



**MOTOROLA**



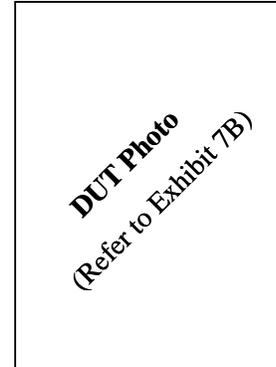
TESTING CERT # 2518.01

**FCC ID: AZ489FT7036  
DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2**

**Government & Public Safety**  
EME Test Laboratory  
8000 West Sunrise Blvd  
Fort Lauderdale, FL. 33322

**Date of Report:** 9/18/08  
**Report Revision:** 0  
**Report ID:** Armadillo\_SR6709\_080918

**Responsible Engineer:** K. Uong (Principal Staff EME Eng.)  
**Report Author:** K. Uong (Principal Staff EME Eng.)  
**Date/s Tested:** 9/5/08 – 9/11/08  
**Manufacturer/Location:** Fox Conn., China  
**Sector/Group/Div.:** MCIL Israel  
**Date submitted for test:** 9/1/08  
**DUT Description:** iDEN/WiDEN, MOTOtalk, BT and GPS.  
**Test TX mode(s):** iDEN: 1:6, 1:3; WiDEN:236:310; MOTOtalk: 114:120;  
**Max. Power output:** 1.1W pulsed average (iDEN/WiDEN); 0.891 W (MOTOtalk); 2.5mW (Bluetooth)  
**Nominal Power:** 1.0 W Pulse Average (iDEN/WiDEN); 0.85 W (MOTOtalk); 1 mW (Bluetooth)  
806-825, 896-902 MHz (iDEN/WiDEN); 902-928 MHz (MOTOtalk); 2.402-2.480  
GHz (Bluetooth)  
**Tx Frequency Bands:** GHz (Bluetooth)  
**Signaling type:** iDEN: 1:6, 1:3, 81:120; WiDEN: 236:310; MOTOtalk: 114:120; BT:FHSS  
**Model(s) Tested:** H06XCN6JS9AN  
**Model(s) Certified:** H06XCN6JS9AN  
**Serial Number(s):** 589VJQ001R, 589VJQ0010  
**Classification:** General Population/Uncontrolled Environment  
**Rule Part(s):** 15 and 90



**Approved Accessories:**

**Antenna(s):**  
8587526V08 (Removable 806-928MHz, 1/4 wave Stubby, 1.1dBi – 2.7dBi gain)  
8587526V33 (Removable 806-928MHz, 1/4 wave Whip, 3.2dBi – 4.4dBi gain)  
On board antenna (Printed PIFA 2,400 – 2,500MHz, 1/4 wave, 3.3dBi gain)

**Battery(ies):**  
PMNN4087A Dual cell battery, 1000 mAh

**Body worn accessory(ies):**  
FHN7163A Holster

**Audio/Data cable accessory(ies):**  
RMN5115A Noise Canceling Remote Speaker Microphone; AARMN4019A Medium Weight Headset Over-The-Head W/PTT; NNTN7166A Headphones; RMN4048A Temple Transducer Headset; AARLN4885B Headphones; RMN5048B High Tier Temple Transducer Headset; PMLN5235A UC to USB data cable.

**Max. Calc. : 1-g Avg. SAR: 1.381 W/kg (Body); 10-g Avg. SAR: 0.954 W/kg (Body)**  
**Max. Calc. : 1-g Avg. SAR: 0.685 W/kg (Face); 10-g Avg. SAR: 0.500 W/kg (Face)**  
**Max. Calc. : 1-g Avg. SAR: 1.544 W/kg (Head); 10-g Avg. SAR: 1.050 W/kg (Head)**

The test results clearly demonstrate compliance with FCC General Population/Uncontrolled RF Exposure limits of 1.6W/kg 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 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 G&PS EME Lab Senior Resource Manager,  
Laboratory Director**  
**Approval Date:** 9/18/08

**Certification Date:** 9/18/08  
**Certification No.:** L1080948P

**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: **D900V2-084\_Mar08**

**CALIBRATION CERTIFICATE**

Object **D900V2 - SN: 084**

Calibration procedure(s) **QA CAL-05.v7  
Calibration procedure for dipole validation kits**

Calibration date: **March 17, 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 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: 5086 (20g)	07-Aug-07 (METAS, No 217-00718)	Aug-08
Reference Probe ES3DV2	SN: 3025	01-Mar-08 (SPEAG, No. ES3-3025_Mar08)	Mar-09
DAE4	SN 909	03-Sep-07 (SPEAG, No. DAE4-909_Sep07)	Sep-08

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

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 17, 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  
**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  
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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 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.

<b>DASY Version</b>	DASY4	V4.7
<b>Extrapolation</b>	Advanced Extrapolation	
<b>Phantom</b>	Modular Flat Phantom V4.9	
<b>Distance Dipole Center - TSL</b>	15 mm	with Spacer
<b>Zoom Scan Resolution</b>	dx, dy, dz = 5 mm	
<b>Frequency</b>	900 MHz ± 1 MHz	

**Head TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
<b>Nominal Head TSL parameters</b>	22.0 °C	41.5	0.97 mho/m
<b>Measured Head TSL parameters</b>	(22.0 ± 0.2) °C	40.7 ± 6 %	0.96 mho/m ± 6 %
<b>Head TSL temperature during test</b>	(22.0 ± 0.2) °C	—	—

**SAR result with Head TSL**

<b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b>	Condition	
SAR measured	250 mW input power	2.66 mW / g
SAR normalized	normalized to 1W	10.6 mW / g
SAR for nominal Head TSL parameters <sup>1</sup>	normalized to 1W	10.6 mW /g ± 17.0 % (k=2)

<b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b>	condition	
SAR measured	250 mW input power	1.72 mW / g
SAR normalized	normalized to 1W	6.88 mW / g
SAR for nominal Head TSL parameters <sup>1</sup>	normalized to 1W	6.84 mW /g ± 16.5 % (k=2)

<sup>1</sup> Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

**Appendix**

**Antenna Parameters with Head TSL**

Impedance, transformed to feed point	50.2 $\Omega$ - 6.1 $j\Omega$
Return Loss	- 24.3 dB

**General Antenna Parameters and Design**

Electrical Delay (one direction)	1.391 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

**DASY4 Validation Report for Head TSL**

Date/Time: 17.03.2008 12:36:48

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:084**

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

Medium: HSL 900 MHz;

Medium parameters used:  $f = 900$  MHz;  $\sigma = 0.961$  mho/m;  $\epsilon_r = 40.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

**DASY4 Configuration:**

- Probe: ES3DV2 - SN3025; ConvF(5.94, 5.94, 5.94); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn909; Calibrated: 03.09.2007
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

**Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:**

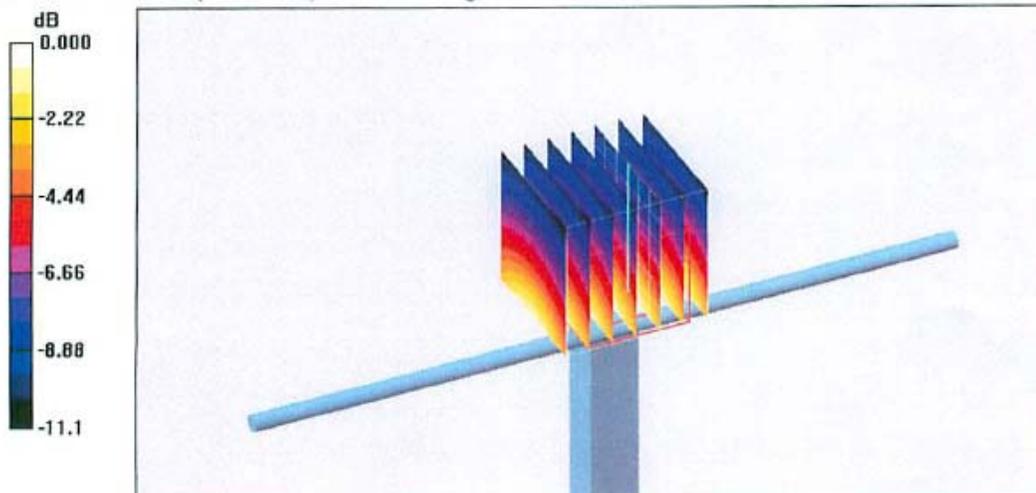
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.2 V/m; Power Drift = -0.016 dB

