

**MOTOROLA SOLUTIONS**

TESTING CERT # 2518.01

DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

Motorola Solutions, Inc
EME Test Laboratory
 8000 West Sunrise Blvd
 Fort Lauderdale, FL. 33322

Date of Report: 12/11/2014
Report Revision: A

Responsible Engineer: Deanna Zakharia (EME Lab Senior Resource Manager, Laboratory Director)
Report Author: Jessica Zada (EME Engineer)
Date/s Tested: 10/03/2014, 10/06/2014
Manufacturer/Location: Motorola Solutions, Inc, Penang
Sector/Group/Div.: EMS
Date submitted for test: 09/19/14
DUT Description: RDV5100+ VHF BRUS 10 CH Non-Display, 5 Watts, Removable Antenna, Black Li-Ion
Test TX mode(s): TDMA (PTT)
Max. Power output: 5.0 W
Nominal Power: 4.8 W
Tx Frequency Bands: 146-174 MHz
Signaling type: TDMA
Model(s) Tested: PMUD3351A
Model(s) Certified: PMUD3351A
Serial Number(s): 4 & 3
Classification: Occupational/Controlled
FCC ID: AZ489FT3834; (150.8-173.4 MHz)

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 47 CFR 2.1093(d). The 10 grams result is not applicable to FCC filing. The test results clearly demonstrate compliance with ICNIRP (1998) Guidelines for limiting exposure in time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz), Health Physics 74, 494-522 RF Exposure limits of 10 W/kg averaged over 10grams of contiguous tissue.

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. 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.

Deanna Zakharia

**EMS EME Lab Senior Resource Manager,
 Laboratory Director**
Approval Date: 12/12/2014

Deanna Zakharia
Digitally signed by Deanna Zakharia
 DN: cn=Deanna Zakharia,
 o=Motorola Solutions,
 ou=Regulatory Compliance Lab,
 email=deanna.zakharia@motorola.com, c=US
 Date: 2014.12.12 08:26:52 -0500

Certification Date: 10/23/2014**Certification No.:** L1141012P

Appendix D

System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/6/2014 12:53:20 PM

Robot#: DASY5-FL-3 | Run#: HvH-SYSP-150B-141006-06
 Dipole Model#: CLA-150
 Phantom#: OVAL1090
 Tissue Temp: 21.1 (C)
 Serial#: 4005
 Test Freq: 150 (MHz)
 Start Power: 1000 (mW)
 Rotation (1D): 0.078 dB
 Adjusted SAR (1W): 4.05 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 150$ MHz; $\sigma = 0.8$ S/m; $\epsilon_r = 60$; $\rho = 1000$ kg/m³
 Probe: ES3DV3 - SN3291, Frequency: 150 MHz, ConvF(7.28, 7.28, 7.28); Calibrated: 7/21/2014
 Electronics: DAE3 Sn363, Calibrated: 1/13/2014

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

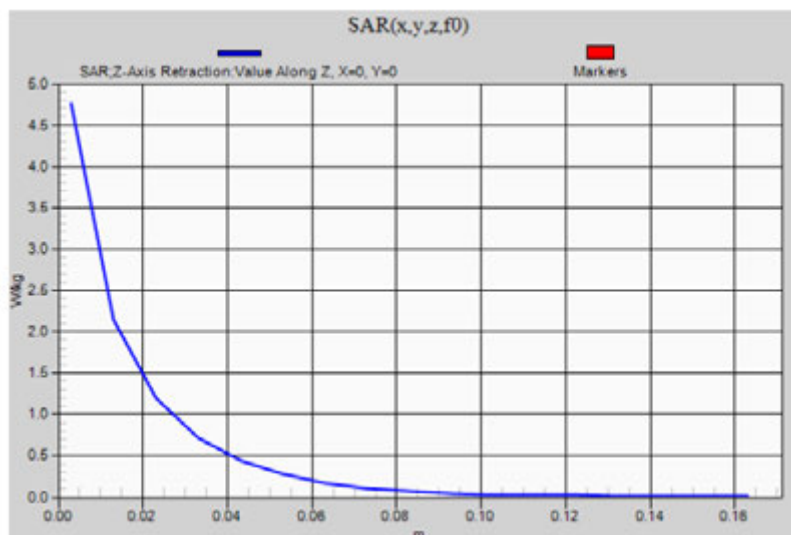
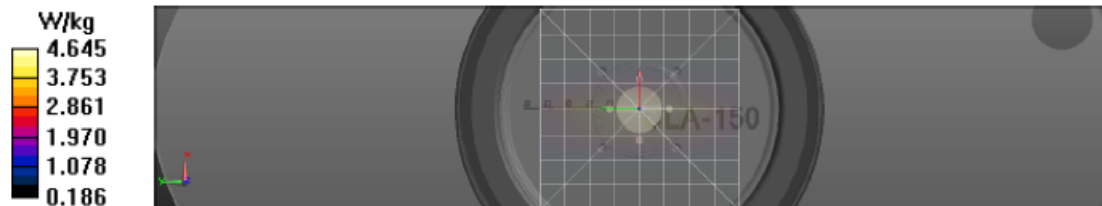
Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm
 Reference Value = 77.37 V/m; Power Drift = -0.00 dB
 Fast SAR: SAR(1 g) = 4.24 W/kg; SAR(10 g) = 3.04 W/kg (SAR corrected for target medium)
 Maximum value of SAR (interpolated) = 4.77 W/kg

