MOTOROLA SOLUTIONS

MS ISO/IEC 17025 TESTING SAMM No. 0826

ACCREDITED 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
Plot 2A, Medan Bayan Lepas,
Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.

Date of Report: 04/13/2020
Report Revision: A

Responsible Engineer:	Ch'ng Jian Sheng
Report Author:	Ch'ng Jian Sheng
Date/s Tested:	09/27/2019, 10/08/2019, 10/22/2019, 10/25/2019, 11/17/2019, 12/19/2019, 01/15/2020 - 01/17/2020, 03/29/2020 - 03/30/2020, 04/09/2020
Manufacturer:	Motorola Solutions Inc.
DUT Description:	Handheld Portable - 136 – 174 MHz, 6.25kHz/12.5kHz/25kHz. Capable of digital and analog FM transmission. Also capable of TDMA transmission and BT transmission.
Test TX mode(s):	CW (PTT);
Max. Power output:	5.9W (LMR); 0.01W (BT)
Nominal Power:	5.5W (LMR); 0.01W (BT)
Tx Frequency Bands:	136-174 MHz (LMR); 2.402-2.480GHz (BT)
Signaling type:	FM, TDMA; FHSS (BT)
Model(s) Tested:	H51KDH9PW7AN (MUD2601)
Model(s) Certified:	H51KDH9PW7AN (MUD2601), H51KDF9PW6AN(MUD2603), H51KDF9PW6AN (MUD3309A), H51KDH9PW7AN (MUD3310)
Serial Number(s):	426TNH0030
Classification:	Occupational/Controlled
Applicant Name:	Motorola Solutions Inc.
Applicant Address:	8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322
FCC ID:	AZ489FT3828; LMR 150.8-173.4MHz; Bluetooth 2.402-2.480 GHz This report contains results that are immaterial for FCC equipment approval, which are clearly identified.
IC:	109U-89FT3828 This report contains results that are immaterial for ISED equipment approval, which are clearly identified.
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
Digitally signed by Tiong Nguk Ing
Date: 2020.04.17 15:57:37 +08'00'

Tiong Nguk Ing
Deputy Technical Manager (Approved Signatory)
Approval Date: 4/17/2020

Appendix D
System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/8/2019 12:54:17 AM

Robot#: DASY5-PG-4 | Run#: AN-SYSP-150B-191008-01
Dipole Model# CLA150
Phantom#: ELI4 1022
Tissue Temp: 21.2 (C)
Serial#: 4005
Test Freq: 150.0000 (MHz)
Start Power: 1000 (mW)
Rotation (1D): 0.092 dB
Adjusted SAR (1W): 3.94 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.79 S/m; ε_r = 59.2; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7485, Calibrated: 1/23/2019, Frequency: 150 MHz, ConvF(13.55, 13.55, 13.55) @ 150 MHz
Electronics: DAE4 Sn688, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (81x81x1):

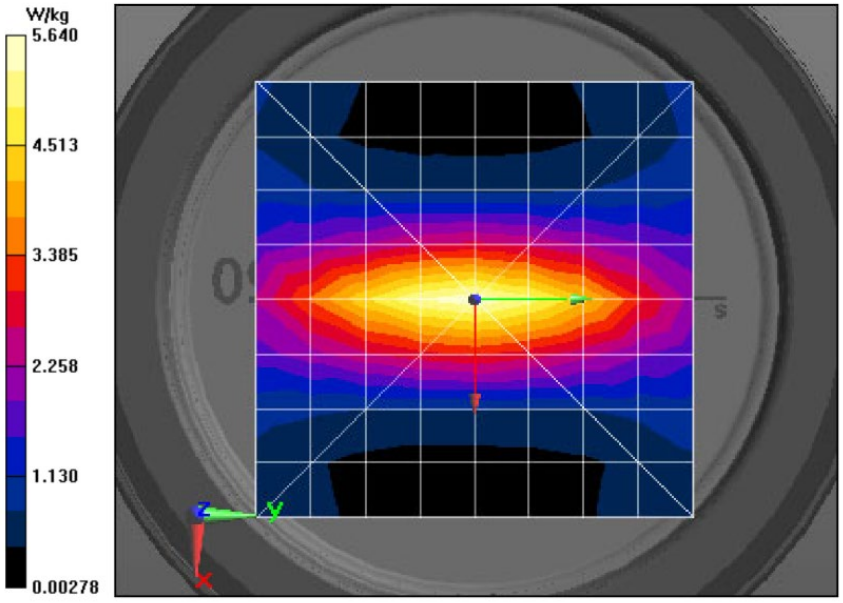
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 83.79 V/m; Power Drift = 0.01 dB
Fast SAR: SAR(1 g) = 4.65 W/kg; SAR(10 g) = 3.3 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.64 W/kg

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 = 83.79 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 6.84 W/kg
SAR(1 g) = 3.94 W/kg; SAR(10 g) = 2.57 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.57 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) = 5.64 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 9/27/2019 12:07:31 AM

Robot#: DASY5-PG-4 | Run#:	AM-SYSP-150H-190927-01#
Dipole Model#	CLA150
Phantom#:	ELI4 1109
Tissue Temp:	20.9 (C)
Serial#:	4005
Test Freq:	150.0000 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.12 dB
Adjusted SAR (1W):	3.94 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.79 S/m; ε_r = 52.7; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7485, Calibrated: 1/23/2019, Frequency: 150 MHz, ConvF(14.29, 14.29, 14.29) @ 150 MHz
Electronics: DAE4 Sn688, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (81x81x1):

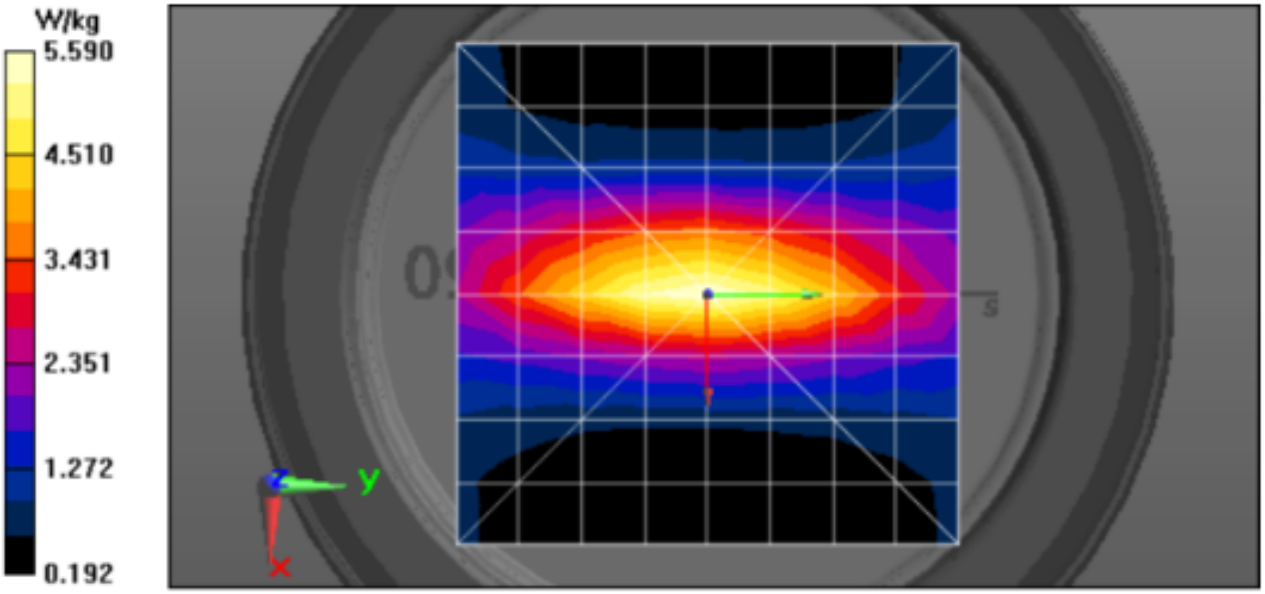
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 85.31 V/m; Power Drift = -0.02 dB
Fast SAR: SAR(1 g) = 4.63 W/kg; SAR(10 g) = 3.3 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.76 W/kg

