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

Client

CALIBRATION CERTIFICATE

Object(s)	DAE3 - SN:558
Calibration procedure(s)	QA CAL-06.v2 Calibration procedure for the data acquisition unit (DAE)
Calibration date:	March 07, 2003
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	Scheduled Calibration
Fluke Process Calibrator Type 702	SN: 6295803	3-Sep-01	Sep-03

	Name	Function	Signature
Calibrated by:	Eric Hainfeld	Technician	
Approved by:	Fin Bomholt	R&D Director	

Date Issued: March 07, 2003

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. DC Voltage Measurement

DA - Converter Values from DAE

High Range:	1LSB =	6.1μV ,	full range =	400 mV
Low Range:	1LSB =	61nV ,	full range =	4 mV

Software Set-up: Calibration time: 3 sec Measuring time: 3 sec

Setup	X	Y	Z
High Range	405.010098	404.9037428	405.0817835
Low Range	3.972	3.95185	3.96828
Connector Position	86 °		

High Range	Input	Reading in μV	% Error
Channel X + Input	200mV	200000	0.00
	20mV	20003.4	0.02
Channel X - Input	20mV	-19993	-0.04
Channel Y + Input	200mV	200001	0.00
	20mV	20002.7	0.01
Channel Y - Input	20mV	-19993	-0.04
Channel Z + Input	200mV	200000	0.00
	20mV	20000.8	0.00
Channel Z - Input	20mV	-19997.7	-0.01

Low Range	Input	Reading in μV	% Error
Channel X + Input	2mV	2000.2	0.01
	0.2mV	200.04	0.02
Channel X - Input	0.2mV	-200.81	0.41
Channel Y + Input	2mV	2000.1	0.00
	0.2mV	199.47	-0.27
Channel Y - Input	0.2mV	-201.01	0.50
Channel Z + Input	2mV	1999.9	0.00
	0.2mV	198.68	-0.66
Channel Z - Input	0.2mV	-201.1	0.55

2. Common mode sensitivity

Software Set-up
Calibration time: 3 sec, Measuring time: 3 sec
High/Low Range

in µV	Common mode Input Voltage	High Range Reading	Low Range Reading
Channel X	200mV	-1.0284	-1.5716
	- 200mV	3.9204	1.3725
Channel Y	200mV	6.7686	5.874
	- 200mV	-6.8145	-8.0898
Channel Z	200mV	2.1943	2.766
	- 200mV	-2.52	-4.6218

3. Channel separation

Software Set-up
Calibration time: 3 sec, Measuring time: 3 sec
High Range

in µV	Input Voltage	Channel X	Channel Y	Channel Z
Channel X	200mV	-	0.88082	0.19177
Channel Y	200mV	0.049124	-	0.25676
Channel Z	200mV	-2.1226	-0.89508	-

4. AD-Converter Values with inputs shorted

in LSB	Low Range	High Range
Channel X	16492	16236
Channel Y	16307	15690
Channel Z	16461	16033

5. Input Offset Measurement

Measured after 15 min warm-up time of the Data Acquisition Electronic.
Every Measurement is preceded by a calibration cycle.

Software set-up:

Calibration time:	3 sec
Measuring time:	3 sec
Number of measurements:	100, Low Range

Input 10MΩ

in µV	Average	min. Offset	max. Offset	Std. Deviation
Channel X	-0.52	-1.64	0.60	0.43
Channel Y	-2.05	-3.65	0.06	0.51
Channel Z	-0.34	-2.05	0.43	0.37

Input shorted

in µV	Average	min. Offset	max. Offset	Std. Deviation
Channel X	0.04	-0.84	1.09	0.41
Channel Y	-0.77	-2.08	0.17	0.40
Channel Z	-1.01	-1.68	-0.38	0.24

6. Input Offset Current

in fA	Input Offset Current
Channel X	< 25
Channel Y	< 25
Channel Z	< 25

7. Input Resistance

	Calibrating	Measuring
Channel X	200 kΩ	200 MΩ
Channel Y	200 kΩ	200 MΩ
Channel Z	200 kΩ	200 MΩ

8. Low Battery Alarm Voltage

in V	Alarm Level
Supply (+ Vcc)	7.66 V
Supply (- Vcc)	-7.53 V

9. Power Consumption

in mA	Switched off	Stand by	Transmitting
Supply (+ Vcc)	0.000	5.83	14.1
Supply (- Vcc)	-0.011	-7.86	-9.13

10. Functional test

Touch async pulse 1	ok
Touch async pulse 2	ok
Touch status bit 1	ok
Touch status bit 2	ok
Remote power off	ok
Remote analog Power control	ok
Modification Status	B – C

Calibration Laboratory of
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Zeughausstrasse 43, 8004 Zurich, Switzerland

Client C&C (Auden)

CALIBRATION CERTIFICATE

Object(s)	ET3DV6 - SN:1762
Calibration procedure(s)	QA CAL-01.v2 Calibration procedure for dosimetric E-field probes
Calibration date:	March 31, 2003
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	Scheduled Calibration
RF generator HP 8684C	US3642U01700	4-Aug-99 (in house check Aug-02)	In house check: Aug-05
Power sensor E4412A	MY41495277	Mar-02	Mar-03
Power sensor HP 8481A	MY41092180	18-Sep-02	Sep-03
Power meter EPM E4419B	GB41293874	13-Sep-02	Sep-03
Network Analyzer HP 8753E	US38432426	3-May-00	In house check: May 03
Fluke Process Calibrator Type 702	SN: 6295803	3-Sep-01	Sep-03

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

Date issued: April 2, 2003

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.

Schmid & Partner Engineering AG

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Probe ET3DV6

SN:1762

Manufactured: January 20, 2003
Last calibration: March 31, 2003

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: ET3DV6 SN:1762

Sensitivity in Free Space

NormX	**1.90**	$\mu V/(V/m)^2$	
NormY	**1.78**	$\mu V/(V/m)^2$	
NormZ	**1.82**	$\mu V/(V/m)^2$	

Diode Compression

DCP X	**96**	mV
DCP Y	**96**	mV
DCP Z	**96**	mV

Sensitivity in Tissue Simulating Liquid

Head	**900 MHz**	ε_r = **41.5 ± 5%**	σ = **0.97 ± 5% mho/m**
Head	**835 MHz**	ε_r = **41.5 ± 5%**	σ = **0.90 ± 5% mho/m**

ConvF X	**6.7**	± 9.5% (k=2)	Boundary effect:
ConvF Y	**6.7**	± 9.5% (k=2)	Alpha **0.67**
ConvF Z	**6.7**	± 9.5% (k=2)	Depth **1.74**

Head	**1800 MHz**	ε_r = **40.0 ± 5%**	σ = **1.40 ± 5% mho/m**
Head	**1900 MHz**	ε_r = **40.0 ± 5%**	σ = **1.40 ± 5% mho/m**

ConvF X	**5.4**	± 9.5% (k=2)	Boundary effect:
ConvF Y	**5.4**	± 9.5% (k=2)	Alpha **0.50**
ConvF Z	**5.4**	± 9.5% (k=2)	Depth **2.63**

Boundary Effect

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

Probe Tip to Boundary		**1 mm**	**2 mm**
SAR_{be} [%]	Without Correction Algorithm	8.8	4.5
SAR_{be} [%]	With Correction Algorithm	0.1	0.2

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

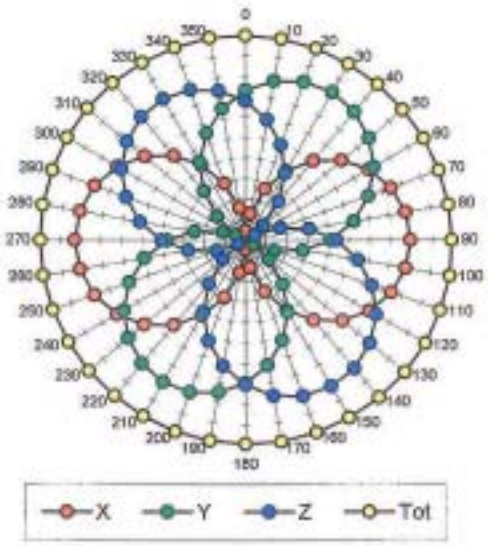
Probe Tip to Boundary		**1 mm**	**2 mm**
SAR_{be} [%]	Without Correction Algorithm	13.8	9.3
SAR_{be} [%]	With Correction Algorithm	0.2	0.1

Sensor Offset

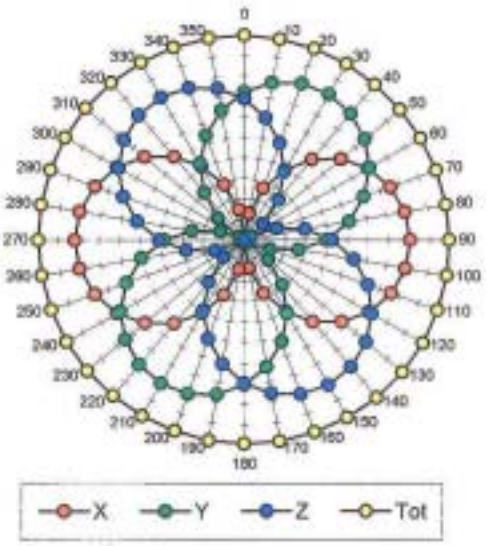
Probe Tip to Sensor Center	**2.7**	mm
Optical Surface Detection	**1.4 ± 0.2**	mm

Receiving Pattern (ϕ), θ = 0°

f = 30 MHz, TEM cell ifi110



f = 100 MHz, TEM cell ifi110



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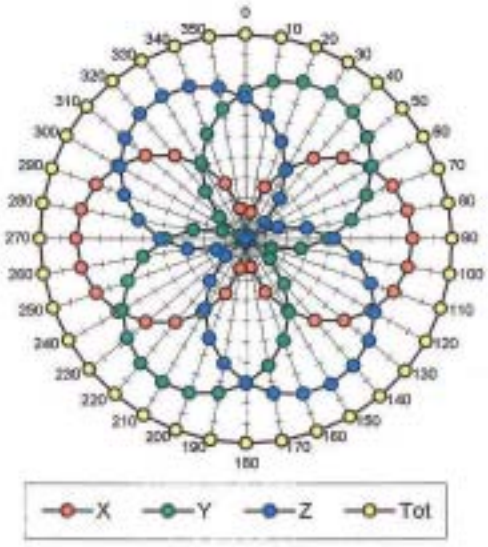
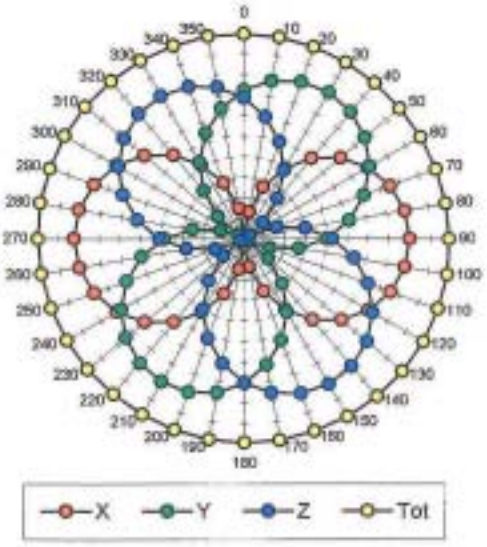
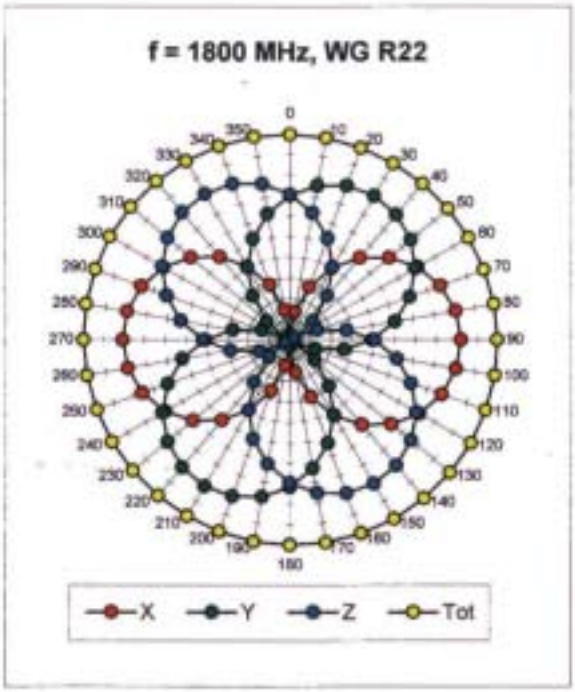
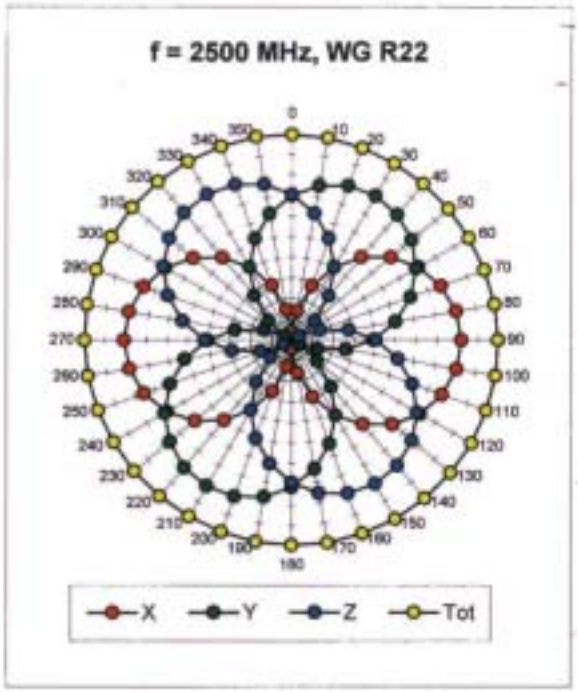


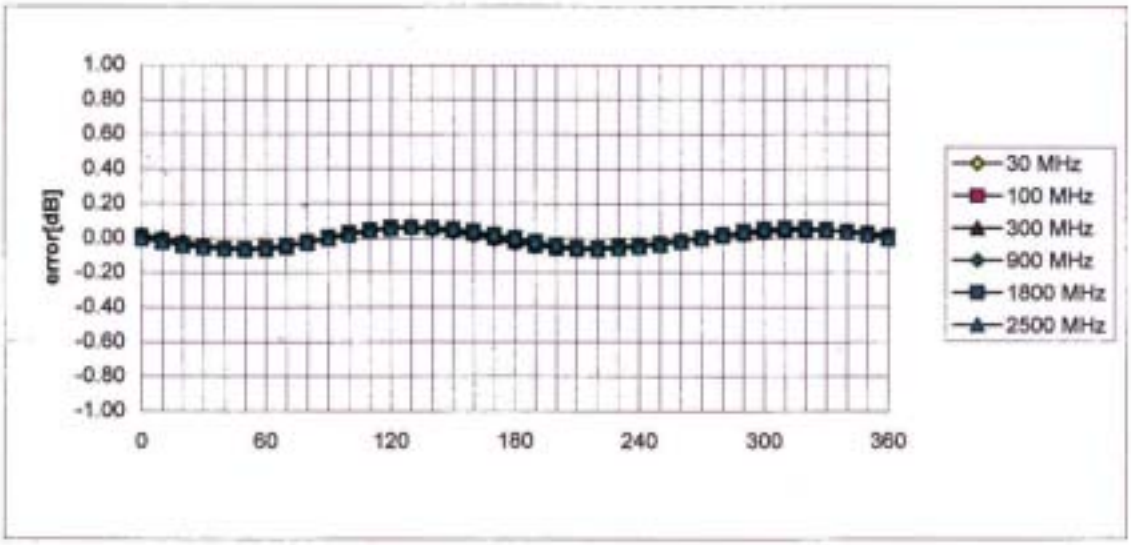
f = 900 MHz, TEM cell ifi110





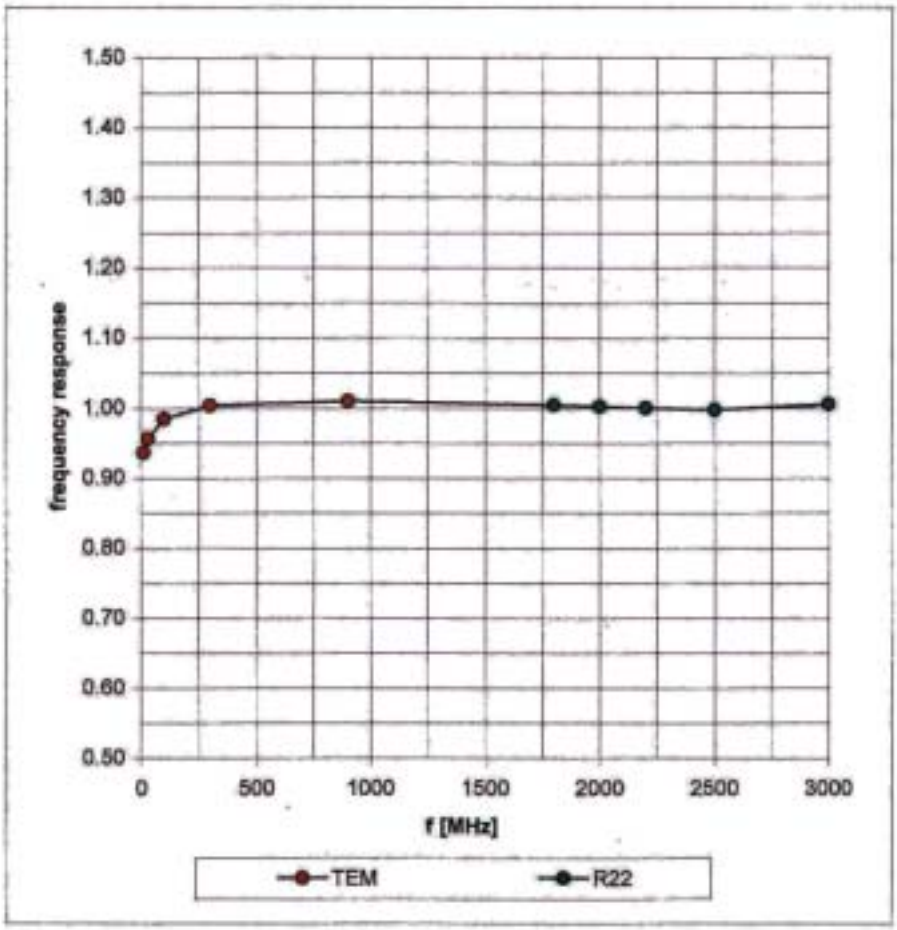


Isotropy Error (ϕ), θ = 0°



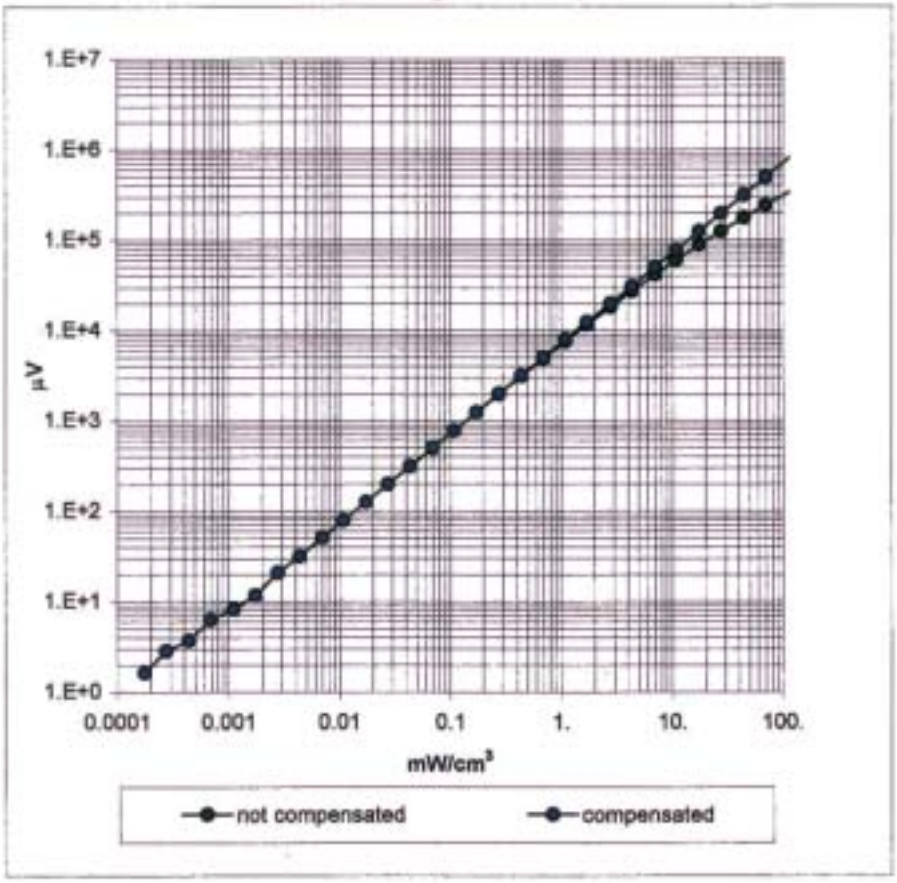
Frequency Response of E-Field

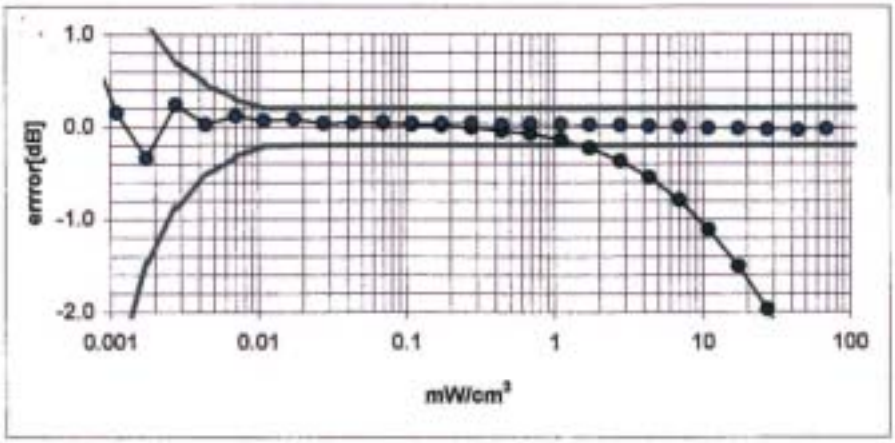
(TEM-Cell:ifi110, Waveguide R22)



