



DECLARATION OF COMPLIANCE SAR ASSESSMENT PCII Report Part 2 of 2

Motorola Solutions Inc.
EME Test Laboratory
 Motorola Solutions Malaysia Sdn Bhd
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Date of Report: 09/16/2020
Report Revision: A

Responsible Engineer: Puteri Alifah Ilyana binti Nor Rahim (EME Engineer)
Report Author: Puteri Alifah Ilyana binti Nor Rahim (EME Engineer)
Date/s Tested: 7/15/2020, 9/16/2020
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): 69012WN0007
Classification: General Population/Uncontrolled Environment
Applicant Name: Motorola Solutions Inc.
Applicant Address: 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322
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
Deputy Technical Manager (Approved Signatory)
Approval Date: 09/23/2020

Appendix D

System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory
Date/Time: 7/15/2020 7:48:02 PM

Robot#: DASY5-PG-3 | Run#: AM-SYSP-450H-200715-07
Dipole Model# D450V3
Phantom#: EL14 1022
Tissue Temp: 21.0 (C)
Serial#: 1053
Test Freq: 450.0000 (MHz)
Start Power: 250 (mW)
Rotation (1D): 0.09 dB
Adjusted SAR (1W): 4.56 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 450$ MHz; $\sigma = 0.88$ S/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³
Probe: EX3DV4 - SN7486, Calibrated: 10/24/2019, Frequency: 450 MHz, ConvF(11.4, 11.4, 11.4) @ 450 MHz
Electronics: DAE4 Sn850, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (41x221x1):

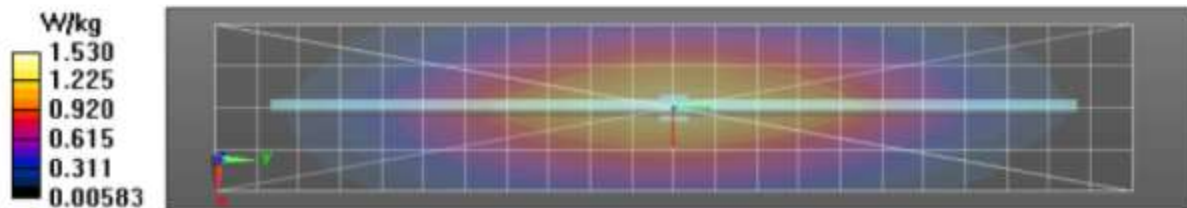
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 42.20 V/m; Power Drift = -0.07 dB
Fast SAR: SAR(1 g) = 1.19 W/kg; SAR(10 g) = 0.825 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.53 W/kg

Below 2 GHz-Rev.3/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 42.20 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.771 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 68.5%
Maximum value of SAR (measured) = 1.51 W/kg

Below 2 GHz-Rev.3/System Performance Check/Z-Axis Retraction (1x1x17): Measurement

grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.49 W/kg



Motorola Solutions, Inc. EME Laboratory
Date/Time: 9/15/2020 11:13:55 PM

Robot#: DASY5-PG-4 | Run#: MA-SYSP-450H-200915-21
Dipole Model#: D450V3
Phantom#: ELI4 1108
Tissue Temp: 19.7 (C)
Serial#: 1054
Test Freq: 450.0000 (MHz)
Start Power: 250 (mW)
Rotation (1D): 0.200 dB
Adjusted SAR (1W): 4.68 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 450$ MHz; $\sigma = 0.86$ S/m; $\epsilon_r = 42.2$; $\rho = 1000$ kg/m³
Probe: EX3DV4 - SN7511, Calibrated: 10/24/2019, Frequency: 450 MHz, ConvF(10.3, 10.3, 10.3) @ 450 MHz
Electronics: DAE4 Sn729, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (41x221x1):

