MOTORC	<b>DLA</b> SOLUTIONS	MS ISO/IEC 17025 TESTING SAMM No.0826	
DECL	ARATION OF COMPLIANCE S	AR ASSESSMENT	Part 2 of 2
Motorola Solutions Inc. EME Test Laboratory Motorola Solutions Malaysia Sdn Bhd (Innoplex) Plot 2A, Medan Bayan Lepas, Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.		Date of Report: Report Revision:	07/12/2019 A
Responsible Engineer: Report Author: Date/s Tested: Manufacturer: DUT Description: Test TX mode(s): Max. Power output: Nominal Power: Tx Frequency Bands: Signaling type: Model(s) Tested: Model(s) Certified: Serial Number(s): Classification: FCC ID:	Lee Kin Kting (EME Engineer) Lee Kin Kting (EME Engineer) 07/08/19 - 07/11/19 Motorola Solutions Inc. Handheld Portable – Frequency CW (PTT) 6.0W (VHF band) 5.0W (VHF band) LMR 136.000 – 174.000 MHz FM VX-80-D0-5 (AZ089N102) VX-80-D0-5 (AZ089N102) XX9H010054 Occupational/Controlled AZ489FT3846; LMR 150.800 This report contains results that are clearly identified.	<sup>-</sup> bands; LMR 136.000 - 173.400 MHz	
FCC Test Firm Registratio Number:	n 823256		
The test results clearly demonstra over 1 gram per the requirements	ate compliance with FCC Occupation of FCC 47 CFR § 2.1093.	al/Controlled RF Exp	posure limits of 8 W/kg averaged
supplied, said product complies with the shall not be reproduced without written I attest to the accuracy of the data and	ng results provided herein, the undersigned e national and international reference stan n approval from an officially designated rej assume full responsibility for the completer B-150 December 2004. The results and stat	dards and guidelines liste presentative of the Motore less of these measurement	d in section 4.0 of this report. This report ola Solutions Inc EME Laboratory. ts. This reporting format is consistent with
Tion Deputy Technical Ma	g Nguk Ing nager (Approved Signatory) Date: 7/24/2019		

## Appendix D System Verification Check Scans

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 7/8/2019 12:20:03 PM

Robot#: DASY5-PG-2 | Run#: FD(NZ)-SYSP-150B-190708-09 Dipole Model# CLA-150 Phantom#: ELI4 1016 Tissue Temp: 21.9 (C) 4005 Serial#: Test Freq: 150.0000 (MHz) Start Power: 1000 (mW) Rotation (1D): 0.027 dB Adjusted SAR (1W): 4.13 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz;  $\sigma = 0.78 \text{ S/m}$ ;  $\varepsilon_r = 59.8$ ;  $\rho = 1000 \text{ kg/m}^3$ Probe: EX3DV4 - SN7519, Calibrated: 10/19/2018, Frequency: 150 MHz, ConvF(12.42, 12.42, 12.42) @ 150 MHz Electronics: DAE4 Sn1294, Calibrated: 10/16/2018

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

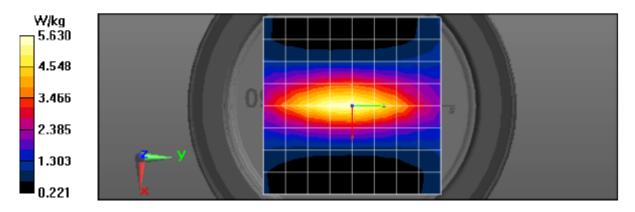
Interpolated grid: dx=1.500 mm, dy=1.500 mm Reference Value = 85.82 V/m; Power Drift = -0.03 dB Fast SAR: SAR(1 g) = 4.81 W/kg; SAR(10 g) = 3.41 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 5.75 W/kg

#### 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 = 85.82 V/m; Power Drift = -0.03 dB Peak SAR (extrapolated) = 7.08 W/kg SAR(1 g) = 4.13 W/kg; SAR(10 g) = 2.72 W/kg (SAR corrected for target medium) Maximum value of SAR (measured) = 5.79 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) = 5.80 W/kg