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 = 85.31 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 6.97 W/kg
SAR(1 g) = 3.94 W/kg; SAR(10 g) = 2.59 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.71 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) = 5.69 W/kg



Motorola Solutions, Inc. EME Laboratory
Date/Time: 12/19/2019 1:40:44PM

Robot#: DASY5-PG-1 | Run#:	IZ-SYSP-150B-191219-04
Dipole Model#	CLA-150
Phantom#:	ELI4 1016
Tissue Temp:	23.4 (C)
Serial#:	4005
Test Freq:	150.0000 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.2 dB
Adjusted SAR (1W):	4.20 mW/g (1g)

Comments:

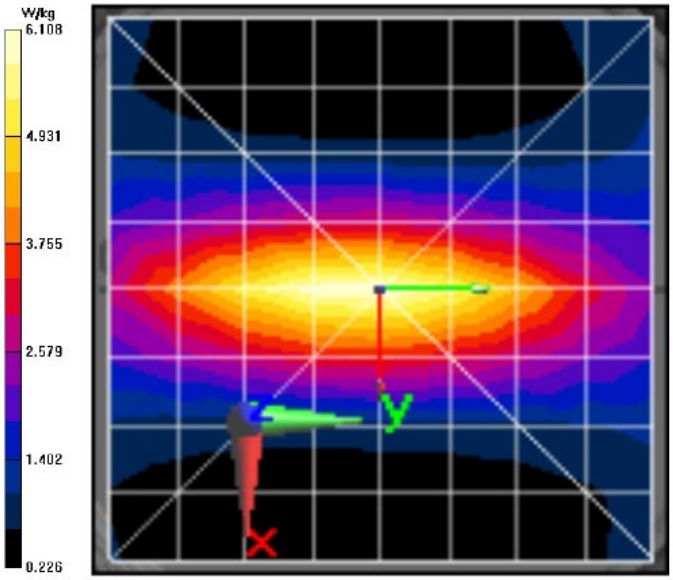
Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.82 S/m; ε_r = 59; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 150 MHz, ConvF(13.5, 13.5, 13.5) @ 150 MHz
Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (81x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 87.02 V/m; Power Drift = 0.02 dB
Fast SAR: SAR(1 g) = 4.99 W/kg; SAR(10 g) = 3.55 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 6.22 W/kg

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (9x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.11 W/kg

Below 2 GHz-Rev.2/System Performance Check/0-Degree Cube (5x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.02 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 7.74 W/kg
SAR(1 g) = 4.2 W/kg; SAR(10 g) = 2.73 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 6.25 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) = 6.27 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 1/15/2020 3:19:27 PM

Robot#: DASY5-PG-1 | Run#: IZ-SYSP-150B-200115-05
Dipole Model# CLA150
Phantom#: ELI4 1022
Tissue Temp: 21.5 (C)
Serial#: 4005
Test Freq: 150.0000 (MHz)
Start Power: 1000 (mW)
Rotation (1D): 0.17 dB
Adjusted SAR (1W): 4.16 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.77 S/m; ε_r = 59.1; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 150 MHz, ConvF(13.5, 13.5, 13.5) @ 150 MHz
Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (81x81x1):

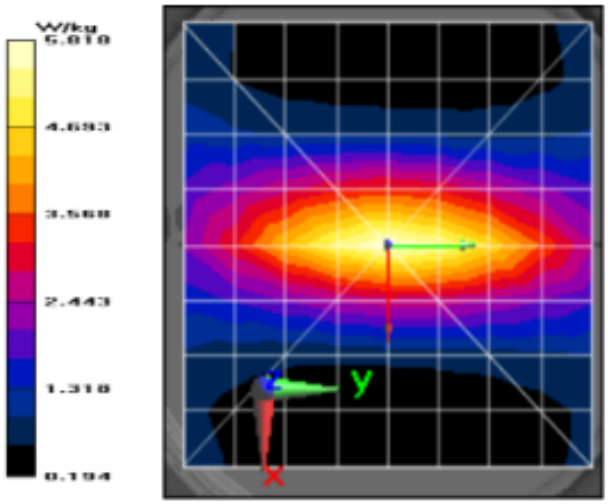
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 89.90 V/m; Power Drift = -0.18 dB
Fast SAR: SAR(1 g) = 4.95 W/kg; SAR(10 g) = 3.5 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.89 W/kg

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 = 89.90 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 7.29 W/kg
SAR(1 g) = 4.16 W/kg; SAR(10 g) = 2.71 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.89 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) = 6.14 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 1/16/2020 2:44:18 AM

Robot#: DASY5-PG-1 | Run#:	ZZ-SYSP-150H-200116-04#
Dipole Model#	CLA150
Phantom#:	ELI4 1109
Tissue Temp:	21.3 (C)
Serial#:	4005
Test Freq:	150.0000 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.20 dB
Adjusted SAR (1W):	4.09 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.72 S/m; ε_r = 52.9; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 150 MHz, ConvF(13.81, 13.81, 13.81) @ 150 MHz
Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (81x81x1):

