Certificate Number: 1449-01

CGISS EME Test Laboratory
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S.A.R. EME Compliance Test Report
Part 1 of 1

Date of Report:	July 16, 2004
Report Revision:	Rev. O
Manufacturer:	Motorola
Product Description:	Portable transceiver 806-825; 851-879MHz; 2.5W Trunking Preferred w/ keypad 1.5 PPM
FCC ID:	AZ489FT5798
Device Model:	PMUF1064A

Test Period:	6/30/04-7/1/04
Technician:	Ed Church (EME Technician Electronics II)
Responsible Eng:	Stephen Whalen (Sr. EME Eng.)
Author:	Michael Sailsman (Global EME Regulatory Affairs Liaison)

Note: 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.

Signature on file — 7/16/04

Ken Enger
Senior Resource Manager, Laboratory Director, CGISS EME Lab

Date Approved

Note: This report shall not be reproduced without written approval from an officially designated representative of the Motorola EME Laboratory.

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REVISION HISTORY

Date	Revision	Comments
7/16/04	O	Release of new battery accessories compliance results

1.0 Introduction

This report details the utilization, test setup, test equipment, and test results of the Specific Absorption Rate (S.A.R.) measurements performed at the CGISS EME Test Lab for model number PMUF1064A, FCC ID: AZ489FT5798 using new offered battery accessories.

The applicable exposure environment is Occupational/Controlled.

2.0 Reference Standards and Guidelines

This product is designed to comply with the following national and international standards and guidelines.

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J
- IEEE 1528, 2003 "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques"
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Terminal frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz, 1999
- Australian Communications Authority Radiocommunications (Electromagnetic Radiation - Human Exposure) Standard 2003
- ANATEL, Brazil Regulatory Authority, Resolution No. 303 of July 2, 2002 "Regulation of the limitation of exposure to electrical, magnetic, and electromagnetic fields in the radio frequency range between 9KHz and 300 GHz." and “Attachment to resolution # 303 from July 2, 2002”

3.0 Description of Test Sample

FCC ID: AZ489FT5798 is a conventional portable transceiver with a keypad that utilizes frequency modulation (FM). Normal operational use is 5% TX, 5%RX, and 90% stand by. The radio's functional use is at the face in PTT mode or at the body using optional body worn and audio accessories.
This device will be marketed to and used by the general population. This device may be used while held against the head in voice mode, in front of the face in PTT mode, and against the body in voice, PTT and data modes.
This device will be marketed to and used by employees solely for work-related operations, such as public safety agencies, e.g. police, fire and emergency medical. User training is the responsibility of these agencies, who can be expected to employ the usage instructions, safety information and operational cautions set forth in the user's manual, instructional sessions or other means. Motorola also makes available to its customers training classes on the proper use of two-way radios and wireless data devices.
FCC ID: AZ489FT5798 operates in the 806-825, 851-879MHz band. The rated power is 2.5 watts with a maximum output capability of 3.36 watts as defined by the upper limit of the production line final test station.

FCC ID: AZ489FT5798 is offered with the following options and accessories:

Antenna	**Description**
NAF5042A	¼ wave 3' inch stubby, 806 - 870MHz

Batteries

HNN4001A	1800mAH NiMH FM standard battey
HNN4002A	1690mAH NiMH FM battey
HNN4003A	2000mAH Li Ion battey

Body worn Accessories

HLN9844A	Spring belt clip (for 1.5" belt width)

Audio Accessories

HMN9052A	Remote Speaker Microphone (Standard)

3.1 Test Signal

Test Mode	X	Call Simulator		Simulator	

Test Signal mode:

Transmission Mode:

CW	**X**
Native Transmission	
TDMA	
Other	

3.2 Test Output Power

A table of the characteristic power slump versus time is provided in Appendix A for all tested batteries.

4.0 Description of Test Equipment

4.1 Descriptions of S.A.R. Measurement System

The laboratory utilizes a Dosimetric Assessment System (DASY3™) S.A.R. measurement system manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The test system consists of a Stäubli RX90L robot with ET3DV6 and EX3DV3 E-Field probes. Please reference the SPEAG user manual and application notes for detailed probe, robot, and S.A.R. computational procedures.

The S.A.R. measurements were conducted with probe model/serial number ET3DV6/SN1384. The system performance check was conducted daily and within 24 hours prior to testing. DASY output files of the system performance test results and the probe/dipole calibration certificates are included in appendices C and D respectively. The table below summarizes the system performance check results normalized to 1W.

Probe Serial #	Tissue Type	Probe Cal Date	Dipole Kit / Serial #	System Perf. 1-g S.A.R. Result when normalized to 1W (mW/g)	Reference 1-g S.A.R @ 1W (mW/g)	Test Date(s)
1384	FCC Body	5/27/04	D835V2/426	10.025 +/- 0.075	10.56 +/- 10%	6/30/04-7/1/04

Note: System performance results reflects the median performance +/- ½ of the test date(s) performance ranges

The DASY3™ system is operated per the instructions in the DASY3™ Users Manual. The complete manual is available directly from SPEAG™. All measurement equipment used to assess S.A.R. EME compliance was calibrated according to 17025 A2LA guidelines.

4.2 Description of Phantom

4.2.1 Flat Phantom

A rectangular shaped box made of high density polyethylene (HDPE) material. The phantom is mounted on a wooden supporting structure that has a loss tangent of < 0.05. Two phantom structures and two flat phantoms were used for compliance assessments. The structures have 68.58 cm x 25.40 cm, and 68.58 cm x 20.32 cm openings at their centers to allow positioning the DUT to the phantom's surface. The flat phantom dimensions used for S.A.R. assessment at the body was L = 80cm, W = 60cm, H = 20cm, Surface Thickness = 0.2cm, and the phantom used for assessment at the face was L = 40cm, W = 30cm, H = 20cm, Surface Thickness = 0.2cm.

4.2.2 SAM Phantom

NA

4.3 Simulated Tissue Properties

4.3.1 Type of Simulated Tissue

The simulated tissue used is compliant to that specified in FCC Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01) and IEEE 1528, 2003 "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques"

Simulated Tissue	Body Position
FCC Body	Torso
IEEE Head	Head/Face

4.3.2 Simulated Tissue Composition

% of listed ingredients	835MHz	
	Head	Body
Sugar	56	46.5
DGBE (Glycol)	NA	NA
Diacetin	NA	NA
De ionized -Water	39.1	50.3
Salt	3.8	1.87
HEC	1	1
Bact.	0.1	0.1

Characterization of simulated tissue materials and ambient conditions:
Simulated tissue prepared for S.A.R. measurements is measured daily and within 24 hours prior to actual S.A.R. testing to verify that the tissue is within 5% of target parameters at the center of the transmit band. This measurement is done using the Agilent (HP) probe kit model 85070C and a HP8753D Network Analyzer.

Target tissue parameters

FCC Body				
Frequency (MHz)	Di-electric Constant Target	Di-electric Constant Meas. (Range)	Conductivity Target S/m	Conductivity Meas. (Range) S/m
835	55.2	55.8-55.9	0.97	0.97-0.98
815	55.3	56.1-56.3	0.97	0.95-0.96

IEEE Head				
Frequency (MHz)	Di-electric Constant Target	Di-electric Constant Meas. (Range)	Conductivity Target S/m	Conductivity Meas. (Range) S/m
835	41.5	42.9-42.9	0.90	0.94-0.94
815	41.6	43.0-43.0	0.90	0.93-0.93

4.4 Test conditions

The EME Laboratory ambient environment is well controlled resulting in very stable simulated tissue temperature and therefore stable dielectric properties. Simulated tissue temperature is measured prior to each scan to insure it is within +/- 2°C of the temperature at which the dielectric properties were determined. The liquid depth in the phantom used for measurements was 15cm +/- 0.5cm. Additional precautions are routinely taken to ensure the stability of the simulated tissue such as covering the phantoms when scans are not actively in process in order to minimize evaporation. The lab environment is continuously monitored. The table below presents the range and average environmental conditions during the S.A.R. tests reported herein:

	Target	Measured
Ambient Temperature	20 - 25 ˚C	Range: 20.1-22.7˚C Avg. 21.8˚C
Relative Humidity	30 - 70 %	Range: 47.4-58.8% Avg. 51.6%
Tissue Temperature	NA	Range: 20.7-21.5˚C Avg. 21.1˚C

The EME Lab RF environment uses a Spectrum Analyzer to monitor for extraneous large signal RF contaminants that could possibly affect the test results. If such unwanted signals are discovered the S.A.R scans are repeated. However, the lab environment is sufficiently protected such that no S.A.R. impacting interference has been experienced to date.

5.0 Probe Scan Procedures

The E-field probe first scans a coarse grid over a large area inside the phantom in order to locate the interpolated maximum S.A.R. distribution. After the coarse scan measurement, the probe is automatically moved to a position at the interpolated maximum. The subsequent scan can directly use this position as reference for the cube evaluations.

5.1 Shortened scan rationale

NA

5.2 Device test positions

Reference Figure 1 for the device orientation and position which exhibited the highest S.A.R. performance.

5.2.1 Body

The DUT was positioned such that its' body worn accessory against the phantom.

5.2.2 Head

NA

5.2.3 Face

The DUT was placed with its' front housing separated 2.5cm from the phantom.

5.3 Description of Test Procedure

The options and accessories listed in section 3.0 were considered in order to develop the S.A.R. test plan for this product. Other applicable options and accessories offered with this product were previously tested and reported. S.A.R. measurements were performed using a flat phantom with applicable tissue simulant to assess performance at the body and in front of the face using the applicable transmission modes. Note that the worst case test configuration from each body location previously reported for FCC ID: AZ489FT5798 was used to assess the performance of the new offered battery options stated herein.

Assessments at the Body **[Page 15 of 45 ; Table 1]**

The DUT was assessed at the worst case test configuration from the previously reported results, using each of the new offered batteries, in the CW transmission mode.

Assessments at the Face **[Page 15 of 45; Table 1]**

The DUT was assessed at the worst case test configuration from the previously reported results at the face, using each of the new offered batteries, in the CW transmission mode.

5.4 Test Position Photographs

Figure 1: Highest S.A.R. Test Position (@ Body)
DUT with body worn model HLN9844A against the flat phantom.

