


MOTOROLA


TESTING CERT # 2518.01

FCC ID: IHDP56KR1

DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 3

Enterprise Mobility Solutions
 EME Test Laboratory
 8000 West Sunrise Blvd
 Fort Lauderdale, FL. 33322.

Date of Report: 8/14/09
 Report Revision: 0
 Report ID: SAR rpt_H76XAH6JR7AN_Rev
 O_090814_SR7483

Responsible Engineer: Michael Sailsman (Senior Staff Eng.)
Report Author: Michael Sailsman (Senior Staff Eng.)
Date/s Tested: 7/11/09-8/7/09, 8/14/09
Manufacturer/Location: China
Sector/Group/Div.: iDEN Subscriber
Date submitted for test: 7/2/09
DUT Description: TDMA: 81:120, 2:6, 1:12, and 1:6; M64-QAM, M16-QAM, and QPSK Modulations; 0.6 W Pulse Avg; MOTOTalk: 114:120 8FSK; 0.85 W nominal (GPS and Bluetooth Capable).

Test TX mode(s): Phone: 1:3 ; Dispatch: 1:6; MOTOTalk: 114:120; Data: 81:120
Max. Power output: 0.640 W pulsed average conducted power (iDEN); 0.891 W (MOTOTalk); 0.0025 W (Bluetooth)

Nominal Power: 0.60 W pulsed average conducted power (iDEN); 0.85 W (MOTOTalk); 0.001 W (Bluetooth)

Tx Frequency Bands: 806-825, 896-902 MHz (iDEN); 902-928 MHz (MOTOTalk); 2.402-2.480 GHz (Bluetooth)

Signaling type: TDMA: QPSK, M16-QAM, M64-QAM; FHSS: 8FSK (PTT); BT

Model(s) Tested: H76XAH6JR7AN

Model(s) Certified: H76XAH6JR7AN

Serial Number(s): 364VKKC2T3, 364VKK3N12

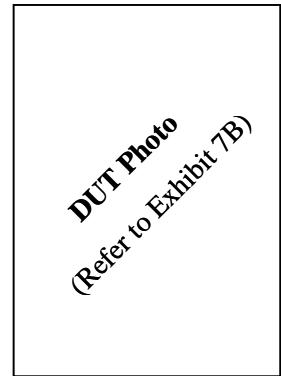
Classification: General Population/Uncontrolled

Rule Part(s): 15, 90

Max. Calc. : 1-g Avg. SAR: 1.03 W/kg (Body); 10-g Avg. SAR: 0.74 W/kg (Body)

Max. Calc. : 1-g Avg. SAR: 0.51 W/kg (Face); 10-g Avg. SAR: 0.36 W/kg (Face)

Max. Calc. : 1-g Avg. SAR: 0.72 W/kg (Head); 10-g Avg. SAR: 0.51 W/kg (Head)



The test results clearly demonstrate compliance with FCC General Population/Uncontrolled RF Exposure limits of 1.6W/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 300GHz), Health Physics 74, 494-522 RF Exposure limits of 2W/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 3.0 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

EMS EME Lab Senior Resource Manager,
 Laboratory Director

Approval Date: 8/14/09

Certification Date: 8/14/09

Certification No.: L1090732P

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 CGISS**Certificate No: **D900V2-085_Aug08**

CALIBRATION CERTIFICATE

Object **D900V2 - SN: 085**
 Calibration procedure(s) **QA CAL-05.v7**
 Calibration procedure for dipole validation kits
Calibration date: **August 25, 2008**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 $(22 \pm 3)^\circ\text{C}$ 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	04-Oct-07 (No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: 5086 (20g)	01-Jul-08 (No. 217-00864)	Jul-09
Type-N mismatch combination	SN: 5047.2 / 06327	01-Jul-08 (No. 217-00867)	Jul-09
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN 601	14-Mar-08 (No. DAE4-601_Mar08)	Mar-09

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-07)	In house check: Oct-08

Calibrated by:	Name	Function	Signature
	Jeton Kastrati	Laboratory Technician	

Approved by:	Name	Function	Signature
	Katja Pokovic	Technical Manager	

Issued: August 26, 2008

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

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



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

- 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
- 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
- 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:

- 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	$dx, dy, dz = 5 \text{ mm}$	
Frequency	$900 \text{ MHz} \pm 1 \text{ MHz}$	

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	$(22.0 \pm 0.2) \text{ °C}$	$39.5 \pm 6 \text{ %}$	$0.93 \text{ mho/m} \pm 6 \text{ %}$
Head TSL temperature during test	$(22.0 \pm 0.2) \text{ °C}$	—	—

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.64 mW / g
SAR normalized	normalized to 1W	10.6 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	10.5 mW / g $\pm 17.0 \text{ % (k=2)}$

SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.71 mW / g
SAR normalized	normalized to 1W	6.84 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	6.78 mW / g $\pm 16.5 \text{ % (k=2)}$

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

Appendix**Antenna Parameters with Head TSL**

Impedance, transformed to feed point	50.5 Ω - 6.0 $j\Omega$
Return Loss	- 24.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.390 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	September 20, 2000

DASY5 Validation Report for Head TSL

Date/Time: 25.08.2008 11:33:53

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:085

Communication System: CW-900; Frequency: 900 MHz; Duty Cycle: 1:1

Medium: HSL 900 MHz

Medium parameters used: $f = 900$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

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: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

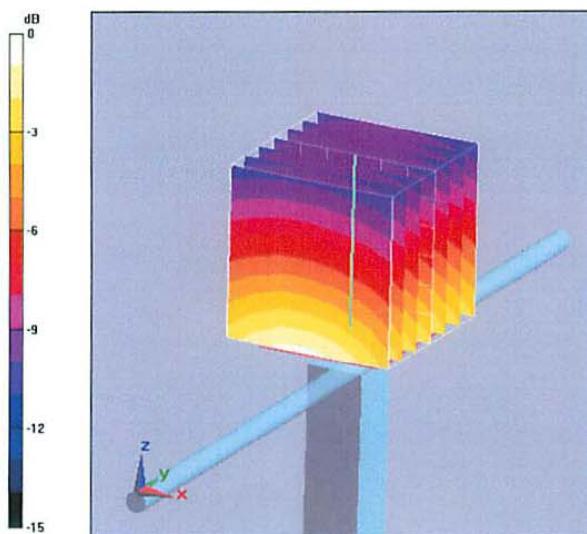
Pin=250mW; dip=15mm; dist=3.4mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.6 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 3.92 W/kg

