DECLARATION OF COMPLIANCE

SAR RF EXPOSURE EVALUATION - FCC / IC Class II Permissive Change

TEST LAB INFORMATION	Name	CELLTECH LABS INC.			
	Address	21-364 Lougheed Road, Kelowna, B.C. V1X 7R8 Canada			
TEST LAB ACCREDITATION	Type	ISO / IEC 17025	Accreditation	A2LA Test Lab Certificate No. 2470.01	
APPLICANT INFORMATION	Name	HARRIS CORPORATION			
	Address	221 Jefferson Ridge Parkway, Lynchburg, VA 24501 U.S.A.			
STANDARDS APPLIED	FCC	47 CFR §2.1093	IC	Health Canada Safety Code 6	
PROCEDURES APPLIED	FCC	KDB 447498 D01v05r02, KDB 865664 D01v01r03	IC	RSS 102 Issue 5	
	FCC	KDB 865664 D02v01r01, KDB 643646 D01v01r01	IEC		
	IEEE	IEEE 1528-2013	IEC		
DEVICE CLASSIFICATION	FCC	Licensed Non-Broadcast Transmitter Held to Face (TNF) - FCC Part 90			
	IC	Land Mobile Radio Transmitter/Receiver (27.41-960 MHz) - RSS-119			
DEVICE DESCRIPTION	Portable Multi-Band Digital Push-To-Talk (PTT) Radio Transceiver				
APPLICATION TYPE	Class II Permissive Change – Addition of New 7/800 Band Antenna and Accessories				
DATE(S) OF EVALUATION	June 15 thru 26, 2015	SAMPLES RECEIVED	June 5, 2015		

Devices Evaluated

FCC ID	IC Certification	Model	Type	Frequency Range	Manufacturer's Rated Output Power
OWDTR-0133-E	3636B-0133	XL-200P	System & Scan	136-174MHz 378-522MHz 768-776MHz 798-806MHz 806-816MHz 851-861MHz 2412-2462MHz WLAN 5150-5850MHz WLAN 2402-2480 BT	6W 5W 3W 3W 3W 3W 234mW PK 15mW Avg 18.6mW Avg

Antenna Type(s) Tested	14035-4440-01						
Battery Type(s) Tested	See Section 5.0						
Body-worn Accessories Tested	See Section 5.0						
Audio Accessories Tested	See Section 5.0						
Maximum SAR Level Evaluated FCC	Head	0.74	W/kg	1g	50% PTT Duty Factor	Occupational / Controlled Exposure	
	Body	3.42					
Maximum SAR Level Evaluated IC	Head	0.77					
	Body	3.50					
FCC / IC Spatial Peak SAR Limit	Head /Body	8.0	W/kg	1g	50% PTT Duty Factor	Occupational / Controlled Exposure	

Statement of Compliance

Celltech Labs Inc. declares under its sole responsibility that the Harris Corporation Model XL-200P Portable PTT Transceiver has demonstrated compliance with the Specific Absorption Rate (SAR) RF exposure requirements specified in FCC 47 CFR §2.1093 and Health Canada Safety Code 6 for the Occupational/Controlled Exposure environment. The device was tested in accordance with the measurement procedures specified in FCC OET Bulletin 65, Supplement C (Edition 01-01), Industry Canada RSS-102 Issue 4, IEEE Standard 1528-2013 and International Standard IEC 62209-2:2010. All measurements were performed in accordance with the SAR system manufacturer recommendations.

The results and statements contained in this report pertain only to the device(s) evaluated

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.

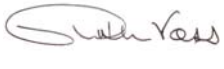
Test Report Approved By		Art Voss, P.Eng.	Senior Engineer	Celltech Labs Inc.

TABLE OF CONTENTS

1.0 DOCUMENT CONTROL

REVISION HISTORY			
REVISION NO.	**DESCRIPTION**	**IMPLEMENTED BY**	**RELEASE DATE**
1.0	1st Release	Art Voss	June 26, 2015
1.1	2nd Release - Corrections	Art Voss	June 30, 2015

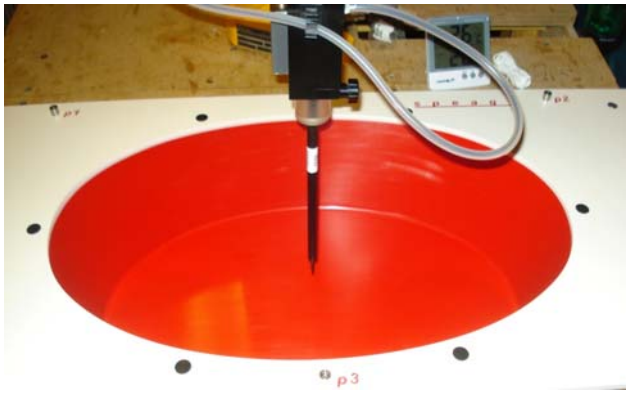
TEST REPORT SIGN-OFF			
DEVICE TESTED BY	**REPORT PREPARED BY**	**QA REVIEW BY**	**REPORT APPROVED BY**
Art Voss/Jasmeet Gill	Art Voss	Art Voss	Art Voss

2.0 INTRODUCTION

This measurement report demonstrates that the HARRIS Corporation XL-200P Portable PTT Radio Transceivers complies with the SAR (Specific Absorption Rate) RF exposure requirements specified in FCC 47 CFR §2.1093 and Health Canada's Safety Code 6 for the Occupational / Controlled Exposure environment. The measurement procedures were in accordance of KDB 447498; KDB 865664; IC RSS-102 Issue 4 and IEEE Standard 1528-2013. 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. Subsequent addendums were applied to the following Radio Transceivers:

3.0 SAR MEASUREMENT SYSTEM

Celltech Labs Inc. SAR measurement facility employs a Dosimetric Assessment System (DASY™) manufactured by Schmid & Partner Engineering AG (SPEAG™) of Zurich, Switzerland. The DASY4 measurement system is comprised of the measurement server, a robot controller, a computer, a near-field probe, a probe alignment sensor, an Elliptical Planar Phantom (ELI) phantom and a specific anthropomorphic mannequin (SAM) phantom for Head 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 and a teach pendant (Joystick) to control the robot's servo 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 form the DAE to digital electronic signal 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, a command decoder and a 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 utilizes a controller with built in VME-bus computer.



DASY4 SAR System with ELI Planar Phantom

DASY4 Measurement Server

4.0 RF CONDUCTED POWER MEASUREMENT

Table 4.0

RF Conducted Power Measurement

Average Conducted Power(1)

Frequency Band	Frequency (MHz)	System Radio				Test Channel(2)
		Measured Power (dBM)	Measured Power (W)	Rated Power (dBm)	Rated Power (W)	
700 MHz	768	34.11	2.58	34.8	3	X
	776	34.09	2.56	34.8	3	X
	806	34.08	2.56	34.8	3	X
800 MHz	851	34.88	3.07	34.8	3	X
	856	35.01	3.17	34.8	3	X
	861	34.81	3.01	34.8	3	X

(1) The RF conducted output power levels of the DUT were measured by Celltech Labs prior to the SAR evaluations using a Gigatronics 8652A Universal Power Meter at the external antenna connector of the radio in accordance with requirements of FCC 47 CFR §2.1046 and IC RSS-Gen.

(2) See Section 4.0

5.0 NUMBER OF TEST CHANNELS (N_C)

Table 5.0

Number of Test Channels (N_C)				
Antenna Part Number	**Antenna Type**	**Frequency Range (MHz)**	**N_C (1)**	**N_C (2)**
14035-4440-01	**Helical Coil**	**700 Band**	**3**	**3**
		800 Band	**3**	**3**

(1) In accordance with KDB 447498
(2) In accordance with IEC 62209-1

6.0 MANUFACTURER'S ACCESSORY LIST

Table 6.0

Change History

Change ID	Date	Change Type	Description of Change
1	10 Feb 2015	Initial	Initial Filing
2	17 Mar 2015	C2PC	Added BlueTooth and WiFi Features
3	29 Jun 2015	C2PC	Added 14035-4440-01 Antenna and Other Accessories

Table 6.1

Manufacturer's Accessory List

Test Report ID Number	Manufacturer's Part Number	Description	Change ID[1]	UDC Group[2]	Type II Group[3]	SAR[4] Evaluated	SAR[5] Tested
Antenna							
T1	KRE1011506/1	1/2 wave whip antenna, (764-870 MHz)	1			Y	Y
T2	KRE1011506/2	1/4 wave whip antenna, (764-870 MHz)	1			Y	Y
T3	KRE1011219/2	Helical VHF	1			Y	Y
T4	14025-4420-01	Wideband Whip, UHF, 7/800 MHz					
T5	14035-4000-01	Full spectrum whip antenna	1			Y	Y
T6	14035-4440-01	1/2 Wave whip antenna, 7/800 MHz	3			Y	Y
T7	14035-4440-02	1/4 Wave antenna, 7/800 MHz					
Battery							
P1	14034-4010-01	Li-Ion Battery 7.2VDC, 3300mAh	1			Y	Y
Audio Accessory							
A1	12082-0600-01	Standard Speaker Microphone	1	7A	PB	Y	Y
A2	12082-0600-02	Storm Speaker Microphone	1	7A	PB	Y	Y
A3	12150-4001-02	Premium Speaker MIC, Fire, NC, Hirose	1	9	PB	Y	Y
A4	12082-0650-01	Microphone, Palm, 2-Wire Black	1	7A	IL	Y	Y
A5	12082-0650-02	Microphone, Palm, 2-Wire Beige	3	7A	IL	Y	
A6	12082-0650-03	Microphone, Mini Lapel, 3-Wire Black	1	7A	IL	Y	Y
A7	12082-0650-04	Microphone, Mini Lapel, 3-Wire Beige	1	7A	IL	Y	
A8	12082-0650-05	Earphone Kit, Black, XG-100P	1	7A	IL	Y	
A9	12082-0650-06	Earphone Kit, Beige, XG-100P	1	7A	IL	Y	
A10	12082-0650-07	Headset, In-Ear, Boom MIC, In-Line PTT	3	7A	IL	Y	
A11	12082-0650-08	Headset, LTWT, OTH, Single Ear, IN-Line PTT	3	7A	IL	Y	
A12	12082-0650-09	Headset, LTWT, BTH, Dual Ear, In_Line PTT	3	7A	IL	Y	
A13	12082-0650-10	Headset, LTWT, BTH, Dual Ear, Pig Tail PTT	3	7A	PT	Y	Y
A14	12082-0650-11	Headset, LTWT, BTH, Dual In-Ear, In_Line PTT	3	7A	IL	Y	
A15	12082-0650-12	Headset, LTWT, BTH, Dual In-Ear, Pig Tail PTT	3	7A	PT	Y	Y
A16	12082-0650-13	Headset, Heavy Duty, BTH, w/PTT, XG-100P	3	7A	IL	Y	Y
A17	12082-0650-14	Headset, Heavy Duty, OTH, w/PTT, XG-100P	3	7A	IL	Y	
A18	12082-0650-15	Headset, BTH, Boom MIC, Earpiece, w/PTT	3	7A	IL	Y	

A19	12082-0650-16	Headset, Tactical, Boom MIC, Earpiece, w/PTT	**3**	**7A**	**PT**	**Y**	
A20	12082-0650-17	Skull MIC, w/Body PTT, Earcup, XG-100P	**3**	**9**	**BB**	**Y**	**Y**
A21	12082-0650-18	Throat MIC, w/Acoustic Tube, Body PTT	**3**	**9**	**BB**	**Y**	
A22	12082-0650-19	Throat MIC, w/Acoustic Tube, Body & Ring PTT	**3**	**9**	**RB**	**Y**	
A23	12082-0681-01	Speaker MIC, Wireless Bluetooth	**3**	**BT**	**PB**	**Y**	
A24	12082-0684-01	BlueTooth, Covert, Earpiece, MIC, PTT	**3**	**BT**	**n/a**	**Y**	
A25	14002-0197-01	Hirose to Unity Adapter	**1**	**7B**	**n/a**	**Y**	**Y**
A26	LS103239V1	Earphone, Lapel MIC, 2.5mm	**3**	**n/a**	**n/a**	**Y**	**Y**
		Body-Worn Accessory					
B1	12082-1290-01	Metal Belt Clip	**1**			**Y**	**Y**
B2	12082-3230-01	D-Swivel (Used w/ 14002-0218-01 and KRY 1011609/1)	**1**			**Y**	**Y**
B3	14002-0218-01	Premium Belt Loop	**1**			**Y**	**Y**
B4	14035-4200-01	Holster, Leather, Radio, Premium	**3**			**Y**	**Y**
B5	14035-4200-02	Holster, Leather w/Rings for Shoulder Strap, Radio, Premium	**3**			**Y**	**Y**
B6	14035-4200-03	Holster, Nylon, Black, Radio, Premium					
B7	14035-4200-04	Holster, Ring, Leather, Radio, Premium					
B8	14035-4201-01	Kit, 14035-4200-01 Holster Assy w/ 14002-0218-01 Belt Loop					
B9	14035-4201-02	Kit, 14035-4200-02 Holster Assy w/ 14002-0218-01 Belt Loop					
B10	14035-4202-01	Holster, Leather, Radio, Standard					
B11	14035-4202-02	Holster, Leather w/Rings for Shoulder Strap, Radio, Standard					
B12	14035-4202-03	Holster, Nylon, Black, Radio, Standard					
B13	14035-4202-04	Holster, Ring, Leather, Radio, Standard					
B14	CC103333V1	Shoulder Strap	**1**			**Y**	**Y**
B15	KRY 1011609/1	Leather Belt Loop	**1**			**Y**	**Y**

(1) From Table 6.0 - Indicates which change the item was introduced or tested.

