



CERTIFICATE 2518.05

DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

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

Date of Report: 12/13/2022
Report Revision: C

Responsible Engineer: Saw Sun Hock (EME Engineer)
Report Author: Kin Kting Lee (EME Technician)
Date/s Tested: 10/13/2022 – 10/14/2022
Manufacturer: Motorola Solutions Inc.
DUT Description: Handheld Portable – Tanapa T478 FRS Consumer Radio 462-467 MHz
 Red/White
Test TX mode(s): CW (PTT)
Max. Power output: Refer table 3
Tx Frequency Bands: Refer table 3
Signaling type: FM
Model(s) Tested: T478 (PMUE5862A)
Serial Number(s): 16521YS0348, 16521YS0322
Classification: General Population/Uncontrolled Environment
Firmware Version: 1.02
Applicant Name: Motorola Solutions Inc.
Applicant Address: 8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322
FCC ID: AZ489FT4972
IC: 109U-89FT4972
FCC Test Firm Registration Number: 823256
ISED Test Site registration: 24843

The test results clearly demonstrate compliance with 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.

Saw Sun Hock (Approval Signatory)
Approval Date: 12/13/2022

Appendix D

System Verification Check Scans

Motorola Solutions, EME Laboratory

2022-10-13, 09:12

System Performance Check Report

Summary

Dipole	Frequency [MHz]	TSL	Power [dBm]	Dev. 1g [%]	Dev. 10g [%]
D450V3 – SN1053	450.0	HSL	23.98	3.4	2.8

Exposure Conditions

Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	15		, 0--	450.0, 0	10.18	0.838	42.1

Hardware Setup

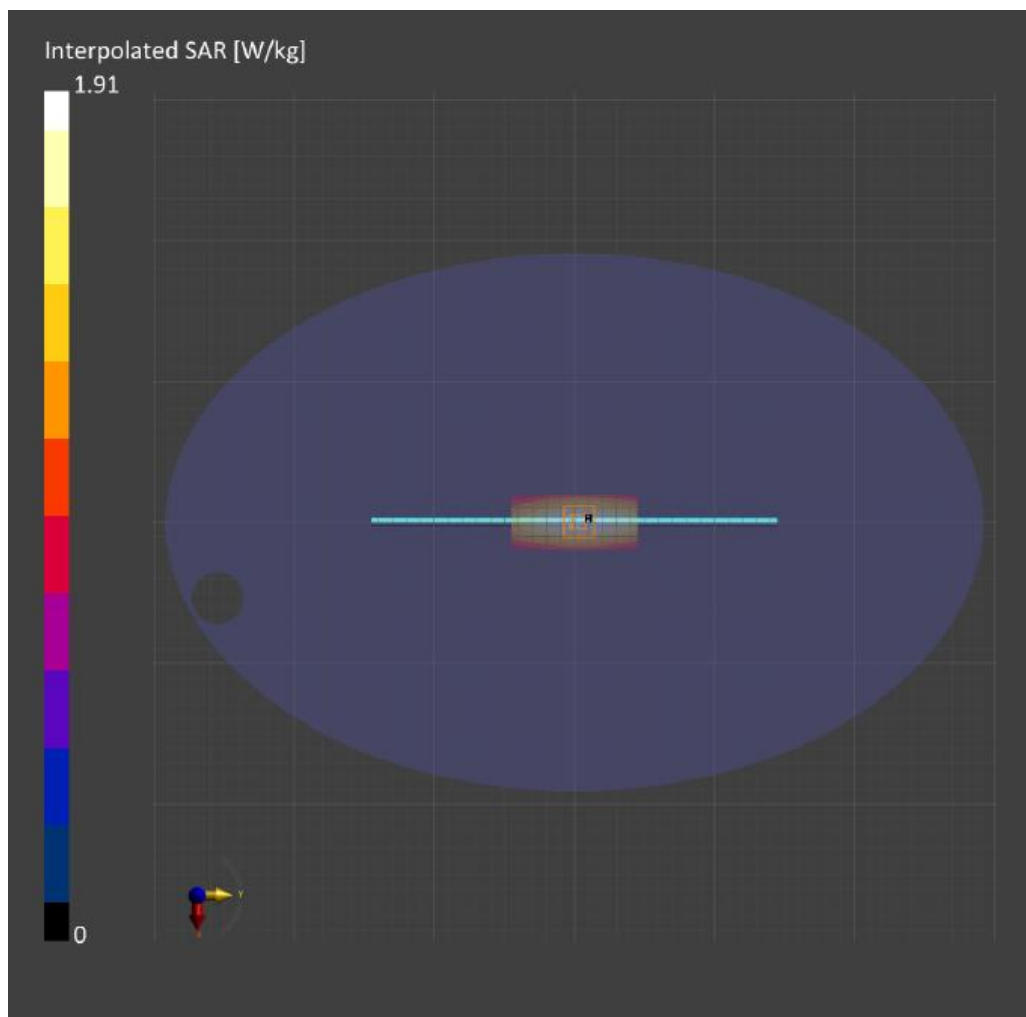
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V4.0 (20deg probe tilt) – ELI4 1016	HSL450 , 2022-Oct-13	EX3DV4 – SN7511, 2021-06-18	DAE4 Sn729, 2021-06-09

