MOTOROLA SOLUTIONS

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 (Innoplex)
Plot 2A, Medan Bayan Lepas,
Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.

Date of Report: 10/24/2016
Report Revision: A

Responsible Engineer:	Veeramani Veerapan
Report Author:	Veeramani Veerapan
Date/s Tested:	9/29/2016 – 10/06/2016
Manufacturer:	Motorola Solutions Inc.
DUT Description:	Handheld Portable – 8/900 MHz 2.5W NKP GOB WIFI GNSS BT
Test TX mode(s):	CW (PTT) , Bluetooth, and WLAN 802.11 b/g/n
Max. Power output:	3.0 W (LMR 8/900 MHz Band), 10.0 mW (Bluetooth), 22.4 mW (802.11b), 8.3 mW (802.11g), 12.6 mW (802.11n)
Nominal Power:	2.5 W (LMR 8/900 MHz Band), 8.9 mW (Bluetooth), 16.6 mW (802.11b), 6.6 mW (802.11g), 10.0 mW (802.11n)
Tx Frequency Bands:	LMR 806-825 MHz, 851-870 MHz, 896-902 MHz & 935-941 MHz; Bluetooth 2.402-2.480GHz; WLAN 802.11 b/g/n 2.412-2.462 GHz
Signaling type:	FM (LMR), FHSS (Bluetooth), 802.11 b/g/n (WLAN)
Model(s) Tested:	PMUF1895A
Model(s) Certified:	PMUF1895A & PMUF1894A
Serial Number(s):	126TSR0669
Classification:	Occupational/Controlled
FCC ID:	AZ489FT7067; LMR 806-824 MHz, 851-869 MHz, 896-902 MHz & 935-941 MHz , Bluetooth 2.402-2.480 GHz, WLAN 2.412-2.462 GHz This report contains results that are immaterial for FCC equipment approval, which are clearly identified.
IC:	109U-89FT7067; This report contains results that are immaterial for IC equipment approval, which are clearly identified.

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 OET Bulletin 65. 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.

Tiong

Tiong Nguk Ing
Deputy Technical Manager
Approval Date: 11/03/2016

Tiong Nguk Ing
Digitally signed by Tiong Nguk Ing
DN: cn=Tiong Nguk Ing, o=Motorola Solutions, ou=Regulatory Compliance Lab, email=n.i.tiong@motorolasolutions.com, c=MY
Date: 2016.11.03 16:48:31 +08'00'

Certification Date: 11/03/2016

Certification No.: L1161104

Appendix C
Dipole Calibration Certificates

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client **Motorola Solutions MY**

Certificate No: D900V2-1d025_Mar15

CALIBRATION CERTIFICATE

Object	D900V2 - SN:1d025
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	March 20, 2015

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	US37292783	07-Oct-14 (No. 217-02020)	Oct-15
Power sensor HP 8481A	MY41092317	07-Oct-14 (No. 217-02021)	Oct-15
Reference 20 dB Attenuator	SN: 5058 (20k)	03-Apr-14 (No. 217-01918)	Apr-15
Type-N mismatch combination	SN: 5047.2 / 06327	03-Apr-14 (No. 217-01921)	Apr-15
Reference Probe ES3DV3	SN: 3205	30-Dec-14 (No. ES3-3205_Dec14)	Dec-15
DAE4	SN: 601	18-Aug-14 (No. DAE4-601_Aug14)	Aug-15

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-13)	In house check: Oct-16
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-14)	In house check: Oct-15

	Name	Function	Signature
Calibrated by:	Israe Elnaouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 20, 2015

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.97 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.5 ± 6 %	0.94 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.61 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**10.6 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.68 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**6.82 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.0	1.05 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.5 ± 6 %	1.04 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.68 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**10.8 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.74 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**6.99 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.4 Ω - 8.0 jΩ
Return Loss	- 22.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.2 Ω - 8.9 jΩ
Return Loss	- 20.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.399 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	February 08, 2005

DASY5 Validation Report for Head TSL

Date: 19.03.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:1d025

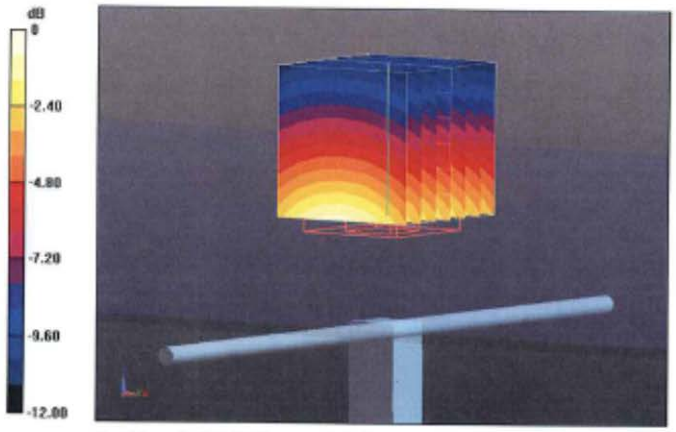
Communication System: UID 0 - CW; Frequency: 900 MHz
Medium parameters used: f = 900 MHz; σ = 0.94 S/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.94, 5.94, 5.94); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