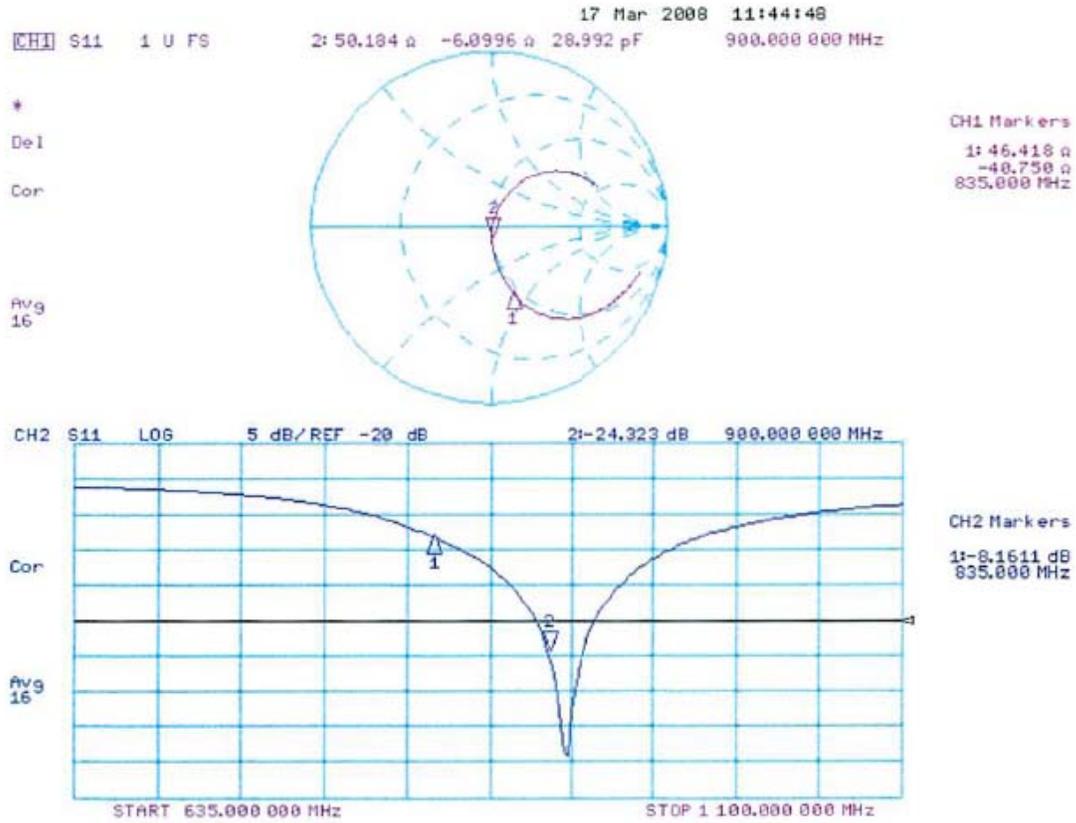
Peak SAR (extrapolated) = 3.94 W/kg

**SAR(1 g) = 2.66 mW/g; SAR(10 g) = 1.72 mW/g**

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



### Impedance Measurement Plot for Head TSL



## Appendix D

### Test System Verification Scans

Dipole validation scans at the head from SPEAG are provided in APPENDIX C. G&PS' EME lab validates its' dipole(s) to the applicable IEEE system performance targets. A system validation was performed using FCC body tissue parameters to generate the system performance target values for body at the applicable frequency. Dipoles are assessed using multiple probes and measurements were performed using the isotropic assessment procedure mentioned below.

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

The results obtained from each probe were then averaged together to determine the new measured SAR target.

**Motorola Government & Public Safety EME Laboratory**

Date/Time: 9/5/2008 7:13:41 AM

Robot# / Run#: DASY4-FL-1 / ErC SYSP 900H 080905-03  
 Phantom# / Tissue Temp.: SAMTP1234 / 19.9 (C)  
 Dipole Model# / Serial#: D900V2 / 084  
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.27 mW/g (1g)  
 Calculated: 11.52 mW/g (1g)  
 Percent from Target (+/-): 2.2% (1g)  
 Rotation (1D): .081 dB

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(6, 6, 6)  
 Electronics: DAE3 Sn363, Calibrated: 4/22/2008

Duty Cycle: 1:1, Medium parameters used:  $f = 900$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 39.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

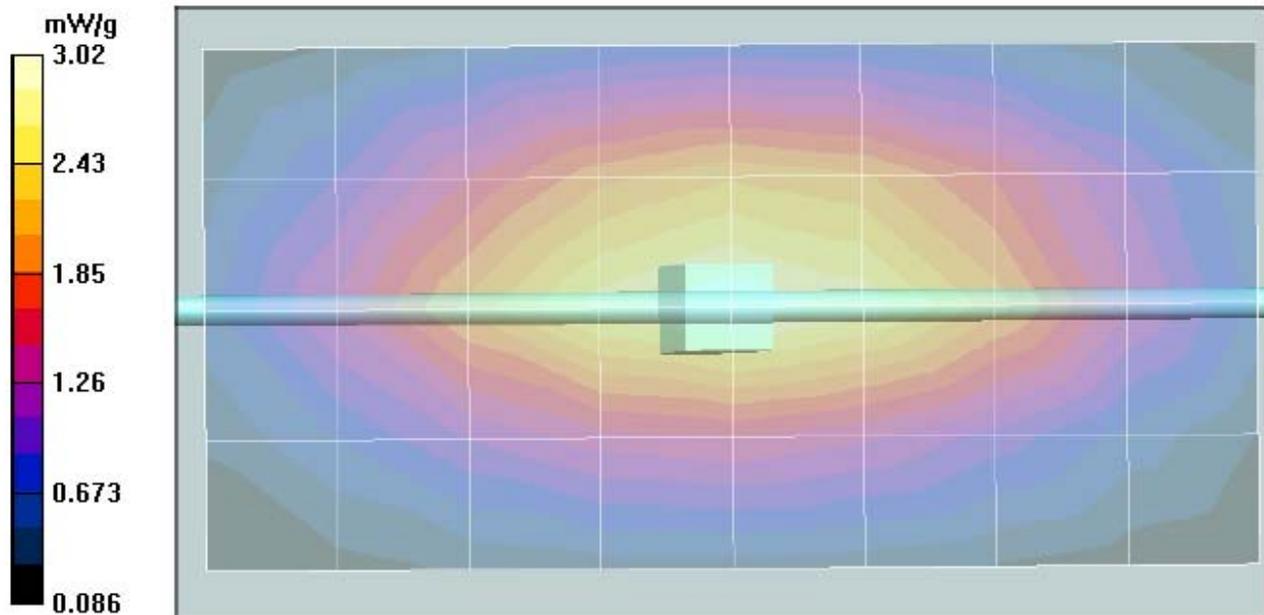
$dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm  
 Reference Value = 59.1 V/m; Power Drift = -0.0245 dB  
 Peak SAR (extrapolated) = 4.15 W/kg  
 SAR(1 g) = 2.88 mW/g; SAR(10 g) = 1.86 mW/g  
 Maximum value of SAR (measured) = 3.15 mW/g

