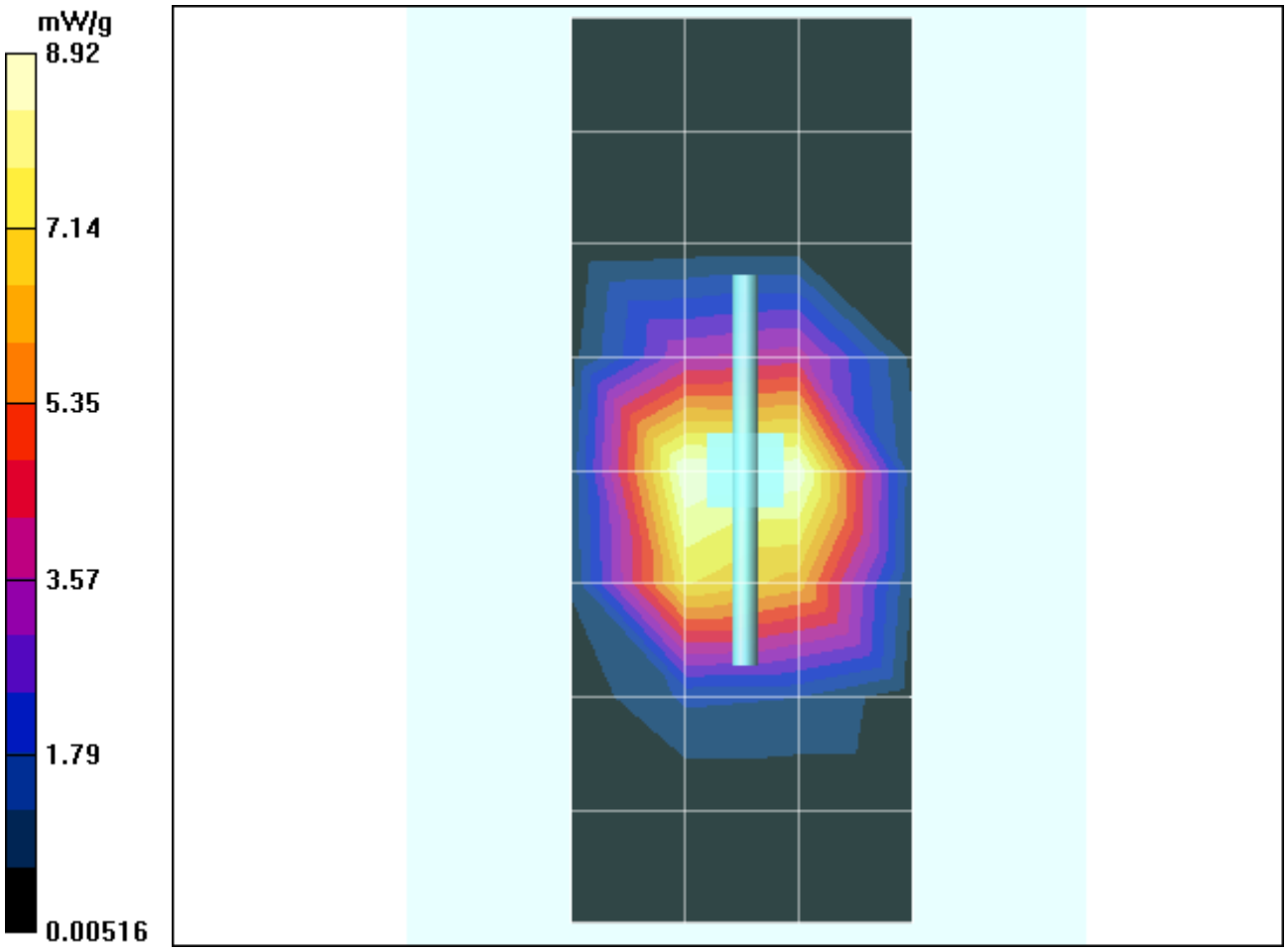
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 87.8 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 26.8 W/kg
SAR(1 g) = 12.2 mW/g; SAR(10 g) = 5.54 mW/g
Maximum value of SAR (measured) = 13.7 mW/g

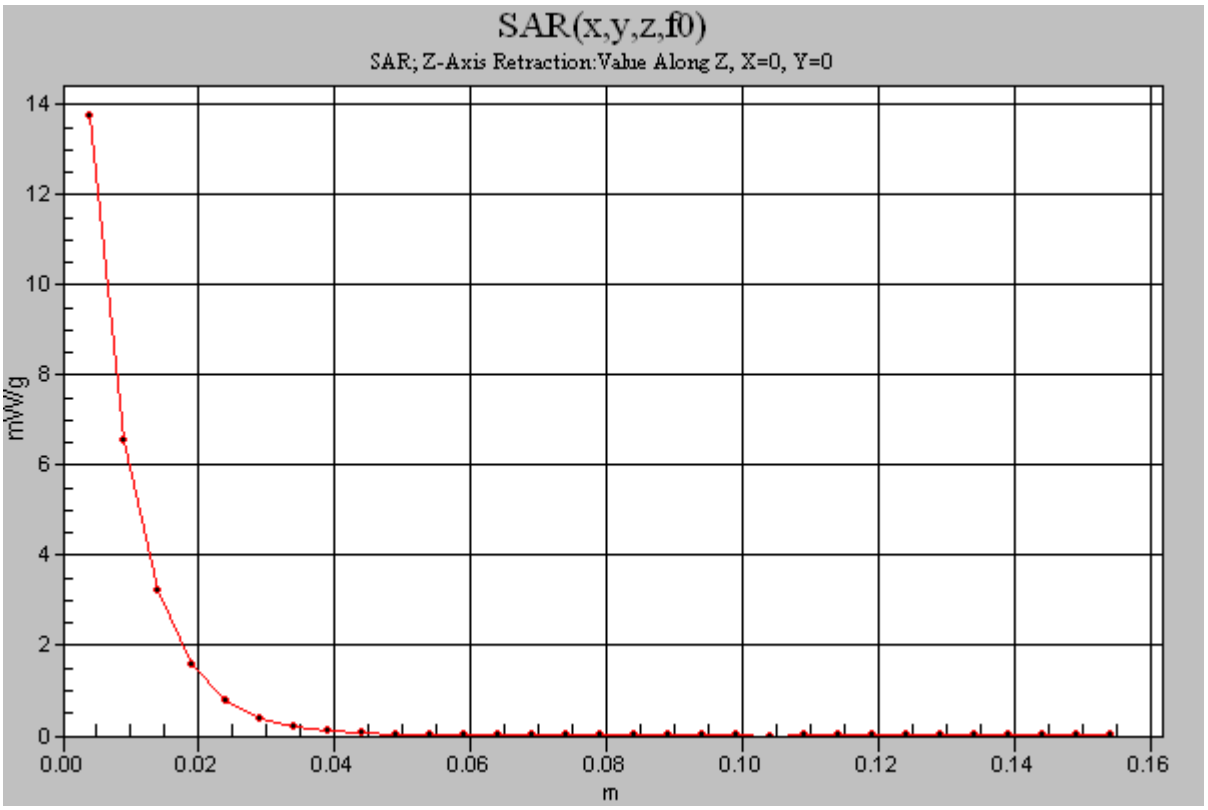
Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:

Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 87.8 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 26.5 W/kg
SAR(1 g) = 12.1 mW/g; SAR(10 g) = 5.5 mW/g
Maximum value of SAR (measured) = 13.6 mW/g

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

Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 13.8 mW/g


mW/g
8.92
7.14
5.35
3.57
1.79
0.00516


SAR(x,y,z,f0)
SAR; Z-Axis Retraction:Value Along Z, X=0, Y=0
mW/g
14
12
10
8
6
4
2
0
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
m

Test Laboratory: Motorola 120804 1800 MHz GOOD +2.2%

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:xxx; DUT Notes: Not Specified
Procedure Notes: 1800 MHz System Performance Check / Dipole Sn# 272tr PM1 Power = 200mW

Sim.Temp@meas=19.3°C Sim.Temp@SPC = 19.2°C Room Temp @ SPC = 21°C

Communication System: CW - Dipole; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: VALIDATION Only; Medium parameters used: σ = 1.37; mho/m, ε_r = 39.5; ρ = 1000 kg/m^3

DASY4 Configuration:

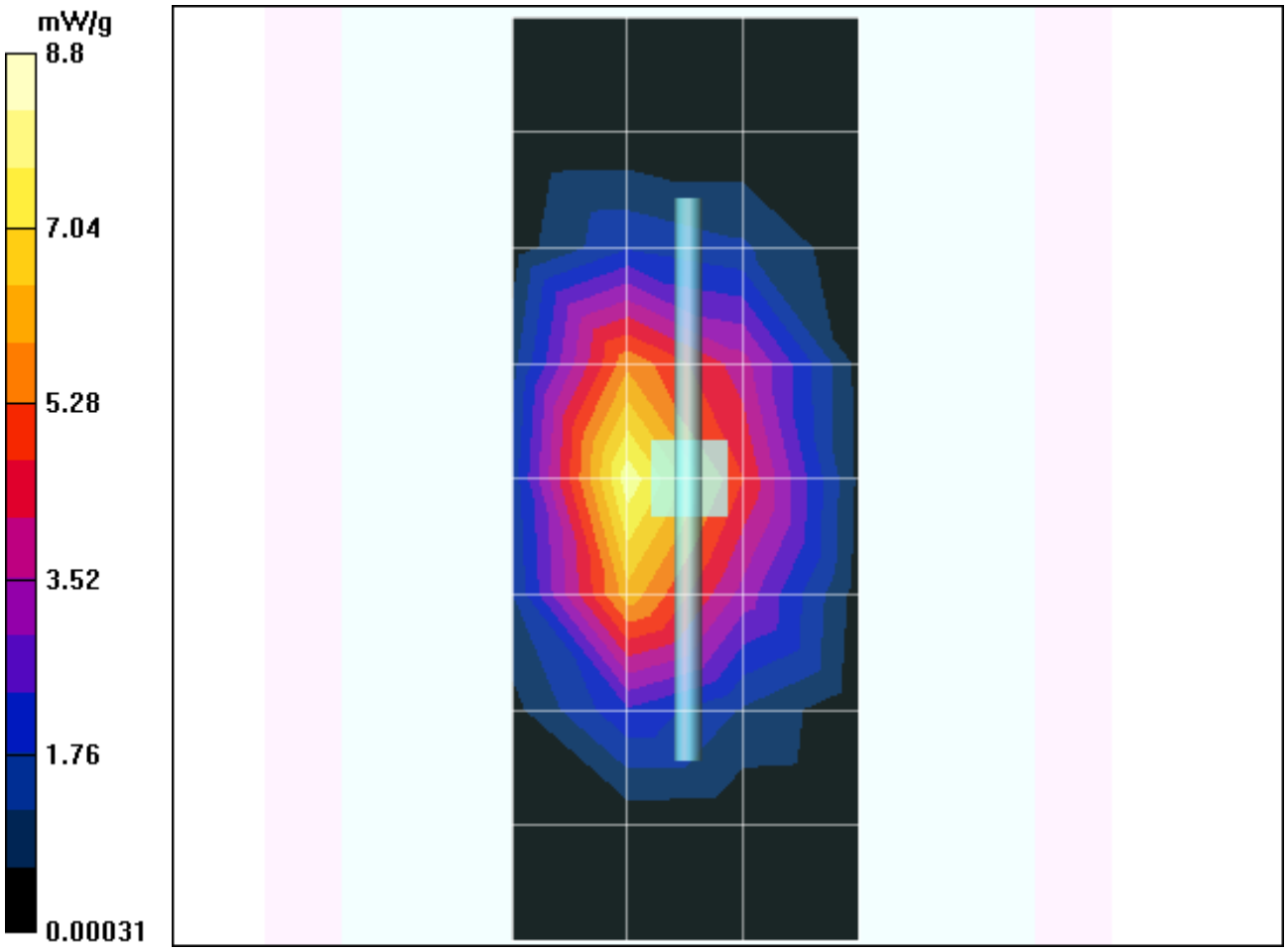
- Probe: ET3DV6 - SN1514; ConvF(5.03, 5.03, 5.03); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

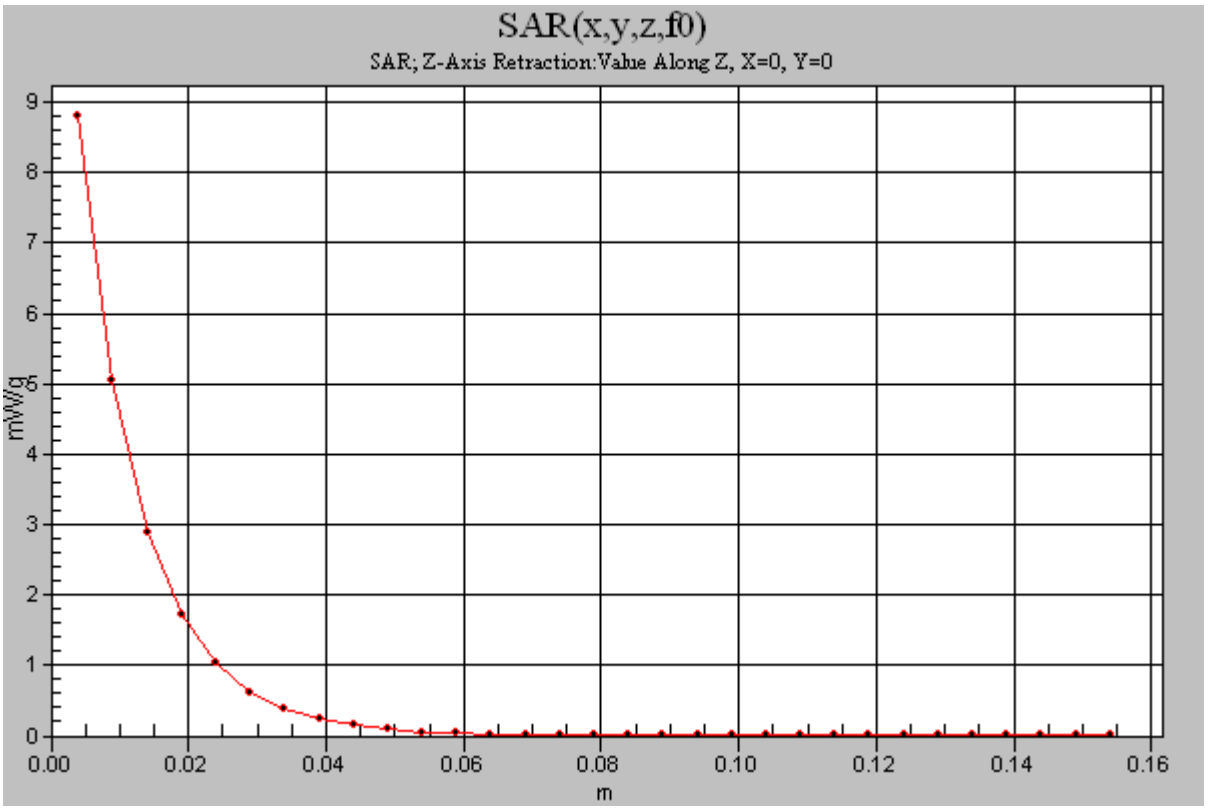
Daily SPC Check/Dipole Area Scan (9x4x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 8.03 mW/g

