MOTOROLA SOLUTIONS

MS ISO/IEC 17025
TESTING
SAMM No.0826

DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

Motorola Solutions Inc.
EME Test Laboratory
Motorola Solutions Malaysia Sdn Bhd (Innoplex)
Plot 2A, Medan Bayan Lepas,
Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.

Date of Report: 08/06/2019
Report Revision: B

Responsible Engineer:	Ch'ng Jian Sheng (EME Engineer)
Report Author:	Ch'ng Jian Sheng (EME Engineer)
Date/s Tested:	07/09/2019 – 07/11/2019
Manufacturer:	Motorola Solutions Inc.
DUT Description:	Handheld Portable - VX-80-G6-4 UHF Non-Display 400-470 MHz
Test TX mode(s):	CW (PTT)
Max. Power output:	4.8 W
Nominal Power:	4.0 W
Tx Frequency Bands:	LMR 400-470 MHz
Signaling type:	FM
Model(s) Tested:	VX-80-G6-4 (AZ089U102)
Model(s) Certified:	VX-80-G6-4 (AZ089U102)
Serial Number(s):	XX9H010018
Classification:	Occupational/Controlled
FCC ID:	AZ489FT4954; LMR 406.1-470 MHz This report contains results that are immaterial for FCC equipment approval, which are clearly identified.
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.

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: 2019.08.06 23:01:22 +08'00'

Tiong Nguk Ing
Deputy Technical Manager (Approved Signatory)
Approval Date: 8/6/2019

Appendix E
System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/9/2019 3:06:39 PM

Robot#: DASY5-PG-3 | Run#:	ZZ-SYSP-450B-190709-13
Dipole Model#	D450V3
Phantom#:	ELI5 1150
Tissue Temp:	21.8 (C)
Serial#:	1053
Test Freq:	450.0000 (MHz)
Start Power:	250 (mW)
Rotation (1D):	0.13 dB
Adjusted SAR (1W):	4.68 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 450 MHz; σ = 0.96 S/m; ε_r = 56.7; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 450 MHz, ConvF(11.17, 11.17, 11.17) @ 450 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

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

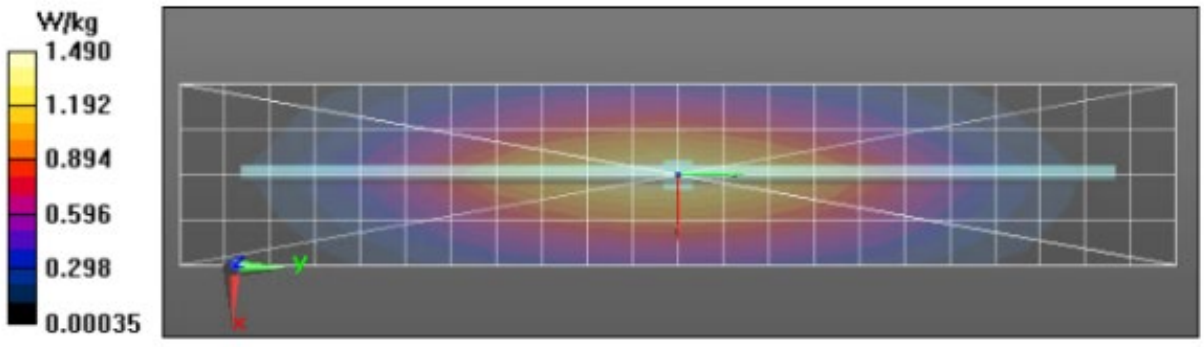
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 40.01 V/m; Power Drift = -0.05 dB
Fast SAR: SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.834 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.48 W/kg

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 = 40.01 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.791 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.49 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) = 1.49 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/10/2019 3:31:20 PM

Robot#: DASY5-PG-3 | Run#: ZZ-SYSP-450B-190710-14
Dipole Model# D450V3
Phantom#: ELI5 1150
Tissue Temp: 21.1 (C)
Serial#: 1053
Test Freq: 450.0000 (MHz)
Start Power: 250 (mW)
Rotation (1D): 0.13 dB
Adjusted SAR (1W): 4.72 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 450 MHz; σ = 0.96 S/m; ε_r = 57.2; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 450 MHz, ConvF(11.17, 11.17, 11.17) @ 450 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