(2) UDC Group: 9 = 9 Pin, 7A = 7 Pin, 7B = 7 Pin Modified

(3) Type II Group: PB = Palm Button, IL = In-Line Pushbutton, PT = Pigtail Pushbutton, RB = Ring Pushbutton, BB = Body Button, BT = BlueTooth

(4) Accessories are categorized into groups of similar design and construction. Samples of individual groups are SAR Tested and the SAR results apply to ALL members of the Accessory Group. A "Y" in this column indicates the accessory is deemed acceptable.

(5) Accessories and/or Accessory Group members SAR Tested.

7.0 SAR MEASUREMENT SUMMARY

Table 7.0

Measured SAR Results (1g)- BODY Configuration (FCC/IC)

Date	Plot ID	DUT M/N	DUT Type	Test Frequency (*MHz*)	Modulation	Accessories: Antenna ID	Accessories: Battery ID	Accessories: Body ID	Accessories: Audio ID	DUT Spacing: DUT (*mm*)	DUT Spacing: Antenna (*mm*)	Measured SAR (1g): 100% DC (*W/kg*)	Measured SAR (1g): 50% DC (*W/kg*)	SAR Drift (dB)
23 Jun 2015	B1	XL-200P	Scan	768	CW	T6	P1	B1	A2	0	30	4.470	2.235	-0.202
23 Jun 2015	B2			776		T6	P1	B1	A2			4.310	2.155	0.385
23 Jun 2015	B3			805		T6	P1	B1	A2			5.290	2.645	-0.153
23 Jun 2015	B4			851		T6	P1	B1	A2			6.360	3.180	-0.173
23 Jun 2015	B5			856		T6	P1	B1	A2			5.020	2.510	-0.219
23 Jun 2015	B6			861		T6	P1	B1	A2			5.130	2.565	-0.019
24 Jun 2015	B7			851		T6	P1	B1	A16(1)			6.000	3.000	-0.109
24 Jun 2015	B8			851		T6	P1	B1	A13(1)			6.060	3.030	-0.107
24 Jun 2015	B9			851		T6	P1	B1	A20(1)			6.730	3.365	-0.106
24 Jun 2015	B10			851		T6	P1	B1	A15(1)			6.180	3.090	-0.278
24 Jun 2015	B11			851		T6	P1	B4(2)	A20		35	1.970	0.985	0.547
24 Jun 2015	B12			851		T6	P1	B5(2)	A20		25	6.220	3.110	-0.285
SAR Limit							**Head/Body**			**Spatial Peak**		**RF Exposure Category**		
FCC 47 CFR 2.1093				**Health Canada Safety Code 6**			**8.0 W/kg**			**1 Gram Average**		**Occupational**		

(1) Tested to the worst case results - B4

(2) Tested to the worst case results - B9

Table 7.1

Measured SAR Results (1g)- FACE Configuration (FCC/IC)

Date	Plot ID	DUT		Test Frequency (*MHz*)	Modulation	Accessories				DUT Spacing		Measured SAR (1g)		SAR Drift (dB)
		M/N	Type			Antenna ID	Battery ID	Body ID	Audio ID	DUT (*mm*)	Antenna (*mm*)	100% DC (*W/kg*)	50% DC (*W/kg*)	
25 Jun 2015	F1	XL-200P	Scan	768	CW	T6	P1	n/a	n/a	25	55	0.973	0.487	0.075
25 Jun 2015	F2			776		T6	P1	n/a	n/a			1.140	0.570	-0.673
25 Jun 2015	F3			805		T6	P1	n/a	n/a			1.440	0.720	-0.728
25 Jun 2015	F4			851		T6	P1	n/a	n/a			1.280	0.640	-0.105
25 Jun 2015	F5			856		T6	P1	n/a	n/a			1.110	0.555	0.199
25 Jun 2015	F6			861		T6	P1	n/a	n/a			1.170	0.585	-0.123
SAR Limit							Head/Body			Spatial Peak		RF Exposure Category		
FCC 47 CFR 2.1093				Health Canada Safety Code 6			8.0 W/kg			1 Gram Average		Occupational		

8.0 SCALING OF MAXIMUM MEASURE SAR

Table 8.0

Scaling of Maximum Measured SAR

Plot ID	Configuration	Freq (MHz)	Measured Fluid Deviation Permittivity	Measured Fluid Deviation Conductivity	Measured Conducted Power (dBm)	Measured Drift (dB)	Measured SAR (1g) (W/kg)
F3	Face	805	1.90%	-3.22%	34.81	-0.173	0.72
B9	Body	851	-5.07%	-1.01%	34.81	-0.106	3.37

Step 1

Fluid Sensitivity Adjustment (1)

Plot ID	Scale Factor (%)		Measured SAR (W/kg)		Adjusted SAR (1g) (W/kg)
F3	n/a (5)	x	1.58	=	0.72
B9	0.35%	x	3.37	=	3.38

Step 2

Manufacturer's Tune-Up Tolerance (2)

Plot ID	Measured Conducted Power (dBm)	Rated Power (dBm)	Delta (dB)		Adjusted SAR (W/kg)		Reported SAR (1g) (W/kg)
F3	34.81	34.8	0.01	+	0.72	=	0.72
B9	34.81	34.8	0.01	+	3.38	=	3.38

Step 3 (5)

Simultaneous Transmission (3) - Bluetooth

Plot ID	Rated Output Power (Pmax) (mW)	Freq (MHz)	Separation Distance (mm)	Estimated SAR (W/kg)		Reported SAR (W/kg)		Simultaneous Reported SAR (W/kg)
F3	18.6	2402-2480	n/a	0.023	+	0.72	=	0.74
B9	18.6	2402-2480	n/a	0.037	+	3.38	=	3.42

Step 4 (IC/EU/AU)

Drift Adjustment (4)

Plot ID	Measured Drift (dB)		Reported or Simultaneous Reported SAR (W/kg)		Scaled SAR (1g) (W/kg)
F3	-0.173	+	0.74	=	0.77
B9	-0.106	+	3.42	=	3.5

Notes

See Notes Below

Notes
(1) Per IEC-62209-1. Scaling required only when Measured Fluid Deviation is greater than 5% and only when the Scale Factor is (+) Positive. See Table 8.1
(2) Per KDB 447498. Scaling required only when Delta is (-) Negative. The absolute value of Delta is added to Adjusted SAR.
(3) Per KDB 447498 4.3.2.
(4) Per IEC 62209-1. Scaling required only when Measured Drift is (-) Negative. The absolute value of Measured Drift is added to Reported or Simultaneous Reported SAR.
(5) Includes contribution from both WiFi and BlueTooth

Table 8.1

Fluid Sensitivity Calculation (1g)	
Delta SAR = Ce * Delta Er + C(sigma)*Delta Sigma	
Frequency (GHz)	**Plot ID**
0.15	**B18**
Ce	-0.2196
Cσ	-0.7516
Δ E	-5.07%
Δσ	-1.01%
ΔSAR	**0.35%**
Scale Factor Is Negative. Scaling NOT Required	

9.0 SAR EXPOSURE LIMITS

Table 9.0

SAR RF EXPOSURE LIMITS			
FCC 47 CFR 2.1093	**Health Canada Safety Code 6**	**(General Population / Uncontrolled Exposure)**	**(Occupational / Controlled Exposure)**
Spatial Average (averaged over the whole body)		0.08 W/kg	0.4 W/kg
Spatial Peak (averaged over any 1 g of tissue)		1.6 W/kg	**8.0 W/kg**
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)		4.0 W/kg	20.0 W/kg
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 to individuals who have no knowledge or control of their potential exposure.			
Controlled environments are defined as locations where there is potential exposure to individuals who have knowledge of their potential exposure and can exercise control over their exposure.			

10.0 DETAILS OF SAR EVALUATION

EVALUATION DETAILS	
1	The test channels selected for the SAR evaluations were based test procedures FCC KDB 447498 and IEC 62209-1. The procedure yielding the highest channel count was applied.
2	The DUT was evaluated for SAR in accordance with the procedures described in FCC KDB 643646.
3	The Scan radio model differs from the System radio model in front keypad only. The scan radio was evaluated for the worst case configuration of the SAR evaluation.
4	The DUT was evaluated for SAR at the maximum conducted output power level, preset by the manufacturer, in unmodulated continuous transmit operation (Continuous Wave mode at 100% duty cycle) with the transmit key continuously depressed. For a Push-To-Talk (PTT) device, the 50% duty cycle compensation reported assumes a transmit/receive cycle of equal time base.
5	A single point SAR measurement was taken prior to the Area Scan and after the Zoom Scan and the SAR drift of the DUT was evaluated. The measured SAR drift was added to the measured SAR levels of the Maximum ***reported*** SAR (IC/EU only).
6	Each SAR evaluations were performed with a fully charged battery.
7	The fluid temperature remained within +/-2°C from the time of the fluid dielectric parameter measurement to the completion of the SAR evaluation.
8	The fluid temperature remained within +/-0.5°C throughout the test day.

SCAN PROCEDURE	
Maximum distance from the closest measurement point to phantom surface.	4 ± 1mm
Maximum probe angle normal to phantom surface.	5^{o} ± 1^{o}
Area Scan Spatial Resolution ΔX, ΔY	15mm
Zoom Scan Spatial Resolution ΔX, ΔY	7.5mm
Zoom Scan Spatial Resolution ΔZ	5mm
Zoom Scan Volume X, Y, Z	30mm x 30mm x 30mm
Phantom	Elliptical Planar (ELI)
Fluid Depth	150mm
An Area Scan with an area extending beyond the device was used to locate the candidate maximas within 2dB of the global maxima.	
A Zoom Scan centered over the peak SAR location(s) determined by the Area Scan was used to determine the 1 gram and 10 gram peak spatial-averge SAR	

11.0 MEASUREMENT UNCERTAINTIES

Table 11.0

UNCERTAINTY BUDGET FOR DEVICE EVALUATION (IEEE 1528-2013 Table 9)

Uncertainty Component	IEEE 1528 Section	Uncertainty Value ±%	Probability Distribution	Divisor	ci 1g	ci 10g	Uncertainty Value ±% (1g)	Uncertainty Value ±% (10g)	V_i or V_{eff}
Measurement System									
Probe Calibration*	E.2.1	6.6	Normal	1	1	1	6.60	6.60	∞
Axial Isotropy*	E.2.2	4.7	Rectangular	1.732050808	0.7	0.7	1.9	1.9	∞
Hemispherical Isotropy*	E.2.2	9.6	Rectangular	1.732050808	0.7	0.7	3.9	3.9	∞
Boundary Effect*	E.2.3	8.3	Rectangular	1.732050808	1	1	4.8	4.8	∞
Linearity*	E.2.4	4.7	Rectangular	1.732050808	1	1	2.7	2.7	∞
System Detection Limits*	E.2.4	1.0	Rectangular	1.732050808	1	1	0.6	0.6	∞
Modulation Response	E.2.5	4.0	Rectangular	1.732050808	1	1	2.3	2.3	∞
Readout Electronics*	E.2.6	1.0	Normal	1	1	1	1.0	1.0	∞
Response Time*	E.2.7	0.8	Rectangular	1.732050808	1	1	0.5	0.5	∞
Integration Time*	E.2.8	1.4	Rectangular	1.732050808	1	1	0.8	0.8	∞
RF Ambient Conditions - Noise	E.6.1	0.0	Rectangular	1.732050808	1	1	0.0	0.0	∞
RF Ambient Conditions - Reflection	E.6.1	0.0	Rectangular	1.732050808	1	1	0.0	0.0	∞
Probe Positioner Mechanical Tolerance*	E.6.2	0.4	Rectangular	1.732050808	1	1	0.2	0.2	∞
Probe Positioning wrt Phantom Shell*	E.6.3	2.9	Rectangular	1.732050808	1	1	1.7	1.7	∞
Extrapolation, interpolation & integration algorithms for max. SAR evaluation*	E.5	3.9	Rectangular	1.732050808	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	0.3	Normal	1	1	1	0.3	0.3	5
Device Holder Uncertainty*	E.4.1	3.6	Normal	1	1	1	3.6	3.6	∞
SAR Drift Measurement**	E.2.9	0.0	Rectangular	1.732050808	1	1	0.0	0.0	∞
SAR Scaling***	E.6.5	2.0	Rectangular	1.732050808	1	1	1.2	1.2	∞
Phantom and Tissue Parameters									
Phantom Uncertainty*	E.3.1	4.0	Rectangular	1.732050808	1	1	2.3	2.3	∞
SAR Correction Uncertainty	E.3.2	1.2	Normal	1	1	0.84	1.2	1.0	∞
Liquid Conductivity (measurement)	E.3.3	6.8	Normal	1	0.78	0.71	5.3	4.8	10
Liquid Permittivity (measurement)	E.3.3	5.3	Normal	1	0.23	0.26	1.2	1.4	10
Liquid Conductivity (Temperature)	E.3.2	0.1	Rectangular	1.732050808	0.78	0.71	0.1	0.0	∞
Liquid Permittivity Temperature)	E.3.2	0.0	Rectangular	1.732050808	0.23	0.26	0.0	0.0	∞
Effective Degrees of Freedom(1)								**V_{eff} =**	**873.2**
Combined Standard Uncertainty			**RSS**				**12.59**	**12.40**	
Expanded Uncertainty (95% Confidence Interval)			**k=2**				**25.18**	**24.80**	

Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003

(1) The Effective Degrees of Freedom is > 30 therefore a coverage factor of k=2 represents an approximate confidence level of 95%.

