MOTOROLA

ACCREDITED
TESTING CERT # 2518.05

FCC ID: ABZ99FT5011
DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

Enterprise Mobility Solutions
EME Test Laboratory
Motorola Technology Sdn Bhd (455657-H)
Customer Solution Center
Plot 2, Bayan Lepas Technoplex Industrial Park,
Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.

Date of Report: 01/15/10
Report Revision: A
Report ID: PCII SAR rpt_PMUF1413A_Rev A 100115_SR7835/SR7842

Responsible Engineer:	Veeramani Veerapan (EME Engineer)
Report Author:	Veeramani Veerapan (EME Engineer)
Date/s Tested:	11/20/09~01/13/10
Manufacturer/Location	Penang
Sector/Group/Div.:	GTDG
Date submitted for test:	11/17/09
DUT Description:	806-870MHz & 896-941MHz, 12.5kHz/25kHz, 1-2.5W, 32CH, PLAIN without GPS (Capable of analog FM transmission and digital TDMA transmission.)
Test TX mode(s):	CW
Max. Power output:	3.0 Watts
Nominal Power:	2.5 Watts
Tx Frequency Bands:	TMO: 806-825, DMO: 851-870 (800 band) & TMO: 896-902, DMO: 935-941 (900 band)
Signaling type:	FM and TDMA 2:1
Model(s) Tested:	PMUF1413A
Model(s) Certified:	PMUF1413A
Serial Number(s):	777TKN0846
Classification:	Occupational/Controlled
Rule Part(s):	90

Approved Accessories:

Antenna(s): NAF5037A (806-870MHz, 1/2 Wave, Whip ANTENNA, -3dBd), NAF5038AR (896-941MHz, 1/2 Wave, Whip Antenna, -3dBd)

Battery(ies): PMNN4077C (IMPRES Li-Ion 2200mAh Submersible (IP57) Battery), PMNN4069A (IMPRES Li-Ion 1400mAh Battery with box (FM))

Body worn accessory(ies): RLN4570A (Break A-way Chest pack), HLN6602A (Universal Chest pack)

Audio/Data Cable accessory(ies): PMLN5097A (IMPRES 3-Wire Surveillance, black), RLN5878A (Receive only surveillance kit, black (single wire))

Max. Calc. : 1-g Avg. SAR: 5.30 W/kg (Body); 10-g Avg. SAR: 3.60 W/kg (Body)
Max. Calc. : 1-g Avg. SAR: 1.75 W/kg (Face); 10-g Avg. SAR: 1.24 W/kg (Face)

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 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 2.0 of this report. This report shall not be reproduced without written approval from an officially designated representative of the Motorola 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.

Signature on file – Deanna Zakharia
Deanna Zakharia
EMS EME Lab Senior Resource Manager,
Laboratory Director

Approval Date: 1/15/2010

Certification Date: 10/20/2009

Certification No.: L1091019

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 108

Client **Motorola MY (Precision)** **Certificate No: D900V2-1d025_Apr09**

CALIBRATION CERTIFICATE

Object	D900V2 - SN: 1d025
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	April 14, 2009
Condition of the calibrated item	In Tolerance

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	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 23, 2009

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)
Accreditation No.: SCS 108
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

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 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
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) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

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.

Measurement Conditions

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

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
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	40.3 ± 6 %	0.95 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.69 mW / g
SAR normalized	normalized to 1W	10.8 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**10.9 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.73 mW / g
SAR normalized	normalized to 1W	6.92 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**6.97 mW /g ± 16.5 % (k=2)**

[1] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.9 Ω - 8.1 jΩ
Return Loss	- 21.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.404 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.
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/Time: 14.04.2009 13:13:08

Test Laboratory: SPEAG, Zurich, Switzerland

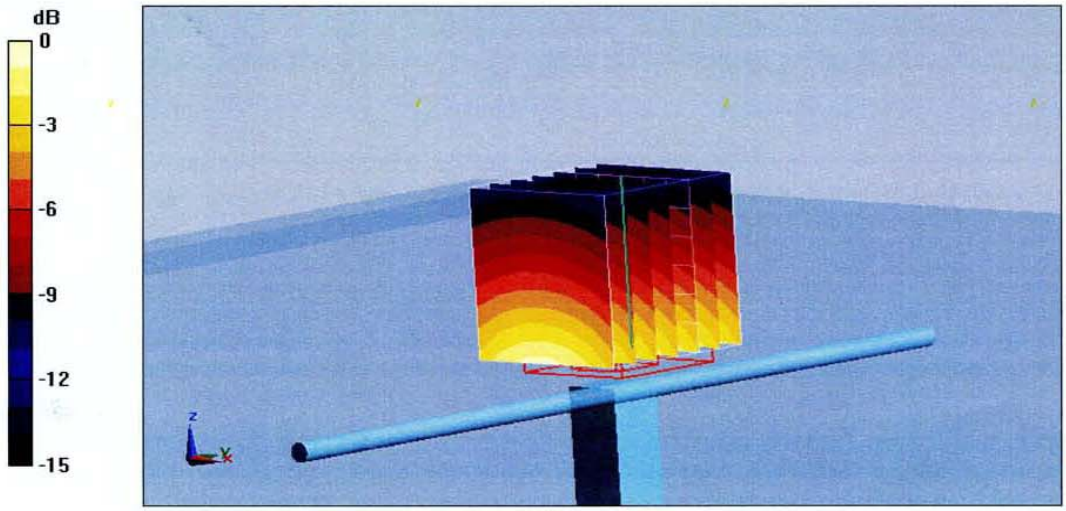
DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:1d025

Communication System: CW-900; Frequency: 900 MHz; Duty Cycle: 1:1
Medium: HSL 900 MHz
Medium parameters used: f = 900 MHz; σ = 0.95 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

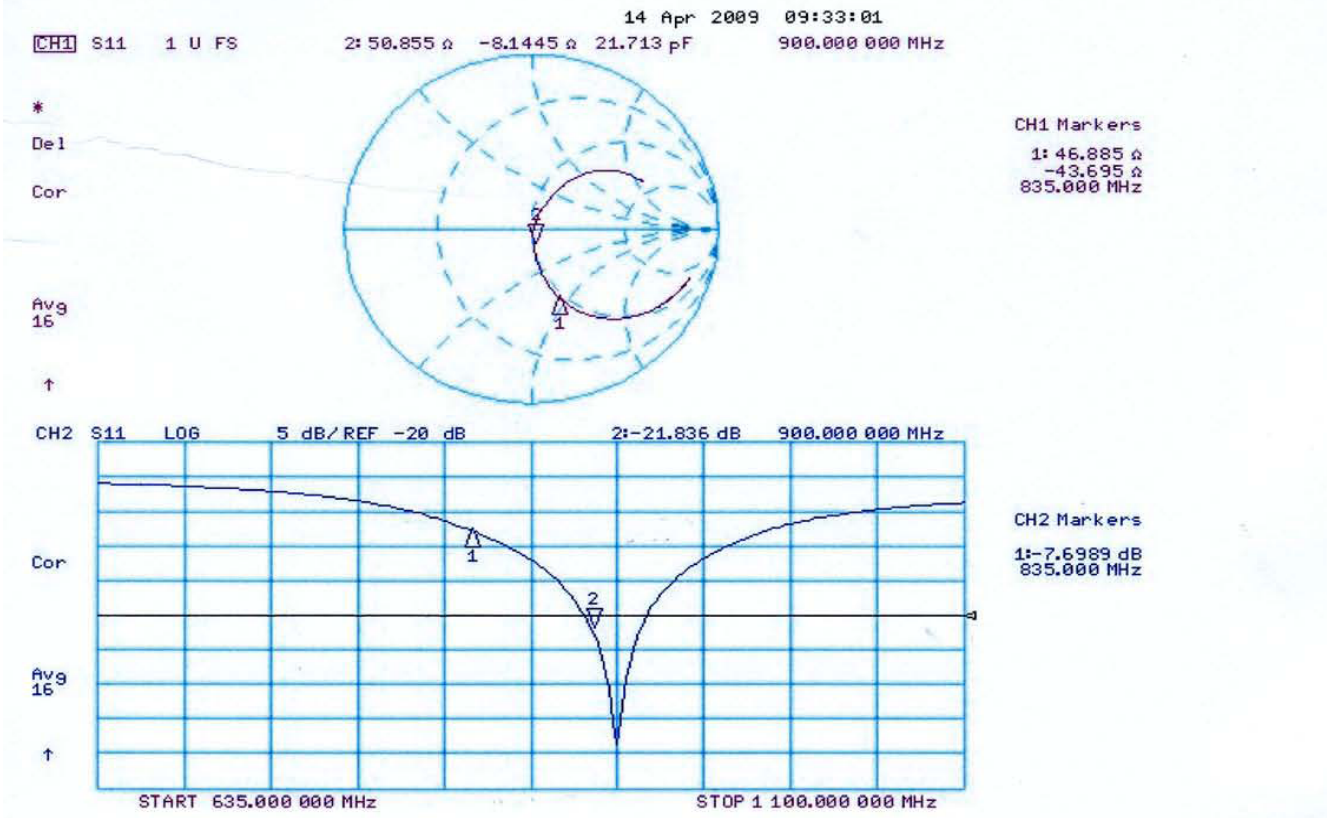
- Probe: ES3DV2 - SN3025; ConvF(5.78, 5.78, 5.78); Calibrated: 28.04.2008
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin=250mW; dip=15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 59.1 V/m; Power Drift = 0.026 dB
Peak SAR (extrapolated) = 4.01 W/kg
SAR(1 g) = 2.69 mW/g; SAR(10 g) = 1.73 mW/g
Maximum value of SAR (measured) = 3.14 mW/g



0 dB = 3.14mW/g

Impedance Measurement Plot for Head TSL



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 108

Client **Motorola MY (Precision)** **Certificate No: D835V2-4d029_Apr09**

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 4d029
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	April 14, 2009
Condition of the calibrated item	In Tolerance

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	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 22, 2009

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 108**

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 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
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) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

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.