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

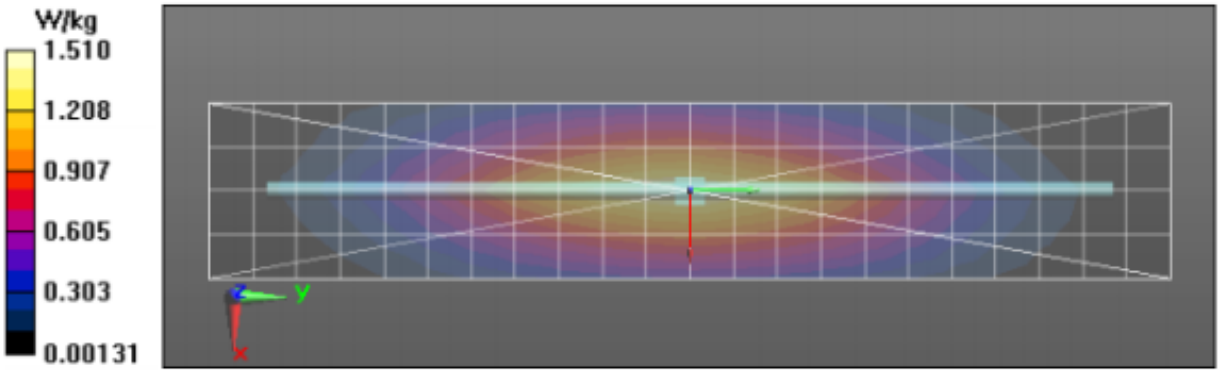
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 40.18 V/m; Power Drift = 0.00 dB
Fast SAR: SAR(1 g) = 1.22 W/kg; SAR(10 g) = 0.846 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.50 W/kg

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 = 40.18 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.78 W/kg
SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.806 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.51 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) = 1.51 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/11/2019 3:49:11 PM

Robot#: DASY5-PG-3 | Run#: ZZ-SYSP-450B-190711-28
Dipole Model# D450V3
Phantom#: ELI5 1150
Tissue Temp: 21.1 (C)
Serial#: 1053
Test Freq: 450.0000 (MHz)
Start Power: 250 (mW)
Rotation (1D): 0.12 dB
Adjusted SAR (1W): 4.64 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 450 MHz; σ = 0.91 S/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 450 MHz, ConvF(11.17, 11.17, 11.17) @ 450 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

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

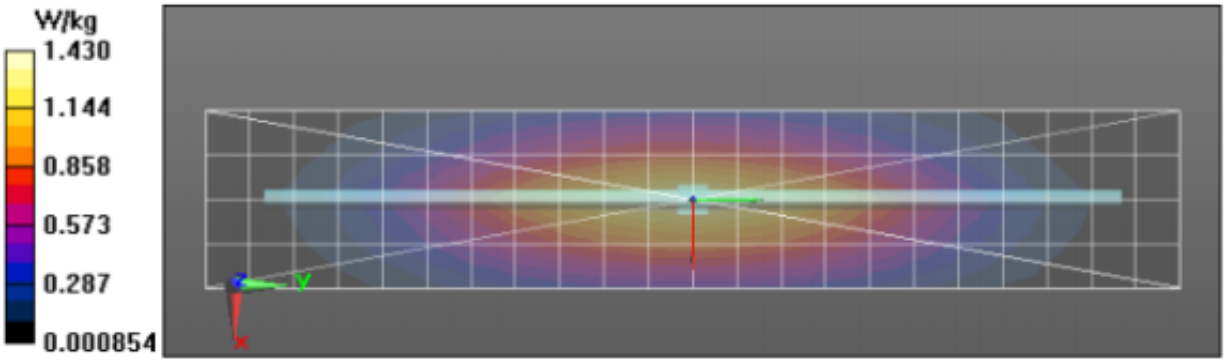
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 40.20 V/m; Power Drift = -0.01 dB
Fast SAR: SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.827 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.43 W/kg

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 = 40.20 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.782 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.43 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) = 1.43 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/10/2019 9:04:32 PM

Robot#: DASY5-PG-3 | Run#:	LOH-SYSP-450H-190710-19
Dipole Model#	D450V3
Phantom#:	ELI4 1103
Tissue Temp:	22.1 (C)
Serial#:	1053
Test Freq:	450.0000 (MHz)
Start Power:	250 (mW)
Rotation (1D):	0.077 dB
Adjusted SAR (1W):	4.72 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 450 MHz; σ = 0.88 S/m; ε_r = 43.4; 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):

