

 <b>MOTOROLA SOLUTIONS</b>	 <p>ACCREDITED TESTING CERT # 2518.01</p>
---	--

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

<b>Motorola Solutions Inc.</b> <b>EME Test Laboratory</b> 8000 West Sunrise Blvd Fort Lauderdale, FL. 33322	<b>Date of Report:</b> 12/11/2014 <b>Report Revision:</b> A
--	--

**Responsible Engineer:** Deanna Zakharia (EME Lab Senior Resource Manager)  
**Report Author:** Jessica Zada (EME Engineer)  
**Date/s Tested:** 11/7/2014, 11/14/2014  
**Manufacturer/Location:** Plantation  
**Sector/Group/Div.:** AESS  
**Date submitted for test:** 10/22/2014  
**DUT Description:** APX6000, 380-470MHz, 0.25-5W, 6.25kHz/12.5kHz/25kHz, Top Display Model with GPS. Capable of digital and analog FM transmission. Also capable of TDMA transmission. This radio is Bluetooth capable  
**Test TX mode(s):** CW (PTT)  
**Max. Power output:** 5.6W  
**Nominal Power:** 5.0W  
**Tx Frequency Bands:** 380-470MHz; Bluetooth 2.402-2.480GHz  
**Signaling type:** FM, TDMA  
**Model(s) Tested:** H98QDD9PW5AN (NUE1006)  
**Model(s) Certified:** H98QDD9PW5AN (NUE1006)  
**Serial Number(s):** CAH14DKK9N & CAH14DKK9P  
**Classification:** Occupational/Controlled  
**FCC ID:** AZ489FT4892; 380-470MHz  
**IC:** 109U-89FT4892

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 OET Bulletin 65. 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.

 <b>Deanna Zakharia</b> EMS EME Lab Senior Resource Manager, Laboratory Director Approval Date: 12/12/2014	<b>Certification Date:</b> 12/9/2014  <b>Certification No.:</b> L1141110
---	--

## **Appendix D**

### **System Verification Check Scans**

**Motorola Solutions, Inc. EME Laboratory**  
Date/Time: 11/7/2014 6:10:30 AM

Robot#: DASY5-FL-1 | Run#: ErC-SYSP-450B-141107-01  
 Dipole Model#: D450V3  
 Phantom#: OVAL1019  
 Tissue Temp: 19.9 (C)  
 Serial#: 1075  
 Test Freq: 450 (MHz)  
 Start Power: 250 (mW)  
 Rotation (1D): 0.046 dB  
 Adjusted SAR (1W): 4.68 mW/g (1g)

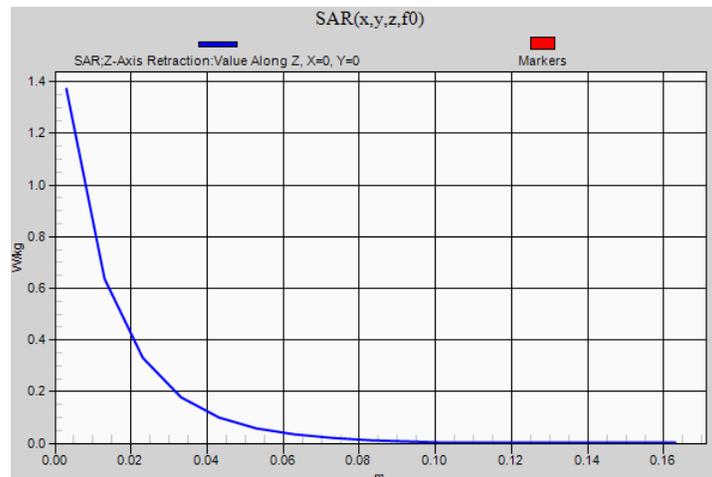
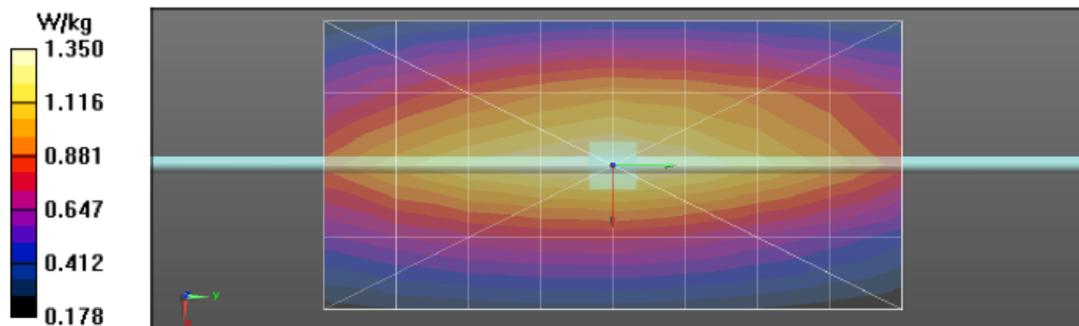
Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.93$  S/m;  $\epsilon_r = 54.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Probe: ES3DV3 - SN3147, , Frequency: 450 MHz, ConvF(6.86, 6.86, 6.86); Calibrated: 4/11/2014  
 Electronics: DAE3 Sn401, Calibrated: 3/11/2014

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (5x9x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 1.35 W/kg

**Below 2 GHz-Rev.1/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:**  
 Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 38.87 V/m; Power Drift = -0.00 dB  
 Peak SAR (extrapolated) = 1.81 W/kg  
 SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.785 W/kg (SAR corrected for target medium)  
 Maximum value of SAR (measured) = 1.37 W/kg

