



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: 4/6/2020**Report Revision:** B

Responsible Engineer: Kin Kting Lee (EME Engineer)
Report Author: Puteri Alifah Ilyana Binti Nor Rahim (EME Engineer)
Date/s Tested: 12/26/2019-12/27/2019, 01/16/2020
Manufacturer: Motorola Solutions Inc.
DUT Description: Handheld Portable – APX 900 Two Knob UHF R1 Model 2 Portable
 APX 900 Two Knob UHF R1 Model 3 Portable
Test TX mode(s): CW (PTT), Bluetooth, and WLAN 802.11b/g/n
Max. Power output: 5.70 W (380-480MHz), 10 mW (Bluetooth), 10 mW (Bluetooth LE), 22.4 mW (802.11b), 8.3 mW (802.11g), 12.6 mW (802.11n)
Nominal Power: 5.00 W (380-480MHz), 8.9 mW (Bluetooth), 8.9 mW (Bluetooth LE), 16.6 mW (802.11b), 6.6 mW (802.11g), 10 mW (802.11n)
Tx Frequency Bands: LMR 380-480 MHz; Bluetooth 2402-2480 MHz; WLAN 2412-2462 MHz
Signaling type: FM (LMR), FHSS (Bluetooth), 802.11b/g/n (WLAN)
Model(s) Tested: H92QDH9PW7AN (PMUE5244A), H92QDF9PW6AN (PMUE5243A)
Model(s) Certified: H92QDH9PW7AN (PMUE5244A), H92QDF9PW6AN (PMUE5243A), H93QDH9PW7AN
Serial Number(s): 837TTF0543, 837TTF0487
Classification: Occupational/Controlled
FCC ID: AZ489FT7097; LMR 406.125-480 MHz, Bluetooth 2.402-2.480 GHz, WLAN 802.11 b/g/n 2.412-2.462 GHz
IC: 109U-89FT7097
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
Deputy Technical Manager (Approved Signatory)
Approval Date: 4/6/2020

Digitally signed
 by Tiong Nguk
 Ing
 Date:
 2020.04.06
 23:45:02 +08'00'

Appendix D

System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory

Date/Time: 12/26/2019 10:52:51 AM

Robot#: DASY5-PG-1 | Run#: AM-SYSP-450H-191226-07

Dipole Model# D450V3

Phantom#: ELI4 1103

Tissue Temp: 20.9 (C)

Serial#: 1054

Test Freq: 450.000 (MHz)

Start Power: 250 (mW)

Rotation (1D): 0.092 dB

Adjusted SAR (1W): 4.96 mW/g (1g)

Comments:Duty Cycle: 1:1, Medium parameters used: $f = 450$ MHz; $\sigma = 0.87$ S/m; $\epsilon_r = 44.3$; $\rho = 1000$ kg/m³

Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 450 MHz, ConvF(11.84, 11.84, 11.84) @ 450 MHz

Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (41x201x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 44.89 V/m; Power Drift = -0.01 dB

Fast SAR: SAR(1 g) = 1.35 W/kg; SAR(10 g) = 0.927 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.68 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 = 44.89 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.97 W/kg

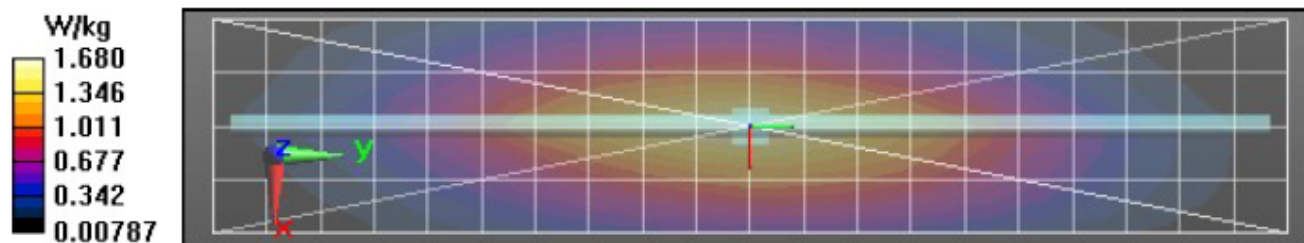
SAR(1 g) = 1.24 W/kg; SAR(10 g) = 0.832 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.69 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) = 1.67 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 4/1/2020 10:21:01 AM