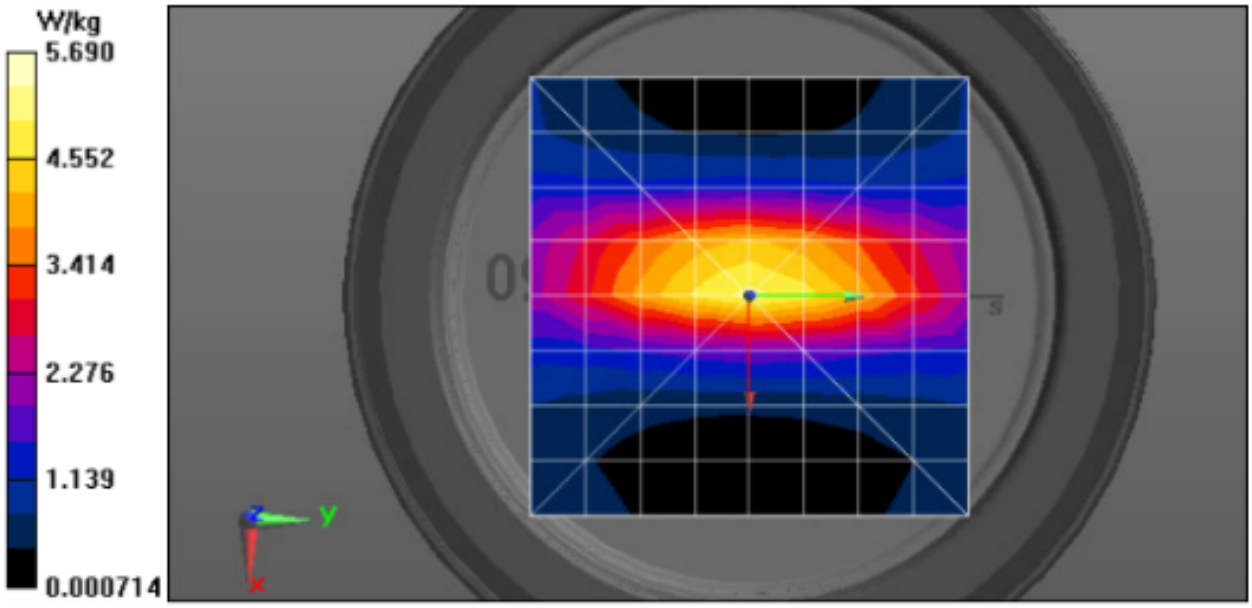
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 88.87 V/m; Power Drift = -0.07 dB
Fast SAR: SAR(1 g) = 4.86 W/kg; SAR(10 g) = 3.44 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.68 W/kg

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 = 88.87 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 7.00 W/kg
SAR(1 g) = 4.09 W/kg; SAR(10 g) = 2.65 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.65 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) = 5.69 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/25/2019 1:16:11 AM

Robot#: DASY5-PG-2 | Run#: BL-SYSP-150B-191025-01
Dipole Model# CLA-150
Phantom#: ELI4 1022
Tissue Temp: 21. (C)
Serial#: 4005
Test Freq: 150.0000 (MHz)
Start Power: 1000 (mW)
Rotation (1D): 0.18 dB
Adjusted SAR (1W): 4.04 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.81 S/m; ε_r = 58.9; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7534, Calibrated: 7/25/2019, Frequency: 150 MHz, ConvF(13.36, 13.36, 13.36) @ 150 MHz
Electronics: DAE3 Sn374, Calibrated: 7/17/2019

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (81x81x1):

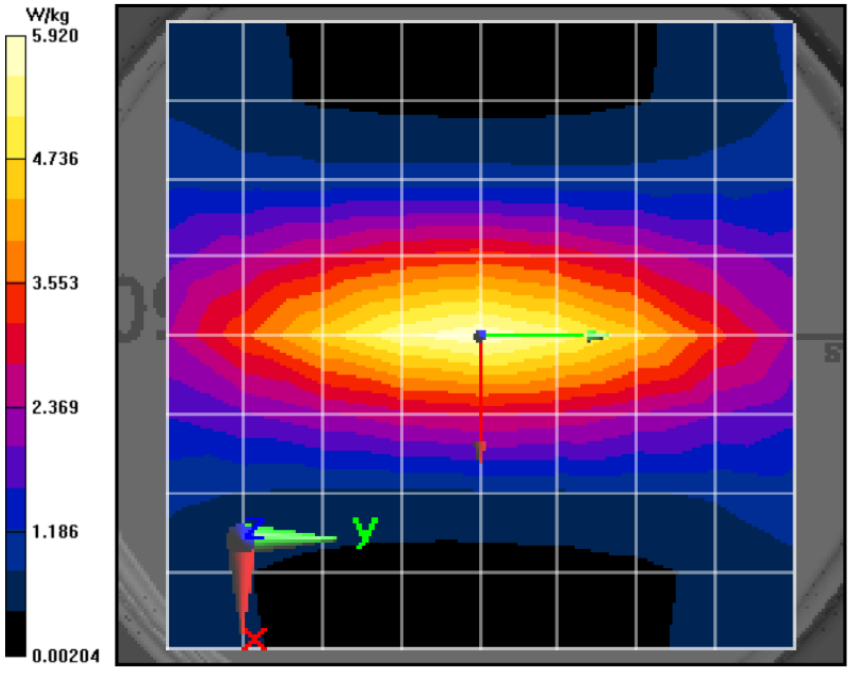
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 85.47 V/m; Power Drift = 0.03 dB
Fast SAR: SAR(1 g) = 4.79 W/kg; SAR(10 g) = 3.41 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.91 W/kg

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 = 85.47 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 7.25 W/kg
SAR(1 g) = 4.04 W/kg; SAR(10 g) = 2.66 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.88 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) = 5.92 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/21/2019 8:33:57 PM

Robot#: DASY5-PG-2 | Run#: ZZ(NZ)-SYSP-150H-191021-05
Dipole Model# CLA150
Phantom#: ELI4 1109
Tissue Temp: 20.8 (C)
Serial#: 4005
Test Freq: 150 (MHz)
Start Power: 1000 (mW)
Rotation (1D): 0.17 dB
Adjusted SAR (1W): 3.86 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.75 S/m; ε_r = 51.7; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7534, Calibrated: 7/25/2019, Frequency: 150 MHz, ConvF(13.79, 13.79, 13.79) @ 150 MHz
Electronics: DAE3 Sn374, Calibrated: 7/17/2019

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (81x81x1):

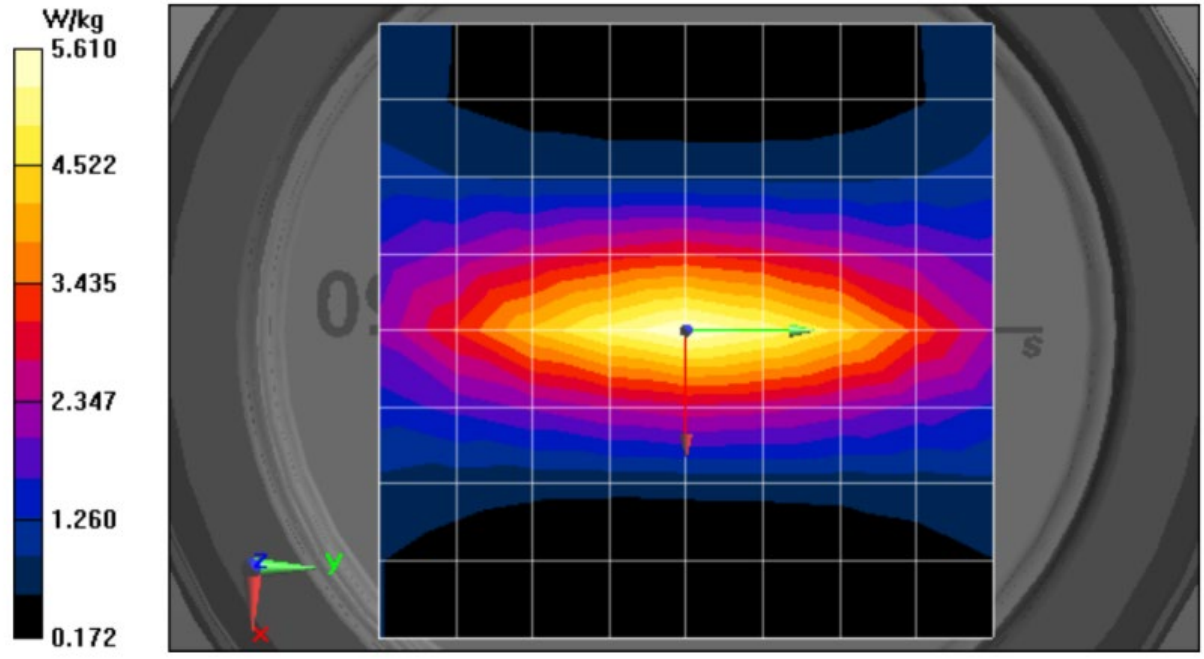
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 86.48 V/m; Power Drift = -0.13 dB
Fast SAR: SAR(1 g) = 4.68 W/kg; SAR(10 g) = 3.29 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.65 W/kg