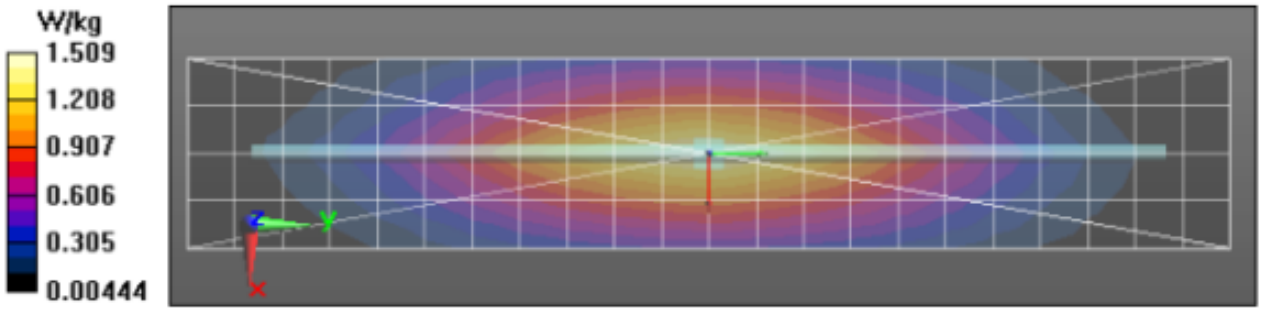
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 41.99 V/m; Power Drift = 0.02 dB
Fast SAR: SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.852 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.51 W/kg

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 = 41.99 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.81 W/kg
SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.795 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.52 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) = 1.55 W/kg



Appendix F
DUT Scans

Assessments at the Body - Table 18

Motorola Solutions, Inc. EME Laboratory
Date/Time: 7/10/2019 7:55:31 AM

Robot#: DASY5-PG-3 | Run#:	ZZ-AB-190710-07#
Model#:	AZ089U102
Phantom#:	ELI5 1150
Tissue Temp:	21.5 (C)
Serial#:	XX9H010018
Antenna:	CZ089AN004
Test Freq:	440.0000 (MHz)
Battery:	CZ089B002
Carry Acc:	CZ072CL61
Audio Acc:	CZ084AUA01
Start Power:	4.80 (W)

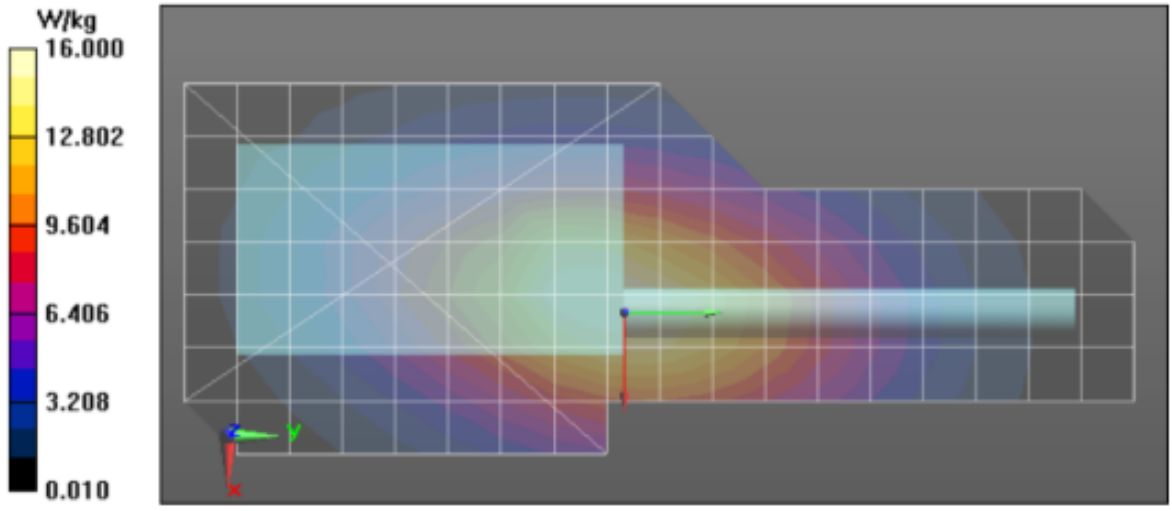
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 440 MHz; σ = 0.95 S/m; ε_r = 56.8; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 440 MHz, ConvF(11.17, 11.17, 11.17) @ 440 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (71x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 129.1 V/m; Power Drift = -0.38 dB
Fast SAR: SAR(1 g) = 14 W/kg; SAR(10 g) = 10.2 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 16.7 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 129.1 V/m; Power Drift = -0.46 dB
Peak SAR (extrapolated) = 18.4 W/kg
SAR(1 g) = 13.7 W/kg; SAR(10 g) = 10.2 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 16.1 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) = 16.0 W/kg



