

**MOTOROLA SOLUTIONS**

TESTING CERT # 2518.05

**DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2**

**Motorola Solutions, Inc**  
**EME Test Laboratory**  
 Motorola Solutions Malaysia Sdn. Bhd. (455657-H)  
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 11900 Bayan Lepas, Penang, Malaysia.

**Date of Report:** 09/16/2014  
**Report Revision:** B  
**Report ID:** P2189-EME-00010 & 00011\_  
 PMUE4541A & PMUE4542A  
 Rev B 140916

**Responsible Engineer:** Veeramani Veerapan (Sr.EME Engineer)  
**Report Author:** Veeramani Veerapan (Sr.EME Engineer)  
**Date/s Tested:** 06/30/14-07/09/14  
**Manufacturer/Location:** Motorola Solutions, Inc, Penang  
**Sector/Group/Div.:** EMS  
**Date submitted for test:** 06/23/14  
**DUT Description:** Handheld Portable PMUE4541A, XCVR 403-470 MHz, Display &  
 Handheld Portable PMUE4542A, XCVR 403-470 MHz, Non-Display  
**Test TX mode(s):** TDMA (PTT)  
**Max. Power output:** 3.3 W  
**Nominal Power:** 3.0 W  
**Tx Frequency Bands:** 403-470 MHz  
**Signaling type:** TDMA  
**Model(s) Tested:** PMUE4541A  
**Model(s) Certified:** PMUE4541A & PMUE4542A  
**Serial Number(s):** 546TQM0149 & 546TQM0140  
**Classification:** Occupational/Controlled  
**FCC ID:** AZ489FT4922; Rule Part 90 (406.1-470 MHz), Part 22 (459.025-459.65 MHz)  
**IC :** 109U-89FT4922; (406.1-430 MHz and 450-470 MHz)

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 4.0 of this report. This report shall not be reproduced without written approval from an officially designated representative of the Motorola Solutions Inc 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.

**Deanna Zakharia**  
**EMS EME Lab Senior Resource Manager,**  
**Laboratory Director**  
**Approval Date:** 9/16/2014

**Certification Date:** 9/9/2014

**Certification No.:** L1140903 &  
 L1140904

## **Appendix D**

### **System Verification Check Scans**

**Motorola Solutions, Inc. EME Laboratory**  
**Date/Time: 7/3/2014 10:26:32 AM**

Robot#: DASY5-PG-2 | Run#: CoC(KKL)-SYSP-450B-140703-01  
 Dipole Model#: D450V3  
 Phantom#: ELI5 1150  
 Tissue Temp: 21.7 (C)  
 Serial#: 1054  
 Test Freq: 450 (MHz)  
 Start Power: 250 (mW)  
 Rotation (1D): 0.038 dB  
 Adjusted SAR (1 W): 4.16 mW/kg (1 g)

**Comments:**

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.95$  S/m;  $\epsilon_r = 55.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Probe: ES3DV3 - SN3274, , Frequency: 450 MHz, ConvF(7, 7, 7); Calibrated: 10/21/2013  
 Electronics: DAE4 Sml 294, Calibrated: 10/22/2013

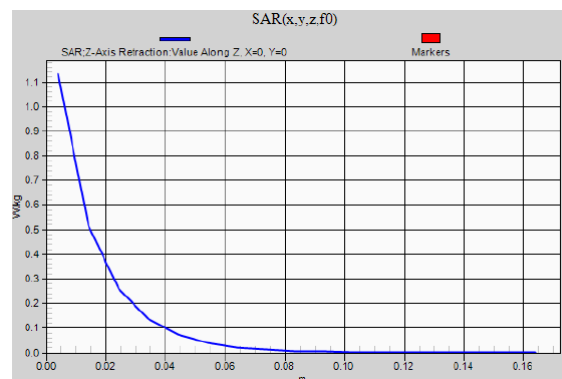
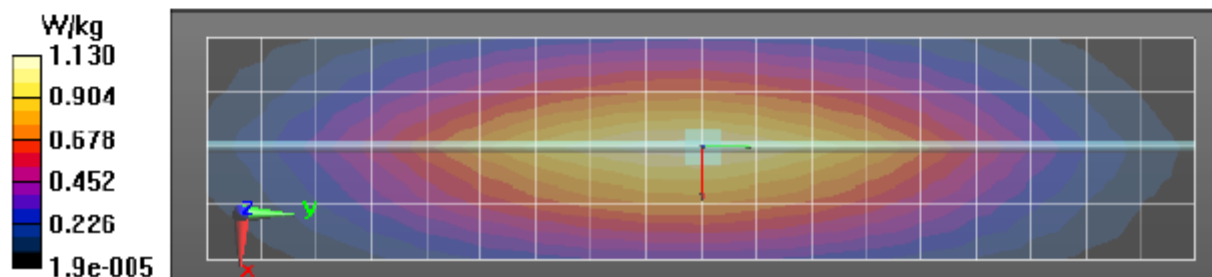
**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (41x181x1):**

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm  
 Reference Value = 34.660 V/m; Power Drift = 0.02 dB  
**Fast SAR: SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.725 W/kg** (SAR corrected for target medium)  
 Maximum value of SAR (interpolated) = 1.12 W/kg

**Below 2 GHz-Rev.1/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:**

Measurement grid:  $dx=7.5$  mm,  $dy=7.5$  mm,  $dz=5$  mm  
 Reference Value = 34.660 V/m; Power Drift = 0.02 dB  
 Peak SAR (extrapolated) = 1.60 W/kg  
**SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.690 W/kg** (SAR corrected for target medium)  
 Maximum value of SAR (measured) = 1.13 W/kg

**Below 2 GHz-Rev.1/System Performance Check/Z-Axis Retraction (1x1x17):** Measurement grid:  $dx=20$  mm,  $dy=20$  mm,  $dz=10$  mm



## Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/4/2014 10:21:19 AM

Robot#: DASY5-PG-2 | Run#: CcC(KKL)-SYSP-450B-140704-01  
 Dipole Model#: D450V3  
 Phantom#: ELI5 1150  
 Tissue Temp: 21.1 (C)  
 Serial#: 1054  
 Test Freq: 450 (MHz)  
 Start Power: 250 (mW)  
 Rotation (1D): 0.039 dB  
 Adjusted SAR (1W): 4.28 mW/kg (1g)

## Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.93$  S/m;  $\epsilon_r = 55.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Probe: ES3DV3 - SN3274, Frequency: 450 MHz, ConvF(7, 7, 7); Calibrated: 10/21/2013  
 Electronics: DAE4 Sml 294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (41x181x1):**Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Reference Value = 35.367 V/m; Power Drift = -0.01 dB

**Fast SAR: SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.748 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.14 W/kg

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (5x19x1):**Measurement grid:  $dx=15$  mm,  $dy=15$  mm

Maximum value of SAR (measured) = 1.14 W/kg

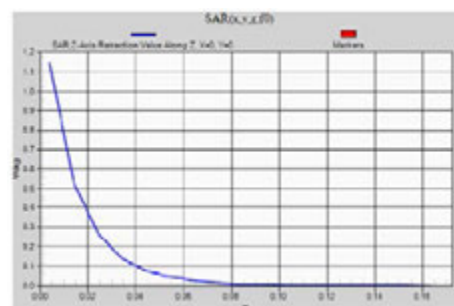
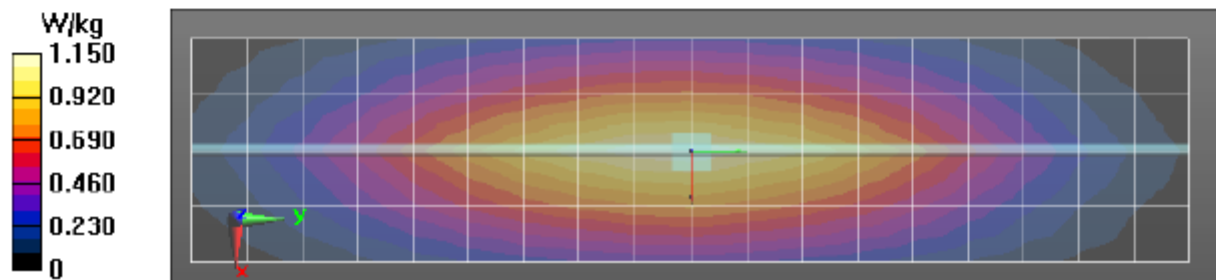
**Below 2 GHz-Rev.1/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:**Measurement grid:  $dx=7.5$  mm,  $dy=7.5$  mm,  $dz=5$  mm

Reference Value = 35.367 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.63 W/kg

**SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.712 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.15 W/kg

**Below 2 GHz-Rev.1/System Performance Check/Z-Axis Retraction (1x1x17):** Measurementgrid:  $dx=20$  mm,  $dy=20$  mm,  $dz=10$  mm

**Motorola Solutions, Inc. EME Laboratory**  
**Date/Time: 7/7/2014 12:36:42 PM**

Robot#: DASY5-PG-2 | Run#: CeC(KKL)-S YSP-450H-140707-01  
 Dipole Model#: D450V3  
 Phantom#: ELI5 1147  
 Tissue Temp: 21.3 (C)  
 Serial#: 1054  
 Test Freq: 450 (MHz)  
 Start Power: 250 (mW)  
 Rotation(1D): 0.038 dB  
 Adjusted SAR (1W): 4.68 mW/kg (1g)

**Comments :**

Duty Cycle: 1:1, Medium parameters used:  $f = 450 \text{ MHz}$ ;  $\sigma = 0.88 \text{ S/m}$ ;  $\epsilon_r = 42.4$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Probe: ES3DV3 - SN3274, , Frequency: 450 MHz, ConvF(6.55, 6.55, 6.55); Calibrated: 10/21/2013  
 Electronics: DAE4 Sn1294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (41x181x1):**

Interpolated grid:  $dx = 1.500 \text{ mm}$ ,  $dy = 1.500 \text{ mm}$

Reference Value = 38.630 V/m; Power Drift = 0.01 dB

**Fast SAR: SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.818 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.27 W/kg

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (5x19x1):**

Measurement grid:  $dx = 15 \text{ mm}$ ,  $dy = 15 \text{ mm}$

Maximum value of SAR (measured) = 1.27 W/kg

**Below 2 GHz-Rev.1/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:**

Measurement grid:  $dx = 7.5 \text{ mm}$ ,  $dy = 7.5 \text{ mm}$ ,  $dz = 5 \text{ mm}$

