MOTOROLA

ACCREDITED
TESTING CERT # 2518.05

FCC ID: AZ489FT3822
DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 3 of 3

Government & Public Safety
EME Test Laboratory
Motorola Technology Sdn Bhd (455657-H)
Customer Solution Center
Plot 2, Bayan Lepas Technoplex Industrial Park,
Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.

Date of Report: 3/16/09
Report Revision: C
Report ID: SAR rpt_PMUD2444AAN_Rev C_090316_SR6789

Responsible Engineer:	Veerapan Veeramani (EME Eng.)
Report Author:	Veerapan Veeramani (EME Eng.)
Date/s Tested:	12/09/08 – 12/18/08, 3/11/2009
Manufacturer/Location:	China
Sector/Group/Div.:	G&PS
Date submitted for test:	11/30/08
DUT Description:	LKP with channel knob 136-174MHz 5W 12.5/25kHz 16ch
Test TX mode(s):	CW
Max. Power output:	6.0 Watts
Nominal Power:	5.0 Watts
Tx Frequency Bands:	136-174 MHz
Signaling type:	FM
Model(s) Tested:	PMUD2444AAN
Model(s) Certified:	PMUD2444AAN
Serial Number(s):	1338JX0810
Classification:	Occupational/Controlled
Rule Part(s):	90

DUT Photo
(Refer to Exhibit 7B)

Approved Accessories:
Antenna(s):
NAD6502AR (146-174MHz, Heliflex ¼ wave antenna, -10dBi); NAD6579A (148-161MHz, Whip ¼ wave antenna, -6.25dBi); PMAD4012A (136-155MHz, Stubby ¼ antenna, -12dBi); PMAD4013A (155-174MHz, Stubby ¼ wave antenna, -14.5dBi); PMAD4014A (136-155MHz, Helical ¼ wave antenna, -13dBi); PMAD4015A (155-174MHz, Helical ¼ wave antenna, -12.5dBi); PMAD4049A (146-174MHz, Helical ¼ wave antenna, -4dBi); HAD9338BR (136-162MHz, Heliflex ¼ wave antenna, -10dBi); HAD9742A (146-162MHz, Stubby ¼ wave antenna, -11dBi); HAD9743A (162-174MHz, Stubby ¼ wave antenna, -11dBi)

Battery(ies):
PMNN4080A (LiIon High Capacity 2150mAH); PMNN4082A (NiMH-1300mAH); PMNN4081A (LiIon – 1500mAH)

Body worn accessory(ies):
HLN9844A (Spring Action Belt Clip – 2 inch); PMLN5334A (Protective Leather Case).

Audio/Data cable accessory(ies):
See section 3.0 for list of approved audio accessories.

Max. Calc. : 1-g Avg. SAR: 3.17 W/kg (Body); 10-g Avg. SAR: 1.76 W/kg (Body)
Max. Calc. : 1-g Avg. SAR: 1.57 W/kg (Face); 10-g Avg. SAR: 1.13 W/kg (Face)

The test results clearly demonstrate compliance with FCC Occupational/Controlled RF Exposure limits of 8W/kg per the requirements of 47 CFR 2.1093(d).
The test results clearly demonstrate compliance with ICNIRP (1998) Guidelines for limiting exposure in time-varying electric, magnetic, and electromagnetic fields (up to 300GHz), Health Physics 74, 494-522 RF Exposure limits of 10W/kg averaged over 10grams of contiguous tissue.

Based on the information and the testing results provided herein, the undersigned certifies that when used as stated in the operating instructions supplied, said product complies with the national and international reference standards and guidelines listed in section 2.0 of this report. This report shall not be reproduced without written approval from an officially designated representative of the Motorola EME Laboratory.
I attest to the accuracy of the data and assume full responsibility for the completeness of these measurements. This reporting format is consistent with the suggested guidelines of the TIA TSB-150 December 2004. The results and statements contained in this report pertain only to the device(s) evaluated.

Signature on file – Deanna Zakharia
Deanna Zakharia G&PS EME Lab Senior Resource Manager, Laboratory Director

Approval Date: 3/16/09

Certification Date:

Certification No.:

Appendix J
SAR Plots for the Motorola Fast SAR scans

1.0 SAR Plots for Antenna assessment at the Body

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Date/Time: 12/16/2008 4:27:46 PM

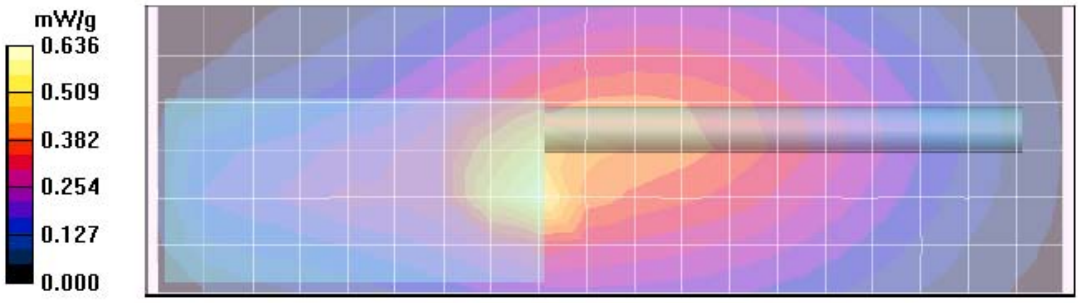
Robot # / Run #: DASY4-PG-1 / CcC-AB-081216-07
Phantom # / Tissue Temp: ELI4 1028 / 21.5 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: NAD6502AR / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.03 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.8 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (61x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 23.7 V/m; Power Drift = -0.332 dB
Motorola Fast SAR: SAR(1 g) = 0.558 mW/g; SAR(10 g) = 0.394 mW/g
Maximum value of SAR (interpolated) = 0.612 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 0.636 mW/g



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Date/Time: 12/9/2008 4:13:59 PM

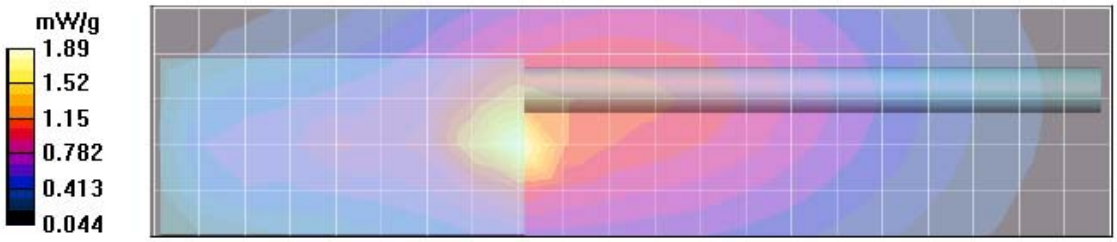
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-10
Phantom # / Tissue Temp: ELI4 1028 / 20.9 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: NAD6579A / 154.5000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.10 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; e_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x211x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 37.8 V/m; Power Drift = -0.199 dB
Motorola Fast SAR: SAR(1 g) = 1.7 mW/g; SAR(10 g) = 1.13 mW/g
Maximum value of SAR (interpolated) = 1.91 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



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Date/Time: 12/9/2008 4:45:23 PM

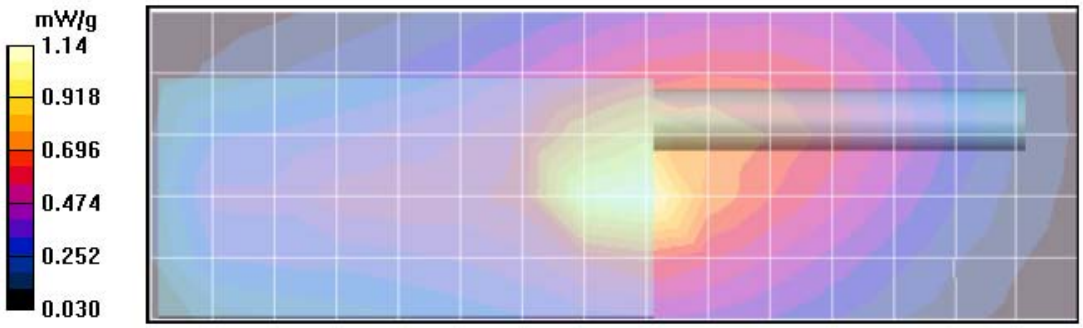
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-11
Phantom # / Tissue Temp: ELI4 1028 / 21.0 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4012A / 145.5000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.25 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x151x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 31.6 V/m; Power Drift = -0.395 dB
Motorola Fast SAR: SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.764 mW/g
Maximum value of SAR (interpolated) = 1.20 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.33 mW/g



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Date/Time: 12/9/2008 5:07:55 PM