Robot#: DASY5-PG-1 | Run#: AM-SYSP-450H-200401-04
 Dipole Model# D450V3
 Phantom#: ELI4 1022
 Tissue Temp: 20.6 (C)
 Serial#: 1054
 Test Freq: 450.0000 (MHz)
 Start Power: 250 (mW)
 Rotation (1D): 0.14 dB
 Adjusted SAR (1W): 4.84 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 450$ MHz; $\sigma = 0.86$ S/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³
 Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 450 MHz, ConvF(11.84, 11.84, 11.84) @ 450 MHz
 Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

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

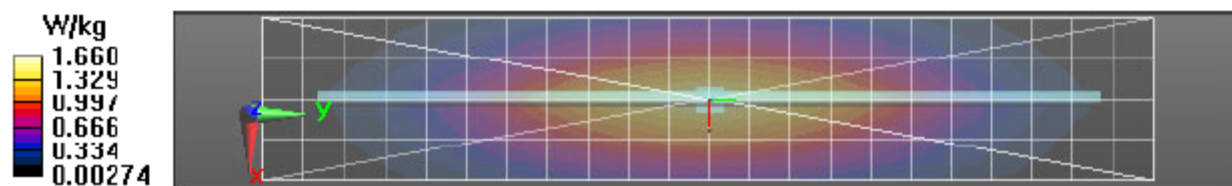
Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm
 Reference Value = 44.77 V/m; Power Drift = -0.02 dB
 Fast SAR: SAR(1 g) = 1.32 W/kg; SAR(10 g) = 0.911 W/kg (SAR corrected for target medium)
 Maximum value of SAR (interpolated) = 1.66 W/kg

Below 2 GHz-Rev.3/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
 Reference Value = 44.77 V/m; Power Drift = -0.02 dB
 Peak SAR (extrapolated) = 1.94 W/kg
 SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.814 W/kg (SAR corrected for target medium)
 Maximum value of SAR (measured) = 1.66 W/kg

Below 2 GHz-Rev.3/System Performance Check/Z-Axis Retraction (1x1x17): Measurement

grid: $dx=20$ mm, $dy=20$ mm, $dz=10$ mm
 Maximum value of SAR (measured) = 1.66 W/kg



Motorola Solutions, Inc. EME Laboratory
Date/Time: 4/2/2020 1:58:19 AM

Robot#: DASY5-PG-1 | Run#: ZZ-SYSP-450B-200402-01
 Dipole Model#: D450V3
 Phantom#: ELI4 1040
 Tissue Temp: 20.9 (C)
 Serial#: 1054
 Test Freq: 450.0000 (MHz)
 Start Power: 250 (mW)
 Rotation (1D): 0.11 dB
 Adjusted SAR (1W): 4.64 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 450$ MHz; $\sigma = 0.98$ S/m; $\epsilon_r = 54$; $\rho = 1000$ kg/m³
 Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 450 MHz, ConvF(12.06, 12.06, 12.06) @ 450 MHz
 Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

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

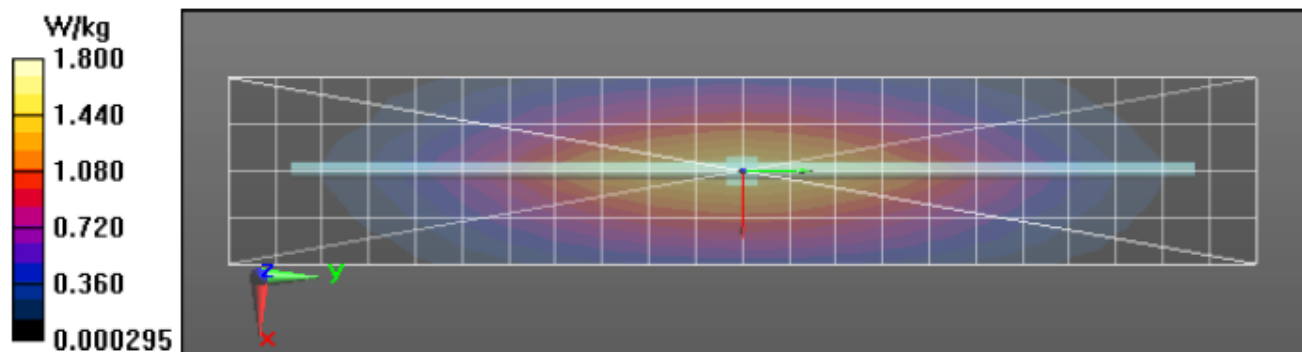
Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm
 Reference Value = 43.18 V/m; Power Drift = -0.04 dB
 Fast SAR: SAR(1 g) = 1.28 W/kg; SAR(10 g) = 0.882 W/kg (SAR corrected for target medium)
 Maximum value of SAR (interpolated) = 1.67 W/kg