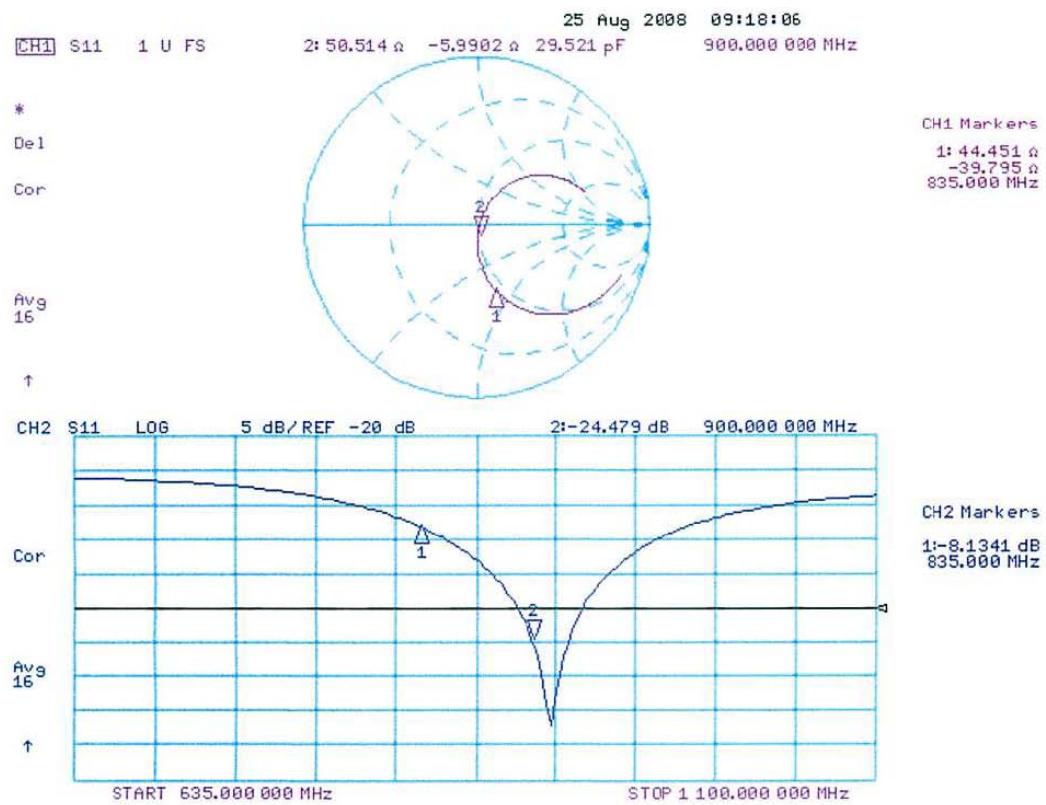
SAR(1 g) = 2.64 mW/g; SAR(10 g) = 1.71 mW/g

Maximum value of SAR (measured) = 2.97 mW/g



0 dB = 2.97mW/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 085 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 indicates that the allowed tolerance for this dipole is higher than +/- 10% (e.g. 10.5 +/-17.0% at k=2 for the D900V2 S/N 085)
- The allowed tolerance for the probes is also higher than +/- 10% (e.g. 11.0% 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 using 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.

Note that the targets set for the tested dipole, when using the simulated head tissue, meets the requirement for the system validation per IEEE1528-2003, the latest draft of IEC62209-2 (10/3/08) standard, and the difference between this result and the result from the manufacture's dipole calibration certificate is 9.5% for 900, 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: 7/11/2009 5:41:56 AM

Robot# / Run#: DASY4-FL-1 / HvH-SYSP-900H-090711-01
 Phantom# / Tissue Temp.: SAMTP1234 / 19.5 (C)
 Dipole Model# / Serial#: D900V2 / 085
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

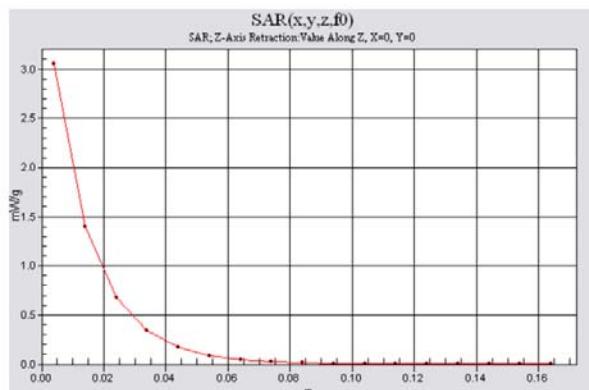
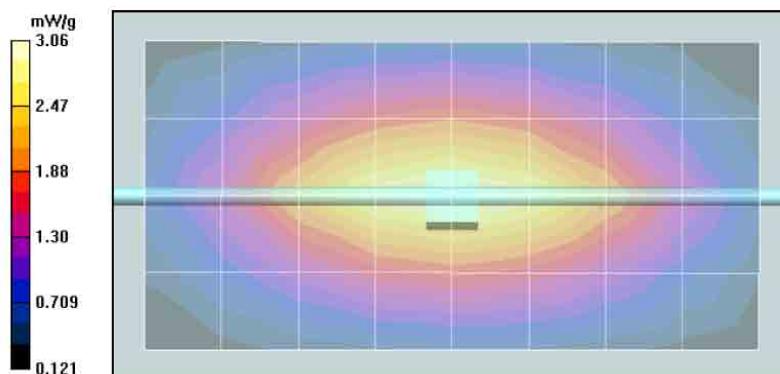
Target: 11.50 mW/g (1g)
 Calculated: 11.36 mW/g (1g)
 Percent from Target (+/-): 1.2 % (1g)
 Rotation (1D): 0.085 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.04, 6.04, 6.04)
 Electronics: DAE4 Sn850, Calibrated: 2/10/2009
 Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
 Reference Value = 57.4 V/m; Power Drift = -0.0289 dB
 Peak SAR (extrapolated) = 4.20 W/kg
 $SAR(1\text{ g}) = 2.84\text{ mW/g}$; $SAR(10\text{ g}) = 1.84\text{ mW/g}$
 Maximum value of SAR (measured) = 3.06 mW/g