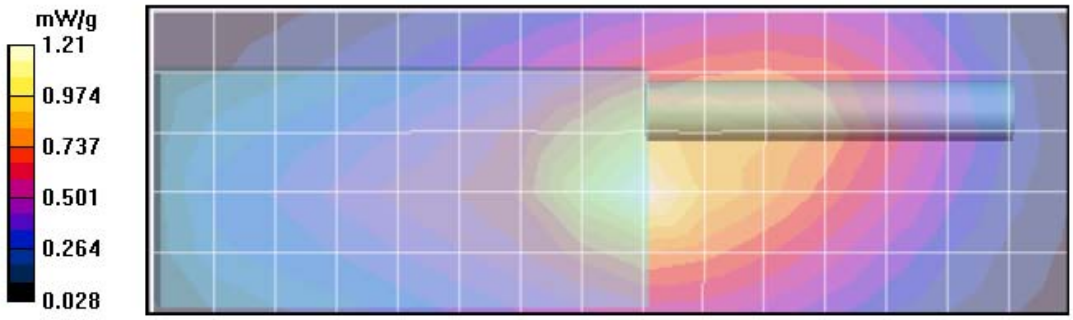
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-12
Phantom # / Tissue Temp: ELI4 1028 / 21.0 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4013A / 164.5000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 5.88 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x151x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 34.9 V/m; Power Drift = -0.459 dB
Motorola Fast SAR: SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.810 mW/g
Maximum value of SAR (interpolated) = 1.22 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.22 mW/g



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Date/Time: 12/9/2008 5:33:24 PM

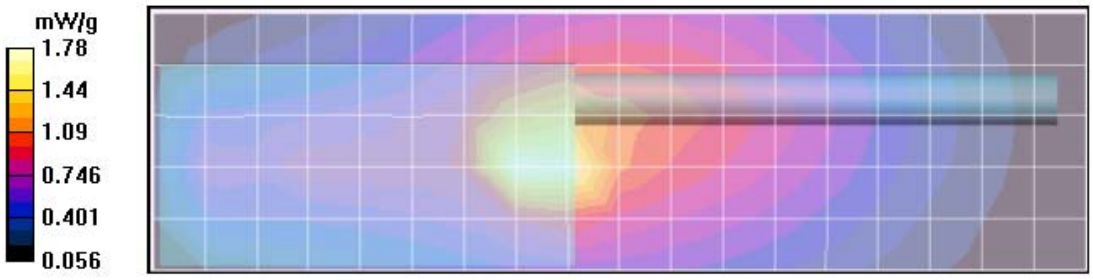
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-13
Phantom # / Tissue Temp: ELI4 1028 / 20.9 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4014A / 145.5000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.26 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x181x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 37.0 V/m; Power Drift = -0.154 dB
Motorola Fast SAR: SAR(1 g) = 1.74 mW/g; SAR(10 g) = 1.21 mW/g
Maximum value of SAR (interpolated) = 1.94 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.15 mW/g



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Date/Time: 12/9/2008 5:59:36 PM

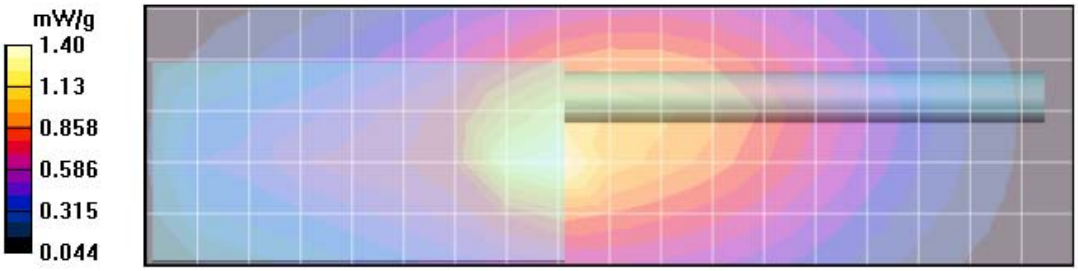
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-14
Phantom # / Tissue Temp: ELI4 1028 / 21.0 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4015A / 164.5000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 5.92 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x181x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 37.7 V/m; Power Drift = -0.488 dB
Motorola Fast SAR: SAR(1 g) = 1.33 mW/g; SAR(10 g) = 0.956 mW/g
Maximum value of SAR (interpolated) = 1.43 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.46 mW/g



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Date/Time: 12/9/2008 6:27:10 PM

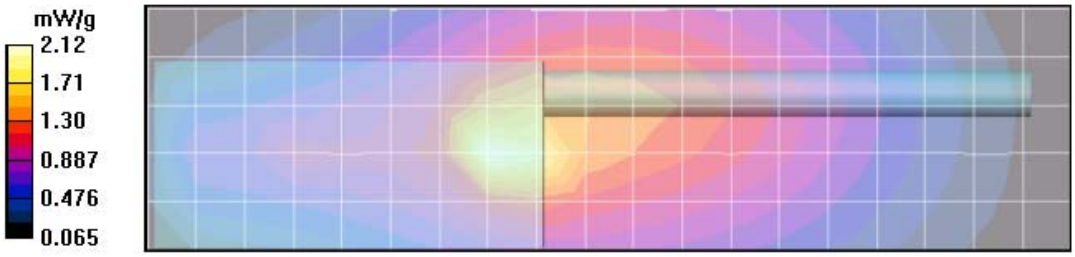
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-15
Phantom # / Tissue Temp: ELI4 1028 / 20.9 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.28 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 44.8 V/m; Power Drift = -0.691 dB
Motorola Fast SAR: SAR(1 g) = 1.99 mW/g; SAR(10 g) = 1.38 mW/g
Maximum value of SAR (interpolated) = 2.23 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.23 mW/g



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Date/Time: 12/9/2008 6:52:50 PM

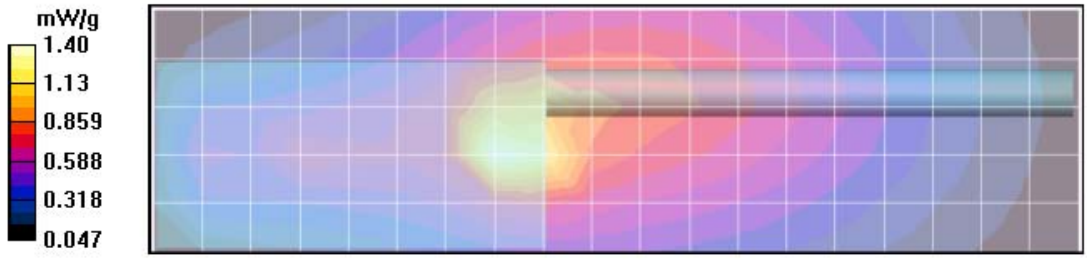
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-16
Phantom # / Tissue Temp: ELI4 1028 / 20.8 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: HAD9338BR / 149.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.21 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 34.2 V/m; Power Drift = -0.0525 dB
Motorola Fast SAR: SAR(1 g) = 1.34 mW/g; SAR(10 g) = 0.924 mW/g
Maximum value of SAR (interpolated) = 1.51 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.64 mW/g



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Date/Time: 12/9/2008 8:09:19 PM

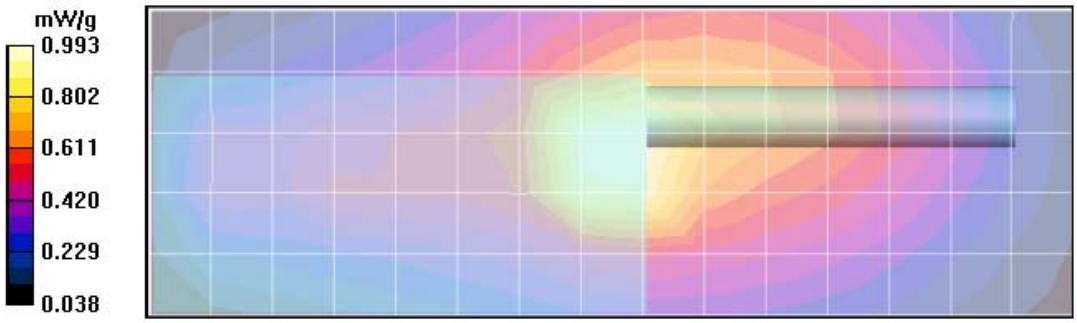
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-17
Phantom # / Tissue Temp: ELI4 1028 / 21.0 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: HAD9742A / 154.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.24 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x151x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 31.6 V/m; Power Drift = -0.156 dB
Motorola Fast SAR: SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.733 mW/g
Maximum value of SAR (interpolated) = 1.11 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.28 mW/g



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Date/Time: 03/05/09 11:08:28

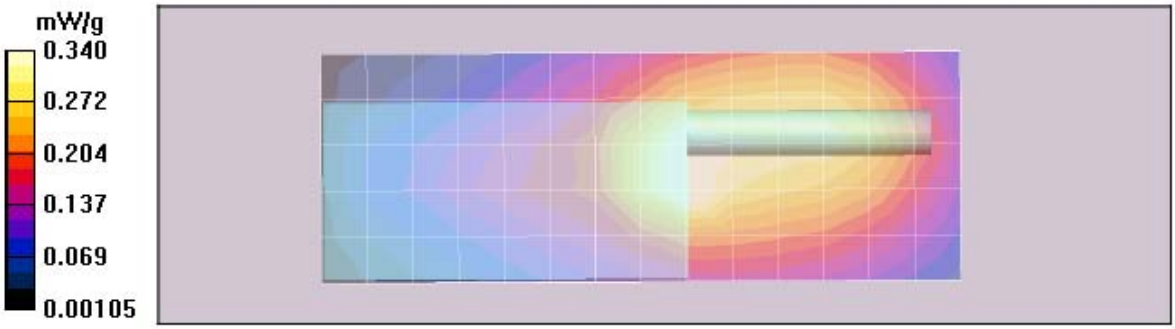
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-18
Phantom # / Tissue Temp: ELI4 1028 / 21.1 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: HAD9743A / 168.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 5.77 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: $\sigma = 0.83$; mho/m, $\varepsilon_r = 61.5$; $\rho = 1000$ kg/m^3

