MOTOROLA

ACCREDITED

Certificate Number: 2518.01

FCC ID: AZ489FT7017
DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

Networks & Enterprise
EME Test Laboratory
8000 West Sunrise Blvd
Fort Lauderdale, FL. 33322

Date of Report: 12/12/06
Report Revision: A
Report ID: HC700i_F3130A_Rev A_061212
SR4462

Responsible Engineer:	Kim Uong (EME lead Eng.)
Date/s Tested:	10/5/06 – 10/24/06
Manufacturer/Location:	Motorola South - Arad Israel
Sector/Group/Div.:	MCIL Israel
Date submitted for test:	9/26/06
DUT Description:	HC700i is handheld computer, which includes GPS and the following: iDEN/ WiDEN, BlueTooth, and WLAN b/g
Test TX mode(s):	TDMA 66.67% and TDMA 33.33% duty cycle for iDEN/WiDEN; CW for BlueTooth and WLAN.
Max. Power output:	0.7W for iDEN/WiDEN; 2.09mW for BlueTooth; 39.8mW for WLAN/b; 31.6mW for WLAN/g
Nominal Power:	0.6W for iDEN/WiDEN; 1mW for BlueTooth; 32mW for WLAN
Tx Frequency Bands:	iDEN/WiDEN: 806-825MHz ; 896-901MHz; BlueTooth: 2.402-2.48GHz; WLAN b/g: 2412-2462MHz
Signaling type:	TDMA: iDEN/WiDEN; DSSS: WLAN; FHSS: BlueTooth
Model(s) Tested:	F3130A
Model(s) Certified:	F3130A
Serial Number(s):	629SGS0300, 629SGS0302
Classification:	General Population/Uncontrolled
Rule Part(s):	15, 22, and 24

Antenna(s):
8587526V18 (Dual Band PIFA ,including GPS, 900MHz 1/4 wave , -2dBi); 8587526V18 (Dual Band PIFA, including GPS, 800MHz 1/4 wave, 0dBi); 8489993V01(Inverted F (on board) - WLAN 2.4-2.48 GHz 1/4 wave, +1.2dBi); 8489993V01 (Inverted F (on board)-BT 2.4-2.48 GHz 1/4 wave, 0dBi)

Battery(ies):
FNN7826A (7.2V battery, 1800mAH)

Body worn accessory(ies):
5589618V01 (Carry Strap); FTN7059A (Belt Holster)

Audio/Data cable accessory(ies):
None

Max. Calc. : 1-g Avg. SAR: 0.31 W/kg (Body); 10-g Avg. SAR: 0.19 W/kg (Body)
Max. Calc. : 1-g Avg. SAR: 0.05 W/kg (Face); 10-g Avg. SAR: 0.04 W/kg (Face)
Max. Calc. : 1-g Avg. SAR: 0.12 W/kg (Head); 10-g Avg. SAR: 0.08 W/kg (Head)
Max. Calc. 10-g Avg. SAR: 0.65 W/kg (Hand)

This reporting format is consistent with the test report 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 N&E EME Lab Senior Resource Manager, Laboratory Director,

Approval Date: 12/12/06

Certification Date: 10/30/06

Certification No.: L1061051P

Appendix C
Dipole Calibration Certificates

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

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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_Aug06

CALIBRATION CERTIFICATE

Object	D900V2 - SN: 085
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	August 15, 2006
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-05 (METAS, No. 251-00516)	Oct-06
Power sensor HP 8481A	US37292783	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference Probe ET3DV6 (HF)	SN 1507	28-Oct-05 (SPEAG, No. ET3-1507_Oct05)	Oct-06
DAE4	SN 601	15-Dec-05 (SPEAG, No. DAE4-601_Dec05)	Dec-06

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-05)	In house check: Oct-07
RF generator Agilent E4421B	MY41000675	11-May-05 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov-06

	Name	Function	Signature
Calibrated by:	Mike Meili	Laboratory Technician	M. Meili
Approved by:	Katja Pokovic	Technical Director	

Issued: August 16, 2006

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

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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) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001
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.

DASY Version	DASY4	V4.7
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	42.7 ± 6 %	0.95 mho/m ± 6 %
Head TSL temperature during test	(22.2 ± 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	2.63 mW / g
SAR normalized	normalized to 1W	10.5 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**10.8 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.68 mW / g
SAR normalized	normalized to 1W	6.72 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**6.85 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	47.8 Ω - 8.6 jΩ
Return Loss	- 20.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.364 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: 15.08.2006 12:22:13

Test Laboratory: SPEAG, Zurich, Switzerland

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

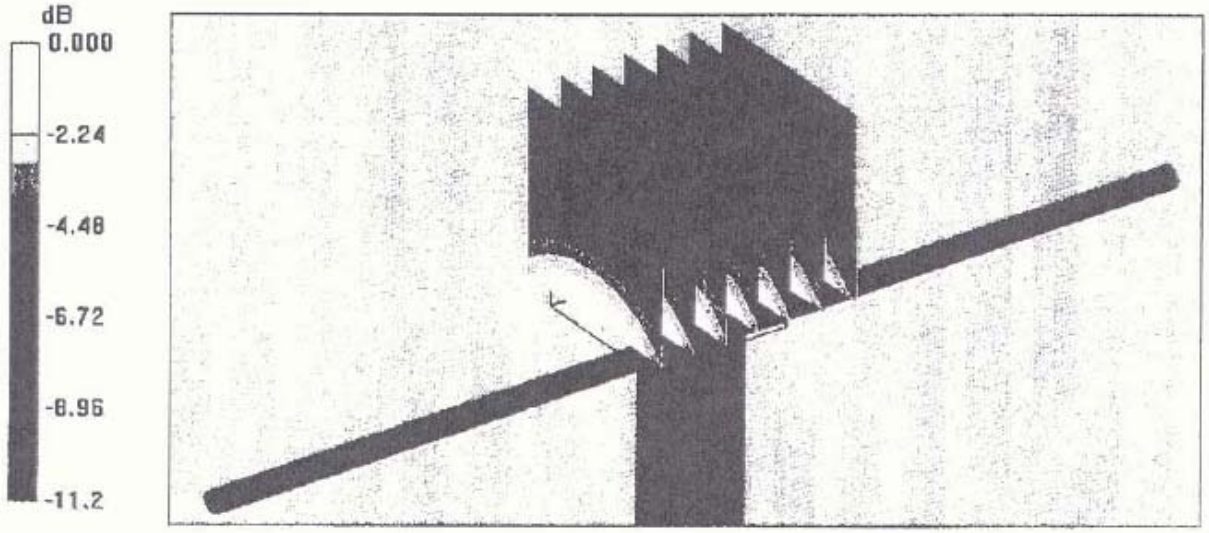
Communication System: CW; Frequency: 900 MHz;Duty Cycle: 1:1
Medium: HSL U10 BB;
Medium parameters used: f = 900 MHz; σ = 0.952 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(5.8, 5.8, 5.8); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

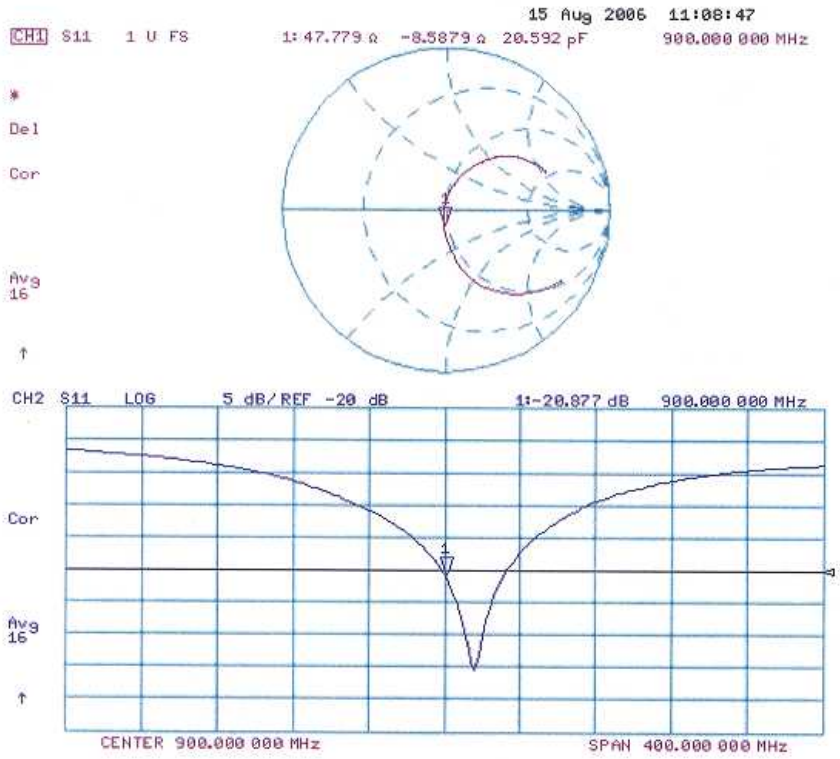
Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.7 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 4.01 W/kg
SAR(1 g) = 2.63 mW/g; SAR(10 g) = 1.68 mW/g
Maximum value of SAR (measured) = 2.85 mW/g



0 dB = 2.85mW/g

Impedance Measurement Plot for Head TSL



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Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Client Motorola CGISS

Certificate No: D2450V2-704_Nov04

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 704
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	November 15, 2004
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 E442	GB37480704	12-Oct-04 (METAS, No. 251-00412)	Oct-05
Power sensor HP 8481A	US37292783	12-Oct-04 (METAS, No. 251-00412)	Oct-05
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-04 (METAS, No 251-00402)	Aug-05
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-04 (METAS, No 251-00402)	Aug-05
Reference Probe ES3DV2	SN 3025	29-Oct-04 (SPEAG, No. ES3-3025_Oct04)	Oct-05
DAE4	SN 601	6-Nov-03 (SPEAG, No. DAE4-601_Jul04)	Jul-05

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-03)	In house check: Oct-05
RF generator R&S SML-03	100698	27-Mar-02 (SPEAG, in house check Dec-03)	In house check: Dec-05
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Nov 04

	Name	Function	Signature
Calibrated by:	Judith Mueller	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: November 24, 2004

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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) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001
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.

