

**MOTOROLA SOLUTIONS**MS ISO/IEC 17025  
TESTING

SAMM No.0826

CERTIFICATE 2518.05

**DECLARATION OF COMPLIANCE SAR 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: 10/1/2019****Report Revision: B**

**Responsible Engineer:** Ch'ng Jian Sheng (EME Engineer)  
**Report Author:** Ch'ng Jian Sheng (EME Engineer)  
**Date/s Tested:** 07/26/2019-07/30/2019  
**Manufacturer:** Motorola Solutions Inc.  
**DUT Description:** Handheld Portable – BC300D 403-470MHz  
**Test TX mode(s):** CW (PTT)  
**Max. Power output:** 4.8 W  
**Nominal Power:** 4.0 W  
**Tx Frequency Bands:** LMR 403-470MHz  
**Signaling type:** FM  
**Model(s) Tested:** BC300D (PMUE5508A)  
**Model(s) Certified:** BC300D (PMUE5508A)  
**Serial Number(s):** 0275VM4526  
**Classification:** Occupational/Controlled  
**FCC ID:** AZ489FT4955; LMR 406.125-470 MHz  
 This report contains results that are immaterial for FCC equipment approval, which are clearly identified.

**IC:** 109U-89FT4955; LMR 406.1-430MHz & 450-470MHz  
 This report contains results that are immaterial for ISSED equipment approval, which are clearly identified.

**ISSED Test Site registration:** 109AK  
**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: 10/1/2019**

## **Appendix D**

### **System Verification Check Scans**

**Motorola Solutions, Inc. EME Laboratory**

Date/Time: 7/25/2019 8:21:07 PM

Robot#: DASY5-PG-3 | Run#: CK-SYSP-450B-190725-01  
 Dipole Model#: D450V3  
 Phantom#: ELI4 1040  
 Tissue Temp: 20.6(C)  
 Serial#: 1053  
 Test Freq: 450.0000 (MHz)  
 Start Power: 250 (mW)  
 Rotation (1D): 0.13 dB  
 Adjusted SAR (1W): 4.48 mW/g (1g)

## Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.94$  S/m;  $\epsilon_r = 54.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 450 MHz, ConvF(11.17, 11.17, 11.17) @ 450 MHz  
 Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

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

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

Reference Value = 39.51 V/m; Power Drift = -0.04 dB

**Fast SAR: SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.805 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.42 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 = 39.51 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.69 W/kg

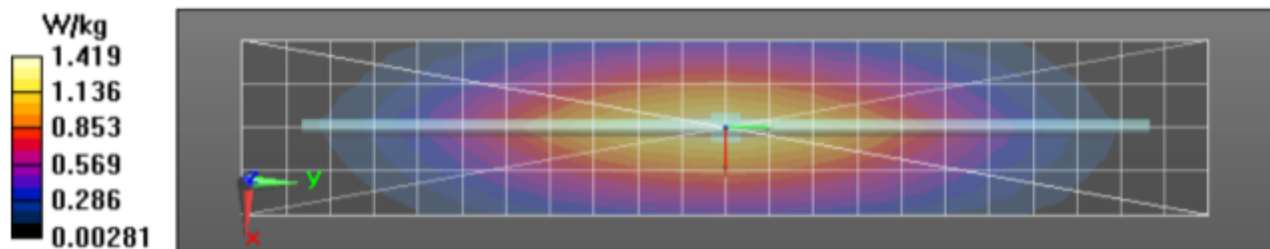
**SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.758 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.43 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) = 1.43 W/kg



**Motorola Solutions, Inc. EME Laboratory**

Date/Time: 7/26/2019 7:39:49 PM

Robot#: DASY5-PG-3 | Run#: LOH-SYSP-450H-190726-15  
Dipole Model#: D450V3  
Phantom#: ELI4 1103  
Tissue Temp: 20.8 (C)  
Serial#: 1053  
Test Freq: 450.0000 (MHz)  
Start Power: 250 (mW)  
Rotation (1D): 0.046 dB  
Adjusted SAR (1W): 4.72 mW/g (1g)

## Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.89$  S/m;  $\epsilon_r = 43.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 450 MHz, ConvF(10.75, 10.75, 10.75) @ 450 MHz  
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