Ab Scan/Area Scan (51x141x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 21.6 V/m; Power Drift = -0.759 dB
Motorola Fast SAR: SAR(1 g) = 0.354 mW/g; SAR(10 g) = 0.258 mW/g
Maximum value of SAR (interpolated) = 0.380 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 0.376 mW/g



2.0 SAR Plots for Battery assessment at the Body

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Date/Time: 12/9/2008 6:27:10 PM

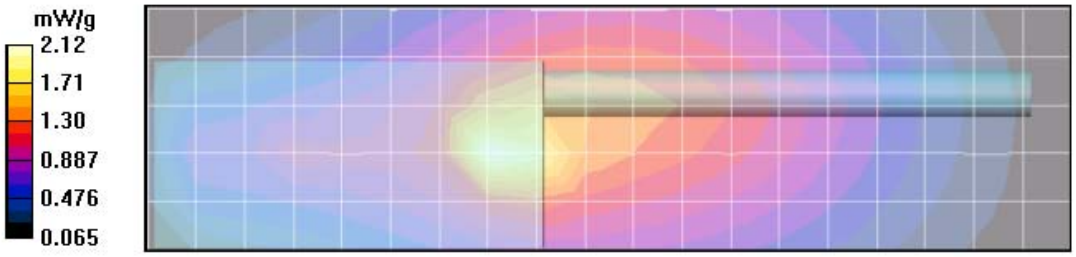
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-15
Phantom # / Tissue Temp: ELI4 1028 / 20.9 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.28 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 44.8 V/m; Power Drift = -0.691 dB
Motorola Fast SAR: SAR(1 g) = 1.99 mW/g; SAR(10 g) = 1.38 mW/g
Maximum value of SAR (interpolated) = 2.23 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.23 mW/g



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Date/Time: 12/9/2008 8:53:56 PM

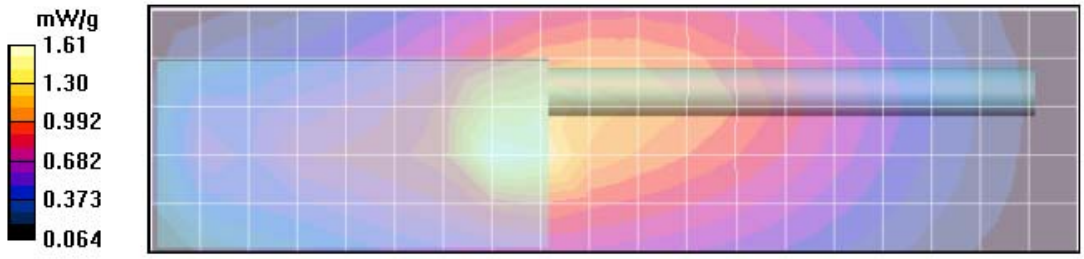
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-19
Phantom # / Tissue Temp: ELI4 1028 / 21.0 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4082A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 5.92 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 42.7 V/m; Power Drift = -0.649 dB
Motorola Fast SAR: SAR(1 g) = 1.55 mW/g; SAR(10 g) = 1.11 mW/g
Maximum value of SAR (interpolated) = 1.70 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.77 mW/g



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Date/Time: 12/9/2008 9:16:08 PM

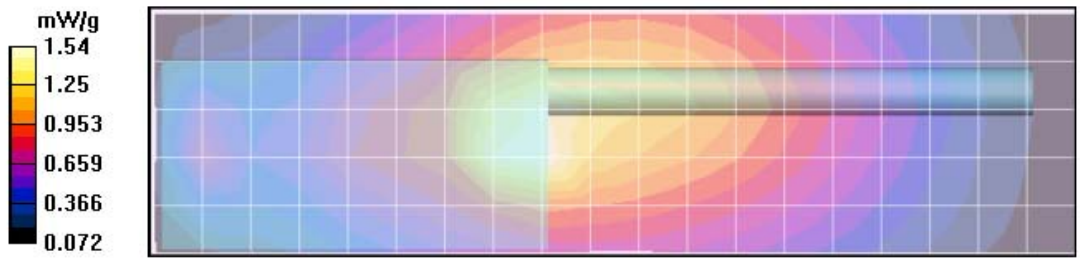
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-20
Phantom # / Tissue Temp: ELI4 1028 / 20.8 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4080A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.23 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 43.7 V/m; Power Drift = -0.688 dB
Motorola Fast SAR: SAR(1 g) = 1.52 mW/g; SAR(10 g) = 1.12 mW/g
Maximum value of SAR (interpolated) = 1.63 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.74 mW/g



3.0 SAR Plots for Body-worn accessory assessment at the Body

Motorola Government & Public Safety EME Laboratory
Date/Time: 12/9/2008 6:27:10 PM

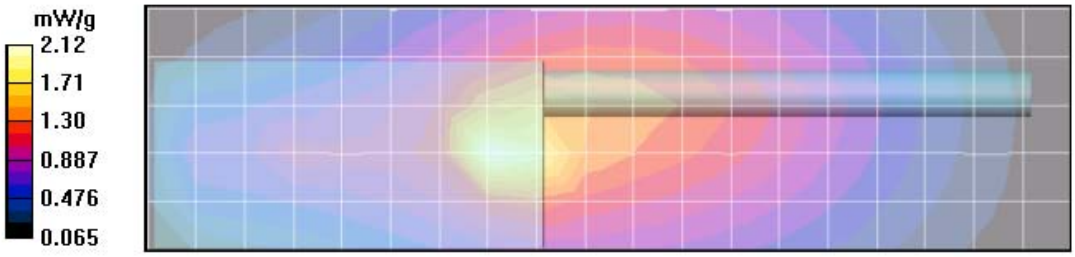
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-15
Phantom # / Tissue Temp: ELI4 1028 / 20.9 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.28 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 44.8 V/m; Power Drift = -0.691 dB
Motorola Fast SAR: SAR(1 g) = 1.99 mW/g; SAR(10 g) = 1.38 mW/g
Maximum value of SAR (interpolated) = 2.23 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.23 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 7:46:48 AM

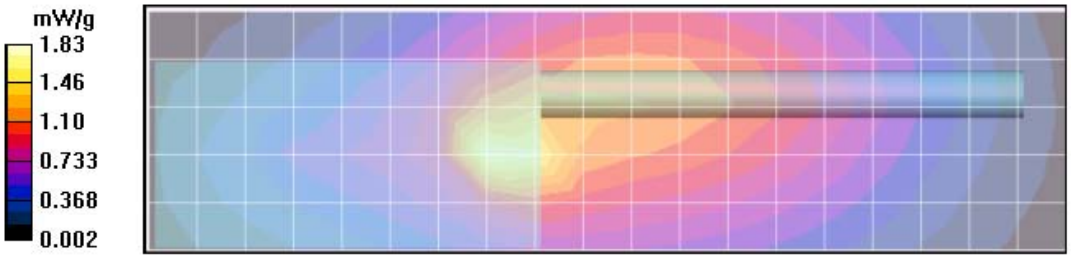
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-02
Phantom # / Tissue Temp: ELI4 1028 / 21.1 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: PMLN5334A w/ HLN9844A / PMMN4008A
Start power: 6.20 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 41.2 V/m; Power Drift = -0.616 dB
Motorola Fast SAR: SAR(1 g) = 1.63 mW/g; SAR(10 g) = 1.14 mW/g
Maximum value of SAR (interpolated) = 1.83 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.83 mW/g



4.0 SAR Plots for Audio accessory assessment at the Body

Motorola Government & Public Safety EME Laboratory
Date/Time: 12/9/2008 6:27:10 PM

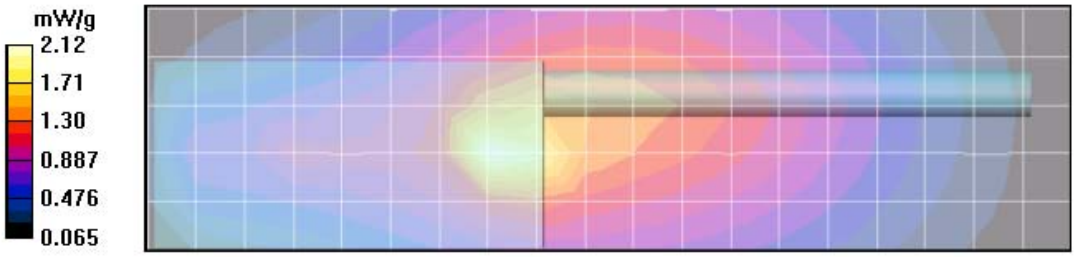
Robot # / Run #: DASY4-PG-1 / Vee-AB-081209-15
Phantom # / Tissue Temp: ELI4 1028 / 20.9 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4008A
Start power: 6.28 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.83 mho/m; ε_r = 61.5; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 44.8 V/m; Power Drift = -0.691 dB
Motorola Fast SAR: SAR(1 g) = 1.99 mW/g; SAR(10 g) = 1.38 mW/g
Maximum value of SAR (interpolated) = 2.23 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.23 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 8:12:20 AM