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 = 86.48 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 7.11 W/kg
SAR(1 g) = 3.86 W/kg; SAR(10 g) = 2.49 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.65 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) = 5.60 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 11/17/2019 3:50:14 PM

Robot#: DASY5-PG-3 | Run#:	FD(NZ)-SYSP-150H-191117-07
Dipole Model#	CLA150
Phantom#:	ELI4 1108
Tissue Temp:	20.8 (C)
Serial#:	4005
Test Freq:	150.0000 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.17 dB
Adjusted SAR (1W):	3.85 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.73 S/m; ε_r = 50; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 150 MHz, ConvF(12.97, 12.97, 12.97) @ 150 MHz
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (81x81x1):

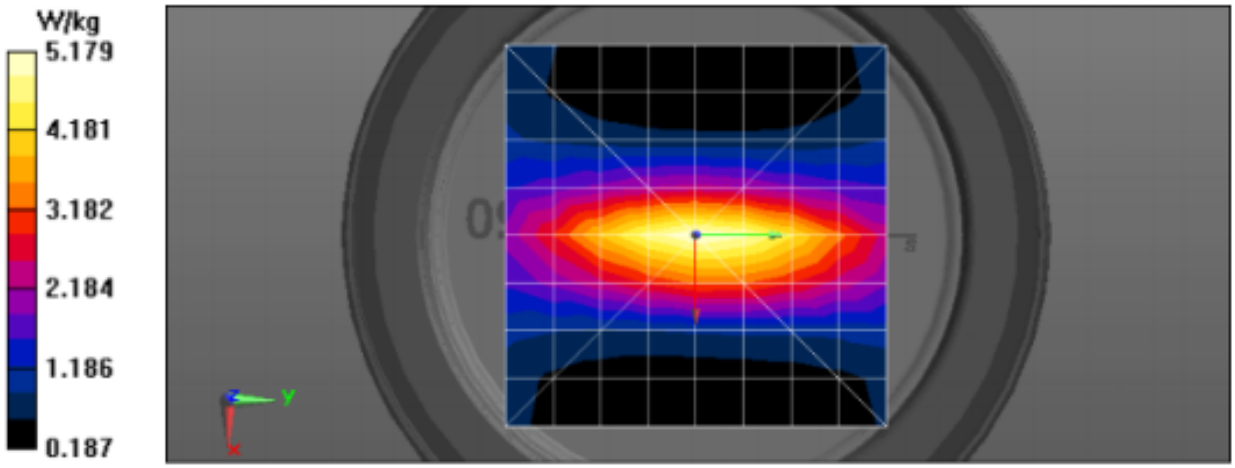
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 85.57 V/m; Power Drift = -0.12 dB
Fast SAR: SAR(1 g) = 4.48 W/kg; SAR(10 g) = 3.18 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.33 W/kg

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 = 85.57 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 6.46 W/kg
SAR(1 g) = 3.85 W/kg; SAR(10 g) = 2.51 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.32 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) = 5.30 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 1/15/2020 10:50:44 AM

Robot#: DASY5-PG-3 | Run#:	FAZ-SYSP-150B-200115-02
Dipole Model#	CLA150
Phantom#:	ELI4 1016
Tissue Temp:	21.0 (C)
Serial#:	4005
Test Freq:	150.0000 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.064 dB
Adjusted SAR (1W):	4.17 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.77 S/m; ε_r = 60.1; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7486, Calibrated: 10/24/2019, Frequency: 150 MHz, ConvF(13.04, 13.04, 13.04) @ 150 MHz
Electronics: DAE4 Sn850, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (81x81x1):

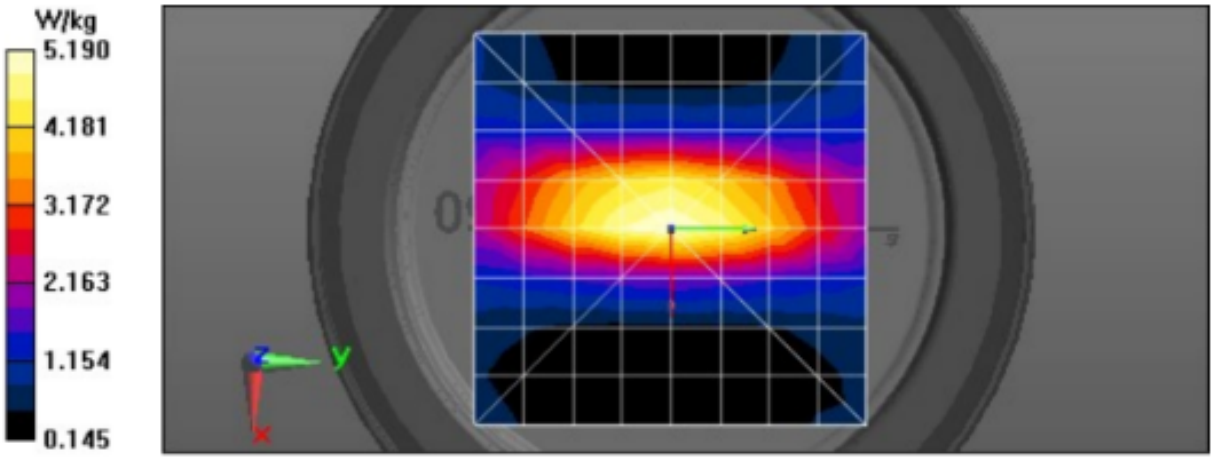
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 86.90 V/m; Power Drift = -0.08 dB
Fast SAR: SAR(1 g) = 4.9 W/kg; SAR(10 g) = 3.48 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.86 W/kg

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 = 86.90 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 7.01 W/kg
SAR(1 g) = 4.17 W/kg; SAR(10 g) = 2.73 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.77 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) = 5.79 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 1/16/2020 2:44:18 AM