DASY Version	DASY4	V4.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Area Scan resolution	dx, dy = 15 mm	
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(23.0 ± 0.2) °C	38.3 ± 6 %	1.86 mho/m ± 6 %
Head TSL temperature during test	(23.0 ± 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	13.8 mW / g
SAR normalized	normalized to 1W	55.2 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**53.9 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.26 mW / g
SAR normalized	normalized to 1W	25.0 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**24.4 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	52.7 Ω + j1.9 Ω
Return Loss	- 29.7 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.151 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	March 22, 2001

DASY4 Validation Report for Head TSL

Date/Time: 11/15/04 16:19:49

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN704

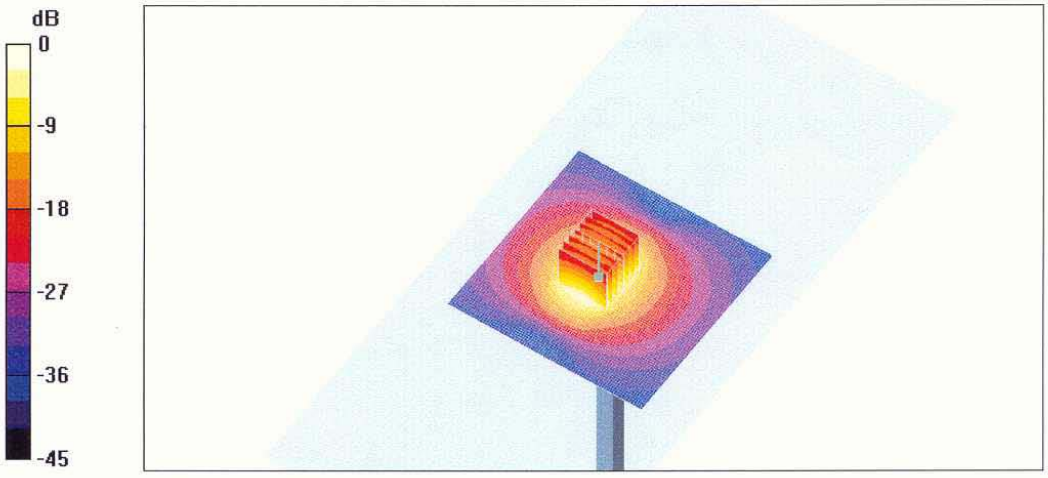
Communication System: CW-2450; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL 2450 MHz;
Medium parameters used: f = 2450 MHz; σ = 1.86 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.4, 4.4, 4.4); Calibrated: 29.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 22.07.2004
- Phantom: Flat Phantom quarter size -SN:1001; Type: QD000P50AA; Serial: SN:1001;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

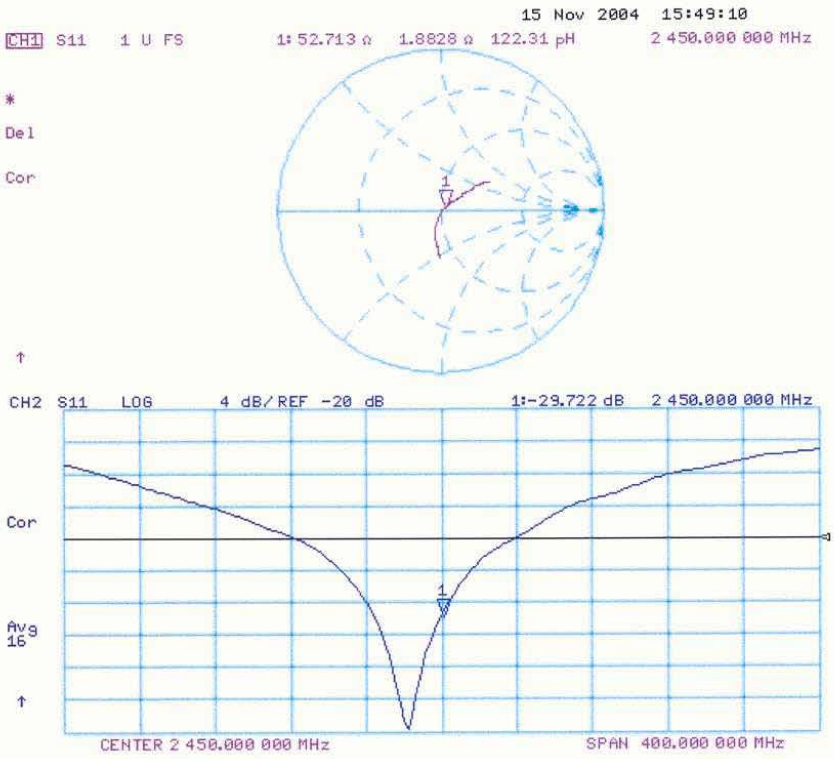
Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 15.9 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 79.9 V/m; Power Drift = 0.1 dB
Peak SAR (extrapolated) = 29.8 W/kg
SAR(1 g) = 13.8 mW/g; SAR(10 g) = 6.26 mW/g
Maximum value of SAR (measured) = 15.8 mW/g



0 dB = 15.8 mW/g

Impedance Measurement Plot for Head TSL



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Accreditation No.: **SCS 108**

Client **Motorola CGISS**

Certificate No: **D2450V2-703_May06**

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 703
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	May 19, 2006
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-05 (METAS, No. 251-00516)	Oct-06
Power sensor HP 8481A	US37292783	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Reference 20 dB Attenuator	SN: 5086 (20g)	11-Aug-05 (METAS, No 251-00498)	Aug-06
Reference 10 dB Attenuator	SN: 5047.2 (10r)	11-Aug-05 (METAS, No 251-00498)	Aug-06
Reference Probe ES3DV2	SN 3025	28-Oct-05 (SPEAG, No. ES3-3025_Oct05)	Oct-06
DAE4	SN 601	15-Dec-05 (SPEAG, No. DAE4-601_Dec05)	Dec-06

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-05)	In house check: Oct-07
RF generator Agilent E4421B	MY41000675	11-May-05 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov-06

	Name	Function	Signature
Calibrated by:	Mike Meili	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: May 24, 2006

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Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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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) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001
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Additional Documentation:

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- *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	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Area Scan resolution	dx, dy = 15 mm	
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.8 ± 6 %	1.76 mho/m ± 6 %
Head TSL temperature during test	(22.4 ± 0.2) °C	-------	-------

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	condition	
SAR measured	250 mW input power	13.1 mW / g
SAR normalized	normalized to 1W	52.4 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**52.6 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.08 mW / g
SAR normalized	normalized to 1W	24.3 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**24.3 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	51.9 Ω + 2.3 jΩ
Return Loss	– 30.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.145 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	March 22, 2001

DASY4 Validation Report for Head TSL

Date/Time: 19.05.2006 10:59:52

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN703

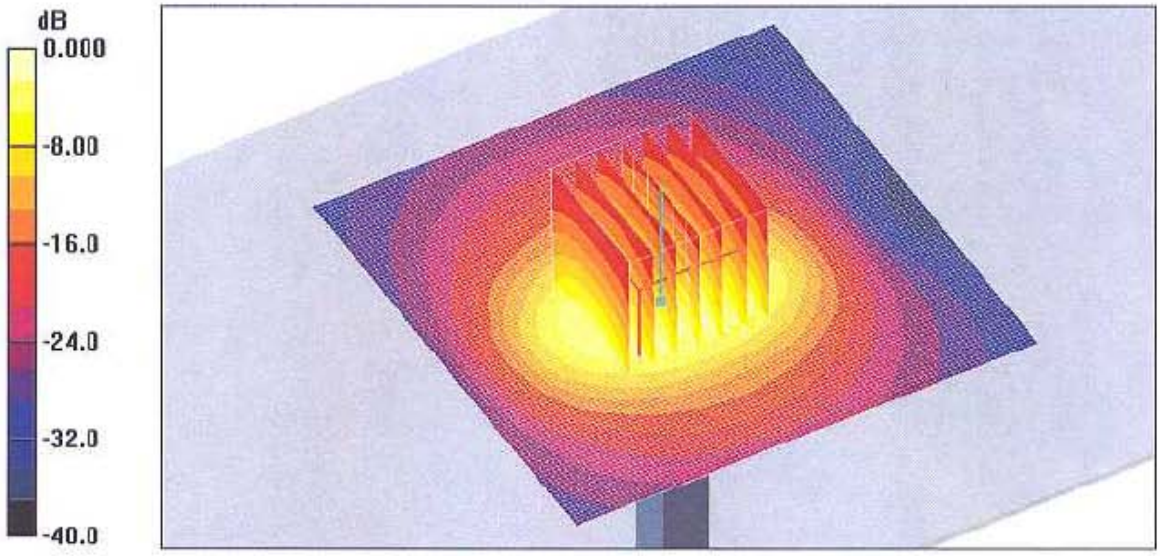
Communication System: CW-2450; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL U10 BB_060425;
Medium parameters used: f = 2450 MHz; σ = 1.76 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025 (HF); ConvF(4.4, 4.4, 4.4); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 165