* Provided by SPEAG

Table 11.1

Calculation of the Degrees and Effective Degrees of Freedom

$v_i = n - 1$	$v_{eff} = \frac{u_c^4}{\sum_{i=1}^{m} \frac{c_i^4 u_i^4}{v_i}}$

12.0 TISSUE SIMULATING LIQUID (TSL) RECIPE

Table 12.0

Simulated Tissue Mixture	
Frequency:	**Fluid Type**
835 MHz	**HEAD**
Ingredient	**% by Weight**
Water	40.71
Sugar	56.63
Salt	1.48
HEC	0.99
Bacteriacide	0.01

Table 12.1

Simulated Tissue Mixture	
Frequency:	**Fluid Type**
835MHz	**BODY**
Ingredient	**% by Weight**
Water	53.79
Sugar	45.13
Salt	0.98
HEC	
Bacteriacide	0.1

13.0 FLUID DIELECTRIC PARAMETERS

Table 13.0

FLUID DIELECTRIC PARAMETERS

Date:	22 Jun 2015		Frequency:	835MHz	Tissue:	Body
Freq (MHz)	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
735.0000	53.29	0.87	55.59	0.96	-4.14%	-9.38%
745.0000	53.11	0.88	55.55	0.96	-4.39%	-8.33%
755.0000	53.07	0.88	55.51	0.96	-4.40%	-8.33%
765.0000	52.94	0.88	55.47	0.96	-4.56%	-8.33%
768.0000	53.01	0.89	55.46	0.96	-4.42%	-8.00%
775.0000	53.16	0.90	55.43	0.97	-4.10%	-7.22%
776.0000	53.15	0.90	55.43	0.97	-4.11%	-6.91%
785.0000	53.04	0.93	55.39	0.97	-4.24%	-4.12%
795.0000	52.69	0.93	55.36	0.97	-4.82%	-4.12%
805.0000	52.89	0.94	55.32	0.97	-4.39%	-3.09%
806.0000	52.86	0.94	55.32	0.97	-4.44%	-2.89%
815.0000	52.59	0.96	55.28	0.97	-4.87%	-1.03%
825.0000	52.52	0.97	55.24	0.97	-4.92%	0.00%
835.0000	52.55	0.98	55.20	0.97	-4.80%	1.03%
845.0000	52.52	0.97	55.17	0.98	-4.80%	-1.02%
851.0000	52.36	0.98	55.15	0.99	-5.07%	-1.01%
855.0000	52.25	0.98	55.14	0.99	-5.24%	-1.01%
856.0000	52.20	0.98	55.14	0.99	-5.32%	-1.11%
861.0000	51.97	0.99	55.12	1.00	-5.71%	-1.60%
865.0000	51.79	0.99	55.11	1.01	-6.02%	-1.98%
875.0000	51.60	0.99	55.08	1.02	-6.32%	-2.94%
885.0000	51.59	1.02	55.05	1.03	-6.29%	-0.97%
895.0000	51.59	1.01	55.02	1.04	-6.23%	-2.88%
905.0000	51.82	1.04	55.00	1.05	-5.78%	-0.95%
915.0000	51.57	1.07	55.00	1.06	-6.24%	0.94%
925.0000	51.73	1.06	54.98	1.06	-5.91%	0.00%
935.0000	51.69	1.09	54.96	1.07	-5.95%	1.87%

Table 13.1

FLUID DIELECTRIC PARAMETERS

Date:	24 Jun 2015		Frequency:	835MHz	Tissue:	Head
Freq (MHz)	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
735.0000	43.14	0.79	42.02	0.89	2.67%	-11.24%
745.0000	42.92	0.79	41.97	0.89	2.26%	-11.24%
755.0000	42.99	0.82	41.92	0.89	2.55%	-7.87%
765.0000	43.10	0.84	41.86	0.89	2.96%	-5.62%
768.0000	43.05	0.84	41.85	0.89	2.87%	-5.94%
775.0000	42.92	0.84	41.81	0.90	2.65%	-6.67%
776.0000	42.90	0.84	41.81	0.90	2.62%	-6.56%
785.0000	42.74	0.85	41.76	0.90	2.35%	-5.56%
795.0000	42.78	0.86	41.71	0.90	2.57%	-4.44%
805.0000	42.39	0.87	41.66	0.90	1.75%	-3.33%
806.0000	42.45	0.87	41.65	0.90	1.90%	-3.22%
815.0000	42.96	0.88	41.60	0.90	3.27%	-2.22%
825.0000	42.85	0.89	41.55	0.90	3.13%	-1.11%
835.0000	42.24	0.88	41.50	0.90	1.78%	-2.22%
845.0000	41.78	0.92	41.50	0.91	0.67%	1.10%
851.0000	41.77	0.91	41.50	0.92	0.66%	-0.22%
855.0000	41.77	0.91	41.50	0.92	0.65%	-1.09%
856.0000	41.76	0.91	41.50	0.92	0.61%	-1.09%
861.0000	41.68	0.92	41.50	0.93	0.43%	-1.08%
865.0000	41.62	0.92	41.50	0.93	0.29%	-1.08%
875.0000	41.61	0.94	41.50	0.94	0.27%	0.00%
885.0000	41.76	0.93	41.50	0.95	0.63%	-2.11%
895.0000	41.52	0.96	41.50	0.96	0.05%	0.00%
905.0000	41.76	0.95	41.50	0.97	0.63%	-2.06%
915.0000	41.67	0.97	41.50	0.98	0.41%	-1.02%
925.0000	41.40	0.99	41.48	0.98	-0.19%	1.02%
935.0000	41.25	0.98	41.46	0.99	-0.51%	-1.01%

****

Aprel Laboratory
Test Result for UIM Dielectric Parameter
Mon 22/Jun/2015 19:13:14
Freq 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
0.7350	55.59	0.96	53.29	0.87
0.7450	55.55	0.96	53.11	0.88
0.7550	55.51	0.96	53.07	0.88
0.7650	55.47	0.96	52.94	0.88
0.7750	55.43	0.97	53.16	0.90
0.7850	55.39	0.97	53.04	0.93
0.7950	55.36	0.97	52.69	0.93
0.8050	55.32	0.97	52.89	0.94
0.8150	55.28	0.97	52.59	0.96
0.8250	55.24	0.97	52.52	0.97
0.8350	55.20	0.97	52.55	0.98
0.8450	55.17	0.98	52.52	0.97
0.8550	55.14	0.99	52.25	0.98
0.8650	55.11	1.01	51.79	0.99
0.8750	55.08	1.02	51.60	0.99
0.8850	55.05	1.03	51.59	1.02
0.8950	55.02	1.04	51.59	1.01
0.9050	55.00	1.05	51.82	1.04
0.9150	55.00	1.06	51.57	1.07
0.9250	54.98	1.06	51.73	1.06
0.9350	54.96	1.07	51.69	1.09

****

Aprel Laboratory
Test Result for UIM Dielectric Parameter
Wed 24/Jun/2015 19:45:34
Freq 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
0.7350	42.02	0.89	43.14	0.79
0.7450	41.97	0.89	42.92	0.79
0.7550	41.92	0.89	42.99	0.82
0.7650	41.86	0.89	43.10	0.84
0.7750	41.81	0.90	42.92	0.84
0.7850	41.76	0.90	42.74	0.85
0.7950	41.71	0.90	42.78	0.86
0.8050	41.66	0.90	42.39	0.87
0.8150	41.60	0.90	42.96	0.88
0.8250	41.55	0.90	42.85	0.89
0.8350	41.50	0.90	42.24	0.88
0.8450	41.50	0.91	41.78	0.92
0.8550	41.50	0.92	41.77	0.91
0.8650	41.50	0.93	41.62	0.92
0.8750	41.50	0.94	41.61	0.94
0.8850	41.50	0.95	41.76	0.93
0.8950	41.50	0.96	41.52	0.96
0.9050	41.50	0.97	41.76	0.95
0.9150	41.50	0.98	41.67	0.97
0.9250	41.48	0.98	41.40	0.99
0.9350	41.46	0.99	41.25	0.98

14.0 SYSTEM VERIFICATION TEST RESULTS

Table 14.0

System Verification Test Resluts

Date	Frequency (MHz)	Fluid Type	Fluid Temp °C	Ambient Temp °C	Ambient Humidity (%)	Input Power (mW)	Dipole Spacing (mm)	Validation Source P/N	Validation Source S/N
22 June 2015	835	Body	23.4	25	22%	250	15	D835V2	4d075

SAR						Fluid Parameters					
1 gram			10 gram			Permittivity			Conductivity		
Measured	Target	Deviation	Measured	Target	Deviation	Measured	Target	Deviation	Measured	Target	Deviation
2.47	2.42	2.07%	**1.61**	1.59	1.26%	52.55	55.20	-4.80%	0.98	0.97	1.03%

Table 14.1

System Verification Test Resluts

Date	Frequency (MHz)	Fluid Type	Fluid Temp °C	Ambient Temp °C	Ambient Humidity (%)	Input Power (mW)	Dipole Spacing (mm)	Validation Source P/N	Validation Source S/N
24 June 2015	835	Head	24.2	26	23%	250	15	D835V2	4d075

SAR						Fluid Parameters					
1 gram			10 gram			Permittivity			Conductivity		
Measured	Target	Deviation	Measured	Target	Deviation	Measured	Target	Deviation	Measured	Target	Deviation
2.37	2.41	-1.66%	**1.52**	1.56	-2.56%	42.24	41.50	1.78%	0.88	0.90	-2.22%

15.0 MEASUREMENT SYSTEM SPECIFICATIONS

Table 15.0

Measurement System Specification	
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 80
	Postprocessing Software: SEMCAD, V1.8 Build 186
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	EX3DV4
Serial No.	3600
Construction	Triangular core fiber optic detection system
Frequency	10 MHz to 6 GHz
Linearity	±)ζΗΓ 3 οτ ζΗΜ 03(Βδ 2.0
Phantom	
Type	ELI Elliptical Planar Phantom
Shell Material	Fiberglass
Thickness	2mm +/- .2mm
Volume	> 30 Liter

Table 15.1

Measurement System Specification (Continued)

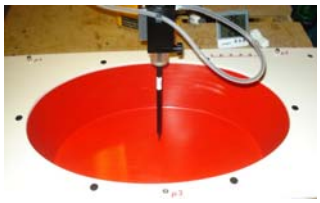
Probe Specification

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 head 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 head tissue (rotation around probe axis) ± 0.4 dB in head 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

EX3DV4 E-Field Probe

Phantom Specification

The ELI V5.0 phantom is an elliptical planar fiberglass shell phantom with a shell thickness of 2.0mm +/- .2mm at the planar area. This phantom conforms to OET Bulletin 65, Supplement C, IEEE 1528-2013, IEC 62209-1 and IEC 62209-2.



