







Report ID: P22000-EME-00001

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

# Motorola Solutions Inc. EME Test Laboratory

Motorola Solutions Malaysia Sdn Bhd Plot 2A, Medan Bayan Lepas, Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia. **Date of Report:** 06/18/2020

Report Revision: A

**Responsible Engineer:** Ch'ng Jian Sheng (EME Engineer) **Report Author:** Lee Kin Kting (Senior Technician)

**Date/s Tested:** 04/27/2020

**Manufacturer:** Motorola Solutions Inc.

**DUT Description:** CLS1410 Black; 450-470 MHz at 1.0W

Test TX mode(s): CW (PTT)
Max. Power output: 1.3W
Nominal Power: 1.0W

Tx Frequency Bands: 450-470 MHz

Signaling type: FM

Model(s) Tested: CU1410BKV4BA (HCUE1081G)

Model(s) Certified: AP1810BKN8BB (RLA1002G), CU1110GYN1BA (HCUE1080G),

CU1110GYN1BB (HCUE1080G), CU1410BKV4BB (HCUE1081G),

CU1410BKV4BS (HCUE1142G), HCUE1082G,

GS1810BKN8BB (RLA1001G),P24VPC03D2BA (HCUE1157G)

Serial Number(s): 134TWDB799, 134TWDB803
Classification: Occupational/Controlled
Applicant Name: Motorola Solutions Inc

**Applicant Address:** 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322.

**FCC ID:** AZ489FT4963 **IC:** 109U-89FT4963

**ISED Test Site registration:** 24843

**FCC Test Firm Registration** 

Number: 823256

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 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: 6/18/2020 FCC ID: AZ489FT4963 / IC: 109U-89FT4963 Report ID: P22000-EME-00001

# Appendix D System Verification Check Scans

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 4/27/2020 12:27:05 AM

Robot#: DASY5-PG-1 | Run#: ZZ-SYSP-450H-200427-01#

Dipole Model# D450V3 Phantom#: ELI4 1022 Tissue Temp: 21.5 (C) 1054 Serial#:

Test Freq: 450.0000 (MHz) 250 (mW) Start Power: Rotation (1D): 0.18 dB 4.76 mW/g (1g) Adjusted SAR (1W):

#### Comments:

Duty Cycle: 1:1, Medium parameters used: f = 450 MHz;  $\sigma = 0.88 \text{ S/m}$ ;  $\epsilon_r = 42.8$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 450 MHz, ConvF(11.84, 11.84, 11.84) @ 450 MHz

Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

#### Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (41x201x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 44.31 V/m; Power Drift = -0.01 dB

Fast SAR: SAR(1 g) = 1.3 W/kg; SAR(10 g) = 0.899 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.65 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 = 44.31 V/m; Power Drift = -0.01 dB

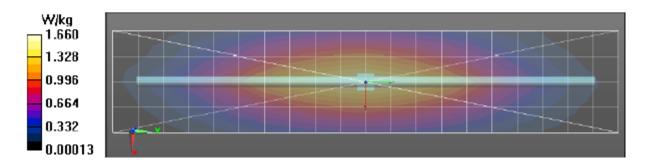
Peak SAR (extrapolated) =  $1.94~\rm W/kg$  SAR(1 g) =  $1.19~\rm W/kg$ ; SAR(10 g) =  $0.790~\rm W/kg$  (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.66 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) = 1.66 W/kg



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# Appendix E DUT Scans

## Assessments at the Body for 450-470 MHz - Table 18

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 4/27/2020 11:49:39 AM

Robot#: DASY5-PG-1 | Run#: BL(AR)-AB-200427-08#

Model#: CU1410BKV4BA (HCUE1081G)

Phantom#: ELI4 1022 Tissue Temp: 20.4 (C) Serial#: 134TWDB803 Antenna: Fixed Antenna Test Freq: 470.0000 (MHz) Battery: PMNN4497AR HCLN4013C Carry Acc: Audio Acc: HKLN4606A Start Power: 1.100 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 470 MHz;  $\sigma = 0.9$  S/m;  $\varepsilon_r = 42.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 470 MHz, ConvF(11.84, 11.84, 11.84) @ 470 MHz

Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

#### Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 23.45 V/m; Power Drift = -0.32 dB

Fast SAR: SAR(1 g) = 0.518 W/kg; SAR(10 g) = 0.370 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 0.642 W/kg

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

dy=7.5mm, dz=5mm

Reference Value = 23.45 V/m; Power Drift = -0.41 dB

Peak SAR (extrapolated) = 0.744 W/kg

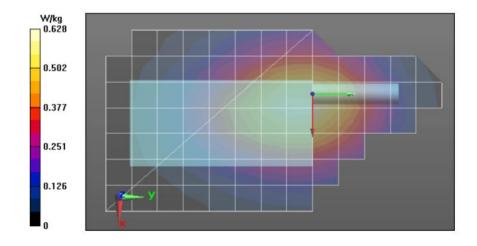
SAR(1 g) = 0.489 W/kg; SAR(10 g) = 0.342 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.646 W/kg

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

dz=10mm

Maximum value of SAR (measured) = 0.649 W/kg



## Assessments at the Face for 450-470 MHz - Table 20

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 4/27/2020 12:31:55 PM

Robot#: DASY5-PG-1 | Run#: BL(AR)-FACE-200427-09# Model#: CU1410BKV4BA (HCUE1081G)

Phantom#: ELI4 1022 Tissue Temp: 20.3 (C) 134TWDB803 Serial#: Antenna: Fixed Antenna Test Freq: 470.0000 (MHz) Battery: PMNN4497AR Carry Acc: @ front Audio Acc: N/A Start Power: 1.100 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 470 MHz;  $\sigma = 0.9$  S/m;  $\varepsilon_r = 42.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 470 MHz, ConvF(11.84, 11.84, 11.84) @ 470 MHz

Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

## Below 2 GHz-Rev.3/Face Scan/1-Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500

mm

Reference Value = 33.13 V/m; Power Drift = -0.18 dB

Fast SAR: SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.765 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 = 33.13 V/m; Power Drift = -0.23 dB

Peak SAR (extrapolated) = 1.45 W/kg

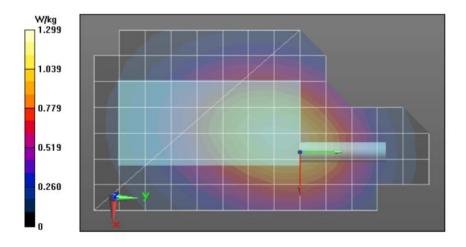
SAR(1 g) = 0.987 W/kg; SAR(10 g) = 0.707 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.27 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) = 1.26 W/kg



## Assessment for Industry Canada Body - Table 21

# Motorola Solutions, Inc. EME Laboratory

Date/Time: 4/27/2020 2:22:17 PM

Robot#: DASY5-PG-1 | Run#: BL(AR)-AB-200427-10#

Model#: CU1410BKV4BA (HCUE1081G)

Phantom#: ELI4 1022 Tissue Temp: 20.2 (C) 134TWDB803 Serial#: Antenna: Fixed Antenna Test Freq: 450.0000 (MHz) Battery: PMNN4497AR HCLN4013C Carry Acc: Audio Acc: HKLN4606A Start Power: 1.090 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 450 MHz;  $\sigma = 0.88 \text{ S/m}$ ;  $\varepsilon_r = 42.8$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 450 MHz, ConvF(11.84, 11.84, 11.84) @ 450 MHz

Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

#### Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 32.18 V/m; Power Drift = -0.26 dB

Fast SAR: SAR(1 g) = 0.978 W/kg; SAR(10 g) = 0.699 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.21 W/kg

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

dy=7.5mm, dz=5mm

Reference Value = 32.18 V/m; Power Drift = -0.32 dB

Peak SAR (extrapolated) = 1.44 W/kg

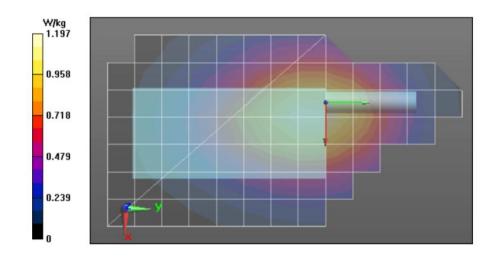
SAR(1 g) = 0.937 W/kg; SAR(10 g) = 0.656 W/kg (SAR corrected for target medium)