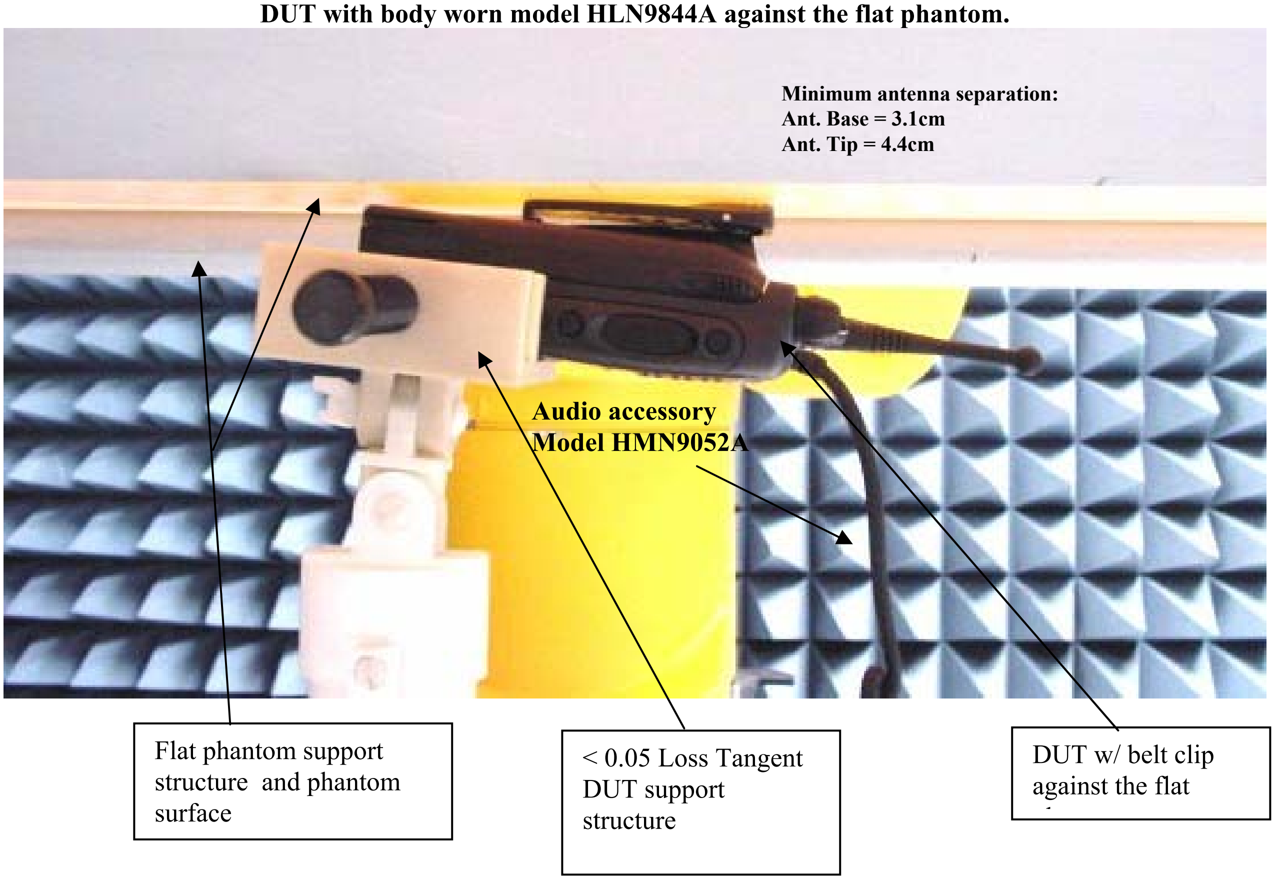


Figure 2. Assessment @ the Face
DUT with front towards phantom with 2.5cm separation

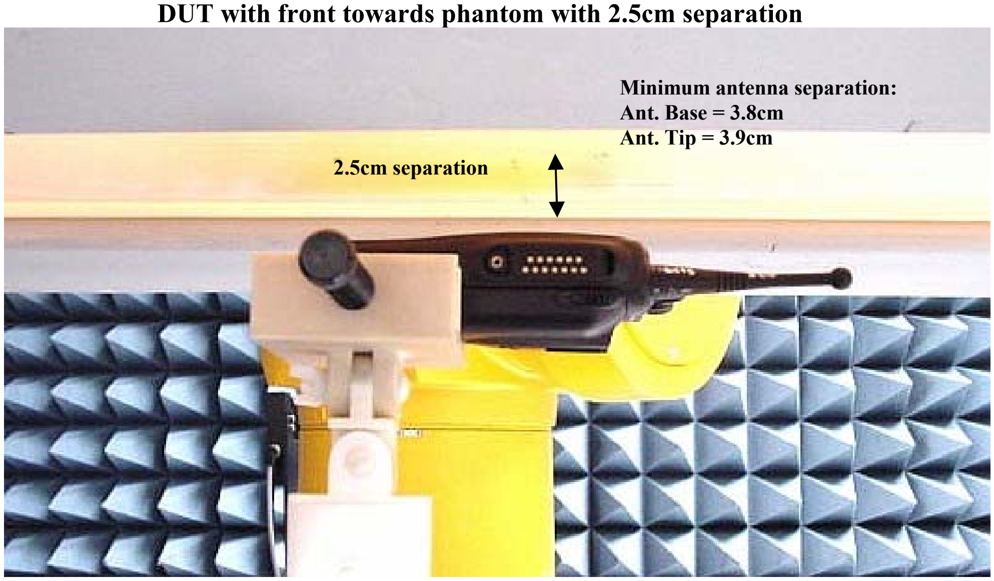


Figure 3: Robot Test System (80x30x20x0.2 Flat Phantom)

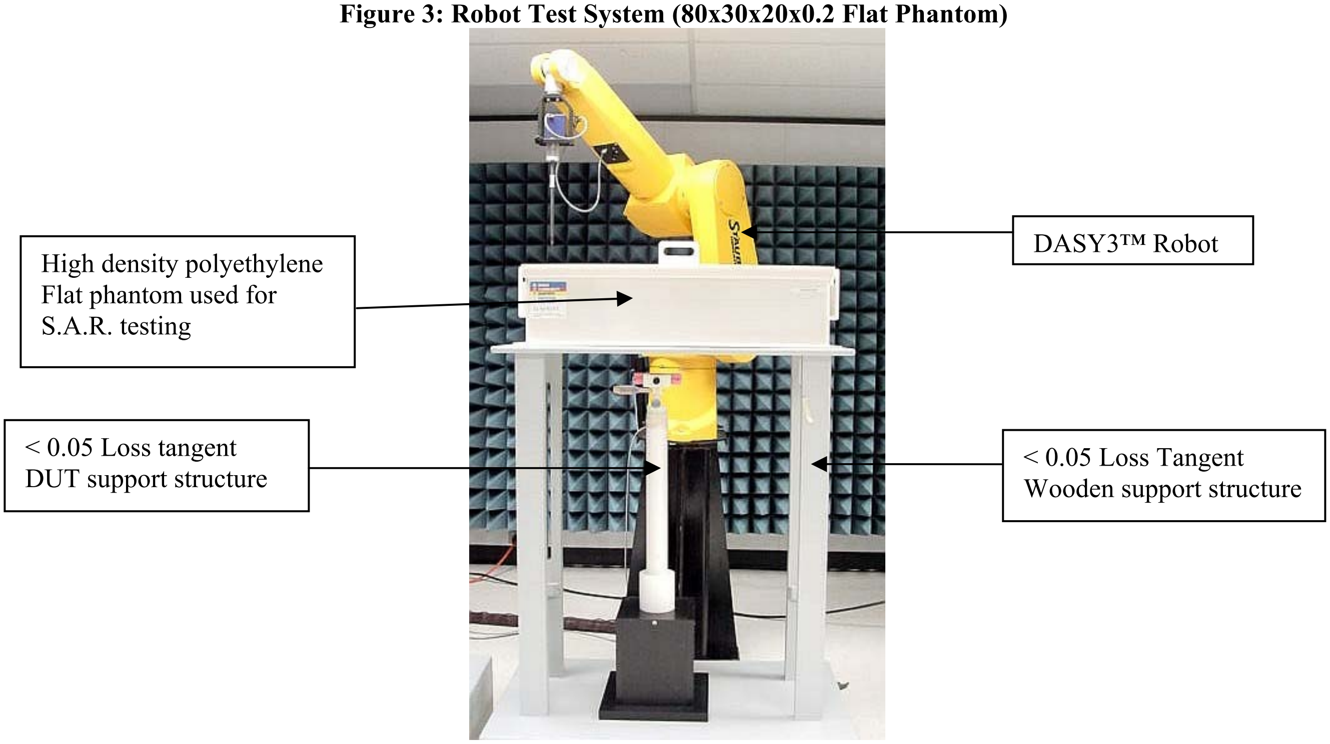
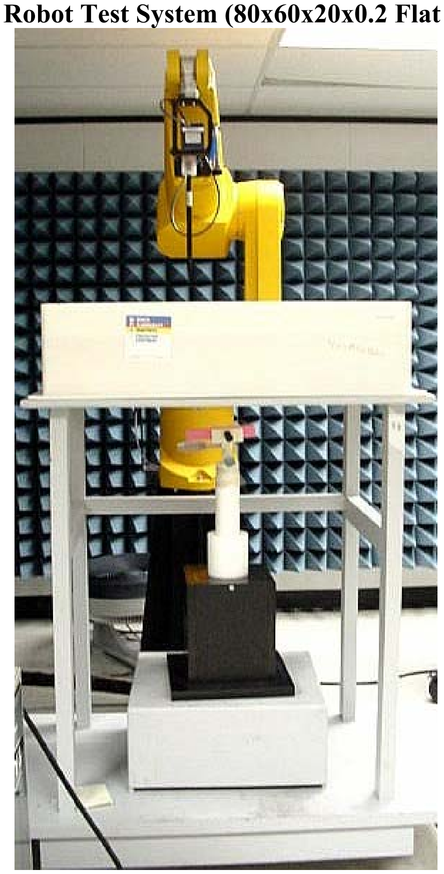


Figure 4: Robot Test System (80x60x20x0.2 Flat Phantom)



6.0 Measurement Uncertainty

Table 1: Uncertainty Budget for Device Under Test: 75 – 3000 MHz

a	*b*	*c*	*d*	*e = f(d,k)*	*f*	*g*	*h = c x f / e*	*i = c x g / e*	*k*
Uncertainty Component	IEEE 1528 section	Tol. (± %)	Prob Dist	Div.	c_i (1 g)	c_i (10 g)	1 g u_i (±%)	10 g u_i (±%)	v_i
Measurement System									
Probe Calibration	E.2.1	4.8	N	1.00	1	1	4.8	4.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	1.0	N	1.00	1	1	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	1.3	R	1.73	1	1	0.8	0.8	∞
RF Ambient Conditions - Noise	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	0.0	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mech. Tolerance	E.6.2	1.0	R	1.73	1	1	0.6	0.6	∞
Probe Positioning w.r.t Phantom	E.6.3	4.0	R	1.73	1	1	2.3	2.3	∞
Max. SAR Evaluation (ext., int., avg.)	E.5	3.4	R	1.73	1	1	2.0	2.0	∞
Test sample Related									
Test Sample Positioning	E.4.2	3.4	N	1.00	1	1	3.4	3.4	29
Device Holder Uncertainty	E.4.1	3.8	N	1.00	1	1	3.8	3.8	8
SAR drift	6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	E.3.3	6.5	N	1.00	0.64	0.43	4.2	2.8	∞
Liquid Permittivity (target)	E.3.2	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measurement)	E.3.3	4.0	N	1.00	0.6	0.49	2.4	2.0	∞
Combined Standard Uncertainty			RSS				12	11	601
Expanded Uncertainty (95% CONFIDENCE LEVEL)			*k*=2				23	22	

Table 2: Uncertainty Budget for System Check: 75 – 3000 MHz

a	b	c	d	e = f(d,k)	f	g	h = c x f / e	i = c x g / e	k
Uncertainty Component	IEEE 1528 section	Tol. (± %)	Prob. Dist.	Div.	c_i (1 g)	c_i (10 g)	1 g u_i (±%)	10 g u_i (±%)	v_i
Measurement System									
Probe Calibration	E.2.1	4.8	N	1.00	1	1	4.8	4.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	1	1	2.7	2.7	∞
Spherical Isotropy	E.2.2	9.6	R	1.73	0	0	0.0	0.0	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	1.0	N	1.00	1	1	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	1.3	R	1.73	1	1	0.8	0.8	∞
RF Ambient Conditions - Noise	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	0.0	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning w.r.t. Phantom	E.6.3	1.4	R	1.73	1	1	0.8	0.8	∞
Max. SAR Evaluation (ext., int., avg.)	E.5	3.4	R	1.73	1	1	2.0	2.0	∞
Dipole									
Dipole Axis to Liquid Distance	8, E.4.2	2.0	R	1.73	1	1	1.2	1.2	∞
Input Power and SAR Drift Measurement	8, 6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	E.3.3	6.0	R	1.73	0.64	0.43	2.2	1.5	∞
Liquid Permittivity (target)	E.3.2	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measurement)	E.3.3	6.0	R	1.73	0.6	0.49	2.1	1.7	∞
Combined Standard Uncertainty			RSS				9	8	99999
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				17	17	

Notes for Tables 1 and 2

a) Column headings *a*-*k* are given for reference.

b) Tol. - tolerance in influence quantity.

c) Prob. Dist. – Probability distribution

d) N, R - normal, rectangular probability distributions

e) Div. - divisor used to translate tolerance into normally distributed standard uncertainty

f) *ci* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.

g) *ui* – SAR uncertainty

h) *vi* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty.