System Performance Check/Dipole Area Scan 2 (41x81x1): Measurement grid: dx=15mm, dy=15mm
 Reference Value = 57.4 V/m; Power Drift = -0.0289 dB
Motorola Fast SAR: $SAR(1\text{ g}) = 2.85\text{ mW/g}$; $SAR(10\text{ g}) = 1.92\text{ mW/g}$
 Maximum value of SAR (interpolated) = 3.06 mW/g

System Performance Check/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
 Maximum value of SAR (measured) = 3.06 mW/g



Motorola Enterprise Mobility Solutions EME Laboratory
 Date/Time: 7/12/2009 5:00:36 AM

Robot# / Run#: DASY4-FL-1 / HvH-SYSP-900B-090712-01

Phantom# / Tissue Temp.: OVAL1019 / 19.1 (C)

Dipole Model# / Serial#: D900V2 / 085

TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.30 mW/g (1g)

Calculated: 11.28 mW/g (1g)

Percent from Target (+/-): 0.2 % (1g)

Rotation (1D): 0.089 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.02, 6.02, 6.02)

Electronics: DAE4 Sn850, Calibrated: 2/10/2009

Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 1.03$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 55.3 V/m; Power Drift = -0.101 dB

Peak SAR (extrapolated) = 4.09 W/kg

SAR(1 g) = 2.82 mW/g; SAR(10 g) = 1.85 mW/g

Maximum value of SAR (measured) = 3.05 mW/g

System Performance Check/Dipole Area Scan 2 (41x81x1): Measurement grid: dx=15mm, dy=15mm

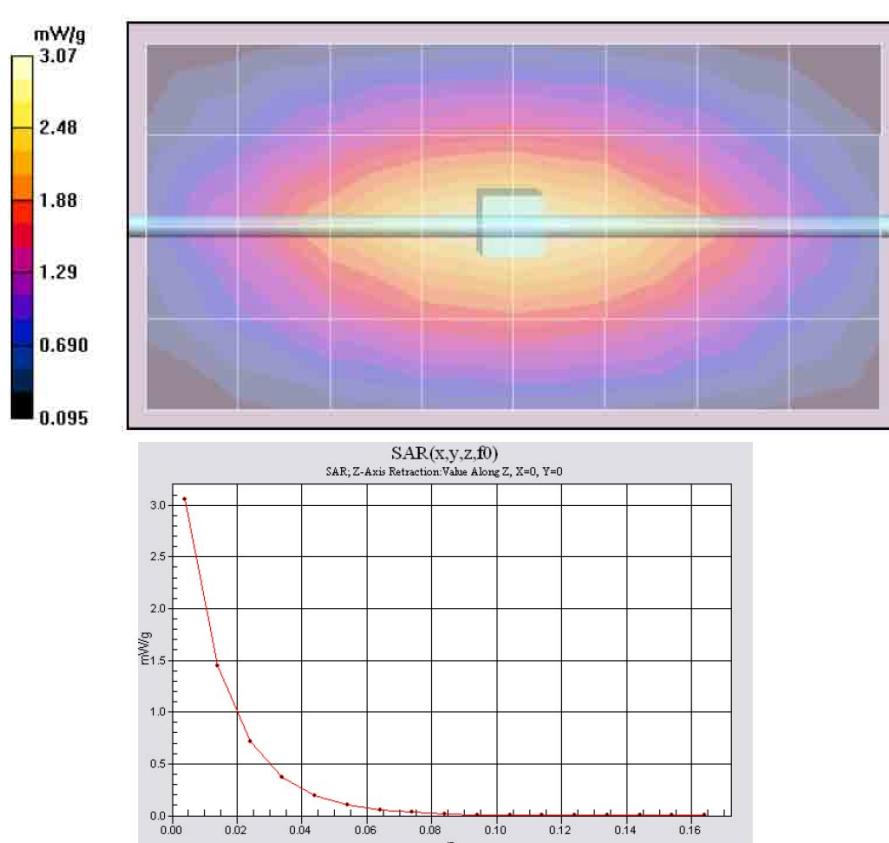
Reference Value = 55.3 V/m; Power Drift = -0.101 dB

Motorola Fast SAR: SAR(1 g) = 2.85 mW/g; SAR(10 g) = 1.91 mW/g

Maximum value of SAR (interpolated) = 3.07 mW/g

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

Maximum value of SAR (measured) = 3.06 mW/g



Motorola Enterprise Mobility Solutions EME Laboratory
 Date/Time: 7/20/2009 6:28:49 AM

Robot# / Run#: DASY4-FL-1 / JsT-SYSP-900H-090720-01
 Phantom# / Tissue Temp.: SAMTP1234 / 19.9 (C)
 Dipole Model# / Serial#: D900V2 / 085
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.50 mW/g (1g)
 Calculated: 11.36 mW/g (1g)
 Percent from Target (+/-): 1.2 % (1g)
 Rotation (1D): 0.085 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.04, 6.04, 6.04)

Electronics: DAE4 Sn850, Calibrated: 2/10/2009

Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 57.7 V/m; Power Drift = -0.00836 dB

