Specific Absorption Rate (SAR) Test Report
for
Sierra Wireless, Inc.
on the
CDMA Transceiver
Model: Aircard 510

Test Report: J20007760
Date of Report: March 20, 2000

NVLAP Laboratory Code 200201-0
Accredited for testing to FCC Parts 15

Tested by: Xi-Ming Yang	Xi-Ming Yang
Reviewed by: David Chernomordik	David Chernomordik

Table of Contents

1 JOB DESCRIPTION

1.1 Client Information

The EUT has been tested at the request of

Company: Sierra Wireless, Inc.
150-13575 Commerce Parkway
Richmond, B.C.
Canada V6V 2L1

Name of contact: Mr. Dominique Kwong
Telephone: (604) 231 1181
Fax: (604) 231 1109

1.2 Equipment under test (EUT)

Product Descriptions:

Equipment	CDMA Transceiver		
Trade Name	Sierra Wireless	Model No.	Aircard 510
FCC ID	N7NACRD510	S/N No.	N/A
Category	Portable	RF Exposure	Uncontrolled Environment
Frequency Band (uplink)	1851-1909 MHz	System	CDMA

EUT Antenna Description			
Type	Dipole	Configuration	Fixed, 360° Rotation
Dimensions	66mm (L),	Gain	-1 dBi
Location	Left		

Use of Product : Data communications

Manufacturer: SAME as above.

Production is planned: [X] Yes, [ ] No

EUT receive date: 3/11/00

EUT received condition: Good working condition prototype

Test start date: 3/11/00

Test end date: 3/18/00

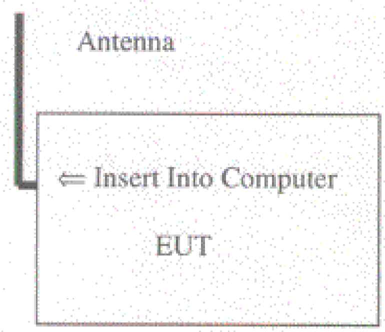
1.3 Test plan reference

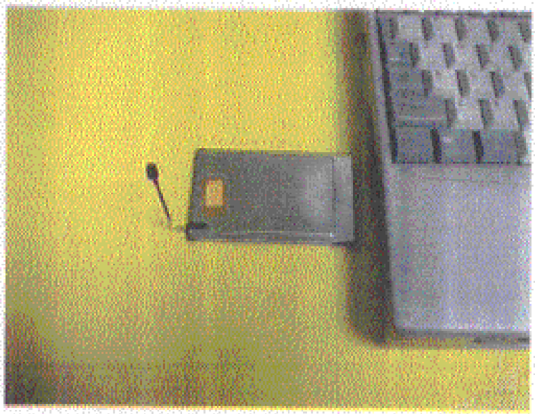
FCC rule part 2.1093, FCC Docket 96-326 & Supplement C to OET Bulletin 65

1.4 System test configuration

1.4.1 System block diagram & Support equipment

The diagram shown below details test configuration of the equipment under test .





Unit with antenna

S: Shielded	**U:** Unshield	**F:** With Ferrite Core

Support equipment					
Equp. #	**Equipment**	**Manufacturer**	**Model #**	**S/N #**	**FCC ID**
---	Notebook Computer	Toshiba	PA1123U	0361997	NA

1.4.2 Test Position

Three test configurations were used to show compliance with the FCC RF human exposure requirements. In all configuration, the EUT was configured for testing in a typical fashion (as a customer would normally use it). Due to the application and usage of the product, SAR measurements with the human head region is not necessary. Table 1 below describes the setup and condition:

Table 1, Equipment setup	
Configuration	**Description**
A	• Antenna in vertical position, distance from antenna to Phantom = 14.5mm • Simulating close proximity of human body
B	• Antenna in horizontal position, distance from antenna to Phantom = 14.5mm • Simulating close proximity of human body
C	• Antenna in horizontal position, distance from antenna to Phantom = 14.5mm • Simulating close proximity of human body

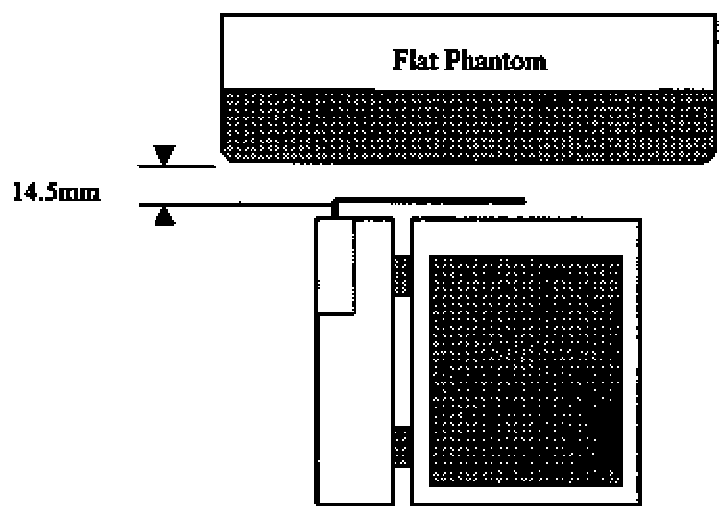


Figure 1a: Configuration A

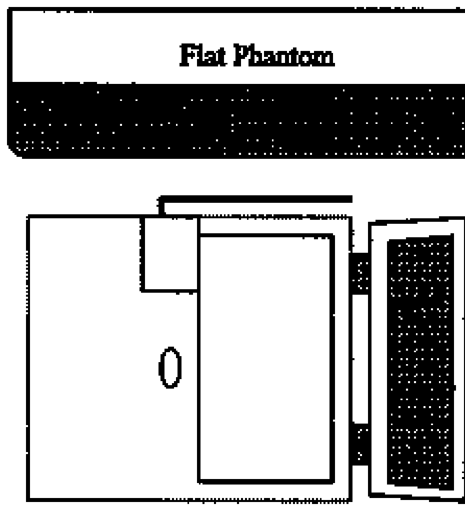


Figure 1b: Configuration B

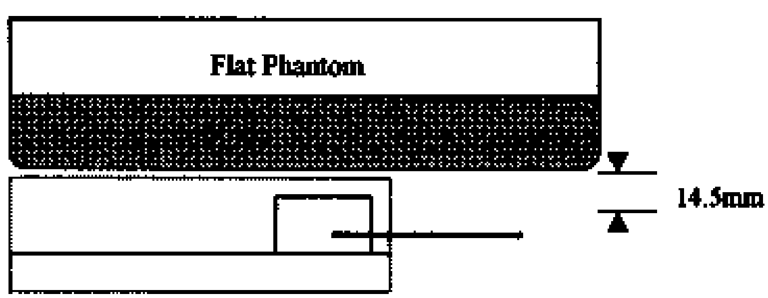


Figure 1c: Configuration C

1.4.3 Test Condition

During tests, the worst case data (max. RF coupling) was determined with following conditions:

EUT Antenna	Fixed length	Orientation	N/A
Usage	Operates with a portable computer	Distance between antenna axis at the joint and the liquid surface	14.5mm
Simulating human Body/hand	Yes	EUT Battery	Unit powered from host computer.
Power output	25.0 dBm (Maximum power at antenna port)		

The spatial peak SAR values were accessed for lowest, middle and highest operating channels defined by the manufacturer.

Antenna port power measurement was performed, with the HP 435A power meter, before and after the SAR tests to ensure that the EUT operated at the highest power level.

1.5 Modifications required for compliance

No modifications were implemented by Intertek Testing Services.

1.6 Additions, deviations and exclusions from standards

No additions, deviations or exclusions have been made from standard.

2 SAR EVALUATION

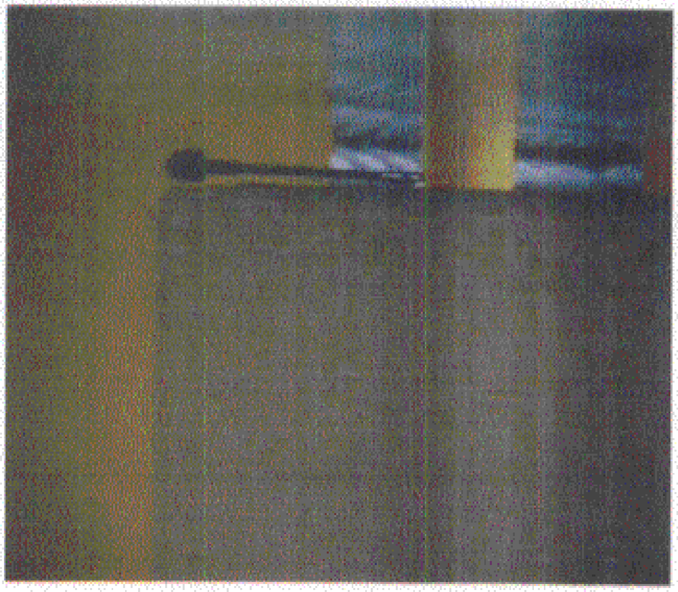
2.1 SAR Limits

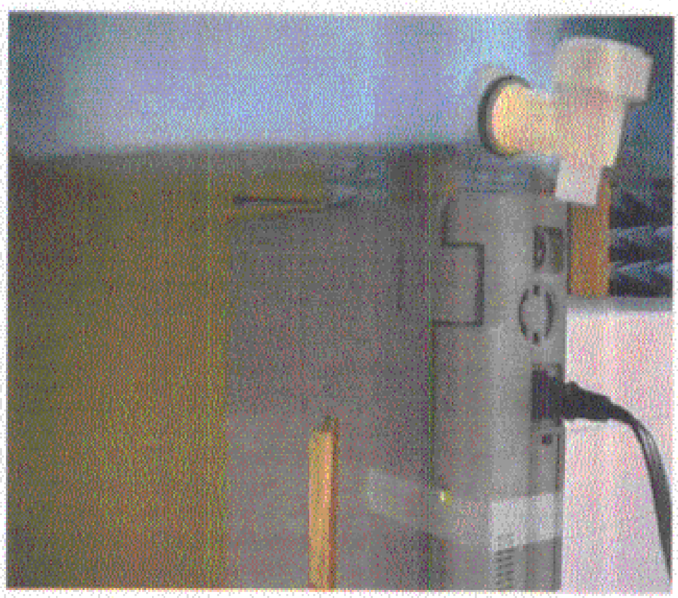
The following FCC limits for SAR apply to devices operate in General Population/Uncontrolled Exposure environment:

EXPOSURE (General Population/Uncontrolled Exposure environment)	SAR (W/kg)
Average over the whole body	0.08
Spatial Peak (1g)	1.60
Spatial Peak for hands, wrists, feet and ankles (10g)	4.00

2.2 Configuration Photographs

Worst-Case SAR measurement
(Configuration A)



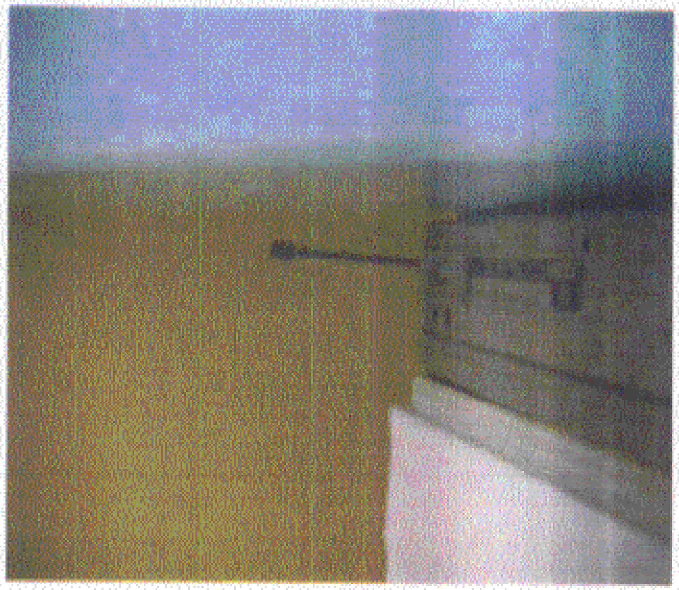


2.2 Configuration Photographs - Continued

Worst-Case SAR measurement
(Configuration B)

2.2 Configuration Photographs - Continued

Worst-Case SAR measurement
(Configuration C)



2.3 System Verification

Prior to the assessment, the system was verified to the ±5% of the specifications by using the system validation kit. The validation was performed at 1800 MHz.

Validation kit	Targeted SAR_{1g} (mW/g)	Measured SAR_{1g} (mW/g)
D1800V2, S/N #: 224	0.721	0.720

2.4 Evaluation Procedures

The SAR evaluation was performed with the following procedures:

a. SAR was measured at a fixed location above the reference point and used as a reference value for the assessing the power drop.

b. The SAR distribution at the exposed side of the flat Phantom was measured at a distance of 30 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 20 mm x 20 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.

c. Around this point, a volume of 32 mm x 32 mm x 34 mm was assessed by measuring 5 x 5 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

   i) The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measurement point is 1.6 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in Z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

   ii) The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3-D spline interpolation algorithm. The 3-D spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y and z directions). The volume was integrated with the trapezoidal algorithm. 1000 points (10 x 10 x 10) were interpolated to calculate the average.

   iii) All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

d. Re-measurement of the SAR value at the same location as in step a. above. If the value changed by more than 5 %, the evaluation was repeated.

2.5 Test Results

The results on the following page(s) were obtained when the device was tested in the condition described in this report. Detail measurement data and plots which reveal information about the location of the maximum SAR with respect to the device, are reported in Appendix A.

Measurement Results

Trade Name:	Aircard 510	Model No.:	
Serial No.:	Not Labeled	Test Engineer:	Xi-Ming Yang

TEST CONDITIONS			
Ambient Temperature	23.5 °C	Relative Humidity	55 %
Test Signal Source	Test Mode	Signal Modulation	CW
Output Power Before SAR Test	25.0 dBm	Output Power After SAR Test	25.0 dBm
Test Duration	20 Min. each test	Number of Battery Change	N/A. Powered from host PC

Configuration A (Human Body/Hand)					
Channel	Operating Mode	Duty Cycle ratio	Antenna Position *	Measured SAR_{1g} (mW/g)	Measured SAR_{10g} (mW/g)
1851	CDMA	1	Vertical	1.17	0.609
1880	CDMA	1	Vertical	0.76	0.39
1909	CDMA	1	Vertical	0.98	0.50

Configuration B (Human Body/Hand)					
Channel	Operating Mode	Duty Cycle ratio	Antenna Position *	Measured SAR_{1g} (mW/g)	Measured SAR_{10g} (mW/g)
1851	CDMA	1	Horizontal	0.96	0.49
1880	CDMA	1	Horizontal	0.61	0.31
1909	CDMA	1	Horizontal	0.74	0.37

Configuration C (Human Body/Hand)					
Channel	Operating Mode	Duty Cycle ratio	Antenna Position *	Measured SAR_{1g} (mW/g)	Measured SAR_{10g} (mW/g)
1850	CDMA	1	Horizontal	1.27	0.68
1880	CDMA	1	Horizontal	0.86	0.47
1909	CDMA	1	Horizontal	0.913	0.49

Configuration D (Human Body/Hand)					
Channel	Operating Mode	Duty Cycle ratio	Antenna Position *	Measured SAR_{1g} (mW/g)	Measured SAR_{10g} (mW/g)
	CDMA	1	Vertical	0.166	0.132
	CDMA	1	Vertical	0.138	0.111
	CDMA	1	Vertical	0.148	0.120

Note: a) Worst case data were reported
b) Duty cycle factor included in the measured SAR data
c) Uncertainty of the system is not included
d) * w.r.t. notebook computer base

3.0 TEST EQUIPMENT

3.1 Equipment List

The Specific Absorption Rate (SAR) tests were performed with the SPEAG model DASY 3 automated near-field scanning system which is package optimized for dosimetric evaluation of mobile radios [3].

The following major equipment/components were used for the SAR evaluations:

SAR Measurement System			
EQUIPMENT	SPECIFICATIONS	S/N #	CAL. DATE
Robot	Stäubli RX60L	S97412-01	N/A
	Repeatability: ± 0.025mm Accuracy: 0.806×10^{-3} degree Number of Axes: 6		
E-Field Probe	ET3DV5	1333	03/18/99
	Frequency Range: 10 MHz to 6 GHz Linearity: ± 0.2 dB Directivity: ± 0.1 dB in brain tissue		
Data Acquisition	DAE3	317	N/A
	Measurement Range: 1μV to >200mV Input offset Voltage: < 1μV (with auto zero) Input Resistance: 200 M		
Phantom	Generic Twin V3.0	N/A	N/A
	Type: Generic Twin, Homogenous Shell Material: Fiberglass Thickness: 2 ± 0.1 mm Capacity: 20 liter Ear spacer: 4 mm (between EUT ear piece and tissue simulating liquid)		
Simulated Tissue	Mixture	N/A	08/06/99
	Please see section 6.2 for details		
Power Meter	HP 435A w/ 8481H sensor	1312A01255	02/1/99
	Frequency Range: 100kHz to 18 GHz Power Range: 300μW to 3W		

3.2 Muscle Tissue Simulating Liquid

Ingredient	Frequency (1800-1900 MHz)
Water	53.93 %
Sugar	44.97 %
Salt	0 %
HEC	1.0 %
Bactericide	0.1 %

The dielectric parameters were verified prior to assessment using the HP 85070A dielectric probe kit and the HP 8753C network Analyzer. The dielectric parameters were:

Frequency (MHZ)	$_r$*	*(mho/m)	**(kg/m^3)
1800	39.25 ± 5%	1.7 ± 10%	1000
1900	38.58 ± 5%	1.81 ± 10%	1000

* *worst case uncertainty of the HP 85070A dielectric probe kit*
** *worst case assumption*

3.3 E-Field Probe Calibration

Probes were calibrated by the manufacturer in the TEM cell ifi 110. To ensure consistency, a strict protocol was followed. The conversion factor (ConF) between this calibration and the measurement in the tissue simulation solution was performed by comparison with temperature measurement and computer simulations. Probe calibration factors are included in Appendix C.

3.4 Measurement Uncertainty

The uncertainty budget has been determined for the DASY3 measurement system according to the NIS81 [5] and the NIST 1297 [6] documents and is given in the following table. The extended uncertainty (K=2) was assessed to be 23.5 %

UNCERTAINTY BUDGET				
Uncertainty Description	**Error**	**Distrib.**	**Weight**	**Std.Dev.**
Probe Uncertainty				
Axial isotropy	±0.2 dB	U-shape	0.5	±2.4 %
Spherical isotropy	±0.4 dB	U-shape	0.5	±4.8 %
Isotropy from gradient	±0.5 dB	U-shape	0	
Spatial resolution	±0.5 %	Normal	1	±0.5 %
Linearity error	±0.2 dB	Rectang.	1	±2.7 %
Calibration error	±3.3 %	Normal	1	±3.3 %
SAR Evaluation Uncertainty				
Data acquisition error	±1 %	Rectang.	1	±0.6 %
ELF and RF disturbances	±0.25 %	Normal	1	±0.25 %
Conductivity assessment	±10 %	Rectang.	1	±5.8 %
Spatial Peak SAR Evaluation Uncertainty				
Extrapol boundary effect	±3 %	Normal	1	±3 %
Probe positioning error	±0.1 mm	Normal	1	±1 %
Integrat. and cube orient	±3 %	Normal	1	±3 %
Cube shape inaccuracies	±2 %	Rectang.	1	±1.2 %
Device positioning	±6 %	Normal	1	±6 %
Combined Uncertainties				**±11.7 %**

3.5 Measurement Tractability

All measurements described in this report are traceable to National Institute of Standards and Technology (NIST) standards or appropriate national standards.

4.0 WARNING LABEL INFORMATION - USA

See attached page.

5.0 REFERENCES

[1] ANSI, *ANSI/IEEE C95.1-1991: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300 GHz*, The Institute of electrical and Electronics Engineers, Inc., New York, NY 10017, 1992

[2] Federal Communications Commission, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", OET Bulletin 65, FCC, Washington, D.C. 20554, 1997

[3] Thomas Schmid, Oliver Egger, and Niels Kuster, "Automated E-field scanning system for dosimetric assessments", *IEEE Transaction on Microwave Theory and Techniques*, vol. 44, pp. 105-113, Jan. 1996.

[4] Niels Kuster, Ralph Kastle, and Thomas Schmid, "Dosimetic evaluation of mobile communications equipment with know precision", IEICE Transactions on Communications, vol. E80-B, no. 5, pp.645-652, May 1997.

[5] NIS81, NAMAS, "The treatment of uncertainty in EMC measurement", Tech. Rep., NAMAS Executive, National Physical Laboratory, Teddinton, Middlesex, England, 1994.