7.0 S.A.R. Test Results

All S.A.R. results obtained by the tests described in Section 5.0 are listed in section 7.1 below. The bolded result indicates the highest observed S.A.R. performances for the relevant test configuration. DASY3™ S.A.R. measurement scans are provided in APPENDIX B for the highest observed S.A.R. performances.

7.1 S.A.R. results

Table1

FCC ID: AZ489FT5798 assessment of new offered battery options at the body and face; CW mode												
Run Number/ SN	**Antenna Model**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Assessment at the body w/ battery model HNN4001A, using the previously reported worst case test configuration												
SW-Ab-R1-040630-12/ WQ3SNOYA	NAF5042A	806.025	HNN4001A	DUT back 2.5cm	HLN9844A	HMN9052A	2.800	-0.390	6.080	4.400	**3.99**	2.89
Assessment at the face w/ battery model HNN4001A, using the previously reported worst case test configuration												
SW-Face-R1-040701-03/ WQ3SNOYA	NAF5042A	824.975	HNN4001A	DUT front 2.5cm	None	None	2.810	0.020	2.280	1.640	**1.36**	0.98
Assessment at the body w/ battery model HNN4002A, using the previously reported worst case test configuration												
SW-Ab-R1-040630-13/ WQ3SNOYA	NAF5042A	806.025	HNN4002A	DUT back 2.5cm	HLN9844A	HMN9052A	2.840	-0.410	6.070	4.410	**3.95**	2.87
Assessment at the face w/ battery model HNN4002A, using the previously reported worst case test configuration												
SW-Face-R1-040701-04/ WQ3SNOYA	NAF5042A	824.975	HNN4002A	DUT front 2.5cm	None	None	2.850	-0.030	2.620	1.870	**1.56**	1.11
Assessment at the body w/ battery model HNN4003A, using the previously reported worst case test configuration												
SW-Face-R1-040701-02/ WQ3SNOYA	NAF5042A	806.025	HNN4003A	DUT back 2.5cm	HLN9844A	HMN9052A	2.990	-0.560	7.850	5.600	**5.02**	3.58
Assessment at the face w/ battery model HNN4003A, using the previously reported worst case test configuration												
SW-Face-R1-040701-05/WQ3SNOYA	NAF5042A	824.975	HNN4003A	DUT front 2.5cm	None	None	2.910	-0.130	2.570	1.850	**1.53**	1.10

7.2 Peak S.A.R. location

Refer to APPENDIX B for detailed S.A.R. scan distributions.

7.3 Highest S.A.R. results calculation methodology

The calculated maximum 1-gram and 10-gram averaged S.A.R. values are determined by scaling the measured S.A.R. to account for power leveling variations and power slump. For this device the Maximum Calculated 1-gram and 10-gram averaged peak S.A.R. is calculated using the following formula:

Max. Calc. 1-g Avg. SAR = ((S.A.R. meas. / (10^(Pdrift/10)))*(Pmax/Pint))* DC%
P_{max} = Maximum Power (W)
P_{int} = Initial Power (W)
Pdrift = DASY drift results (dB)
$SAR_{meas.}$ = Measured 1 gram averaged peak S.A.R. (mW/g)
DC % = Transmission mode duty cycle in % where applicable
Note that the use of the above formula should consider the relationship between the initial power, max power, and drift. Also, a 50% duty cycle is applied for PTT operation.

8.0 Conclusion

The highest Operational Maximum Calculated 1-gram and 10-gram average S.A.R. values found for FCC ID: AZ489FT5798 model PMUF1064A.

At the Body: **1-g Avg. = 5.02 mW/g; 10-g Avg. = 3.58 mW/g**
At the Face: **1-g Avg. = 1.56 mW/g; 10-g Avg. = 1.11 mW/g**

The Previously reported results at the head 0.86m W/g, and at the body 4.50mW/g are hereby replaced with the results presented herein.

These test results clearly demonstrate compliance with FCC Occupational/Controlled RF Exposure limits of **8.0 mW/g** per the requirements of 47 CFR 2.1093(d).

APPENDIX A
Power Slump Data

DUT Power versus time data

Time (minutes)	Power(watts)
0	2.81
1	2.77
2	2.75
3	2.73
4	2.72
5	2.70
6	2.69
7	2.68
8	2.67
9	2.66
10	2.65
11	2.64
12	2.64
13	2.63
14	2.63
15	2.62
16	2.62
17	2.62
18	2.62
19	2.61
20	2.61
21	2.61
22	2.61
23	2.61
24	2.61
25	2.60
26	2.60
27	2.60
28	2.60
29	2.60
30	2.60
31	2.60
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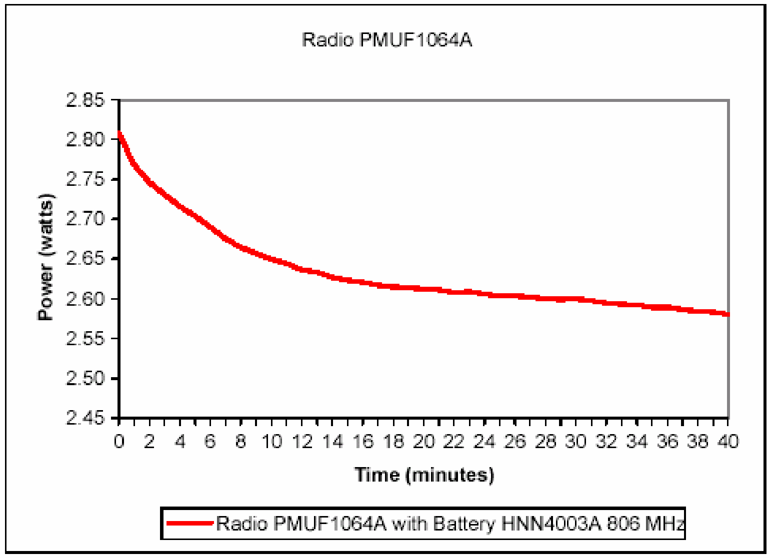
37	2.59
38	2.58
39	2.58
40	2.58

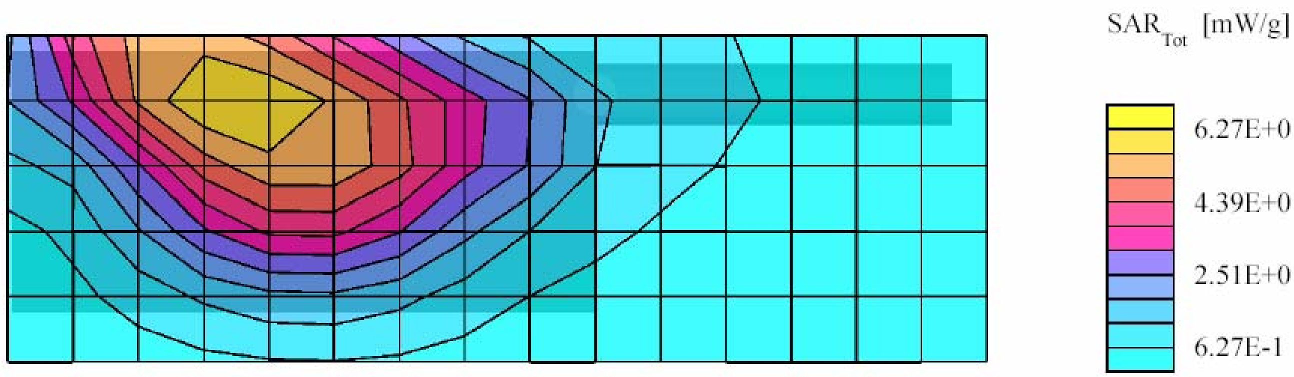


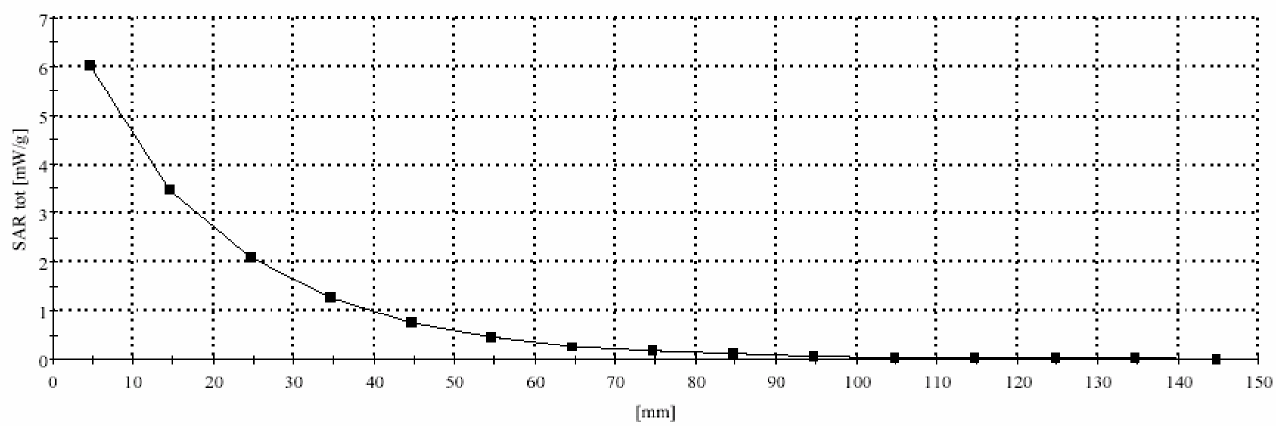
APPENDIX B
Data Results

FCC ID: AZ489FT5798; Test Date: 6/30/04
Motorola CGISS EME Laboratory
Run #: SW-Ab-R1-040630-12
Model #: PMUF1064A SN: WQ3SNOYA
TX Freq: 806.025 MHz
Sim Tissue Temp: 20.7 (Celsius)
Start Power : 2.80 W

Antenna: NAF5042A
Battery Kit: HNN4001A
Body worn: HLN9844A
Audio/Data Acc.: HMN9052A

