MOTOROLA SOLUTIONS

SAMM 826

CERTIFICATE 2518.05

DECLARATION OF COMPLIANCE SAR ASSESSMENT for PCII 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: 06/14/2023
Report Revision: B

Responsible Engineer:	Lee Kin Kting (EME Engineer)
Report Author:	Lee Kin Kting (EME Engineer)
Date/s Tested:	05/16/2023
Manufacturer:	Motorola Solutions Inc.
DUT Description:	Handheld Portable – 403-480MHz 4W NKP
Test TX mode(s):	CW (PTT)
Max. Power output:	4.8W
Nominal Power:	4.0W
Tx Frequency Bands:	LMR 403-480 MHz
Signaling type:	FM
Model(s) Tested:	PMUE4526C
Model(s) Certified:	AAH87YDC9JA2AN (PMUE4526C), AAH87YDC9JC2AN (PMUE4526C), AAH87YDF9JA2AN (PMUE4528C), AAH87YDH9JA2AN (PMUE4527C), AAH87YDH9JC2AN (PMUE4527C)
Serial Number(s):	278TZF4900
Classification:	Occupational/Controlled
Firmware Version:	D01.23.01.0001
Applicant Name:	Motorola Solutions Inc.
Applicant Address:	8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322
FCC ID:	AZ489FT4953 This report contains results that are immaterial for FCC equipment approval, which are clearly identified.
FCC Test Firm Registration Number:	823256
IC:	109U-89FT4953 This report contains results that are immaterial for ISED equipment approval, which are clearly identified.
ISED Test Site registration:	24843

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.

Saw Sun Hock (Approved Signatory)
Approval Date: 06/14/2023

Appendix D
System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/16/2023 8:32:30 AM

Robot#: DASY5-PG-02 | Run#: SAN(MIN)-SYSP-450B-230516-10
Dipole Model# D450V3
Phantom#: ELI4 1022
Tissue Temp: 21.2 (C)
Serial#: 1053
Test Freq: 450.0000 (MHz)
Start Power: 250 (mW)
Rotation (1D): 0.059 dB
Adjusted SAR (1W): 4.80 mW/g (1g)

Comments: Probe distance 2mm

Communication System Band: Dipole 450, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 450 MHz; σ = 0.95 S/m; ε_r = 54.3; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 2/28/2022, Frequency: 450 MHz, ConvF(11.32, 11.32, 11.32) @ 450 MHz
Electronics: DAE4 Sn1294, Calibrated: 2/22/2022

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

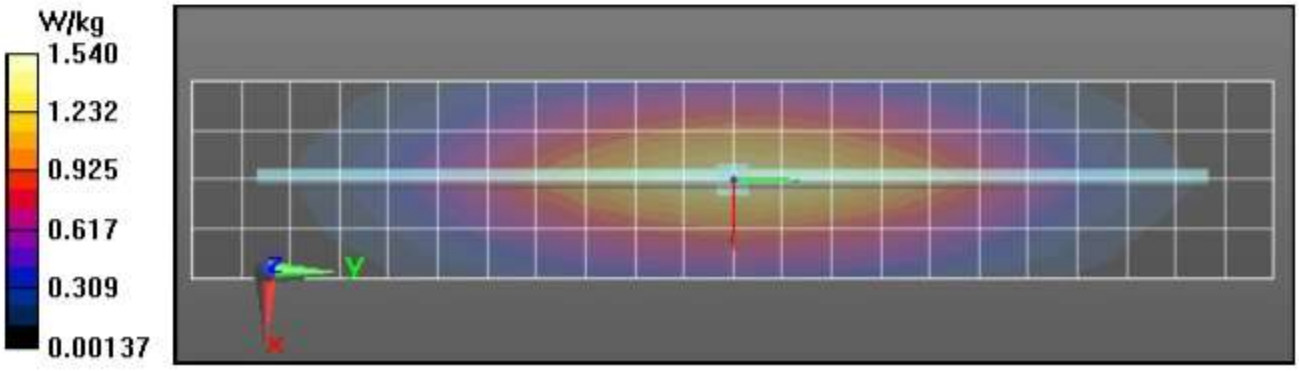
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 40.59 V/m; Power Drift = 0.01 dB
Fast SAR: SAR(1 g) = 1.25 W/kg; SAR(10 g) = 0.866 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.54 W/kg

