MOTOROLA SOLUTIONS

CERTIFICATE 2518.01

DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

Motorola Solutions Inc.
EME Test Laboratory
8000 West Sunrise Blvd
Fort Lauderdale, FL. 33322

Date of Report: **3/30/2016**
Report Revision: **B**

Responsible Engineer:	Saw Sun Hock (EME Engineer)
Report Author:	Saw Sun Hock (EME Engineer)
Date/s Tested:	12/22/2015-12/23/2015
Manufacturer:	Motorola Solutions Inc.
DUT Description:	RDM2070D VHF MURS Display, 2 Watts, Fixed Antenna, Black, Li-Ion
Test TX mode(s):	CW (PTT)
Max. Power output:	2.0W
Nominal Power:	1.8W
Tx Frequency Bands:	151.82-154.6MHz (VHF band)
Signaling type:	FM
Model(s) Tested:	PMUD2448E
Model(s) Certified:	PMUD2448E
Serial Number(s):	1 & 2
Classification:	Occupational/Controlled
FCC ID:	AZ489FT3837

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.

Deanna Zakharia

Deanna Zakharia
EMS EME Lab Senior Resource Manager,
Laboratory Director
Approval Date: 4/8/2016

Certification Date: 4/8/2016

Certification No.: L1160401

Appendix D
System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory
Date/Time: 1/15/2016 8:33:49 AM

Robot#: DASY5-FL-3 | Run#:	PS-SYSP-150B-160115-01
Dipole Model#	CLA150
Phantom#:	OVAL1109
Tissue Temp:	20.9 (C)
Serial#:	4005
Test Freq:	150 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.084 dB
Adjusted SAR (1W):	3.66 mW/g (1g)

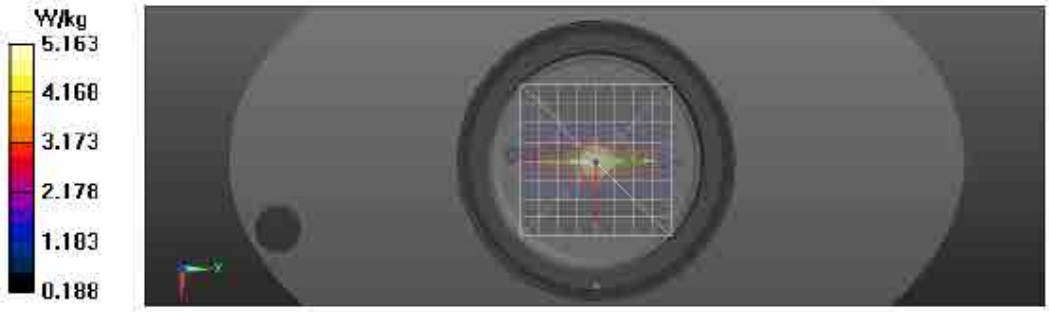
Comments:

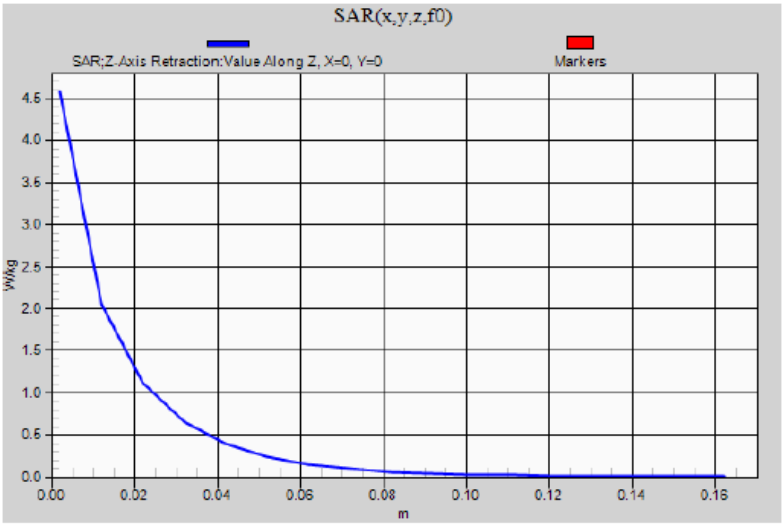
Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.77 S/m; ε_r = 61.6; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN3612, , Frequency: 150 MHz, ConvF(9.64, 9.64, 9.64); Calibrated: 4/28/2015
Electronics: DAE4 Sn729, Calibrated: 4/27/2015

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (9x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 5.16 W/kg

Below 2 GHz-Rev.2/System Performance Check/0-Degree Cube (8x8x15)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 76.80 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 6.05 W/kg
SAR(1 g) = 3.66 W/kg; SAR(10 g) = 2.41 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 4.57 W/kg