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 = -0.0 dB
Peak SAR (extrapolated) = 13.6 W/kg
SAR(1 g) = 7.84 mW/g; SAR(10 g) = 4.2 mW/g
Maximum value of SAR (measured) = 8.8 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 = -0.0 dB
Peak SAR (extrapolated) = 13.4 W/kg
SAR(1 g) = 7.74 mW/g; SAR(10 g) = 4.16 mW/g
Maximum value of SAR (measured) = 8.44 mW/g

Daily SPC Check/Z-Axis Retraction (1x1x31):
Measurement grid: dx=20mm, dy=20mm, dz=5mm


mW/g
8.8
7.04
5.28
3.52
1.76
0.00031


SAR(x,y,z,f0)
SAR; Z-Axis Retraction:Value Along Z, X=0, Y=0
mW/g
m
0
1
2
3
4
5
6
7
8
9
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16

Appendix 2

SAR distribution plots for Phantom Head Adjacent Use

Test Laboratory: Motorola 1900 LH Cheek CH661

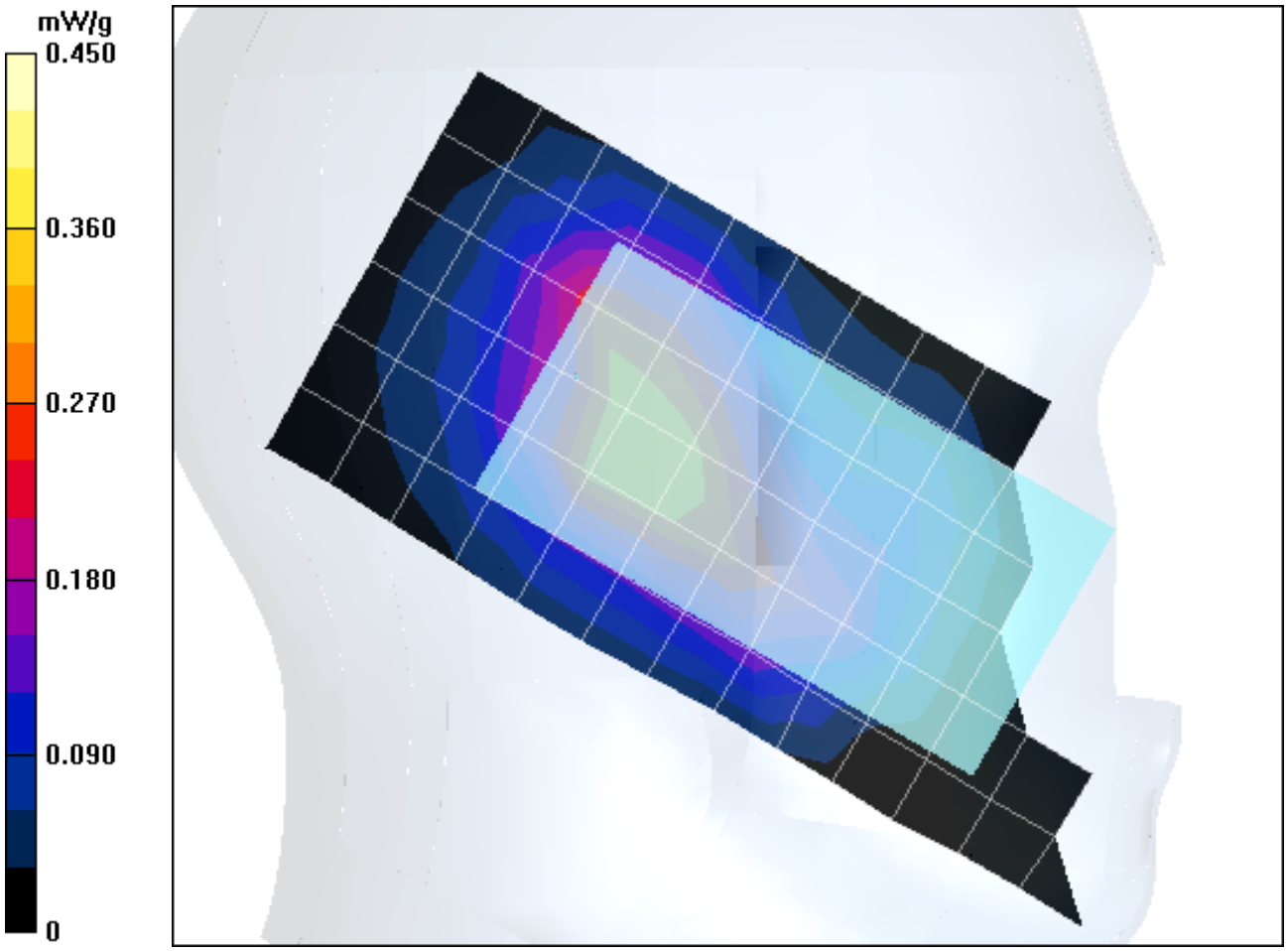
Serial: LM10560042;
Procedure Notes: Ch# 661 / Pwr Step: 0 Antenna Position: Internal Accessory Model #: N/A Battery Model #: SNN5746A
DEVICE POSITION (cheek or rotated): Cheek Simulate Temp when Measured: 19.7C Simulate Temp after Test: 19.7C

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8
Medium: Regular Glycol Head; Medium parameters used: σ = 1.45mho/m, ε_r = 38; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(5.03, 5.03, 5.03); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Left Head Template/Area Scan - Normal (15mm) (7x14x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.303 mW/g
Left Head Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 15.4 V/m; Power Drift = -0.0 dB Peak SAR (extrapolated) = 0.418 W/kg
SAR(1 g) = 0.294 mW/g; SAR(10 g) = 0.193 mW/g Maximum value of SAR (measured) = 0.316 mW/g



Test Laboratory: Motorola 2450 WiFi RH Cheek CH6

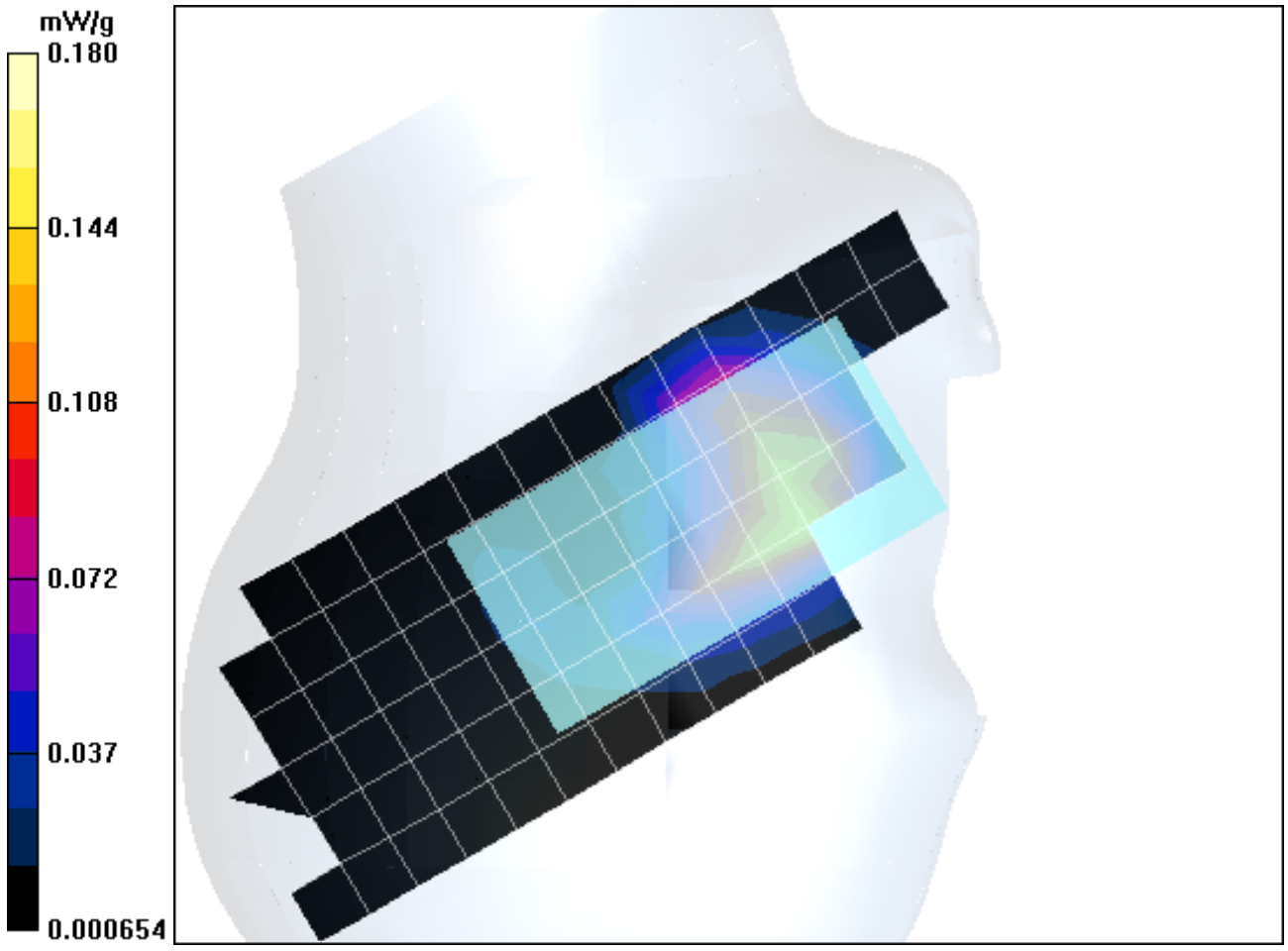
Serial: LM10560042; Procedure Notes: Ch# 6 / Pwr Step: Continuous Antenna Position: Internal Accessory Model #: N/A
Battery Model #: SNN5746A DEVICE POSITION (cheek or rotated): Cheek
Simulate Temp when Measured: 19.7C Simulate Temp after Test: 19.5C

Communication System: Wi-Fi 2450; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: 2450 Glycol Head; Medium parameters used: σ = 1.91mho/m, ε_r = 38.1; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Right Head Template/Area Scan - Normal Extended (15mm) (7x17x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.139 mW/g
Right Head Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 9.32 V/m; **Power Drift = -0.6 dB** Peak SAR (extrapolated) = 0.251 W/kg
SAR(1 g) = 0.130 mW/g; SAR(10 g) = 0.074 mW/g Maximum value of SAR (measured) = 0.142 mW/g



Test Laboratory: Motorola 2450 WiFi LH Tilt CH6

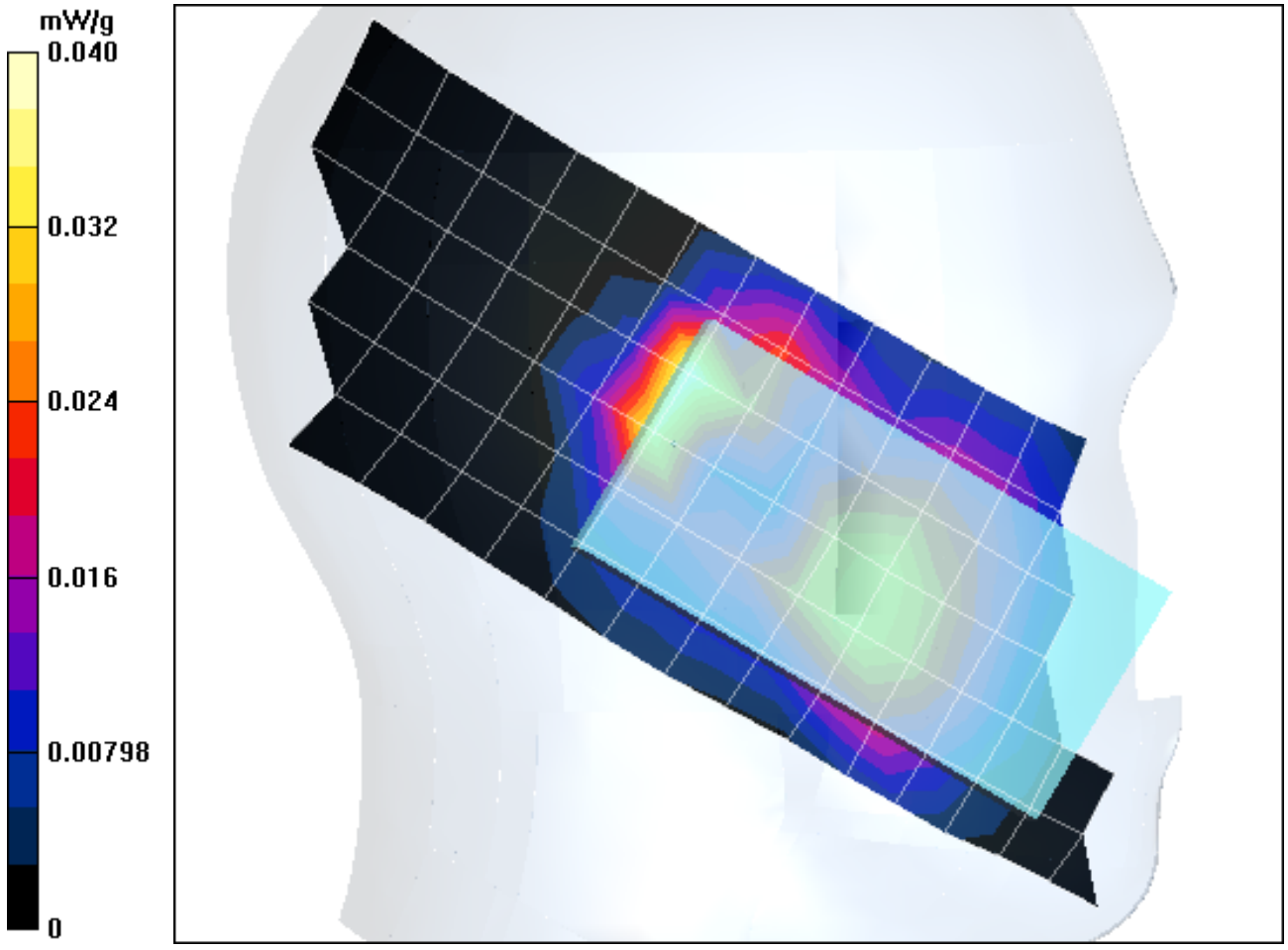
Serial: LM10560042; Procedure Notes: Ch# 6 / Pwr Step: Continuous Antenna Position: Internal Accessory Model #: N/A
Battery Model #: SNN5746A DEVICE POSITION (cheek or rotated): Rotated
Simulate Temp when Measured: 19.7C Simulate Temp after Test: 19.4C