Reference Value = 38.630 V/m; Power Drift = 0.01 dB

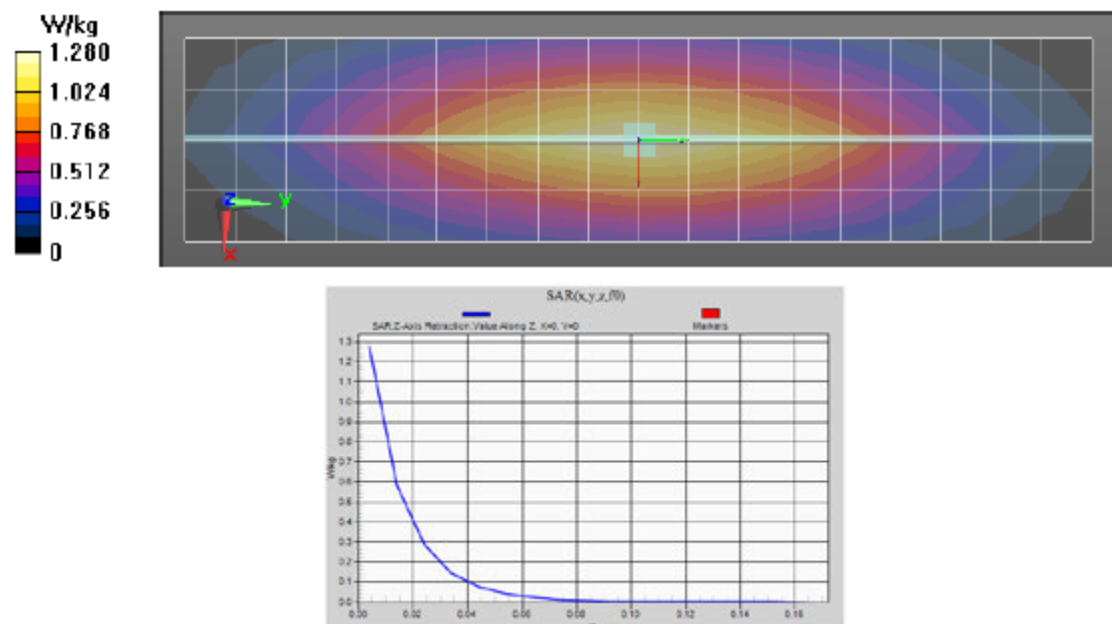
Peak SAR (extrapolated) = 1.75 W/kg

**SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.779 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.28 W/kg

**Below 2 GHz-Rev.1/System Performance Check/Z-Axis Retraction (1x1x17): Measurement**

grid:  $dx = 20 \text{ mm}$ ,  $dy = 20 \text{ mm}$ ,  $dz = 10 \text{ mm}$



## Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/8/2014 10:56:32 AM

Robot#: DASY5-PG-2 | Run#: CoC(KKL)-S YSP-450B-140708-01  
 Dipole Model#: D450V3  
 Phantom#: ELIS 1150  
 Tissue Temp: 21.6 (C)  
 Serial#: 1054  
 Test Freq: 450 (MHz)  
 Start Power: 250 (mW)  
 Rotation(1D): 0.041 dB  
 Adjusted SAR (1W): 4.32 mW/kg (1g)

## Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.97$  S/m;  $\epsilon_T = 54.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Probe: ES3DV3 - SN3274, , Frequency: 450 MHz, CompF(7, 7, 7); Calibrated: 10/21/2013  
 Electronics: DAE4 Sn1294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (41x181x1):**Interpolated grid:  $dx = 1.500$  mm,  $dy = 1.500$  mm

Reference Value = 35.458 V/m; Power Drift = -0.02 dB

**Fast SAR: SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.755 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.19 W/kg

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (5x19x1):**Measurement grid:  $dx = 15$  mm,  $dy = 15$  mm

Maximum value of SAR (measured) = 1.18 W/kg

**Below 2 GHz-Rev.1/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:**Measurement grid:  $dx = 7.5$  mm,  $dy = 7.5$  mm,  $dz = 5$  mm

Reference Value = 35.458 V/m; Power Drift = -0.02 dB

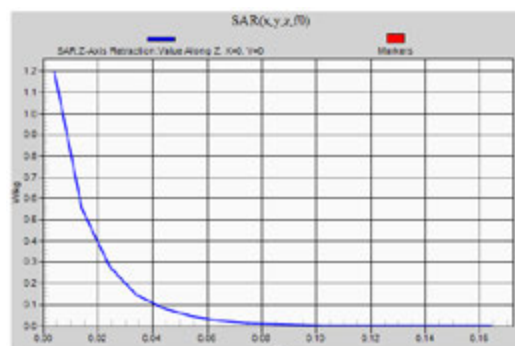
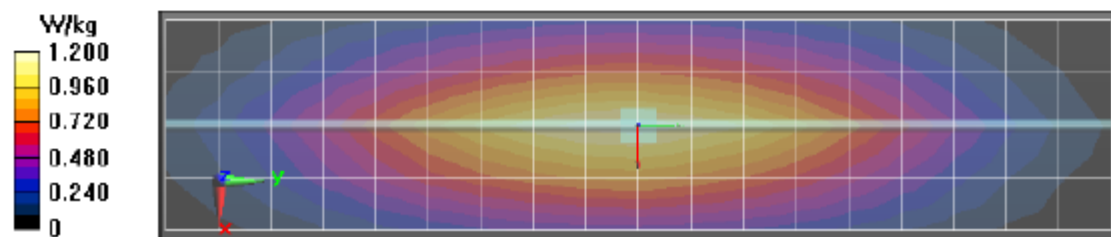
Peak SAR (extrapolated) = 1.69 W/kg

**SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.722 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.19 W/kg

**Below 2 GHz-Rev.1/System Performance Check/Z-Axis Retraction (1x1x17): Measurement**grid:  $dx = 20$  mm,  $dy = 20$  mm,  $dz = 10$  mm

Maximum value of SAR (measured) = 1.20 W/kg



**Motorola Solutions, Inc. EME Laboratory**  
**Date/Time: 7/9/2014 1:25:51 PM**

Robot#: DASY5-PG-2 | Run#: CcC(KKL)-S YSP-450H-140709-01  
 Dipole Model#: D450W3  
 Phantom#: ELIS 1147  
 Tissue Temp: 21.7 (C)  
 Serial#: 1054  
 Test Freq: 450.000 (MHz)  
 Start Power: 250 (mW)  
 Rotation(1D): 0.045 dB  
 Adjusted SAR (1W): 4.60 mW/g (1g)

**Comments:**

Duty Cycle: 1:1, Medium parameters used:  $f = 450 \text{ MHz}$ ;  $\sigma = 0.9 \text{ S/m}$ ;  $\epsilon_r = 42.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Probe: ES3DV3 - SN3274, , Frequency: 450 MHz, ConvF(6.55, 6.55, 6.55); Calibrated: 10/21/2013  
 Electronics: DAE4 Sn1294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (41x181x1):**

Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Reference Value = 38.278 V/m; Power Drift = -0.03 dB

**Fast SAR: SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.808 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.27 W/kg

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (5x19x1):**

Measurement grid:  $dx=15 \text{ mm}$ ,  $dy=15 \text{ mm}$

Maximum value of SAR (measured) = 1.27 W/kg

**Below 2 GHz-Rev.1/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:**

Measurement grid:  $dx=7.5 \text{ mm}$ ,  $dy=7.5 \text{ mm}$ ,  $dz=5 \text{ mm}$

Reference Value = 38.278 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.70 W/kg

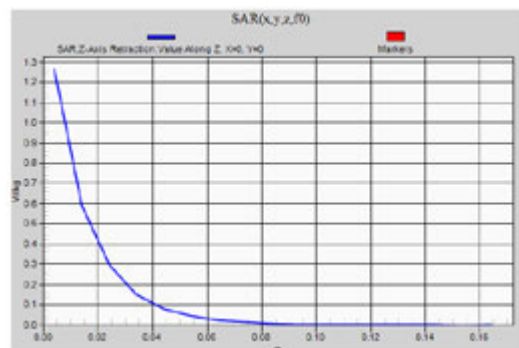
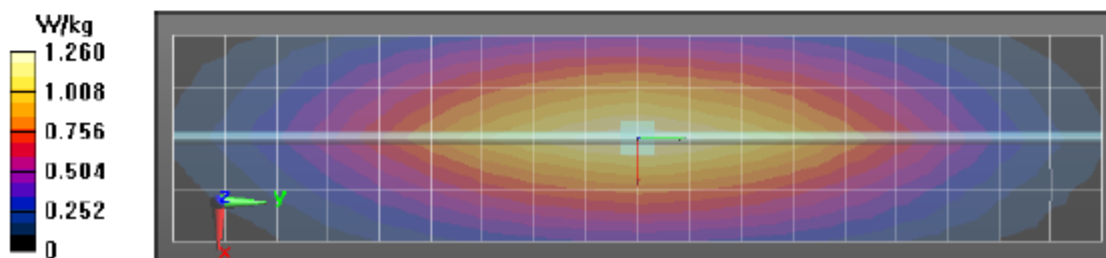
**SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.771 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.28 W/kg

**Below 2 GHz-Rev.1/System Performance Check/Z-Axis Retraction (1x1x17): Measurement**

grid:  $dx=20 \text{ mm}$ ,  $dy=20 \text{ mm}$ ,  $dz=10 \text{ mm}$

Maximum value of SAR (measured) = 1.26 W/kg



## **Appendix E**

### **DUT Scans**

## Assessments at the Body with Body-worn PMLN7190A

### Table 17

**Motorola Solutions, Inc. EME Laboratory**  
**Date/Time: 7/3/2014 1:45:35 PM**

Robot#: DASY 5-PG-2 | Run#: CeC(KKL)-AB-140703-02  
 Model#: PMUE4541A  
 Phantom#: ELIS 1150  
 Tissue Temp: 21.2 (C)  
 Serial#: 546TQM0149  
 Antenna: PMAE4095A  
 Test Freq: 458.300 (MHz)  
 Battery: PMNN4468A  
 Carry Acc: PMLN7190A  
 Audio Acc: PMLN7156A  
 Start Power: 3.26 (W)

**Comments:**

Duty Cycle: 1:1.99986, Medium parameters used:  $f = 458 \text{ MHz}$ ;  $\sigma = 0.95 \text{ S/m}$ ;  $\epsilon_r = 55.2$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Probe: ES3DV3 - SN3274, , Frequency: 458.3 MHz, ConvF(7, 7, 7); Calibrated: 10/21/2013  
 Electronics: DAE4 Sn1294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/Ab Scan/1-Area Scan (61x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Reference Value = 48.222 V/m; Power Drift = -0.26 dB

**Fast SAR: SAR(1 g) = 2.56 W/kg; SAR(10 g) = 1.86 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 2.70 W/kg

**Below 2 GHz-Rev.1/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5 \text{ mm}$ ,  
 $dy=7.5 \text{ mm}$ ,  $dz=5 \text{ mm}$

Reference Value = 48.222 V/m; Power Drift = -0.41 dB

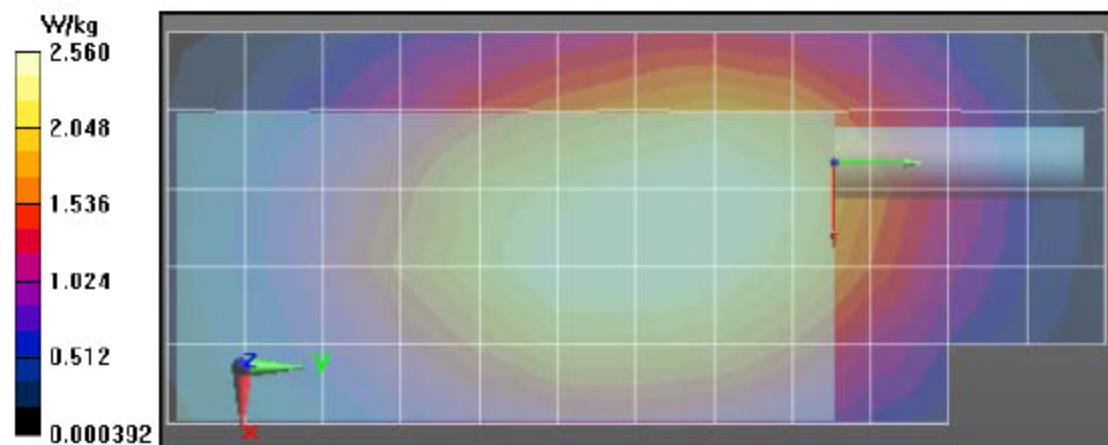
Peak SAR (extrapolated) = 3.47 W/kg

**SAR(1 g) = 2.49 W/kg; SAR(10 g) = 1.82 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.63 W/kg

**Below 2 GHz-Rev.1/Ab Scan/4-Z-Axis Scan (1x1x17):** Measurement grid:  $dx=20 \text{ mm}$ ,  $dy=20 \text{ mm}$ ,  
 $dz=10 \text{ mm}$

