


MOTOROLA SOLUTIONS

TESTING CERT # 2518.05
DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

Enterprise Mobility Solutions
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Date of Report: 10/14/2011
Report Revision: O
Report ID: SAR rpt_PMUE3877A_Rev.O
 _111014_SR9554

Responsible Engineer: CheeChin Tan/ PeiLoo Tey (EME Section Manager)
Report Author: CheeChin Tan/ PeiLoo Tey (EME Section Manager)
Date/s Tested: 8/22/2011 – 9/30/2011
Manufacturer/Location: Motorola, Penang
Sector/Group/Div.: EMS
Date submitted for test: 8/09/2011
DUT Description: 403-470 MHz 2W, 2.402-2.480 GHz (Bluetooth), GOB
Test TX mode(s): CW (PTT) for UHF; CW (77% duty cycle for Bluetooth)
Max. Power output: 2.4 W for UHF; 4 mW for Bluetooth
Nominal Power: 2.0 W for UHF; 2.5 mW for Bluetooth
Tx Frequency Bands: 403-470 MHz, 2402-2480 MHz
Signaling type: TDMA (UHF); FHSS (Bluetooth)
Model(s) Tested: PMUE3877A
Model(s) Certified: PMUE3877A
Serial Number(s): DFLTMN03SL, DFLTMN03S6, DFLTMN03SN
Classification: Occupational/Controlled
FCC ID: ABZ99FT4090; Rule part 90 (406.1 - 470 MHz); Rule part 15 (2402-2480 MHz)
IC: 109AB-99FT4090; (406.1-430 MHz and 450-470 MHz)

* Refer to section 15 of part 1 for highest SAR summary results.

The test results clearly demonstrate compliance with FCC Occupational/Controlled RF Exposure limits of 8 W/kg averaged over 1 gram per the requirements of 47 CFR 2.1093(d). The 10 grams result is not applicable to FCC filing.

The test results clearly demonstrate compliance with ICNIRP (1998) Guidelines for limiting exposure in time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz), Health Physics 74, 494-522 RF Exposure limits of 10 W/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 3.0 of this report. This report shall not be reproduced without written approval from an officially designated representative of the Motorola Solutions Inc, 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.

Deanna Zakharia
 EMS EME Lab Senior Resource Manager,
 Laboratory Director

Approval Date: 10/17/2011

Certification Date: 10/17/2011

Certification No.: L1110918

Appendix D

Test System Verification Scans

The SAR result indicated on the Manufacture's Calibrated certificates for dipole D450V3 S/N 1053 was not used due to the following:

- The IEEE 1528-2003 and the FCC OET-65 Supplement C, System Verification section indicated that "The measured 1-g SAR should be within 10% of the expected target values specified for the specific phantom and RF source used in the system verification measurement."
- SPEAG calibration certificate indicates that the allowed tolerance for this dipole is higher than +/-10% (e.g. 4.79 +/-18.1 % at k=2 for the D450V3 S/N 1053).
- The allowed tolerance for the probe is also higher than +/- 10% (e.g. 13.3 % at k=2 at 450 MHz for the probe being used to assess this product).

Due to probe, dipole and system tolerances noted above, the lab averages dipole results across multiple probes to establish a set of averaged targets for each dipole using the following procedure:

- The System Validation was conducted per IEEE1528-2003 and IEC62209-2 Edition 1.0 2010-03 standards using the simulated head tissue and multiple probes that are available and applicable for the dipole under test to verify the System Validation. Results for this dipole are within the measurement system uncertainty of the reference SAR values indicated within IEC62209-2 Edition 1.0 2010-03 when using a flat phantom with 2mm thickness. These results then are averaged and used as the target for the daily system performance check when the simulated head tissue is used.
- The dipole targets for the body are set immediately following the same process noted above. Since there is no standard referencing the SAR values for the System Validation using the simulated body tissue, the compliant System Validation results using the simulated head tissue are used to justify the use of the System Validation results using the simulated body tissue due to the same setup except for the simulated tissue type.

The targets set in this report were conducted following the above process.

Note that the targets set for the tested dipole, when using the simulated head tissue, meets the requirement for the system validation per IEEE1528-2003, IEC62209-2 Edition 1.0 2010-03 standards, and the difference between this result and the result from the manufacture's dipole calibration certificate is up to 9.15 % for the 450 MHz which are well within the measurement uncertainty of the measurement system at k=2.

To assess the isotropic characteristics of the measurement probe, a probe rotation was performed using the "Rotation (1D)" function in the DASY software with a measured isotropy tolerance of +/- 0.5dB.

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Date/Time: 8/23/2011 7:08:26 AM

Robot# / Run#: DASY4-PG-2 / CcC-SYSP-450B-110823-01
 Phantom# / Tissue Temp.: ELI4 1103 / 21.1 (C)
 Dipole Model# / Serial#: D450V3 / 1053
 TX Freq. / Start power: 450 (MHz) / 250 (mW)

Target SAR (1W): 4.48 mW/g (1g)
 Adjusted SAR (1W): 4.34 mW/g (1g)
 Percent from Target (+/-): 3.00 % (1g)
 Rotation (1D): 0.069 dB

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 1.086 mW/g (1g); 0.719 mW/g (10g)

Comments:

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.54, 6.54, 6.54)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 450$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

