MOTOROLA SOLUTIONS

MS ISO/IEC 17025 TESTING SAMM No. 0826

ACCREDITED CERTIFICATE 2518.05

DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

Motorola Solutions Inc.
EME Test Laboratory
Motorola Solutions Malaysia Sdn Bhd (Innoplex)
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Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.

Date of Report: 12/19/2019
Report Revision: B

Responsible Engineer:	Lee Kin Kting (EME Engineer)
Report Author:	Lee Kin Kting (EME Engineer)
Date/s Tested:	10/30/2019
Manufacturer:	Motorola Solutions Inc.
Applicant Name:	Motorola Solutions Inc.
DUT Description:	Handheld Portable – T110 FRS Consumer Radio 462 -467 MHz
Test TX mode(s):	CW (PTT)
Max. Power output:	0.63W (462.5500 – 462.7250 MHz), (467.5625- 467.7125MHz)
Nominal Power:	0.45W (462.5500 – 462.7250 MHz), (467.5625- 467.7125MHz)
Tx Frequency Bands:	462.5500 – 462.7250 MHz, 467.5625 - 467.7125 MHz
Signaling type:	FM
Model(s) Tested:	T11X (PMUE5536A)
Model(s) Certified:	T11X (PMUE5536A), T11X (PMUE5539A), T11X (PMUE5542A), T11X (PMUE5543A)
Serial Number(s):	69010VV0007
Classification:	General Population/Uncontrolled Environment
FCC ID:	AZ489FT4956
IC:	109U-89FT4956
ISED Test Site registration:	24843
FCC Test Firm Registration Number:	823256

The test results clearly demonstrate compliance with FCC General Population / Uncontrolled RF Exposure limits of 1.6 W/kg averaged over 1 gram per the requirements of FCC 47 CFR § 2.1093 and RSS-102 (Issue 5).

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 (no deviation from standard methods). 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.

Tiong Nguk Ing
Digitally signed by Tiong Nguk Ing
Date: 2019.12.19 16:28:49 +08'00'

Tiong Nguk Ing
Deputy Technical Manager (Approved Signatory)
Approval Date: 12/19/2019

Appendix D
System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/30/2019 7:43:10 AM

Robot#: DASY5-PG-3 | Run#:	ZZ-SYSP-450H-191030-01
Dipole Model#	D450V3
Phantom#:	ELI5 1147
Tissue Temp:	22.6 (C)
Serial#:	1053
Test Freq:	450.0000 (MHz)
Start Power:	250 (mW)
Rotation (1D):	0.13 dB
Adjusted SAR (1W):	4.44 mW/g (1g)

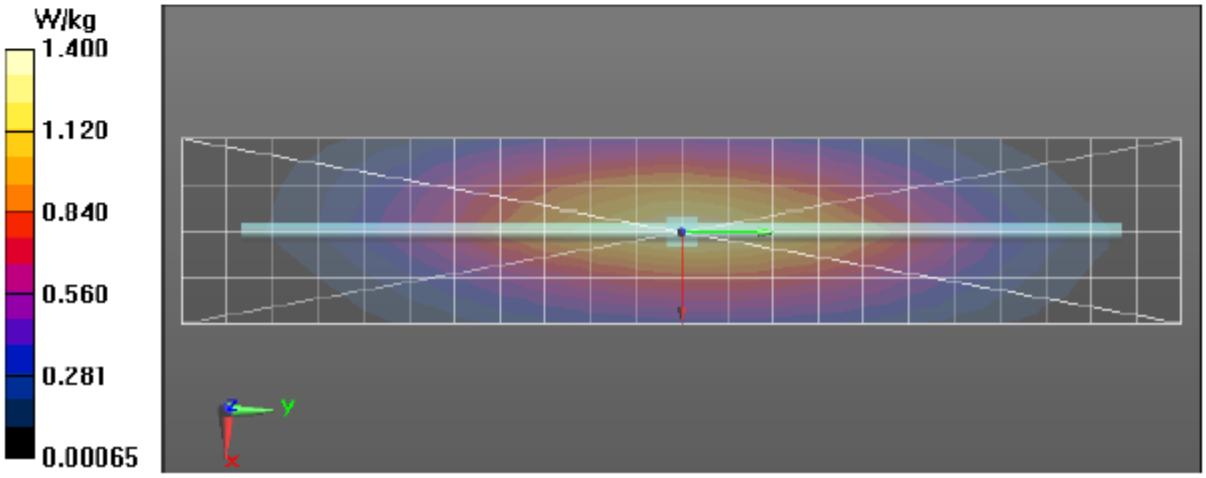
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 450 MHz; σ = 0.86 S/m; ε_r = 42.4; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 450 MHz, ConvF(10.75, 10.75, 10.75) @ 450 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (41x221x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 40.81 V/m; Power Drift = -0.02 dB
Fast SAR: SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.803 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.40 W/kg

