

 <b style="font-size: 24pt; margin-left: 10px;">MOTOROLA	 <p style="margin-top: 5px;">Certificate Number: 1449-01</p>
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FCC ID: AZ489FT4876
DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

<p>Networks & Enterprise EME Test Laboratory 8000 West Sunrise Blvd Fort Lauderdale, FL. 33322</p>	<p>Date of Report: 5/10/06 Report Revision: Rev O Report ID: FCC rpt_ AAH55QDH9LA1AN_060510_SR3889</p>
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<p>Responsible Engineer: Stephen C. Whalen (Sr. Staff Eng.) Date/s Tested: 4/28/2006 – 5/5/2006 Manufacturer/Location: Motorola – Penang Sector/Group/Div.: NE/GTDG Date submitted for test: 4/12/06 DUT Description: 403-470MHz / 4Watt keypad/Display W/GPS Test TX mode(s): CW Max. Power output: 4.8W Nominal Power: 4W Tx Frequency Bands: 403-470MHz Signaling type: FM Model(s) Tested: AAH55QDH9LA1AN Model(s) Certified: AAH55QDH9LA1AN Serial Number(s): 037T000015, 037T000014 Classification: Occupational/Controlled Rule Part(s): 90</p> <p>Approved Accessories: Antenna(s): PMAE4018A (403-433 MHz, ¼ wave, Dual Band Folded Monopole (GPS) 2.2dBi), PMAE4021A (403-433MHz, ¼ wave, Dual Band Dual Element Stubby (GPS) 1.8dBi), PMAE4022A (403-470MHz, ¼ wave, Whip antenna, 2dBi), PMAE4023A (430-470MHz, ¼ wave, Dual Band Dual Element Stubby (GPS) 1.8dBi), PMAE4024A (430-470 MHz, ¼ wave, Dual Band Folded Monopole (GPS) 2.2dBi) Battery(ies): PMNN4065A (NiMH 1300 mAh), PMNN4066A (Li-Ion 1500 mAh Impres), PMNN4069A (Li-Ion 1500 mAh Impres FM) Body worn accessory(ies): PMLN4651A (Belt Clip 2), PMLN4652A (Belt Clip 2.5), HLN9985B (Waterproof Bag), RLN4570A (Break-A-Way Chest Pack), RLN4815A (Universal RadioPak & Utility Case), HLN6602A (Chest Pack) Audio/Data cable accessory(ies): See section 3.0 for list of approved audio acc</p> <p style="text-align: center; color: blue; font-weight: bold; margin-top: 20px;"> Max. Calc. 1-g/10-g Avg. SAR: 6.61/4.72 W/kg (Body) Max. Calc. 1-g/10-g Avg. SAR: 4.82/3.50 W/kg (Face) </p>	
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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.

This reporting format is consistent with the test report guidelines of the TIA TSB-150 December 2004
The results and statements contained in this report pertain only to the device(s) evaluated.

<p>Signature on file Ken Enger N&E EME Lab Senior Resource Manager, Laboratory Director,</p> <p style="margin-top: 20px;">Approval Date: 5/10/06</p>	<p style="color: blue; font-weight: bold;">Certification Date: 5/10/06</p> <p style="color: blue; font-weight: bold;">Certification No.: L1060509P</p>
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Appendix D

Test System Verification Scans

Note: Dipole validation scans at the head from SPEAG are provided in APPENDIX D. The N&E EME lab validated the dipole to the applicable IEEE system performance targets. Within the same day system validation was performed using FCC body tissue parameters to generate the system performance target values for body at the applicable frequency. The results of the N&E EME system performance validation are provided herein. To assess the isotropic characteristics of the measurement probe, two system performance zoom scans (0 and 90 degrees) were measured. The results were averaged together and adjusted to account for the power drift in order to obtain the final calculated 1 and 10 gram results.

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DUT: Dipole 450 MHz; Date/Time: 4/28/2006 5:08:08 PM
 Run #: CM-SYSP-450B-060428-02 Sim.Tissue Temp: 21.9 (C)
 Robot GEMS-2 Phantom #: 80302002D/S15
 Model #: D450V2 S/N: 1001
 TX Freq: 450 (MHz) Start power: 250 (mW)
 Target:
 4.96 mW/g for 1g SAR 3.25 mW/g for 10g SAR
 5.04 mW/g calculated 1g-SAR: 1.68% from target (including drift)
 3.29 mW/g calculated 10g-SAR: 1.08% from target (including drift)

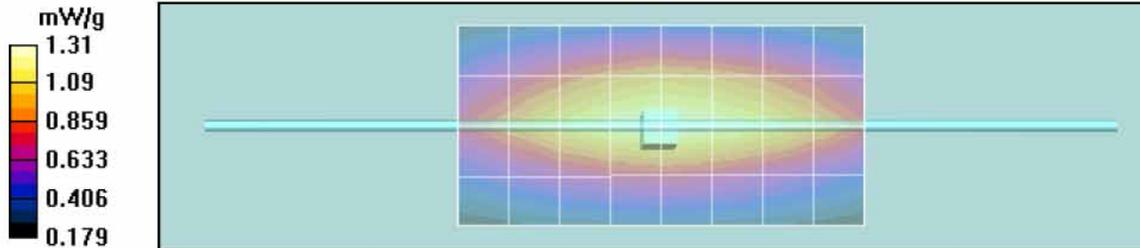
Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.91, 6.91, 6.91)
 Duty Cycle: 1:1, Medium: 450 MHz FCC Body, Medium parameters used: $f = 450$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 55.8$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 37.6 V/m; Power Drift = 0.0144 dB
 Peak SAR (extrapolated) = 2.16 W/kg
SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.819 mW/g
 Maximum value of SAR (measured) = 1.33 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 37.6 V/m; Power Drift = 0.0144 dB
 Peak SAR (extrapolated) = 2.16 W/kg
SAR(1 g) = 1.27 mW/g; SAR(10 g) = 0.828 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 1.31 mW/g

System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
 Maximum value of SAR (measured) = 1.34 mW/g



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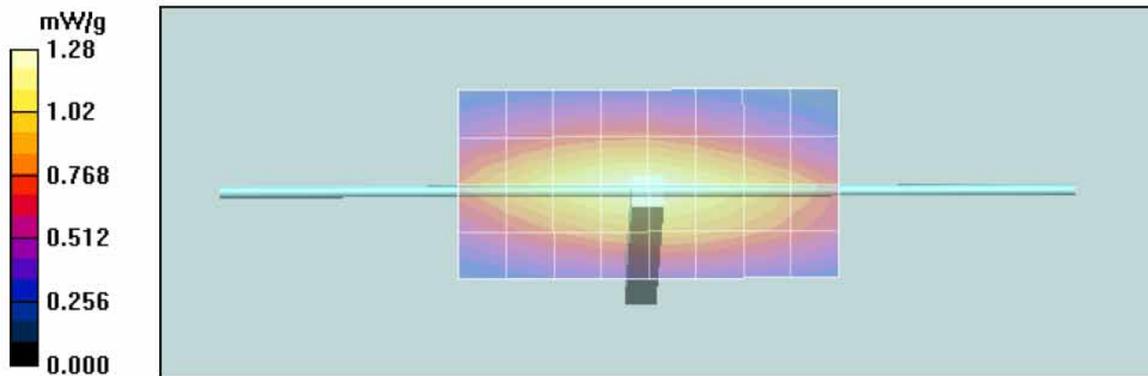
DUT: Dipole 450 MHz; Date/Time: 4/29/2006 5:38:49 PM
 Run #: MeC-SYSP-450B-060429-01 Sim.Tissue Temp: 22.1 (C)
 Robot GEMS-2 Phantom #: 80302002D/S15
 Model #: D450V2 S/N: 1001
 TX Freq: 450 (MHz) Start power: 250 (mW)
 Target:
 4.96 mW/g for 1g SAR 3.25 mW/g for 10g SAR
 4.90 mW/g calculated 1g-SAR; -1.17 % from target (including drift)
 3.20 mW/g calculated 10g-SAR; -1.59 % from target (including drift)

Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.91, 6.91, 6.91)
 Duty Cycle: 1:1, Medium: 450 MHz FCC Body, Medium parameters used: f = 450 MHz; $\sigma = 0.92$ mho/m; $\epsilon_r = 55.6$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 37.5 V/m; Power Drift = -0.0194 dB
 Peak SAR (extrapolated) = 2.07 W/kg
SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.795 mW/g
 Maximum value of SAR (measured) = 1.29 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 37.5 V/m; Power Drift = -0.0194 dB
 Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.797 mW/g
 Maximum value of SAR (measured) = 1.30 mW/g

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



Motorola N&E EME Lab

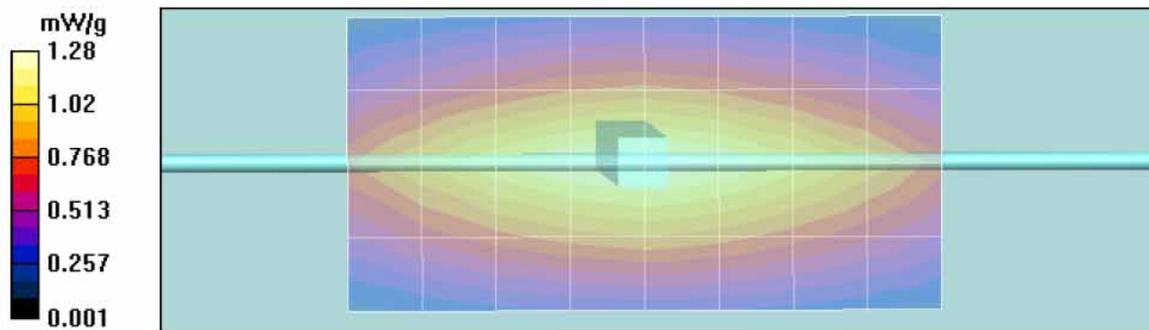
DUT: Dipole 450 MHz; Date/Time: 4/30/2006 1:03:40 AM
 Run #: MeC-SYSP-450B-060430-01 Sim.Tissue Temp: 21.8 (C)
 Robot GEMS-2 Phantom #: 80302002D/S15
 Model #: D450V2 S/N: 1001
 TX Freq: 450 (MHz) Start power: 250 (mW)
 Target:
 4.96 mW/g for 1g SAR 3.25 mW/g for 10g SAR
 4.87 mW/g calculated 1g-SAR: -1.74 % from target (including drift)
 3.19 mW/g calculated 10g-SAR: -1.94 % from target (including drift)

Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.91, 6.91, 6.91)
 Duty Cycle: 1:1, Medium: 450 MHz FCC Body, Medium parameters used: f = 450 MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 37.6 V/m; Power Drift = 0.0233 dB
 Peak SAR (extrapolated) = 2.05 W/kg
SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.796 mW/g
 Maximum value of SAR (measured) = 1.29 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 37.6 V/m; Power Drift = 0.0233 dB
 Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.805 mW/g
 Maximum value of SAR (measured) = 1.30 mW/g

System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



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DUT: Dipole 450 MHz; Date/Time: 5/2/2006 3:43:58 PM
 Run #: JsT-SYSP-450H-060502-02 Sim.Tissue Temp: 22.0 (C)
 Robot GEMS-2 Phantom #: 80302002A-S7
 Model #: D450V2 S/N: 1002
 TX Freq: 450 (MHz) Start power: 250 (mW)
 Target:

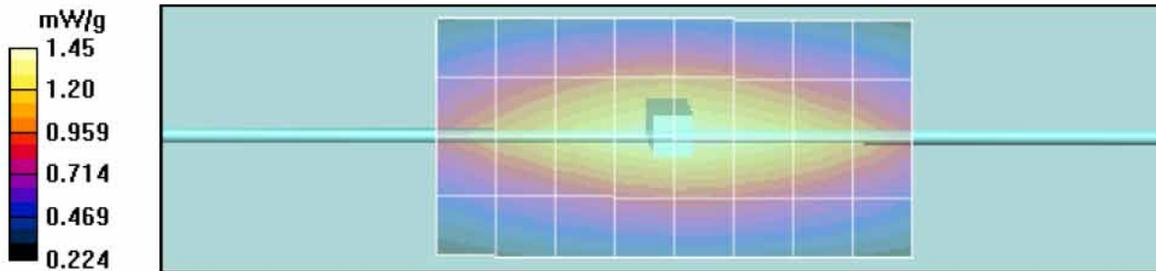
5.48 mW/g for 1g SAR 3.57 mW/g for 10g SAR
 5.47 mW/g calculated 1g-SAR: -0.14% from target (including drift)
 3.54 mW/g calculated 10g-SAR: -0.86% from target (including drift)
 Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.54, 6.54, 6.54)
 Duty Cycle: 1:1, Medium: 450 IEEE Head, Medium parameters used: $f = 450$ MHz; $\sigma = 0.86$ mho/m; $\epsilon_r = 44.5$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 41.0 V/m; Power Drift = 0.00597 dB
 Peak SAR (extrapolated) = 2.33 W/kg
SAR(1 g) = 1.36 mW/g; SAR(10 g) = 0.880 mW/g
 Maximum value of SAR (measured) = 1.44 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 41.0 V/m; Power Drift = 0.00597 dB
 Peak SAR (extrapolated) = 2.37 W/kg
SAR(1 g) = 1.38 mW/g; SAR(10 g) = 0.891 mW/g
 Maximum value of SAR (measured) = 1.45 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
 Maximum value of SAR (measured) = 1.43 mW/g



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DUT: Dipole 450 MHz; Date/Time: 5/3/2006 8:17:13 AM
Run #: JsT-SYSP-450H-060503-01 Sim.Tissue Temp: 21.7 (C)
Robot GEMS-2 Phantom #: 80302002A-S7
Model #: D450V2 S/N: 1002
TX Freq: 450 (MHz) Start power: 250 (mW)
Target:

5.48 mW/g for 1g SAR 3.57 mW/g for 10g SAR
5.46 mW/g calculated 1g-SAR: -0.45% from target (including drift)
3.56 mW/g calculated 10g-SAR: -0.33% from target (including drift)
Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.54, 6.54, 6.54)

Duty Cycle: 1:1, Medium: 450 IEEE Head, Medium parameters used: f = 450 MHz; $\sigma = 0.85$ mho/m; $\epsilon_r = 44.1$; $\rho = 1000$ kg/m³
Electronics: DAE3 Sn401, Calibrated: 8/18/2005

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 41.3 V/m; Power Drift = -0.0123 dB

Peak SAR (extrapolated) = 2.32 W/kg

SAR(1 g) = 1.36 mW/g; SAR(10 g) = 0.886 mW/g

Maximum value of SAR (measured) = 1.43 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 41.3 V/m; Power Drift = -0.0123 dB

Peak SAR (extrapolated) = 2.30 W/kg

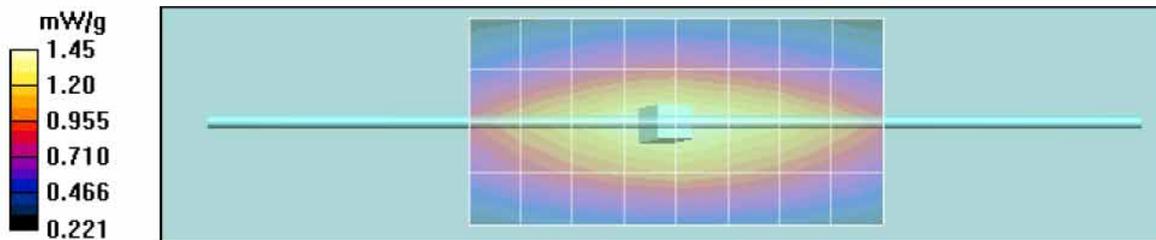
SAR(1 g) = 1.36 mW/g; SAR(10 g) = 0.888 mW/g

Maximum value of SAR (measured) = 1.44 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.45 mW/g

System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab

DUT: Dipole 450 MHz; Date/Time: 5/4/2006 10:55:37 AM
 Run #: ErC-SYSP-450B-060504-01 Sim.Tissue Temp: 21.5 (C)
 Robot GEMS-2 Phantom #: 80302002D-S15
 Model #: D450V2 S/N: 1002
 TX Freq: 450 (MHz) Start power: 250 (mW)
 Target:
 5.07 mW/g for 1g SAR 3.32 mW/g for 10g SAR
 4.95 mW/g calculated 1g-SAR: -2.42 % from target (including drift)
 3.24 mW/g calculated 10g-SAR: -2.35 % from target (including drift)