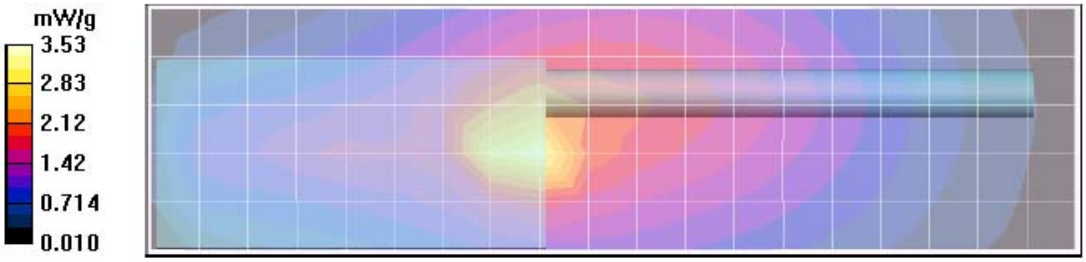
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-03
Phantom # / Tissue Temp: ELI4 1028 / 21.2 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4013A
Start power: 6.19 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 54.8 V/m; Power Drift = -0.639 dB
Motorola Fast SAR: SAR(1 g) = 3.06 mW/g; SAR(10 g) = 2.12 mW/g
Maximum value of SAR (interpolated) = 3.37 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.53 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 8:35:29 AM

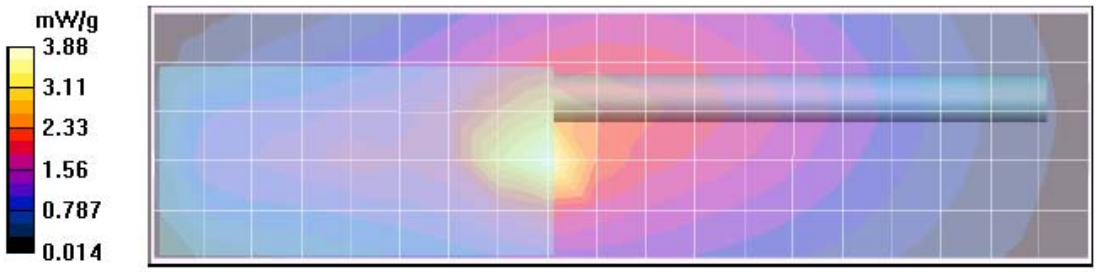
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-04
Phantom # / Tissue Temp: ELI4 1028 / 21.4 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4013A w/ AARLN4885B
Start power: 6.24 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 58.6 V/m; Power Drift = -0.610 dB
Motorola Fast SAR: SAR(1 g) = 3.56 mW/g; SAR(10 g) = 2.41 mW/g
Maximum value of SAR (interpolated) = 3.96 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.88 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 8:57:31 AM

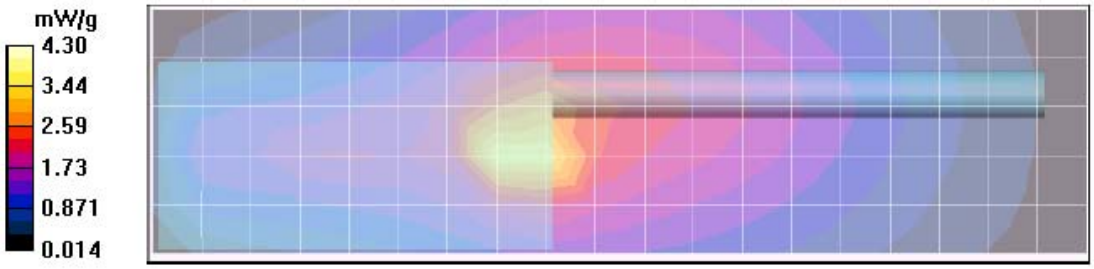
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-05
Phantom # / Tissue Temp: ELI4 1028 / 21.3 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4013A w/ RLN4941A
Start power: 6.23 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 59.3 V/m; Power Drift = -0.512 dB
Motorola Fast SAR: SAR(1 g) = 3.65 mW/g; SAR(10 g) = 2.52 mW/g
Maximum value of SAR (interpolated) = 4.05 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 4.30 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 9:19:42 AM

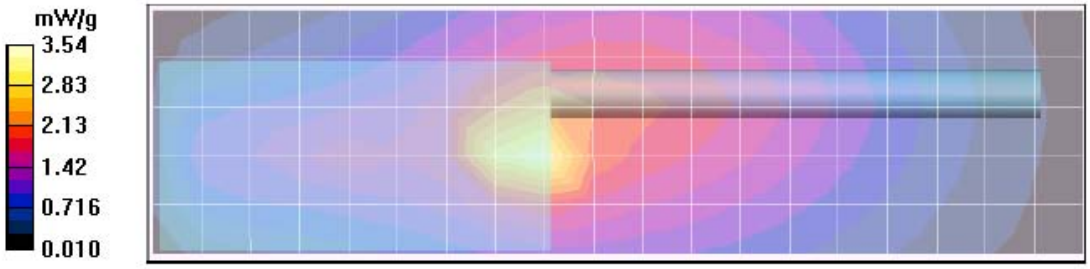
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-06
Phantom # / Tissue Temp: ELI4 1028 / 21.2 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4029A
Start power: 6.20 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 54.9 V/m; Power Drift = -0.613 dB
Motorola Fast SAR: SAR(1 g) = 3.11 mW/g; SAR(10 g) = 2.15 mW/g
Maximum value of SAR (interpolated) = 3.42 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.54 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 9:43:24 AM

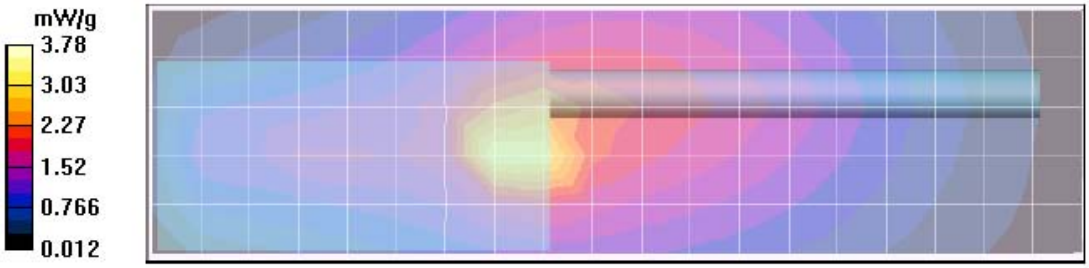
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-07
Phantom # / Tissue Temp: ELI4 1028 / 21.2 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMLN4443A
Start power: 6.28 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 56.7 V/m; Power Drift = -0.634 dB
Motorola Fast SAR: SAR(1 g) = 3.24 mW/g; SAR(10 g) = 2.25 mW/g
Maximum value of SAR (interpolated) = 3.59 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.78 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 10:04:26 AM

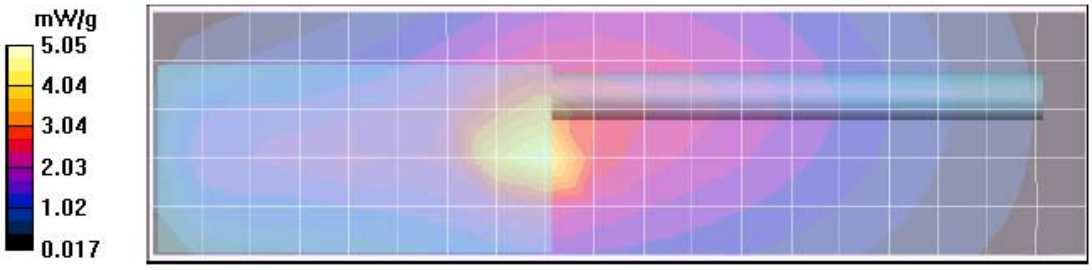
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-08
Phantom # / Tissue Temp: ELI4 1028 / 21.4 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMLN4444A
Start power: 6.25 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 63.4 V/m; Power Drift = -0.476 dB
Motorola Fast SAR: SAR(1 g) = 4.37 mW/g; SAR(10 g) = 2.96 mW/g
Maximum value of SAR (interpolated) = 4.87 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 5.05 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 10:26:19 AM