Robot#: DASY5-PG-1 | Run#:	ZZ-SYSP-150H-200116-04#
Dipole Model#	CLA150
Phantom#:	ELI4 1109
Tissue Temp:	21.3 (C)
Serial#:	4005
Test Freq:	150.0000 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.20 dB
Adjusted SAR (1W):	4.09 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.72 S/m; ε_r = 52.9; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 150 MHz, ConvF(13.81, 13.81, 13.81) @ 150 MHz
Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (81x81x1):

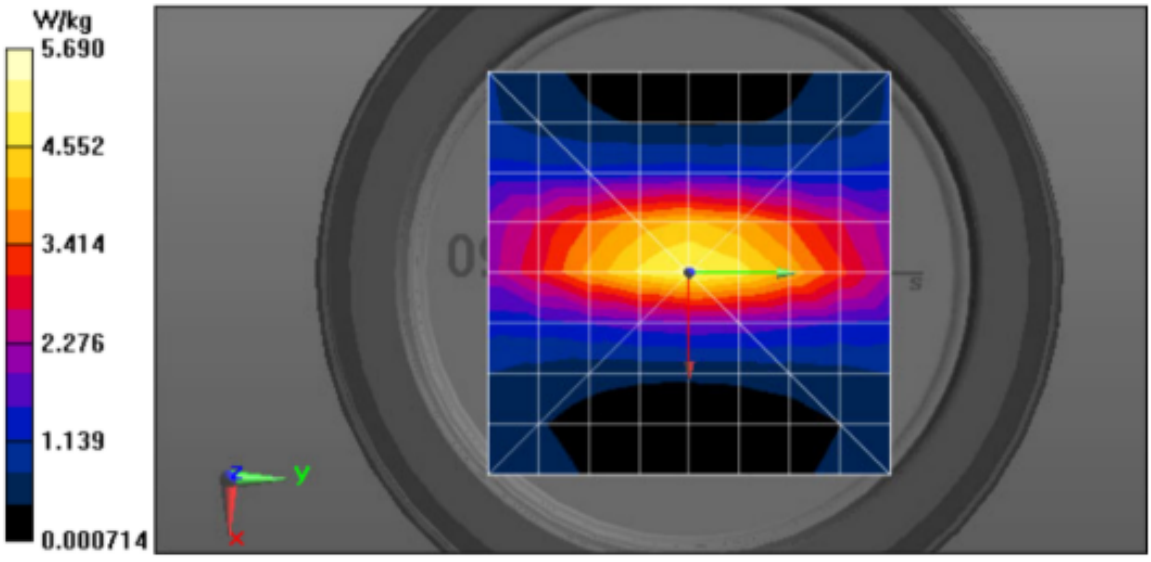
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 88.87 V/m; Power Drift = -0.07 dB
Fast SAR: SAR(1 g) = 4.86 W/kg; SAR(10 g) = 3.44 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.68 W/kg

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 = 88.87 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 7.00 W/kg
SAR(1 g) = 4.09 W/kg; SAR(10 g) = 2.65 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.65 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) = 5.69 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 3/29/2020 4:19:54 AM

Robot#: DASY5-PG-4 | Run#: BL-SYSP-150B-200329-03
Dipole Model# CLA150
Phantom#: ELI4 1016
Tissue Temp: 20.7 (C)
Serial#: 4016
Test Freq: 150.0000 (MHz)
Start Power: 1000 (mW)
Rotation (1D): 0.2 dB
Adjusted SAR (1W): 4.16 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.79 S/m; ε_r = 61.2; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7511, Calibrated: 10/24/2019, Frequency: 150 MHz, ConvF(11.72, 11.72, 11.72) @ 150 MHz
Electronics: DAE4 Sn729, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (81x81x1):

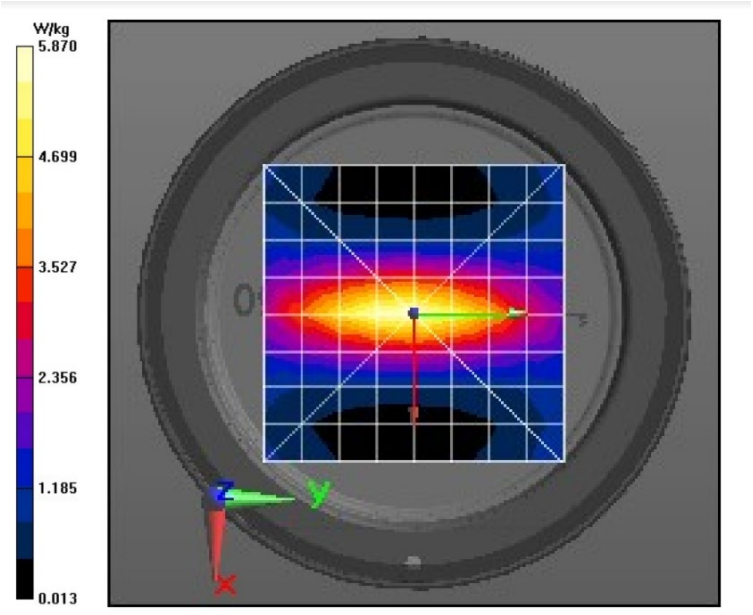
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 86.08 V/m; Power Drift = -0.08 dB
Fast SAR: SAR(1 g) = 4.94 W/kg; SAR(10 g) = 3.5 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.99 W/kg

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 = 86.08 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 7.16 W/kg
SAR(1 g) = 4.16 W/kg; SAR(10 g) = 2.7 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.86 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) = 5.87 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 3/30/2020 4:18:18 AM

Robot#: DASY5-PG-4 | Run#:	BL-SYSP-150H-200330-04#
Dipole Model#	CLA150
Phantom#:	ELI4 1109
Tissue Temp:	21.2 (C)
Serial#:	4016
Test Freq:	150.0000 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.2 dB
Adjusted SAR (1W):	3.76 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.72 S/m; ε_r = 54.1; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7511, Calibrated: 10/24/2019, Frequency: 150 MHz, ConvF(12.15, 12.15, 12.15) @ 150 MHz
Electronics: DAE4 Sn729, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (81x81x1):