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

dy=7.5mm, dz=5mm

Reference Value = 35.0 V/m; Power Drift = 0.0183 dB

Peak SAR (extrapolated) = 1.66 W/kg

SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.717 mW/g

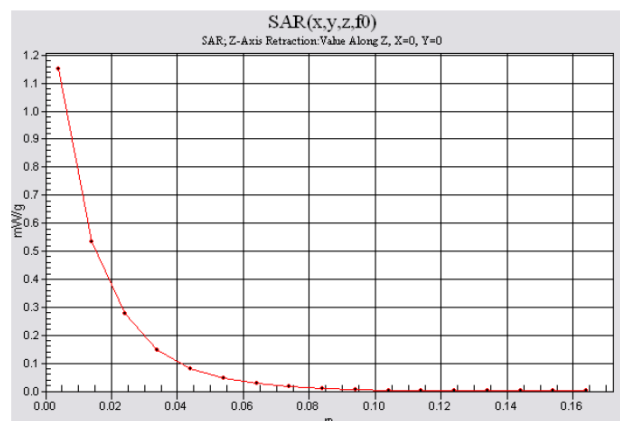
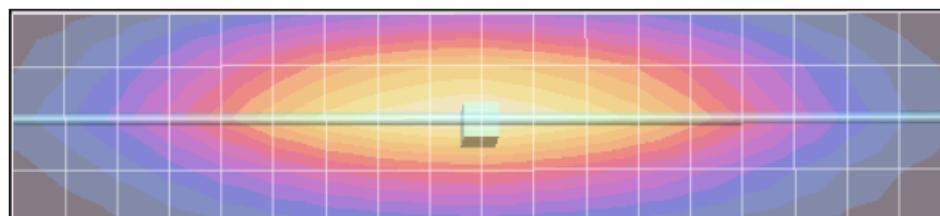
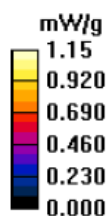
Maximum value of SAR (measured) = 1.15 mW/g

System Performance Check/Dipole Area Scan 2 (5x19x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.12 mW/g

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

dz=10mm



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Date/Time: 8/24/2011 7:46:40 AM

Robot# / Run#: DASY4-PG-2 / CcC-SYSP-450H-110824-01

Phantom# / Tissue Temp.: ELI4 1037 / 21.1 (C)

Dipole Model# / Serial#: D450V3 / 1053

TX Freq. / Start power: 450 (MHz) / 250 (mW)

Target SAR (1W): 4.59 mW/g (1g)

Adjusted SAR (1W): 4.50 mW/g (1g)

Percent from Target (+/-): 2.00 % (1g)

Rotation (1D): 0.091 dB

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 1.124 mW/g (1g); 0.749 mW/g (10g)

Comments:

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.23, 6.23, 6.23)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 450$ MHz; $\sigma = 0.88$ mho/m; $\epsilon_r = 43.8$; $\rho = 1000$ kg/m³

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

Reference Value = 37.3 V/m; Power Drift = -0.0115 dB

Peak SAR (extrapolated) = 1.71 W/kg

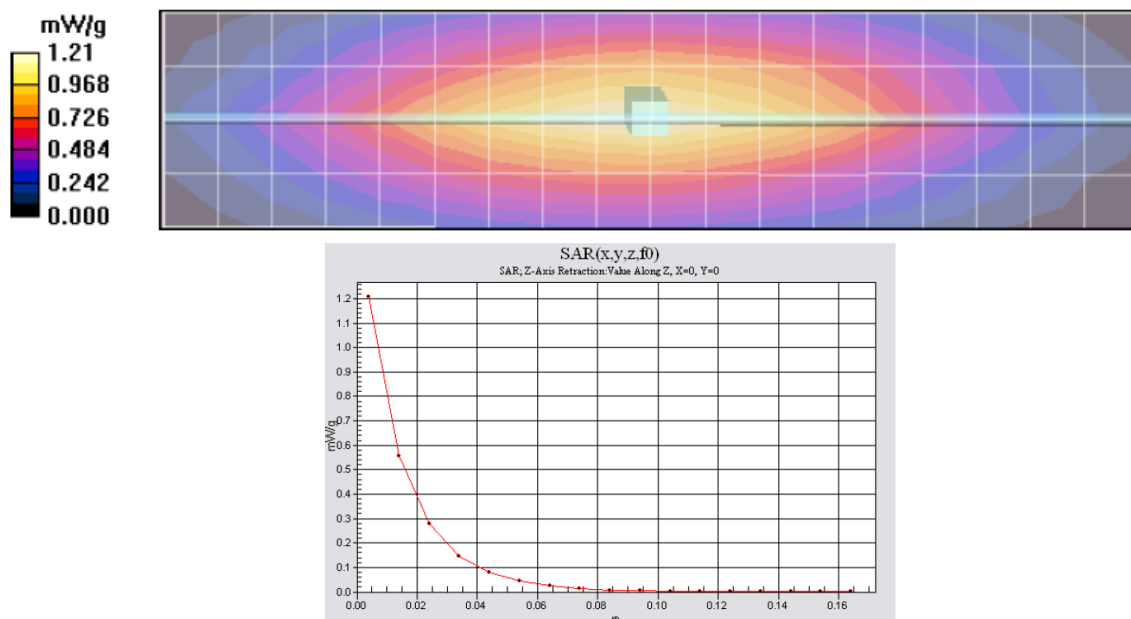
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.747 mW/g

Maximum value of SAR (measured) = 1.21 mW/g

System Performance Check/Dipole Area Scan 2 (5x19x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.19 mW/g

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



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Date/Time: 9/29/2011 11:05:20 AM

Robot# / Run#: DASY4-PG-2 / Lee-SYSP-450B-110929-01

Phantom# / Tissue Temp.: ELI4 1103 / 21.8 (C)

Dipole Model# / Serial#: D450V3 / 1053

TX Freq. / Start power: 450 (MHz) / 250 (mW)

Target SAR (1W): 4.48 mW/g (1g)

Adjusted SAR (1W): 4.50 mW/g (1g)

Percent from Target (+/-): 0.50 % (1g)

Rotation (1D): 0.077 dB

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 1.126 mW/g (1g); 0.749 mW/g (10g)

Comments:

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.54, 6.54, 6.54)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 450$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 55.5$; $\rho = 1000$ kg/m³

