RF EXPOSURE EVALUATION

SPECIFIC ABSORPTION RATE

SAR TEST REPORT

FOR

M/A-COM, INC.

PORTABLE UHF-L PTT RADIO TRANSCEIVER

MODEL: P5400 (Analog/Digital)

IDENTIFIER(S)	FCC ID: OWDTR-0045-E	IC: 3636B-0045
Test Standard(s) and Procedure(s)	FCC OET Bulletin 65, Supplement C (01-01)	
	Industry Canada RSS-102 Issue 2	

Test Report Serial No.

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Test Report Revision No.

Revision 1.0 (Initial Release)

Test Lab and Location

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DECLARATION OF COMPLIANCE
SAR RF EXPOSURE EVALUATION

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FCC IDENTIFIER:	**OWDTR-0045-E**
IC IDENTIFIER:	**3636B-0045**
Device Model No.(s):	**P5400**
Device Part No.(s) Tested:	**RU-123550-021 (Scan); RU-123550-022 (System)**
Test Requirement(s):	**FCC 47 CFR §2.1093; Health Canada Safety Code 6**
Test Procedure(s):	**FCC OET Bulletin 65, Supplement C (Edition 01-01)** **Industry Canada RSS-102 Issue 2**
FCC Device Classification:	**Licensed Non-Broadcast Transmitter Held to Face (TNF)**
IC Device Classification:	**Land Mobile Radio Transmitter/Receiver (27.41-960 MHz)**
Device Description:	**Portable UHF-L PTT Radio Transceiver**
Modulation Type(s):	**Analog (FM), Digital (FSK)**
Transmit Frequency Range(s):	**378.025 - 429.975 MHz**
Max. RF Output Power Tested:	**4.2 Watts (36.2 dBm) Conducted (404 .0 MHz)**
Antenna Type(s) Tested:	**1. Helical Coil 378-403 MHz (P/N: KRE 101 1219/9)** **2. Helical Coil 403-430 MHz (P/N: KRE 101 1219/10)** **3. Quarter-Wave Whip 378-430 MHz (P/N: KRE 101 1223/10)**
Battery Type(s) Tested:	**7.5V NiCd, immersible, non-IS (P/N: BT-023406-001); 7.5V NiCd, immersible, IS (P/N: BT-023406-002)** **7.5V NiMH, immersible, non-IS (P/N: BT-023406-003); 7.5V NiMH, immersible, IS (P/N: BT-023406-004)** **7.5V Li-ion, immersible, non-IS (P/N: BT-023406-005); 7.5V Li-ion, immersible, IS (P/N: BT-023406-006)**
Body-worn Accessories Tested:	**1. Metal Belt-Clip (P/N: CC23894)** **2. Leather Belt Loop (P/N: KRY 101 1609/1) and Metal Swivel Mount (P/N: KRY 101 1608/2)** **3. Leather Case Kit 1 (P/N: CC-023931-003): Leather Case w/o D-rings (P/N: CC-023931-001), Swivel-Mount (P/N: KRY 101 1608/2), Elastic Strap (P/N: FM-011820) and Belt Loop (P/N: KRY 101 1609/1)** **4. Leather Case Kit 2 (P/N: CC-023931-004): Leather Case w/ D-rings (P/N: CC-023931-002), Swivel-Mount (P/N: KRY 101 1608/2), Elastic Strap (P/N: FM-011820) and Belt Loop (P/N: KRY 101 1609/1)** **5. Leather Case 3 w/ D-rings (P/N: CC-023931-002), Elastic Strap (P/N: FM-011820), Shoulder Strap (P/N: CC103333V1)** **6. Nylon (black) Case (P/N: CC-023932-001) and Belt Loop (P/N: KRY 101 1609/1)** **7. Nylon "T" Strap Holder (P/N: KRY 101 1656/1)**
Audio Accessories Tested:	**1. Speaker-Microphone Antenna Version (P/N: MC-023933-002)** **2. Speaker-Microphone (P/N: MC-023933-001)** **3. Earphone (P/N: LS103239V1)**
Max. SAR Level(s) Evaluated:	**Face-held: 2.55 W/kg (1g average) - 50% Duty Cycle** **Body-worn: 4.25 W/kg (1g average) - 50% Duty Cycle**

Celltech Labs Inc. declares under its sole responsibility that this wireless portable device has demonstrated compliance with the Specific Absorption Rate (SAR) RF exposure requirements specified in FCC 47 CFR §2.1093 and Health Canada's Safety Code 6. The device was tested in accordance with the measurement standards and procedures specified in FCC OET Bulletin 65, Supplement C (Edition 01-01) and Industry Canada RSS-102 Issue 2 for the Occupational/Controlled Exposure environment. All measurements were performed in accordance with the SAR system manufacturer recommendations.

I attest to the accuracy of data. All measurements were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Test Report Approved By:
Sean Johnston
SAR Lab Manager
Celltech Labs Inc.

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1.0 INTRODUCTION

This measurement report demonstrates that the M/A-COM Model: P5400 Portable Analog/Digital UHF-L PTT Radio Transceiver complies with the SAR (Specific Absorption Rate) RF exposure requirements specified in FCC 47 CFR §2.1093 (see reference [1]) and Health Canada's Safety Code 6 (see reference [2]) for the Occupational / Controlled Exposure environment. The test procedures described in FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3]) and IC RSS-102 Issue 2 (see reference [4]) were employed. A description of the device, operating configuration, detailed summary of the test results, methodology and procedures used in the evaluation, equipment used, and the various provisions of the rules are included within this test report.

2.0 DESCRIPTION OF DEVICE UNDER TEST (DUT)

Test Requirement(s)	FCC Rule Part 47 CFR §2.1093				
	Health Canada Safety Code 6				
Test Procedure(s)	FCC OET Bulletin 65, Supplement C (01-01)				
	Industry Canada RSS-102 Issue 2				
Device Classification(s)	FCC: Licensed Non-Broadcast Transmitter Held to Face (TNF)				
	IC: Land Mobile Radio Transmitter/Receiver (27.41-960 MHz)				
Device Description	Portable UHF-L PTT Radio Transceiver				
Modulation Type(s)	Analog (FM)		Digital (FSK)		
RF Exposure Category	Occupational / Controlled Environment				
FCC IDENTIFIER	OWDTR-0045-E				
IC IDENTIFIER	3636B-0045				
Device Model(s)	P5400				
Device Part No.(s) & Serial No.(s) Tested	Scan	P/N: RU-123550-021	S/N: T2A-UL-004	Identical Prototype	
	System	P/N: RU-123550-022	S/N: T2A-UL-003	Identical Prototype	
Transmit Frequency Range(s)	378.025 - 429.975 MHz				
Max. RF Conducted Output Power Measured	4.2 Watts	36.2 dBm	378.025 MHz	Scan & System	
	4.2 Watts	36.2 dBm	404.000 MHz	Scan & System	
	4.2 Watts	36.2 dBm	429.975 MHz	Scan & System	
Antenna Type(s) Tested	Helical Coil	378 - 403 MHz	Length: 77 mm	P/N: KRE 101 1219/9	
	Helical Coil	403 - 430 MHz	Length: 77 mm	P/N: KRE 101 1219/10	
	Quarter-Wave Whip	378 - 430 MHz	Length: 162 mm	P/N: KRE 101 1223/10	
Battery Type(s) Tested	NiCd	immersible	non-intrinsically safe	7.5 V	P/N: BT-023406-001
	NiCd	immersible	intrinsically safe	7.5 V	P/N: BT-023406-002
	NiMH	immersible	non-intrinsically safe	7.5 V	P/N: BT-023406-003
	NiMH	immersible	intrinsically safe	7.5 V	P/N: BT-023406-004
	Li-ion	immersible	non-intrinsically safe	7.5 V	P/N: BT-023406-005
	Li-ion	immersible	intrinsically safe	7.5 V	P/N: BT-023406-006

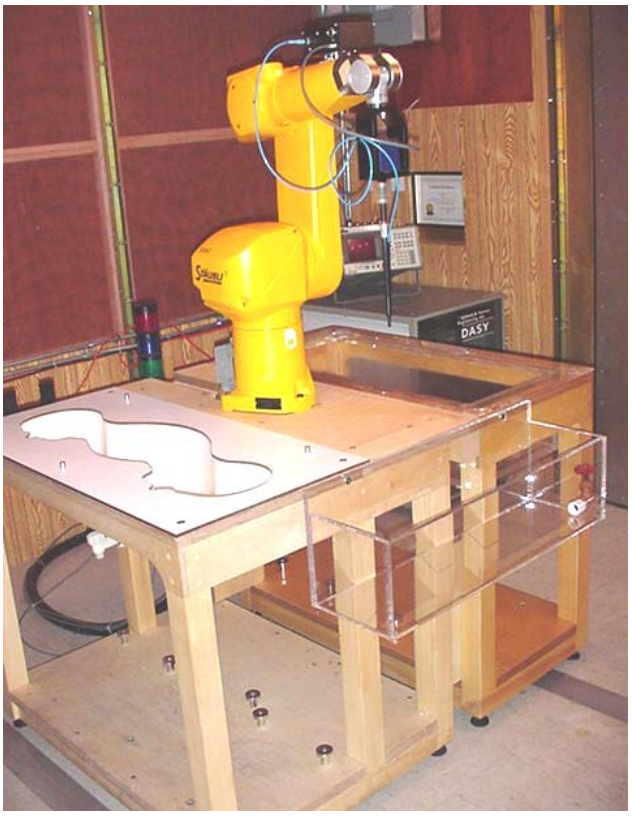
DESCRIPTION OF DEVICE UNDER TEST (DUT) - Cont.

	Accessory Type	Part No.
Body-worn Accessories Tested	Metal Belt-Clip (standard)	CC23894
	Leather Belt Loop and Swivel Mount (P/N: KRY 101 1608/2)	KRY 101 1609/1
	Leather Case Kit: Leather Case w/o D-rings (P/N: CC-023931-001), elastic strap (P/N: FM-011820), Swivel Mount (P/N: KRY 101 1608/2) and Leather Belt Loop (P/N: KRY 101 1609/1)	CC-023931-003
	Leather Case Kit: Leather Case w/ D-rings (P/N: CC-023931-002), elastic strap (P/N: FM-011820), Swivel Mount (P/N: KRY 101 1608/2) and Leather Belt Loop (P/N: KRY 101 1609/1)	CC-023931-004
	Leather Case w/ D-rings, elastic strap (P/N: FM-011820) and Shoulder Strap (P/N: CC103333V1)	CC-023931-002
	Nylon Case (black) w/ Leather Belt Loop (P/N: KRY 101 1609/1)	CC-023932-001
	Nylon "T" Strap Holder	KRY 101 1656/1
Audio Accessories Tested	Speaker-Microphone Non-Antenna Version	MC-023933-001
	Speaker-Microphone Antenna Version	MC-023933-002
	Earphone for speaker/mic	LS103239V1
Additional Body-worn and Audio Accessories (Testing Not Required)	Nylon Case (Orange) w/ Leather Belt Loop (P/N: KRY 101 1609/1)	CC-023932-002
	Metal Belt Clip (alternate)	CC-011318
	Earphone Kit, Black	EA-009580-001
	Earphone Kit, Beige	EA-009580-002
	2-Wire Kit, Palm mic, Black	EA-009580-003
	2-Wire Kit, Palm mic, Beige	EA-009580-004
	3-Wire Kit, Mini-Lapel Mic, Black	EA-009580-005
	3-Wire Kit, Mini-Lapel Mic, Beige	EA-009580-006
	Explorer Headset w/ PTT	EA-009580-007
	Lightweight headset single spkr w/ PTT	EA-009580-008
	Breeze Headset w/ PTT	EA-009580-009
	Headset, heavy duty, N/C behind the head, w/ PTT	EA-009580-010
	Ranger Headset w/ PTT	EA-009580-011
	Skull mic w/body PTT & earcup	EA-009580-012
	Headset, heavy duty, N/C over the head, w/ PTT	EA-009580-013
	Throat mic w/acoustic tube & body PTT	EA-009580-014
	Throat mic w/acoustic tube, body PTT, & ring PTT	EA-009580-015
	Breeze headset w/ PTT & pigtail jack	EA-009580-016
	Hurricane headset w/ PTT	EA-009580-017
	Hurricane headset w/ PTT & pigtail jack	EA-009580-018

3.0 SAR MEASUREMENT SYSTEM

Celltech Labs Inc. SAR measurement facility utilizes the Dosimetric Assessment System (DASY™) manufactured by Schmid & Partner Engineering AG (SPEAG™) of Zurich, Switzerland. The DASY4 measurement system is comprised of the measurement server, robot controller, computer, near-field probe, probe alignment sensor, specific anthropomorphic mannequin (SAM) phantom, and various planar phantoms for brain and/or body SAR evaluations. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The Staubli robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the DASY4 measurement server. The DAE4 utilizes a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16-bit AD-converter and a command decoder and control logic unit. Transmission to the DASY4 measurement server is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe-mounting device includes two different sensor systems for frontal and sidewise probe contacts. The sensor systems are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.

DASY4 SAR Measurement System with Plexiglas validation phantom



DASY4 SAR Measurement System with Plexiglas side planar phantom

4.0 SAR MEASUREMENT SUMMARY

FACE-HELD SAR EVALUATION RESULTS

Test Date	Freq.	Chan.	Test Mode	Device Tested	Antenna Part No.	Battery Type	DUT Position to Planar Phantom	DUT Spacing to Planar Phantom	Cond. Power Before Test	SAR Drift During Test	Measured SAR 1g (W/kg)	
											Duty Cycle	
	MHz							cm	Watts	dB	100%	50%
Apr 4	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	NiCd NIS	Front Side	2.5	4.2	-0.0169	4.30	2.15
Apr 4	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	NiCd IS	Front Side	2.5	4.2	-0.104	4.18	2.09
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	NiMH NIS	Front Side	2.5	4.2	-0.0724	4.66	2.33
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	NiMH IS	Front Side	2.5	4.2	-0.0733	**5.09**	**2.55**
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	Li-ion NIS	Front Side	2.5	4.2	-0.131	4.53	2.27
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	Li-ion IS	Front Side	2.5	4.2	-0.0473	4.55	2.28
Apr 5	378.025	Low	CW	Scan Radio	KRE 101 1219/9	NiMH IS	Front Side	2.5	4.2	-0.167	4.35	2.18
Apr 5	404.000	Mid	CW	Speaker-Mic with Antenna	KRE 101 1219/10	NiMH IS	Front Side	2.5	4.2	-0.0090	1.26	0.630
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd NIS	Front Side	2.5	4.2	-0.0813	4.18	2.09
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd IS	Front Side	2.5	4.2	-0.0121	4.89	2.45
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiMH NIS	Front Side	2.5	4.2	0.00347	3.81	1.91
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiMH IS	Front Side	2.5	4.2	-0.0341	4.43	2.22
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	Li-ion NIIS	Front Side	2.5	4.2	-0.0267	4.95	2.48
Apr 5	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	Li-ion IS	Front Side	2.5	4.2	-0.0411	4.48	2.24
Apr 5	404.000	Mid	CW	Speaker-Mic with Antenna	KRE 101 1223/10	Li-ion NIS	Front Side	2.5	4.2	-0.0054	0.541	0.271

ANSI / IEEE C95.1:2005 - SAFETY LIMIT	BRAIN: 8.0 W/kg (averaged over 1 gram)	Spatial Peak - Controlled Exposure / Occupational

Test Date(s)		April 04, 2007		April 05, 2007		Test Date	Apr 4	Apr 5	Unit
Dielectric Constant ε_r	Fluid Type	450 MHz Brain		450 MHz Brain		Relative Humidity	33	36	%
	IEEE Target	Measured	Deviation	Measured	Deviation	Atmospheric Pressure	101.9	101.4	kPa
	43.5 ± 5%	44.4	+2.1%	44.9	+3.2%	Ambient Temperature	22.5	22.4	°C
Conductivity σ (mho/m)	Fluid Type	450 MHz Brain		450 MHz Brain		Fluid Temperature	22.0	21.9	°C
	IEEE Target	Measured	Deviation	Measured	Deviation	Fluid Depth	≥ 15	≥ 15	cm
	0.87 ± 5%	0.88	+1.1%	0.90	+3.4%	ρ (Kg/m^3)	1000		

Note(s)		
	1.	The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
	2.	If the scaled SAR levels evaluated at the mid channel (50% duty cycle) were ≥ 3 dB below the SAR limit, SAR evaluation for the low and high channels was optional per FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3]).
	3.	The power drifts measured by the DASY4 system for the duration of the SAR evaluations were <5% from the start power.
	4.	The area scan evaluation was performed with a fully charged battery. After the area scan evaluation was completed the battery was replaced with a fully charged battery prior to the zoom scan evaluation.
	5.	The fluid temperature was measured prior to and after the SAR evaluations to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.
	6.	The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C).
	7.	The SAR evaluations were performed within 24 hours of the system performance check.

SAR MEASUREMENT SUMMARY (Cont.)

BODY-WORN SAR EVALUATION RESULTS

Test Date	Freq. MHz	Chan.	Test Mode	Device Tested	Antenna Part No.	Battery Type	DUT Position to Planar Phantom	DUT Spacing to Planar Phantom cm	Cond. Power Before Test Watts	SAR Drift During Test dB	Measured SAR 1g (W/kg) Duty Cycle 100%	Duty Cycle 50%
Radio with Metal Belt-Clip (P/N: CC23894) & Speaker-Microphone (P/N: MC-023933-001) Accessories												
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	NiCd NIS	Back Side	1.1	4.2	-0.0244	7.48	3.74
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	NiCd IS	Back Side	1.1	4.2	-0.0730	6.77	3.39
Apr 2	404.000	Mid	CW	System Radio	KRE 101 1219/10	NiMH NIS	Back Side	1.1	4.2	0.0880	7.58	3.79
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	NiMH IS	Back Side	1.1	4.2	-0.117	7.07	3.54
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	Li-ion NIS	Back Side	1.1	4.2	-0.0170	6.83	3.42
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1219/10	Li-ion IS	Back Side	1.1	4.2	-0.170	6.48	3.24
Apr 4	378.025	Low	CW	Scan Radio	KRE 101 1219/9	NiCd NIS	Back Side	1.1	4.2	-0.182	4.75	2.38
Speaker-Microphone Antenna Version with Lapel Clip & Earphone (P/N: LS103239V1) Accessory												
Apr 4	404.000	Mid	CW	Speaker-Mic with Antenna	KRE 101 1219/10	NiCd NIS	Back Side	1.5	4.2	-0.0360	P: 1.70	0.850
											S: 1.18	0.590

ANSI / IEEE C95.1:2005 - SAFETY LIMIT | **BODY: 8.0 W/kg (averaged over 1 gram)** | **Spatial Peak - Controlled Exposure / Occupational**

Test Date(s)			April 02, 2007		April 04, 2007		Test Date	Apr 2	Apr 4	Unit
Dielectric Constant ε_r	Fluid Type		450 MHz Body		450 MHz Body		Relative Humidity	33	33	%
	IEEE Target		Measured	Deviation	Measured	Deviation	Atmospheric Pressure	101.9	101.9	kPa
	56.7	± 5%	57.6	+1.6%	57.3	+1.1%	Ambient Temperature	22.5	23.1	°C
Conductivity σ (mho/m)	Fluid Type		450 MHz Body		450 MHz Body		Fluid Temperature	22.0	20.5	°C
	IEEE Target		Measured	Deviation	Measured	Deviation	Fluid Depth	≥ 15	≥ 15	cm
	0.94	± 5%	0.92	-2.1%	0.90	-4.3%	ρ (Kg/m^3)	1000		

Note(s)

1. The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
2. If the scaled SAR levels evaluated at the mid channel (50% duty cycle) were ≥ 3 dB below the SAR limit, SAR evaluation for the low and high channels was optional per FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3]).
3. The power drifts measured by the DASY4 system for the duration of the SAR evaluations were <5% from the start power.
4. Secondary peak SAR levels measured within 2 dB of the primary were reported (P = Primary, S = Secondary).
5. The area scan evaluation was performed with a fully charged battery. After the area scan evaluation was completed the battery was replaced with a fully charged battery prior to the zoom scan evaluation.
6. The fluid temperature was measured prior to and after the SAR evaluations to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.
7. The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C).
8. SAR measurements were performed within 24 hours of the system performance check.

SAR MEASUREMENT SUMMARY (Cont.)

BODY-WORN SAR EVALUATION RESULTS

Test Date	Freq. MHz	Chan.	Test Mode	Device Tested	Antenna Part No.	Battery Type	DUT Position to Planar Phantom	DUT Spacing to Planar Phantom cm	Cond. Power Before Test Watts	SAR Drift During Test dB	Measured SAR 1g (W/kg) Duty Cycle		
												100%	50%
Radio with Metal Belt-Clip (P/N: CC23894) & Speaker-Microphone (P/N: MC-023933-001) Accessories													
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd NIS	Back Side	1.1	4.2	0.0278		**8.49**	**4.25**
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd IS	Back Side	1.1	4.2	-0.107	P	8.10	4.05
											S	7.85	3.93
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiMH NIS	Back Side	1.1	4.2	-0.0620		8.24	4.12
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiMH IS	Back Side	1.1	4.2	-0.0476	P	8.31	4.16
											S	8.05	4.03
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	Li-ion NIS	Back Side	1.1	4.2	-0.0332		7.72	3.86
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	Li-ion IS	Back Side	1.1	4.2	-0.0298	P	7.15	3.58
											S	7.15	3.58
Apr 4	378.025	Low	CW	Scan Radio	KRE 101 1223/10	NiCd NIS	Back Side	1.1	4.2	-0.0587		7.52	3.76
Apr 4	429.975	High	CW	System Radio	KRE 101 1223/10	NiCd NIS	Back Side	1.1	4.2	-0.0534		6.18	3.09
Speaker-Microphone Antenna Version with Lapel Clip & Earphone (P/N: LS103239V1) Accessory													
Apr 4	404.000	Mid	CW	Speaker-Mic with Antenna	KRE 101 1223/10	NiCd NIS	Back Side	1.5	4.2	-0.0240	P	1.26	0.630
											S	1.14	0.570

ANSI / IEEE C95.1:2005 - SAFETY LIMIT | **BODY: 8.0 W/kg (averaged over 1 gram)** | **Spatial Peak - Controlled Exposure / Occupational**

Test Date(s)			April 02, 2007		April 04, 2007		Test Date	Apr 2	Apr 4	Unit
Dielectric Constant ε_r	Fluid Type		450 MHz Body		450 MHz Body		Relative Humidity	33	33	%
	IEEE Target		Measured	Deviation	Measured	Deviation	Atmospheric Pressure	101.9	101.9	kPa
	56.7	± 5%	57.6	+1.6%	57.3	+1.1%	Ambient Temperature	22.5	23.1	°C
Conductivity σ (mho/m)	Fluid Type		450 MHz Body		450 MHz Body		Fluid Temperature	22.0	20.5	°C
	IEEE Target		Measured	Deviation	Measured	Deviation	Fluid Depth	≥ 15	≥ 15	cm
	0.94	± 5%	0.92	-2.1%	0.90	-4.3%	ρ (Kg/m^3)	1000		

Note(s)		
	1.	The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
	2.	If the scaled SAR levels evaluated at the mid channel (50% duty cycle) were ≥ 3 dB below the SAR limit, SAR evaluation for the low and high channels was optional per FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3]).
	3.	The power drifts measured by the DASY4 system for the duration of the SAR evaluations were <5% from the start power.
	4.	Secondary peak SAR levels measured within 2 dB of the primary were reported (P = Primary, S = Secondary).
	5.	The area scan evaluation was performed with a fully charged battery. After the area scan evaluation was completed the battery was replaced with a fully charged battery prior to the zoom scan evaluation.
	6.	The fluid temperature was measured prior to and after the SAR evaluations to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.
	7.	The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C).
	8.	SAR measurements were performed within 24 hours of the system performance check.

SAR MEASUREMENT SUMMARY (Cont.)

BODY-WORN SAR EVALUATION RESULTS

Test Date	Freq. MHz	Chan.	Test Mode	Device Tested	Antenna Part No.	Battery Type	DUT Position to Planar Phantom	DUT Spacing to Planar Phantom cm	Cond. Power Before Test Watts	SAR Drift During Test dB	Measured SAR 1g (W/kg) Duty Cycle 100%	Duty Cycle 50%
Radio with Leather Case Kit 1 (P/N: CC-023931-003) & Speaker-Microphone (P/N: MC-023933-001) Accessories												
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd NIS	Back Side	4.0	4.2	-0.127	3.03	1.52
Radio with Leather Case Kit 2 (P/N: CC-023931-004) & Speaker-Microphone (P/N: MC-023933-001) Accessories												
Apr 2	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd NIS	Back Side	4.0	4.2	-0.0142	2.63	1.32
Radio with Leather Case 3 (P/N: CC-023931-002) & Speaker-Microphone (P/N: MC-023933-001) Accessories												
Apr 3	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd NIS	Back Side	2.5	4.2	-0.0692	P 4.70	2.35
											S 4.75	2.38
Radio with Leather Belt Loop (P/N: KRY 101 1609/1) & Speaker-Microphone (P/N: MC-023933-001) Accessories												
Apr 3	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd NIS	Back Side	3.0	4.2	-0.0643	5.09	2.55
Radio with Nylon Case (P/N: CC-023932-001), Belt Loop (KRY 101 1609/1) & Speaker-Microphone (P/N: MC-023933-001) Accessories												
Apr 3	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd NIS	Back Side	3.5	4.2	-0.0529	2.58	1.29
Radio with Nylon "T" Strap Holder (P/N: KRY 101 1656/1) & Speaker-Microphone (P/N: MC-023933-001) Accessories												
Apr 3	404.000	Mid	CW	Scan Radio	KRE 101 1223/10	NiCd NIS	Back Side	2.0	4.2	-0.0447	5.19	2.60

ANSI / IEEE C95.1:2005 - SAFETY LIMIT | **BODY: 8.0 W/kg (averaged over 1 gram)** | **Spatial Peak - Controlled Exposure / Occupational**

Test Date(s)			April 02, 2007		April 03, 2007		Test Date	Apr 2	Apr 3	Unit
Dielectric Constant ε_r	Fluid Type		450 MHz Body		450 MHz Body		Relative Humidity	101.9	32	%
	IEEE Target		Measured	Deviation	Measured	Deviation	Atmospheric Pressure	33	101.6	kPa
	56.7	± 5%	57.6	+1.6%	56.4	-0.5%	Ambient Temperature	22.5	23.8	°C
Conductivity σ (mho/m)	Fluid Type		450 MHz Body		450 MHz Body		Fluid Temperature	22.0	21.3	°C
	IEEE Target		Measured	Deviation	Measured	Deviation	Fluid Depth	≥ 15	≥ 15	cm
	0.94	± 5%	0.92	-2.1%	0.90	-4.3%	ρ (Kg/m^3)	1000		

Note(s)

1. The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
2. If the scaled SAR levels evaluated at the mid channel (50% duty cycle) were ≥ 3 dB below the SAR limit, SAR evaluation for the low and high channels was optional per FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3]).
3. The power drifts measured by the DASY4 system for the duration of the SAR evaluations were <5% from the start power.
4. Secondary peak SAR levels measured within 2 dB of the primary were reported (P = Primary, S = Secondary).
5. The area scan evaluation was performed with a fully charged battery. After the area scan evaluation was completed the battery was replaced with a fully charged battery prior to the zoom scan evaluation.
6. The fluid temperature was measured prior to and after the SAR evaluations to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.
7. The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C).
8. SAR measurements were performed within 24 hours of the system performance check.