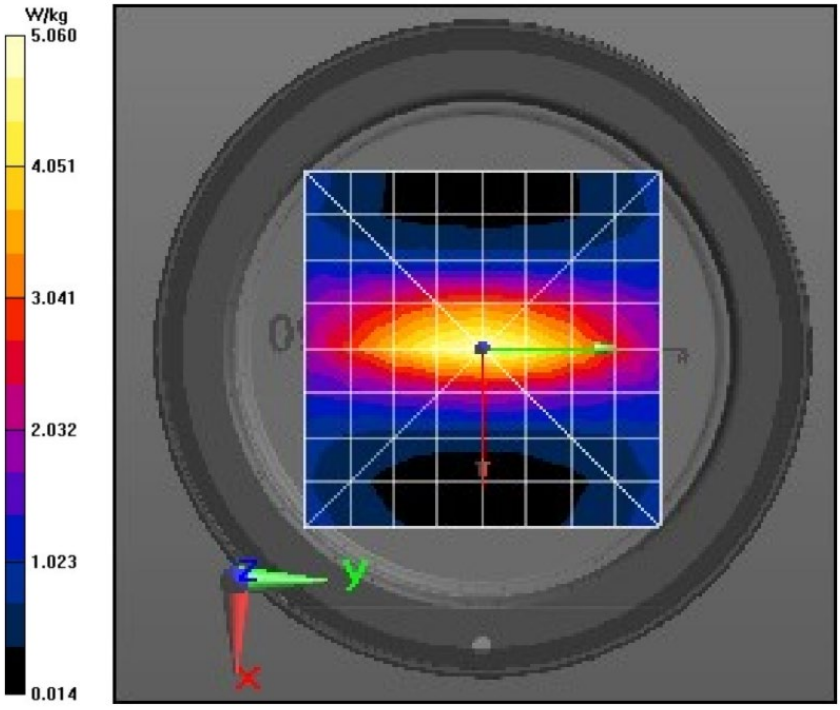
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 84.07 V/m; Power Drift = -0.11 dB
Fast SAR: SAR(1 g) = 4.44 W/kg; SAR(10 g) = 3.13 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.13 W/kg

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 = 84.07 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 6.16 W/kg
SAR(1 g) = 3.76 W/kg; SAR(10 g) = 2.45 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.05 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) = 5.06 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 4/9/2020 10:19:53 AM

Robot#: DASY5-PG-4 | Run#:	NZ-SYSP-150B-200409-06
Dipole Model#	CLA150
Phantom#:	ELI4 1016
Tissue Temp:	20.0 (C)
Serial#:	4016
Test Freq:	150.0000 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.2 dB
Adjusted SAR (1W):	4.03 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.78 S/m; ε_r = 60.3; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7511, Calibrated: 10/24/2019, Frequency: 150 MHz, ConvF(11.72, 11.72, 11.72) @ 150 MHz
Electronics: DAE4 Sn729, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (81x81x1):

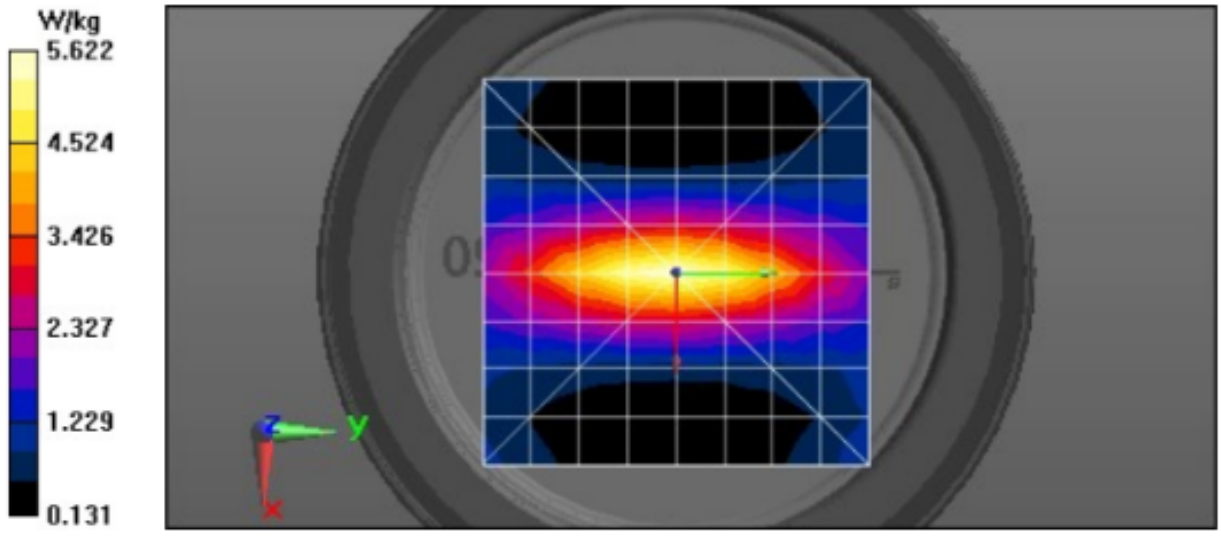
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 86.56 V/m; Power Drift = -0.14 dB
Fast SAR: SAR(1 g) = 4.75 W/kg; SAR(10 g) = 3.37 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 5.65 W/kg

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 = 86.56 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 6.86 W/kg
SAR(1 g) = 4.03 W/kg; SAR(10 g) = 2.62 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 5.63 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) = 5.62 W/kg



Appendix E
DUT Scans

Assessment for FCC at Body - Table 16

Motorola Solutions, Inc. EME Laboratory
Date/Time: 3/29/2020 6:44:54 PM

Robot#: DASY5-PG-4 | Run#:	BL-AB-200329-12
Model#:	H51KDH9PW7AN (MUD2601)
Phantom#:	ELI4 1016
Tissue Temp:	20.1 (C)
Serial#:	426TNH0030
Antenna:	NAR6593A
Test Freq:	150.8000 (MHz)
Battery:	NNTN8128C
Carry Acc:	PMLN6085A w/NTN5243A (w/o belt loop)
Audio Acc:	None
Start Power:	5.75 (W)

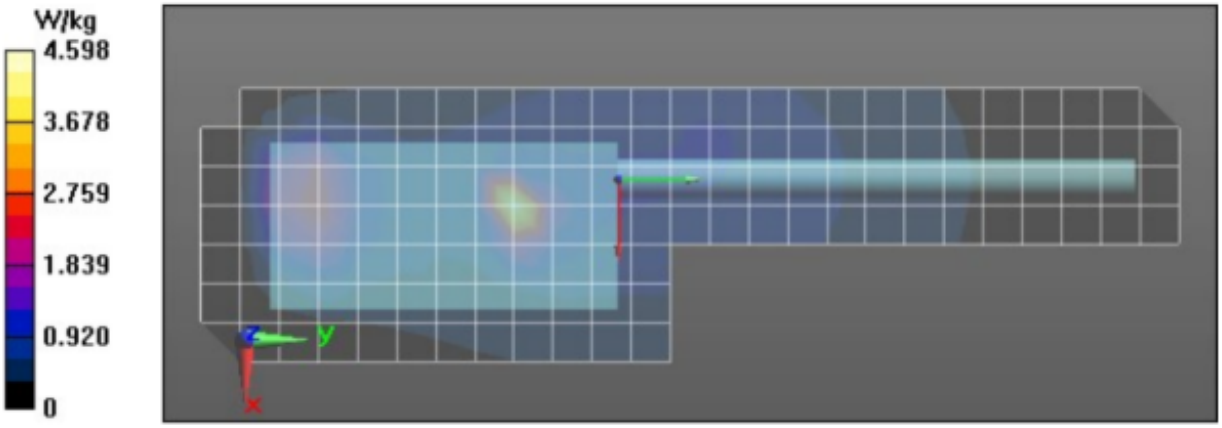
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 151 MHz; σ = 0.8 S/m; ε_r = 61.2; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7511, Calibrated: 10/24/2019, Frequency: 150.8 MHz, ConvF(11.72, 11.72, 11.72) @ 150.8 MHz
Electronics: DAE4 Sn729, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (91x261x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 41.77 V/m; Power Drift = -0.14 dB
Fast SAR: SAR(1 g) = 3.11 W/kg; SAR(10 g) = 1.67 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 4.65 W/kg