Below 2 GHz-Rev.3/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
 Reference Value = 43.18 V/m; Power Drift = -0.04 dB
 Peak SAR (extrapolated) = 1.98 W/kg
 SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.777 W/kg (SAR corrected for target medium)
 Maximum value of SAR (measured) = 1.68 W/kg

Below 2 GHz-Rev.3/System Performance Check/Z-Axis Retraction (1x1x17): Measurement

grid: $dx=20$ mm, $dy=20$ mm, $dz=10$ mm
 Maximum value of SAR (measured) = 1.80 W/kg



Appendix E

DUT Scans

Assessment for Body Configuration - Table 16 and 17

Motorola Solutions, Inc. EME Laboratory

Date/Time: 4/2/2020 2:37:53 AM

Robot#: DASY5-PG-1 | Run#: ZZ-AB-200402-02
 Model#: PMUE5244A
 Phantom#: ELI4 1040
 Tissue Temp: 20.8 (C)
 Serial#: 837TTF0543
 Antenna: PMAE4100A
 Test Freq: 406.1250 (MHz)
 Battery: PMNN4491C
 Carry Acc: PMLN4651A
 Audio Acc: None
 Start Power: 5.60 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 406 \text{ MHz}$; $\sigma = 0.95 \text{ S/m}$; $\epsilon_r = 54.6$; $\rho = 1000 \text{ kg/m}^3$
 Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 406.125 MHz, ConvF(12.06, 12.06, 12.06) @ 406.125 MHz
 Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (71x181x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Reference Value = 117.7 V/m; Power Drift = -0.51 dB

Fast SAR: SAR(1 g) = 11.6 W/kg; SAR(10 g) = 8.34 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 14.4 W/kg

Below 2 GHz-Rev.3/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 117.7 V/m; Power Drift = -0.63 dB

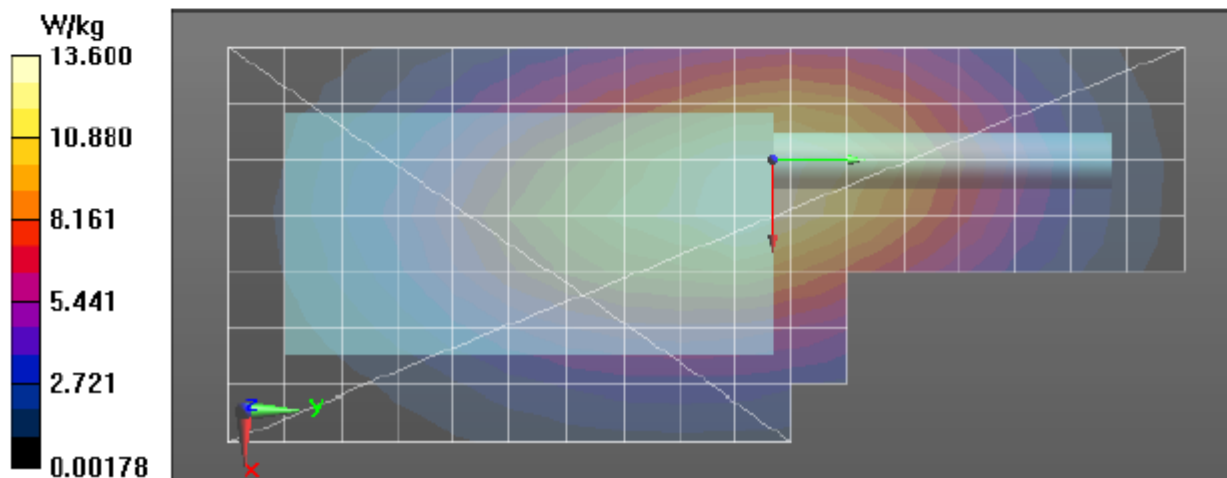
Peak SAR (extrapolated) = 15.8 W/kg

SAR(1 g) = 10.5 W/kg; SAR(10 g) = 7.69 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 13.7 W/kg