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

Reference Value = 35.8 V/m; Power Drift = -0.0272 dB

Peak SAR (extrapolated) = 1.73 W/kg

SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.747 mW/g

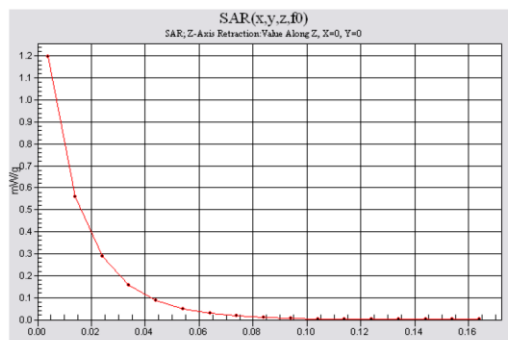
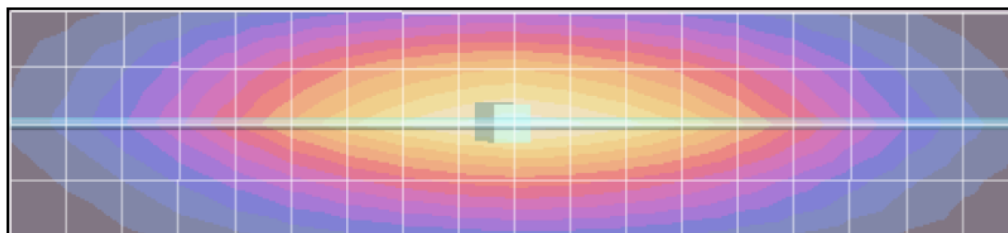
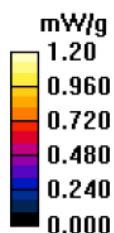
Maximum value of SAR (measured) = 1.19 mW/g

System Performance Check/Dipole Area Scan 2 (5x19x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.18 mW/g

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

Maximum value of SAR (measured) = 1.20 mW/g



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Date/Time: 9/30/2011 6:55:15 AM

Robot# / Run#: DASY4-PG-2 / PS-SYSP-450H-110930-01

Phantom# / Tissue Temp.: ELI4 1028 / 21.6 (C)

Dipole Model# / Serial#: D450V3 / 1053

TX Freq. / Start power: 450 (MHz) / 250 (mW)

Target SAR (1W): 4.59 mW/g (1g)

Adjusted SAR (1W): 4.44 mW/g (1g)

Percent from Target (+/-): 3.20 % (1g)

Rotation (1D): 0.15 dB

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 1.111 mW/g (1g); 0.742 mW/g (10g)

Comments:

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.23, 6.23, 6.23)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 450$ MHz; $\sigma = 0.87$ mho/m; $\epsilon_r = 43.6$; $\rho = 1000$ kg/m³

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

Reference Value = 37.4 V/m; Power Drift = -0.0139 dB

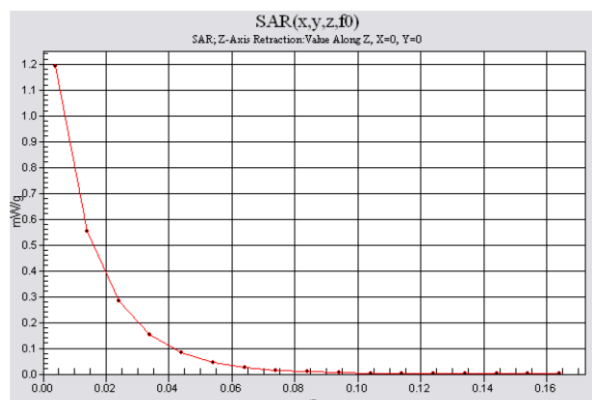
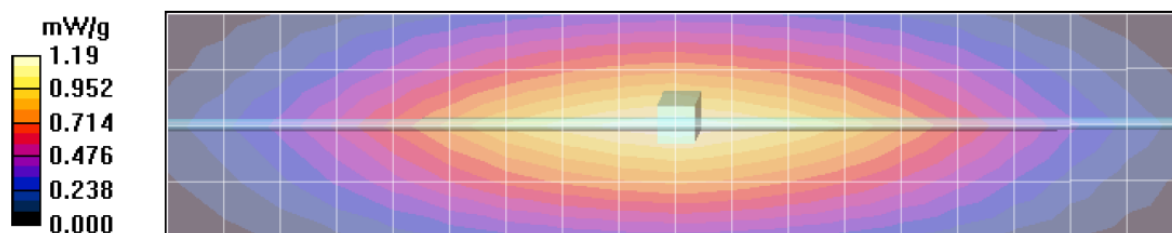
Peak SAR (extrapolated) = 1.67 W/kg

SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.741 mW/g

Maximum value of SAR (measured) = 1.19 mW/g

System Performance Check/Dipole Area Scan 2 (5x19x1): Measurement grid: dx=15mm, dy=15mm

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



DIPOLE SAR TARGET - HEAD

Date: 05/09/11 Frequency (MHz): 450
 Lab Location: PG-EMS Mixture Type: IEEE Head
 DAE Serial #: 374 Ambient Temp.(°C): 21.5

Tissue Characteristics
 Permittivity: 43.6 Phantom Type/SN: ELI4 1050
 Conductivity: 0.84 Distance (mm): 15
 Tissue Temp.(°C): 21.5

Reference Source: Dipole Power to Dipole: 250 mW
 Reference SN: 1053

Target 1g-SAR Value (mW/g, normalized to 1.0 W):

4.58

Difference from Target

0.22% (1g-SAR)

New Target:

Average 1g-SAR Value (mW/g): **4.59**

Passes K=2

Percent Difference From Target (MUST be within k=2 Uncertainty):

Probe SN #s	1g-SAR (Cube)	Diff from Ave	Robot
3096	4.63	0.9%	R2
3122	4.55	-0.9%	R2
<hr/>			
Average	4.5900	New Measured SAR Value	

(normalized to 1.0 W)

Test performed by: Lee Soon Hock Initial: ll 05.09.11

DIPOLE SAR TARGET - BODY

Date: 05/09/11 Frequency (MHz): 450
 Lab Location: PG-EMS Mixture Type: Body
 DAE Serial #: 374 Ambient Temp.(°C): 21.6

Tissue Characteristics

Permittivity: 55.7 Phantom Type/SN: ELI4 1103
 Conductivity: 0.93 Distance (mm): 15
 Tissue Temp.(°C): 21.2

Reference Source: Dipole Power to Dipole: 250 mW
 Reference SN: 1053

New Target:

Average Measured SAR Value: 4.48 mW/g(1g avg.),

Probe SN #s	1-G Cube	Diff from Ave	Robot
3096	4.58	2.2%	R2
3122	4.38	-2.2%	R2
Average		New Measured SAR Value	

(normalized to 1.0 W)

Test performed by: Patrick Saw Initial: *AS* 05.09.11

Appendix E
FCC Part 90 (406.1 – 470 MHz)
DUT Scans (Shortened Scan and Highest SAR configurations)

Shortened Scan Result (Section 13.10, Table 24)

Motorola Solutions, Inc. EME Laboratory

Date/Time: 8/24/2011 3:18:15 PM

Robot# / Run#: DASY4-PG-2 / PS-AB-110824-09
 Phantom# / Tissue Temp.: ELI4 1103 / 20.9 (C)
 DUT Model# / Serial#: PMUE3877A / DFLTMN03SL
 Antenna / TX Freq.: PMAE4077A / 438.000 (MHz)
 Battery: PMNN4425A with battery cover PMLN6000A
 Carry Acc. / Cable Acc.: PMLN5956A / NONE
 Start Power: 2.39 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 4.584 mW/g (1g); 3.348 mW/g (10g)

Comments: Shorten scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.54, 6.54, 6.54)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 438$ MHz; $\sigma = 0.92$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³

Ab Scan/1-Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 64.8 V/m; Power Drift = -0.418 dB

Motorola Fast SAR: SAR(1 g) = 4.49 mW/g; SAR(10 g) = 3.3 mW/g

Maximum value of SAR (interpolated) = 4.73 mW/g

Ab Scan/2-Volume 2D Scan (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 64.8 V/m; Power Drift = -0.518 dB

Peak SAR (extrapolated) = 4.46 W/kg

Motorola Fast SAR: SAR(1 g) = 4.25 mW/g; SAR(10 g) = 3.12 mW/g

Maximum value of SAR (interpolated) = 4.46 mW/g

Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 74.0 V/m; Power Drift = -0.384 dB

Peak SAR (extrapolated) = 6.17 W/kg

SAR(1 g) = 4.54 mW/g; SAR(10 g) = 3.33 mW/g

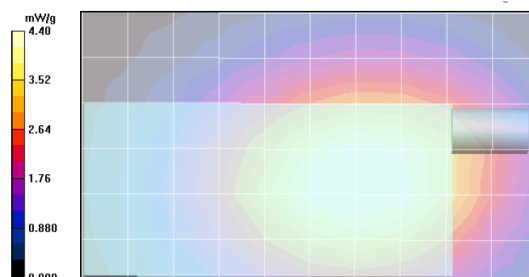
Maximum value of SAR (measured) = 4.77 mW/g

Shortened scan reflect highest SAR producing configuration; approximate run time 7 minutes.

Representative full scan run time was 18 minutes.

“Shortened” scan max calculated SAR using SAR drift: 1-g Avg.= 2.50 mW/g; 10-g Avg.= 1.83 mW/g

Full scan max calculated SAR using SAR drift (see part 1 section 13.4): 1-g Avg.= 2.50 mW/g; 10-g Avg.= 1.82 mW/g



Highest SAR Configuration Result for Body (Section 13.4, Table 16)

Motorola Solutions, Inc. EME Laboratory

Date/Time: 8/23/2011 5:16:34 PM

Robot# / Run#: DASY4-PG-2 / PS-AB-110823-12
Phantom# / Tissue Temp.: ELI4 1103 / 20.7 (C)
DUT Model# / Serial#: PMUE3877A / DFLTMN03SL
Antenna / TX Freq.: PMAE4077A / 438.000 (MHz)
Battery: PMNN4425A with battery cover PMLN6000A
Carry Acc. / Cable Acc.: PMLN5956A / NONE
Start Power: 2.38 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 4.200 mW/g (1g); 3.067 mW/g (10g)

Comments: Full scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.54, 6.54, 6.54)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 438$ MHz; $\sigma = 0.92$ mho/m; $\epsilon_r = 55.7$; $\rho = 1000$ kg/m³

Ab Scan/1-Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 65.6 V/m; Power Drift = -0.438 dB

Motorola Fast SAR: SAR(1 g) = 4.55 mW/g; SAR(10 g) = 3.34 mW/g

Maximum value of SAR (interpolated) = 4.80 mW/g

Ab Scan/2-Volume 2D Scan (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 65.6 V/m; Power Drift = -0.547 dB

Peak SAR (extrapolated) = 4.52 W/kg

Motorola Fast SAR: SAR(1 g) = 4.3 mW/g; SAR(10 g) = 3.16 mW/g

Maximum value of SAR (interpolated) = 4.52 mW/g

Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 65.6 V/m; Power Drift = -0.717 dB

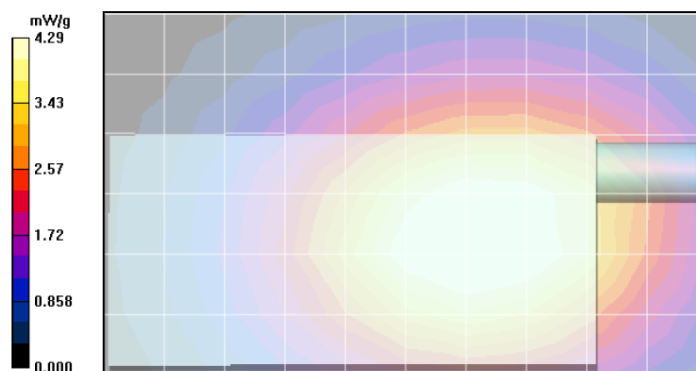
Peak SAR (extrapolated) = 5.64 W/kg

SAR(1 g) = 4.16 mW/g; SAR(10 g) = 3.05 mW/g

Maximum value of SAR (measured) = 4.37 mW/g

Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 4.29 mW/g



Highest SAR Configuration Result for Face (Section 13.7, Table 20)

Motorola Solutions, Inc. EME Laboratory

Date/Time: 8/24/2011 10:03:27 AM

Robot# / Run#: DASY4-PG-2 / CcC-FACE-110824-05

Phantom# / Tissue Temp.: ELI4 1037 / 21.3 (C)