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

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

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

Maximum value of SAR (measured) = 3.14 mW/g



### Motorola Government & Public Safety EME Laboratory

Date/Time: 9/6/2008 6:12:58 AM

Robot# / Run#: DASY4-FL-1 / HvH-SYSP-900H-080906-01  
Phantom# / Tissue Temp.: SAMTP1234 / 19.9 (C)  
Dipole Model# / Serial#: D900V2 / 084  
TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.27 mW/g (1g)  
Calculated: 11.40 mW/g (1g)  
Percent from Target (+/-): 1.2% (1g)  
Rotation (1D): .22 dB

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(6, 6, 6)

Electronics: DAE3 Sn363, Calibrated: 4/22/2008

Duty Cycle: 1:1, Medium parameters used:  $f = 900$  MHz;  $\sigma = 0.97$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

#### 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 = 58.1 V/m; Power Drift = 0.0127 dB

Peak SAR (extrapolated) = 4.09 W/kg

SAR(1 g) = 2.85 mW/g; SAR(10 g) = 1.85 mW/g

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

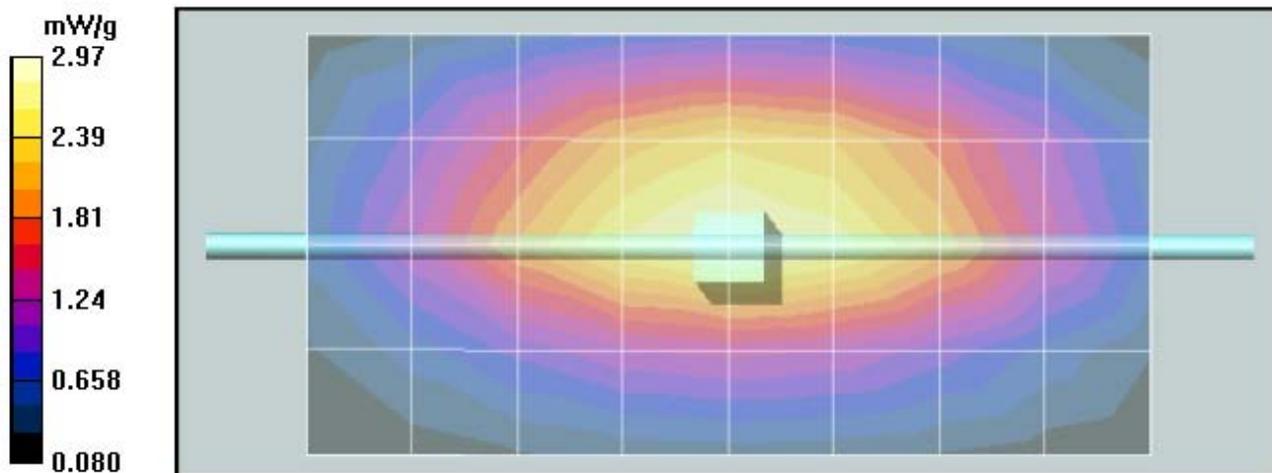
#### System Performance Check/Dipole Area Scan (5x9x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

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

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

$dz=10$ mm

Maximum value of SAR (measured) = 3.14 mW/g



**Motorola Government & Public Safety EME Laboratory**

Date/Time: 9/7/2008 5:12:53 AM

Robot# / Run#: DASY4-FL-1 / HvH-SYSP-900H-080907-01  
 Phantom# / Tissue Temp.: SAMTP1234 / 18.9 (C)  
 Dipole Model# / Serial#: D900V2 / 084  
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.27 mW/g (1g)  
 Calculated: 11.32 mW/g (1g)  
 Percent from Target (+/-): 0.4 % (1g)  
 Rotation (1D): .062 dB

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(6, 6, 6)  
 Electronics: DAE3 Sn363, Calibrated: 4/22/2008

Duty Cycle: 1:1, Medium parameters used:  $f = 900$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 39.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

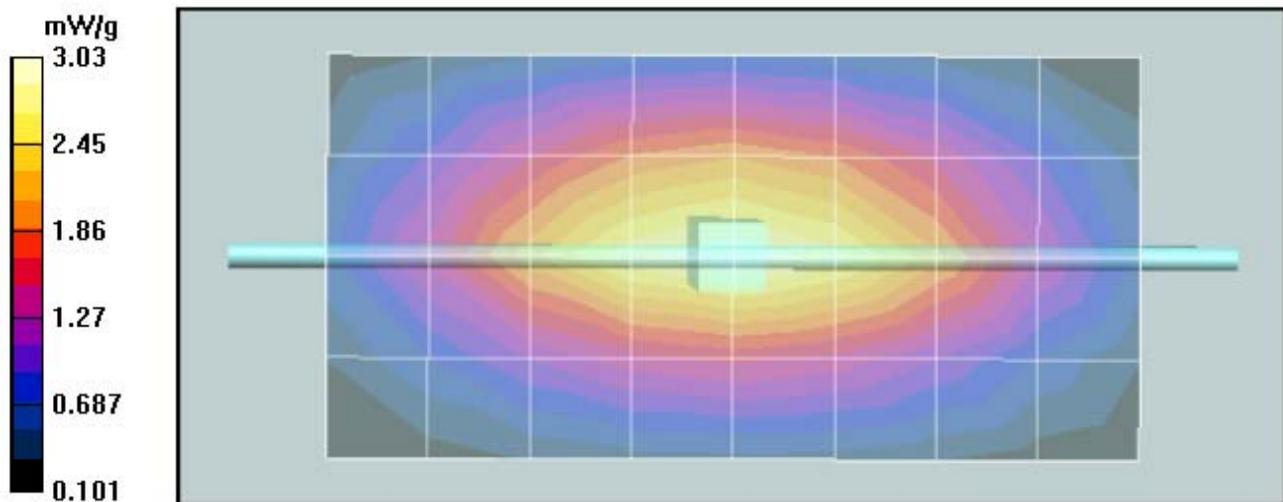
$dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm  
 Reference Value = 59.3 V/m; Power Drift = -0.0509dB  
 Peak SAR (extrapolated) = 4.09 W/kg  
 SAR(1 g) = 2.83 mW/g; SAR(10 g) = 1.82 mW/g  
 Maximum value of SAR (measured) = 3.08 mW/g

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

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

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

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



**Motorola Government & Public Safety EME Laboratory**

Date/Time: 9/8/2008 6:34:47 AM

Robot# / Run#: DASY4-FL-1 / JsT-SYSP-900B-080908-01  
 Phantom# / Tissue Temp.: OVAL1021 / 19.5 (C)  
 Dipole Model# / Serial#: D900V2 / 084  
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.75 mW/g (1g)  
 Calculated: 11.40 mW/g (1g)  
 Percent from Target (+/-): 3.0 % (1g)  
 Rotation (1D): 0.065 dB

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(5.86, 5.86, 5.86)

Electronics: DAE3 Sn363, Calibrated: 4/22/2008

Duty Cycle: 1:1, Medium parameters used:  $f = 900$  MHz;  $\sigma = 1.07$  mho/m;  $\epsilon_r = 52.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Reference Value = 56.1 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 4.11 W/kg