Peak SAR (extrapolated) = 4.20 W/kg

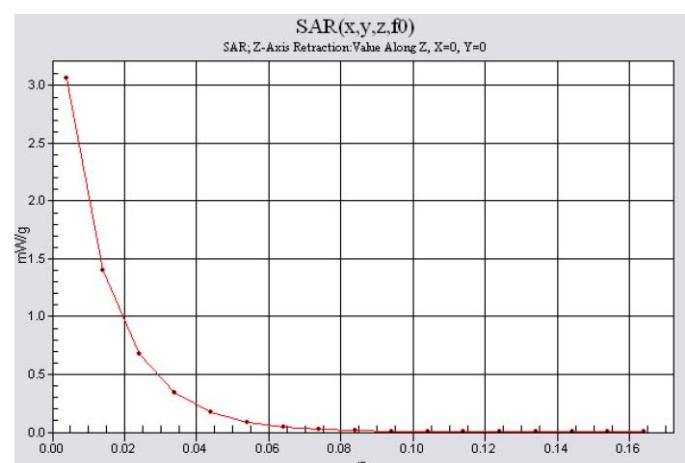
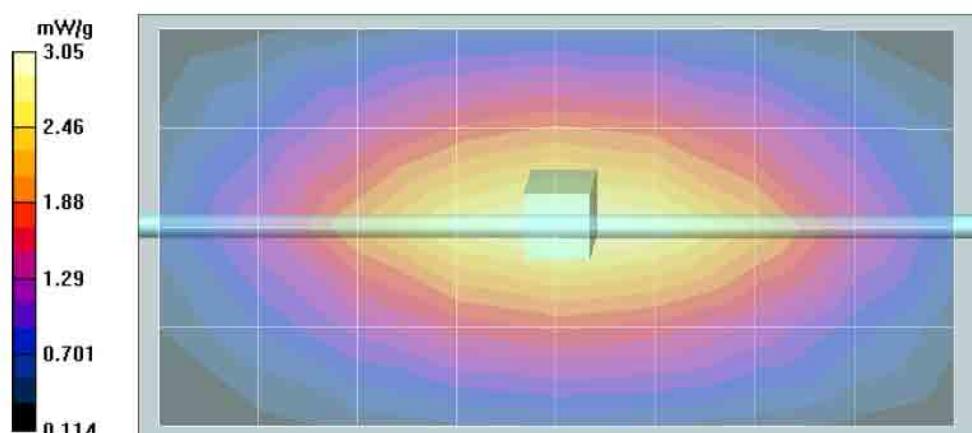
SAR(1 g) = 2.84 mW/g; SAR(10 g) = 1.85 mW/g

Maximum value of SAR (measured) = 3.06 mW/g

System Performance Check/Dipole Area Scan 2 (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 3.05 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: 7/31/2009 12:59:54 PM

Robot# / Run#: DASY4-FL-1 / HvH-SYSP-900B-090731-01
 Phantom# / Tissue Temp.: OVAL1019 / 20.1 (C)
 Dipole Model# / Serial#: D900V2 / 085
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.30 mW/g (1g)
 Calculated: 11.48 mW/g (1g)
 Percent from Target (+/-): 1.6 % (1g)
 Rotation (1D): 0.17 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.02, 6.02, 6.02)

Electronics: DAE4 Sn850, Calibrated: 2/10/2009

Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 1.04$ mho/m; $\epsilon_r = 52.7$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 55.8 V/m; Power Drift = -0.00779 dB

Peak SAR (extrapolated) = 4.17 W/kg

SAR(1 g) = 2.87 mW/g; SAR(10 g) = 1.88 mW/g

Maximum value of SAR (measured) = 3.09 mW/g

System Performance Check/Dipole Area Scan 2 (41x81x1): Measurement grid: dx=15mm, dy=15mm

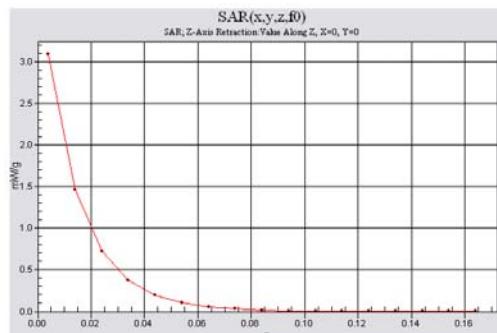
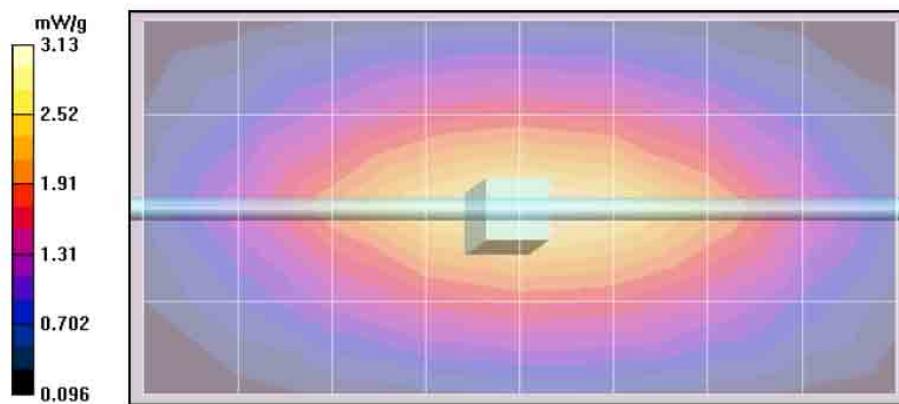
Reference Value = 55.8 V/m; Power Drift = -0.00779 dB

Motorola Fast SAR: SAR(1 g) = 2.91 mW/g; SAR(10 g) = 1.95 mW/g

Maximum value of SAR (interpolated) = 3.13 mW/g

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

Maximum value of SAR (measured) = 3.09 mW/g



Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 8/1/2009 12:17:43 AM

Robot# / Run#: DASY4-FL-1 / MeC-SYSP-900B-090801-01

Phantom# / Tissue Temp.: OVAL1019 / 20.2 (C)

Dipole Model# / Serial#: D900V2 / 085

TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.30 mW/g (1g)
 Calculated: 11.44 mW/g (1g)
 Percent from Target (+/-): 1.2 % (1g)
 Rotation (1D): 0.099 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.02, 6.02, 6.02)