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



**Motorola Solutions, Inc. EME Laboratory**  
Date/Time: 11/7/2014 6:58:01 AM

Robot#: DASY5-FL-1 | Run#: ErC-SYSP-450H-141107-02  
 Dipole Model#: D450V3  
 Phantom#: OVAL1020  
 Tissue Temp: 19.9 (C)  
 Serial#: 1075  
 Test Freq: 450 (MHz)  
 Start Power: 250 (mW)  
 Rotation (1D): 0.052 dB  
 Adjusted SAR (1W): 4.68 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.87$  S/m;  $\epsilon_r = 43.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Probe: ES3DV3 - SN3147, Frequency: 450 MHz, ConvF(6.64, 6.64, 6.64); Calibrated: 4/11/2014  
 Electronics: DAE3 Sn401, Calibrated: 3/11/2014

**Below 2 GHz-Rev.1/System Performance Check/Dipole Area Scan 2 (5x9x1): Measurement**

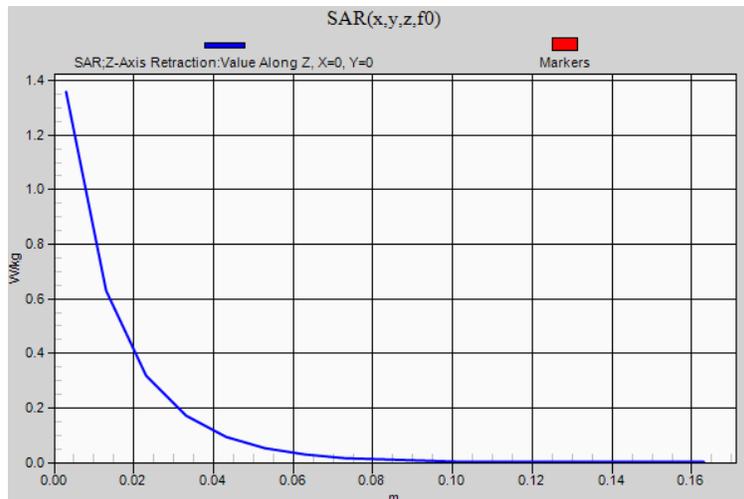
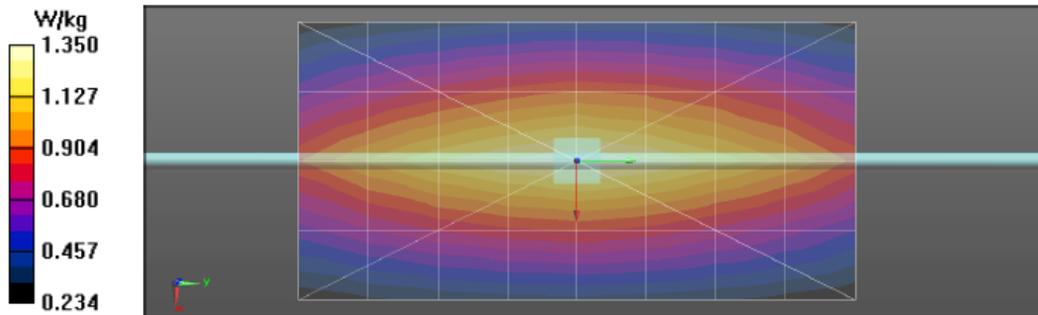
grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 1.35 W/kg

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

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 40.60 V/m; Power Drift = -0.03 dB  
 Peak SAR (extrapolated) = 1.74 W/kg  
 SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.780 W/kg (SAR corrected for target medium)

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

grid: dx=20mm, dy=20mm, dz=10mm  
 Maximum value of SAR (measured) = 1.36 W/kg



## **Appendix E**

### **DUT Scans**

### Assessments at the Body - Table 16

#### Motorola Solutions, Inc. EME Laboratory

Date/Time: 11/7/2014 11:45:24 AM

Robot#: DASY5-FL-1 | Run#: ErC-Ab-141107-08  
 Model#: H98QDD9PW5AN (NUE1006)  
 Phantom#: OVAL1019  
 Tissue Temp: 20.1 (C)  
 Serial#: CAH14DKK9P  
 Antenna: FAF5259A  
 Test Freq: 406.125 (MHz)  
 Battery: PMNN4403B  
 Carry Acc: NTN9179A D-clip and Belt Loop  
 Audio Acc: None  
 Start Power: 5.48 (W)

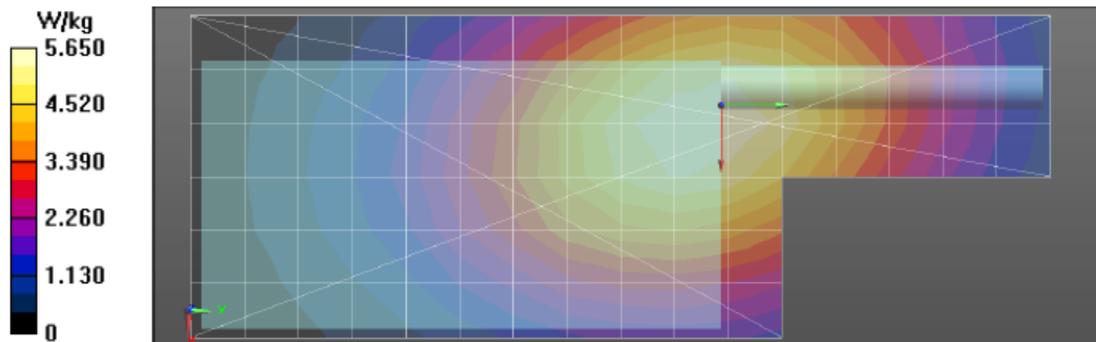
Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 406 \text{ MHz}$ ;  $\sigma = 0.89 \text{ S/m}$ ;  $\epsilon_r = 55.6$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Probe: ES3DV3 - SN3147, , Frequency: 406.012 MHz, ConvF(6.86, 6.86, 6.86); Calibrated: 4/11/2014  
 Electronics: DAE3 Sn401, Calibrated: 3/11/2014

