Certificate Number: 1449-02

ELECTROMAGNETIC EXPOSURE (EME) TESTING LABORATORY

8000 West Sunrise Blvd.
Fort-Lauderdale, Florida

S.A.R. TEST REPORT

FCC ID: AZ489FT5811
[H54UAA6RR1AN]

September 14, 2001 –Rev. O

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Reviewed and Approved By:	Ken Enger Sr. Resource Manager Product Safety and EME Lab Director

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REVISION HISTORY

Date	Revision	Comments
9/14/2001	O	Original release

1.0 Introduction

This report details the test setup, test equipment, and test results of the Specific Absorption Rate (SAR) measurement performed at Motorola Florida Research Lab (MFRL) EME laboratory for the iM1100A (PCMCIA Wireless Modem), model number H54UAA6RR1AN (FCC ID: AZ489FT5811).

The applicable exposure environment is General Population/Uncontrolled.

The test results included herein represent the highest SAR levels applicable to this product and clearly demonstrate compliance with FCC General Population/Uncontrolled RF Exposure limits of 1.6 W/kg per the requirements of 47 CFR 2.1093(d).

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; 47 CFR part 2 sub-part J
- 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
- National Council on Radiation Protection and Measurements (NCRP) of the United States, Report 86, 1986
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz, 1999
- Australian Communications Authority Radiocommunications (Electromagnetic Radiation - Human Exposure) Standard 1999 (applicable to wireless phones only)]

3.0 Description of Test Sample

The iM1100A, Model number H54UAA6RR1AN is a product that may be operated in a "push-to-send" manner to send packet data while the sender is viewing the display with this RF modem installed and operating in a laptop computer or palm/pocket computer from a vendor such as Compaq.

The intended use positions are on the lap using a laptop computer or in the hand using a palm/pocket computer (also known as a PDA or Personal Digital Assistant).

This device transmits in the 806-825 MHz band. The maximum conducted power, as defined by the production line final test station upper limit, is 0.7 watts. Transmission employs time division multiplexing to support pocket data transmission at a maximum duty cycle of 67.5 % occurring with 81/120 time slots.

The sample unit tested for this report is identical to intended production units.

The wireless modem product is offered with accessories listed below. (Refer to appendix D for illustrations of test configurations and how product is used.)

Antenna:

- FAF5055A ¼ wave, non-retractable, freq. range 806-870MHz

Battery:

- NNTN4051A 3.6 volt Lithium Ion, 500 mAh

Optional accessories:

- NKN6557A Adapter cable for external antenna
- HAF9067A Mobile antenna, roof mount, ½ wave, 3 dB gain, 806-900 MHz
- RAF4136AMM Mobile antenna, magnetic mount, ½ wave, 3 dB gain, 806-866 MHz
- FAD5524AA Mobile antenna, window mount, ½ wave, 3 dB gain, 806-869 MHz

3.1 Test Signal

Test Signal Source:

Test Mode [X] Base Station [ ] Simulator [ ] Native Transmission Mode [X]

Signal Modulation:

CW	
TDMA	**X**
Other	

3.2 Test Output Power

The conducted output power was measured across the transmit band using a Gigatronics power meter model 8541C.

4.0 Description of Test Equipment

4.1 Descriptions of SAR Measurement System

The laboratory utilizes a Dosimetric Assessment System (DASY™) SAR measurement system manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The SAR measurements were conducted with the probe ET3DV6 serial number 1417. The system performance check was conducted daily and within 24 hours prior to testing. Copy of the probe calibration certificates are included in appendix C, and the DASY output files of all of the system performance test results are included in appendix B. The table below summarizes the average and range of all system performance checks.

Probe/Serial #	Probe Calibration date	Dipole Kit/ Serial #	System Perf. Result when normalized to 1W (mW/g)	Reference SAR @ 1W (mW/g)
ET3DV6R/1417	Mar. 16, 2001	835-001	9.0 ±5.8%	9.4 ±10%

The DASY™ system is operated per the instructions in the DASY™ Users Manual. The entire manual is available directly from SPEAG™.

4.2 Description of Phantom

4.2.1 Flat Phantom:

A rectangular shaped box made of Plexi-glass and mounted on a supporting non-metallic structure that has an opening at the center for positioning the device. This phantom is compliant with FCC requirements of Supplement-C Edition 01-01 to OET Bulletin 65.

Length	59 cm
Width	36 cm
Bottom Shell Thickness (mm)	0.2 cm

4.3 Simulated Tissue Properties:

The simulated tissue used is compliant to that specified in FCC Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01).

4.3.1 Type of Simulated Tissue

Simulated Tissue	**Body Position**
Body	Abdomen

4.3.2 Simulated Tissue Composition

	Tissue Composition
Di-Water	53.06%
Sugar	44.9%
Salt	0.94%
HEC	1%
Dowicil75	0.1%

Note: HEC (HYDROXYETHYL CELLULOSE) is a gelling agent and Dowicil 75 is anti bacterial compound.

Characterization of Simulated tissue materials and ambient conditions:
Simulated tissue prepared for SAR measurements is measured daily and within 24 hours prior to actual SAR testing to verify 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 for 835MHz.