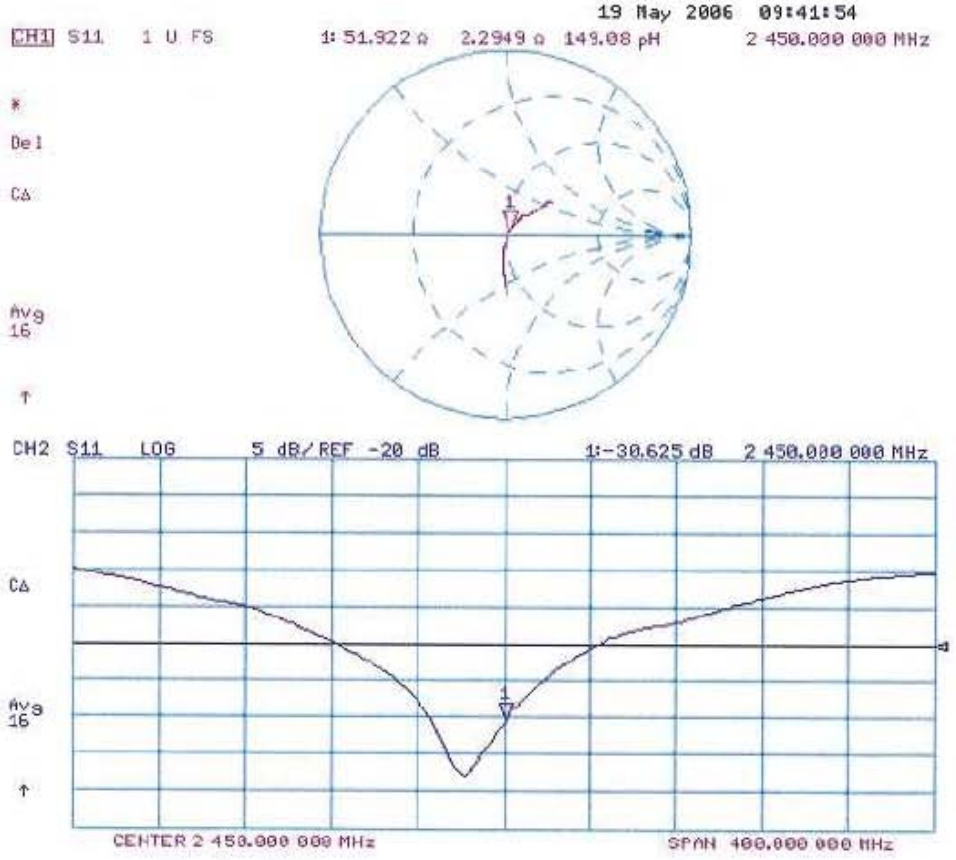
Pin = 250 mW; d = 10 mm/Area Scan (101x101x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 15.1 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.5 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 27.1 W/kg
SAR(1 g) = 13.1 mW/g; SAR(10 g) = 6.08 mW/g
Maximum value of SAR (measured) = 14.9 mW/g



0 dB = 14.9mW/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. NE's 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, two system performance zoom scans (0 and 90 degrees) were measured. The results were averaged together and adjusted to account for the power drift in order to obtain the final calculated 1 and 10 gram results.
The results obtained from each probe were then averaged together to determine the new measured SAR target.

Motorola N&E EME Lab
SPEAG 900 MHz Dipole; Model D900V2, SN 085; Test Date: 10/5/2006
Run #: HvH-SYSP-900H-061005-05
Sim.Tissue Temp: 20.5 (C)
TX Freq: 900 (MHz) Start power: 250 (mW)

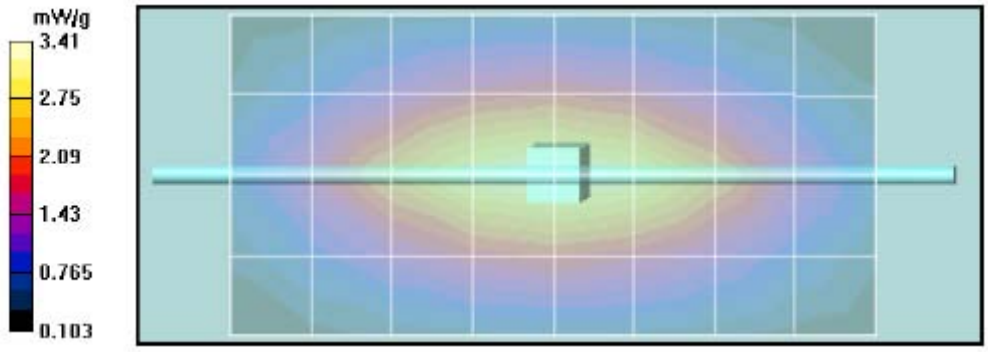
Target: 11.45 mW/g for 1g SAR 7.29 mW/g for 10g SAR
12.33 mW/g calculated 1g-SAR; 7.68 % from target (including drift)
7.83 mW/g calculated 10g-SAR; 7.35 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.5, 6.5, 6.5); Duty Cycle: 1:1, Medium: 900 MHz IEEE Head, Medium parameters used: f = 900 MHz; σ = 1 mho/m; εr = 40.9; ρ = 1000 kg/m3; Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 60.3 V/m; Power Drift = -0.00331 dB
Peak SAR (extrapolated) = 4.78 W/kg
SAR(1 g) = 3.14 mW/g; SAR(10 g) = 2 mW/g
Maximum value of SAR (measured) = 3.41 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 60.3 V/m; Power Drift = -0.00331 dB
Peak SAR (extrapolated) = 4.68 W/kg
SAR(1 g) = 3.02 mW/g; SAR(10 g) = 1.91 mW/g
Maximum value of SAR (measured) = 3.28 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab
SPEAG 900 MHz Dipole; Model D900V2, SN 085; Test Date: 10/6/2006
Run #: HvH-SYSP-900B-061006-04
Sim.Tissue Temp: 21.1 (C)
TX Freq: 900 (MHz) Start power: 250 (mW)

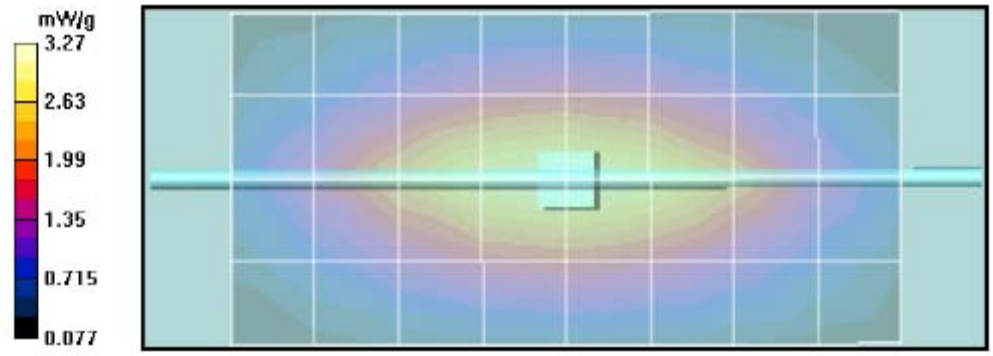
Target: 12.42 mW/g for 1g SAR 7.95 mW/g for 10g SAR
11.73 mW/g calculated 1g-SAR; - 5.56 % from target (including drift)
7.55 mW/g calculated 10g-SAR; - 5.01 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.22, 6.22, 6.22); Duty Cycle: 1:1, Medium: 900 MHz FCC Body, Medium parameters used: f = 900 MHz; σ = 1.05 mho/m; εr = 52.5; ρ = 1000 kg/m3; Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.8 V/m; Power Drift = -0.0185 dB
Peak SAR (extrapolated) = 4.38 W/kg
SAR(1 g) = 2.99 mW/g; SAR(10 g) = 1.93 mW/g
Maximum value of SAR (measured) = 3.25 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.8 V/m; Power Drift = -0.0185 dB
Peak SAR (extrapolated) = 4.21 W/kg
SAR(1 g) = 2.85 mW/g; SAR(10 g) = 1.83 mW/g
Maximum value of SAR (measured) = 3.08 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab
SPEAG 900 MHz Dipole; Model D900V2, SN 085; Test Date: 10/9/2006
Run #: CM-SYSP-900H-061009-02
Sim.Tissue Temp: 21.0 (C)
TX Freq: 900 (MHz) Start power: 250 (mW)