ELI Elliptical Planar Phantom

Device Positioner Specification

The DASY4 device positioner 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^{O}. 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 Positioner

16.0 TEST EQUIPMENT LIST

Table 16.0

Test Equipment List

DESCRIPTION	ASSET NO.	SERIAL NO.	DATE CALIBRATED	CALIBRATION INTERVAL
Schmid & Partner DASY4 System	-	-	-	-
-DASY4 Measurement Server	00158	1078	CNR	CNR
-Robot	00046	599396-01	CNR	CNR
-DAE4	00019	353	9 April 2014	Biennial
-DAE3	00018	370	23 April 2015	Biennial
-EX3DV6 E-Field Probe	00017	3600	23 April 2015	Annual
-D450V3 Validation Dipole	00221	1068	21 April 2015	Triennial
ELI Elliptical Planar Phantom	00247	-	CNR	CNR
HP 85070C Dielectric Probe Kit	00033	none	CNR	CNR
Gigatronics 8652A Power Meter	00110	1835801	17 March 2014	Biennial
Gigatronics 80701A Power Sensor	00249	1834473	17 March 2014	Biennial
Gigatronics 80701A Power Sensor	00248	1833687	17 March 2014	Biennial
HP 8753ET Network Analyzer	00134	US39170292	22 Oct 2014	Biennial
Rohde & Schwarz SMR20 Signal Generator	00006	100104	8 May 2014	Biennial
Amplifier Research 5S1G4 Power Amplifier	00106	26235	CNR	CNR

CNR = Calibration Not Required

APPENDIX A - SAR MEASUREMENT PLOTS

Plot B1

Date/Time: 23/06/2015 12:42:29 PM

835 Body 23 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 23 June 2015 Ambient Temp: 24C; Fluid Temp: 23.4C; Humidity: 27%

Procedure Notes:

Communication System: CW
Frequency: 768 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 768 MHz; σ = 0.886 mho/m; ε_r = 53; ρ = 1000 kg/m^3

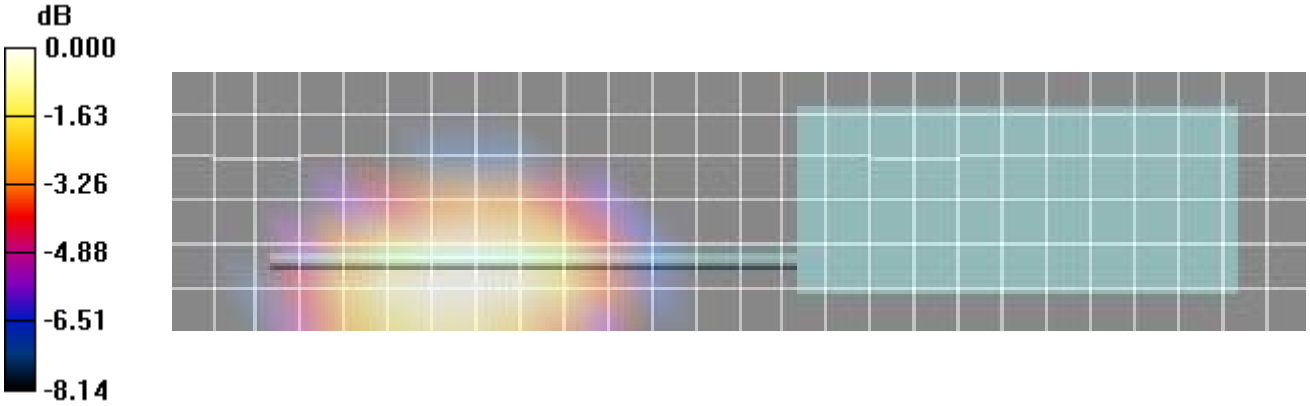
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B1 Body XL-200, 768MHz 4440-01, BC, Spk-MIC SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 4.87 mW/g

B1 Body XL-200, 768MHz 4440-01, BC, Spk-MIC SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = -0.202 dB
Peak SAR (extrapolated) = 5.80 W/kg
SAR(1 g) = 4.47 mW/g; SAR(10 g) = 3.27 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 4.74 mW/g



0 dB = 4.74mW/g

Plot B2

Date/Time: 23/06/2015 1:27:01 PM

835 Body 23 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 23 June 2015 Ambient Temp: 24C; Fluid Temp: 23.4C; Humidity: 27%

Procedure Notes:

Communication System: CW
Frequency: 776 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 776 MHz; σ = 0.903 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3

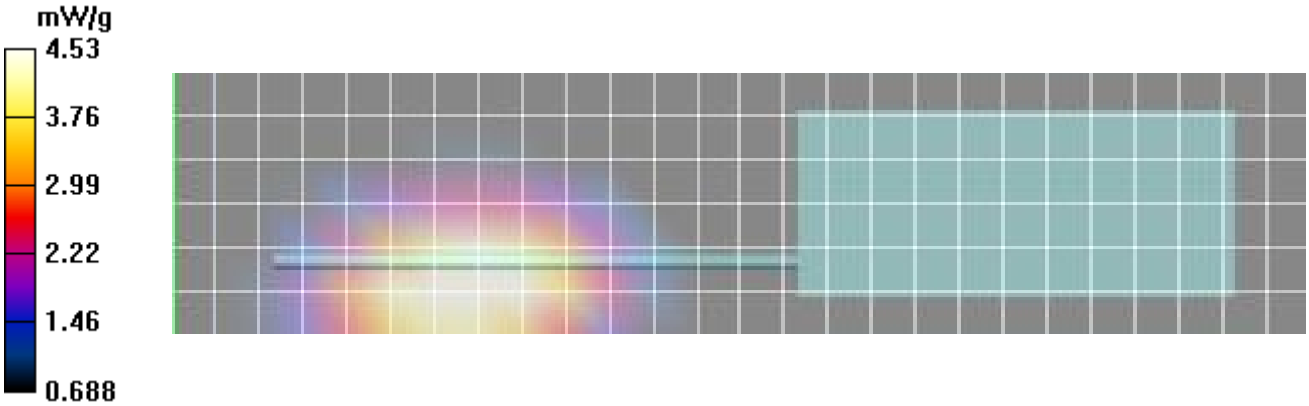
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B2 Body XL-200, 776MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 5.27 mW/g

B2 Body XL-200, 776MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = 0.385 dB
Peak SAR (extrapolated) = 5.59 W/kg
SAR(1 g) = 4.31 mW/g; SAR(10 g) = 3.15 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 4.53 mW/g



Plot B3

Date/Time: 23/06/2015 2:02:05 PM

835 Body 23 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 23 June 2015 Ambient Temp: 24C; Fluid Temp: 23.4C; Humidity: 27%

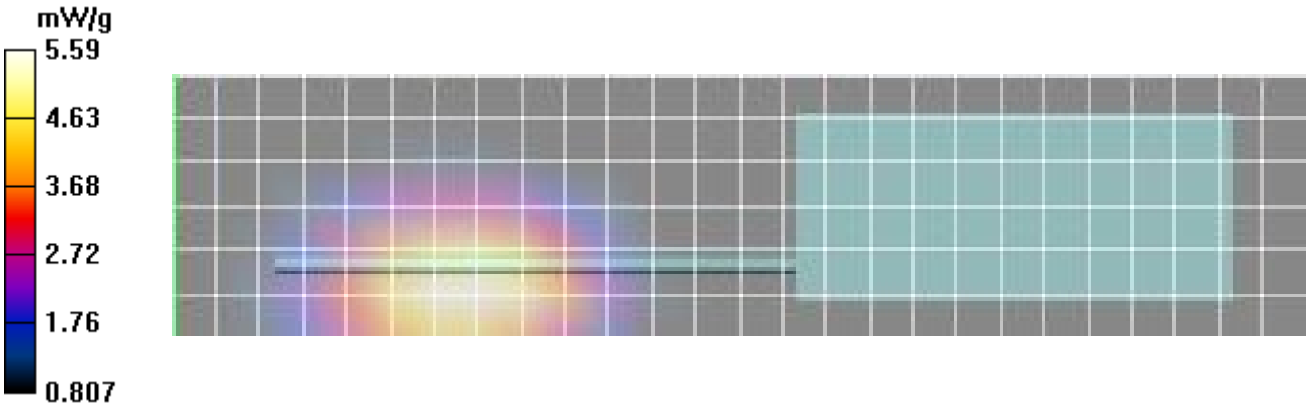
Procedure Notes:

Communication System: CW
Frequency: 805 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used: f = 805 MHz; σ = 0.94 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B3 Body XL-200, 805MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 5.73 mW/g

B3 Body XL-200, 805MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.2 V/m; Power Drift = -0.153 dB
Peak SAR (extrapolated) = 6.91 W/kg
SAR(1 g) = 5.29 mW/g; SAR(10 g) = 3.84 mW/g
Maximum value of SAR (measured) = 5.59 mW/g



Plot B4

Date/Time: 23/06/2015 2:24:36 PM

835 Body 23 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 23 June 2015 Ambient Temp: 24C; Fluid Temp: 23.4C; Humidity: 27%

Procedure Notes:

Communication System: CW
Frequency: 851 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 851 MHz; σ = 0.976 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

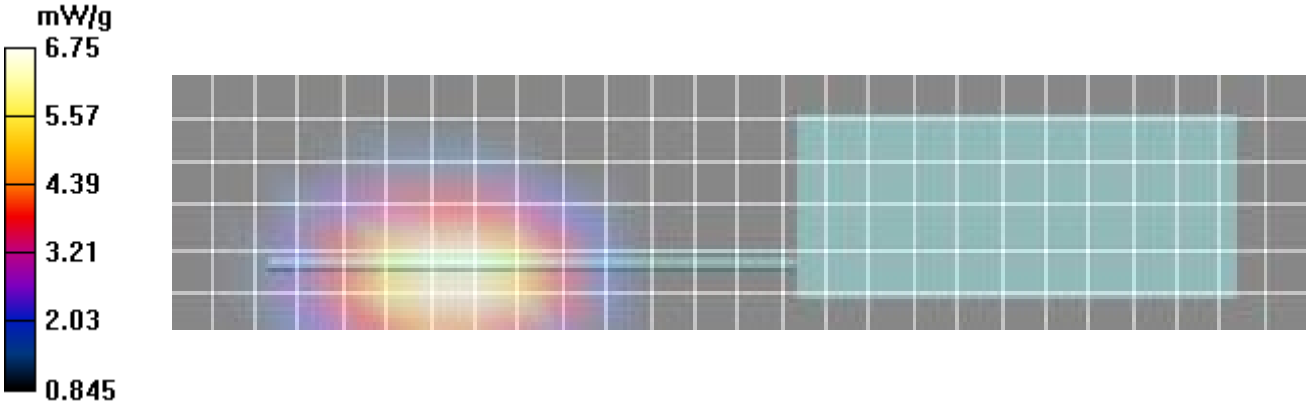
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B4 Body XL-200, 851MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

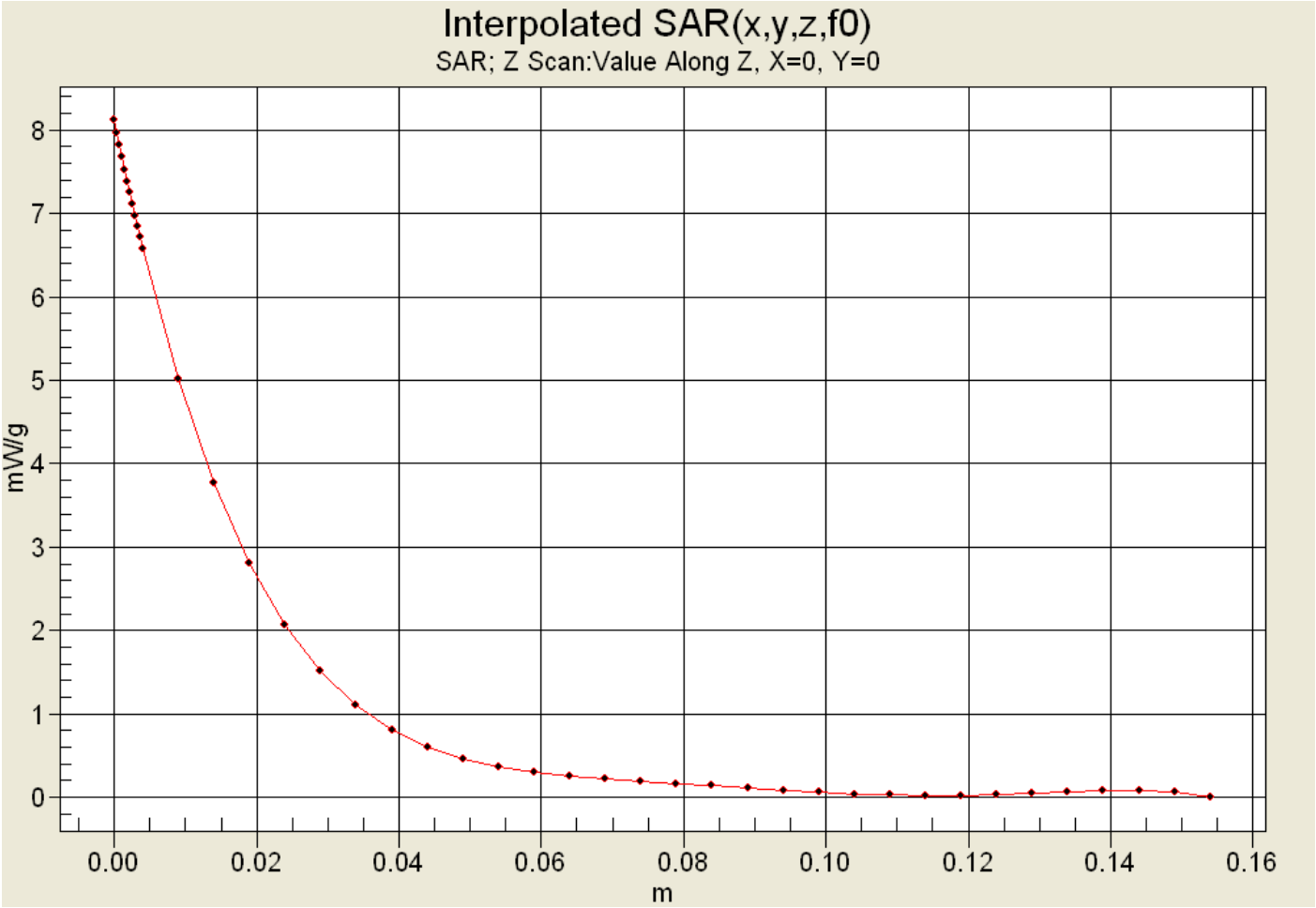
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.49 mW/g

B4 Body XL-200, 851MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 25.3 V/m; Power Drift = -0.173 dB
Peak SAR (extrapolated) = 8.48 W/kg
SAR(1 g) = 6.36 mW/g; SAR(10 g) = 4.53 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.75 mW/g



Plot Z1


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

Plot B5

Date/Time: 23/06/2015 3:07:39 PM

835 Body 23 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 23 June 2015 Ambient Temp: 24C; Fluid Temp: 23.4C; Humidity: 27%

Procedure Notes:

Communication System: CW
Frequency: 856 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 856 MHz; σ = 0.981 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3

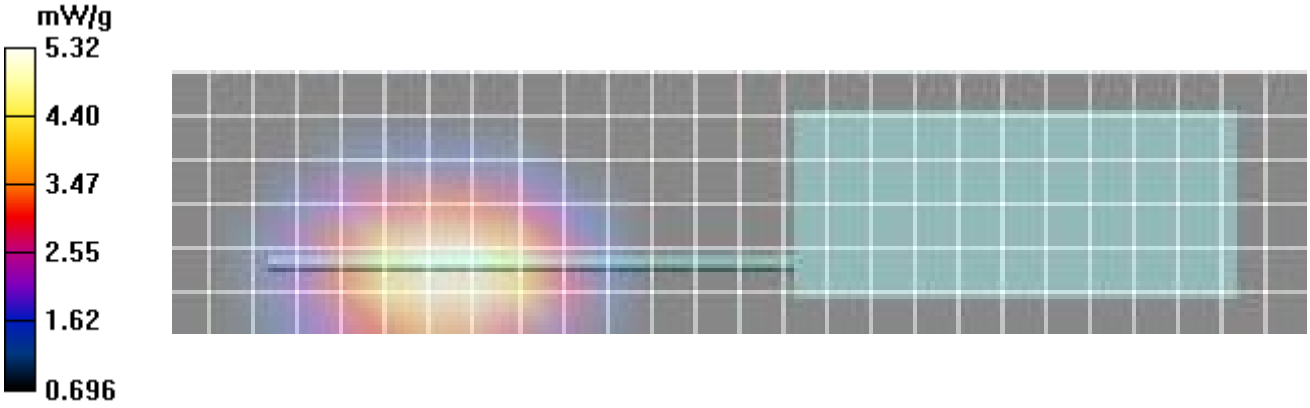
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B5 Body XL-200, 856MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 5.15 mW/g

B5 Body XL-200, 856MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 24.0 V/m; Power Drift = -0.219 dB
Peak SAR (extrapolated) = 6.62 W/kg
SAR(1 g) = 5.02 mW/g; SAR(10 g) = 3.61 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 5.32 mW/g



Plot B6

Date/Time: 23/06/2015 3:32:32 PM

835 Body 23 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 23 June 2015 Ambient Temp: 24C; Fluid Temp: 23.4C; Humidity: 27%

Procedure Notes:

Communication System: CW
Frequency: 861 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 861 MHz; σ = 0.986 mho/m; ε_r = 52; ρ = 1000 kg/m^3

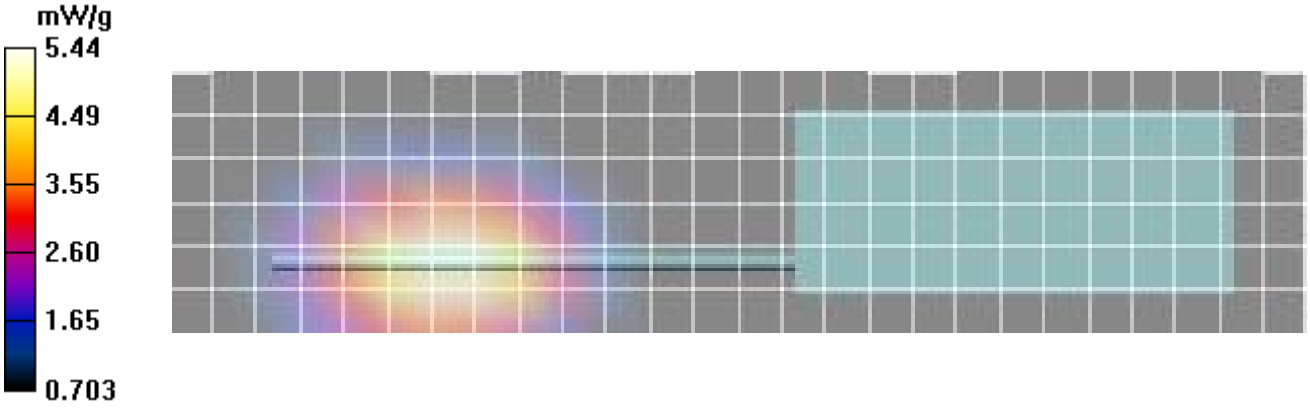
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B6 Body XL-200, 861MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 5.26 mW/g

B6 Body XL-200, 861MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 24.9 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 6.80 W/kg
SAR(1 g) = 5.13 mW/g; SAR(10 g) = 3.68 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 5.44 mW/g



Plot B7

Date/Time: 24/06/2015 10:53:11 AM

835 Body 24 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 24 June 2015 Ambient Temp: 24C; Fluid Temp: 23.8C; Humidity: 25%

Procedure Notes:

Communication System: CW
Frequency: 851 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 851 MHz; σ = 0.976 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

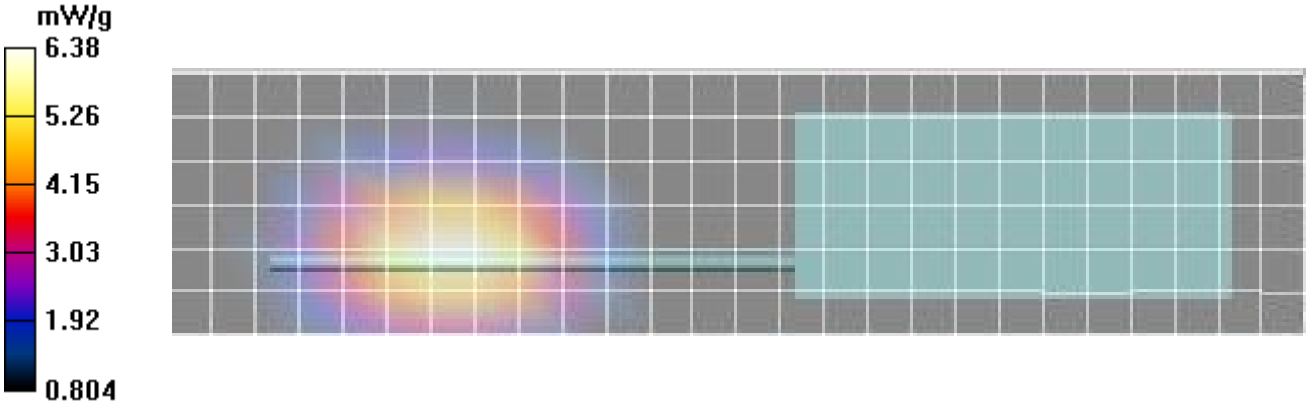
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B7 Body XL-200, 851MHz 4440-01, BC, A16 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.36 mW/g

B7 Body XL-200, 851MHz 4440-01, BC, A16 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 27.6 V/m; Power Drift = -0.109 dB
Peak SAR (extrapolated) = 7.96 W/kg
SAR(1 g) = 6 mW/g; SAR(10 g) = 4.3 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.38 mW/g



Plot B8

Date/Time: 24/06/2015 11:25:24 AM

835 Body 24 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 24 June 2015 Ambient Temp: 24C; Fluid Temp: 23.8C; Humidity: 25%

Procedure Notes:

Communication System: CW
Frequency: 851 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 851 MHz; σ = 0.976 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

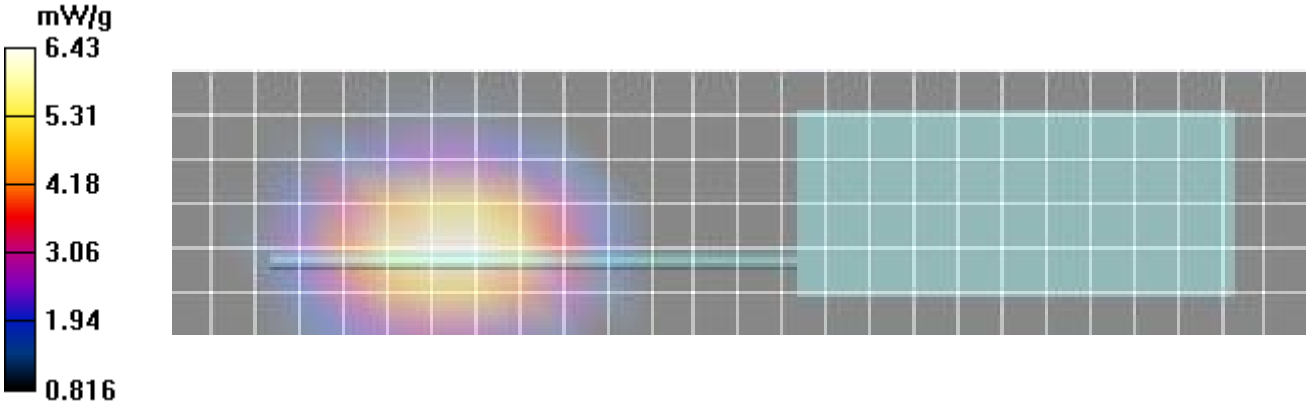
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B8 Body XL-200, 851MHz 4440-01, BC, A13 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.61 mW/g

B8 Body XL-200, 851MHz 4440-01, BC, A13 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 25.1 V/m; Power Drift = -0.107 dB
Peak SAR (extrapolated) = 8.05 W/kg
SAR(1 g) = 6.06 mW/g; SAR(10 g) = 4.33 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.43 mW/g



Plot B9

Date/Time: 24/06/2015 12:04:59 PM

835 Body 24 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 24 June 2015 Ambient Temp: 24C; Fluid Temp: 23.8C; Humidity: 25%

Procedure Notes:

Communication System: CW
Frequency: 851 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 851 MHz; σ = 0.976 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

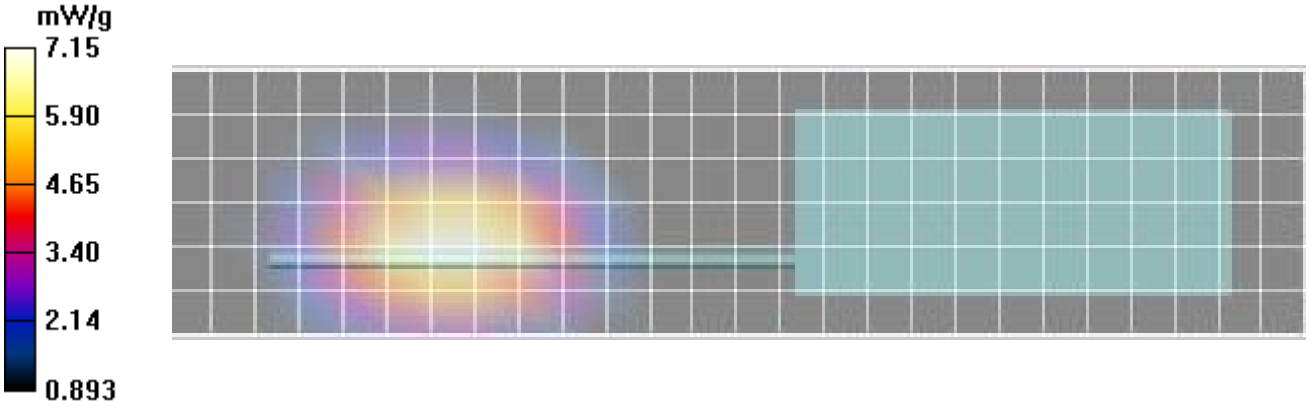
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B9 Body XL-200, 851MHz 4440-01, BC, A20 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