Communication System: Wi-Fi 2450; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: 2450 Glycol Head; Medium parameters used: σ = 1.91mho/m, ε_r = 38.1; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Left Head Template/Area Scan - Normal Extended (15mm) (7x17x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.040 mW/g
Left Head Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 5.17 V/m; **Power Drift = -0.4 dB** Peak SAR (extrapolated) = 0.077 W/kg
SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.018 mW/g Maximum value of SAR (measured) = 0.042 mW/g



Test Laboratory: Motorola 2450 WiFi LH Cheek CH6

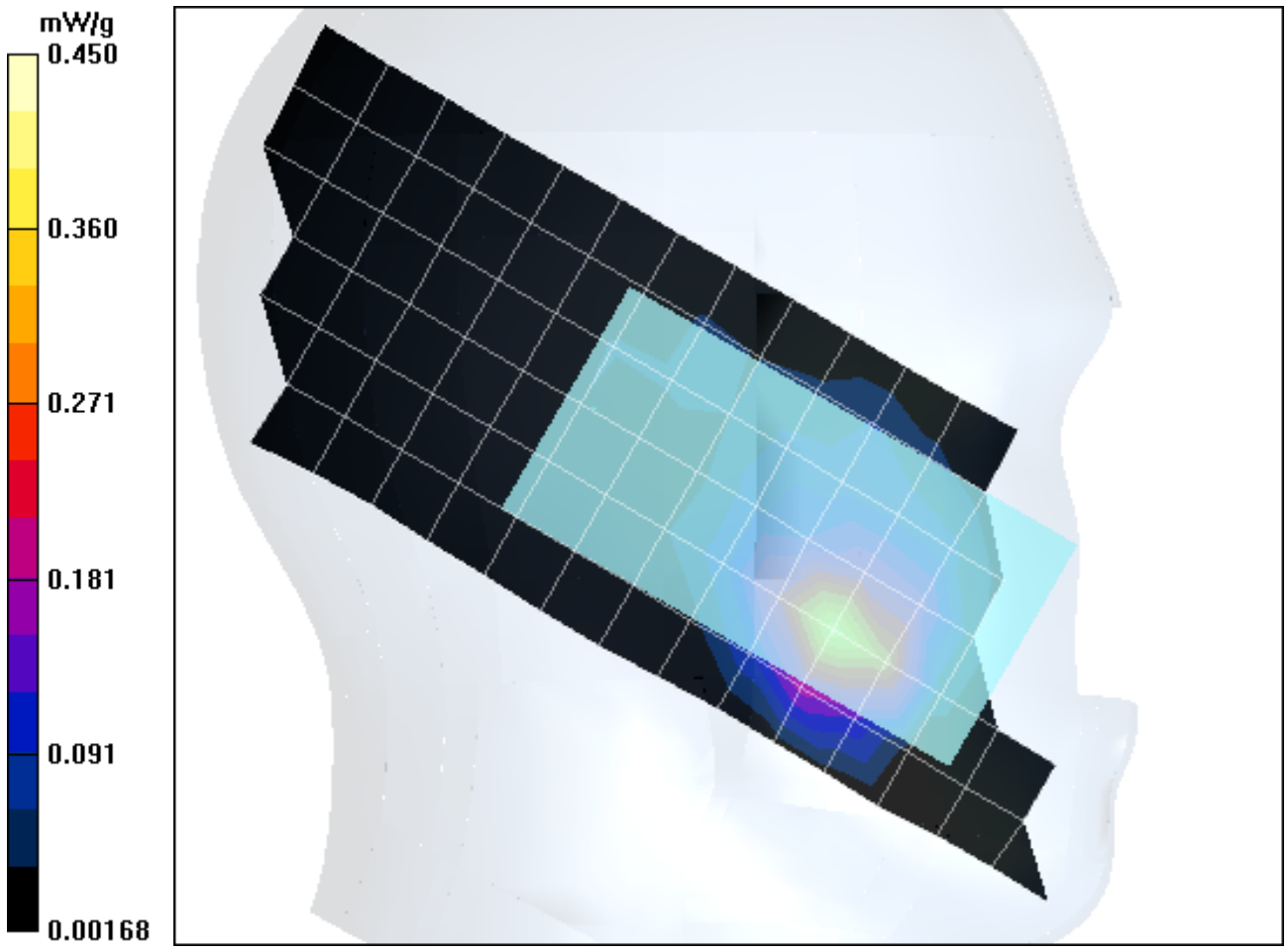
Serial: LM10560042; Procedure Notes: Ch# 6 / Pwr Step: Continuous Antenna Position: Internal Accessory Model #: N/A
Battery Model #: SNN5746A DEVICE POSITION (cheek or rotated): Cheek
Simulate Temp when Measured: 19.7C Simulate Temp after Test: 19.5C

Communication System: Wi-Fi 2450; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: 2450 Glycol Head; Medium parameters used: σ = 1.91mho/m, ε_r = 38.1; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Left Head Template/Area Scan - Normal Extended (15mm) (7x17x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.384 mW/g
Left Head Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 14.3 V/m; **Power Drift = -0.5 dB** Peak SAR (extrapolated) = 0.757 W/kg
SAR(1 g) = 0.360 mW/g; SAR(10 g) = 0.182 mW/g Maximum value of SAR (measured) = 0.382 mW/g



Test Laboratory: Motorola 1900 RH Tilt CH661

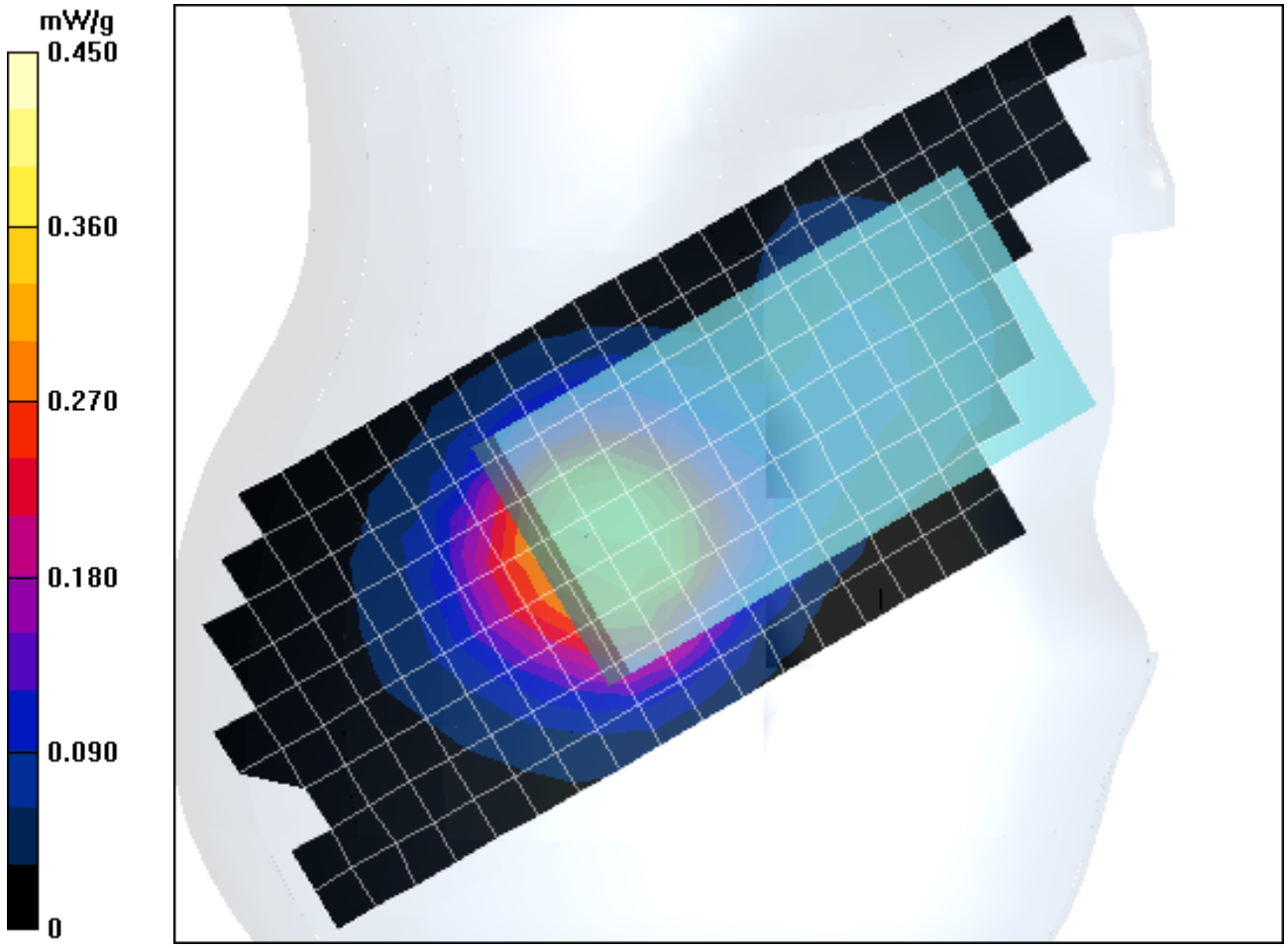
Serial: LM10560042; Procedure Notes: Ch# 661 / Pwr Step: 0 Antenna Position: Internal Accessory Model #: N/A Battery Model #: SNN5746A DEVICE POSITION (cheek or rotated): Rotated Simulate Temp when Measured: 19.7C Simulate Temp after Test: 19.4C

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8
Medium: Regular Glycol Head; Medium parameters used: σ = 1.45mho/m, ε_r = 38; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(5.03, 5.03, 5.03); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Right Head Template/Area Scan - Normal Extended (10mm) (10x25x1):
Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.375 mW/g
Right Head Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 16.4 V/m; Power Drift = -0.0 dB Peak SAR (extrapolated) = 0.576 W/kg
SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.222 mW/g Maximum value of SAR (measured) = 0.383 mW/g



Test Laboratory: Motorola 1900 RH Cheek CH661

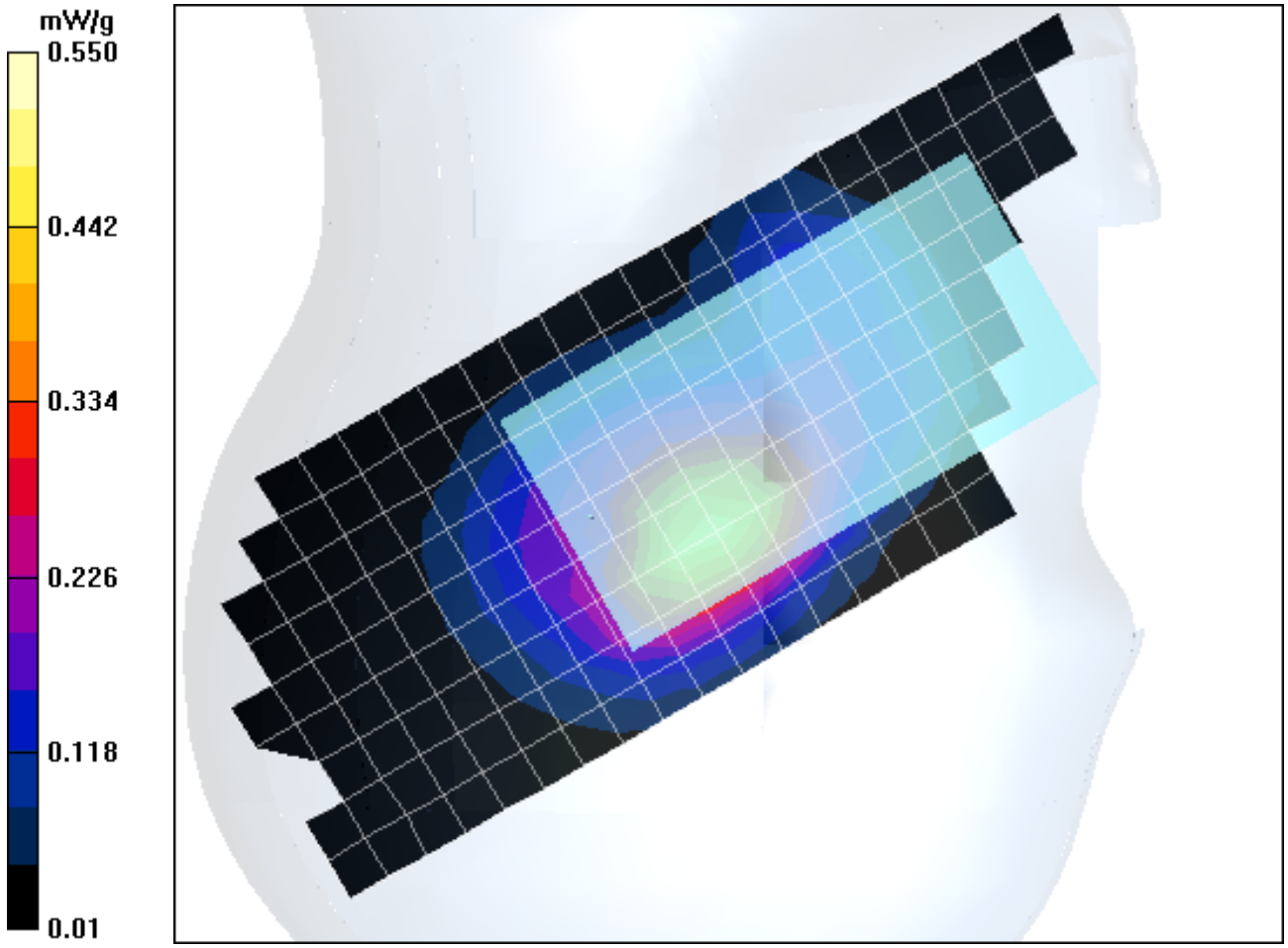
Serial: LM10560042; Procedure Notes: Ch# 661 / Pwr Step: 0 Antenna Position: Internal Accessory Model #: N/A Battery Model #: SNN5746A DEVICE POSITION (cheek or rotated): Cheek Simulate Temp when Measured: 19.7C Simulate Temp after Test: 19.5C

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8
Medium: Regular Glycol Head; Medium parameters used: σ = 1.45mho/m, ε_r = 38; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(5.03, 5.03, 5.03); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Right Head Template/Area Scan - Normal Extended (10mm) (10x25x1):
Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.473 mW/g
Right Head Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 18.3 V/m; Power Drift = 0.2 dB Peak SAR (extrapolated) = 0.674 W/kg
SAR(1 g) = 0.436 mW/g; SAR(10 g) = 0.270 mW/g Maximum value of SAR (measured) = 0.472 mW/g