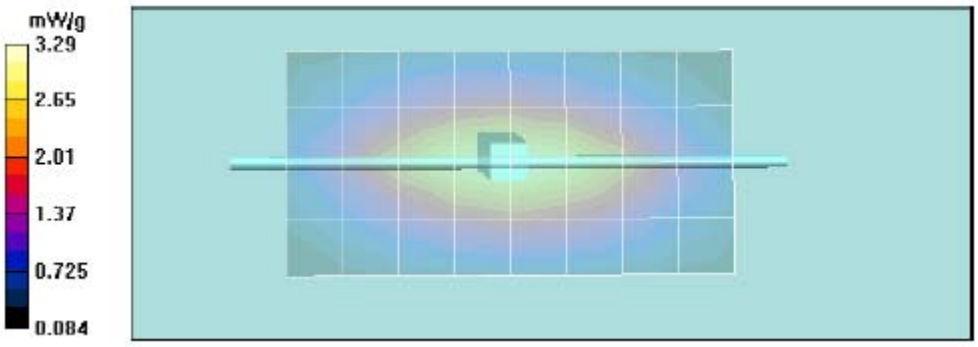
Target: 11.45 mW/g for 1g SAR 7.29 mW/g for 10g SAR
11.88 mW/g calculated 1g-SAR; 3.79 % from target (including drift)
7.53 mW/g calculated 10g-SAR; 3.26 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.5, 6.5, 6.5); Duty Cycle: 1:1, Medium: 900 MHz IEEE Head, Medium parameters used: f = 900 MHz; σ = 1.01 mho/m; εr = 41.2; ρ = 1000 kg/m3; Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 59.0 V/m; Power Drift = -0.0161 dB
Peak SAR (extrapolated) = 4.57 W/kg
SAR(1 g) = 3.01 mW/g; SAR(10 g) = 1.91 mW/g
Maximum value of SAR (measured) = 3.28 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 59.0 V/m; Power Drift = -0.0161 dB
Peak SAR (extrapolated) = 4.46 W/kg
SAR(1 g) = 2.91 mW/g; SAR(10 g) = 1.84 mW/g
Maximum value of SAR (measured) = 3.14 mW/g

System Performance/Dipole Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab
SPEAG 900 MHz Dipole; Model D900V2, SN 085; Test Date: 10/10/2006
Run #: ErC-SYSP-900B-061010-01
Sim.Tissue Temp: 20.2 (C)
TX Freq: 900 (MHz) Start power: 250 (mW)

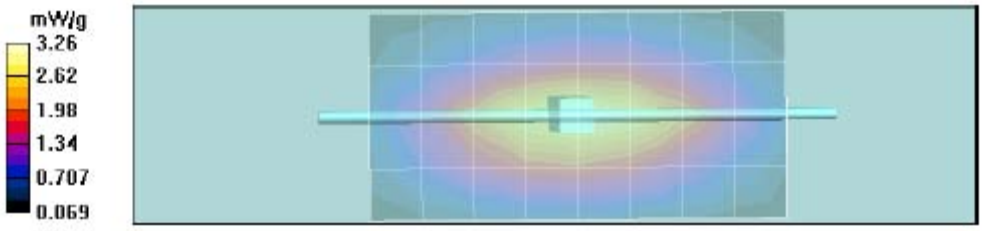
Target: 12.42 mW/g for 1g SAR 7.95 mW/g for 10g SAR
11.89 mW/g calculated 1g-SAR; -4.27 % from target (including drift)
7.68 mW/g calculated 10g-SAR; -3.42 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.22, 6.22, 6.22)
Duty Cycle: 1:1, Medium: 900 MHz FCC Body, Medium parameters used: f = 900 MHz; σ = 1.05 mho/m; εr = 52.5; ρ = 1000 kg/m3
Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.8 V/m; Power Drift = -0.0331 dB
Peak SAR (extrapolated) = 4.41 W/kg
SAR(1 g) = 3.01 mW/g; SAR(10 g) = 1.95 mW/g
Maximum value of SAR (measured) = 3.28 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.8 V/m; Power Drift = -0.0331 dB
Peak SAR (extrapolated) = 4.27 W/kg
SAR(1 g) = 2.89 mW/g; SAR(10 g) = 1.86 mW/g
Maximum value of SAR (measured) = 3.13 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab
SPEAG 900 MHz Dipole; Model D900V2, SN 085; Test Date: 10/11/2006
Run #: ErC-SYSP-900B-061011-01
Sim.Tissue Temp: 21.0 (C)

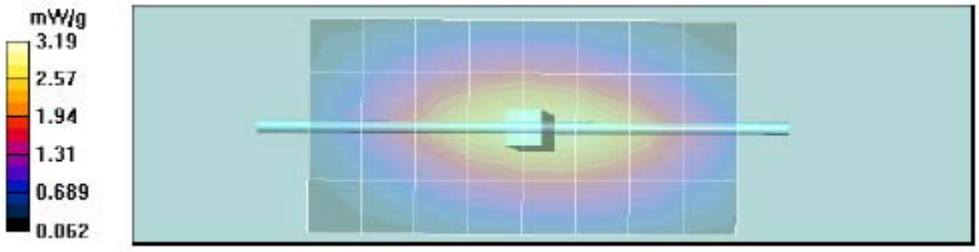
TX Freq: 900 (MHz)	Start power: 250 (mW)
Target: 12.42 mW/g for 1g SAR	7.95 mW/g for 10g SAR
11.62 mW/g calculated 1g-SAR;	-6.42 % from target (including drift)
7.51 mW/g calculated 10g-SAR;	-5.48 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.22, 6.22, 6.22)
Duty Cycle: 1:1, Medium: 900 MHz FCC Body, Medium parameters used: f = 900 MHz; σ = 1.05 mho/m; εr = 52.4; ρ = 1000 kg/m3
Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.2 V/m; Power Drift = -0.00825 dB
Peak SAR (extrapolated) = 4.31 W/kg
SAR(1 g) = 2.96 mW/g; SAR(10 g) = 1.92 mW/g
Maximum value of SAR (measured) = 3.22 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.2 V/m; Power Drift = -0.00825 dB
Peak SAR (extrapolated) = 4.17 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/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab
SPEAG 2450 MHz Dipole; Model D2450V2, SN 704; Test Date: 10/12/2006
Run #: ErC- 2450B 061012-01
Sim.Tissue Temp: 21.7 (C)
TX Freq: 2450 (MHz) Start power: 250 (mW)

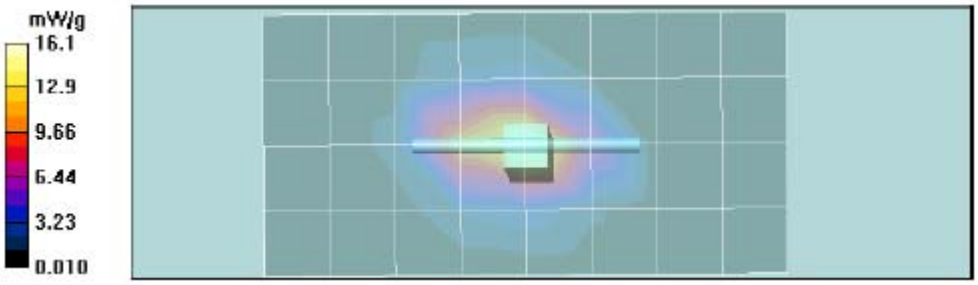
Target: 58.06 mW/g for 1g SAR 26.10 mW/g for 10g SAR
58.18 mW/g calculated 1g-SAR; 0.20 % from target (including drift)
27.01 mW/g calculated 10g-SAR; 3.48 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(4.15, 4.15, 4.15)
Duty Cycle: 1:1, Medium: 2450 FCC Body, Medium parameters used: f = 2450 MHz; σ = 2.03 mho/m; εr = 51.3; ρ = 1000 kg/m3
Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 92.6 V/m; Power Drift = 0.0018 dB
Peak SAR (extrapolated) = 35.0 W/kg
SAR(1 g) = 14.8 mW/g; SAR(10 g) = 6.71 mW/g
Maximum value of SAR (measured) = 16.0 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 92.6 V/m; Power Drift = 0.0018 dB
Peak SAR (extrapolated) = 34.1 W/kg
SAR(1 g) = 14.3 mW/g; SAR(10 g) = 6.44 mW/g
Maximum value of SAR (measured) = 15.5 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab
SPEAG 2450 MHz Dipole; Model D2450V2, SN 704; Test Date: 10/17/2006
Run #: ErC- 2450B 061017-01
Sim.Tissue Temp: 20.7 (C)
TX Freq: 2450 (MHz) Start power: 250 (mW)

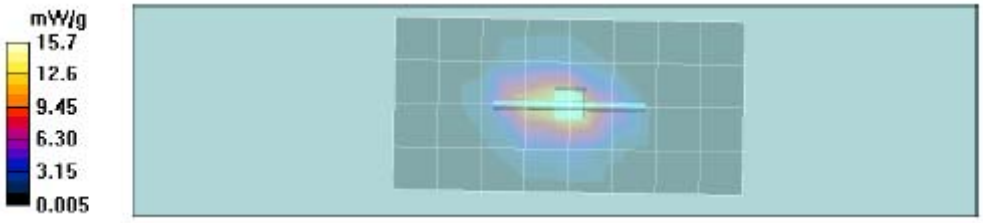
Target: 58.06 mW/g for 1g SAR 26.10 mW/g for 10g SAR
58.28 mW/g calculated 1g-SAR; 0.37 % from target (including drift)
26.43 mW/g calculated 10g-SAR; 1.25 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(4.15, 4.15, 4.15)
Duty Cycle: 1:1, Medium: 2450 FCC Body, Medium parameters used: f = 2450 MHz; σ = 2.02 mho/m; εr = 50.2; ρ = 1000 kg/m3
Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 91.5 V/m; Power Drift = -0.0207 dB
Peak SAR (extrapolated) = 34.9 W/kg
SAR(1 g) = 14.8 mW/g; SAR(10 g) = 6.71 mW/g
Maximum value of SAR (measured) = 16.1 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 91.5 V/m; Power Drift = -0.0207 dB
Peak SAR (extrapolated) = 33.9 W/kg
SAR(1 g) = 14.2 mW/g; SAR(10 g) = 6.44 mW/g
Maximum value of SAR (measured) = 15.4 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab
SPEAG 2450 MHz Dipole; Model D2450V2, SN 704; Test Date: 10/18/2006
Run #: ErC- 2450B 061018-01
Sim.Tissue Temp: 21.5 (C)
TX Freq: 2450 (MHz) Start power: 250 (mW)