	Body
Di-electric Constant	55.2
Conductivity – S/m	0.97

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^{o}C of the temperature at which the dielectric properties were determined. 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 and the table below represents the environmental conditions during the SAR tests reported herein:

Ambient Temperature	23.6^{o}C
Relative Humidity	32 %
Tissue Temperature	23.3^{o}C

The EME Lab RF environment is monitored with a Spectrum Analyzer to preclude extraneous large signal RF contaminants that could possibly affect the test results. If such unwanted signals are discovered the SAR scans are repeated however the lab environment is sufficiently protected that no SAR impacting interference has ever been experienced.

5.0 Description of Test Procedure

The modem portable antenna, battery, and host computers (laptop and palm/pocket) were included in the SAR test plan in order to determine the highest SAR levels. The modem design incorporates power leveling versus frequency circuitry. The radio was always placed in continuous transmit mode (packet data maximum duty cycle of 67.5%) for the duration of the scan and each SAR scan was initiated with a fully charged battery. SAR tests were performed at the center of the band as well as at the band edges. Since the modem antenna design does not facilitate taking conducted power measurements before and after SAR readings, the power measurements were taken and recorded verses time; this data was used for the initial and end power references for each SAR scan. This data is summarized in Table 7.1.

5.1 Device Test Positions

The modem was tested in five configurations which are described below and are illustrated in Appendix-D.

Configuration #1:
Is with the modem inserted into a laptop computer (PC) and the bottom of the PC up against the flat phantom with the modem antenna down and parallel to the phantom.

Configuration #2:
Is with the modem inserted into a laptop computer (PC) and the bottom of the PC up against the flat phantom with the modem antenna up and perpendicular to the phantom.

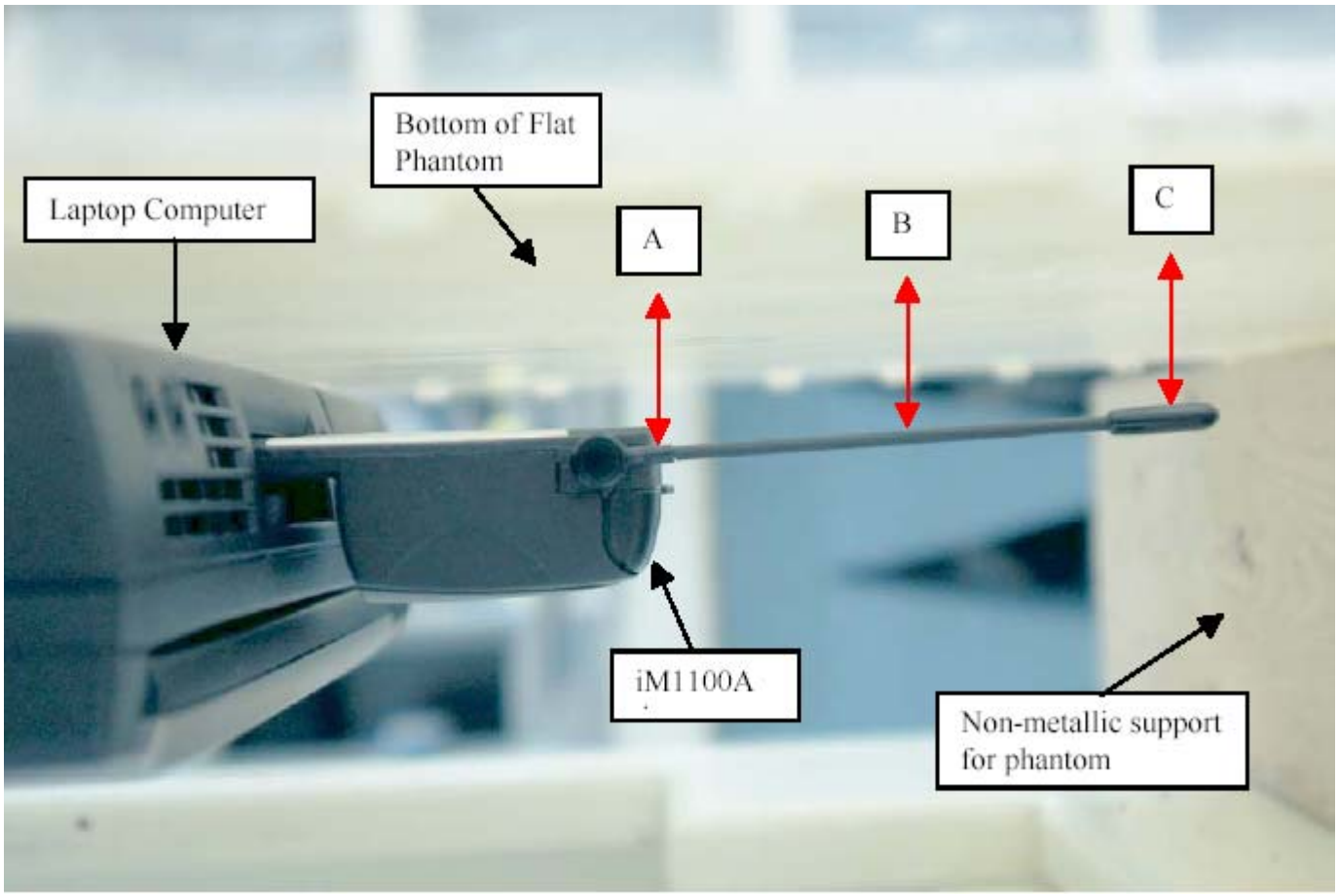
Configuration #3:
Is with the modem inserted into a laptop computer (PC) and the modem side of the PC with antenna up, parallel to, and 2.54cm away from the phantom.