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 90.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-10-13, 09:12	2022-10-13, 09:18
psSAR1g [W/Kg]	1.20	1.18
psSAR10g [W/Kg]	0.833	0.784
Power Drift [dB]	0.01	0.03
TSL Correction	Positive / Negative	Positive / Negative



Appendix E

DUT Scans

Assessments at the Body (462.5500-462.7250) - Table 18

Motorola Solutions, EME Laboratory

2022-10-14, 02:37

System Performance Check Report**Summary**

Dipole	Frequency [MHz]	TSL	Power [dBm]	Dev. 1g [%]	Dev. 10g [%]
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Exposure Conditions

Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL		Custom Band	CW, 0--	462.6, 462600	10.18	0.849	41.8

Hardware Setup

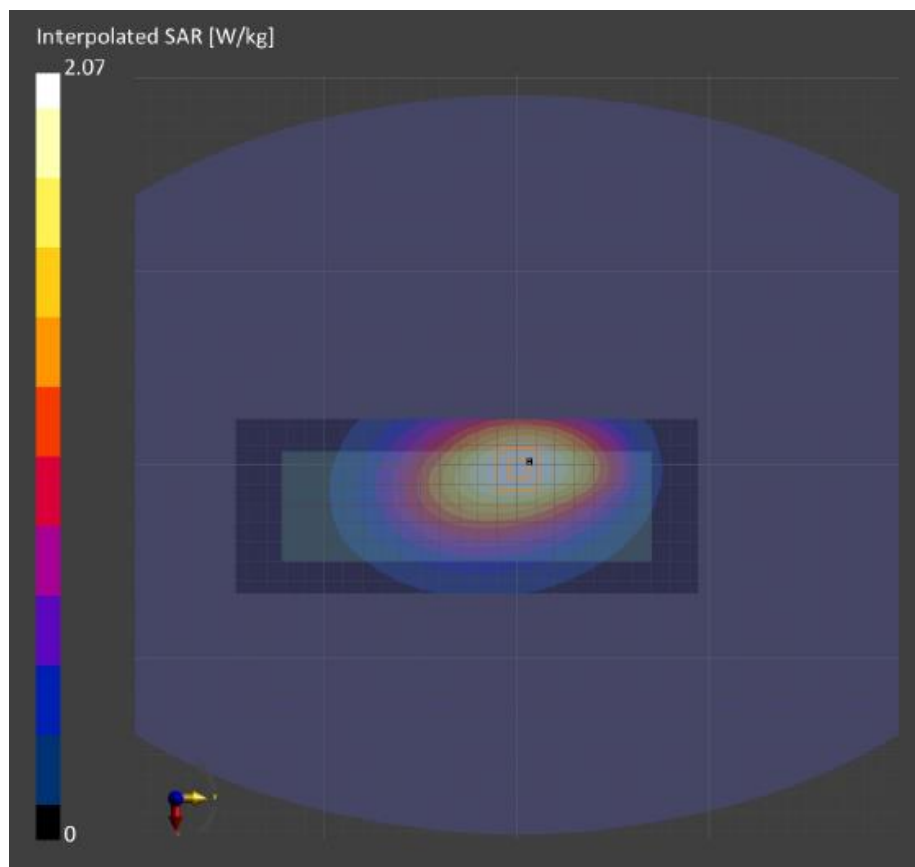
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V4.0 (20deg probe tilt) - ELI4 1016	HSL450 , 2022-Oct-13	EX3DV4 - SN7511, 2021-06-18	DAE4 Sn729, 2021-06-09