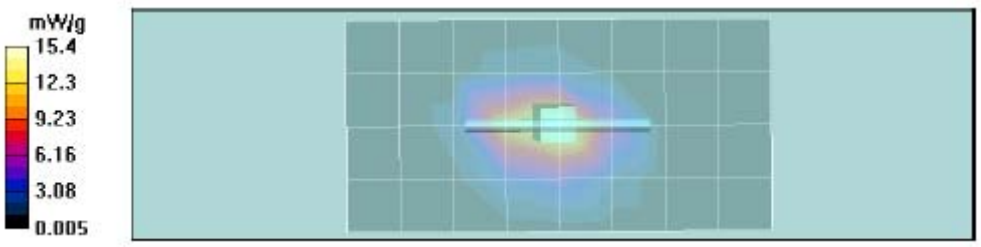
Target: 58.06 mW/g for 1g SAR 26.10 mW/g for 10g SAR
59.27 mW/g calculated 1g-SAR; 2.09 % from target (including drift)
26.87 mW/g calculated 10g-SAR; 2.97 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(4.15, 4.15, 4.15)
Duty Cycle: 1:1, Medium: 2450 FCC Body, Medium parameters used: f = 2450 MHz; σ = 2.02 mho/m; εr = 50.4; ρ = 1000 kg/m3
Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 90.5 V/m; Power Drift = -0.0348 dB
Peak SAR (extrapolated) = 35.1 W/kg
SAR(1 g) = 15 mW/g; SAR(10 g) = 6.79 mW/g
Maximum value of SAR (measured) = 16.3 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 90.5 V/m; Power Drift = -0.0348 dB
Peak SAR (extrapolated) = 34.2 W/kg
SAR(1 g) = 14.4 mW/g; SAR(10 g) = 6.54 mW/g
Maximum value of SAR (measured) = 15.7 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



Motorola N&E EME Lab
SPEAG 900 MHz Dipole; Model D900V2, SN 085; Test Date: 10/18/2006
Run #: MeC-SYSP-900B-061018-08
Sim.Tissue Temp: 21.5 (C)

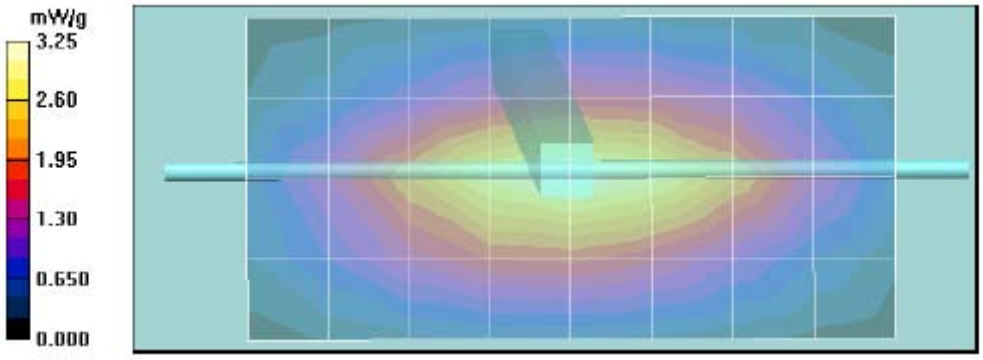
TX Freq: 900 (MHz)	Start power: 250 (mW)
Target: 12.42 mW/g for 1g SAR	7.95 mW/g for 10g SAR
11.73 mW/g calculated 1g-SAR;	-5.55 % from target (including drift)
7.55 mW/g calculated 10g-SAR;	-5.07 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.22, 6.22, 6.22)
Duty Cycle: 1:1, Medium: 900 MHz FCC Body, Medium parameters used: f = 900 MHz; σ = 1.05 mho/m; εr = 53.2; ρ = 1000 kg/m3
Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.3 V/m; Power Drift = -0.00408 dB
Peak SAR (extrapolated) = 4.35 W/kg
SAR(1 g) = 2.97 mW/g; SAR(10 g) = 1.91 mW/g
Maximum value of SAR (measured) = 3.24 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.3 V/m; Power Drift = -0.00408 dB
Peak SAR (extrapolated) = 4.24 W/kg
SAR(1 g) = 2.89 mW/g; SAR(10 g) = 1.86 mW/g
Maximum value of SAR (measured) = 3.16 mW/g

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



Motorola N&E EME Lab
SPEAG 2450 MHz Dipole; Model D2450V2, SN 703; Test Date: 10/24/2006
Run #: ErC- 2450B 061024-02
Sim.Tissue Temp: 21.0 (C)
TX Freq: 2450 (MHz) Start power: 250 (mW)

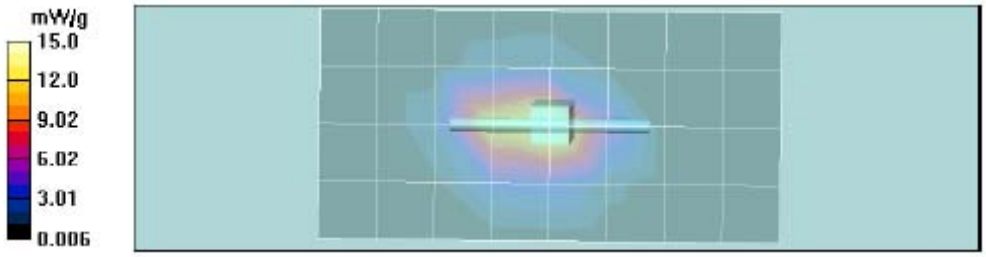
Target: 54.27 mW/g for 1g SAR 24.54 mW/g for 10g SAR
58.81 mW/g calculated 1g-SAR; 8.36 % from target (including drift)
26.49 mW/g calculated 10g-SAR; 7.96 % from target (including drift)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(4.15, 4.15, 4.15)
Duty Cycle: 1:1, Medium: 2450 FCC Body, Medium parameters used: f = 2450 MHz; σ = 2.04 mho/m; εr = 50.3; ρ = 1000 kg/m3
Electronics: DAE3 Sn401, Calibrated: 8/23/2006

System Performance/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 89.3 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 34.8 W/kg
SAR(1 g) = 14.7 mW/g; SAR(10 g) = 6.64 mW/g
Maximum value of SAR (measured) = 16.0 mW/g

System Performance/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 89.3 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 34.5 W/kg
SAR(1 g) = 14.4 mW/g; SAR(10 g) = 6.47 mW/g
Maximum value of SAR (measured) = 15.5 mW/g

System Performance/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm
System Performance/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm



DIPOLE SAR TARGET - HEAD

Date:	09/03/06	Frequency (MHz):	900
Lab Location:	NE	Mixture Type:	IEEE Head
DAE Serial #:	337	Ambient Temp.(°C):	22.3

Tissue Characteristics

Permitivity:	40.7	Phantom Type/SN:	SAMTP1022
Conductivity:	1.00	Distance (mm):	15
Tissue Temp.(°C):	21.4		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	85		

Target SAR Value: **10.8** mW/g (1g avg.), **6.9** mW/g (10g avg.)
(normalized to 1.0 W)

New Target:

Average Measured SAR Value: **11.45** mW/g (1g avg.), **7.29** mW/g (10g avg.)

Percent Difference From Target (MUST be within k=2 Uncertainty): **6.02%** (1g ave)
5.62% (10g ave)

Test performed by: **Ed Church** Initial: EJC

Probe SN #s	1-G Cube	Diff from Ave	10-G Cube	Diff from Ave	Robot
1383	11.29	-1.40%	7.18	-1.48%	R2
1393	11.06	-3.41%	7.06	-3.12%	R2
1545	11.71	2.27%	7.46	2.37%	R2
1547	11.74	2.53%	7.45	2.23%	R2
		-100.00%		-100.00%	
Average	11.4500		7.2875	New Measured SAR Value	
		(normalized to 1.0 W, including drift)			

DIPOLE SAR TARGET - BODY

Date:	09/03/06	Frequency (MHz):	900
Lab Location:	NE	Mixture Type:	FCC Body
DAE Serial #:	337	Ambient Temp.(°C):	22.3

Tissue Characteristics

Permitivity:	53.1	Phantom Type/SN:	80302002D-S15
Conductivity:	1.08	Distance (mm):	15
Tissue Temp.(°C):	19.7		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	85		

New Target:

Average Measured SAR Value: **12.42** mW/g(1g avg.), **7.95** mW/g (10g avg.)

Test performed by: **Ed Church** Initial: E.C

Probe SN #s	1-G Cube	Diff from Ave	10-G Cube	Diff from Ave	Robot
1383	12.57	1.2%	8.07	1.5%	R2
1393	12.11	-2.5%	7.76	-2.4%	R2
1545	12.54	1.0%	8.03	1.0%	R2
1547	12.44	0.2%	7.93	-0.2%	R2
		-100.0%		-100.0%	
Average	12.4150		7.9475	New Measured SAR Value	
			(nomalized to 1.0 W, including drift)		

DIPOLE SAR TARGET - HEAD

Date:	06/03/06	Frequency (MHz):	2450
Lab Location:	NE	Mixture Type:	IEEE Head
DAE Serial #:	374	Ambient Temp.(°C):	23

Tissue Characteristics

Permitivity:	39.4	Phantom Type/SN:	40302002A-S11
Conductivity:	1.85	Distance (mm):	10
Tissue Temp.(°C):	21.5		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	704		

Target SAR Value: **52.4** mW/g (1g avg.), **24.0** mW/g (10g avg.)
(normalized to 1.0 W)

New Target:

Average Measured SAR Value: **58.68** mW/g (1g avg.), **26.66** mW/g (10g avg.)