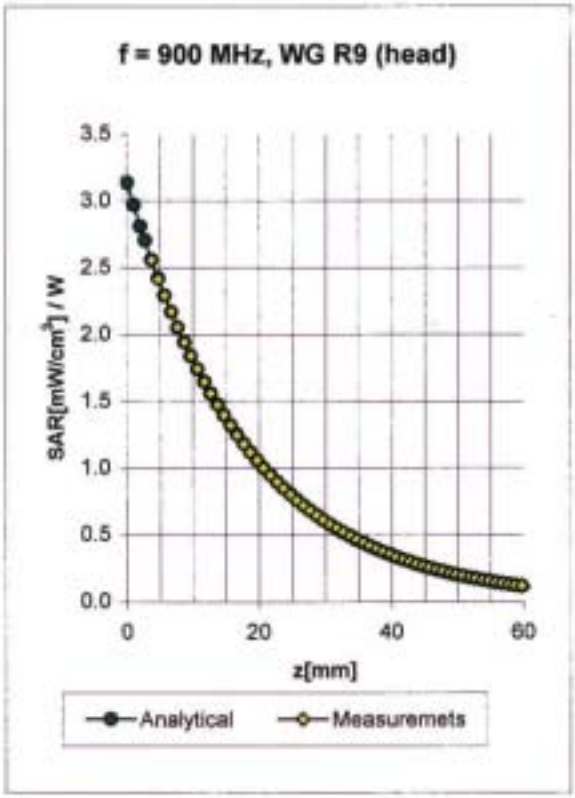
Dynamic Range f(SAR_{brain})

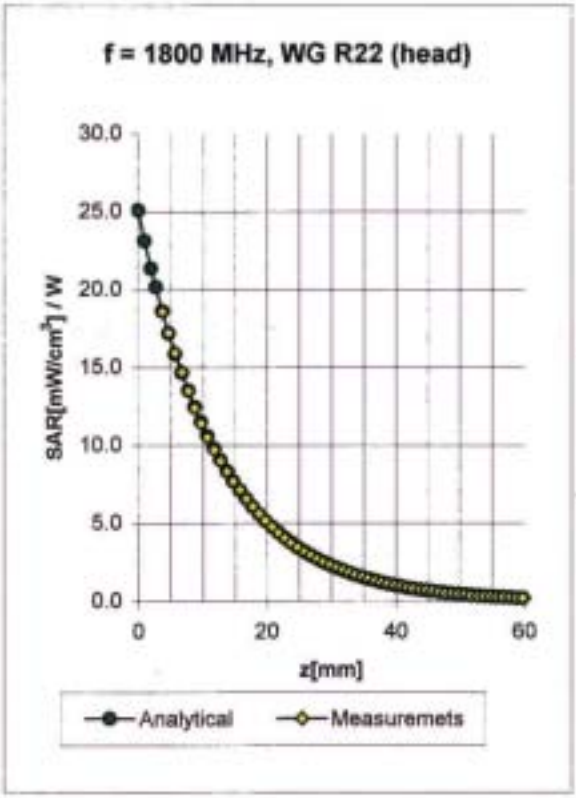
(Waveguide R22)





Conversion Factor Assessment

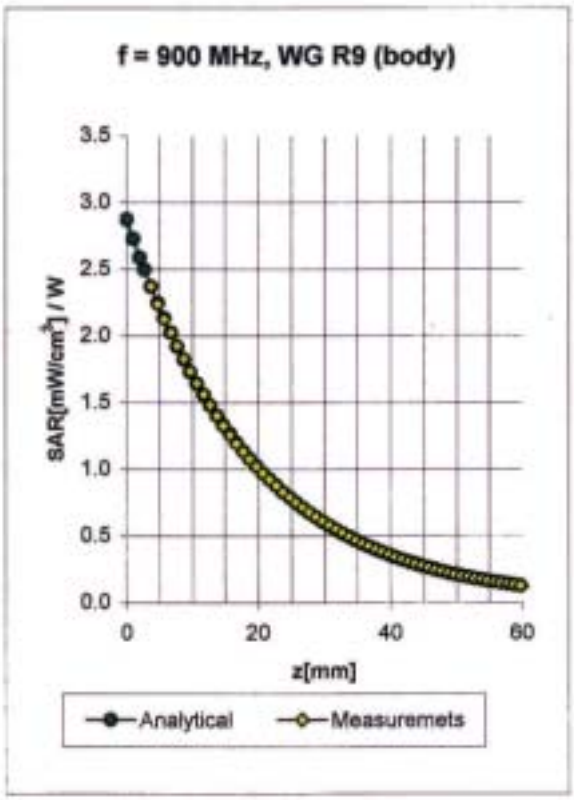


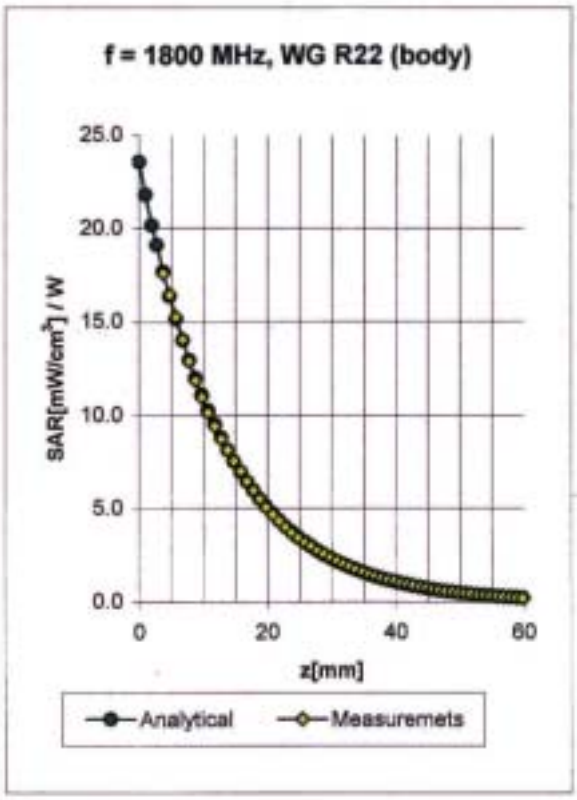


Head	**900 MHz**		ε_r = **41.5 ± 5%**	σ = **0.97 ± 5% mho/m**	
Head	**835 MHz**		ε_r = **41.5 ± 5%**	σ = **0.90 ± 5% mho/m**	
	ConvF X	**6.7** ± 9.5% (k=2)		Boundary effect:	
	ConvF Y	**6.7** ± 9.5% (k=2)		Alpha	**0.67**
	ConvF Z	**6.7** ± 9.5% (k=2)		Depth	**1.74**

Head	**1800 MHz**		ε_r = **40.0 ± 5%**	σ = **1.40 ± 5% mho/m**	
Head	**1900 MHz**		ε_r = **40.0 ± 5%**	σ = **1.40 ± 5% mho/m**	
	ConvF X	**5.4** ± 9.5% (k=2)		Boundary effect:	
	ConvF Y	**5.4** ± 9.5% (k=2)		Alpha	**0.50**
	ConvF Z	**5.4** ± 9.5% (k=2)		Depth	**2.63**

Conversion Factor Assessment

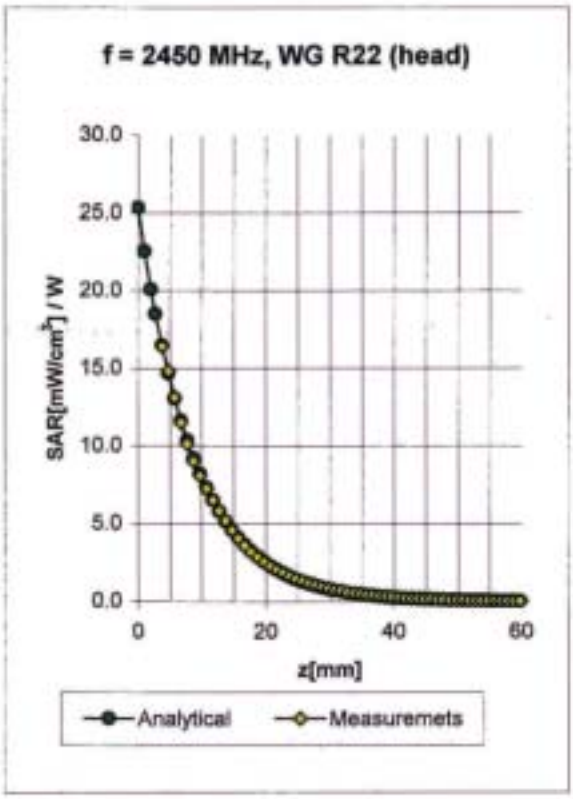


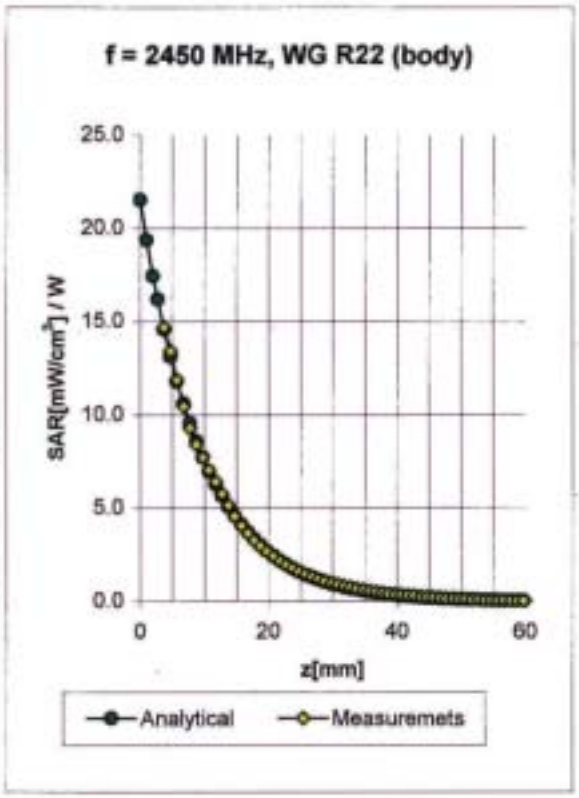


Body	**900 MHz**		ε_r = **55.0 ± 5%**	σ = **1.05 ± 5% mho/m**	
Body	**835 MHz**		ε_r = **55.2 ± 5%**	σ = **0.97 ± 5% mho/m**	
	ConvF X	**6.5** ± 9.5% (k=2)		Boundary effect:	
	ConvF Y	**6.5** ± 9.5% (k=2)		Alpha	**0.43**
	ConvF Z	**6.5** ± 9.5% (k=2)		Depth	**2.34**

Body	**1800 MHz**		ε_r = **53.3 ± 5%**	σ = **1.52 ± 5% mho/m**	
Body	**1900 MHz**		ε_r = **53.3 ± 5%**	σ = **1.52 ± 5% mho/m**	
	ConvF X	**5.0** ± 9.5% (k=2)		Boundary effect:	
	ConvF Y	**5.0** ± 9.5% (k=2)		Alpha	**0.57**
	ConvF Z	**5.0** ± 9.5% (k=2)		Depth	**2.65**

Conversion Factor Assessment





Head	**2450**	**MHz**	ε_r = **39.2 ± 5%**	σ = **1.80 ± 5% mho/m**

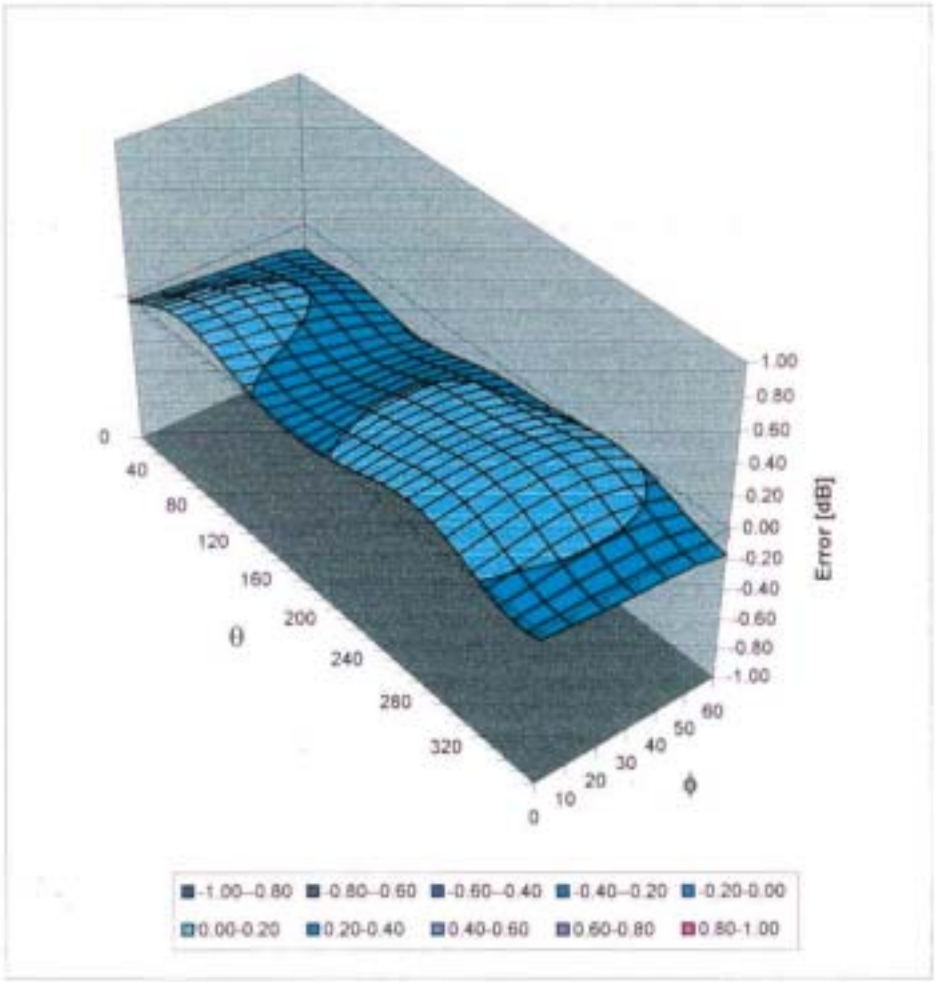
ConvF X	**5.1** ± 8.9% (k=2)	Boundary effect:	
ConvF Y	**5.1** ± 8.9% (k=2)	Alpha	**1.32**
ConvF Z	**5.1** ± 8.9% (k=2)	Depth	**1.61**

Body	**2450**	**MHz**	ε_r = **52.7 ± 5%**	σ = **1.95 ± 5% mho/m**

ConvF X	**4.6** ± 8.9% (k=2)	Boundary effect:	
ConvF Y	**4.6** ± 8.9% (k=2)	Alpha	**1.39**
ConvF Z	**4.6** ± 8.9% (k=2)	Depth	**1.60**

Deviation from Isotropy in HSL

Error (θ,φ), f = 900 MHz



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

Client C&C (Auden)

CALIBRATION CERTIFICATE

Object(s)	D2450V2 - SN:728
Calibration procedure(s)	QA CAL-05.v2 Calibration procedure for dipole validation kits
Calibration date:	March 5, 2003
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	Scheduled Calibration
RF generator R&S SML-03	100698	27-Mar-2002	In house check: Mar-05
Power sensor HP 8481A	MY41092317	18-Oct-02	Oct-04
Power sensor HP 8481A	US37292783	30-Oct-02	Oct-03
Power meter EPM E442	GB37480704	30-Oct-02	Oct-03
Network Analyzer HP 8753E	US38432426	3-May-00	In house check: May 03

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

Date issued: April 2, 2003

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.

Schmid & Partner Engineering AG

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DASY

Dipole Validation Kit

Type: D2450V2

Serial: 728

Manufactured: January 9, 2003
Calibrated: March 5, 2003

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 2450 MHz:

Relative Dielectricity	**37.4**	± 5%
Conductivity	**1.88 mho/m**	± 5%

The DASY4 System with a dosimetric E-field probe ES3DV2 (SN:3013, Conversion factor 4.8 at 2450 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 10mm from dipole center to the solution surface. The included distance holder 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 250mW ± 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 ES3DV2 SN:3013 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue:	**54.8 mW/g** ± 16.8 % (k=2)[1]
averaged over 10 cm^3 (10 g) of tissue:	**24.2 mW/g** ± 16.2 % (k=2)[1]

[1] validation uncertainty

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:	**1.153 ns**	(one direction)
Transmission factor:	**0.997**	(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 2450 MHz:	Re{Z} = **53.7 Ω**
	Im {Z} = **3.8 Ω**
Return Loss at 2450 MHz	**-25.9 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.

Small end caps have been added to the dipole arms in order to improve matching when loaded according to the position as explained in Section 1. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

6. Power Test

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

Date/Time: 03/05/03 12:24:05

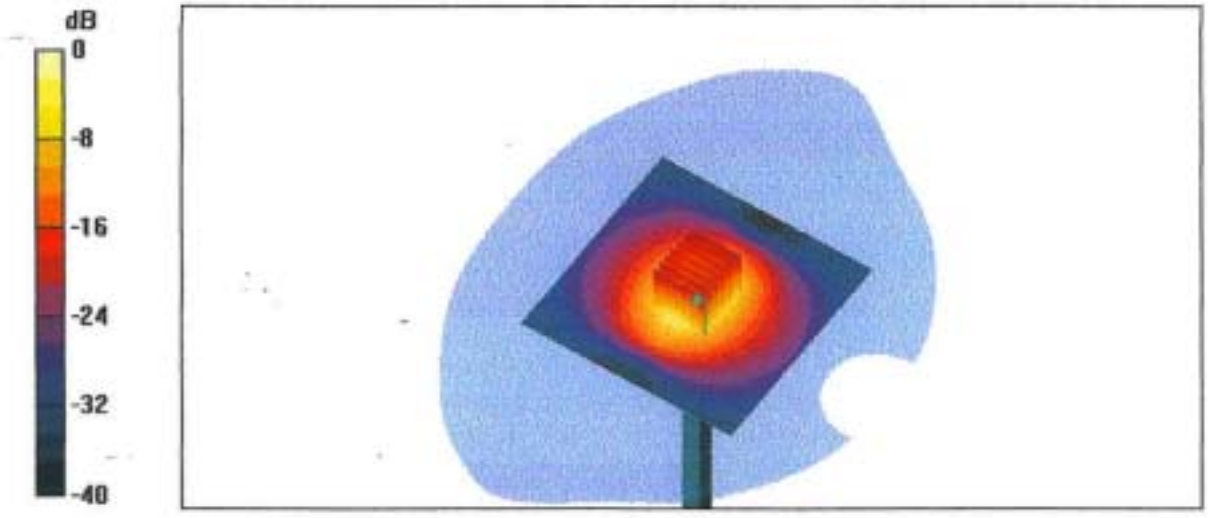
Test Laboratory: SPEAG, Zurich, Switzerland
File Name: SN728_SN3013_HSL2450_050303.da4

DUT: Dipole 2450 MHz; Serial: D2450V2 - SN728
Program: Dipole Calibration

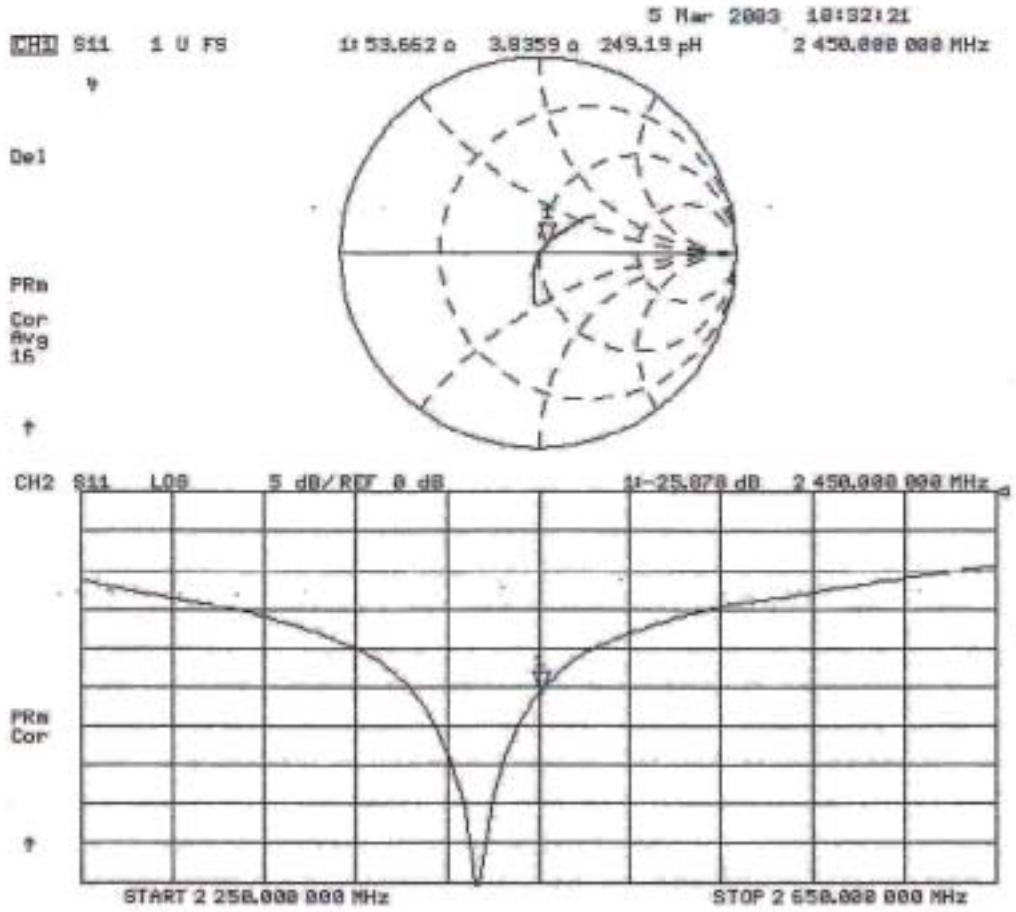
Communication System: CW-2450; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL 2450 MHz; (σ = 1.88 mho/m, ε_r = 37.4, ρ = 1000 kg/m^3)
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV2 - SN3013; ConvF(4.8, 4.8, 4.8); Calibrated: 1/19/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.1 Build 25; Postprocessing SW: SEMCAD, V1.6 Build 105

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.6 V/m
Peak SAR = *30.6 W/kg*
SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.04 mW/g
Power Drift = 0.02 dB



728
Head


5 Mar 2003 10:32:21
CH1 S11 1 U FS
1: 53.662 Ω 3.8359 Ω 249.19 pH
2 450.000 000 MHz
Del
PRm
Cor
Avg
16
CH2 S11 LOG 5 dB/ REF 0 dB
1: -25.078 dB 2 450.000 000 MHz
PRm
Cor
START 2 250.000 000 MHz
STOP 2 650.000 000 MHz

Date/Time: 02/13/04 09:32:38

Test Laboratory: Compliance Certification Services Inc.