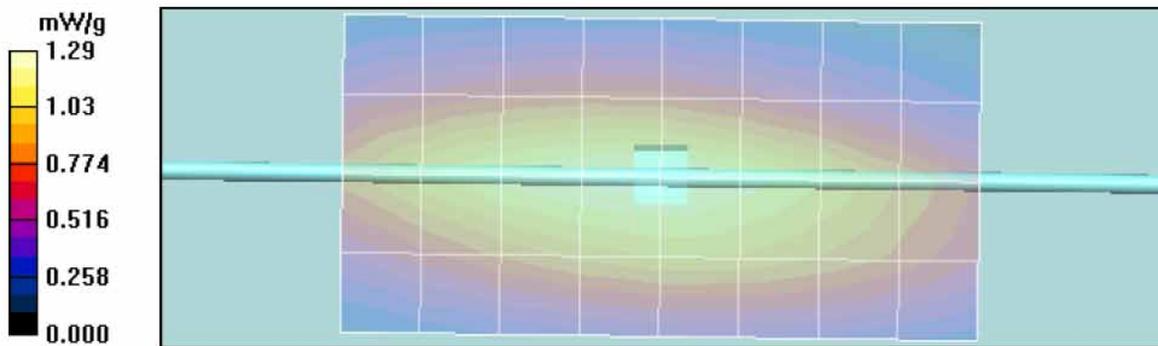
Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.91, 6.91, 6.91)
 Duty Cycle: 1:1, Medium: 450 MHz FCC Body, Medium parameters used: $f = 450 \text{ MHz}$; $\sigma = 0.9 \text{ mho/m}$; $\epsilon_r = 54.8$; $\rho = 1000 \text{ kg/m}^3$
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 37.8 V/m; Power Drift = -0.0242 dB
 Peak SAR (extrapolated) = 2.07 W/kg
SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.801 mW/g
 Maximum value of SAR (measured) = 1.29 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 37.8 V/m; Power Drift = -0.0242 dB
 Peak SAR (extrapolated) = 2.10 W/kg
SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.811 mW/g
 Maximum value of SAR (measured) = 1.31 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 1.28 mW/g

System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab

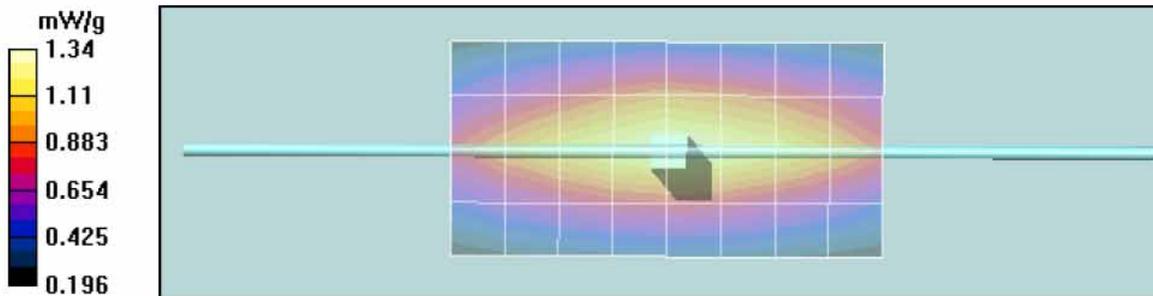
DUT: Dipole 450 MHz; Date/Time: 5/5/2006 10:14:05 AM
 Run #: JsT-SYSP-450B-060505-01 Sim.Tissue Temp: 22.3 (C)
 Robot GEMS-2 Phantom #: 80302002D-S15
 Model #: D450V2 S/N: 1002
 TX Freq: 450 (MHz) Start power: 250 (mW)
 Target:
 5.07 mW/g for 1g SAR 3.32 mW/g for 10g SAR
 5.11 mW/g calculated 1g-SAR: 0.81% from target (including drift)
 3.32 mW/g calculated 10g-SAR: 0.07% from target (including drift)

Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.91, 6.91, 6.91)
 Duty Cycle: 1:1, Medium: 450 MHz FCC Body, Medium parameters used: f = 450 MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 55$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 38.4 V/m; Power Drift = 0.00758 dB
 Peak SAR (extrapolated) = 2.19 W/kg
SAR(1 g) = 1.27 mW/g; SAR(10 g) = 0.825 mW/g
 Maximum value of SAR (measured) = 1.35 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 38.4 V/m; Power Drift = 0.00758 dB
 Peak SAR (extrapolated) = 2.20 W/kg
SAR(1 g) = 1.29 mW/g; SAR(10 g) = 0.838 mW/g
 Maximum value of SAR (measured) = 1.34 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



SYSTEM VALIDATION

Date:	<u>5/2/2006</u>	Frequency (MHz):	<u>450</u>
Lab Location:	<u>GEMS EME</u>	Mixture Type:	<u>IEEE Head</u>
Robot System:	<u>GEMS-1</u>	Ambient Temp.(°C):	<u>22.3</u>
Probe Serial #:	<u>1545</u>	Tissue Temp.(°C):	<u>21.5</u>
DAE Serial #:	<u>406</u>		

Tissue Characteristics

Permittivity:	<u>44.5</u>	Phantom Type/SN:	<u>80302002A-S7</u>
Conductivity:	<u>0.86</u>	Distance (mm):	<u>15</u>

Reference Source:	<u>Dipole</u>	(Dipole)
Reference SN:	<u>1002</u>	

Power to Dipole:	<u>250</u>	mW
Power Output (radio):	<u>n/a</u>	mW

Target SAR Value:	<u>4.90</u>	mW/g,	<u>3.30</u>	mW/g (10g avg.)
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(normalized to 1.0 W)

Measured SAR Value:	<u>1.35</u>	mW/g,	<u>0.88</u>	mW/g (10g avg.)
Power Drift:	<u>-0.0639</u>	dB		

Measured SAR Value:	<u>5.48</u>	mW/g,	<u>3.57</u>	mW/g (10g avg.)
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(normalized to 1.0 W, including drift)

Percent Difference From Target (MUST be within System Uncertainty):	<u>11.84%</u>	(1g ave)
	<u>8.25%</u>	(10g ave)

Test performed by:	<u>John Turco</u>	Initial:	
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DUT: Dipole 450 MHz; Date/Time: 5/2/2006 12:29:41 PM

Run #: JsT Val 450 H-060502-01 Sim.Tissue Temp: 21.5 (C)
 Robot GEMS-1 Phantom #: 80302002A-S7
 Model #: D450V2 S/N: 1002
 TX Freq: 450 (MHz) Start power: 250 (mW)

Target: 5.48 mW/g for 1g SAR 3.57 mW/g for 10g SAR
 5.48 mW/g calculated 1g-SAR; 0.00% from target (including drift)
 3.57 mW/g calculated 10g-SAR; 0.06% from target (including drift)
 Probe: ET3DV6R - SN1545, Calibrated: 10/25/2005, ConvF(6.38, 6.38, 6.38)
 Duty Cycle: 1:1, Medium: 450 IEEE Head, Medium parameters used: $f = 450$ MHz; $\sigma = 0.86$ mho/m; $\epsilon_r = 44.5$; $\rho = 1000$ kg/m³

Electronics: DAE3 Sn406, Calibrated: 11/21/2005

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:

$dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
 Reference Value = 41.6 V/m; Power Drift = -0.0639 dB
 Peak SAR (extrapolated) = 2.32 W/kg
SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.894 mW/g
 Maximum value of SAR (measured) = 1.46 mW/g

System Performance Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:

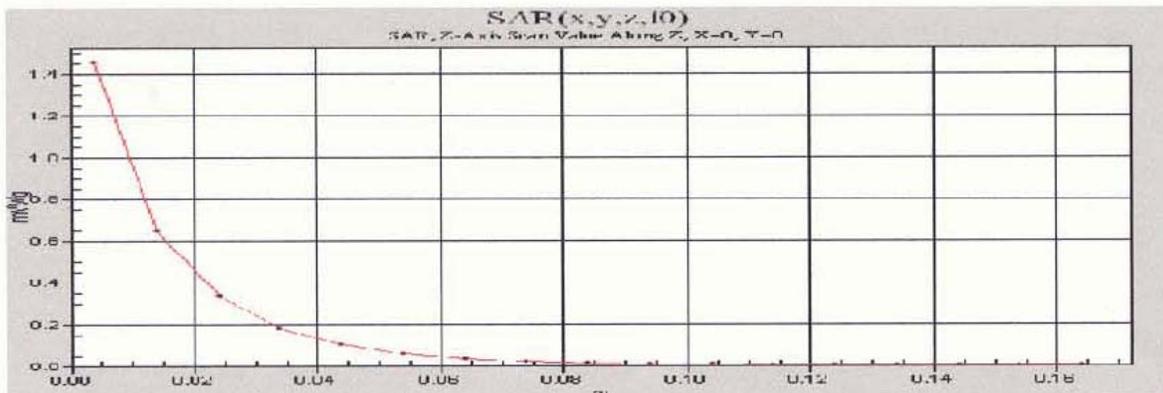
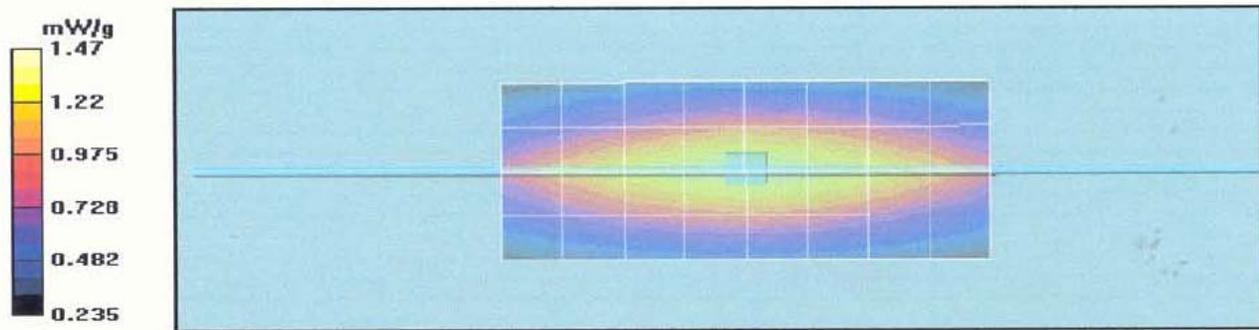
$dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
 Reference Value = 41.6 V/m; Power Drift = -0.0639 dB
 Peak SAR (extrapolated) = 2.23 W/kg
SAR(1 g) = 1.33 mW/g; SAR(10 g) = 0.866 mW/g
 Maximum value of SAR (measured) = 1.41 mW/g

System Performance Check/Dipole Area Scan (5x9x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 1.47 mW/g

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

Maximum value of SAR (measured) = 1.45 mW/g



SYSTEM PERFORMANCE CHECK TARGET SAR

Date:	<u>05/02/06</u>	Frequency (MHz):	<u>450</u>
Lab Location:	<u>GEMS EME</u>	Mixture Type:	<u>FCC Body</u>
Robot System:	<u>GEMS-1</u>	Ambient Temp.(°C):	<u>22.3</u>
Probe Serial #:	<u>1545</u>	Tissue Temp.(°C):	<u>21.4</u>
DAE Serial #:	<u>406</u>		

Tissue Characteristics

Permittivity:	<u>55.2</u>	Phantom Type/SN:	<u>80302002D-S15</u>
Conductivity:	<u>0.91</u>	Distance (mm):	<u>15</u>

Reference Source: Dipole (Dipole)
 Reference SN: 1002

Power to Dipole: 250 mW

Measured SAR Value: 1.265 mW/g, 0.829 mW/g (10g avg.)
 Power Drift: -0.00992 dB

New Target/Measured

SAR Value: 5.07 mW/g, 3.32 mW/g (10g avg.)
 (normalized to 1.0 W, including drift)

Test performed by: John Turco Initial: 

DUT: Dipole 450 MHz; Date/Time: 5/2/2006 1:18:03 PM

Run #: JsT Val 450 B-060502-02 Sim.Tissue Temp: 21.4 (C)
 Robot: GEMS-1 Phantom #: 80302002D-S15
 Model #: D450V2 S/N: 1002
 TX Freq: 450 (MHz) Start power: 250 (mW)

Target:
 5.07 mW/g for 1g SAR 3.32 mW/g for 10g SAR
 5.07 mW/g calculated 1g-SAR; 0.03% from target (including drift)
 3.32 mW/g calculated 10g-SAR; 0.11% from target (including drift)
 Probe: ET3DV6R - SN1545, Calibrated: 10/25/2005, ConvF(6.68, 6.68, 6.68)
 Duty Cycle: 1:1, Medium: 450 MHz FCC Body, Medium parameters used: $f = 450$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 55.2$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn406, Calibrated: 11/21/2005

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 38.5 V/m; Power Drift = -0.00992 dB
 Peak SAR (extrapolated) = 2.16 W/kg
 SAR(1 g) = 1.28 mW/g; SAR(10 g) = 0.840 mW/g
 Maximum value of SAR (measured) = 1.36 mW/g

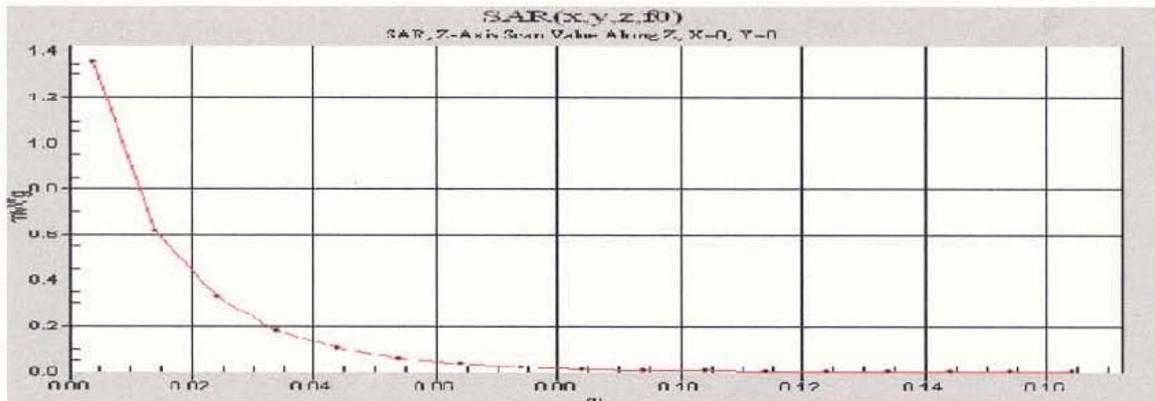
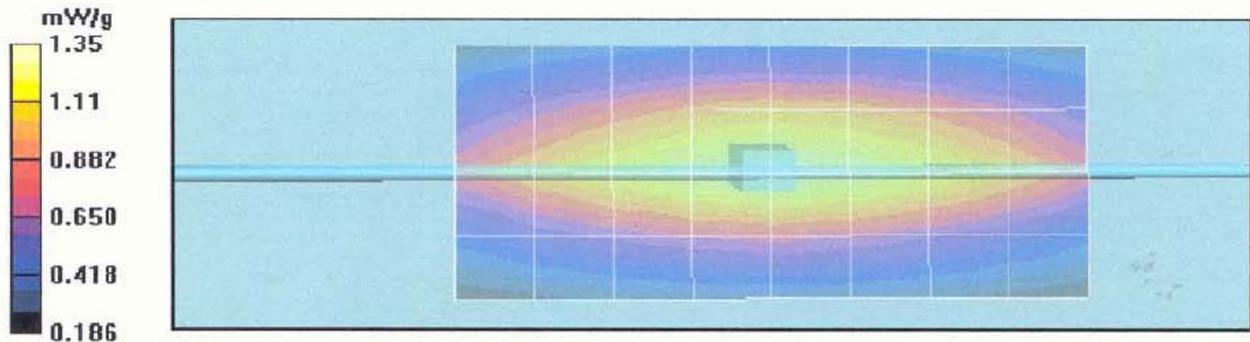
System Performance Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 38.5 V/m; Power Drift = -0.00992 dB
 Peak SAR (extrapolated) = 2.11 W/kg
 SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.818 mW/g
 Maximum value of SAR (measured) = 1.31 mW/g

System Performance Check/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.35 mW/g