5.0 DETAILS OF SAR EVALUATION

The M/A-COM Model: P5400 Portable Analog/Digital UHF-L PTT Radio Transceiver described in this report was compliant for localized Specific Absorption Rate (Occupational / Controlled Exposure) based on the test provisions and conditions described below. Detailed photographs of the test setup are shown in Appendix D.

Face-Held Configuration

1. The Radio was tested in a face-held configuration with the front of the radio placed parallel to the outer surface of the planar phantom. A spacing of 2.5 cm was maintained between the front side of the Radio and the outer surface of the planar phantom.
2. The Speaker-Microphone Antenna Version (P/N: MC-023933-002) was connected to the Radio and tested in a face-held configuration with the front of the speaker-microphone placed parallel to the outer surface of the planar phantom with a spacing of 2.5 cm.

Body-Worn Configuration

3. The Speaker-Microphone Antenna Version (P/N: MC-023933-002) was connected to the Radio and tested in a body-worn configuration with the back of the speaker-microphone placed parallel to the outer surface of the planar phantom. The speaker-microphone Lapel Clip was touching the outer surface of the planar phantom and provided a 1.5 cm spacing between the back of the speaker-microphone and the outer surface of the planar phantom. The evaluation was performed with the Earphone audio accessory (P/N: LS103239V1) connected to the Speaker-Mic.
4. The Radio was tested in a body-worn configuration with the back side placed parallel to the outer surface of the planar phantom. The attached Metal Belt-Clip (P/N: CC23894) was touching the planar phantom and provided a 1.1 cm spacing between the back of the Radio and the planar phantom. The evaluation was performed with the Speaker-Microphone (non-antenna version) audio accessory (P/N: MC-023933-001) connected to the Radio.
5. The Radio was tested in a body-worn configuration with the Leather Case Kit 1 (P/N: CC-023931-003). The Radio was placed inside the Leather Case (P/N: CC-023931-001) with the Belt Loop (P/N: KRY 101 1609/1) attached to the Swivel Mount (P/N: KRY 101 1608/2) and the back of the Radio facing parallel to the outer surface of the planar phantom. The back side of the Belt Loop (P/N: KRY 101 1609/1) was touching the planar phantom and provided a 4.0 cm spacing between the back of the Radio and the planar phantom. The evaluation was performed with the Speaker-Microphone (non-antenna version) audio accessory (P/N: MC-023933-001) connected to the Radio.
6. The Radio was tested in a body-worn configuration with the Leather Case Kit 2 (P/N: CC-023931-004). The Radio was placed inside the Leather Case (P/N: CC-023931-002) with the Belt Loop (P/N: KRY 101 1609/1) attached to the Swivel Mount (P/N: KRY 101 1608/2) and the back of the Radio facing parallel to the outer surface of the planar phantom. The back side of the Belt Loop (P/N: KRY 101 1609/1) was touching the planar phantom and provided a 4.0 cm spacing between the back of the Radio and the planar phantom. The evaluation was performed with the Speaker-Microphone (non-antenna version) audio accessory (P/N: MC-023933-001) connected to the Radio.
7. The Radio was tested in a body-worn configuration placed inside Leather Case 3 (P/N: CC-023931-002), which provided a 2.5 cm spacing between the back of the Radio and the outer surface of the planar phantom. The Shoulder Strap (P/N: CC103333V1) was attached to the Leather Case and the evaluation was performed with the Speaker-Microphone (non-antenna version) audio accessory (P/N: MC-023933-001) connected to the Radio.
8. The Radio was tested in a body-worn configuration with the Belt Loop (P/N: KRY 101 1609/1) attached to the Swivel Mount (P/N: KRY 101 1608/2) on the back of the Radio. The back side of the Belt Loop was touching the outer surface of the planar phantom and provided a 3.0 cm spacing between the back of the Radio and the planar phantom. The evaluation was performed with the Speaker-Microphone (non-antenna version) audio accessory (P/N: MC-023933-001) connected to the Radio.
9. The Radio was tested in a body-worn configuration placed inside the Nylon Case (P/N: CC-023932-001) with Belt Loop (P/N: KRY 101 1609/1) attached to the Nylon Case. The back side of the Belt Loop (P/N: KRY 101 1609/1) was touching the outer surface of the planar phantom and provided a 3.5 cm spacing between the back of the Radio and the planar phantom. The evaluation was performed with the Speaker-Microphone (non-antenna version) audio accessory (P/N: MC-023933-001) connected to the Radio.
10. The Radio was tested in a body-worn configuration with the Nylon “T” Strap Holder (P/N: KRY 101 1656/1) attached to the Radio facing parallel to and touching the outer surface of the planar phantom. The Nylon “T” Strap Holder provided a 2.0 cm spacing between the back of the Radio and the planar phantom. The evaluation was performed with the Speaker-Microphone (non-antenna version) audio accessory (P/N: MC-023933-001) connected to the Radio.
11. The body-worn SAR evaluations were performed with the System and Scan Radios to show comparisons between the two radios.

DETAILS OF SAR EVALUATION (Cont.)

Power Setting(s)

12. The DUT was configured to maximum power setting prior to the SAR evaluations by the manufacturer.
13. The conducted power levels were measured prior to the SAR evaluations with a Gigatronics 8652A Universal Power Meter according to the procedures described in FCC 47 CFR §2.1046.
14. The area scan evaluation was performed with a fully charged battery. After the area scan evaluation was completed the battery was replaced with a fully charged battery prior to the zoom scan evaluation.
15. The power drift of the DUT during the SAR evaluations was measured by the DASY4 system.

Test Mode(s)

16. The DUT was configured to Analog FM modulation prior to the SAR evaluations by the manufacturer.
17. The DUT was tested in unmodulated continuous transmit operation (Continuous Wave mode at 100% duty cycle) with the transmit key constantly depressed. For a push-to-talk device the 50% duty cycle compensation reported assumes a transmit/receive cycle of equal time base.

Test Conditions

18. The fluid temperature was measured prior to and after the SAR evaluations to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.
19. The dielectric parameters of the simulated tissue mixtures were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C).
20. SAR measurements were performed within 24 hours of the system performance check.

6.0 EVALUATION PROCEDURES

a. (i) The evaluation was performed in the applicable area of the phantom depending on the type of device being tested. For devices held to the ear during normal operation, both the left and right ear positions were evaluated using the SAM phantom.
(ii) For body-worn and face-held devices a planar phantom was used.

b. The SAR was determined by a pre-defined procedure within the DASY4 software. Upon completion of a reference and optical surface check, the exposed region of the phantom was scanned near the inner surface with a grid spacing of 15mm x 15mm.

An area scan was determined as follows:

c. Based on the defined area scan grid, a more detailed grid is created to increase the points by a factor of 10. The interpolation function then evaluates all field values between corresponding measurement points.

d. A linear search is applied to find all the candidate maxima. Subsequently, all maxima are removed that are >2 dB from the global maximum. The remaining maxima are then used to position the cube scans.

A 1 g and 10 g spatial peak SAR was determined as follows:

e. Extrapolation is used to find the points between the dipole center of the probe and the surface of the phantom. This data cannot be measured, since the center of the dipoles is 2.7 mm away form the tip of the probe and the distance between the surface and the lowest measuring point is 1.4 mm (see probe calibration document in Appendix F). The extrapolation was based on trivariate quadratics computed from the previously calculated 3D interpolated points nearest the phantom surface.

f. Interpolated data is used to calculate the average SAR over 1 g and 10 g cubes by spatially discretizing the entire measured cube. The volume used to determine the averaged SAR is a 1mm grid (42875 interpolated points).

g. A zoom scan volume of 32 mm x 32 mm x 30 mm (5 x 5 x 7 points) centered at the peak SAR location determined from the area scan is used for all zoom scans for devices with a transmit frequency < 800 MHz. Depending on the device type under evaluation, zoom scans for frequencies ≥ 800 MHz are typically determined with a scan volume of 30 mm x 30 mm x 30 mm (7 x 7 x 7) to ensure complete capture of the peak spatial-average SAR.

7.0 SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluations, system checks were performed using a Plexiglas planar phantom and 450MHz dipole (see Appendix E for system validation procedures). The dielectric parameters of the simulated tissue mixture were measured prior to the system performance checks using an ALS-PR-DIEL Dielectric Probe Kit and HP 8753ET Network Analyzer (see Appendix C for measured fluid dielectric parameters). A forward power of 250 mW was applied to the dipole and the system was verified to a tolerance of ±10% (see Appendix B for system performance check test plots).

SYSTEM PERFORMANCE CHECK EVALUATIONS

Test Date	Equiv. Tissue	SAR 1g (W/kg)			Dielectric Constant ε_r			Conductivity σ (mho/m)			ρ (Kg/m^3)	Amb. Temp. (°C)	Fluid Temp. (°C)	Fluid Depth (cm)	Humid. (%)	Barom. Press. (kPa)
	450 MHz	IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.						
Apr 2	Brain	1.23 ±10%	1.22	-0.8%	43.5 ±5%	43.5	0.0%	0.87 ±5%	0.84	-3.4%	1000	22.4	21.3	≥ 15	31	101.9
Apr 3	Brain	1.23 ±10%	1.32	+7.3%	43.5 ±5%	44.9	+3.2%	0.87 ±5%	0.90	+3.4%	1000	23.8	21.9	≥ 15	31	101.6
Apr 4	Brain	1.23 ±10%	1.30	+5.7%	43.5 ±5%	44.4	+2.1%	0.87 ±5%	0.88	+1.1%	1000	22.5	22.0	≥ 15	33	101.9
Note(s)		1. The fluid temperature was measured prior to and after the system performance checks to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.														
		2. The SAR evaluations were performed within 24 hours of the system performance checks.														

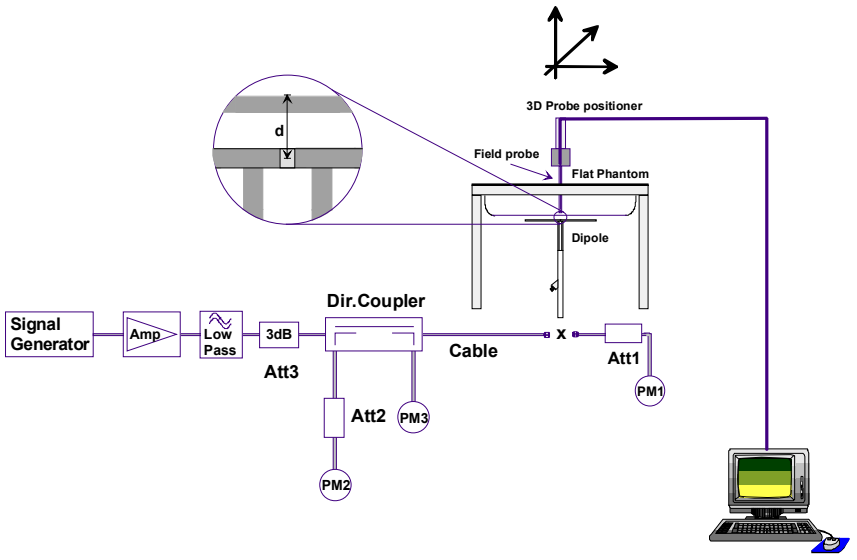
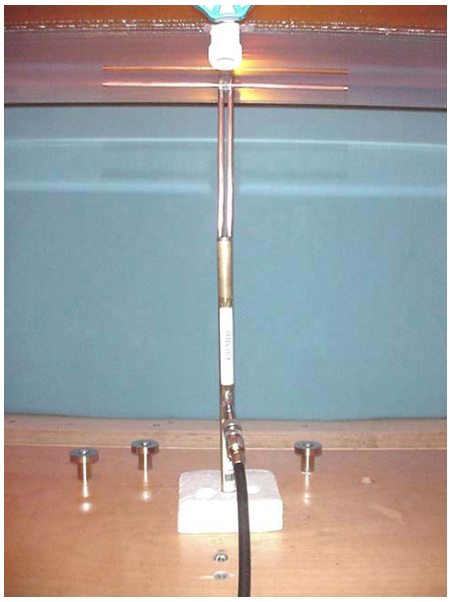


Figure 1. System Performance Check Setup Diagram



450MHz Dipole Setup

8.0 SIMULATED EQUIVALENT TISSUES

The simulated tissue mixtures consisted of a viscous gel using hydroxethylcellulose (HEC) gelling agent and saline solution. Preservation with a bactericide was added and visual inspection made to ensure air bubbles were not trapped during the mixing process. The fluid was prepared according to standardized procedures and measured for dielectric parameters (permittivity and conductivity).

SIMULATED TISSUE MIXTURES		
INGREDIENT	**450 MHz Brain**	**450 MHz Body**
	System Check & DUT Evaluation	DUT Evaluation
Water	38.56 %	52.00 %
Sugar	56.32 %	45.65 %
Salt	3.95 %	1.75 %
HEC	0.98 %	0.50 %
Bactericide	0.19 %	0.10 %

9.0 SAR SAFETY LIMITS

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	1.60	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0
The Spatial Average value of the SAR averaged over the whole body.		
The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.		
The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.		
Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.		
Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.		

10.0 ROBOT SYSTEM SPECIFICATIONS

Specifications	
Positioner	Stäubli Unimation Corp. Robot Model: RX60L
Repeatability	0.02 mm
No. of axis	6
Data Acquisition Electronic (DAE) System	
Cell Controller	
Processor	AMD Athlon XP 2400+
Clock Speed	2.0 GHz
Operating System	Windows XP Professional
Data Converter	
Features	Signal Amplifier, multiplexer, A/D converter, and control logic
Software	Measurement Software: DASY4, V4.7 Build 44
	Postprocessing Software: SEMCAD, V1.8 Build 171
Connecting Lines	Optical downlink for data and status info.; Optical uplink for commands and clock
DASY4 Measurement Server	
Function	Real-time data evaluation for field measurements and surface detection
Hardware	PC/104 166MHz Pentium CPU; 32 MB chipdisk; 64 MB RAM
Connections	COM1, COM2, DAE, Robot, Ethernet, Service Interface
E-Field Probe	
Model	ET3DV6
Serial No.	1387
Construction	Triangular core fiber optic detection system
Frequency	10 MHz to 6 GHz
Linearity	±0.2 dB (30 MHz to 3 GHz)
Phantom(s)	
Evaluation Phantom	
Type:	Side Planar Phantom
Shell Material:	Plexiglas
Bottom Thickness:	2.0 mm ± 0.1 mm
Outer Dimensions:	75.0 cm (L) x 22.5 cm (W) x 20.5 cm (H); Back Plane: 25.7 cm (H)
Validation Phantom (≤ 450MHz)	
Type	Planar Phantom
Shell Material	Plexiglas
Bottom Thickness	6.2 mm ± 0.1 mm
Outer Dimensions	86.0 cm (L) x 39.5 cm (W) x 21.8 cm (H)

11.0 PROBE SPECIFICATION (ET3DV6)

Construction:	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, glycol)
Calibration:	In air from 10 MHz to 2.5 GHz In brain simulating tissue at frequencies of 900 MHz and 1.8 GHz (accuracy ± 8%)
Frequency:	10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 3 GHz)
Directivity:	± 0.2 dB in brain tissue (rotation around probe axis) ± 0.4 dB in brain tissue (rotation normal to probe axis)
Dynamic Range:	5 μW/g to > 100 mW/g; Linearity: ± 0.2 dB
Surface Detect:	± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Dimensions:	Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm
Application:	General dosimetry up to 3 GHz Compliance tests of mobile phone

ET3DV6 E-Field Probe

12.0 SIDE PLANAR PHANTOM

The side planar phantom is constructed of Plexiglas material with a 2.0 mm shell thickness for face-held and body-worn SAR evaluations of portable radio transceivers. The side planar phantom is mounted on the side of the DASY4 compact system table.

Plexiglas Side Planar Phantom

13.0 VALIDATION PLANAR PHANTOM

The validation planar phantom is constructed of Plexiglas material with a 6.0 mm shell thickness for system validations at 450 MHz and below. The validation planar phantom is mounted to the table of the DASY4 compact system.

Plexiglas Validation Phantom

14.0 DEVICE HOLDER

The DASY4 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections.

Device Holder

15.0 TEST EQUIPMENT LIST

TEST EQUIPMENT		ASSET NO.	SERIAL NO.	DATE CALIBRATED		CALIBRATION DUE DATE
USED	DESCRIPTION					
x	Schmid & Partner DASY4 System	-	-	-		-
x	-DASY4 Measurement Server	00158	1078	N/A		N/A
x	-Robot	00046	599396-01	N/A		N/A
x	-DAE4	00019	353	21Jun06		21Jun07
	-DAE3	00018	370	13Mar07		13Mar08
x	-ET3DV6 E-Field Probe	00016	1387	16Mar07		16Mar08
	-EX3DV4 E-Field Probe	00213	3600	24Jan07		24Jan08
	-300 MHz Validation Dipole	00023	135	23Oct06		23Oct07
x	-450 MHz Validation Dipole	00024	136	23Mar07		23Mar08
	-835 MHz Validation Dipole	00022	411	**Body**	26Mar07	26Mar08
	-900 MHz Validation Dipole	00020	054	**Brain**	28Mar07	28Mar08
				Body	30Mar07	30Mar08
	-1640 MHz Validation Dipole	00212	0175	**Brain**	14Aug06	14Aug07
	-1800 MHz Validation Dipole	00021	247	**Brain**	08Jun06	08Jun07
				Body	21Mar07	21Mar08
	-1900 MHz Validation Dipole	00032	151	**Brain**	20Mar07	20Mar08
				Body	02Feb07	02Feb08
	-2450 MHz Validation Dipole	00025	150	**Body**	15Mar07	15Mar08
	5 GHz Validation Dipole -5200 MHz	00126	1031	**Body**	18Jul06	18Jul07
	5 GHz Validation Dipole -5500 MHz			**Body**	14Nov06	14Nov07
	5 GHz Validation Dipole -5800 MHz			**Brain**	27Feb07	27Feb08
				Body	18Jul06	18Jul07
	-SAM Phantom V4.0C	00154	1033	N/A		N/A
	-Barski Planar Phantom	00155	03-01	N/A		N/A
x	-Plexiglas Side Planar Phantom	00156	161	N/A		N/A
x	-Plexiglas Validation Planar Phantom	00157	137	N/A		N/A
x	ALS-PR-DIEL Dielectric Probe Kit	00160	260-00953	N/A		N/A
x	Gigatronics 8652A Power Meter	00110	1835801	12Apr06		12Apr07
	Gigatronics 8652A Power Meter	00007	1835272	26Mar07		26Mar08
	Gigatronics 8652A Power Meter	00008	1835267	22Jan07		22Jan08
x	Gigatronics 80701A Power Sensor	00012	1834350	22Jan07		22Jan08
	Gigatronics 80701A Power Sensor	00013	1833713	26Mar07		26Mar08
	Gigatronics 80701A Power Sensor	00014	1833699	22Jan07		22Jan08
	Gigatronics 80701A Power Sensor	00109	1834366	26Mar07		26Mar08
x	HP 8753ET Network Analyzer	00134	US39170292	18Apr06		18Apr07
x	HP 8648D Signal Generator	00005	3847A00611	NCR		NCR
	Rohde & Schwarz SMR20 Signal Generator	00006	100104	NCR		NCR
x	Amplifier Research 5S1G4 Power Amplifier	00106	26235	NCR		NCR
	HP E4408B Spectrum Analyzer	00015	US39240170	05Feb07		05Feb08
	Anritsu Radio Communication Analyzer	00208	6200241241	06Jun06		06Jun07

16.0 MEASUREMENT UNCERTAINTIES

UNCERTAINTY BUDGET FOR DEVICE EVALUATION						
Error Description	**Uncertainty Value ±%**	**Probability Distribution**	**Divisor**	**ci 1g**	**Uncertainty Value ±% (1g)**	**V_i or V_{eff}**
Measurement System						
Probe calibration (450 MHz)	8.0	Normal	1	1	8.0	∞
Axial isotropy of the probe	4.7	Rectangular	1.732050808	0.7	1.9	∞
Spherical isotropy of the probe	9.6	Rectangular	1.732050808	0.7	3.9	∞
Spatial resolution	0	Rectangular	1.732050808	1	0.0	∞
Boundary effects	1	Rectangular	1.732050808	1	0.6	∞
Probe linearity	4.7	Rectangular	1.732050808	1	2.7	∞
Detection limit	1	Rectangular	1.732050808	1	0.6	∞
Readout electronics	0.3	Normal	1	1	0.3	∞
Response time	0.8	Rectangular	1.732050808	1	0.5	∞
Integration time	2.6	Rectangular	1.732050808	1	1.5	∞
RF ambient conditions	3	Rectangular	1.732050808	1	1.7	∞
Mech. constraints of robot	0.4	Rectangular	1.732050808	1	0.2	∞
Probe positioning	2.9	Rectangular	1.732050808	1	1.7	∞
Extrapolation & integration	1	Rectangular	1.732050808	1	0.6	∞
Test Sample Related						
Device positioning	2.9	Normal	1	1	2.9	12
Device holder uncertainty	3.6	Normal	1	1	3.6	8
Power drift	5	Rectangular	1.732050808	1	2.9	∞
Phantom and Setup						
Phantom uncertainty	4	Rectangular	1.732050808	1	2.3	∞
Liquid conductivity (target)	5	Rectangular	1.732050808	0.64	1.8	∞
Liquid conductivity (measured)	5	Normal	1	0.64	3.2	∞
Liquid permittivity (target)	5	Rectangular	1.732050808	0.6	1.7	∞
Liquid permittivity (measured)	5	Normal	1	0.6	3.0	∞
Combined Standard Uncertainty					**12.65**	
Expanded Uncertainty (k=2)					**25.31**	

Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003 (see reference [5])

MEASUREMENT UNCERTAINTIES (Cont.)

UNCERTAINTY BUDGET FOR SYSTEM VALIDATION						
Error Description	**Uncertainty Value ±%**	**Probability Distribution**	**Divisor**	**ci 1g**	**Uncertainty Value ±% (1g)**	**V_i or V_{eff}**
Measurement System						
Probe calibration (450 MHz)	8.0	Normal	1	1	8.0	∞
Axial isotropy of the probe	4.7	Rectangular	1.732050808	1	2.7	∞
Spherical isotropy of the probe	0	Rectangular	1.732050808	1	0.0	∞
Spatial resolution	0	Rectangular	1.732050808	1	0.0	∞
Boundary effects	1	Rectangular	1.732050808	1	0.6	∞
Probe linearity	4.7	Rectangular	1.732050808	1	2.7	∞
Detection limit	1	Rectangular	1.732050808	1	0.6	∞
Readout electronics	0.3	Normal	1	1	0.3	∞
Response time	0	Rectangular	1.732050808	1	0.0	∞
Integration time	0	Rectangular	1.732050808	1	0.0	∞
RF ambient conditions	3	Rectangular	1.732050808	1	1.7	∞
Mech. constraints of robot	0.4	Rectangular	1.732050808	1	0.2	∞
Probe positioning	2.9	Rectangular	1.732050808	1	1.7	∞
Extrapolation & integration	1	Rectangular	1.732050808	1	0.6	∞
Test Sample Related						
Dipole Positioning	2	Normal	1.732050808	1	1.2	∞
Power & Power Drift	4.7	Normal	1.732050808	1	2.7	∞
Phantom and Setup						
Phantom uncertainty	4	Rectangular	1.732050808	1	2.3	∞
Liquid conductivity (target)	5	Rectangular	1.732050808	0.64	1.8	∞
Liquid conductivity (measured)	5	Normal	1	0.64	3.2	∞
Liquid permittivity (target)	5	Rectangular	1.732050808	0.6	1.7	∞
Liquid permittivity (measured)	5	Normal	1	0.6	3.0	∞
Combined Standard Uncertainty					**11.20**	
Expanded Uncertainty (k=2)					**22.39**	

Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003 (see reference [5])

17.0 REFERENCES

[1] Federal Communications Commission, “Radiofrequency radiation exposure evaluation: portable devices”, Rule Part 47 CFR §2.1093: 1999.

[2] Health Canada, “Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz”, Safety Code 6: 1999.

[3] Federal Communications Commission, “Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields”, OET Bulletin 65, Supplement C (Edition 01-01), FCC, Washington, D.C.: June 2001.

[4] Industry Canada, “Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)”, Radio Standards Specification RSS-102 Issue 2: November 2005.

[5] IEEE Standard 1528-2003, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”: December 2003.

[6] ANSI/IEEE C95.1-2005 - “American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3 kHz to 300 GHz”, New York: IEEE, April 2006.