Measurement Conditions

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

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 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	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.1 ± 6 %	0.89 mho/m ± 6 %
Head TSL temperature during test	(22.1 ± 0.2) °C	—	—

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.33 mW / g
SAR normalized	normalized to 1W	9.32 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**9.38 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.53 mW / g
SAR normalized	normalized to 1W	6.12 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**6.15 mW /g ± 16.5 % (k=2)**

[1] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.0 Ω - 5.0 jΩ
Return Loss	- 25.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.388 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.
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	December 17, 2004

DASY5 Validation Report for Head TSL

Date/Time: 14.04.2009 10:43:06

Test Laboratory: SPEAG, Zurich, Switzerland

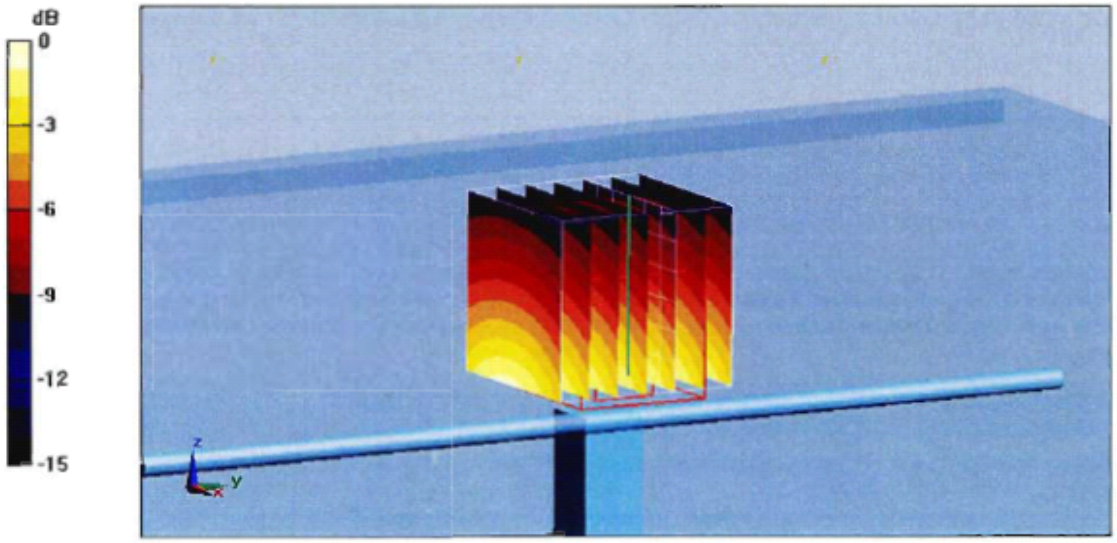
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d029

Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL 900 MHz
Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

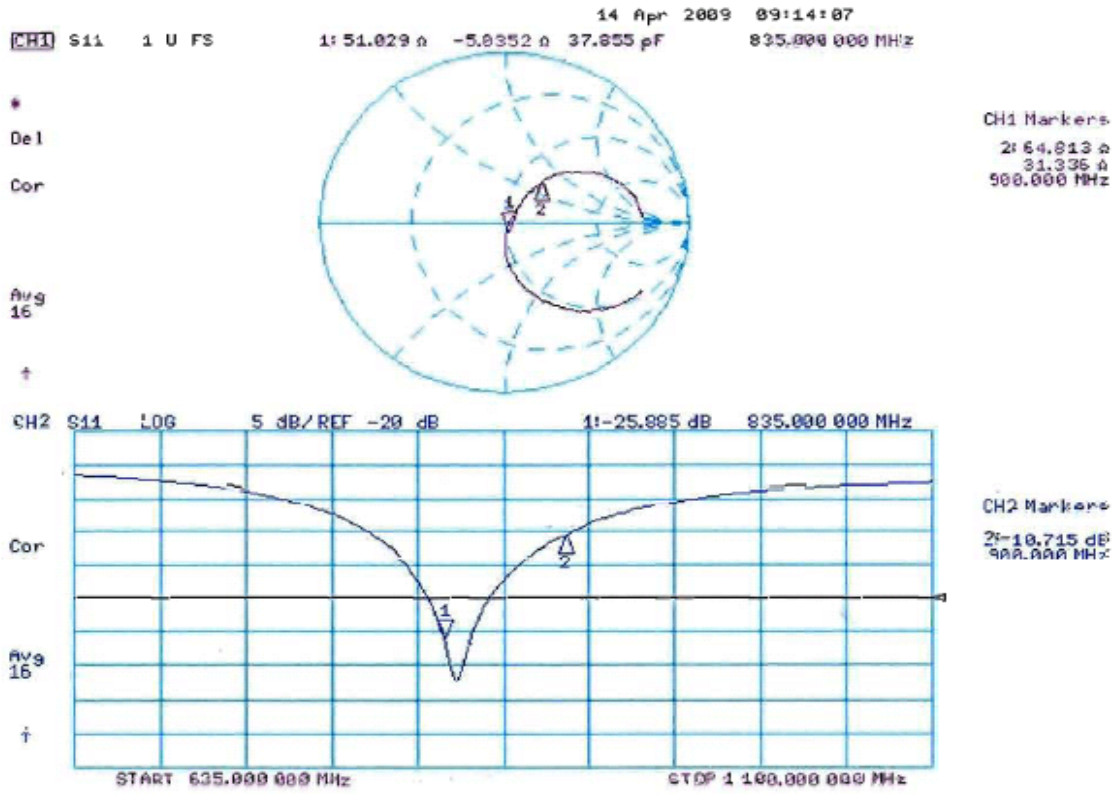
- Probe: ES3DV2 - SN3025; ConvF(5.97, 5.97, 5.97); Calibrated: 28.04.2008
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin=250mW; dip=15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.5 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 3.46 W/kg
SAR(1 g) = 2.33 mW/g; SAR(10 g) = 1.53 mW/g
Maximum value of SAR (measured) = 2.71 mW/g



0 dB = 2.71mW/g

Impedance Measurement Plot for Head TSL



Appendix D
Test System Verification Scans

The SAR result indicated on the Manufacture's Calibrated certificate for dipole D900V2 S/N 1d025 and D835V2 S/N 4d029 was not used due to the following:

-- The IEEE1528-2003 and the FCC OET-65 Supplement C, System Verification section indicated that "The measured 1-g SAR should be within 10% of the expected target values specified for the specific phantom and RF source used in the system verification measurement."

-- SPEAG calibration certificate indicated that the allowed tolerance for this dipole is higher than +/-10% (e.g. 10.9 +/-17 % at k=2 for the D900V2 S/N 1d025 and 9.38 +/-17 % at k=2 for the D835V2 S/N 4d029).

-- The allowed tolerance for the probes is also higher than +/- 10% (e.g. 11% at k=2 at 900MHz for the probe being used to assess this product).

Due to probe, dipole and system tolerances noted above, the lab averages dipole results across multiple probes to establish a set of averaged targets for each dipole using the following procedure:
• The System Validation was conducted per IEEE1528-2003 and the latest draft of IEC62209-2 (10/3/08) standards using the simulated head tissue and multiple probes that are available and applicable for the dipole under test to verify the System Validation. Results for this dipole are within the measurement system uncertainty of the reference SAR values indicated within the latest draft of IEC62209-2 (10/3/08) when uses flat phantom with 2mm thickness is used. These results then are averaged and used as the target for the daily system performance check when the simulated head tissue is used.
•The dipole targets for the body are set immediately following the same process noted above. Since there is no standard referencing the SAR values for the System Validation using the simulated body tissue, the compliant System Validation results using the simulated head tissue are used to justify the use of the System Validation results using the simulated body tissue due to the same setup except for the simulated tissue type.

The targets set in this report were conducted following the above process. The System validation results included in this report was not averaged since there was only one probe available at the time when the System Validation targets were set for dipole D900V2 S/N 1d025.

Noted that the target set for the tested dipole, when used the simulated head tissue, meets the requirement for the system validation per IEEE1528-2003 the latest draft of IEC62209-2 (10/3/08) standards, and the difference between this result and the result from the manufacture's dipole calibration certificate is 0.2% for D900V2 and 2.3% for D835V2 dipole which is well within the measurement uncertainty of the measurement system at k=2.

To assess the isotropic characteristics of the measurement probe, a probe rotation was performed using the "Rotation (1D)" function in the DASY software with a measured isotropy tolerance of +/- 0.5dB.