Configuration #4:
Is with the modem inserted into a palm/pocket computer (PDA) and the bottom of the PDA up against the flat phantom with the modem antenna up and perpendicular to the phantom.

Configuration #5:
Is with the modem inserted into a palm/pocket computer (PDA) and the bottom of the PDA up against the flat phantom with the modem antenna down and parallel to the phantom.

Reference figures 1 and 2 for iM1100A modem with antenna orientation and distances relative to phantoms. Figure 3 provides an overall perspective of the Robot test system.

Figure 1: iM1100A with Laptop Computer

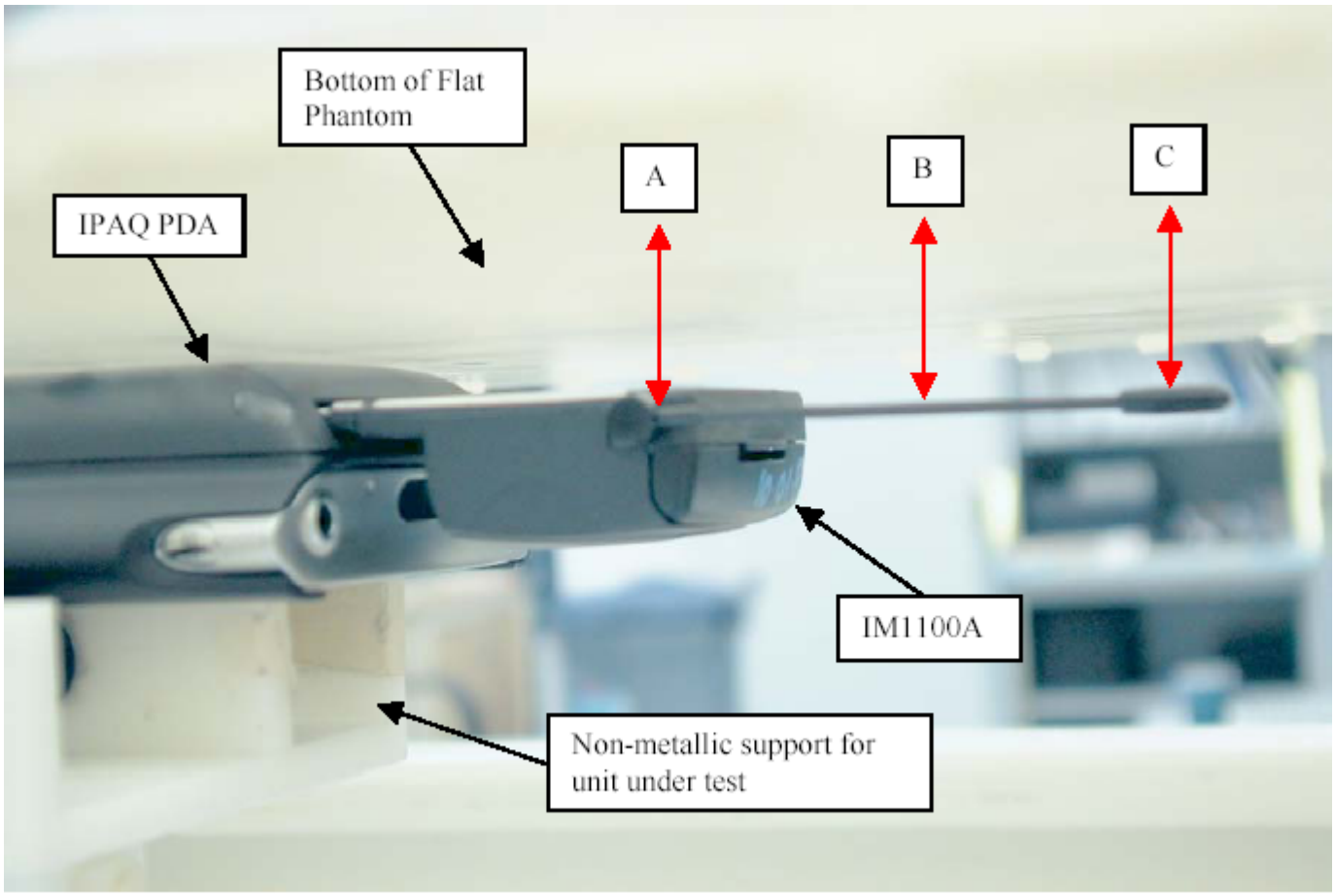


Dim A = Distance from surface of antenna base to phantom surface = 15mm

Dim B= Distance from surface of antenna center to phantom surface = 15mm

Dim C= Distance from antenna surface tip to phantom surface = 15mm

Figure 2: iM1100A with iPAQ PDA Palm/Pocket Computer

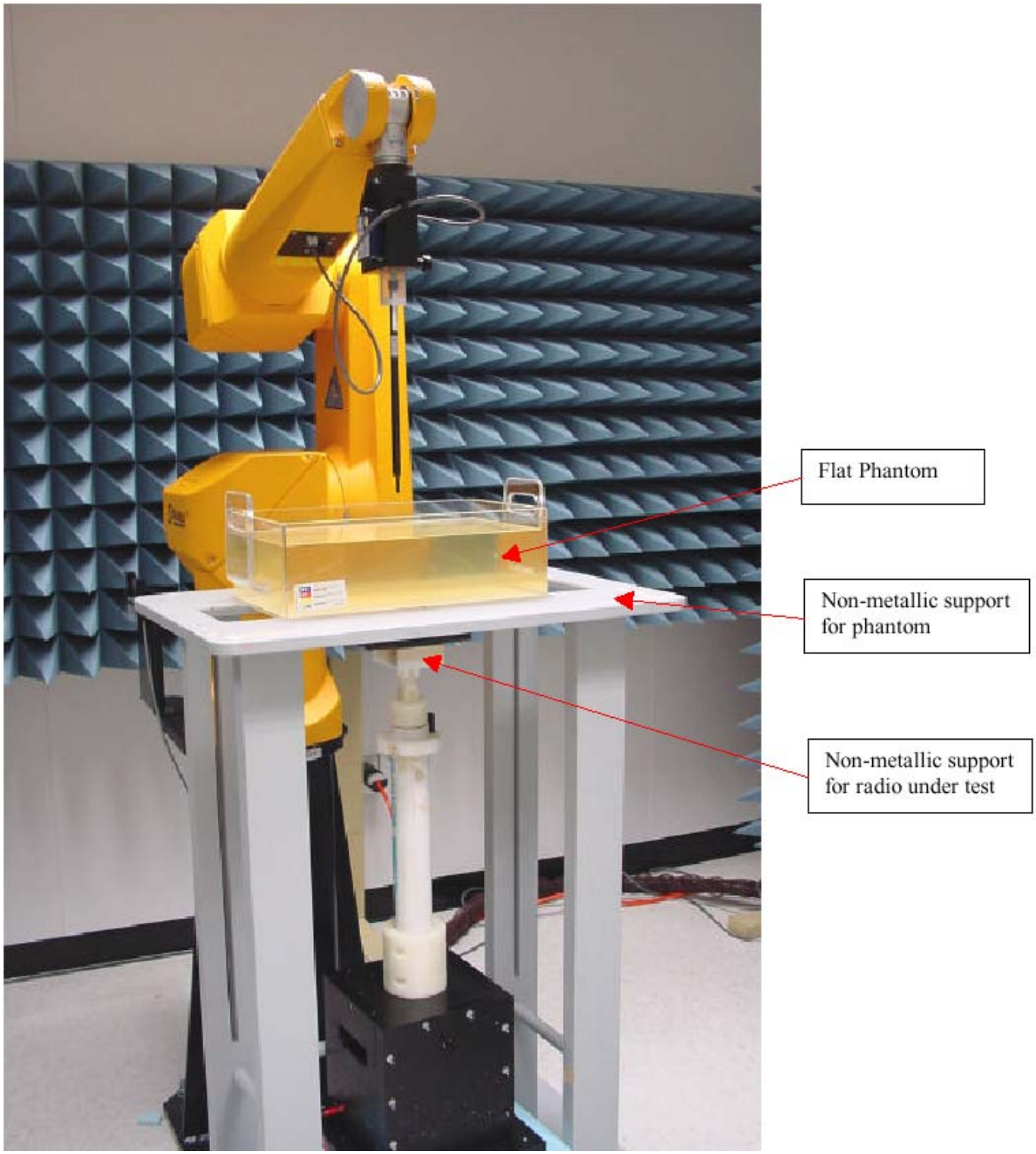


Dim A = Distance from surface of antenna base to phantom surface = 12mm

Dim B= Distance from surface of antenna center to phantom surface = 12mm

Dim C= Distance from antenna surface tip to phantom surface = 12mm

Figure 3: Robot Test System



5.2 Probe Scan Procedures

