MOTOROLA SOLUTIONS

SAMM 826

CERTIFICATE 2518.05

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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Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.

Date of Report: 11/21/2022
Report Revision: A

Responsible Engineer:	Ch'ng Jian Sheng (EME Engineer)
Report Author:	Yeng Yee Yeong (EME Engineer)
Date/s Tested:	10/23/2022, 10/26/2022, 11/03/2022, 11/12/2022-11/14/2022
Manufacturer:	Motorola Solutions Inc.
DUT Description:	Handheld Portable- 764-775MHz and 794-805MHz at 2.5W, 806-824MHz and 851 - 870MHz at 3W, 6.25kHz/12.5kHz/25kHz, Single Display full keypad Model. Capable of digital and analog FM as well as TDMA transmission.
Test TX mode(s):	CW (PTT)
Max. Power output:	2.99W (764-805MHz), 3.6W (806-870MHz)
Tx Frequency Bands:	764-775MHz, 794-805 MHz, 806-824MHz, 851-870MHz
Signaling type:	FM, TDMA
Model(s) Tested:	H51UCH9PW7AN (MUF1555), H51UCD9PW5AN (MUF1612)
Serial Number(s):	426TMT0435, 426TMT0347, 426TNV0207
Classification:	Occupational/Controlled
Firmware Version:	D06.10.39 (MUF1555), S08.88.17 (MUF1612)
Applicant Name:	Motorola Solutions Inc.
Applicant Address:	8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322
FCC ID:	AZ489FT7050 This report contains results that are immaterial for FCC equipment approval, which are clearly identified.
FCC Test Firm Registration Number:	823256
IC:	109U-89FT7050 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 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 (Approval Signatory)
Approval Date: 11/30/2022

Appendix D
System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory

Date/Time: 11/12/2022 11:34:48 PM

Robot#: DASY5-PG-2 | Run#: AF-SYSP-835H-221112-08
Dipole Model# D835V2
Phantom#: ELI4 1028
Tissue Temp: 20.9 (C)
Serial#: 4d029
Test Freq: 835.0000 (MHz)
Start Power: 31.6 (mW)
Rotation (1D): 0.050 dB
Adjusted SAR (1W): 9.18 mW/g (1g)

Comments:

Communication System Band: Dipole 835, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 835 MHz; σ = 0.94 S/m; ε_r = 40.3; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 2/28/2022, Frequency: 835 MHz, ConvF(10.21, 10.21, 10.21) @ 835 MHz
Electronics: DAE4 Sn1294, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (41x131x1):

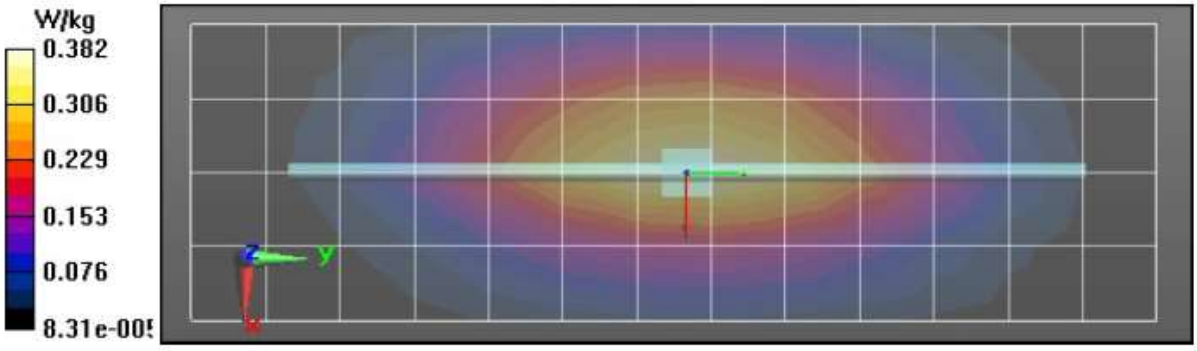
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 21.66 V/m; Power Drift = -0.01 dB
Fast SAR: SAR(1 g) = 0.295 W/kg; SAR(10 g) = 0.195 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 0.394 W/kg

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 = 21.66 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.452 W/kg
SAR(1 g) = 0.290 W/kg; SAR(10 g) = 0.189 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 21.2 mm
Ratio of SAR at M2 to SAR at M1 = 65.5%
Maximum value of SAR (measured) = 0.401 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) = 0.401 W/kg