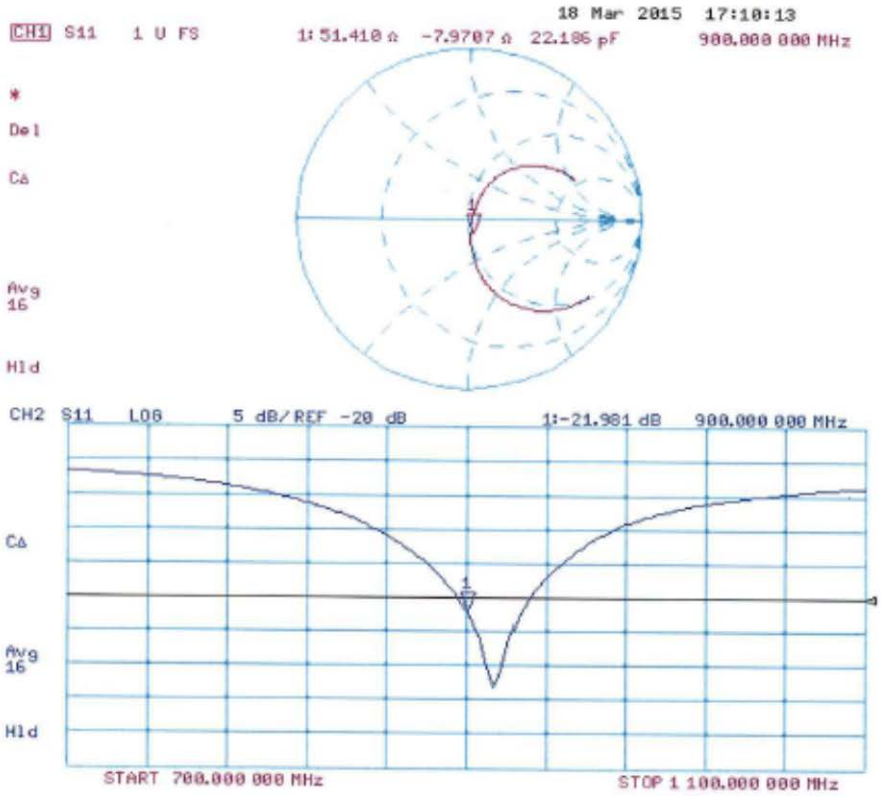
Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.88 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.92 W/kg
SAR(1 g) = 2.61 W/kg; SAR(10 g) = 1.68 W/kg
Maximum value of SAR (measured) = 3.06 W/kg



0 dB = 3.06 W/kg = 4.86 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 20.03.2015

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:1d025

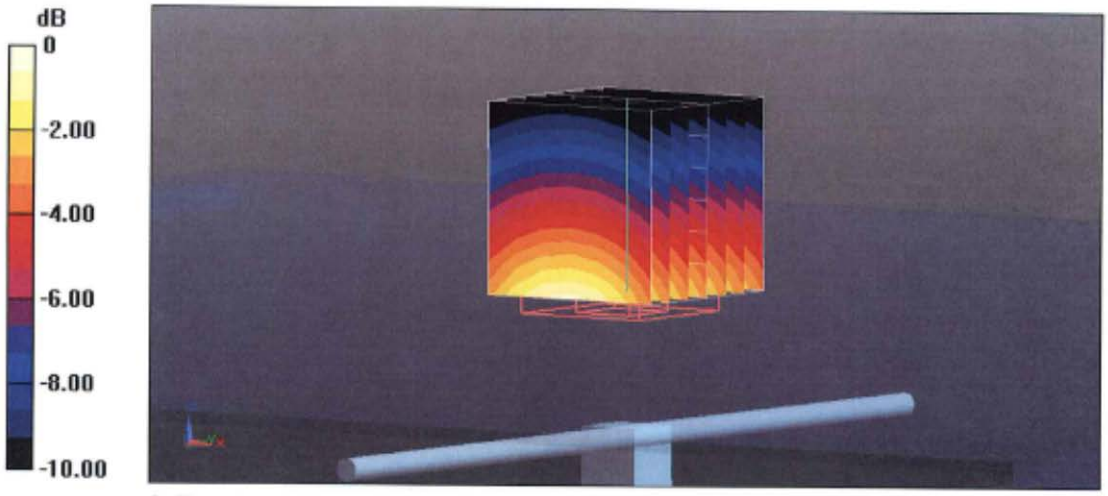
Communication System: UID 0 - CW; Frequency: 900 MHz
Medium parameters used: f = 900 MHz; σ = 1.04 S/m; ε_r = 54.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.95, 5.95, 5.95); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