**Below 2 GHz-Rev.1/Ab Scan/1-Area Scan (7x17x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (measured) = 5.65 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 = 76.99 V/m; Power Drift = -0.42 dB  
 Peak SAR (extrapolated) = 6.70 W/kg  
 SAR(1 g) = 5.12 W/kg; SAR(10 g) = 3.85 W/kg (SAR corrected for target medium)  
 Maximum value of SAR (measured) = 5.52 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) = 5.45 W/kg



### Assessments at the Body - Table 17

#### Motorola Solutions, Inc. EME Laboratory

Date/Time: 11/7/2014 10:17:50 AM

Robot#: DASY5-FL-1 | Run#: ErC-Ab-141107-05  
Model#: H98QDD9PW5AN (NUE1006)  
Phantom#: OVAL1019  
Tissue Temp: 19.9 (C)  
Serial#: CAH14DKK9P  
Antenna: FAF5259A  
Test Freq: 438.125 (MHz)  
Battery: PMNN4403B  
Carry Acc: 4205823V01 PSM Belt clip  
Audio Acc: PMMN4059B  
Start Power: 5.48 (W)

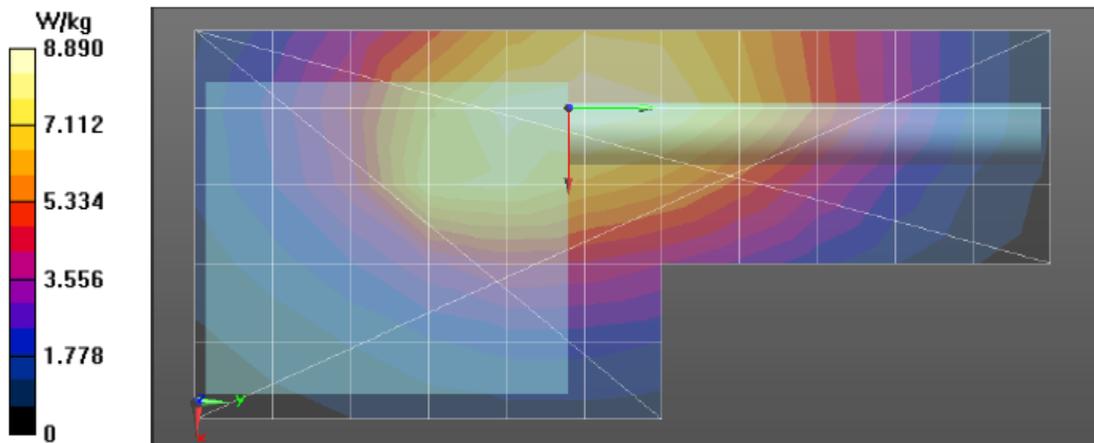
Comments: Power from PSM 4.48 W

Duty Cycle: 1:1, Medium parameters used:  $f = 438$  MHz;  $\sigma = 0.92$  S/m;  $\epsilon_r = 55$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Probe: ES3DV3 - SN3147, , Frequency: 438.152 MHz, ConvF(6.86, 6.86, 6.86); Calibrated: 4/11/2014  
Electronics: DAE3 Sn401, Calibrated: 3/11/2014

**Below 2 GHz-Rev.1/Ab Scan/1-Area Scan (6x12x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 8.89 W/kg

**Below 2 GHz-Rev.1/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
Reference Value = 91.74 V/m; Power Drift = -0.07 dB  
Peak SAR (extrapolated) = 11.2 W/kg  
SAR(1 g) = 7.91 W/kg; SAR(10 g) = 5.68 W/kg (SAR corrected for target medium)  
Maximum value of SAR (measured) = 8.86 W/kg

**Below 2 GHz-Rev.1/Ab Scan/4-Z-Axis Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm  
Maximum value of SAR (measured) = 8.80 W/kg



### Assessment at the Body – Table 18

#### Motorola Solutions, Inc. EME Laboratory

Date/Time: 11/7/2014 11:20:55 AM

Robot#: DASY5-FL-1 | Run#: ErC-Ab-141107-07  
Model#: H98QDD9PW5AN (NUE1006)  
Phantom#: OVAL1019  
Tissue Temp: 19.9 (C)  
Serial#: CAH14DKK9P  
Antenna: PMAE4065A  
Test Freq: 453.9875 (MHz)  
Battery: NNTN7034B  
Carry Acc: 4205823V01 PSM Belt clip  
Audio Acc: PMMN4059B  
Start Power: 5.51 (W)