Appendix E
DUT Scans

Assessments at the Body - Table 16

Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/26/2022 2:34:21 PM

Robot#: DASY5-PG-3 | Run#: IRA-AB-221026-14
Model#: H51UCH9PW7AN (MUF1555)
Phantom#: ELI4 1090
Tissue Temp: 21.7 (C)
Serial#: 426TMT0435
Antenna: NAR6595A
Test Freq: 809.0000 (MHz)
Battery: PMNN4489C
Carry Acc: PMLN7008A
Audio Acc: HMN4104B
Start Power: 3.17 (W)

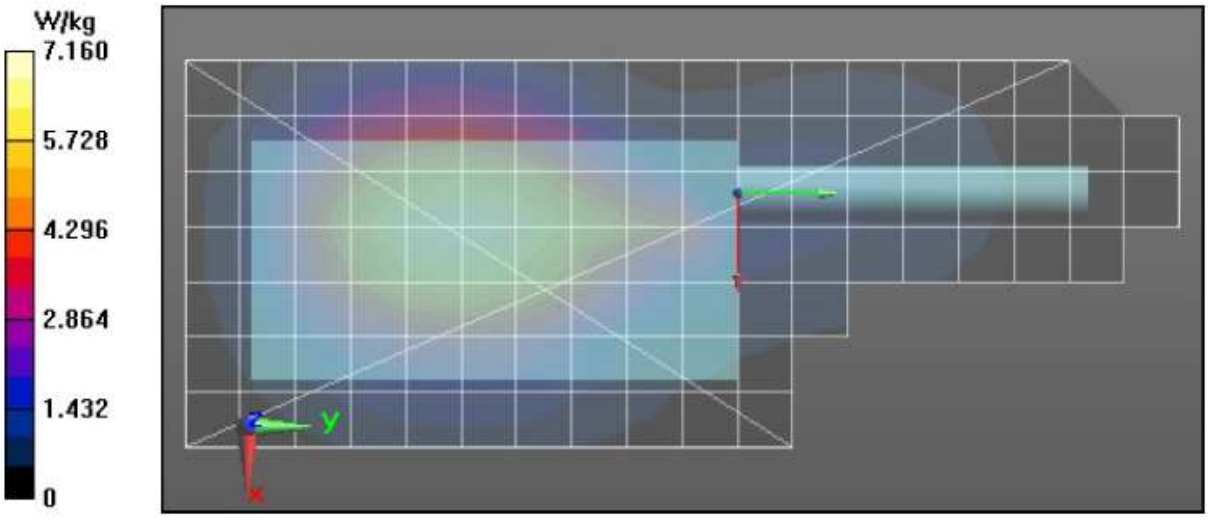
Comments:

Communication System Band: APX 4000 7/800 - 900, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 809 MHz; σ = 0.99 S/m; ε_r = 53.8; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7519, Calibrated: 2/28/2022, Frequency: 809 MHz, ConvF(10.2, 10.2, 10.2) @ 809 MHz
Electronics: DAE4 Sn684, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (71x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 85.75 V/m; Power Drift = -0.32 dB
Fast SAR: SAR(1 g) = 5.67 W/kg; SAR(10 g) = 3.95 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 7.17 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 = 85.75 V/m; Power Drift = -0.37 dB
Peak SAR (extrapolated) = 7.46 W/kg
SAR(1 g) = 5.68 W/kg; SAR(10 g) = 4.18 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 = 76.3%
Maximum value of SAR (measured) = 6.88 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) = 6.87 W/kg



Assessments at the Face - Table 17

Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/24/2022 2:58:23 AM

Robot#: DASY5-PG-3 | Run#: DAN-FACE-221024-06#
Model#: H51UCD9PW5AN (MUF1612)
Phantom#: ELI4 1028
Tissue Temp: 21.2(C)
Serial#: 426TNV0207
Antenna: NAR6595A
Test Freq: 869.9875(MHz)
Battery: PMNN4489C
Carry Acc: None
Audio Acc: None
Start Power: 3.26 (W)