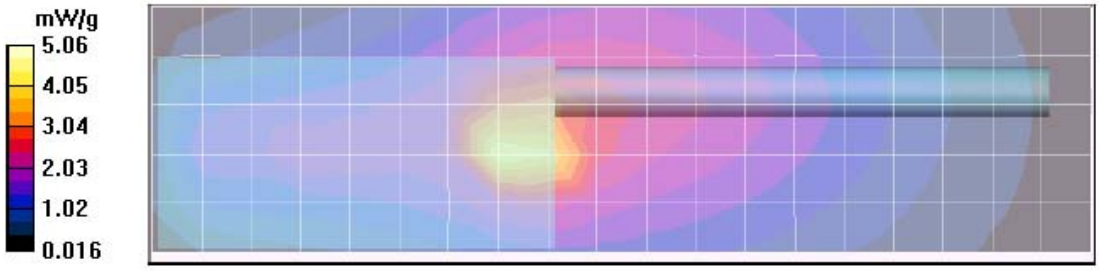
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-09
Phantom # / Tissue Temp: ELI4 1028 / 21.5 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMLN4445A
Start power: 6.23 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 63.1 V/m; Power Drift = -0.512 dB
Motorola Fast SAR: SAR(1 g) = 4.25 mW/g; SAR(10 g) = 2.9 mW/g
Maximum value of SAR (interpolated) = 4.79 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 5.06 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 10:49:57 AM

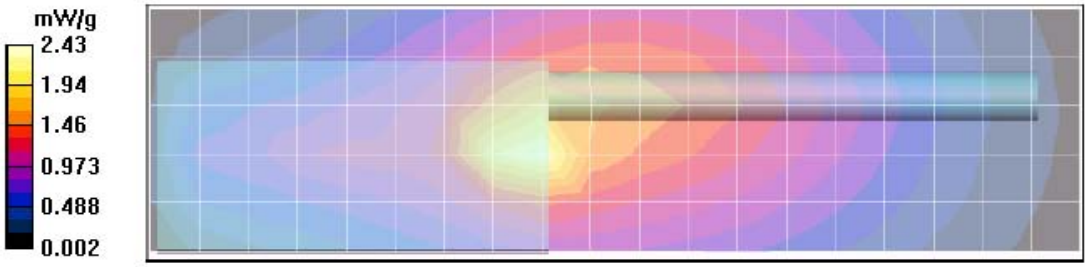
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-10
Phantom # / Tissue Temp: ELI4 1028 / 21.4 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMLN4606A
Start power: 6.29 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 48.1 V/m; Power Drift = -0.785 dB
Motorola Fast SAR: SAR(1 g) = 2.19 mW/g; SAR(10 g) = 1.54 mW/g
Maximum value of SAR (interpolated) = 2.39 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.43 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 11:11:15 AM

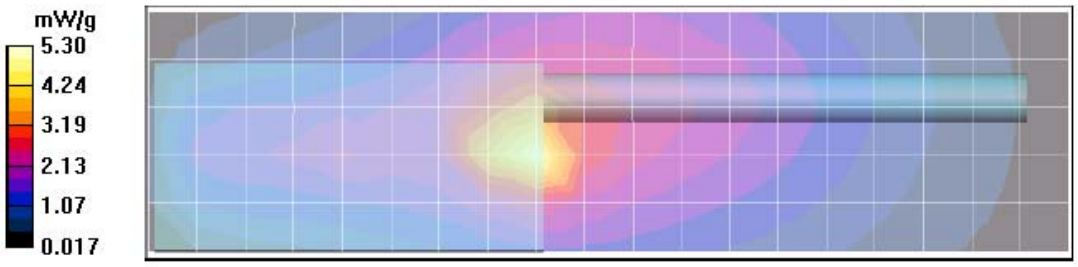
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-11
Phantom # / Tissue Temp: ELI4 1028 / 21.3 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMMN4001A
Start power: 6.23 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 63.7 V/m; Power Drift = -0.455 dB
Motorola Fast SAR: SAR(1 g) = 4.6 mW/g; SAR(10 g) = 3.07 mW/g
Maximum value of SAR (interpolated) = 5.16 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 5.30 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 11:34:56 AM

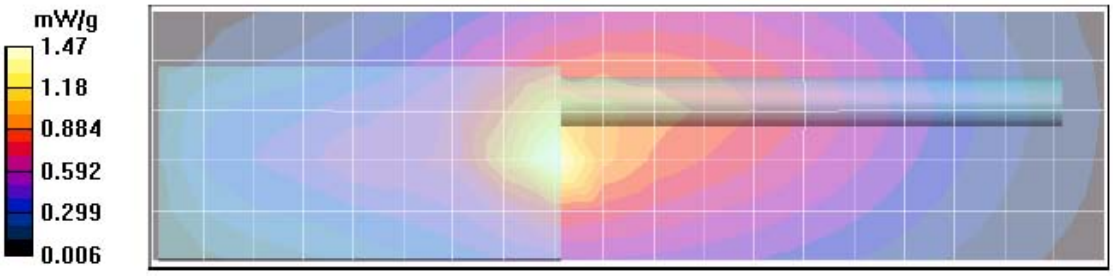
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-12
Phantom # / Tissue Temp: ELI4 1028 / 21.3 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMLN5001A
Start power: 6.28 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 36.3 V/m; Power Drift = -0.549 dB
Motorola Fast SAR: SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.939 mW/g
Maximum value of SAR (interpolated) = 1.53 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.47 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 11:56:30 AM

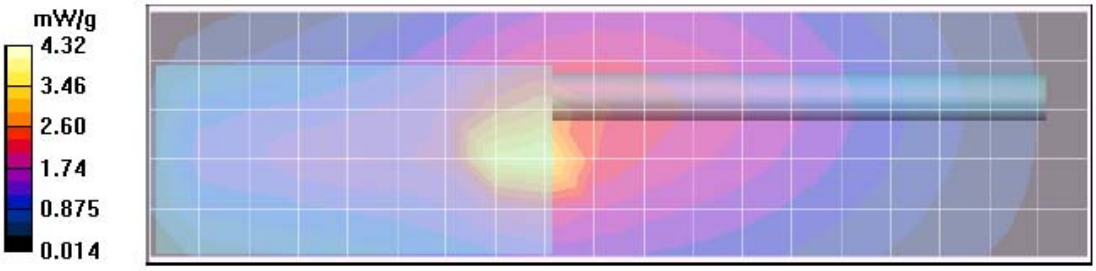
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-13
Phantom # / Tissue Temp: ELI4 1028 / 21.2 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / PMLN5003A
Start power: 6.27 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 59.2 V/m; Power Drift = -0.543 dB
Motorola Fast SAR: SAR(1 g) = 3.66 mW/g; SAR(10 g) = 2.52 mW/g
Maximum value of SAR (interpolated) = 4.05 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 4.32 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 12:23:00 PM

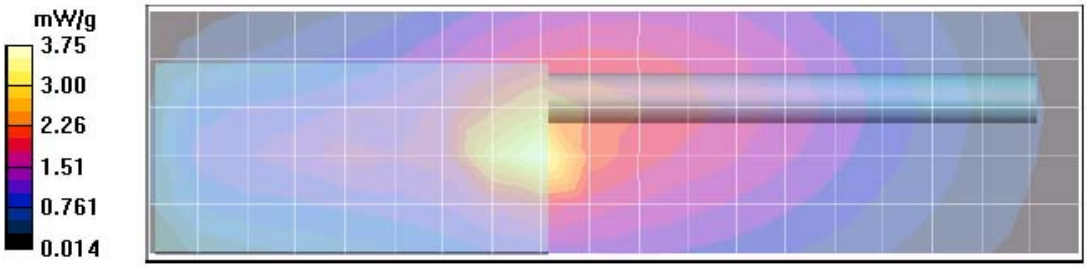
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-14
Phantom # / Tissue Temp: ELI4 1028 / 21.1 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / HMN9013B
Start power: 6.24 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 56.4 V/m; Power Drift = -0.682 dB
Motorola Fast SAR: SAR(1 g) = 3.33 mW/g; SAR(10 g) = 2.26 mW/g
Maximum value of SAR (interpolated) = 3.69 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.75 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 12:45:00 PM

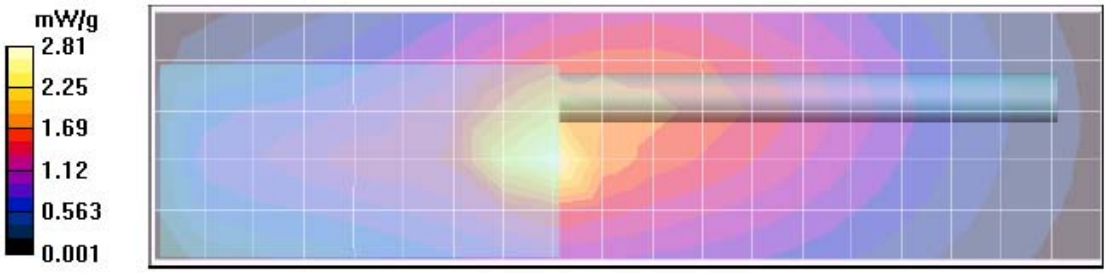
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-15
Phantom # / Tissue Temp: ELI4 1028 / 21.2 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / HMN9754D
Start power: 6.27 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 51.2 V/m; Power Drift = -0.681 dB
Motorola Fast SAR: SAR(1 g) = 2.58 mW/g; SAR(10 g) = 1.79 mW/g
Maximum value of SAR (interpolated) = 2.83 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.81 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/10/2008 1:08:55 PM