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



SYSTEM PERFORMANCE CHECK TARGET SAR

Date:	<u>8/5/2005</u>	Frequency (MHz):	<u>450</u>
Lab Location:	<u>GEMS EME</u>	Mixture Type:	<u>IEEE Head</u>
Robot System:	<u>GEMS-3</u>	Ambient Temp.(°C):	<u>22.4</u>
Probe Serial #:	<u>1393</u>	Tissue Temp.(°C):	<u>20.7</u>
DAE Serial #:	<u>363</u>		

Tissue Characteristics

Permittivity:	<u>43.0</u>	Phantom Type/SN:	<u>80302002A-S7</u>
Conductivity:	<u>0.85</u>	Distance (mm):	<u>15</u>

Reference Source: Dipole (Dipole)
 Reference SN: 1001

Power to Dipole: 250 mW

Measured SAR Value: 1.18 mW/g, 0.769 mW/g (10g avg.)
 Power Drift: -0.0337 dB

New Target/Measured

SAR Value: 4.76 mW/g, 3.10 mW/g (10g avg.)
 (normalized to 1.0 W, including drift)

Test performed by: E. Church Initial: ERC

DUT: Dipole 450 MHz

Run #: ErC-VAL-450H-050805-01 Sim.Tissue Temp: 20.7 (C)
 Robot # GEMS-3 Phantom #: 80302002A-S7
 Model #: D450V2 S/N: 1001
 TX Freq: 450 (MHz) Start power: 250 (mW)

Target:

New Head Target: +/- 10% From IEEE Head Target
4.76 mW/g for 1g SAR 3.10 mW/g for 10g SAR

Probe: ET3DV6 - SN1393, Calibrated: 5/20/2005, ConvF(7.58, 7.58, 7.58),
 Duty Cycle: 1:1, Medium: 450 MHz Head, Medium parameters used: $\sigma = 0.85$ mho/m, $\epsilon_r = 43$; $\rho = 1000$ kg/m³ ;
 Electronics: DAE3 Sn363, Calibrated: 5/24/2005

Dipole Validation 450 Head/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:
 dx=7.5mm, dy=7.5mm, dz=5mm

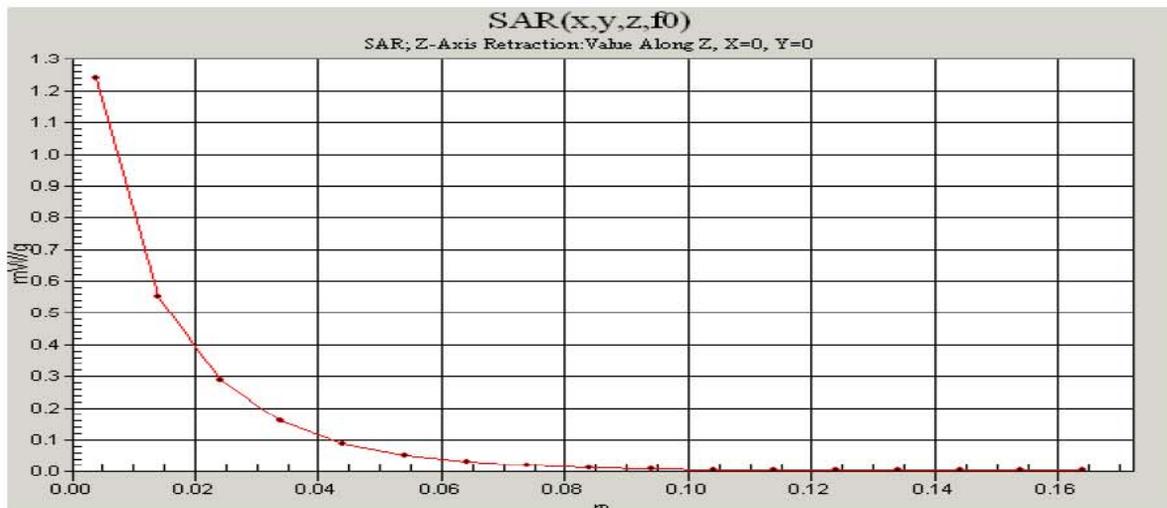
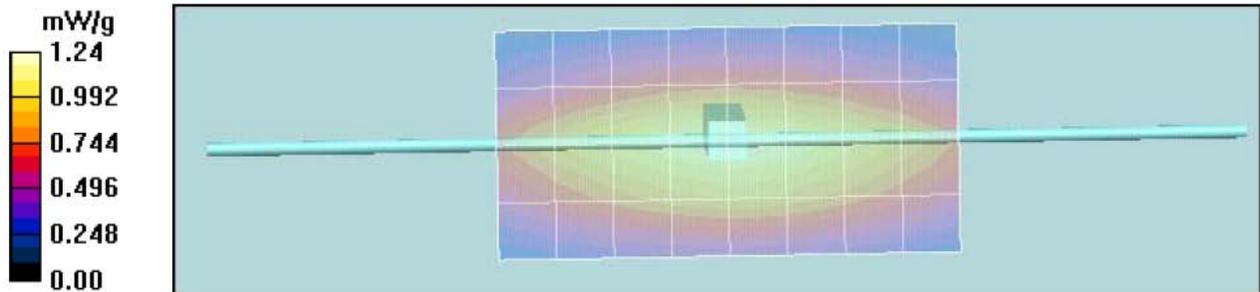
Reference Value = 38.0 V/m; Power Drift = -0.0337 dB
 Peak SAR (extrapolated) = 2.00 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.767 mW/g
 Maximum value of SAR (measured) = 1.25 mW/g

Dipole Validation 450 Head/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:
 dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 38.0 V/m; Power Drift = -0.0337 dB
 Peak SAR (extrapolated) = 2.00 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.769 mW/g
 Maximum value of SAR (measured) = 1.22 mW/g

Dipole Validation 450 Head/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Dipole Validation 450 Head/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm,
 dz=10mm
 Maximum value of SAR (measured) = 1.24 mW/g



SYSTEM PERFORMANCE CHECK TARGET SAR

Date:	<u>8/5/2005</u>	Frequency (MHz):	<u>450</u>
Lab Location:	<u>GEMS EME</u>	Mixture Type:	<u>FCC Body</u>
Robot System:	<u>GEMS-3</u>	Ambient Temp.(°C):	<u>22.3</u>
Probe Serial #:	<u>1393</u>	Tissue Temp.(°C):	<u>20.5</u>
DAE Serial #:	<u>363</u>		

Tissue Characteristics

Permittivity:	<u>54.4</u>	Phantom Type/SN:	<u>80302002D-S14</u>
Conductivity:	<u>0.92</u>	Distance (mm):	<u>15</u>

Reference Source: Dipole (Dipole)
Reference SN: 1001

Power to Dipole: 250 mW

Measured SAR Value: 1.24 mW/g, 0.812 mW/g (10g avg.)
Power Drift: -0.000604 dB

New Target/Measured

SAR Value: 4.96 mW/g, 3.25 mW/g (10g avg.)
(normalized to 1.0 W, including drift)

Test performed by: E. Church Initial: ERC

DUT: Dipole 450 MHz

Run #: ErC-VAL-450B-050805-02 Sim.Tissue Temp: 20.5 (C)
 Robot # GEMS-3 Phantom #: 80302002D-S14
 Model #: D450V2 S/N: 1001
 TX Freq: 450 (MHz) Start power: 250 (mW)
 Target:

New Body Target:
 4.96 mW/g for 1g SAR 3.25 mW/g for 10g SAR

Probe: ET3DV6 - SN1393, Calibrated: 5/20/2005, ConvF(7.18, 7.18, 7.18),
 Duty Cycle: 1:1, Medium: 450 MHz Body, Medium parameters used: $\sigma = 0.92$ mho/m, $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³ ;
 Electronics: DAE3 Sn363, Calibrated: 5/24/2005

Dipole Validation 450 Body/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:
 dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 37.9 V/m; Power Drift = -0.000604 dB
 Peak SAR (extrapolated) = 2.06 W/kg
 SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.812 mW/g
 Maximum value of SAR (measured) = 1.31 mW/g