Below 2 GHz-Rev.3/Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=10\text{mm}$

Maximum value of SAR (measured) = 13.6 W/kg



Assessment for Face Configuration - Table 16 and 17

Motorola Solutions, Inc. EME Laboratory

Date/Time: 12/26/2019 12:44:12 PM

Robot#: DASY5-PG-1 | Run#: AM-FACE-191226-09
 Model#: H92QDF9PW6AN (PMUE5243A)
 Phantom#: ELI4 1103
 Tissue Temp: 20.9 (C)
 Serial#: 837TTF0487
 Antenna: PMAE4100A
 Test Freq: 406.1250 (MHz)
 Battery: PMNN4491C
 Carry Acc: @ front
 Audio Acc: None
 Start Power: 5.61 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 406$ MHz; $\sigma = 0.83$ S/m; $\epsilon_r = 45.3$; $\rho = 1000$ kg/m³
 Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 406.125 MHz, ConvF(11.84, 11.84, 11.84) @ 406.125 MHz
 Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 121.1 V/m; Power Drift = -0.42 dB

Fast SAR: SAR(1 g) = 9.67 W/kg; SAR(10 g) = 7.06 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 11.3 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 = 121.1 V/m; Power Drift = -0.59 dB

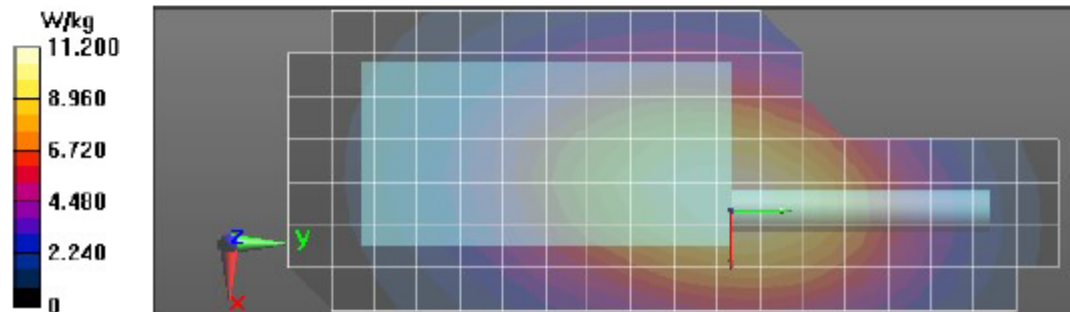
Peak SAR (extrapolated) = 12.2 W/kg

SAR(1 g) = 9.02 W/kg; SAR(10 g) = 6.75 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 10.8 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) = 10.1 W/kg



APPENDIX F

Shortened Scan of Highest SAR configuration

Motorola Solutions, Inc. EME Laboratory

Date/Time: 4/2/2020 4:33:43 AM

Robot#: DASY5-PG-1 | Run#: ZZ-AB-200402-06
 Model#: PMUE5244A
 Phantom#: ELI4 1040
 Tissue Temp: 20.5 (C)
 Serial#: 837TTF0543
 Antenna: PMAE4100A
 Test Freq: 406.1250 (MHz)
 Battery: PMNN4491C
 Carry Acc: PMLN4651A
 Audio Acc: None
 Start Power: 5.68 (W)

Comments: Shorten Scan

Duty Cycle: 1:1, Medium parameters used: $f = 406$ MHz; $\sigma = 0.95$ S/m; $\epsilon_r = 54.6$; $\rho = 1000$ kg/m³

Probe: EX3DV4 - SN7533, Calibrated: 11/6/2019, Frequency: 406.125 MHz, ConvF(12.06, 12.06, 12.06) @ 406.125 MHz
 Electronics: DAE4 Sn1488, Calibrated: 7/23/2019

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (71x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 115.1 V/m; Power Drift = -0.44 dB

Fast SAR: SAR(1 g) = 11.2 W/kg; SAR(10 g) = 8.1 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 14.0 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 = 115.1 V/m; Power Drift = -0.49 dB