APPENDIX A - SAR MEASUREMENT DATA

Date Tested: 04/04/2007

Face-Held SAR - NiCd NIS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

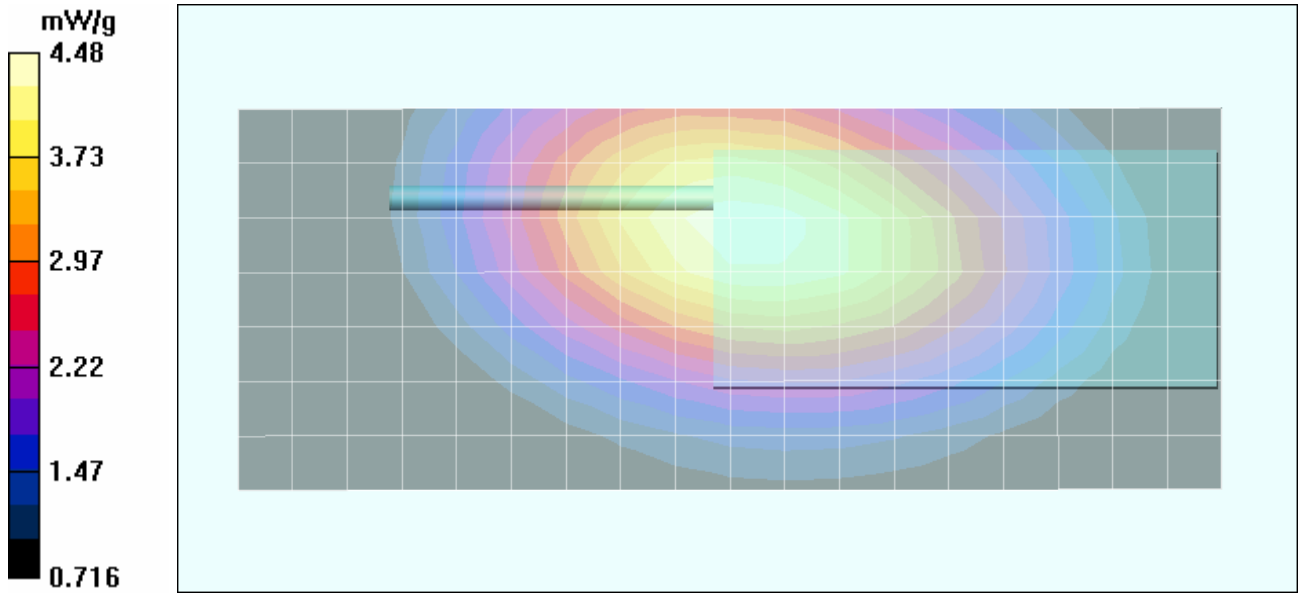
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.88 mho/m; ε_r = 44.4; ρ = 1000 kg/m^3

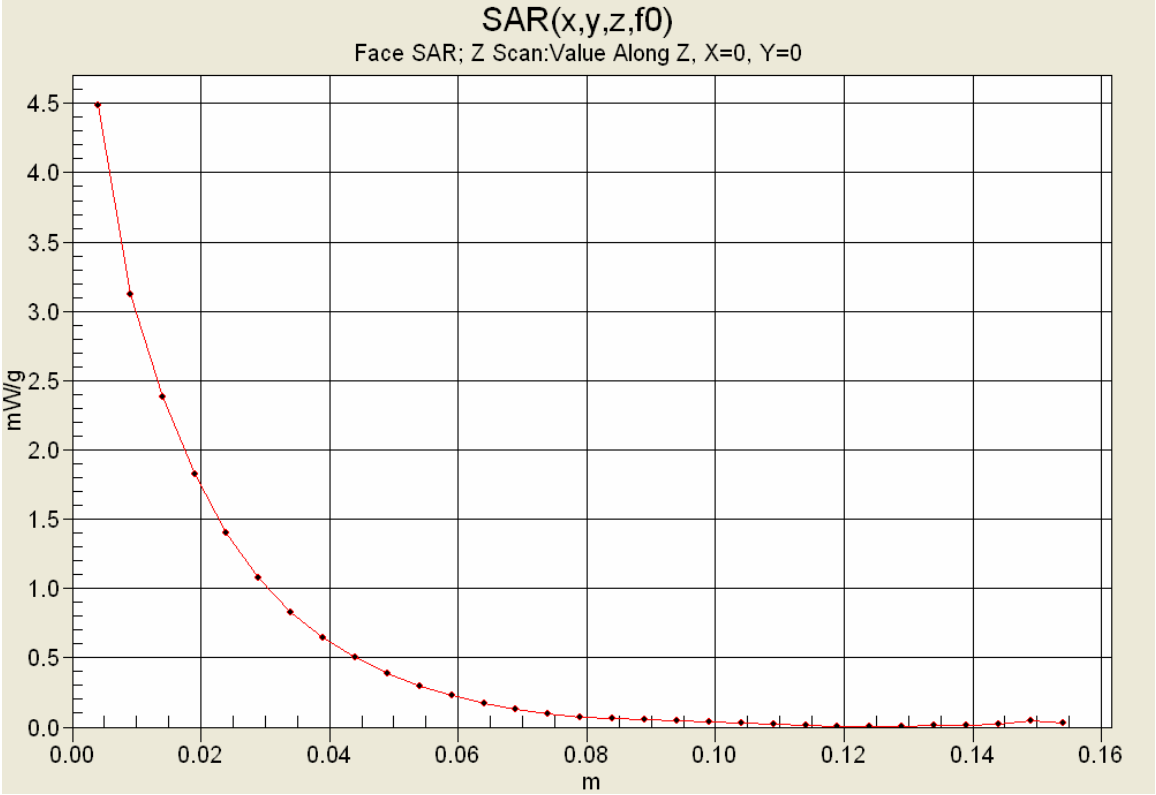
- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 69.6 V/m; Power Drift = -0.0169 dB
Peak SAR (extrapolated) = 6.59 W/kg
SAR(1 g) = 4.30 mW/g; SAR(10 g) = 3.1 mW/g
Maximum value of SAR (measured) = 4.48 mW/g



Z-Axis Scan



Date Tested: 04/04/2007

Face-Held SAR - NiCd IS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

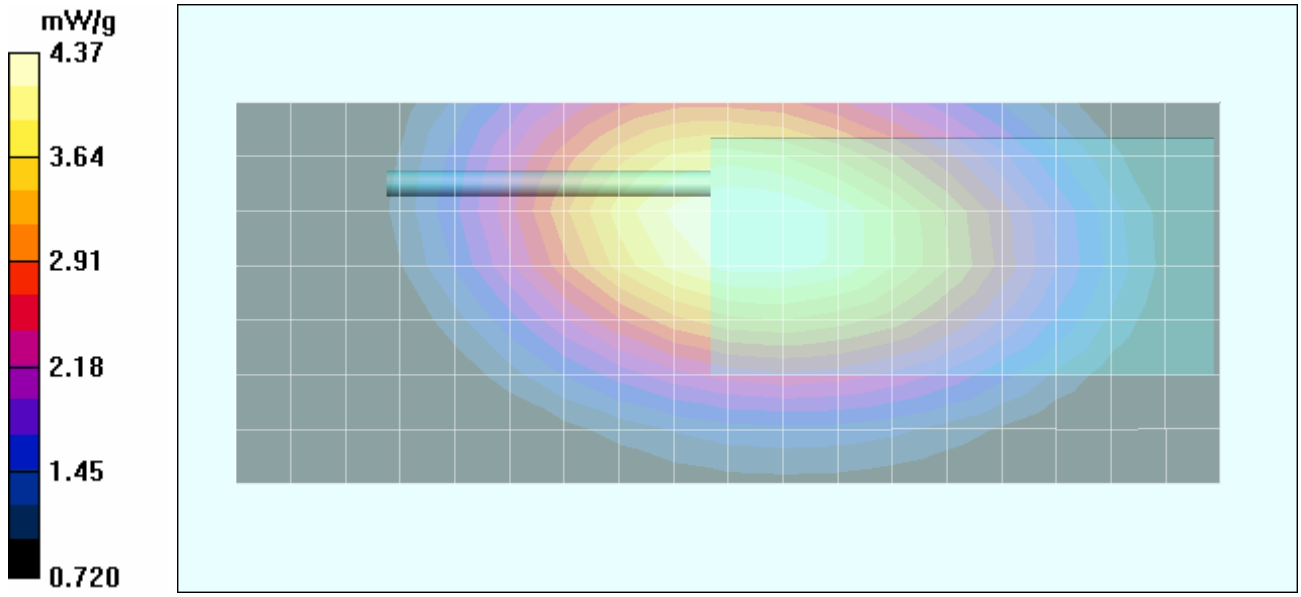
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, IS (P/N: BT-023406-002)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.88 mho/m; ε_r = 44.4; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 69.2 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 6.36 W/kg
SAR(1 g) = 4.18 mW/g; SAR(10 g) = 3.02 mW/g
Maximum value of SAR (measured) = 4.37 mW/g



Date Tested: 04/05/2007

Face-Held SAR - NiMH NIS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

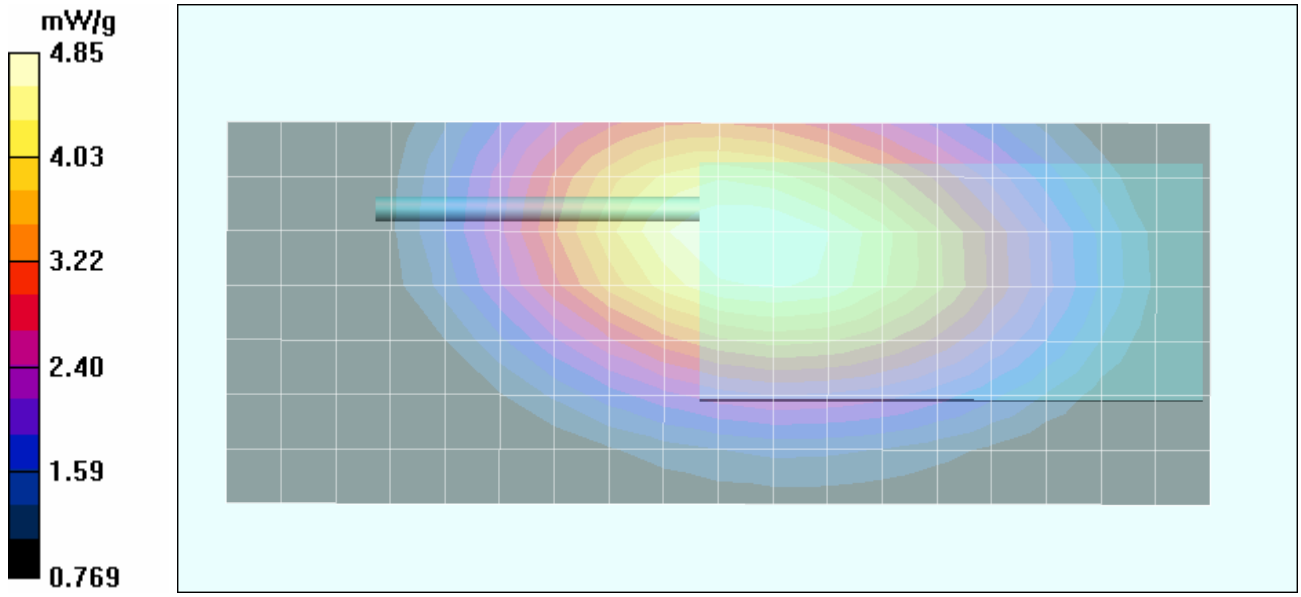
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, non-IS (P/N: BT-023406-003)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 71.6 V/m; Power Drift = -0.0724 dB
Peak SAR (extrapolated) = 7.14 W/kg
SAR(1 g) = 4.66 mW/g; SAR(10 g) = 3.37 mW/g
Maximum value of SAR (measured) = 4.85 mW/g



Date Tested: 04/05/2007

Face-Held SAR - NiMH IS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

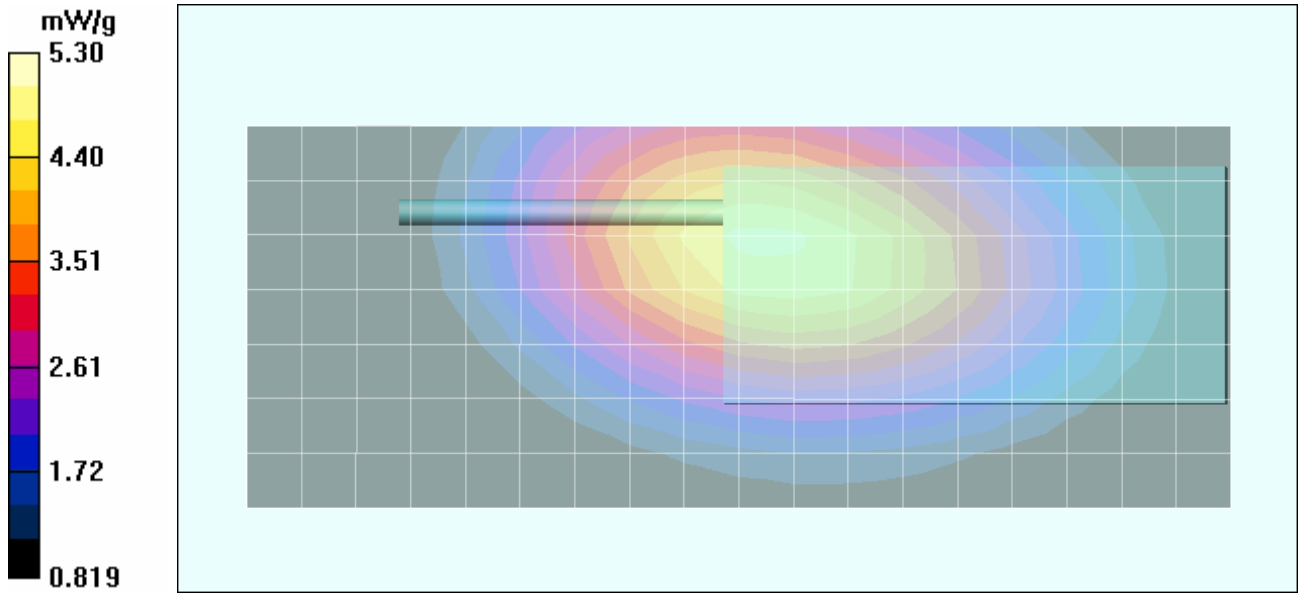
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, IS (P/N: BT-023406-004)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

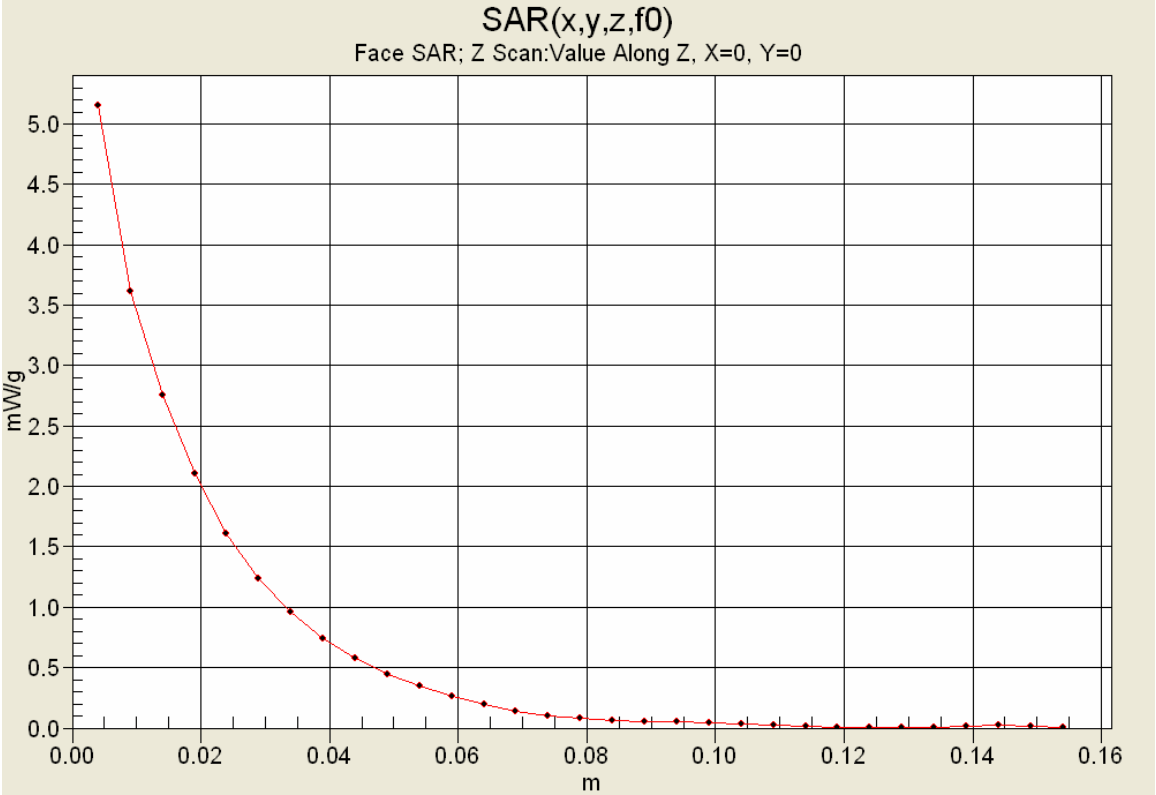
- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 75.3 V/m; Power Drift = -0.0733 dB
Peak SAR (extrapolated) = 7.77 W/kg
SAR(1 g) = 5.09 mW/g; SAR(10 g) = 3.67 mW/g
Maximum value of SAR (measured) = 5.30 mW/g



Z-Axis Scan



Date Tested: 04/05/2007

Face-Held SAR - Li-ion NIS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

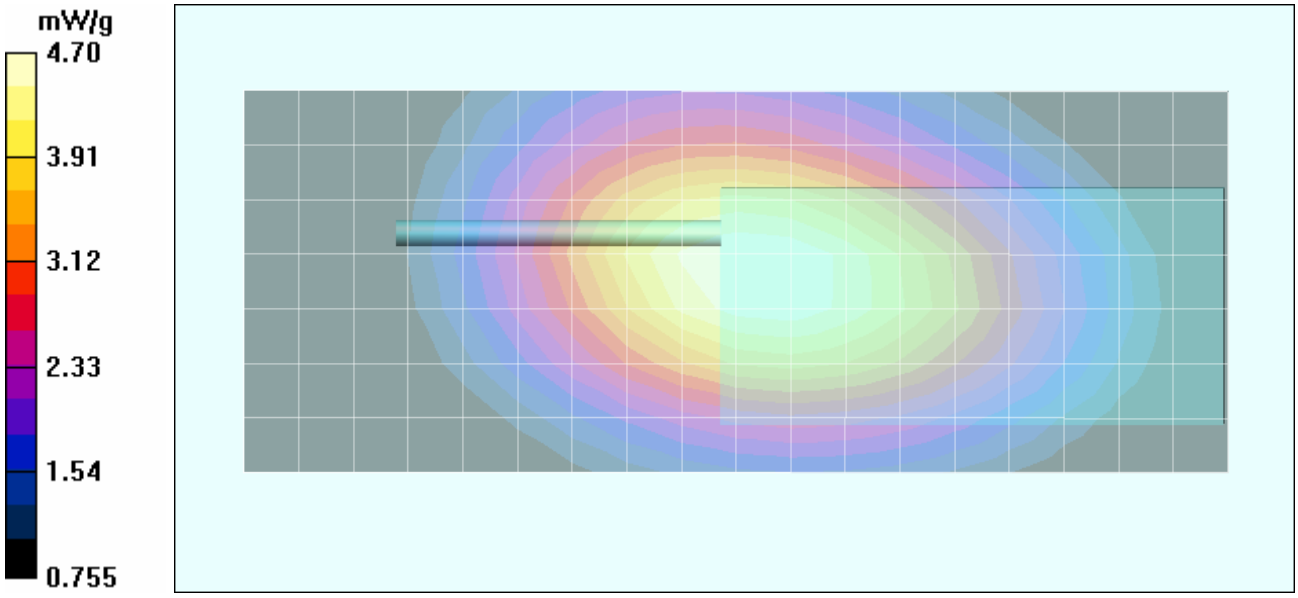
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
Li-ion Battery, immersible, non-IS (P/N: BT-023406-005)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 71.9 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 6.91 W/kg
SAR(1 g) = 4.53 mW/g; SAR(10 g) = 3.28 mW/g
Maximum value of SAR (measured) = 4.70 mW/g



Date Tested: 04/05/2007

Face-Held SAR - Li-ion IS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

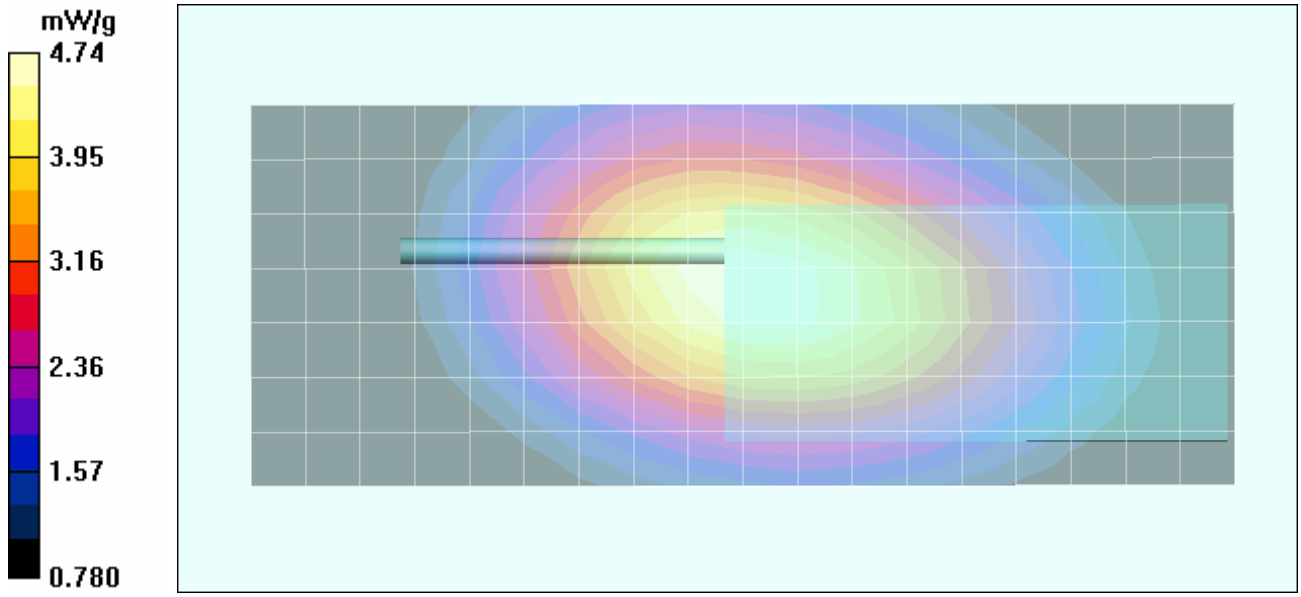
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
Li-ion Battery, immersible, IS (P/N: BT-023406-006)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 70.2 V/m; Power Drift = -0.0473 dB
Peak SAR (extrapolated) = 6.96 W/kg
SAR(1 g) = 4.55 mW/g; SAR(10 g) = 3.3 mW/g
Maximum value of SAR (measured) = 4.74 mW/g



Date Tested: 04/05/2007

Face-Held SAR - NiMH IS Battery - Helical Coil Antenna (P/N: KRE 101 1219/9) - 378.025 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

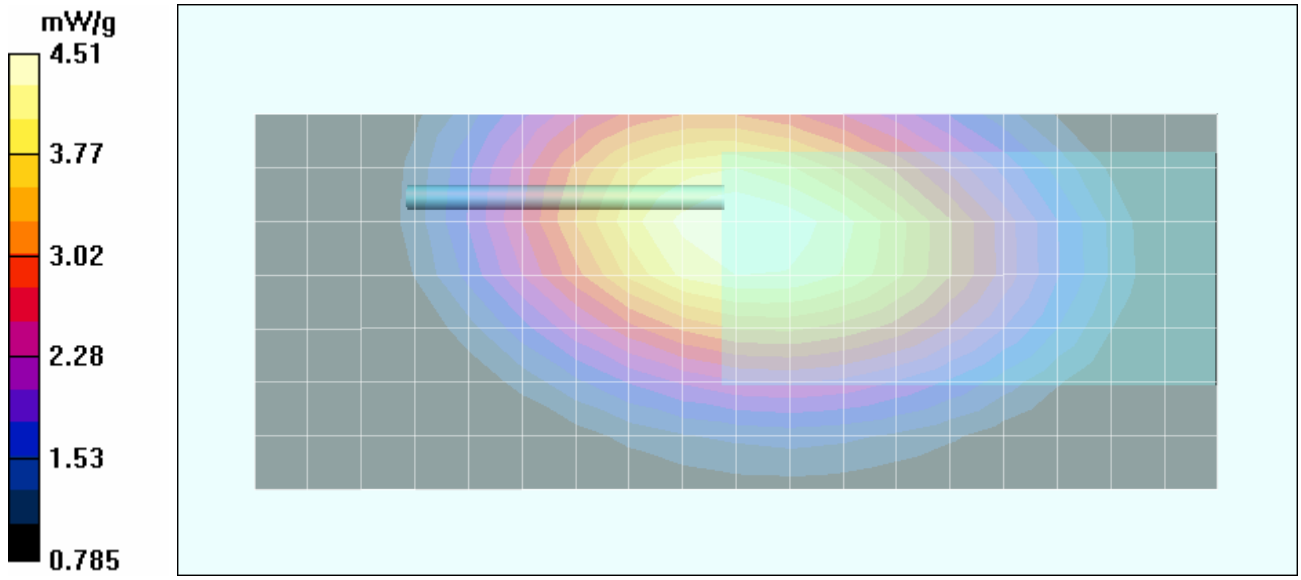
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 378.025 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, IS (P/N: BT-023406-004)
Medium: HSL450 Medium parameters used: f = 378 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Low Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Low Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 70.5 V/m; Power Drift = -0.167 dB
Peak SAR (extrapolated) = 6.61 W/kg
SAR(1 g) = 4.35 mW/g; SAR(10 g) = 3.19 mW/g
Maximum value of SAR (measured) = 4.51 mW/g



Date Tested: 04/05/2007

Face-Held SAR - NiMH IS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400; Type: Portable Radio w/ PTT Speaker-Microphone with Antenna; P/N: MC-023933-002