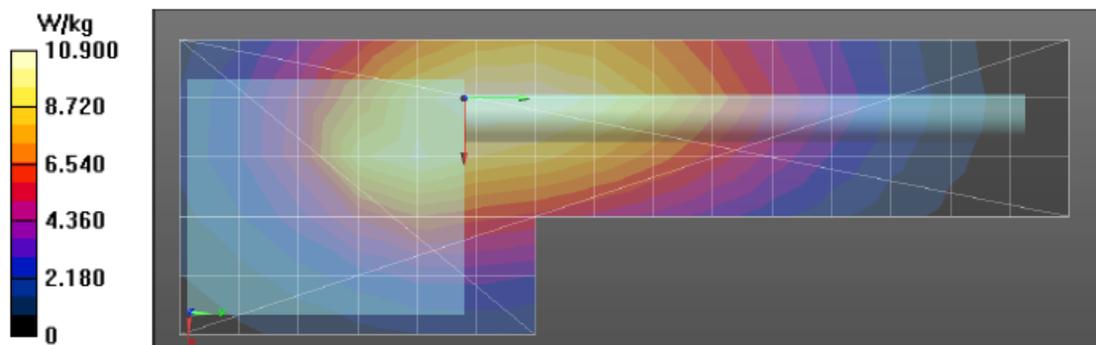
Comments: Power from PSM 4.61 W

Duty Cycle: 1:1, Medium parameters used:  $f = 454$  MHz;  $\sigma = 0.93$  S/m;  $\epsilon_r = 54.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Probe: ES3DV3 - SN3147, , Frequency: 453.988 MHz, ConvF(6.86, 6.86, 6.86); Calibrated: 4/11/2014  
Electronics: DAE3 Sn401, Calibrated: 3/11/2014

**Below 2 GHz-Rev.1/Ab Scan/1-Area Scan (6x16x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 10.9 W/kg

**Below 2 GHz-Rev.1/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
Reference Value = 107.8 V/m; Power Drift = -0.23 dB  
Peak SAR (extrapolated) = 13.8 W/kg  
SAR(1 g) = 9.57 W/kg; SAR(10 g) = 6.86 W/kg (SAR corrected for target medium)  
Maximum value of SAR (measured) = 10.8 W/kg

**Below 2 GHz-Rev.1/Ab Scan/4-Z-Axis Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm  
Maximum value of SAR (measured) = 10.7 W/kg



### Assessments at the Body - Table 19

#### Motorola Solutions, Inc. EME Laboratory

Date/Time: 11/7/2014 1:30:55 PM

Robot#: DASY5-FL-1 | Run#: ErC-Face-141107-10  
 Model#: H98QDD9PW5AN (NUE1006)  
 Phantom#: OVAL1020  
 Tissue Temp: 20.1 (C)  
 Serial#: CAH14DKK9P  
 Antenna: FAF5259A  
 Test Freq: 406.125 (MHz)  
 Battery: PMNN4403B  
 Carry Acc: None; Front DUT facing phantom  
 Audio Acc: None  
 Start Power: 5.48 (W)

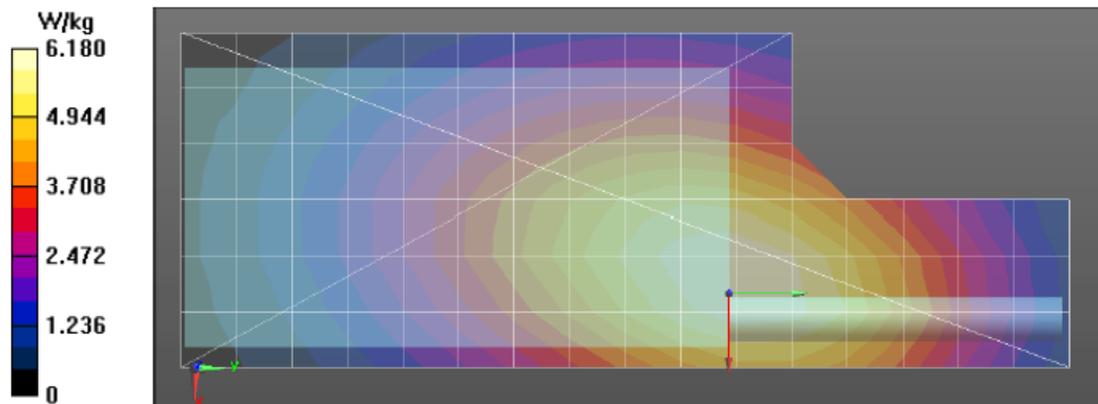
Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 406$  MHz;  $\sigma = 0.83$  S/m;  $\epsilon_r = 44.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Probe: ES3DV3 - SN3147, , Frequency: 406.125 MHz, ConvF(6.64, 6.64, 6.64); Calibrated: 4/11/2014  
 Electronics: DAE3 Sn401, Calibrated: 3/11/2014

**Below 2 GHz-Rev.2/Face Scan/1-Area Scan (7x17x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 6.18 W/kg

**Below 2 GHz-Rev.2/Face Scan/3-Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 87.45 V/m; Power Drift = -0.46 dB  
 Peak SAR (extrapolated) = 6.97 W/kg  
 SAR(1 g) = 5.54 W/kg; SAR(10 g) = 4.15 W/kg (SAR corrected for target medium)  
 Maximum value of SAR (measured) = 5.91 W/kg

**Below 2 GHz-Rev.2/Face Scan/4-Z-Axis Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm  
 Maximum value of SAR (measured) = 5.79 W/kg