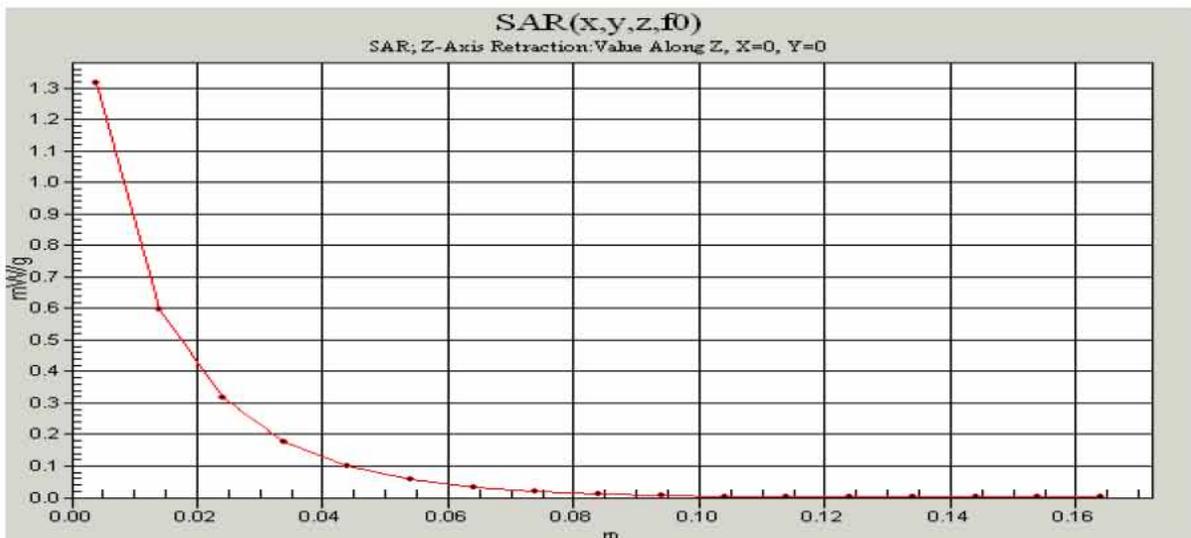
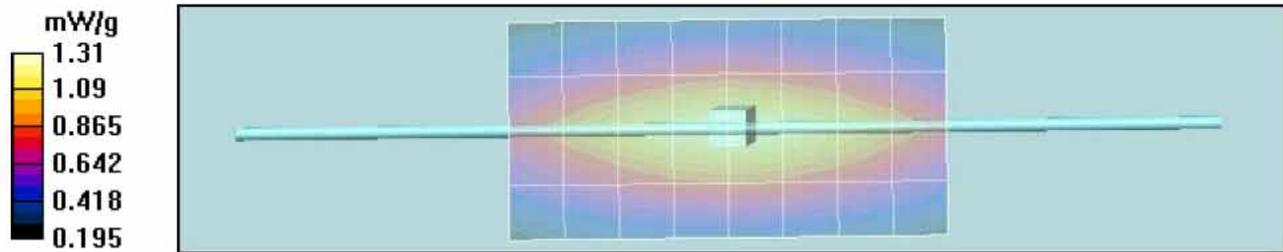
Dipole Validation 450 Body/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:
 dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 37.9 V/m; Power Drift = -0.000604 dB
 Peak SAR (extrapolated) = 2.06 W/kg
 SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.812 mW/g

Dipole Validation 450 Body/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Dipole Validation 450 Body/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm,
 dz=10mm

Maximum value of SAR (measured) = 1.32 mW/g



Appendix E
DUT Scans (Shortened scans & Highest SAR configurations)

Shortened Scan Results

Motorola N&E EME Laboratory

DUT: NEO; Date/Time: 5/3/2006 9:36:44 PM
 Run #: CM-Ab-060503-14 Sim. Tissue Temp: 21.0 (C)
 Robot #: GEMS-2 Phantom #: 80302002D-S15
 Model #: AAH55QDH9LA1AN SN: 037T000014
 Antenna: PMAE4024A TX Freq: 430.0000 MHz
 Battery: PMNN4065A Start power: 4.99 W
 Carry acc.: HLN6602A Audio/Data acc.: PMMN4025A

Comments: Shortened Scan

Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.91, 6.91, 6.91)
 Duty Cycle: 1:1, Medium: 436.5 MHz FCC Body, Medium parameters used: $f = 436.5$ MHz; $\sigma = 0.9$ mho/m; $\epsilon_r = 55.1$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

Ab Template/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 122.7 V/m; Power Drift = -0.571 dB
 Peak SAR (extrapolated) = 17.8 W/kg
SAR(1 g) = 11.6 mW/g; SAR(10 g) = 8.28 mW/g
 Maximum value of SAR (measured) = 12.1 mW/g

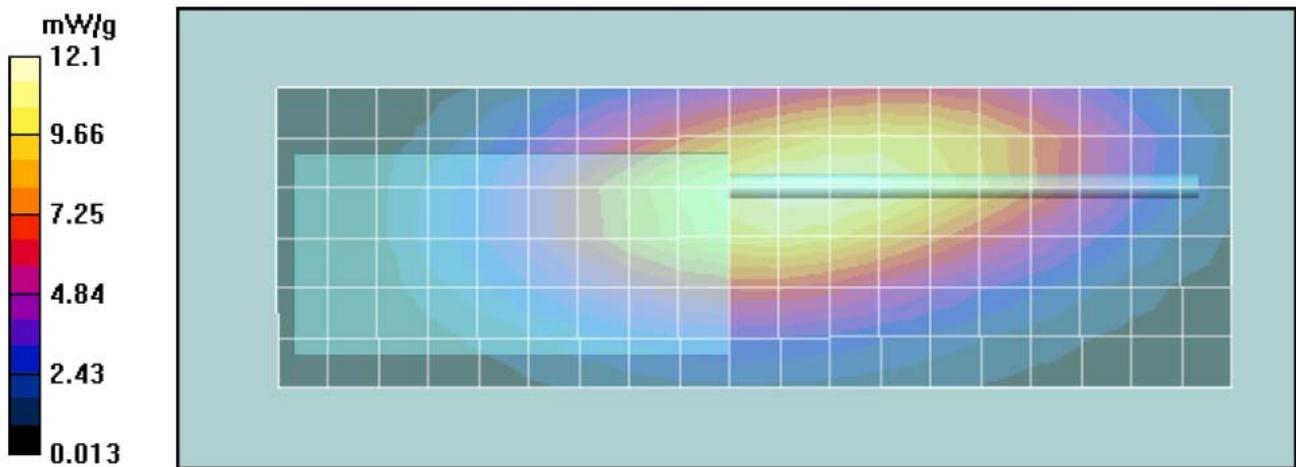
Ab Template/Area Scan (7x20x1): Measurement grid: dx=15mm, dy=15mm

Ab Template/Area Scan (61x191x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 122.7 V/m; Power Drift = -0.571 dB
Motorola Fast SAR: SAR(1 g) = 11.5 mW/g; SAR(10 g) = 8.46 mW/g
 Maximum value of SAR (interpolated) = 12.2 mW/g

Comments: Short Scan at the body w/ body worn accessory against phantom
 Shortened scan reflect highest SAR producing configuration at the body; Run time 7 minutes.
 Representative “normal” scan run time was 24 minutes

“Shortened” scan max calculated SAR using SAR drift: 1-g Avg. = 6.61mW/g; 10-g Avg. = 4.72mW/g
 “Normal” scan max calculated SAR using SAR drift: 1-g Avg. = 6.53mW/g; 10-g Avg. = 4.68mW/g
 (see section 9.0 run # CM-Ab-060503-13)



Motorola N&E EME Laboratory

DUT: NEO; Date/Time: 5/3/2006 10:32:43 AM
 Run #: JsT-Face-060503-03 Sim. Tissue Temp: 21.9 (C)
 Robot #: GEMS-2 Phantom #: 80302002A-S7
 Model #: AAH55QDH9LA1AN SN: 037T000015
 Antenna: PMAE4018A TX Freq: 433.0000 MHz
 Battery: PMNN4065A Start power: 5.04 W
 Carry acc.: None Audio/Data acc.: None

Comments: Shortened Scan

Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.54, 6.54, 6.54)
 Duty Cycle: 1:1, Medium: 436.5 IEEE MHz Head, Medium parameters used: $f = 436.5$ MHz; $\sigma = 0.84$ mho/m; $\epsilon_r = 44.4$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

Face Template/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 103.3 V/m; Power Drift = -0.0815 dB
 Peak SAR (extrapolated) = 13.3 W/kg
SAR(1 g) = 8.92 mW/g; SAR(10 g) = 6.53 mW/g
 Maximum value of SAR (measured) = 9.26 mW/g