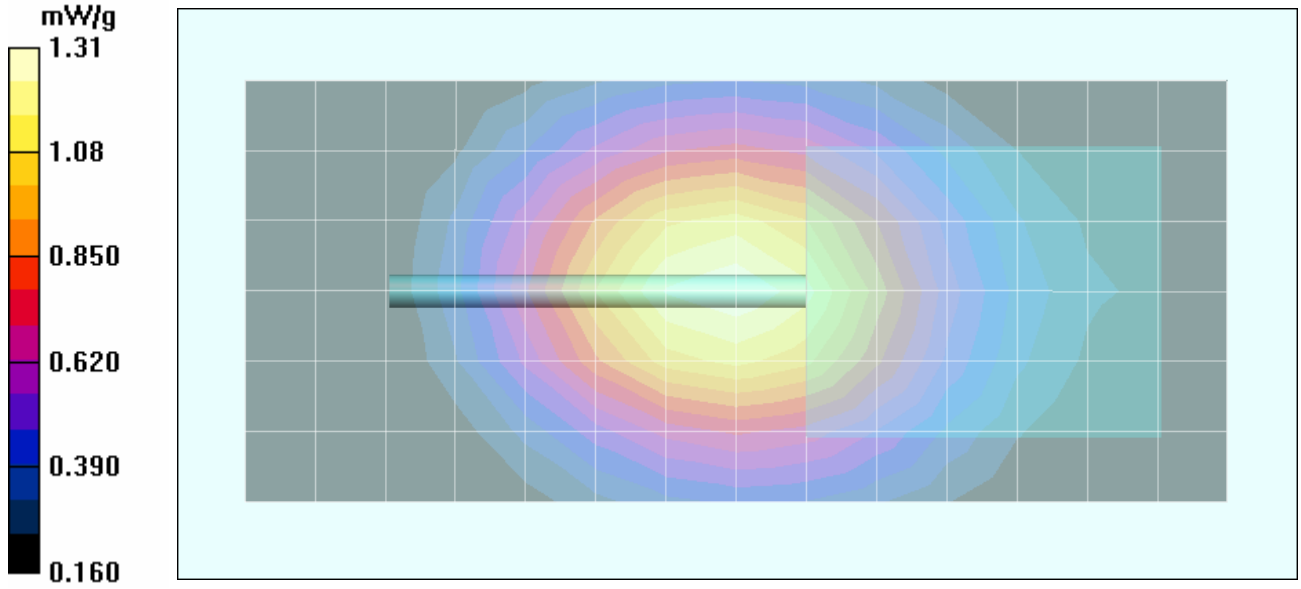
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, IS (P/N: BT-023406-004)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 36.3 V/m; Power Drift = -0.0090 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.873 mW/g
Maximum value of SAR (measured) = 1.31 mW/g



Date Tested: 04/05/2007

Face-Held SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

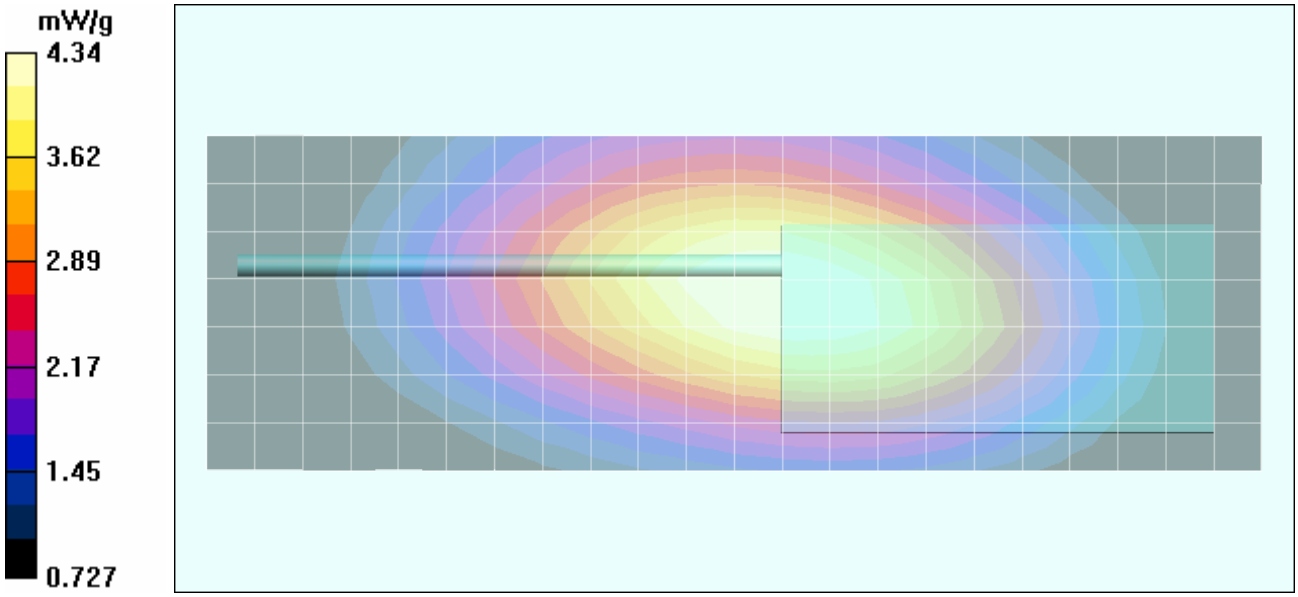
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x23x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 67.1 V/m; Power Drift = -0.0813 dB
Peak SAR (extrapolated) = 6.35 W/kg
SAR(1 g) = 4.18 mW/g; SAR(10 g) = 3.04 mW/g
Maximum value of SAR (measured) = 4.34 mW/g



Date Tested: 04/05/2007

Face-Held SAR - NiCd IS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

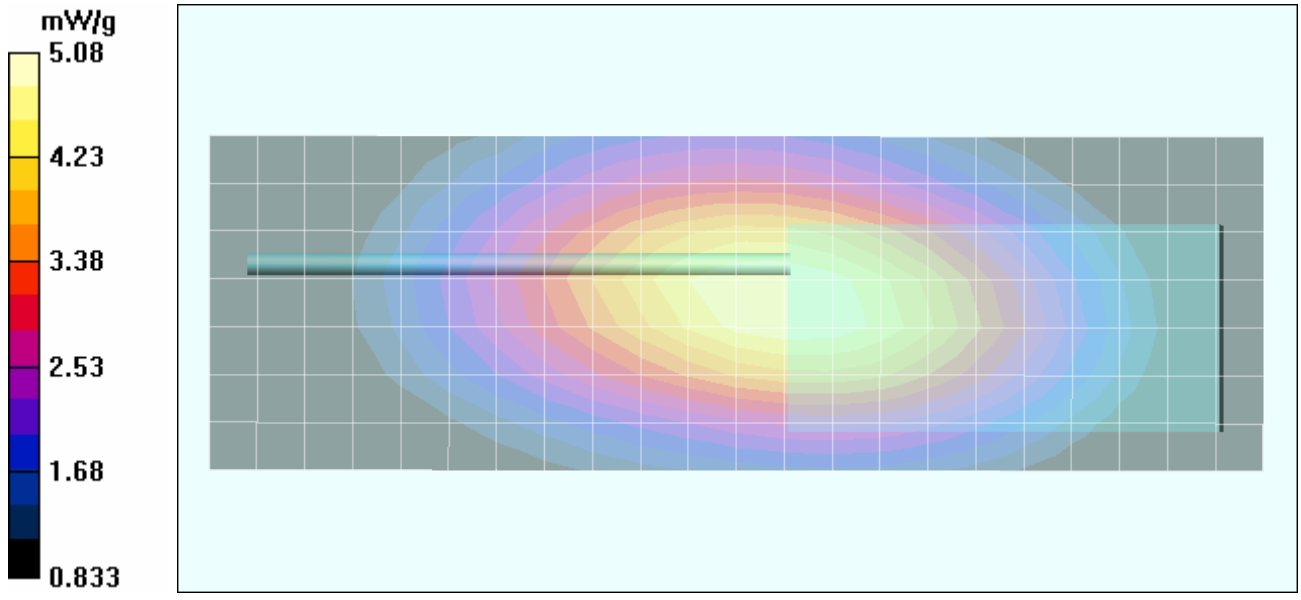
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, IS (P/N: BT-023406-002)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x23x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 72.9 V/m; Power Drift = -0.0121 dB
Peak SAR (extrapolated) = 7.41 W/kg
SAR(1 g) = 4.89 mW/g; SAR(10 g) = 3.57 mW/g
Maximum value of SAR (measured) = 5.08 mW/g



Date Tested: 04/05/2007

Face-Held SAR - NiMH NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

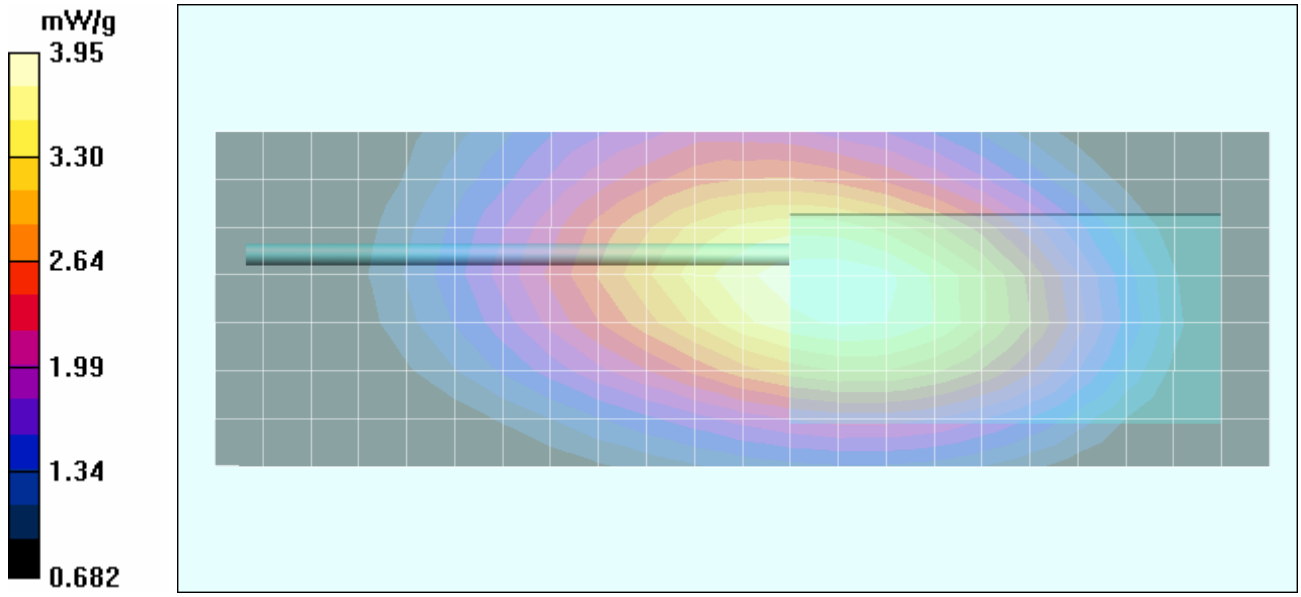
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, non-IS (P/N: BT-023406-003)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x23x1): Measurement grid: dx=15mm, dy=15mm g

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 64.0 V/m; Power Drift = 0.00347 dB
Peak SAR (extrapolated) = 5.77 W/kg
SAR(1 g) = 3.81 mW/g; SAR(10 g) = 2.78 mW/g
Maximum value of SAR (measured) = 3.95 mW/g



Date Tested: 04/05/2007

Face-Held SAR - NiMH IS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

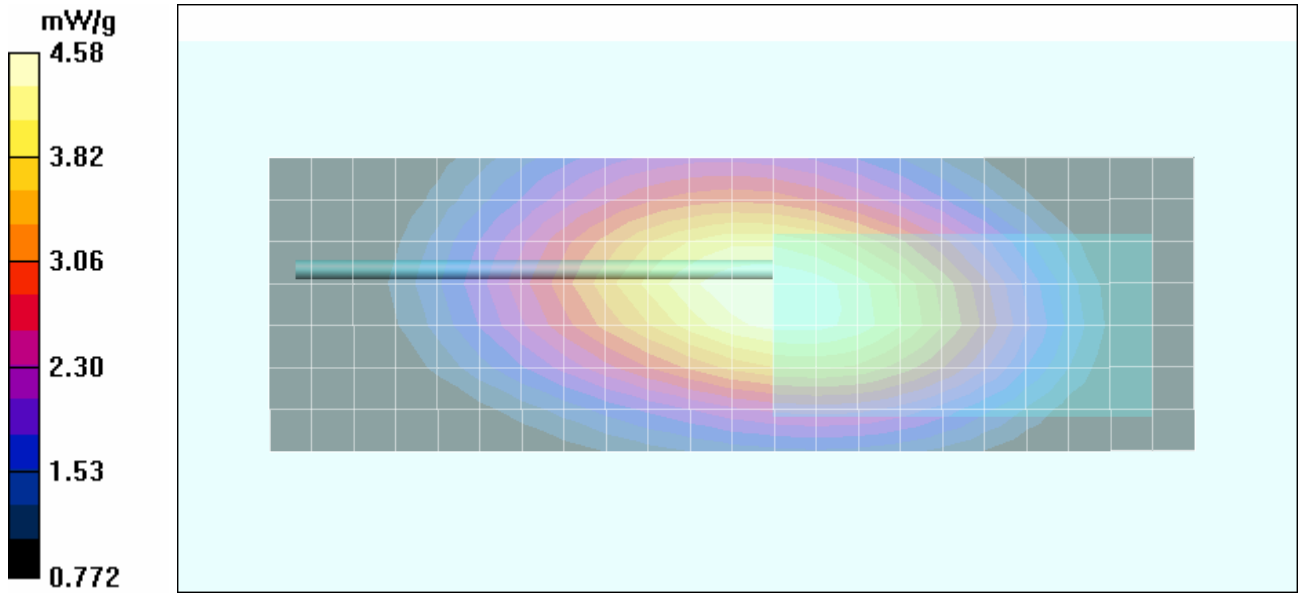
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, IS (P/N: BT-023406-004)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x23x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 70.1 V/m; Power Drift = -0.0341 dB
Peak SAR (extrapolated) = 6.70 W/kg
SAR(1 g) = 4.43 mW/g; SAR(10 g) = 3.23 mW/g
Maximum value of SAR (measured) = 4.58 mW/g



Date Tested: 04/05/2007

Face-Held SAR - Li-ion NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

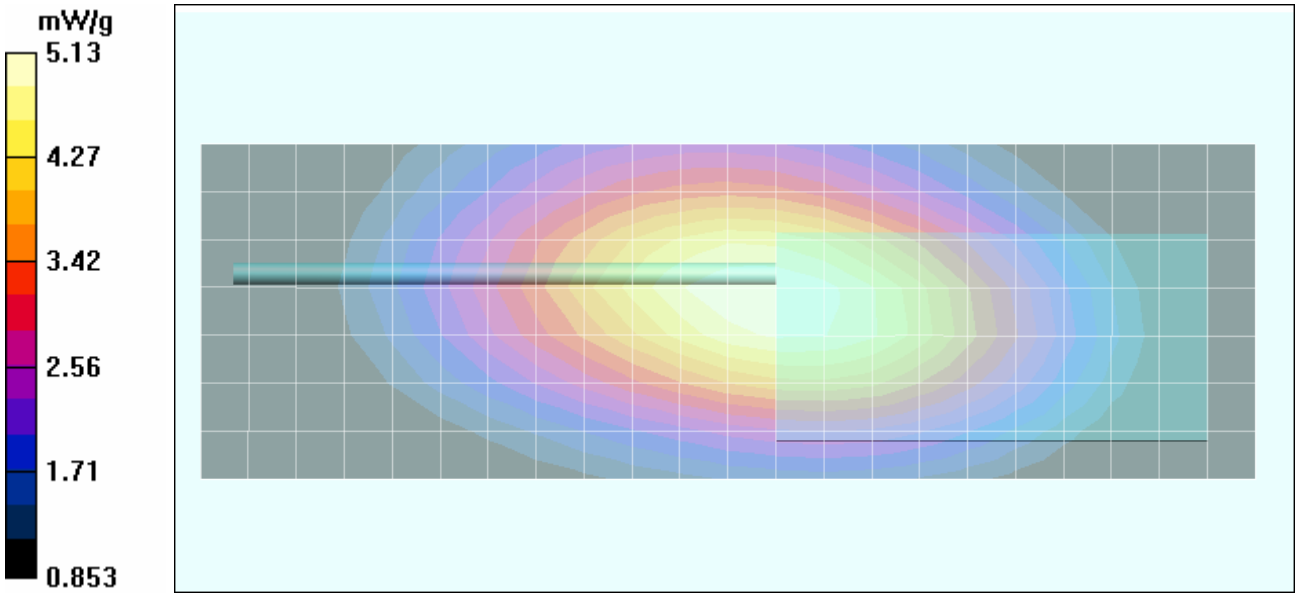
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
Li-ion Battery, immersible, non-IS (P/N: BT-023406-005)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x23x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 73.9 V/m; Power Drift = -0.0267 dB
Peak SAR (extrapolated) = 7.51 W/kg
SAR(1 g) = 4.95 mW/g; SAR(10 g) = 3.6 mW/g
Maximum value of SAR (measured) = 5.13 mW/g



Date Tested: 04/05/2007

Face-Held SAR - Li-ion IS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

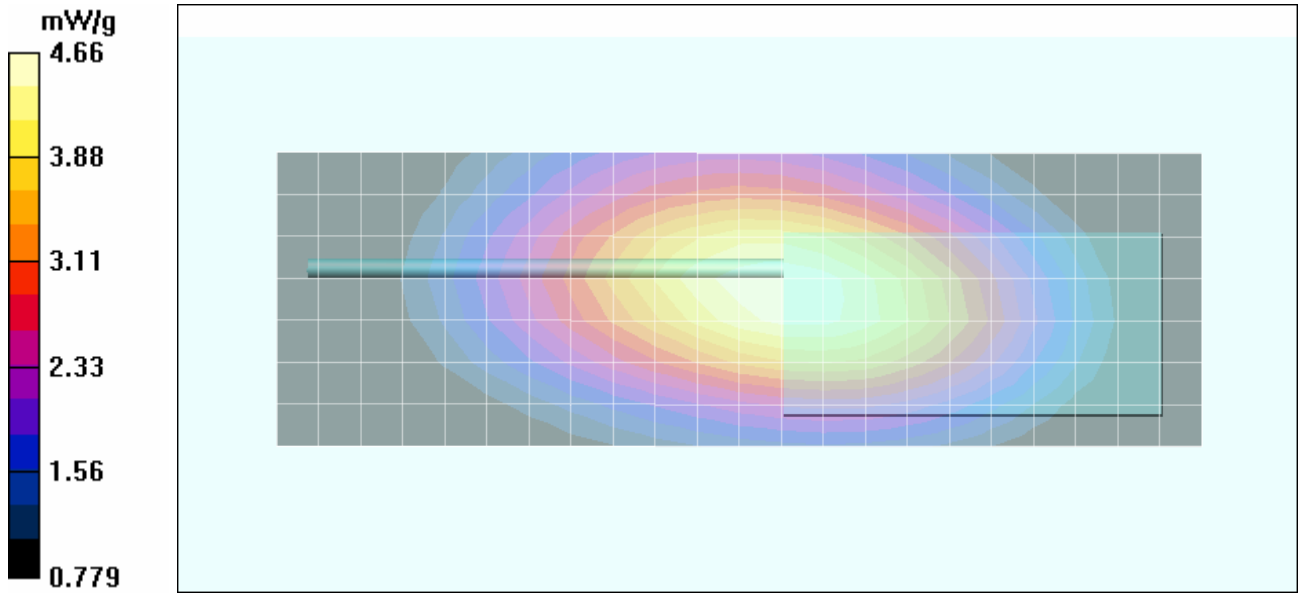
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
Li-ion Battery, immersible, IS (P/N: BT-023406-006)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (8x23x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 70.5 V/m; Power Drift = -0.0411 dB
Peak SAR (extrapolated) = 6.83 W/kg
SAR(1 g) = 4.48 mW/g; SAR(10 g) = 3.25 mW/g
Maximum value of SAR (measured) = 4.66 mW/g



Date Tested: 04/05/2007

Face-Held SAR - Li-ion NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400; Type: Portable Radio w/ PTT Speaker-Microphone with Antenna; P/N: MC-023933-002

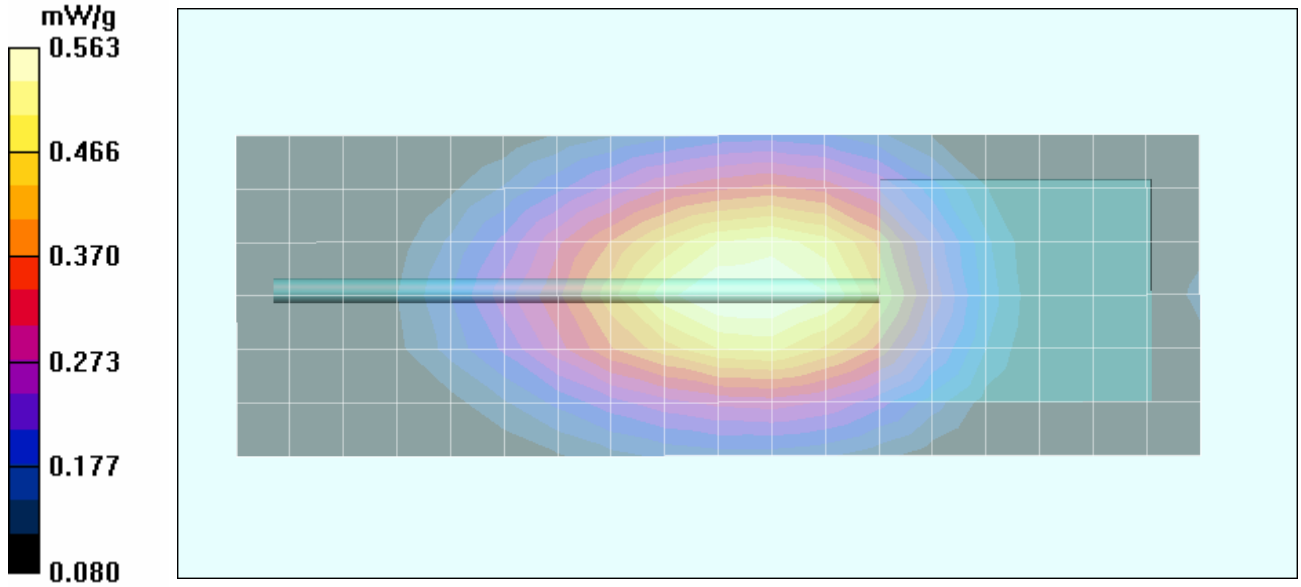
Ambient Temp: 22.4°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.4 kPa; Humidity: 36%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
Li-ion Battery, immersible, non-IS (P/N: BT-023406-005)
Medium: HSL450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm

Face-Held - 2.5 cm Spacing from Front of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.8 V/m; Power Drift = -0.0054 dB
Peak SAR (extrapolated) = 0.849 W/kg
SAR(1 g) = 0.541 mW/g; SAR(10 g) = 0.384 mW/g
Maximum value of SAR (measured) = 0.563 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - NiCd NIS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

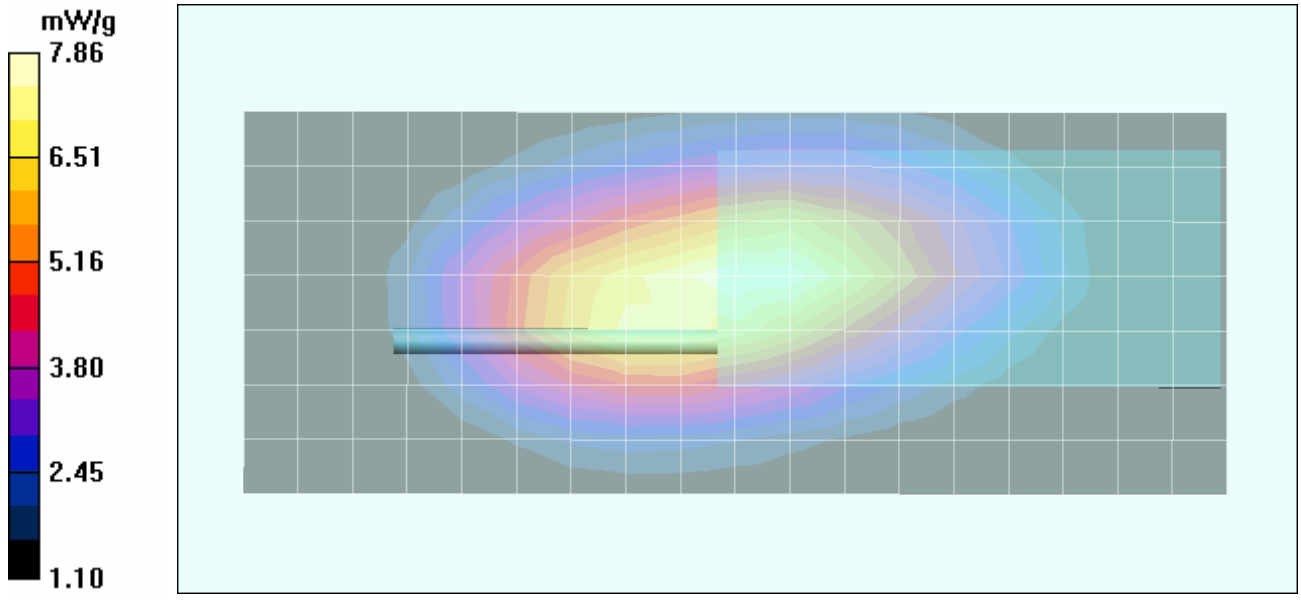
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.7 V/m; Power Drift = -0.0244 dB
Peak SAR (extrapolated) = 12.0 W/kg
SAR(1 g) = 7.48 mW/g; SAR(10 g) = 5.25 mW/g
Maximum value of SAR (measured) = 7.86 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - NiCd IS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

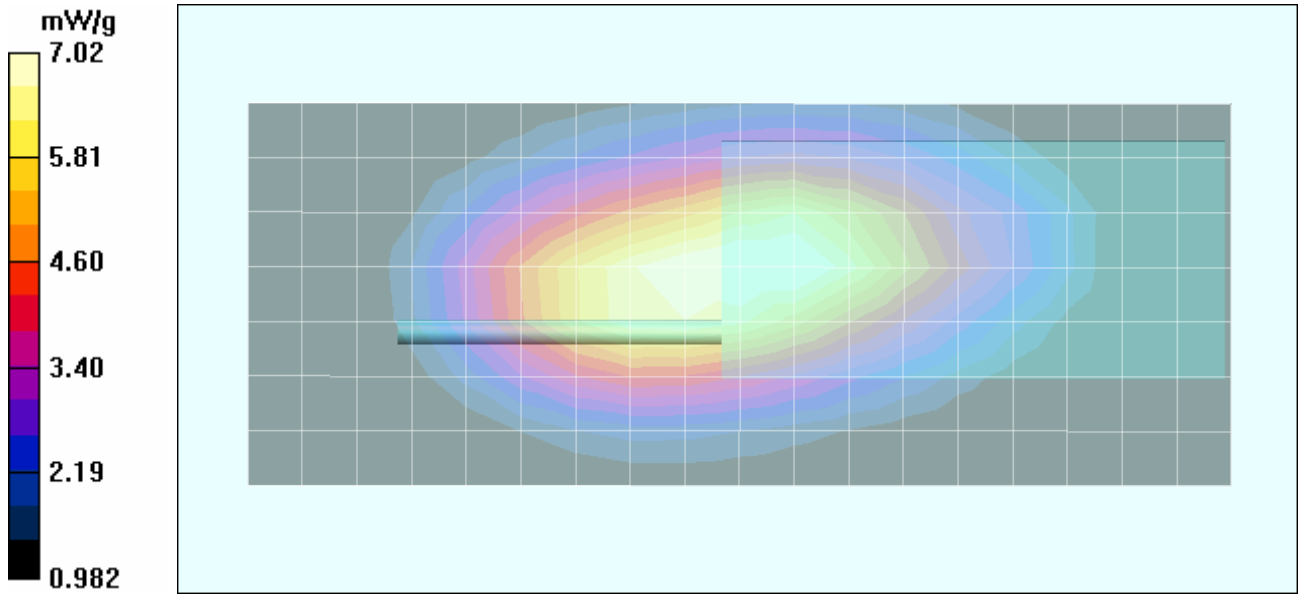
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, IS (P/N: BT-023406-002)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 84.3 V/m; Power Drift = -0.0730 dB
Peak SAR (extrapolated) = 11.0 W/kg
SAR(1 g) = 6.77 mW/g; SAR(10 g) = 4.65 mW/g
Maximum value of SAR (measured) = 7.02 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - NiMH NIS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (System Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-003