DUT with body worn accessory against the phantom
Flat Phantom; Device Section; Position: (90°,90°);
Probe: ET3DV6 - SN1384(Cal Date 5-27-2004); ConvF(6.50,6.50,6.50); Probe cal date: 27/5/04; Crest factor: 1.0; FCC Body 815 MHz: σ = 0.96 mho/m ε = 56.1 ρ = 1.00 g/cm3; DAE SN: 363 DAE Cal Date: 05/26/04
Cube 7x7x7: SAR (1g): 6.08 mW/g, SAR (10g): 4.40 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 12.0, 49.5, 4.7
Power Drift: -0.39 dB

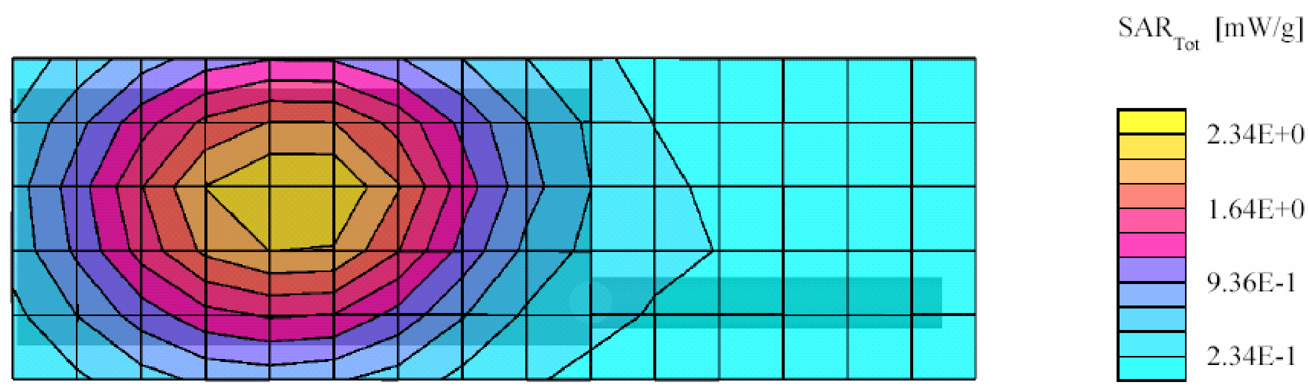


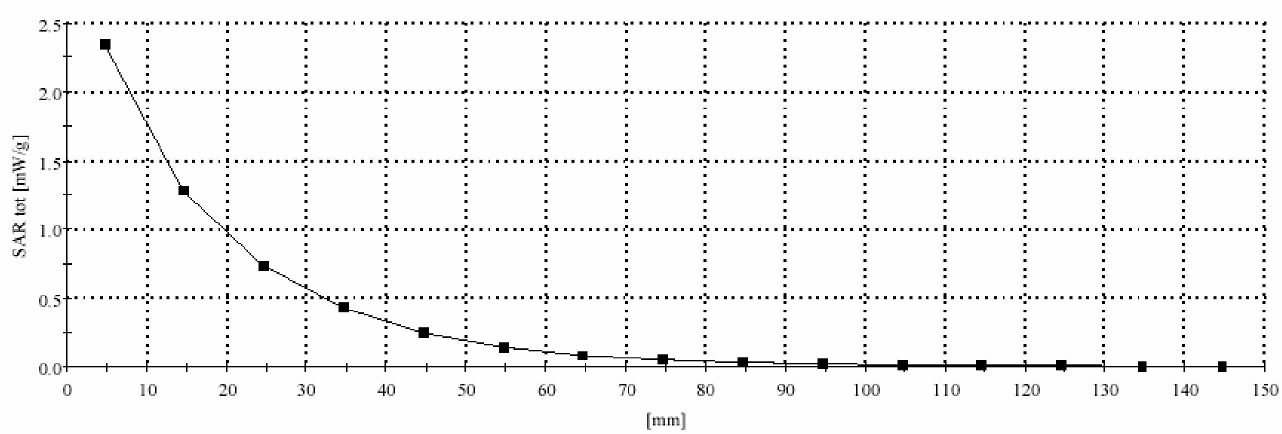


FCC ID: AZ489FT5798; Test Date: 7/01/04
Motorola CGISS EME Laboratory
Run #: SW-Face-R1-040701-03
Model #: PMUF1064A SN: WQ3SNOYA
X Freq: 824.975 MHz
Sim Tissue Temp: 20.7 (Celsius)
Start Power: 2.81 W

Antenna: NAF5042A
Battery Kit: HNN4001A
Body worn: None
Audio/Data Acc.: None

DUT front towards phantom with 2.5cm separation
Flat Phantom; Device Section; Position: (90°,90°);
Probe: ET3DV6 - SN1384(Cal Date 5-27-2004); ConvF(6.70,6.70,6.70); Probe cal date: 27/5/04; Crest factor: 1.0; IEEE
Head 815 MHz: σ = 0.93 mho/m ε = 43.0 ρ = 1.00 g/cm3; DAE SN: 363 DAE Cal Date: 05/26/04
Cube 7x7x7: SAR (1g): 2.28 mW/g, SAR (10g): 1.64 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 31.5, 69.0, 4.7
Power Drift: 0.02 dB

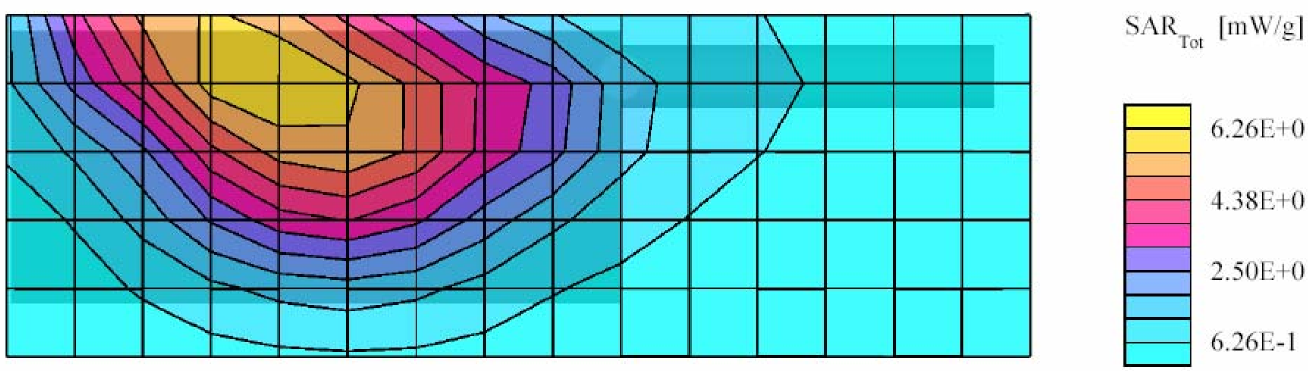


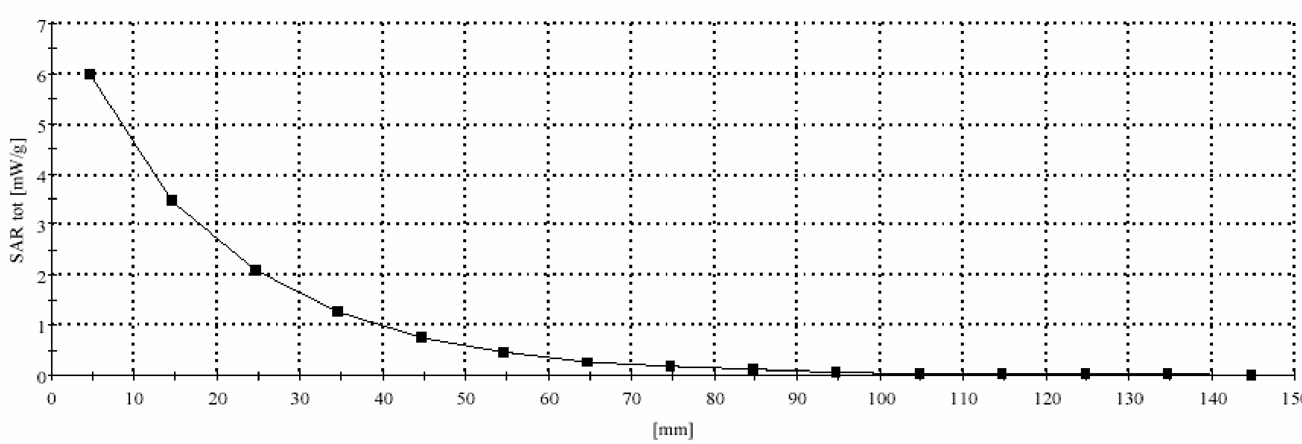


FCC ID: AZ489FT5798; Test Date: 6/30/04
Motorola CGISS EME Laboratory
Run #: SW-Ab-R1-040630-13
Model #: PMUF1064A SN: WQ3SNOYA
TX Freq: 806.025 MHz
Sim Tissue Temp: 20.7 (Celsius)
Start Power : 2.84 W

Antenna: NAF5042A
Battery Kit: HNN4002A
Body worn: HLN9844A
Audio/Data Acc.: HMN9052A

DUT with body worn accessory against the phantom
Flat Phantom; Device Section; Position: (90°,90°);
Probe: ET3DV6 - SN1384(Cal Date 5-27-2004); ConvF(6.50,6.50,6.50); Probe cal date: 27/5/04; Crest factor: 1.0; FCC Body 815 MHz: σ = 0.96 mho/m ε = 56.1 ρ = 1.00 g/cm3; DAE SN: 363 DAE Cal Date: 05/26/04
Cube 7x7x7: SAR (1g): 6.07 mW/g, SAR (10g): 4.41 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 10.5, 52.5, 4.7
Power Drift: -0.41 dB