Assessments at the Body with other audio accessories - Table 19

Motorola Solutions, Inc. EME Laboratory
Date/Time: 7/10/2019 11:14:00 AM

Robot#: DASY5-PG-3 | Run#: ZZ-AB-190710-11#
Model#: AZ089U102
Phantom#: ELI5 1150
Tissue Temp: 21.6 (C)
Serial#: XX9H010018
Antenna: CZ089AN004
Test Freq: 440.0000 (MHz)
Battery: CZ089B002
Carry Acc: CZ072CL61
Audio Acc: CZ084AUA02
Start Power: 4.79 (W)

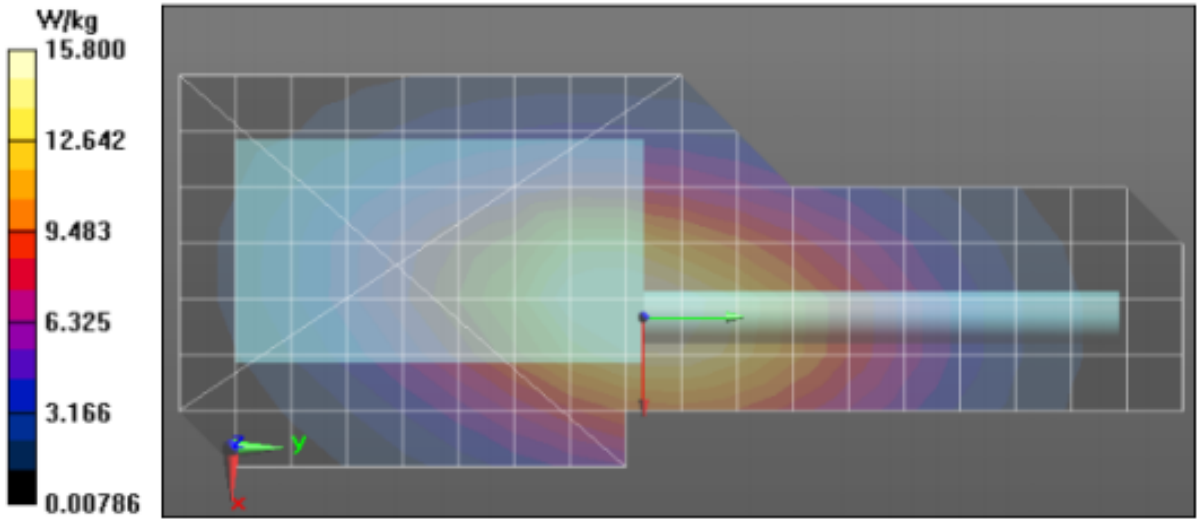
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 440 MHz; σ = 0.95 S/m; ε_r = 56.8; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 440 MHz, ConvF(11.17, 11.17, 11.17) @ 440 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (71x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 128.8 V/m; Power Drift = -0.29 dB
Fast SAR: SAR(1 g) = 14.1 W/kg; SAR(10 g) = 10.2 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 16.8 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 128.8 V/m; Power Drift = -0.39 dB
Peak SAR (extrapolated) = 17.9 W/kg
SAR(1 g) = 13.6 W/kg; SAR(10 g) = 10.1 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 15.9 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) = 15.8 W/kg



Assessment at the Face – Table 20

Motorola Solutions, Inc. EME Laboratory
Date/Time: 7/10/2019 11:16:36 PM

Robot#: DASY5-PG-3 | Run#: LOH-FACE-190710-20
Model#: AZ089U102
Phantom#: ELI4 1103
Tissue Temp: 21.9 (C)
Serial#: XX9H010018
Antenna: CZ089AN003
Test Freq: 440.0000 (MHz)
Battery: CZ089B002
Carry Acc: @ front
Audio Acc: N/A
Start Power: 4.80 (W)