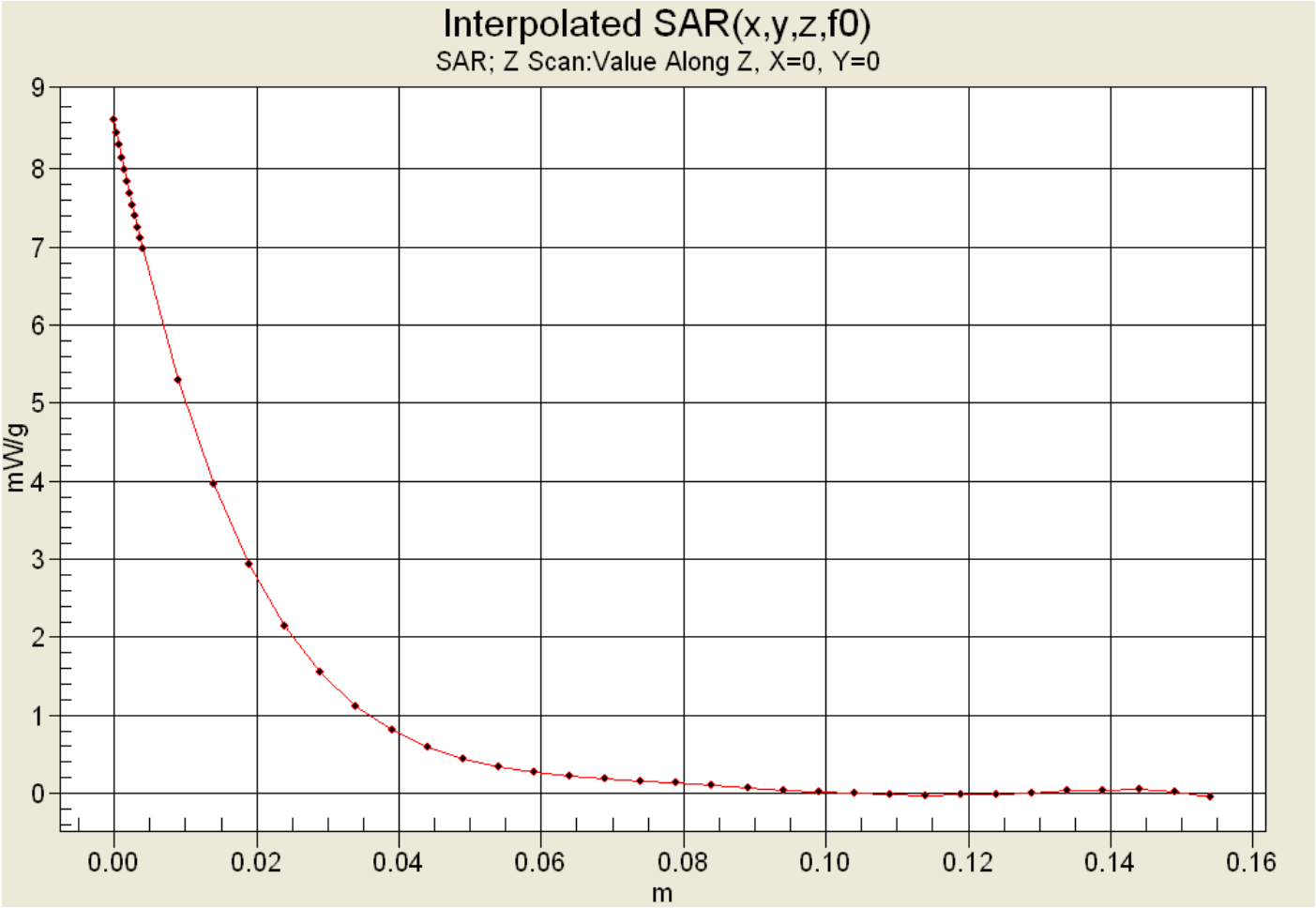
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 7.38 mW/g

B9 Body XL-200, 851MHz 4440-01, BC, A20 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 25.5 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 8.98 W/kg
SAR(1 g) = 6.73 mW/g; SAR(10 g) = 4.8 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 7.15 mW/g



Plot Z2


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

Plot B10

Date/Time: 24/06/2015 12:39:36 PM

835 Body 24 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 24 June 2015 Ambient Temp: 24C; Fluid Temp: 23.8C; Humidity: 25%

Procedure Notes:

Communication System: CW
Frequency: 851 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 851 MHz; σ = 0.976 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

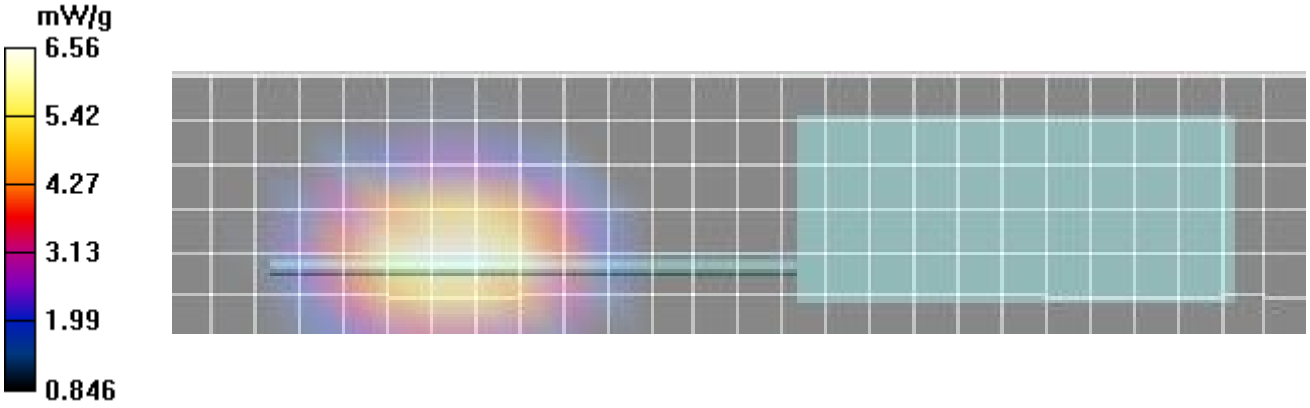
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B10 Body XL-200, 851MHz 4440-01, BC, A15 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.90 mW/g

B10 Body XL-200, 851MHz 4440-01, BC, A15 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 29.7 V/m; Power Drift = -0.278 dB
Peak SAR (extrapolated) = 8.21 W/kg
SAR(1 g) = 6.18 mW/g; SAR(10 g) = 4.43 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.56 mW/g



Plot B11

Date/Time: 24/06/2015 1:06:45 PM

835 Body 24 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 24 June 2015 Ambient Temp: 24C; Fluid Temp: 23.8C; Humidity: 25%

Procedure Notes:

Communication System: CW
Frequency: 851 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 851 MHz; σ = 0.976 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

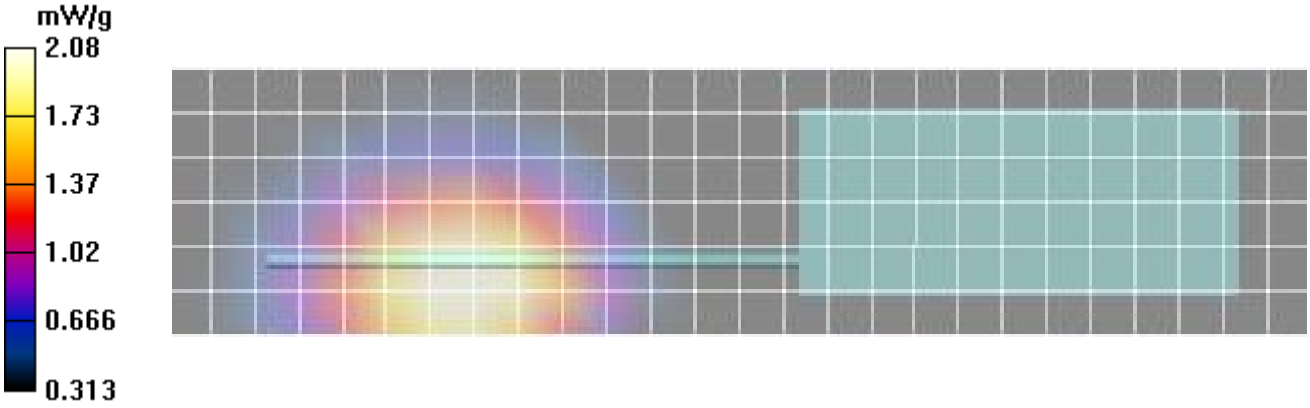
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B11 Body XL-200, 851MHz 4440-01, BC, B4. A20 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 2.18 mW/g

B11 Body XL-200, 851MHz 4440-01, BC, B4. A20 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.7 V/m; Power Drift = 0.547 dB
Peak SAR (extrapolated) = 2.56 W/kg
SAR(1 g) = 1.97 mW/g; SAR(10 g) = 1.45 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 2.08 mW/g



Plot B12

Date/Time: 24/06/2015 1:32:49 PM

835 Body 24 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 24 June 2015 Ambient Temp: 24C; Fluid Temp: 23.8C; Humidity: 25%

Procedure Notes:

Communication System: CW
Frequency: 851 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used (interpolated): f = 851 MHz; σ = 0.976 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

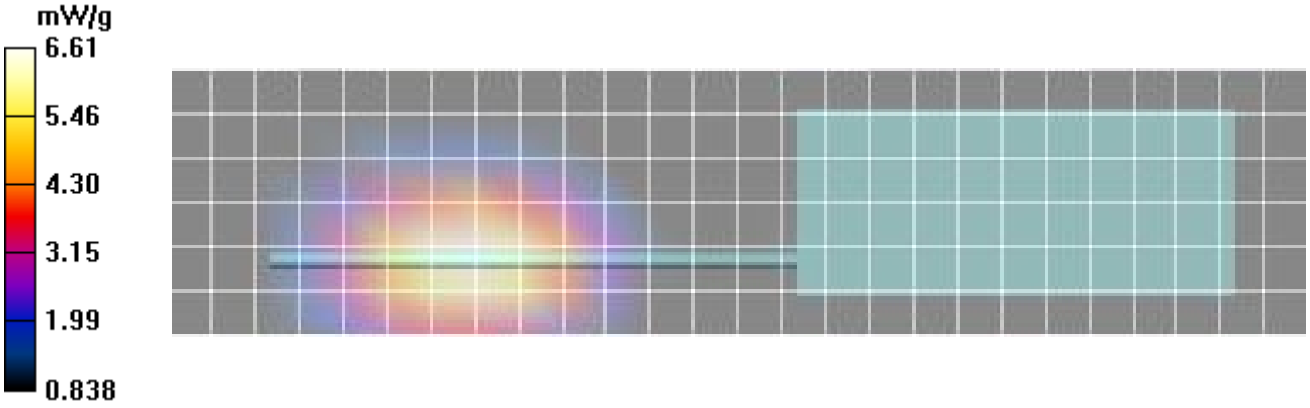
- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

B12 Body XL-200, 851MHz 4440-01, BC, B5. A20 SYS 2/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.65 mW/g

B12 Body XL-200, 851MHz 4440-01, BC, B5. A20 SYS 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 28.8 V/m; Power Drift = -0.285 dB
Peak SAR (extrapolated) = 8.27 W/kg
SAR(1 g) = 6.22 mW/g; SAR(10 g) = 4.44 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 6.61 mW/g



Plot F1

Date/Time: 25/06/2015 9:24:02 AM

835 Head 25 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 25 June 2015 Ambient Temp: 26C; Fluid Temp: 24.1C; Humidity: 23%

Procedure Notes:

Communication System: CW
Frequency: 768 MHz; Duty Cycle: 1:1
Medium: TSL_835H Medium parameters used (interpolated): f = 768 MHz; σ = 0.84 mho/m; ε_r = 43; ρ = 1000 kg/m^3

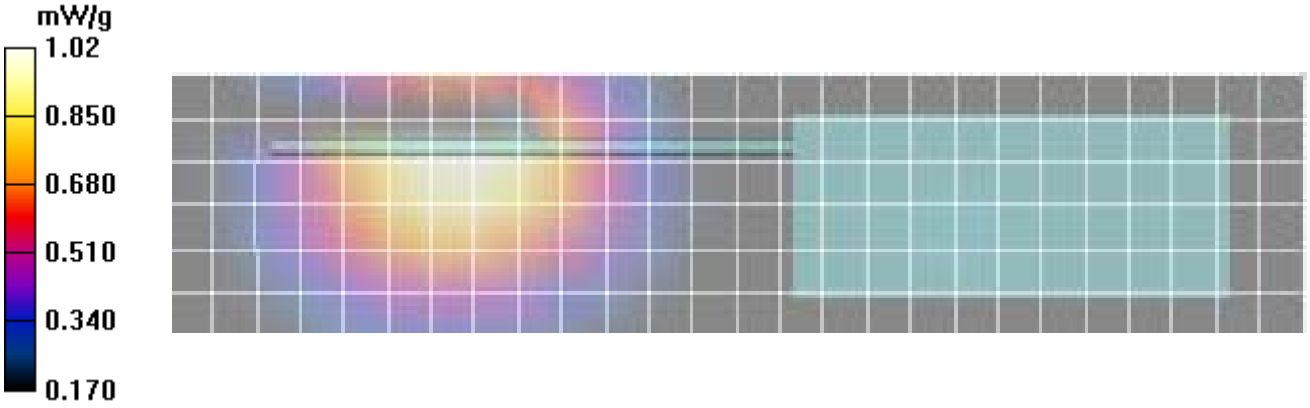
- Probe: EX3DV4 - SN3600; ConvF(7.94, 7.94, 7.94); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

F1 Head XL-200, 768MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.02 mW/g

F1 Head XL-200, 768MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = 0.075 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.973 mW/g; SAR(10 g) = 0.727 mW/g

Info: Interpolated medium parameters used for SAR evaluation.