Test Laboratory: Motorola 1900 LH Tilt CH661

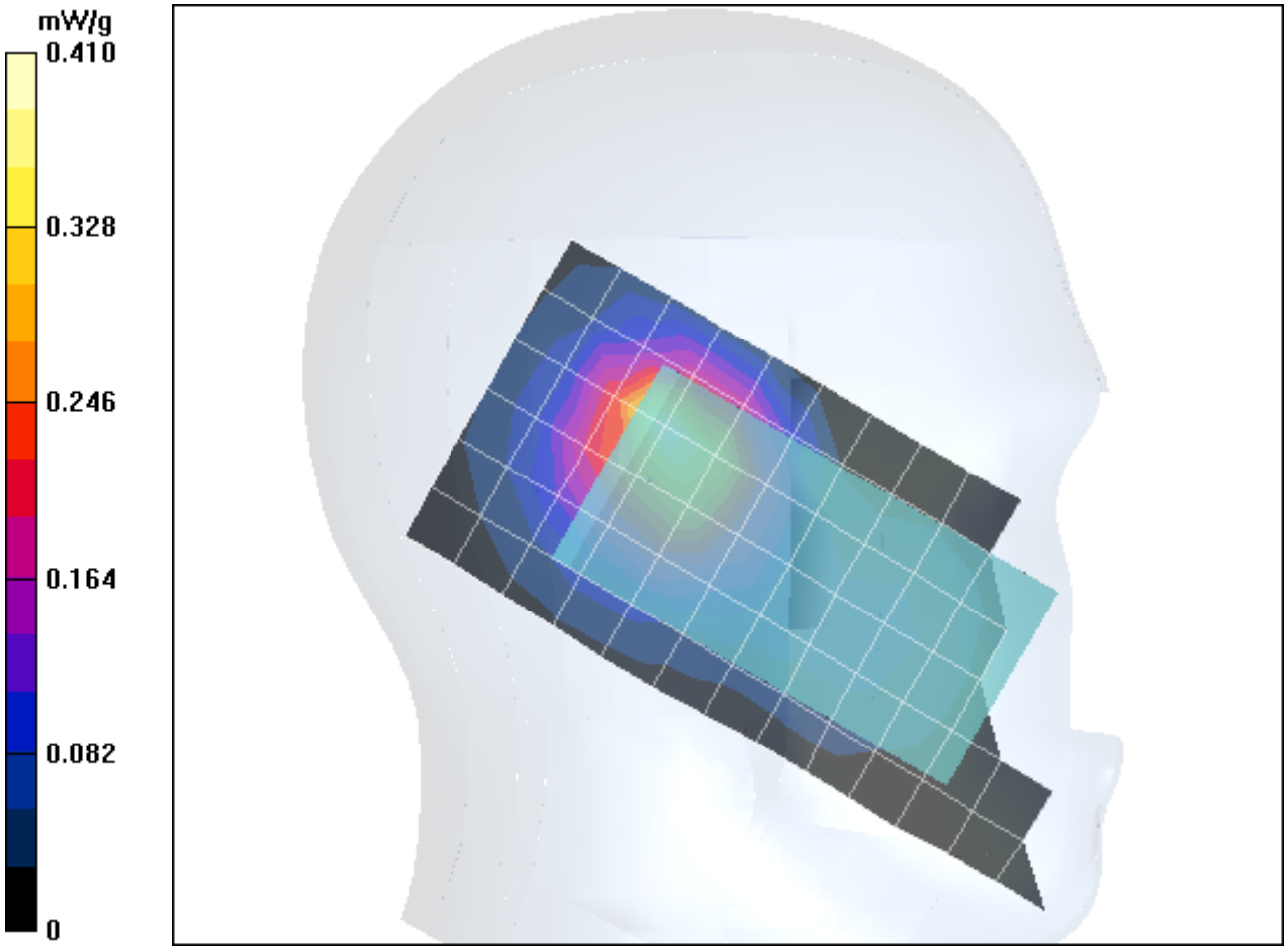
DUT: M1000; Procedure Notes: Ch# 661 / Pwr Step: 0 Antenna Position: Internal Accessory Model #: N/A Battery Model #: SNN5746A
DEVICE POSITION (cheek or rotated): Rotated Simulate Temp when Measured: 19.7C Simulate Temp after Test: 19.7C

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8
Medium: Regular Glycol Head; Medium parameters used: σ = 1.45mho/m, ε_r = 38; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(5.03, 5.03, 5.03); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Left Head Template/Area Scan - Normal (15mm) (7x14x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.410 mW/g
Left Head Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 17.2 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 0.646 W/kg
SAR(1 g) = 0.369 mW/g; SAR(10 g) = 0.218 mW/g
Maximum value of SAR (measured) = 0.411 mW/g



Test Laboratory: Motorola 2450 WiFi RH Tilt CH6

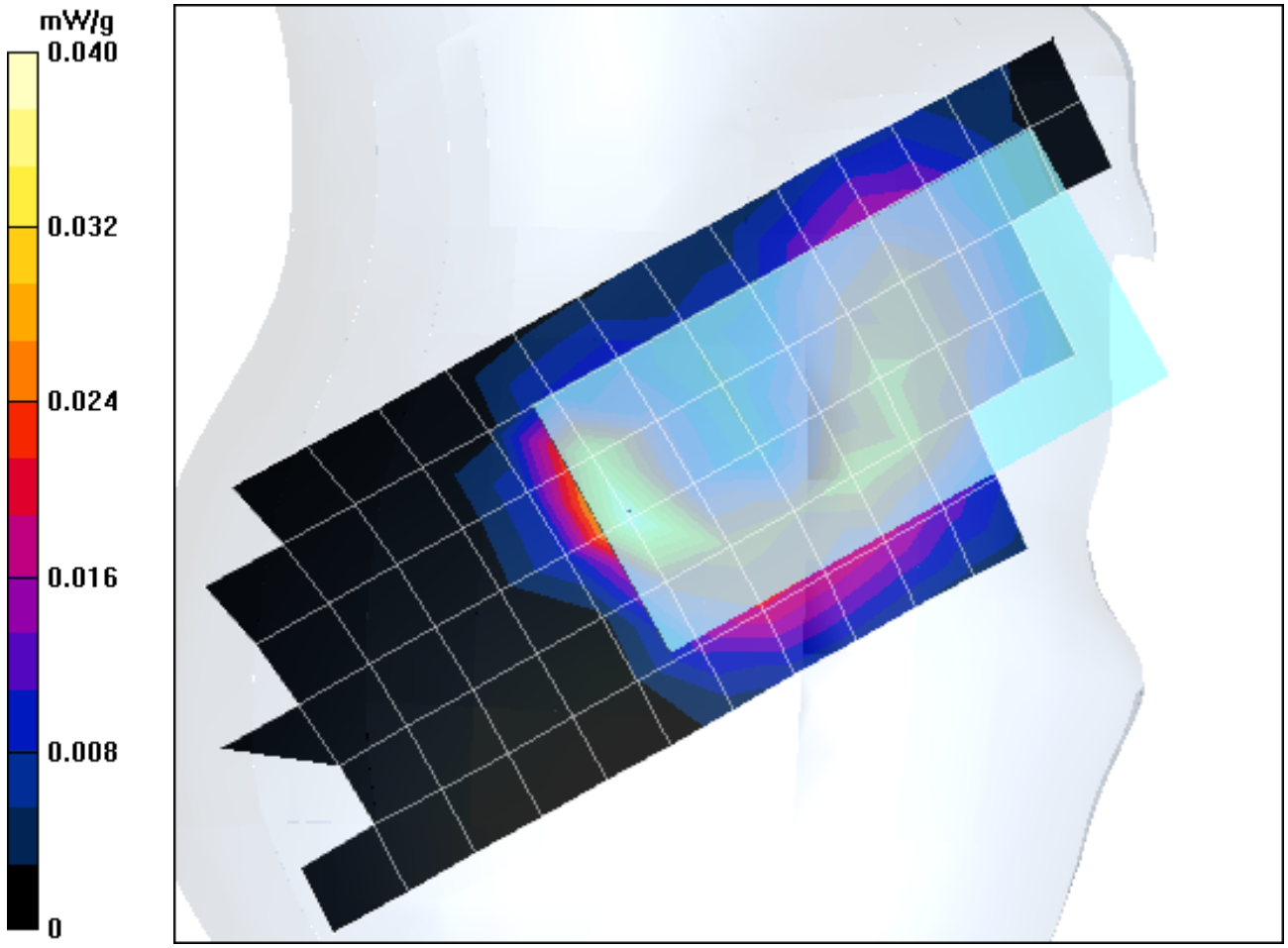
Serial: LM10560042; Procedure Notes: Ch# 6 / Pwr Step: Continuous Antenna Position: Internal Accessory Model #: N/A
Battery Model #: SNN5746A DEVICE POSITION (cheek or rotated): Rotated
Simulate Temp when Measured: 19.7C Simulate Temp after Test: 19.4C

Communication System: Wi-Fi 2450; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: 2450 Glycol Head; Medium parameters used: σ = 1.91mho/m, ε_r = 38.1; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4: Glycol SAM; Type: SAM; Serial: TP-1250;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Right Head Template/Area Scan - Normal Extended (15mm) (7x17x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.040 mW/g
Right Head Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 4.14 V/m; **Power Drift = -0.3 dB** Peak SAR (extrapolated) = 0.366 W/kg
SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.017 mW/g Maximum value of SAR (measured) = 0.042 mW/g



Appendix 3

SAR distribution plots for Body Worn Configuration

Test Laboratory: Motorola 1900 GPRS BW CH661 back 25mm

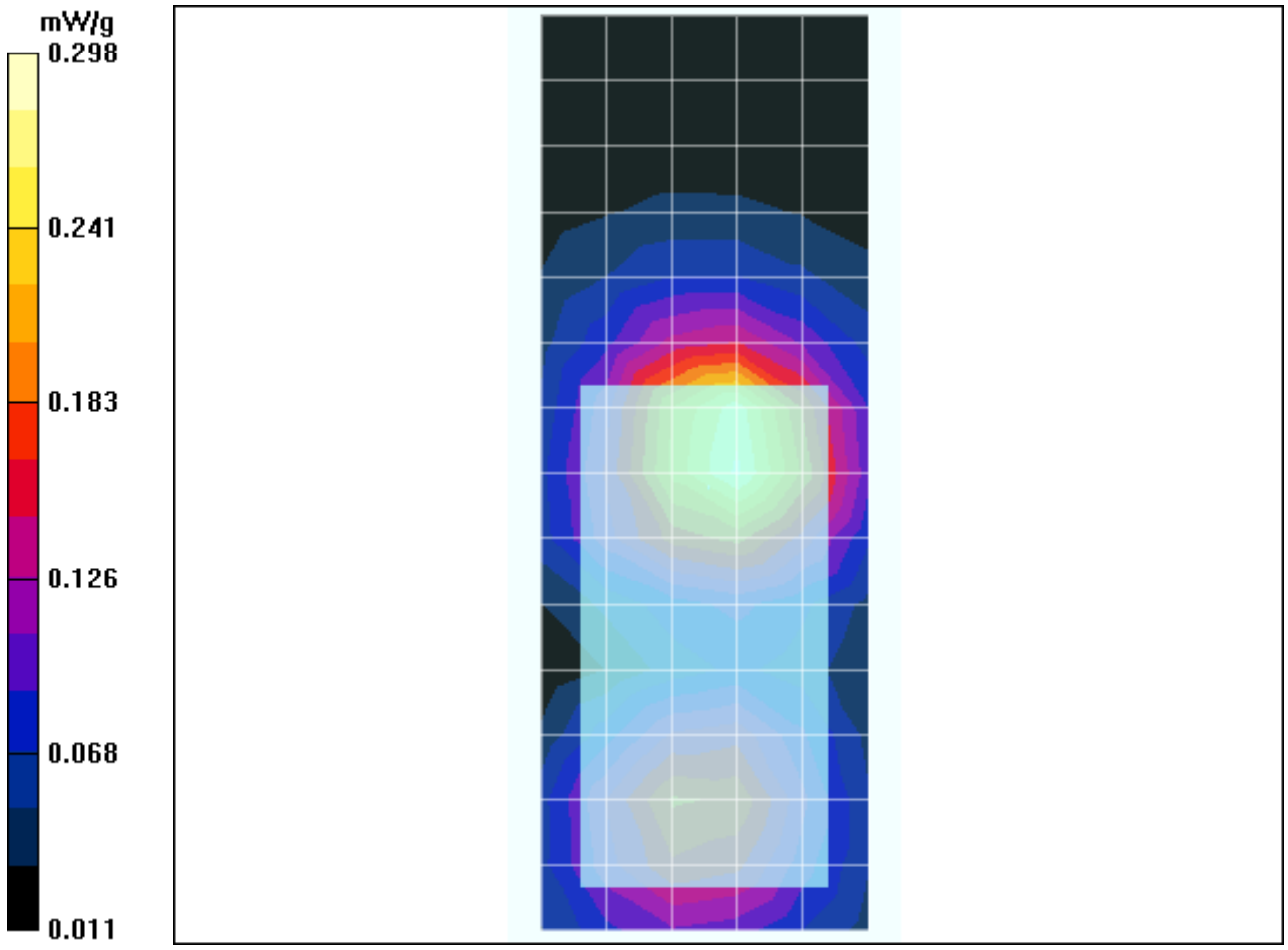
Serial: LM10560042; Procedure Notes: Ch# 661 / Pwr Step: 0 Antenna Position: Internal Battery Model #: SNN5746A
Accessory Model # = N/A Simulate Temp when Measured: 19.5C Simulate Temp after Test: 19.9C Back 25mm from Flat Phantom

Communication System: GPRS 1900 - Class 10; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: Regular Glycol Body; Medium parameters used: σ = 1.58mho/m, ε_r = 50.9; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Amy Twin Phone Template/Area Scan - Full Body (15mm) (18x8x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.284 mW/g
Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.6 V/m; **Power Drift = -0.1 dB** Peak SAR (extrapolated) = 0.415 W/kg
SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.176 mW/g Maximum value of SAR (measured) = 0.298 mW/g