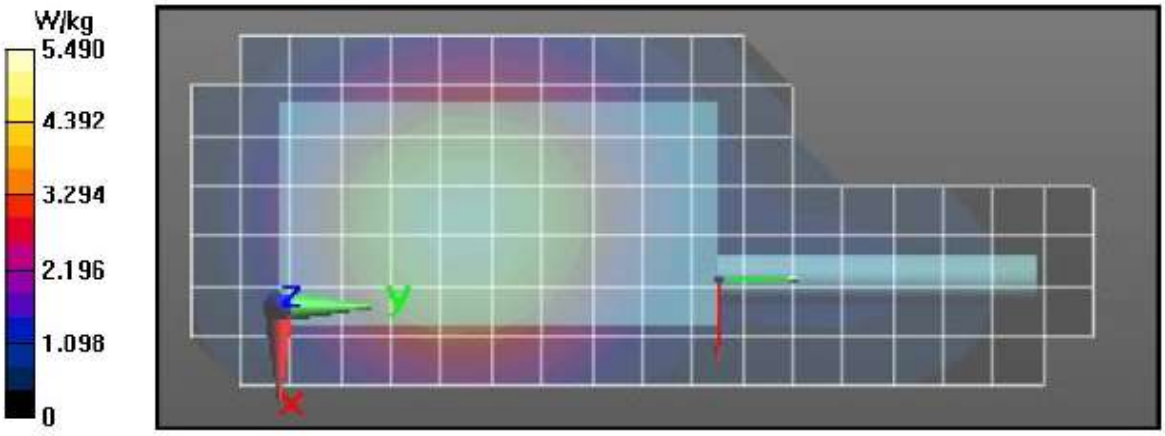
Comments:

Communication System Band: APX 4000 7/800 - 900, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 870 MHz; σ = 0.97 S/m; ε_r = 40.3; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7519, Calibrated: 2/28/2022, Frequency: 869.987 MHz, ConvF(9.57, 9.57, 9.57) @ 869.987 MHz
Electronics: DAE4 Sn684, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (71x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 74.70 V/m; Power Drift = -0.00 dB
Fast SAR: SAR(1 g) = 4.39 W/kg; SAR(10 g) = 3.07 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.57 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 = 74.70 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 6.07 W/kg
SAR(1 g) = 4.45 W/kg; SAR(10 g) = 3.24 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 = 72.9%
Maximum value of SAR (measured) = 5.51 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) = 5.56 W/kg



Assessments for ISED, Canada – Table 18

Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/23/2022 6:00:28 PM

Robot#: DASY5-PG-3 | Run#: BAD(ZIQ)-AB-221023-13
Model#: H51UCD9PW5AN (MUF1612)
Phantom#: ELI4 1090
Tissue Temp: 21.6 (C)
Serial#: 426TNV0207
Antenna: NAR6595A
Test Freq: 851.0125 (MHz)
Battery: PMNN4489C
Carry Acc: PMLN4651A
Audio Acc: HMN4104B
Start Power: 3.37 (W)

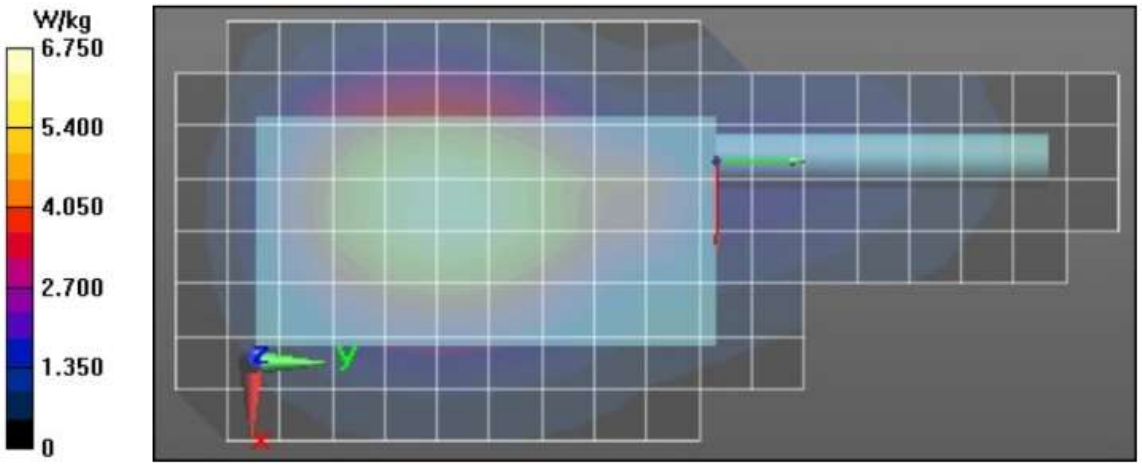
Comments:

Communication System Band: APX 4000 7/800 - 900, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 851 MHz; σ = 1.03 S/m; ε_r = 52.9; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7519, Calibrated: 2/28/2022, Frequency: 851.013 MHz, ConvF(10.07, 10.07, 10.07) @ 851.013 MHz
Electronics: DAE4 Sn684, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (81x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 78.79 V/m; Power Drift = -0.23 dB
Fast SAR: SAR(1 g) = 5.56 W/kg; SAR(10 g) = 3.84 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 7.08 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 = 78.79 V/m; Power Drift = -0.22 dB
Peak SAR (extrapolated) = 7.66 W/kg
SAR(1 g) = 5.69 W/kg; SAR(10 g) = 4.13 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) = 7.01 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) = 7.03 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 11/3/2022 4:16:55 PM

Robot#: DASY5-PG-1 | Run#:	BL-FACE-221103-07
Model#:	H51UCD9PW5AN (MUF1612)
Phantom#:	ELI4 1028
Tissue Temp:	20.5 (C)
Serial#:	426TNV0207
Antenna:	NAR6595A
Test Freq:	809.0000 (MHz)
Battery:	PMNN4489C
Carry Acc:	None
Audio Acc:	None
Start Power:	3.28 (W)

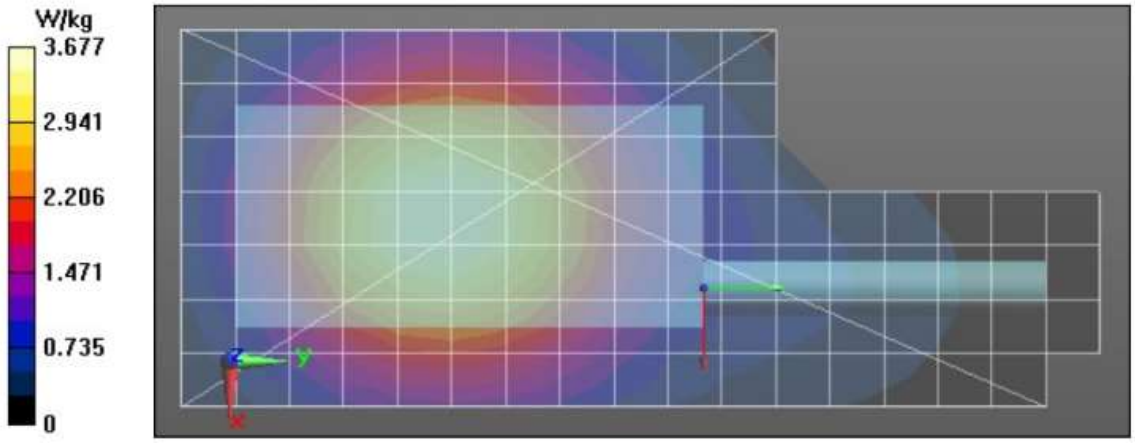
Comments:

Communication System Band: APX 4000 , Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 809 MHz; σ = 0.92 S/m; ε_r = 41.2; ρ = 1000 kg/m^3
Probe: ES3DV3 - SN3122, Calibrated: 4/19/2021, Frequency: 809 MHz, ConvF(6.43, 6.43, 6.43) @ 809 MHz
Electronics: DAE4 Sn850, Calibrated: 4/14/2022

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (71x171x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 60.57 V/m; Power Drift = 0.17 dB
Fast SAR: SAR(1 g) = 3.35 W/kg; SAR(10 g) = 2.36 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.79 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 = 60.57 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 4.50 W/kg
SAR(1 g) = 3.51 W/kg; SAR(10 g) = 2.62 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 = 76.6%
Maximum value of SAR (measured) = 3.90 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) = 3.90 W/kg



Appendix F
Shortened Scan of Highest SAR configuration

Motorola Solutions, Inc. EME Laboratory
Date/Time: 11/14/2022 11:09:23 PM

Robot#: DASY5-PG-3 | Run#: IRA-AB-221114-23
Model#: H51UCH9PW7AN (MUF1555)
Phantom#: ELI4 1090
Tissue Temp: 21.8 (C)
Serial#: 426TMT0435
Antenna: NAR6595A
Test Freq: 809.0000 (MHz)
Battery: PMNN4489C
Carry Acc: PMLN7008A
Audio Acc: HMN4104B
Start Power: 3.19 (W)

Comments:

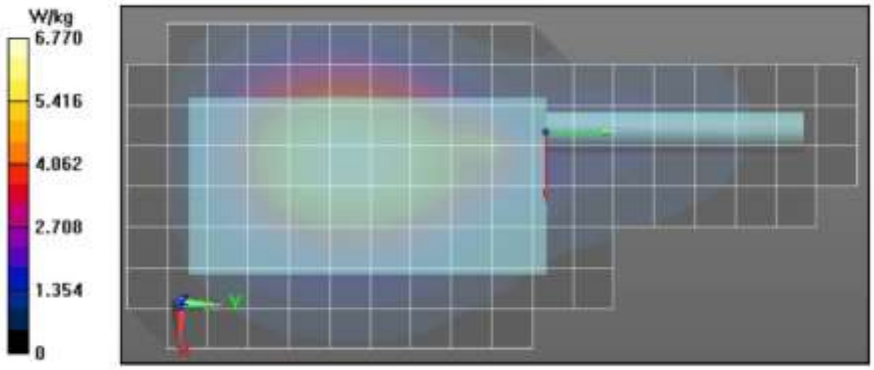
Communication System Band: APX 4000 7/800 - 900, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 809 MHz; σ = 0.97 S/m; ε_r = 56.6; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7519, Calibrated: 2/28/2022, Frequency: 809 MHz, ConvF(10.2, 10.2, 10.2) @ 809 MHz
Electronics: DAE4 Sn684, Calibrated: 2/22/2022

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (81x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 85.86 V/m; Power Drift = -0.31 dB
Fast SAR: SAR(1 g) = 5.68 W/kg; SAR(10 g) = 3.93 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 7.11 W/kg

Below 2 GHz-Rev.3/Ab Scan/2-Volume 2D Scan (41x41x1): Interpolated grid: dx=0.7500 mm, dy=0.7500 mm, dz=1.000 mm
Reference Value = 85.86 V/m; Power Drift = -0.30 dB
Fast SAR: SAR(1 g) = 5.63 W/kg; SAR(10 g) = 3.99 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 6.95 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 = 88.56 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 7.47 W/kg
SAR(1 g) = 5.71 W/kg; SAR(10 g) = 4.19 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 = 75.7%
Maximum value of SAR (measured) = 6.87 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) = 6.94 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	8	3.24
Full scan (area & zoom)	16	25	3.51

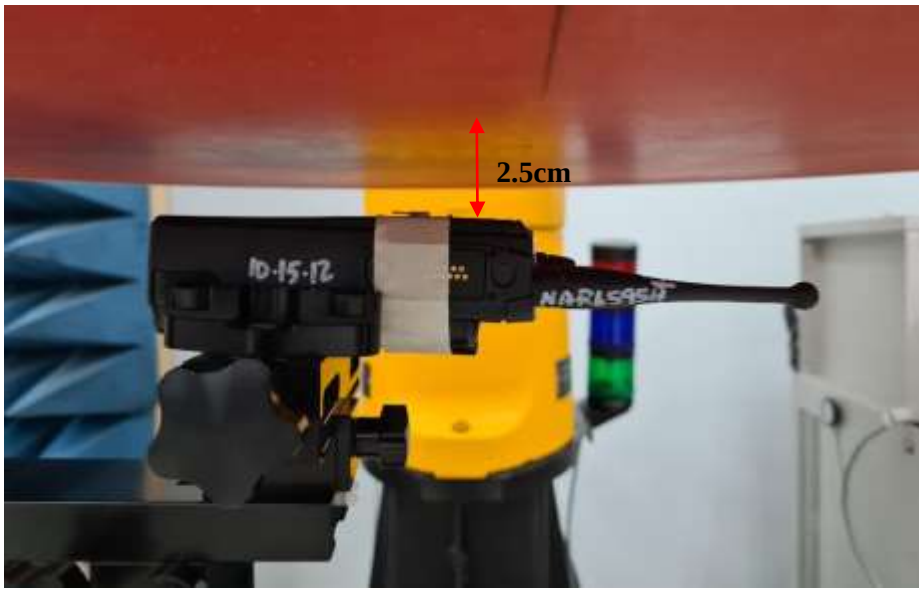
Appendix G
DUT Test Position Photos

Body

DUT with antenna NAR6595A, new battery PMNN4489C and carry accessory PMLN7008A positioned against the phantom with audio accessory HMN4104B attached.

Face

Front of DUT with antenna NAR6595A and new battery PMNN4489C separated 2.5cm from the phantom without an audio accessory attached.



Appendix H
New Battery Photo

Battery PMNN4489C (front, side & back view)

For photos of the DUT and other offered accessories, please refer to the original filing report