### Assessments at the Body - Table 20

#### Motorola Solutions, Inc. EME Laboratory

Date/Time: 11/7/2014 1:04:18 PM

Robot#: DASY5-FL-1 | Run#: ErC-Face-141107-09  
Model#: H98QDD9PW5AN (NUE1006)  
Phantom#: OVAL1020  
Tissue Temp: 20.1 (C)  
Serial#: CAH14DKK9P  
Antenna: FAF5259A  
Test Freq: 453.9875 (MHz)  
Battery: NNTN7034B  
Carry Acc: None  
Audio Acc: PMMN4059B  
Start Power: 5.48 (W)

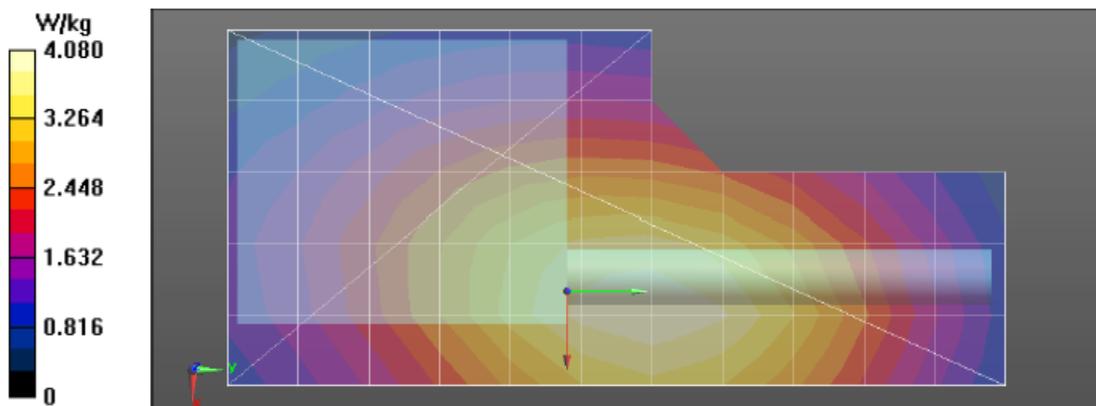
Comments: Power from PSM 4.29W

Duty Cycle: 1:1, Medium parameters used:  $f = 454 \text{ MHz}$ ;  $\sigma = 0.87 \text{ S/m}$ ;  $\epsilon_r = 43.6$ ;  $\rho = 1000 \text{ kg/m}^3$   
Probe: ES3DV3 - SN3147, , Frequency: 453.988 MHz, ConvF(6.64, 6.64, 6.64); Calibrated: 4/11/2014  
Electronics: DAE3 Sn401, Calibrated: 3/11/2014

**Below 2 GHz-Rev.2/Face Scan/1-Area Scan (6x12x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 4.08 W/kg

**Below 2 GHz-Rev.2/Face Scan/3-Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
Reference Value = 64.59 V/m; Power Drift = -0.16 dB  
Peak SAR (extrapolated) = 4.79 W/kg  
SAR(1 g) = 3.58 W/kg; SAR(10 g) = 2.63 W/kg (SAR corrected for target medium)  
Maximum value of SAR (measured) = 4.00 W/kg

**Below 2 GHz-Rev.2/Face Scan/4-Z-Axis Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm  
Maximum value of SAR (measured) = 3.98 W/kg



**APPENDIX F**  
**Shortened Scan of Highest SAR configuration**

### Shortened Scan Table 21

**Motorola Solutions, Inc. EME Laboratory**  
Date/Time: 11/14/2014 1:16:08 PM

Robot#: DASY5-FL-1 | Run#: ErC-Ab-141114-10  
 Model#: H98QDD9PW5AN (NUE1006)  
 Phantom#: OVAL1019  
 Tissue Temp: 19.9 (C)  
 Serial#: CAH14DKK9P  
 Antenna: PMAE4065A  
 Test Freq: 453.9875 (MHz)  
 Battery: NNTN7034B  
 Carry Acc: 4205823V01 PSM Belt clip  
 Audio Acc: PMMN4059B  
 Start Power: 5.56 (W)

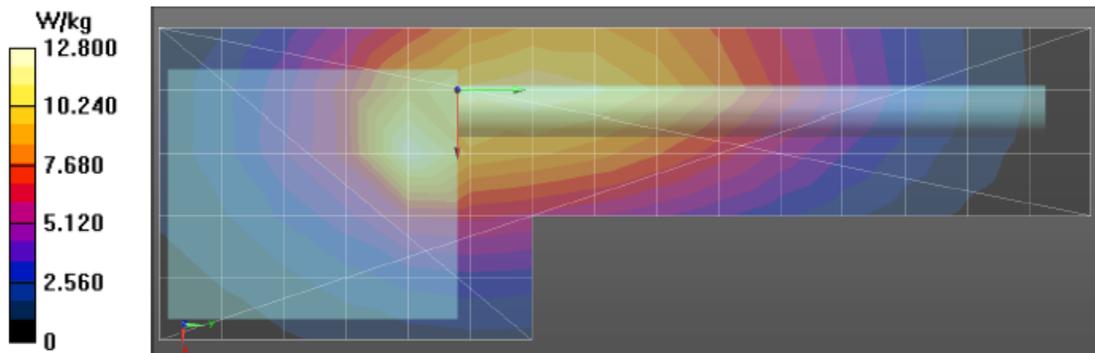
Comments: Short Scan - Power from PSM 4.60 W