Test Laboratory: Motorola 2400 BW CH6 back 25mm

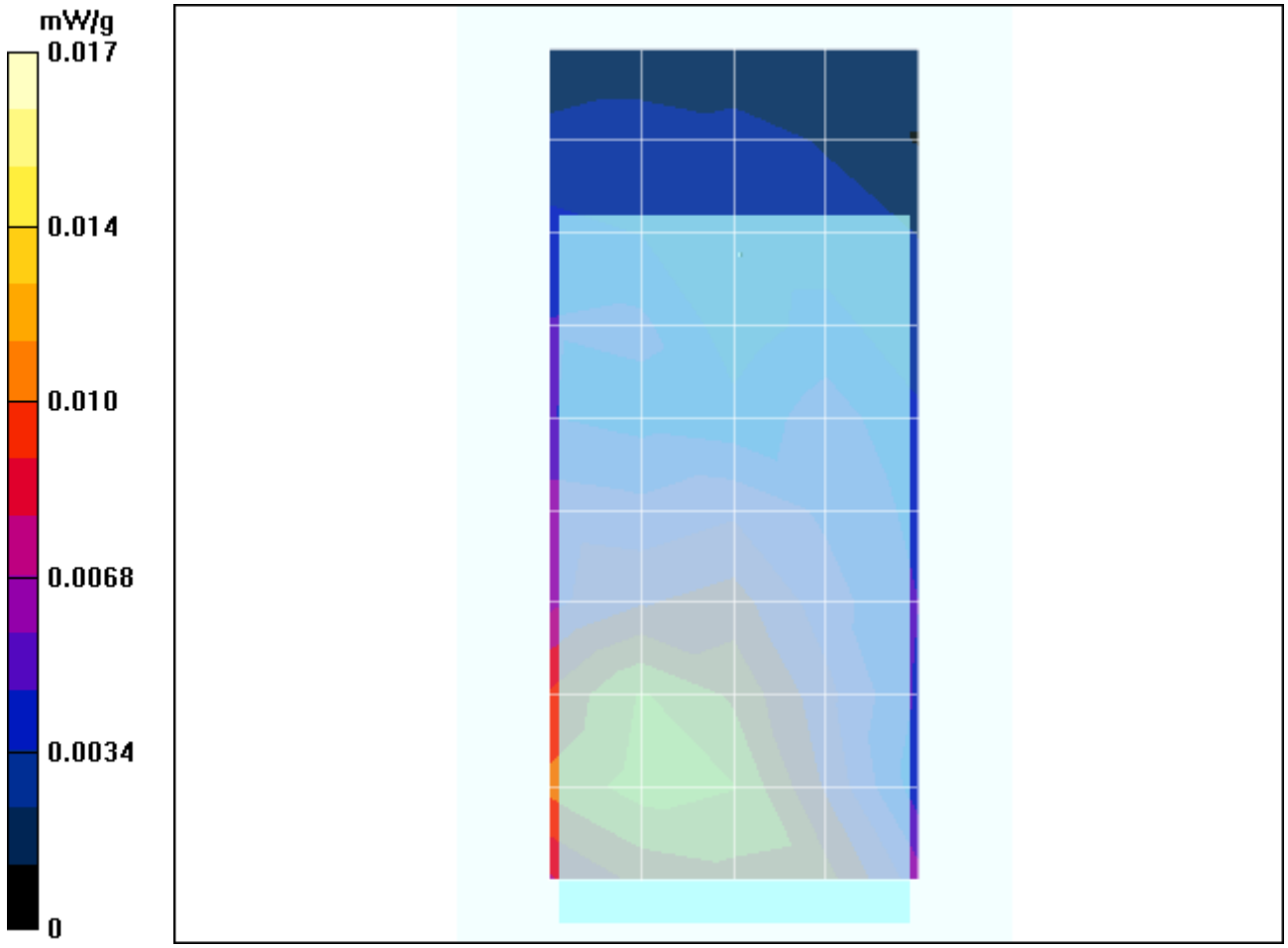
Serial: LM10560042; Procedure Notes: Ch# 6 Battery Model #: SNN5746A Antenna Position: internal Accessory Model # = 25mm back

Communication System: Wi-Fi 2450; Frequency: 2437MHz; Duty Cycle: 1:1
Medium: 2450 Glycol Body; Medium parameters used: σ = 2.04mho/m, ε_r = 51.9; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.24, 4.24, 4.24); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (12x7x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.012 mW/g
Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 1.88 V/m; **Power Drift = -1 dB** Peak SAR (extrapolated) = 3832053.1 W/kg
SAR(1 g) = 0.00137 mW/g; SAR(10 g) = 0.000378 mW/g Maximum value of SAR (measured) = 0.015 mW/g



Test Laboratory: Motorola 1900 GSM BW CH661 SYN1113A

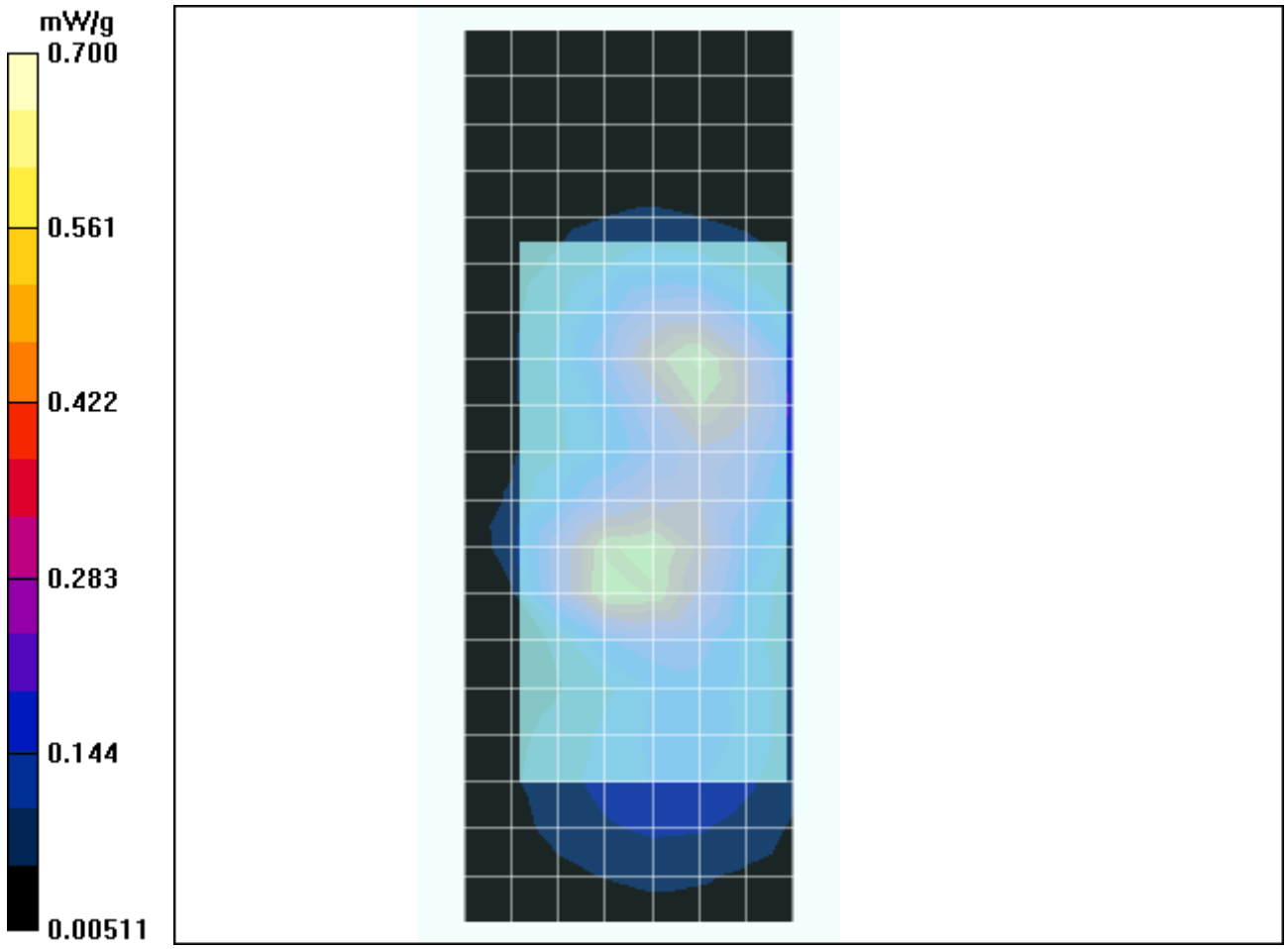
Serial: LM10560042; Procedure Notes: Ch# 661 / Pwr Step: 0 Antenna Position: Fixed Battery Model #: SNN5746A
Accessory Model # = SYN1113A Simulate Temp when Measured: 19.5C Simulate Temp after Test: 18.6C

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8
Medium: Regular Glycol Body; Medium parameters used: σ = 1.58mho/m, ε_r = 52.3; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Amy Twin Phone Template/Area Scan - Normal Extended Body (10mm) (22x10x1):
Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.486 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 = -0.2 dB** Peak SAR (extrapolated) = 0.792 W/kg
SAR(1 g) = 0.490 mW/g; SAR(10 g) = 0.276 mW/g Maximum value of SAR (measured) = 0.551 mW/g



Test Laboratory: Motorola 1900 GSM BW CH661 SYN1113A & BT

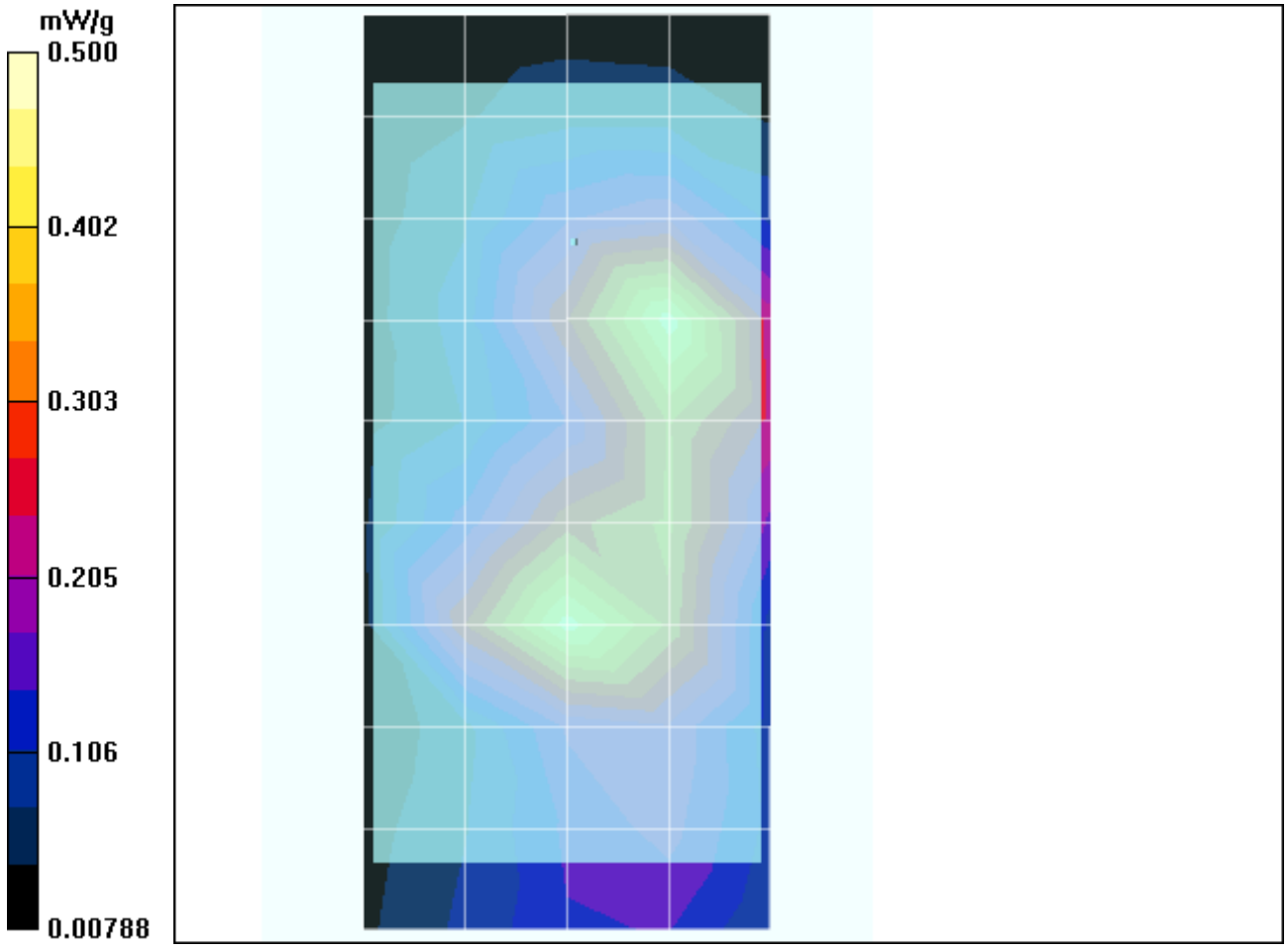
Serial: LM10560042; Procedure Notes: Ch# 661 Pwr Step: 0 ota Antenna Position: INTERNAL Battery Model #: SNN5746A Accessory Model # = pouch (SYN1113A)

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8
Medium: Regular Glycol Body; Medium parameters used: σ = 1.58mho/m, ε_r = 50.8; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Amy Twin Phone Template/Area Scan - Normal Body (15mm) (12x7x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.453 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 = -0.1 dB** Peak SAR (extrapolated) = 0.641 W/kg
SAR(1 g) = 0.407 mW/g; SAR(10 g) = 0.239 mW/g Maximum value of SAR (measured) = 0.447 mW/g



Test Laboratory: Motorola 1900 GPRS BW CH661 front 25mm

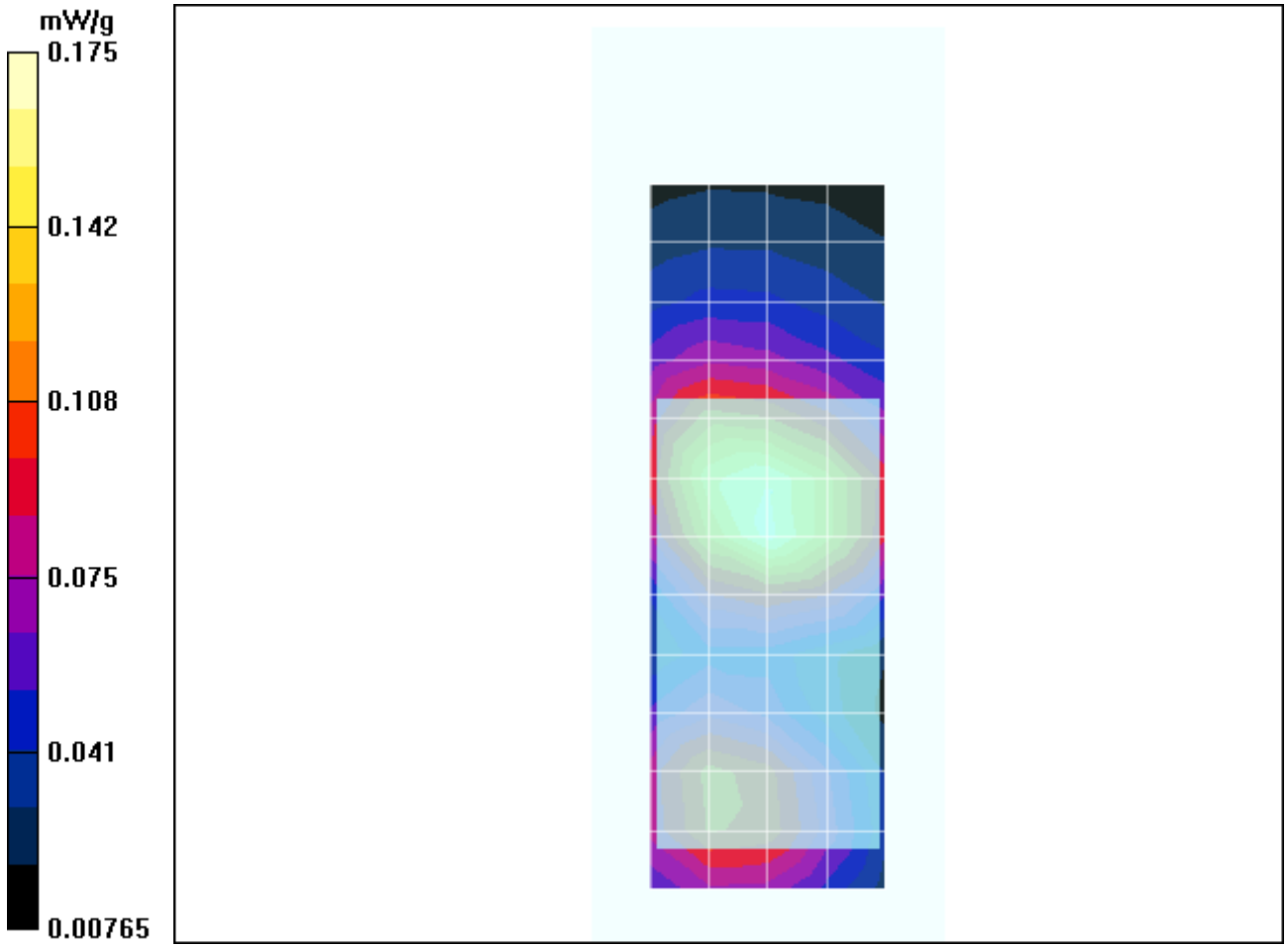
Serial: LM10560042; Procedure Notes: Ch# 661 / Pwr Step: 0 Antenna Position: Internal Battery Model #: SNN5746A
Accessory Model # = SYN1113A Simulate Temp when Measured: 19.3C Simulate Temp after Test: 18.9C
Front of Phone 25mm from Flat Phantom