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 240.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-10-14, 02:37	2022-10-14, 02:44
psSAR1g [W/Kg]	1.43	1.36
psSAR10g [W/Kg]	1.03	0.949
Power Drift [dB]	-0.12	-0.12
TSL Correction	Positive only	Positive only



Assessment at the Face (462.5500-462.7250) – Table 20

Motorola Solutions, EME Laboratory

2022-10-14, 02:06

System Performance Check Report

Summary

Dipole	Frequency [MHz]	TSL	Power [dBm]	Dev. 1g [%]	Dev. 10g [%]
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Exposure Conditions

Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL		Custom Band	CW, 0--	462.6, 462600	10.18	0.849	41.8

Hardware Setup

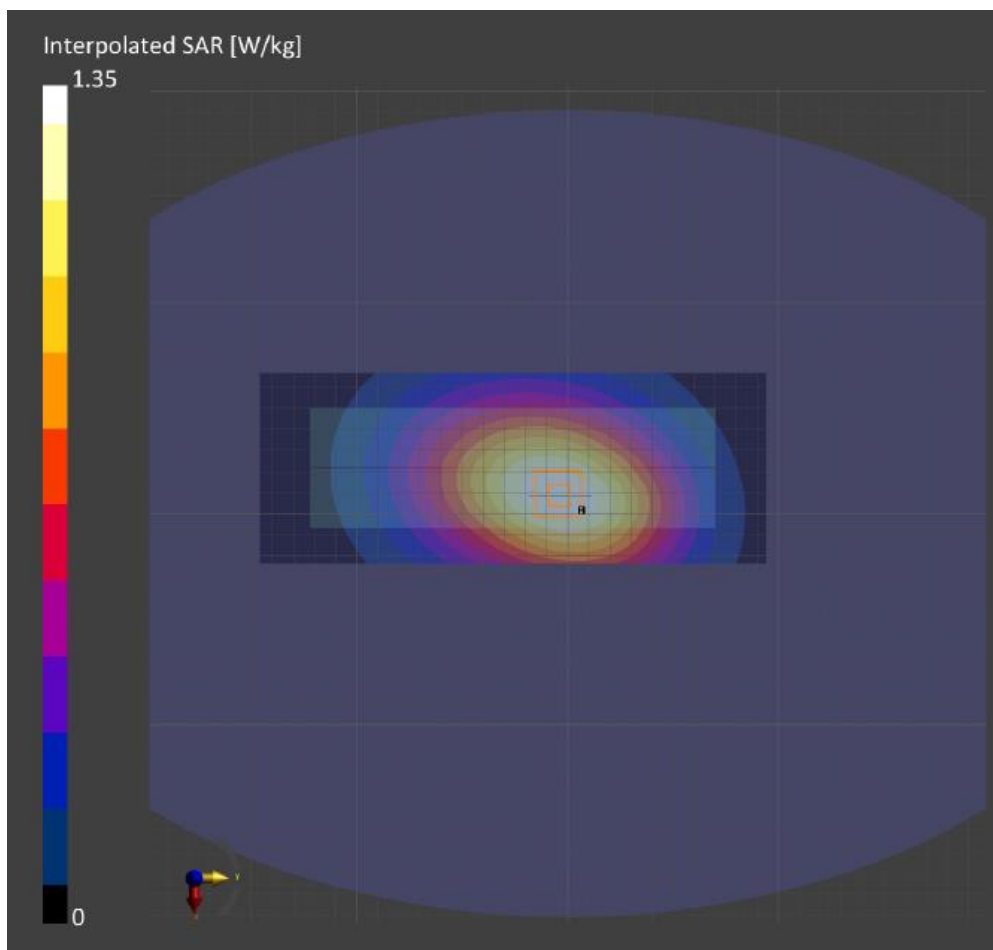
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V4.0 (20deg probe tilt) – ELI4 1016	HSL450, 2022-Oct-13	EX3DV4 – SN7511, 2021-06-18	DAE4 Sn729, 2021-06-09