D2450V2 SN 728

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 728

Communication System: CW2450; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL2450 (σ = 1.85 mho/m, ε_r = 39, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

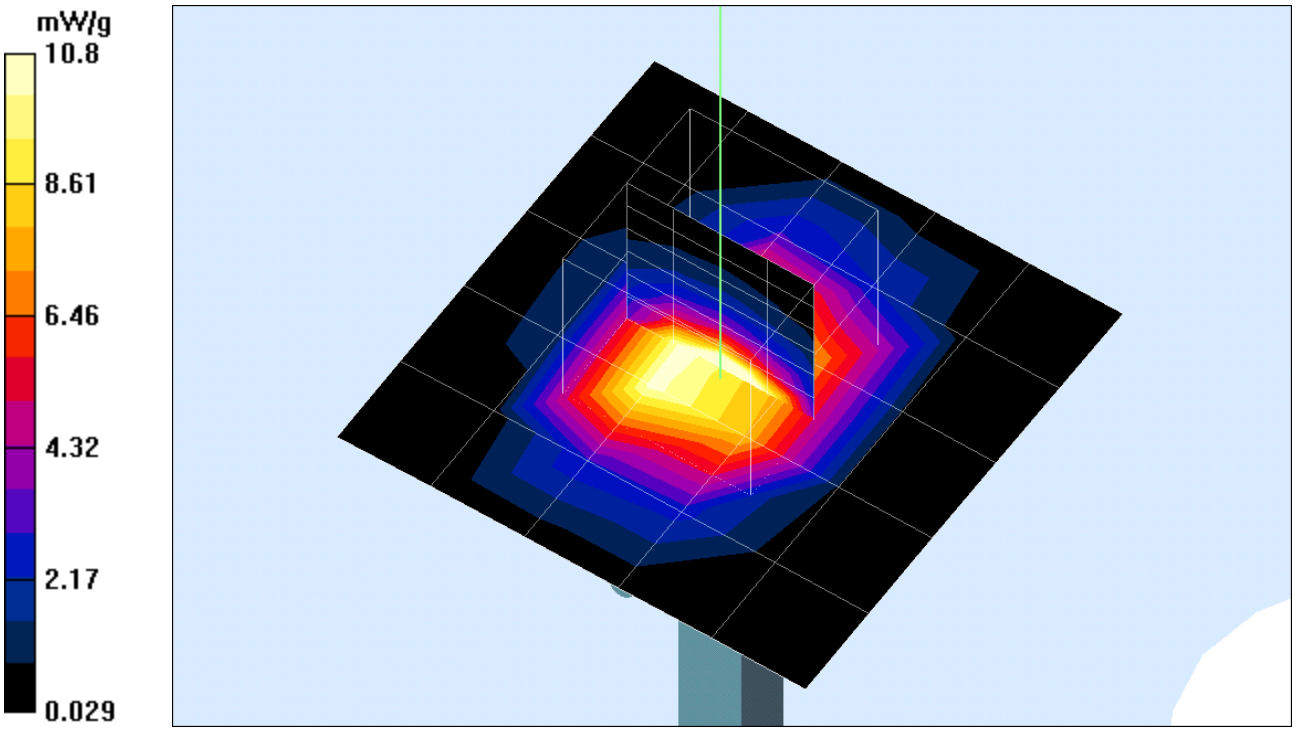
DASY4 Configuration:

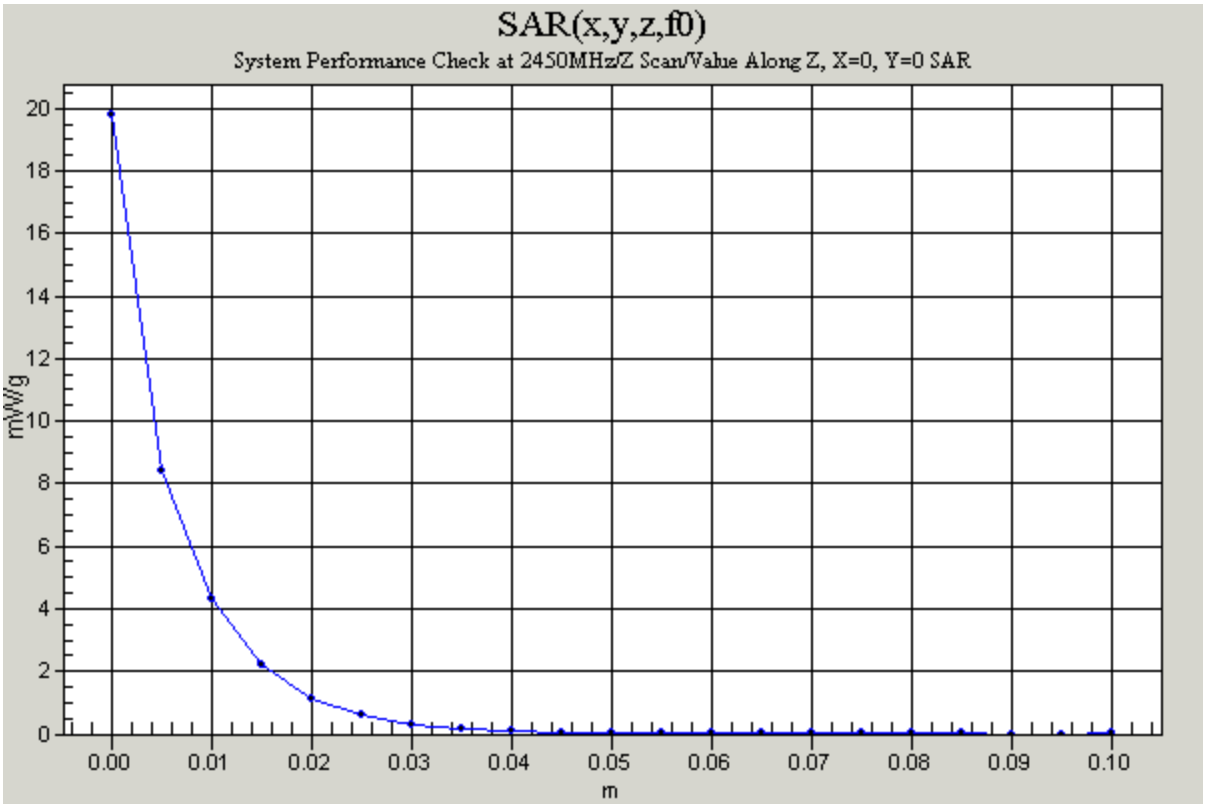
- Probe: ET3DV6 - SN1762; ConvF(5.1, 5.1, 5.1); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
  Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1271
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

Pin=250mW,d=10mm/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 95.1 V/m
Power Drift = 0.1 dB
Maximum value of SAR = 10.8 mW/g

Pin=250mW,d=10mm/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 95.1 V/m
Power Drift = 0.1 dB
Maximum value of SAR = 19.8 mW/g

Pin=250mW,d=10mm/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 29.1 W/kg
SAR(1 g) = 13.6 mW/g; SAR(10 g) = 6.3 mW/g
Reference Value = 95.1 V/m
Power Drift = 0.1 dB
Maximum value of SAR = 15.4 mW/g

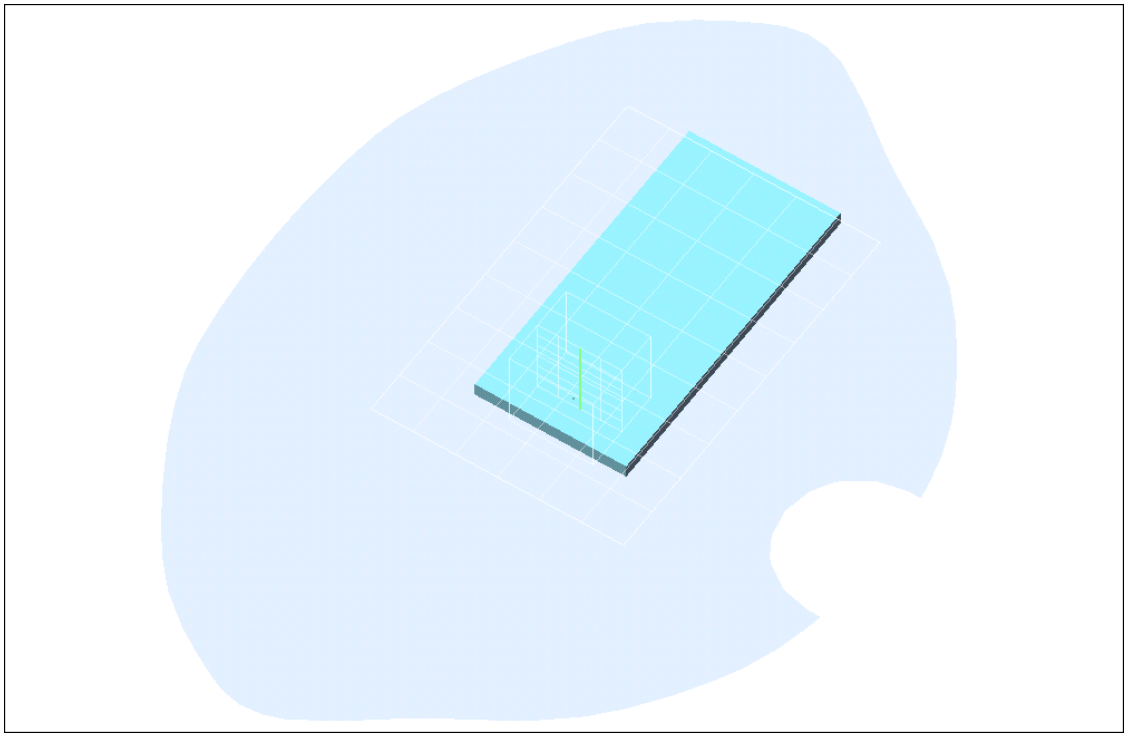

mW/g
10.8
8.61
6.46
4.32
2.17
0.029


SAR(x,y,z,f0)
System Performance Check at 2450MHz/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
m
0
2
4
6
8
10
12
14
16
18
20
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10

Date/Time: 02/13/04 10:24:39

Test Laboratory: Compliance Certification Services Inc.

Test Configuration-1



0 dB = 0.843mW/g

Date/Time: 02/13/04 10:01:58

Test Laboratory: Compliance Certification Services Inc.

Touch mode(with Compaq)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System:IEEE 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

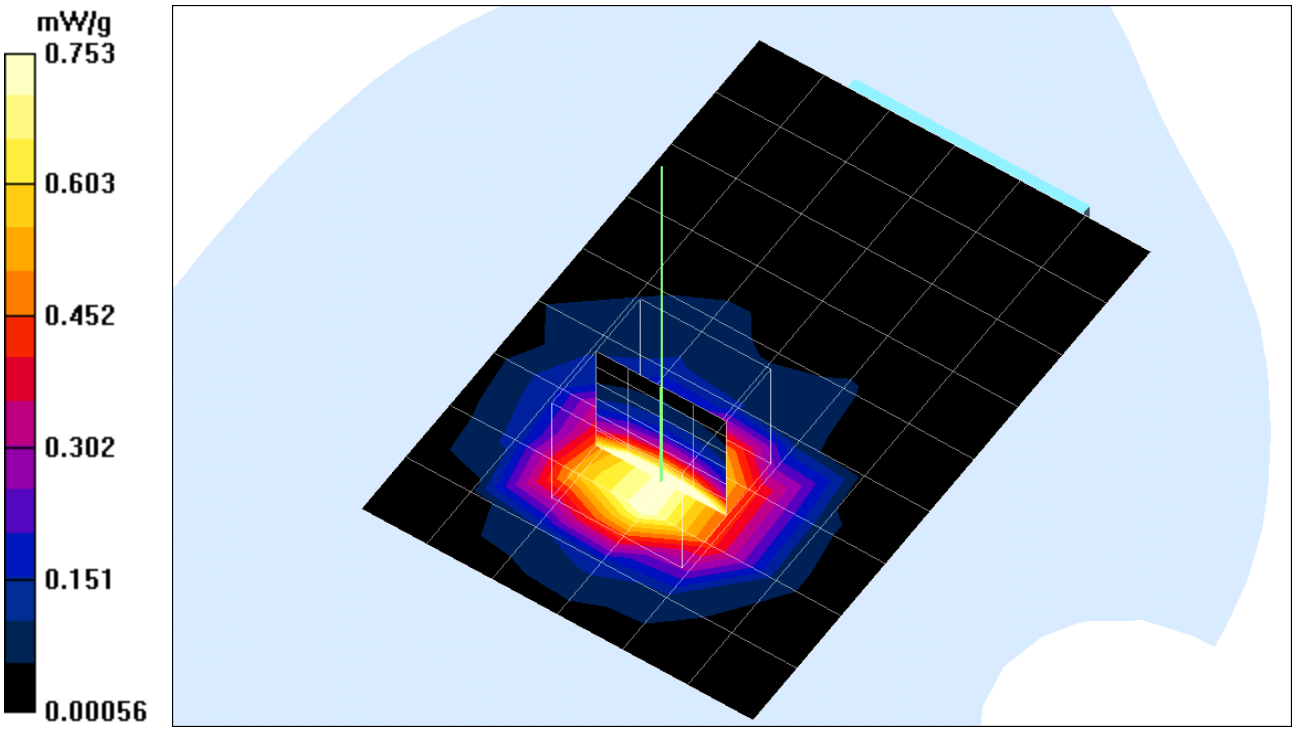
DASY4 Configuration:

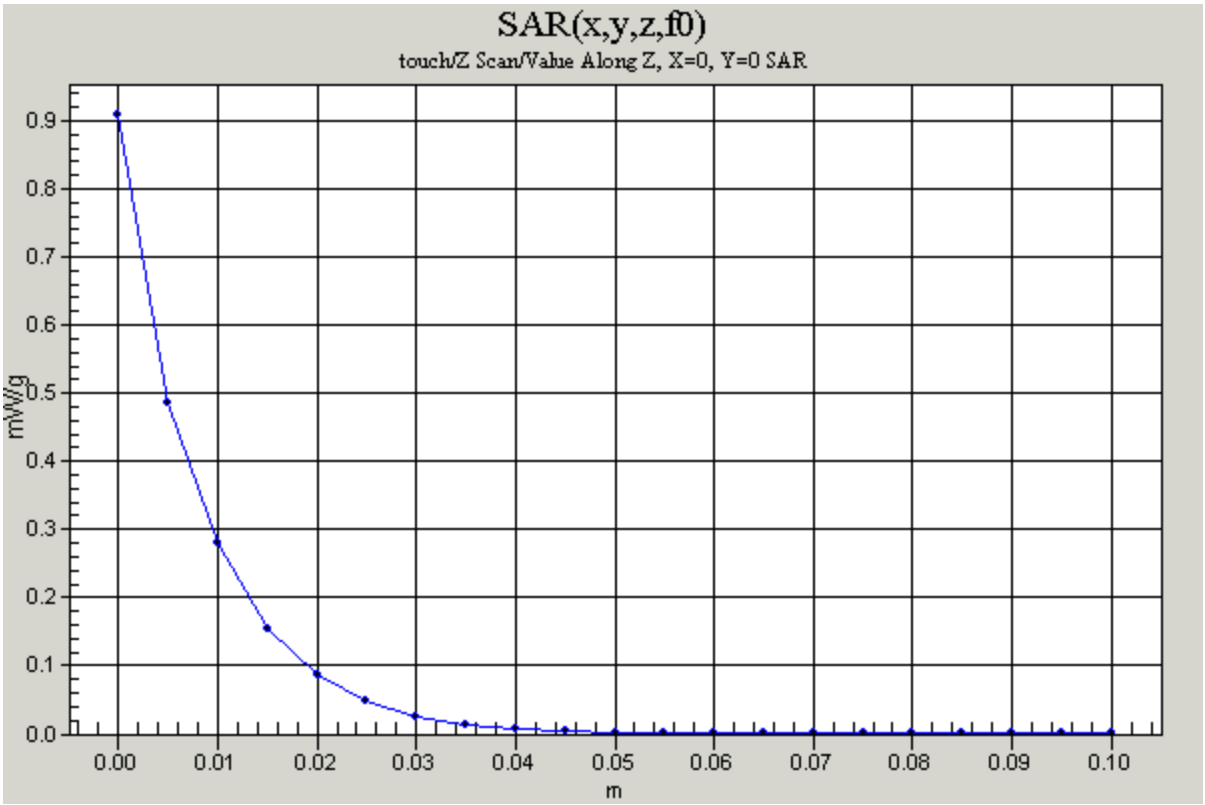
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

Low Rate=11M bit/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 24.1 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.753 mW/g

Low Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 24.1 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.909 mW/g

Low Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 0.977 mW/g; SAR(10 g) = 0.484 mW/g
Reference Value = 24.1 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 1.07 mW/g


mW/g
0.753
0.603
0.452
0.302
0.151
0.00056


SAR(x,y,z,f0)
touch/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 10:01:58

Test Laboratory: Compliance Certification Services Inc.

Touch mode(with Compaq)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEEE 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

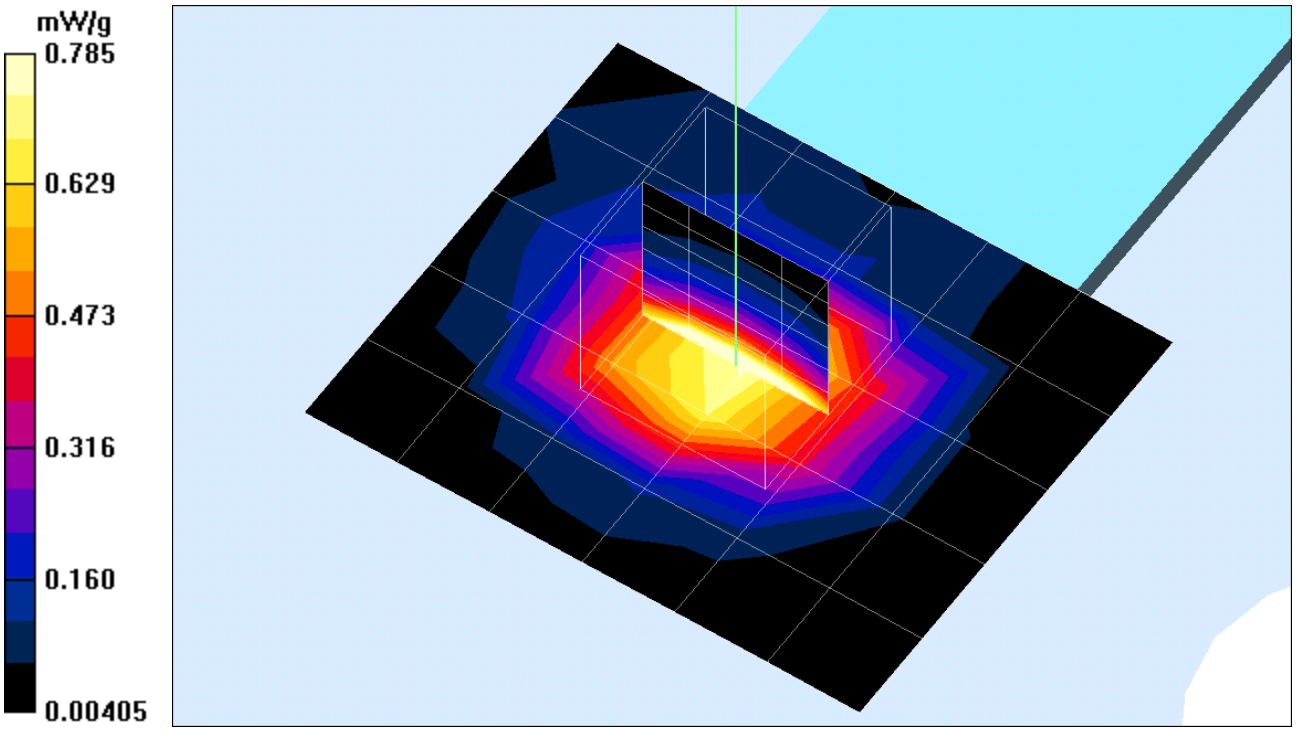
DASY4 Configuration:

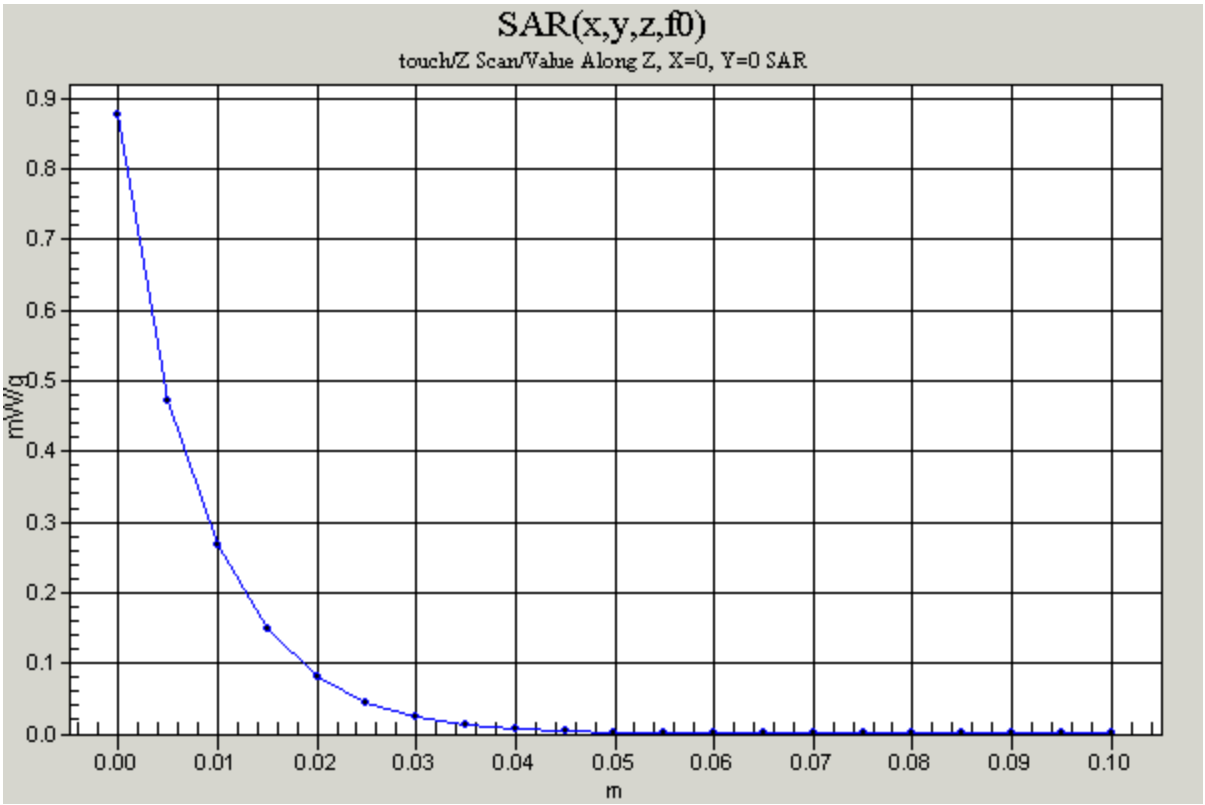
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

mid Rate=11M bit/Area Scan (7x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 24.3 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.785 mW/g

mid Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 24.3 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.877 mW/g

mid Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 2.05 W/kg
SAR(1 g) = 0.953 mW/g; SAR(10 g) = 0.471 mW/g
Reference Value = 24.3 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 1.03 mW/g


mW/g
0.785
0.629
0.473
0.316
0.160
0.00405


SAR(x,y,z,f0)
touch/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 10:01:58

Test Laboratory: Compliance Certification Services Inc.