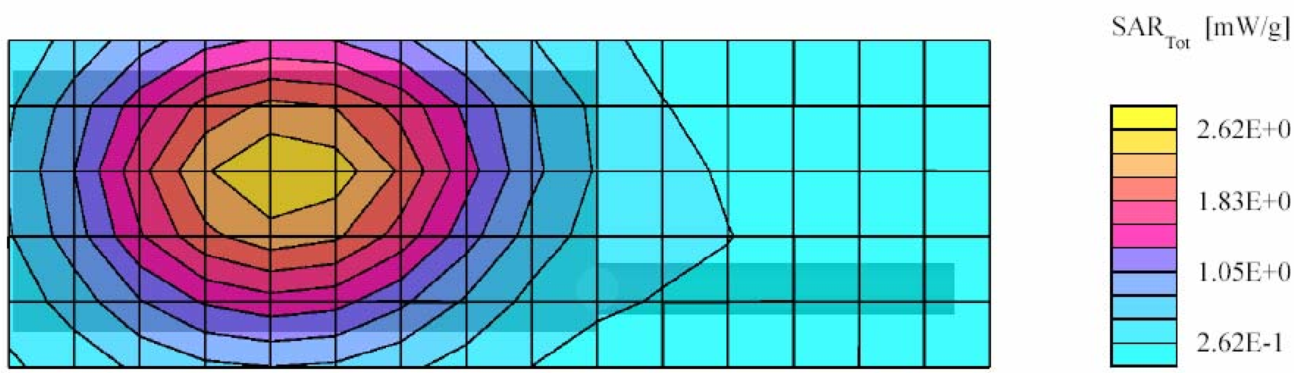


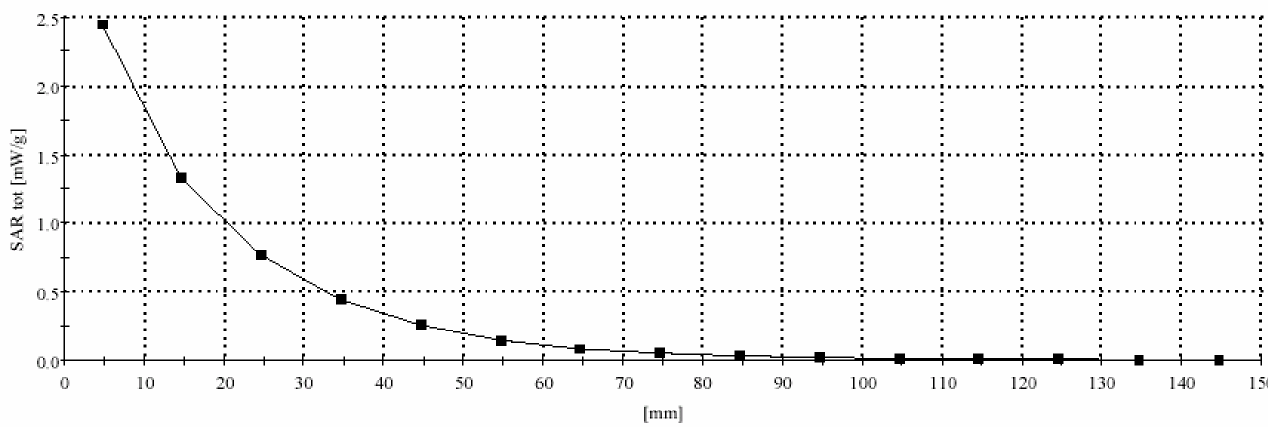


FCC ID: AZ489FT5798; Test Date: 7/01/04
Motorola CGISS EME Laboratory
Run #: SW-Face-R1-040701-04
Model #: PMUF1064A SN: WQ3SNOYA
TX Freq: 824.975 MHz
Sim Tissue Temp: 20.7 (Celsius)
Start Power : 2.84 W

Antenna: NAF5042A
Battery Kit: HNN4002A
Body worn: None
Audio/Data Acc.: None

DUT front towards phantom with 2.5cm separation
Flat Phantom; Device Section; Position: (90°,90°);
Probe: ET3DV6 - SN1384(Cal Date 5-27-2004); ConvF(6.70,6.70,6.70); Probe cal date: 27/5/04; Crest factor: 1.0; IEEE Head 815 MHz: σ = 0.93 mho/m ε = 43.0 ρ = 1.00 g/cm3; DAE SN: 363 DAE Cal Date: 05/26/04
Cube 7x7x7: SAR (1g): 2.62 mW/g, SAR (10g): 1.87 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 31.5, 63.0, 4.7
Power Drift: -0.03 dB

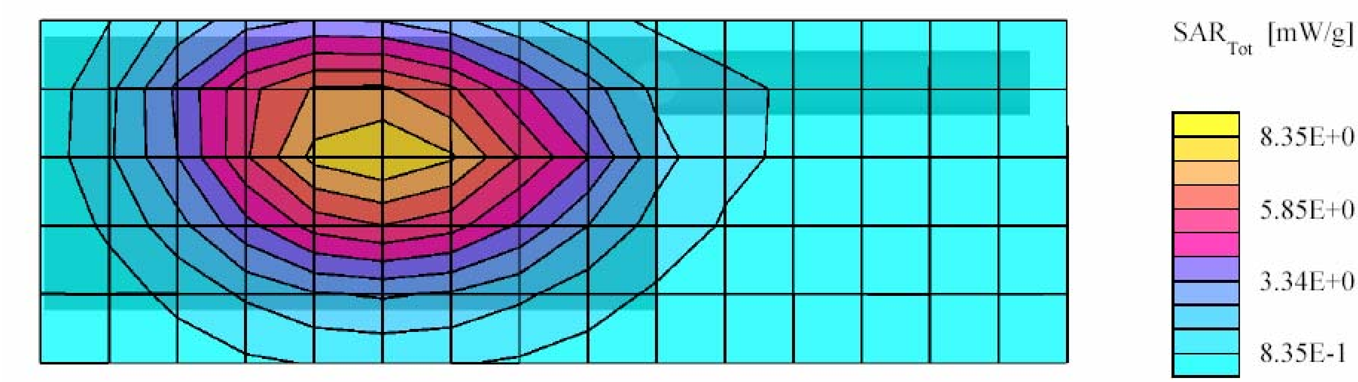


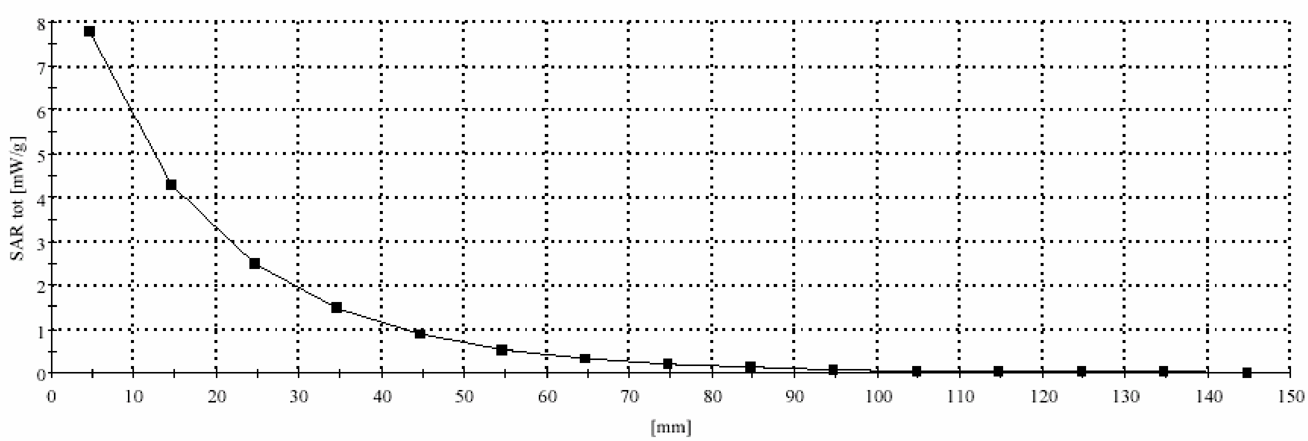


FCC ID: AZ489FT5798; Test Date: 7/01/04
Motorola CGISS EME Laboratory
Run #: SW-Ab-R1-040701-02
Model #: PMUF1064A SN: WQ3SNOYA
TX Freq: 806.025 MHz
Sim Tissue Temp: 21.5 (Celsius)
Start Power : 2.99 W

Antenna: NAF5042A
Battery Kit: HNN4003A
Body worn: HLN9844A
Audio/Data Acc.: HMN9052A

DUT with body worn accessory against the phantom
Flat Phantom; Device Section; Position: (90°,90°);
Probe: ET3DV6 - SN1384(Cal Date 5-27-2004); ConvF(6.50,6.50,6.50); Probe cal date: 27/5/04; Crest factor: 1.0; FCC Body 815 MHz: σ = 0.95 mho/m ε = 56.3 ρ = 1.00 g/cm3; DAE SN: 363 DAE Cal Date: 05/26/04
Cube 7x7x7: SAR (1g): 7.85 mW/g, SAR (10g): 5.60 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 28.5, 73.5, 4.7
Power Drift: -0.56 dB

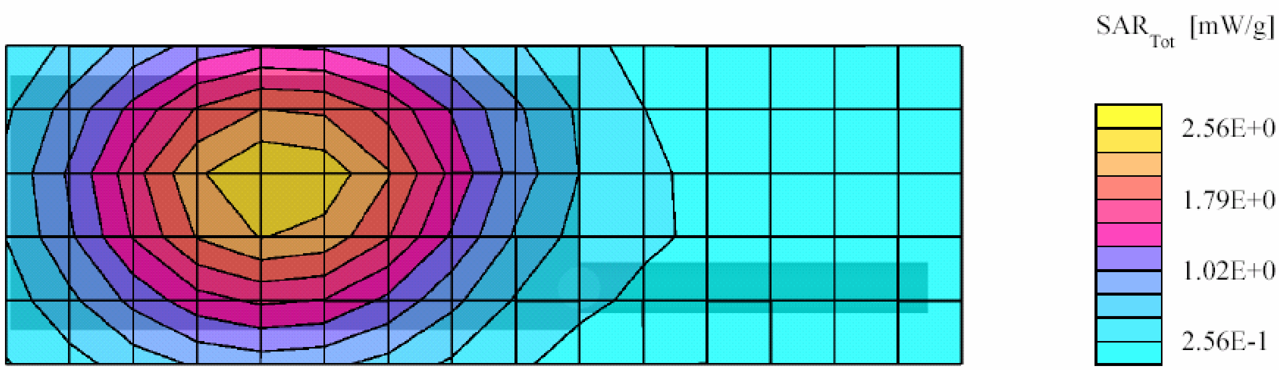


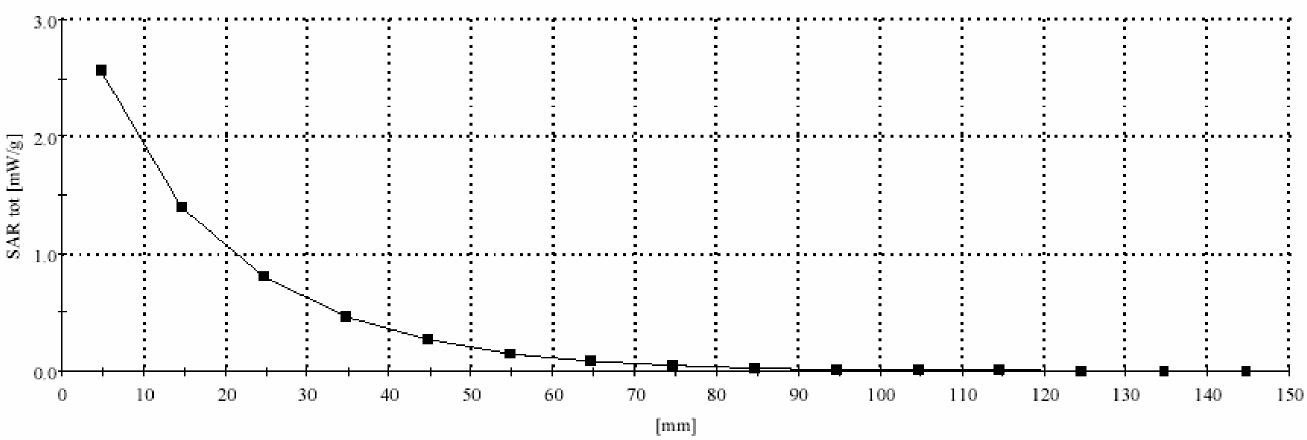


FCC ID: AZ489FT5798; Test Date: 7/01/04
Motorola CGISS EME Laboratory
Run #: SW-Face-R1-040701-05
Model #: PMUF1064A SN: WQ3SNOYA
TX Freq: 824.975 MHz
Sim Tissue Temp: 20.7 (Celsius)
Start Power : 2.91 W

Antenna: NAF5042A
Battery Kit: HNN4003A
Body worn: None
Audio/Data Acc.: None

DUT front towards phantom with 2.5cm separation
Flat Phantom; Device Section; Position: (90°,90°);
Probe: ET3DV6 - SN1384(Cal Date 5-27-2004); ConvF(6.70,6.70,6.70); Probe cal date: 27/5/04; Crest factor: 1.0; IEEE Head 815 MHz: σ = 0.93 mho/m ε = 43.0 ρ = 1.00 g/cm3; DAE SN: 363 DAE Cal Date: 05/26/04
Cube 7x7x7: SAR (1g): 2.57 mW/g, SAR (10g): 1.85 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 33.0, 64.5, 4.7
Power Drift: -0.13 dB





APPENDIX C

Dipole System Performance Check Results

Dipole validation scans at the head from SPEAG are provided in APPENDIX D. The CGISS EME lab validated the dipole to the applicable IEEE system performance targets. Within the same day system validation was performed using FCC body tissue parameters to generate the system performance target values for body at the applicable frequency. The results of the CGISS EME system performance validation are provided in this appendix.