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

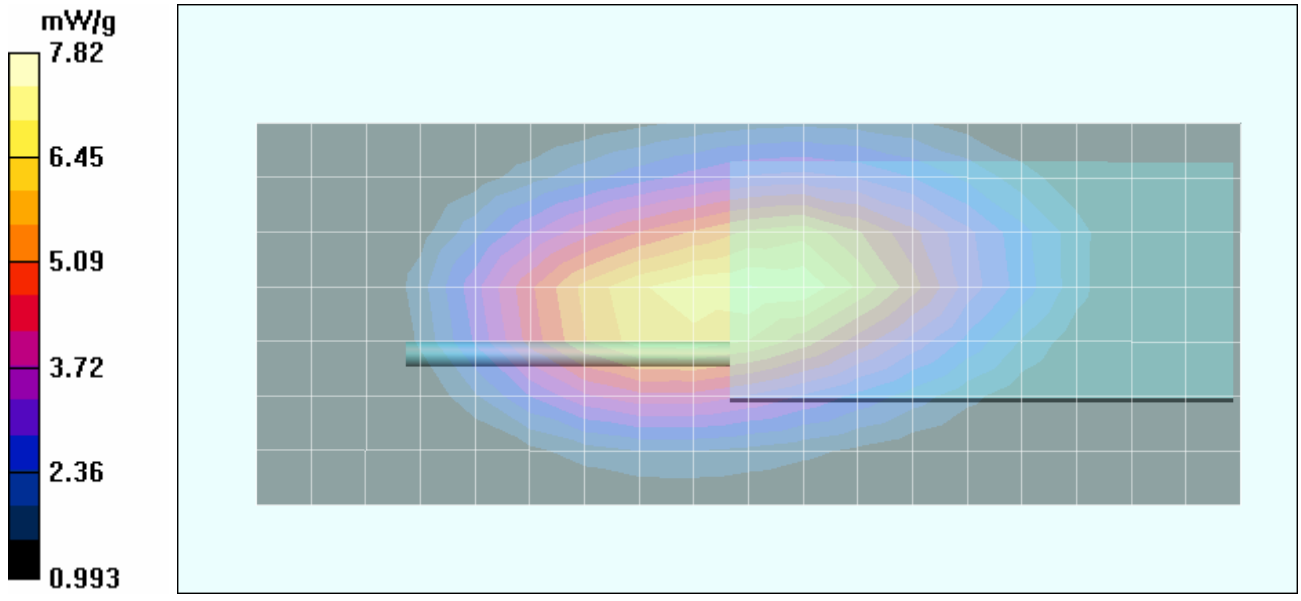
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, non-IS (P/N: BT-023406-003)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 86.6 V/m; Power Drift = 0.0880 dB
Peak SAR (extrapolated) = 12.1 W/kg
SAR(1 g) = 7.58 mW/g; SAR(10 g) = 5.28 mW/g
Maximum value of SAR (measured) = 7.82 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - NiMH IS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

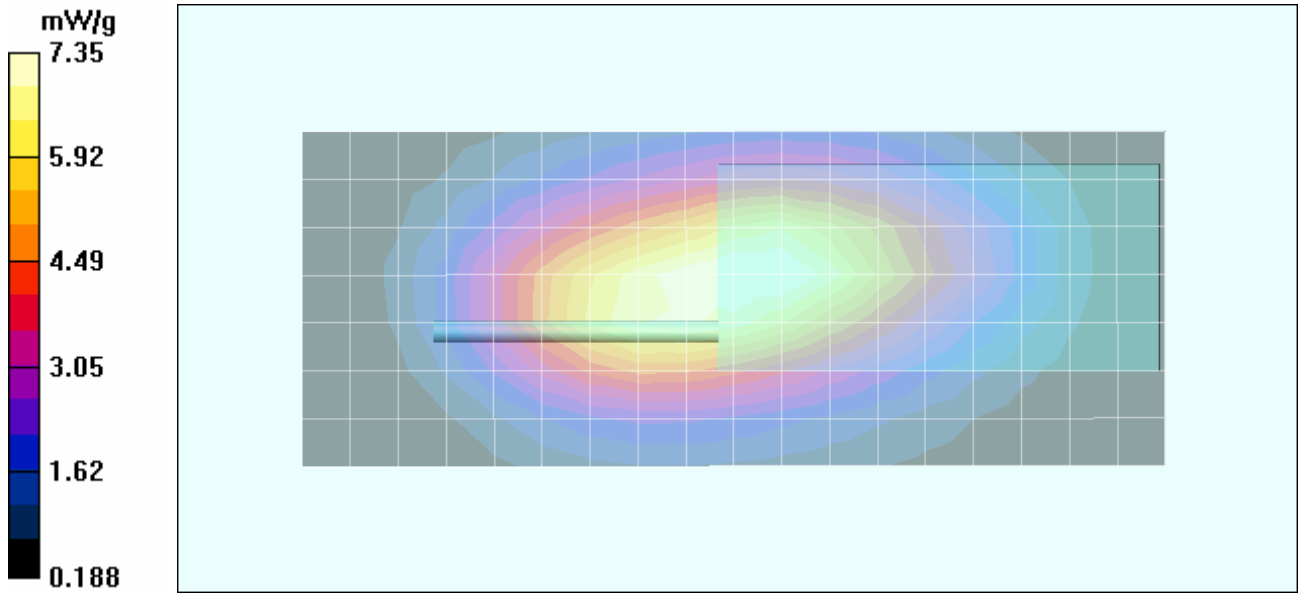
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, IS (P/N: BT-023406-004)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 86.1 V/m; Power Drift = -0.117 dB
Peak SAR (extrapolated) = 14.5 W/kg
SAR(1 g) = 7.07 mW/g; SAR(10 g) = 4.99 mW/g
Maximum value of SAR (measured) = 7.35 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - Li-ion NIS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

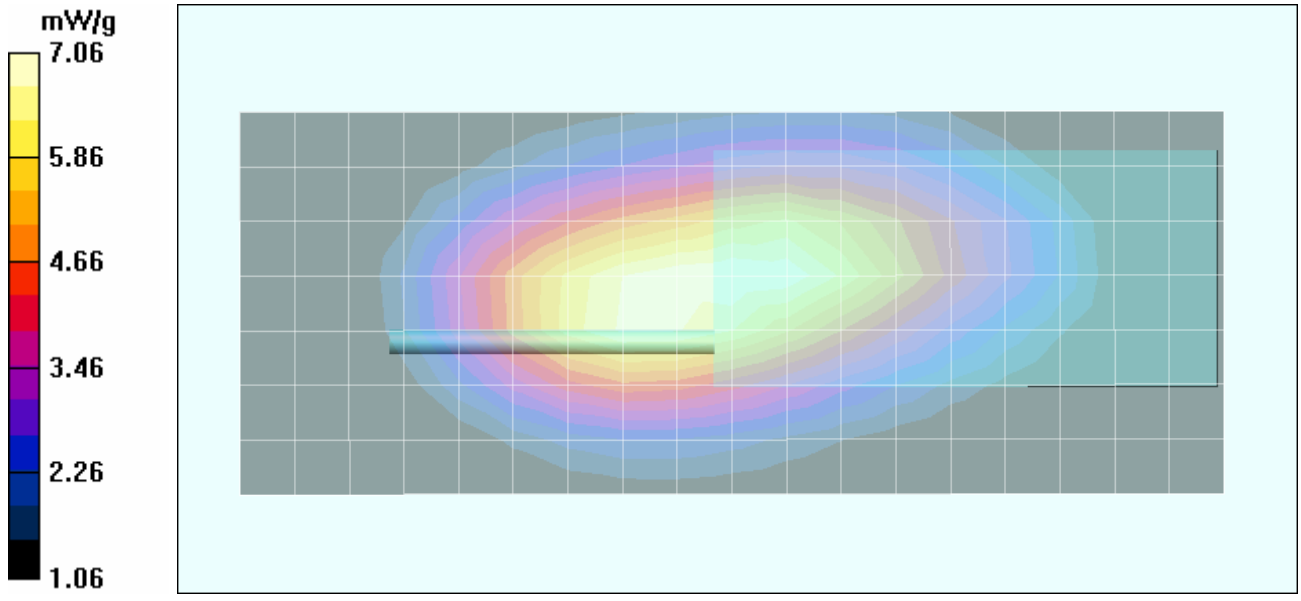
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
Li-ion Battery, immersible, non-IS (P/N: BT-023406-005)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 84.8 V/m; Power Drift = -0.0170 dB
Peak SAR (extrapolated) = 10.8 W/kg
SAR(1 g) = 6.83 mW/g; SAR(10 g) = 4.86 mW/g
Maximum value of SAR (measured) = 7.06 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - Li-ion IS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

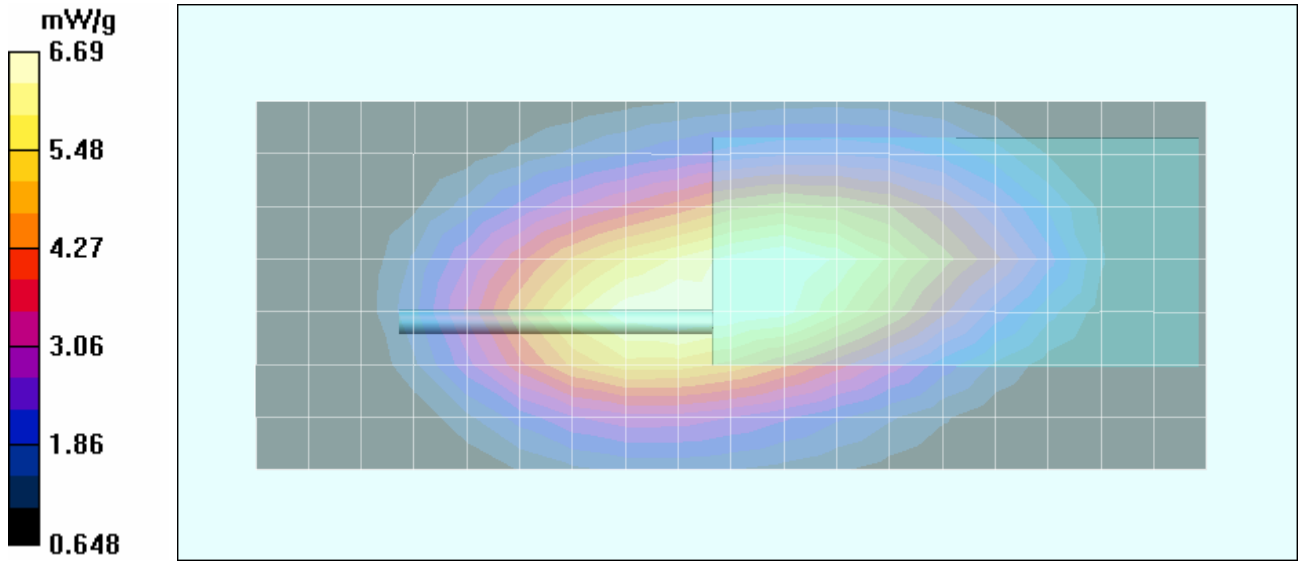
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
Li-ion Battery, immersible, IS (P/N: BT-023406-006)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 78.8 V/m; Power Drift = -0.170 dB
Peak SAR (extrapolated) = 23.6 W/kg
SAR(1 g) = 6.48 mW/g; SAR(10 g) = 4.56 mW/g
Maximum value of SAR (measured) = 6.69 mW/g



Date Tested: 04/04/2007

Body-Worn SAR - NiCd NIS Battery - Helical Coil Antenna (P/N: KRE 101 1219/9) - 378.025 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

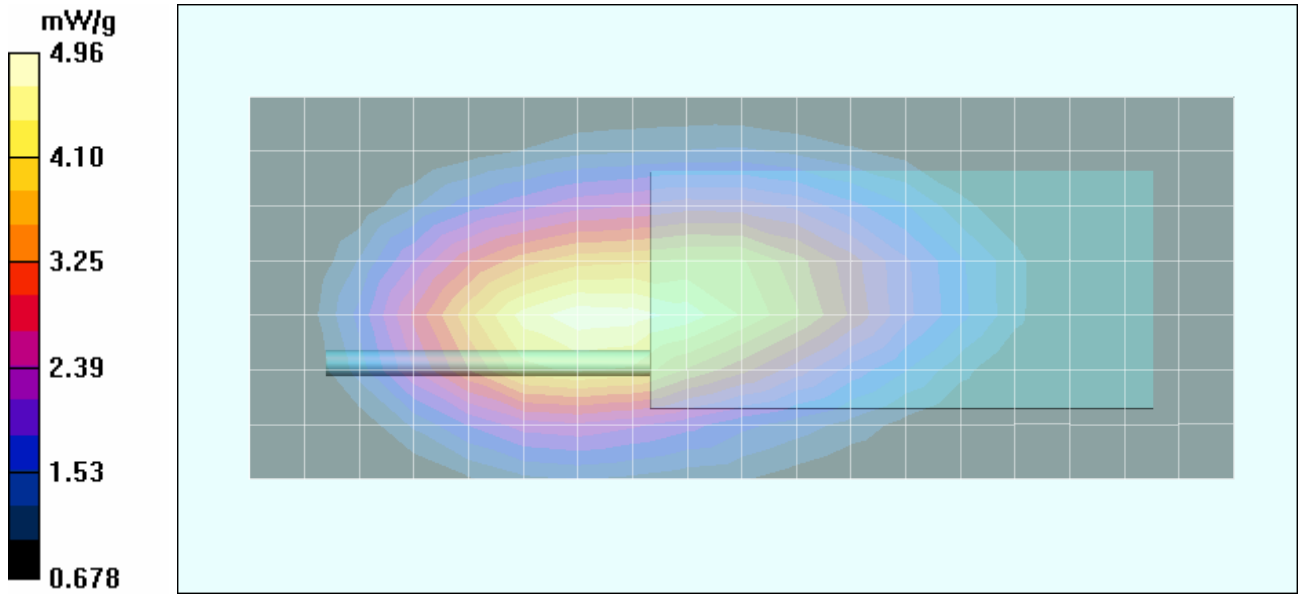
Ambient Temp: 23.1°C; Fluid Temp: 20.5°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 378.025 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 378.025 MHz; σ = 0.90 mho/m; ε_r = 57.3; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Low Channel
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Low Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 72.7 V/m; Power Drift = -0.182 dB
Peak SAR (extrapolated) = 7.46 W/kg
SAR(1 g) = 4.75 mW/g; SAR(10 g) = 3.36 mW/g
Maximum value of SAR (measured) = 4.96 mW/g



Date Tested: 04/04/2007

Body-Worn SAR - NiCd NIS Battery - Helical Coil Antenna (P/N: KRE 101 1219/10) - 404.000 MHz

DUT: M/A-COM Model: P5400; Type: Portable Radio w/ PTT Speaker-Microphone with Antenna; P/N: MC-023933-002

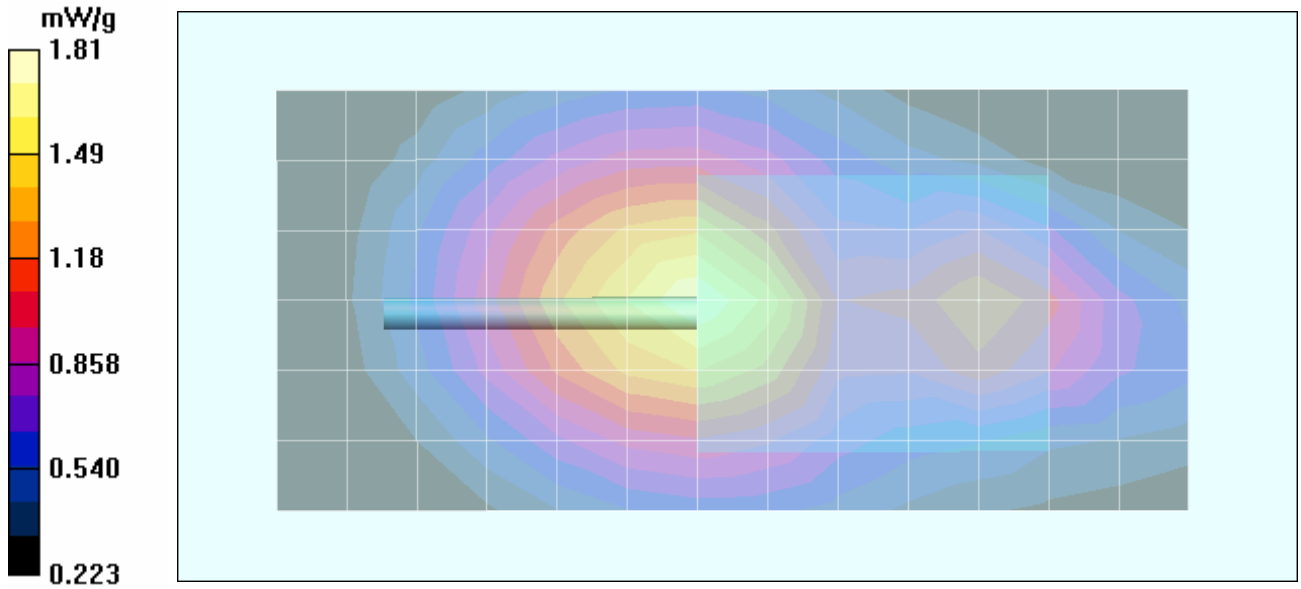
Body-Worn Accessory: Speaker-Microphone Lapel Clip; Audio Accessory: Earphone (P/N: LS103239V1)

Ambient Temp: 23.1°C; Fluid Temp: 20.5°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 57.3; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.5 cm Speaker-Microphone Lapel Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Body-Worn - 1.5 cm Speaker-Microphone Lapel Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 43.3 V/m; Power Drift = -0.0360 dB
Peak SAR (extrapolated) = 3.13 W/kg
SAR(1 g) = 1.70 mW/g; SAR(10 g) = 1.13 mW/g
Maximum value of SAR (measured) = 1.81 mW/g
Body-Worn - 1.5 cm Speaker-Microphone Lapel Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 43.3 V/m; Power Drift = -0.0360 dB
Peak SAR (extrapolated) = 2.22 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.789 mW/g
Maximum value of SAR (measured) = 1.23 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

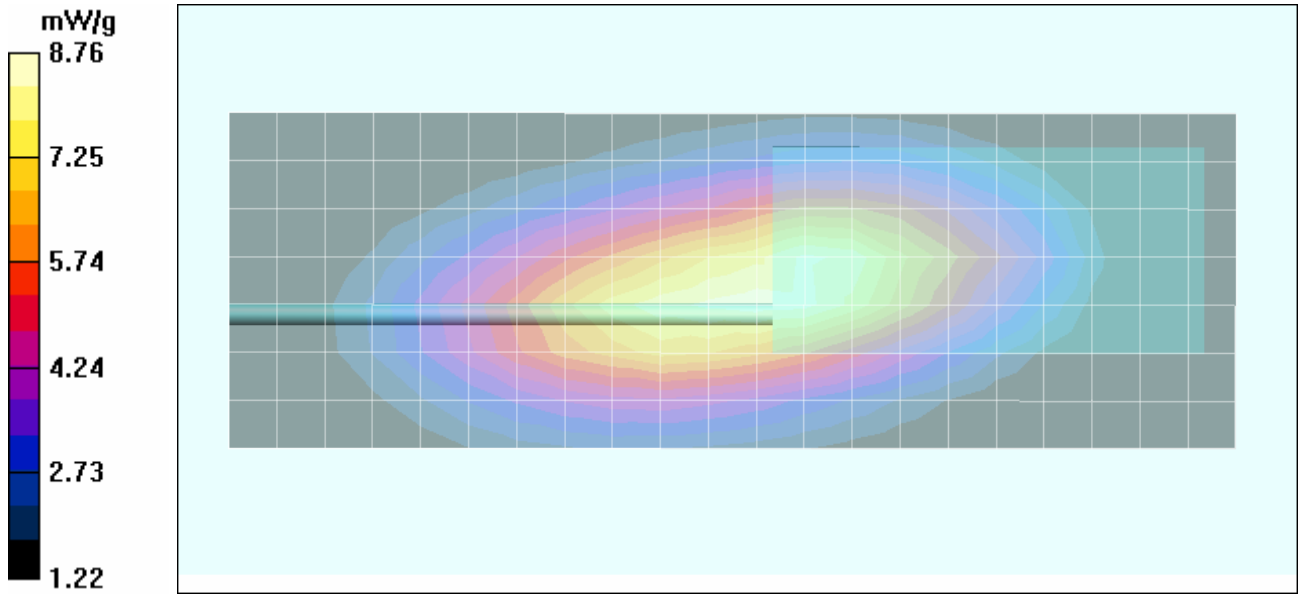
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

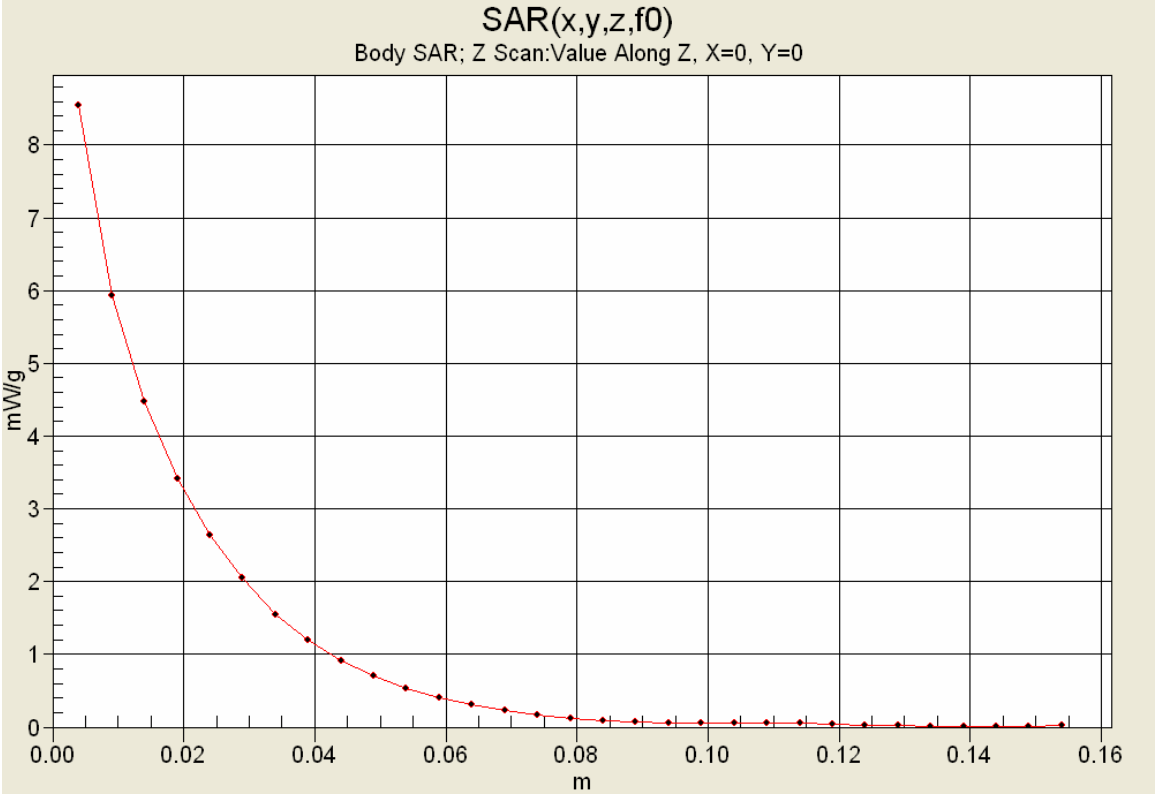
- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 89.5 V/m; Power Drift = 0.0278 dB
Peak SAR (extrapolated) = 13.3 W/kg
SAR(1 g) = 8.49 mW/g; SAR(10 g) = 5.99 mW/g
Maximum value of SAR (measured) = 8.76 mW/g