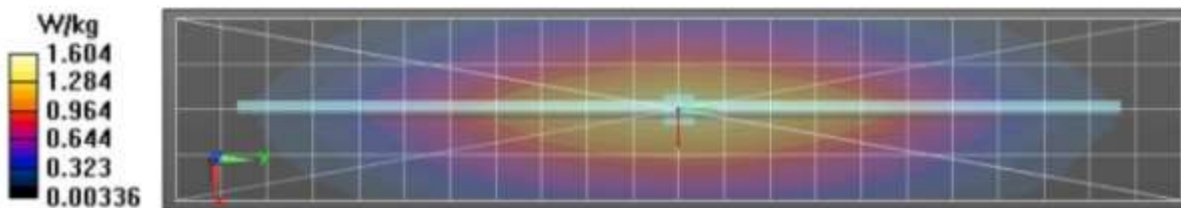
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 43.72 V/m; Power Drift = 0.00 dB
Fast SAR: SAR(1 g) = 1.28 W/kg; SAR(10 g) = 0.878 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.60 W/kg

Below 2 GHz-Rev.3/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 43.72 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.782 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 63.2%
Maximum value of SAR (measured) = 1.59 W/kg

Below 2 GHz-Rev.3/System Performance Check/Z-Axis Retraction (1x1x17): Measurement

grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.58 W/kg



Appendix E DUT Scans

Assessments at the Face for 462.6500MHz - Table 17

Motorola Solutions, Inc. EME Laboratory
Date/Time: 7/15/2020 11:05:16 PM

Robot#: DASY5-PG-3 | Run#: AM-FACE-200715-12
 Model#: PMUE5536A
 Phantom#: EL14 1022
 Tissue Temp: 21.1 (C)
 Serial#: 69012WN0007
 Antenna: Fixed antenna
 Test Freq: 462.6500 (MHz)
 Battery: AAA Alkaline
 Carry Acc: NA, Radio front 2.5cm
 Audio Acc: NA
 Start Power: 0.55 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 463 \text{ MHz}$; $\sigma = 0.89 \text{ S/m}$; $\epsilon_r = 41.5$; $\rho = 1000 \text{ kg/m}^3$
 Probe: EX3DV4 - SN7486, Calibrated: 10/24/2019, Frequency: 462.65 MHz, ConvF(11.4, 11.4, 11.4) @ 462.65 MHz
 Electronics: DAE4 Sn850, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

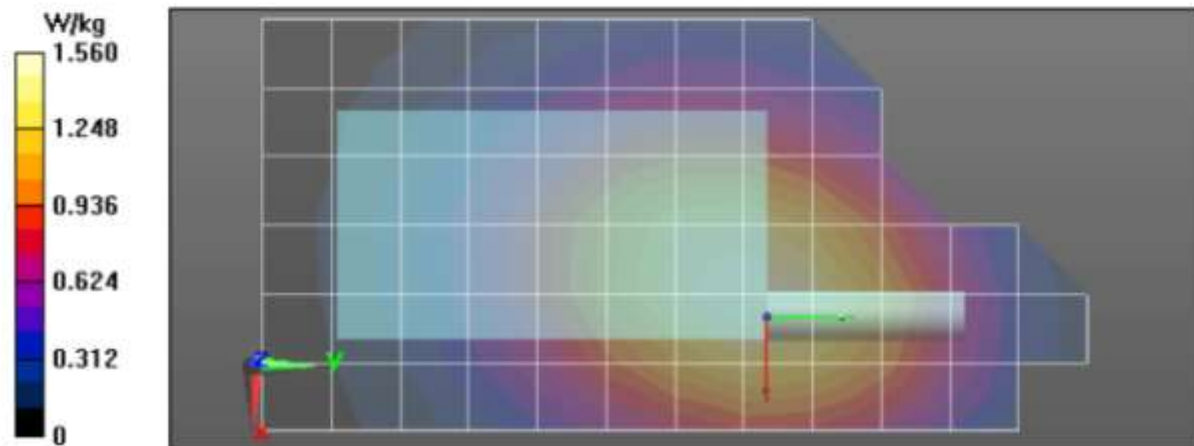
Reference Value = 43.20 V/m; Power Drift = -0.64 dB
Fast SAR: SAR(1 g) = 1.27 W/kg; SAR(10 g) = 0.925 W/kg (SAR corrected for target medium)
 Maximum value of SAR (interpolated) = 1.57 W/kg

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

Reference Value = 43.20 V/m; Power Drift = -0.82 dB
 Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.847 W/kg (SAR corrected for target medium)
 Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
 Ratio of SAR at M2 to SAR at M1 = 74.8%
 Maximum value of SAR (measured) = 1.43 W/kg

Below 2 GHz-Rev.3/Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 1.39 W/kg