Percent Difference From Target (MUST be within k=2 Uncertainty): **11.98%** (1g ave)
11.09% (10g ave

Test performed by: **Ed Church** Initial: EC

Probe SN #s	1-G Cube	Diff from Ave	10-G Cube	Diff from Ave	Robot
1383	61.79	5.31%	27.45	2.95%	R3
1393	56.52	-3.67%	25.85	-3.05%	R3
1545	58.06	-1.05%	26.63	-0.12%	R3
1547	58.33	-0.59%	26.72	0.22%	R3
		-100.00%		-100.00%	
Average	58.6750		26.6625	New Measured SAR Value	
			(normalized to 1.0 W, including drift)		

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DIPOLE SAR TARGET - BODY

Date:	06/03/06	Frequency (MHz):	2450
Lab Location:	NE	Mixture Type:	FCC Body
DAE Serial #:	374	Ambient Temp.(°C):	23

Tissue Characteristics

Permitivity:	53.4	Phantom Type/SN:	40302002B-S12
Conductivity:	2.03	Distance (mm):	10
Tissue Temp.(°C):	21.5		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	704		

New Target:

Average Measured SAR Value: **58.06** mW/g(1g avg.), **26.10** mW/g (10g avg.)

Test performed by: **Ed Church** Initial: E.C

Probe SN #s	1-G Cube	Diff from Ave	10-G Cube	Diff from Ave	Robot
1383	62.03	6.8%	27.39	4.9%	R3
1393	58.54	0.8%	26.41	1.2%	R3
1545	55.69	-4.1%	25.25	-3.3%	R3
1547	55.96	-3.6%	25.35	-2.9%	R3
		-100.0%		-100.0%	
Average	58.0550		26.1000	New Measured SAR Value	
		(nomalized to 1.0 W, including drift)			

DIPOLE SAR TARGET - HEAD

Date:	06/17/06	Frequency (MHz):	2450
Lab Location:	NE	Mixture Type:	IEEE Head
DAE Serial #:	363	Ambient Temp.(°C):	22.6

Tissue Characteristics

Permitivity:	37.8	Phantom Type/SN:	40302002A-S11
Conductivity:	1.81	Distance (mm):	10
Tissue Temp.(°C):	21.8		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	703		

Target SAR Value: **52.4** mW/g (1g avg.), **24.0** mW/g (10g avg.)
(normalized to 1.0 W)

New Target:

Average Measured SAR Value: **58.11** mW/g (1g avg.), **26.67** mW/g (10g avg.)

Percent Difference From Target (MUST be within k=2 Uncertainty): **10.90%** (1g ave)
11.13% (10g ave)

Test performed by: **Ed Church** Initial: E. C

Probe SN #s	1-G Cube	Diff from Ave	10-G Cube	Diff from Ave	Robot
1383	61.56	5.93%	27.63	3.59%	R3
1384	56.60	-2.61%	25.84	-3.12%	R3
1393	57.06	-1.81%	26.41	-0.98%	R3
1545	56.98	-1.95%	26.48	-0.72%	R3
1547	58.37	0.44%	27.00	1.23%	R3
Average	58.1140		26.6720	New Measured SAR Value	
			(normalized to 1.0 W, including drift)		

DIPOLE SAR TARGET - BODY

Date:	06/18/06	Frequency (MHz):	2450
Lab Location:	NE	Mixture Type:	FCC Body
DAE Serial #:	363	Ambient Temp.(°C):	22.4

Tissue Characteristics

Permitivity:	51.4	Phantom Type/SN:	40302002B-S12
Conductivity:	2.03	Distance (mm):	10
Tissue Temp.(°C):	21.7		

Reference Source:	Dipole	Power to Dipole:	250 mW
Reference SN:	703		

New Target:

Average Measured SAR Value: 54.27 mW/g(1g avg.), 24.54 mW/g (10g avg.)

Test performed by: Ed Church Initial: E. C

Probe SN #s	1-G Cube	Diff from Ave	10-G Cube	Diff from Ave	Robot
1383	57.43	5.8%	25.64	4.5%	R3
1384	53.18	-2.0%	24.24	-1.2%	R3
1393	56.96	5.0%	25.97	5.8%	R3
1545	51.72	-4.7%	23.78	-3.1%	R3
1547	52.07	-4.1%	23.09	-5.9%	R3
Average	54.2720		24.5440	New Measured SAR Value	
(nomalized to 1.0 W, including drift)					

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

Shortened Scan Results

Motorola N&E EME Laboratory
Test Date: 10/18/2006
Run #: MeC-Hand-061018-09
Sim. Tissue Temp: 21.6 (C)

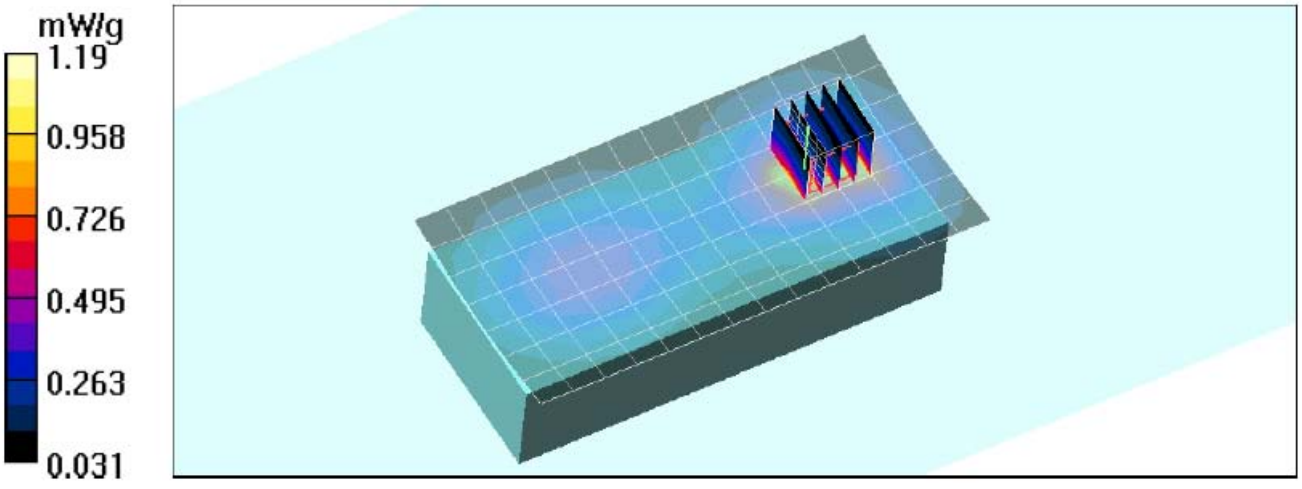
Model #: F3130A	SN: 629SGS0300
Antenna: Internal	TX Freq: 806.0625 MHz
Battery: FNN7826A	Start power: 0.685 W
Carry acc.: None	Audio/Data acc.: None

Comments: Shorten scan at the Hand w/ Back of DUT against phantom, BT On.
Shortened scan reflect highest S.A.R. producing configuration; Run time 8 minutes.
Representative "normal" scan run time was 31 minutes
"Shortened" scan max calculated S.A.R. using S.A.R. drift: 10-g Avg. = 0.653mW/g
"Normal" scan max calculated S.A.R. using S.A.R. drift: 10-g Avg. = 0.647mW/g
(see part 1 of 2 section 9.0 run # CM-Hand-061005-20)

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.22, 6.22, 6.22)
Duty Cycle: 1:1.5, Medium: 815.5 MHz FCC Body, Medium parameters used: f = 815.5 MHz; σ = 0.97 mho/m; εr = 54; ρ = 1000 kg/m3; Electronics: DAE3 Sn401, Calibrated: 8/23/2006

Hand template/5x5x7 Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.5 V/m; Power Drift = -0.363 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 0.971 mW/g; SAR(10 g) = 0.588 mW/g
Maximum value of SAR (measured) = 1.12 mW/g

Hand template/Area Scan (71x141x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.20 mW/g
Hand template/Z Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 0.934 mW/g



Highest SAR Configurations Results

Motorola N&E EME Laboratory
Test Date: 10/5/2006
Run #: CM-Hand-061005-20
Sim. Tissue Temp: 20.8 (C)

Model #: F3130A	SN: 629SGS0300
Antenna: Internal	TX Freq: 806.0625 MHz
Battery: FNN7826A	Start power: 0.685 W
Carry acc.: None	Audio/Data acc.: None

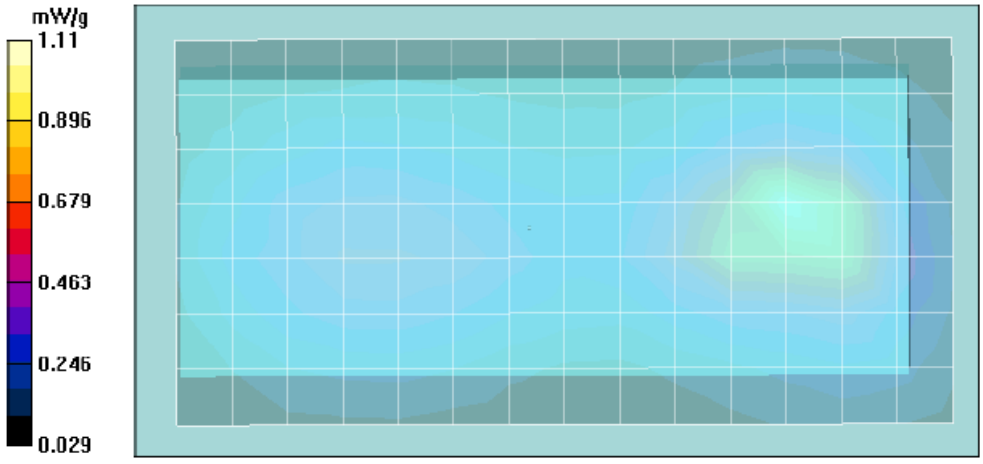
Comments: Back of DUT against phantom, BT ON.