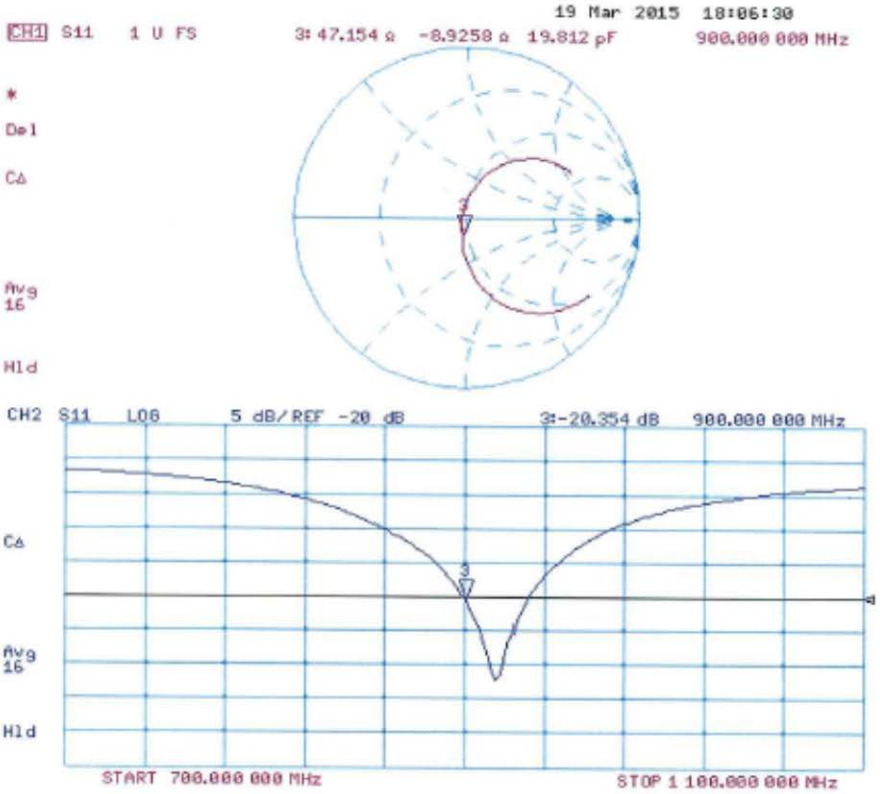
Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.85 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.97 W/kg
SAR(1 g) = 2.68 W/kg; SAR(10 g) = 1.74 W/kg
Maximum value of SAR (measured) = 3.14 W/kg



0 dB = 3.14 W/kg = 4.97 dBW/kg

Impedance Measurement Plot for Body TSL



Dipole Data

As stated in KDB 865664, only dipole exceed annual calibration interval required to provide supporting information and measurement to qualify for extended calibration interval.

The table below includes dipole impedance and return loss measurement data measured by Motorola Solutions' EME lab. The results meet requirements stated in KDB 865664.

Dipole D900V2 -1d025	Head			Body		
Date Measured	Impedance		Return Loss	Impedance		Return Loss
	real Ω	imag jΩ	dB	real Ω	imag jΩ	dB
04/16/15	48.49	-3.07	-24.74	47.71	1.07	-21.75
02/16/16	50.53	-2.08	-28.98	45.42	2.19	-24.76

Appendix D
System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory

Date/Time: 9/29/2016 10:20:39 AM

Robot#: DASY5-PG-1 | Run#:	ARF-SYSP-900B-160929-01
Dipole Model#	D900V2
Phantom#:	ELI4 1028
Tissue Temp:	21.2 (C)
Serial#:	1d025
Test Freq:	900.000 (MHz)
Start Power:	250 (mW)
Rotation (1D):	0.043 dB
Adjusted SAR (1W):	10.60 mW/g(1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.04 S/m; ε_r = 54.2; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN3612, , Frequency: 900 MHz, ConvF(8.21, 8.21, 8.21); Calibrated: 7/11/2016
Electronics: DAE4 Sn684, Calibrated: 4/29/2016

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (41x121x1):

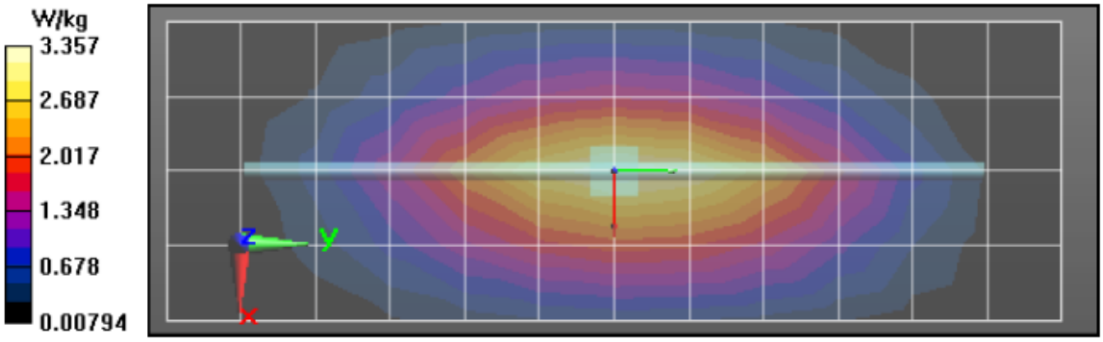
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 58.24 V/m; Power Drift = -0.00 dB
Fast SAR: SAR(1 g) = 2.71 W/kg; SAR(10 g) = 1.74 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.39 W/kg