Plot F2

Date/Time: 25/06/2015 10:38:01 AM

835 Head 25 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 25 June 2015 Ambient Temp: 26C; Fluid Temp: 24.1C; Humidity: 23%

Procedure Notes:

Communication System: CW
Frequency: 776 MHz; Duty Cycle: 1:1
Medium: TSL_835H Medium parameters used (interpolated): f = 776 MHz; σ = 0.841 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3

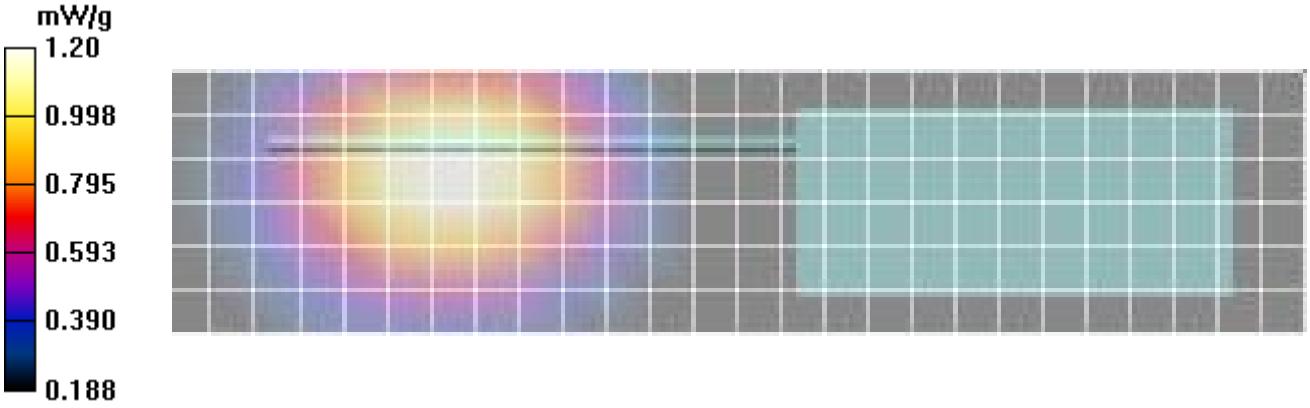
- Probe: EX3DV4 - SN3600; ConvF(7.94, 7.94, 7.94); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

F2 Head XL-200, 776MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.24 mW/g

F2 Head XL-200, 776MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.31 V/m; Power Drift = -0.673 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.842 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.20 mW/g



Plot F3

Date/Time: 25/06/2015 11:32:38 AM

835 Head 25 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 25 June 2015 Ambient Temp: 26C; Fluid Temp: 24.1C; Humidity: 23%

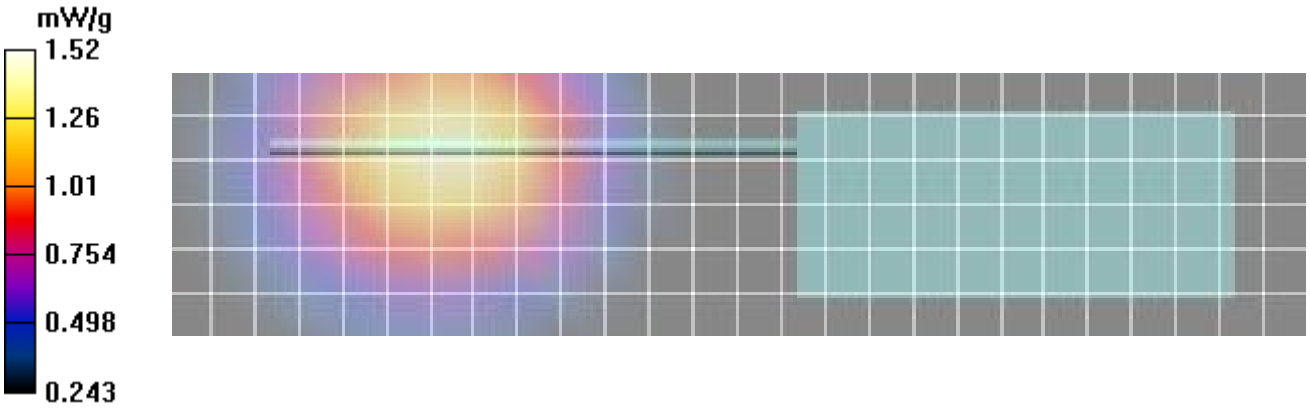
Procedure Notes:

Communication System: CW
Frequency: 805 MHz; Duty Cycle: 1:1
Medium: TSL_835H Medium parameters used: f = 805 MHz; σ = 0.87 mho/m; ε_r = 42.4; ρ = 1000 kg/m^3

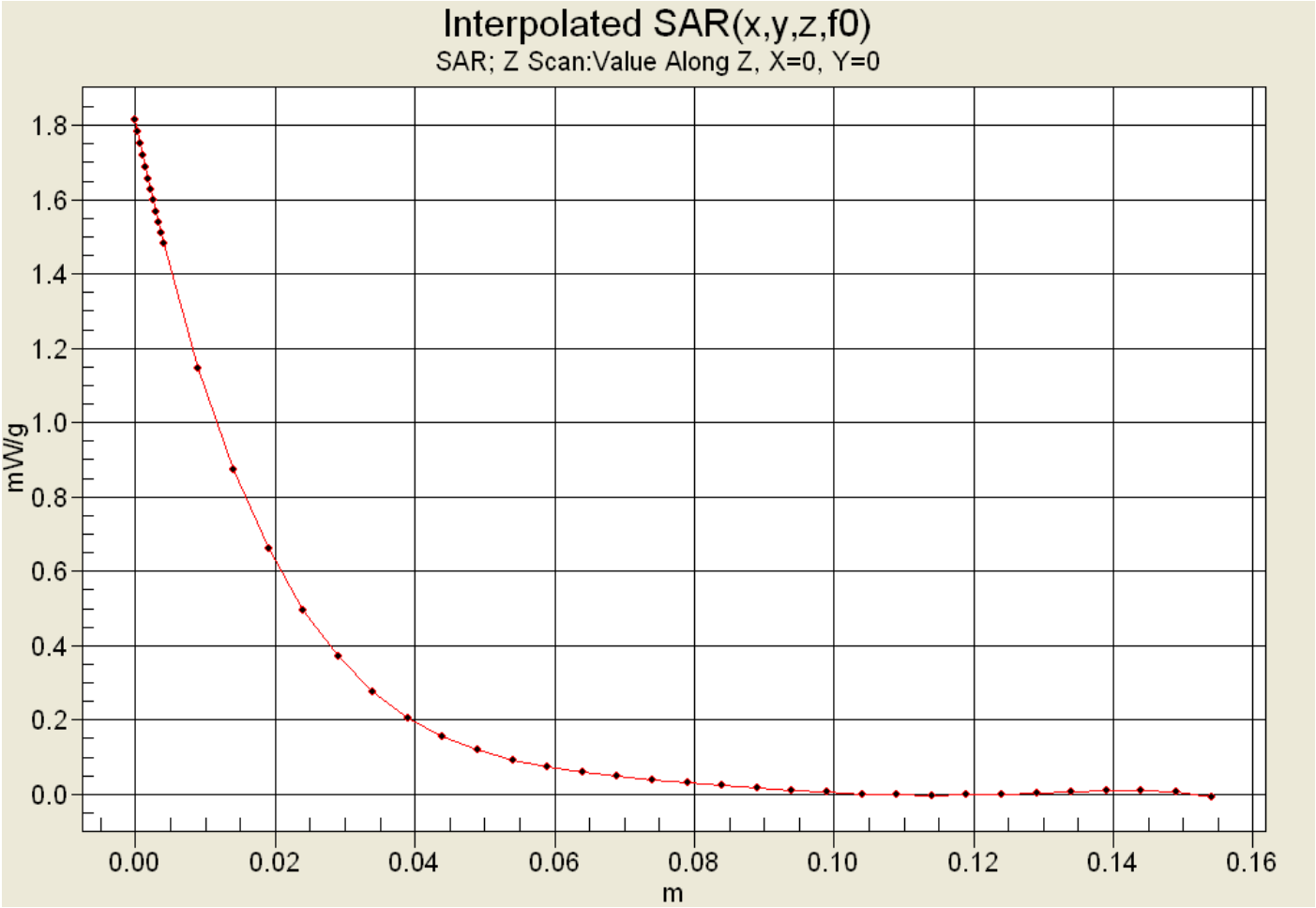
- Probe: EX3DV4 - SN3600; ConvF(7.94, 7.94, 7.94); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

F3 Head XL-200, 805MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.43 mW/g

F3 Head XL-200, 805MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.20 V/m; Power Drift = -0.173 dB
Peak SAR (extrapolated) = 1.86 W/kg
SAR(1 g) = 1.44 mW/g; SAR(10 g) = 1.08 mW/g
Maximum value of SAR (measured) = 1.52 mW/g



Plot Z3


Interpolated SAR(x,y,z,f0)
SAR; Z Scan:Value Along Z, X=0, Y=0
mW/g
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
m

Plot F4

Date/Time: 25/06/2015 12:13:09 PM

835 Head 25 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 25 June 2015 Ambient Temp: 26C; Fluid Temp: 24.1C; Humidity: 23%

Procedure Notes:

Communication System: CW
Frequency: 851 MHz; Duty Cycle: 1:1
Medium: TSL_835H Medium parameters used (interpolated): f = 851 MHz; σ = 0.914 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3600; ConvF(7.94, 7.94, 7.94); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

F4 Head XL-200, 851MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.38 mW/g

F4 Head XL-200, 851MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = -0.105 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 1.28 mW/g; SAR(10 g) = 0.943 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.35 mW/g

Plot F5

Date/Time: 25/06/2015 12:35:48 PM

835 Head 25 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 25 June 2015 Ambient Temp: 26C; Fluid Temp: 24.1C; Humidity: 23%

Procedure Notes:

Communication System: CW
Frequency: 856 MHz; Duty Cycle: 1:1
Medium: TSL_835H Medium parameters used (interpolated): f = 856 MHz; σ = 0.911 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3

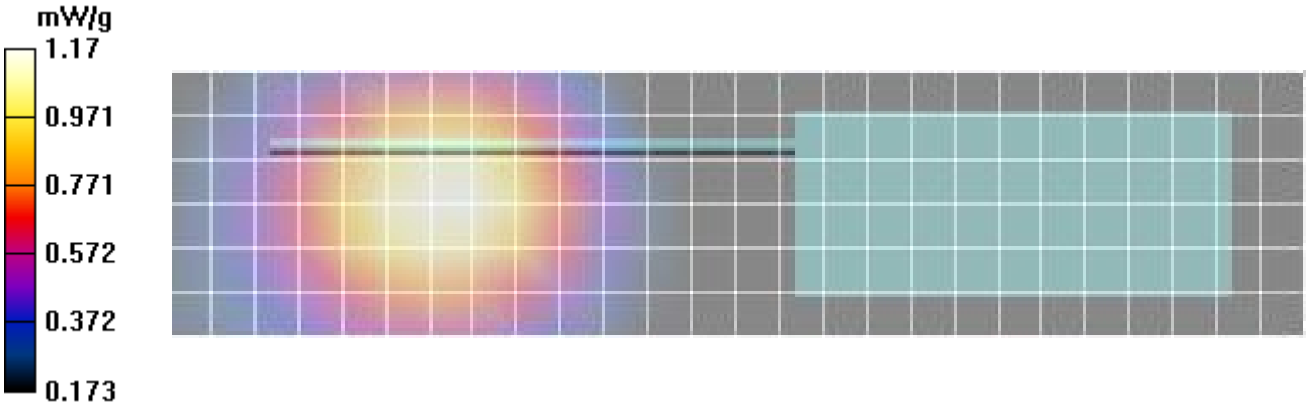
- Probe: EX3DV4 - SN3600; ConvF(7.94, 7.94, 7.94); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

F5 Head XL-200, 856MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.20 mW/g

F5 Head XL-200, 856MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.119 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.814 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.17 mW/g



Plot F6

Date/Time: 25/06/2015 12:59:50 PM

835 Head 25 June 2015

DUT: Harris; Type: PTT Radio Transceiver; Serial: Not Specified

Program Notes: 25 June 2015 Ambient Temp: 26C; Fluid Temp: 24.1C; Humidity: 23%

Procedure Notes:

Communication System: CW
Frequency: 861 MHz; Duty Cycle: 1:1
Medium: TSL_835H Medium parameters used (interpolated): f = 861 MHz; σ = 0.916 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3

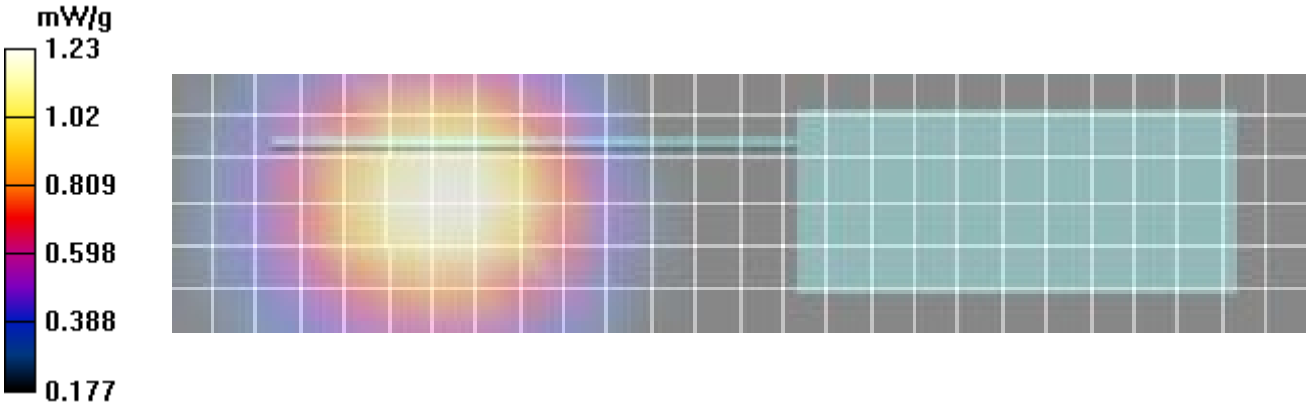
- Probe: EX3DV4 - SN3600; ConvF(7.94, 7.94, 7.94); Calibrated: 23/04/2015
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

F6 Head XL-200, 861MHz 4440-01 SYS/Area Scan (7x27x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.26 mW/g