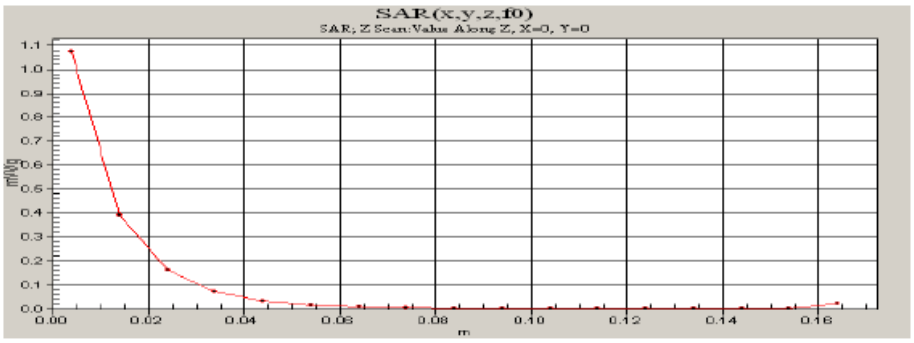
Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.22, 6.22, 6.22)
Duty Cycle: 1:1.5, Medium: 815.5 MHz FCC Body, Medium parameters used: f = 815.5 MHz; σ = 0.97 mho/m; εr = 53.3; ρ = 1000 kg/m3; Electronics: DAE3 Sn401, Calibrated: 8/23/2006

Hand template/7x7x7 Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.5 V/m; Power Drift = -0.232 dB
Peak SAR (extrapolated) = 1.95 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.600 mW/g
Maximum value of SAR (measured) = 1.13 mW/g

Hand template/Area Scan (71x141x1): Measurement grid: dx=15mm, dy=15mm

Hand template/Z Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm





Motorola N&E EME Laboratory
Test Date: 10/11/2006
Run #: CM-Ab-061011-03
Sim. Tissue Temp: 21.3 (C)

Model #: F3130A	SN: 629SGS0302
Antenna: Internal	TX Freq: 813.5625 MHz
Battery: FNN7826A	Start power: 0.695 W
Carry acc.: FTN7059A	Audio/Data acc.: None

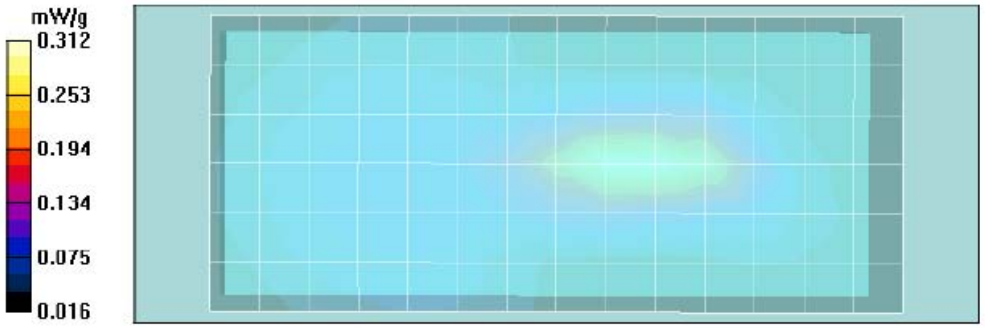
Comments: DUT with carry holster against phantom

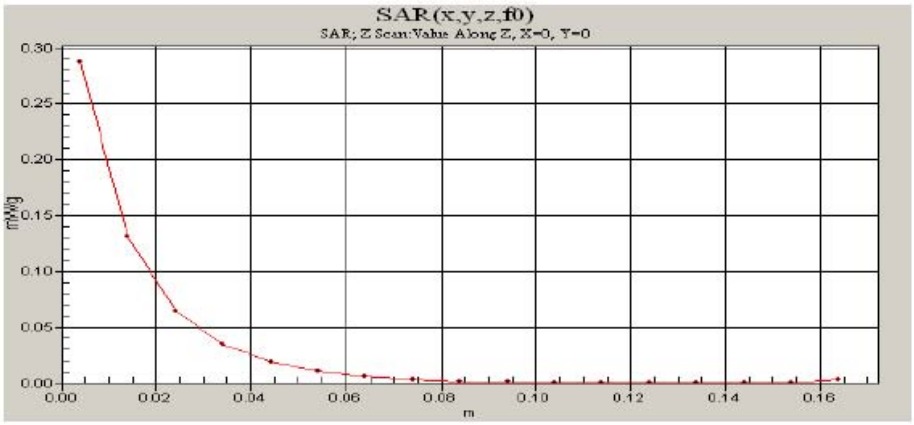
Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.22, 6.22, 6.22)
Duty Cycle: 1:1.5, Medium: 815.5 MHz FCC Body, Medium parameters used: f = 815.5 MHz; σ = 0.96 mho/m; εr = 53.2; ρ = 1000 kg/m3; Electronics: DAE3 Sn401, Calibrated: 8/23/2006

Body template/7x7x7 Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.2 V/m; Power Drift = -0.487 dB
Peak SAR (extrapolated) = 0.458 W/kg
SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.169 mW/g
Maximum value of SAR (measured) = 0.306 mW/g

Body template/Area Scan (61x141x1): Measurement grid: dx=15mm, dy=15mm

Body template/Z Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm





Motorola N&E EME Laboratory
Test Date: 10/11/2006
Run #: CM-LEAR-061011-15
Sim. Tissue Temp: 20.5 (C)

Model #: F3130A	SN: 629SGS0302
Antenna: Internal	TX Freq: 813.5625 MHz
Battery: FNN7826A	Start power: 0.680 W
Carry acc.: None	Audio/Data acc.: None

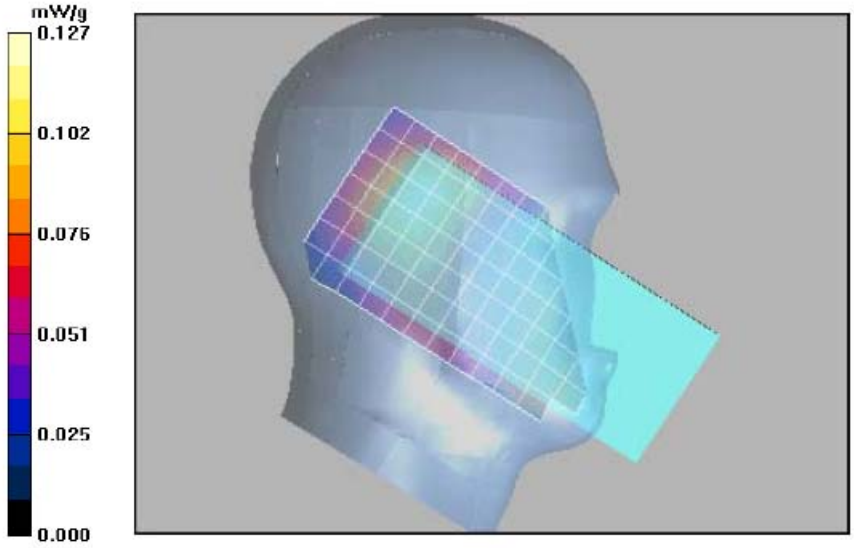
Comments: Left Head, Cheek Touch position, BT ON.