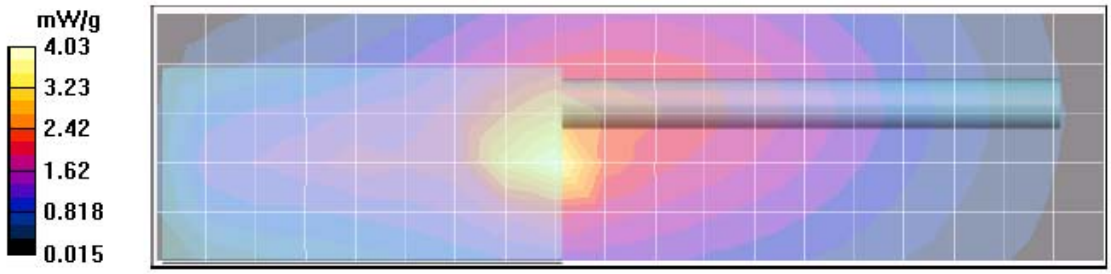
Robot # / Run #: DASY4-PG-1 / CcC-AB-081210-16
Phantom # / Tissue Temp: ELI4 1028 / 21.2 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: HLN9844A / HMN9754D w/ RLN6230A
Start power: 6.24 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.5, 7.5, 7.5)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.82 mho/m; ε_r = 61.3; ρ = 1000 kg/m^3

Ab Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 58.3 V/m; Power Drift = -0.550 dB
Motorola Fast SAR: SAR(1 g) = 3.55 mW/g; SAR(10 g) = 2.42 mW/g
Maximum value of SAR (interpolated) = 3.94 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 4.03 mW/g



5.0 SAR Plots for Antenna assessment at the Face

Motorola Government & Public Safety EME Laboratory
Date/Time: 12/16/2008 2:01:17 PM

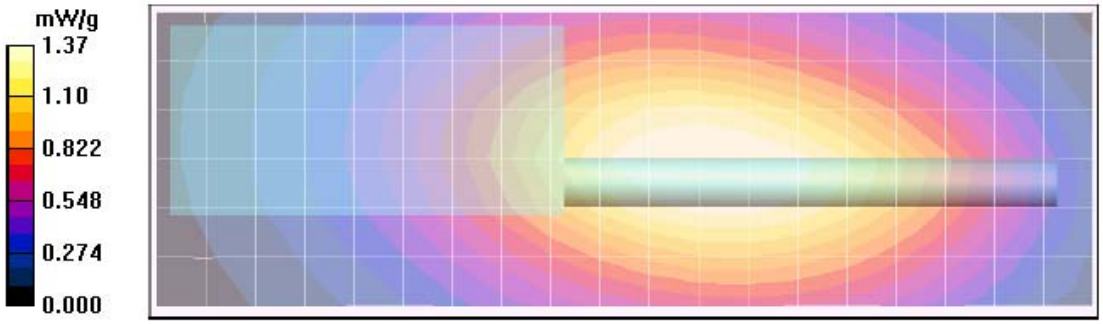
Robot # / Run #: DASY4-PG-1 / CcC-Face-081216-02
Phantom # / Tissue Temp: ELI4 1037 / 21.3 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: NAD6502AR / 160.00000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 6.02 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 53; ρ = 1000 kg/m^3

Face Scan/Area Scan (61x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 45.0 V/m; Power Drift = -0.541 dB
Motorola Fast SAR: SAR(1 g) = 1.37 mW/g; SAR(10 g) = 1.04 mW/g
Maximum value of SAR (interpolated) = 1.43 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.37 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 03/05/09 11:08:31

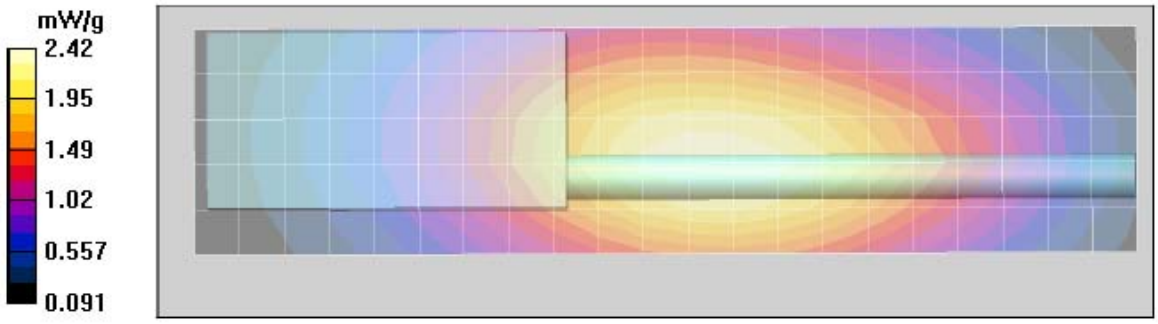
Robot # / Run #: DASY4-PG-1 / CcC-Face-081218-03
Phantom # / Tissue Temp: ELI4 1037 / 20.9 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: NAD6579A / 154.5000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 5.97 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: $\sigma = 0.73$; mho/m, $\varepsilon_r = 52.9$; $\rho = 1000$ kg/m^3

Face Scan/Area Scan (51x211x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 56.8 V/m; Power Drift = 0.0 dB
Motorola Fast SAR: SAR(1 g) = 2.32 mW/g; SAR(10 g) = 1.76 mW/g
Maximum value of SAR (interpolated) = 2.43 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.43 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/18/2008 8:46:34 AM

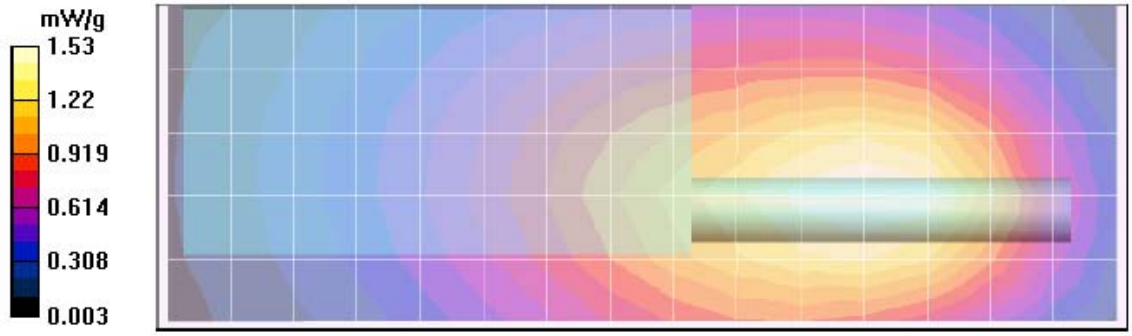
Robot # / Run #: DASY4-PG-1 / CcC-Face-081218-04
Phantom # / Tissue Temp: ELI4 1037 / 21.1 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4012A / 145.5000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 6.16 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.73 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x151x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 45.0 V/m; Power Drift = -0.0621 dB
Motorola Fast SAR: SAR(1 g) = 1.5 mW/g; SAR(10 g) = 1.12 mW/g
Maximum value of SAR (interpolated) = 1.57 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.53 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/14/2008 8:46:37 AM

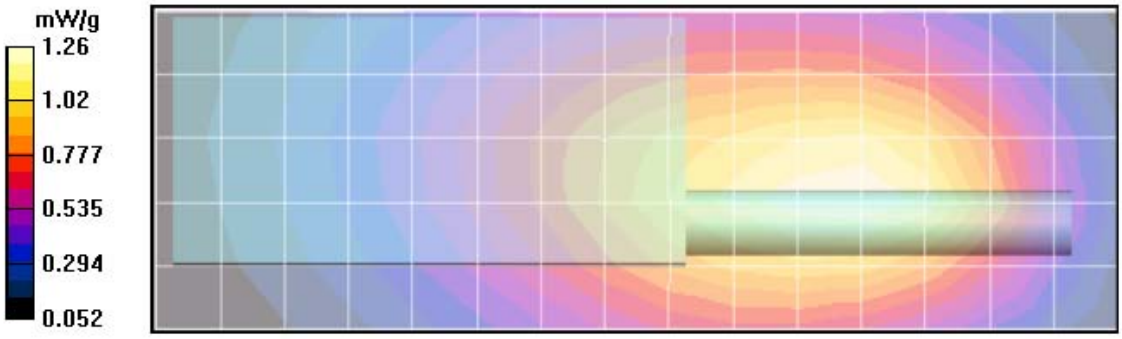
Robot # / Run #: DASY4-PG-1 / Vee-Face-081214-02
Phantom # / Tissue Temp: ELI4 1037 / 21.3 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4013A / 164.50000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 5.73 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.73 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x151x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 38.5 V/m; Power Drift = 0.662 dB
Motorola Fast SAR: SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.903 mW/g
Maximum value of SAR (interpolated) = 1.27 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.30 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/12/2008 3:16:31 PM