[6] Barry N. Tayor and Chris E. Kuyatt, "Guidelines for evaluating and expressing the uncertainty of NIST measurement results", Tech. Rep., National Institute of Standards and Technology, 1994.

APPENDIX A - SAR EVALUATION DATA

Please note that the graphical visualization of the phone position onto the SAR distribution gives only limited information on the current distribution of the device, since the curvature of the head results in graphical distortion. Full information can only be obtained either by H-field scans in free space or SAR evaluation with a flat phantom.

Powerdrift is the measurement of power drift of the device over one complete SAR scan.

Graph #	Configuration	Antenna Position	Channel (MHz)
1	A	Vertical	1851
2	A	Vertical	1880
3	A	Vertical	1909
4	B	Horizontal	1851
5	B	Horizontal	1880
6	B	Horizontal	1909
7	C	Horizontal	1851
8	C	Horizontal	1880
9	C	Horizontal	1909

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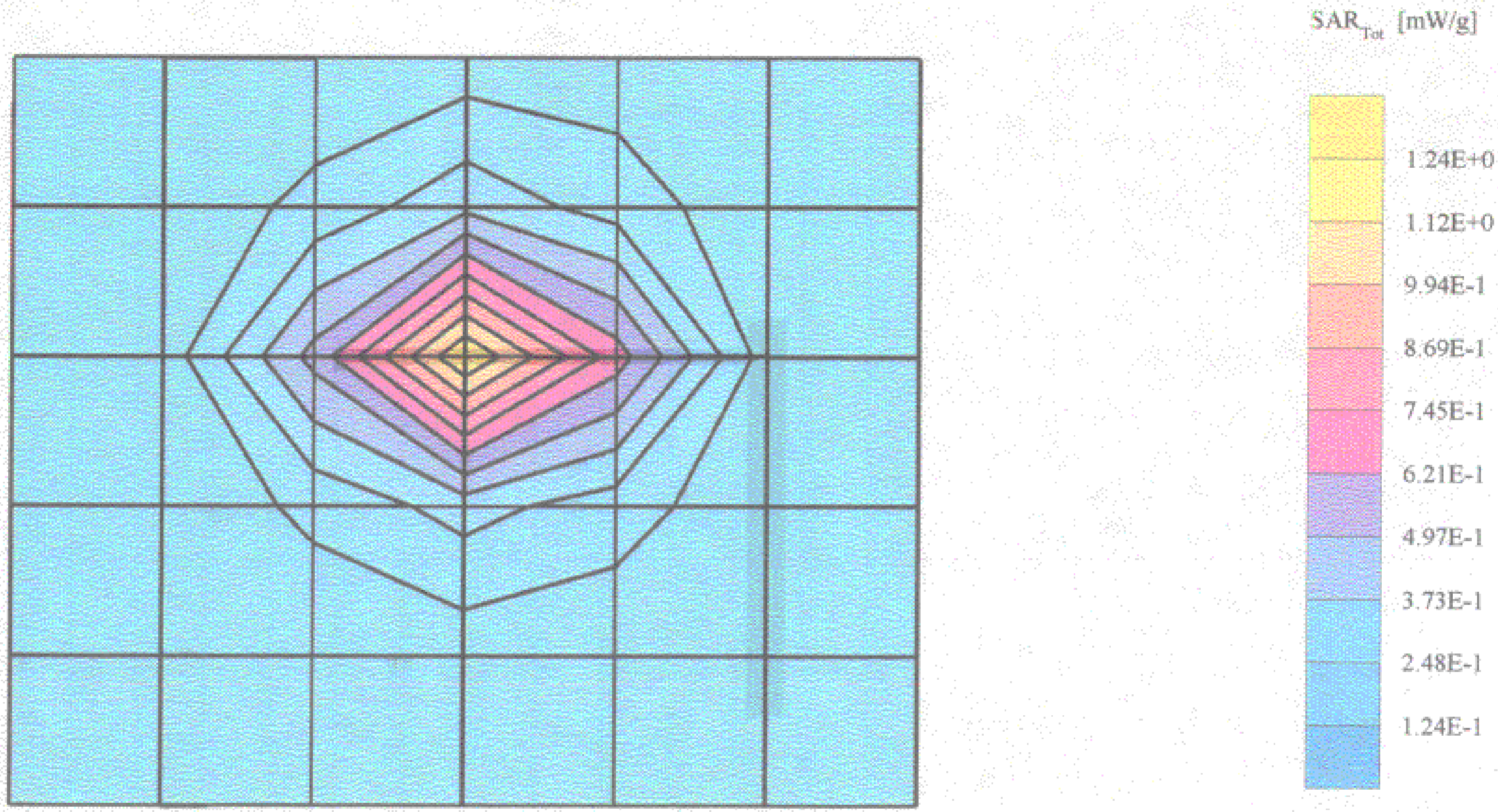
Aircard 510

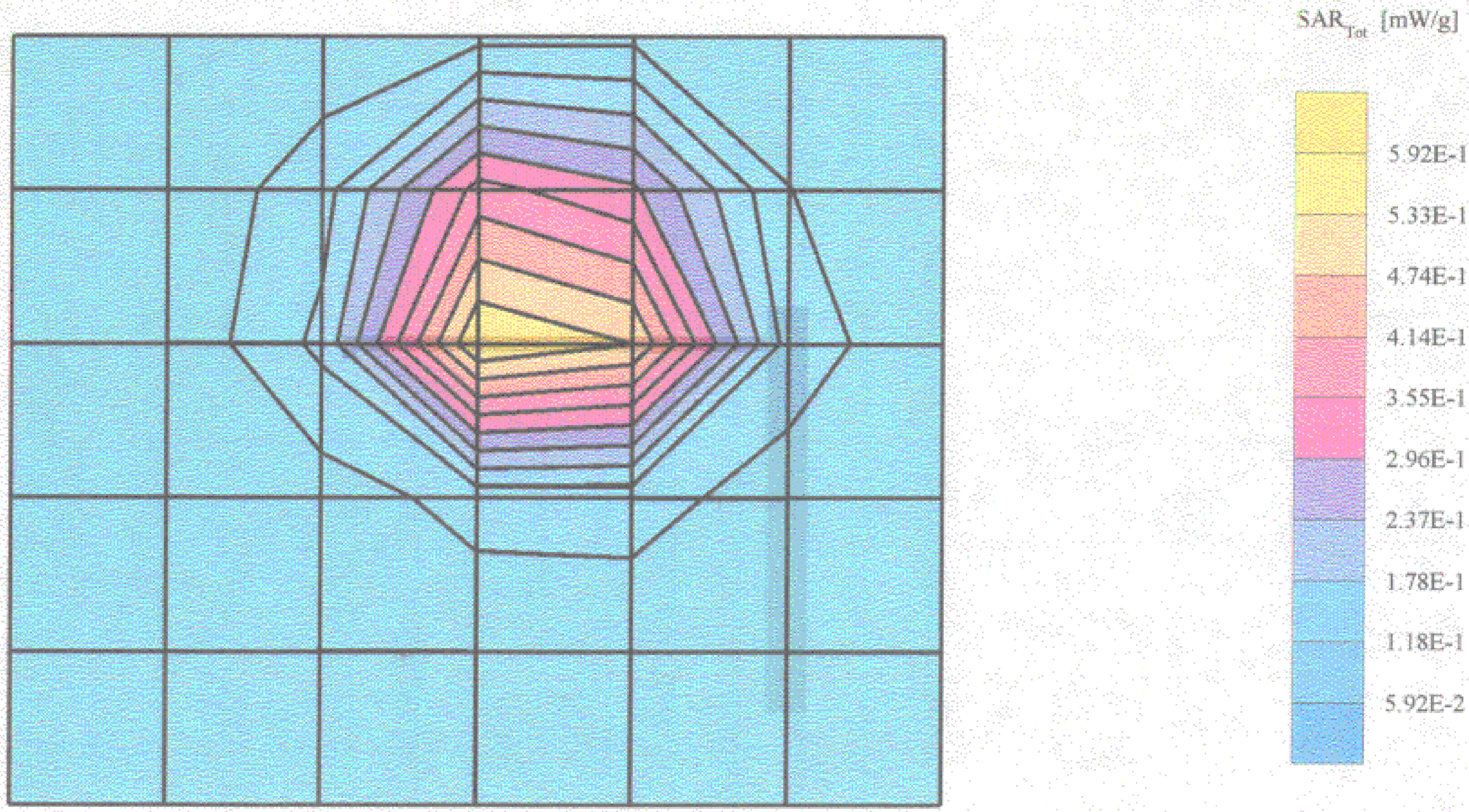
Plot 1

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1851 MHz
Probe: ET3DV5 - SN1333; ConvF(5.31,5.31,5.31); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.85 mho/m ε_r = 45.0 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 1.17 mW/g, SAR (10g): 0.609 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.24 dB



Aircard 510 Plot 2

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1880 MHz
Probe: ET3DV5 - SN1333; ConvF(5.31,5.31,5.31); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.85 mho/m ε_r = 45.0 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.759 mW/g, SAR (10g): 0.389 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.06 dB