Touch mode(with Compaq)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEEE 802.11b ; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

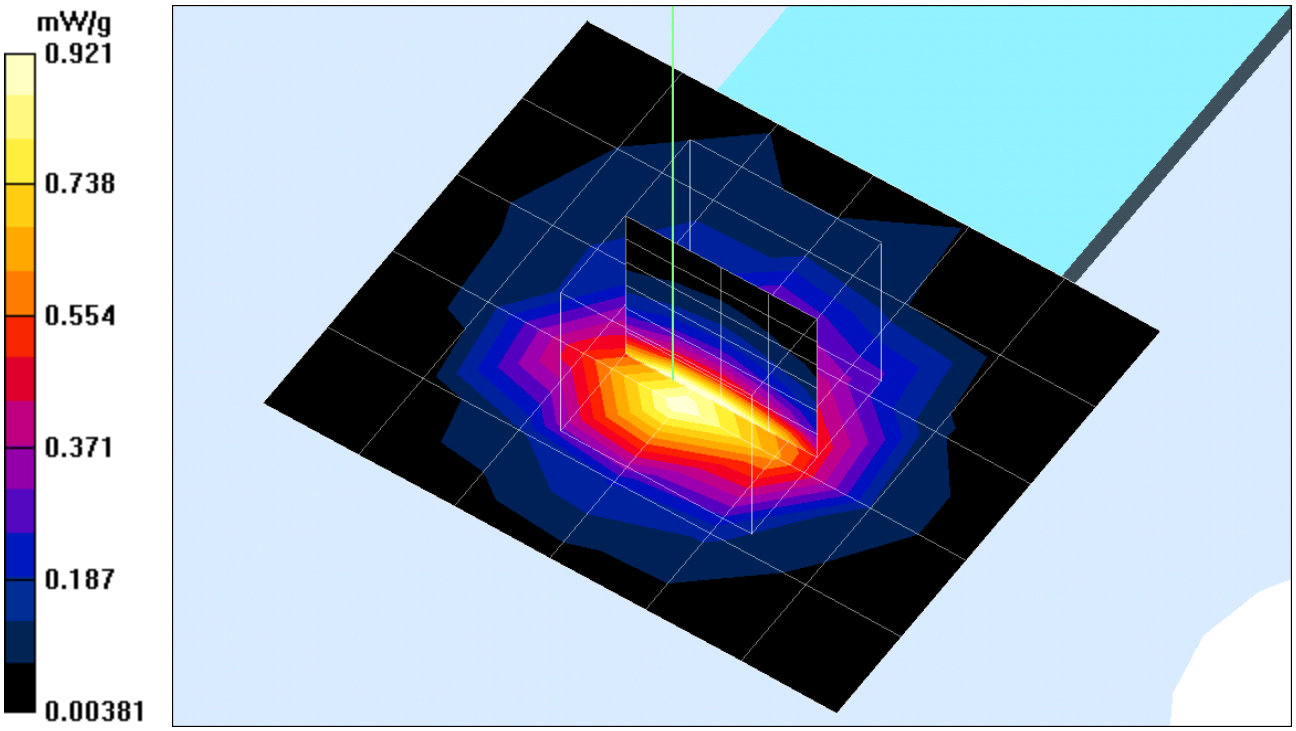
DASY4 Configuration:

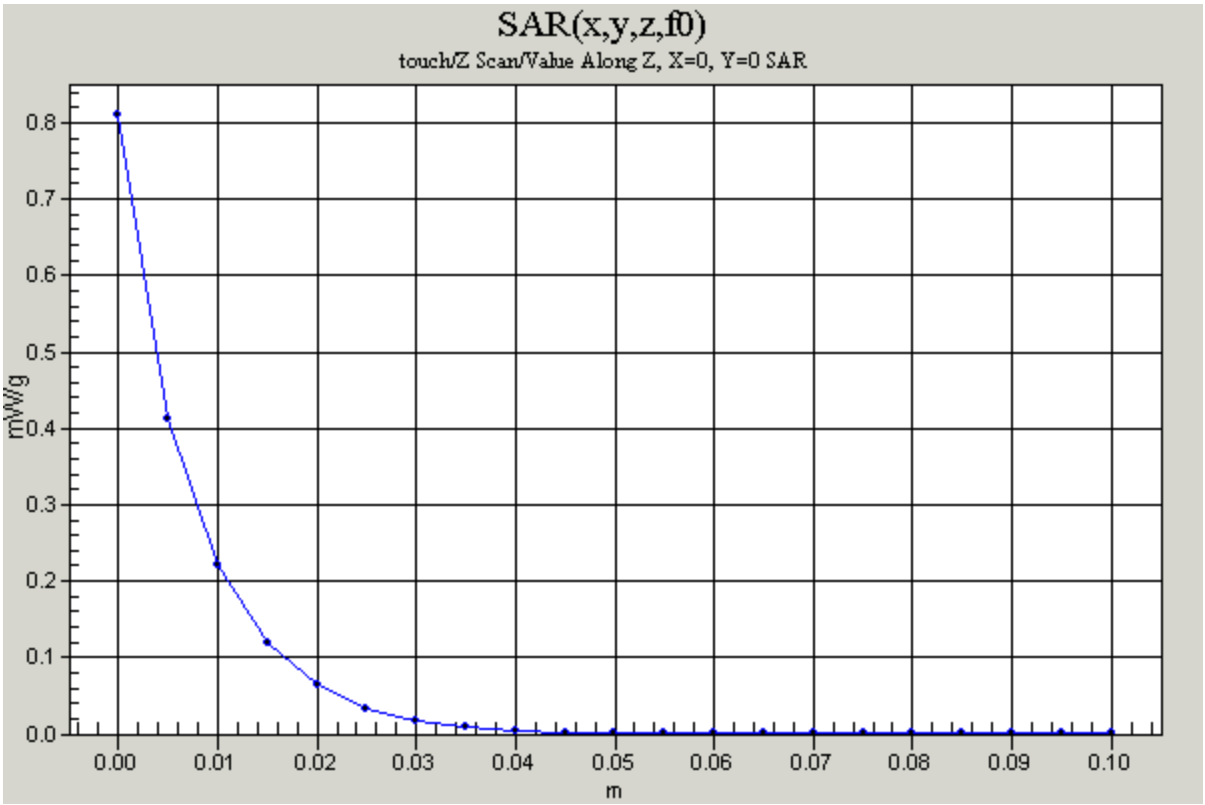
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

High Rate=11M bit/Area Scan (7x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 20.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.921 mW/g

High Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 20.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.810 mW/g

High Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 0.911 mW/g; SAR(10 g) = 0.447 mW/g
Reference Value = 20.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.978 mW/g


mW/g
0.921
0.738
0.554
0.371
0.187
0.00381


SAR(x,y,z,f0)
touch/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 14:24:39

Test Laboratory: Compliance Certification Services Inc.

Touch mode(with IBM-R31)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEE 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

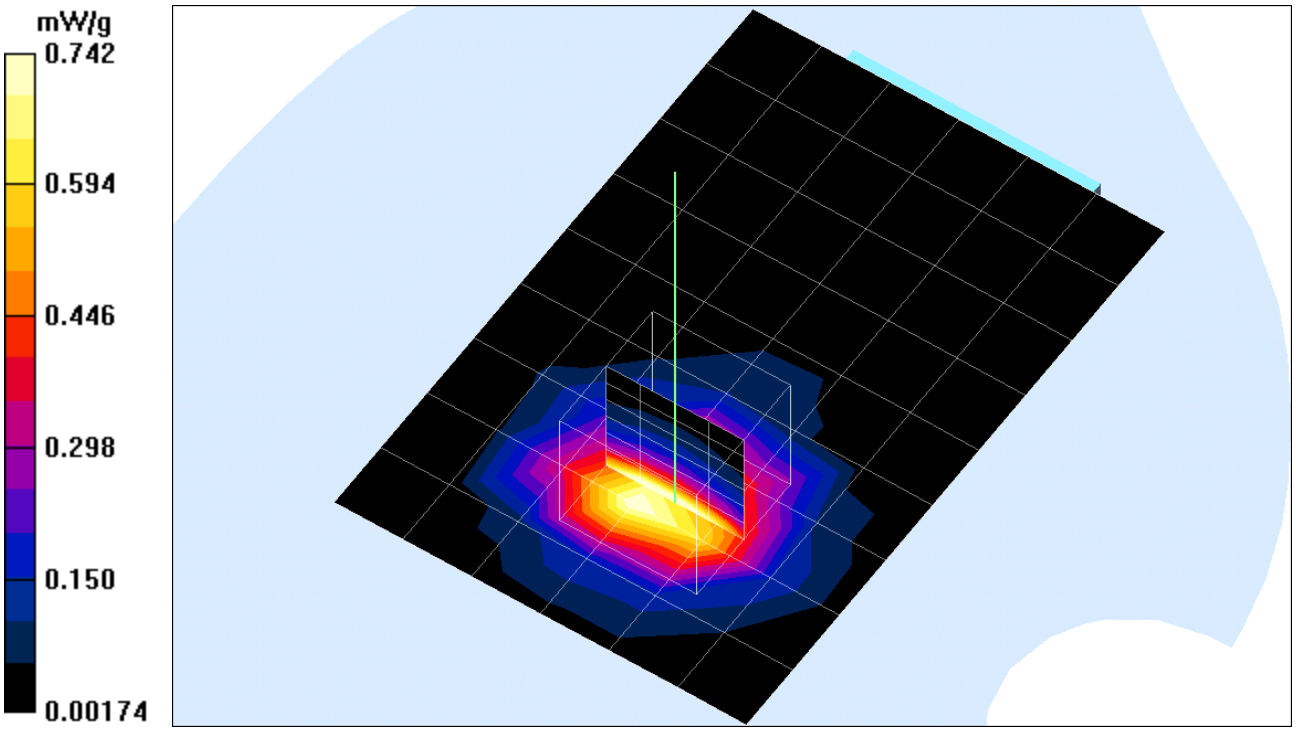
DASY4 Configuration:

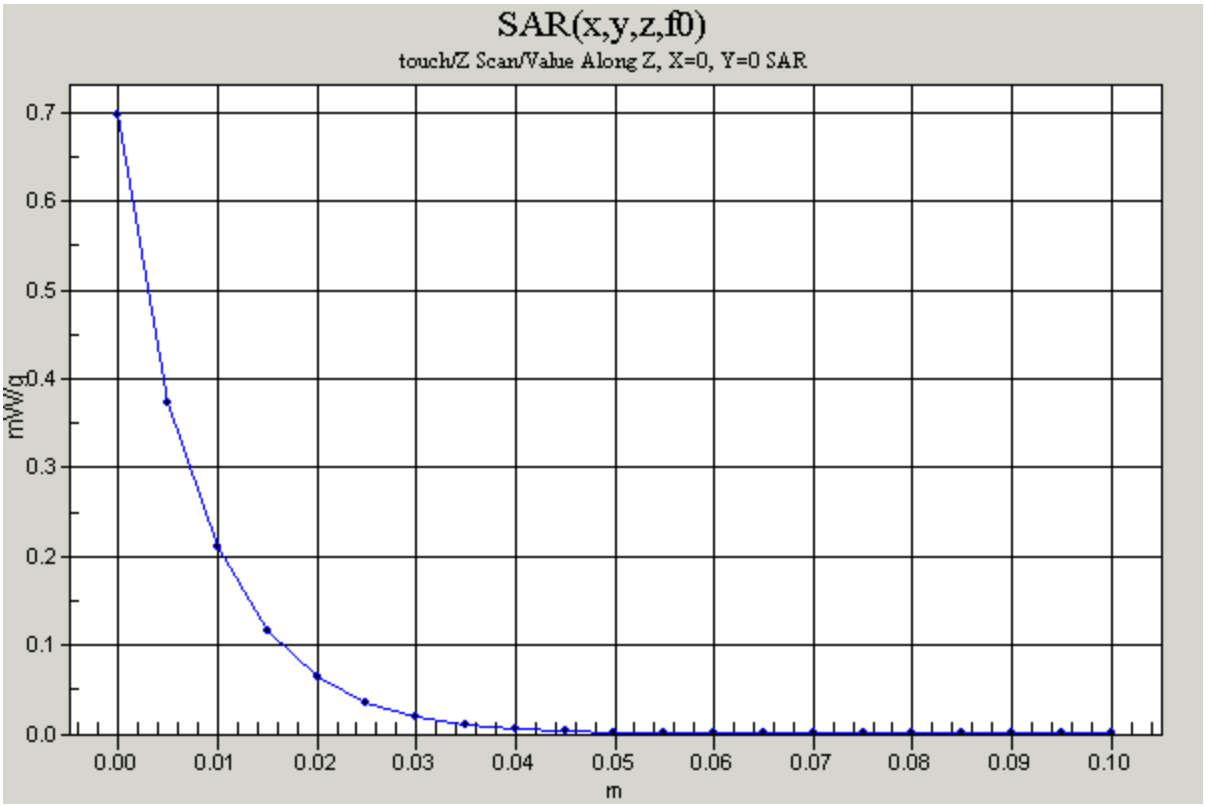
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

Low Rate=11M bit/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 21.1 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.742 mW/g

Low Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 21.1 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.697 mW/g

Low Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.781 mW/g; SAR(10 g) = 0.389 mW/g
Reference Value = 21.1 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.843 mW/g


mW/g
0.742
0.594
0.446
0.298
0.150
0.00174


SAR(x,y,z,f0)
touch/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 14:24:39

Test Laboratory: Compliance Certification Services Inc.

Touch mode(with IBM-R31)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEE 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

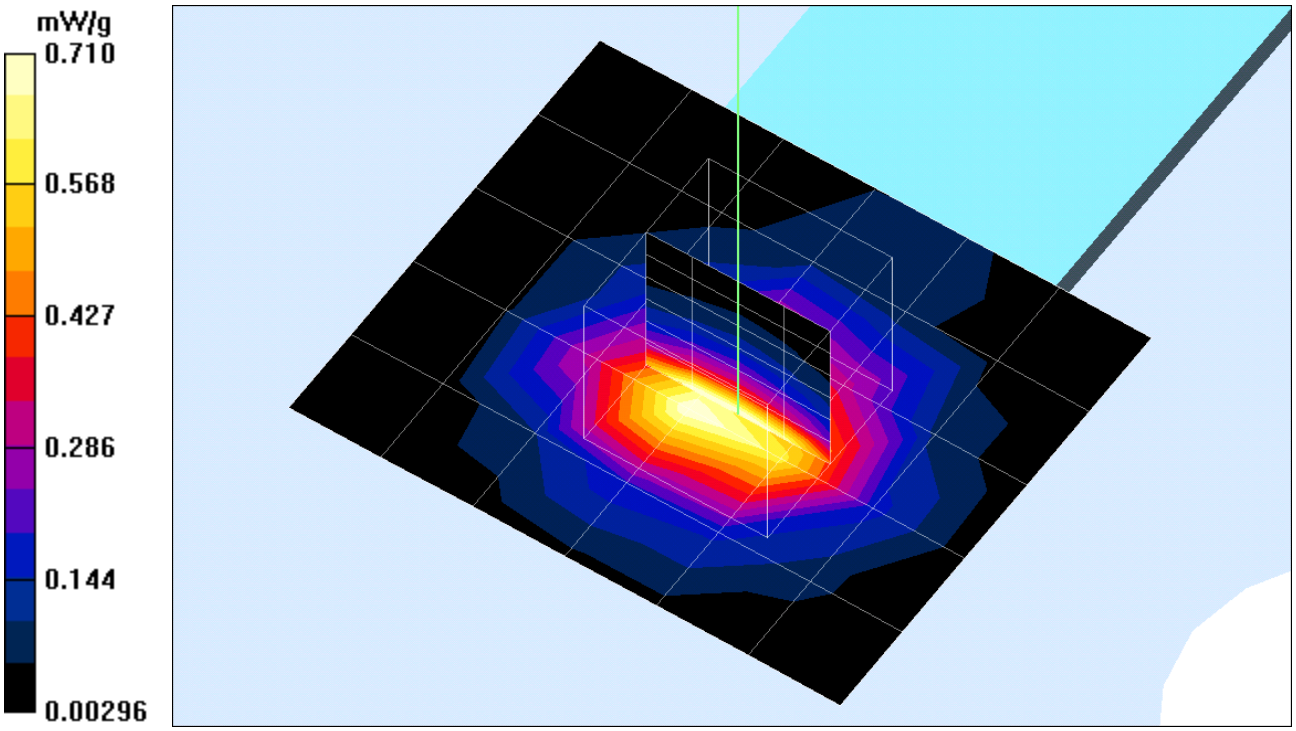
DASY4 Configuration:

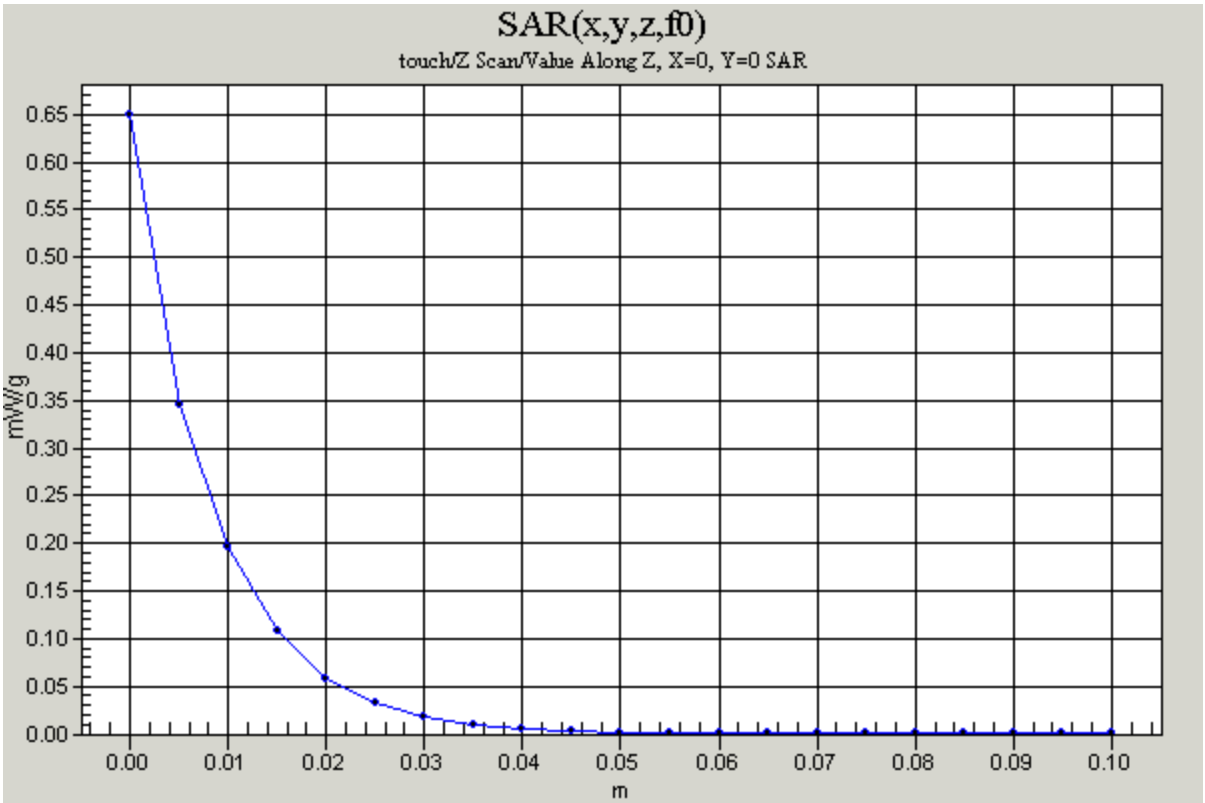
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

mid Rate=11M bit/Area Scan (7x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 18.6 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.710 mW/g

mid Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 18.6 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.650 mW/g

mid Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 1.5 W/kg
SAR(1 g) = 0.704 mW/g; SAR(10 g) = 0.355 mW/g
Reference Value = 18.6 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.757 mW/g


mW/g
0.710
0.568
0.427
0.286
0.144
0.00296


SAR(x,y,z,f0)
touch/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 13:24:39

Test Laboratory: Compliance Certification Services Inc.