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.5, 6.5, 6.5)
Duty Cycle: 1:3, Medium: 815.5 IEEE Head, Medium parameters used: f = 815.5 MHz; σ = 0.93 mho/m; εr = 42; ρ = 1000 kg/m3
Electronics: DAE3 Sn401, Calibrated: 8/23/2006

Left Ear - Touch position/7x7x7 Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = -0.0443 dB
Peak SAR (extrapolated) = 0.162 W/kg
SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.0798 mW/g
Maximum value of SAR (measured) = 0.121 mW/g

Left Ear - Touch position/Area Scan (71x151x1): Measurement grid: dx=15mm, dy=15mm

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



Motorola N&E EME Laboratory
Test Date: 10/09/2006
Run #: CM-Face-061009-06
Sim. Tissue Temp: 21.0 (C)

Model #: F3130A	SN: 629SGS0300
Antenna: Internal	TX Freq: 813.5625 MHz
Battery: FNN7826A	Start power: .681 W
Carry acc.: None	Audio/Data acc.: None

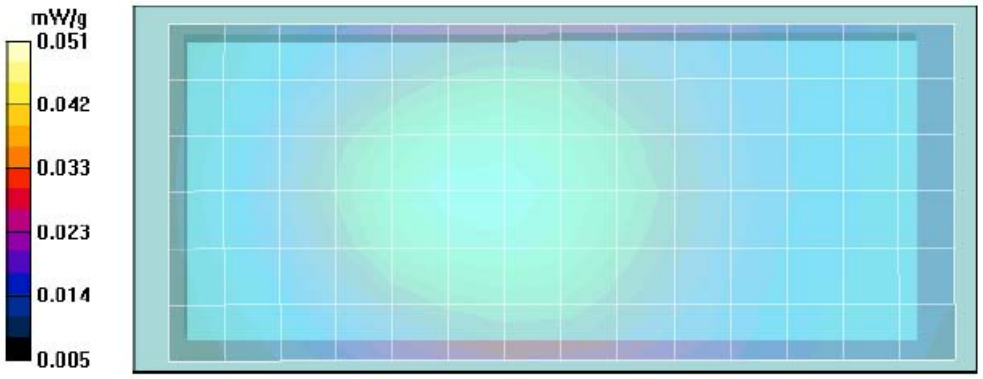
Comments: Front of DUT separated 2.5cm from phantom

Probe: ET3DV6 - SN1393, Calibrated: 5/2/2006, ConvF(6.5, 6.5, 6.5)
Duty Cycle: 1:3, Medium: 815.5 IEEE Head, Medium parameters used: f = 815.5 MHz; σ = 0.93 mho/m; εr = 42.2; ρ = 1000 kg/m3
Electronics: DAE3 Sn401, Calibrated: 8/23/2006

Face template/7x7x7 Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.34 V/m; Power Drift = 0.063 dB
Peak SAR (extrapolated) = 0.063 W/kg
SAR(1 g) = 0.0489 mW/g; SAR(10 g) = 0.0368 mW/g
Maximum value of SAR (measured) = 0.052 mW/g

Face template/Area Scan (61x141x1): Measurement grid: dx=15mm, dy=15mm

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



APPENDIX F
DUT Supplementary Data (Power slump)

Model F3130A
Serial # 629SGS0300

Battery	FNN7826A	**Transmit Mode**	66.67% Data mode
Frequency	824.9875MHz	**Audio Accessory**	No
Date	9/26/2006		

TX TIME (minutes)	Meaured Power Watts
0	690
1	688
2	689
3	690
4	691
5	691
6	691
7	691
8	691
9	692
10	693
11	692
12	692
13	687
14	684
15	685
16	684
17	685
18	685
19	684
20	682
21	682
22	683
23	683
24	680
25	683
26	683
27	682
28	678
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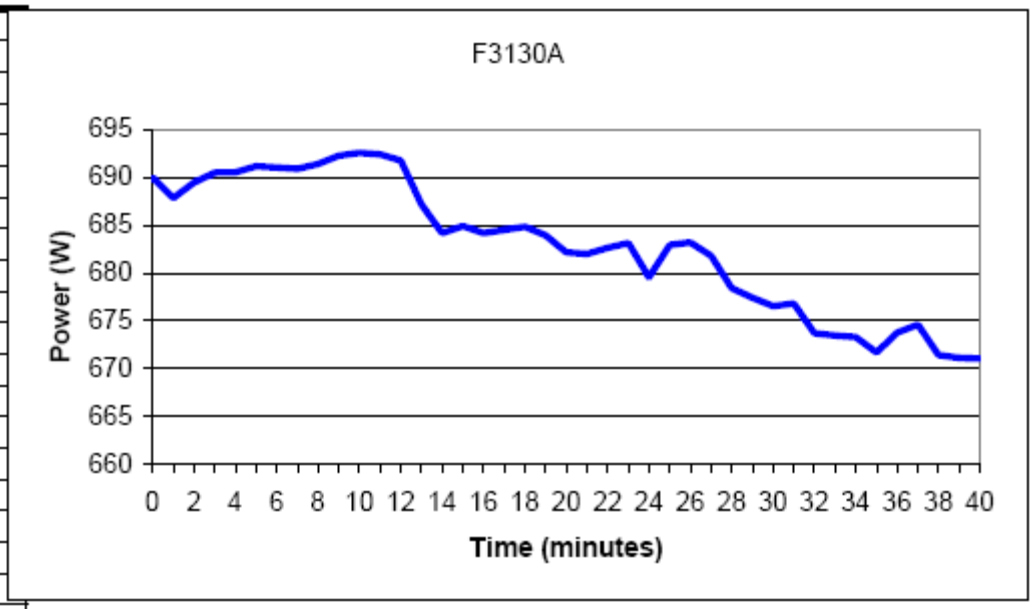
35	672
36	674
37	675
38	671
39	671
40	671



Appendix G
DUT Test Position Photos

Figure 1: Highest S.A.R. Test Position (Hand)
DUT back side against phantom without carry strap accessory

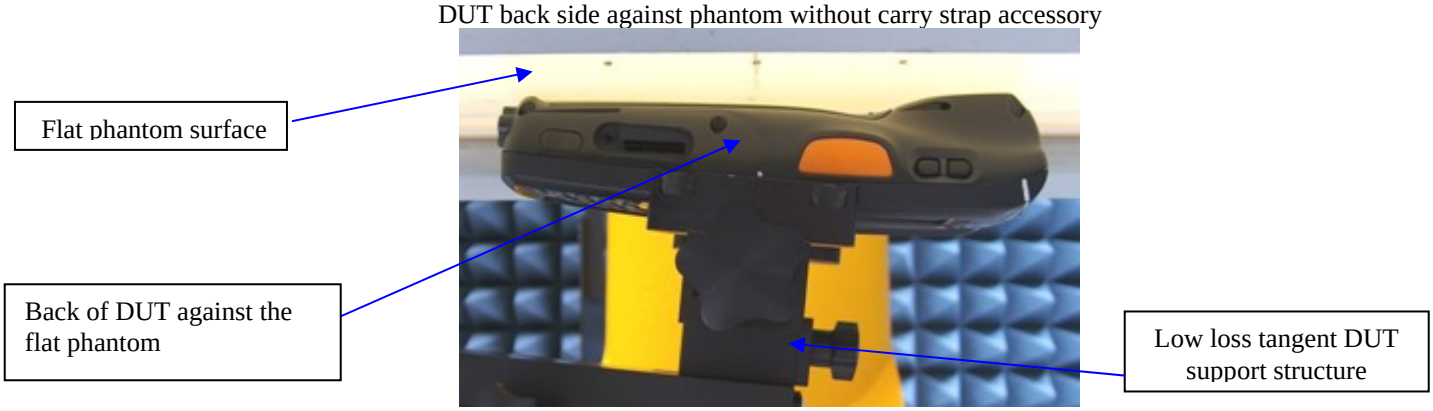


Figure 2: Highest S.A.R. Test Position (Body)
DUT back side against phantom with holster FTN7059A

Figure 3: Highest S.A.R. Test Position (Head)
DUT at left ear cheek touch position

Figure 4: Highest S.A.R. Test Position (Face)
DUT front side separated 2.5cm from the phantom

Figure 5: Hand assessment
DUT back against phantom with carry strap 5589618V01

Figure 6: Hand Assessment
DUT left side against phantom without carry strap accessory

Figure 7: Hand Assessment
DUT right side against phantom without carry strap accessory

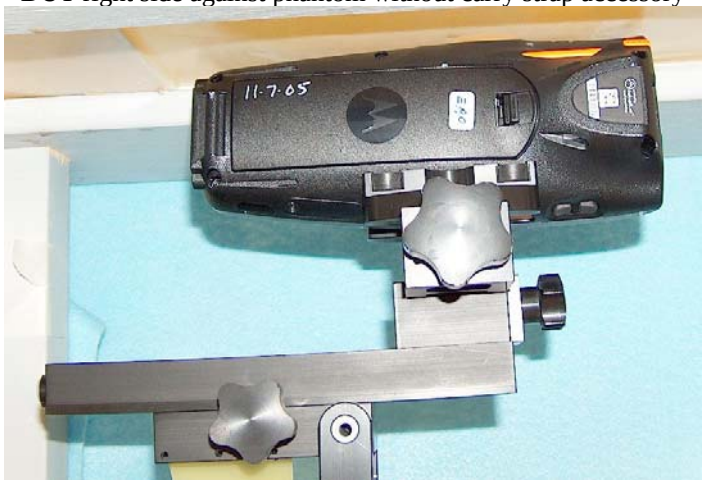


Figure 8: Body Assessment
DUT back side separated 2.5cm from the phantom, without body worn accessory.

Figure 9: Head Assessment
DUT at Right Head, cheek touch position

Figure10: Head Assessment
DUT at the Right Head, cheek tilt position

Figure 11: Head Assessment
DUT at Left Head, cheek tilt position

Appendix H
DUT and Body worn Accessory Photos

The purpose of this appendix is to illustrate the offered body-worn carry accessory(ies). The sample that was used in the following photos represents the product used to obtain the results presented herein.

Photo 1
Model FTN7059A
Back view

Photo 2
Model FTN7059A
Side view

Photo 3
Model FTN7059A
Front view

Photo 4
Model 5589618V01
Back view

Photo 5
Model 5589618V01
Side view

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):

Accessory Models	Tested ?	Min. Separation distances between DUT antenna and phantom surface. (mm)	Comments
Battery			
FNN7826A	Yes	--	NA
Carry Accessories			
FTN7059A	Yes	--	No separation distances were recorded due to the internal antennas. Carry case placed against phantom.
5589618V01	Yes	--