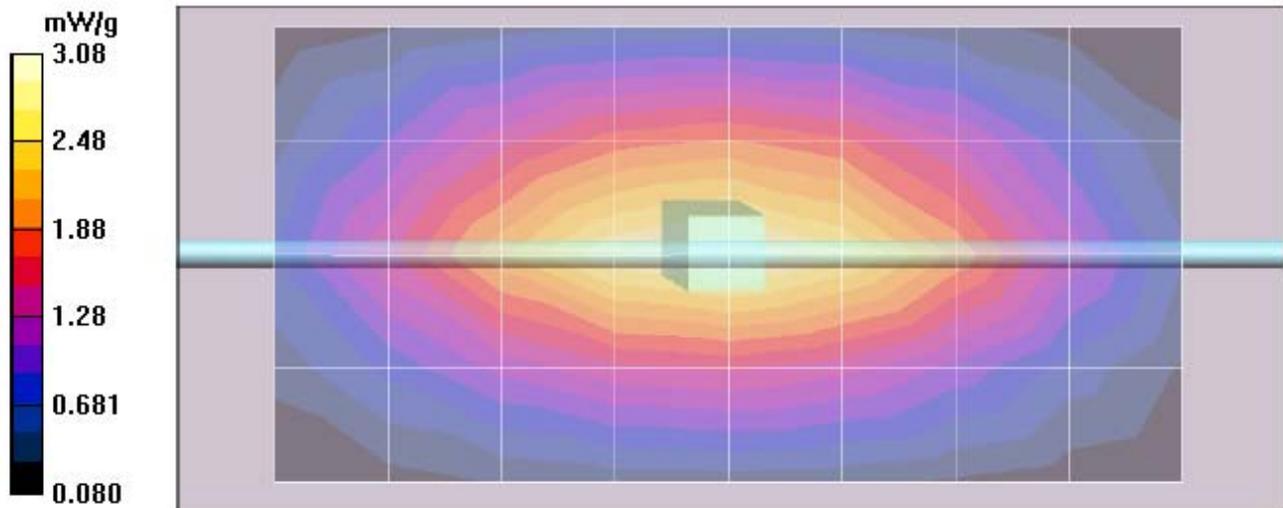
SAR(1 g) = 2.85 mW/g; SAR(10 g) = 1.84 mW/g

Maximum value of SAR (measured) = 3.11 mW/g

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

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

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



**Motorola Government & Public Safety EME Laboratory**  
 Date/Time: 9/9/2008 6:50:38 AM

Robot# / Run#: DASY4-FL-1 / JsT-SYSP-900B-080909-01  
 Phantom# / Tissue Temp.: OVAL1021 / 18.5 (C)  
 Dipole Model# / Serial#: D900V2 / 084  
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.75 mW/g (1g)  
 Calculated: 11.36 mW/g (1g)  
 Percent from Target (+/-): 3.3 % (1g)  
 Rotation (1D): 0.064 dB

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(5.86, 5.86, 5.86)  
 Electronics: DAE3 Sn363, Calibrated: 4/22/2008

Duty Cycle: 1:1, Medium parameters used:  $f = 900$  MHz;  $\sigma = 1.07$  mho/m;  $\epsilon_r = 52.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

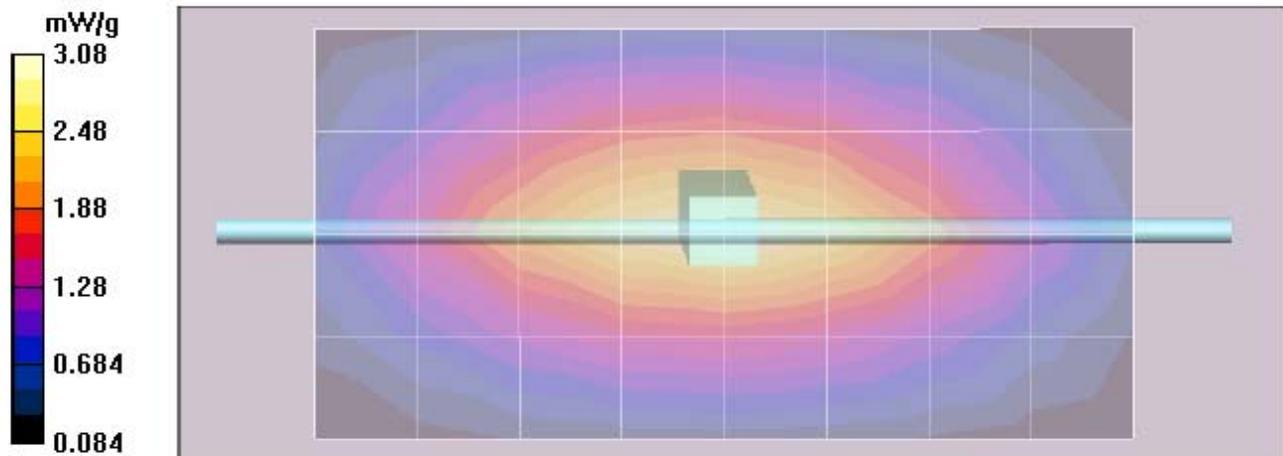
**System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:** Measurement grid:

$dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm  
 Reference Value = 56.0 V/m; Power Drift = -0.0218 dB  
 Peak SAR (extrapolated) = 4.10 W/kg  
 SAR(1 g) = 2.84 mW/g; SAR(10 g) = 1.83 mW/g  
 Maximum value of SAR (measured) = 3.09 mW/g

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

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

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



**Motorola Government & Public Safety EME Laboratory**

Date/Time: 9/10/2008 6:31:14 AM

Robot# / Run#: DASY4-FL-1 / JsT-SYSP-900B-080910-01  
 Phantom# / Tissue Temp.: OVAL1021 / 19.1 (C)  
 Dipole Model# / Serial#: D900V2 / 084  
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.75 mW/g (1g)  
 Calculated: 11.32 mW/g (1g)  
 Percent from Target (+/-): 3.7 % (1g)  
 Rotation (1D): 0.077 dB

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(5.86, 5.86, 5.86)  
 Electronics: DAE3 Sn363, Calibrated: 4/22/2008

Duty Cycle: 1:1, Medium parameters used:  $f = 900$  MHz;  $\sigma = 1.07$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

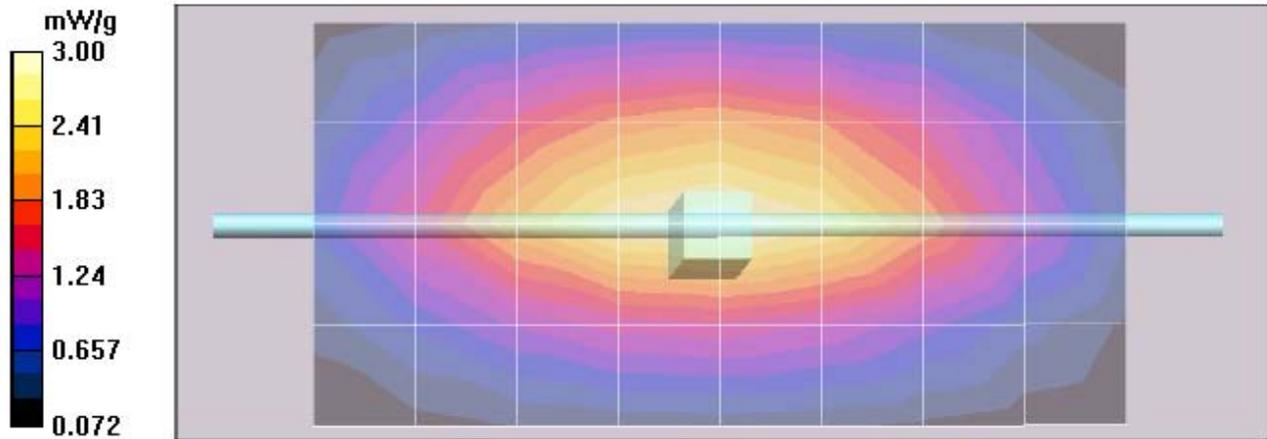
dx=7.5mm, dy=7.5mm, dz=5mm  
 Reference Value = 55.3 V/m; Power Drift = 0.0389 dB  
 Peak SAR (extrapolated) = 4.07 W/kg  
 SAR(1 g) = 2.83 mW/g; SAR(10 g) = 1.83 mW/g  
 Maximum value of SAR (measured) = 3.07 mW/g