Maximum value of SAR (measured) = 2.56 W/kg



## Assessments at the Body with Body-worn PMLN7128A

### Table 18

**Motorola Solutions, Inc. EME Laboratory**  
**Date/Time: 7/4/2014 1:43:39 PM**

Robot#: DASY5-PG-2 | Run#: CcC(KKL)-AB-140704-03  
 Model#: PMUE4541A  
 Phantom#: EL15 1150  
 Tissue Temp: 21.1 (C)  
 Serial#: 546TQM0149  
 Antenna: PMAE4095A  
 Test Freq: 458.300 (MHz)  
 Battery: PMNN4468A  
 Carry Acc: PMLN7128A  
 Audio Acc: PMLN7156A  
 Start Power: 3.25 (W)

#### Comments:

Duty Cycle: 1:1.99986, Medium parameters used:  $f = 458 \text{ MHz}$ ;  $\sigma = 0.94 \text{ S/m}$ ;  $\epsilon_r = 55.1$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Probe: ES3DV3 - SN3274, Frequency: 458.3 MHz, ConvF(7, 7, 7); Calibrated: 10/21/2013  
 Electronics: DAE4 Sml 294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/Ab Scan/1-Area Scan (61x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Reference Value = 41.566 V/m; Power Drift = -0.27 dB

**Fast SAR: SAR(1 g) = 2.2 W/kg; SAR(10 g) = 1.59 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 2.32 W/kg

**Below 2 GHz-Rev.1/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5 \text{ mm}$ ,  
 $dy=7.5 \text{ mm}$ ,  $dz=5 \text{ mm}$

Reference Value = 41.566 V/m; Power Drift = -0.38 dB

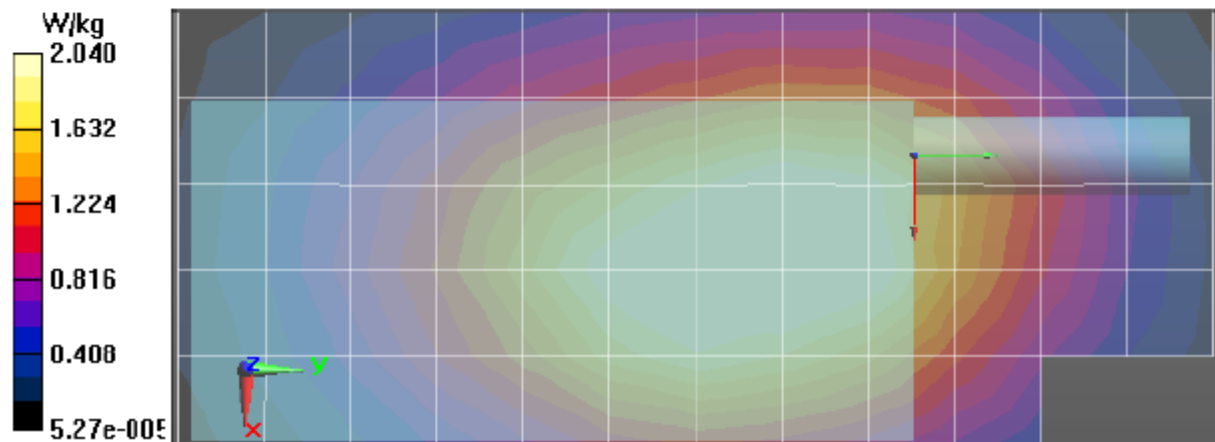
Peak SAR (extrapolated) = 2.83 W/kg

**SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.54 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.19 W/kg

**Below 2 GHz-Rev.1/Ab Scan/4-Z-Axis Scan (1x1x17):** Measurement grid:  $dx=20 \text{ mm}$ ,  $dy=20 \text{ mm}$ ,  
 $dz=10 \text{ mm}$

Maximum value of SAR (measured) = 2.04 W/kg



### **Assessment at the Body with other audio accessories**

Assessment per “KDB 643646 D01 Body SAR Test Consideration for Audio Accessories without Built-in Antenna; Sec 1, A. when overall < 4.0 W/kg, SAR tested for that audio accessory is not necessary.” This was applicable to all remaining accessories.

### Assessments at the Face

#### Table 21

Motorola Solutions, Inc. EME Laboratory  
Date/Time: 7/9/2014 2:15:20 PM

```
Robot#: DASY5-PG-2 | Run#: CoC(KKL)-FACE-140709-02
Model#: PMUE4541A
Phantom#: EL15 1147
Tissue Temp: 21.3 (C)
Serial#: 546TQMD140
Antenna: PMAE4093A
Test Freq: 425.000 (MHz)
Battery: PMNN4468A
Carry Acc: NONE
Audio Acc: NONE
Start Power: 2.99 (W)
```

## Comments:

Duty Cycle: 1:1.99986, Medium parameters used:  $f = 425 \text{ MHz}$ ;  $\sigma = 0.88 \text{ S/m}$ ;  $\epsilon_r = 43.4$ ;  $\rho = 1000 \text{ kg/m}^3$   
Probe: ES3DV3 - SN3274, Frequency: 425 MHz, ConvF(6.55, 6.55, 6.55); Calibrated: 10/21/2013  
Electronics: DAE4Sn1294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/Face Scan/1-Area Scan (61x131x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 56.886 V/m; Power Drift = -0.21 dB