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

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

Reference Value = 41.89 V/m; Power Drift = -0.00 dB

**Fast SAR: SAR(1 g) = 1.24 W/kg; SAR(10 g) = 0.856 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.52 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 = 41.89 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 1.82 W/kg

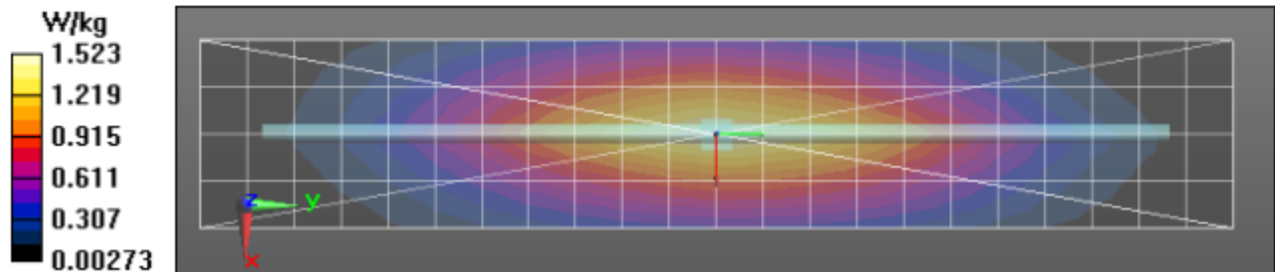
**SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.793 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.53 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) = 1.53 W/kg



**Motorola Solutions, Inc. EME Laboratory**

Date/Time: 7/28/2019 1:52:18 PM

Robot#: DASY5-PG-3 | Run#: LOH-SYSP-450H-190728-01  
Dipole Model#: D450V3  
Phantom#: ELI4 1103  
Tissue Temp: 20.8 (C)  
Serial#: 1053  
Test Freq: 450.0000 (MHz)  
Start Power: 250 (mW)  
Rotation (1D): 0.13 dB  
Adjusted SAR (1W): 4.88 mW/g (1g)

## Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.88$  S/m;  $\epsilon_r = 44.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 450 MHz, ConvF(10.75, 10.75, 10.75) @ 450 MHz  
Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

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

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

Reference Value = 42.28 V/m; Power Drift = 0.02 dB

**Fast SAR: SAR(1 g) = 1.28 W/kg; SAR(10 g) = 0.879 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.55 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 = 42.28 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.85 W/kg

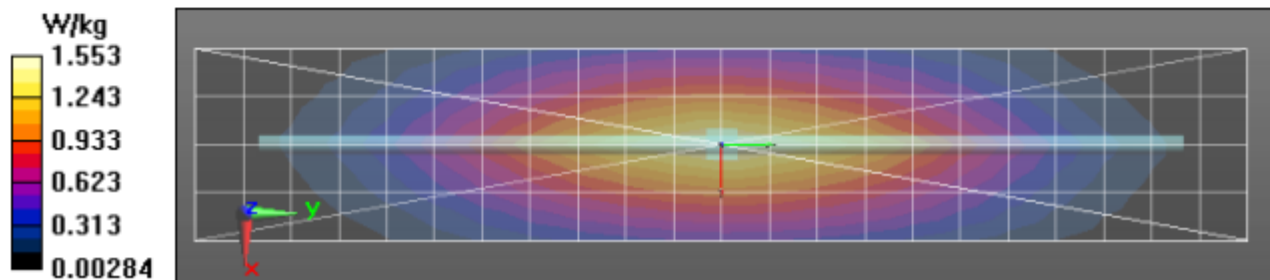
**SAR(1 g) = 1.22 W/kg; SAR(10 g) = 0.820 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.56 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) = 1.55 W/kg



**Motorola Solutions, Inc. EME Laboratory**

Date/Time: 7/29/2019 8:09:30 PM

Robot#: DASY5-PG-3 | Run#: ZZ-SYSP-450H-190729-01  
 Dipole Model#: D450V3  
 Phantom#: ELI4 1103  
 Tissue Temp: 21.0 (C)  
 Serial#: 1053  
 Test Freq: 450.0000 (MHz)  
 Start Power: 250 (mW)  
 Rotation (1D): 0.032 dB  
 Adjusted SAR (1W): 4.72 mW/g (1g)