The E-field probe is first scanned in a coarse grid over a large area inside the phantom in order to locate the interpolated maximum SAR 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 for reference for the cube evaluations.

6.0 Measurement Uncertainty:

The table below list the uncertainty estimate of the possible errors that are associated with the measurement system.

Uncertainty Description	Standard Uncertainty
Probe Uncertainty	
- Axial Isotropy	±2.4 %
- Spherical Isotropy	±4.8 %
- Spatial Resolution	±0.5 %
- Linearity Error	±2.7 %
- Calibration Error	±8 %
Evaluation Uncertainty	
- Data Acquisition Error	±0.60 %
- ELF and RF Disturbances	±0.25 %
- Conductivity Assessment	±5 %
Spatial Peak SAR Evaluation Uncertainty	
- Extrapolation and boundary effects	±3%
- Probe positioning	±1 %
- Integration and cube orientation	±3 %
- Cube shape inaccuracies	±1.2 %
- Device positioning	±1.0 %

The Total Measurement Uncertainty is ± 12.1 %. The Expanded Measurement Uncertainty is ± 24.2 % (k=2)

7.0 SAR Test Results:

All SAR results yielded by the tests described in Section 5.0 are listed in the tables below for each body position. The DASY™ measurement system's output files for bolded data indicated in tables below are provided in appendix A.