Face Template/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm
 Reference Value = 103.3 V/m; Power Drift = -0.0815 dB
Motorola Fast SAR: SAR(1 g) = 8.25 mW/g; SAR(10 g) = 6.11 mW/g
 Maximum value of SAR (interpolated) = 8.67 mW/g

Face Template/Z Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
 Maximum value of SAR (measured) = 8.83 mW/g

Comments: Short Scan at the face with 2.5cm separation

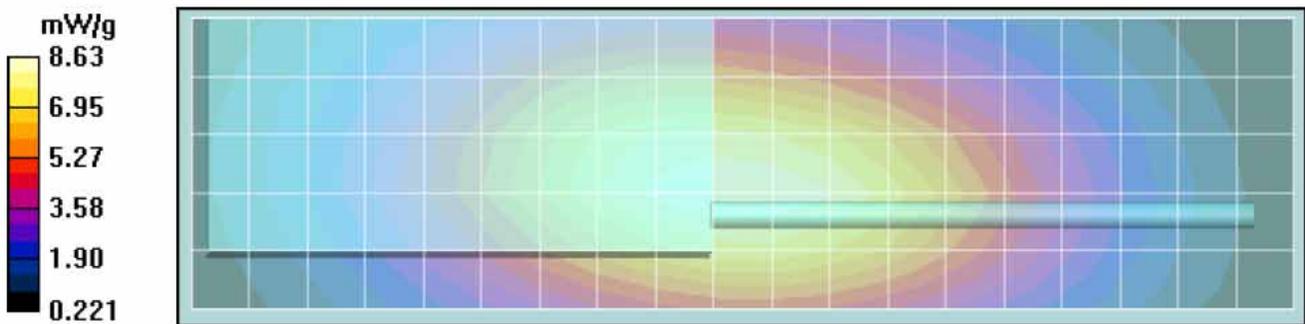
Shortened scan reflect highest SAR producing configuration at the face; Run time 7 minutes.

Representative “normal” scan run time was 26 minutes

“Shortened” scan max calculated SAR using SAR drift: 1-g Avg. = 4.54mW/g; 10-g Avg. = 3.33mW/g

“Normal” scan max calculated SAR using SAR drift: 1-g Avg. = 4.82mW/g; 10-g Avg. = 3.50mW/g

(see section 9.0 run # JsT-Face-060503-02)



Highest SAR Configurations Results

Motorola N&E EME Laboratory

DUT: NEO; Date/Time: 5/3/2006 8:27:47 PM
 Run #: CM-Ab-060503-13 Sim. Tissue Temp: 21.0 (C)
 Robot #: GEMS-2 Phantom #: 80302002D-S15
 Model #: AAH55QDH9LA1AN SN: 037T000014
 Antenna: PMAE4024A TX Freq: 430.0000 MHz
 Battery: PMNN4065A Start power: 5.03 W
 Carry acc.: HLN6602A Audio/Data acc.: PMMN4025A

Comments:

Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.91, 6.91, 6.91)
 Duty Cycle: 1:1, Medium: 436.5 MHz FCC Body, Medium parameters used: $f = 436.5$ MHz; $\sigma = 0.9$ mho/m; $\epsilon_r = 55.1$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

Ab Template/7x7x7 Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

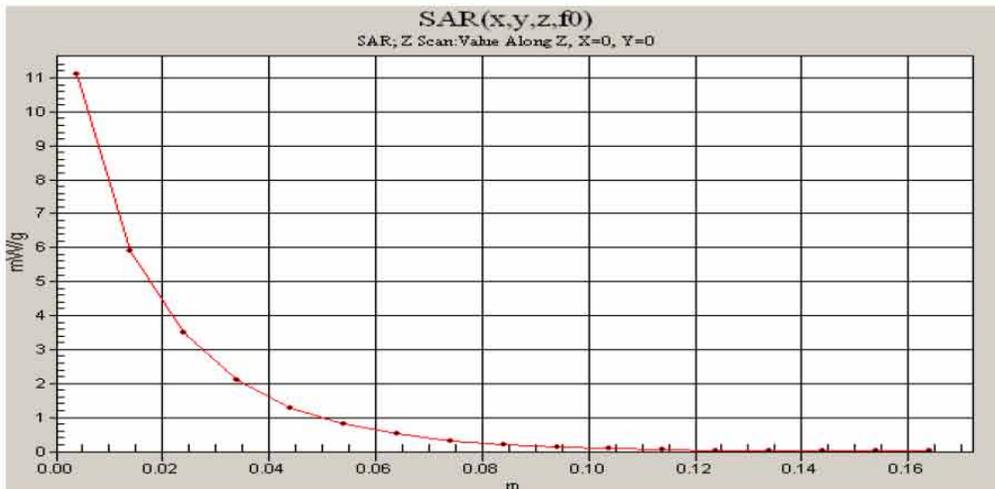
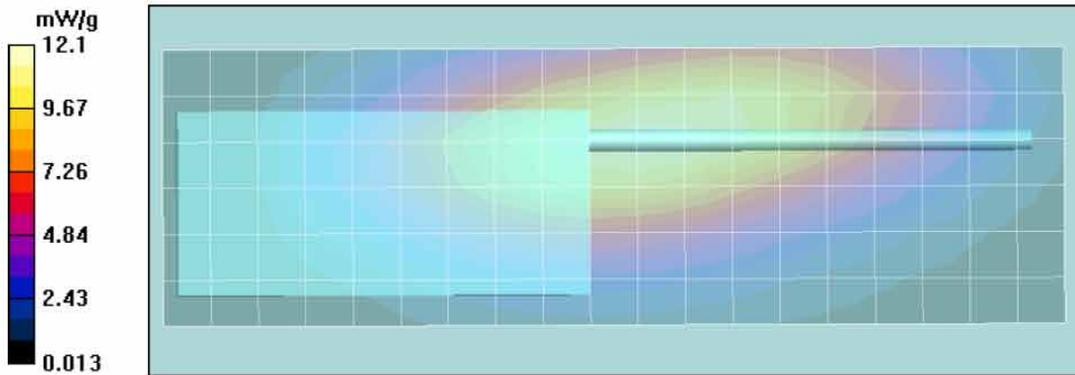
Reference Value = 120.7 V/m; Power Drift = -0.744 dB
 Peak SAR (extrapolated) = 16.8 W/kg
SAR(1 g) = 11 mW/g; SAR(10 g) = 7.89 mW/g
 Maximum value of SAR (measured) = 11.5 mW/g

Ab Template/Area Scan (61x191x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 120.7 V/m; Power Drift = -0.744 dB
Motorola Fast SAR: SAR(1 g) = 11.5 mW/g; SAR(10 g) = 8.45 mW/g
 Maximum value of SAR (interpolated) = 12.1 mW/g

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

Maximum value of SAR (measured) = 11.1 mW/g



Motorola N&E EME Laboratory

DUT: NEO; Date/Time: 5/3/2006 9:24:18 AM
 Run #: JsT-Face-060503-02 Sim. Tissue Temp: 21.9 (C)
 Robot #: GEMS-2 Phantom #: 80302002A-S7
 Model #: AAH55QDH9LA1AN SN: 037T000015
 Antenna: PMAE4018A TX Freq: 433.0000 MHz
 Battery: PMNN4065A Start power: 5.02 W
 Carry acc.: None Audio/Data acc.: None

Comments: Full Scan

Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(6.54, 6.54, 6.54)
 Duty Cycle: 1:1, Medium: 436.5 IEEE MHz Head, Medium parameters used: f = 436.5 MHz; $\sigma = 0.84$ mho/m; $\epsilon_r = 44.4$; $\rho = 1000$ kg/m³
 Electronics: DAE3 Sn401, Calibrated: 8/18/2005