Duty Cycle: 1:1, Medium parameters used:  $f = 454 \text{ MHz}$ ;  $\sigma = 0.95 \text{ S/m}$ ;  $\epsilon_r = 54.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Probe: ES3DV3 - SN3147, , Frequency: 453.988 MHz, ConvF(6.86, 6.86, 6.86); Calibrated: 4/11/2014  
 Electronics: DAE3 Sn401, Calibrated: 3/11/2014

**Below 2 GHz-Rev.1/Ab Scan/1-Area Scan (6x16x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 12.8 W/kg

**Below 2 GHz-Rev.1/Ab Scan/3-Zoom Scan (7x8x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 105.5 V/m; Power Drift = -0.28 dB  
 Peak SAR (extrapolated) = 18.5 W/kg  
 SAR(1 g) = 10.5 W/kg; SAR(10 g) = 7.34 W/kg (SAR corrected for target medium)  
 Maximum value of SAR (measured) = 12.3 W/kg

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



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)	21	8	5.64	3.94
Full scan (area & zoom)	18	28	5.13	3.68

## **APPENDIX G**

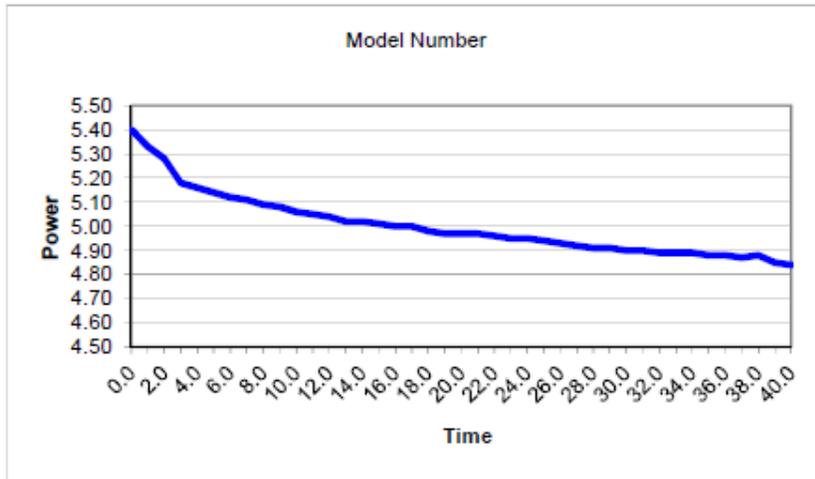
### **DUT Power slump**

**Model # H98QDD9PW5AN(NUE1006)**  
**Serial # CAH14DKK9P**

<b>Battery</b>	# NNTN7034B	<b>Transmit Mode</b>	CW
<b>Frequency</b>	453.9875 MHz	<b>Audio Accessory</b>	None
<b>Date</b>	11/19/2014		

**TX TIME**      **Measured Power**  
**(Minutes)**      **(Watts)**

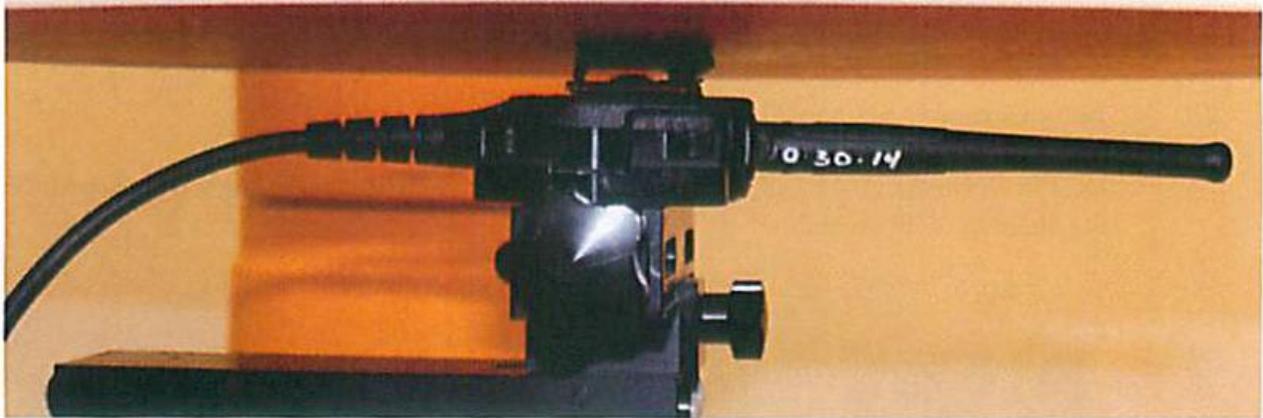
0.0	5.40
1.0	5.33
2.0	5.28
3.0	5.18
4.0	5.16
5.0	5.14
6.0	5.12
7.0	5.11
8.0	5.09
9.0	5.08
10.0	5.06
11.0	5.05
12.0	5.04
13.0	5.02
14.0	5.02
15.0	5.01
16.0	5.00
17.0	5.00
18.0	4.98
19.0	4.97
20.0	4.97
21.0	4.97
22.0	4.96
23.0	4.95
24.0	4.95
25.0	4.94
26.0	4.93
27.0	4.92
28.0	4.91
29.0	4.91
30.0	4.90
31.0	4.90
32.0	4.89
33.0	4.89
34.0	4.89
35.0	4.88
36.0	4.88
37.0	4.87
38.0	4.88
39.0	4.85
40.0	4.84