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 = 40.59 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.812 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 = 66.4%
Maximum value of SAR (measured) = 1.54 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) = 1.55 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/16/2023 12:24:36 AM

Robot#: DASY5-PG-2 | Run#: MFR-SYSP-450H-230516-01
Dipole Model# D450V3
Phantom#: ELI4 1090
Tissue Temp: 20.5(C)
Serial#: 1077
Test Freq: 450.0000 (MHz)
Start Power: 250 (mW)
Rotation (1D): 0.071 dB
Adjusted SAR (1W): 4.80 mW/g (1g)

Comments:

Communication System Band: Dipole 450, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 450 MHz; σ = 0.87 S/m; ε_r = 44.3; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 2/28/2022, Frequency: 450 MHz, ConvF(10.96, 10.96, 10.96) @ 450 MHz
Electronics: DAE4 Sn1294, Calibrated: 2/22/2022

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

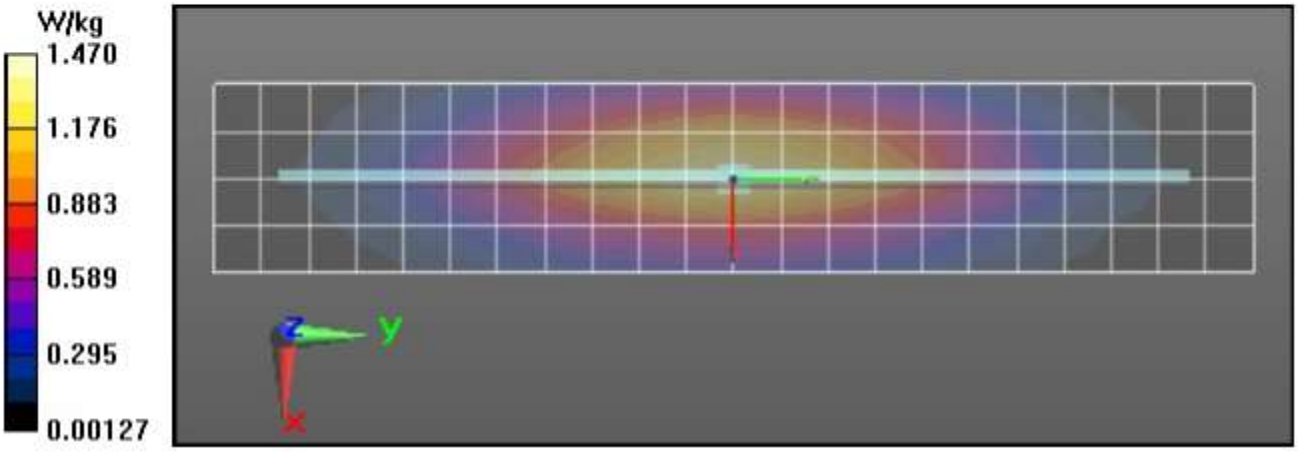
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 41.89 V/m; Power Drift = 0.09 dB
Fast SAR: SAR(1 g) = 1.24 W/kg; SAR(10 g) = 0.858 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.49 W/kg

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 = 41.89 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 1.78 W/kg
SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.805 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 = 66.9%
Maximum value of SAR (measured) = 1.50 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) = 1.51 W/kg



Appendix E
DUT Scans

Assessment at the FCC Highest Body Configuration – Table 18

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/16/2023 1:33:36 PM

Robot#: DASY5-PG-02 | Run#: SAN(MIN)-AB-230516-16
Model#: PMUE4256C
Phantom#: ELI4 1022
Tissue Temp: 21.4 (C)
Serial#: 278TZF4900
Antenna: PMAE4006A
Test Freq: 465.0000 (MHz)
Battery: PMNN4092A
Carry Acc: RLN4570A
Audio Acc: PMMN4092A
Start Power: 4.62 (W)