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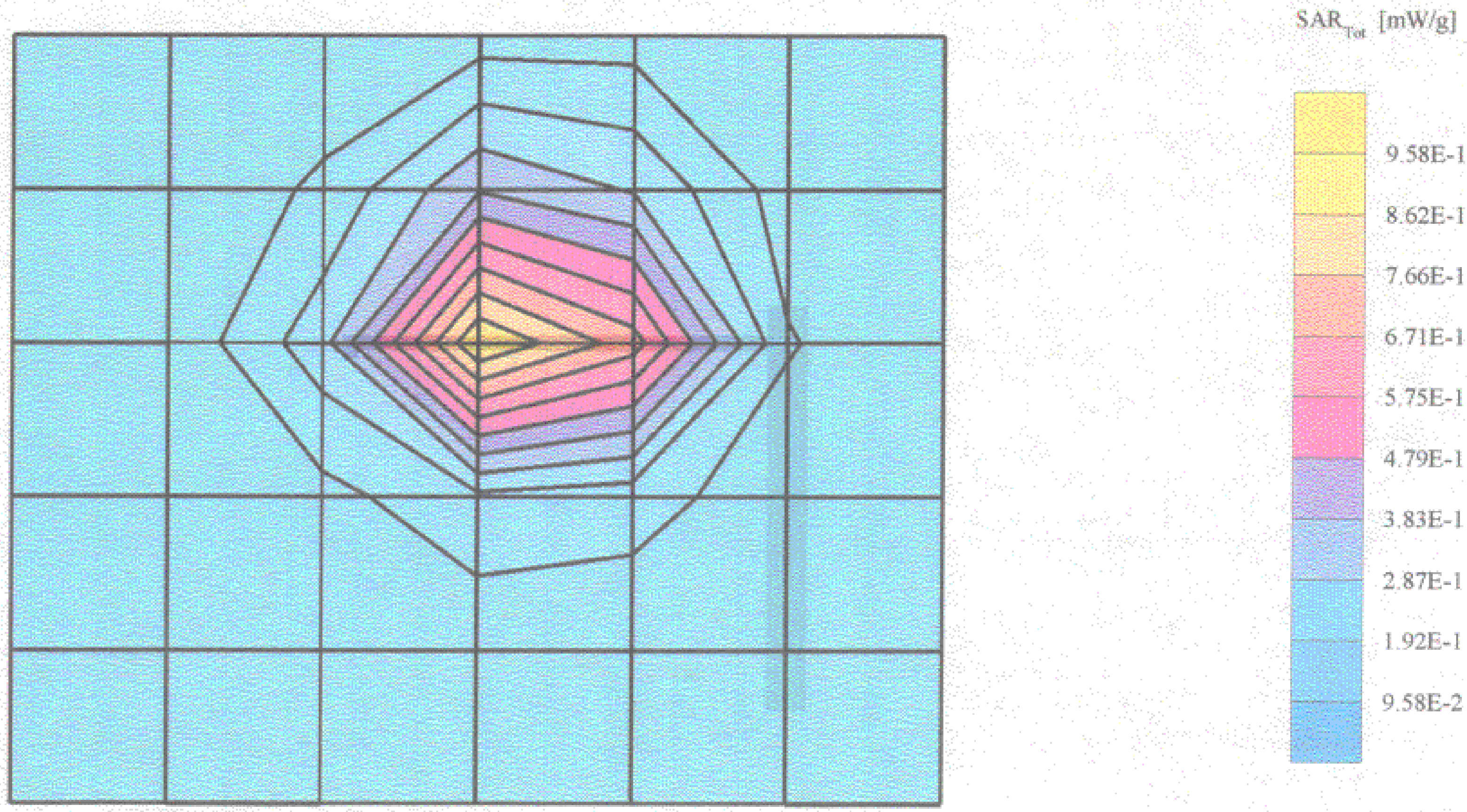
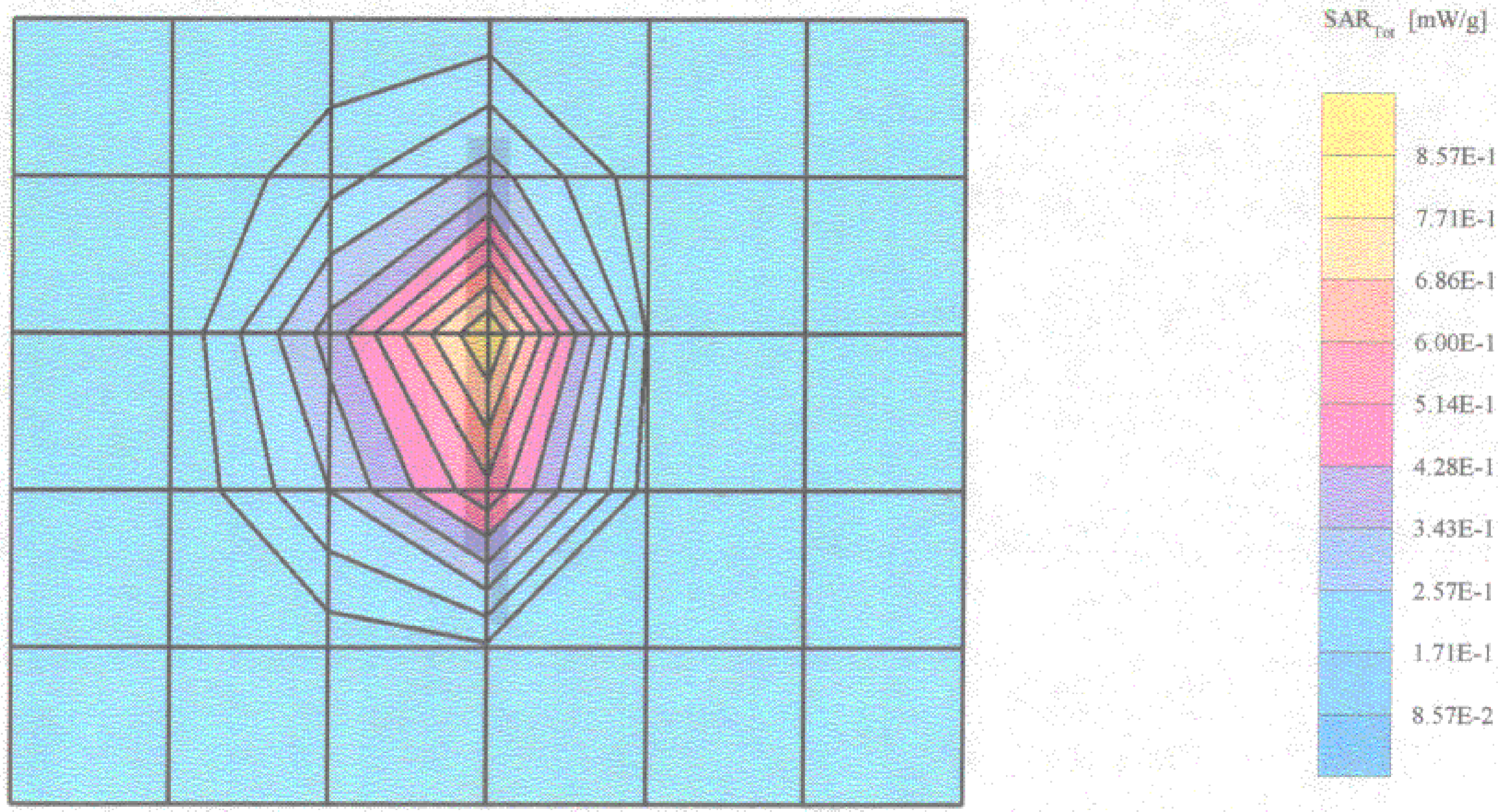
Aircard 510 Plot 3

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1909 MHz
Probe: ET3DV5 - SN1333; ConvF(5.31,5.31,5.31); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.85 mho/m ε_r = 45.0 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.983 mW/g, SAR (10g): 0.502 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.04 dB



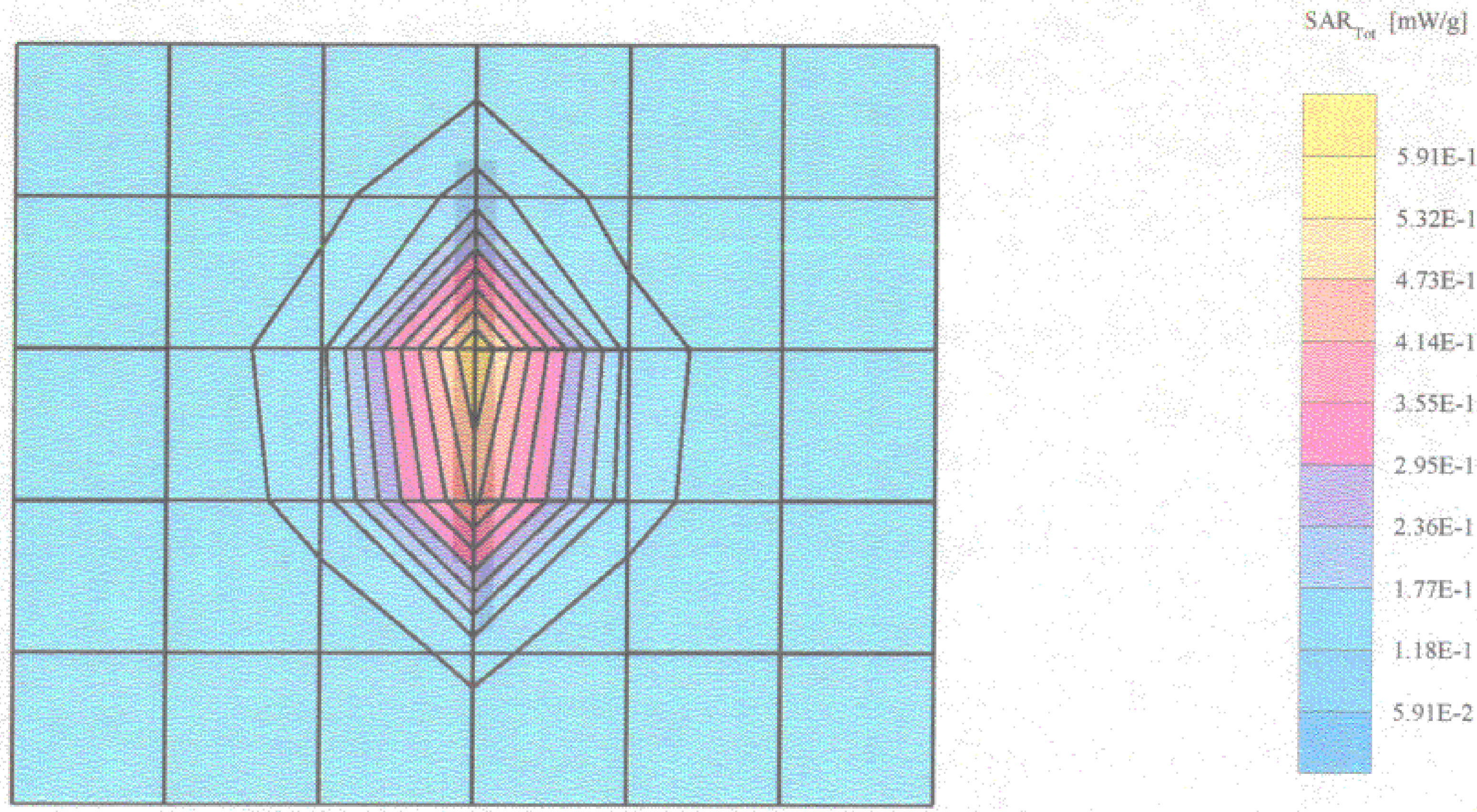
Aircard 510 Plot 4

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1851 MHz
Probe: ET3DV5 - SN1333; ConvF(5.31,5.31,5.31); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.85 mho/m ε_r = 45.0 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.960 mW/g, SAR (10g): 0.493 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.08 dB