Electronics: DAE4 Sn850, Calibrated: 2/10/2009

Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 1.04$ mho/m; $\epsilon_r = 52.8$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 55.7 V/m; Power Drift = -0.00115 dB

Peak SAR (extrapolated) = 4.16 W/kg

SAR(1 g) = 2.86 mW/g; SAR(10 g) = 1.88 mW/g

Maximum value of SAR (measured) = 3.09 mW/g

System Performance Check/Dipole Area Scan 2 (41x81x1): Measurement grid: dx=15mm, dy=15mm

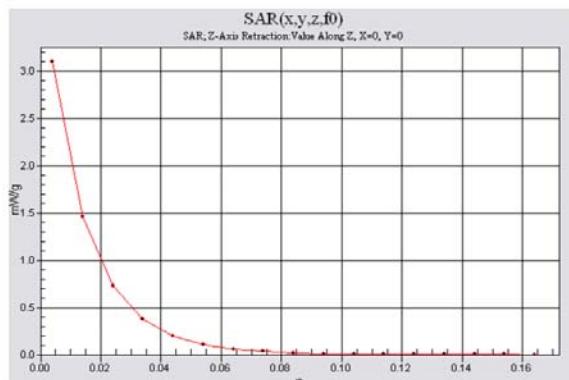
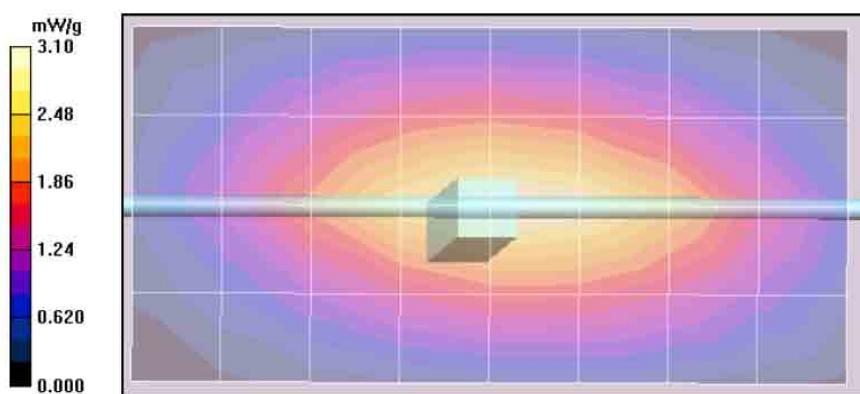
Reference Value = 55.7 V/m; Power Drift = -0.00115 dB

Motorola Fast SAR: SAR(1 g) = 2.88 mW/g; SAR(10 g) = 1.93 mW/g

Maximum value of SAR (interpolated) = 3.09 mW/g

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

Maximum value of SAR (measured) = 3.10 mW/g



Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 8/2/2009 12:22:14 AM

Robot# / Run#: DASY4-FL-1 / MeC-SYSP-900H-090802-01
 Phantom# / Tissue Temp.: SAMTP1234 / 20.2 (C)
 Dipole Model# / Serial#: D900V2 / 085
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.50 mW/g (1g)
 Calculated: 11.64 mW/g (1g)
 Percent from Target (+/-): 1.2 % (1g)
 Rotation (1D): 0.19 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.04, 6.04, 6.04)

Electronics: DAE4 Sn850, Calibrated: 2/10/2009

Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 58.4 V/m; Power Drift = -0.00778 dB

Peak SAR (extrapolated) = 4.32 W/kg

SAR(1 g) = 2.91 mW/g; SAR(10 g) = 1.89 mW/g

Maximum value of SAR (measured) = 3.16 mW/g

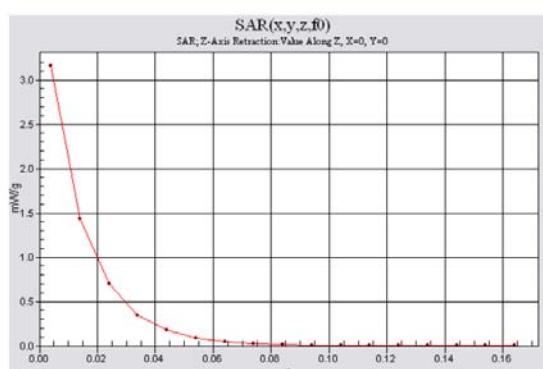
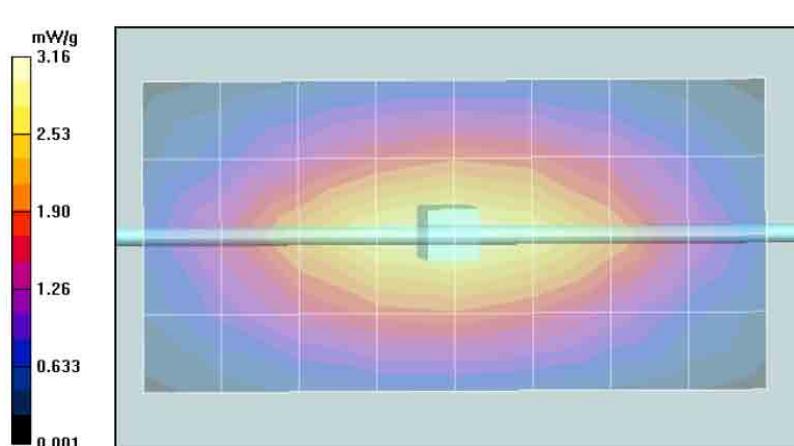
System Performance Check/Dipole Area Scan 2 (41x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 58.4 V/m; Power Drift = -0.00778 dB

Motorola Fast SAR: SAR(1 g) = 2.91 mW/g; SAR(10 g) = 1.97 mW/g

Maximum value of SAR (interpolated) = 3.13 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: 8/3/2009 12:19:48 AM

Robot# / Run#: DASY4-FL-1 / MeC-SYSP-900H-090803-01

Phantom# / Tissue Temp.: SAMTP1234 / 20.2 (C)