Z-Axis Scan



Date Tested: 04/02/2007

Body-Worn SAR - NiCd IS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

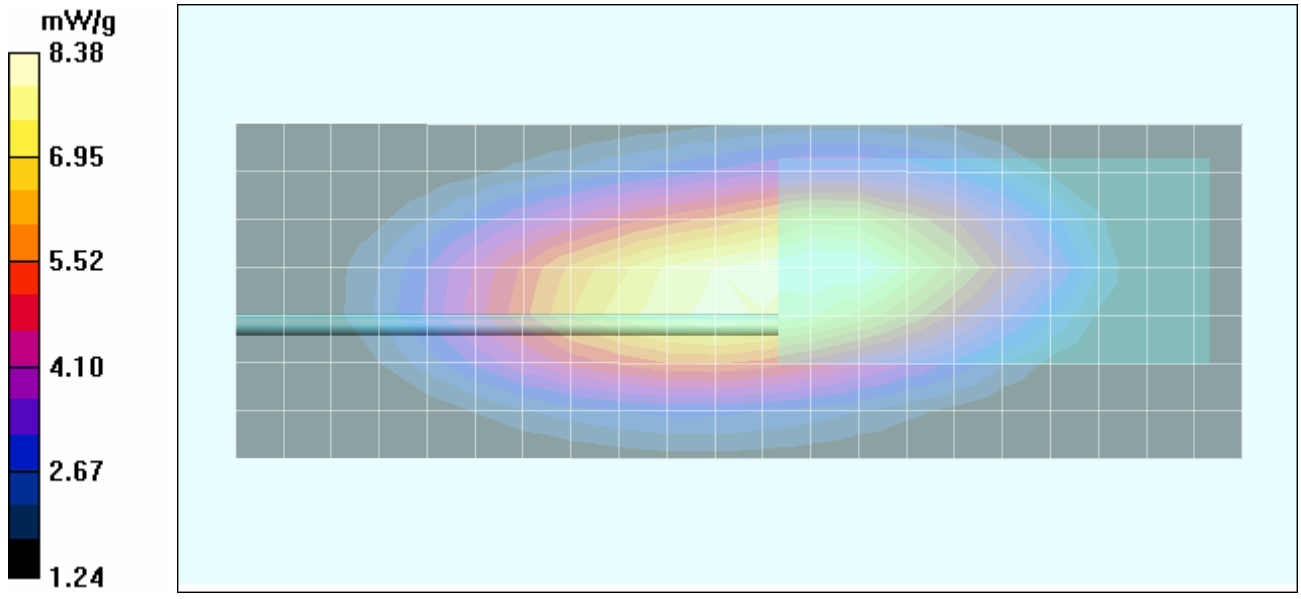
Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, IS (P/N: BT-023406-002)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm
Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 91.3 V/m; Power Drift = -0.107 dB
Peak SAR (extrapolated) = 12.7 W/kg
SAR(1 g) = 8.10 mW/g; SAR(10 g) = 5.75 mW/g
Maximum value of SAR (measured) = 8.38 mW/g
Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 91.3 V/m; Power Drift = -0.107 dB
Peak SAR (extrapolated) = 12.4 W/kg
SAR(1 g) = 7.85 mW/g; SAR(10 g) = 5.63 mW/g
Maximum value of SAR (measured) = 8.22 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - NiMH NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

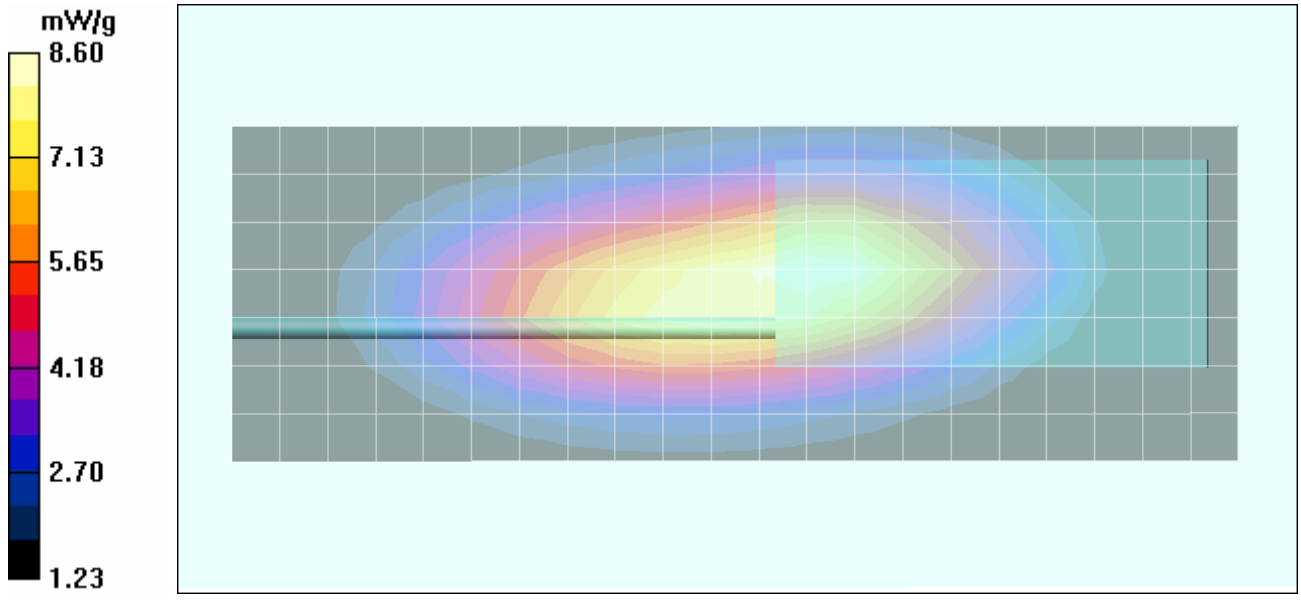
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, non-IS (P/N: BT-023406-003)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 91.9 V/m; Power Drift = -0.0620 dB
Peak SAR (extrapolated) = 13.1 W/kg
SAR(1 g) = 8.24 mW/g; SAR(10 g) = 5.82 mW/g
Maximum value of SAR (measured) = 8.60 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - NiMH IS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

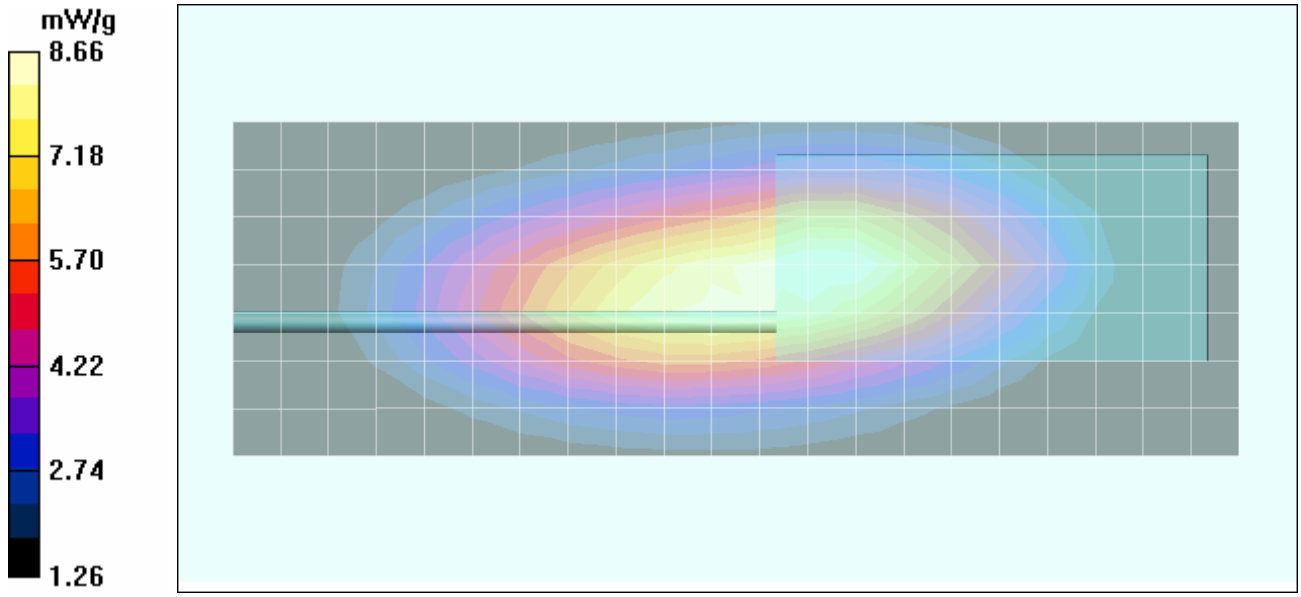
Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiMH Battery, immersible, IS (P/N: BT-023406-004)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm
Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 90.7 V/m; Power Drift = -0.0476 dB
Peak SAR (extrapolated) = 13.2 W/kg
SAR(1 g) = 8.31 mW/g; SAR(10 g) = 5.84 mW/g
Maximum value of SAR (measured) = 8.66 mW/g
Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 90.7 V/m; Power Drift = -0.0476 dB
Peak SAR (extrapolated) = 12.5 W/kg
SAR(1 g) = 8.05 mW/g; SAR(10 g) = 5.76 mW/g
Maximum value of SAR (measured) = 8.43 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - Li-ion NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

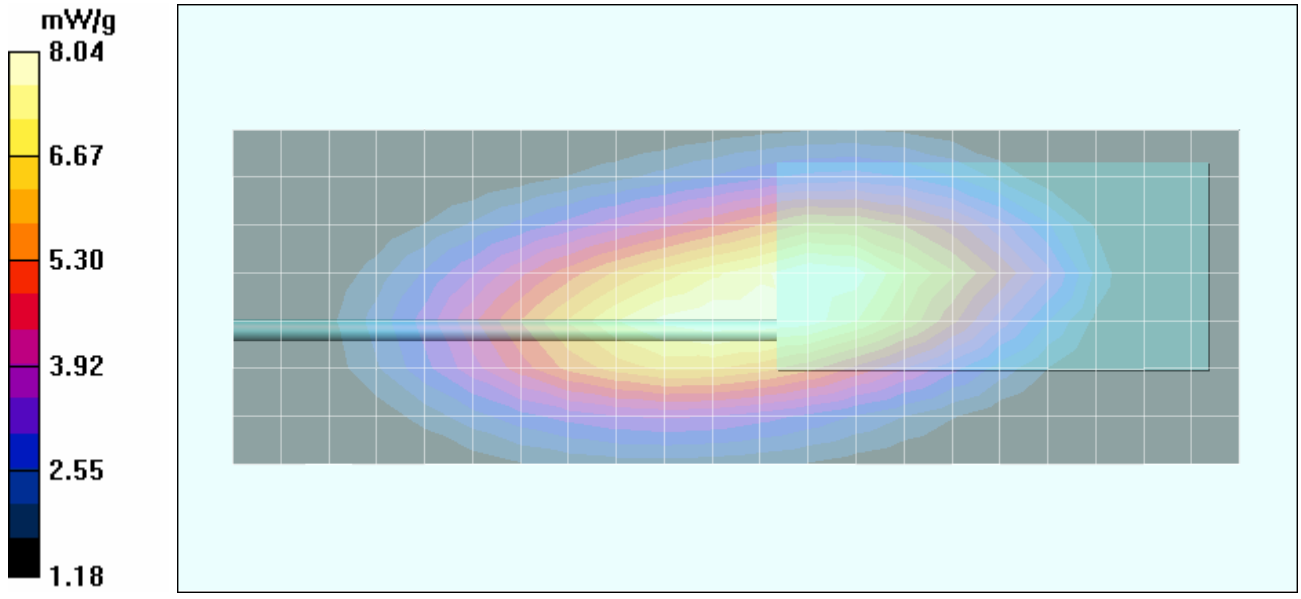
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
Li-ion Battery, immersible, non-IS (P/N: BT-023406-005)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.0 V/m; Power Drift = -0.0332 dB
Peak SAR (extrapolated) = 12.1 W/kg
SAR(1 g) = 7.72 mW/g; SAR(10 g) = 5.49 mW/g
Maximum value of SAR (measured) = 8.04 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - Li-ion IS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

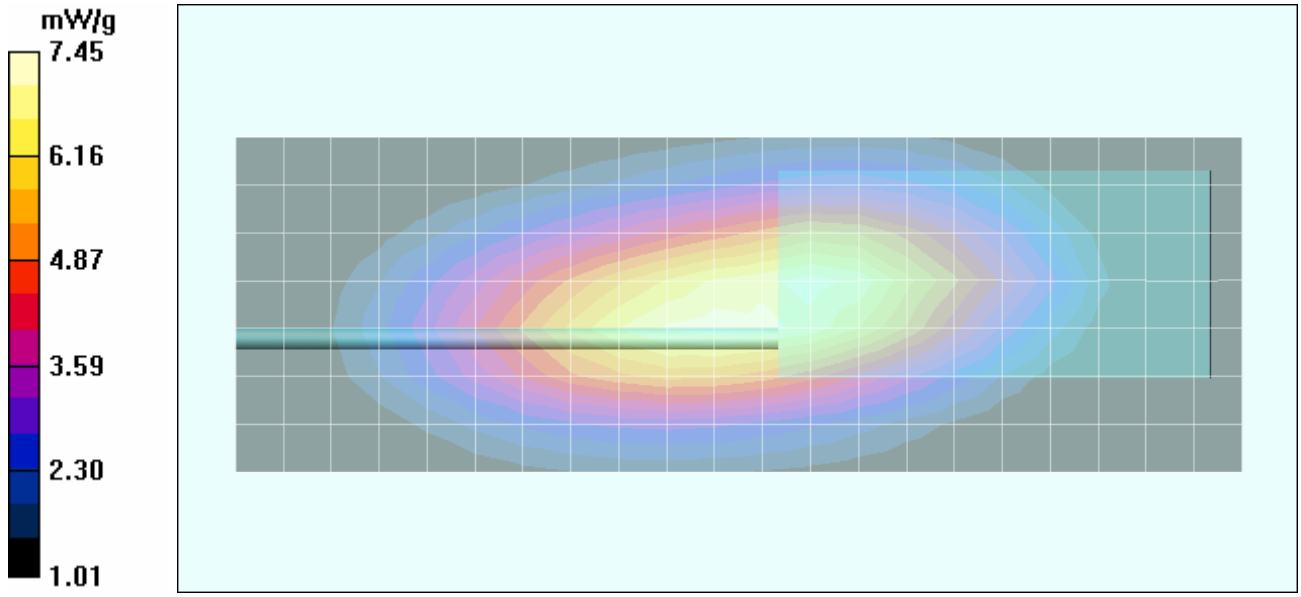
Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
Li-ion Battery, immersible, IS (P/N: BT-023406-006)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm
Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 84.8 V/m; Power Drift = -0.0298 dB
Peak SAR (extrapolated) = 11.1 W/kg
SAR(1 g) = 7.15 mW/g; SAR(10 g) = 5.12 mW/g
Maximum value of SAR (measured) = 7.45 mW/g
Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 84.8 V/m; Power Drift = -0.0298 dB
Peak SAR (extrapolated) = 11.2 W/kg
SAR(1 g) = 7.15 mW/g; SAR(10 g) = 5.1 mW/g
Maximum value of SAR (measured) = 7.44 mW/g



Date Tested: 04/04/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 378.025 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

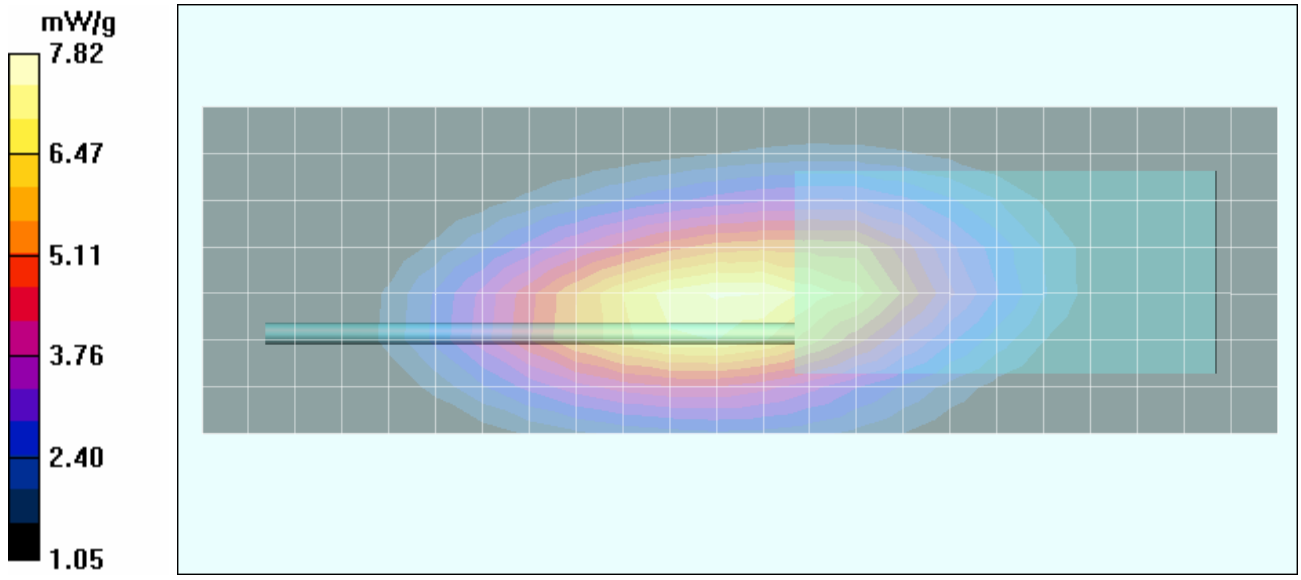
Ambient Temp: 23.1°C; Fluid Temp: 20.5°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 378.025 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 378.025 MHz; σ = 0.90 mho/m; ε_r = 57.3; ρ = 1000 kg/m^3

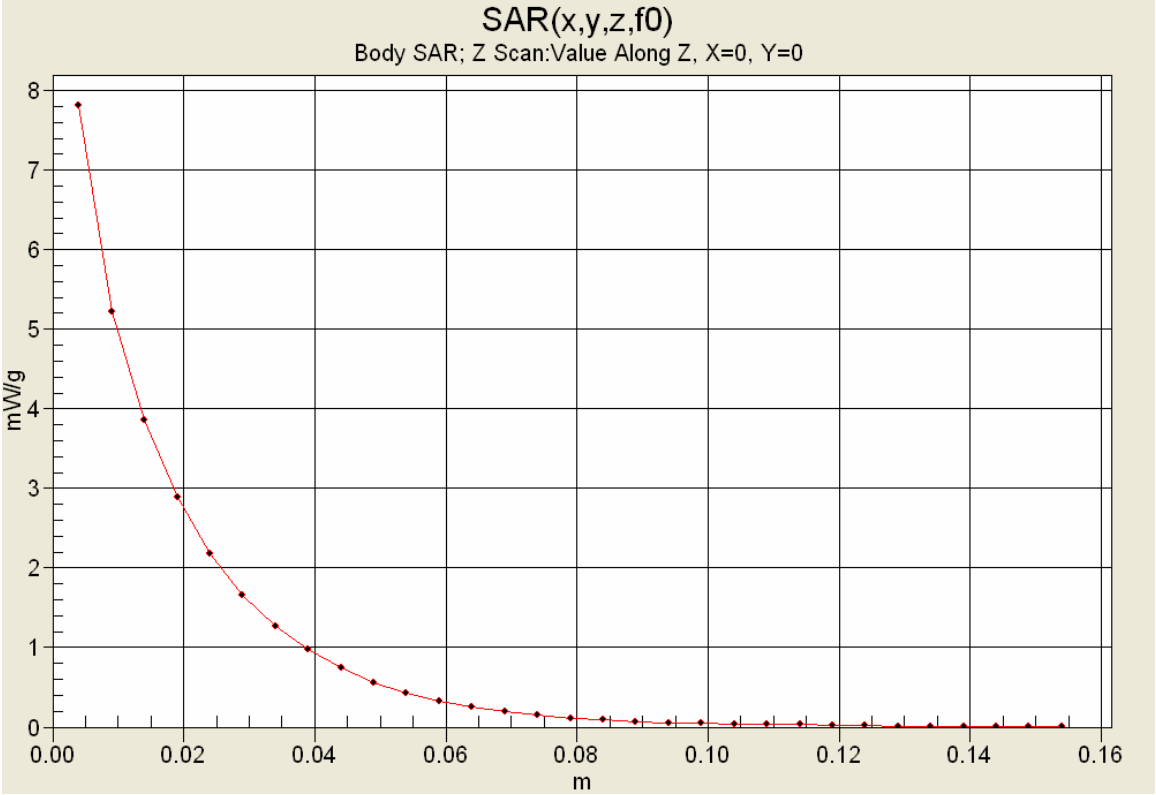
- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Low Channel
Area Scan (8x24x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - Low Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 85.8 V/m; Power Drift = -0.0587 dB
Peak SAR (extrapolated) = 12.2 W/kg
SAR(1 g) = 7.52 mW/g; SAR(10 g) = 5.24 mW/g
Maximum value of SAR (measured) = 7.82 mW/g



Z-Axis Scan



Date Tested: 04/04/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 429.975 MHz

DUT: M/A-COM Model: P5400 (System Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-003

Body-Worn Accessory: Metal Belt-Clip (P/N: CC23894); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

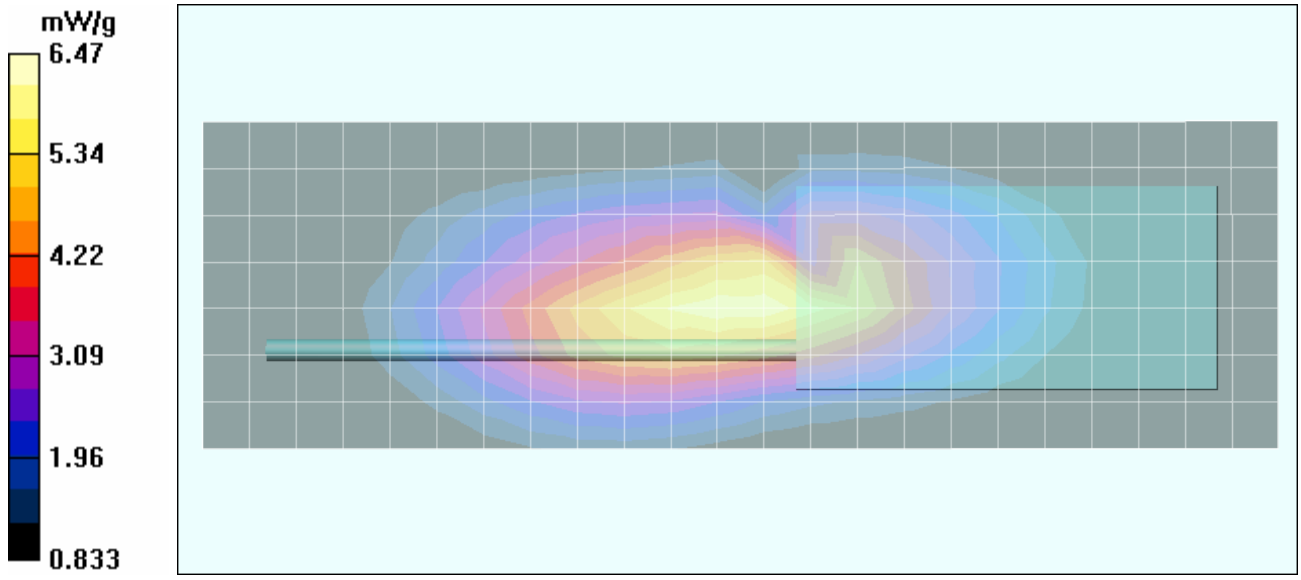
Ambient Temp: 23.1°C; Fluid Temp: 20.5°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 429.975 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 429.975 MHz; σ = 0.90 mho/m; ε_r = 57.3; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - High Channel
Area Scan (8x24x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 1.1 cm Belt-Clip Spacing from Back of DUT to Planar Phantom - High Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 77.4 V/m; Power Drift = -0.0534 dB
Peak SAR (extrapolated) = 9.94 W/kg
SAR(1 g) = 6.18 mW/g; SAR(10 g) = 4.23 mW/g
Maximum value of SAR (measured) = 6.47 mW/g



Date Tested: 04/04/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400; Type: Portable Radio w/ PTT Speaker-Microphone with Antenna; P/N: MC-023933-002

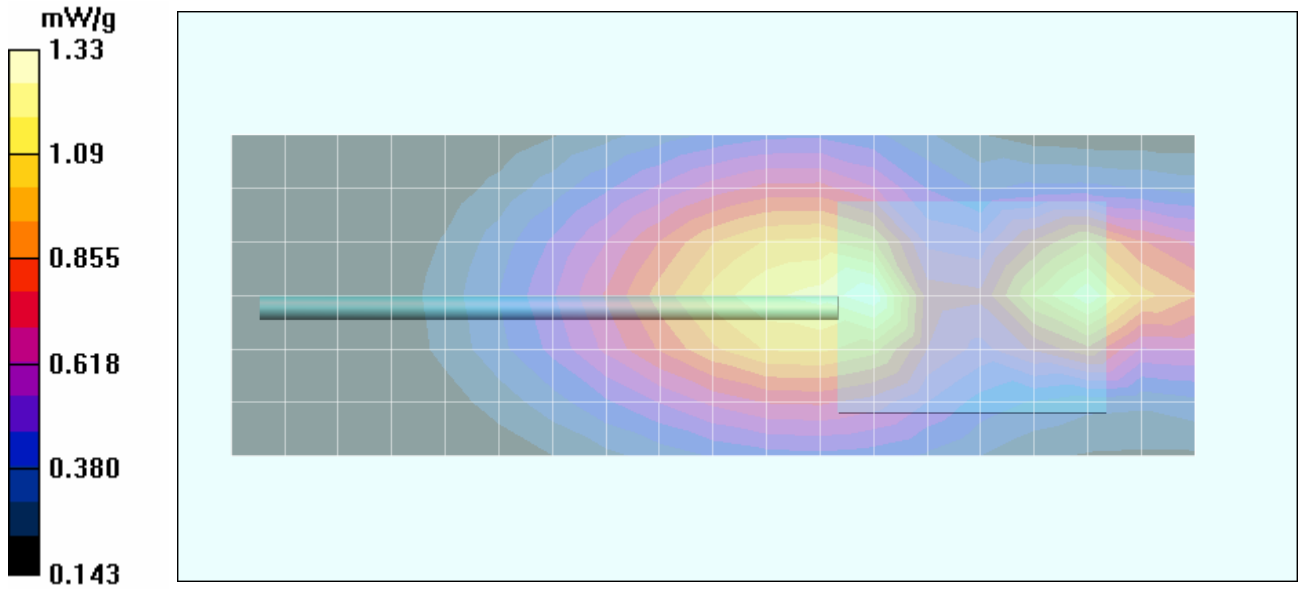
Body-Worn Accessory: Speaker-Microphone Lapel Clip; Audio Accessory: Earphone (P/N: LS103239V1)

Ambient Temp: 23.1°C; Fluid Temp: 20.5°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 57.3; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 1.5 cm Speaker-Microphone Lapel Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Body-Worn - 1.5 cm Speaker-Microphone Lapel Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 36.7 V/m; Power Drift = -0.0240 dB
Peak SAR (extrapolated) = 2.35 W/kg
SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.840 mW/g
Maximum value of SAR (measured) = 1.33 mW/g
Body-Worn - 1.5 cm Speaker-Microphone Lapel Clip Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 36.7 V/m; Power Drift = -0.0240 dB
Peak SAR (extrapolated) = 2.17 W/kg
SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.735 mW/g
Maximum value of SAR (measured) = 1.19 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Leather Case Kit 1 (P/N: CC-023931-003); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