Touch mode(with IBM-R31)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEE 802.11b ; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

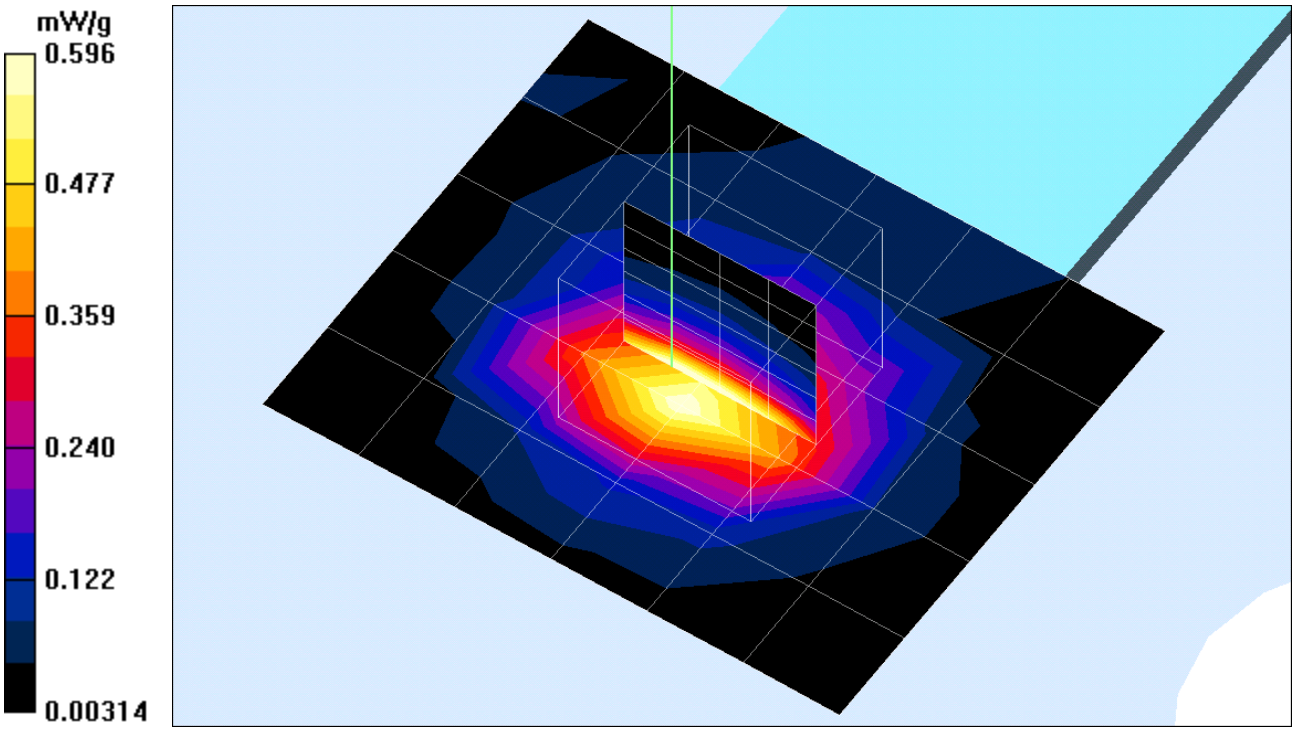
DASY4 Configuration:

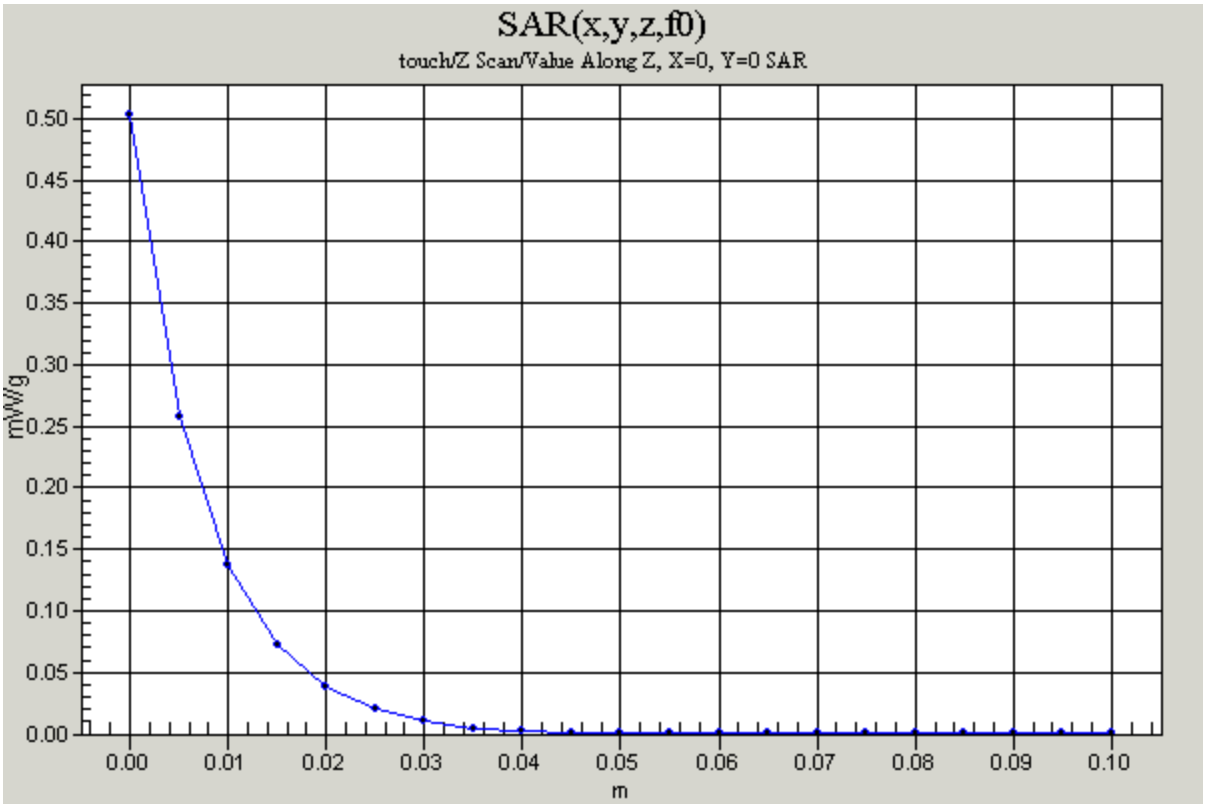
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

High Rate=11M bit/Area Scan (7x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 18.4 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.596 mW/g

High Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 18.4 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.503 mW/g

High Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.598 mW/g; SAR(10 g) = 0.297 mW/g
Reference Value = 18.4 V/m
Power Drift = -01 dB
Maximum value of SAR = 0.639 mW/g


mW/g
0.596
0.477
0.359
0.240
0.122
0.00314


SAR(x,y,z,f0)
touch/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 15:13:35

Test Laboratory: Compliance Certification Services Inc.

Touch mode(with IBM)

DUT: 802.11b Wireless LAN Cardbus PC Card ; Type: N/A; Serial: N/A

Communication System:IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

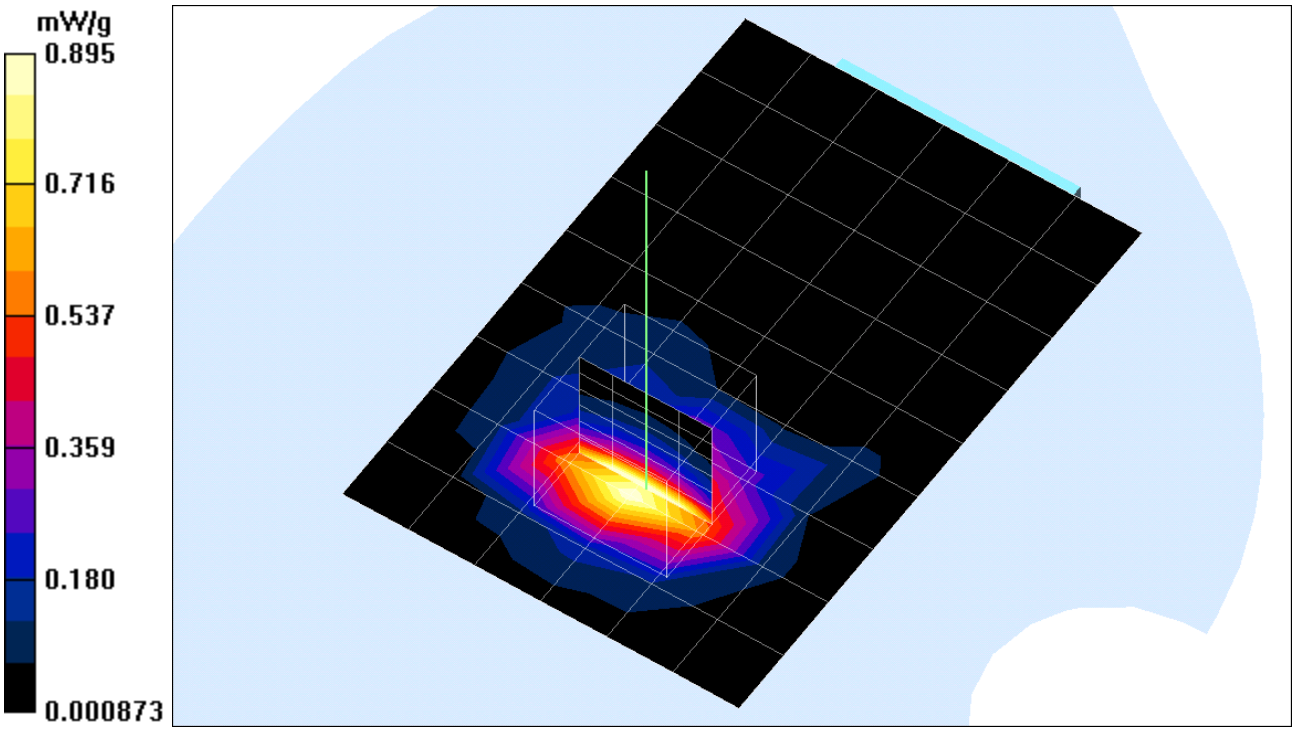
DASY4 Configuration:

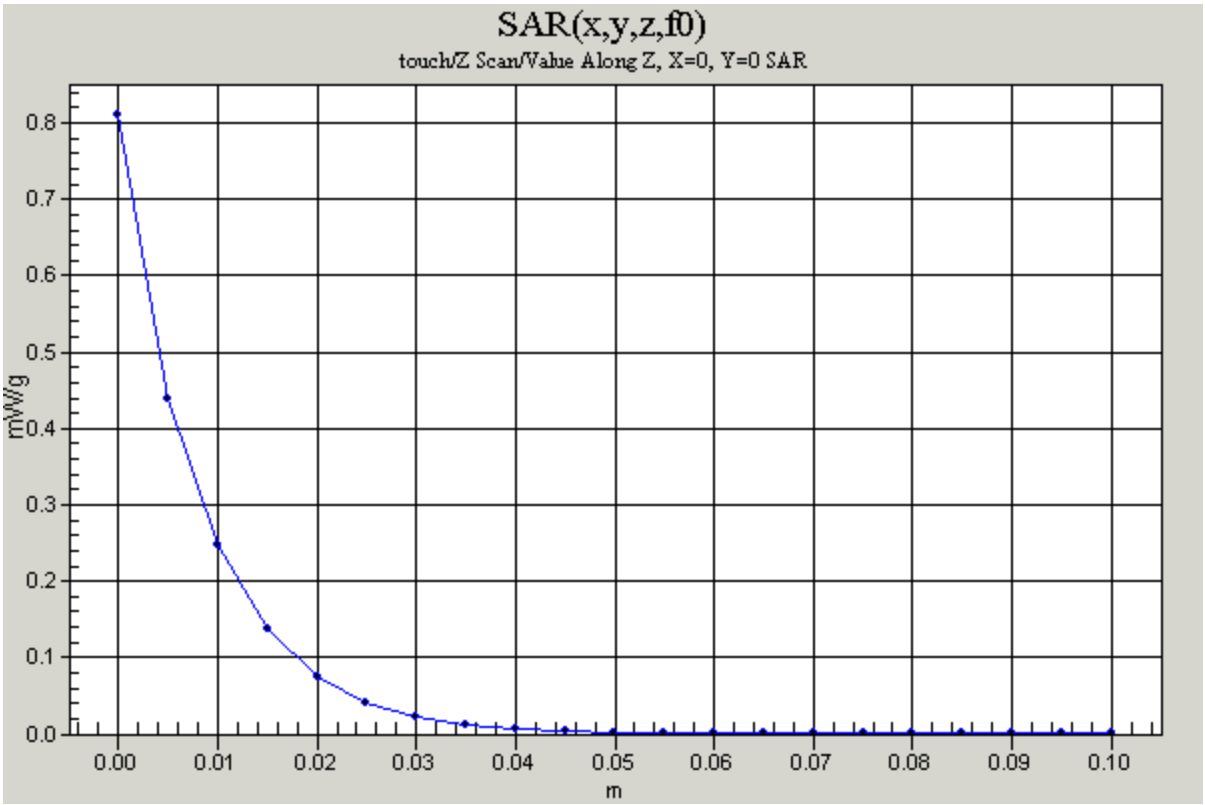
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
  Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

Low Rate=11M bit/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 20.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.895 mW/g

Low Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 20.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.811 mW/g

Low Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 1.99 W/kg
SAR(1 g) = 0.914 mW/g; SAR(10 g) = 0.447 mW/g
Reference Value = 20.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.986 mW/g


mW/g
0.895
0.716
0.537
0.359
0.180
0.000873


SAR(x,y,z,f0)
touch/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 15:13:35

Test Laboratory: Compliance Certification Services Inc.

Touch mode(with IBM)

DUT: 802.11b Wireless LAN Cardbus PC Card ; Type: N/A; Serial: N/A

Communication System: IEEE 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

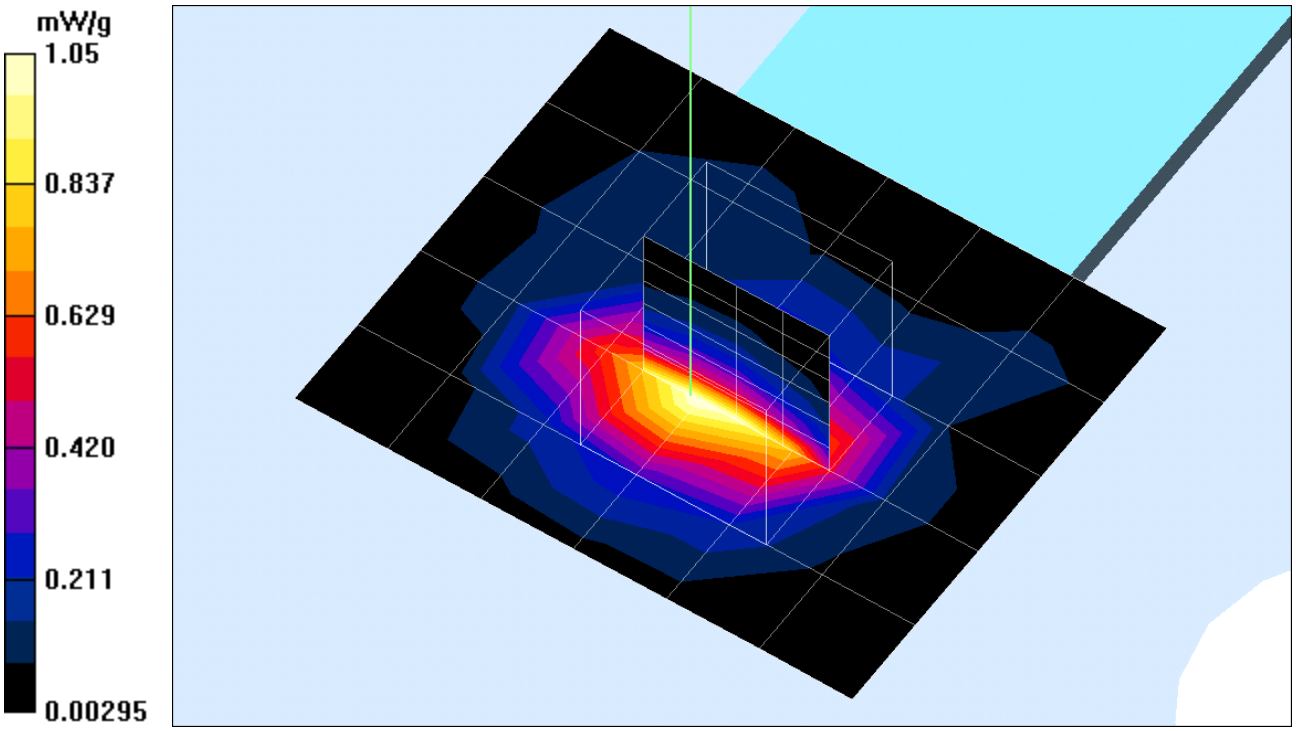
DASY4 Configuration:

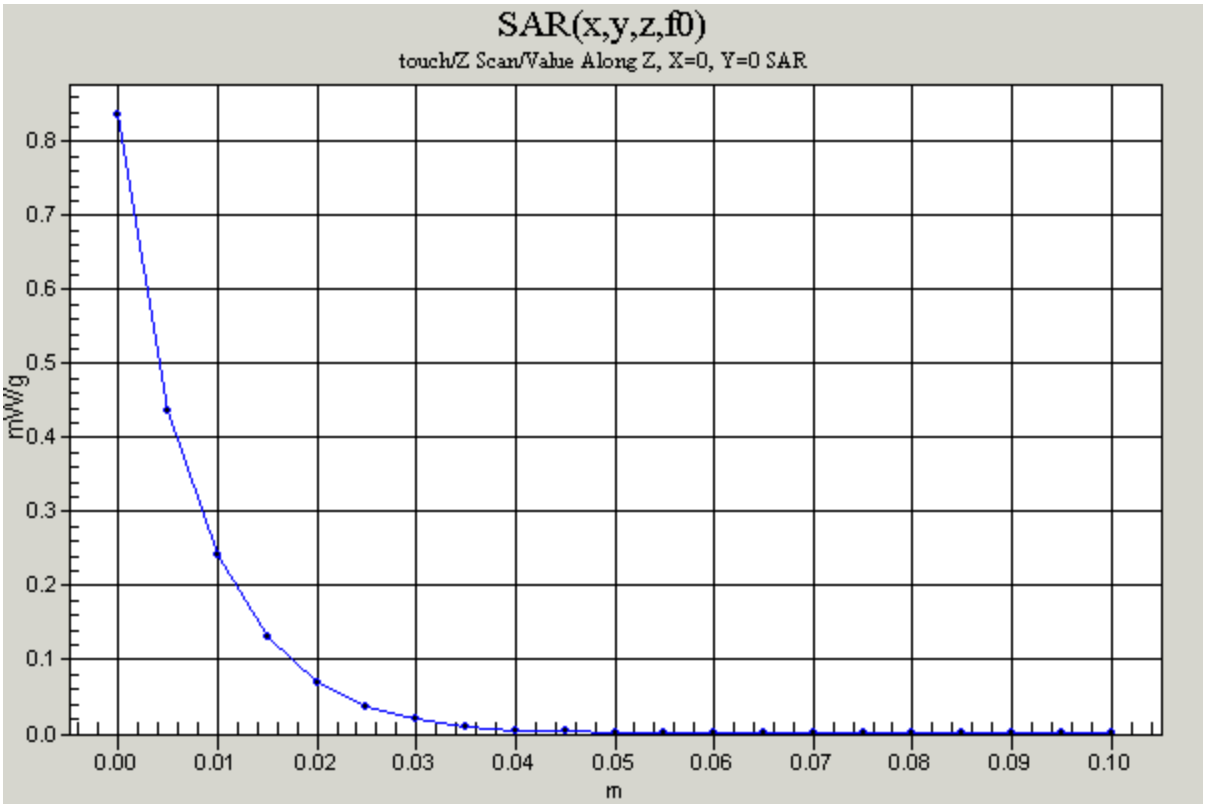
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

mid Rate=11M bit/Area Scan (7x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 17.7 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 1.05 mW/g

mid Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 17.7 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.836 mW/g

mid Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 2.06 W/kg
SAR(1 g) = 0.965 mW/g; SAR(10 g) = 0.476 mW/g
Reference Value = 17.7 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 1.04 mW/g


mW/g
1.05
0.837
0.629
0.420
0.211
0.00295


SAR(x,y,z,f0)
touch/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 15:13:35

Test Laboratory: Compliance Certification Services Inc.

Touch mode(with IBM)

DUT: 802.11b Wireless LAN Cardbus PC Card ; Type: N/A; Serial: N/A

Communication System: IEEE 802.11b ; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

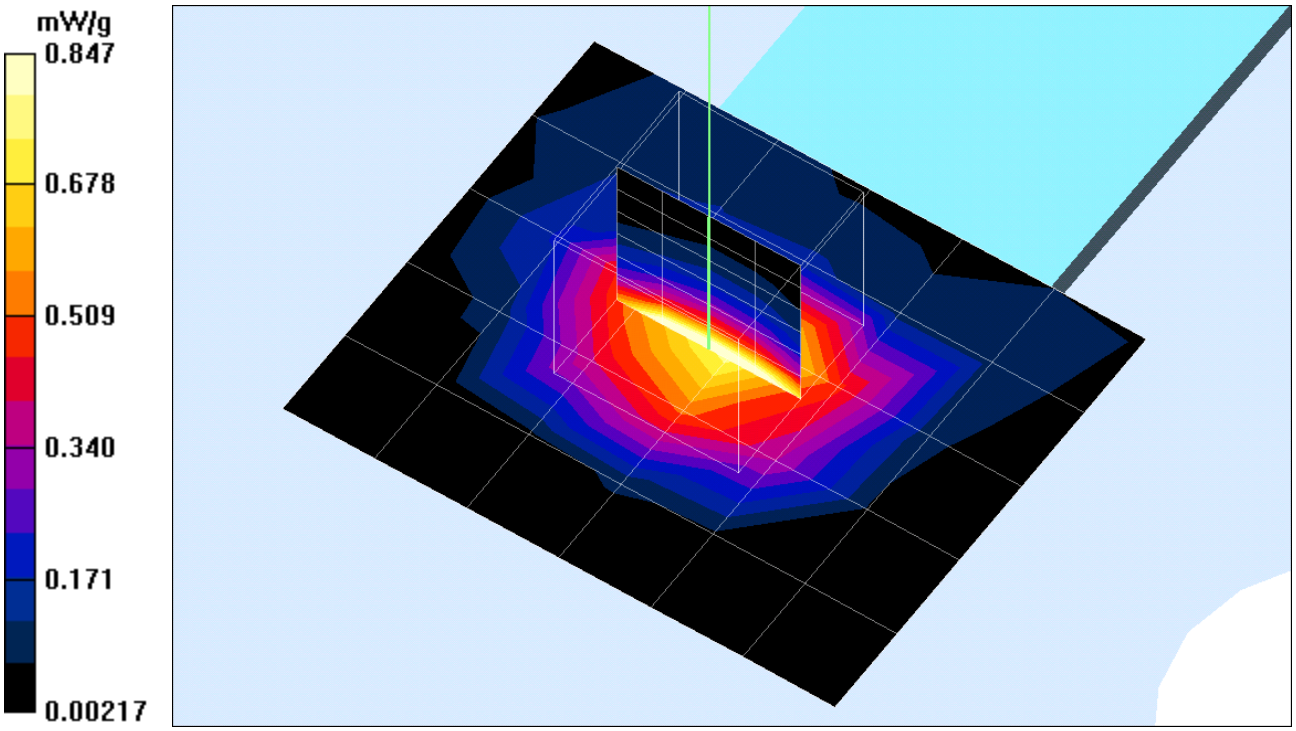
DASY4 Configuration:

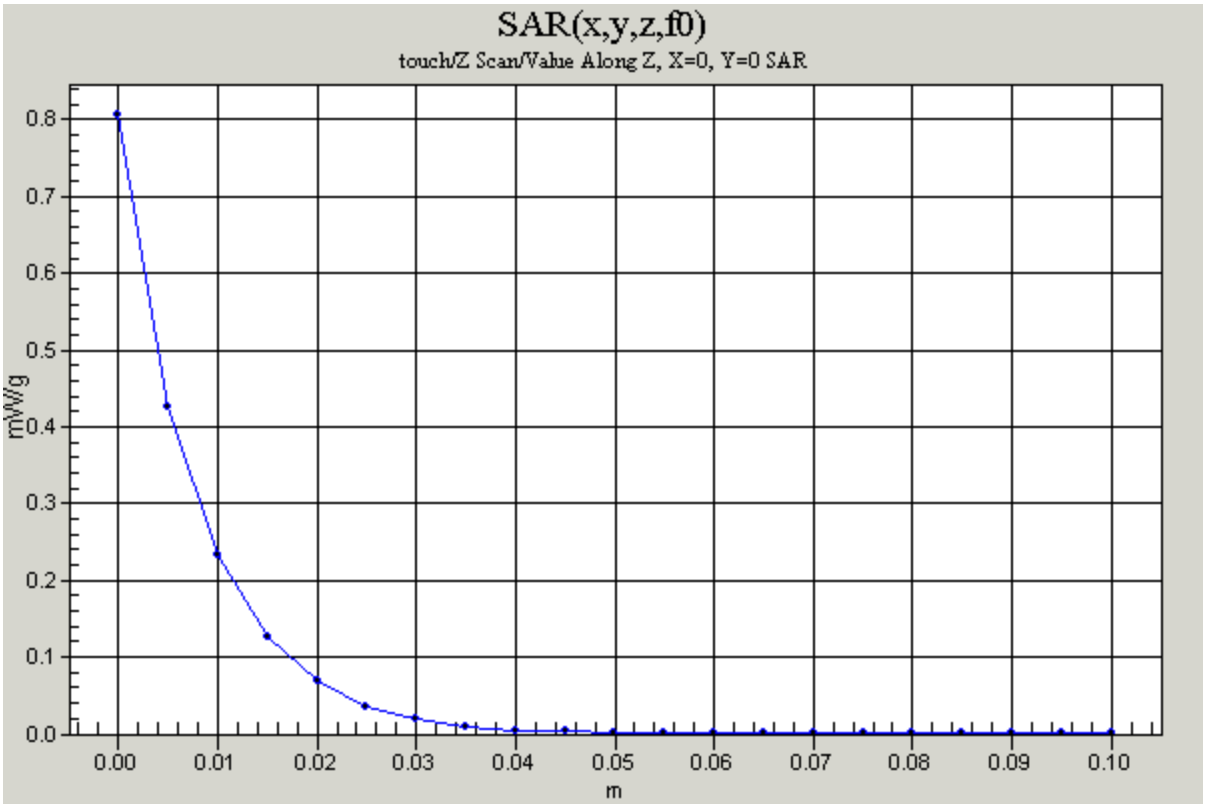
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

High Rate=11M bit/Area Scan (7x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 23.8 V/m
Power Drift = 0.1 dB
Maximum value of SAR = 0.847 mW/g

High Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 23.8 V/m
Power Drift = 0.1 dB
Maximum value of SAR = 0.806 mW/g

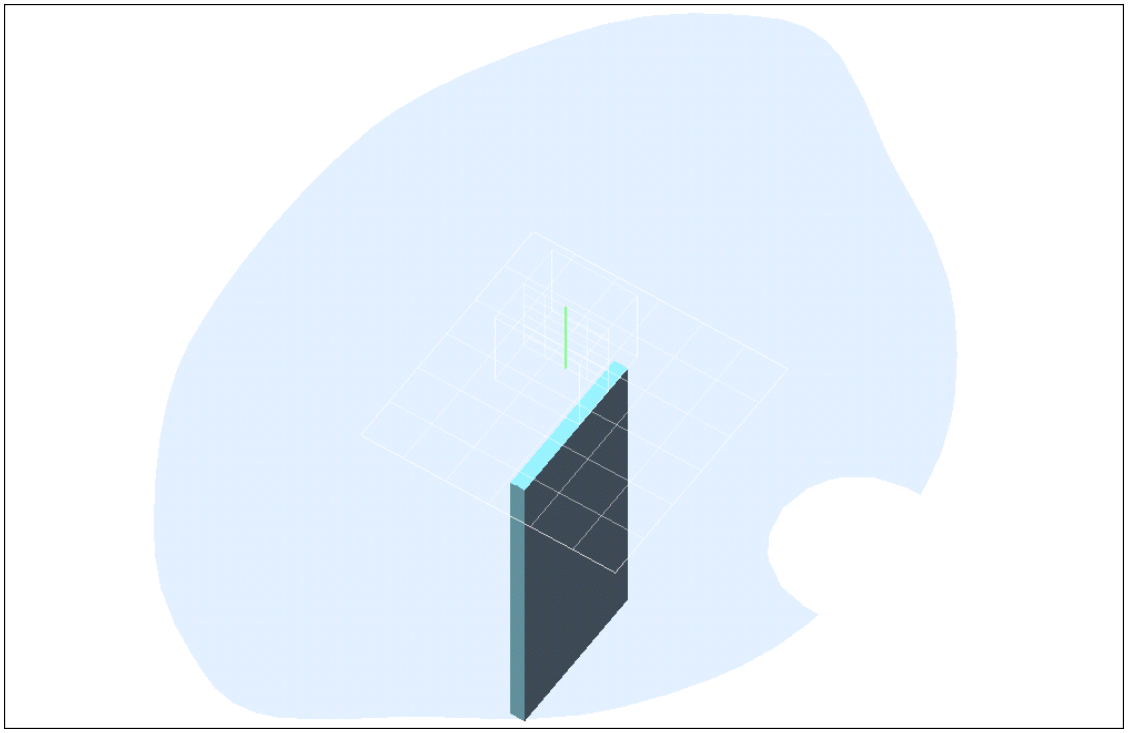
High Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 2.09 W/kg
SAR(1 g) = 0.932 mW/g; SAR(10 g) = 0.455 mW/g
Reference Value = 23.8 V/m
Power Drift = 0.1 dB
Maximum value of SAR = 1.02 mW/g


mW/g
0.847
0.678
0.509
0.340
0.171
0.00217


SAR(x,y,z,f0)
touch/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Test Laboratory: Compliance Certification Services Inc.

Test Configuration-2



Date/Time: 02/13/04 11:11:11

Test Laboratory: Compliance Certification Services Inc.

15mm mode(with Compaq)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

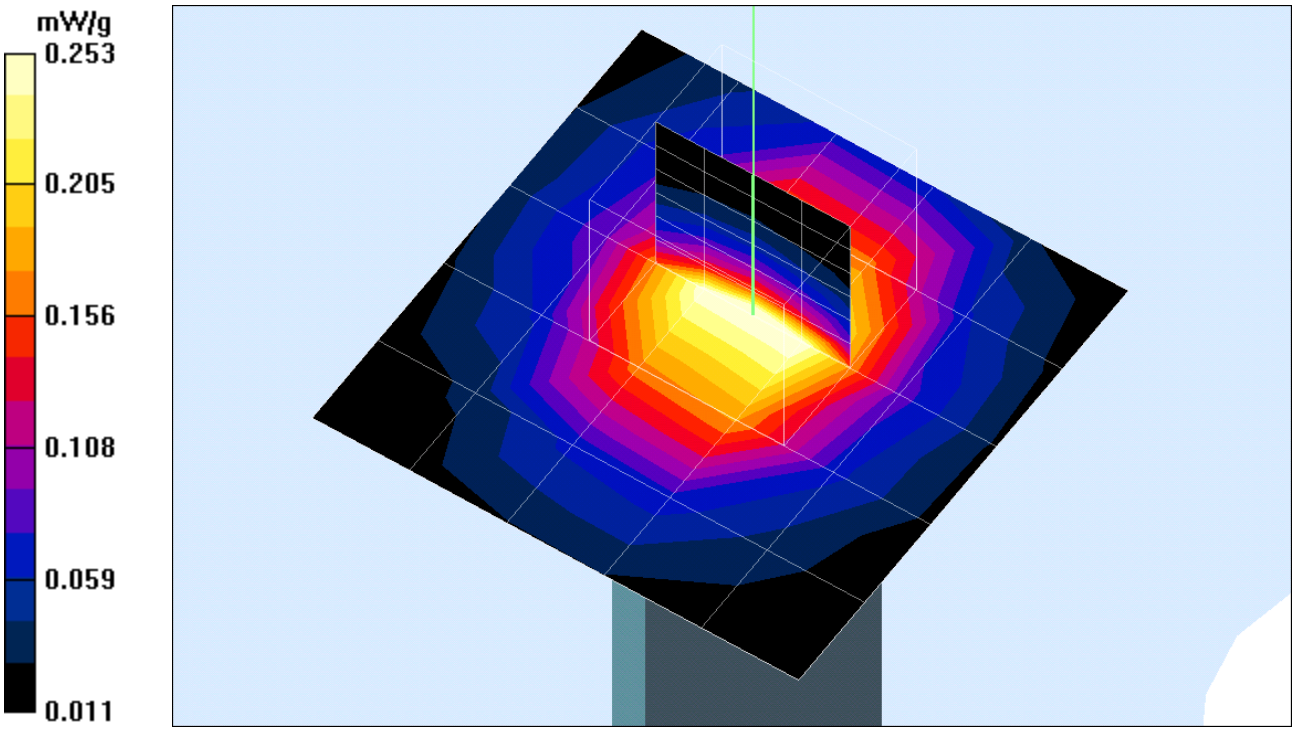
DASY4 Configuration:

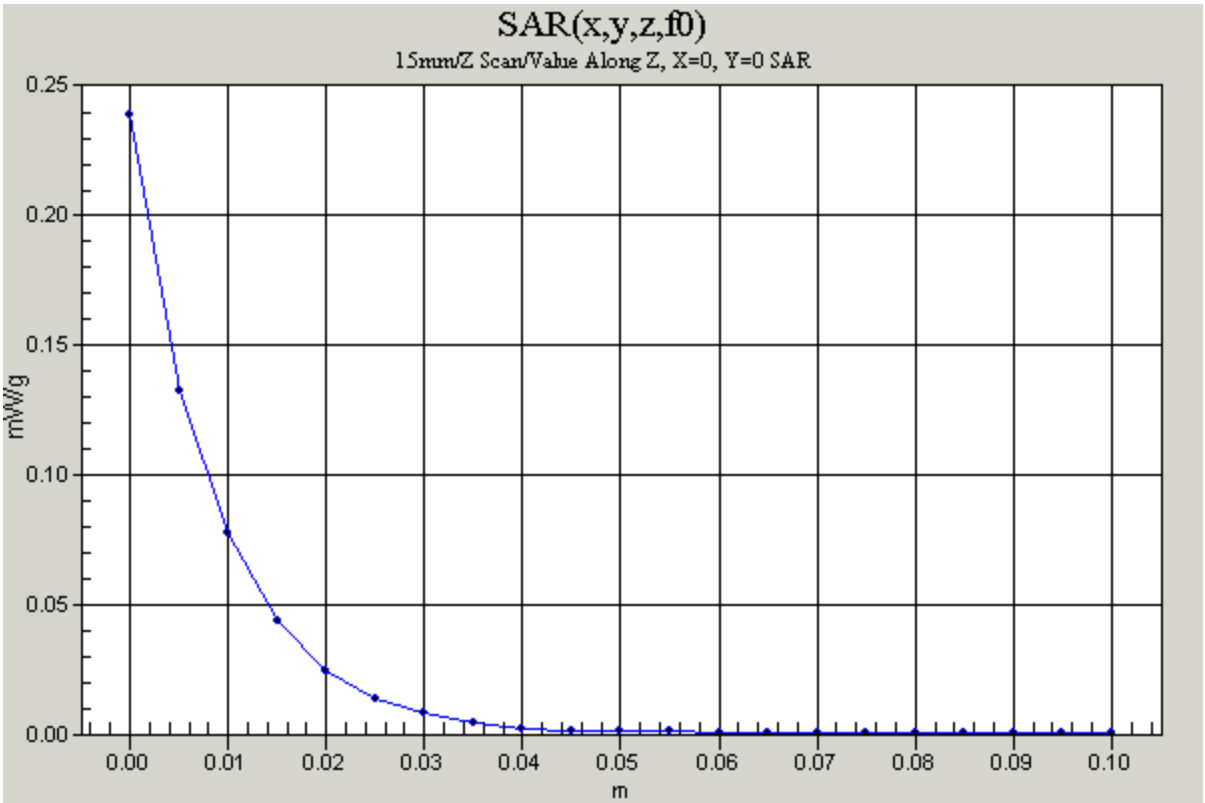
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

Low Rate=11M bit/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 12.7 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.253 mW/g

Low Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 12.7 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.239 mW/g

Low Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 0.549 W/kg
SAR(1 g) = 0.271 mW/g; SAR(10 g) = 0.148 mW/g
Reference Value = 12.7 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.293 mW/g


mW/g
0.253
0.205
0.156
0.108
0.059
0.011


SAR(x,y,z,f0)
15mm/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.25
0.20
0.15
0.10
0.05
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 11:11:11

Test Laboratory: Compliance Certification Services Inc.

15mm mode(with Compaq)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEEE 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

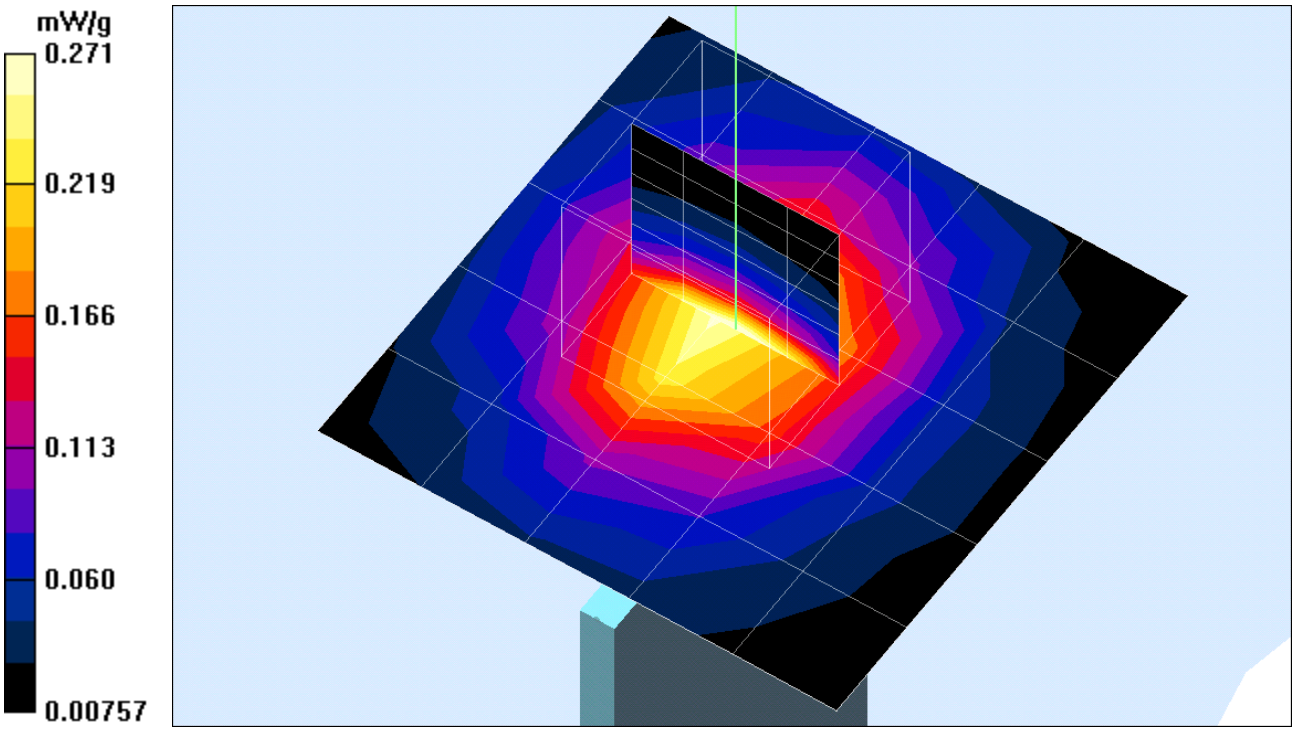
DASY4 Configuration:

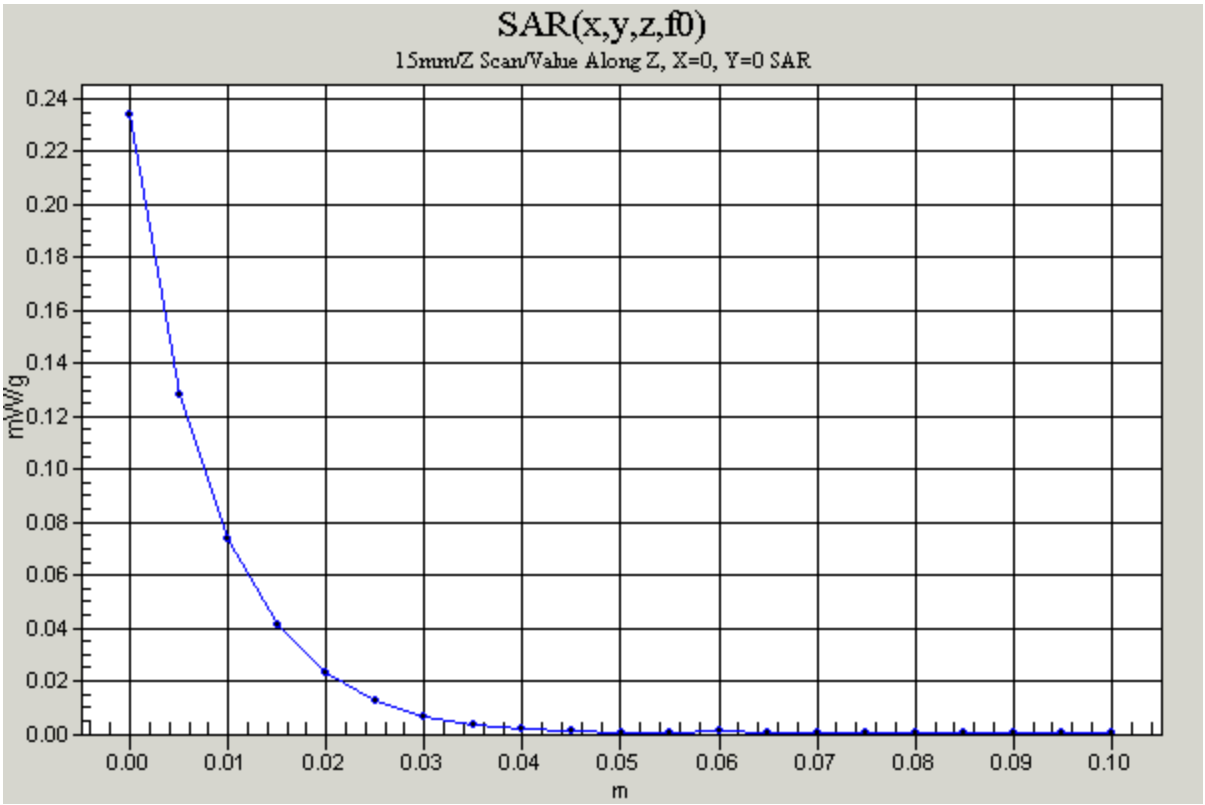
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

mid Rate=11M bit/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 12.5 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.271 mW/g

mid Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 12.5 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.234 mW/g

mid Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 0.537 W/kg
SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.145 mW/g
Reference Value = 12.5 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.288 mW/g


mW/g
0.271
0.219
0.166
0.113
0.060
0.00757


SAR(x,y,z,f0)
15mm/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.24
0.22
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 11:11:11

Test Laboratory: Compliance Certification Services Inc.