DUT Model# / Serial#: PMUE3877A / DFLTMN03SL

Antenna / TX Freq.: PMAE4077A / 438.000 (MHz)

Battery: PMNN4425A with battery cover PMLN6000A

Carry Acc. / Cable Acc.: NONE / NONE

Start Power: 2.42 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 3.657 mW/g (1g); 2.670 mW/g (10g)

Comments: Full Scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.23, 6.23, 6.23)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 438$ MHz; $\sigma = 0.87$ mho/m; $\epsilon_r = 44.1$; $\rho = 1000$ kg/m³

Face Scan/1-Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 63.0 V/m; Power Drift = -0.479 dB

Motorola Fast SAR: SAR(1 g) = 3.96 mW/g; SAR(10 g) = 2.92 mW/g

Maximum value of SAR (interpolated) = 4.17 mW/g

Face Scan/2-Volume Scan 2D (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 63.0 V/m; Power Drift = -0.576 dB

Peak SAR (extrapolated) = 3.98 W/kg

Motorola Fast SAR: SAR(1 g) = 3.8 mW/g; SAR(10 g) = 2.8 mW/g

Maximum value of SAR (interpolated) = 3.98 mW/g

Face Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 63.0 V/m; Power Drift = -0.787 dB

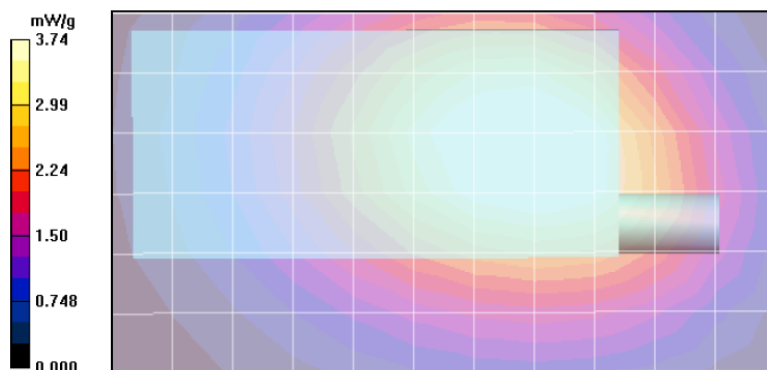
Peak SAR (extrapolated) = 4.88 W/kg

SAR(1 g) = 3.64 mW/g; SAR(10 g) = 2.66 mW/g

Maximum value of SAR (measured) = 3.83 mW/g

Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 3.74 mW/g



Appendix F
DUT Scans – FCC Part 90 (406.1-470 MHz)

Section 13.2 (Table 14)

Assessments at the Body with Body worn PMLN5956A

Motorola Solutions, Inc. EME Laboratory

Date/Time: 8/23/2011 2:12:56 PM

Robot# / Run#: DASY4-PG-2 / PS-AB-110823-10
 Phantom# / Tissue Temp.: ELI4 1103 / 21.0 (C)
 DUT Model# / Serial#: PMUE3877A / DFLTMN03SL
 Antenna / TX Freq.: PMAE4077A / 438.000 (MHz)
 Battery: PMNN4425A with battery cover PMLN6000A
 Carry Acc. / Cable Acc.: PMLN5956A / PMLN5957A
 Start Power: 2.38 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 3.291 mW/g (1g); 2.393 mW/g (10g)

Comments: Full scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.54, 6.54, 6.54)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 438$ MHz; $\sigma = 0.92$ mho/m; $\epsilon_r = 55.7$; $\rho = 1000$ kg/m³

Ab Scan/1-Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 57.4 V/m; Power Drift = -0.477 dB

Motorola Fast SAR: SAR(1 g) = 3.59 mW/g; SAR(10 g) = 2.64 mW/g

Maximum value of SAR (interpolated) = 3.79 mW/g

Ab Scan/2-Volume 2D Scan (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 57.4 V/m; Power Drift = -0.587 dB

Peak SAR (extrapolated) = 3.54 W/kg

Motorola Fast SAR: SAR(1 g) = 3.38 mW/g; SAR(10 g) = 2.48 mW/g

Maximum value of SAR (interpolated) = 3.54 mW/g

Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 57.4 V/m; Power Drift = -0.798 dB

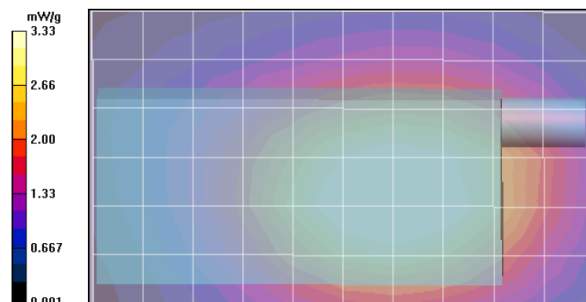
Peak SAR (extrapolated) = 4.45 W/kg

SAR(1 g) = 3.26 mW/g; SAR(10 g) = 2.38 mW/g

Maximum value of SAR (measured) = 3.44 mW/g

Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 3.33 mW/g



Section 13.2 (Table 15)

Assessments at the Body with body worn PMLN5956A (additional battery)

Motorola Solutions, Inc. EME Laboratory

Date/Time: 8/23/2011 2:54:35 PM

Robot# / Run#: DASY4-PG-2 / PS-AB-110823-11
 Phantom# / Tissue Temp.: ELI4 1103 / 20.7 (C)
 DUT Model# / Serial#: PMUE3877A / DFLTMN03SL
 Antenna / TX Freq.: PMAE4077A / 438.000 (MHz)
 Battery: HKNN4013A with battery cover PMLN6001A
 Carry Acc. / Cable Acc.: PMLN5956A / PMLN5957A
 Start Power: 2.38 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 2.867 mW/g (1g); 2.081 mW/g (10g)

Comments: Full scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.54, 6.54, 6.54)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 438$ MHz; $\sigma = 0.92$ mho/m; $\epsilon_r = 55.7$; $\rho = 1000$ kg/m³