F6 Head XL-200, 861MHz 4440-01 SYS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = -0.123 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 1.17 mW/g; SAR(10 g) = 0.855 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.23 mW/g



APPENDIX B - SYSTEM VERIFICATION MEASUREMENT PLOTS

Date/Time: 22/06/2015 7:34:03 PM

SPC 835 Body - 22 June 2015

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d075; Calibrated: 04/20/2012

Program Notes: 11 June 2015 Ambient Temp: 25C; Fluid Temp: 23.2C; Humidity: 20%

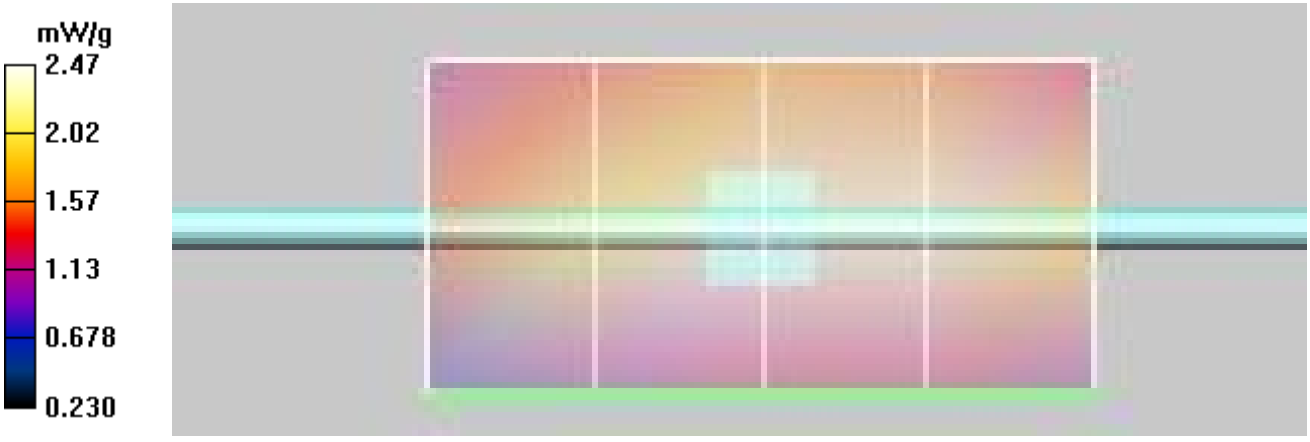
Procedure Notes:

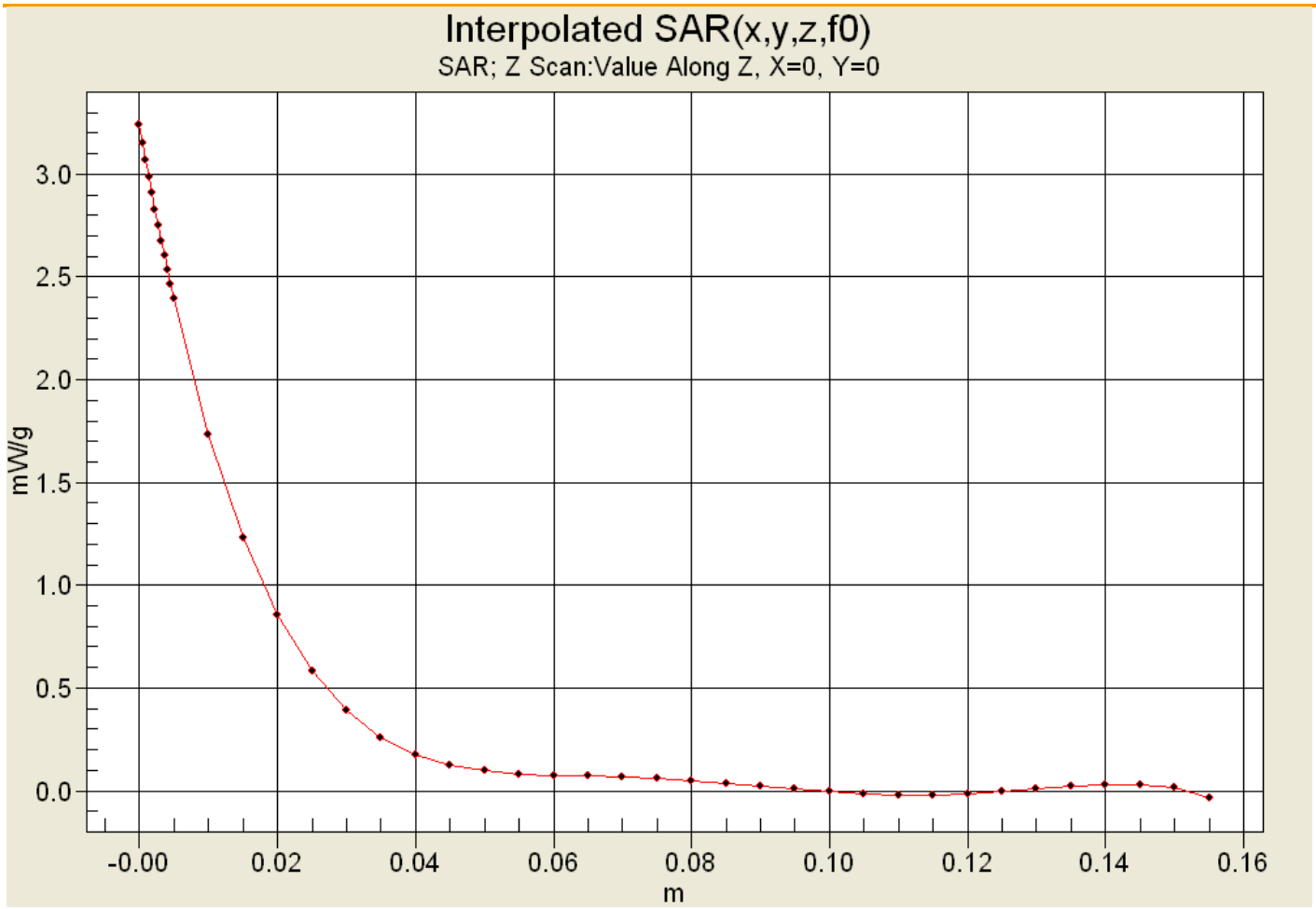
Communication System: CW
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: TSL_835B Medium parameters used: f = 835 MHz; σ = 0.98 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3600; ConvF(7.73, 7.73, 7.73); Calibrated: 23/04/2015
- Sensor-Surface: 5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Head d=15mm Pin=250mW. TS=2.178/2.42/2.662 W/kg/Area Scan (5x3x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.41 mW/g

Head d=15mm Pin=250mW. TS=2.178/2.42/2.662 W/kg/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 49.9 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 3.66 W/kg
SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.47 mW/g




Interpolated SAR(x,y,z,f0)
SAR; Z Scan:Value Along Z, X=0, Y=0
mW/g
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
m

Date/Time: 24/06/2015 7:54:01 PM

SPC 835 Head - 24 June 2015

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d075; Calibrated: 04/20/2012

Program Notes: 24 June 2015 Ambient Temp: 26C; Fluid Temp: 24.2C; Humidity: 23%

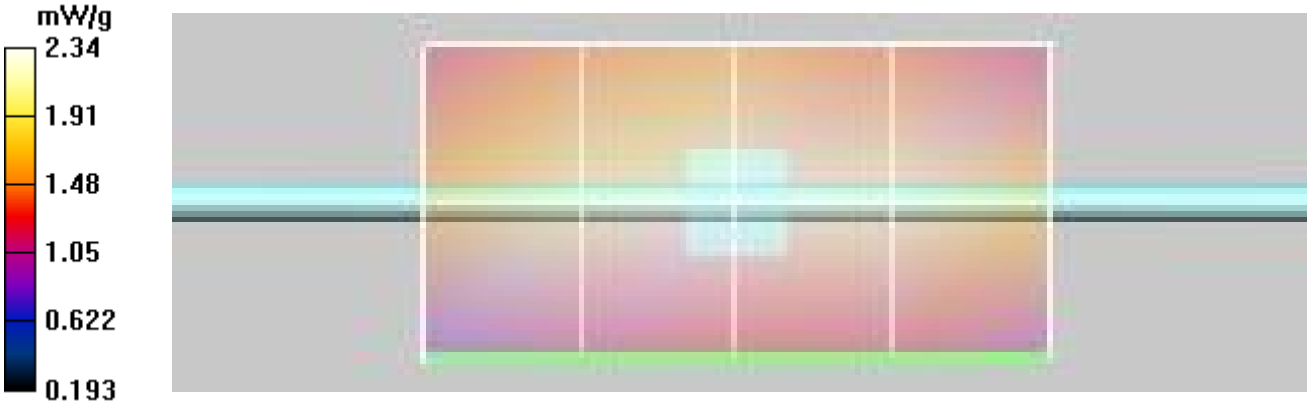
Procedure Notes:

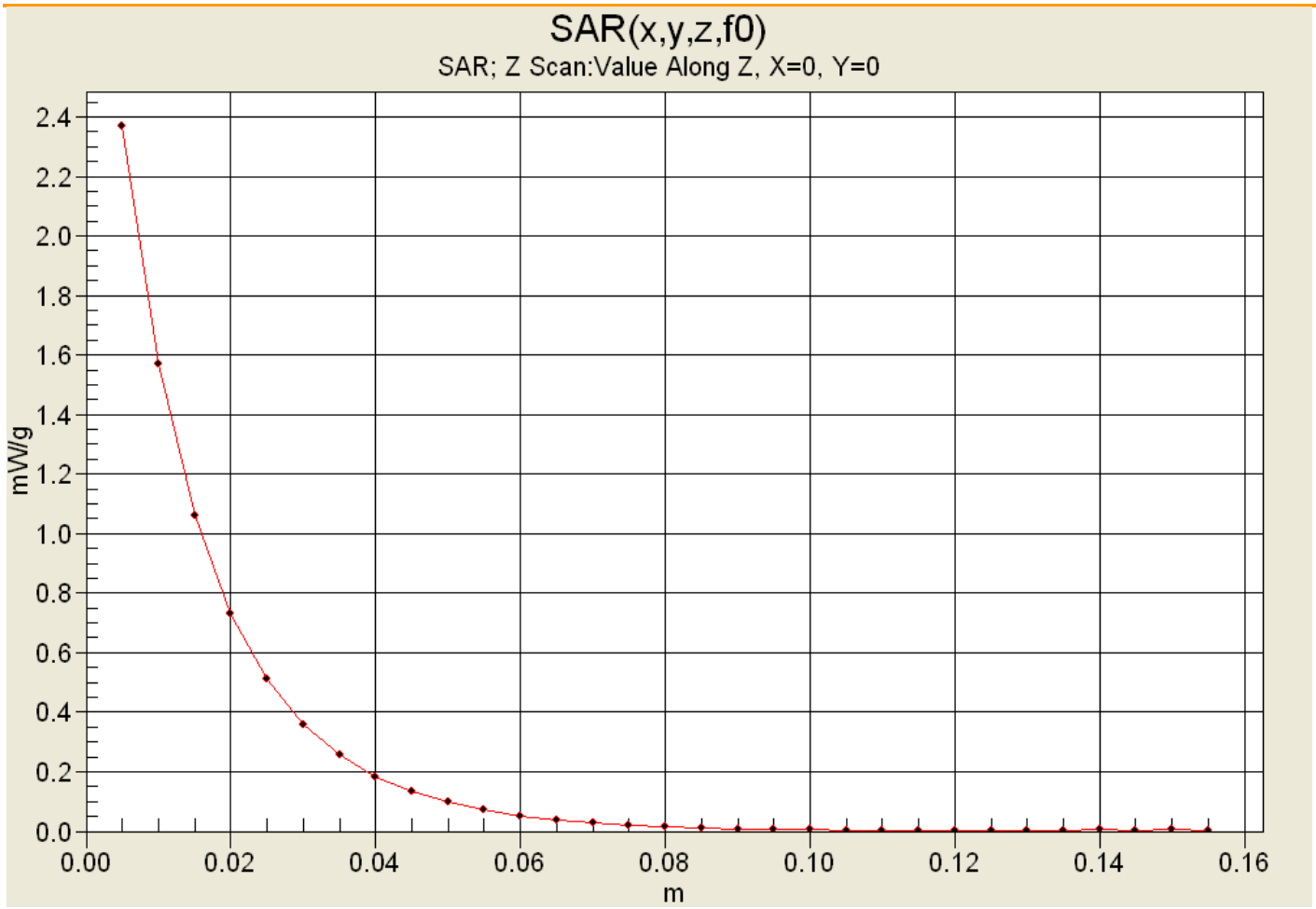
Communication System: CW
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: TSL_835H Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3600; ConvF(7.94, 7.94, 7.94); Calibrated: 23/04/2015
- Sensor-Surface: 5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 23/04/2015
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:xxxx
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Head d=15mm Pin=250mW. TS=2.169/2.41/2.651 W/kg/Area Scan (5x3x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.36 mW/g

Head d=15mm Pin=250mW. TS=2.169/2.41/2.651 W/kg/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 51.8 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 3.59 W/kg
SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.52 mW/g
Maximum value of SAR (measured) = 2.34 mW/g




SAR(x,y,z,f0)
SAR; Z Scan:Value Along Z, X=0, Y=0
mW/g
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
m