**APPENDIX H**  
**DUT Test Position Photos**

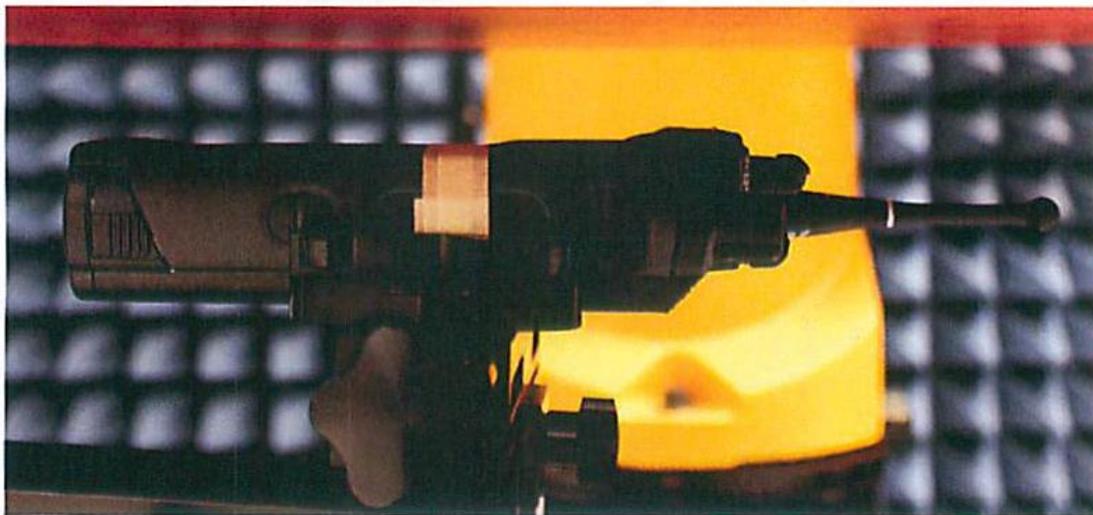
**Highest SAR Test Position per body location**

**Body:** PSM model PMMN4059B with battery NNTN7034B and PSM belt clip 4205823V01 against the phantom.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
PMAE4065A	12	20	26

**Face:** Front of DUT w/ antenna FAF5259A with offered battery PMNN4403B separated 2.5cm from the phantom without an audio accessory attached.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
FAF5259A	26	35	37

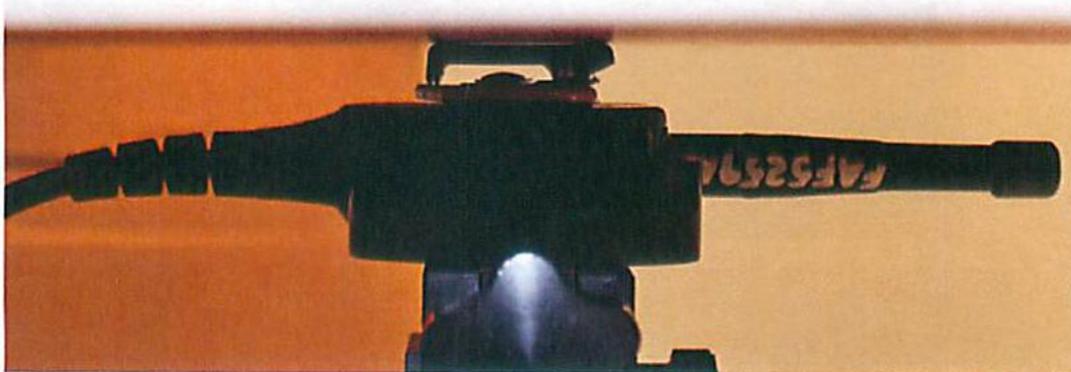
**Other SAR tested positions at the body**

**Body worn:** DUT with antenna FAF5259A, offered battery PMMN4403B, and body worn kit NTN9179A against the phantom with no audio.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
FAF5259A	19	45	55

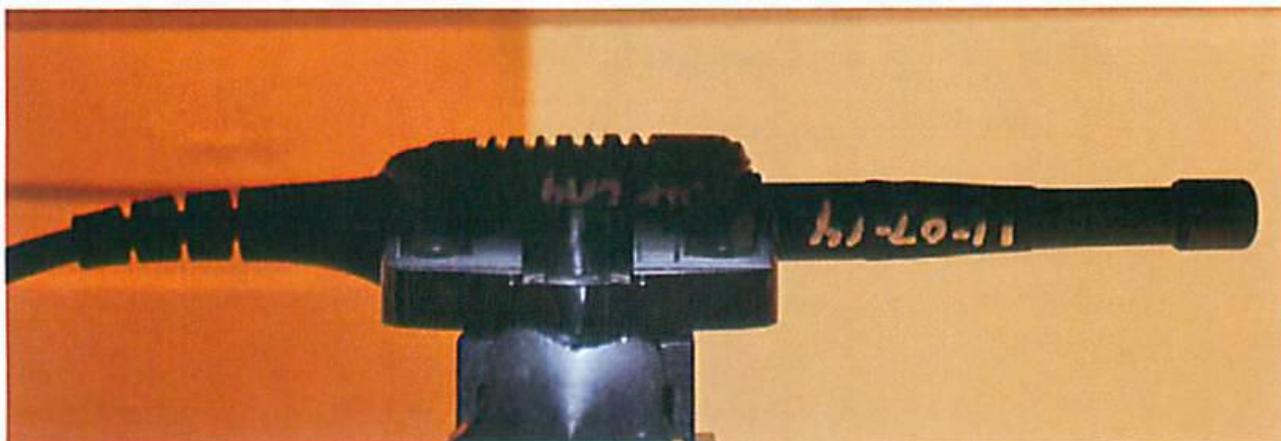
PSM model PMMN4059B with battery PMNN4403B and belt clip 4205823V01 against the phantom.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
FAF5259A	12	20	23