Ab Scan/1-Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 54.2 V/m; Power Drift = -0.400 dB

Motorola Fast SAR: SAR(1 g) = 3.01 mW/g; SAR(10 g) = 2.21 mW/g

Maximum value of SAR (interpolated) = 3.17 mW/g

Ab Scan/2-Volume 2D Scan (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 54.2 V/m; Power Drift = -0.467 dB

Peak SAR (extrapolated) = 3.07 W/kg

Motorola Fast SAR: SAR(1 g) = 2.93 mW/g; SAR(10 g) = 2.15 mW/g

Maximum value of SAR (interpolated) = 3.07 mW/g

Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 54.2 V/m; Power Drift = -0.637 dB

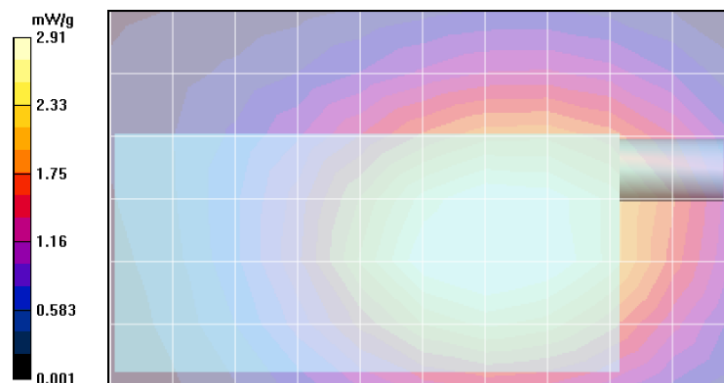
Peak SAR (extrapolated) = 3.88 W/kg

SAR(1 g) = 2.84 mW/g; SAR(10 g) = 2.07 mW/g

Maximum value of SAR (measured) = 2.99 mW/g

Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 2.91 mW/g



Section 13.4 (Table 16)
Assessment of wireless BT configuration
Motorola Solutions, Inc. EME Laboratory
Date/Time: 8/23/2011 5:16:34 PM

Robot# / Run#: DASY4-PG-2 / PS-AB-110823-12
Phantom# / Tissue Temp.: ELI4 1103 / 20.7 (C)
DUT Model# / Serial#: PMUE3877A / DFLTMN03SL
Antenna / TX Freq.: PMAE4077A / 438.000 (MHz)
Battery: PMNN4425A with battery cover PMLN6000A
Carry Acc. / Cable Acc.: PMLN5956A / NONE
Start Power: 2.38 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 4.200 mW/g (1g); 3.067 mW/g (10g)

Comments: Full scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.54, 6.54, 6.54)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 438$ MHz; $\sigma = 0.92$ mho/m; $\epsilon_r = 55.7$; $\rho = 1000$ kg/m³

Ab Scan/1-Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 65.6 V/m; Power Drift = -0.438 dB

Motorola Fast SAR: SAR(1 g) = 4.55 mW/g; SAR(10 g) = 3.34 mW/g

Maximum value of SAR (interpolated) = 4.80 mW/g

Ab Scan/2-Volume 2D Scan (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 65.6 V/m; Power Drift = -0.547 dB

Peak SAR (extrapolated) = 4.52 W/kg

Motorola Fast SAR: SAR(1 g) = 4.3 mW/g; SAR(10 g) = 3.16 mW/g

Maximum value of SAR (interpolated) = 4.52 mW/g

Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 65.6 V/m; Power Drift = -0.717 dB

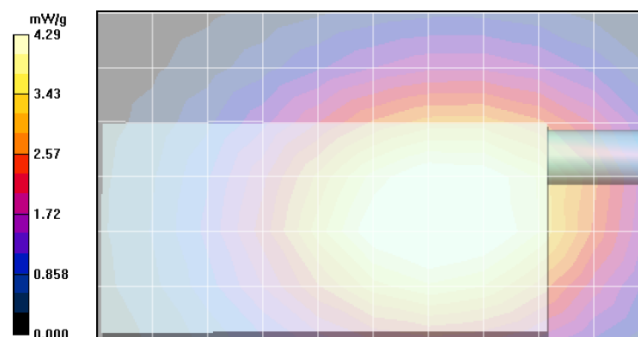
Peak SAR (extrapolated) = 5.64 W/kg

SAR(1 g) = 4.16 mW/g; SAR(10 g) = 3.05 mW/g

Maximum value of SAR (measured) = 4.37 mW/g

Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 4.29 mW/g



Section 13.7 (Table 19) Assessments at the Face

Motorola Solutions, Inc. EME Laboratory

Date/Time: 8/24/2011 9:32:09 AM

Robot# / Run#: DASY4-PG-2 / CcC-FACE-110824-04
Phantom# / Tissue Temp.: ELI4 1037 / 21.0 (C)
DUT Model# / Serial#: PMUE3877A / DFLTMN03SL
Antenna / TX Freq.: PMAE4077A / 438.000 (MHz)
Battery: HKNN4013A with battery cover PMLN6001A
Carry Acc. / Cable Acc.: NONE / NONE
Start Power: 2.42 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 3.748 mW/g (1g); 2.740 mW/g (10g)

Comments: Full Scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.23, 6.23, 6.23)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 438$ MHz; $\sigma = 0.87$ mho/m; $\epsilon_r = 44.1$; $\rho = 1000$ kg/m³

Face Scan/1-Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 65.4 V/m; Power Drift = -0.389 dB

Motorola Fast SAR: SAR(1 g) = 4.06 mW/g; SAR(10 g) = 2.99 mW/g

Maximum value of SAR (interpolated) = 4.27 mW/g

Face Scan/2-Volume Scan 2D (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 65.4 V/m; Power Drift = -0.495 dB

Peak SAR (extrapolated) = 4.06 W/kg

Motorola Fast SAR: SAR(1 g) = 3.87 mW/g; SAR(10 g) = 2.85 mW/g

Maximum value of SAR (interpolated) = 4.06 mW/g

Face Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 65.4 V/m; Power Drift = -0.661 dB