7.1 SAR results at the abdomen:

Antenna/ Run Number	Freq. (MHz)	Battery	Configuration	Antenna Position	Dist. @ Antenna Base to Phantom (mm)	Initial Power (W)	End Power (W)	Measured 1g-SAR 100% duty cycle (mW/g)
Configuration-1: iM1100 in a laptop PC, bottom of PC up against the flat phantom, and antenna down.								
FAF5055A/ 010902-02	806	NNTN4051A	Laptop Computer	Down	15	0.70	0.58	1.27
FAF5055A/ 010902-04	813	NNTN4051A	Laptop Computer	Down	15	0.70	0.58	1.26
FAF5055A/ 010902-06	821	NNTN4051A	Laptop Computer	Down	15	0.70	0.58	**1.42**
FAF5055A/ 010902-08	825	NNTN4051A	Laptop Computer	Down	15	0.70	0.58	1.29
Configuration-2: iM1100 in a laptop PC, bottom of PC up against the flat phantom, and antenna up.								
FAF5055A/ 010902-03	806	NNTN4051A	Laptop Computer	Up	15	0.70	0.58	**0.789**
FAF5055A/ 010902-05	813	NNTN4051A	Laptop Computer	Up	15	0.70	0.58	0.672
FAF5055A/ 010902-07	821	NNTN4051A	Laptop Computer	Up	15	0.70	0.58	0.766
FAF5055A/ 010902-09	825	NNTN4051A	Laptop Computer	Up	15	0.70	0.58	0.692
Configuration-3: iM1100 in a laptop PC with iM1100 antenna up and 2.5 cm from flat phantom.								
FAF5055A/ 010902-10	813	NNTN4051A	Laptop Computer	Up	25	0.70	0.58	0.190
FAF5055A/ 010902-11	825	NNTN4051A	Laptop Computer	Up	25	0.70	0.58	**0.213**
Configuration-4: iM1100 in palm/pocket computer, bottom of PC up against the flat phantom, and antenna up.								
FAF5055A/ 010903-03	813	NNTN4051A	Palm/Pocket Computer	Up	12	0.70	0.59	0.138
Configuration-5: iM1100 in palm/pocket computer, bottom of PC up against the flat phantom, and antenna down.								
FAF5055A/ 010903-02	813	NNTN4051A	Palm/Pocket Computer	Down	12	0.70	0.59	**0.366**

8.0 Conclusion

The highest Operational Measured 1-gram average SAR values found for the iM1100A wireless modem model number H54UAA6RR1AN was:

1.42 mW/g

These test results clearly demonstrate compliance with FCC General Population/Uncontrolled RF Exposure limits of 1.6 W/kg per the requirements of 47 CFR 2.1093(d).

Appendix A: Data Results

iM1100A; Test Date: 09/02/01

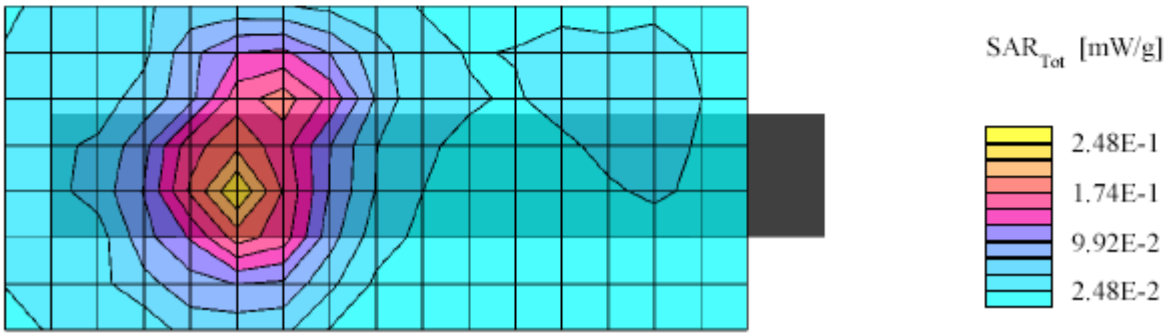
Product Name: iM1100A Date:010902
Model Number: H54UAA6RR1AN SN:831SBN0004
Run Number:010902-06 Run duration:22min
TX FREQ:820.9875MHz ANTENNA Pos:Horizontal
Tested with Antenna horizontal (Extended level and away from Laptop computer)
Antenna Distance to Phantom: A(Base):15mm B(center):15mm C(tip):15mm
Accessories: Battery(NNTN4051A) Antenna(FAF5055A)
Tissue temp:23.3 Room Temp:23.6 RH:32%
probe:1417 cal date:010316
Large Flat Patrick Stand Phantom; iM1100A Section; Position: (90°,0°);
Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Probe cal date: 16/03/01; Crest factor: 1.5; 809 Body: σ = 0.97 mho/m ε_r = 52.6 ρ = 1.00 g/cm^3
Cube 5x5x7:SAR (1g): 1.42 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 90.0, 87.0, 4.5