**Comments:**

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.88$  S/m;  $\epsilon_r = 44.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 450 MHz, ConvF(10.75, 10.75, 10.75) @ 450 MHz

Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

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

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

Reference Value = 41.85 V/m; Power Drift = -0.01 dB

**Fast SAR: SAR(1 g) = 1.24 W/kg; SAR(10 g) = 0.852 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.50 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 = 41.85 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.80 W/kg

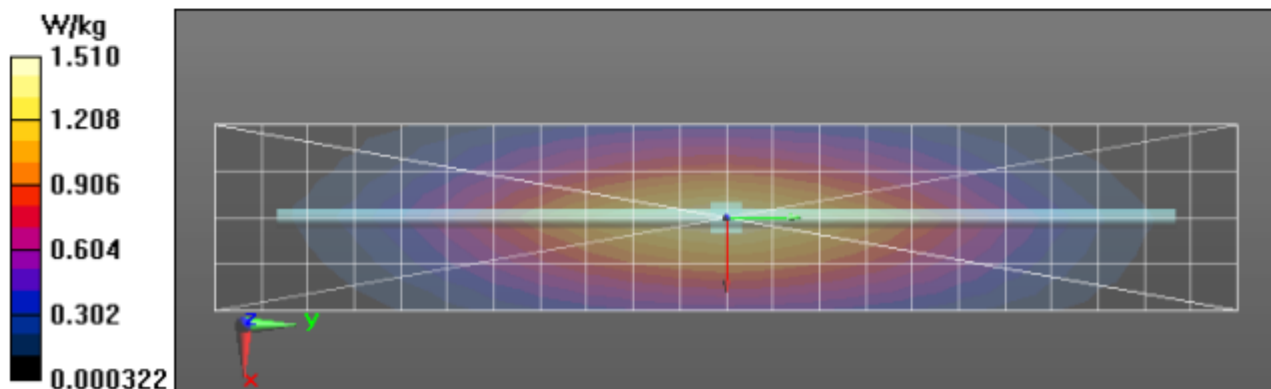
**SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.791 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.51 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) = 1.51 W/kg



**Motorola Solutions, Inc. EME Laboratory**

Date/Time: 7/30/2019 12:15:31 PM

Robot#: DASY5-PG-3 | Run#: ZZ-SYSP-450B-190730-01  
 Dipole Model# D450V3  
 Phantom#: ELI4 1040  
 Tissue Temp: 22.5 (C)  
 Serial#: 1053  
 Test Freq: 450.0000 (MHz)  
 Start Power: 250 (mW)  
 Rotation (1D): 0.038 dB  
 Adjusted SAR (1W): 4.60 mW/g (1g)

## Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.97$  S/m;  $\epsilon_r = 54.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 450 MHz, ConvF(11.17, 11.17, 11.17) @ 450 MHz  
 Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

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

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

Reference Value = 39.81 V/m; Power Drift = -0.03 dB

**Fast SAR: SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.831 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.50 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 = 39.81 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.78 W/kg

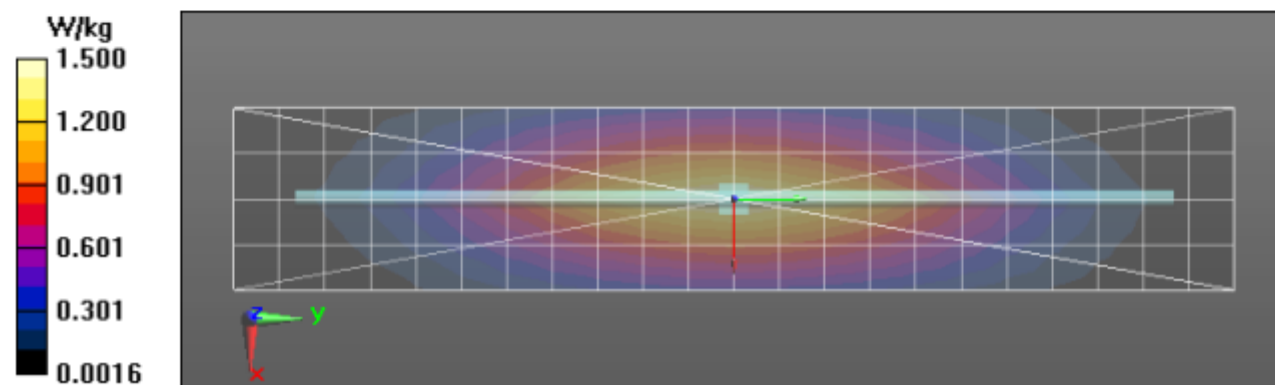
**SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.774 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 1.50 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) = 1.50 W/kg