**Fast SAR:** SAR(1 g) = 2.88 W/kg; SAR(10 g) = 2.08 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 3.06 W/kg

**Below 2 GHz-Rev.1/Face Scan/2- Volume Scan 2D (41x41x1):** Interpolated grid: dx=0.7500 mm, dy=0.7500 mm, dz=1.000 mm

Reference Value = 56.886 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) =

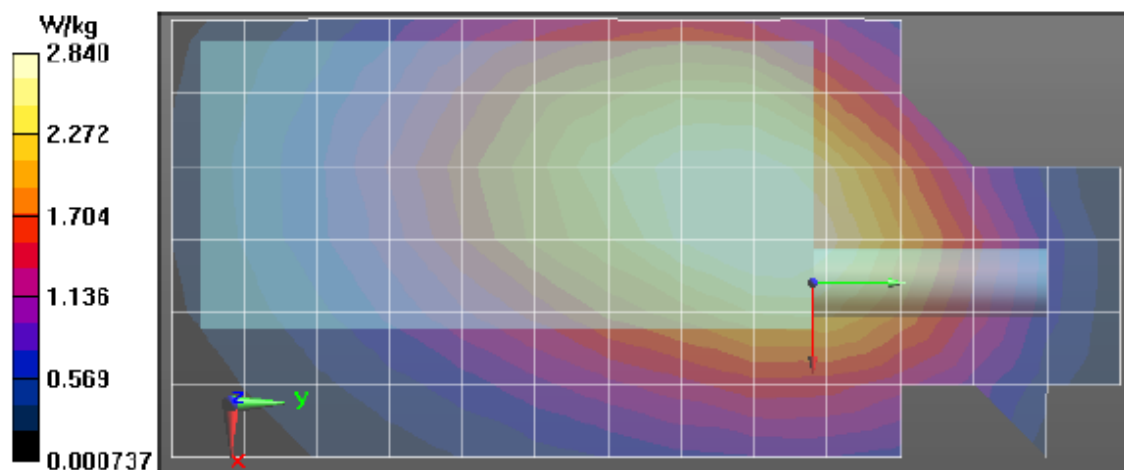
$\frac{W}{kg}$

**Fast SAR: SAR(1 g) = 2.82 W/kg; SAR(10 g) = 2.06 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 2.98 W/kg

**Below 2 GHz-Rev.1/Face Scan/4-Z-Axis Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 2.84 W/kg



# Assessment outside FCC Part 90 at the Body Table 19

Motorola Solutions, Inc. EME Laboratory  
Date/Time: 7/8/2014 12:48:24 PM

Robot#: DASY5-PG-2 | Run#: CcC(KKL)-AB-140708-02  
Model#: PMUE4541A  
Phantom#: ELI5 1150  
Tissue Temp: 21.2 (C)  
Serial#: 546TQM0149  
Antenna: PMAE4093A  
Test Freq: 403.000 (MHz)  
Battery: PMNN4468A  
Carry Acc: PMLN7190A  
Audio Acc: PMLN7156A  
Start Power: 3.25 (W)

## Comments:

Duty Cycle: 1:1.99986, Medium parameters used:  $f = 403$  MHz;  $\sigma = 0.93$  S/m;  $\epsilon_r = 55$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Probe: ES3DV3 - SN3274, Frequency: 403 MHz, ConvF(7, 7, 7); Calibrated: 10/21/2013  
Electronics: DAE4 Sml 294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/Ab Scan/1-Area Scan (61x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Reference Value = 38.860 V/m; Power Drift = -0.33 dB