iM1100A; Test Date: 09/02/01

Product Name: iM1100A Date:010902
Model Number: H54UAA6RR1AN SN:831SBN0004
Run Number:010902-03 Run duration:22min
TX FREQ:806.0125MHz ANTENNA Pos:Vertical
Tested with Antenna Vertical(Extended upward) and Laptop computer
Antenna Distance to Phantom: A(Base):15mm
Accessories: Battery(NNTN4051A) Antenna(FAF5055A)
Tissue temp:23.3 Room Temp:23.6 RH:32%
probe:1417 cal date:010316
Large Flat Patrick Stand Phantom; iM1100A Section; Position: (90°,0°);
Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Probe cal date: 16/03/01; Crest factor: 1.5; 809 Body: σ = 0.98 mho/m ε_r = 53.4 ρ = 1.00 g/cm^3
Cube 5x5x7:SAR (1g): 0.789 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 100.5, 90.0, 4.5

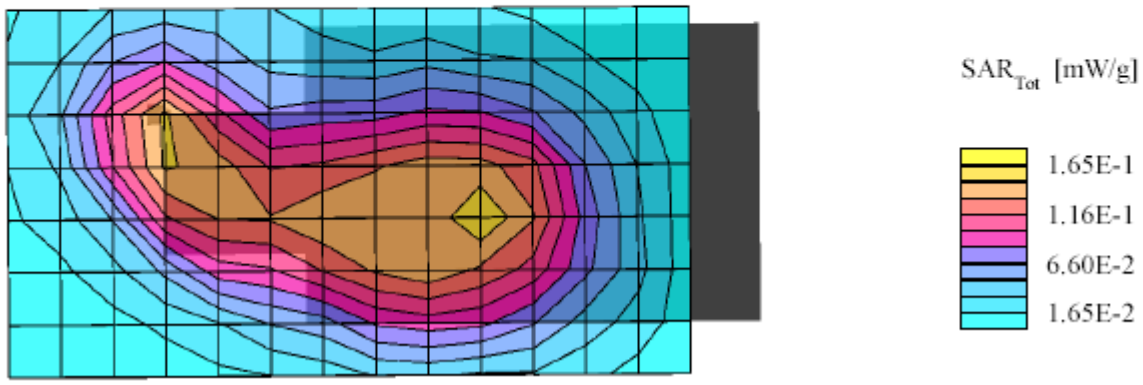
iM1100A; Test Date: 09/02/01

Product Name: iM1100A Date:010902
Model Number: H54UAA6RR1AN SN:831SBN0004
Run Number:010902-11 Run duration:20min
TX FREQ:824.9875MHz ANTENNA Pos:Vertical
Tested with Antenna parallel to phantom suface and Laptop computer
Edge of Modem 2.5cm from Phantom Surface
Accessories: Battery(NNTN4051A) Antenna(FAF5055A)
Tissue temp:23.3 Room Temp:23.6 RH:32%
probe:1417 cal date:010316
Large Flat Patrick Stand Phantom; iM1100A Section; Position: (180°,0°);
Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Probe cal date: 16/03/01; Crest factor: 1.5; 809 Body: σ = 0.97 mho/m ε_r = 52.6 ρ = 1.00 g/cm^3
Cube 5x5x7:SAR (1g): 0.213 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 60.0, 75.0, 4.5



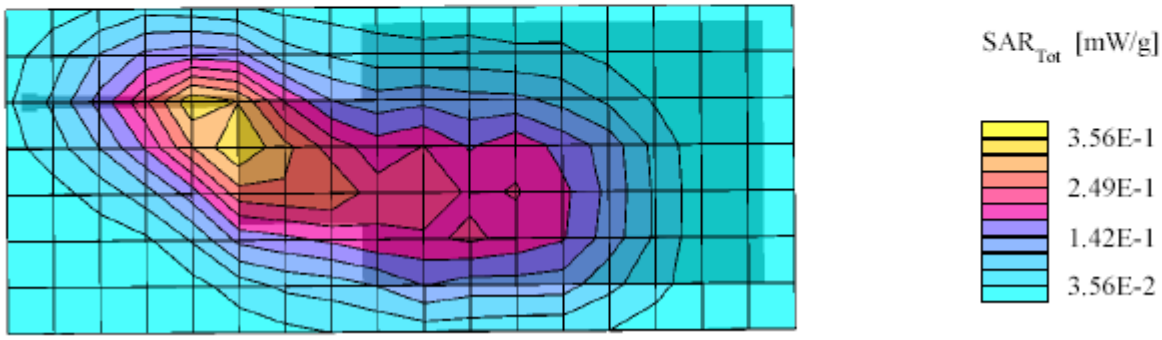
iM1100A-iPAC; Test Date: 09/03/01

Product Name: iM1100A Date:010903
Model Number: H54UAA6RR1AN SN:831SBN0004
Run Number:010903-03 Run duration:18min
TX FREQ:813.5625MHz ANTENNA Pos:Vertical
Tested with Antenna Vertical(Extended upward)
Accessories: Battery(NNTN4051A) Antenna(FAF5055A), iPAQ PDA
Antenna Distance to Phantom: A(Base):12mm
Tissue temp:23.3 Room Temp:23.6 RH:32%
probe:1417 cal date:010316
Large Flat Patrick Stand Phantom; iM1100A Section; Position: (90°,0°);
Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Probe cal date: 16/03/01; Crest factor: 1.5; 809 Body: σ = 0.97 mho/m ε_r = 52.7 ρ = 1.00 g/cm³
Cube 5x5x7:SAR (1g): 0.138 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 58.5, 58.5, 4.5