Face Template/7x7x7 Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

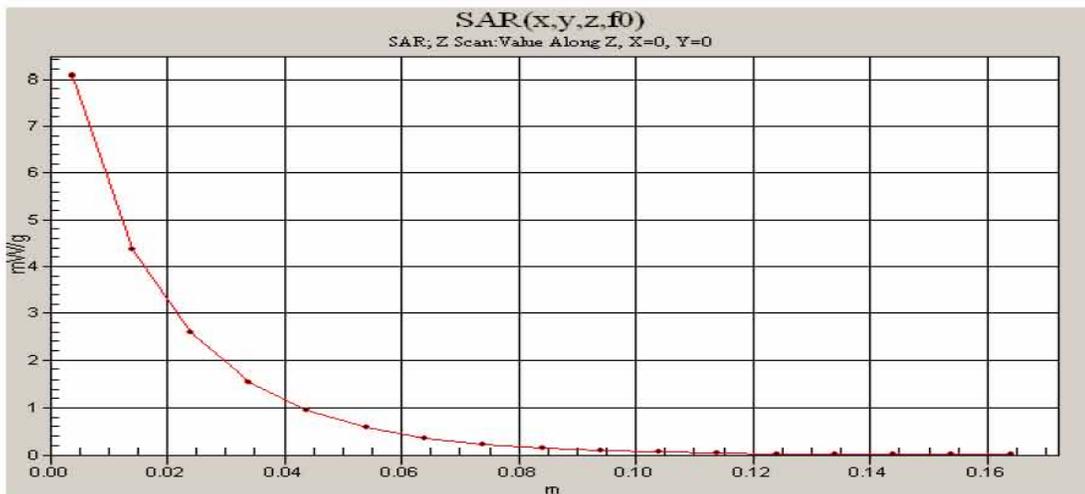
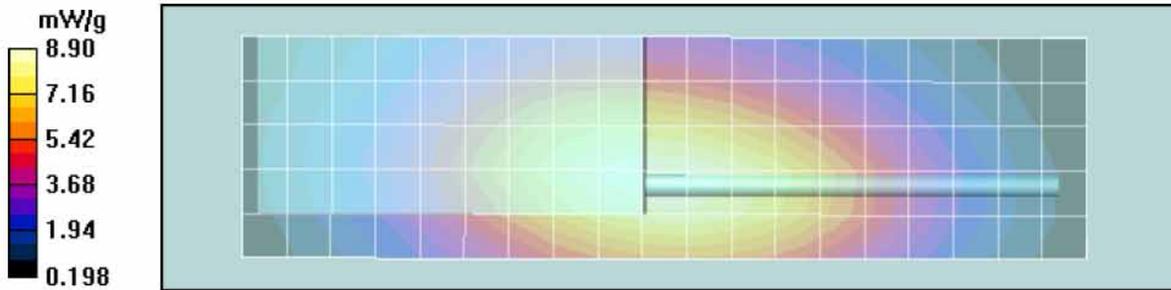
Reference Value = 106.0 V/m; Power Drift = -0.834 dB
 Peak SAR (extrapolated) = 11.9 W/kg
SAR(1 g) = 7.96 mW/g; SAR(10 g) = 5.77 mW/g
 Maximum value of SAR (measured) = 8.30 mW/g

Face Template/Area Scan (51x191x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 106.0 V/m; Power Drift = -0.834 dB
Motorola Fast SAR: SAR(1 g) = 8.59 mW/g; SAR(10 g) = 6.36 mW/g
 Maximum value of SAR (interpolated) = 9.04 mW/g

Face Template/Z Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 8.07 mW/g



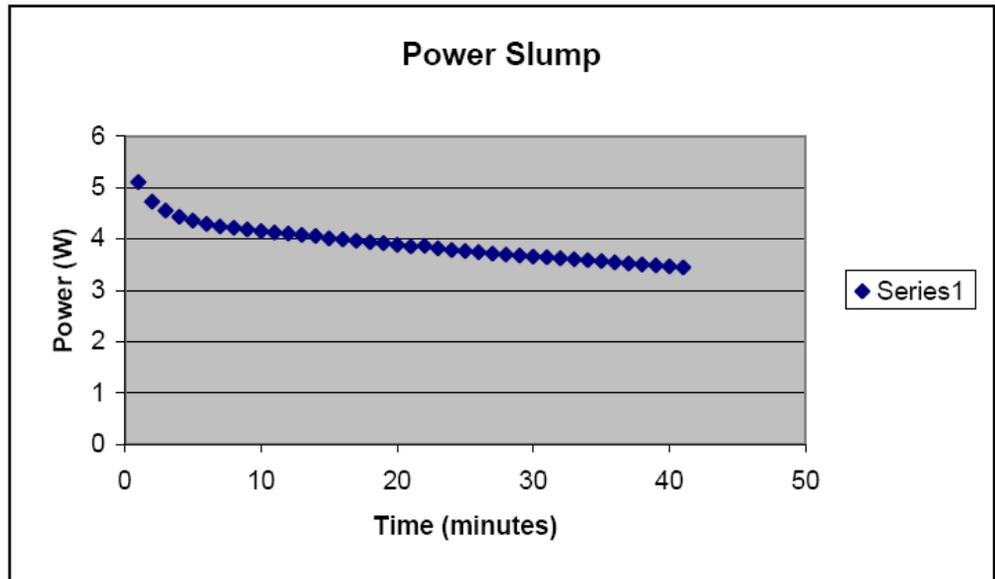
APPENDIX F
DUT Supplementary Data (Power slump)

POWER SLUMP Model AAH55QDH9LA1AN

Serial # 037T000014

Battery PMNN4065A, Frequency 430.00 MHz.,PMMN4025A

TIME (Minutes)	POWER (Watts)
Start (0)	5.1
1	4.72
2	4.55
3	4.43
4	4.35
5	4.29
6	4.24
7	4.21
8	4.18
9	4.15
10	4.12
11	4.1
12	4.07
13	4.05
14	4.01
15	3.99
16	3.96
17	3.93
18	3.91
19	3.88
20	3.85
21	3.86
22	3.81
23	3.78
24	3.76
25	3.74
26	3.71
27	3.69
28	3.67
29	3.65
30	3.64
31	3.62
32	3.60
33	3.58
34	3.56
35	3.54
36	3.52
37	3.50
38	3.48
39	3.46
40	3.44



Appendix G
DUT Test Position Photos

Figure 1: Highest SAR Test Position (Body)
DUT w/ chest pack HLN6602A against the phantom and attached audio accessory PMMN4025A
(similar position used for all other body worn and audio accessories).



Figure 2: Highest SAR Test Position (face)
DUT w/ front side separated 2.5cm from the phantom
(same position used with applicable audio accessory).



Figure 3: SAR Test Position (Body)
DUT w/ back separated 2.5cm from the phantom; w/ attached audio accessory.
(same position used for antenna separated 2.5cm).



Figure 4: SAR Test Position (Body)
DUT w/ front separated 2.5cm from the phantom; w/ attached audio accessory.



Appendix H

DUT and Body worn Accessory Photos

The purpose of this appendix is to illustrate the offered body-worn carry accessory(ies). The sample that was used in the following photos represents the product used to obtain the results presented herein.



Photo 1
Model RLN4570A
Front View



Photo 2
Model HLN6602A
Front View



Photo 3
Model PMLN4651A
Back View



Photo 4
Model PMLN4651A
Side View



Photo 5
Model PMLN4652A
Front View



Photo 6
Model PMLN4652A
Side View



Photo 7
Model RLN4815A
Front View

Appendix I

DUT Body-worn Separation Distances and Offered Accessory Test Status

The following table(s) summarizes the separation distances and test status provided by each of the applicable body-worn accessory(ies):

Carry Case Models	Tested ?	Min. Separation distances between DUT antenna and phantom surface. (mm)	Comments
PMLN4651A	Yes	28-49	NA
PMLN4652A	Yes	28-48	NA
HLN9985B	No	NA	Waterproof bag
RLN4570A	Yes	25-30	NA
RLN4815A	Yes	38-52	NA
HLN6602A	Yes	21-25	NA
Audio Acc. Models	Tested ?	Separation distances between DUT antenna and phantom surface. (mm)	Comments
RLN5879A	No	NA	Receive only, same as RLN5878A
RMN5058A	Yes	NA	
RLN5878A	Yes	NA	
RLN5881A	Yes	NA	
RLN5880A	Yes	NA	
RLN5882A	No	NA	Same as RLN5880A
RLN5883A	No	NA	Same as RLN5880A
RLN6286A	No	NA	Same as RLN5878A
RLN6287A	No	NA	Same as RLN5878A
RLN4885B	No	NA	Receive only w/ RSM
RLN4941A	No	NA	Receive only w/ RSM
WADN4190B	No	NA	Receive only w/ RSM
PMMN4024A	Yes	NA	
PMMN4025A	Yes	NA	