**Fast SAR: SAR(1 g) = 1.73 W/kg; SAR(10 g) = 1.26 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.84 W/kg

**Below 2 GHz-Rev.1/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$  mm,  $dy=7.5$  mm,  $dz=5$  mm

Reference Value = 38.860 V/m; Power Drift = -0.44 dB

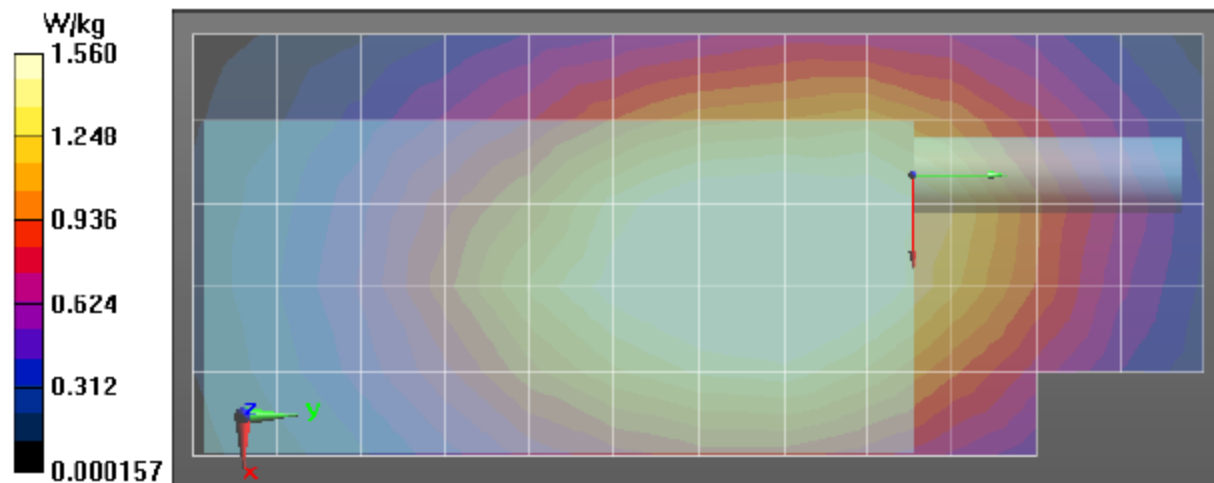
Peak SAR (extrapolated) = 2.16 W/kg

**SAR(1 g) = 1.61 W/kg; SAR(10 g) = 1.2 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.69 W/kg

**Below 2 GHz-Rev.1/Ab Scan/4-Z-Axis Scan (1x1x17):** Measurement grid:  $dx=20$  mm,  $dy=20$  mm,  $dz=10$  mm

Maximum value of SAR (measured) = 1.56 W/kg



## Assessment outside FCC Part 90 at the Face

Table 22

Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/7/2014 5:24:47 PM

Robot#: DASY5-PG-2 | Run#: CcC(KKL)-FACE-140707-05

Model#: PMUE4541A  
 Phantom#: ELI5 1147  
 Tissue Temp: 21.2 (C)  
 Serial#: 546TQMD149  
 Antenna: PMAE4093A  
 Test Freq: 403.000 (MHz)  
 Battery: PMNN4468A  
 Carry Acc: NONE  
 Audio Acc: NONE  
 Start Power: 3.25 (W)

## Comments:

Duty Cycle: 1:1.99986, Medium parameters used:  $f = 403$  MHz;  $\sigma = 0.85$  S/m;  $\epsilon_r = 43.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Probe: ES3DV3 - SN3274, , Frequency: 403 MHz, CorrF(6.55, 6.55, 6.55); Calibrated: 10/21/2013

Electronics: DAE4 Sml 294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/Face Scan/1-Area Scan (61x131x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Reference Value = 38.697 V/m; Power Drift = -0.46 dB

**Fast SAR: SAR(1 g) = 1.26 W/kg; SAR(10 g) = 0.911 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.31 W/kg

**Below 2 GHz-Rev.1/Face Scan/3-Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$  mm,  $dy=7.5$  mm,  $dz=5$  mm

Reference Value = 38.697 V/m; Power Drift = -0.69 dB

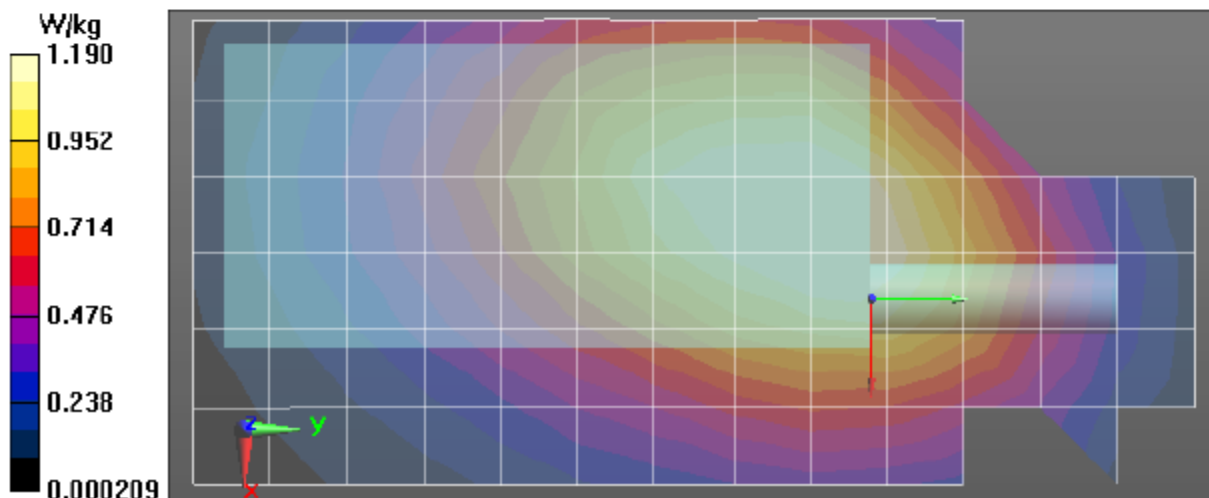
Peak SAR (extrapolated) = 1.60 W/kg

**SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.863 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.23 W/kg

**Below 2 GHz-Rev.1/Face Scan/4-Z-Axis Scan (1x1x17):** Measurement grid:  $dx=20$  mm,  $dy=20$  mm,  $dz=10$  mm

Maximum value of SAR (measured) = 1.19 W/kg



## **Appendix F**

### **Shortened Scan of Highest SAR configuration**

## Shortened Scan Table 23

**Motorola Solutions, Inc. EME Laboratory**  
Date/Time: 7/9/2014 3:12:26 PM

Robot#: DASY5-PG-2 | Run#: CoC(KKL)-FACE-140709-03  
Model#: PMUE4541A  
Phantom#: ELIS 1147  
Tissue Temp: 21.3 (C)  
Serial#: 546TQM0140  
Antenna: PMAE4093A  
Test Freq: 425.000 (MHz)  
Battery: PMNN4468A  
Carry Acc: NONE  
Audio Acc: NONE  
Start Power: 3.02 (W)

Comments: Shorten scan

Duty Cycle: 1:1.99986, Medium parameters used:  $f = 425 \text{ MHz}$ ;  $\sigma = 0.88 \text{ S/m}$ ;  $\epsilon_r = 43.4$ ;  $\rho = 1000 \text{ kg/m}^3$   
Probe: ES3DV3 - SN3274, , Frequency: 425 MHz, ConvF(6.55, 6.55, 6.55); Calibrated: 10/21/2013  
Electronics: DAE4 Sn1294, Calibrated: 10/22/2013