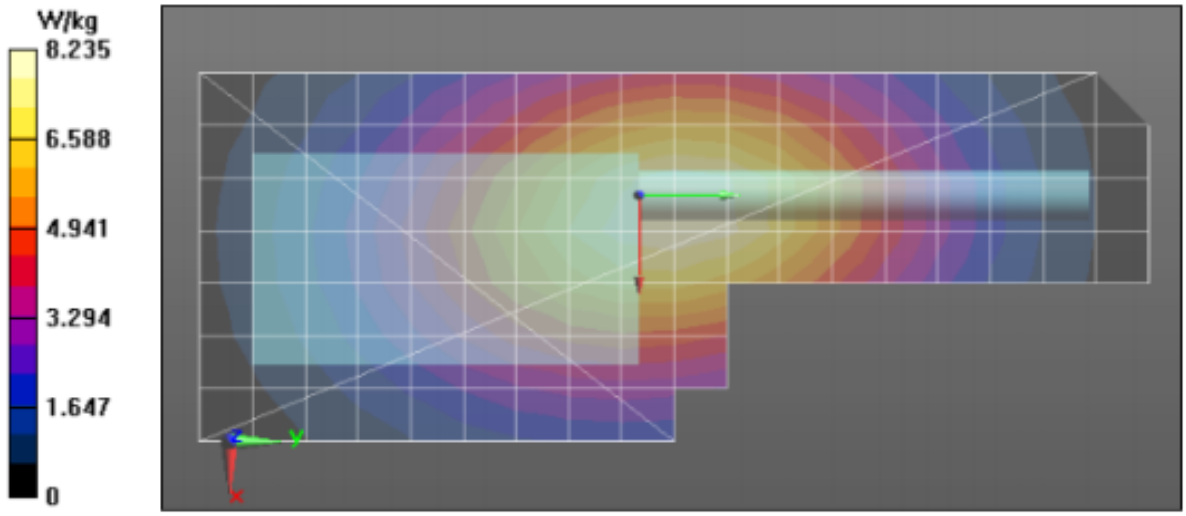
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 440 MHz; σ = 0.87 S/m; ε_r = 43.6; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 440 MHz, ConvF(10.75, 10.75, 10.75) @ 440 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (71x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 100.5 V/m; Power Drift = -0.37 dB
Fast SAR: SAR(1 g) = 7.07 W/kg; SAR(10 g) = 5.18 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 8.37 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 = 100.5 V/m; Power Drift = -0.47 dB
Peak SAR (extrapolated) = 9.07 W/kg
SAR(1 g) = 6.83 W/kg; SAR(10 g) = 5.11 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 8.05 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) = 7.94 W/kg



Assessments for Outside FCC band - Table 21

Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/11/2019 7:26:38 AM

Robot#: DASY5-PG-3 | Run#:	ZZ-AB-190711-21#
Model#:	AZ089U102
Phantom#:	ELI5 1150
Tissue Temp:	21.5 (C)
Serial#:	XX9H010018
Antenna:	CZ089AN003
Test Freq:	400.0000 (MHz)
Battery:	CZ089B002
Carry Acc:	CZ072CL61
Audio Acc:	CZ084AUA01
Start Power:	4.80 (W)