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





Motorola Solutions, Inc. EME Laboratory
Date/Time: 1/16/2016 8:03:24 AM

Robot#: DASY5-FL-3 | Run#:	PS-SYSP-150B-160116-01
Dipole Model#	CLA150
Phantom#:	OVAL1109
Tissue Temp:	21.1 (C)
Serial#:	4005
Test Freq:	150 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.089 dB
Adjusted SAR (1W):	3.66 mW/g (1g)

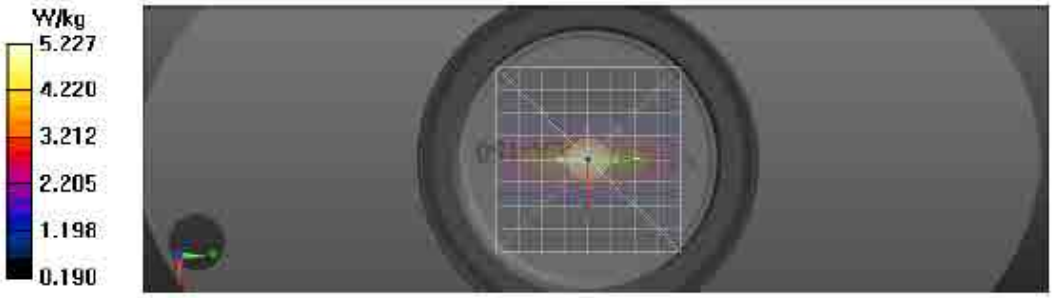
Comments:

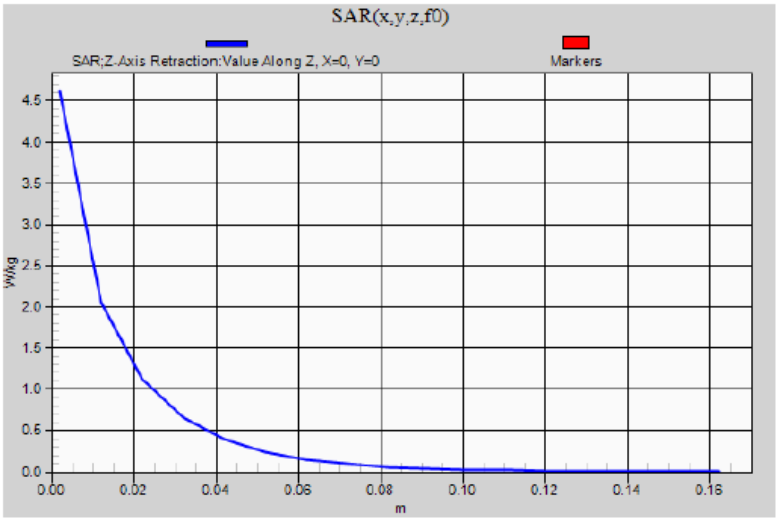
Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.77 S/m; ε_r = 60.8; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN3612, , Frequency: 150 MHz, ConvF(9.64, 9.64, 9.64); Calibrated: 4/28/2015
Electronics: DAE4 Sn729, Calibrated: 4/27/2015

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (9x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 5.23 W/kg

Below 2 GHz-Rev.2/System Performance Check/0-Degree Cube (8x8x15)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 76.89 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 6.09 W/kg
SAR(1 g) = 3.66 W/kg; SAR(10 g) = 2.42 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 4.58 W/kg

Below 2 GHz-Rev.2/System Performance Check/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 4.61 W/kg





Motorola Solutions, Inc. EME Laboratory

Date/Time: 1/17/2016 8:53:13 AM

Robot#: DASY5-FL-3 | Run#:	P5-SYSP-150H-160117-01
Dipole Model#	CLA150
Phantom#:	OVAL1108
Tissue Temp:	20.8 (C)
Serial#:	4005
Test Freq:	150 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.091 dB
Adjusted SAR (1W):	3.65 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.73 S/m; ε_r = 54.5; ρ = 1000 kg/m^3

Probe: EX3DV4 - SN3612, , Frequency: 150 MHz, ConvF(9.97, 9.97, 9.97); Calibrated: 4/28/2015

Electronics: DAE4 Sn729, Calibrated: 4/27/2015

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (9x9x1): Measurement

grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 4.94 W/kg

Below 2 GHz-Rev.2/System Performance Check/0-Degree Cube (8x9x15)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 78.54 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 5.97 W/kg