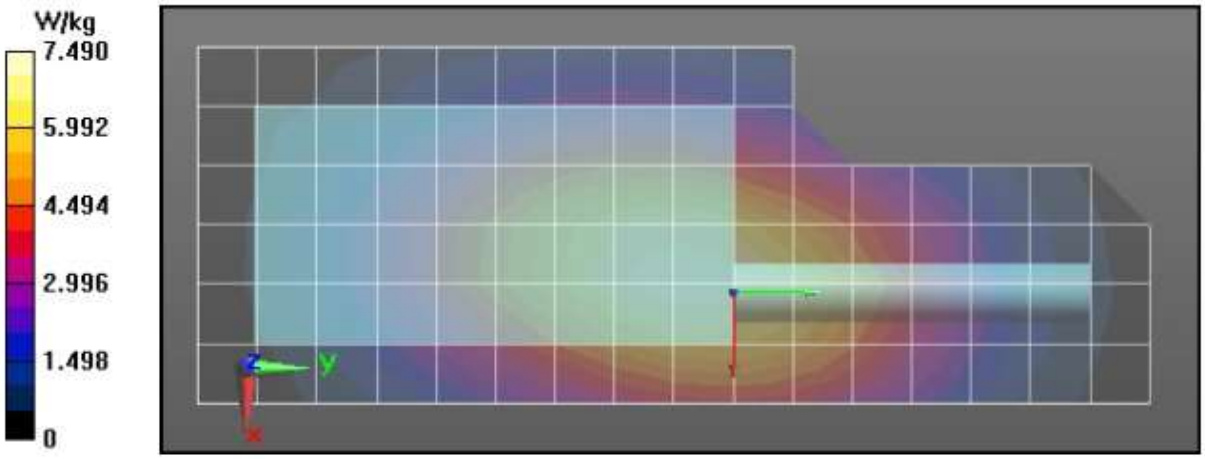
Comments: Full scan with probe distance 2mm

Communication System Band: Bermuda UHF, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 465 MHz; σ = 0.97 S/m; ε_r = 54.1; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 2/28/2022, Frequency: 465 MHz, ConvF(11.32, 11.32, 11.32) @ 465 MHz
Electronics: DAE4 Sn1294, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (61x171x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 89.55 V/m; Power Drift = -0.17 dB
Fast SAR: SAR(1 g) = 6.36 W/kg; SAR(10 g) = 4.6 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 7.56 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 = 89.55 V/m; Power Drift = -0.21 dB
Peak SAR (extrapolated) = 8.43 W/kg
SAR(1 g) = 6.2 W/kg; SAR(10 g) = 4.58 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 = 73.5%
Maximum value of SAR (measured) = 7.39 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) = 7.37 W/kg



Assessment at the FCC Highest Face Configuration – Table 19

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/16/2023 4:57:56 AM

Robot#: DASY5-PG-2 | Run#: MFR-FACE-230516-09
Model#: PMUE4256C
Phantom#: ELI4 1090
Tissue Temp: 20.2 (C)
Serial#: 278TZF4900
Antenna: PMAE4006A
Test Freq: 465.0000(MHz)
Battery: PMNN4476A
Carry Acc: @ front
Audio Acc: N/A
Start Power: 4.67 (W)

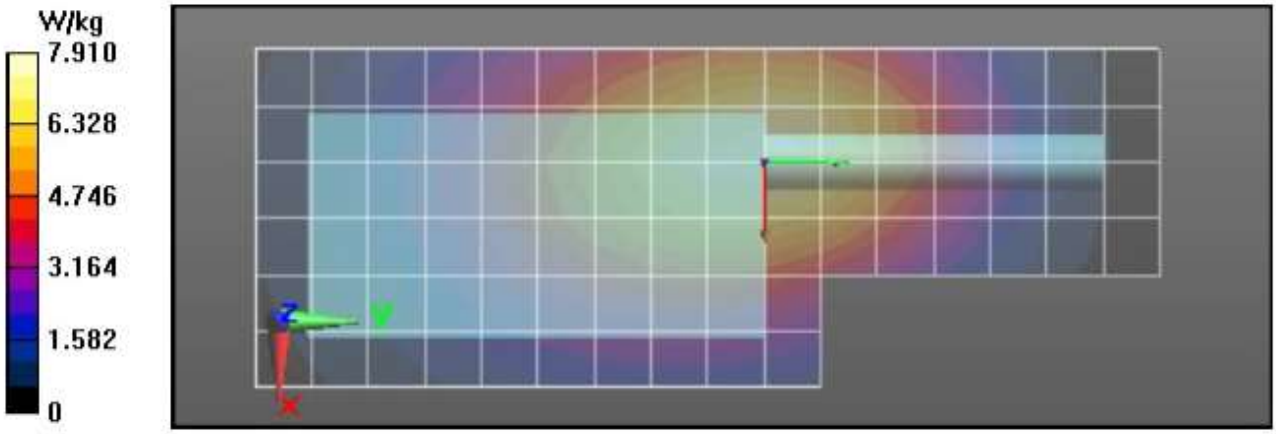
Comments:

Communication System Band: Bermuda UHF, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 465 MHz; σ = 0.88 S/m; ε_r = 44; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 2/28/2022, Frequency: 465 MHz, ConvF(10.96, 10.96, 10.96) @ 465 MHz
Electronics: DAE4 Sn1294, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x171x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 98.71 V/m; Power Drift = -0.30 dB
Fast SAR: SAR(1 g) = 6.67 W/kg; SAR(10 g) = 4.85 W/kg (SAR corrected for target medium)

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 = 98.71 V/m; Power Drift = -0.37 dB
Peak SAR (extrapolated) = 8.76 W/kg
SAR(1 g) = 6.55 W/kg; SAR(10 g) = 4.84 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 = 74.4%
Maximum value of SAR (measured) = 7.77 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) = 7.68 W/kg



Assessment at the ISED Highest Face Configuration – Table 22

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/16/2023 1:41:25 AM

Robot#: DASY5-PG-2 | Run#: MFR-FACE-230516-03
Model#: PMUE4256C
Phantom#: ELI4 1090
Tissue Temp: 20.2 (C)
Serial#: 278TZF4900
Antenna: PMAE4002A
Test Freq: 406.1250(MHz)
Battery: PMNN4080B
Carry Acc: @ front
Audio Acc: N/A
Start Power: 4.68 (W)

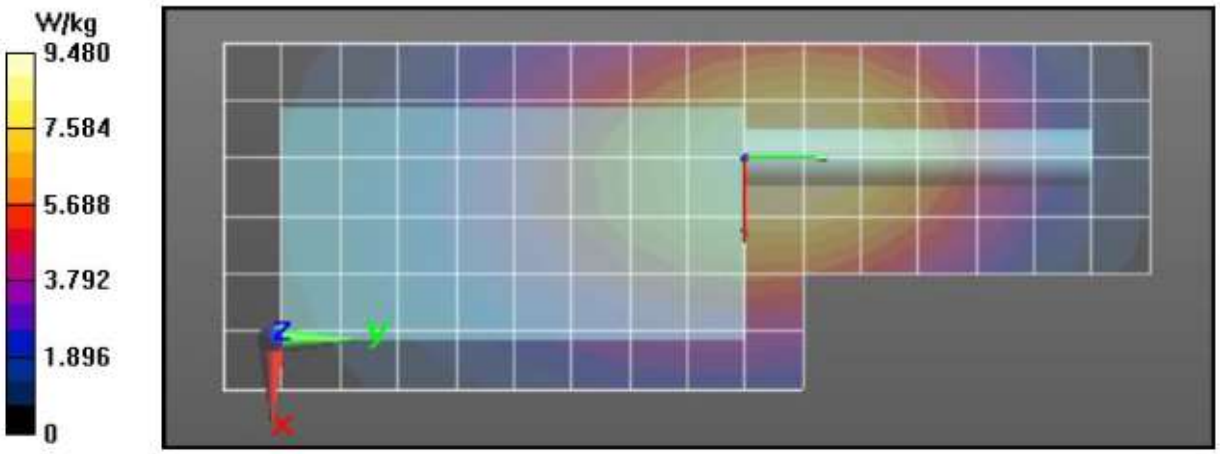
Comments:

Communication System Band: Bermuda UHF, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 406 MHz; σ = 0.83 S/m; ε_r = 45.3; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 2/28/2022, Frequency: 406.125 MHz, ConvF(10.96, 10.96, 10.96) @ 406.125 MHz
Electronics: DAE4 Sn1294, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x171x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 109.6 V/m; Power Drift = -0.40 dB
Fast SAR: SAR(1 g) = 8.36 W/kg; SAR(10 g) = 6.06 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 9.49 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 = 109.6 V/m; Power Drift = -0.52 dB
Peak SAR (extrapolated) = 10.3 W/kg
SAR(1 g) = 8.05 W/kg; SAR(10 g) = 5.94 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 = 74.5%
Maximum value of SAR (measured) = 9.12 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) = 9.00 W/kg