Communication System: GPRS 1900 - Class 10; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: Regular Glycol Body; Medium parameters used: σ = 1.58mho/m, ε_r = 50.8; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.46, 4.46, 4.46); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Amy Twin Phone Template/Area Scan - Normal Extended Body (15mm) (15x7x1):
Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.169 mW/g
Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.5 V/m; **Power Drift = -0.1 dB** Peak SAR (extrapolated) = 0.251 W/kg
SAR(1 g) = 0.164 mW/g; SAR(10 g) = 0.106 mW/g Maximum value of SAR (measured) = 0.175 mW/g



Test Laboratory: Motorola 2400 BW CH6 SYN1113A

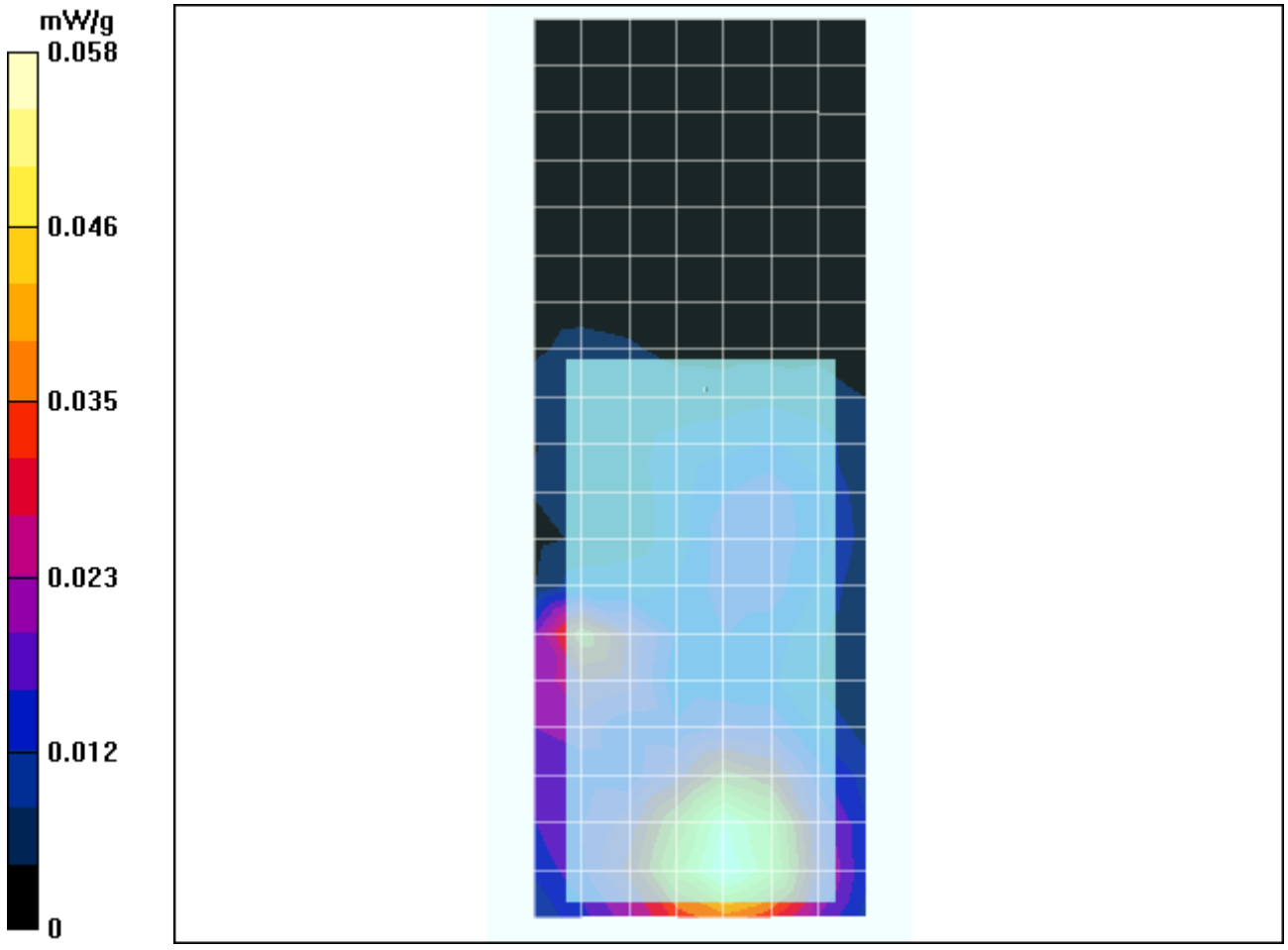
Serial: LM10560042; Procedure Notes: Ch# 6 / Pwr Step: Continuous Antenna Position: Internal Battery Model #: SNN5746A
Accessory Model # = SYN113A Simulate Temp when Measured: 23.0C Simulate Temp after Test: 21.0C

Communication System: Wi-Fi 2450; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: 2450 Glycol Body; Medium parameters used: $\sigma = 2.04$; mho/m, $\varepsilon_r = 50.1$; $\rho = 1000$ kg/m^3

DASY4 Configuration:

- Probe: ET3DV6 - SN1514; ConvF(4.24, 4.24, 4.24); Calibrated: 7/22/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn398; Calibrated: 2/16/2004
- Phantom: R4 : Sect.2, Amy Twin; Type: Amy Twin Flat; Serial: n/a;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Amy Twin Phone Template/Area Scan - Normal Extended Body (10mm) (22x10x1):
Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (measured) = 0.058 mW/g
Amy Twin Phone Template/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 4.4 V/m; **Power Drift = -0.7 dB** Peak SAR (extrapolated) = 0.108 W/kg
SAR(1 g) = 0.049 mW/g; SAR(10 g) = 0.026 mW/g Maximum value of SAR (measured) = 0.053 mW/g



Appendix 4

Probe Calibration Certificate

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Client **Motorola PCS**

CALIBRATION CERTIFICATE

Object(s)	ET3DV6 - SN:1514
Calibration procedure(s)	QA CAL-01.v2 Calibration procedure for dosimetric E-field probes
Calibration date:	July 22, 2004
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

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 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM 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 20 dB Attenuator	SN: 5086 (20b)	3-May-04 (METAS, No 251-00389)	May-05
Fluke Process Calibrator Type 702	SN: 6295803	8-Sep-03 (Sintrel SCS No. S-030020)	Sep-04
Power sensor HP 8481A	MY41092180	18-Sep-02 (SPEAG, in house check Oct03)	In house check: Oct 05
RF generator HP 8684C	US3642U01700	4-Aug-99 (SPEAG, in house check Aug02)	In house check: Aug05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Nico Vetterli	Technician	
Approved by:	Katja Pokovic	Laboratory Director	

Date Issued: July 22, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

Probe ET3DV6

SN:1514

Manufactured:	November 24, 1999
Last calibrated:	July 31, 2003
Recalibrated:	July 22, 2004

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: ET3DV6 SN:1514

Sensitivity in Free Space

Diode Compression[A]

NormX	1.71 μV/(V/m)^2	DCP X	93	mV
NormY	1.89 μV/(V/m)^2	DCP Y	93	mV
NormZ	1.81 μV/(V/m)^2	DCP Z	93	mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 7.

Boundary Effect

Head **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	10.2	5.3
SAR_{bc} [%]	With Correction Algorithm	0.1	0.3

Head **1800 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR_{be} [%]	Without Correction Algorithm	14.0	9.1
SAR_{be} [%]	With Correction Algorithm	0.1	0.0

Sensor Offset

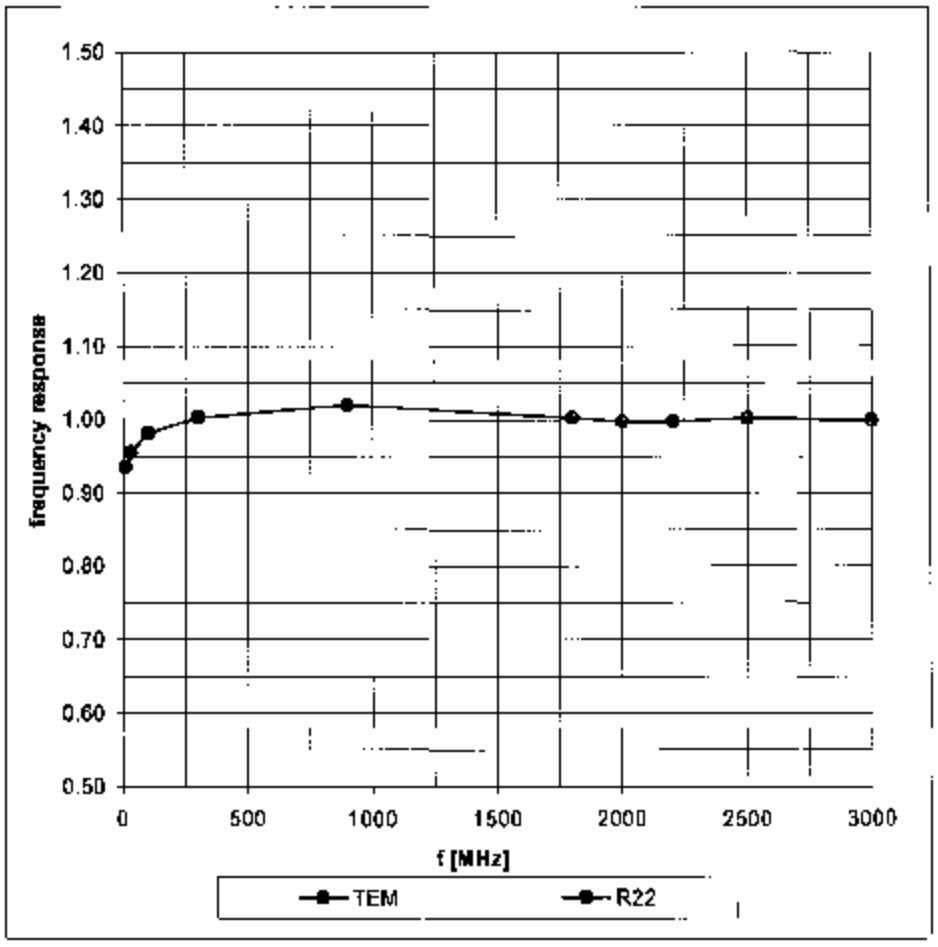
Probe Tip to Sensor Center	2.7	mm

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%.

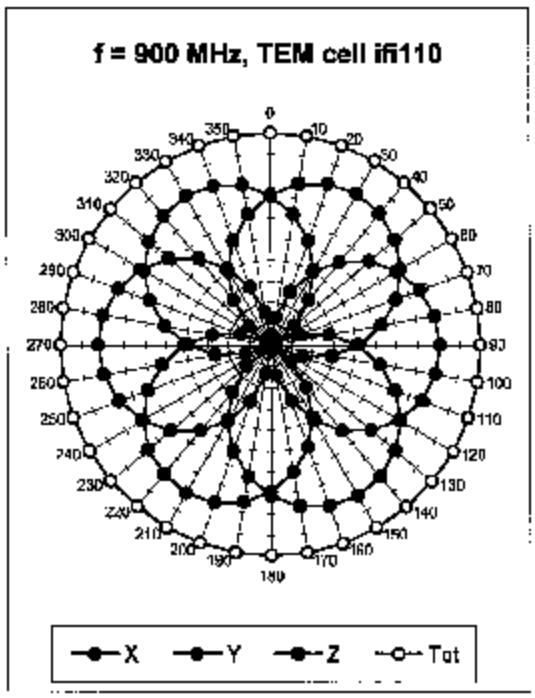
[A] numerical linearization parameter: uncertainty not required

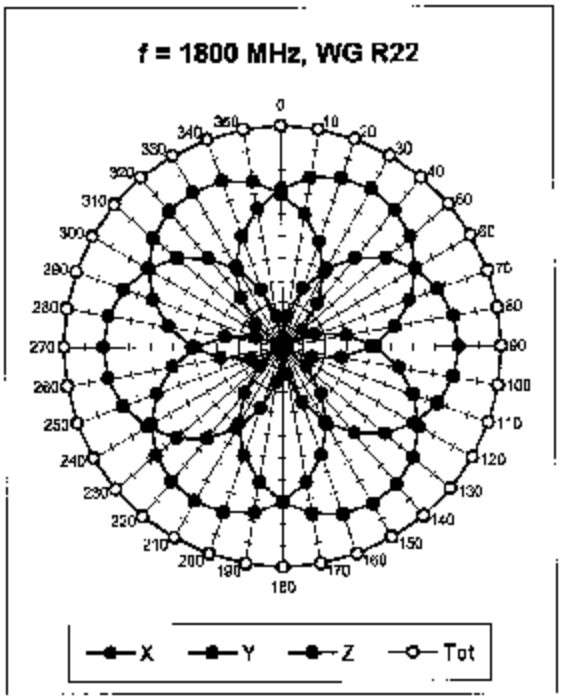
Frequency Response of E-Field

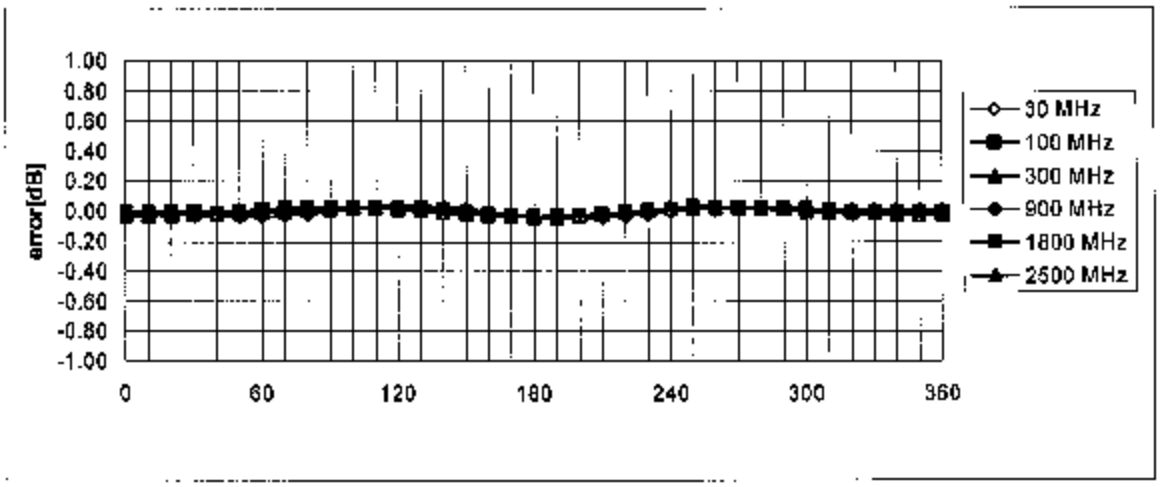
(TEM-Cell:ifi110, Waveguide R22)