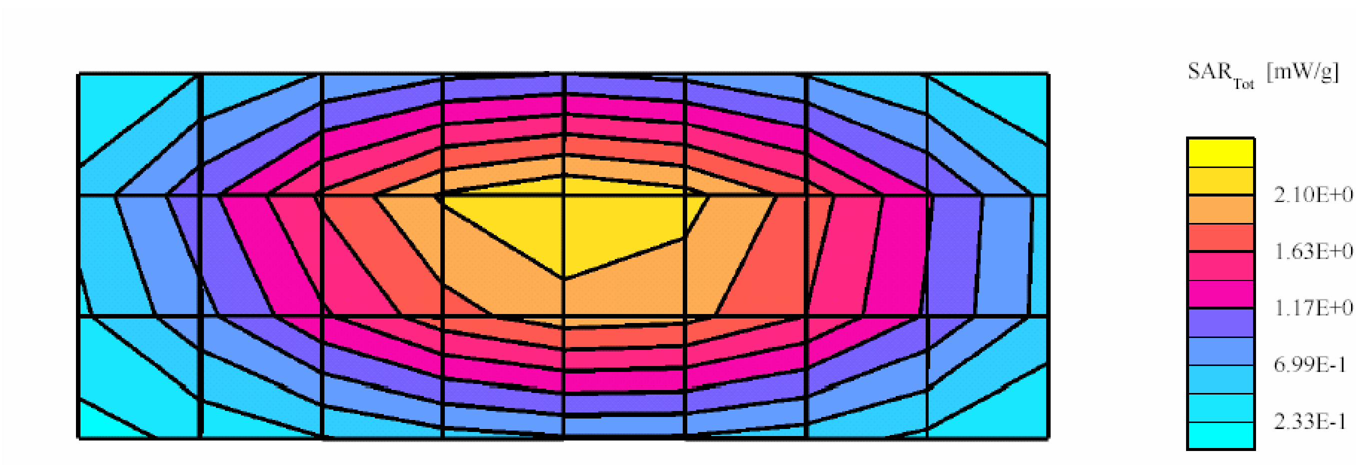
SPEAG 835 MHz Dipole; Model D835V2, SN 426; Test Date: 6/30/04

Motorola CGISS EME Lab

Run #: Sys Perf-R1-040630-01
TX Freq: 835 MHz
Sim Tissue Temp: 21.1 (Celsius)
Start Power; 250mW

SAR target at 1W is 10.56 mW/g (1g avg, including drift)
SAR target at 1W is 6.80 mW/g (10g avg, including drift)
SAR calculated at 1W is 9.95 mW/g (1g avg). Percent from target (including drift) is - 5.74 %
SAR calculated at 1W is 6.45 mW/g (10g avg). Percent from target (including drift) is - 5.14 %

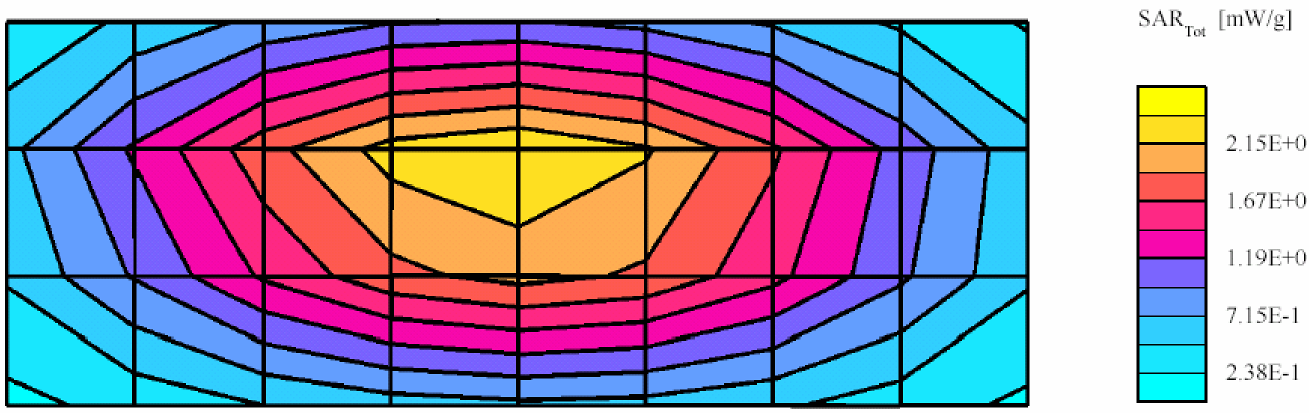
Flat Phantom; Device Probe: ET3DV6 - SN1384(Cal Date 5-27-2004);Probe Cal Date: 27/5/04ConvF(6.50,6.50,6.50); Crest factor: 1.0; FCC Body 835 MHz: σ = 0.98 mho/m ε = 55.8 ρ = 1.00 g/cm3; DAE3: SN363 DAE Cal Date: 05/26/2004
Cubes (2): Peak: 3.86 mW/g ± 0.00 dB, SAR (1g): 2.50 mW/g ± 0.01 dB, SAR (10g): 1.62 mW/g ± 0.01 dB, (Worst-case extrapolation) Penetration depth: 12.7 (11.6, 14.2) [mm]
Power drift: 0.02 dB



SPEAG 835 MHz Dipole; Model D835V2, SN 426; Test Date: 7/01/04
Motorola CGISS EME Lab
Run #: Sys Perf-R1-040701-01
TX Freq: 835 MHz
Sim Tissue Temp: 21.1 (Celsius)
Start Power; 250mW

SAR target at 1W is 10.56 mW/g (1g avg, including drift)
SAR target at 1W is 6.80 mW/g (10g avg, including drift)
SAR calculated at 1W is 10.10 mW/g (1g avg). Percent from target (including drift) is - 4.39 %
SAR calculated at 1W is 6.51 mW/g (10g avg). Percent from target (including drift) is - 4.34 %

Flat Phantom; Device Probe: ET3DV6 - SN1384(Cal Date 5-27-2004);Probe Cal Date: 27/5/04ConvF(6.50,6.50,6.50); Crest factor: 1.0; FCC Body 835 MHz: σ = 0.97 mho/m ε = 55.9 ρ = 1.00 g/cm3; DAE3: SN363 DAE Cal Date: 05/26/2004
Cubes (2): Peak: 3.89 mW/g ± 0.00 dB, SAR (1g): 2.53 mW/g ± 0.01 dB, SAR (10g): 1.63 mW/g ± 0.01 dB, (Worst-case extrapolation) Penetration depth: 12.8 (11.7, 14.3) [mm]
Power drift: 0.01 dB



SYSTEM PERFORMANCE CHECK TARGET SAR

Date:	4/14/2004	Frequency (MHz):	835
Lab Location:	CGISS	Mixture Type:	FCC Body
Robot System:	3	Ambient Temp.(°C):	23
Probe Serial #:	1545	Tissue Temp.(°C):	20.5
DAE Serial #:	406		

Tissue Characteristics

Permitivity:	54	Phantom Type/SN:	80302002A/S8
Conductivity:	0.98	Distance (mm):	15 (tissue/dipole cnt)

Reference Source: D835V2 (Dipole)
Reference SN: 426

Power to Dipole: 250 mW

Measured SAR Value: 2.64 mW/g, 1.7 mW/g (10g avg.)
Power Drift: 0 dB

New Target/Measured
SAR Value: 10.56 mW/g, 6.80 mW/g (10g avg.)
(normalized to 1.0 W, including drift)

Test performed by: C. Miller Initial: CM

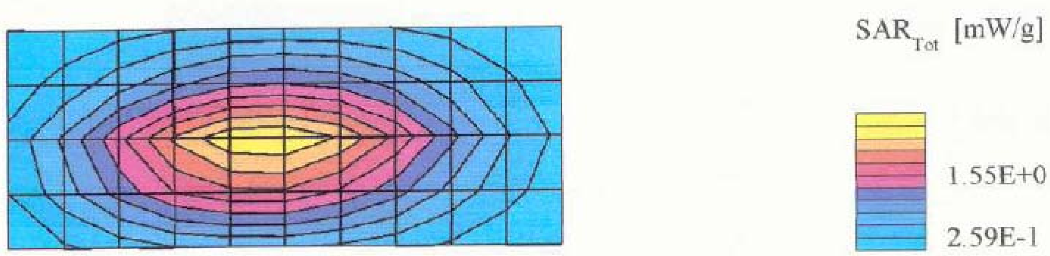
SPEAG DIPOLE D835V2; Test date:04/14/04

Run #: Sys Perf-040414-10
Model #: D835 V2
Robot: CGISS-3
TX Freq: 835 MHz
Start Power; 250 mW
DAE3: 401
- Comments-

Phantom #: 80302002A/S8
SN: 426
Tester: C. Miller
835 MHz Sim Tissue Temp: 20.5 (Celsius)

DAE Cal Date: 08/21/2003

SAR calculated at 1W is 10.56 mW/g (1g avg).
SAR calculated at 1W is 6.80 mW/g (10g avg).
Flat; Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(5.82,5.82,5.82); Crest factor: 1.0; FCC Body 835 MHz: $\sigma = 0.98$ mho/m $\varepsilon_r = 54.0$ $\rho = 1.00$ g/cm^3
Cubes (2): Peak: 4.08 mW/g ± 0.05 dB, SAR (1g): 2.64 mW/g ± 0.04 dB, SAR (10g): 1.70 mW/g ± 0.04 dB, (Worst-case extrapolation)
Penetration depth: 12.6 (11.6, 14.0) [mm]
Powerdrift: -0.00 dB



APPENDIX D

Probe/Dipole Calibration Certificates

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

Client **Motorola CGISS**

CALIBRATION CERTIFICATE

Object(s)	ET3DV6 - SN:1384
Calibration procedure(s)	QA CAL-01.v2 Calibration procedure for dosimetric E-field probes
Calibration date:	May 27, 2004
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

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 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E4419B	GB41293874	5-May-04 (METAS, No 251-00388)	May-05
Power sensor E4412A	MY41495277	5-May-04 (METAS, No 251-00388)	May-05
Reference 20 dB Attenuator	SN: 5086 (20b)	3-May-04 (METAS, No 251-00389)	May-05
Fluke Process Calibrator Type 702	SN: 6295803	8-Sep-03 (Sintrel SCS No. E-030020)	Sep-04
Power sensor HP 8481A	MY41092180	18-Sep-02 (SPEAG, in house check Oct-03)	In house check: Oct 05
RF generator HP 8684C	US3642U01700	4-Aug-99 (SPEAG, in house check Aug-02)	In house check: Aug-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Nico Vetterli	Technician	N. Vetterli
Approved by:	Katja Pokovic	Laboratory Director	Pokovic Katja

Date issued: May 27, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

DASY - Parameters of Probe: ET3DV6 SN:1384

Sensitivity in Free Space

NormX	**1.78** $\mu V/(V/m)^2$	
NormY	**1.76** $\mu V/(V/m)^2$	
NormZ	**1.91** $\mu V/(V/m)^2$	

Diode Compression[A]

DCP X	**92**	mV
DCP Y	**92**	mV
DCP Z	**92**	mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Plese see Page 7.