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 240.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-10-14, 02:06	2022-10-14, 02:14
psSAR1g [W/Kg]	0.960	0.929
psSAR10g [W/Kg]	0.696	0.679
Power Drift [dB]	-0.13	-0.11
TSL Correction	Positive only	Positive only



Assessments at the Body (467.5625 – 467.7125) - Table 22

Motorola Solutions, EME Laboratory

2022-10-14, 16:40

Measurement Report for T478 (PMUE5862A), 16521YS0322, BACK, Custom Band, CW, Channel 467600 (467.6 MHz)

Device Under Test Properties

Model	Serial Number	Dimensions [mm]
T478 (PMUE5862A)	16521YS0322	192.0 x 57.0 x 35.0

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	BACK, 0.00	Custom Band	CW, 0--	467.6, 467600	10.18	0.873	42.1

Hardware Setup

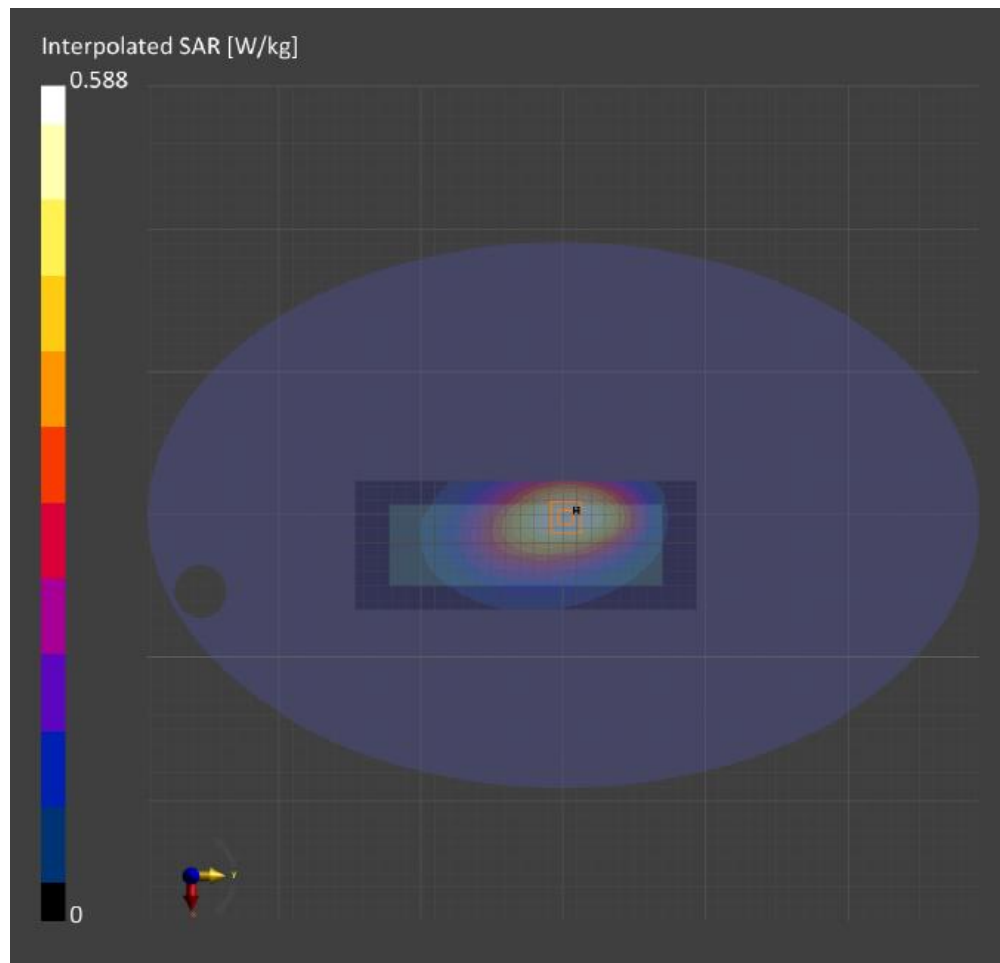
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V4.0 (20deg probe tilt) - ELI4 1016	HSL450 , 2022-Oct-14	EX3DV4 - SN7511, 2021-06-18	DAE4 Sn729, 2021-06-09