Receiving Pattern (ϕ), θ = 0°



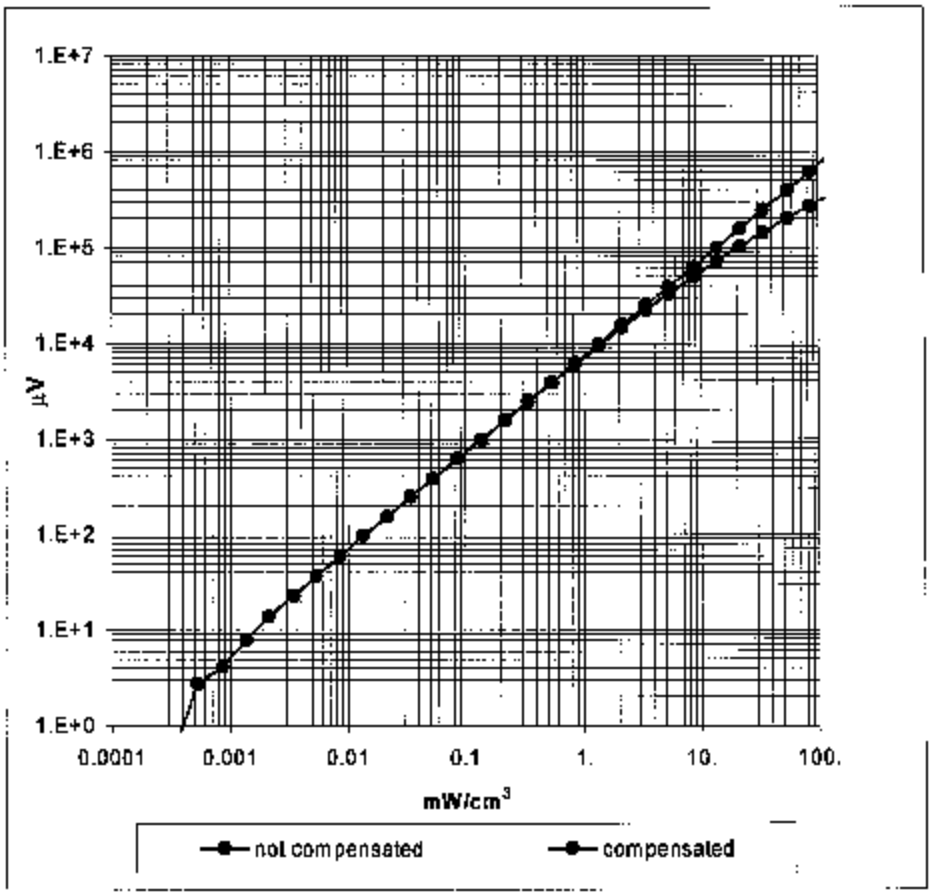


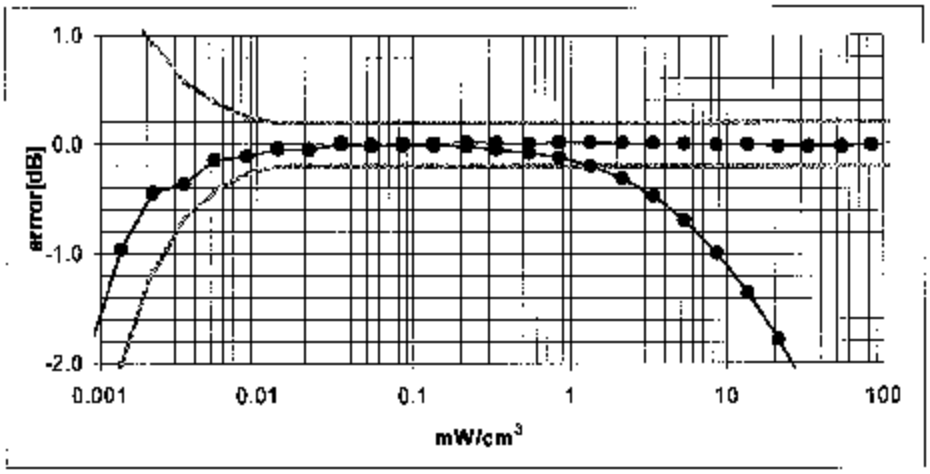


Axial Isotropy Error < ± 0.2 dB

Dynamic Range f(SAR_{head})

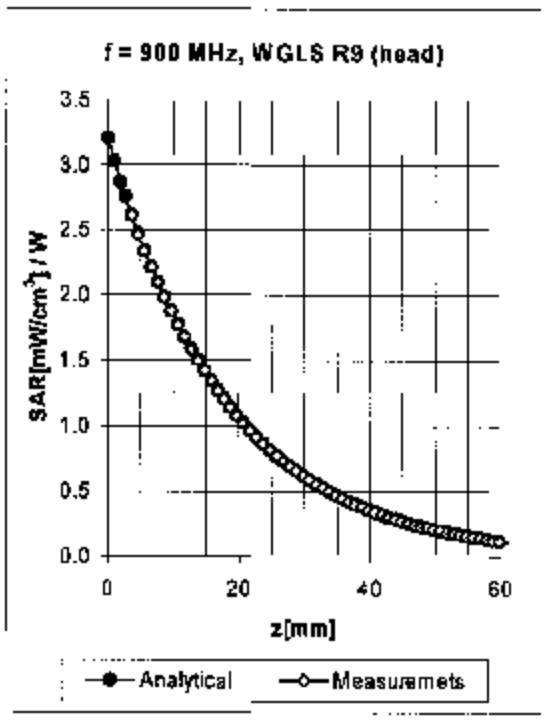
(Waveguide R22)

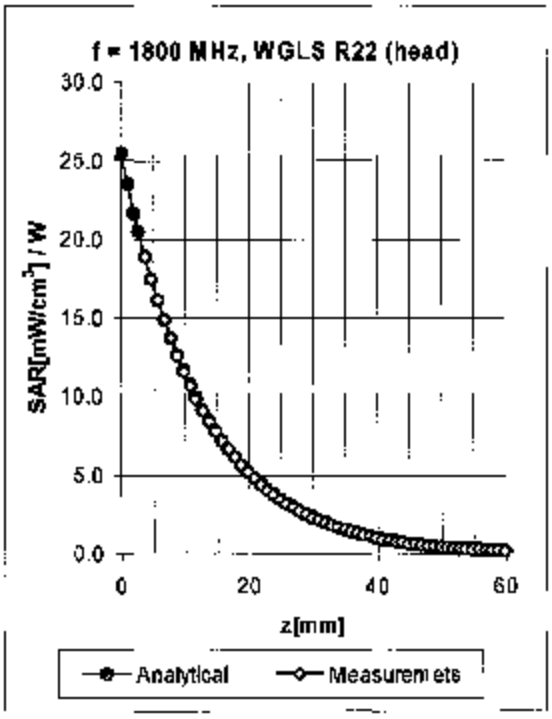




Probe Linearity Error < ± 0.2 dB

Conversion Factor Assessment



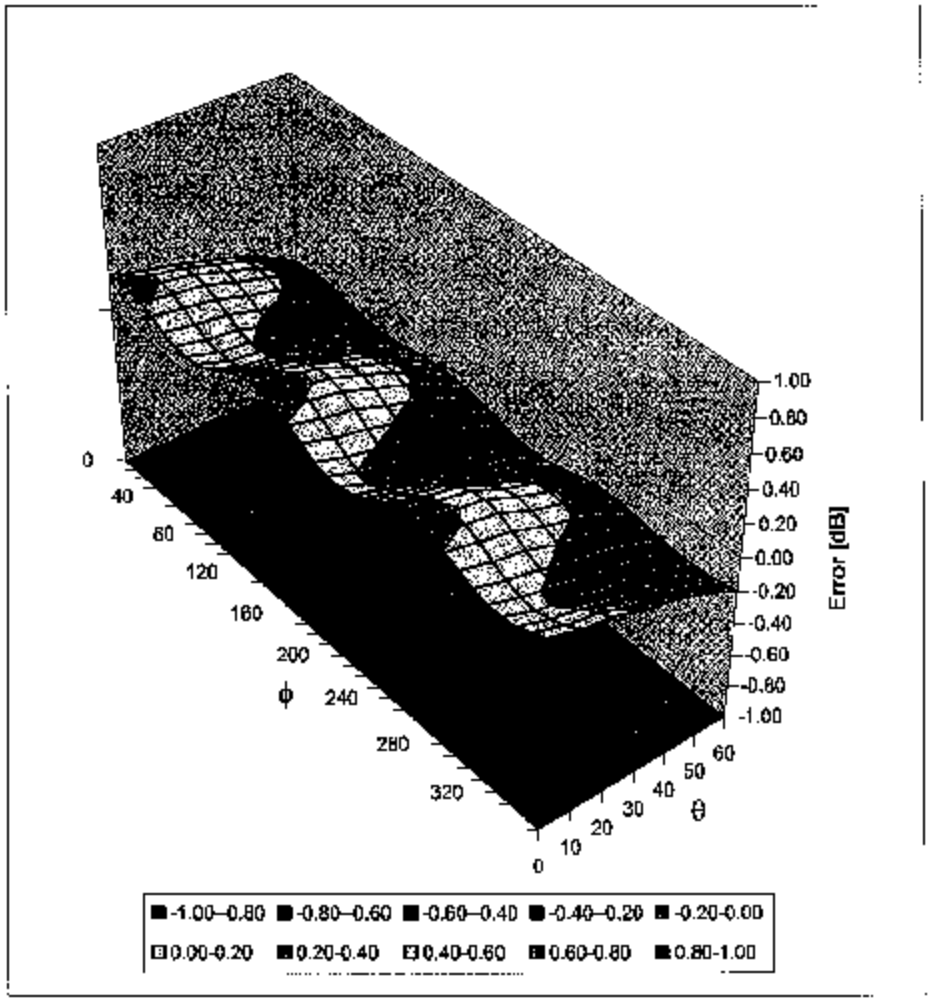


f [MHz]	Validity [MHz][B]	Tissue	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	800-1000	Head	41.5 ± 5%	0.97 ± 5%	0.72	1.79	6.08 ± 9.5% (k=2)
1800	1710-1910	Head	40.0 ± 5%	1.40 ± 5%	0.53	2.53	5.03 ± 9.5% (k=2)
1950	1900-2000	Head	40.0 ± 5%	1.40 ± 5%	0.60	2.51	4.74 ± 9.5% (k=2)
2450	2400-2500	Head	39.2 ± 5%	1.80 ± 5%	1.11	1.81	4.46 ± 9.5% (k=2)
900	800-1000	Body	55.0 ± 5%	1.05 ± 5%	0.58	2.10	5.87 ± 9.5% (k=2)
1800	1710-1910	Body	53.3 ± 5%	1.52 ± 5%	0.61	2.67	4.46 ± 9.5% (k=2)
1950	1900-2000	Body	53.3 ± 5%	1.52 ± 5%	0.72	2.39	4.38 ± 9.5% (k=2)
2450	2400-2500	Body	52.7 ± 5%	1.95 ± 5%	1.81	1.30	4.24 ± 9.5% (k=2)

[B] The stated uncertainty of calibration in according to P1528.

Deviation from Isotropy in HSL

Error (θ, φ), f = 900 MHz



Spherical Isotropy Error < ± 0.4 dB

Appendix 5

Dipole Characterization Certificate

Certification of System Performance Check Targets

Based on APP-0396

-Historical Data-

	835MHz	900MHz	1800MHz	1900MHz	
IEEE1528 Target: Advanced Extrapolation	9.5	10.8	38.1	39.7	**(W/kg)**
Measurement Uncertainty (k=1):	9.0%	9.0%	9.0%	9.0%	
Measurement Period:	*1-July-03 to 1-Apr-04*	*1-July-03 to 1-Apr-04*	*1-July-03 to 1-Apr-04*	*1-July-03 to 1-Apr-04*	
# of tests performed:	214	1148	1135	62	
Grand Average: Worst Case Extrapolation	10.0	11.4	40.7	42.0	**(W/kg)**
% Delta (Average - IEEE1528 Target)	5.3%	5.6%	6.8%	5.8%	
Is % Delta <= Measurement Uncertainty?	**Yes**	**Yes**	**Yes**	**Yes**	
Accept/Reject Average as new system performance check target?	**ACCEPT**	**ACCEPT**	**ACCEPT**	**ACCEPT**	
	Applicable 835MHz Dipole Serial Numbers:	**Applicable 900MHz Dipole Serial Numbers:**	**Applicable 1800MHz Dipole Serial Numbers:**	**Applicable 1900Mhz Dipole Serial Numbers:**	
	420(TR), 421(TR)	77, 78	246(TR), 250(TR)	514(TR), 518(TR)	
	422(TR), 423(TR)	79, 80	251(TR), 258(TR)	519(TR), 520(TR)	
	424(TR), 425(TR)	91, 92	259(TR), 262(TR)	523(TR), 524(TR)	
	431(TR), 432(TR)	93, 94	263(TR), 271(TR)	526(TR), 527(TR)	
	433(TR), 434(TR)	95, 96	272(TR), 273(TR)	528(TR), 529(TR)	
	436(TR)	97, 55	276(TR), 277(TR)	530(TR), 533(TR)	
			279(TR), 280(TR)		
			281(TR), 282(TR)		
			283(TR), 284(TR)		

-New System Performance Check Targets- per APP-0396

(based on analysis of historical data)

Frequency	SAR Target (W/kg)	Permittivity	Conductivity (S/m)
835MHz	**10.0**	41.5 ± 5%	0.90 ± 5%
900MHz	**11.4**	41.5 ± 5%	0.97 ± 5%
1800MHz	**40.7**	40.0 ± 5%	1.40 ± 5%
1900MHz	**42.0**	40.0 ± 5%	1.40 ± 5%

-Approvals-

Submitted by: Marge Kaunas Date: 2-Apr-04

Signed: Marge Kaunas

Comments: Spreadsheet detailing all historical measurements available upon request.