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

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
 Reference Value = 77.37 V/m; Power Drift = -0.00 dB
 Peak SAR (extrapolated) = 6.89 W/kg
 SAR(1 g) = 4.05 W/kg; SAR(10 g) = 2.65 W/kg (SAR corrected for target medium)
 Maximum value of SAR (measured) = 4.80 W/kg

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

grid: $dx=20$ mm, $dy=20$ mm, $dz=10$ mm
 Maximum value of SAR (measured) = 4.76 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/6/2014 8:34:12 AM

Robot#: DASY5-FL-3 | Run#: HvH-SYSP-150H-141006-01
 Dipole Model#: CLA-150
 Phantom#: OVAL1016
 Tissue Temp: 21.3 (C)
 Serial#: 4005
 Test Freq: 150 (MHz)
 Start Power: 1000 (mW)
 Rotation (1D): 0.077 dB
 Adjusted SAR (1W): 3.65 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 150$ MHz; $\sigma = 0.73$ S/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Probe: ES3DV3 - SN3291, Frequency: 150 MHz, ConvF(7.68, 7.68, 7.68); Calibrated: 7/21/2014

Electronics: DAE3 Sn363, Calibrated: 1/13/2014

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 = 75.57 V/m; Power Drift = -0.02 dB

Fast SAR: SAR(1 g) = 3.86 W/kg; SAR(10 g) = 2.75 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 4.16 W/kg

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

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 75.57 V/m; Power Drift = -0.02 dB

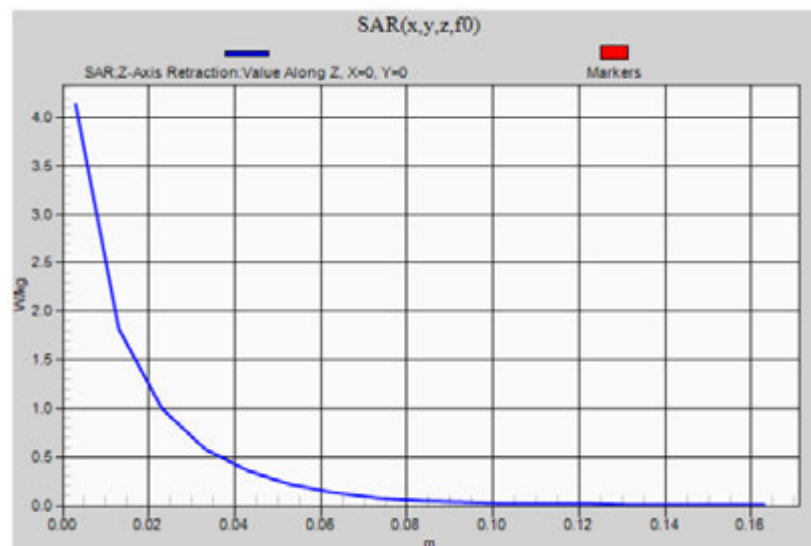
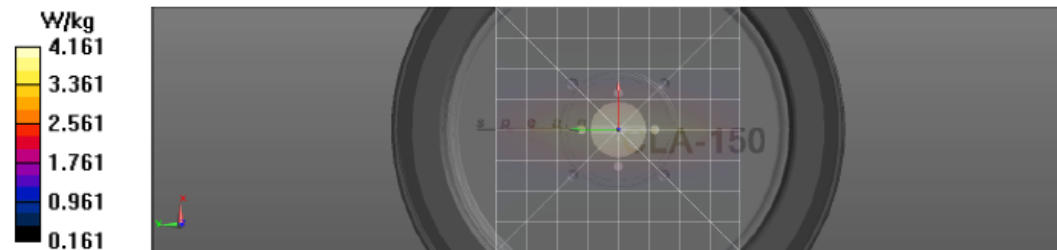
Peak SAR (extrapolated) = 6.02 W/kg

SAR(1 g) = 3.65 W/kg; SAR(10 g) = 2.36 W/kg (SAR corrected for target medium)