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 240.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-10-14, 16:40	2022-10-14, 16:47
psSAR1g [W/Kg]	0.393	0.382
psSAR10g [W/Kg]	0.282	0.268
Power Drift [dB]	-0.05	-0.20
TSL Correction	Positive only	Positive only
M2 / M1 [%]		85.8
Dist 3dB Peak [mm]		> 15.0



Assessments at the Face (467.5625 – 467.7125) - Table 24

Motorola Solutions, EME Laboratory

2022-10-14, 16:02

Measurement Report for T478 (PMUE5862A), 16521YS0322, FRONT, Custom Band, CW, Channel 467600 (467.6 MHz)

Device Under Test Properties

Model	Serial Number	Dimensions [mm]
T478 (PMUE5862A)	16521YS0322	192.0 x 57.0 x 35.0

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL	FRONT, 25.00	Custom Band	CW, 0--	467.6, 467600	10.18	0.873	42.1

Hardware Setup

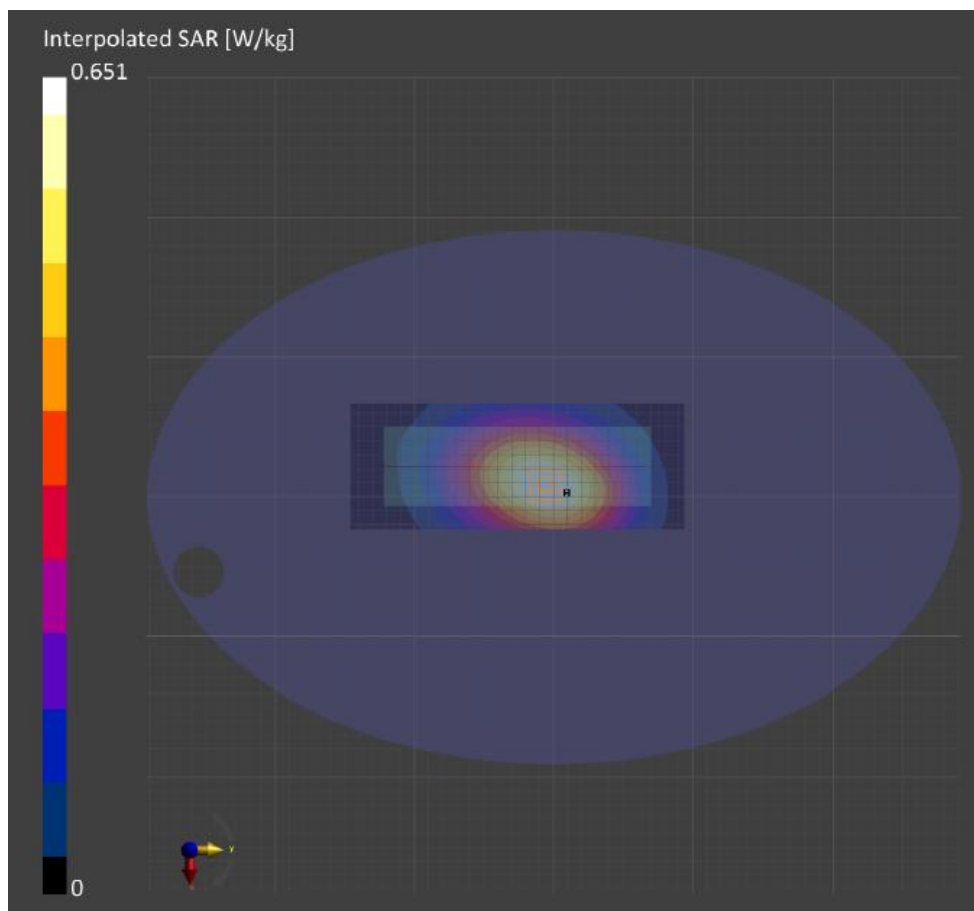
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V4.0 (20deg probe tilt) – ELI4 1016	HSL450 , 2022-Oct-14	EX3DV4 – SN7511, 2021-06-18	DAE4 Sn729, 2021-06-09