Assessment at the ISED Highest Body Configuration – Table 23

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/16/2023 1:33:36 PM

Robot#: DASY5-PG-02 | Run#: SAN(MIN)-AB-230516-16
Model#: PMUE4256C
Phantom#: ELI4 1022
Tissue Temp: 21.4 (C)
Serial#: 278TZF4900
Antenna: PMAE4006A
Test Freq: 465.0000 (MHz)
Battery: PMNN4092A
Carry Acc: RLN4570A
Audio Acc: PMMN4092A
Start Power: 4.62 (W)

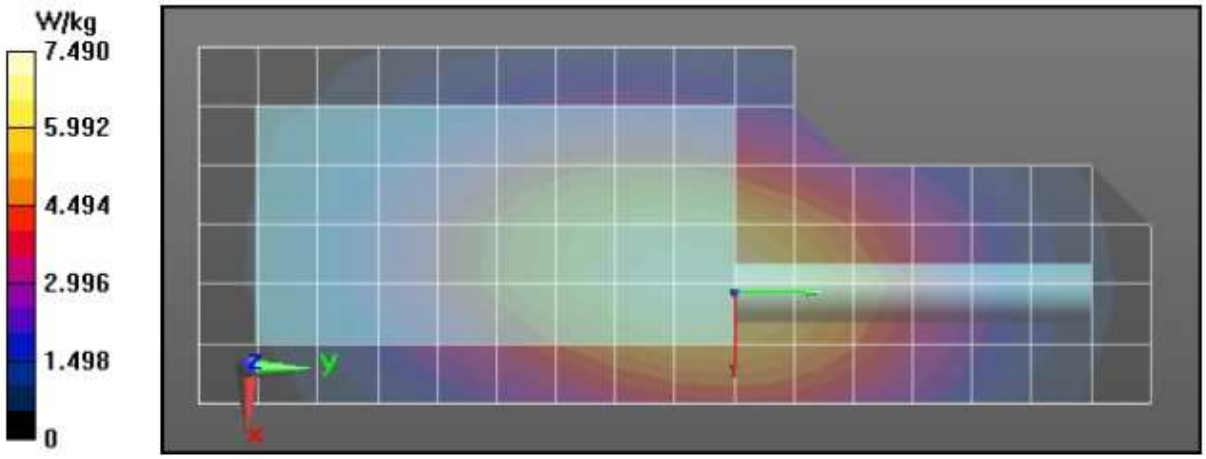
Comments: Full scan with probe distance 2mm

Communication System Band: Bermuda UHF, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 465 MHz; σ = 0.97 S/m; ε_r = 54.1; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 2/28/2022, Frequency: 465 MHz, ConvF(11.32, 11.32, 11.32) @ 465 MHz
Electronics: DAE4 Sn1294, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (61x171x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 89.55 V/m; Power Drift = -0.17 dB
Fast SAR: SAR(1 g) = 6.36 W/kg; SAR(10 g) = 4.6 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 7.56 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 = 89.55 V/m; Power Drift = -0.21 dB
Peak SAR (extrapolated) = 8.43 W/kg
SAR(1 g) = 6.2 W/kg; SAR(10 g) = 4.58 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 = 73.5%
Maximum value of SAR (measured) = 7.39 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) = 7.37 W/kg



APPENDIX F
Shortened Scan of Highest SAR configuration

Shortened Scan - Table 24

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/16/2023 7:49:54 PM

Robot#: DASY5-PG-2 | Run#: MFR-FACE-230516-24
Model#: PMUE4256C
Phantom#: ELI4 1090
Tissue Temp: 20.2 (C)
Serial#: 278TZF4900
Antenna: PMAE4002A
Test Freq: 406.1250(MHz)
Battery: PMNN4080B
Carry Acc: @ front
Audio Acc: N/A
Start Power: 4.73 (W)