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

grid: $dx=20$ mm, $dy=20$ mm, $dz=10$ mm

Maximum value of SAR (measured) = 4.13 W/kg



Appendix E

DUT Scans

Assessments at the Body with Body-worn RLN6307A

Table 17

Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/6/2014 1:41:56 PM

Robot#: DASY5-FL-3 | Run#: HvH-Ab-141006-07
 Model#: PMUD3351A
 Phantom#: OVAL1090
 Tissue Temp: 21.0 (C)
 Serial#: 003
 Antenna: RAN4041A
 Test Freq: 154.5475 (MHz)
 Battery: RLN6308B (60012000001)
 Carry Acc: RLN6307A (4280383X62)
 Audio Acc: HKLN4604A
 Start Power: 4.98 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 155$ MHz; $\sigma = 0.8$ S/m; $\epsilon_r = 59.8$; $\rho = 1000$ kg/m³
 Probe: ES3DV3 - SN3291, , Frequency: 154.548 MHz, ConvF(7.28, 7.28, 7.28); Calibrated: 7/21/2014
 Electronics: DAE3 Sn363, Calibrated: 1/13/2014

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (41x191x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 37.98 V/m; Power Drift = -0.26 dB

Fast SAR: SAR(1 g) = 1.29 W/kg; SAR(10 g) = 0.962 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.48 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

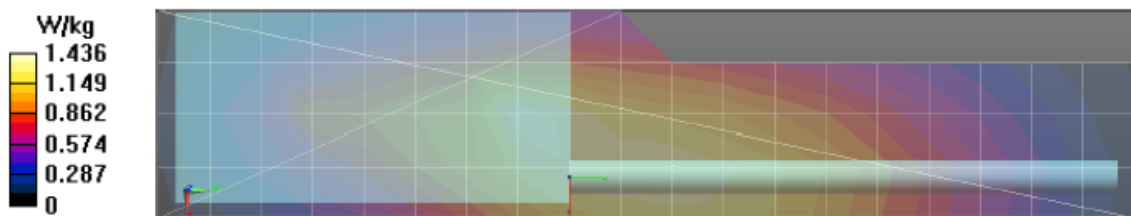
Reference Value = 37.98 V/m; Power Drift = -0.44 dB

Peak SAR (extrapolated) = 2.12 W/kg

SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.877 W/kg (SAR corrected for target medium)

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) = 1.42 W/kg



Assessment at the Body with other audio accessories

Assessment per “KDB 643646 D01 Body SAR Test Consideration for Audio Accessories without Built-in Antenna; Sec 1, A. when overall < 4.0 W/kg, SAR tested for that audio accessory is not necessary.” This was applicable to all remaining accessories.

Assessments at the Face

Table 20

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/6/2014 9:16:52 AM

Robot#: DASY5-FL-3 | Run#: HvH-Face-141006-02
Model#: PMUD3351A
Phantom#: OVAL1016
Tissue Temp: 21.3 (C)
Serial#: 004
Antenna: RAN4041A
Test Freq: 154.5475 (MHz)
Battery: RLN6308B (60012000001)
Carry Acc: @ front
Audio Acc: N/A
Start Power: 5.00 (W)

Comments:

Duty Cycle: 1:1, Medium parameters used: $f = 155$ MHz; $\sigma = 0.74$ S/m; $\epsilon_r = 52.8$; $\rho = 1000$ kg/m³
Probe: ES3DV3 - SN3291, , Frequency: 154.548 MHz, ConvF(7.68, 7.68, 7.68); Calibrated: 7/21/2014
Electronics: DAE3 Sn363, Calibrated: 1/13/2014

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (41x191x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 35.16 V/m; Power Drift = -0.28 dB

Fast SAR: SAR(1 g) = 0.822 W/kg; SAR(10 g) = 0.633 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 0.881 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 = 35.16 V/m; Power Drift = -0.39 dB

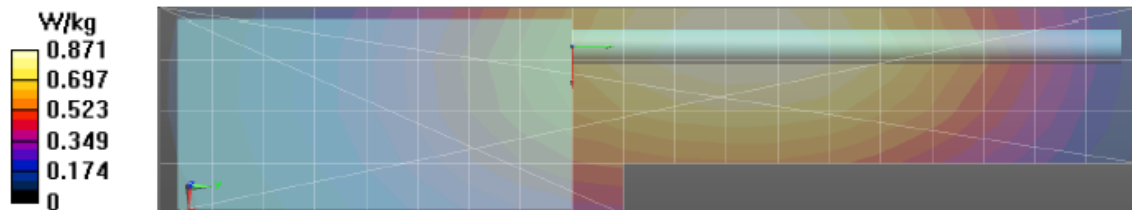
Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.798 W/kg; SAR(10 g) = 0.605 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.869 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) = 0.859 W/kg