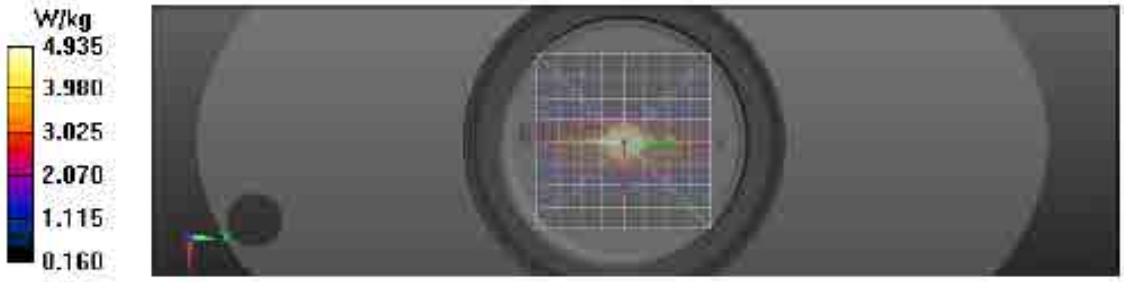
SAR(1 g) = 3.65 W/kg; SAR(10 g) = 2.41 W/kg (SAR corrected for target medium)

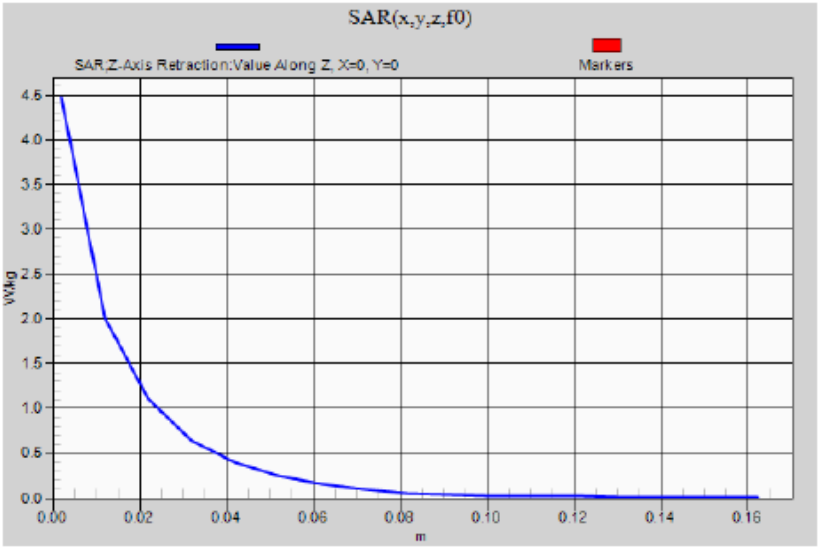
Maximum value of SAR (measured) = 4.49 W/kg

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

grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 4.47 W/kg





Appendix E
DUT Scans

Assessments at the Body - Table 18

Motorola Solutions, Inc. EME Laboratory

Date/Time: 1/16/2016 9:09:20 AM

Robot#: DASY5-FL-3 | Run#: PS-AB-160116-02
Model#: PMUD2448E
Phantom#: OVAL1109
Tissue Temp: 21.2 (C)
Serial#: 2
Antenna: 8575078C02
Test Freq: 151.8200 (MHz)
Battery: 60012000002
Carry Acc: 4280383X62
Audio Acc: HKLN4604A
Start Power: 2.00 (W)

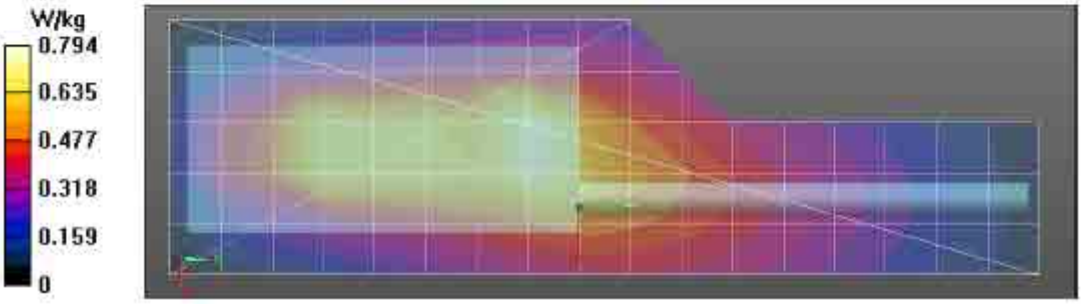
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 152 MHz; σ = 0.77 S/m; ε_r = 60.7; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN3612, , Frequency: 151.82 MHz, ConvF(9.64, 9.64, 9.64); Calibrated: 4/28/2015
Electronics: DAE4 Sn729, Calibrated: 4/27/2015

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (6x18x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.794 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 27.18 V/m; Power Drift = -0.39 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.711 W/kg; SAR(10 g) = 0.455 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.995 W/kg

Below 2 GHz-Rev.2/Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 0.985 W/kg