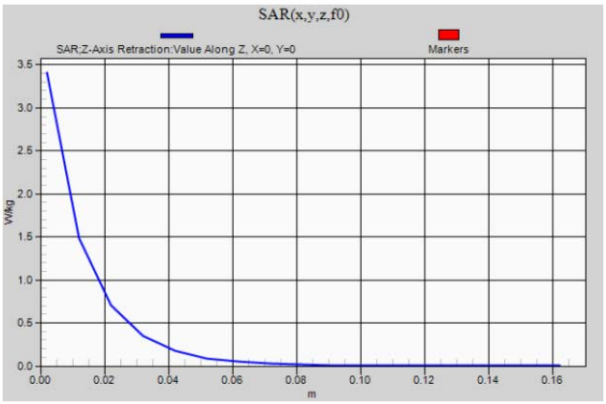
Below 2 GHz-Rev.2/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 58.24 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 4.05 W/kg
SAR(1 g) = 2.65 W/kg; SAR(10 g) = 1.7 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.40 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) = 3.41 W/kg





Motorola Solutions, Inc. EME Laboratory

Date/Time: 9/30/2016 10:07:15 AM

Robot#: DASY5-PG-1 | Run#:	ARF-SYSP-900B-160930-04
Dipole Model#	D900V2
Phantom#:	ELI4 1028
Tissue Temp:	21.0 (C)
Serial#:	1d025
Test Freq:	900.000 (MHz)
Start Power:	250 (mW)
Rotation (1D):	0.044 dB
Adjusted SAR (1W):	10.52 mW/g(1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; $\sigma = 1.04$ S/m; $\varepsilon_r = 53.2$; $\rho = 1000$ kg/m^3
Probe: EX3DV4 - SN3612, , Frequency: 900 MHz, ConvF(8.21, 8.21, 8.21); Calibrated: 7/11/2016
Electronics: DAE4 Sn684, Calibrated: 4/29/2016

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (41x121x1):

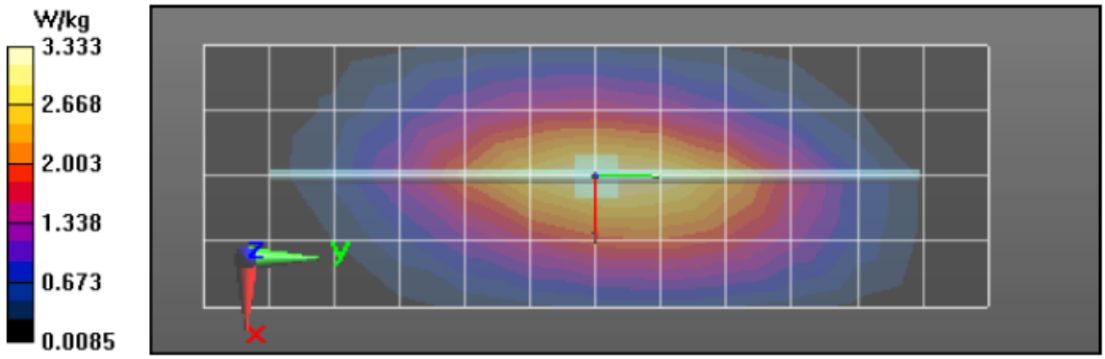
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 57.98 V/m; Power Drift = 0.02 dB
Fast SAR: SAR(1 g) = 2.69 W/kg; SAR(10 g) = 1.73 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.37 W/kg

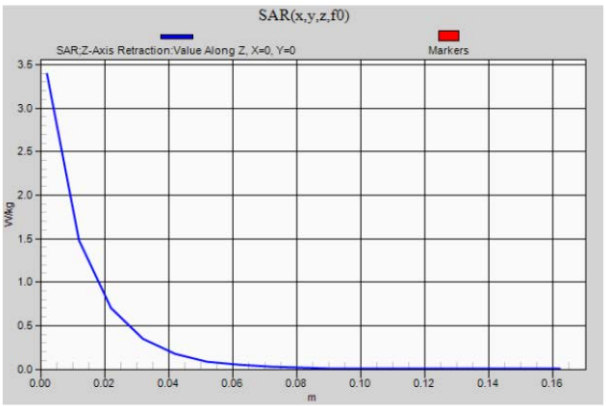
Below 2 GHz-Rev.2/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.98 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 4.05 W/kg
SAR(1 g) = 2.63 W/kg; SAR(10 g) = 1.69 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.39 W/kg