#### Motorola Solutions, Inc. EME Laboratory Date/Time: 7/9/2019 10:27:46 PM

Robot#: DASY5-PG-2 | Run#: BL-SYSP-150B-190709-10 Dipole Model# CLA-150 Phantom#: ELI4 1016 Tissue Temp: 21.6 (C) Serial#: 4005 150.0000 (MHz) Test Freq: Start Power: 1000 (mW) Rotation (1D): 0.027 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<sub>r</sub> = 59; ρ = 1000 kg/m<sup>3</sup> Probe: EX3DV4 - SN7519, Calibrated: 10/19/2018, Frequency: 150 MHz, ConvF(12.42, 12.42, 12.42) @ 150 MHz Electronics: DAE4 Sn1294, Calibrated: 10/16/2018

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

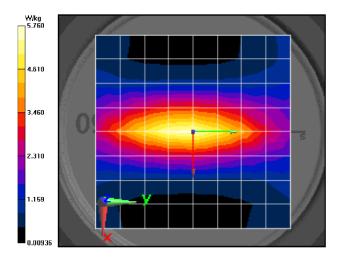
Interpolated grid: dx=1.500 mm, dy=1.500 mm Reference Value = 85.05 V/m; Power Drift = -0.04 dB Fast SAR: SAR(1 g) = 4.75 W/kg; SAR(10 g) = 3.37 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 5.70 W/kg

#### 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 = 85.05 V/m; Power Drift = -0.04 dB Peak SAR (extrapolated) = 7.07 W/kg SAR(1 g) = 4.03 W/kg; SAR(10 g) = 2.64 W/kg (SAR corrected for target medium) Maximum value of SAR (measured) = 5.75 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) = 5.76 W/kg



#### Motorola Solutions, Inc. EME Laboratory Date/Time: 7/9/2019 11:24:17 AM

Robot#: DASY5-PG-2   Run#:	FAZ-SYSP-150H-190709-04
Dipole Model#	CLA-150
Phantom#:	ELI4 1022
Tissue Temp:	20.9 (C)
Serial#:	4005
Test Freq:	150.0000 (MHz)
Start Power:	1000 (mW)
Rotation (1D):	0.019 dB
Adjusted SAR (1W):	3.88 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz; σ = 0.74 S/m; ε<sub>r</sub> = 51.4; ρ = 1000 kg/m<sup>3</sup> Probe: EX3DV4 - SN7519, Calibrated: 10/19/2018, Frequency: 150 MHz, ConvF(13.03, 13.03, 13.03) @ 150 MHz Electronics: DAE4 Sn1294, Calibrated: 10/16/2018

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

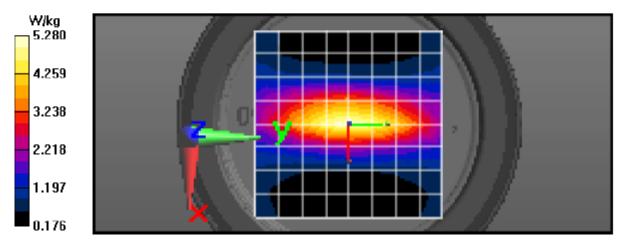
Interpolated grid: dx=1.500 mm, dy=1.500 mm Reference Value = 85.60 V/m; Power Drift = -0.05 dB Fast SAR: SAR(1 g) = 4.58 W/kg; SAR(10 g) = 3.25 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 5.48 W/kg

#### 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 = 85.60 V/m; Power Drift = -0.05 dB Peak SAR (extrapolated) = 6.65 W/kg SAR(1 g) = 3.88 W/kg; SAR(10 g) = 2.52 W/kg (SAR corrected for target medium) Maximum value of SAR (measured) = 5.44 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) = 5.45 W/kg



#### Motorola Solutions, Inc. EME Laboratory Date/Time: 7/11/2019 4:01:37 PM

 Robot#:
 DASY5-PG-2 | Run#:
 FD(NZ)-SYSP-150H-190711-04

 Dipole Model#
 CLA-150

 Phantom#:
 ELI4 1109

 Tissue Temp:
 20.3 (C)

 Serial#:
 4005

 Test Freq:
 150.0000 (MHz)

 Start Power:
 1000 (mW)