Assessments at the Face - Table 18

Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/15/2020 10:14:28 PM

Robot#: DASY5-PG-3 | Run#: AM-FACE-200715-10
Model#: PMUE5536A
Phantom#: ELI4 1022
Tissue Temp: 21.1 (C)
Serial#: 69012WN0007
Antenna: Fixed antenna
Test Freq: 467.6375 (MHz)
Battery: AAA Alkaline
Carry Acc: NA, Radio front 2.5cm
Audio Acc: NA
Start Power: 0.524 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 468 \text{ MHz}$; $\sigma = 0.89 \text{ S/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$
Probe: EX3DV4 - SN7486, Calibrated: 10/24/2019, Frequency: 467.637 MHz, ConvF(11.4, 11.4, 11.4) @ 467.637 MHz
Electronics: DAE4 Sn850, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

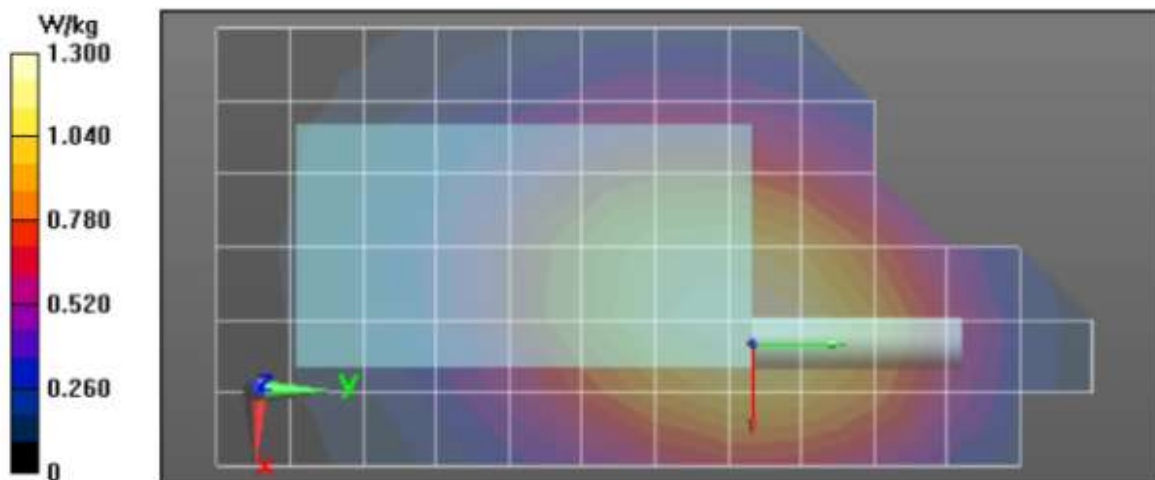
Reference Value = 39.06 V/m; Power Drift = -0.52 dB
Fast SAR: SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.770 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.31 W/kg

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

Reference Value = 39.06 V/m; Power Drift = -0.67 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.980 W/kg; SAR(10 g) = 0.713 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 74.6%
Maximum value of SAR (measured) = 1.21 W/kg

Below 2 GHz-Rev.3/Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 1.17 W/kg



APPENDIX F
Shortened Scan of Highest SAR configuration

Shortened Scan Table 19

Motorola Solutions, Inc. EME Laboratory Date/Time: 9/16/2020 11:14:00 AM

Robot#: DASY5-PG-4 | Run#: BL-FACE-200916-12#
 Model#: PMUE5536A
 Phantom#: ELI4 1108
 Tissue Temp: 20.7 (C)
 Serial#: 69012WN0010
 Antenna: Fixed antenna
 Test Freq: 462.6500 (MHz)
 Battery: AAA Alkaline
 Carry Acc: NA, Radio front 2.5cm
 Audio Acc: NA
 Start Power: 0.55 (W)