**Other SAR tested positions at the face**

**Front of PSM at 2.5cm separation:** PSM model PMMN4059B with battery NNTN7034B separated 2.5cm from the phantom.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
FAF5259A	12	20	23

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

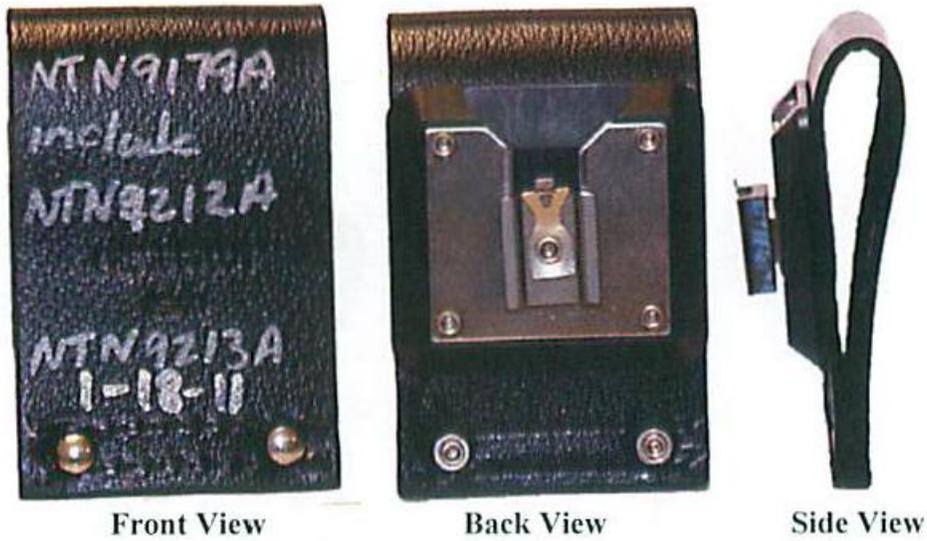
**Antenna dimension and photos**

Antenna Kit #	Physical Length (mm)	Electrical Length
FAF5259A	93	¼ wave
PMAE4065A	150	¼ wave



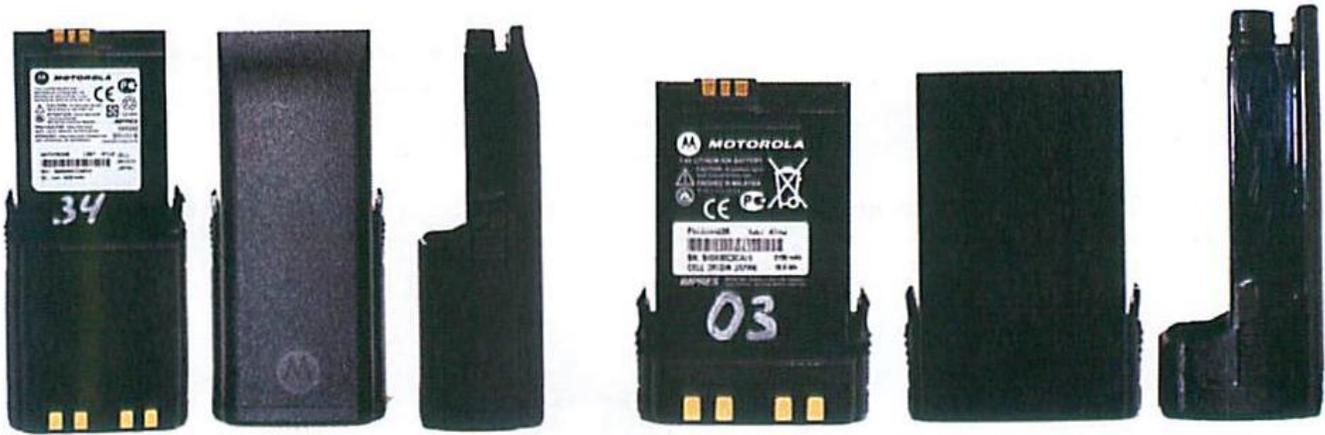
**Left to Right: FAF5259A, PMAE4065A**

**Body worn accessories**



**NTN9179A Swivel D-clip and Belt Loop**

**Battery accessories**



**NNTN7043B Battery  
Front, Back, Side**

**PMNN4403B Battery  
Front, Back, Side**

**Audio accessories**



**PMMN4059B PSM**

**DUT Dimensions**

	<b>Height (mm)</b>	<b>Width (mm)</b>	<b>Depth (mm)</b>
Radio only (w/o battery)	140	65	40
Radio with battery PMNN4403B	150	65	40
Radio with battery NNTN7034B	195	65	40

For illustration purposes only- the following figure reflects the location of the device’s dimensions.



Note: H = Height, W = Width, D = Depth

W1 = (Width @ Top) / (Width @ PTT)

D2 = (Depth @ Bottom) / (Depth @ PTT)