Motorola Enterprise Mobility Solutions EME Laboratory

Date/Time: 11/20/2009 6:43:06 AM

Robot# / Run#: DASY4-PG-1 / PS-SYSP-900B-091120-01
Phantom# / Tissue Temp.: ELI4 1050 / 21.4 (C)
Dipole Model# / Serial#: D900V2 / 1d025
TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target:	10.88 mW/g	(1g)
Calculated:	11.32 mW/g	(1g)
Percent from Target (+/-):	4.0 %	(1g)
Rotation (1D):	0.087 dB	

Note: When Applicable
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

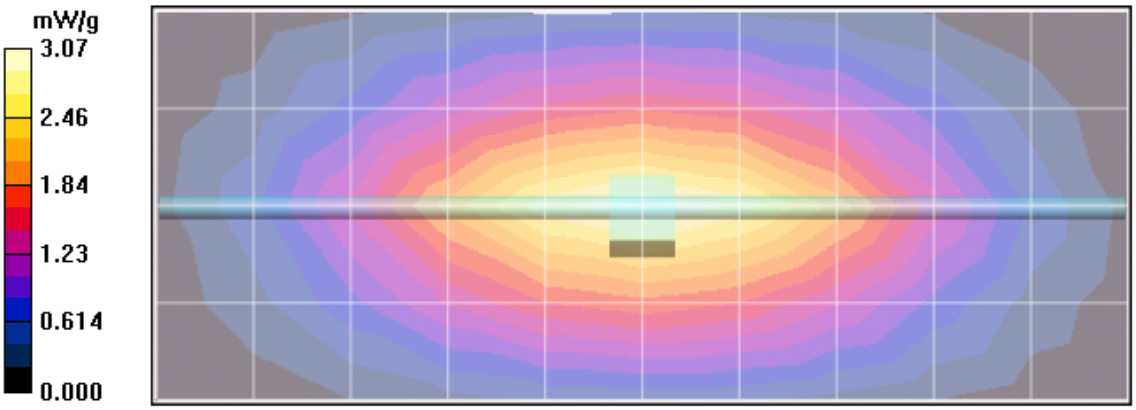
Comments:

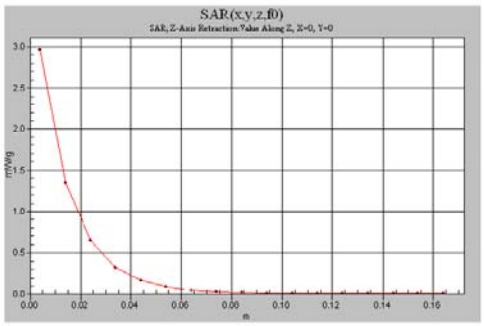
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.06 mho/m; ε_r = 53; ρ = 1000 kg/m^3

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 54.1 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 4.23 W/kg
SAR(1 g) = 2.83 mW/g; SAR(10 g) = 1.83 mW/g
Maximum value of SAR (measured) = 3.07 mW/g

System Performance Check/Dipole Area Scan 2 (5x11x1): Measurement grid: dx=15mm, dy=15mm

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





Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 11/24/2009 7:25:46 AM

Robot# / Run#: DASY4-PG-1 / PS-SYSP-900H-091124-01
Phantom# / Tissue Temp.: ELI4 1037 / 21.5 (C)
Dipole Model# / Serial#: D900V2 / 1d025
TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target:	10.92 mW/g	(1g)
Calculated:	11.36 mW/g	(1g)
Percent from Target (+/-):	4.0 %	(1g)
Rotation (1D):	0.079 dB	

Note: When Applicable
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

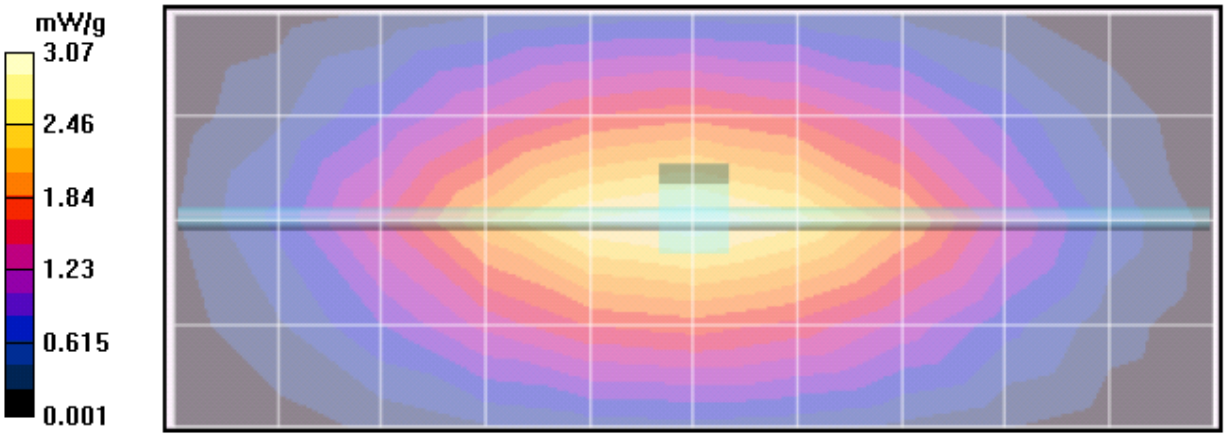
Comments:

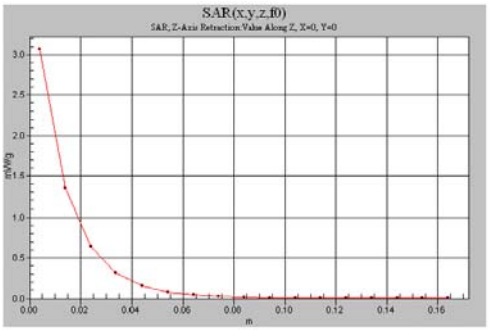
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 0.98 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm dz=5mm
Reference Value = 56.6 V/m; Power Drift = 0.00681 dB
Peak SAR (extrapolated) = 4.30 W/kg
SAR(1 g) = 2.84 mW/g; SAR(10 g) = 1.82 mW/g
Maximum value of SAR (measured) = 3.07 mW/g

System Performance Check/Dipole Area Scan 2 (5x11x1): Measurement grid: dx=15mm, dy=15mm

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





Motorola Enterprise Mobility Solutions EME Laboratory

Date/Time: 11/25/2009 7:36:04 AM

Robot# / Run#: DASY4-PG-1 / CcC-SYSP-900B-091125-01
Phantom# / Tissue Temp.: ELI4 1050 / 21.7 (C)
Dipole Model# / Serial#: D900V2 / 1d025
TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target:	10.88 mW/g	(1g)
Calculated:	11.36 mW/g	(1g)
Percent from Target (+/-):	4.40 %	(1g)
Rotation (1D):	0.081 dB	

Note: When Applicable
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

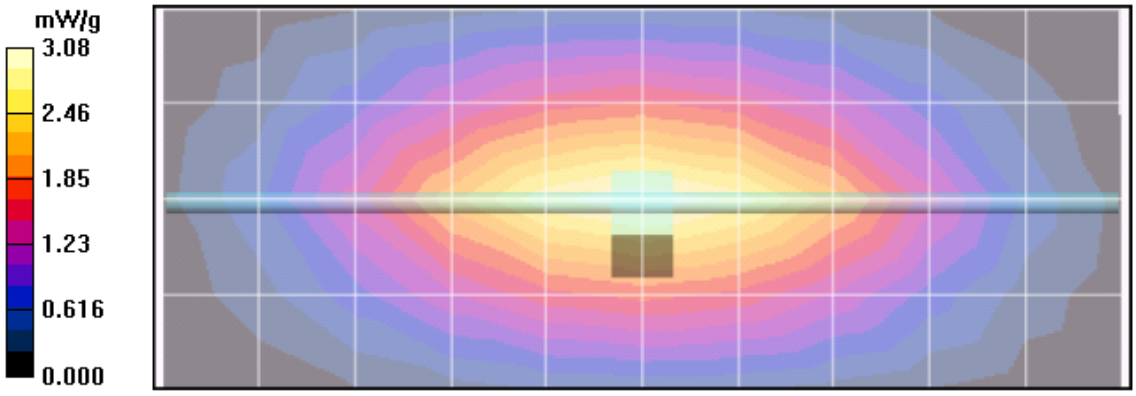
Comments:

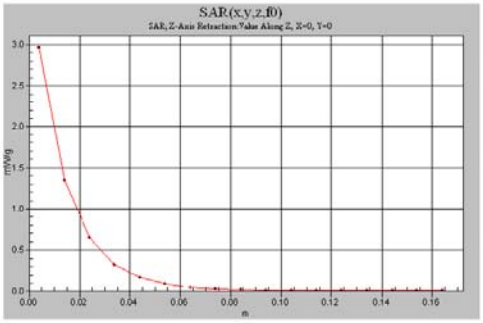
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.06 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 54.2 V/m; Power Drift = -0.00184 dB
Peak SAR (extrapolated) = 4.25 W/kg
SAR(1 g) = 2.84 mW/g; SAR(10 g) = 1.83 mW/g
Maximum value of SAR (measured) = 3.08 mW/g

System Performance Check/Dipole Area Scan 2 (5x11x1): Measurement grid: dx=15mm, dy=15mm

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





Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 11/30/2009 6:55:10 AM

Robot# / Run#: DASY4-PG-1 / PS-SYSP-900B-091130-01
Phantom# / Tissue Temp.: ELI4 1050 / 21.5 (C)
Dipole Model# / Serial#: D900V2 / 1d025
TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target:	10.88 mW/g	(1g)
Calculated:	11.08 mW/g	(1g)
Percent from Target (+/-):	1.8 %	(1g)
Rotation (1D):	0.088 dB	

Note: When Applicable
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

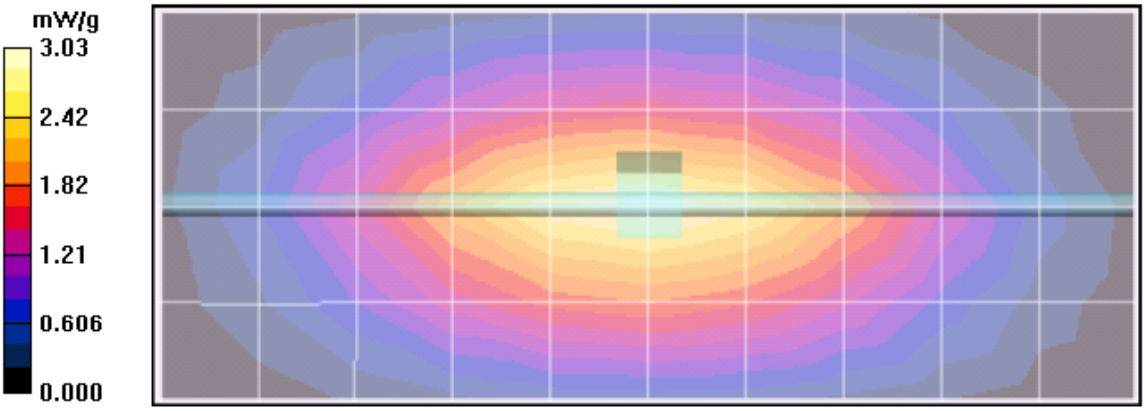
Comments:

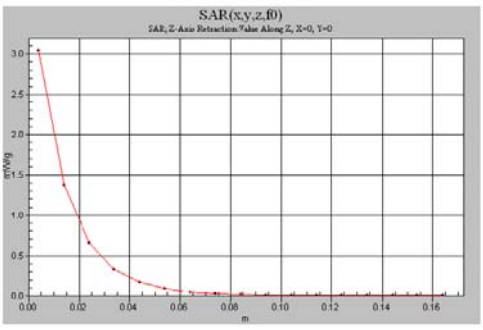
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.06 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 53.9 V/m; Power Drift = -0.00196 dB
Peak SAR (extrapolated) = 4.14 W/kg
SAR(1 g) = 2.77 mW/g; SAR(10 g) = 1.79 mW/g
Maximum value of SAR (measured) = 3.00 mW/g

System Performance Check/Dipole Area Scan 2 (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.98 mW/g

System Performance Check/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.03 mW/g





Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 12/9/2009 6:58:58 AM

Robot# / Run#: DASY4-PG-1 / CcC-SYSP-835B-091209-01
Phantom# / Tissue Temp.: ELI4 1050 / 21.7 (C)
Dipole Model# / Serial#: D835V2 / 4d029
TX Freq. / Start power: 835 (MHz) / 250 (mW)

Target:	9.60 mW/g	(1g)
Calculated:	9.80 mW/g	(1g)
Percent from Target (+/-):	2.10 %	(1g)
Rotation (1D):	0.082 dB	

Note: When Applicable
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

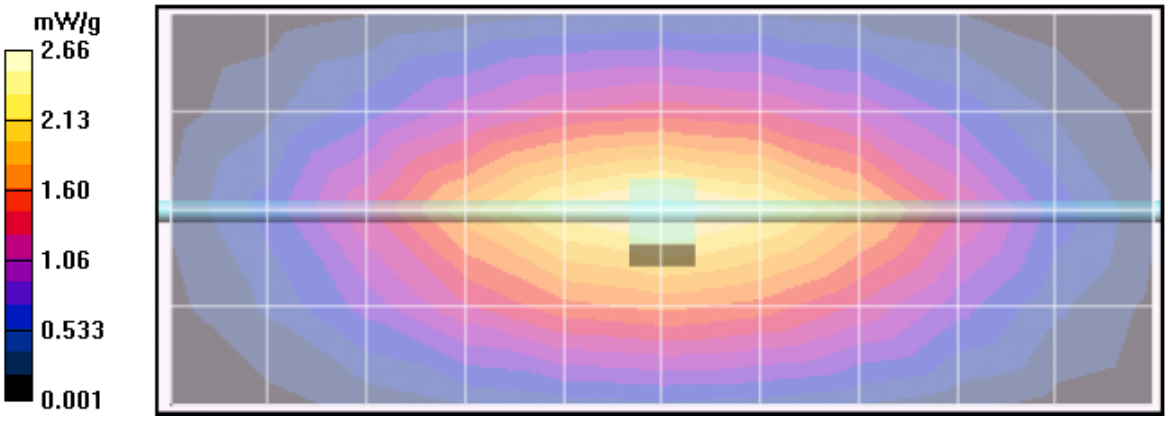
Comments:

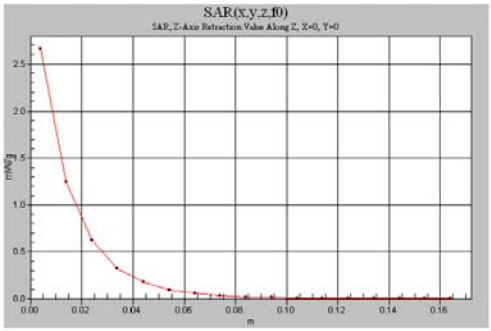
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 835 MHz; σ = 1 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm dz=5mm
Reference Value = 52.1 V/m; Power Drift = -0.00214 dB
Peak SAR (extrapolated) = 3.62 W/kg
SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.6 mW/g
Maximum value of SAR (measured) = 2.66 mW/g

System Performance Check/Dipole Area Scan 2 (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.63 mW/g

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





Motorola Enterprise Mobility Solutions EME Laboratory

Date/Time: 12/17/2009 12:12:26 PM

Robot# / Run#: DASY4-PG-1 / PS-SYSP-900B-091217-10
Phantom# / Tissue Temp.: ELI4 1028 / 21.0 (C)
Dipole Model# / Serial#: D900V2 / 1d025
TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target:	10.88 mW/g	(1g)
Calculated:	11.04 mW/g	(1g)
Percent from Target (+/-):	1.50 %	(1g)
Rotation (1D):	0.072 dB	

Note: When Applicable
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

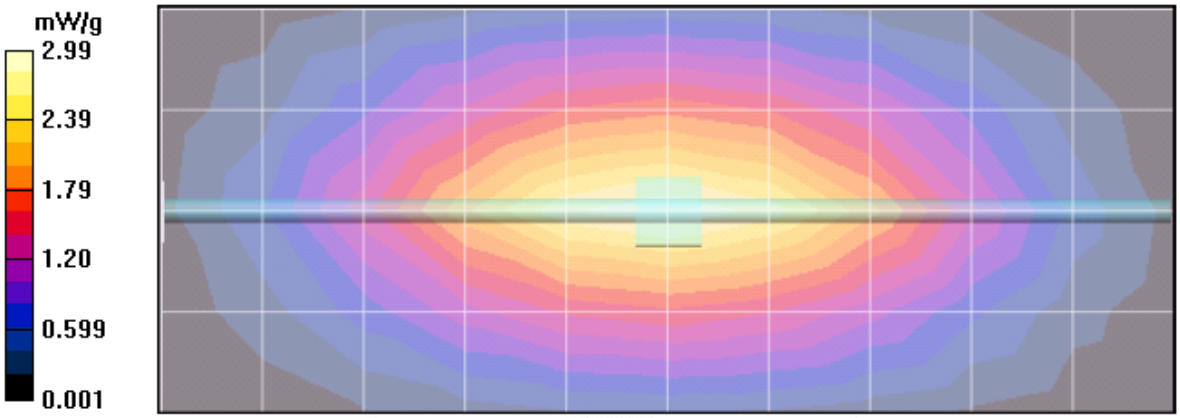
Comments:

Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.07 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 53.4 V/m; Power Drift = 0.00372 dB
Peak SAR (extrapolated) = 4.15 W/kg
SAR(1 g) = 2.76 mW/g; SAR(10 g) = 1.77 mW/g
Maximum value of SAR (measured) = 3.00 mW/g

System Performance Check/Dipole Area Scan 2 (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.98 mW/g

System Performance Check/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.99 mW/g



Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 12/22/2009 1:05:13 PM

Robot# / Run#: DASY4-PG-1 / PS-SYSP-900B-091222-01
Phantom# / Tissue Temp.: ELI4 1028 / 21.1 (C)
Dipole Model# / Serial#: D900V2 / 1d025
TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target:	10.88 mW/g	(1g)
Calculated:	11.00 mW/g	(1g)
Percent from Target (+/-):	1.10 %	(1g)
Rotation (1D):	0.091 dB	

Note: When Applicable
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

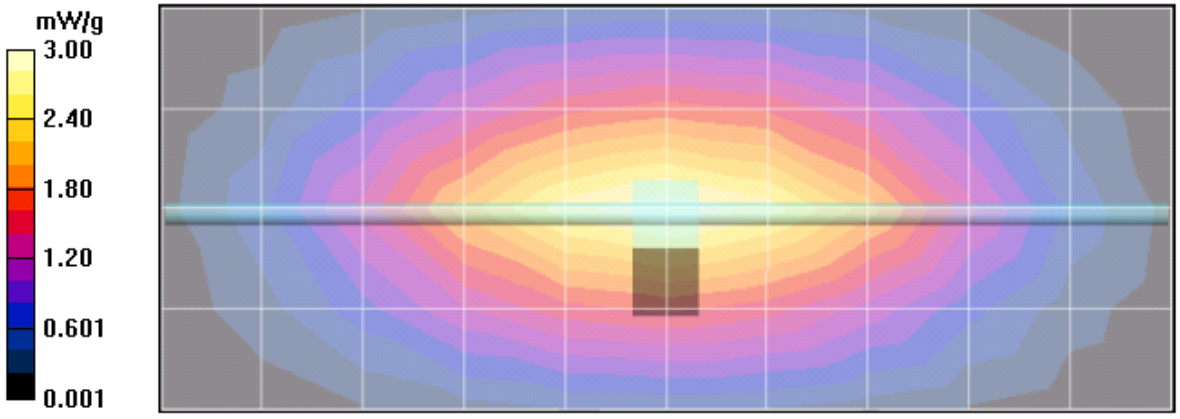
Comments:

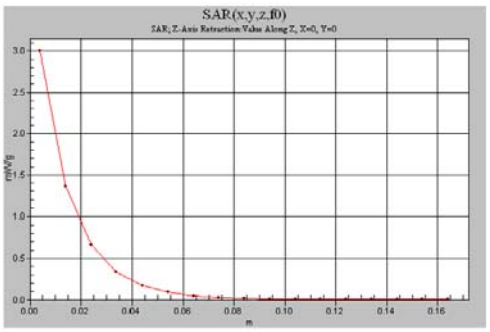
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.07 mho/m; ε_r = 53; ρ = 1000 kg/m^3

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 53.5 V/m; Power Drift = -0.0028 dB
Peak SAR (extrapolated) = 4.11 W/kg
SAR(1 g) = 2.75 mW/g; SAR(10 g) = 1.78 mW/g
Maximum value of SAR (measured) = 2.98 mW/g

System Performance Check/Dipole Area Scan 2 (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.01 mW/g

System Performance Check/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.00 mW/g





Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 1/12/2010 3:42:55 PM

Robot# / Run#: DASY4-PG-1 / CcC-SYSP-900B-100112-07
Phantom# / Tissue Temp.: ELI4 1028 / 21.3 (C)
Dipole Model# / Serial#: D900V2 / 1d025
TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target:	10.88 mW/g	(1g)
Calculated:	11.24 mW/g	(1g)
Percent from Target (+/-):	3.30 %	(1g)
Rotation (1D):	0.079 dB	

Note: When Applicable
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

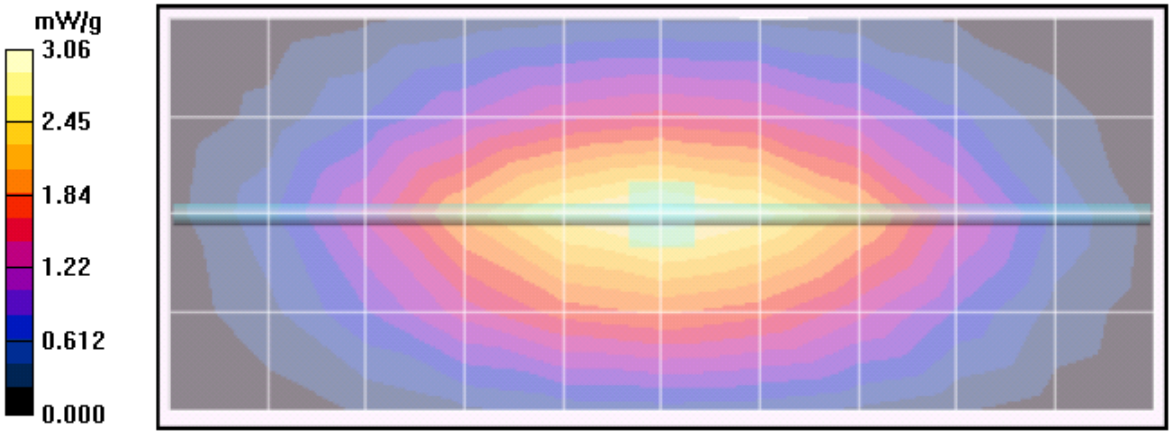
Comments:

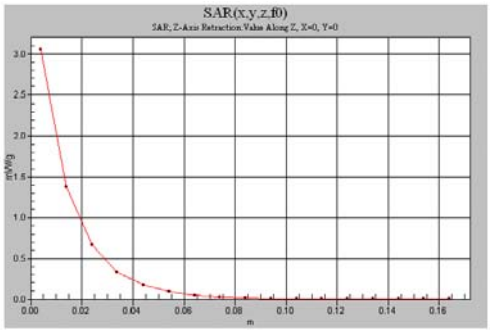
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.07 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 54.0 V/m; Power Drift = -0.00243 dB
Peak SAR (extrapolated) = 4.23 W/kg
SAR(1 g) = 2.81 mW/g; SAR(10 g) = 1.81 mW/g
Maximum value of SAR (measured) = 3.06 mW/g

System Performance Check/Dipole Area Scan 2 (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.03 mW/g

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





Motorola Enterprise Mobility Solutions EME Laboratory

Date/Time: 1/13/2010 7:24:25 AM

Robot# / Run#: DASY4-PG-1 / PS-SYSP-900B-100113-01
Phantom# / Tissue Temp.: ELI4 1050 / 20.5 (C)
Dipole Model# / Serial#: D900V2 / 1d025
TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target:	10.88 mW/g	(1g)
Calculated:	11.08 mW/g	(1g)
Percent from Target (+/-):	1.80 %	(1g)
Rotation (1D):	0.085 dB	

Note: When Applicable
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

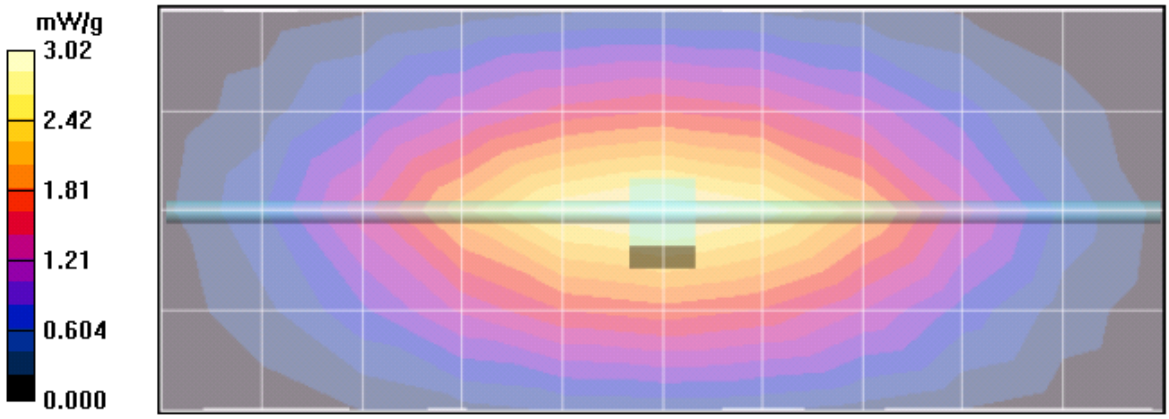
Comments:

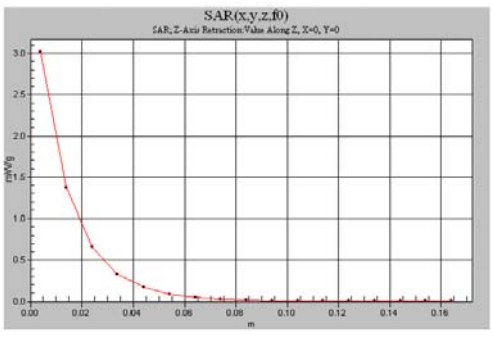
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 900 MHz; σ = 1.06 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 53.7 V/m; Power Drift = -0.00709 dB
Peak SAR (extrapolated) = 4.13 W/kg
SAR(1 g) = 2.77 mW/g; SAR(10 g) = 1.79 mW/g
Maximum value of SAR (measured) = 2.99 mW/g

System Performance Check/Dipole Area Scan 2 (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.00 mW/g

System Performance Check/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.02 mW/g





DIPOLE SAR TARGET - HEAD

Date:	05/25/09	Frequency (MHz):	900
Lab Location:	PG-G&PS	Mixture Type:	IEEE Head
DAE Serial #:	688	Ambient Temp.(°C):	21.3

Tissue Characteristics			
Permitivity:	40.0	Phantom Type/SN:	ELI4 1037
Conductivity:	0.98	Distance (mm):	15
Tissue Temp.(°C):	20.2		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	1d025		

Target 1g-SAR Value (mW/g, normalized to 1.0 W):

10.9

Difference from Target

0.18% (1g-SAR)

New Target:

Average 1g-SAR Value (mW/g):	10.92

Passes K=2

Percent Difference From Target (MUST be within k=2 Uncertainty):

Probe SN #s	1g-SAR (Cube)	Diff from Ave	Robot
3122	10.92	0.0%	Rx
2		#DIV/0!	Rx
3		#DIV/0!	Rx
4		#DIV/0!	Rx
5		#DIV/0!	Rx
Average	**10.9200**	New Measured SAR Value	

(normalized to 1.0 W)

Test performed by: **CC Chang** Initial: C.C.C. 05 25 09

Motorola Internal Use Only FCD-0733 Rev. 5

DIPOLE SAR TARGET - BODY

Date:	**05/25/09**	Frequency (MHz):	**900**
Lab Location:	PG-G&PS	Mixture Type:	**FCC Body**
DAE Serial #:	688	Ambient Temp.(°C):	21.3

Tissue Characteristics			
Permitivity:	53.6	Phantom Type/SN:	EL|4 1028
Conductivity:	1.08	Distance (mm):	15
Tissue Temp.(°C):	20.0		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	**1d025**		

New Target:
Average Measured SAR Value: **10.88** mW/g(1g avg.),

Probe SN #s	1-G Cube	Diff from Ave	Robot
3122	10.88	0.0%	Rx
2		-100.0%	Rx
3		-100.0%	Rx
4		-100.0%	Rx
5		-100.0%	Rx
Average	**10.8800**	New Measured SAR Value	

(normalized to 1.0 W)

Test performed by: **CC Chang** Initial: C.C.C. 05-25-09

DIPOLE SAR TARGET - HEAD

Date:	**05/25/09**	Frequency (MHz):	**835**
Lab Location:	PG-G&PS	Mixture Type:	**IEEE Head**
DAE Serial #:	688	Ambient Temp.(°C):	21.3

Tissue Characteristics			
Permitivity:	40.8	Phantom Type/SN:	ELI4 1037
Conductivity:	0.92	Distance (mm):	15
Tissue Temp.(°C):	20.2		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	**4d029**		

Target 1g-SAR Value (mW/g, normalized to 1.0 W):

9.56

Difference from Target

-2.51% (1g-SAR)

New Target:

Average 1g-SAR Value (mW/g):	**9.32**

Passes K=2

Percent Difference From Target (MUST be within k=2 Uncertainty):

Probe SN #s	1g-SAR (Cube)	Diff from Ave	Robot
3122	9.32	0.0%	Rx
2		#DIV/0!	Rx
3		#DIV/0!	Rx
4		#DIV/0!	Rx
5		#DIV/0!	Rx
Average	**9.3200**	New Measured SAR Value	

(normalized to 1.0 W)

Test performed by: **Patrick** Initial: 05.25.09

DIPOLE SAR TARGET - BODY

Date:	**05/25/09**	Frequency (MHz):	**835**
Lab Location:	PG-G&PS	Mixture Type:	**FCC Body**
DAE Serial #:	688	Ambient Temp.(°C):	21.3

Tissue Characteristics

Permitivity:	54.2	Phantom Type/SN:	ELI4 1028
Conductivity:	1.01	Distance (mm):	15
Tissue Temp.(°C):	20.4		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	**4d029**		