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 240.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-10-14, 16:02	2022-10-14, 16:10
psSAR1g [W/Kg]	0.456	0.442
psSAR10g [W/Kg]	0.331	0.324
Power Drift [dB]	-0.10	-0.31
TSL Correction	Positive only	Positive only
M2/M1 [%]		87.2
Dist 3dB Peak [mm]		> 15.0



APPENDIX F

Shortened Scan of Highest SAR configuration

Shortened Scan Table 25

Motorola Solutions, EME Laboratory

2022-10-14, 23:01

System Performance Check Report

Summary

Dipole	Frequency [MHz]	TSL	Power [dBm]	Dev. 1g [%]	Dev. 10g [%]
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Exposure Conditions

Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, HSL		Custom Band	CW, 0--	462.6, 462600	10.18	0.868	42.2

Hardware Setup

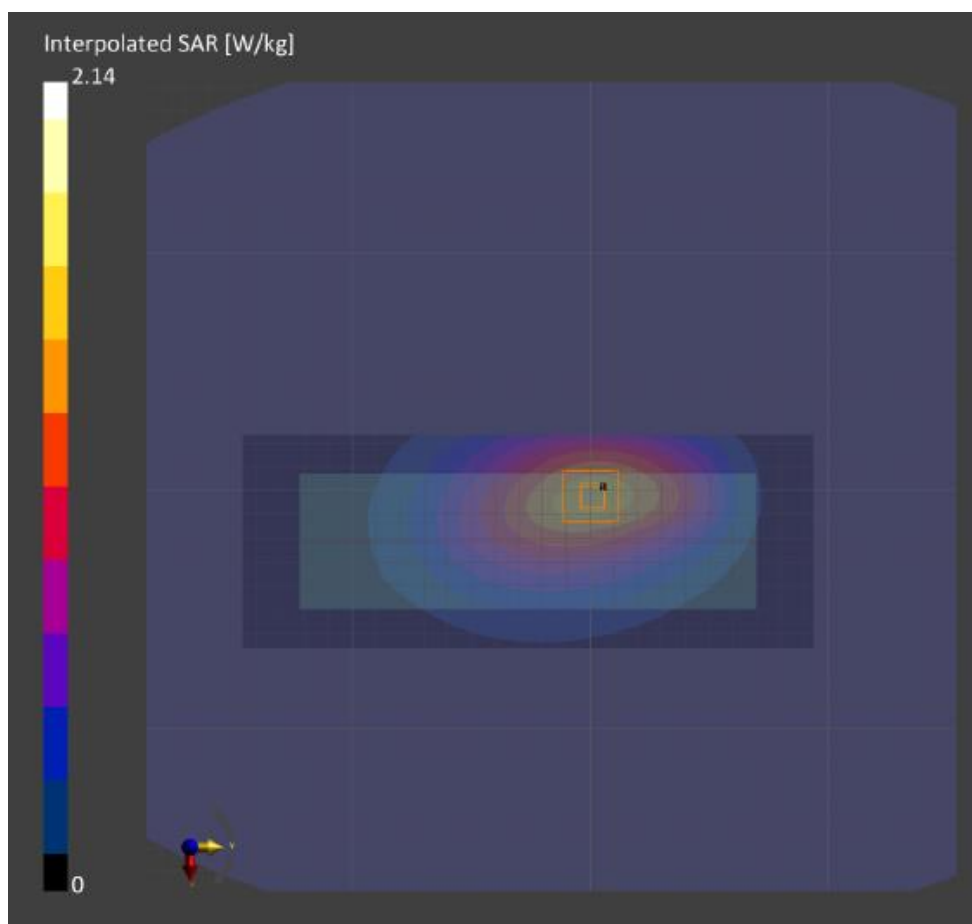
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V4.0 (20deg probe tilt) - ELI4 1016	HSL450 , 2022-Oct-14	EX3DV4 - SN7511, 2021-06-18	DAE4 Sn729, 2021-06-09

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 240.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2022-10-14, 23:01	2022-10-14, 23:51
psSAR1g [W/Kg]	1.37	1.39
psSAR10g [W/Kg]	0.984	0.978
Power Drift [dB]	-0.11	-0.17
TSL Correction	Positive only	Positive only



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

Scan Description	Referenced Table	Test Time (min.)	SAR 1g (W/kg)
Shorten scan (zoom)	27	7	0.82
Full scan (area & zoom)	18	15	0.80

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