## **Appendix E**

### **DUT Scans**

## Assessments at the Body - Table 18

**Motorola Solutions, Inc. EME Laboratory**

Date/Time: 7/26/2019 4:09:46 AM

Robot#: DASY5-PG-3 | Run#: LOH-AB-190726-05#  
 Model#: BC300D  
 Phantom#: ELI4 1040  
 Tissue Temp: 20.5 (C)  
 Serial#: 0275VM4526  
 Antenna: PMAE4104A  
 Test Freq: 406.1250 (MHz)  
 Battery: PMNN4075A  
 Carry Acc: RLN5644A  
 Audio Acc: PMLN6531A  
 Start Power: 4.71 (W)

## Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 406$  MHz;  $\sigma = 0.9$  S/m;  $\epsilon_r = 55.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 406.125 MHz, ConvF(11.17, 11.17, 11.17) @ 406.125 MHz  
 Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

**Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (61x221x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 66.20 V/m; Power Drift = -0.62 dB

**Fast SAR: SAR(1 g) = 3.41 W/kg; SAR(10 g) = 2.49 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 3.96 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 = 66.20 V/m; Power Drift = -0.69 dB

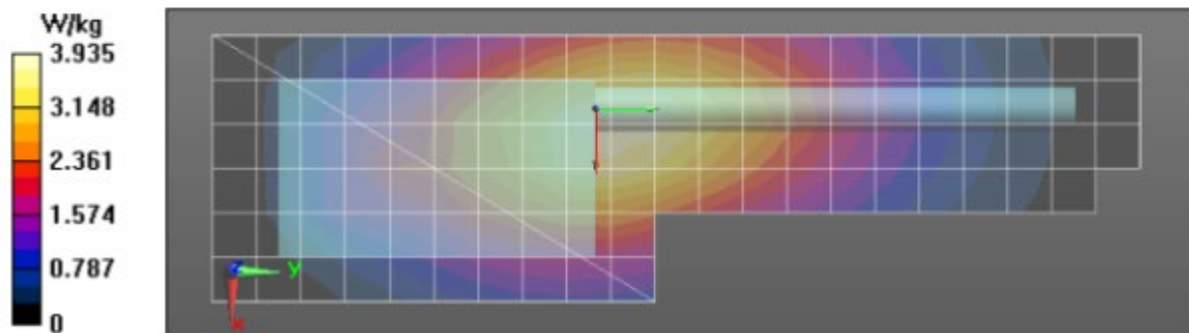
Peak SAR (extrapolated) = 4.25 W/kg

**SAR(1 g) = 3.28 W/kg; SAR(10 g) = 2.46 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.78 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) = 3.75 W/kg



## Assessments at the Face - Table 19

## Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/26/2019 9:40:56 PM

Robot#: DASY5-PG-3 | Run#: LOH-FACE-190726-16  
 Model#: BC300D  
 Phantom#: ELI4 1103  
 Tissue Temp: 20.8 (C)  
 Serial#: 0275VM4526  
 Antenna: PMAE4104A  
 Test Freq: 406.1250 (MHz)  
 Battery: PMNN4075A  
 Carry Acc: @ front  
 Audio Acc: N/A  
 Start Power: 4.80 (W)

## Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 406$  MHz;  $\sigma = 0.84$  S/m;  $\epsilon_r = 44.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 406.125 MHz, ConvF(10.75, 10.75, 10.75) @ 406.125 MHz  
 Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