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

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





Motorola Solutions, Inc. EME Laboratory

Date/Time: 10/4/2016 6:06:28 AM

Robot#: DASY5-PG-3 | Run#:	TLC-SYSP-900H-161004-01
Dipole Model#	D900V2
Phantom#:	ELI4 1037
Tissue Temp:	21.0 (C)
Serial#:	1d025
Test Freq:	900.0000 (MHz)
Start Power:	250 (mW)
Rotation (1D):	0.025 dB
Adjusted SAR (1W):	10.32 mW/g (1g)

Comments:

Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 0.99 S/m; ε_r = 40.4; ρ = 1000 kg/m^3
Probe: ES3DV3 - SN3196, , Frequency: 900 MHz, ConvF(6.13, 6.13, 6.13); Calibrated: 11/17/2015
Electronics: DAE4 Sn688, Calibrated: 4/21/2016

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (41x121x1):

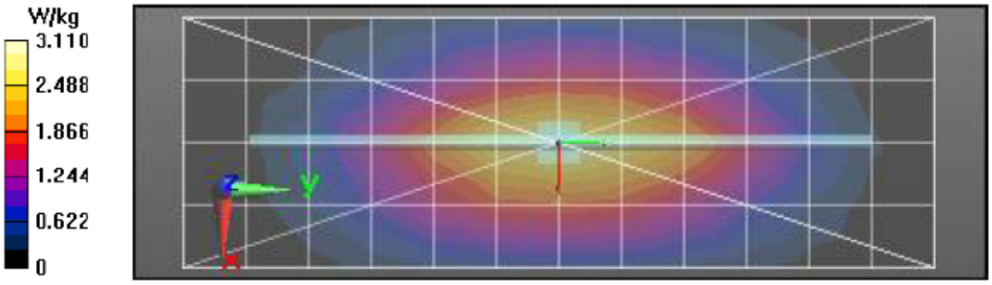
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 57.14 V/m; Power Drift = 0.01 dB
Fast SAR: SAR(1 g) = 2.6 W/kg; SAR(10 g) = 1.7 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.10 W/kg

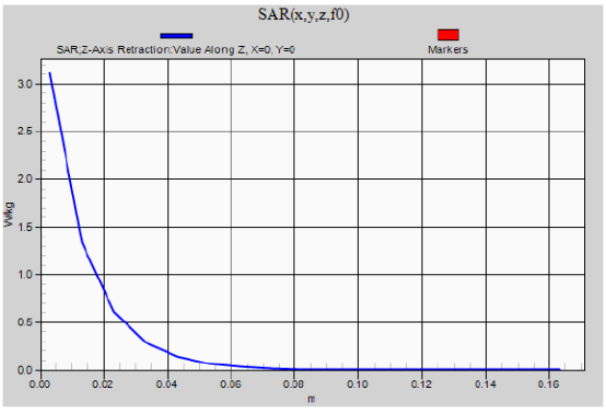
Below 2 GHz-Rev.2/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.14 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 4.00 W/kg
SAR(1 g) = 2.58 W/kg; SAR(10 g) = 1.64 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.12 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) = 3.11 W/kg





Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/5/2016 6:46:39 AM

Robot#: DASY5-PG-3 | Run#:	AZ-SYSP-900H-161005-01
Dipole Model#	D900V2
Phantom#:	ELI4 1037
Tissue Temp:	21.9 (C)
Serial#:	1d025
Test Freq:	900.0000 (MHz)
Start Power:	250 (mW)
Rotation (1D):	0.026 dB
Adjusted SAR (1W):	10.52 mW/g (1g)

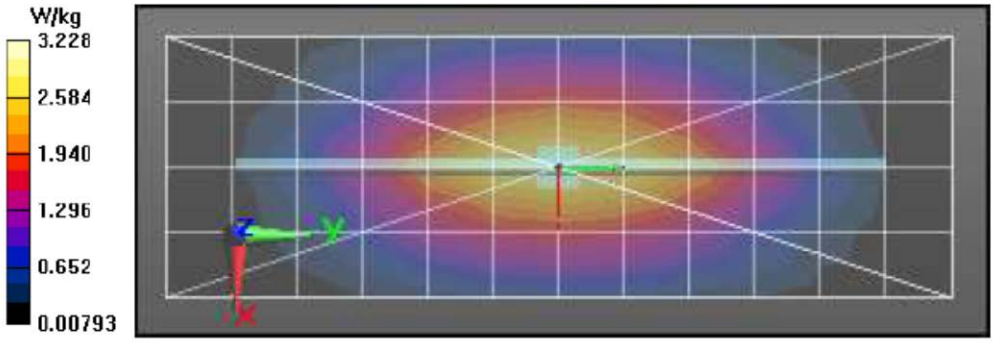
Comments:

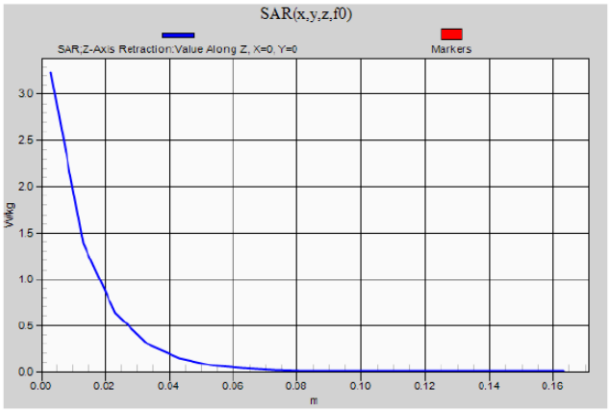
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.01 S/m; ε_r = 39.9; ρ = 1000 kg/m^3
Probe: ES3DV3 - SN3196, , Frequency: 900 MHz, ConvF(6.13, 6.13, 6.13); Calibrated: 11/17/2015
Electronics: DAE4 Sn688, Calibrated: 4/21/2016

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (41x121x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 58.34 V/m; Power Drift = 0.03 dB
Fast SAR: SAR(1 g) = 2.67 W/kg; SAR(10 g) = 1.75 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.23 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 = 58.34 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 4.18 W/kg
SAR(1 g) = 2.63 W/kg; SAR(10 g) = 1.69 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.24 W/kg

Below 2 GHz-Rev.2/System Performance Check/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm





Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/6/2016 10:37:18 AM

Robot#: DASY5-PG-3 | Run#:	AZ-SYSP-900B-161006-03
Dipole Model#	D900V2
Phantom#:	ELI4 1108
Tissue Temp:	21.7 (C)
Serial#:	1d025
Test Freq:	900.0000 (MHz)
Start Power:	250 (mW)
Rotation (1D):	0.062 dB
Adjusted SAR (1W):	10.68 mW/g (1g)

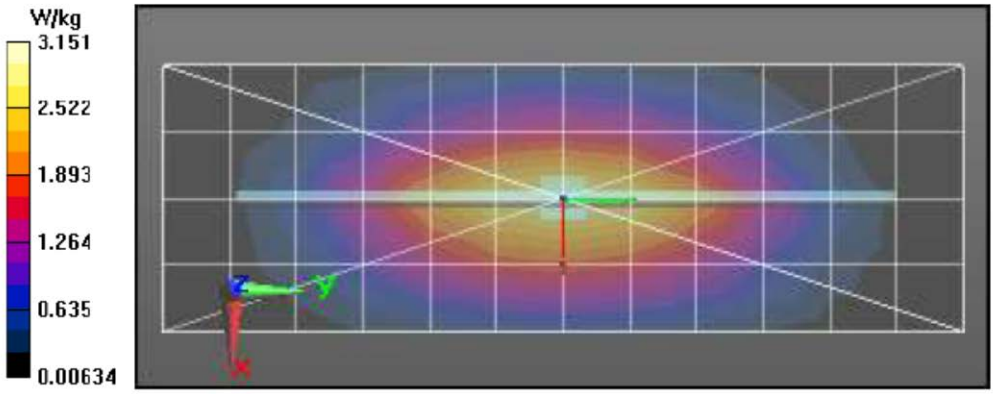
Comments:

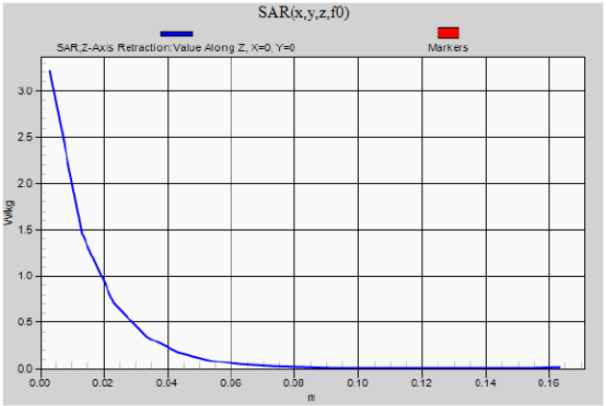
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.07 S/m; e_r = 53.4; ρ = 1000 kg/m^3
Probe: ES3DV3 - SN3196, , Frequency: 900 MHz, ConvF(6.1, 6.1, 6.1); Calibrated: 11/17/2015
Electronics: DAE4 Sn688, Calibrated: 4/21/2016

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (41x121x1):
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 56.54 V/m; Power Drift = 0.07 dB
Fast SAR: SAR(1 g) = 2.66 W/kg; SAR(10 g) = 1.73 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.17 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 = 56.54 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 4.03 W/kg
SAR(1 g) = 2.67 W/kg; SAR(10 g) = 1.74 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.21 W/kg

Below 2 GHz-Rev.2/System Performance Check/Z-Axis Retraction (1x1x17):
Measurement grid: dx=20mm, dy=20mm, dz=10mm