New Target:
Average Measured SAR Value: **9.60** mW/g(1g avg.),

Probe SN #s	1-G Cube	Diff from Ave	Robot
3122	9.60	0.0%	Rx
2		-100.0%	Rx
3		-100.0%	Rx
4		-100.0%	Rx
5		-100.0%	Rx
Average	**9.6000**	New Measured SAR Value	

(normalized to 1.0 W)

Test performed by: **CC Chang** Initial: C.C.C. 05.25.09

Appendix E
DUT Scans (Shortened Scans and Highest SAR configurations)

Shortened Scan Results

Motorola Enterprise Mobility Solutions EME Laboratory

Date/Time: 11/30/2009 5:18:21 PM

Robot # / Run #: DASY4-PG-1 / CcC-FACE-091130-12
Phantom # / Tissue Temp: ELI4 1037 / 21.2 (C)
Model # / Serial#: PMUF1413A / 777TKN0846
Antenna / TX Freq: NAF5038AR / 941.000 MHz
Battery: PMNN4077C
Carry Acc. / Cable Acc.: NONE / RLN5878A
Start power: 3.14 W

Note:
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

Calculated: 3.050 mW/g (1g); 2.150 mW/g (10g)

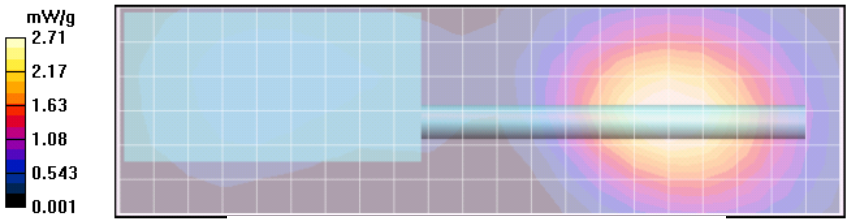
Comments: Shorten scan

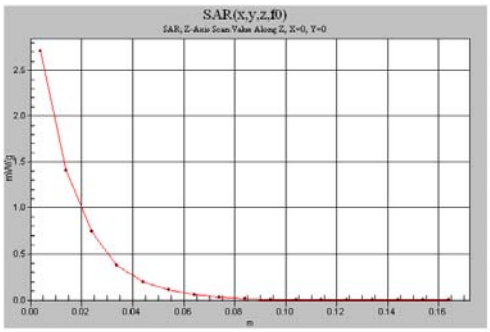
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 938 MHz; σ = 1.01 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3

Face Scan/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 60.0 V/m; Power Drift = -0.604 dB
Peak SAR (extrapolated) = 4.16 W/kg
SAR(1 g) = 3.05 mW/g; SAR(10 g) = 2.15 mW/g
Maximum value of SAR (measured) = 3.23 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.71 mW/g

Shortened scan reflect highest SAR producing configuration; Run time 7 minutes.
Representative zoom scan run time was 25 minutes.
"Shortened" scan max calculated SAR using SAR drift: 1-g Avg. = 1.75 mW/g; 10-g Avg. = 1.24 mW/g
Zoom scan max calculated SAR using SAR drift: 1-g Avg. = 1.71 mW/g; 10-g Avg. = 1.22 mW/g
(see part 1 of 2 section 11 run # PS-FACE-091125-16)





Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 1/13/2010 1:27:47 PM

Robot # / Run #: DASY4-PG-1 / PS-AB-100113-11
Phantom # / Tissue Temp: ELI4 1050 / 20.8 (C)
Model # / Serial#: PMUF1413A / 777TKN0846
Antenna / TX Freq: NAF5038AR / 935.000 MHz
Battery: PMNN4069A
Carry Acc. / Cable Acc.: HLN6602A / NONE
Start power: 2.63 W

Note:
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

Calculated: 7.610 mW/g (1g); 5.220 mW/g (10g)

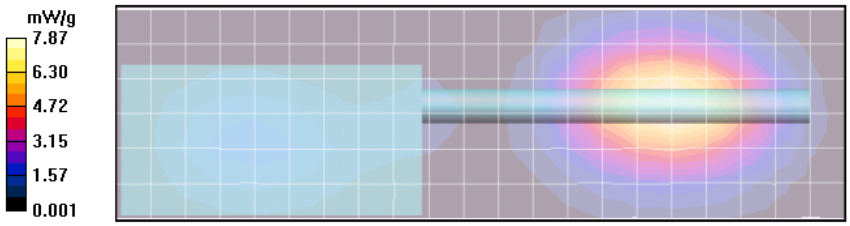
Comments: Shorten scan.

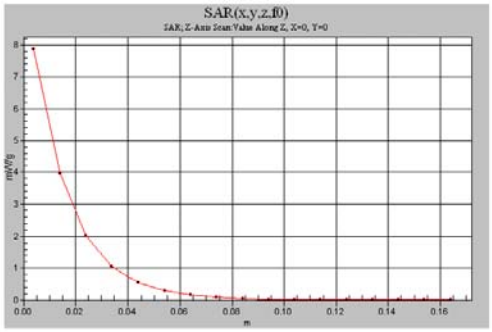
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 938 MHz; σ = 1.11 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3

Ab Scan/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 91.3 V/m; Power Drift = -0.606 dB
Peak SAR (extrapolated) = 10.7 W/kg
SAR(1 g) = 7.61 mW/g; SAR(10 g) = 5.22 mW/g
Maximum value of SAR (measured) = 8.11 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 7.99 mW/g

Shortened scan reflect highest SAR producing configuration; Run time 9 minutes.
Representative zoom scan run time was 25 minutes.
"Shortened" scan max calculated SAR using SAR drift: 1-g Avg. = 4.99mW/g; 10-g Avg. = 3.42 mW/g
Zoom scan max calculated SAR using SAR drift: 1-g Avg. = 5.30 mW/g; 10-g Avg. = 3.60 mW/g
(see part 1 of 2 section 11 run # PS-AB-100113-10)





Highest SAR Configurations Results

Motorola Enterprise Mobility Solutions EME Laboratory

Date/Time: 12/22/2009 2:41:23 PM

Robot # / Run #: DASY4-PG-1 / PS-AB-091222-03
Phantom # / Tissue Temp: ELI4 1028 / 21.2 (C)
Model # / Serial#: PMUF1413A / 777TKN0846
Antenna / TX Freq: NAF5037A / 824.000 MHz
Battery: PMNN4069A
Carry Acc. / Cable Acc.: RLN4570A / PMLN5097A
Start power: 2.80 W

Note:
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

Calculated: 7.070 mW/g (1g); 4.970 mW/g (10g)

Comments: Full scan.

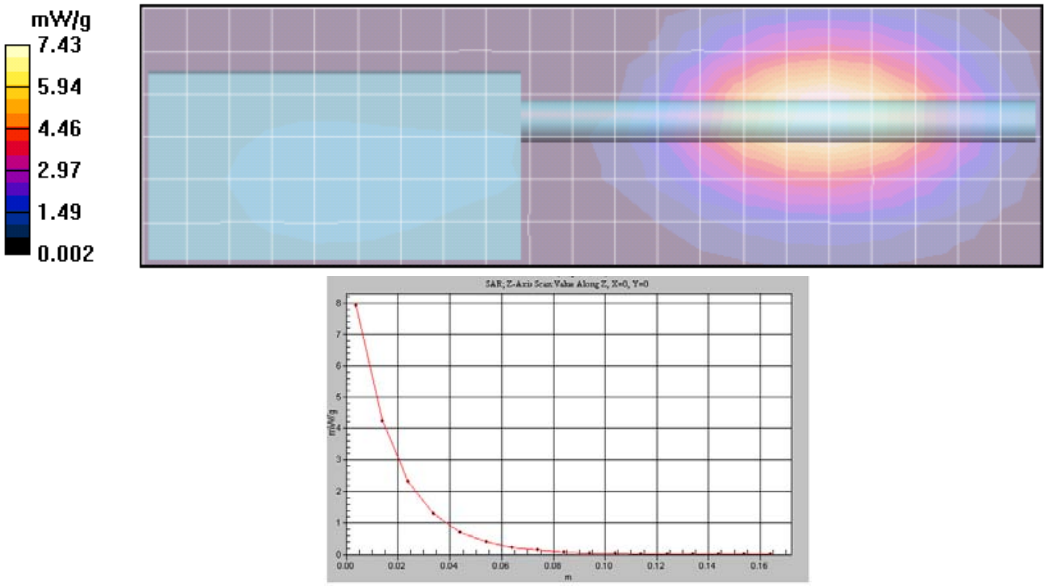
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 815.5 MHz; σ = 0.98 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Ab Scan/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 94.4 V/m; Power Drift = -0.684 dB
Peak SAR (extrapolated) = 9.55 W/kg
SAR(1 g) = 7.07 mW/g; SAR(10 g) = 4.97 mW/g
Maximum value of SAR (measured) = 7.54 mW/g

Ab Scan/Area Scan (61x211x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 94.4 V/m; Power Drift = -0.523 dB
Motorola Fast SAR: SAR(1 g) = 7.48 mW/g; SAR(10 g) = 5.21 mW/g
Maximum value of SAR (interpolated) = 7.97 mW/g

Ab Scan/Volume 2D Scan (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm
Reference Value = 94.4 V/m; Power Drift = -0.584 dB
Peak SAR (extrapolated) = 7.68 W/kg
Motorola Fast SAR: SAR(1 g) = 7.27 mW/g; SAR(10 g) = 5.03 mW/g
Maximum value of SAR (interpolated) = 7.68 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 7.43 mW/g



Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 11/25/2009 1:43:32 PM

Robot # / Run #: DASY4-PG-1 / PS-FACE-091125-09
Phantom # / Tissue Temp: ELI4 1037 / 21.1 (C)
Model # / Serial#: PMUF1413A / 777TKN0846
Antenna / TX Freq: NAF5037A / 824.000 MHz
Battery: PMNN4077C
Carry Acc. / Cable Acc.: NONE / RLN5878A
Start power: 3.12 W

Note:
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

Calculated: 2.564 mW/g (1g); 1.865 mW/g (10g)

Comments: Full scan.