Below 2 GHz-Rev.3/Ab Scan/3-Zoom Scan (13x13x8)/Cube 0: Measurement grid: dx=2.5mm, dy=2.5mm, dz=1.4mm
Reference Value = 41.77 V/m; Power Drift = -0.29 dB
Peak SAR (extrapolated) = 53.5 W/kg
SAR(1 g) = 3.38 W/kg; SAR(10 g) = 1.26 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 10.1 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) = 9.67 W/kg



Assessment for FCC at Face - Table 16

Motorola Solutions, Inc. EME Laboratory

Date/Time: 1/16/2020 3:21:17 AM

Robot#: DASY5-PG-1 | Run#: ZZ-FACE-200116-05#
Model#: H51KDH9PW7AN (MUD2601)
Phantom#: ELI4 1109
Tissue Temp: 21.3 (C)
Serial#: 426TNH0030
Antenna: NAR6593A
Test Freq: 150.8000 (MHz)
Battery: PMNN4491C
Carry Acc: None, Front
Audio Acc: None
Start Power: 5.50 (W)

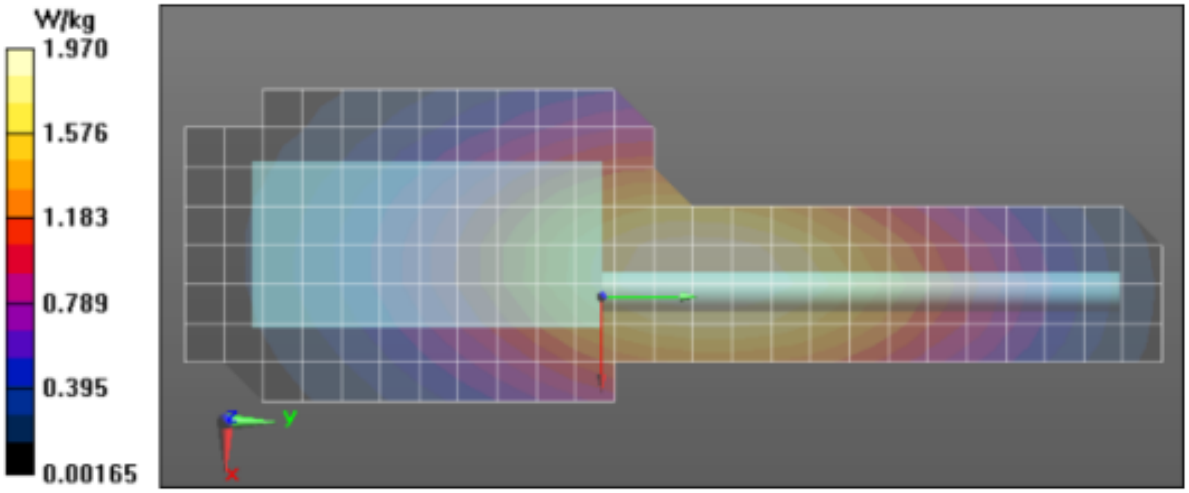
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 151 MHz; σ = 0.72 S/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 150.8 MHz, ConvF(13.81, 13.81, 13.81) @ 150.8 MHz
Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (81x251x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 51.58 V/m; Power Drift = -0.16 dB
Fast SAR: SAR(1 g) = 1.78 W/kg; SAR(10 g) = 1.38 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 2.02 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 = 51.58 V/m; Power Drift = 0.66 dB
Peak SAR (extrapolated) = 2.31 W/kg
SAR(1 g) = 1.63 W/kg; SAR(10 g) = 1.26 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.99 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) = 1.97 W/kg



Assessment for ISED, Canada at Body – Table 17 and 18

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/8/2019 10:03:50 PM

Robot#: DASY5-PG-4 | Run#: AN-AB-191008-14
Model#: H51KDH9PW7AN (MUD2601)
Phantom#: ELI4 1022
Tissue Temp: 21.0 (C)
Serial#: 426TNH0030
Antenna: NAR6593A
Test Freq: 139.7000 (MHz)
Battery: PMNN4448B
Carry Acc: PMLN6085A NTN5243A wo belt loop
Audio Acc: None
Start Power: 5.35 (W)

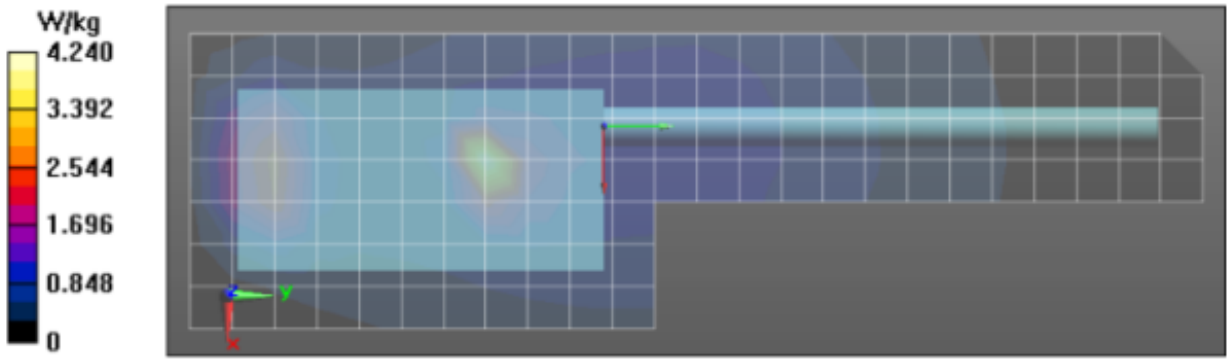
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 140 MHz; σ = 0.78 S/m; ε_r = 59.5; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7485, Calibrated: 1/23/2019, Frequency: 139.7 MHz, ConvF(13.55, 13.55, 13.55) @ 139.7 MHz
Electronics: DAE4 Sn688, Calibrated: 1/10/2019

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (81x271x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 39.82 V/m; Power Drift = -0.28 dB
Fast SAR: SAR(1 g) = 3.11 W/kg; SAR(10 g) = 1.78 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 4.34 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (13x13x7)/Cube 0: Measurement grid: dx=2.5mm, dy=2.5mm, dz=1.4mm
Reference Value = 39.82 V/m; Power Drift = -0.38 dB
Peak SAR (extrapolated) = 29.1 W/kg
SAR(1 g) = 3.38 W/kg; SAR(10 g) = 1.4 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 6.63 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) = 6.83 W/kg