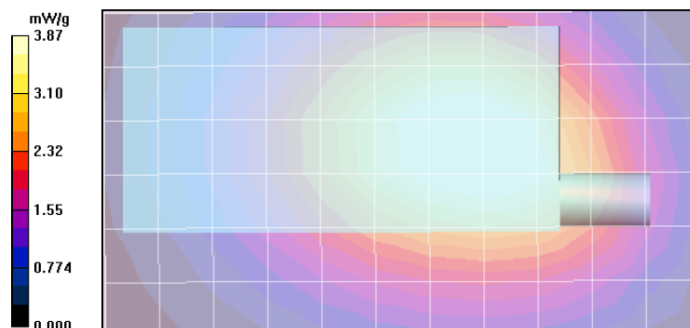
Peak SAR (extrapolated) = 5.01 W/kg

SAR(1 g) = 3.73 mW/g; SAR(10 g) = 2.73 mW/g

Maximum value of SAR (measured) = 3.94 mW/g

Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 3.87 mW/g



Section 13.7 (Table 20)

Assessments at the Face (additional battery)

Motorola Solutions, Inc. EME Laboratory

Date/Time: 8/24/2011 10:03:27 AM

Robot# / Run#: DASY4-PG-2 / CcC-FACE-110824-05
 Phantom# / Tissue Temp.: ELI4 1037 / 21.3 (C)
 DUT Model# / Serial#: PMUE3877A / DFLTMN03SL
 Antenna / TX Freq.: PMAE4077A / 438.000 (MHz)
 Battery: PMNN4425A with battery cover PMLN6000A
 Carry Acc. / Cable Acc.: NONE / NONE
 Start Power: 2.42 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 3.657 mW/g (1g); 2.670 mW/g (10g)

Comments: Full Scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.23, 6.23, 6.23)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 438$ MHz; $\sigma = 0.87$ mho/m; $\epsilon_r = 44.1$; $\rho = 1000$ kg/m³

Face Scan/1-Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 63.0 V/m; Power Drift = -0.479 dB

Motorola Fast SAR: SAR(1 g) = 3.96 mW/g; SAR(10 g) = 2.92 mW/g

Maximum value of SAR (interpolated) = 4.17 mW/g

Face Scan/2-Volume Scan 2D (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 63.0 V/m; Power Drift = -0.576 dB

Peak SAR (extrapolated) = 3.98 W/kg

Motorola Fast SAR: SAR(1 g) = 3.8 mW/g; SAR(10 g) = 2.8 mW/g

Maximum value of SAR (interpolated) = 3.98 mW/g

Face Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 63.0 V/m; Power Drift = -0.787 dB

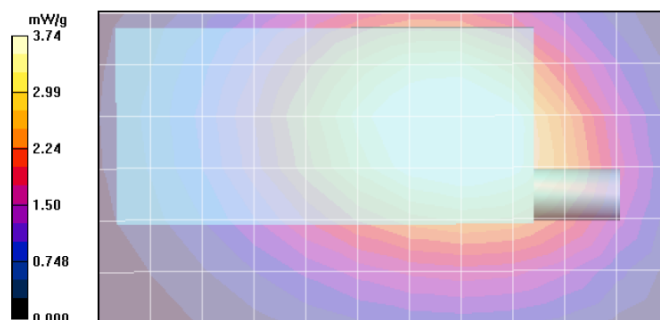
Peak SAR (extrapolated) = 4.88 W/kg

SAR(1 g) = 3.64 mW/g; SAR(10 g) = 2.66 mW/g

Maximum value of SAR (measured) = 3.83 mW/g

Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 3.74 mW/g



Appendix G
DUT Scans Outside Part 90 (403-470 MHz)
Data enclosed for this appendix is not applicable for FCC part 90

Section 13.5 (Table 17) Outside FCC Part 90 at the Body

Motorola Solutions, Inc. EME Laboratory

Date/Time: 9/29/2011 3:36:50 PM

Robot# / Run#: DASY4-PG-2 / CcC-AB-110929-03
Phantom# / Tissue Temp.: ELI4 1103 / 21.2 (C)
DUT Model# / Serial#: PMUE3877A / DFLTMN03S6
Antenna / TX Freq.: PMAE4078A / 403.000 (MHz)
Battery: PMNN4425A with battery cover PMLN6000A
Carry Acc. / Cable Acc.: PMLN5956A / NONE
Start Power: 2.40 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 2.911 mW/g (1g); 2.115 mW/g (10g)

Comments: Full scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.54, 6.54, 6.54)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 403$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 56.1$; $\rho = 1000$ kg/m³

Ab Scan/1-Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 54.5 V/m; Power Drift = -0.412 dB

Motorola Fast SAR: SAR(1 g) = 3.07 mW/g; SAR(10 g) = 2.26 mW/g

Maximum value of SAR (interpolated) = 3.23 mW/g

Ab Scan/2-Volume 2D Scan (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 54.5 V/m; Power Drift = -0.500 dB

Peak SAR (extrapolated) = 3.09 W/kg

Motorola Fast SAR: SAR(1 g) = 2.94 mW/g; SAR(10 g) = 2.16 mW/g

Maximum value of SAR (interpolated) = 3.09 mW/g

Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 54.5 V/m; Power Drift = -0.653 dB

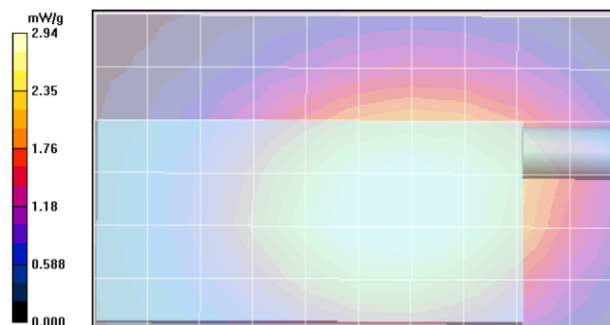
Peak SAR (extrapolated) = 3.87 W/kg

SAR(1 g) = 2.85 mW/g; SAR(10 g) = 2.09 mW/g

Maximum value of SAR (measured) = 3.00 mW/g

Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 2.94 mW/g



Section 13.8 (Table 21) Outside FCC Part 90 at the Face

Motorola Solutions, Inc. EME Laboratory

Date/Time: 9/29/2011 7:46:41 PM

Robot# / Run#: DASY4-PG-2 / CcC-FACE-110929-09
Phantom# / Tissue Temp.: ELI4 1028 / 20.9 (C)
DUT Model# / Serial#: PMUE3877A / DFLTMN03S6
Antenna / TX Freq.: PMAE4078A / 403.000 (MHz)
Battery: PMNN4425A with battery cover PMLN6000A
Carry Acc. / Cable Acc.: NONE / NONE
Start Power: 2.42 (W)

Note:

Prior to recording the Reported SAR values below, the Measured SAR values were corrected for tissue frequencies from 136 MHz to 3 GHz.