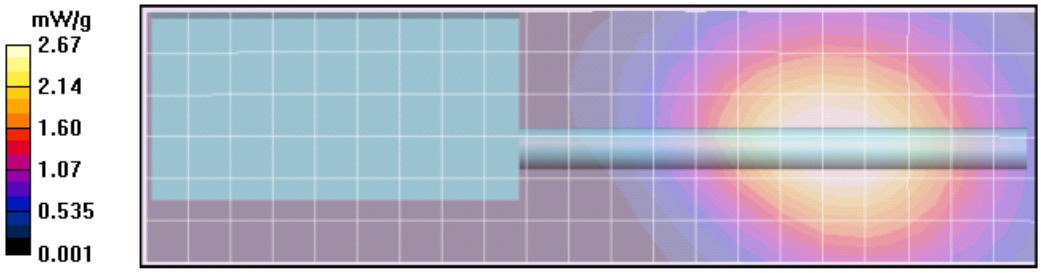
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 815.5 MHz; σ = 0.89 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3

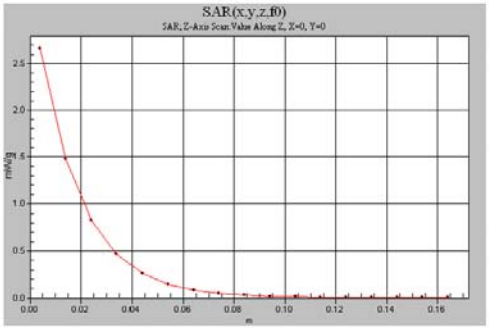
Face Scan/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 61.2 V/m; Power Drift = -0.923 dB
Peak SAR (extrapolated) = 3.34 W/kg
SAR(1 g) = 2.55 mW/g; SAR(10 g) = 1.86 mW/g
Maximum value of SAR (measured) = 2.69 mW/g

Face Scan/Area Scan (61x211x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 61.2 V/m; Power Drift = -0.739 dB
Motorola Fast SAR: SAR(1 g) = 2.79 mW/g; SAR(10 g) = 1.99 mW/g
Maximum value of SAR (interpolated) = 2.95 mW/g

Face Scan/Volume Scan 2D (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm
Reference Value = 61.2 V/m; Power Drift = -0.805 dB
Peak SAR (extrapolated) = 2.74 W/kg
Motorola Fast SAR: SAR(1 g) = 2.6 mW/g; SAR(10 g) = 1.86 mW/g
Maximum value of SAR (interpolated) = 2.74 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.67 mW/g





Motorola Enterprise Mobility Solutions EME Laboratory

Date/Time: 1/13/2010 12:39:13 PM

Robot # / Run #: DASY4-PG-1 / PS-AB-100113-10
Phantom # / Tissue Temp: ELI4 1050 / 20.5 (C)
Model # / Serial#: PMUF1413A / 777TKN0846
Antenna / TX Freq: NAF5038AR / 935.000 MHz
Battery: PMNN4069A
Carry Acc. / Cable Acc.: HLN6602A / NONE
Start power: 2.69 W

Note:
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

Calculated: 7.670 mW/g (1g); 5.210 mW/g (10g)

Comments: Full scan.

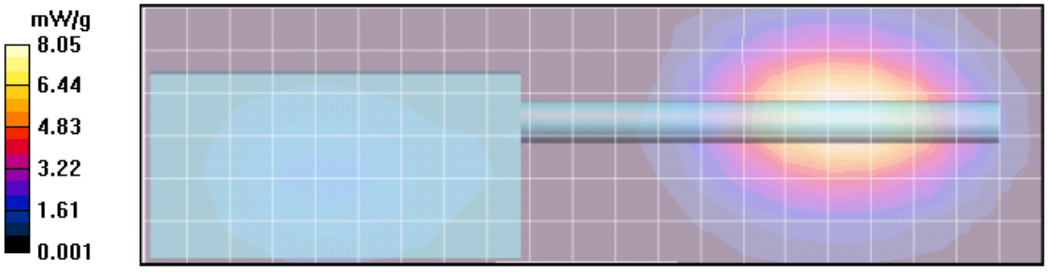
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 938 MHz; σ = 1.11 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3

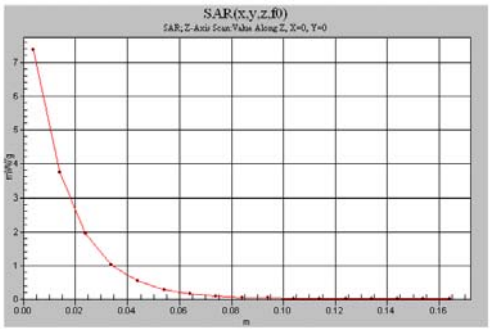
Ab Scan/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 94.1 V/m; Power Drift = -0.929 dB
Peak SAR (extrapolated) = 10.8 W/kg
SAR(1 g) = 7.67 mW/g; SAR(10 g) = 5.21 mW/g
Maximum value of SAR (measured) = 8.20 mW/g

Ab Scan/Area Scan (61x211x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 94.1 V/m; Power Drift = -0.729 dB
Motorola Fast SAR: SAR(1 g) = 8.29 mW/g; SAR(10 g) = 5.66 mW/g
Maximum value of SAR (interpolated) = 8.86 mW/g

Ab Scan/Volume 2D Scan (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm
Reference Value = 94.1 V/m; Power Drift = -0.800 dB
Peak SAR (extrapolated) = 8.38 W/kg
Motorola Fast SAR: SAR(1 g) = 7.92 mW/g; SAR(10 g) = 5.4 mW/g
Maximum value of SAR (interpolated) = 8.38 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 8.05 mW/g





Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 11/25/2009 7:51:35 PM

Robot # / Run #: DASY4-PG-1 / PS-FACE-091125-16
Phantom # / Tissue Temp: ELI4 1037 / 21.4 (C)
Model # / Serial#: PMUF1413A / 777TKN0846
Antenna / TX Freq: NAF5038AR / 941.000 MHz
Battery: PMNN4077C
Carry Acc. / Cable Acc.: NONE / RLN5878A
Start power: 3.13 W

Note:
Prior to recording the calculated SAR values, the measured SAR values need to be adjusted/ corrected in accordance with FCD-1868 for tissue frequencies from 150 MHz to 3 GHz.

Calculated: 2.680 mW/g (1g); 1.900 mW/g (10g)

Comments: Full scan.

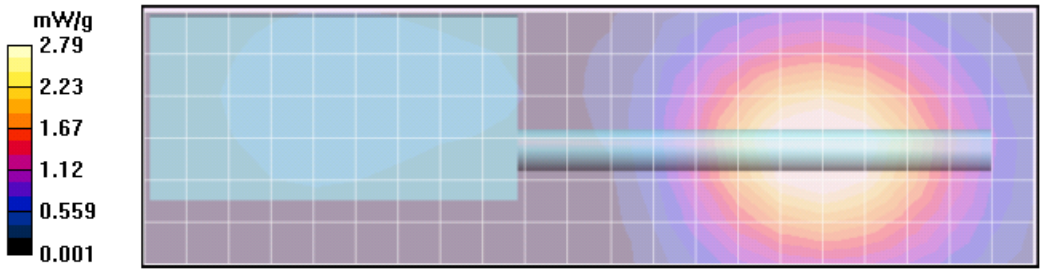
Probe: ES3DV3 - SN3122, Calibrated: 4/24/2009, ConvF(5.78, 5.78, 5.78)
Electronics: DAE4 Sn688, Calibrated: 4/28/2009
Duty Cycle: 1:1, Medium parameters used: f = 938 MHz; σ = 1.01 mho/m; ε_r = 40; ρ = 1000 kg/m^3

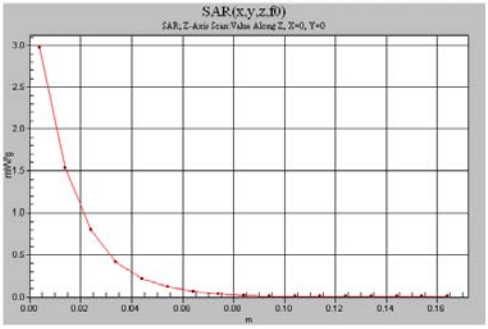
Face Scan/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 60.1 V/m; Power Drift = -1.07 dB
Peak SAR (extrapolated) = 3.64 W/kg
SAR(1 g) = 2.68 mW/g; SAR(10 g) = 1.9 mW/g
Maximum value of SAR (measured) = 2.84 mW/g

Face Scan/Area Scan (61x211x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 60.1 V/m; Power Drift = -0.851 dB
Motorola Fast SAR: SAR(1 g) = 2.97 mW/g; SAR(10 g) = 2.09 mW/g
Maximum value of SAR (interpolated) = 3.15 mW/g

Face Scan/Volume Scan 2D (41x41x1): Measurement grid: dx=7.5mm, dy=7.5mm, dz=1mm
Reference Value = 60.1 V/m; Power Drift = -0.928 dB
Peak SAR (extrapolated) = 2.91 W/kg
Motorola Fast SAR: SAR(1 g) = 2.77 mW/g; SAR(10 g) = 1.95 mW/g
Maximum value of SAR (interpolated) = 2.91 mW/g