iM1100A-iPAC; Test Date: 09/03/01

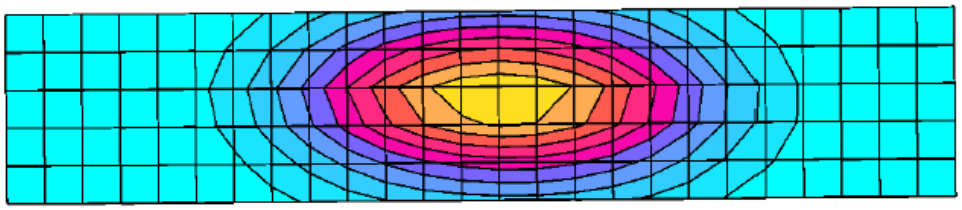
Product Name: iM1100A Date:010903
Model Number: H54UAA6RR1AN SN:831SBN0004
Run Number:010903-02 Run duration:18min
TX FREQ:813.5625MHz ANTENNA Pos:Horizontal
Tested with Antenna Horizontal(Parallel ot Phantom surface)
Accessories: Battery(NNTN4051A) Antenna(FAF5055A), iPAQ PDA
Antenna Distance to Phantom: A(Base):12mm B(center)12mm C(tip):12mm
Tissue temp:23.3 Room Temp:23.6 RH:32%
probe:1417 cal date:010316
Large Flat Patrick Stand Phantom; iM1100A Section; Position: (90°,0°);
Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Probe cal date: 16/03/01; Crest factor: 1.5; 809 Body: σ = 0.97 mho/m ε_r = 52.7 ρ = 1.00 g/cm^3
Cube 5x5x7:SAR (1g): 0.366 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 187.5, 36.0, 4.5

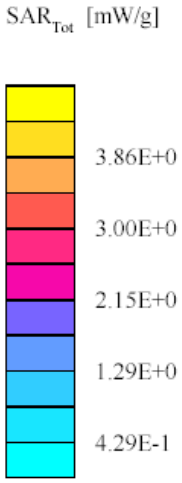


Appendix B: Dipole System Performance Check Results

dipole 835

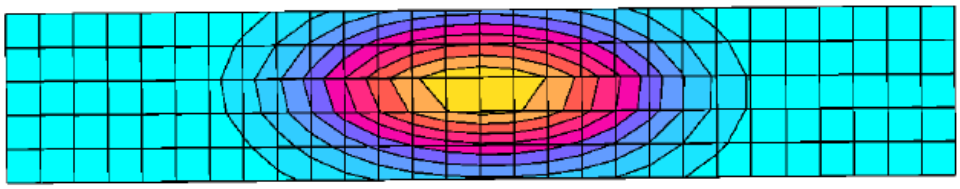
Run #: 010902-01; Input power 500mW
RT:23 TT:23.6 RH:32%
Large Flat Patrick Stand;
Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Crest factor: 1.0; 809 Body: σ = 0.97 mho/m ε_r = 52.7 ρ = 1.00 g/cm³
Cube 5x5x7: Peak: 6.47 mW/g, SAR (1g): 4.25 mW/g, SAR (10g): 2.76 mW/g, (Worst-case extrapolation)
Penetration depth: 12.3 (11.7, 13.3) [mm]
Powerdrift: 0.00 dB

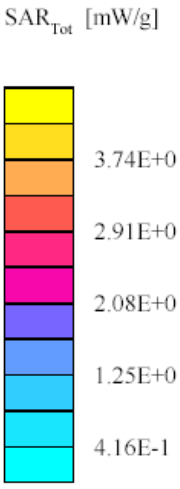




dipole 835

Run #: 010903-01; Input power 500mW
RT:23 TT:23.3 RH:32%
Large Flat Patrick Stand;
Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Crest factor: 1.0; 809 Body: σ = 0.97 mho/m ε_r = 52.7 ρ = 1.00 g/cm^3
Cube 5x5x7: Peak: 6.44 mW/g, SAR (1g): 4.23 mW/g, SAR (10g): 2.75 mW/g, (Worst-case extrapolation)
Penetration depth: 12.4 (11.7, 13.4) [mm]
Powerdrift: 0.02 dB





Appendix C: Measurement Probe Calibration Certificate

Schmid & Partner
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

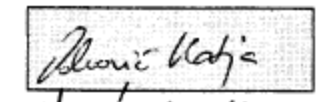
Calibration Certificate

Dosimetric E-Field Probe

Type	**ET3DV6R**
Serial Number:	**1417**
Place of Calibration:	**Zurich**
Date of Calibration:	**Mar. 16, 2001**
Calibration Interval	**12 months**

Schmid & Partner Engineering AG hereby certifies, that this device has been calibrated on the date indicated above. The calibration was performed in accordance with specifications and procedures of Schmid & Partner Engineering AG.