Below 2 GHz-Rev.2/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 40.81 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.67 W/kg
SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.742 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.40 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) = 1.40 W/kg



Appendix E
DUT Scans

Assessments at the Face for 462.6500MHz - Table 18

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/30/2019 10:04:20 AM

Robot#: DASY5-PG-3 | Run#:	ZZ-FACE-191030-03
Model#:	TANAPA T110
Phantom#:	ELI5 1147
Tissue Temp:	22.1 (C)
Serial#:	69010VV0007
Antenna:	Fixed Antenna
Test Freq:	462.6500 (MHz)
Battery:	AAA Alkaline
Carry Acc:	NA, Radio front 2.5cm
Audio Acc:	NA
Start Power:	0.622 (W)

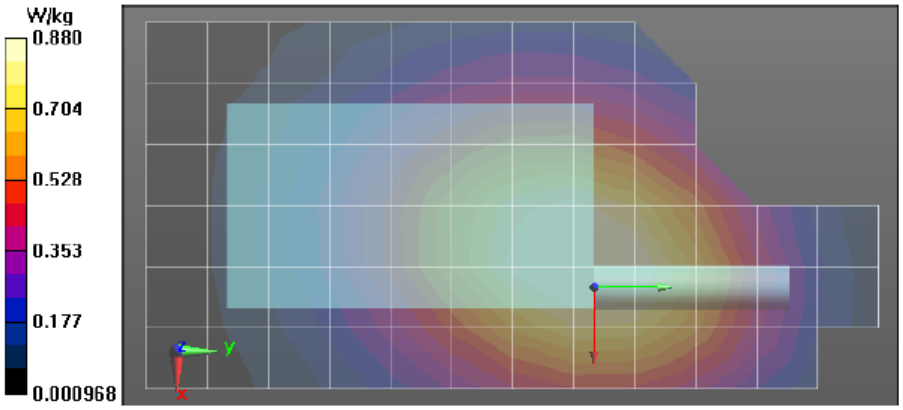
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 463 MHz; σ = 0.88 S/m; ε_r = 42.2; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 462.65 MHz, ConvF(10.75, 10.75, 10.75) @ 462.65 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 33.28 V/m; Power Drift = -0.46 dB
Fast SAR: SAR(1 g) = 0.802 W/kg; SAR(10 g) = 0.579 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 0.955 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 = 33.28 V/m; Power Drift = -0.61 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.750 W/kg; SAR(10 g) = 0.543 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.900 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) = 0.880 W/kg



Assessments at the Face - Table 20

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/30/2019 11:25:40 AM

Robot#: DASY5-PG-3 | Run#:	ZZ-FACE-191030-06
Model#:	TANAPA T110
Phantom#:	ELI5 1147
Tissue Temp:	22.4 (C)
Serial#:	69010VV0007
Antenna:	Fixed Antenna
Test Freq:	467.6375 (MHz)
Battery:	AAA Alkaline
Carry Acc:	NA, Radio front 2.5cm
Audio Acc:	NA
Start Power:	0.624 (W)