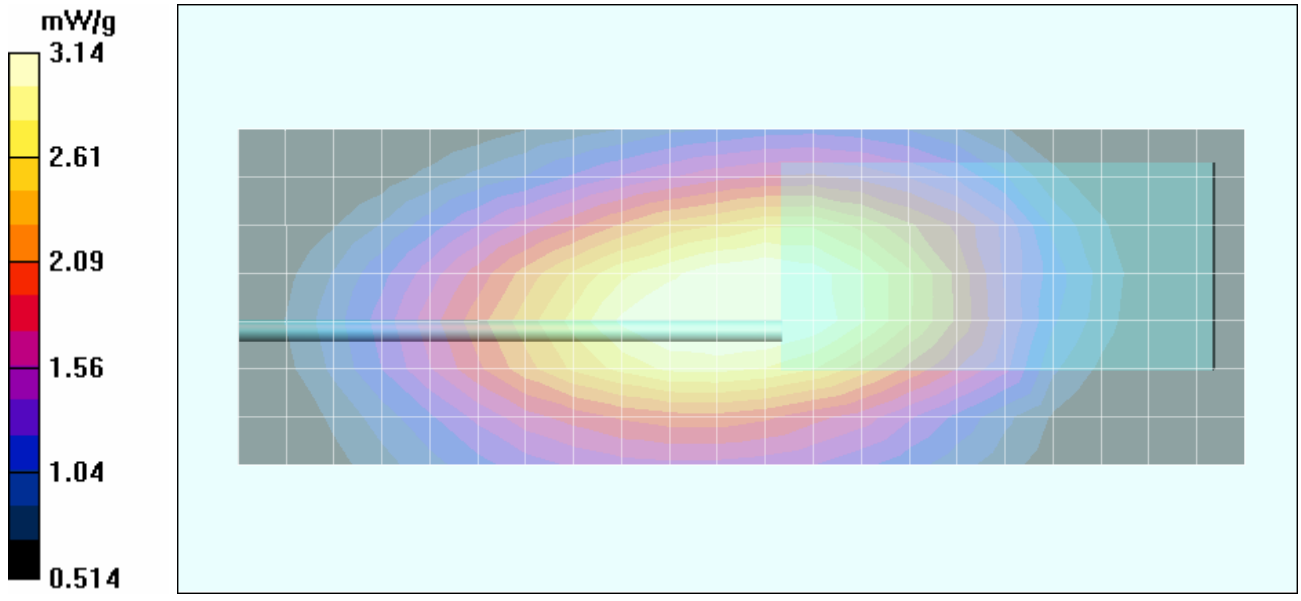
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 4.0 cm Leather Case & Belt Loop Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 4.0 cm Leather Case & Belt Loop Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 55.7 V/m; Power Drift = -0.127 dB
Peak SAR (extrapolated) = 4.49 W/kg
SAR(1 g) = 3.03 mW/g; SAR(10 g) = 2.24 mW/g
Maximum value of SAR (measured) = 3.14 mW/g



Date Tested: 04/02/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Leather Case Kit 2 (P/N: CC-023931-004); Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

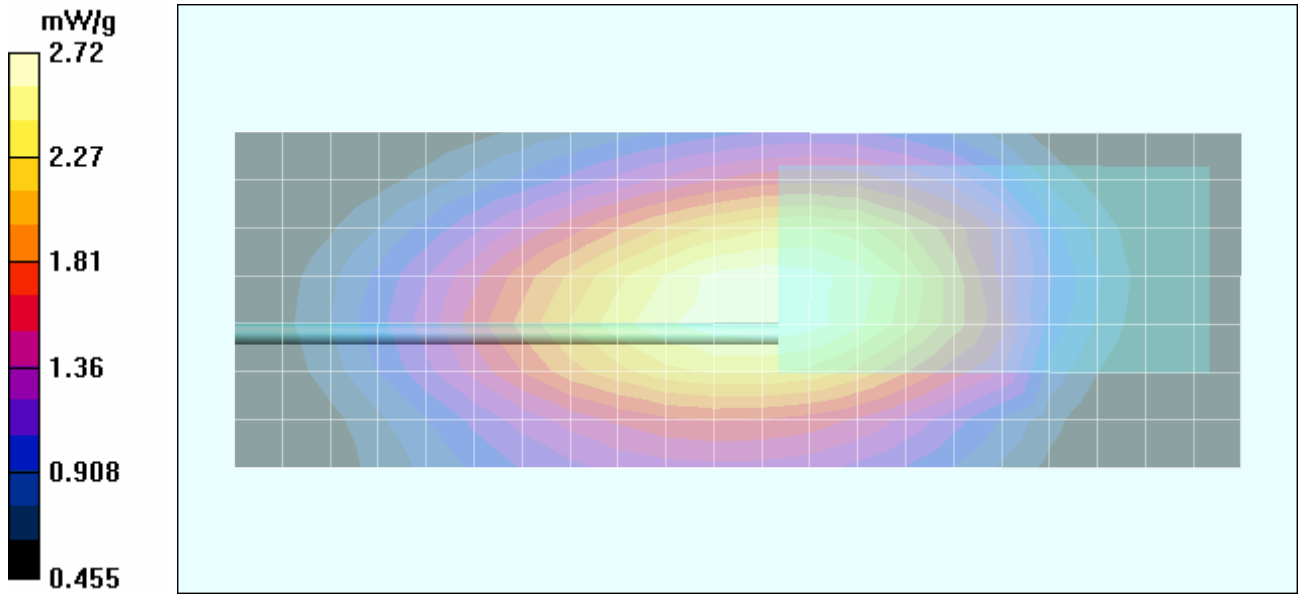
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 4.0 cm Leather Case & Belt Loop Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 4.0 cm Leather Case & Belt Loop Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 52.5 V/m; Power Drift = -0.0142 dB
Peak SAR (extrapolated) = 3.83 W/kg
SAR(1 g) = 2.63 mW/g; SAR(10 g) = 1.97 mW/g
Maximum value of SAR (measured) = 2.72 mW/g



Date Tested: 04/03/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

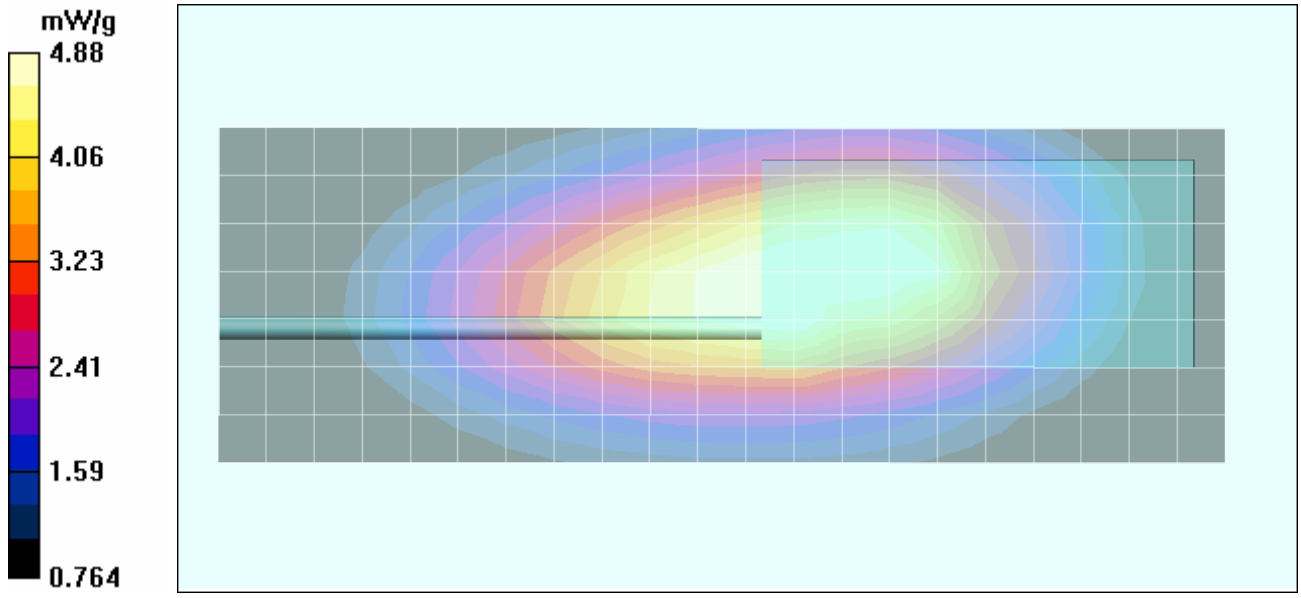
Body-Worn Accessory: Leather Case 3 (P/N: CC-023931-002) with Shoulder Strap (P/N: CC103333V1)
Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

Ambient Temp: 23.8°C; Fluid Temp: 21.3°C; Barometric Pressure: 101.6 kPa; Humidity: 32%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 2.5 cm Leather Case Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm
Body-Worn - 2.5 cm Leather Case Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 70.7 V/m; Power Drift = -0.0692 dB
Peak SAR (extrapolated) = 6.98 W/kg
SAR(1 g) = 4.70 mW/g; SAR(10 g) = 3.47 mW/g
Maximum value of SAR (measured) = 4.88 mW/g
Body-Worn - 2.5 cm Leather Case Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 70.7 V/m; Power Drift = -0.0692 dB
Peak SAR (extrapolated) = 7.11 W/kg
SAR(1 g) = 4.75 mW/g; SAR(10 g) = 3.53 mW/g
Maximum value of SAR (measured) = 4.95 mW/g



Date Tested: 04/03/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessories: Belt Loop (P/N: KRY 101 1609/1), Swivel Mount (P/N: KRY 101 1608/2)
Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

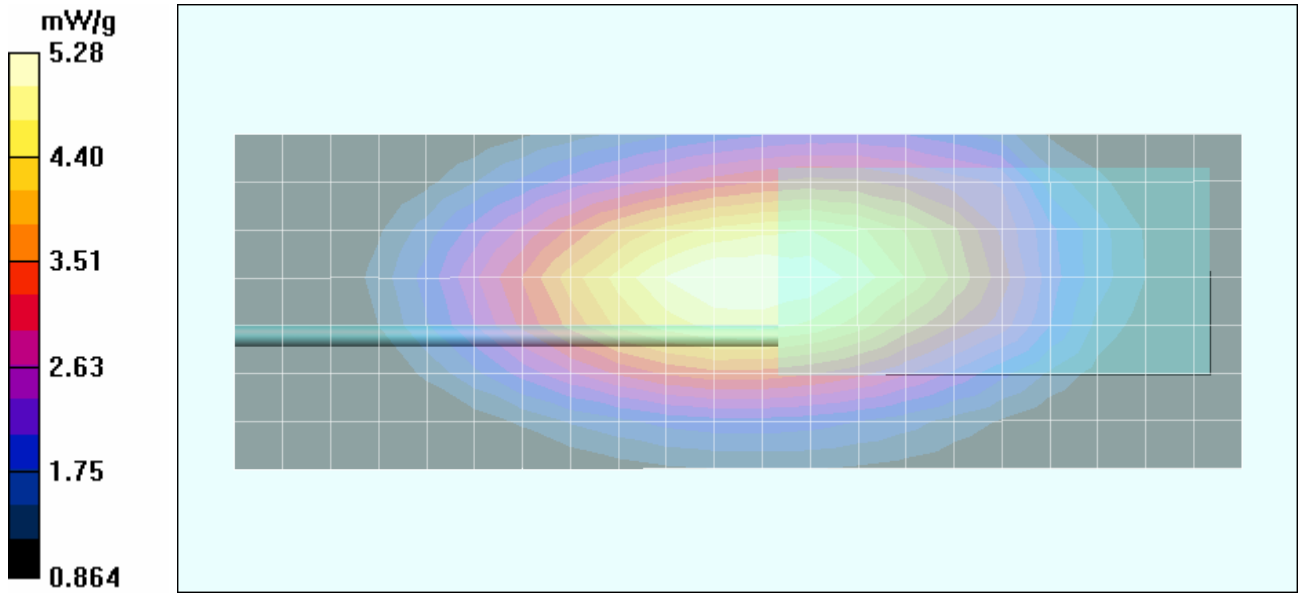
Ambient Temp: 23.8°C; Fluid Temp: 21.3°C; Barometric Pressure: 101.6 kPa; Humidity: 32%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 3.0 cm Belt Loop Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 5.35 mW/g

Body-Worn - 3.0 cm Belt Loop Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 76.2 V/m; Power Drift = -0.0643 dB
Peak SAR (extrapolated) = 7.73 W/kg
SAR(1 g) = 5.09 mW/g; SAR(10 g) = 3.75 mW/g
Maximum value of SAR (measured) = 5.28 mW/g



Date Tested: 04/03/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Nylon Case (P/N: CC-023932-001) and Belt Loop (P/N: KRY 101 1609/1)
Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

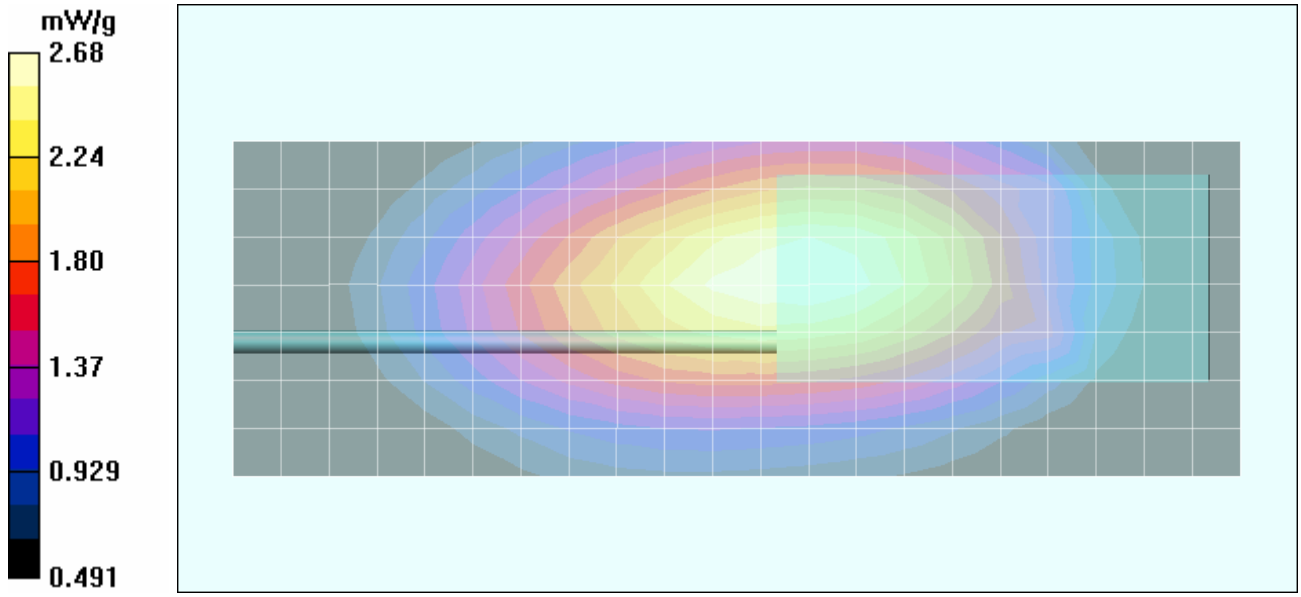
Ambient Temp: 23.8°C; Fluid Temp: 21.3°C; Barometric Pressure: 101.6 kPa; Humidity: 32%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 3.5 cm Nylon Case & Belt Loop Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 3.5 cm Nylon Case & Belt Loop Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 54.7 V/m; Power Drift = -0.0529 dB
Peak SAR (extrapolated) = 3.80 W/kg
SAR(1 g) = 2.58 mW/g; SAR(10 g) = 1.93 mW/g
Maximum value of SAR (measured) = 2.68 mW/g



Date Tested: 04/03/2007

Body-Worn SAR - NiCd NIS Battery - ¼-Wave Whip Antenna (P/N: KRE 101 1223/10) - 404.000 MHz

DUT: M/A-COM Model: P5400 (Scan Radio); Type: Portable UHF-L PTT Radio Transceiver; Serial: T2A-UL-004

Body-Worn Accessory: Nylon "T" Strap Holder (P/N: KRY 101 1656/1)
Audio Accessory: Speaker-Microphone (P/N: MC-023933-001)

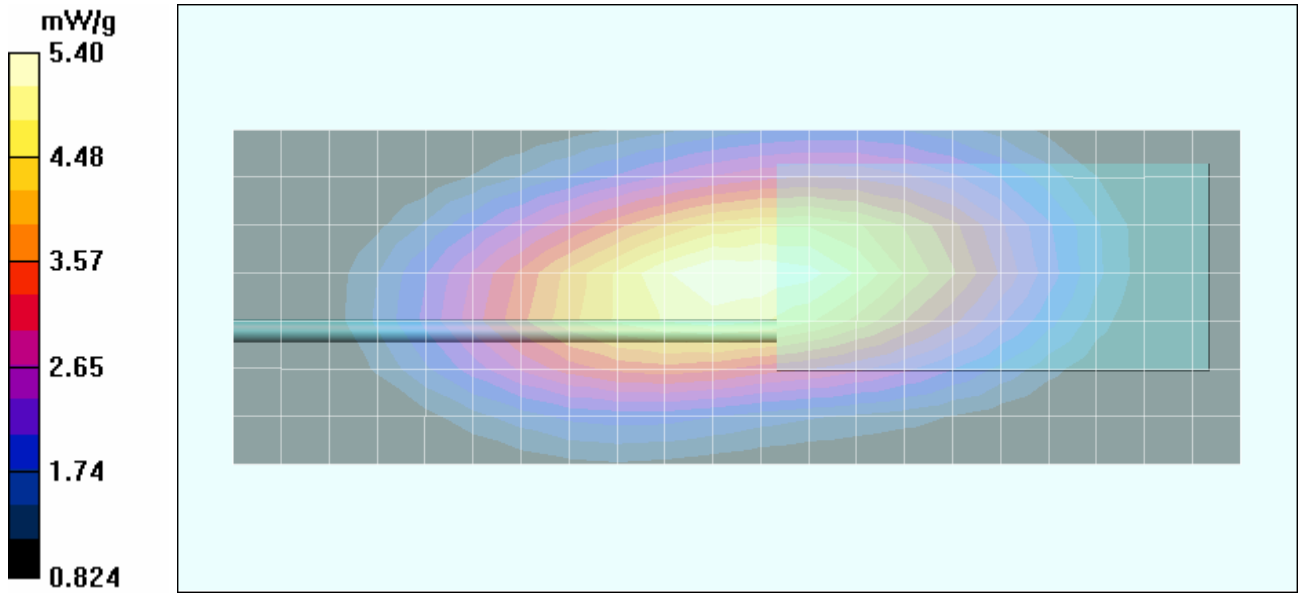
Ambient Temp: 23.8°C; Fluid Temp: 21.3°C; Barometric Pressure: 101.6 kPa; Humidity: 32%

Communication System: FM UHF
Frequency: 404 MHz; Duty Cycle: 1:1
RF Output Power: 4.2 Watts (Conducted)
NiCd Battery, immersible, non-IS (P/N: BT-023406-001)
Medium: M450 Medium parameters used: f = 404 MHz; σ = 0.90 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3

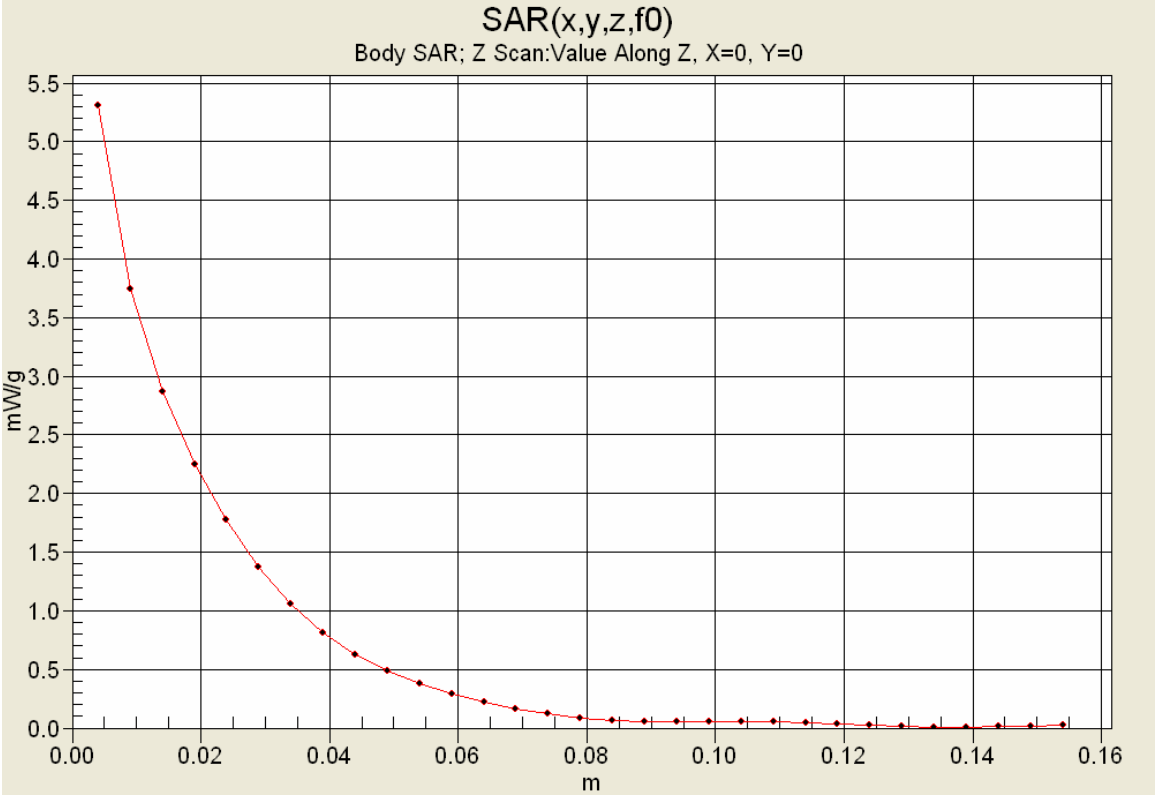
- Probe: ET3DV6 - SN1387; ConvF(6.9, 6.9, 6.9); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn - 2.0 cm Nylon "T" Strap Holder Spacing from Back of DUT to Planar Phantom - Mid Channel
Area Scan (8x22x1): Measurement grid: dx=15mm, dy=15mm

Body-Worn - 2.0 cm Nylon "T" Strap Holder Spacing from Back of DUT to Planar Phantom - Mid Channel
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 76.6 V/m; Power Drift = -0.0447 dB
Peak SAR (extrapolated) = 8.00 W/kg
SAR(1 g) = 5.19 mW/g; SAR(10 g) = 3.75 mW/g
Maximum value of SAR (measured) = 5.40 mW/g



Z-Axis Scan



APPENDIX B - SYSTEM PERFORMANCE CHECK DATA

Date Tested: 04/02/2007

System Performance Check - 450 MHz Dipole

DUT: Dipole 450 MHz; Asset: 00024; Serial: 136; Validation: 03/23/2007

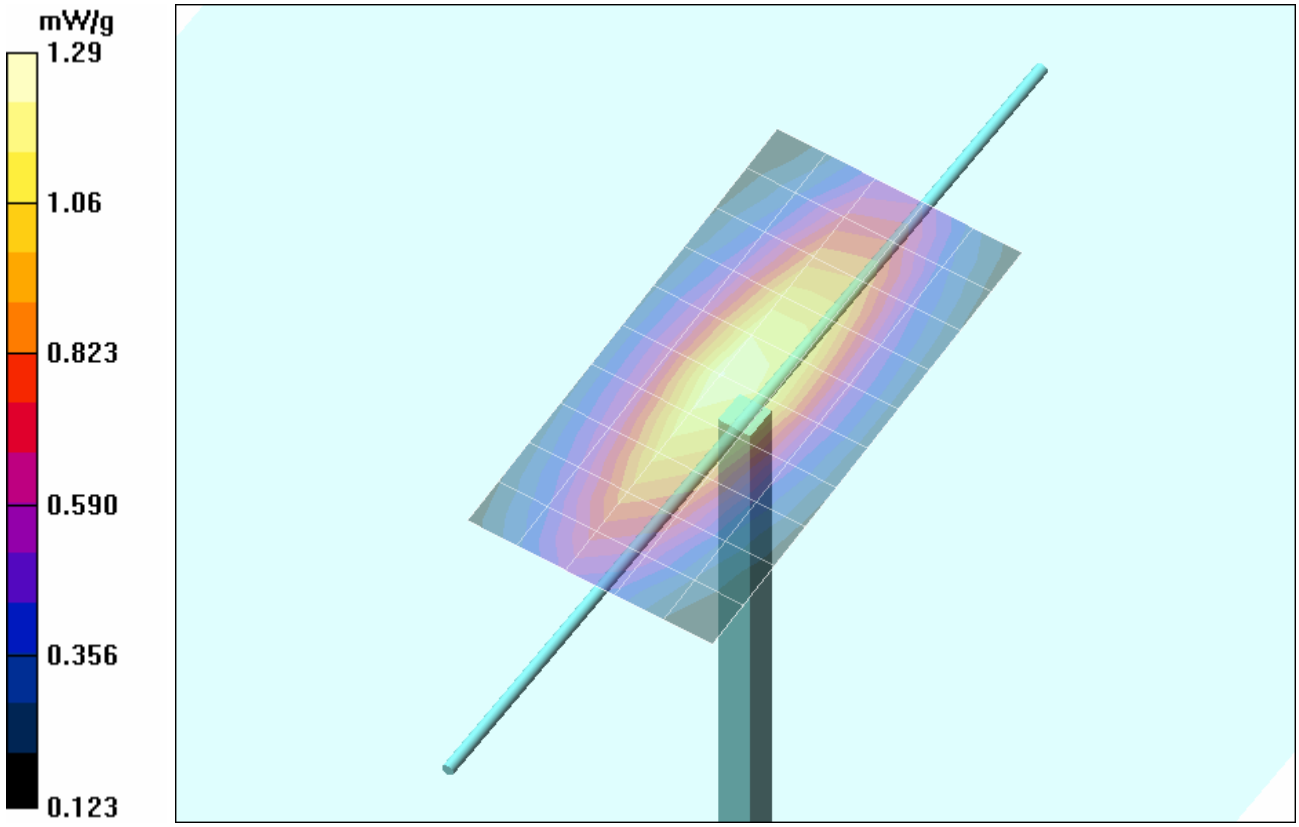
Ambient Temp: 22.4°C; Fluid Temp: 21.3°C; Barometric Pressure: 101.9 kPa; Humidity: 31%

Communication System: CW
Forward Conducted Power: 250 Mw
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.84 mho/m; ε_r = 43.5; ρ = 1000 kg/m^3