Dipole Model# / Serial#: D900V2 / 085

TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.50 mW/g (1g)
 Calculated: 11.72 mW/g (1g)
 Percent from Target (+/-): 1.9 % (1g)
 Rotation (1D): 0.12 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.04, 6.04, 6.04)

Electronics: DAE4 Sn850, Calibrated: 2/10/2009

Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 58.6 V/m; Power Drift = -0.0107 dB

Peak SAR (extrapolated) = 4.31 W/kg

SAR(1 g) = 2.93 mW/g; SAR(10 g) = 1.9 mW/g

Maximum value of SAR (measured) = 3.17 mW/g

System Performance Check/Dipole Area Scan 2 (41x81x1): Measurement grid: dx=15mm,

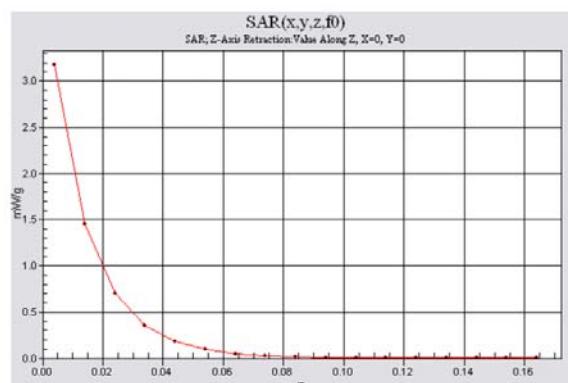
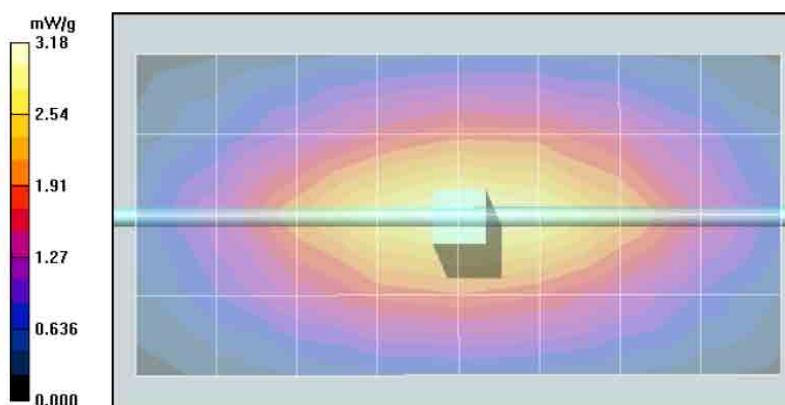
dy=15mm

Reference Value = 58.6 V/m; Power Drift = -0.0107 dB

Motorola Fast SAR: SAR(1 g) = 2.95 mW/g; SAR(10 g) = 1.98 mW/g

Maximum value of SAR (interpolated) = 3.18 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: 8/4/2009 5:11:52 PM

Robot# / Run#: DASY4-FL-1 / CMT-SYSP-900B-090804-07

Phantom# / Tissue Temp.: OVAL1019 / 20.3 (C)

Dipole Model# / Serial#: D900V2 / 085

TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.30 mW/g (1g)

Calculated: 11.28 mW/g (1g)

Percent from Target (+/-): 0.2 % (1g)

Rotation (1D): 0.11 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.02, 6.02, 6.02)

Electronics: DAE4 Sn850, Calibrated: 2/10/2009

Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 1.04$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (21x21x36)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 55.2 V/m; Power Drift = -0.0101 dB

Peak SAR (extrapolated) = 4.09 W/kg

Motorola Fast SAR: SAR(1 g) = 2.89 mW/g; SAR(10 g) = 1.91 mW/g

Maximum value of SAR (interpolated) = 4.09 mW/g

System Performance Check/Dipole Area Scan 2 (41x81x1): Measurement grid: dx=15mm, dy=15mm

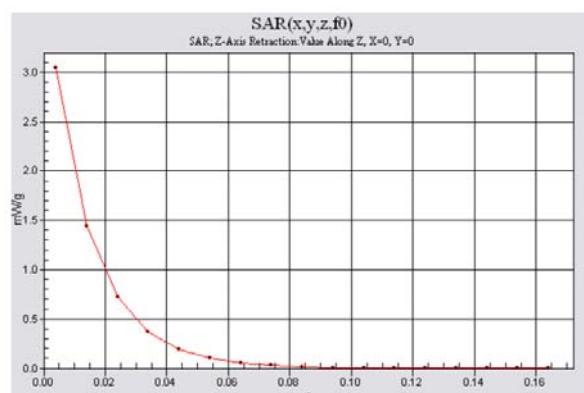
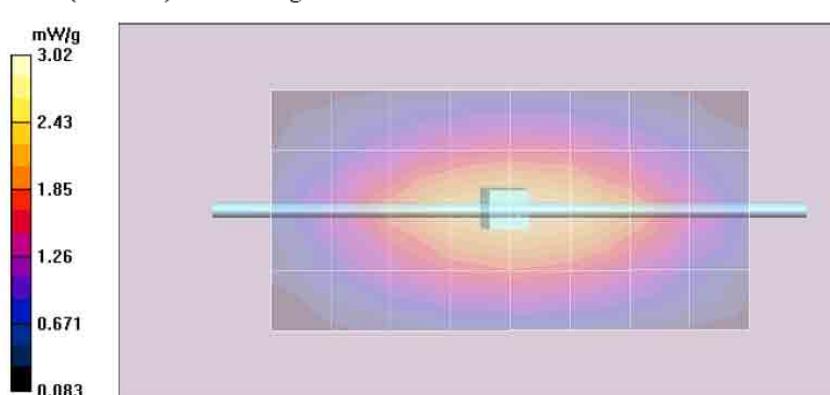
Reference Value = 55.2 V/m; Power Drift = -0.0101 dB

Motorola Fast SAR: SAR(1 g) = 2.82 mW/g; SAR(10 g) = 1.89 mW/g

Maximum value of SAR (interpolated) = 3.03 mW/g

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

Maximum value of SAR (measured) = 3.05 mW/g



Motorola Enterprise Mobility Solutions EME Laboratory
 Date/Time: 8/5/2009 7:08:04 AM