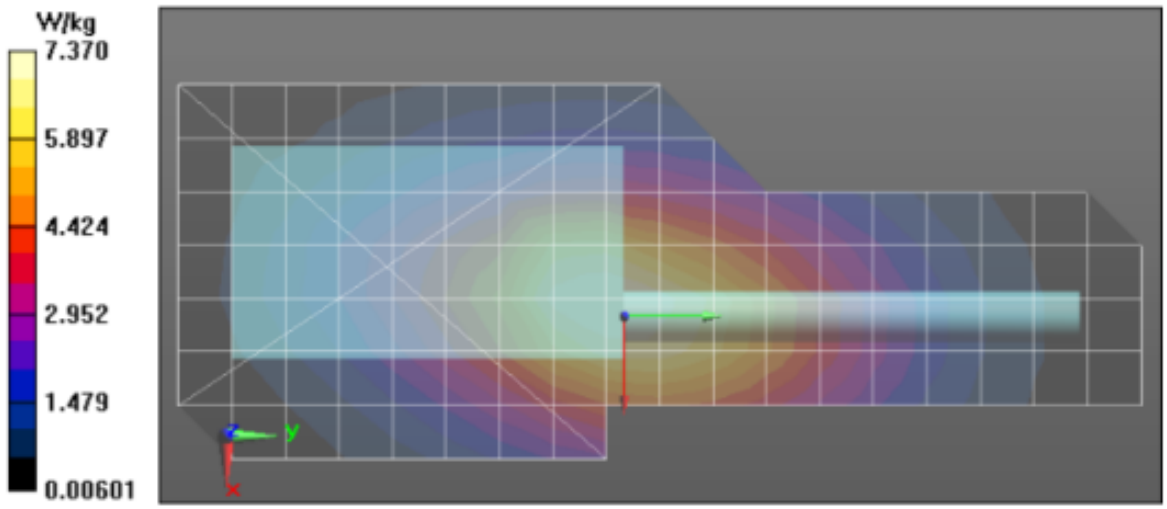
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 400 MHz; σ = 0.92 S/m; ε_r = 58; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 400 MHz, ConvF(11.17, 11.17, 11.17) @ 400 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (71x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 88.21 V/m; Power Drift = -0.21 dB
Fast SAR: SAR(1 g) = 6.52 W/kg; SAR(10 g) = 4.73 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 7.63 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 88.21 V/m; Power Drift = -0.25 dB
Peak SAR (extrapolated) = 8.40 W/kg
SAR(1 g) = 6.39 W/kg; SAR(10 g) = 4.76 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 7.40 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) = 7.37 W/kg



APPENDIX G
Shortened Scan of Highest SAR configuration

Shortened Scan Assessment – Table 22

Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/10/2019 8:02:50 PM

Robot#: DASY5-PG-3 | Run#: LOH-AB-190710-18
Model#: AZ089U102
Phantom#: ELI5 1150
Tissue Temp: 21.1 (C)
Serial#: XX9H010018
Antenna: CZ089AN004
Test Freq: 440.0000 (MHz)
Battery: CZ089B002
Carry Acc: CZ072CL61
Audio Acc: CZ084AUA01
Start Power: 4.80 (W)

Comments: Shorten Scan

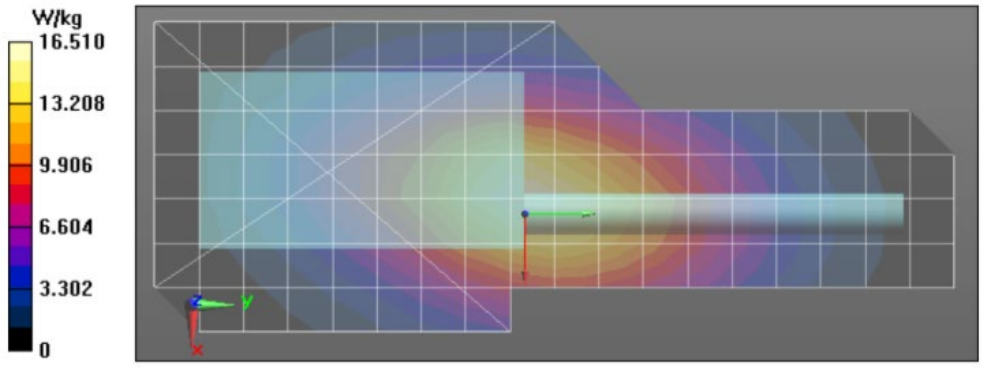
Duty Cycle: 1:1, Medium parameters used: f = 440 MHz; σ = 0.95 S/m; ε_r = 57.4; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 440 MHz, ConvF(11.17, 11.17, 11.17) @ 440 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (71x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 128.9 V/m; Power Drift = -0.25 dB
Fast SAR: SAR(1 g) = 14 W/kg; SAR(10 g) = 10.1 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 16.7 W/kg

Below 2 GHz-Rev.2/Ab Scan/2-Volume 2D Scan (41x41x1): Interpolated grid: dx=0.7500 mm, dy=0.7500 mm, dz=1.000 mm
Reference Value = 128.9 V/m; Power Drift = -0.28 dB
Fast SAR: SAR(1 g) = 13.8 W/kg; SAR(10 g) = 10.1 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 16.4 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) = 15.7 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 136.2 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 19.3 W/kg
SAR(1 g) = 14.5 W/kg; SAR(10 g) = 10.7 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 17.0 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	8	7.52
Full scan (area & zoom)	18	23	7.62

APPENDIX H
DUT Test Position Photos

Photos available in Exhibit 7B

APPENDIX I
DUT, Body worn and audio accessories Photos

Photos available in Exhibit 7B