Face Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.79 mW/g





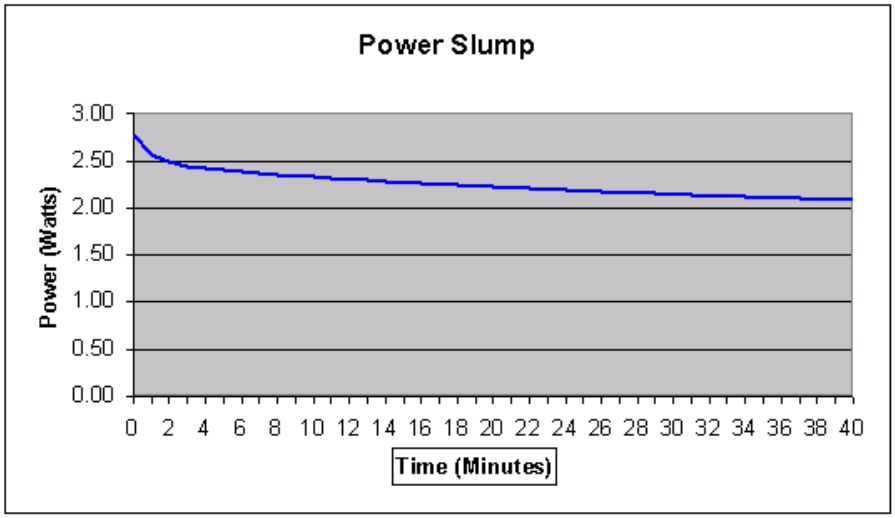
APPENDIX F

DUT Supplementary Data (Power slump)

Power Slump Model # : PMUF1413A
Serial # : 777TKN0846

Battery: PMNN4069A **Transmit Mode:** CW
Frequency: 935 MHz **Audio Accessory:** NONE
Date: 12/7/2009

Tx Time (Minutes)	Measure Power (Watts)
0.0	2.78
1.0	2.57
2.0	2.49
3.0	2.45
4.0	2.42
5.0	2.40
6.0	2.38
7.0	2.37
8.0	2.36
9.0	2.34
10.0	2.33
11.0	2.32
12.0	2.31
13.0	2.30
14.0	2.28
15.0	2.27
16.0	2.26
17.0	2.25
18.0	2.24
19.0	2.23
20.0	2.23
21.0	2.22
22.0	2.21
23.0	2.20
24.0	2.19
25.0	2.18
26.0	2.17
27.0	2.17
28.0	2.16
29.0	2.15
30.0	2.14
31.0	2.14
32.0	2.13
33.0	2.12
34.0	2.12
35.0	2.11
36.0	2.11
37.0	2.10
38.0	2.09
39.0	2.09
40.0	2.08

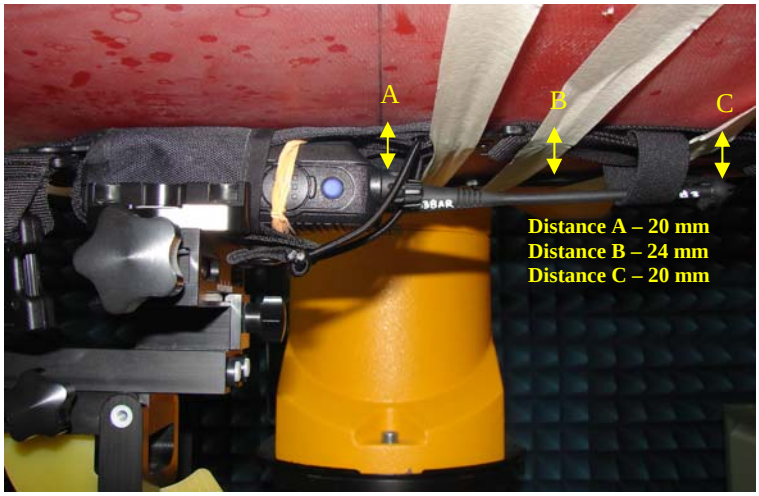


APPENDIX G
DUT Test Position Photos

1.0 Highest SAR Test Position per body location

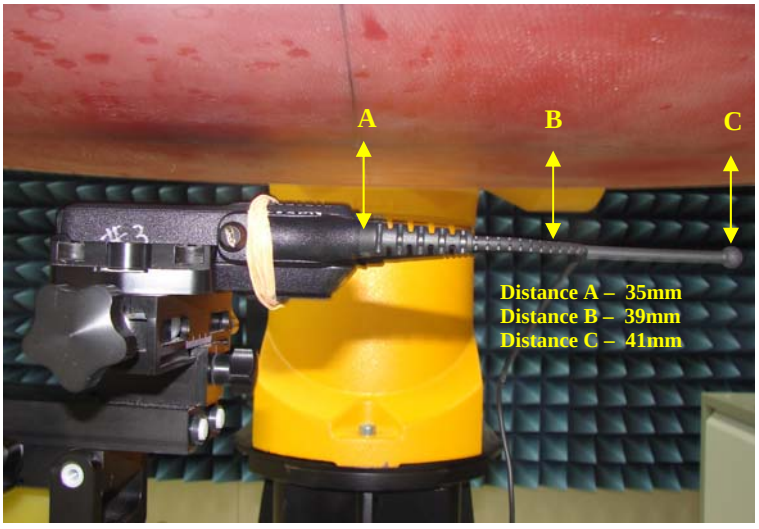
1.1 Body

DUT with chest pack HLN6602A, battery PMNN4069A with antenna NAF5038AR attached to radio against the phantom.(same position use for antenna NAF5037A)



1.2 Face

DUT w/ audio cable RLN5878A, battery PMNN4077C and antenna NAF5038AR against the phantom. (same position use for antenna NAF5037A)



APPENDIX H
DUT and Body worn Accessory Photos

Front View
Break A-way chest pack RLN4570A

Front View
Universal chest pack HLN6602A

Antennas photo

NAF5037A	NAF5038AR	PMAF4003A

Kit Number	Type	Freq Range (MHz)	Electrical Length (wave form)	Physical Length (cm)	Antenna Gain (dBd)
NAF5037A	Whip	806-870	1/2	17.86	-3
NAF5038AR	Whip	896-941	1/2	16.87	-3
PMAF4003A	GPS Helical	806-941	1/2	18	1

APPENDIX I
DUT antenna Separation Distances and Offered Accessory Test Status

The following table(s) summarizes the separation distances and test status provided by each of the applicable body-worn accessory(ies):

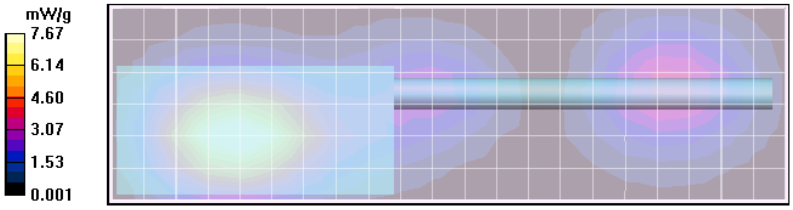
Antenna Models	Tested?	Min. Separation distance between DUT antenna and phantom surface.(mm)	Comments
NAF5037A	Yes	NA	
NAF5038AR	Yes	NA	

Carry case Models	Tested?	Min. Separation distance between DUT antenna and phantom surface.(mm)	Comments
RLN4570A	Yes	19-22	
HLN6602A	Yes	20-20	

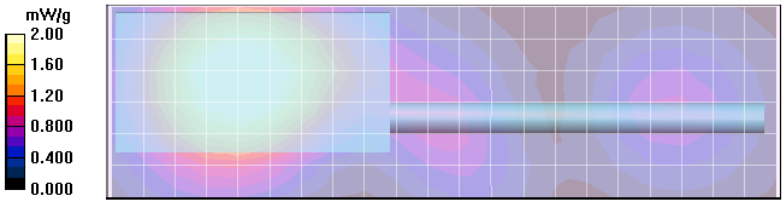
APPENDIX J

SAR Peak Location For Each Antennas

Previous filing antenna with FCC (PMAF4003A)

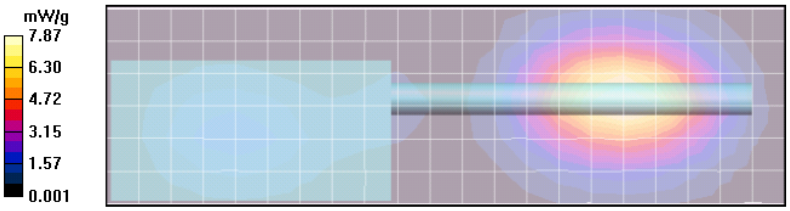


Body highest configuration

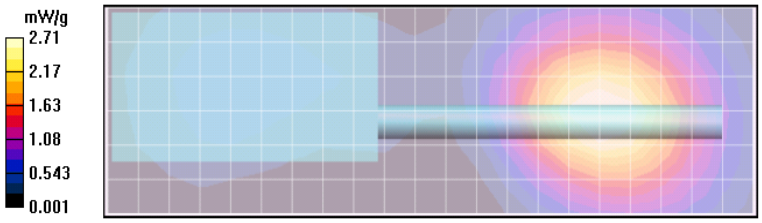


Face highest configuration

Current filing antenna with FCC (NAF5038AR)

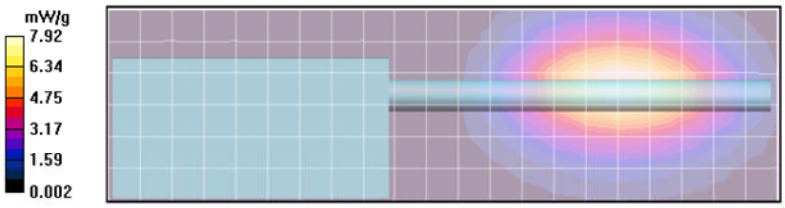


Body highest configuration

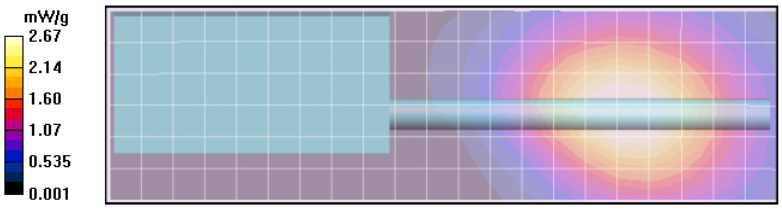


Face highest configuration

Current filing antenna with FCC (NAF5037A)



Body highest configuration



Face highest configuration