**Below 2 GHz-Rev.2/Face Scan/1-Area Scan (61x221x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 79.42 V/m; Power Drift = -0.40 dB

**Fast SAR: SAR(1 g) = 4.53 W/kg; SAR(10 g) = 3.31 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 5.20 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 = 79.42 V/m; Power Drift = -0.45 dB

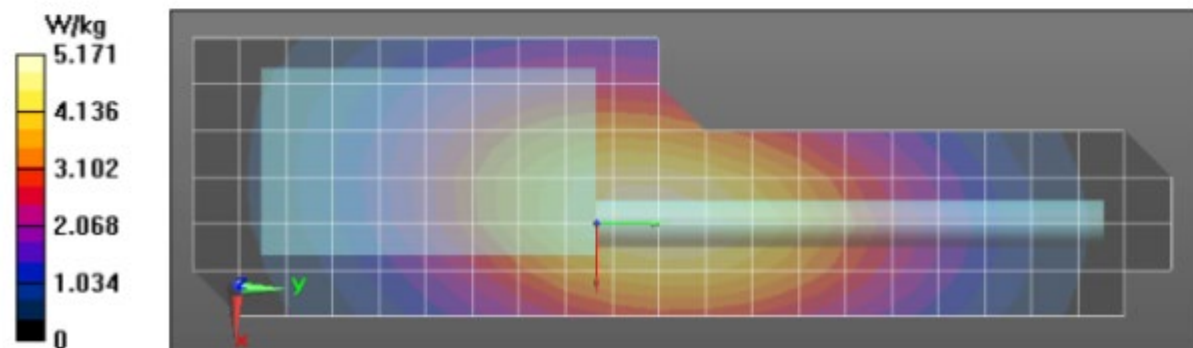
Peak SAR (extrapolated) = 5.63 W/kg

**SAR(1 g) = 4.4 W/kg; SAR(10 g) = 3.28 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 5.01 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) = 4.99 W/kg



## Assessment for Outside FCC and ISSED frequency range - Table 21

**Motorola Solutions, Inc. EME Laboratory**

Date/Time: 7/28/2019 2:52:32 PM

Robot#: DASY5-PG-3 | Run#: LOH-FACE-190728-02  
 Model#: BC300D  
 Phantom#: ELI4 1103  
 Tissue Temp: 20.7 (C)  
 Serial#: 0275VM4526  
 Antenna: PMAE4104A  
 Test Freq: 403.0000 (MHz)  
 Battery: PMNN4075A  
 Carry Acc: @ front  
 Audio Acc: N/A  
 Start Power: 4.77 (W)

## Comments:

Duty Cycle: 1:1, Medium parameters used:  $f = 403$  MHz;  $\sigma = 0.83$  S/m;  $\epsilon_r = 45.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 403 MHz, ConvF(10.75, 10.75, 10.75) @ 403 MHz  
 Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

**Below 2 GHz-Rev.2/Face Scan/1-Area Scan (61x221x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 79.08 V/m; Power Drift = -0.41 dB

**Fast SAR: SAR(1 g) = 4.42 W/kg; SAR(10 g) = 3.23 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 5.01 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 = 79.08 V/m; Power Drift = -0.47 dB