**System Performance Check/Dipole Area Scan (5x9x1):** 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) = 3.06 mW/g



**Motorola Government & Public Safety EME Laboratory**  
 Date/Time: 9/11/2008 8:31:40 AM

Robot# / Run#: DASY4-FL-1 / JsT-SYSP-900H-080911-01  
 Phantom# / Tissue Temp.: SAMTP1234 / 19.0 (C)  
 Dipole Model# / Serial#: D900V2 / 084  
 TX Freq. / Start power: 900 (MHz) / 250 (mW)

Target: 11.27 mW/g (1g)  
 Calculated: 11.32 mW/g (1g)  
 Percent from Target (+/-): 0.4 % (1g)  
 Rotation (1D): 0.061 dB

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(6, 6, 6)  
 Electronics: DAE3 Sn363, Calibrated: 4/22/2008

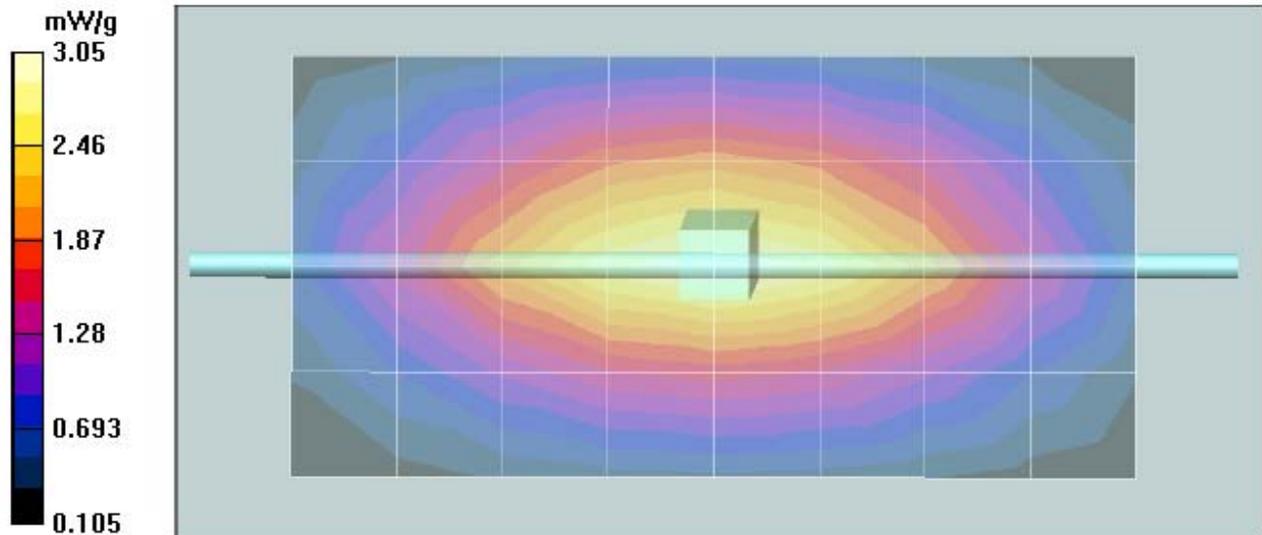
Duty Cycle: 1:1, Medium parameters used:  $f = 900$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Reference Value = 59.3 V/m; Power Drift = -0.0606 dB  
 Peak SAR (extrapolated) = 4.08 W/kg  
 SAR(1 g) = 2.83 mW/g; SAR(10 g) = 1.83 mW/g  
 Maximum value of SAR (measured) = 3.08 mW/g

**System Performance Check/Dipole Area Scan (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  
 Maximum value of SAR (measured) = 3.06 mW/g



**DIPOLE SAR TARGET - HEAD**

Date: 03/28/08 Frequency (MHz): 900  
 Lab Location: (FL08/PG)-G&PS Mixture Type: IEEE Head  
 DAE Serial #: 374 Ambient Temp.(°C): 21.8

Tissue Characteristics  
 Permittivity: 42.6 Phantom Type/SN: 80302002C-S9  
 Conductivity: 1.01 Distance (mm): 15  
 Tissue Temp.(°C): 20.1

Reference Source: Dipole Power to Dipole: 250 mW  
 Reference SN: 84

Target SAR Value: 10.8 mW/g (1g avg.),  
 (normalized to 1.0 W) Difference from Target  
**4.32%** (1g avg.)

**New Target:**

Average Measured SAR Value: 11.27 mW/g (1g avg.),

**Passes K=2**

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

Probe SN #s	1-G Cube	Diff from Ave	Robot
1383	11.52	#DIV/0!	R3
1393	11.32	#DIV/0!	R3
1547	10.96	#DIV/0!	R3
		#DIV/0!	
		#DIV/0!	
<b>Average</b>	<b>11.2667</b>	<b>New Measured SAR Value</b>	

(normalized to 1.0 W)

Test performed by: Gene Von Holten Initial: HvH

**DIPOLE SAR TARGET - BODY**

Date: 03/28/08 Frequency (MHz): 900  
 Lab Location: (FL08/PG)-G&PS Mixture Type: FCC Body  
 DAE Serial #: 374 Ambient Temp.(°C): 22.1

Tissue Characteristics  
 Permittivity: 53.1 Phantom Type/SN: 80302002D-S15  
 Conductivity: 1.05 Distance (mm): 15  
 Tissue Temp.(°C): 20.2

Reference Source: Dipole Power to Dipole: 250 mW  
 Reference SN: 84

**New Target:**

Average Measured SAR Value: 11.75 mW/g(1g avg.),

Probe SN #s	1-G Cube	Diff from Ave	Robot
1547	11.64	-1.0%	R3
1393	11.70	-0.5%	R3
1383	11.92	1.4%	R3
		-100.0%	
		-100.0%	
<b>Average</b>	<b>11.7533</b>	<b>New Measured SAR Value</b>	

(normalized to 1.0 W)

Test performed by: Gene Von Holten Initial: HvH

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

Shortened Scan Results
Motorola Government & Public Safety EME Laboratory
Date/Time: 9/11/2008 10:31:35 AM

Robot# / Run#: DASY4-FL-1 / JsT-Lear-080911-02
Phantom# / Tissue Temp.: SAMTP1234 / 19.0 (C)
DUT Model# / Serial#: H06XCN6JS9AN / 589VJQ001R
Antenna / TX Freq.: 8587526V33 / 824.9875 (MHz)
Battery: PMNN4087A
Carry Acc. / Cable Acc.: None / None
Start Power: 1.09 (W)

Comment:

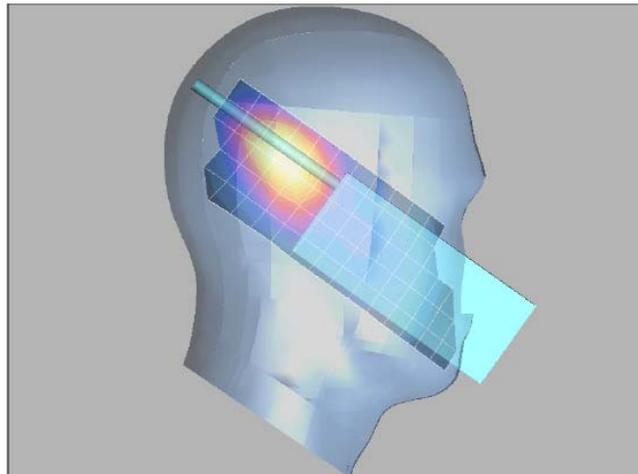
Shortened scan reflect highest SAR producing configuration; Run time 7 minutes.
Representative zoom scan run time was 20 minutes
'Shortened' scan max calculated SAR using SAR drift: 1-g Avg. = 1.524 mW/g; 10-g Avg. = 1.03 mW/g
Zoom scan max calculated SAR using SAR drift: 1-g Avg. = 1.544 mW/g; 10-g Avg. = 1.05 mW/g
(see part 1 of 2 section 9.0 run # CM-Lear-080910-20)