 Rotation (1D):
 0.028 dB

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

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 150 MHz;  $\sigma$  = 0.77 S/m;  $\epsilon_r$  = 49.9;  $\rho$  = 1000 kg/m<sup>3</sup> Probe: EX3DV4 - SN7519, Calibrated: 10/19/2018, Frequency: 150 MHz, ConvF(13.03, 13.03, 13.03) @ 150 MHz Electronics: DAE4 Sn1294, Calibrated: 10/16/2018

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

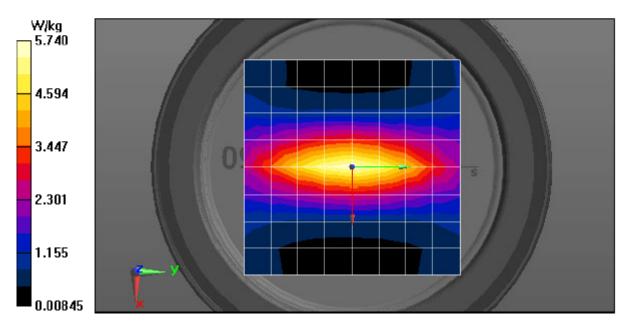
Interpolated grid: dx=1.500 mm, dy=1.500 mm Reference Value = 85.90 V/m; Power Drift = -0.07 dB Fast SAR: SAR(1 g) = 4.64 W/kg; SAR(10 g) = 3.3 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 5.74 W/kg

#### 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 = 85.90 V/m; Power Drift = -0.07 dB Peak SAR (extrapolated) = 7.10 W/kg SAR(1 g) = 3.93 W/kg; SAR(10 g) = 2.56 W/kg (SAR corrected for target medium) Maximum value of SAR (measured) = 5.74 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) = 5.74 W/kg



## Appendix E DUT Scans

#### Assessments at the Body with Body Worn CZ072CL61 - Table 17

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 7/9/2019 12:57:16 AM

Robot#: DASY5-PG-2   Run#: Model#:	BL-AB-190709-02# AZ089N102
Phantom#:	ELI4 1016
Tissue Temp:	21.8 (C)
Serial#:	XX9H010054
Antenna:	CZ089AN006
Test Freq:	173.4000 (MHz)
Battery:	CZ089B002
Carry Acc:	CZ072CL61
Audio Acc:	CZ084AUA01
Start Power:	6.00 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 173 MHz;  $\sigma = 0.79$  S/m;  $\epsilon_r = 59.3$ ;  $\rho = 1000$  kg/m<sup>3</sup> Probe: EX3DV4 - SN7519, Calibrated: 10/19/2018, Frequency: 173.4 MHz, ConvF(12.42, 12.42, 12.42) @ 173.4 MHz Electronics: DAE4 Sn1294, Calibrated: 10/16/2018

#### Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (71x211x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm Reference Value = 25.44 V/m; Power Drift = -0.41 dB Fast SAR: SAR(1 g) = 0.459 W/kg; SAR(10 g) = 0.336 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 0.536 W/kg

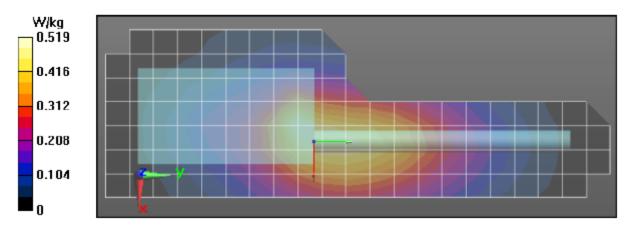
#### Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm,

dy=7.5mm, dz=5mm Reference Value = 25.44 V/m; Power Drift = -0.47 dB Peak SAR (extrapolated) = 0.664 W/kg SAR(1 g) = 0.413 W/kg; SAR(10 g) = 0.298 W/kg (SAR corrected for target medium) Maximum value of SAR (measured) = 0.500 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) = 0.509 W/kg