Approved by: Mark Douglas **Date:** 2-Apr-04

Signed: Mark Douglas

Comments: Targets and associated simulant properties are derived from the IEEE 1528 standard.

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Client Motorola MRO

CALIBRATION CERTIFICATE

Object(s) D2450V2 - SN 740

Calibration procedure(s) QA CAL-05 v2
Calibration procedure for dipole validation kits

Calibration date: January 16, 2004

Condition of the calibrated item In Tolerance (according to the specific calibration document)

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	US37292783	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04
RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Judith Mueller	Technician	
Approved by:	Katja Pokovic	Laboratory Director	

Date issued: January 19, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

Schmid & Partner Engineering AG
s p e a g
Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

DASY

Dipole Validation Kit

Type: D2450V2

Serial: 740

Manufactured: September 18, 2003
Calibrated: January 16, 2004

1. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with **head simulating solution** of the following electrical parameters at 2450 MHz:

Relative Dielectricity	**38.4**	± 5%
Conductivity	**1.86 mho/m**	± 5%

The DASY4 System with a dosimetric E-field probe ES3DV2 (SN:3013, Conversion factor 4.8 at 2450 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.
The dipole input power (forward power) was 250mW ± 3 %. The results are normalized to 1W input power.

2. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 1. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ES3DV2 SN:3013 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue: **57.6 mW/g** ± 16.8 % (k=2)[1]

averaged over 10 cm^3 (10 g) of tissue: **26.0 mW/g** ± 16.2 % (k=2)[1]

[1] validation uncertainty

3. Dipole Impedance and Return Loss

The impedance was measured at the SMA-connector with a network analyzer and numerically transformed to the dipole feedpoint. The transformation parameters from the SMA-connector to the dipole feedpoint are:

Electrical delay:	**1.161 ns**	(one direction)
Transmission factor:	**0.992**	(voltage transmission, one direction)

The dipole was positioned at the flat phantom sections according to section 1 and the distance spacer was in place during impedance measurements.

Feedpoint impedance at 2450 MHz:	Re{Z} = **52.5 Ω**
	Im {Z} = **4.8 Ω**
Return Loss at 2450 MHz	**-26.6 dB**

4. Handling

Do not apply excessive force to the dipole arms, because they might bend. Bending of the dipole arms stresses the soldered connections near the feedpoint leading to a damage of the dipole.

5. Design

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

Small end caps have been added to the dipole arms in order to improve matching when loaded according to the position as explained in Section 1. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

6. Power Test

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN740

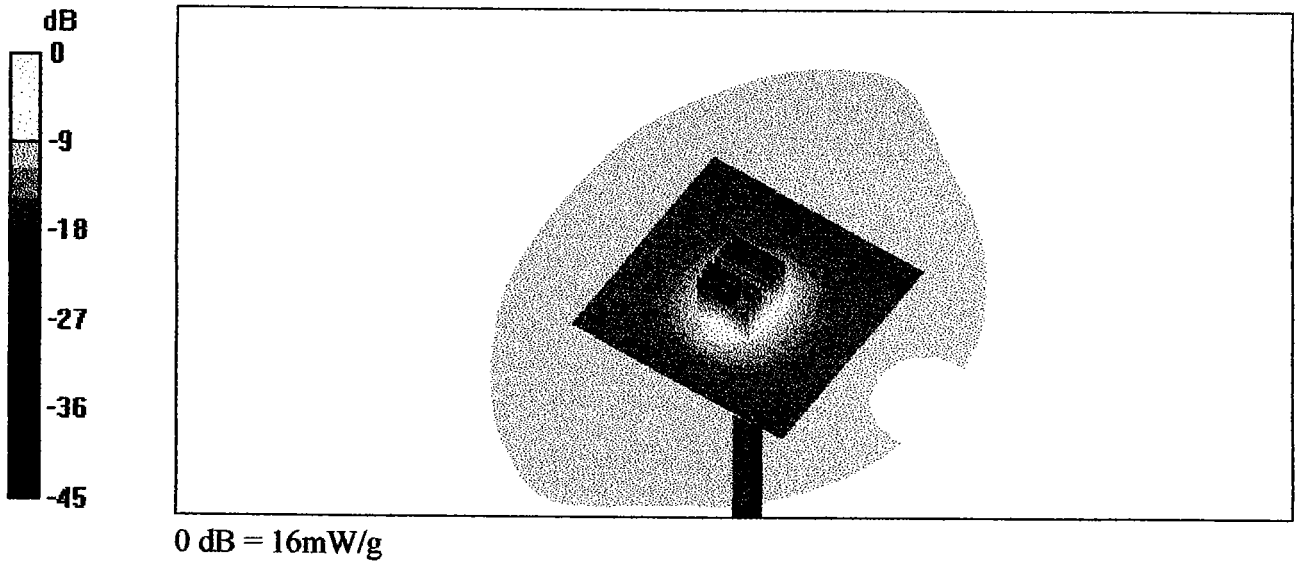
Communication System: CW-2450; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.86 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3013; ConvF(4.8, 4.8, 4.8); Calibrated: 1/19/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.2 Build 12; Postprocessing SW: SEMCAD, V1.8 Build 93

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 93.1 V/m
Power Drift = -0.005 dB
Maximum value of SAR = 16.6 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 32.2 W/kg
SAR(1 g) = 14.4 mW/g; SAR(10 g) = 6.5 mW/g
Reference Value = 93.1 V/m
Power Drift = -0.005 dB
Maximum value of SAR = 16 mW/g



0 dB = 16mW/g

16 Jan 2004 12:16:53

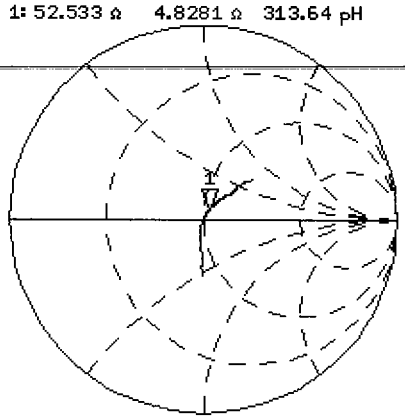
CH1 S11 1 U FS 1: 52.533 Ω 4.8281 Ω 313.64 pH 2 450.000 000 MHz

Del

Cor

Avg
16

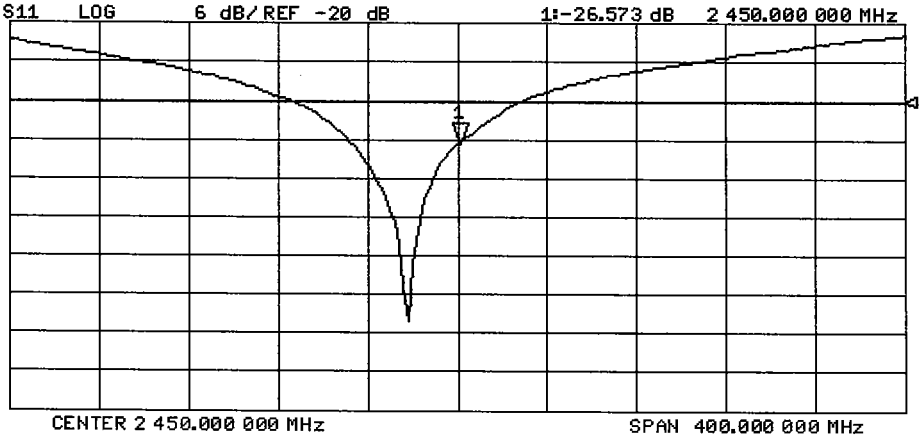
↑



CH2 S11 LOG 6 dB/ REF -20 dB 1:-26.573 dB 2 450.000 000 MHz

Cor

↑



CENTER 2 450.000 000 MHz SPAN 400.000 000 MHz

Appendix 6

Measurement Uncertainty Budget

Uncertainty Budget for Device Under Test

a	*b*	*c*	*d*	*e = f(d,k)*	*f*	*g*	*h = c x f / e*	*i = c x g / e*	*k*
Uncertainty Component	**Sec.**	**Tol. (± %)**	**Prob. Dist.**	**Div.**	**c_i (1 g)**	**c_i (10 g)**	**1 g u_i (±%)**	**10 g u_i (±%)**	**v_i**
Measurement System									
Probe Calibration	E.2.1	9.5	N	2.00	1	1	4.8	4.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Spherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	5.8	R	1.73	1	1	3.3	3.3	∞
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	1.0	N	1.00	1	1	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	1.3	R	1.73	1	1	0.8	0.8	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.3	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	1.1	R	1.73	1	1	0.6	0.6	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	3.9	R	1.73	1	1	2.3	2.3	∞
Test sample Related									
Test Sample Positioning	E.4.2	3.6	N	1.00	1	1	3.6	3.6	29
Device Holder Uncertainty	E.4.1	2.8	N	1.00	1	1	2.8	2.8	8
Output Power Variation - SAR drift measurement	6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (shape and thickness tolerances)	E.3.1	4.0	R	1.73	1	1	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	10.0	R	1.73	0.64	0.43	3.7	2.5	∞
Liquid Permittivity - deviation from target values	E.3.2	10.0	R	1.73	0.6	0.49	3.5	2.8	∞
Liquid Permittivity - measurement uncertainty	E.3.3	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Combined Standard Uncertainty			RSS				11.72	11.09	1363
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k =2				22.98	21.75	

Uncertainty Budget for System Performance Check (dipole & flat phantom)

a	*b*	*c*	*d*	*e = f(d,k)*	*f*	*g*	*h = c x f / e*	*i = c x g / e*	*k*
Uncertainty Component	**Sec.**	**Tol. (± %)**	**Prob. Dist.**	**Div.**	**c_i (1 g)**	**c_i (10 g)**	**1 g u_i (±%)**	**10 g u_i (±%)**	**v_i**
Measurement System									
Probe Calibration	E.2.1	9.5	N	2.00	1	1	4.8	4.8	∞
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	5.8	R	1.73	1	1	3.3	3.3	∞
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	1.0	N	1.00	1	1	1.0	1.0	∞
Response Time	E.2.7	0.0	R	1.73	1	1	0.0	0.0	∞
Integration Time	E.2.8	0.0	R	1.73	1	1	0.0	0.0	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.3	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	1.1	R	1.73	1	1	0.6	0.6	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	3.9	R	1.73	1	1	2.3	2.3	∞
Dipole									
Dipole Axis to Liquid Distance	8, E.4.2	1.0	R	1.73	1	1	0.6	0.6	∞
Input Power and SAR Drift Measurement	8, 6.6.2	4.7	R	1.73	1	1	2.7	2.7	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (shape and thickness tolerances)	E.3.1	4.0	R	1.73	1	1	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	10.0	R	1.73	0.64	0.43	3.7	2.5	∞
Liquid Permittivity - deviation from target values	E.3.2	10.0	R	1.73	0.6	0.49	3.5	2.8	∞
Liquid Permittivity - measurement uncertainty	E.3.3	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Combined Standard Uncertainty			RSS				10.16	9.43	99999
Expanded Uncertainty (95% CONFIDENCE LEVEL)			*k*=2				19.92	18.48	

Appendix 7

Photographs of the device under test

Figure 1. Front of Phone

Figure 2. Back of Phone

Figure 3. Phone in case; back view

Figure 4. Phone in case; side view

Figure 5. Cheek/Touch Position

Figure 6. Tilt Position

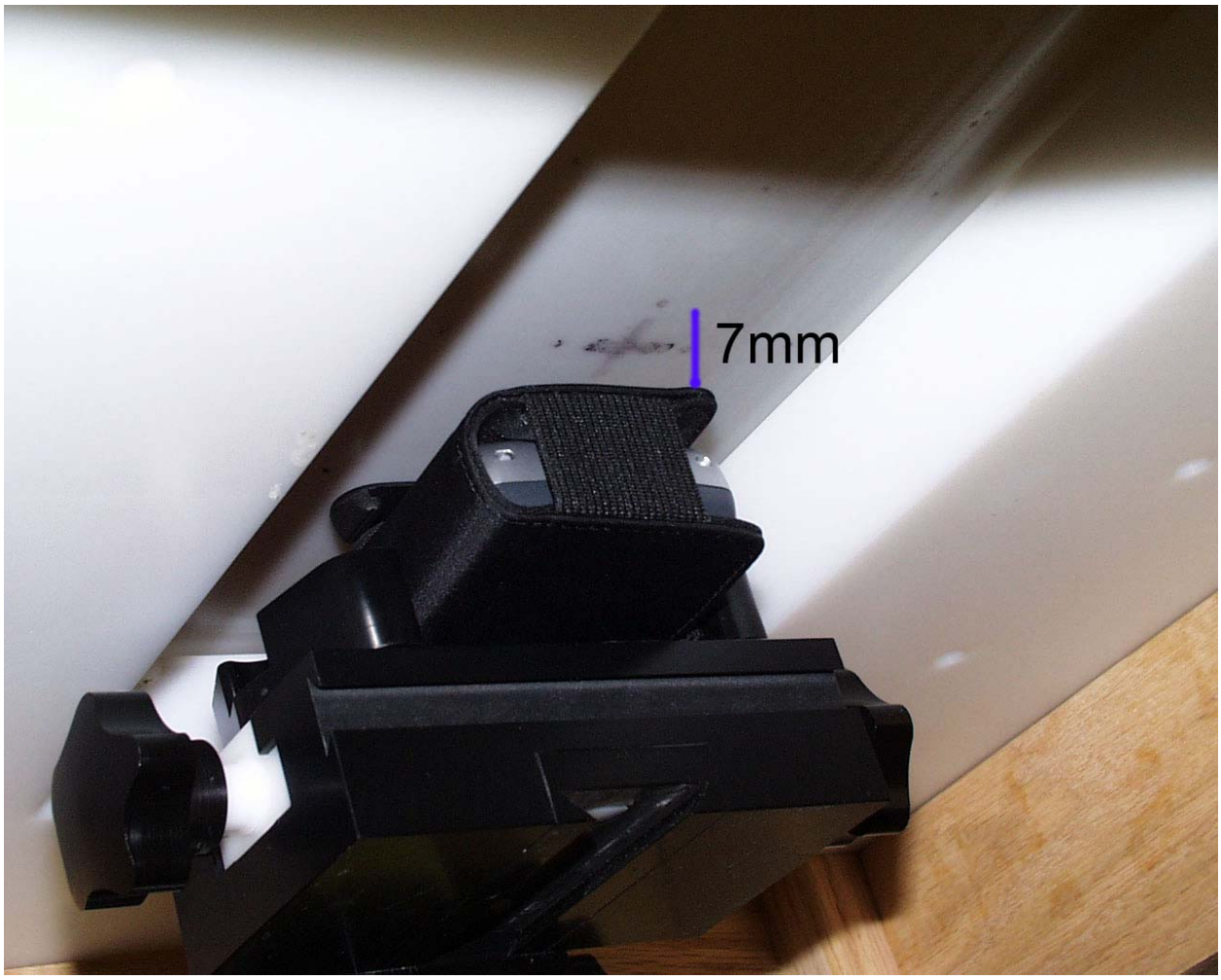


Figure 7. Body Worn Testing with case