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(6, 6, 6)
Electronics: DAE3 Sn363, Calibrated: 4/22/2008
Duty Cycle: 1:3, Medium parameters used: f = 815.5 MHz; sigma = 0.88 mho/m; epsilon\_r = 41; rho = 1000 kg/m^3

Left Ear-15D Tilt position/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 44.3 V/m; Power Drift = -0.000973 dB
Peak SAR (extrapolated) = 2.10 W/kg
SAR(1 g) = 1.51 mW/g; SAR(10 g) = 1.02 mW/g
Maximum value of SAR (measured) = 1.59 mW/g

Left Ear-15D Tilt position/Area Scan (51x181x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 38.1 V/m; Power Drift = -0.286 dB
Motorola Fast SAR: SAR(1 g) = 1.49 mW/g; SAR(10 g) = 1.02 mW/g
Maximum value of SAR (interpolated) = 1.59 mW/g

Left Ear-15D Tilt position/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.54 mW/g



## Motorola Government & Public Safety EME Laboratory

Date/Time: 9/10/2008 12:32:18 PM

Robot# / Run#: DASY4-FL-1 / JsT-Lear-080910-08  
 Phantom# / Tissue Temp.: SAMTP1234 / 18.1 (C)  
 DUT Model# / Serial#: HO6XCN6JS9AN / 589VJQ001R  
 Antenna / TX Freq.: 8587526V33 / 896.00625 (MHz)  
 Battery: PMNN4087A  
 Carry Acc. / Cable Acc.: None / None  
 Start Power: 1.13 (W)

### Comment:

**Shortened scan reflect highest SAR producing configuration; Run time 8 minutes.**

**Representative zoom scan run time was 17 minutes**

**“Shortened” scan max calculated SAR using SAR drift: 1-g Avg. = 1.466 mW/g; 10-g Avg. = 0.982 mW/g**

**Zoom scan max calculated SAR using SAR drift: 1-g Avg. = 1.396 mW/g; 10-g Avg. = 0.938 mW/g**

**(see part 1 of 2 section 9.0 run # MeC-Lear-080906-37)**

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(6, 6, 6)

Electronics: DAE3 Sn363, Calibrated: 4/22/2008

Duty Cycle: 1:3, Medium parameters used:  $f = 899$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

**Left Ear-15D Tilt position/5x5x7 Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 42.7 V/m; Power Drift = -0.0173 dB

Peak SAR (extrapolated) = 2.08 W/kg

SAR(1 g) = 1.46 mW/g; SAR(10 g) = 0.978 mW/g

Maximum value of SAR (measured) = 1.58 mW/g

**Left Ear-15D Tilt position/Area Scan (51x191x1):** Measurement grid: dx=15mm, dy=15mm

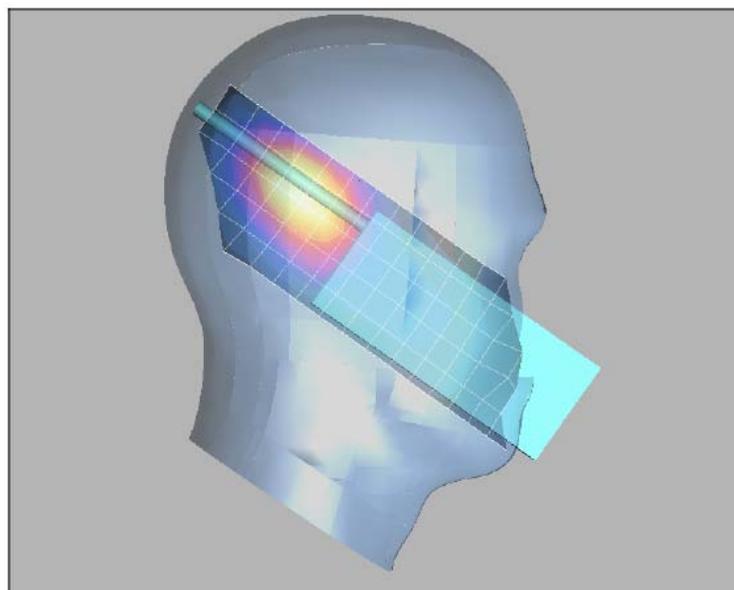
Reference Value = 37.7 V/m; Power Drift = -0.246 dB

Motorola Fast SAR: SAR(1 g) = 1.38 mW/g; SAR(10 g) = 0.952 mW/g

Maximum value of SAR (interpolated) = 1.52 mW/g

**Left Ear-15D Tilt position/Z-Axis Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 1.56 mW/g



Highest SAR Configurations Results
Motorola Government & Public Safety EME Laboratory
Date/Time: 9/10/2008 9:35:38 PM

Robot# / Run#: DASY4-FL-1 / CM-Lear-080910-20
Phantom# / Tissue Temp.: SAMTP1234 / 18.0 (C)
DUT Model# / Serial#: HO6XCN6JS9AN / 589VJQ001R
Antenna / TX Freq.: 8587526V33 / 824.9875 (MHz)
Battery: PMNN4087A
Carry Acc. / Cable Acc.: None / None
Start Power: 1.09 (W)

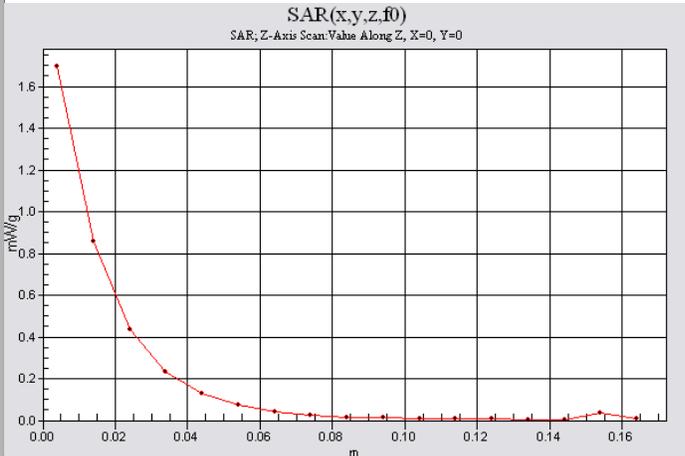
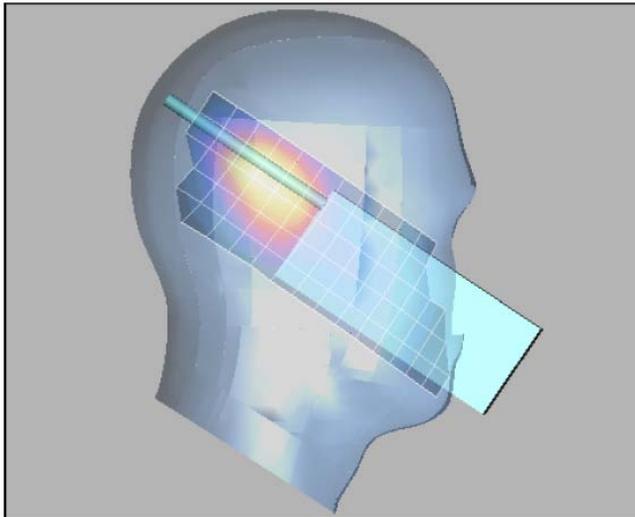
Comments: Tilt

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(6, 6, 6)
Electronics: DAE3 Sn363, Calibrated: 4/22/2008
Duty Cycle: 1:3, Medium parameters used: f = 815.5 MHz; sigma = 0.88 mho/m; epsilon\_r = 41.1; rho = 1000 kg/m^3