Appendix F

Shortened Scan of Highest SAR configuration

Shortened Scan Table 21

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/6/2014 2:21:37 PM

Robot#: DASY5-FL-3 | Run#: HvH-Ab-141006-08
Model#: PMUD3351A
Phantom#: OVAL1090
Tissue Temp: 21.0 (C)
Serial#: 003
Antenna: RAN4041A
Test Freq: 154.5475 (MHz)
Battery: RLN6308B (60012000001)
Carry Acc: RLN6307A (4280383X62)
Audio Acc: HKLN4604A
Start Power: 4.98 (W)

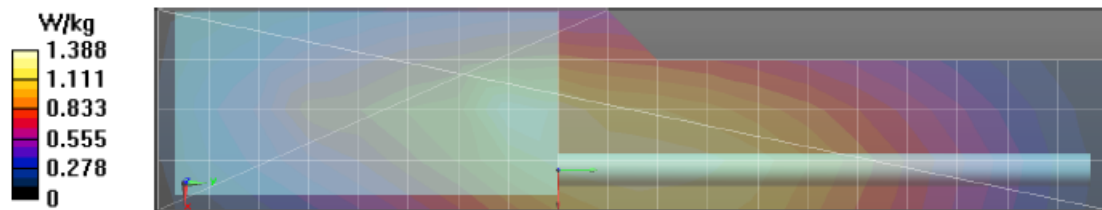
Comments: Shortened scan.

Duty Cycle: 1:1, Medium parameters used: $f = 155 \text{ MHz}$; $\sigma = 0.8 \text{ S/m}$; $\epsilon_r = 59.8$; $\rho = 1000 \text{ kg/m}^3$
Probe: ES3DV3 - SN3291, , Frequency: 154.548 MHz, ConvF(7.28, 7.28, 7.28); Calibrated: 7/21/2014
Electronics: DAE3 Sn363, Calibrated: 1/13/2014

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (41x191x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$
Reference Value = 37.51 V/m; Power Drift = -0.28 dB
Fast SAR: SAR(1 g) = 1.25 W/kg; SAR(10 g) = 0.921 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 1.42 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 46.18 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 2.45 W/kg
SAR(1 g) = 1.4 W/kg; SAR(10 g) = 0.986 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.67 W/kg

Below 2 GHz-Rev.2/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) = 1.62 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)	SAR 10g (W/kg)
Shorten scan (zoom)	21	10	0.74	0.52
Full scan (area & zoom)	17	20	0.68	0.49

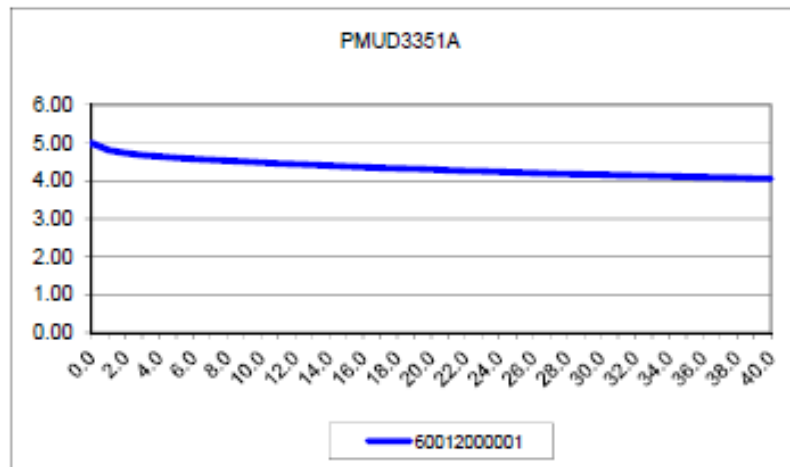
Appendix G DUT Power slump

Model # PMUD3351A
Serial # 001

Battery	60012000001	Transmit Mode	CW
Frequency	154.5475	Audio Accessory	HKLN4604A
Date	10/6/2014		

TX TIME	Measured Power
(minutes)	Watts

	60012000001
0.0	5.00
1.0	4.81
2.0	4.73
3.0	4.68
4.0	4.64
5.0	4.61
6.0	4.58
7.0	4.55
8.0	4.53
9.0	4.51
10.0	4.48
11.0	4.46
12.0	4.44
13.0	4.42
14.0	4.40
15.0	4.38
16.0	4.36
17.0	4.34
18.0	4.33
19.0	4.32
20.0	4.30
21.0	4.28
22.0	4.26
23.0	4.25
24.0	4.24
25.0	4.22
26.0	4.21
27.0	4.19
28.0	4.18
29.0	4.17
30.0	4.16
31.0	4.15
32.0	4.14
33.0	4.13
34.0	4.12
35.0	4.11
36.0	4.10
37.0	4.09
38.0	4.08
39.0	4.07
40.0	4.06



Appendix H

DUT Test Position Photos

Photos available in Exhibit 7B

Appendix I
DUT, Body worn and audio accessories Photos

Photos available in Exhibit 7B