15mm mode(with Compaq)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

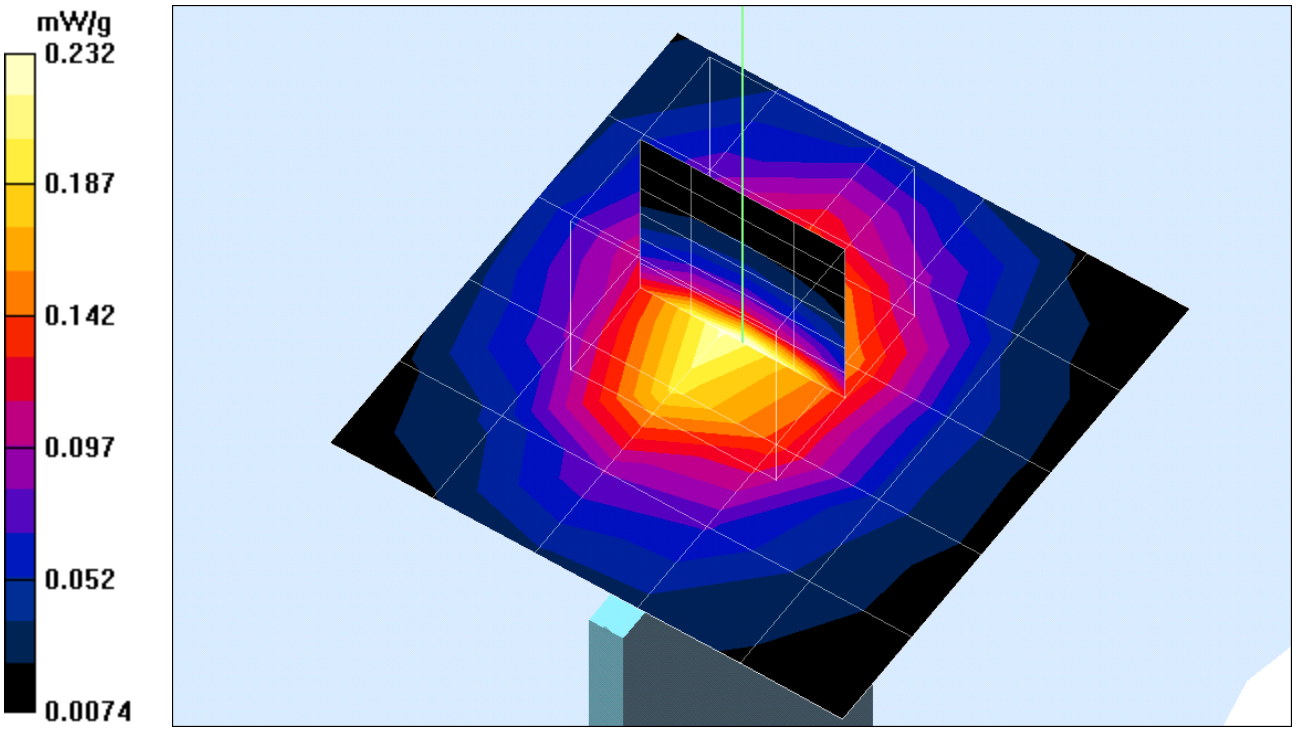
DASY4 Configuration:

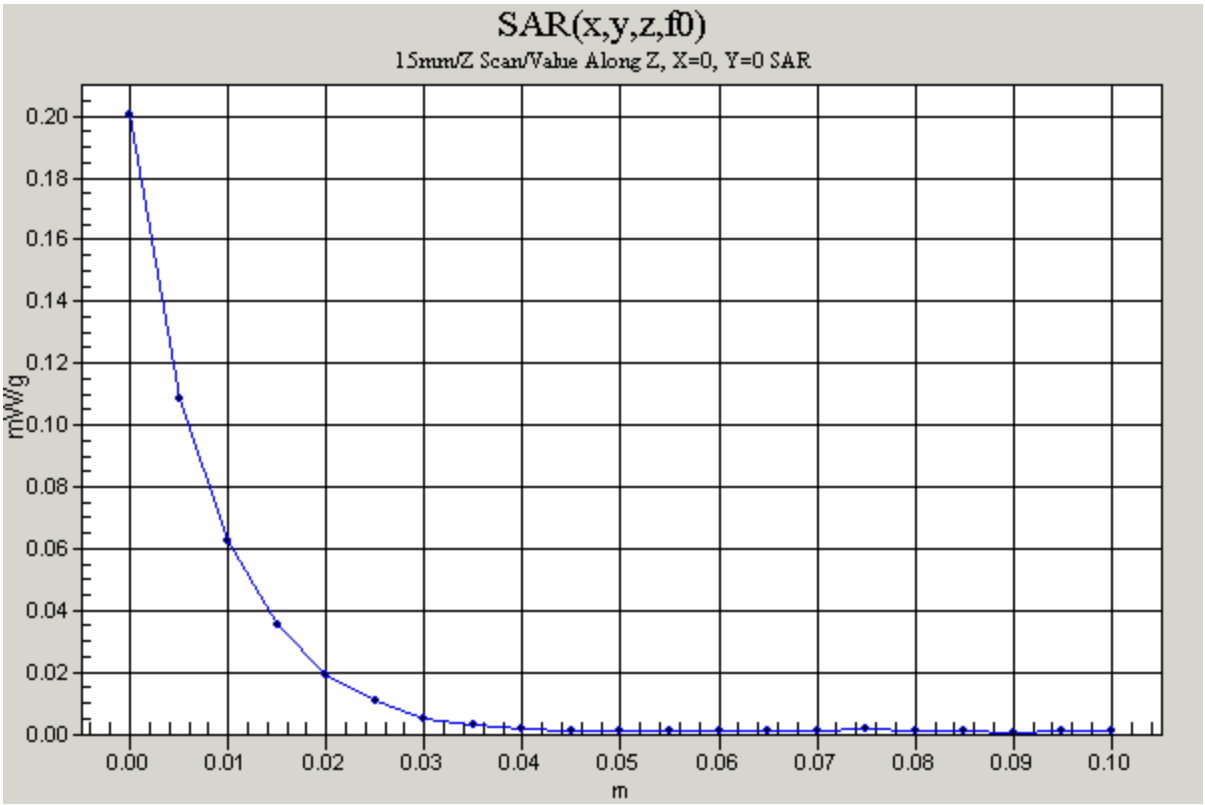
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

High Rate=11M bit/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 11.5 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.232 mW/g

High Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 11.5 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.200 mW/g

High Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 0.464 W/kg
SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.122 mW/g
Reference Value = 11.5 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.246 mW/g


mW/g
0.232
0.187
0.142
0.097
0.052
0.0074


SAR(x,y,z,f0)
15mm/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 13:16:56

Test Laboratory: Compliance Certification Services Inc.

15mm mode(with IBM-R31)

DUT: 802.11b Wireless LAN Cardbus PC Card ; Type: WB2550; Serial: N/A

Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

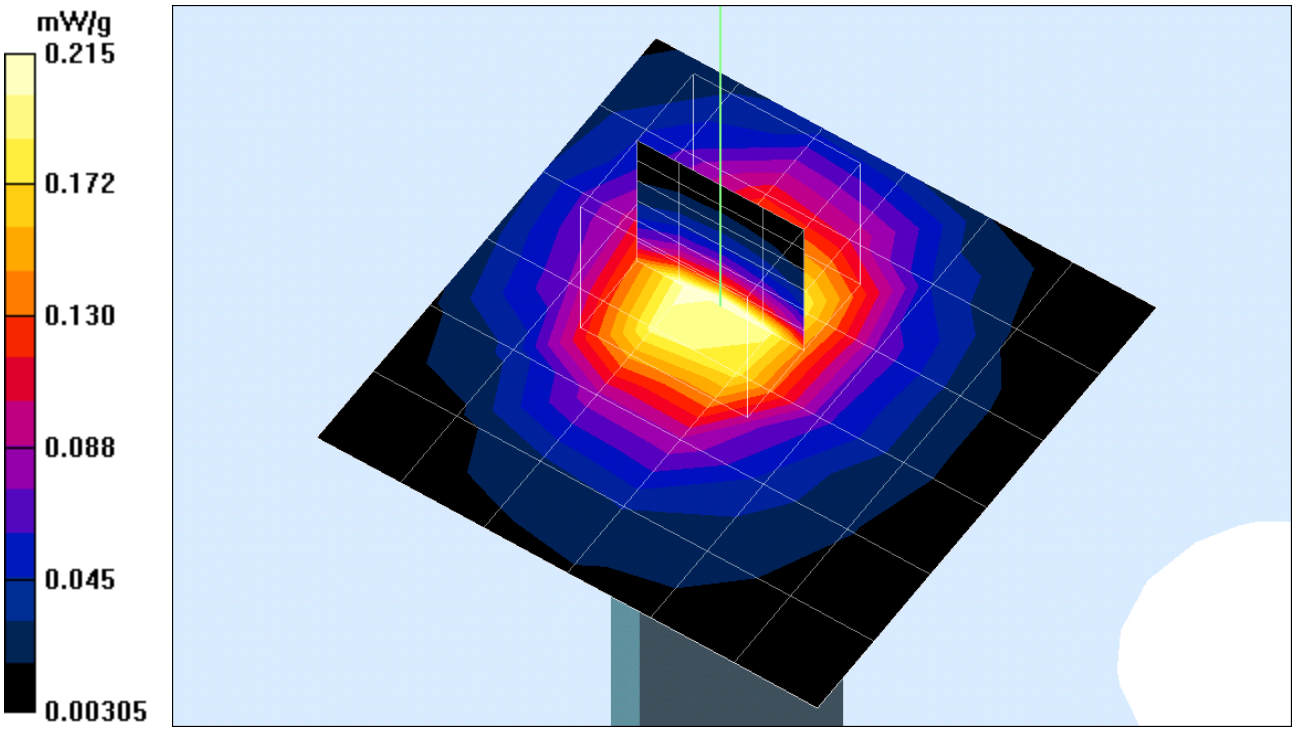
DASY4 Configuration:

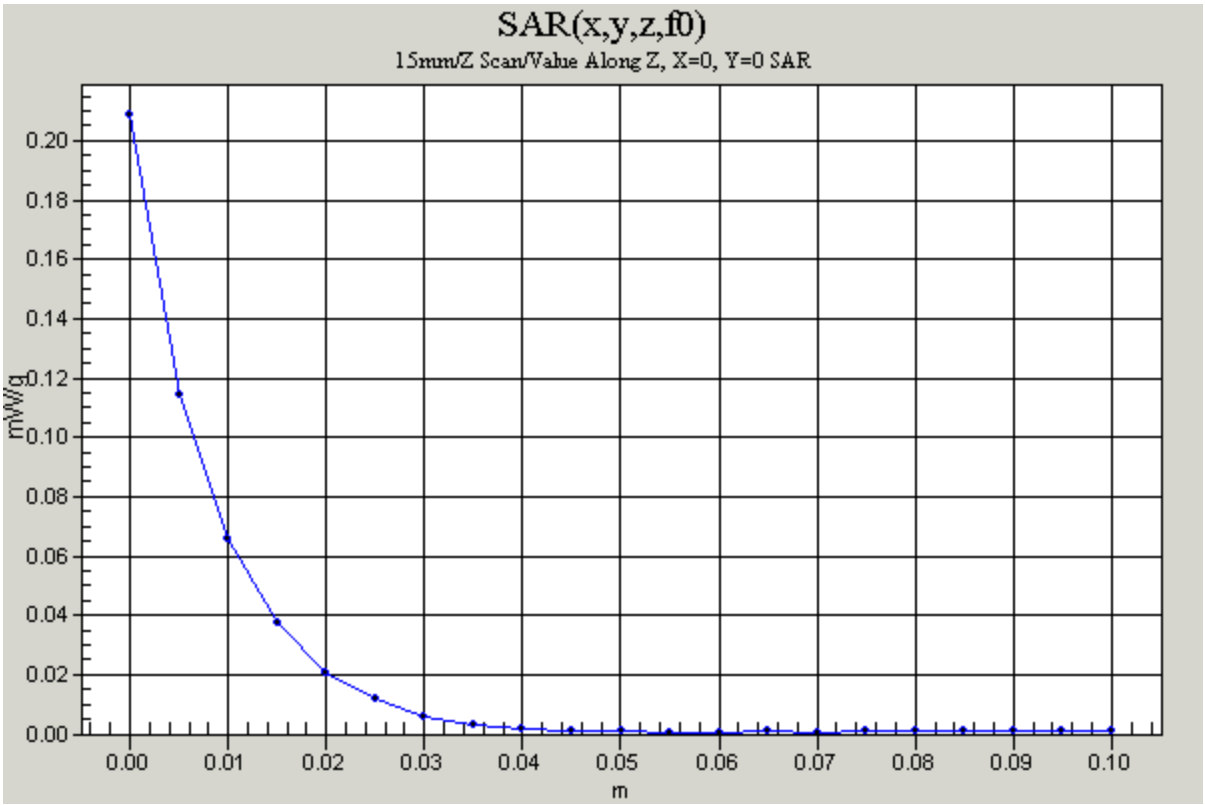
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

Low Rate=11M bit/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 11.8 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.215 mW/g

Low Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 11.8 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.209 mW/g

Low Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 0.472 W/kg
SAR(1 g) = 0.234 mW/g; SAR(10 g) = 0.128 mW/g
Reference Value = 11.8 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.253 mW/g


mW/g
0.215
0.172
0.130
0.088
0.045
0.00305


SAR(x,y,z,f0)
15mm/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 13:16:56

Test Laboratory: Compliance Certification Services Inc.

15mm mode(with IBM-R31)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: WB2550; Serial: N/A

Communication System: IEEE 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

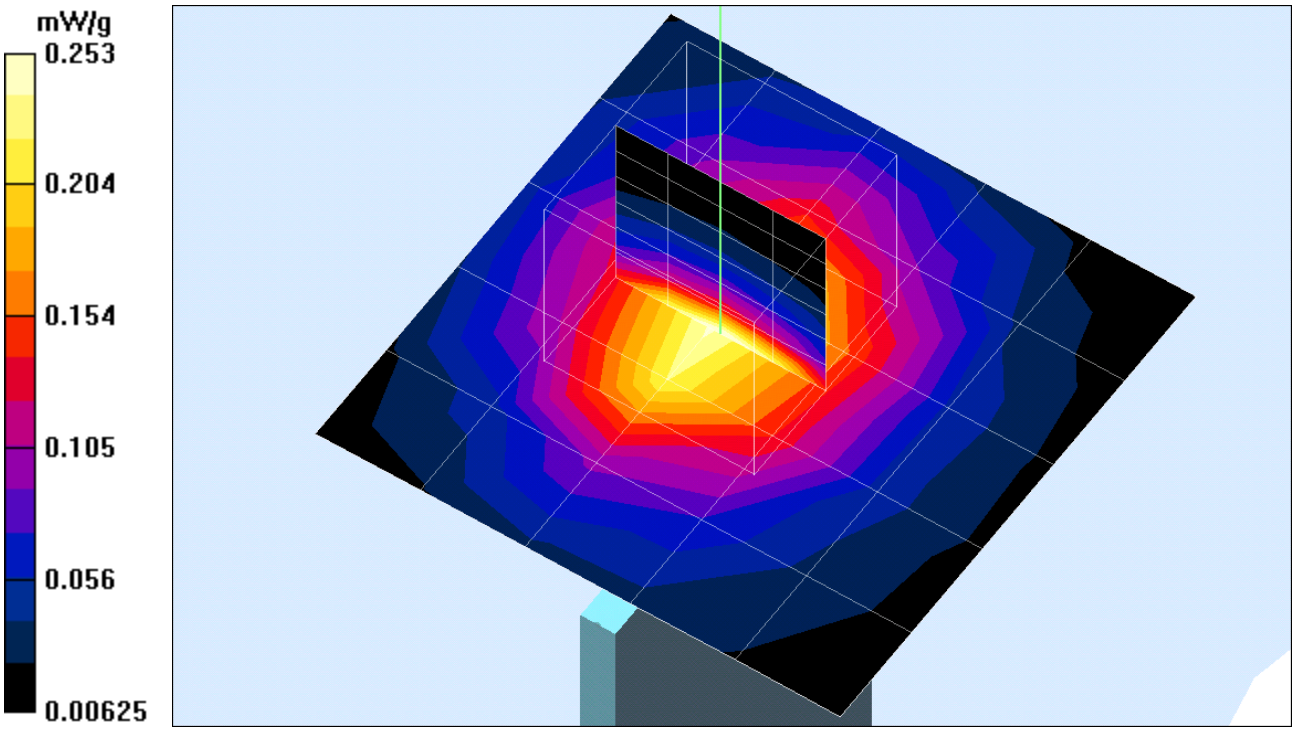
DASY4 Configuration:

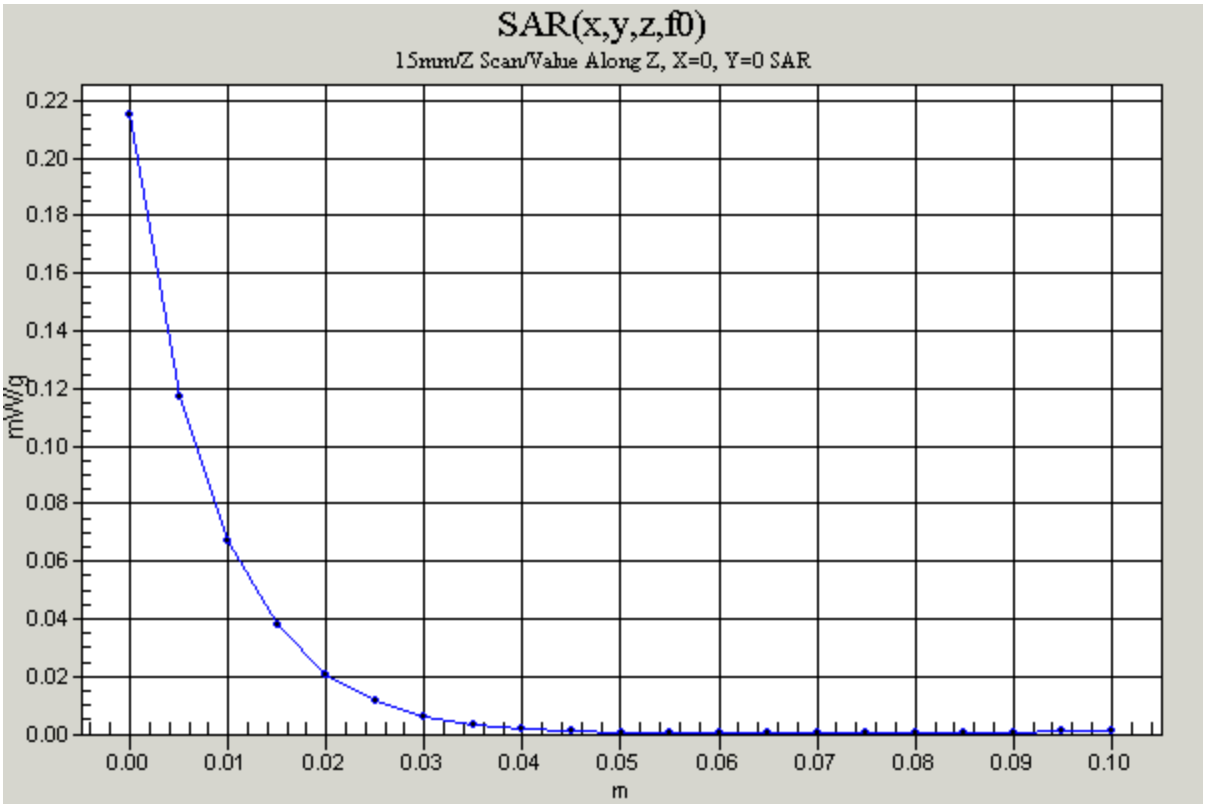
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

mid Rate=11M bit/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 11.8 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.253 mW/g

mid Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 11.8 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.215 mW/g

mid Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 0.505 W/kg
SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.133 mW/g
Reference Value = 11.8 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.264 mW/g


mW/g
0.253
0.204
0.154
0.105
0.056
0.00625


SAR(x,y,z,f0)
15mm/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.22
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 13:16:56

Test Laboratory: Compliance Certification Services Inc.

15mm mode(with IBM-R31)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: WB2550; Serial: N/A

Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

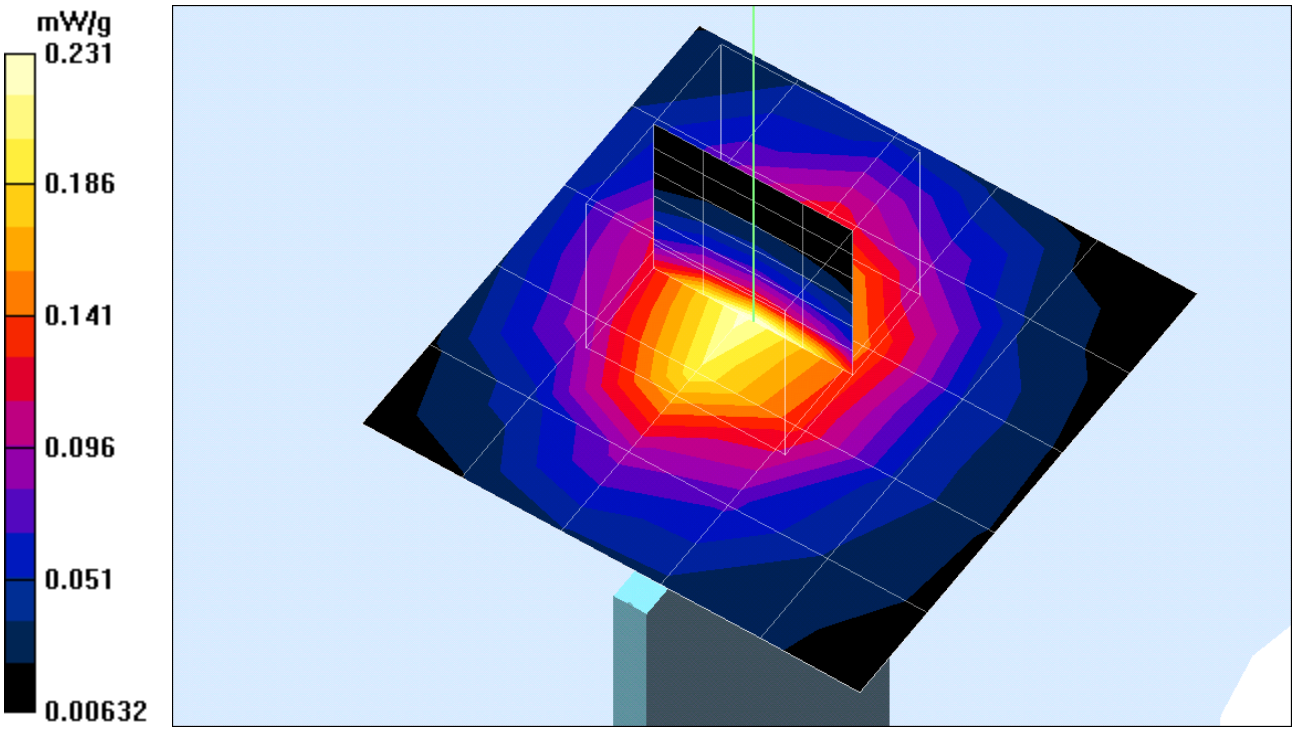
DASY4 Configuration:

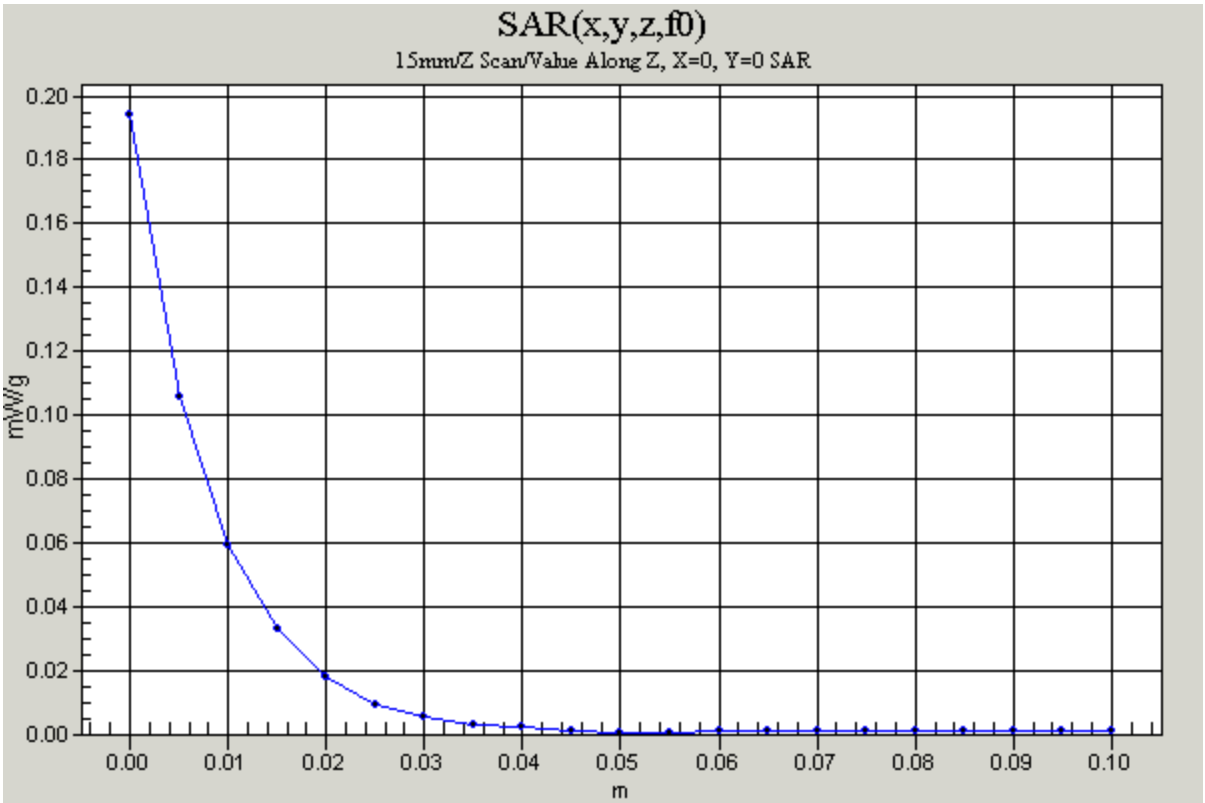
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

High Rate=11M bit/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 11.4 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.231 mW/g

High Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 11.4 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.194 mW/g

High Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 0.460 W/kg
SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.120 mW/g
Reference Value = 11.4 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.241 mW/g


mW/g
0.231
0.186
0.141
0.096
0.051
0.00632


SAR(x,y,z,f0)
15mm/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 16:58:04

Test Laboratory: Compliance Certification Services Inc.