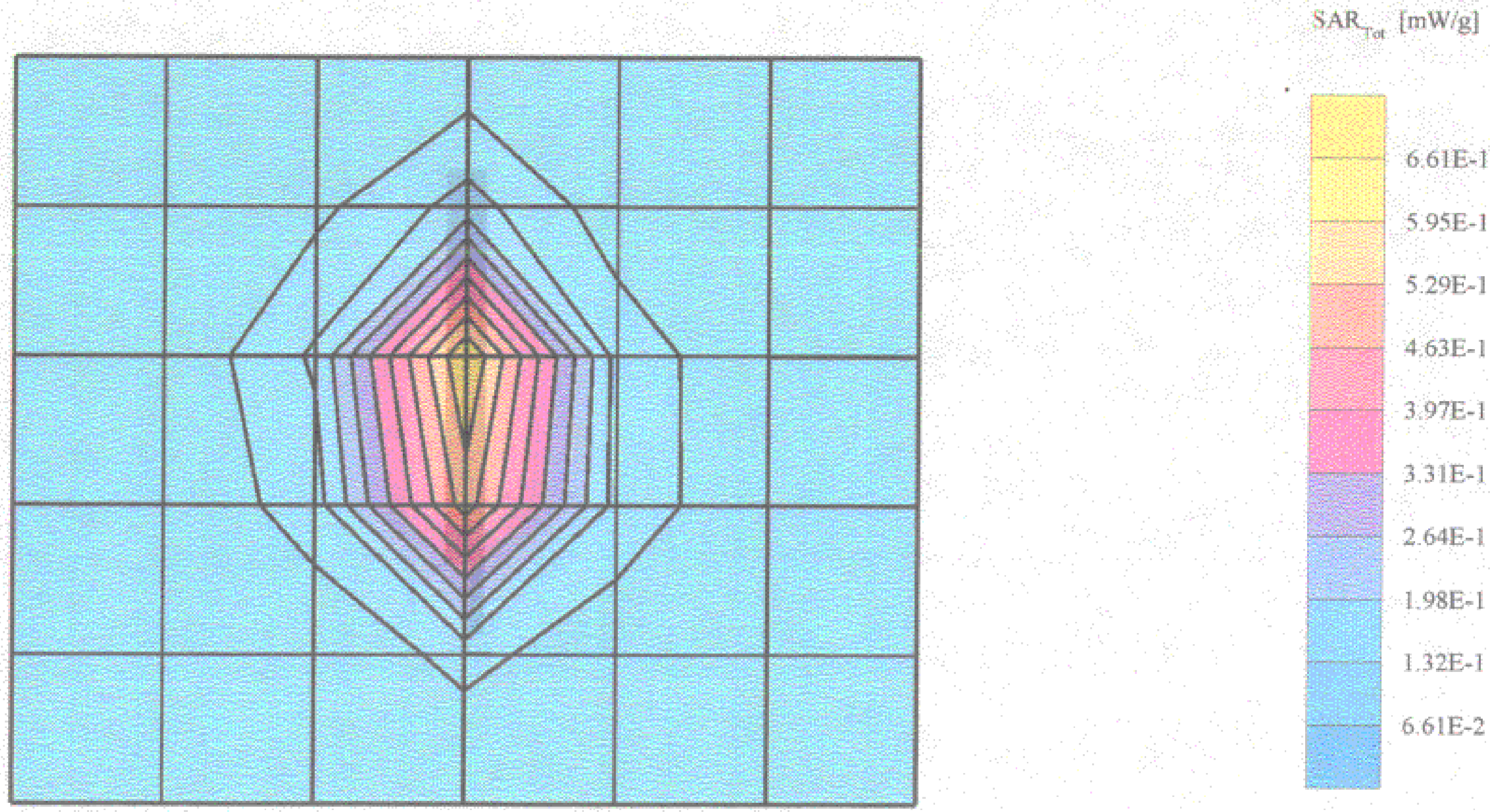
Aircard 510 Plot 5

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1880 MHz
Probe: ET3DV5 - SN1333; ConvF(5.31,5.31,5.31); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.85 mho/m ε_r = 45.0 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.612 mW/g, SAR (10g): 0.311 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: 0.00 dB



Aircard 510 Plot 6

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1909 MHz
Probe: ET3DV5 - SN1333; ConvF(5.31,5.31,5.31); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.85 mho/m ε_r = 45.0 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.737 mW/g, SAR (10g): 0.374 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: 0.28 dB



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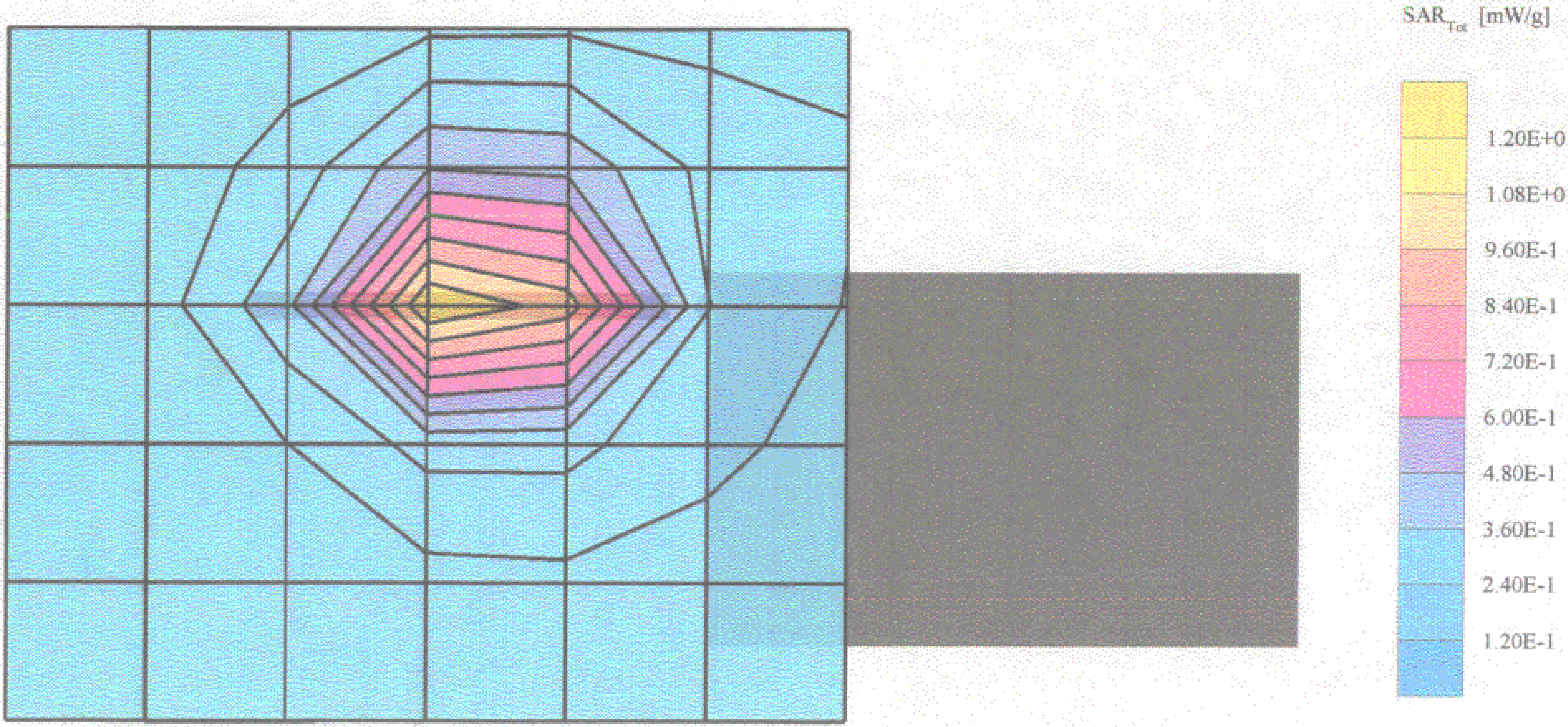
Aircard 510 Plot 7

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1851 MHz
Probe: ET3DV5 - SN1333; ConvF(5.31,5.31,5.31); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.85 mho/m ε_r = 45.0 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 1.27 mW/g, SAR (10g): 0.683 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.18 dB



Aircard 510 Plot 8

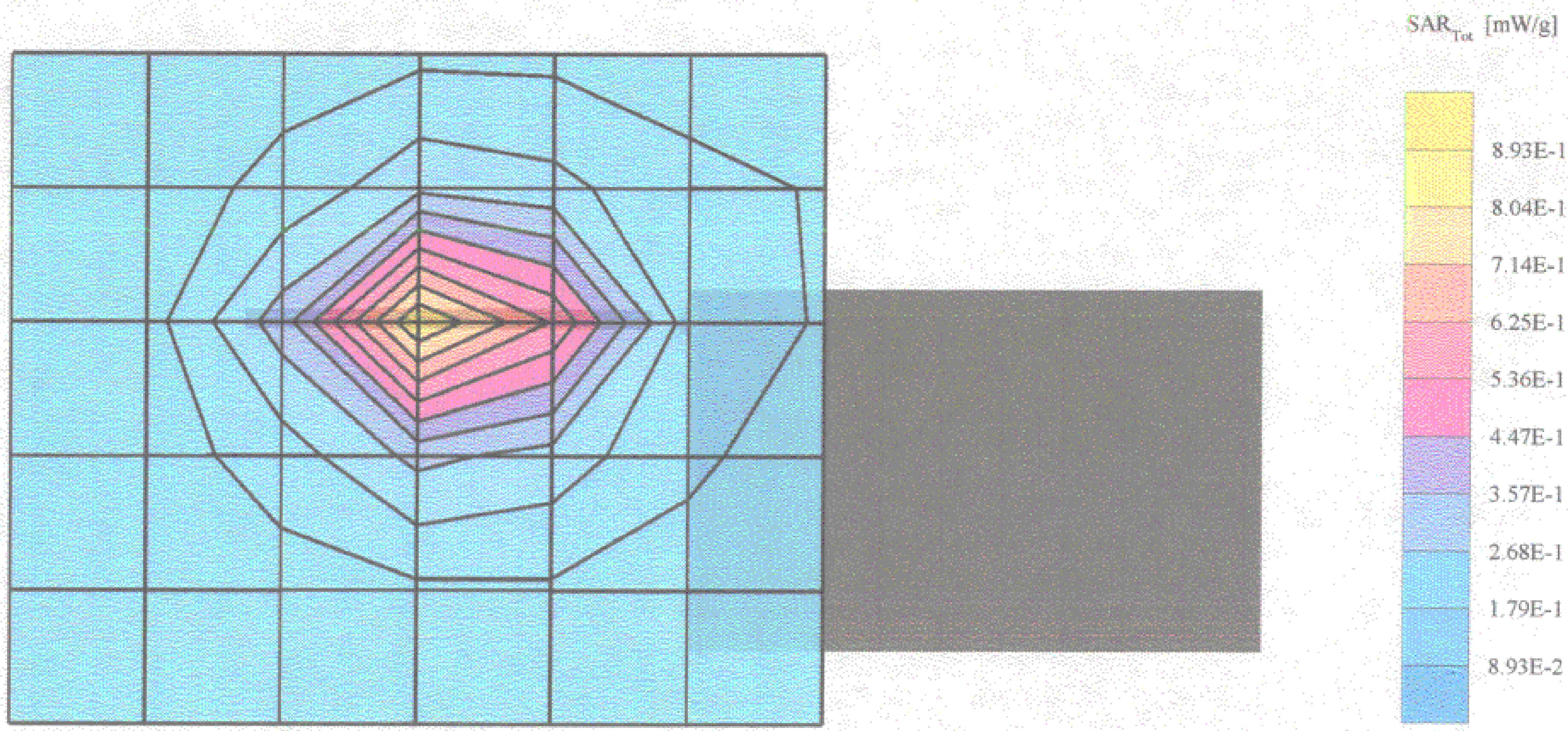
Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1880 MHz