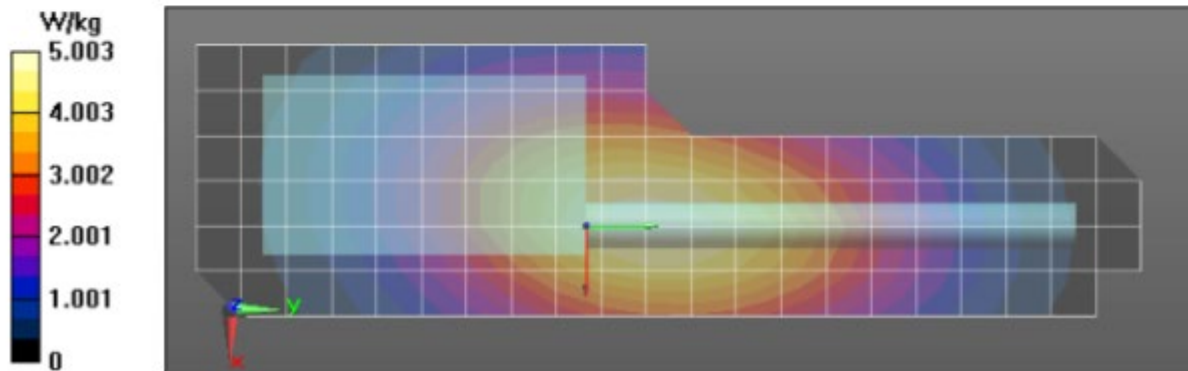
Peak SAR (extrapolated) = 5.39 W/kg

**SAR(1 g) = 4.26 W/kg; SAR(10 g) = 3.19 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 4.79 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) = 4.77 W/kg



## **APPENDIX F**

### **Shortened Scan of Highest SAR configuration**

## Shortened Scan Table 22

### Motorola Solutions, Inc. EME Laboratory

Date/Time: 7/27/2019 1:02:00 AM

Robot#: DASY5-PG-3 | Run#: LOH-FACE-190727-02#  
 Model#: BC300D  
 Phantom#: ELI4 1103  
 Tissue Temp: 20.5 (C)  
 Serial#: 0275VM4526  
 Antenna: PMAE4104A  
 Test Freq: 406.1250 (MHz)  
 Battery: PMNN4075A  
 Carry Acc: @ front  
 Audio Acc: N/A  
 Start Power: 4.78 (W)

Comments: Shorten Scan

Duty Cycle: 1:1, Medium parameters used:  $f = 406 \text{ MHz}$ ;  $\sigma = 0.84 \text{ S/m}$ ;  $\epsilon_r = 44.7$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Probe: EX3DV4 - SN7364, Calibrated: 1/23/2019, Frequency: 406.125 MHz, ConvF(10.75, 10.75, 10.75) @ 406.125 MHz  
 Electronics: DAE4 Sn1483, Calibrated: 1/10/2019

**Below 2 GHz-Rev.2/Face Scan/1-Area Scan (61x221x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Reference Value = 84.34 V/m; Power Drift = -0.49 dB

**Fast SAR: SAR(1 g) = 4.94 W/kg; SAR(10 g) = 3.61 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 5.66 W/kg

**Below 2 GHz-Rev.2/Face Scan/2-Volume 2D Scan (41x41x1):** Interpolated grid:  $dx=0.7500 \text{ mm}$ ,  $dy=0.7500 \text{ mm}$ ,  $dz=1.000 \text{ mm}$

Reference Value = 84.34 V/m; Power Drift = -0.53 dB

**Fast SAR: SAR(1 g) = 4.76 W/kg; SAR(10 g) = 3.53 W/kg** (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 5.40 W/kg

**Below 2 GHz-Rev.2/Face 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) = 5.39 W/kg

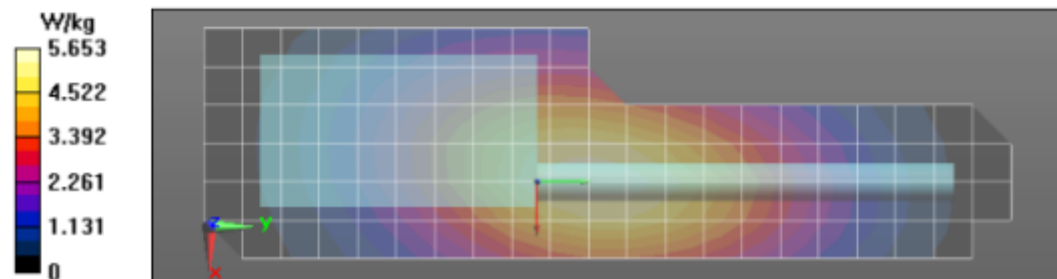
**Below 2 GHz-Rev.2/Face Scan/3-Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 82.54 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 6.12 W/kg

**SAR(1 g) = 4.78 W/kg; SAR(10 g) = 3.59 W/kg** (SAR corrected for target medium)

Maximum value of SAR (measured) = 5.44 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)     | 22               | 8                | 2.50          |
| Full scan (area & zoom) | 20               | 23               | 2.44          |

## **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