Comments: Shorten Scan

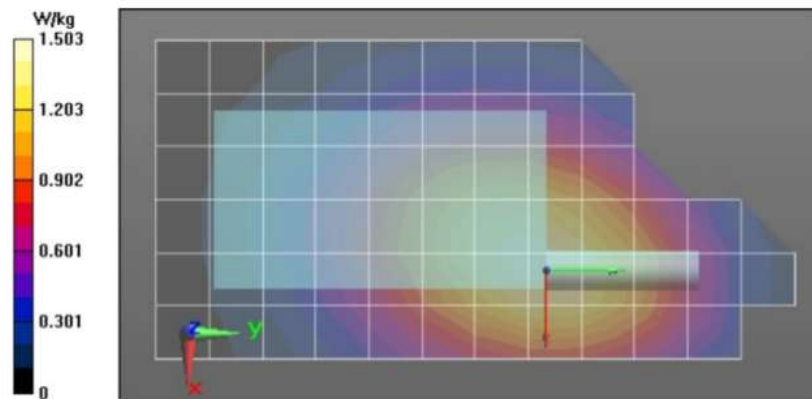
Duty Cycle: 1:1, Medium parameters used: $f = 463 \text{ MHz}$; $\sigma = 0.87 \text{ S/m}$; $\epsilon_r = 41.9$; $\rho = 1000 \text{ kg/m}^3$
 Probe: EX3DV4 - SN7511, Calibrated: 10/24/2019, Frequency: 462.65 MHz, ConvF(10.3, 10.3, 10.3) @ 462.65 MHz
 Electronics: DAE4 Sn729, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x131x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$
 Reference Value = 43.68 V/m; Power Drift = -0.89 dB
Fast SAR: SAR(1 g) = 1.22 W/kg; SAR(10 g) = 0.882 W/kg (SAR corrected for target medium)
 Maximum value of SAR (interpolated) = 1.51 W/kg

Below 2 GHz-Rev.3/Face Scan/2-Volume Scan 2D (41x41x1): Interpolated grid: $dx=0.7500 \text{ mm}$, $dy=0.7500 \text{ mm}$, $dz=1.000 \text{ mm}$
 Reference Value = 43.68 V/m; Power Drift = -0.95 dB
Fast SAR: SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.825 W/kg (SAR corrected for target medium)
 Maximum value of SAR (interpolated) = 1.38 W/kg

Below 2 GHz-Rev.3/Face 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 = 45.63 V/m; Power Drift = -0.61 dB
 Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 1.27 W/kg; SAR(10 g) = 0.920 W/kg (SAR corrected for target medium)
 Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
 Ratio of SAR at M2 to SAR at M1 = 69.8%
 Maximum value of SAR (measured) = 1.61 W/kg

Below 2 GHz-Rev.3/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) = 1.35 W/kg



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

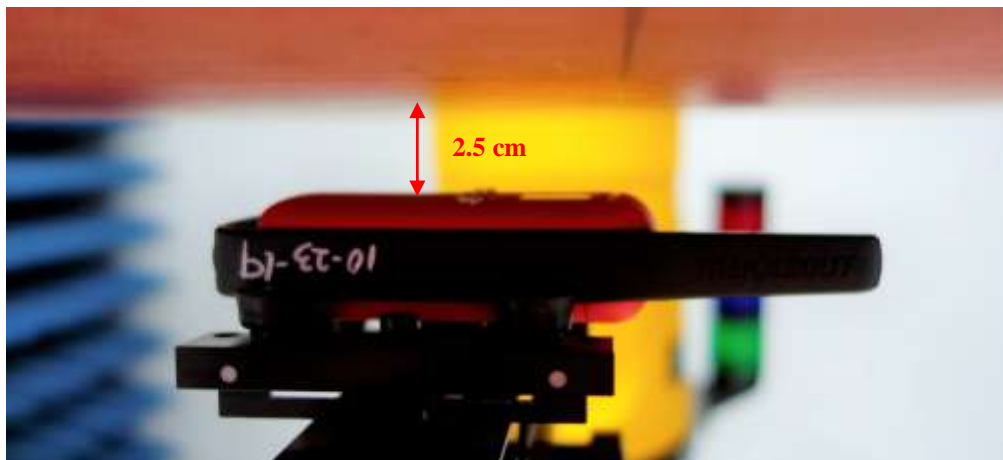
Scan Description	Referenced Table	Test Time (min.)	SAR 1g (W/kg)
Shorten scan (zoom)	19	7	0.84
Full scan (area & zoom)	17	20	0.80

APPENDIX G DUT Test Position Photos

1.0 Highest SAR Test Position

1.1 Face

Front of DUT with fixed antenna and offered battery AAA Alkaline 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
Fixed antenna	30	31	32