Probe: ET3DV5 - SN1333; ConvF(5.31,5.31,5.31); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.85 mho/m ε_r = 45.0 ρ = 1.00 g/cm³

Cube 5x5x7: SAR (1g): 0.860 mW/g, SAR (10g): 0.465 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: -0.16 dB



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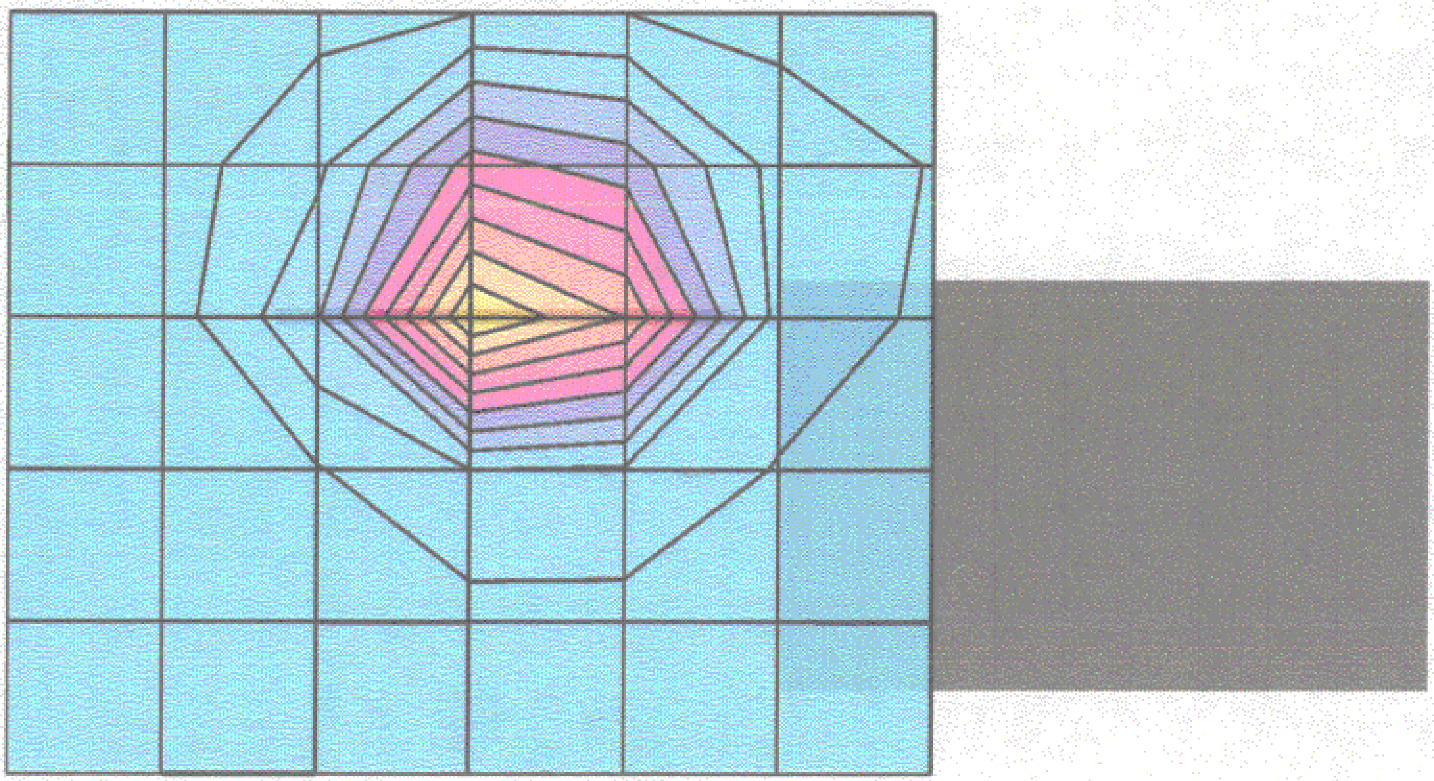
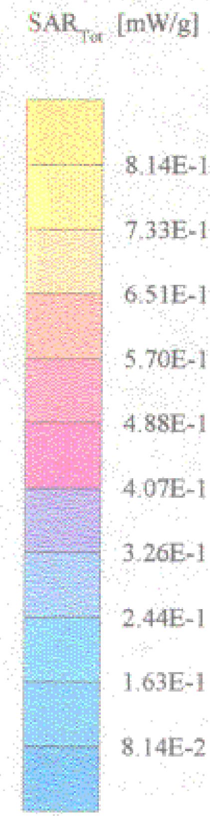
Aircard 510

Plot 9

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1909 MHz
Probe: ET3DV5 - SN1333; ConvF(5.31,5.31,5.31); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.85 mho/m ε_r = 45.0 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.913 mW/g, SAR (10g): 0.489 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.09 dB





APPENDIX B - E-FIELD PROBE CALIBRATION DATA

See attached.

Schmid & Partner
Engineering AG

Staffelstrasse 8, 8045 Zurich, Switzerland, Telefon +41 1 280 08 60, Fax +41 1 280 08 64

Probe ET3DV5

SN:1333

Manufactured:	December 1997
Calibrated:	January 1998
Recalibrated:	March 1999

Calibrated for System DASY3

Introduction

The performance of all probes is measured before delivery. This includes an assessment of the characteristic parameters, receiving patterns as a function of frequency, frequency response and relative accuracy. Furthermore, each probe is tested in use according to a dosimetric assessment protocol. The sensitivity parameters (NormX, NormY, NormZ), the diode compresion parameter (DCP) and the conversion factor (ConvF) of the probe and some of the measurement diagrams are given in the following.

The performance of the individual probes varies slightly due to tolerances arising from the manufacturing process. Since the lines are highly resistive (several MOhms), the offset and noise problem is greatly increased if signals in the low μV range are measured. Accurate measurement below 10 μW/g are possible if the following precautions are taken. 1) check the current grounding with the *multimeter*[1], i.e., low noise levels, 2) compensate the current *offset*[1], 3) use long integration time (approx. 10 seconds), 4) *calibrate*[1] before each measurement, 5) persons should avoid moving around the lab while measuring.

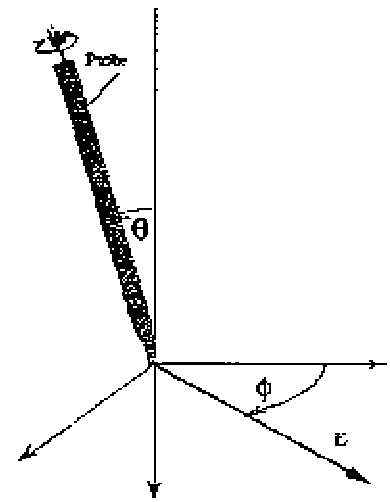


Fig 1: Due to the field distortion caused by the supporting material, the probe has two characteristic directions, referred to as angle ψ and θ.

Since the field distortion caused by the supporting material and the sheath is quite high in the θ direction, the receiving pattern is poor in air. However, the distortion in tissue equivalent material is much less because of its high dielectricity. In addition, the fields induced in the phantoms by dipole structures close to the body are dominently parallel to the surface. Thus, the error due to non-isotropy is much better than 1 dB for dosimetric assessments.

The probes are calibrated in the TEM cell ifi 110 although the field distribution in the cell is not very uniform and the frequency response is not very flat. To ensure consistency, a strict protocol is followed. The conversion factor (ConF) between this calibration and the measurement in the tissue simulation solution is performed by comparison with temperature measurements and computer simulations. This conversion factor is only valid for the specified tissue simulating liquids at the specified frequencies. If measurements have to be performed in solutions with other electrical properties or at other frequencies, the conversion factor has to be assessed by the same procedure.

As the probes have been constructed with printed resistive lines on ceramic substrates (thick film technique), the probe is very delicate with respect to mechanical shocks.

Attention:

Do not drop the probe or let the probe collide with any solid object. Never let the robot move without first activating the emergency stop feature (i.e., without first turning the data acquisition electronics on).

[1] Feature of the DASY Software Tool.