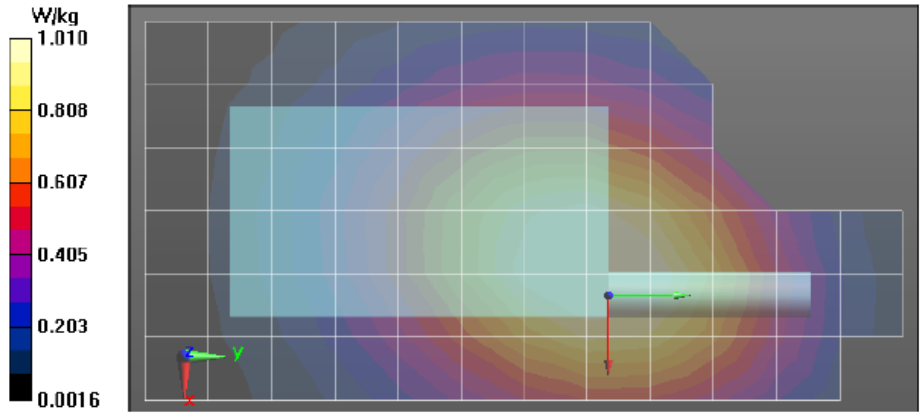
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 468 MHz; σ = 0.88 S/m; ε_r = 42.1; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 467.637 MHz, ConvF(10.75, 10.75, 10.75) @ 467.637 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 35.87 V/m; Power Drift = -0.48 dB
Fast SAR: SAR(1 g) = 0.928 W/kg; SAR(10 g) = 0.669 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.10 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 = 35.87 V/m; Power Drift = -0.64 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.865 W/kg; SAR(10 g) = 0.628 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.04 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) = 1.01 W/kg



APPENDIX F
Shortened Scan of Highest SAR configuration

Shortened Scan
Table 21

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/30/2019 12:45:29 PM

Robot#: DASY5-PG-3 | Run#: ZZ-FACE-191030-08
Model#: TANAPA T110
Phantom#: ELI5 1147
Tissue Temp: 22.3 (C)
Serial#: 69010VV0007
Antenna: Fixed Antenna
Test Freq: 467.6375 (MHz)
Battery: AAA Alkaline
Carry Acc: NA, Radio front 2.5cm
Audio Acc: NA
Start Power: 0.624 (W)

Comments: Shorten Scan

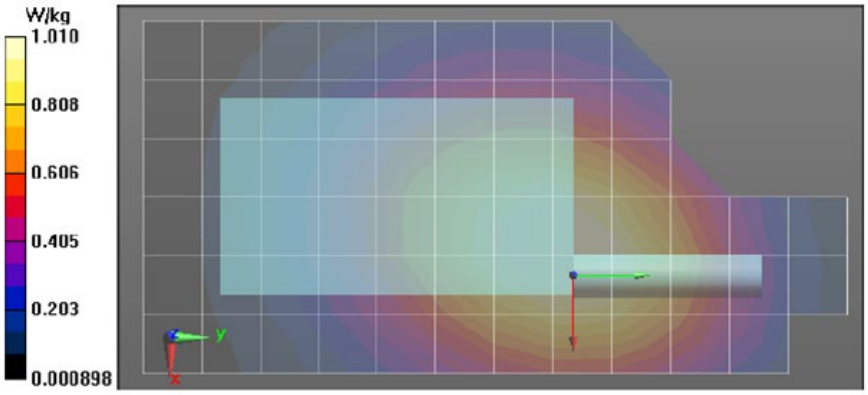
Duty Cycle: 1:1, Medium parameters used: f = 468 MHz; σ = 0.88 S/m; ε_r = 42.1; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 467.637 MHz, ConvF(10.75, 10.75, 10.75) @ 467.637 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 35.52 V/m; Power Drift = -0.50 dB
Fast SAR: SAR(1 g) = 0.907 W/kg; SAR(10 g) = 0.655 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.08 W/kg

Below 2 GHz-Rev.2/Face Scan/2-Volume 2D Scan (5x5x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm
Reference Value = 35.52 V/m; Power Drift = -0.59 dB
Maximum value of SAR (measured) = 1.02 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 = 37.46 V/m; Power Drift = -0.47 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.944 W/kg; SAR(10 g) = 0.688 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.13 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) = 1.01 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)
Shorten scan (zoom)	21	7	0.53
Full scan (area & zoom)	20	20	0.51

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