Appendix E
DUT Scans

LMR assessments at the Body
Table 16

Motorola Solutions, Inc. EME Laboratory
Date/Time: 9/29/2016 4:29:15 PM

Robot#: DASY5-PG-1 | Run#:	AZ-AB-160929-10
Model#:	PMUF1895A
Phantom#:	ELI4 1028
Tissue Temp:	21.1 (C)
Serial#:	126TSR0669
Antenna:	NAF5088B
Test Freq:	899.0000 (MHz)
Battery:	PMNN4407BR
Carry Acc:	HLN6602A
Audio Acc:	PMMN4024A
Start Power:	2.88 (W)

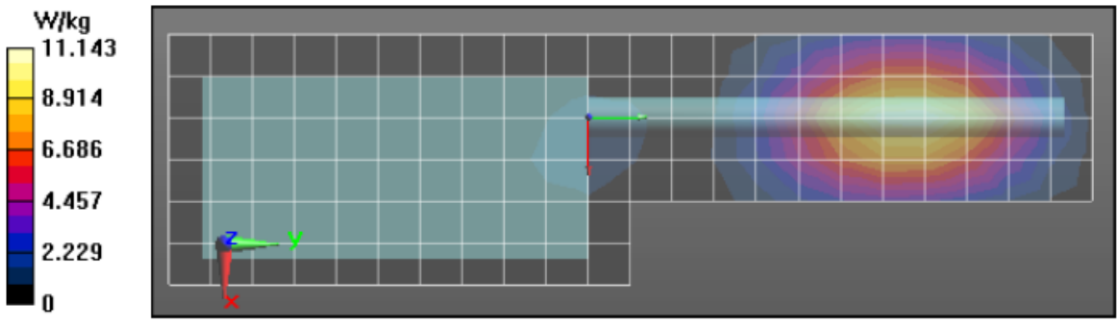
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 899 MHz; σ = 1.04 S/m; ε_r = 54.2; ρ = 1000 kg/m^3
Probe: EX3DV4 - SN3612, , Frequency: 899 MHz, ConvF(8.21, 8.21, 8.21); Calibrated: 7/11/2016
Electronics: DAE4 Sn684, Calibrated: 4/29/2016

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (61x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 111.7 V/m; Power Drift = -0.67 dB
Fast SAR: SAR(1 g) = 9.24 W/kg; SAR(10 g) = 6.18 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 11.4 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 = 111.7 V/m; Power Drift = -0.79 dB
Peak SAR (extrapolated) = 12.5 W/kg
SAR(1 g) = 8.77 W/kg; SAR(10 g) = 5.99 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 10.8 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) = 10.6 W/kg



LMR assessments at the Face
Table 17

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/5/2016 8:08:09 AM

Robot#: DASY5-PG-3 | Run#:	AZ-FACE-161005-03
Model#:	PMUF1895A
Phantom#:	ELI4 1037
Tissue Temp:	21.8 (C)
Serial#:	126TSR0669
Antenna:	NAF5088B
Test Freq:	899.0000 (MHz)
Battery:	PMNN4493A
Carry Acc:	NONE
Audio Acc:	NONE
Start Power:	3.00 (W)

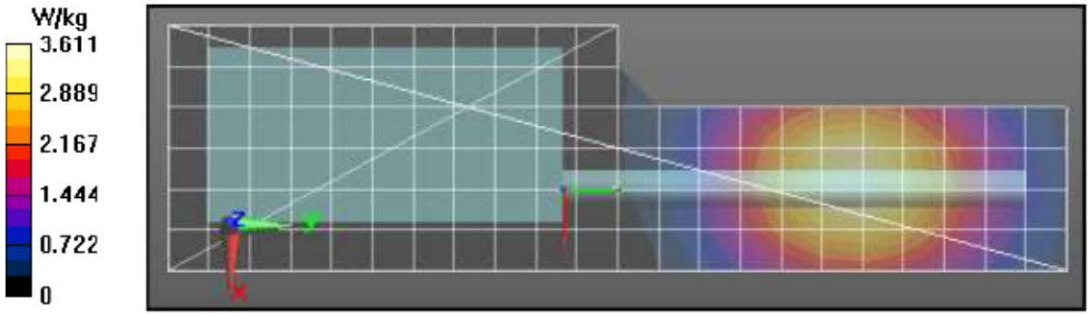
Comments:

Duty Cycle: 1:1, Medium parameters used: f = 899 MHz; σ = 1.01 S/m; ε_r = 40; ρ = 1000 kg/m^3
Probe: ES3DV3 - SN3196, , Frequency: 899 MHz, ConvF(6.13, 6.13, 6.13); Calibrated: 11/17/2015
Electronics: DAE4 Sn688, Calibrated: 4/21/2016

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (61x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 63.38 V/m; Power Drift = -0.34 dB
Fast SAR: SAR(1 g) = 3.21 W/kg; SAR(10 g) = 2.23 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.64 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 = 63.38 V/m; Power Drift = -0.42 dB
Peak SAR (extrapolated) = 4.21 W/kg
SAR(1 g) = 3.11 W/kg; SAR(10 g) = 2.22 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.51 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) = 3.49 W/kg