Left Ear-15D Tilt position/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 43.1 V/m; Power Drift = 0.00447dB
Peak SAR (extrapolated) = 2.12 W/kg
SAR(1 g) = 1.53 mW/g; SAR(10 g) = 1.04 mW/g
Maximum value of SAR (measured) = 1.65 mW/g

Left Ear-15D Tilt position/Area Scan (51x181x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 43.1 V/m; Power Drift = 0.00447 dB
Motorola Fast SAR: SAR(1 g) = 1.55 mW/g; SAR(10 g) = 1.06 mW/g
Maximum value of SAR (interpolated) = 1.68 mW/g

Left Ear-15D Tilt position/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 1.70 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 9/6/2008 11:14:39 PM

Robot# / Run#: DASY4-FL-1 / MeC-Lear-080906-37
Phantom# / Tissue Temp.: SAMTP1234 / 19.0 (C)
DUT Model# / Serial#: HO6XCN6JS9AN / 589VJQ001R
Antenna / TX Freq.: 8587526V33 / 896.00625 (MHz)
Battery: PMNN4087A
Carry Acc. / Cable Acc.: None / None
Start Power: 1.08 (W)

Comments: Tilt; FULL SCAN

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(6, 6, 6)
Electronics: DAE3 Sn363, Calibrated: 4/22/2008

Duty Cycle: 1:3, Medium parameters used: f = 899 MHz; sigma = 0.97 mho/m; epsilon\_t = 40.5; rho = 1000 kg/m^3

Left Ear-15D Tilt position/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

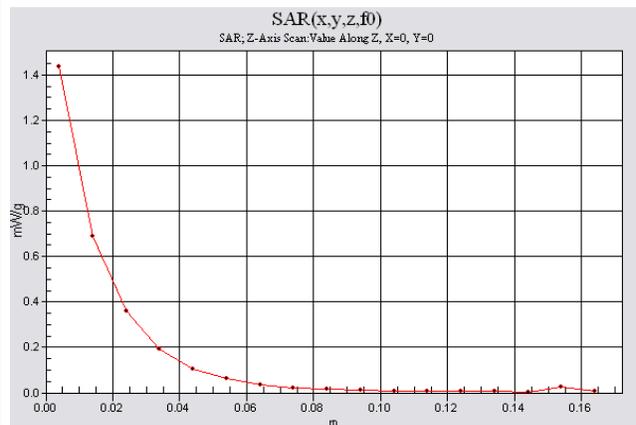
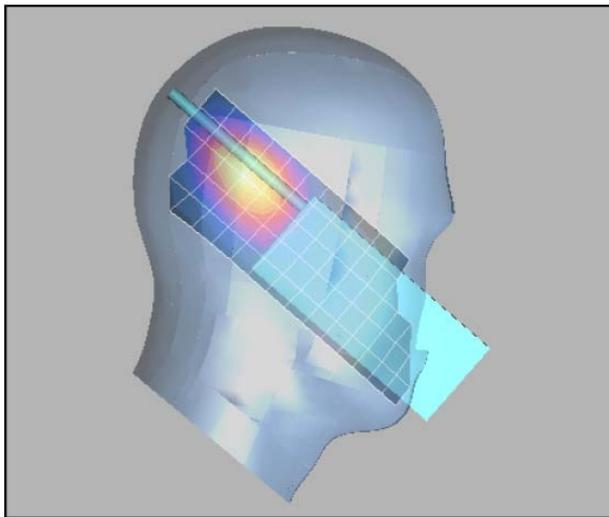
Reference Value = 35.6 V/m; Power Drift = -0.0976 dB
Peak SAR (extrapolated) = 1.88 W/kg
SAR(1 g) = 1.34 mW/g; SAR(10 g) = 0.900 mW/g
Maximum value of SAR (measured) = 1.43 mW/g

Left Ear-15D Tilt position/Area Scan (51x181x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 35.6 V/m; Power Drift = -0.0976 dB
Motorola Fast SAR: SAR(1 g) = 1.31 mW/g; SAR(10 g) = 0.892 mW/g
Maximum value of SAR (interpolated) = 1.41 mW/g

Left Ear-15D Tilt position/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 1.44 mW/g



Motorola Government & Public Safety EME Laboratory

Date/Time: 9/10/2008 10:51:47 AM

Robot# / Run#: DASY4-FL-1 / JsT-Ab-080910-06
Phantom# / Tissue Temp.: OVAL1021 / 18.8 (C)
DUT Model# / Serial#: H06XCN6JS9AN / 589VJQ0010
Antenna / TX Freq.: 8587526V33 / 896.00625 (MHz)
Battery: PMNN4087A
Carry Acc. / Cable Acc.: None / None
Start Power: 1.10 (W)

Comments: Full Scan; Back- Antenna @ 2.5 cm.

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(5.86, 5.86, 5.86)

Electronics: DAE3 Sn363, Calibrated: 4/22/2008

Duty Cycle: 1:1.33, Medium parameters used: f = 899 MHz; sigma = 1.06 mho/m; epsilon\_p = 52.4; rho = 1000 kg/m^3

Ab Scan/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 36.2 V/m; Power Drift = -0.234 dB

Peak SAR (extrapolated) = 1.74 W/kg

SAR(1 g) = 1.29 mW/g; SAR(10 g) = 0.891 mW/g

Maximum value of SAR (measured) = 1.36 mW/g

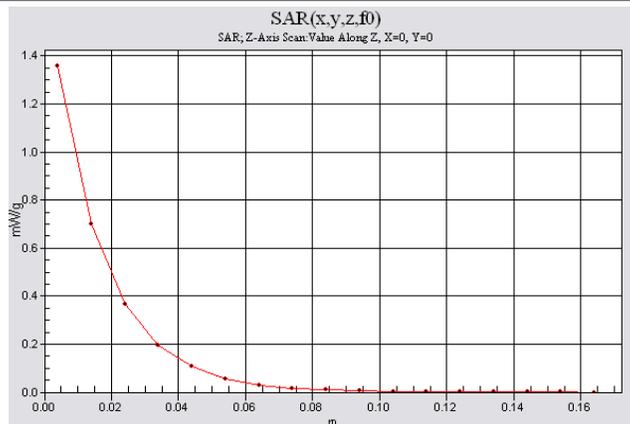
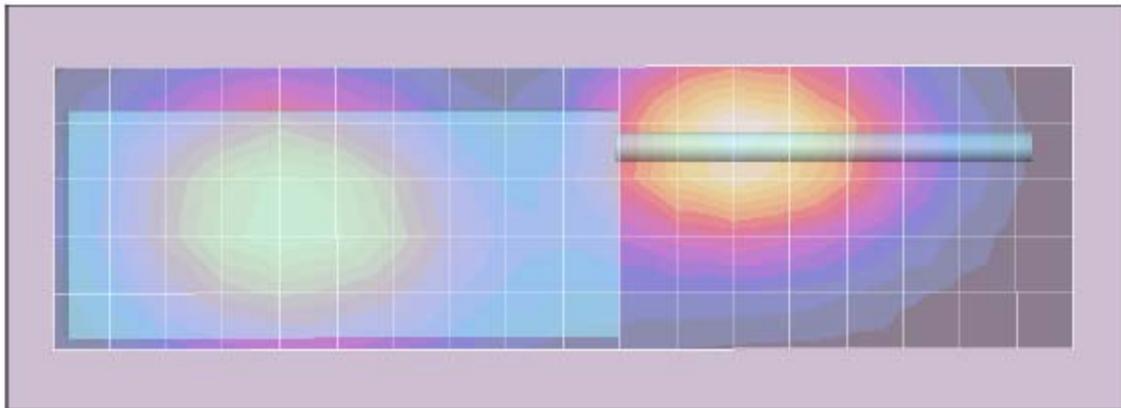
Ab Scan/Area Scan (51x181x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 36.2 V/m; Power Drift = -0.234 dB