Robot# / Run#: DASY4-FL-1 / JsT-SYSP-900B-090805-01
 Phantom# / Tissue Temp.: OVAL1019 / 19.9 (C)
 Dipole Model# / Serial#: D900V2 / 085
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.30 mW/g (1g)
 Calculated: 11.20 mW/g (1g)
 Percent from Target (+/-): 0.9 % (1g)
 Rotation (1D): 0.081 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.02, 6.02, 6.02)

Electronics: DAE4 Sn850, Calibrated: 2/10/2009

Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 1.04$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:

$dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 55.0 V/m; Power Drift = -0.00161 dB

Peak SAR (extrapolated) = 4.07 W/kg

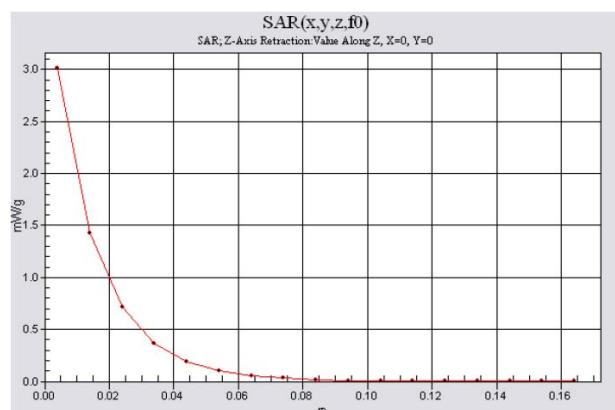
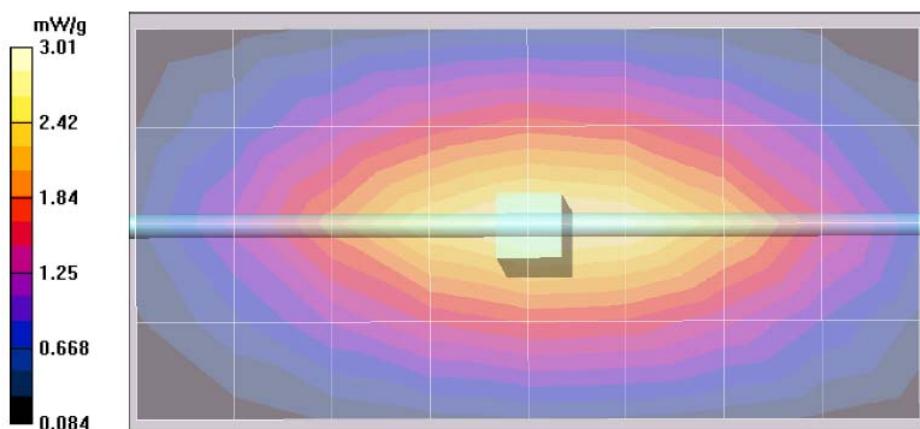
SAR(1 g) = 2.8 mW/g; SAR(10 g) = 1.84 mW/g

Maximum value of SAR (measured) = 3.02 mW/g

System Performance Check/Dipole Area Scan 2 (5x9x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 3.01 mW/g

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



Motorola Enterprise Mobility Solutions EME Laboratory
Date/Time: 8/7/2009 3:25:14 PM

Robot# / Run#: DASY4-FL-1 / SYSP-900B-090807-07

Phantom# / Tissue Temp.: OVAL1019 / 19.7 (C)

Dipole Model# / Serial#: D900V2 / 085

TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.30 mW/g (1g)

Calculated: 11.40 mW/g (1g)

Percent from Target (+/-): 0.9 % (1g)

Rotation (1D): 0.086 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.02, 6.02, 6.02)

Electronics: DAE4 Sn850, Calibrated: 2/10/2009

Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 1.04$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 55.6 V/m; Power Drift = 0.00878 dB

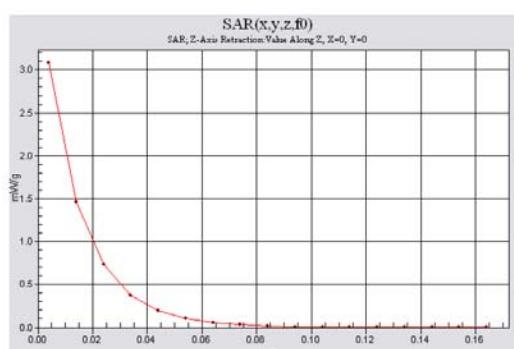
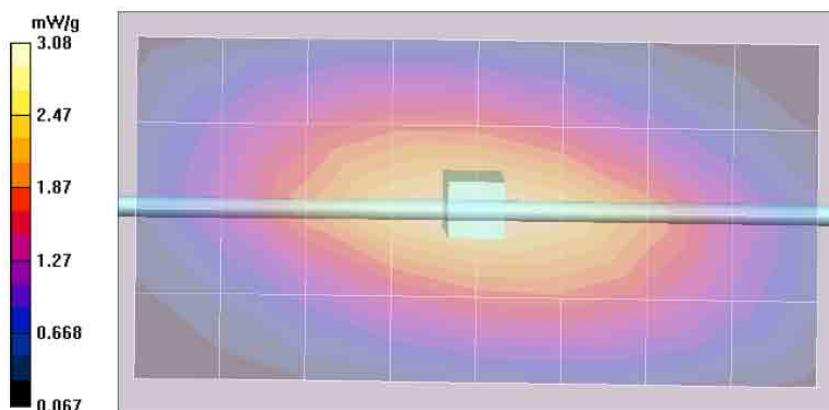
Peak SAR (extrapolated) = 4.12 W/kg

SAR(1 g) = 2.85 mW/g; SAR(10 g) = 1.87 mW/g

Maximum value of SAR (measured) = 3.08 mW/g

System Performance Check/Dipole Area Scan 2 (5x9x1): 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: 8/14/2009 10:23:24 AM