APPENDIX F
Shortened Scan of Highest SAR configuration

Shortened Scan
Table 18

Motorola Solutions, Inc. EME Laboratory
Date/Time: 10/6/2016 11:22:24 AM

Robot#: DASY5-PG-3 | Run#: AZ-AB-161006-04
Model#: PMUF1895A
Phantom#: ELI4 1108
Tissue Temp: 21.0 (C)
Serial#: 126TSR0669
Antenna: NAF5088B
Test Freq: 899.0000 (MHz)
Battery: PMNN4407BR
Carry Acc: HLN6602A
Audio Acc: PMMN4024A
Start Power: 2.94 (W)

Comments: Shorten Scan

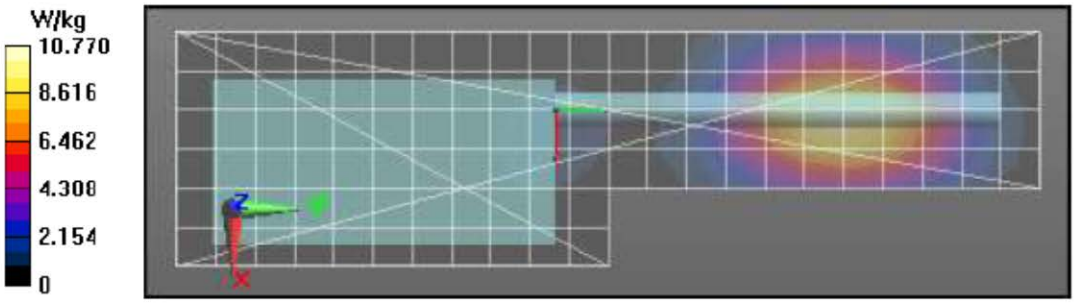
Duty Cycle: 1:1, Medium parameters used: f = 899 MHz; σ = 1.07 S/m; ε_r = 53.4; ρ = 1000 kg/m^3
Probe: ES3DV3 - SN3196, , Frequency: 899 MHz, ConvF(6.1, 6.1, 6.1); Calibrated: 11/17/2015
Electronics: DAE4 Sn688, Calibrated: 4/21/2016

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (61x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 109.4 V/m; Power Drift = -0.65 dB
Fast SAR: SAR(1 g) = 9.62 W/kg; SAR(10 g) = 6.46 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 11.0 W/kg

Below 2 GHz-Rev.2/Ab Scan/2-Volume 2D Scan (41x41x1): Interpolated grid: dx=0.7500 mm, dy=0.7500 mm, dz=1.000 mm
Reference Value = 109.4 V/m; Power Drift = -0.70 dB
Fast SAR: SAR(1 g) = 9.42 W/kg; SAR(10 g) = 6.42 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 10.7 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 = 112.9 V/m; Power Drift = -0.24 dB
Peak SAR (extrapolated) = 14.6 W/kg
SAR(1 g) = 10.7 W/kg; SAR(10 g) = 7.34 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 12.1 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) = 10.5 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)	18	8	5.77	3.96
Full scan (area & zoom)	16	25	5.48	3.74

APPENDIX G
DUT Test Position Photos

1.0 Highest SAR Test position per body position

1.1 Body

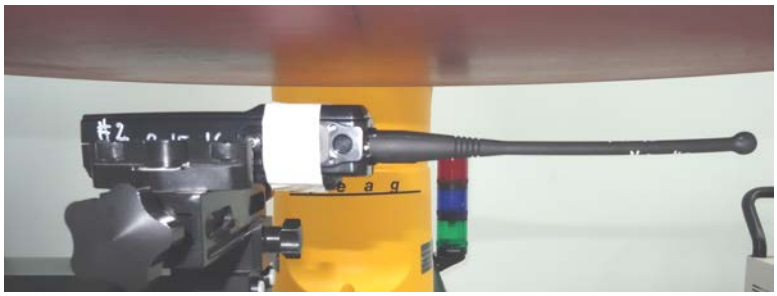
DUT with antenna NAF5088B with offered battery PMNN4407BR and body worn accessory HLN6602A against the phantom with an audio accessory PMMN4024A attached. Same position used for other applicable offered antenna.

Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
NAF5087B	*0-5	18	*16-22
NAF5088B	5	18	20

* Depending on the battery and bodyworn used.

1.2 Face

DUT with front side separated 2.5cm from phantom with antenna NAF5088B and battery PMNN4493A. Same position used for other antenna, batteries and internal WLAN antenna.



Antenna kit #	Separation Distances (mm)		
	@ bottom surface of the DUT	@ antenna's base	@ antenna's tip
NAF5087B	28	35	49
NAF5088B	30	35	42

APPENDIX H
Antennas Dimension and photo

Antennas dimension and photo(s):

Antenna Kit #	Physical Length (mm)	Electrical Length
NAF5087B	180	½ wave
NAF5088B	170	½ wave

Top to bottom: NAF5088B, NAF5087B