Boundary Effect

Head **900 MHz** **Typical SAR gradient: 5 % per mm**

Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	9.9	4.9
SAR_{be} [%]	With Correction Algorithm	0.1	0.4

Head **1800 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	14.1	9.0
SAR_{be} [%]	With Correction Algorithm	0.3	0.1

Sensor Offset

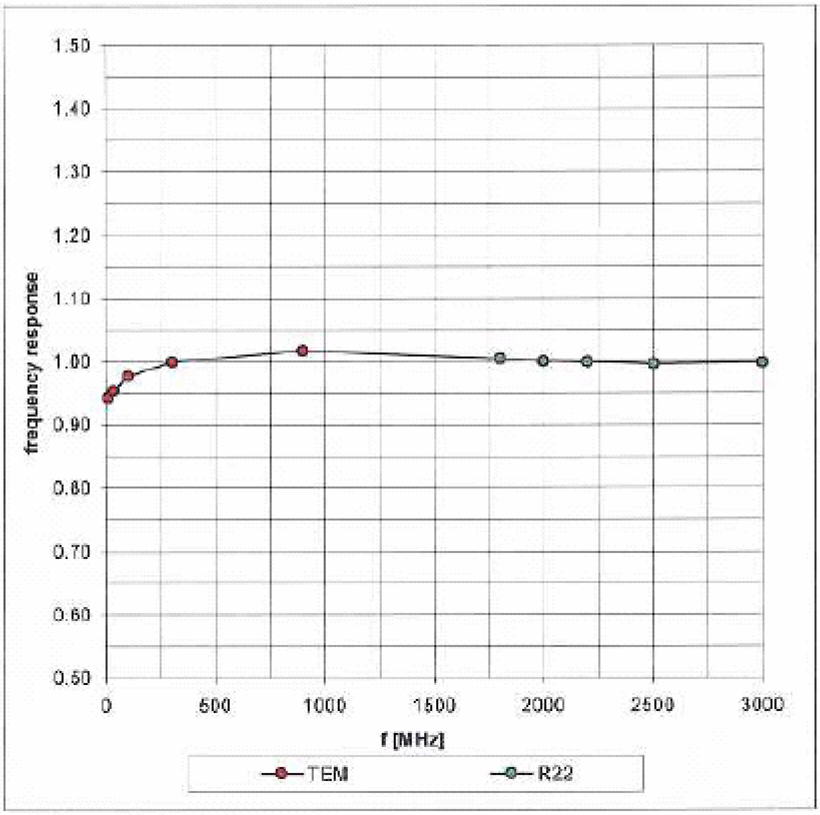
Probe Tip to Sensor Center	**2.7** mm
Optical Surface Detection	**in tolerance**

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

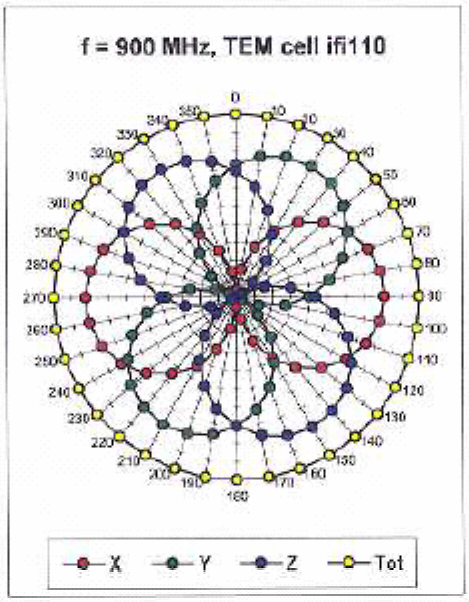
[A] numerical linearization parameter: uncertainty not required

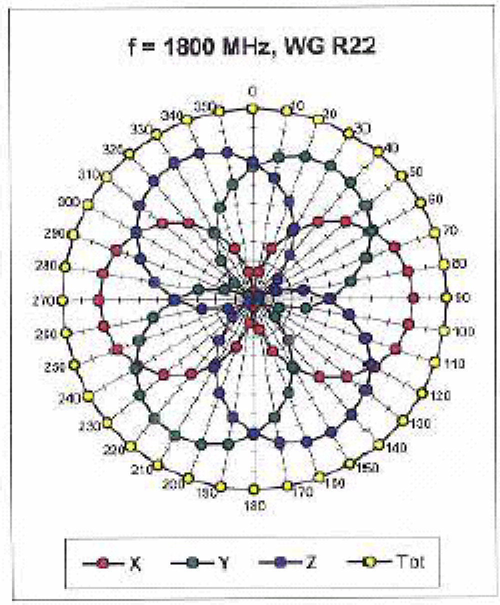
Frequency Response of E-Field

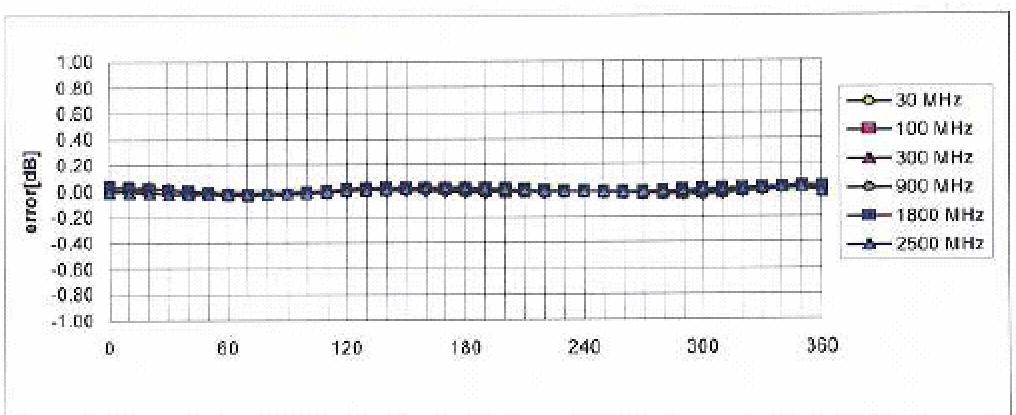
(TEM-Cell:ifi110, Waveguide R22)



Receiving Pattern (ϕ), θ = 0°



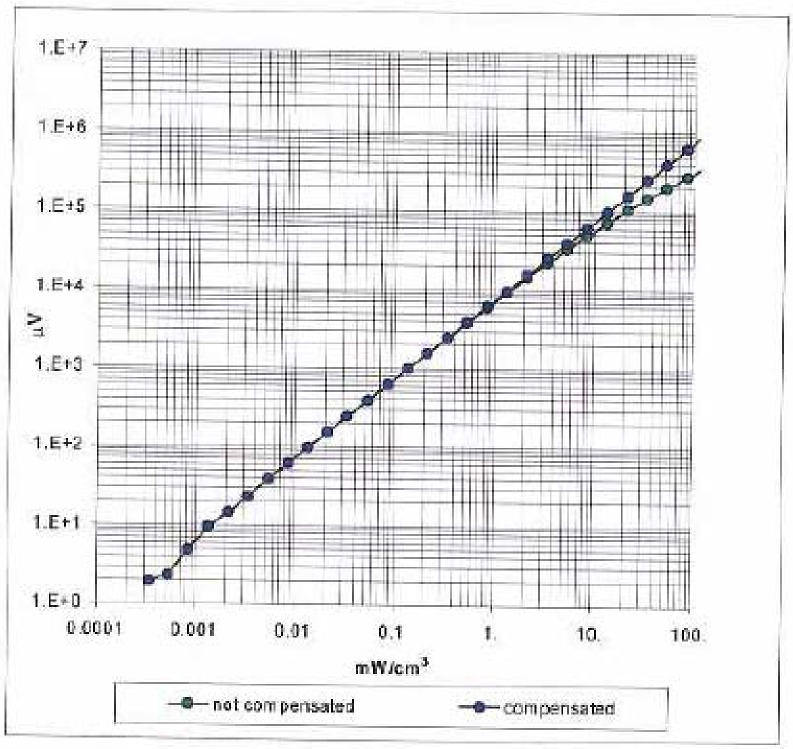


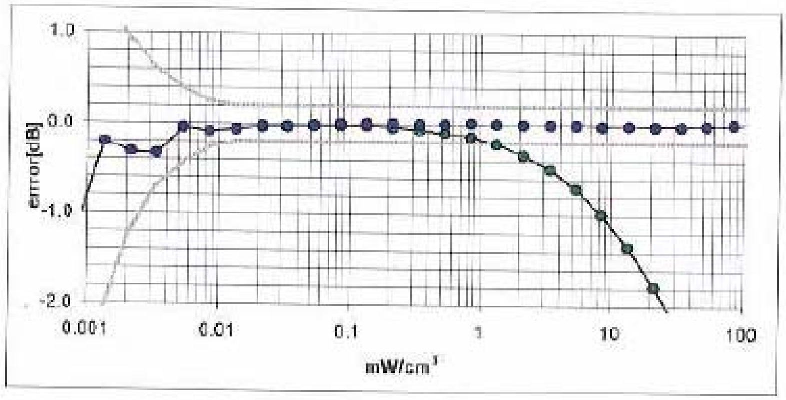


Axial Isotropy Error < ± 0.2 dB

Dynamic Range f(SAR_{head})

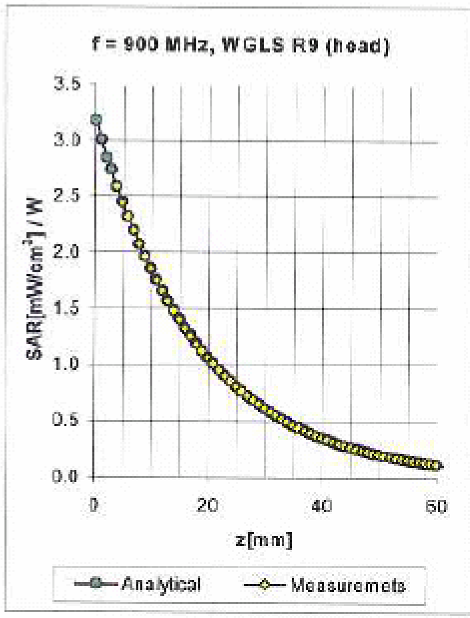
(Waveguide R22)