Wherever applicable, the standards used in the calibration process are traceable to international standards. In all other cases the standards of the Laboratory for EMF and Microwave Electronics at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland have been applied.

Calibrated by	
Approved by	

DASY3 - Parameters of Probe: ET3DV6R SN:1417

Sensitivity in Free Space

NormX	2.46 $\mu V/(V/m)^2$
NormY	2.35 $\mu V/(V/m)^2$
NormZ	2.47 $\mu V/(V/m)^2$

Diode Compression

DCP X	95 mV
DCP Y	95 mV
DCP Z	95 mV

Sensitivity in Tissue Simulating Liquid

Head **450 MHz** ε_r = 43.5 ± 5% σ = 0.87 ± 10% mho/m

41.35 45.67 .826 — .913

ConvF X	6.41	extrapolated	Boundary effect:
ConvF Y	6.41	extrapolated	Alpha 0.29
ConvF Z	6.41	extrapolated	Depth 3.07

Head **900 MHz** ε_r = 42 ± 5% σ = 0.97 ± 10% mho/m

ConvF X	5.97	± 7% (k=2)	Boundary effect:
ConvF Y	5.97	± 7% (k=2)	Alpha 0.37
ConvF Z	5.97	± 7% (k=2)	Depth 2.76

Head **1500 MHz** ε_r = 40.4 ± 5% σ = 1.23 ± 10% mho/m

ConvF X	5.39	interpolated	Boundary effect:
ConvF Y	5.39	interpolated	Alpha 0.49
ConvF Z	5.39	interpolated	Depth 2.36

Head **1800 MHz** ε_r = 40 ± 5% σ = 1.40 ± 10% mho/m

ConvF X	5.10	± 7% (k=2)	Boundary effect:
ConvF Y	5.10	± 7% (k=2)	Alpha 0.54
ConvF Z	5.10	± 7% (k=2)	Depth 2.15

Sensor Offset

Probe Tip to Sensor Center	2.7	mm

Schmid & Partner
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

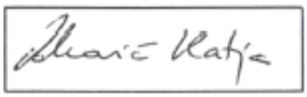
Additional Conversion Factors

for Dosimetric E-Field Probe

Type:	**ET3DV6R**
Serial Number:	**1417**
Place of Assessment:	**Zurich**
Date of Assessment:	**April 20, 2001**
Probe Calibration Date:	**March 16, 2001**

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.

Approved by:



Dosimetric E-Field Probe ET3DV6 SN:1417

Conversion factor (± standard deviation)

450 MHz	ConvF	6.69 ± 8%	ε_r = 47.0 σ = 0.63 mho/m (brain tissue)
835 MHz	ConvF	6.10 ± 8%	ε_r = 44.0 σ = 0.90 mho/m (brain tissue)
925 MHz	ConvF	5.93 ± 8%	ε_r = 44.0 σ = 0.93 mho/m (brain tissue)
1500 MHz	ConvF	5.34 ± 8%	ε_r = 41.1 σ = 1.00 mho/m (brain tissue)
1900 MHz	ConvF	4.86 ± 8%	ε_r = 39.9 σ = 1.42 mho/m (brain tissue)
150 MHz	ConvF	7.93 ± 8%	ε_r = 70.00 σ = 0.75 mho/m (muscle tissue)
450 MHz	ConvF	6.67 ± 8%	ε_r = 58.0 σ = 1.00 mho/m (muscle tissue)
835 MHz	ConvF	6.05 ± 8%	ε_r = 52.0 σ = 1.10 mho/m (muscle tissue)
925 MHz	ConvF	5.91 ± 8%	ε_r = 52.0 σ = 1.20 mho/m (muscle tissue)
1500 MHz	ConvF	5.50 ± 8%	ε_r = 41.2 σ = 1.48 mho/m (muscle tissue)
1920 MHz	ConvF	4.63 ± 8%	ε_r = 51.5 σ = 1.95 mho/m (muscle tissue)

PROBE: ET3DV6R - SN:1417
(measured ConvF for 900 MHz brain was 5.97 ± 7%)

frequency	epsilon range	sigma range	ConvF ± st.dev
835 MHz	52.0 -58.0	0.92 - 1.02	5.9 ± 8%

frequency	epsilon range	sigma range	ConvF ± st.dev.
925 MHz	52.2 - 57.7	1.01 - 1.11	5.7 ± 8%

Appendix D: Illustrations of Test Configurations

Configuration #1: iM1100 in a laptop PC, bottom of PC up against the flat phantom, 0 spacing, <u>Antenna DOWN.</u>

Flat Phantom

Configuration #2: iM1100 in a laptop PC, bottom of PC up against the flat phantom, 0 spacing, <u>Antenna UP.</u>

Flat Phantom

Configuration #3: iM1100 in a laptop PC, <u>Antenna UP.</u> The flat phantom is 1" away from the iM1100 PCMCIA Modem, and to the right of it.

Configuration #4: iM1100 in a Compaq iPAQ PDA, <u>Antenna UP.</u> The bottom of the PDA up is against the flat phantom, 0 spacing.

Flat Phantom

Configuration #5: iM1100 in a Compaq iPAQ PDA, <u>Antenna DOWN.</u> The bottom of the PDA up is against the flat phantom, 0 spacing.

Flat Phantom