DASY3 - Parameters of Probe: ET3DV5 SN:1333

Sensitivity in Free Space

NormX	2.34	$\mu V/(V/m)^2$
NormY	2.3	$\mu V/(V/m)^2$
NormZ	2.3	$\mu V/(V/m)^2$

Diode Compression

DCP X	100	mV
DCP Y	100	mV
DCP Z	100	mV

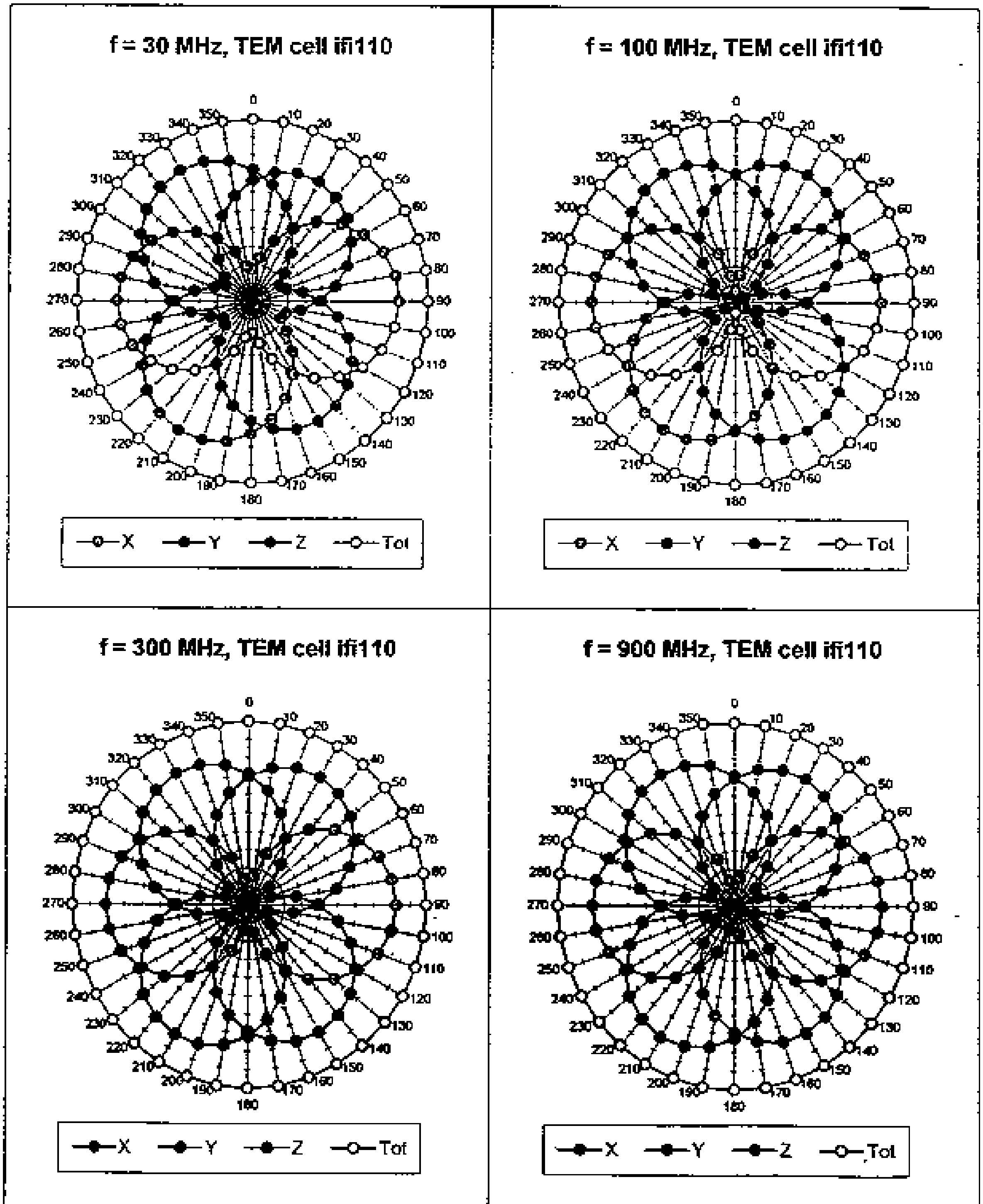
Sensitivity in Tissue Simulating Liquid

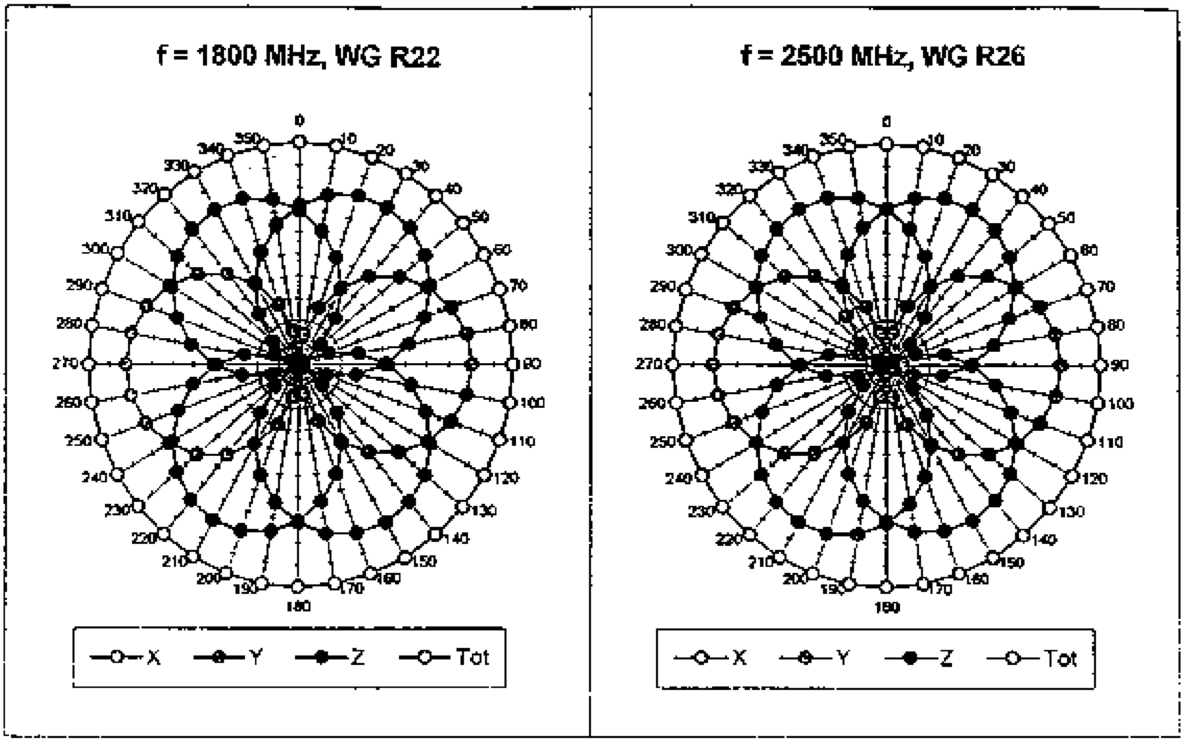
450 MHz	ConvF X	6.38	extrapolated	ε_r =	48 ± 5%
	ConvF Y	6.38	extrapolated	σ =	0.50 ± 10% mho/m
	ConvF Z	6.38	extrapolated	(brain tissue simulating liquid)	
900 MHz	ConvF X	6.03	± 10%	ε_r =	42.5 ± 5%
	ConvF Y	6.03	± 10%	σ =	0.86 ± 10% mho/m
	ConvF Z	6.03	± 10%	(brain tissue simulating liquid)	
1500 MHz	ConvF X	5.55	interpolated	ε_r =	41 ± 5%
	ConvF Y	5.55	interpolated	σ =	1.32 ± 10% mho/m
	ConvF Z	5.55	interpolated	(brain tissue simulating liquid)	
1800 MHz	ConvF X	5.31	± 10%	ε_r =	41 ± 5%
	ConvF Y	5.31	± 10%	σ =	1.69 ± 10% mho/m
	ConvF Z	5.31	± 10%	(brain tissue simulating liquid)	

Sensor Offset

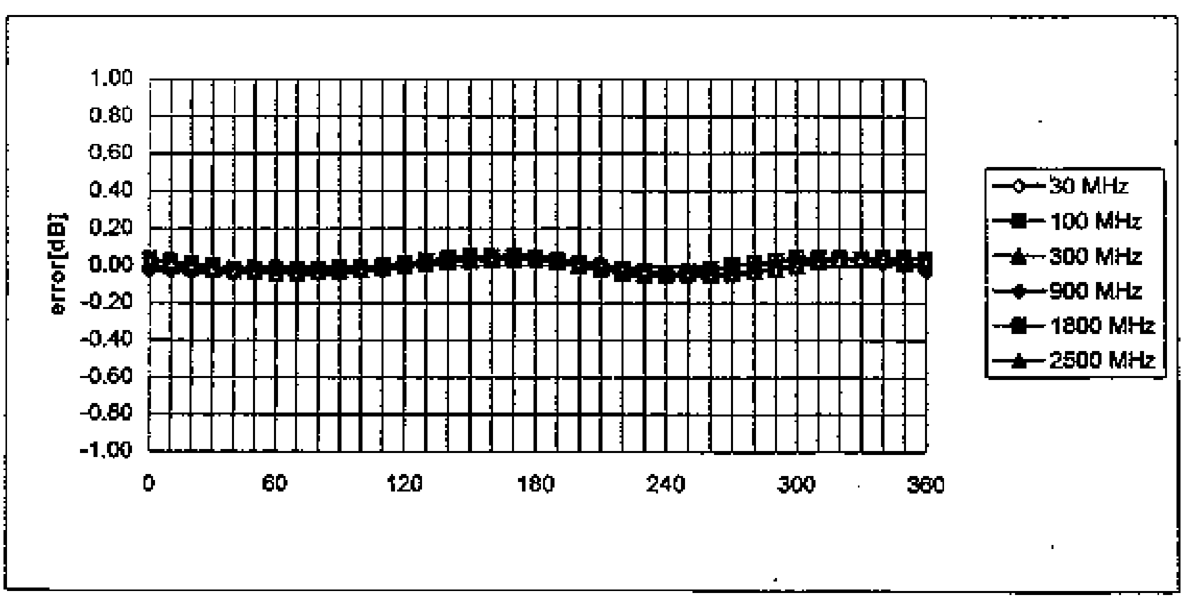
Probe Tip to Sensor Center	2.7	mm
Surface to Probe Tip	1.7 ± 0.2	mm