Robot# / Run#: DASY4-FL-1 / MeC-SYSP-900B-090814-01
 Phantom# / Tissue Temp.: OVAL1019 / 20.1 (C)
 Dipole Model# / Serial#: D900V2 / 085
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.30 mW/g (1g)
 Calculated: 11.16 mW/g (1g)
 Percent from Target (+/-): 1.2 % (1g)
 Rotation (1D): 0.085 dB

Probe: ES3DV2 - SN3007, Calibrated: 3/12/2009, ConvF(6.02, 6.02, 6.02)
 Electronics: DAE4 Sn850, Calibrated: 2/10/2009
 Duty Cycle: 1:1, Medium parameters used: $f = 900$ MHz; $\sigma = 1.04$ mho/m; $\epsilon_r = 53.9$; $\rho = 1000$ kg/m³

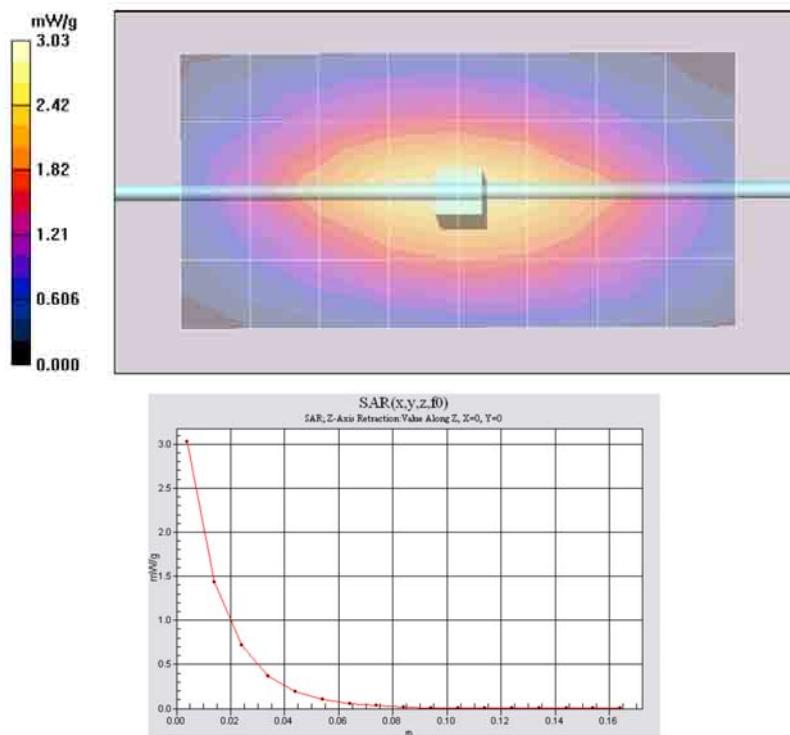
System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:

$dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
 Reference Value = 54.9 V/m; Power Drift = 0.0035 dB
 Peak SAR (extrapolated) = 4.05 W/kg
SAR(1 g) = 2.79 mW/g; SAR(10 g) = 1.83 mW/g
 Maximum value of SAR (measured) = 3.03 mW/g

System Performance Check/Dipole Area Scan 2 (41x81x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Reference Value = 54.9 V/m; Power Drift = 0.0035 dB
Motorola Fast SAR: SAR(1 g) = 2.82 mW/g; SAR(10 g) = 1.88 mW/g
 Maximum value of SAR (interpolated) = 3.03 mW/g

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



DIPOLE SAR TARGET - HEAD

Date:	<u>03/12/09</u>	Frequency (MHz):	<u>900</u>
Lab Location:	<u>FL08-G&PS</u>	Mixture Type:	<u>IEEE Head</u>
DAE Serial #:	<u>401</u>	Ambient Temp.(°C):	<u>20.8</u>

Tissue Characteristics			
Permitivity:	<u>42.5</u>	Phantom Type/SN:	<u>OVAL1016</u>
Conductivity:	<u>1.01</u>	Distance (mm):	<u>15</u>
Tissue Temp.(°C):	<u>21.4</u>		

Reference Source:	<u>Dipole</u>	Power to Dipole:	<u>250</u> mW
Reference SN:	<u>85</u>		

Target 1g-SAR Value (mW/g, normalized to 1.0 W):	<u>10.9</u>	Difference from Target	<u>5.50%</u> (1g-SAR)
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New Target:

Average 1g-SAR Value (mW/g):	<u>11.50</u>	Passes K=2
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Percent Difference From Target (MUST be within k=2 Uncertainty):

Probe SN #s	1g-SAR (Cube)	Diff from Ave	Robot
3185	11.36	-1.2%	R2
3147	11.64	1.2%	R2
N/A	N/A	#VALUE!	N/A
N/A	N/A	#VALUE!	N/A
N/A	N/A	#VALUE!	N/A
Average	11.5000	New Measured SAR Value	

(normalized to 1.0 W)

Test performed by: J. Turco Initial: 

DIPOLE SAR TARGET - BODY

Date:	<u>03/12/09</u>	Frequency (MHz):	<u>900</u>
Lab Location:	<u>FL08-G&PS</u>	Mixture Type:	<u>FCC Body</u>
DAE Serial #:	<u>401</u>	Ambient Temp.(°C):	<u>20.9</u>

Tissue Characteristics

Permitivity:	<u>52.6</u>	Phantom Type/SN:	<u>OVAL1022</u>
Conductivity:	<u>1.04</u>	Distance (mm):	<u>15</u>
Tissue Temp.(°C):	<u>21.5</u>		

Reference Source:	<u>Dipole</u>	Power to Dipole:	<u>250</u> mW
Reference SN:	<u>85</u>		

New Target:

Average Measured SAR Value: 11.30 mW/g(1g avg.),

Probe SN #s	1-G Cube	Diff from Ave	Robot
3185	11.20	-0.9%	R2
3147	11.40	0.9%	R2
N/A	N/A	#VALUE!	N/A
N/A	N/A	#VALUE!	N/A
N/A	N/A	#VALUE!	N/A
Average 11.3000		New Measured SAR Value	

(normalized to 1.0 W)

Test performed by: J. Turco Initial: 