#### Assessments at the Face – Table 19

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 7/9/2019 2:23:06 PM

Robot#: DASY5-PG-2 | Run#: FAZ-FACE-190709-06 AZ089N102 Model#: Phantom#: ELI4 1022 Tissue Temp: 20.8 (C) XX9H010054 Serial#: CZ089AN06 Antenna: Test Freq: 173.4000(MHz) Battery: CZ089B002 Carry Acc: @ front Audio Acc: N/A Start Power: 6.00 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 173 MHz; σ = 0.76 S/m; ε<sub>r</sub> = 50.5; ρ = 1000 kg/m<sup>3</sup> Probe: EX3DV4 - SN7519, Calibrated: 10/19/2018, Frequency: 173.4 MHz, ConvF(13.03, 13.03, 13.03) @ 173.4 MHz Electronics: DAE4 Sn1294, Calibrated: 10/16/2018

## Below 2 GHz-Rev.2/Face Scan/1-Area Scan (71x211x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

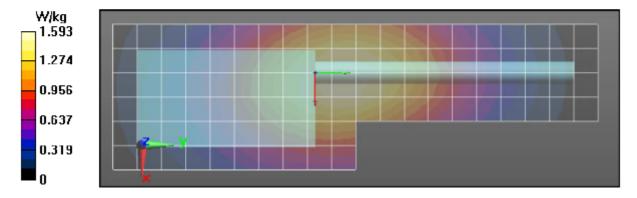
Reference Value = 45.38 V/m; Power Drift = -0.23 dB Fast SAR: SAR(1 g) = 1.4 W/kg; SAR(10 g) = 1.07 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 1.61 W/kg

#### 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 = 45.38 V/m; Power Drift = -0.28 dB Peak SAR (extrapolated) = 1.82 W/kg SAR(1 g) = 1.34 W/kg; SAR(10 g) = 1.03 W/kg (SAR corrected for target medium) Maximum value of SAR (measured) = 1.58 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) = 1.57 W/kg



#### Assessments at the Body for Outside FCC PT90 - Table 20

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 7/9/2019 11:13:29 PM

Robot#: DASY5-PG-2   Run#:	BL-AB-190709-11
Model#:	AZ089N102
Phantom#:	ELI4 1016
Tissue Temp:	21.4 (C)
Serial#:	XX9H010054
Antenna:	CZ089AN005
Test Freq:	138.0000 (MHz)
Battery:	CZ089B002
Carry Acc:	CZ072CL61
Audio Acc:	CZ084AUA01
Start Power:	5.96 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 138 MHz;  $\sigma$  = 0.77 S/m;  $\epsilon_r$  = 59.3;  $\rho$  = 1000 kg/m<sup>3</sup> Probe: EX3DV4 - SN7519, Calibrated: 10/19/2018, Frequency: 138 MHz, ConvF(12.42, 12.42, 12.42) @ 138 MHz Electronics: DAE4 Sn1294, Calibrated: 10/16/2018

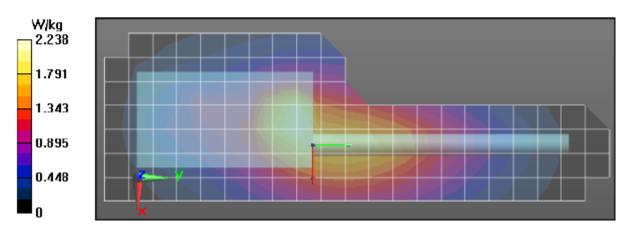
Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (71x211x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm Reference Value = 48.70 V/m; Power Drift = -0.73 dB Fast SAR: SAR(1 g) = 1.98 W/kg; SAR(10 g) = 1.46 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 2.31 W/kg

#### Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm,

dy=7.5mm, dz=5mm Reference Value = 48.70 V/m; Power Drift = -0.66 dB Peak SAR (extrapolated) = 3.80 W/kg SAR(1 g) = 1.89 W/kg; SAR(10 g) = 1.19 W/kg (SAR corrected for target medium) Maximum value of SAR (measured) = 2.68 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) = 2.73 W/kg



#### Assessments at the Face for Outside FCC PT90 – Table 20

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 7/9/2019 6:31:15 PM

#### Robot#: DASY5-PG-2 | Run#: BL-FACE-190709-08 Model#: AZ089N102 Phantom#: ELI4 1022 Tissue Temp: 20.5 (C) Serial#: XX9H010054 Antenna: CZ089AN005 Test Freq: 144.0000 (MHz) CZ089B002 Battery: @ front Carry Acc: Audio Acc: N/A 5.98 (W) Start Power:

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 144 MHz; σ = 0.74 S/m; ε<sub>r</sub> = 51.6; ρ = 1000 kg/m<sup>3</sup> Probe: EX3DV4 - SN7519, Calibrated: 10/19/2018, Frequency: 144 MHz, ConvF(13.03, 13.03, 13.03) @ 144 MHz Electronics: DAE4 Sn1294, Calibrated: 10/16/2018

# Below 2 GHz-Rev.2/Face Scan/1-Area Scan (71x211x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

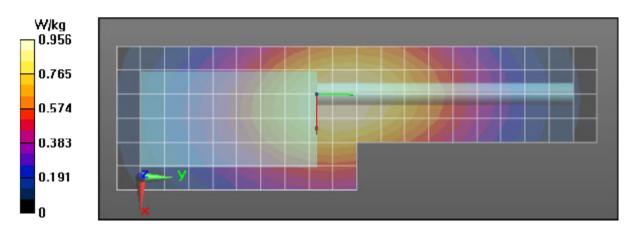
Reference Value = 34.58 V/m; Power Drift = 0.03 dB Fast SAR: SAR(1 g) = 0.857 W/kg; SAR(10 g) = 0.662 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 0.971 W/kg

## 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 = 34.58 V/m; Power Drift = 0.06 dB Peak SAR (extrapolated) = 1.12 W/kg SAR(1 g) = 0.827 W/kg; SAR(10 g) = 0.638 W/kg (SAR corrected for target medium) Maximum value of SAR (measured) = 0.961 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) = 0.968 W/kg



## APPENDIX F Shortened Scan of Highest SAR configuration

#### **Shortened Scan – Table 21**

#### Motorola Solutions, Inc. EME Laboratory Date/Time: 7/11/2019 6:37:20 PM

Robot#: DASY5-PG-2 | Run#: BL-FACE-190711-05 Model#: AZ089N102 Phantom#: ELI4 1109 Tissue Temp: 20.3 (C) Serial#: XX9H010054 Antenna: CZ089AN006 Test Freq: 173.4000 (MHz) Battery: CZ089B002 Carry Acc: @ front Audio Acc: N/A Start Power: 6.00 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 173 MHz;  $\sigma = 0.78$  S/m;  $\varepsilon_r = 48.9$ ;  $\rho = 1000$  kg/m<sup>3</sup> Probe: EX3DV4 - SN7519, Calibrated: 10/19/2018, Frequency: 173.4 MHz, ConvF(13.03, 13.03, 13.03) @ 173.4 MHz Electronics: DAE4 Sn1294, Calibrated: 10/16/2018

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (71x211x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 44.55 V/m; Power Drift = -1.41 dB Fast SAR: SAR(1 g) = 1.22 W/kg; SAR(10 g) = 0.933 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 1.41 W/kg

Below 2 GHz-Rev.2/Face Scan/2-Volume 2D Scan (41x41x1): Interpolated grid: dx=0.7500 mm, dv=0.7500 mm, dz=1.000 mm

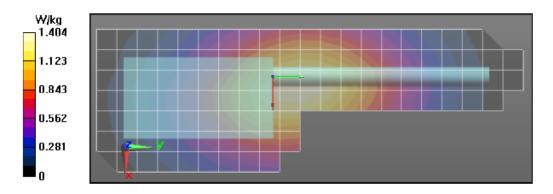
Reference Value = 44.55 V/m; Power Drift = -1.39 dB Fast SAR: SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.796 W/kg (SAR corrected for target medium) Maximum value of SAR (interpolated) = 1.22 W/kg

Below 2 GHz-Rev.2/Face Scan/3-Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dv=7.5mm, dz=5mm

Reference Value = 48.39 V/m; Power Drift = -0.57 dB Peak SAR (extrapolated) = 2.05 W/kg SAR(1 g) = 1.49 W/kg; SAR(10 g) = 1.14 W/kg (SAR corrected for target medium) Maximum value of SAR (measured) = 1.76 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) = 1.22 W/kg



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

Scan Description	<b>Referenced Table</b>	Test Time (min.)	SAR 1g (W/kg)
Shorten scan (zoom)	21	8	0.85
Full scan (area & zoom)	19	20	0.71

## 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