Fast SAR: SAR(1 g) = 10.9 W/kg; SAR(10 g) = 7.97 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 13.3 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 = 125.3 V/m; Power Drift = -0.22 dB

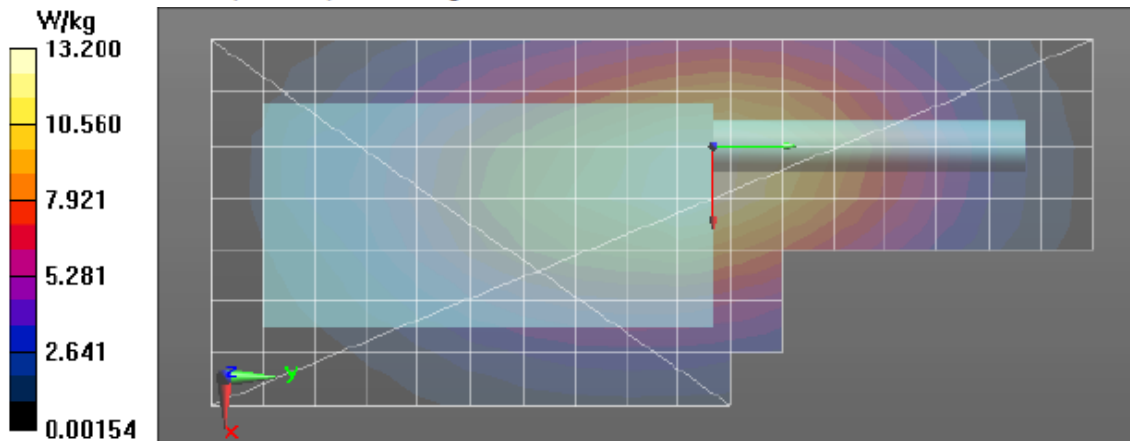
Peak SAR (extrapolated) = 16.5 W/kg

SAR(1 g) = 11 W/kg; SAR(10 g) = 8.09 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 14.4 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) = 13.2 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)	18	8	5.81
Full scan (area & zoom)	16	23	6.18

APPENDIX G

DUT Test Position Photos

1.0 Highest SAR Test Position per location

1.1 Body

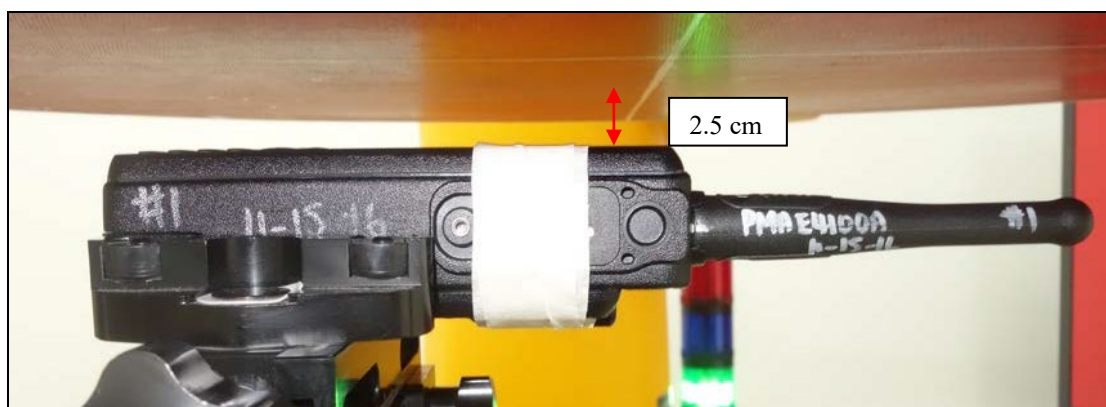
DUT with antenna PMAE4100A, new offered battery PMNN4491C and Belt clip PMLN4651A positioned against the phantom without any audio accessory attached.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of DUT	@ base of antenna	@ tip of antenna
PMAE4100A	8	27	35

1.2 Face

Front of DUT with antenna PMAE4100A and new offered battery PMNN4491C separated 2.5cm from the phantom without an audio accessory attached.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of DUT	@ base of antenna	@ tip of antenna
PMAE4100A	25	36	39

APPENDIX H

Battery Photo



New offered battery PMNN4491C (Front, side and Back)

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