Assessments at the Face - Table 20

Motorola Solutions, Inc. EME Laboratory

Date/Time: 1/17/2016 10:09:22 AM

Robot#: DASY5-FL-3 | Run#:	PS-FACE-160117-02
Model#:	PMUD2448E
Phantom#:	OVAL1108
Tissue Temp:	21.0 (C)
Serial#:	2
Antenna:	8575078C02
Test Freq:	151.8200 (MHz)
Battery:	60012000002
Carry Acc:	None
Audio Acc:	None
Start Power:	2.00 (W)

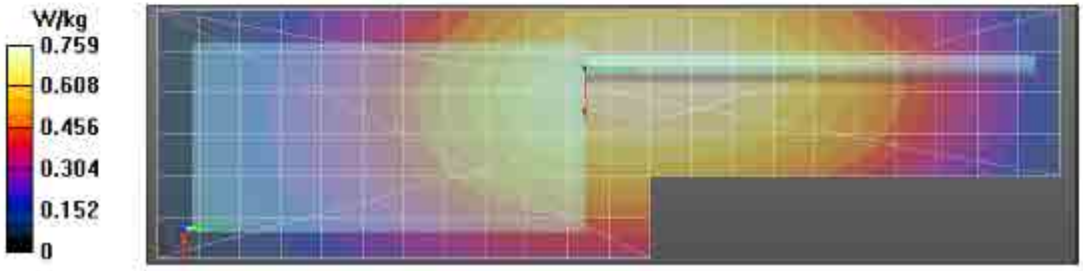
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 152 MHz; σ = 0.73 S/m; ε_r = 54.3; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN3612, , Frequency: 151.82 MHz, ConvF(9.97, 9.97, 9.97); Calibrated: 4/28/2015
Electronics: DAE4 Sn729, Calibrated: 4/27/2015

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (7x23x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.759 W/kg

Below 2 GHz-Rev.2/Face Scan/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 33.45 V/m; Power Drift = -0.71 dB
Peak SAR (extrapolated) = 0.829 W/kg
SAR(1 g) = 0.636 W/kg; SAR(10 g) = 0.492 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.720 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) = 0.707 W/kg



APPENDIX F
Shortened Scan of Highest SAR configuration

Shortened Scan
Table 21

Motorola Solutions, Inc. EME Laboratory
Date/Time: 1/16/2016 12:52:42 PM

Robot#: DASY5-FL-3 | Run#: PS-AB-160116-10
Model#: PMUD2448E
Phantom#: OVAL1109
Tissue Temp: 21.3 (C)
Serial#: 2
Antenna: 8575078C02
Test Freq: 151.8200 (MHz)
Battery: 60012000002
Carry Acc: 4280383X62
Audio Acc: HKLN4604A
Start Power: 2.00 (W)

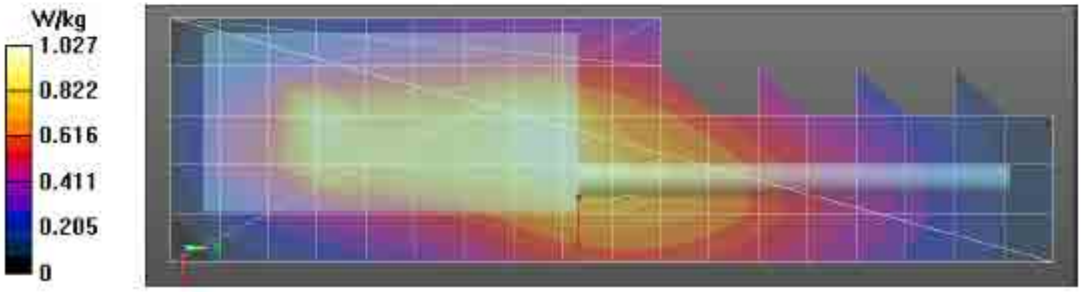
Comments: Shorten scan

Duty Cycle: 1:1, Medium parameters used: f = 152 MHz; σ = 0.77 S/m; ε_r = 60.7; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN3612, , Frequency: 151.82 MHz, ConvF(9.64, 9.64, 9.64); Calibrated: 4/28/2015
Electronics: DAE4 Sn729, Calibrated: 4/27/2015

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (6x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.03 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 36.52 V/m; Power Drift = -0.44 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.690 W/kg; SAR(10 g) = 0.438 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.966 W/kg

Below 2 GHz-Rev.2/Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 0.845 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)	21	11	0.38	0.24
Full scan (area & zoom)	18	25	0.39	0.25

APPENDIX G
DUT Test Position Photos

Photos available in Exhibit 7B

APPENDIX H
DUT, Body worn and audio accessories Photos

Photos available in Exhibit 7B