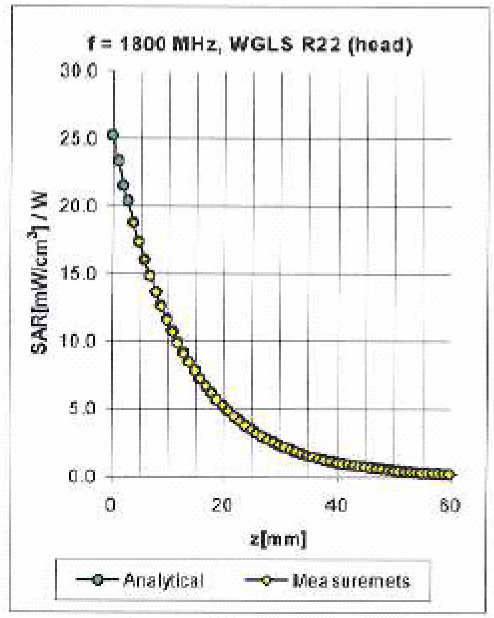




Probe Linearity Error < ± 0.2 dB

Conversion Factor Assessment



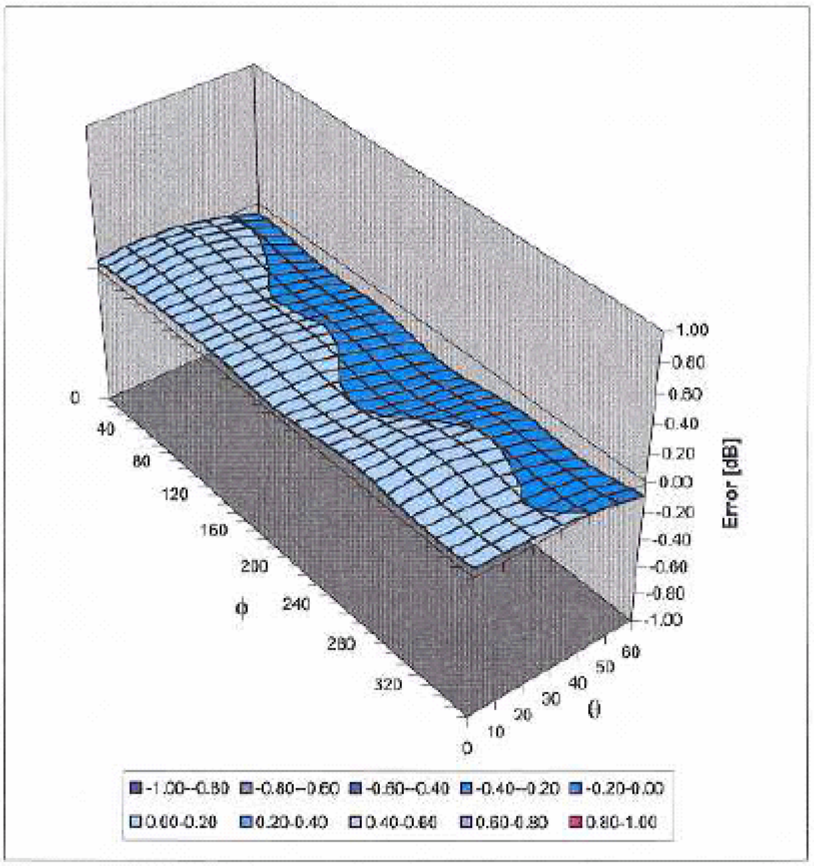


f [MHz]	Validity [MHz][B]	Tissue	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
900	800-1000	Head	41.5 ± 5%	0.97 ± 5%	0.79	1.71	6.53	± 9.5% (k=2)
1800	1710-1910	Head	40.0 ± 5%	1.40 ± 5%	0.58	2.42	5.32	± 9.5% (k=2)
2450	2400-2500	Head	39.2 ± 5%	1.80 ± 5%	1.05	1.94	4.70	± 9.5% (k=2)
900	800-1000	Body	55.0 ± 5%	1.05 ± 5%	0.61	2.06	6.09	± 9.5% (k=2)
1800	1710-1910	Body	53.3 ± 5%	1.52 ± 5%	0.63	2.64	4.81	± 9.5% (k=2)
2450	2400-2500	Body	52.7 ± 5%	1.95 ± 5%	1.81	1.29	4.64	± 9.5% (k=2)

[B] The stated uncertainty of calibration in according to P1528.

Deviation from Isotropy in HSL

Error (θ, φ), f = 900 MHz



Spherical Isotropy Error < ± 0.4 dB

Schmid & Partner Engineering AG

s p e a g

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info@speag.com, http://www.speag.com

Additional Conversion Factors

for Dosimetric E-Field Probe

Type:	**ET3DV6**
Serial Number:	**1384**
Place of Assessment:	**Zurich**
Date of Assessment:	**May 27, 2004**
Probe Calibration Date:	**June 1, 2004**

Schmid & Partner Engineering AG hereby certifies that conversion factor(s) of this probe have been evaluated on the date indicated above. The assessment was performed using the FDTD numerical code SEMCAD of Schmid & Partner Engineering AG. Since the evaluation is coupled with measured conversion factors, it has to be recalculated yearly, i.e., following the re-calibration schedule of the probe. The uncertainty of the numerical assessment is based on the extrapolation from measured value at 900 MHz or at 1800 MHz.

Assessed by:

Schmid & Partner Engineering AG

s p e a g

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

Dosimetric E-Field Probe ET3DV6 SN:1384

Conversion factor (± standard deviation)

150 MHz	ConvF	8.2 ± 8%	ε_r = 61.9 σ = 0.80 mho/m (body tissue)
250 MHz	ConvF	8.0 ± 8%	ε_r = 59.4 σ = 0.88 mho/m (body tissue)
300 MHz	ConvF	7.8 ± 8%	ε_r = 58.2 σ = 0.92 mho/m (body tissue)
380 MHz	ConvF	7.6 ± 8%	ε_r = 58.2 σ = 0.92 mho/m (body tissue)
480 MHz	ConvF	7.4 ± 8%	ε_r = 56.6 σ = 0.94 mho/m (body tissue)
800 MHz	ConvF	6.5 ± 8%	ε_r = 55.3 σ = 0.97 mho/m (body tissue)
1750 MHz	ConvF	5.0 ± 8%	ε_r = 53.3 σ = 1.52 mho/m (body tissue)

Important Note:

For numerically assessed probe conversion factors, parameters Alpha and Delta in the DASY software must have the following entries: Alpha = 0 and Delta = 1.

Please see also Section 4.7 of the DASY4 Manual.

Schmid & Partner Engineering AG

s p e a g

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info@speag.com, http://www.speag.com

Dosimetric E-Field Probe ET3DV6 SN:1384

Conversion factor (± standard deviation)

150 MHz	ConvF	**9.0 ± 8%**	ε_r = 52.3 σ = 0.76 mho/m (head tissue)
250 MHz	ConvF	**7.9 ± 8%**	ε_r = 47.6 σ = 0.83 mho/m (head tissue)
300 MHz	ConvF	**7.8 ± 8%**	ε_r = 45.3 σ = 0.87 mho/m (head tissue)
380 MHz	ConvF	**7.6 ± 8%**	ε_r = 44.3 σ = 0.87 mho/m (head tissue)
480 MHz	ConvF	**7.4 ± 8%**	ε_r = 43.3 σ = 0.87 mho/m (head tissue)
800 MHz	ConvF	**6.7 ± 8%**	ε_r = 41.7 σ = 0.90 mho/m (head tissue)
1750 MHz	ConvF	**5.4 ± 8%**	ε_r = 40.0 σ = 1.40 mho/m (head tissue)

Important Note:

For numerically assessed probe conversion factors, parameters Alpha and Delta in the DASY software must have the following entries: Alpha = 0 and Delta = 1.

Please see also Section 4.7 of the DASY4 Manual.

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

Client Motorola CGISS

CALIBRATION CERTIFICATE

Object(s)	D835V2 - SN 426
Calibration procedure(s)	QA CAL-05 v2 Calibration procedure for dipole validation kits
Calibration date:	March 22, 2004
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	US37292783	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04
RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Oct 05

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

Date issued: March 23, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

1. Measurement Conditions

The measurements were performed in the flat section of the SAM twin phantom filled with **head simulating solution** of the following electrical parameters at 835 MHz:

Relative Dielectricity	**42.1**	± 5%
Conductivity	**0.89 mho/m**	± 5%

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 6.3 at 835 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 15mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.
The dipole input power (forward power) was 250 mW ± 3 %. The results are normalized to 1W input power.

2. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 1. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue:	**10.0 mW/g** ± 16.8 % **(k=2)**[1]
averaged over 10 cm^3 (10 g) of tissue:	**6.52 mW/g** ± 16.2 % **(k=2)**[1]

3. Dipole Impedance and Return Loss

The impedance was measured at the SMA-connector with a network analyzer and numerically transformed to the dipole feedpoint. The transformation parameters from the SMA-connector to the dipole feedpoint are:

Electrical delay:	**1.377 ns**	(one direction)
Transmission factor:	**0.986**	(voltage transmission, one direction)

The dipole was positioned at the flat phantom sections according to section 1 and the distance holder was in place during impedance measurements.

Feedpoint impedance at 835 MHz:	Re{Z} = **51.9 Ω**
	Im {Z} = **0.7 Ω**
Return Loss at 835 MHz	**-34.2 dB**

4. Handling

Do not apply excessive force to the dipole arms, because they might bend. Bending of the dipole arms stresses the soldered connections near the feedpoint leading to a damage of the dipole.

5. Design

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.

6. Power Test

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

Date/Time: 03/22/04 16:17:27

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN426

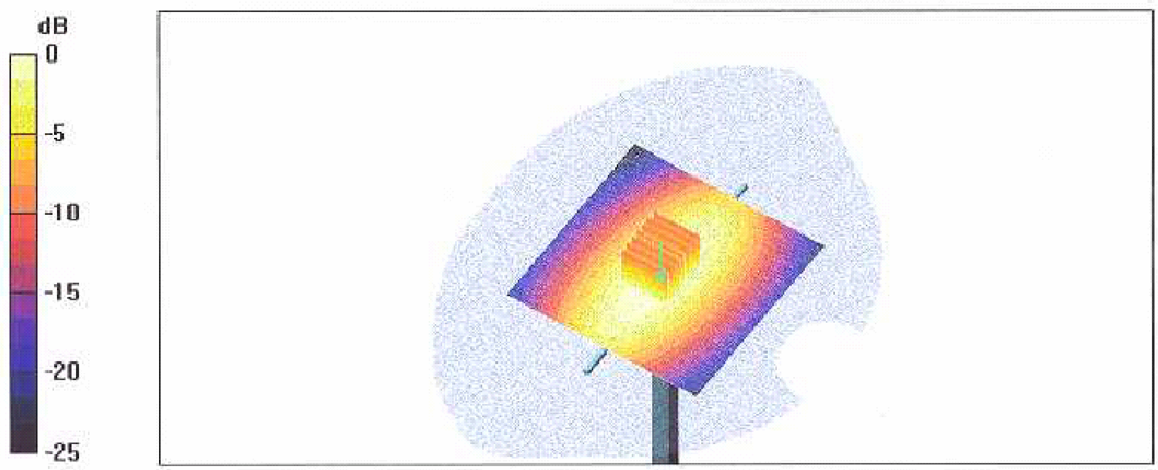
Communication System: CW-835; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL 835 MHz;
Medium parameters used: f = 835 MHz; $\sigma = 0.89$ mho/m; $\varepsilon_r = 42.1$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.3, 6.3, 6.3); Calibrated: 1/23/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn411; Calibrated: 11/6/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006;
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 57 V/m; Power Drift = -0.009 dB
Maximum value of SAR (interpolated) = 2.68 mW/g

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57 V/m; Power Drift = -0.009 dB
Maximum value of SAR (measured) = 2.69 mW/g
Peak SAR (extrapolated) = 3.73 W/kg
SAR(1 g) = 2.49 mW/g; SAR(10 g) = 1.63 mW/g



0 dB = 2.69mW/g