Assessment for ISED, Canada at Face – Table 17 and 18

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/22/2019 1:51:59 AM

Robot#: DASY5-PG-2 | Run#:	ZZ(NZ)-FACE-191022-02#
Model#:	H51KDH9PW7AN (MUD2601)
Phantom#:	ELI4 1109
Tissue Temp:	21.1 (C)
Serial#:	426TNH0030
Antenna:	NAR6593A
Test Freq:	139.7000 (MHz)
Battery:	PMNN4424B
Carry Acc:	None @ front
Audio Acc:	N/A
Start Power:	5.42 (W)

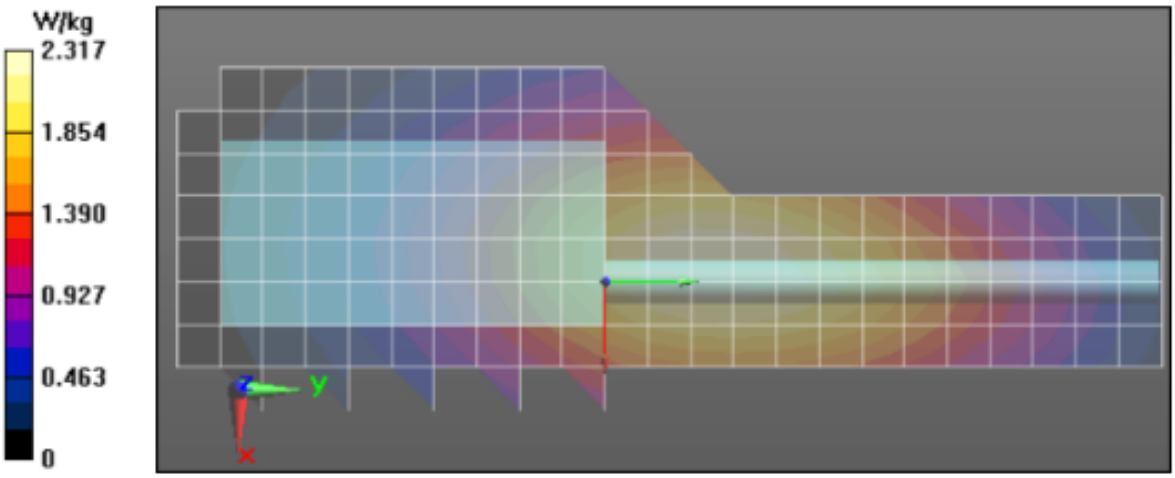
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 140 MHz; σ = 0.74 S/m; ε_r = 52.1; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7534, Calibrated: 7/25/2019, Frequency: 139.7 MHz, ConvF(13.79, 13.79, 13.79) @ 139.7 MHz
Electronics: DAE3 Sn374, Calibrated: 7/17/2019

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (81x231x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 56.24 V/m; Power Drift = -0.40 dB
Fast SAR: SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.61 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 2.35 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 = 56.24 V/m; Power Drift = -0.53 dB
Peak SAR (extrapolated) = 2.61 W/kg
SAR(1 g) = 1.92 W/kg; SAR(10 g) = 1.49 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 2.24 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) = 2.20 W/kg



APPENDIX F
Shortened Scan of Highest SAR configuration

Shortened Scan Assessment - Table 19

Motorola Solutions, Inc. EME Laboratory
Date/Time: 4/9/2020 2:22:22 PM

Robot#: DASY5-PG-4 | Run#: NZ-AB-200409-08
Model#: H51KDH9PW7AN (MUD2601)
Phantom#: ELI4 1016
Tissue Temp: 20.3 (C)
Serial#: 426TNH0030
Antenna: NAR6593A
Test Freq: 150.8000 (MHz)
Battery: NNTN8128C
Carry Acc: PMLN6085A w/NTN5243A (w/o belt loop)
Audio Acc: None
Start Power: 5.65 (W)

Comments:

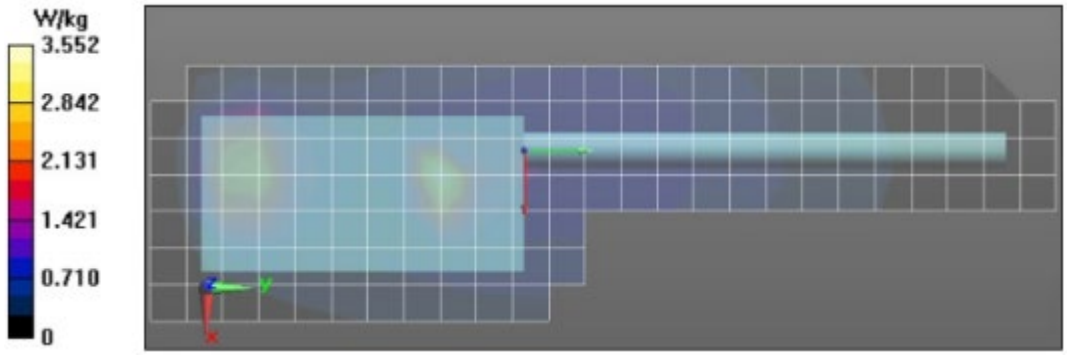
Duty Cycle: 1:1, Medium parameters used: f = 151 MHz; σ = 0.78 S/m; ε_r = 60.3; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN7511, Calibrated: 10/24/2019, Frequency: 150.8 MHz, ConvF(11.72, 11.72, 11.72) @ 150.8 MHz
Electronics: DAE4 Sn729, Calibrated: 10/16/2019

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (101x281x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 39.21 V/m; Power Drift = -0.38 dB
Fast SAR: SAR(1 g) = 2.64 W/kg; SAR(10 g) = 1.81 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.65 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 = 39.21 V/m; Power Drift = -0.36 dB
Fast SAR: SAR(1 g) = 5.2 W/kg; SAR(10 g) = 2.2 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 10.1 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 = 62.67 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 17.7 W/kg
SAR(1 g) = 3.28 W/kg; SAR(10 g) = 1.31 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 9.55 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) = 8.51 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	1.72
Full scan (area & zoom)	16	30	1.85

APPENDIX G
DUT Test Position Photos

1.0 Highest SAR Test Position per body location

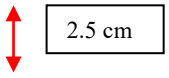
1.1 Body

DUT with antenna NAR6593A, new offered battery NNTN8128C and body worn PMLN6085A w/ NTN5243A positioned against the phantom without an audio accessory attached. Same position is also applicable for other batteries.

Antenna kit #	Separation Distances (mm)		
	@ bottom surface of DUT	@ base of antenna	@ tip of antenna
NAR6593A	0	56	110

1.2 Face

Front of DUT with antenna NAR6593A and new offered battery PMNN4491C separated 2.5cm from the phantom without an audio accessory attached. Same position is also applicable for other batteries.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of DUT	@ base of antenna	@ tip of antenna
NAR6593A	28	41	54

APPENDIX H
Battery Photo

Front view

side view

Back view

New offered battery PMNN4448B

Front view

side view

Back view

New offered battery PMNN4424B

Front view **side view** **Back view**

New offered battery NNTN8128C

Front view **side view** **Back view**

New offered battery PMNN4491C

For photos of other previously approved accessories please refer to previous filing report.