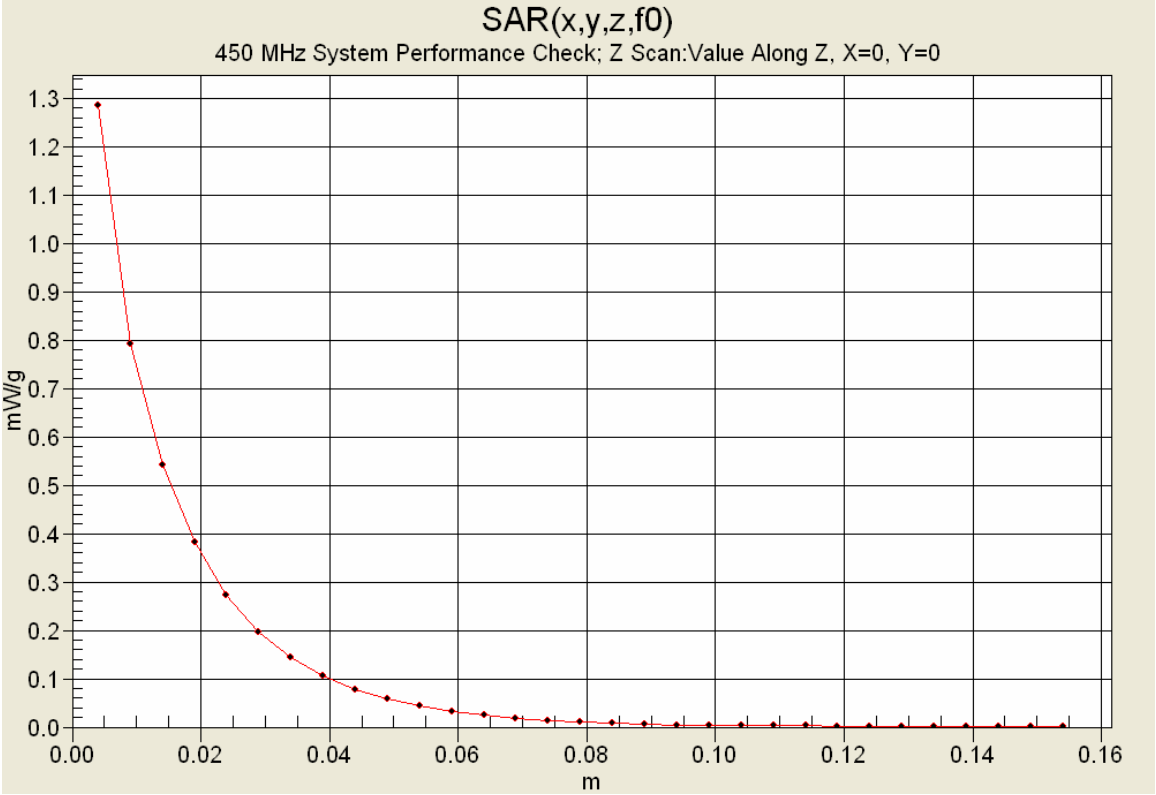
- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Validation Planar; Type: Plexiglas; Serial: 137
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

450 MHz Dipole - System Performance CheckArea Scan (6x11x1):
Measurement grid: dx=15mm, dy=15mm

450 MHz Dipole - System Performance Check/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 39.1 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 2.15 W/kg
SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.782 mW/g
Maximum value of SAR (measured) = 1.29 mW/g



Z-Axis Scan



Date Tested: 04/03/2007

System Performance Check - 450 MHz Dipole

DUT: Dipole 450 MHz; Asset: 00024; Serial: 136; Validation: 03/23/2007

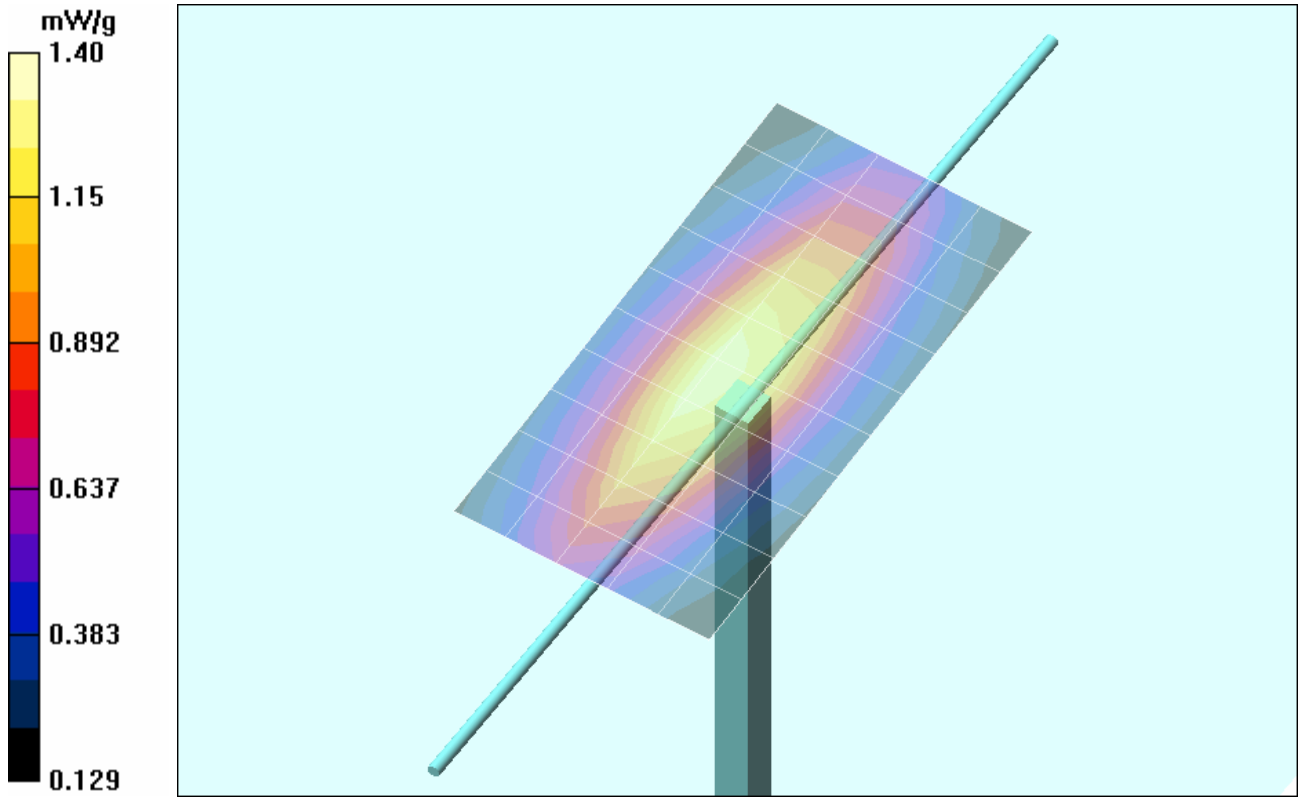
Ambient Temp: 23.8°C; Fluid Temp: 21.9°C; Barometric Pressure: 101.6 kPa; Humidity: 31%

Communication System: CW
Forward Conducted Power: 250 mW
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.90 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

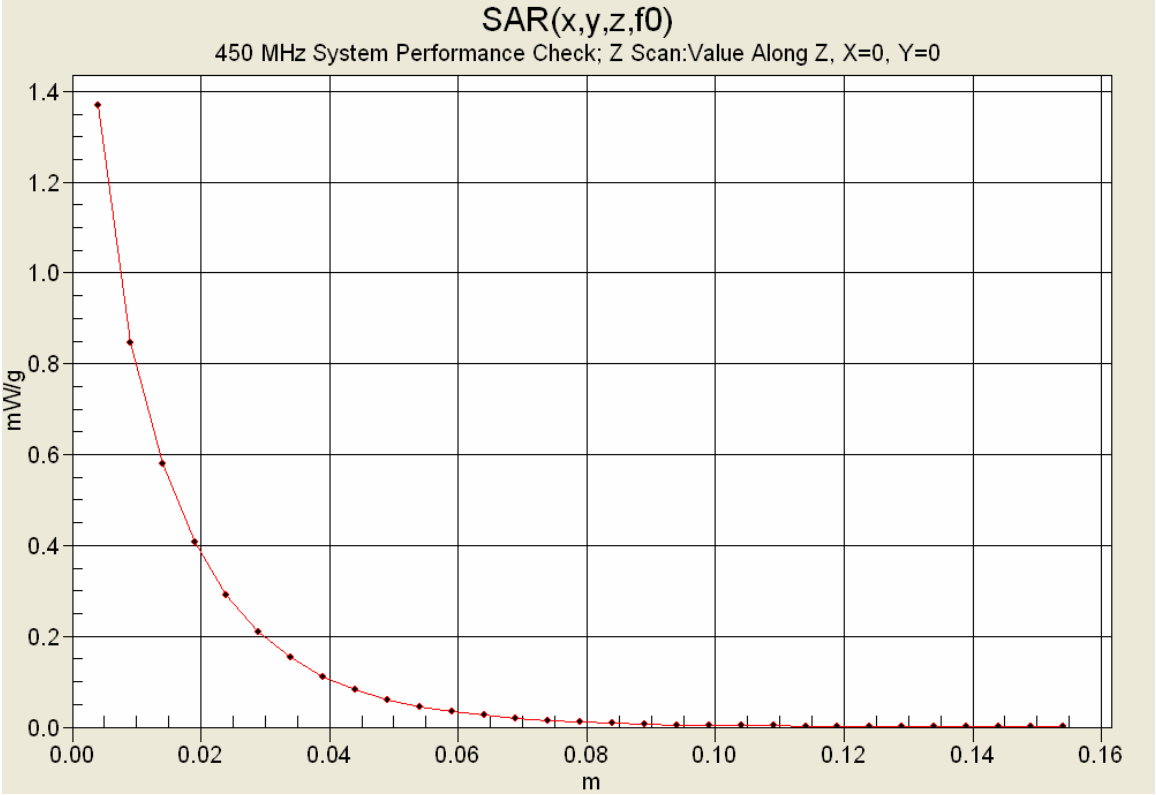
- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Validation Planar; Type: Plexiglas; Serial: 137
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

450 MHz Dipole - System Performance Check/Area Scan (6x11x1):
Measurement grid: dx=15mm, dy=15mm

450 MHz Dipole - System Performance Check/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 39.1 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 2.33 W/kg
SAR(1 g) = 1.32 mW/g; SAR(10 g) = 0.844 mW/g
Maximum value of SAR (measured) = 1.40 mW/g



Z-Axis Scan



Date Tested: 04/04/2007

System Performance Check - 450 MHz Dipole

DUT: Dipole 450 MHz; Asset: 00024; Serial: 136; Validation: 03/23/2007

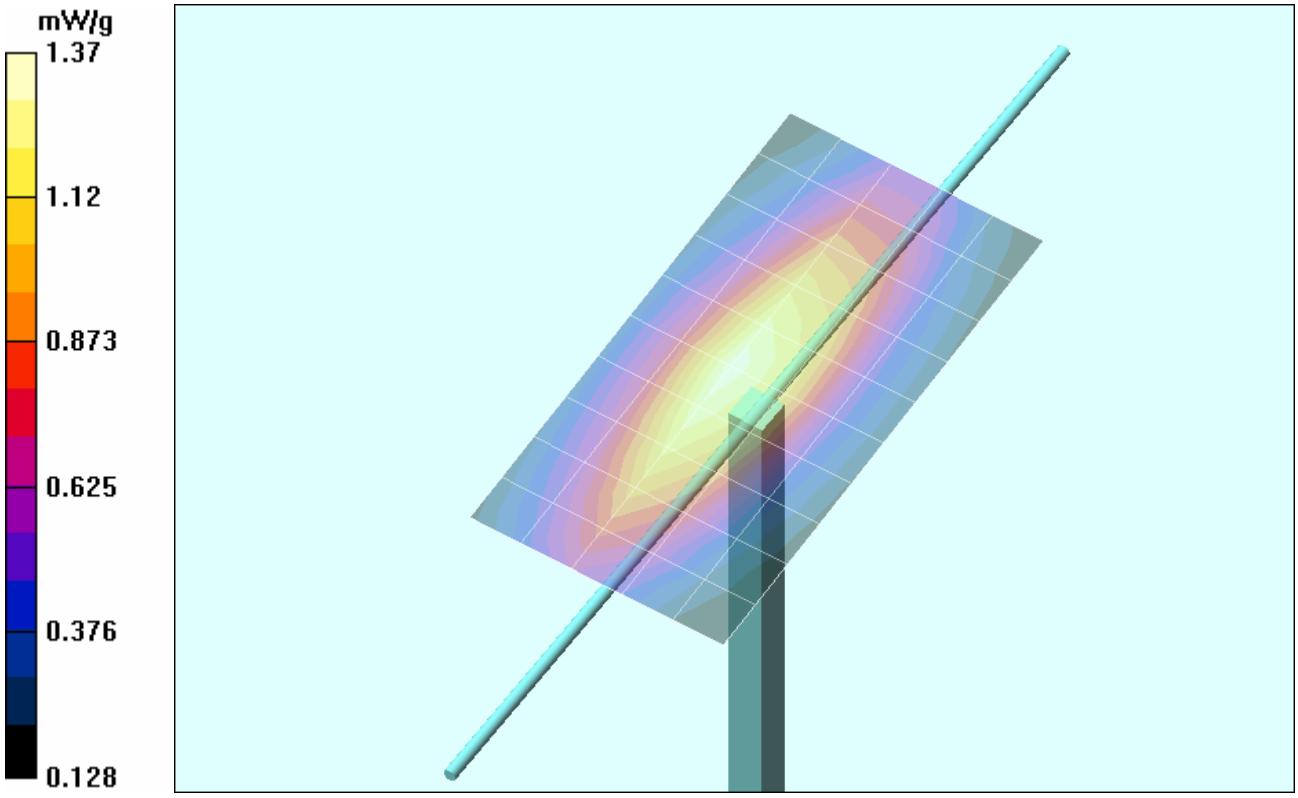
Ambient Temp: 22.5°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.9 kPa; Humidity: 33%

Communication System: CW
Forward Conducted Power: 250 mW
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.88 mho/m; ε_r = 44.4; ρ = 1000 kg/m^3

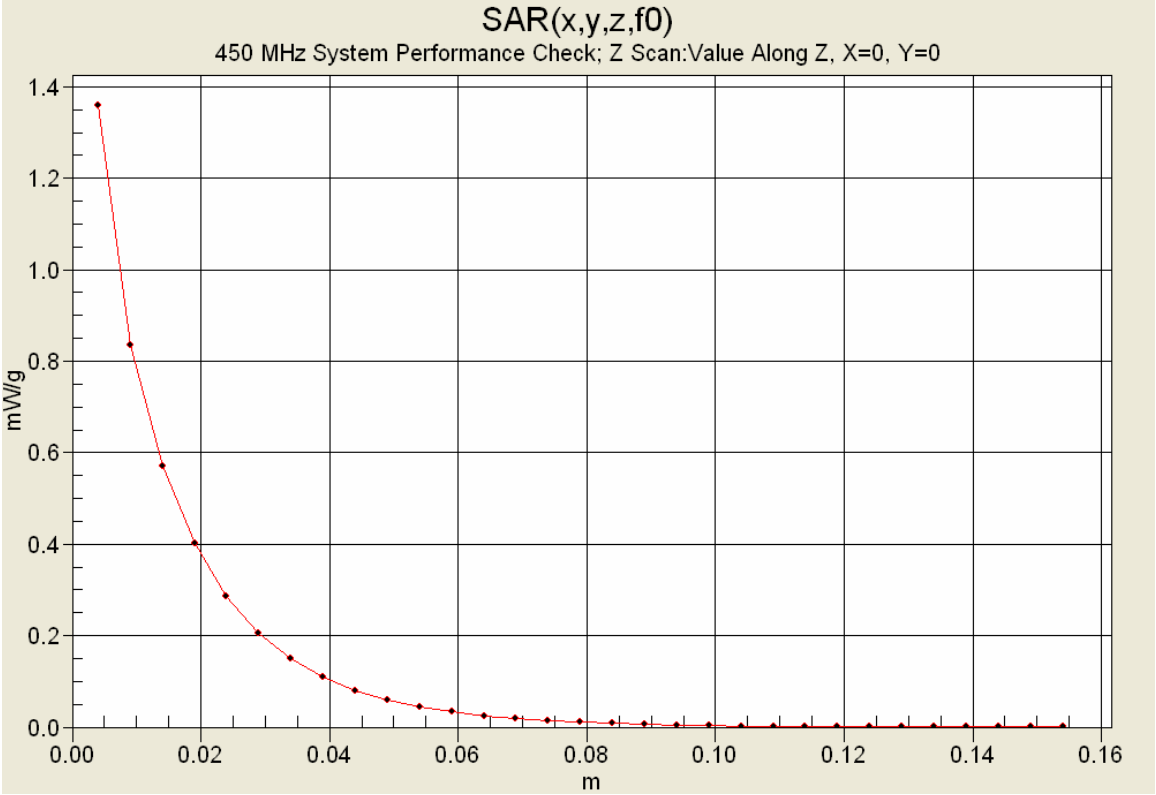
- Probe: ET3DV6 - SN1387; ConvF(7, 7, 7); Calibrated: 16/03/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Validation Planar; Type: Plexiglas; Serial: 137
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

450 MHz Dipole - System Performance Check/Area Scan (6x11x1):
Measurement grid: dx=15mm, dy=15mm

450 MHz Dipole - System Performance Check/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 39.2 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 2.29 W/kg
SAR(1 g) = 1.30 mW/g; SAR(10 g) = 0.831 mW/g
Maximum value of SAR (measured) = 1.37 mW/g



Z-Axis Scan



APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS

450 MHz System Performance Check (Brain)

****

Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Mon 02/Apr/2007
Frequency (GHz)
FCC_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

****

Freq	FCC_eH	FCC_sH	Test_e	Test_s
0.3500	44.70	0.87	45.73	0.75
0.3600	44.58	0.87	45.53	0.76
0.3700	44.46	0.87	45.26	0.77
0.3800	44.34	0.87	44.77	0.77
0.3900	44.22	0.87	44.77	0.79
0.4000	44.10	0.87	44.50	0.80
0.4100	43.98	0.87	44.15	0.80
0.4200	43.86	0.87	44.19	0.81
0.4300	43.74	0.87	43.76	0.82
0.4400	43.62	0.87	43.36	0.83
0.4500	43.50	0.87	43.45	0.84
0.4600	43.45	0.87	43.17	0.85
0.4700	43.40	0.87	43.03	0.86
0.4800	43.34	0.87	42.71	0.86
0.4900	43.29	0.87	42.41	0.87
0.5000	43.24	0.87	42.43	0.88
0.5100	43.19	0.87	42.37	0.88
0.5200	43.14	0.88	42.06	0.90
0.5300	43.08	0.88	41.90	0.91
0.5400	43.03	0.88	41.76	0.92
0.5500	42.98	0.88	41.63	0.92

450 MHz DUT Evaluation (Body)

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Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Mon 02/Apr/2007
Frequency (GHz)
FCC_eH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma
FCC_eB FCC Limits for Body Epsilon
FCC_sB FCC Limits for Body Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

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Freq	FCC_eB	FCC_sB	Test_e	Test_s
0.3500	57.70	0.93	58.76	0.84
0.3600	57.60	0.93	58.85	0.85
0.3700	57.50	0.93	58.82	0.86
0.3800	57.40	0.93	58.58	0.86
0.3900	57.30	0.93	57.97	0.87
0.4000	57.20	0.93	58.40	0.88
0.4100	57.10	0.93	58.29	0.89
0.4200	57.00	0.94	57.69	0.89
0.4300	56.90	0.94	57.69	0.90
0.4400	56.80	0.94	57.39	0.91
0.4500	56.70	0.94	57.57	0.92
0.4600	56.66	0.94	57.27	0.92
0.4700	56.62	0.94	57.17	0.93
0.4800	56.58	0.94	57.06	0.94
0.4900	56.54	0.94	56.77	0.95
0.5000	56.51	0.94	56.82	0.96
0.5100	56.47	0.94	56.40	0.96
0.5200	56.43	0.95	56.36	0.97
0.5300	56.39	0.95	56.56	0.98
0.5400	56.35	0.95	56.17	0.99
0.5500	56.31	0.95	56.35	1.00

450 MHz System Performance Check (Brain)

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Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Tue 03/Apr/2007
Frequency (GHz)
FCC_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

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Freq	FCC_eH	FCC_sH	Test_e	Test_s
0.3500	44.70	0.87	46.86	0.81
0.3600	44.58	0.87	46.76	0.82
0.3700	44.46	0.87	46.73	0.83
0.3800	44.34	0.87	46.24	0.84
0.3900	44.22	0.87	45.93	0.85
0.4000	44.10	0.87	45.82	0.85
0.4100	43.98	0.87	45.79	0.87
0.4200	43.86	0.87	45.39	0.87
0.4300	43.74	0.87	45.54	0.88
0.4400	43.62	0.87	45.00	0.89
0.4500	43.50	0.87	44.91	0.90
0.4600	43.45	0.87	44.77	0.90
0.4700	43.40	0.87	44.47	0.92
0.4800	43.34	0.87	44.42	0.92
0.4900	43.29	0.87	44.12	0.93
0.5000	43.24	0.87	43.76	0.94
0.5100	43.19	0.87	43.47	0.95
0.5200	43.14	0.88	43.47	0.95
0.5300	43.08	0.88	43.62	0.96
0.5400	43.03	0.88	43.15	0.97
0.5500	42.98	0.88	43.07	0.98

450 MHz DUT Evaluation (Body)

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Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Tue 03/Apr/2007
Frequency (GHz)
FCC_eH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma
FCC_eB FCC Limits for Body Epsilon
FCC_sB FCC Limits for Body Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

****

Freq	FCC_eB	FCC_sB	Test_e	Test_s
0.3500	57.70	0.93	58.15	0.83
0.3600	57.60	0.93	58.04	0.84
0.3700	57.50	0.93	58.02	0.84
0.3800	57.40	0.93	57.50	0.85
0.3900	57.30	0.93	57.38	0.86
0.4000	57.20	0.93	57.40	0.87
0.4100	57.10	0.93	57.39	0.87
0.4200	57.00	0.94	57.17	0.88
0.4300	56.90	0.94	56.96	0.89
0.4400	56.80	0.94	56.95	0.90
0.4500	56.70	0.94	56.42	0.90
0.4600	56.66	0.94	56.47	0.91
0.4700	56.62	0.94	56.18	0.92
0.4800	56.58	0.94	56.01	0.93
0.4900	56.54	0.94	56.16	0.94
0.5000	56.51	0.94	56.12	0.95
0.5100	56.47	0.94	55.63	0.96
0.5200	56.43	0.95	55.75	0.96
0.5300	56.39	0.95	55.65	0.97
0.5400	56.35	0.95	55.35	0.98
0.5500	56.31	0.95	55.38	0.98

450 MHz System Performance Check & DUT Evaluation (Brain)

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Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Wed 04/Apr/2007
Frequency (GHz)
FCC_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

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Freq	FCC_eH	FCC_sH	Test_e	Test_s
0.3500	44.70	0.87	46.88	0.80
0.3600	44.58	0.87	46.64	0.81
0.3700	44.46	0.87	46.21	0.82
0.3800	44.34	0.87	45.65	0.82
0.3900	44.22	0.87	45.60	0.84
0.4000	44.10	0.87	45.64	0.84
0.4100	43.98	0.87	45.27	0.85
0.4200	43.86	0.87	44.87	0.86
0.4300	43.74	0.87	44.67	0.87
0.4400	43.62	0.87	44.44	0.88
0.4500	43.50	0.87	44.44	0.88
0.4600	43.45	0.87	44.19	0.89
0.4700	43.40	0.87	44.05	0.90
0.4800	43.34	0.87	43.66	0.91
0.4900	43.29	0.87	43.48	0.91
0.5000	43.24	0.87	43.17	0.93
0.5100	43.19	0.87	43.20	0.94
0.5200	43.14	0.88	43.13	0.94
0.5300	43.08	0.88	42.65	0.95
0.5400	43.03	0.88	42.56	0.96
0.5500	42.98	0.88	42.35	0.97

450 MHz DUT Evaluation (Body)

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Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Wed 04/Apr/2007
Frequency (GHz)
FCC_eH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma
FCC_eB FCC Limits for Body Epsilon
FCC_sB FCC Limits for Body Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

****

Freq	FCC_eB	FCC_sB	Test_e	Test_s
0.3500	57.70	0.93	58.72	0.83
0.3600	57.60	0.93	58.87	0.83
0.3700	57.50	0.93	58.61	0.85
0.3800	57.40	0.93	58.55	0.85
0.3900	57.30	0.93	58.22	0.85
0.4000	57.20	0.93	58.35	0.86
0.4100	57.10	0.93	57.77	0.88
0.4200	57.00	0.94	57.76	0.88
0.4300	56.90	0.94	57.84	0.89
0.4400	56.80	0.94	57.59	0.90
0.4500	56.70	0.94	57.25	0.90
0.4600	56.66	0.94	57.20	0.91
0.4700	56.62	0.94	57.24	0.92
0.4800	56.58	0.94	57.00	0.93
0.4900	56.54	0.94	56.78	0.93
0.5000	56.51	0.94	56.82	0.95
0.5100	56.47	0.94	56.36	0.95
0.5200	56.43	0.95	56.19	0.97
0.5300	56.39	0.95	56.08	0.97
0.5400	56.35	0.95	56.17	0.99
0.5500	56.31	0.95	56.17	0.99

450 MHz DUT Evaluation (Brain)

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Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Thu 05/Apr/2007
Frequency (GHz)
FCC_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

****

Freq	FCC_eH	FCC_sH	Test_e	Test_s
0.3500	44.70	0.87	47.30	0.82
0.3600	44.58	0.87	47.11	0.83
0.3700	44.46	0.87	47.24	0.84
0.3800	44.34	0.87	46.75	0.84
0.3900	44.22	0.87	46.81	0.85
0.4000	44.10	0.87	45.89	0.86
0.4100	43.98	0.87	45.75	0.87
0.4200	43.86	0.87	45.89	0.88
0.4300	43.74	0.87	45.51	0.88
0.4400	43.62	0.87	45.06	0.89
0.4500	43.50	0.87	44.89	0.90
0.4600	43.45	0.87	44.83	0.92
0.4700	43.40	0.87	44.44	0.92
0.4800	43.34	0.87	44.38	0.93
0.4900	43.29	0.87	44.12	0.94
0.5000	43.24	0.87	43.93	0.94
0.5100	43.19	0.87	43.60	0.96
0.5200	43.14	0.88	43.49	0.96
0.5300	43.08	0.88	43.32	0.97
0.5400	43.03	0.88	43.05	0.98
0.5500	42.98	0.88	42.96	0.99