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

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

dz=10mm

Maximum value of SAR (measured) = 1.25 W/kg



## Assessment for Industry Canada Face - Table 21

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 4/27/2020 7:43:34 PM

Robot#: DASY5-PG-1 | Run#: ZZ-FACE-200427-14#

Model#: CU1410BKV4BA (HCUE1081G)

 Phantom#:
 ELI4 1022

 Tissue Temp:
 20.1 (C)

 Serial#:
 134TWDB799

 Antenna:
 Fixed Antenna

 Test Freq:
 450.0000 (MHz)

 Battery:
 PMNN4497AR

 Carry Acc:
 @ front

 Audio Acc:
 N/A

 Start Power:
 1.09 (W)

#### Comments:

Duty Cycle: 1:1, Medium parameters used: f = 450 MHz;  $\sigma = 0.88 \text{ S/m}$ ;  $\varepsilon_r = 42.8$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 450 MHz, ConvF(11.84, 11.84, 11.84) @ 450 MHz

Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

#### Below 2 GHz-Rev.3/Face Scan/1-Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500

mm

Reference Value = 51.54 V/m; Power Drift = -0.35 dB

Fast SAR: SAR(1 g) = 2.35 W/kg; SAR(10 g) = 1.7 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 2.90 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 = 51.54 V/m; Power Drift = -0.46 dB

Peak SAR (extrapolated) = 3.13 W/kg

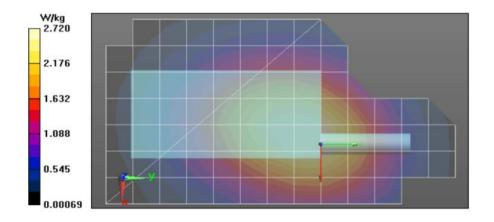
SAR(1 g) = 2.14 W/kg; SAR(10 g) = 1.55 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.75 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) = 2.72 W/kg



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

#### **Shortened Scan - Table 22**

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 4/27/2020 9:29:27 PM

Robot#: DASY5-PG-1 | Run#: ZZ-FACE-200427-17#

Model#: CU1410BKV4BA (HCUE1081G)

Phantom#: ELI4 1022 Tissue Temp: 20.4 (C) Serial#: 134TWDB799 Fixed Antenna Antenna: Test Freq: 450.0000 (MHz) PMNN4497AR Battery: Carry Acc: @ front N/A Audio Acc: 1.09 (W) Start Power:

Comments: Shorten Scan

Duty Cycle: 1:1, Medium parameters used: f = 450 MHz;  $\sigma = 0.88 \text{ S/m}$ ;  $\epsilon_r = 42.8$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 450 MHz, ConvF(11.84, 11.84, 11.84) @ 450 MHz

Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

#### Below 2 GHz-Rev.3/Face Scan/1-Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500

mm

Reference Value = 48.85 V/m; Power Drift = -0.25 dB

Fast SAR: SAR(1 g) = 2.12 W/kg; SAR(10 g) = 1.54 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 2.62 W/kg

#### Below 2 GHz-Rev.3/Face Scan/2-Volume 2D Scan (41x41x1): Interpolated grid: dx=0.7500 mm,

dy=0.7500 mm, dz=1.000 mm

Reference Value = 48.85 V/m; Power Drift = -0.28 dB

Fast SAR: SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.53 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 2.55 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 = 56.69 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 3.02 W/kg

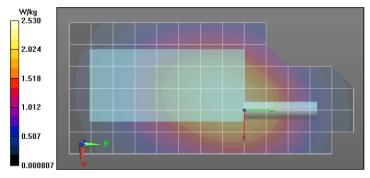
SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.5 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.65 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) = 2.53 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)	22	9	1.29
Full scan (area & zoom)	21	20	1.42

# **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