Comments: Probe Distance 2mm

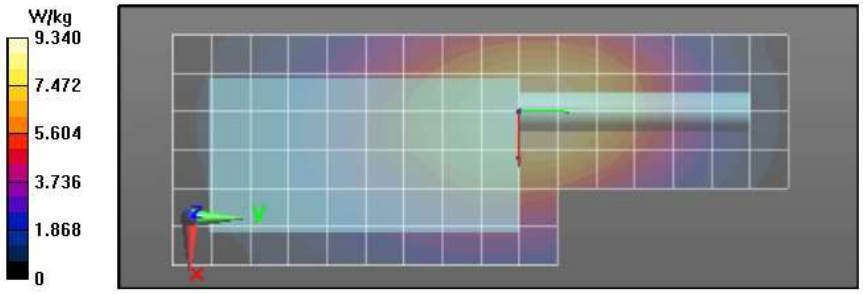
Communication System Band: Bermuda UHF, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 406 MHz; σ = 0.83 S/m; ε_r = 45.3; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 2/28/2022, Frequency: 406.125 MHz, ConvF(10.96, 10.96, 10.96) @ 406.125 MHz
Electronics: DAE4 Sn1294, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x171x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 110.8 V/m; Power Drift = -0.38 dB
Fast SAR: SAR(1 g) = 8.35 W/kg; SAR(10 g) = 6.06 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 9.47 W/kg

Below 2 GHz-Rev.3/Face Scan/2-Volume Scan 2D (41x41x1): Interpolated grid: dx=0.7500 mm, dy=0.7500 mm, dz=1.000 mm
Reference Value = 110.8 V/m; Power Drift = -0.43 dB
Fast SAR: SAR(1 g) = 8.66 W/kg; SAR(10 g) = 6.37 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 10.0 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 = 119.4 V/m; Power Drift = -0.27 dB
Peak SAR (extrapolated) = 11.1 W/kg
SAR(1 g) = 8.71 W/kg; SAR(10 g) = 6.44 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 = 74.7%
Maximum value of SAR (measured) = 9.87 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) = 9.07 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)	24	7	4.70
Full scan (area & zoom)	22	30	4.65

APPENDIX G
DUT Test Position Photos

1. Highest SAR Test Position

1.1 Body

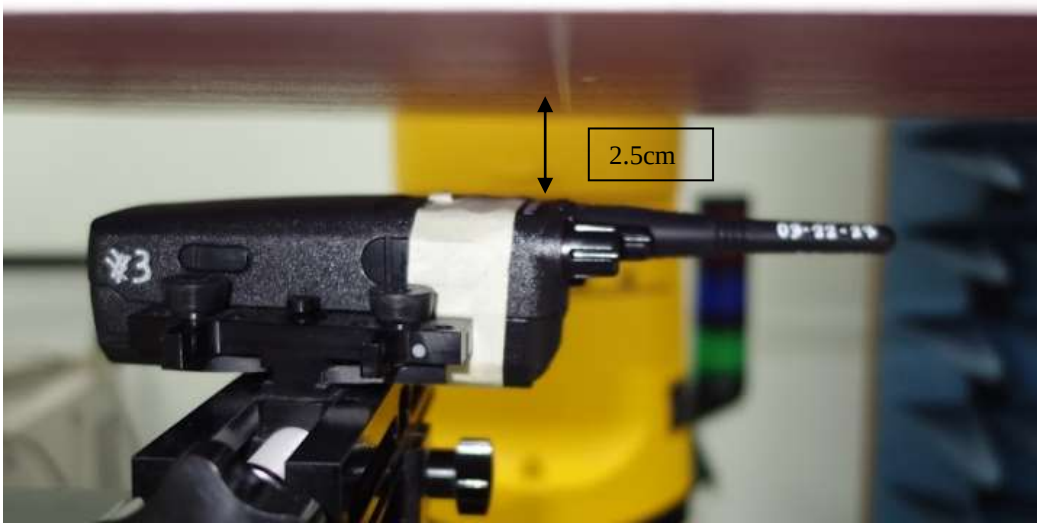
DUT with antenna PMAE4006A, offered battery PMNN4092A and body worn RLN4570A positioned against the phantom with an audio accessory PMMN4092A attached.

1.2 Head

Not applicable

1.3 Face

DUT with antenna PMAE4002A and battery PMNN4080B, separated 2.5cm from the phantom without an audio accessory attached.



APPENDIX H
DUT, Body worn and audio accessories Photos

Please Refer Original Filing Report