**Below 2 GHz-Rev.1/Face Scan/1-Area Scan (61x131x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

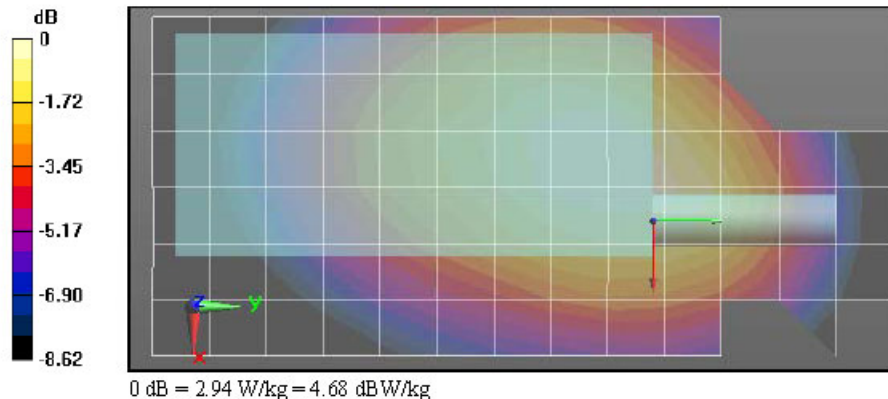
Reference Value = 57.121 V/m; Power Drift = -0.27 dB  
**Fast SAR: SAR(1 g) = 2.82 W/kg; SAR(10 g) = 2.05 W/kg** (SAR corrected for target medium)  
Maximum value of SAR (interpolated) = 2.98 W/kg

**Below 2 GHz-Rev.1/Face Scan/3-Zoom Scan (6x5x7)/Cube 0:** Measurement grid:  $dx=7.5 \text{ mm}$ ,  $dy=7.5 \text{ mm}$ ,  $dz=5 \text{ mm}$

Reference Value = 60.239 V/m; Power Drift = -0.27 dB  
Peak SAR (extrapolated) = 3.61 W/kg  
**SAR(1 g) = 2.81 W/kg; SAR(10 g) = 2.1 W/kg** (SAR corrected for target medium)  
Maximum value of SAR (measured) = 2.94 W/kg

**Below 2 GHz-Rev.1/Face Scan/4-Z-Axis Scan (1x1x17):** Measurement grid:  $dx=20 \text{ mm}$ ,  $dy=20 \text{ mm}$ ,  $dz=10 \text{ mm}$

Maximum value of SAR (measured) = 2.79 W/kg



Shortened scan reflects highest SAR producing configuration and is compared to the full scan.

| Scan Description        | Referenced Table | Test Time (min.) | SAR 1g (W/kg) | SAR 10g (W/kg) |
|-------------------------|------------------|------------------|---------------|----------------|
| Shorten scan (zoom)     | 23               | 8                | 1.63          | 1.22           |
| Full scan (area & zoom) | 21               | 17               | 1.63          | 1.19           |

## Appendix G

### DUT Power slump

Power Slump Model # : PMUE4541A

Serial # : 546TQM0140

Battery: PMNN4468A

Frequency: 425MHz

Date: 7/30/2014

Transmit Mod

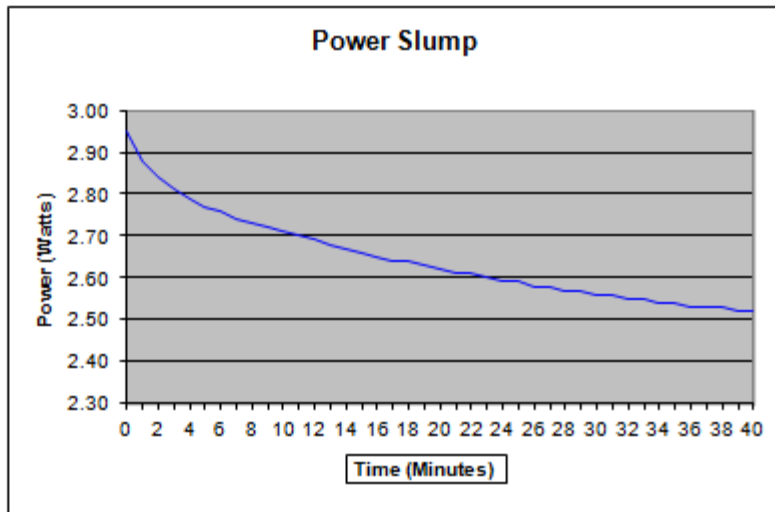
TDMA

Audio Access

None

| (Minute<br>s) | Power<br>(Watts) |
|---------------|------------------|
|---------------|------------------|

|      |      |
|------|------|
| 0.0  | 2.95 |
| 1.0  | 2.88 |
| 2.0  | 2.84 |
| 3.0  | 2.81 |
| 4.0  | 2.79 |
| 5.0  | 2.77 |
| 6.0  | 2.76 |
| 7.0  | 2.74 |
| 8.0  | 2.73 |
| 9.0  | 2.72 |
| 10.0 | 2.71 |
| 11.0 | 2.70 |
| 12.0 | 2.69 |
| 13.0 | 2.68 |
| 14.0 | 2.67 |
| 15.0 | 2.66 |
| 16.0 | 2.65 |
| 17.0 | 2.64 |
| 18.0 | 2.64 |
| 19.0 | 2.63 |
| 20.0 | 2.62 |
| 21.0 | 2.61 |
| 22.0 | 2.61 |
| 23.0 | 2.60 |
| 24.0 | 2.59 |
| 25.0 | 2.59 |
| 26.0 | 2.58 |
| 27.0 | 2.58 |
| 28.0 | 2.57 |
| 29.0 | 2.57 |
| 30.0 | 2.56 |
| 31.0 | 2.56 |
| 32.0 | 2.55 |
| 33.0 | 2.55 |
| 34.0 | 2.54 |
| 35.0 | 2.54 |
| 36.0 | 2.53 |
| 37.0 | 2.53 |
| 38.0 | 2.53 |
| 39.0 | 2.52 |
| 40.0 | 2.52 |



## **Appendix H**

### **DUT Test Position Photos**

**Photos available in Exhibit 7B**

**Appendix I**  
**DUT, Body worn and audio accessories Photos**

Photos available in Exhibit 7B