Reported SAR: 2.189 mW/g (1g); 1.589 mW/g (10g)

Comments: Full Scan.

Probe: ES3DV3 - SN3096, Calibrated: 12/9/2010, ConvF(6.23, 6.23, 6.23)

Electronics: DAE4 Sn688, Calibrated: 4/29/2011

Duty Cycle: 1:1, Medium parameters used: $f = 403$ MHz; $\sigma = 0.83$ mho/m; $\epsilon_r = 44.6$; $\rho = 1000$ kg/m³

Face Scan/1-Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 49.4 V/m; Power Drift = -0.368 dB

Motorola Fast SAR: SAR(1 g) = 2.28 mW/g; SAR(10 g) = 1.69 mW/g

Maximum value of SAR (interpolated) = 2.40 mW/g

Face Scan/2-Volume Scan 2D (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm

Reference Value = 49.4 V/m; Power Drift = -0.453 dB

Peak SAR (extrapolated) = 2.31 W/kg

Motorola Fast SAR: SAR(1 g) = 2.21 mW/g; SAR(10 g) = 1.63 mW/g

Maximum value of SAR (interpolated) = 2.31 mW/g

Face Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 49.4 V/m; Power Drift = -0.633 dB

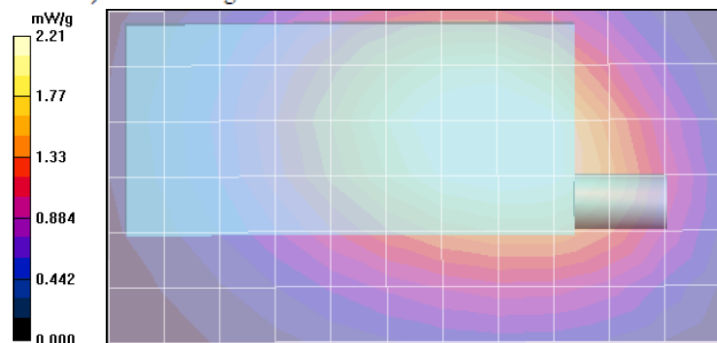
Peak SAR (extrapolated) = 2.87 W/kg

SAR(1 g) = 2.14 mW/g; SAR(10 g) = 1.57 mW/g

Maximum value of SAR (measured) = 2.25 mW/g

Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 2.21 mW/g



Appendix H

DUT Supplementary Data (Power slump)

Power Slump Model # : PMUE3877A

Serial # : DFLTMN03SL

Battery: PMNN4425A

Transmit Mode:

CW

Frequency: 438 MHz

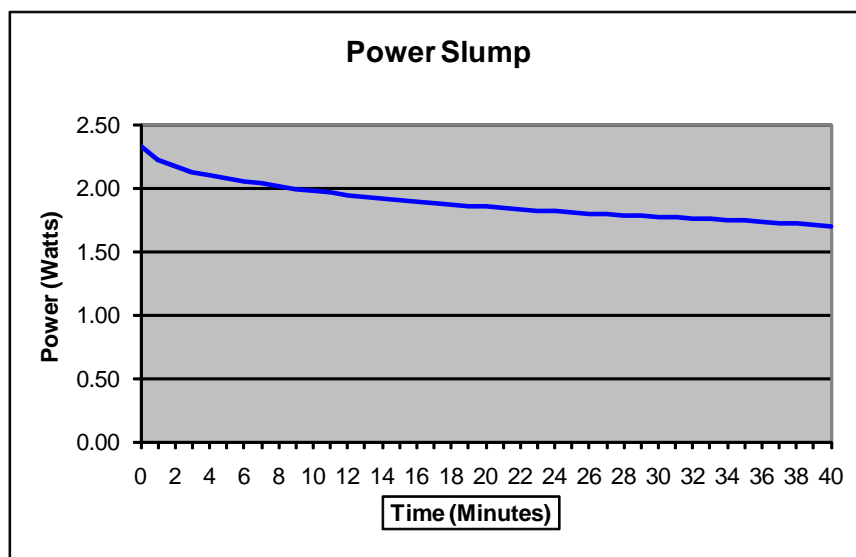
Audio Accessory:

NONE

Date: 8/25/2011

Tx Time (Minutes)	Measure Power (Watts)
----------------------	--------------------------

0.0	2.33
1.0	2.22
2.0	2.17
3.0	2.13
4.0	2.10
5.0	2.07
6.0	2.05
7.0	2.03
8.0	2.01
9.0	1.99
10.0	1.98
11.0	1.96
12.0	1.94
13.0	1.93
14.0	1.92
15.0	1.90
16.0	1.89
17.0	1.88
18.0	1.87
19.0	1.86
20.0	1.85
21.0	1.84
22.0	1.83
23.0	1.82
24.0	1.81
25.0	1.80
26.0	1.80
27.0	1.79
28.0	1.78
29.0	1.78
30.0	1.77
31.0	1.76
32.0	1.76
33.0	1.75
34.0	1.75
35.0	1.74
36.0	1.73
37.0	1.72
38.0	1.72
39.0	1.71
40.0	1.70



Appendix I

DUT Test Position Photos

Photos available in Exhibit 7B

Appendix J
DUT and Body worn and Accessory Photos

Photos available in Exhibit 7B