Motorola Fast SAR: SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.891 mW/g

Maximum value of SAR (interpolated) = 1.38 mW/g

Ab Scan/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola Government & Public Safety EME Laboratory  
Date/Time: 9/7/2008 11:19:22 AM

Robot# / Run#: DASY4-FL-1 / HvH-Face-080907-15  
Phantom# / Tissue Temp.: SAMTP1234 / 18.9 (C)  
DUT Model# / Serial#: HO6XCN6JS9AN / 589VJQ001R  
Antenna / TX Freq.: 8587526V33 / 902.5250 (MHz)  
Battery: PMNN4087A  
Carry Acc. / Cable Acc.: None / None  
Start Power: .911 (W)

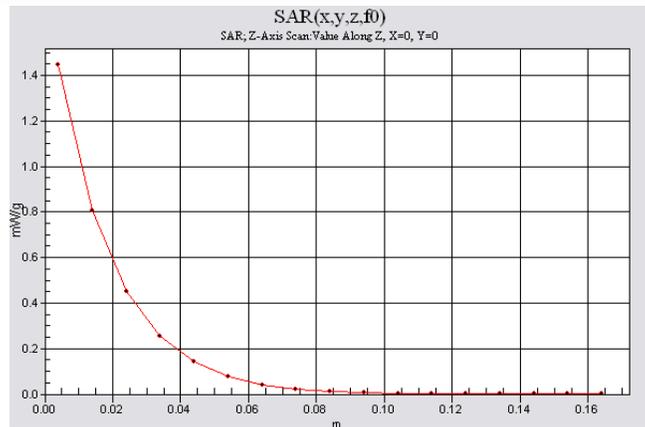
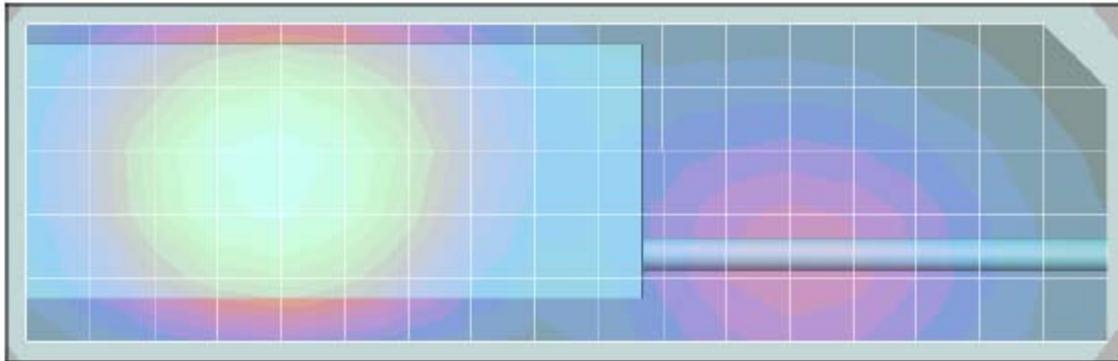
Comments: Full Scan

Probe: ET3DV6 - SN1384, Calibrated: 5/19/2008, ConvF(6, 6, 6)  
Electronics: DAE3 Sn363, Calibrated: 4/22/2008  
Duty Cycle: 1:1.05, Medium parameters used: f = 915 MHz;  $\sigma = 0.97$  mho/m;  $\epsilon_1 = 39.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

**Face Scan/5x5x7 Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm  
Reference Value = 31.0 V/m; Power Drift = 1.42 dB  
Peak SAR (extrapolated) = 1.71 W/kg  
SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.999 mW/g  
Maximum value of SAR (measured) = 1.45 mW/g

**Face Scan/Area Scan (51x171x1):** Measurement grid: dx=15mm, dy=15mm  
Reference Value = 31.0 V/m; Power Drift = 1.42 dB  
Motorola Fast SAR: SAR(1 g) = 1.35 mW/g; SAR(10 g) = 0.960 mW/g  
Maximum value of SAR (interpolated) = 1.42 mW/g

**Face Scan/Z-Axis Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm

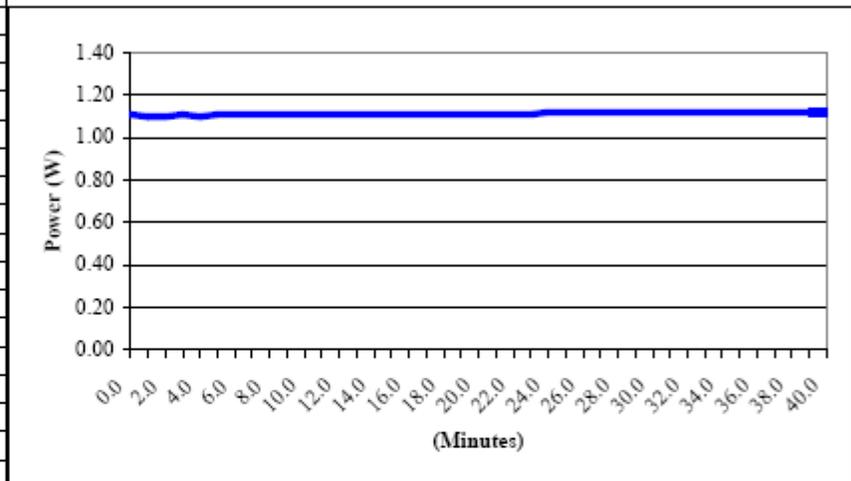


## APPENDIX F DUT Supplementary Data (Power slump)

**Model # H06XCN6JS9AN**  
**Serial # 589VJQ001R**

Battery	PMNN4087A	Transmit Mode	3:1
Frequency	824.9875 MHz	Audio Accessory	None
Date	9/10/2008		

TX TIME (minutes)	Measured Power Watts
0.0	1.11
1.0	1.10
2.0	1.10
3.0	1.11
4.0	1.10
5.0	1.11
6.0	1.11
7.0	1.11
8.0	1.11
9.0	1.11
10.0	1.11
11.0	1.11
12.0	1.11
13.0	1.11
14.0	1.11
15.0	1.11
16.0	1.11
17.0	1.11
18.0	1.11
19.0	1.11
20.0	1.11
21.0	1.11
22.0	1.11
23.0	1.11
24.0	1.12
25.0	1.12
26.0	1.12
27.0	1.12
28.0	1.12
29.0	1.12
30.0	1.12
31.0	1.12
32.0	1.12
33.0	1.12
34.0	1.12
35.0	1.12
36.0	1.12
37.0	1.12
38.0	1.12
39.0	1.12
40.0	1.12



**Appendix G**  
**DUT Test Position Photos**

**Photos available in Exhibit 7B - Temporary Confidentiality Requested**

**Appendix H**  
**DUT and Body worn Accessory Photos**

**Photos available in Exhibit 7B - Temporary Confidentiality Requested**

### 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):

Kit #	Tested ?	Min. Separation distances between DUT antenna and phantom surface. (mm)	Comments
<b>Battery</b>			
PMNN4087A	Yes	NA	
<b>Antenna</b>			
8587526V08	Yes	NA	
8587526V33	Yes	NA	
On board antenna	No	NA	Printed PIFA
<b>Holster</b>			
FHN7163A	Yes	47-61	
<b>Audio/Data Cable accessories</b>			
RMN5115A	Yes	NA	
AARMN4019A	Yes	NA	
NNTN7166A	No	NA	BS to AARLN4885B
RMN4048A	Yes	NA	
AARLN4885B	Yes	NA	Tested w/ RMN5115A
RMN5048B	Yes	NA	
PMLN5235A	Yes	NA	