Receiving Pattern (ϕ), θ = 0°



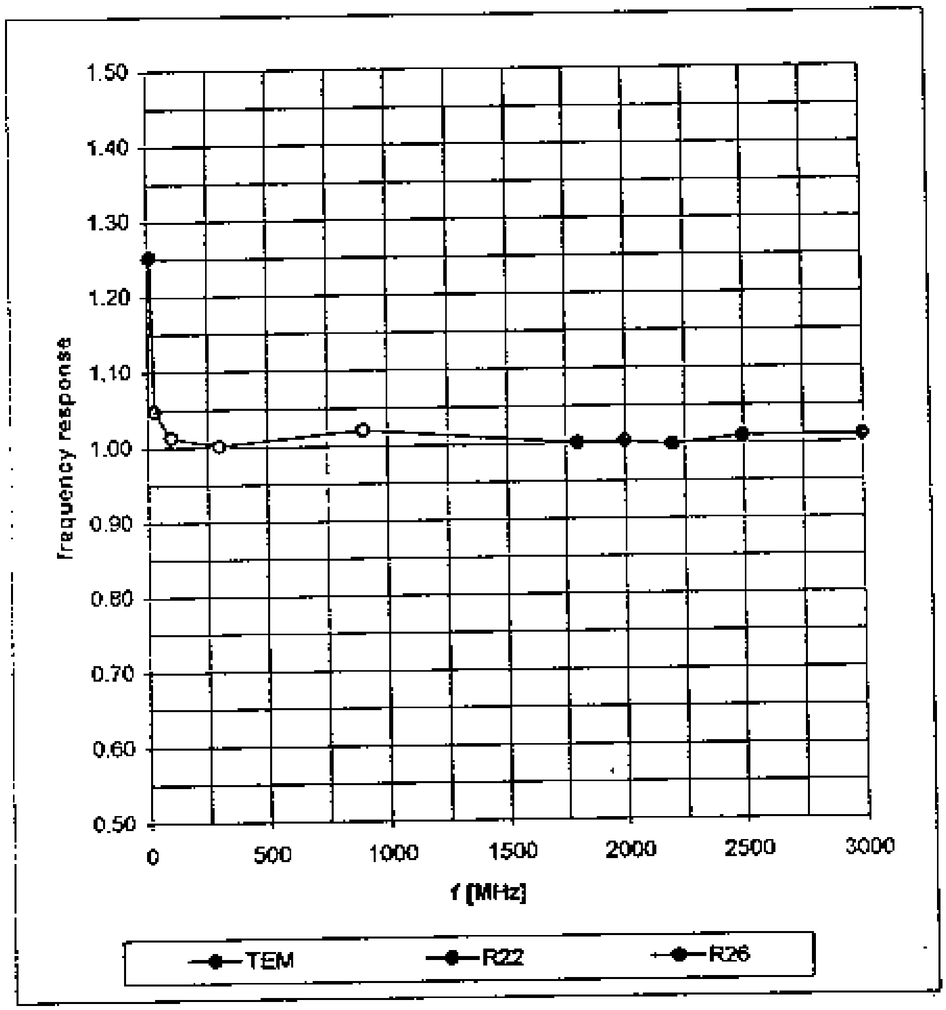


Isotropy Error (φ), θ = 0°



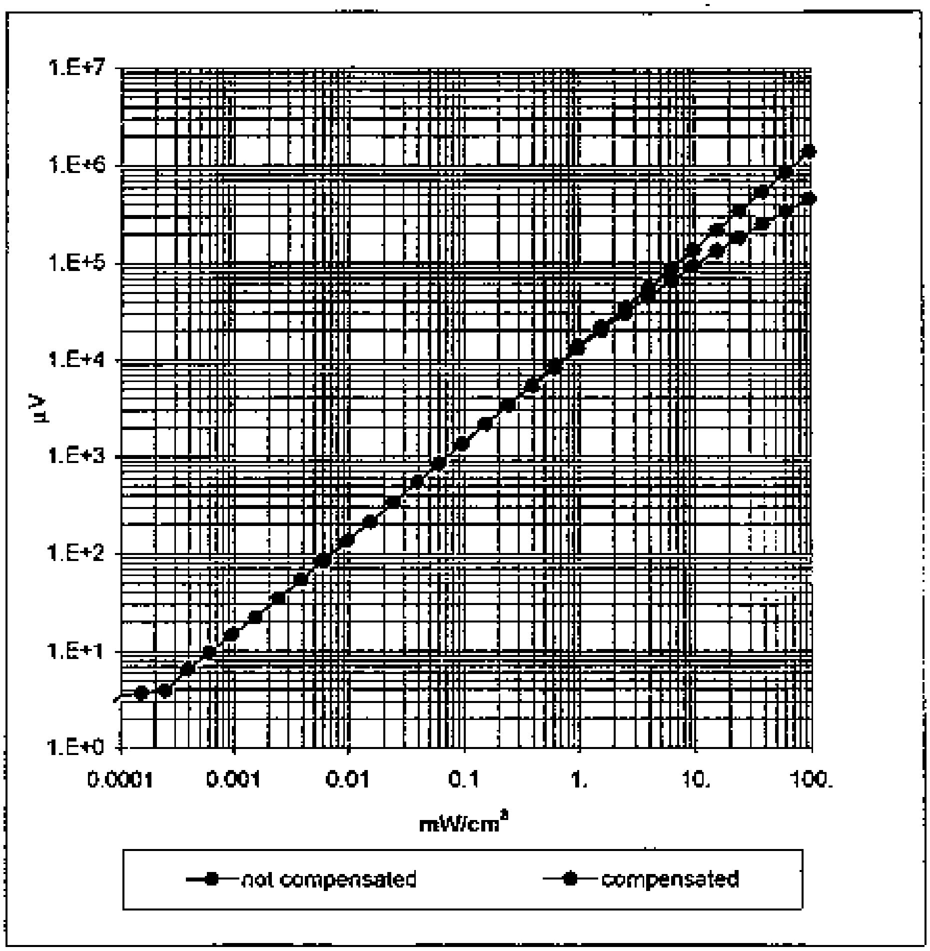
Frequency Response of E-Field

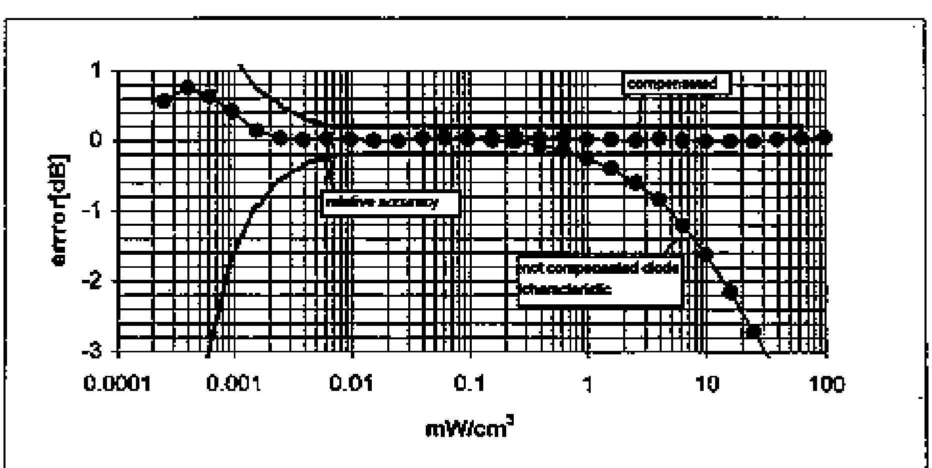
(TEM-Cell:ifi110, Waveguide R22, R26)



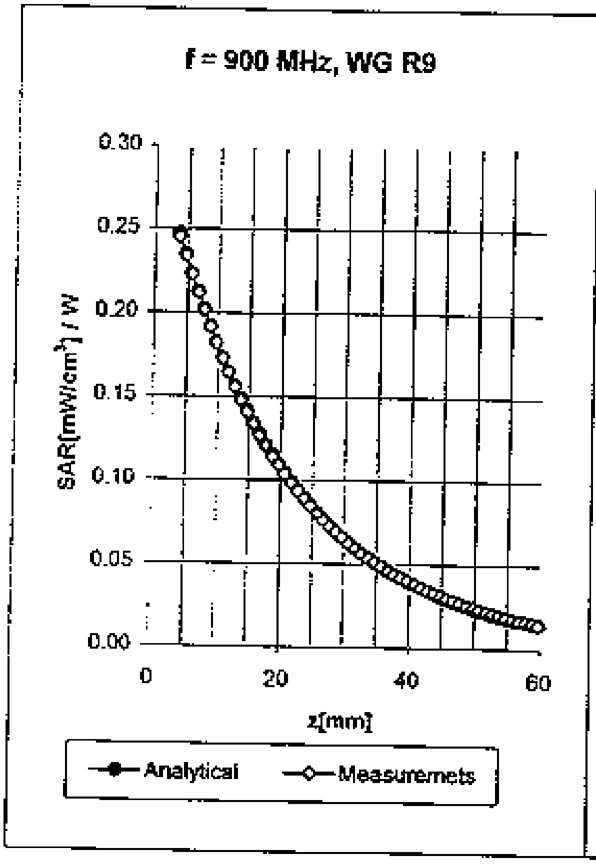
Dynamic Range f(SAR_{brain})

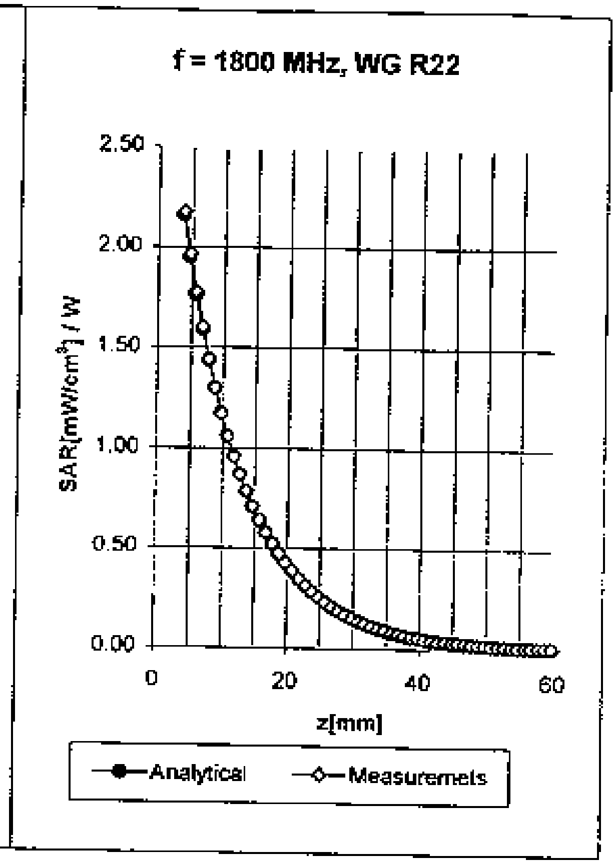
(TEM-Cell:ifi110)





Conversion Factor Assessment





Receiving Pattern (ϕ)

(in brain tissue, z = 5 mm)