15mm mode(with IBM)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

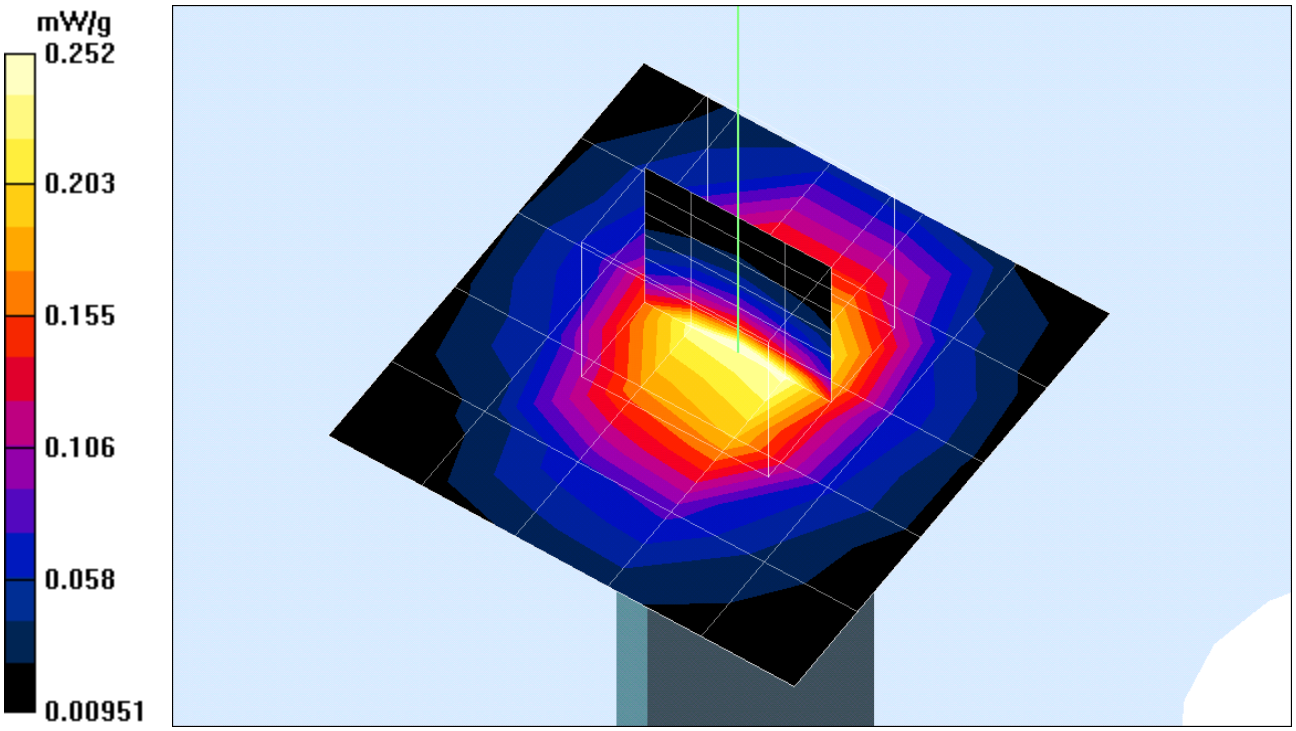
DASY4 Configuration:

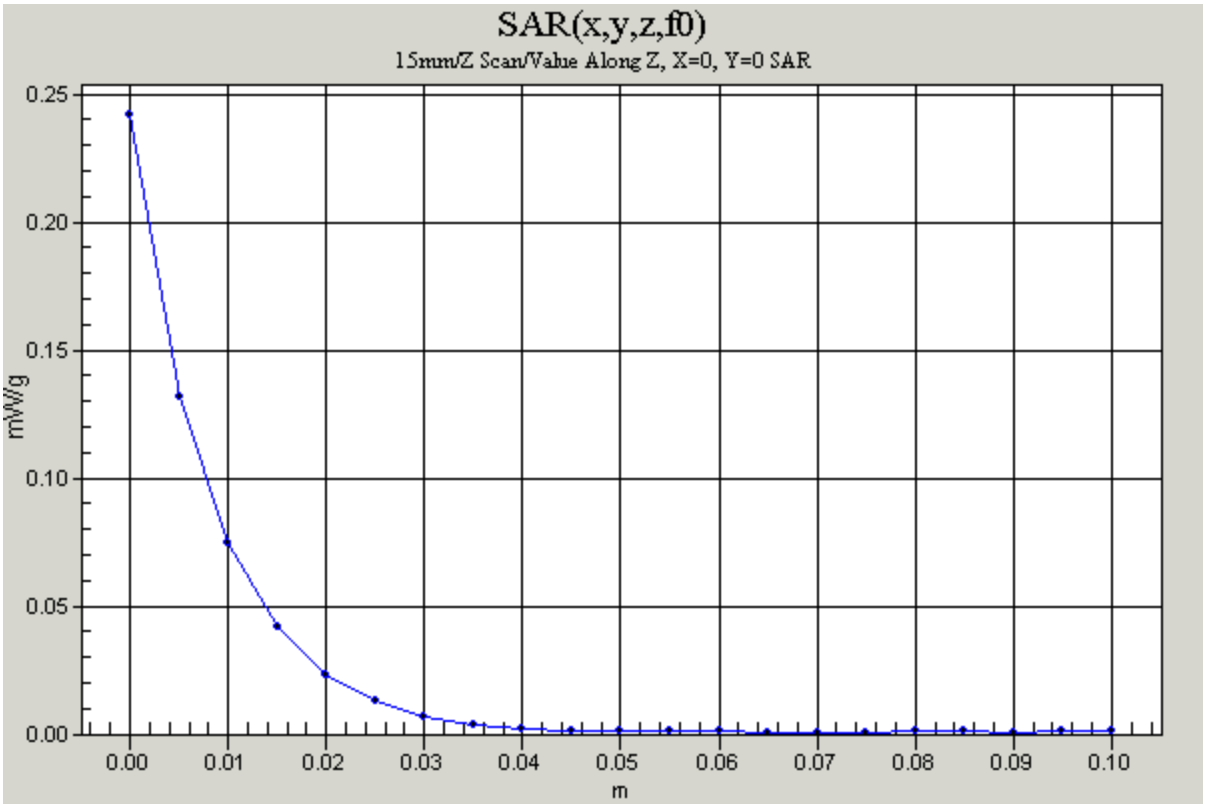
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

Low Rate=11M bit/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 12.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.252 mW/g

Low Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 12.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.242 mW/g

Low Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 0.568 W/kg
SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.147 mW/g
Reference Value = 12.9 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.298 mW/g


mW/g
0.252
0.203
0.155
0.106
0.058
0.00951


SAR(x,y,z,f0)
15mm/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.25
0.20
0.15
0.10
0.05
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 16:58:04

Test Laboratory: Compliance Certification Services Inc.

15mm mode(with IBM)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEEE 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

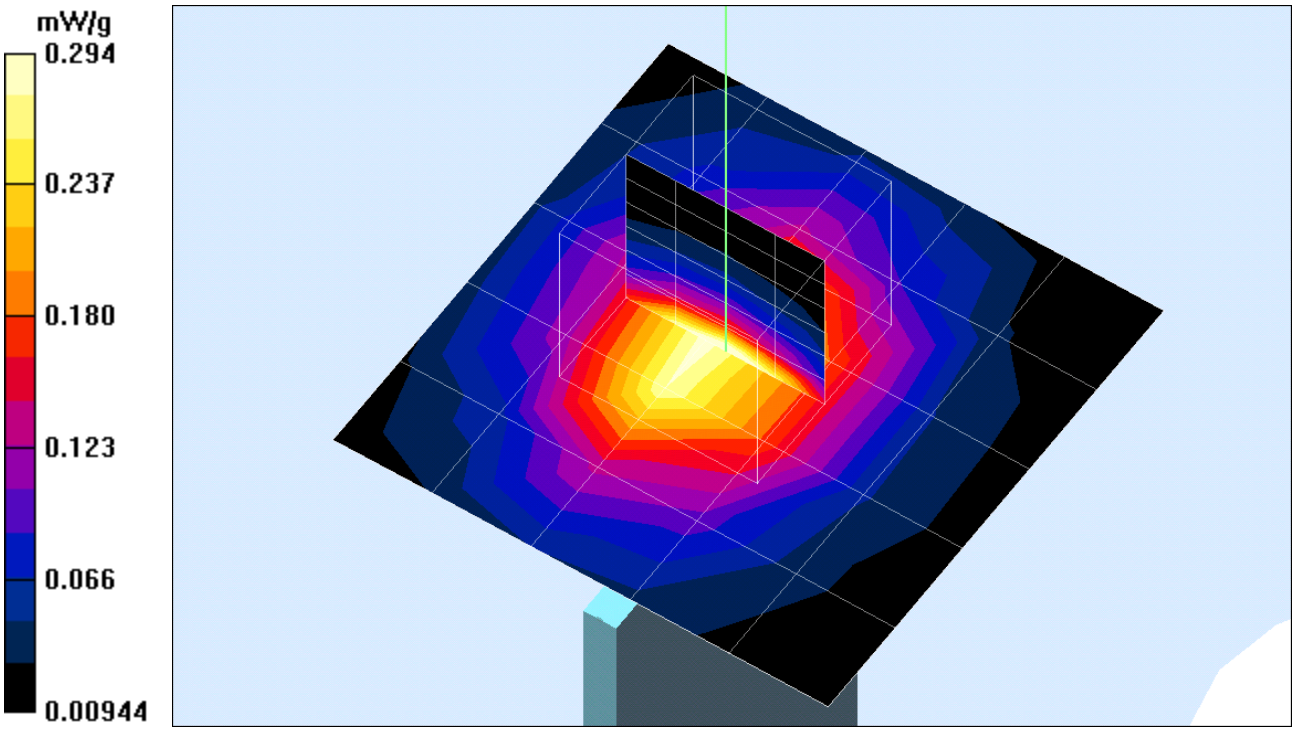
DASY4 Configuration:

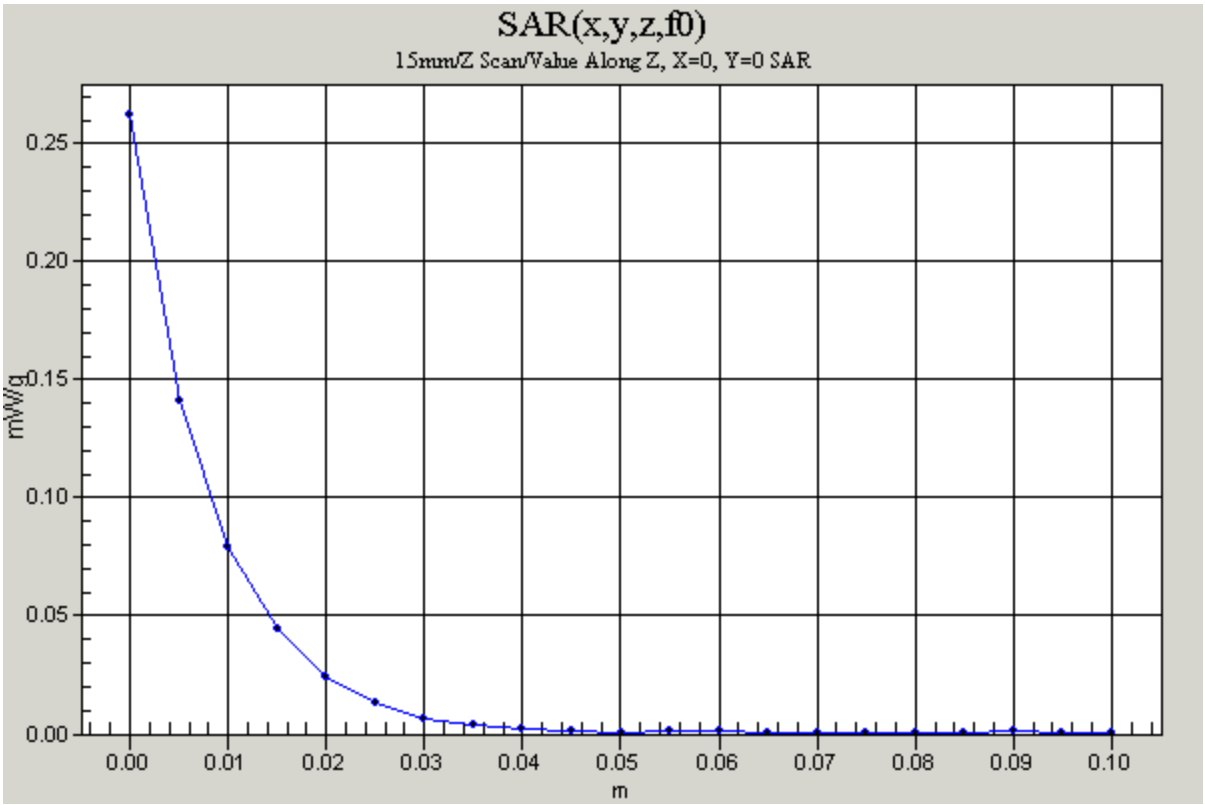
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

mid Rate=11M bit/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 13.3 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.294 mW/g

mid Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 13.3 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.262 mW/g

mid Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 0.634 W/kg
SAR(1 g) = 0.303 mW/g; SAR(10 g) = 0.160 mW/g
Reference Value = 13.3 V/m
Power Drift = -0.1 dB
Maximum value of SAR = 0.326 mW/g


mW/g
0.294
0.237
0.180
0.123
0.066
0.00944


SAR(x,y,z,f0)
15mm/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.25
0.20
0.15
0.10
0.05
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

Date/Time: 02/13/04 16:58:04

Test Laboratory: Compliance Certification Services Inc.

15mm mode(with IBM)

DUT: 802.11b Wireless LAN Cardbus Card ; Type: 11-36; Serial: N/A

Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: BSL2450 (σ = 1.98 mho/m, ε_r = 51.3, ρ = 1000 kg/m^3)
Air Temperature 25.3 deg C ;Liquid Temperature 24.3 deg C
Phantom section: Flat Section

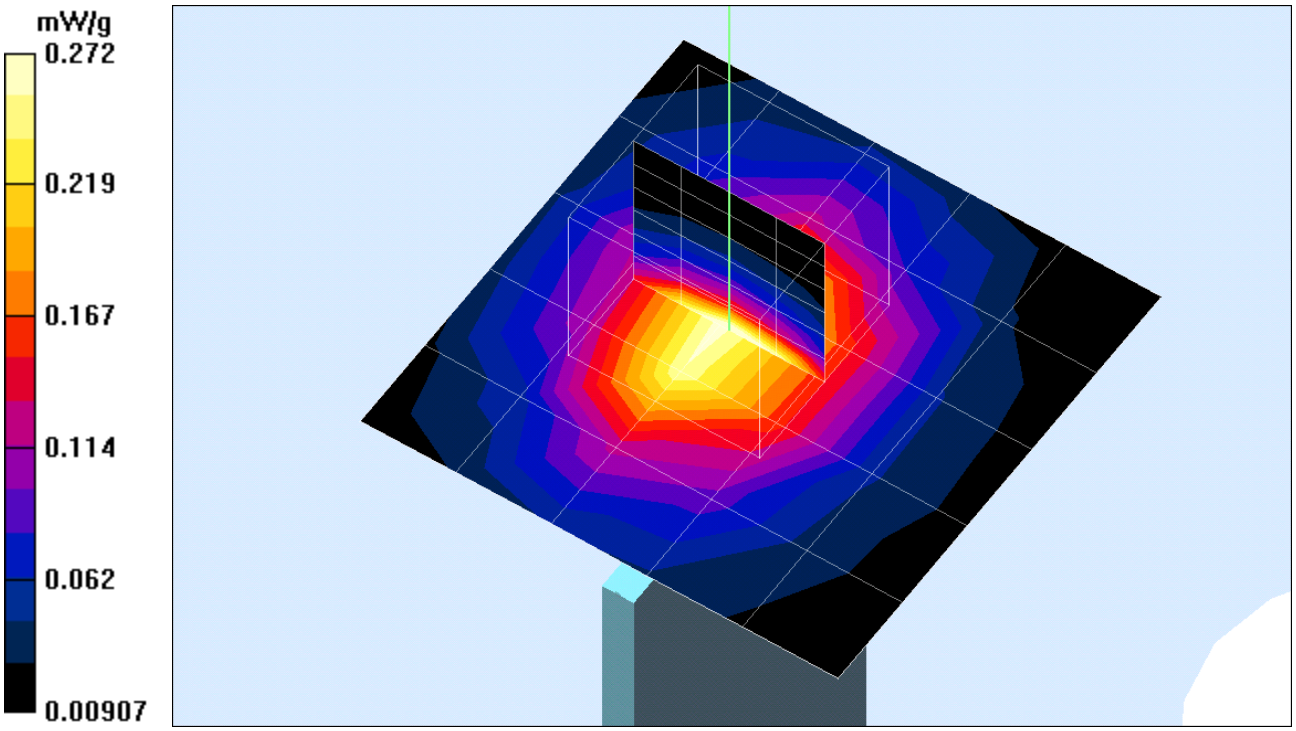
DASY4 Configuration:

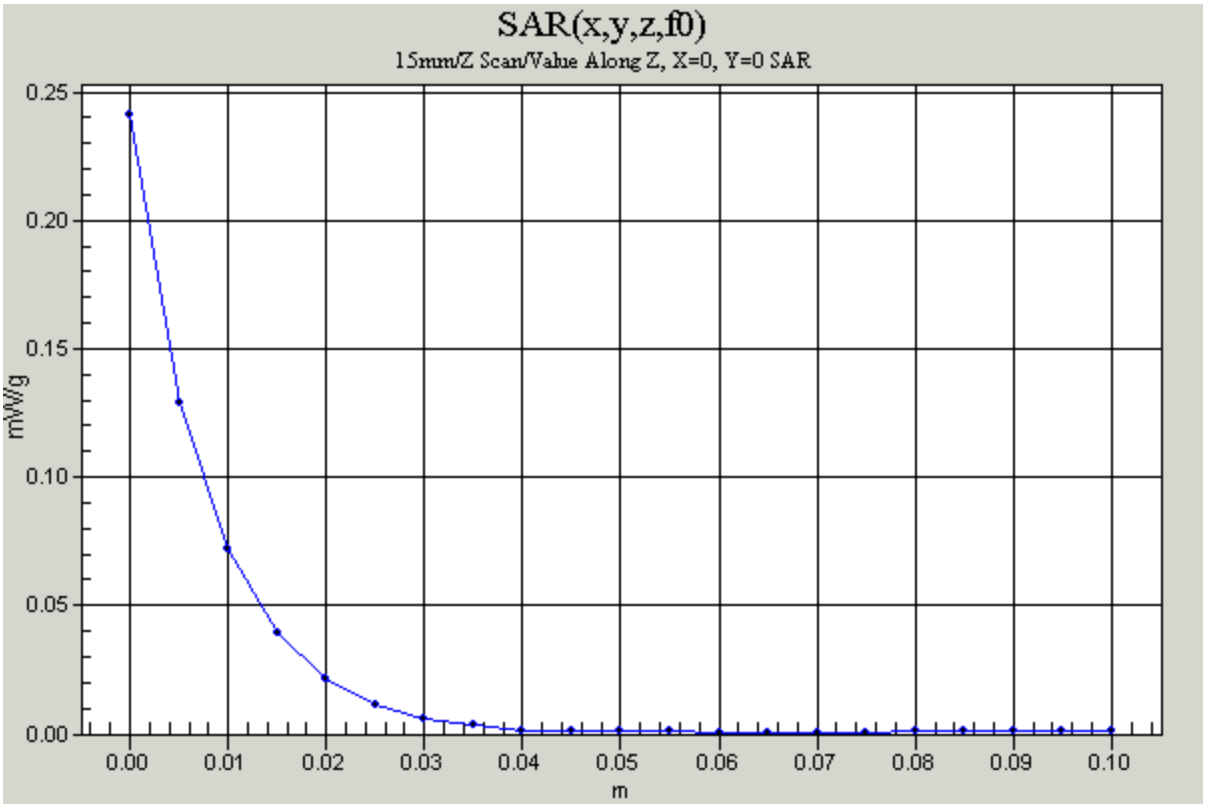
- Probe: ET3DV6 - SN1762; ConvF(4.6, 4.6, 4.6); Calibrated: 3/31/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
  Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn558; Calibrated: 3/7/2003
- Phantom: SAM 34; Type: SAM V4.0; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 62

High Rate=11M bit/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 12.7 V/m
Power Drift = 0.1 dB
Maximum value of SAR = 0.272 mW/g

High Rate=11M bit/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Reference Value = 12.7 V/m
Power Drift = 0.1 dB
Maximum value of SAR = 0.241 mW/g

High Rate=11M bit/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Peak SAR (extrapolated) = 0.578 W/kg
SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.146 mW/g
Reference Value = 12.7 V/m
Power Drift = 0.1 dB
Maximum value of SAR = 0.296 mW/g


mW/g
0.272
0.219
0.167
0.114
0.062
0.00907


SAR(x,y,z,f0)
15mm/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.25
0.20
0.15
0.10
0.05
0.00
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m