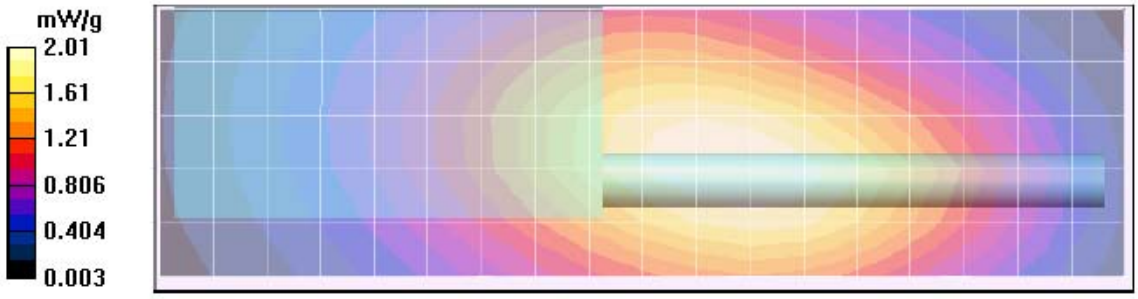
Robot # / Run #: DASY4-PG-1 / CcC-Face-081212-10
Phantom # / Tissue Temp: ELI4 1037 / 20.7 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4014A / 145.5000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 6.23 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x181x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 52.5 V/m; Power Drift = -0.154 dB
Motorola Fast SAR: SAR(1 g) = 1.97 mW/g; SAR(10 g) = 1.49 mW/g
Maximum value of SAR (interpolated) = 2.06 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.01 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/12/2008 4:24:28 PM

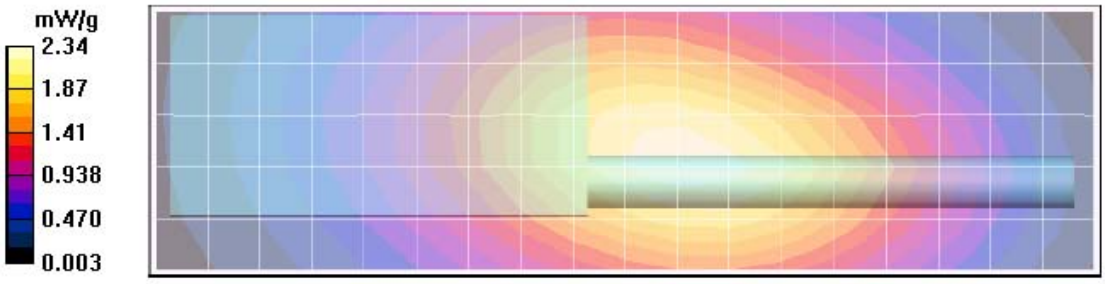
Robot # / Run #: DASY4-PG-1 / CcC-Face-081212-11
Phantom # / Tissue Temp: ELI4 1037 / 20.7 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4015A / 164.5000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 5.92 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x181x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 54.3 V/m; Power Drift = 0.108 dB
Motorola Fast SAR: SAR(1 g) = 2.22 mW/g; SAR(10 g) = 1.68 mW/g
Maximum value of SAR (interpolated) = 2.33 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.34 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/12/2008 4:48:59 PM

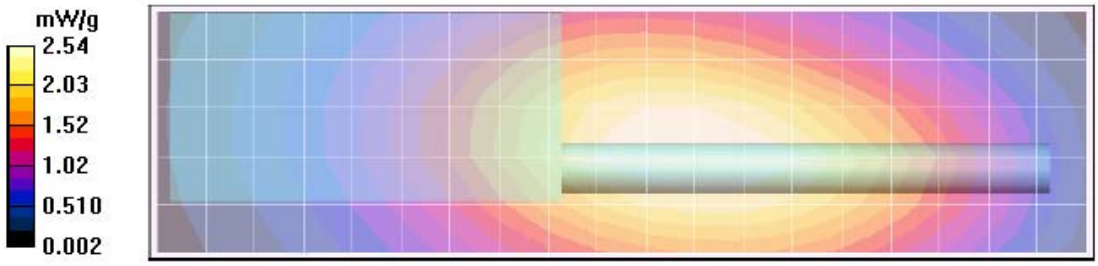
Robot # / Run #: DASY4-PG-1 / CcC-Face-081212-12
Phantom # / Tissue Temp: ELI4 1037 / 20.9 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: PMAD4049A / 160.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 6.20 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 59.6 V/m; Power Drift = -0.277 dB
Motorola Fast SAR: SAR(1 g) = 2.5 mW/g; SAR(10 g) = 1.9 mW/g
Maximum value of SAR (interpolated) = 2.62 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.54 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/12/2008 5:13:34 PM

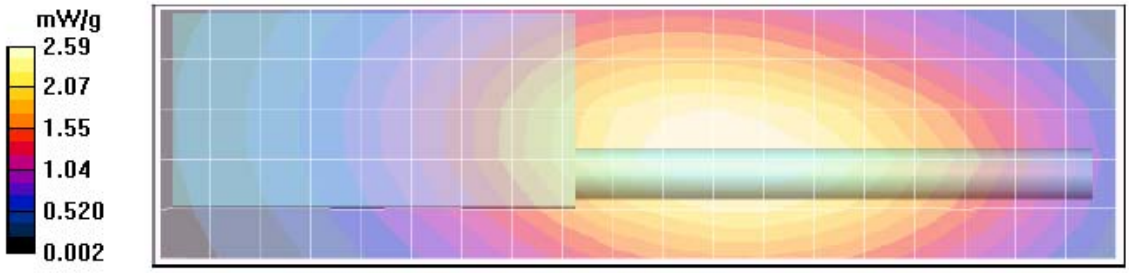
Robot # / Run #: DASY4-PG-1 / CcC-Face-081212-13
Phantom # / Tissue Temp: ELI4 1037 / 21.0 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: HAD9338BR / 149.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 6.02 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 59.1 V/m; Power Drift = -0.193 dB
Motorola Fast SAR: SAR(1 g) = 2.53 mW/g; SAR(10 g) = 1.91 mW/g
Maximum value of SAR (interpolated) = 2.65 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.59 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/12/2008 5:39:49 PM

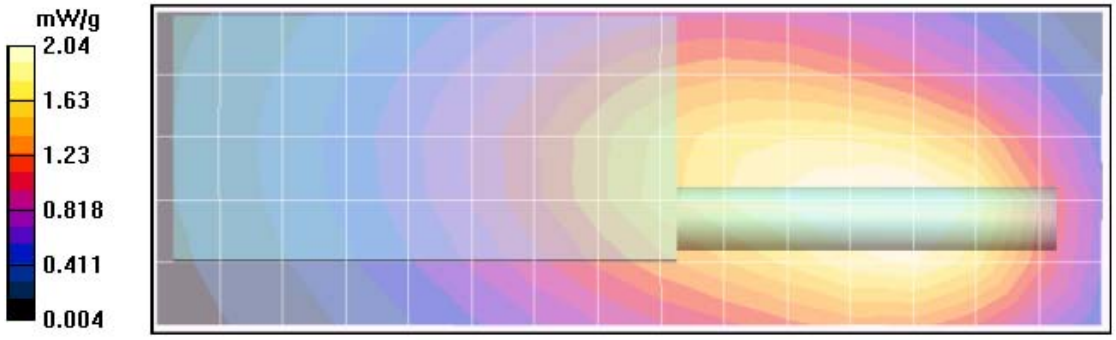
Robot # / Run #: DASY4-PG-1 / CcC-Face-081212-14
Phantom # / Tissue Temp: ELI4 1037 / 20.9 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: HAD9742A / 154.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 6.08 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x151x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 54.4 V/m; Power Drift = -0.414 dB
Motorola Fast SAR: SAR(1 g) = 2.05 mW/g; SAR(10 g) = 1.53 mW/g
Maximum value of SAR (interpolated) = 2.16 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.04 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/12/2008 6:01:38 PM

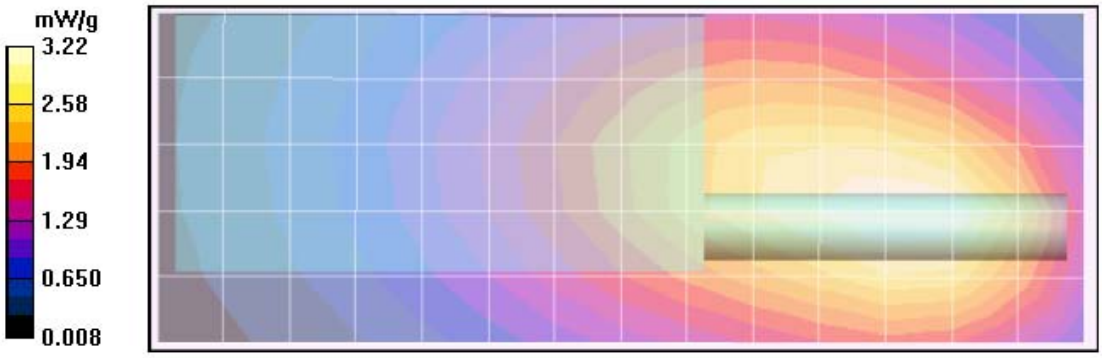
Robot # / Run #: DASY4-PG-1 / CcC-Face-081212-15
Phantom # / Tissue Temp: ELI4 1037 / 21.1 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: HAD9743A / 168.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 5.80 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x141x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 62.3 V/m; Power Drift = 0.183 dB
Motorola Fast SAR: SAR(1 g) = 3.14 mW/g; SAR(10 g) = 2.34 mW/g
Maximum value of SAR (interpolated) = 3.31 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.22 mW/g



5.0 SAR Plots for Battery assessment at the Face

Motorola Government & Public Safety EME Laboratory

Date/Time: 12/12/2008 6:01:38 PM

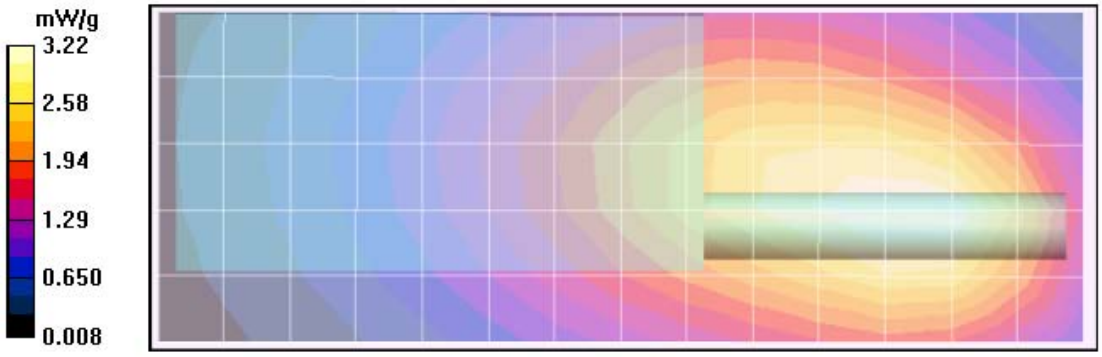
Robot # / Run #: DASY4-PG-1 / CcC-Face-081212-15
Phantom # / Tissue Temp: ELI4 1037 / 21.1 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: HAD9743A / 168.0000 MHz
Battery: PMNN4081A
Carry Acc. / Cable Acc.: None / None
Start power: 5.80 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x141x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 62.3 V/m; Power Drift = 0.183 dB
Motorola Fast SAR: SAR(1 g) = 3.14 mW/g; SAR(10 g) = 2.34 mW/g
Maximum value of SAR (interpolated) = 3.31 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.22 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/12/2008 6:23:38 PM

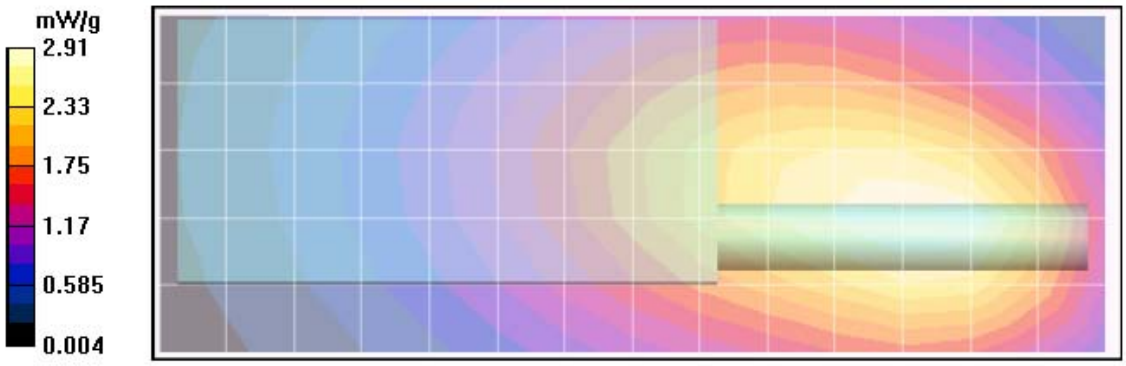
Robot # / Run #: DASY4-PG-1 / CcC-Face-081212-16
Phantom # / Tissue Temp: ELI4 1037 / 21.1 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: HAD9743A / 168.0000 MHz
Battery: PMNN4082A
Carry Acc. / Cable Acc.: None / None
Start power: 5.43 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x141x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 60.5 V/m; Power Drift = -0.0211 dB
Motorola Fast SAR: SAR(1 g) = 2.84 mW/g; SAR(10 g) = 2.12 mW/g
Maximum value of SAR (interpolated) = 2.99 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.91 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 12/12/2008 6:48:51 PM

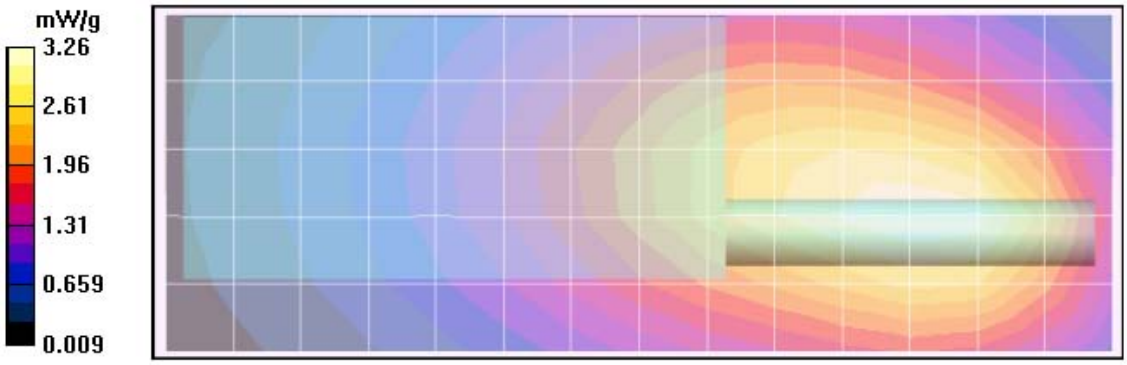
Robot # / Run #: DASY4-PG-1 / CcC-Face-081212-17
Phantom # / Tissue Temp: ELI4 1037 / 21.0 (C)
Model # / Serial#: PMUD2444AAN / 1338JX0810
Antenna / TX Freq: HAD9743A / 168.0000 MHz
Battery: PMNN4080A
Carry Acc. / Cable Acc.: None / None
Start power: 5.74 W

Comments:

Probe: ES3DV3 - SN3122, Calibrated: 5/15/2008, ConvF(7.8, 7.8, 7.8)
Electronics: DAE4 Sn688, Calibrated: 3/11/2008
Duty Cycle: 1:1, Medium parameters used: f = 155 MHz; σ = 0.74 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Face Scan/Area Scan (51x141x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 60.8 V/m; Power Drift = 0.355 dB
Motorola Fast SAR: SAR(1 g) = 3.13 mW/g; SAR(10 g) = 2.34 mW/g
Maximum value of SAR (interpolated) = 3.30 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.26 mW/g



Appendix K
Specific details of the Fast SAR I algorithm

The Fast SAR I algorithm implemented in DASY4 is published in "Faster Determination of Mass-Averaged SAR From 2-D Area Scans" by Kanda et al., IEEE Transactions on Microwave Theory and Techniques, August 2004. This algorithm allows predicting the 1-g or 10-g peak average SAR based on surface SAR measurements ("area scans") alone, without requiring volumetric SAR measurements ("zoom scans"). This is accomplished by assuming an exponentially decaying SAR along directions orthogonal to the phantom surface. Using the abscissa *z*, with origin at the tissue-phantom interface and directed towards the tissue, to generally indicate these directions, said assumption can be generally expressed as in Eq. (2) in the paper, reported below:

$$SAR(z) = SAR(0)e^{-\frac{2z}{\delta}}$$

where δ is the electromagnetic field "penetration depth" associated to RF energy attenuation in the lossy tissue. Since area scans are performed at a distance $z_d > 0$ from the tissue-phantom interface, the corresponding SAR distribution is defined as $SAR(x, y, z_d)$, where x and y are the transverse coordinates on the interface.

On this basis, the volumetric (1-g or 10-g) SAR average may be estimated as in Eq. (7) in the paper, reported below:

$$SAR_e = \frac{1}{L_c^2} \iint_{A_{max}} SAR(x, y, z_d)\, dxdy \frac{\hat{\delta}}{2L_c} e^{\frac{2z_d}{\hat{\delta}}} \left(1 - e^{-\frac{2L_c}{\hat{\delta}}}\right)$$

where $L_c = V^{1/3}$ (V being the averaging volume - in the shape of a cube - corresponding to either 1-g or 10-g of tissue), A_{max} is the square surface of area L_c^2 where the integral assumes the largest value, and $\hat{\delta}$ is the frequency-dependent penetration depth estimator defined in Eq. (12) in the paper, as reported below:

$$\hat{\delta}[mm] = -10.7\, f[GHz] + 40.4$$

where f is the frequency. The Fast SAR I algorithm comprises the following steps:

- conduct an area scan with measurement resolution Δx, Δy;
- use cubic-spline interpolation to determine $SAR(x, y, z_d)$ over a 1-mm resolution;
- search for the highest 1-g or 10-g footprint of $SAR(x, y, z_d)$;
- find SAR_e from Eq. (7) in the paper using the trapezoidal rule for integration.

The actual measurements used in this report employed an area scan resolution with $\Delta x = \Delta y = 15\ mm$.