

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

**Client** [REDACTED]

## 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 Bornhoff	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 = 6.1 $\mu$ V, 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 $\mu$ V	% Error
Channel X + Input	200mV	200000	0.00
	20mV	20003.4	0.02
Channel X - Input	20mV	-19993	-0.04
	200mV	200001	0.00
Channel Y + Input	20mV	20002.7	0.01
	20mV	-19993	-0.04
Channel Y - Input	20mV	-19993	-0.04
	200mV	200000	0.00
Channel Z + Input	20mV	20000.8	0.00
	20mV	-19997.7	-0.01
Channel Z - Input	20mV	-19997.7	-0.01

Low Range	Input	Reading in $\mu$ V	% Error
Channel X + Input	2mV	2000.2	0.01
	0.2mV	200.04	0.02
Channel X - Input	0.2mV	-200.81	0.41
	2mV	2000.1	0.00
Channel Y + Input	0.2mV	199.47	-0.27
	0.2mV	-201.01	0.50
Channel Y - Input	0.2mV	-201.01	0.50
	2mV	1999.9	0.00
Channel Z + Input	0.2mV	198.68	-0.66
	0.2mV	-201.1	0.55
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 $\mu\text{V}$	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 $\mu\text{V}$	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 10M $\Omega$

in $\mu\text{V}$	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 $\mu\text{V}$	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 k $\Omega$	200 M $\Omega$
Channel Y	200 k $\Omega$	200 M $\Omega$
Channel Z	200 k $\Omega$	200 M $\Omega$

## 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

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
Flyuke Process Calibrator Type 702	SN: 6295803	3-Sep-01	Sep-03

Calibrated by: **Name: Nico Veltrop, Function: Technician, Signature: [Handwritten Signature]**

Approved by: **Name: Katja Pokovic, Function: Laboratory Director, Signature: [Handwritten Signature]**

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.

# 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	<b>1.90</b> $\mu\text{V}/(\text{V}/\text{m})^2$
NormY	<b>1.78</b> $\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	<b>1.82</b> $\mu\text{V}/(\text{V}/\text{m})^2$

**Diode Compression**

DCP X	<b>96</b>	mV
DCP Y	<b>96</b>	mV
DCP Z	<b>96</b>	mV

**Sensitivity in Tissue Simulating Liquid**

Head	<b>900 MHz</b>	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.97 \pm 5\%$ mho/m
Head	<b>835 MHz</b>	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\%$ mho/m
ConvF X	<b>6.7</b> $\pm 9.5\%$ (k=2)		Boundary effect:
ConvF Y	<b>6.7</b> $\pm 9.5\%$ (k=2)		Alpha <b>0.67</b>
ConvF Z	<b>6.7</b> $\pm 9.5\%$ (k=2)		Depth <b>1.74</b>
Head	<b>1800 MHz</b>	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\%$ mho/m
Head	<b>1900 MHz</b>	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\%$ mho/m
ConvF X	<b>5.4</b> $\pm 9.5\%$ (k=2)		Boundary effect:
ConvF Y	<b>5.4</b> $\pm 9.5\%$ (k=2)		Alpha <b>0.50</b>
ConvF Z	<b>5.4</b> $\pm 9.5\%$ (k=2)		Depth <b>2.63</b>

**Boundary Effect**

Head	<b>900 MHz</b>	<b>Typical SAR gradient: 5 % per mm</b>	
	Probe Tip to Boundary	<b>1 mm</b>	<b>2 mm</b>
	SAR <sub>be</sub> [%] Without Correction Algorithm	<b>8.8</b>	<b>4.5</b>
	SAR <sub>be</sub> [%] With Correction Algorithm	<b>0.1</b>	<b>0.2</b>
Head	<b>1800 MHz</b>	<b>Typical SAR gradient: 10 % per mm</b>	
	Probe Tip to Boundary	<b>1 mm</b>	<b>2 mm</b>
	SAR <sub>be</sub> [%] Without Correction Algorithm	<b>13.8</b>	<b>9.3</b>
	SAR <sub>be</sub> [%] With Correction Algorithm	<b>0.2</b>	<b>0.1</b>

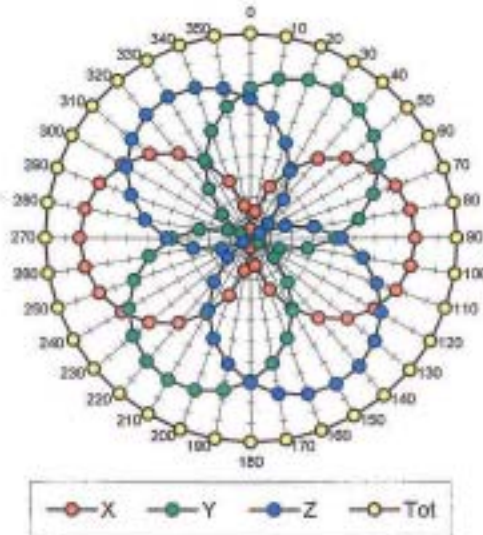
**Sensor Offset**

Probe Tip to Sensor Center	<b>2.7</b>	mm
Optical Surface Detection	<b>1.4 <math>\pm</math> 0.2</b>	mm

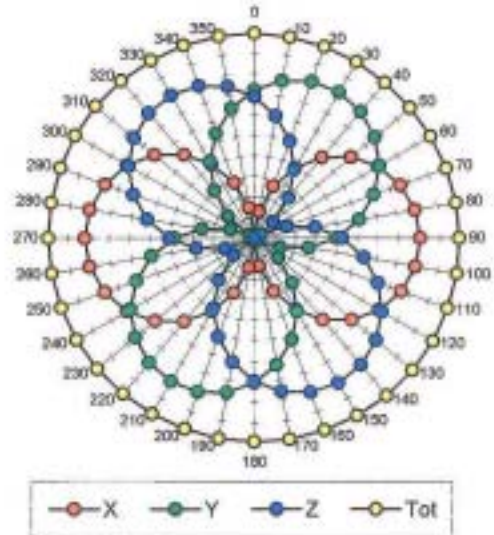


### Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

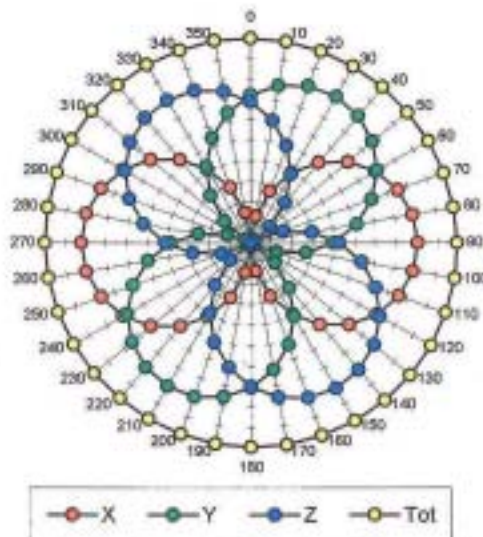
**f = 30 MHz, TEM cell if110**



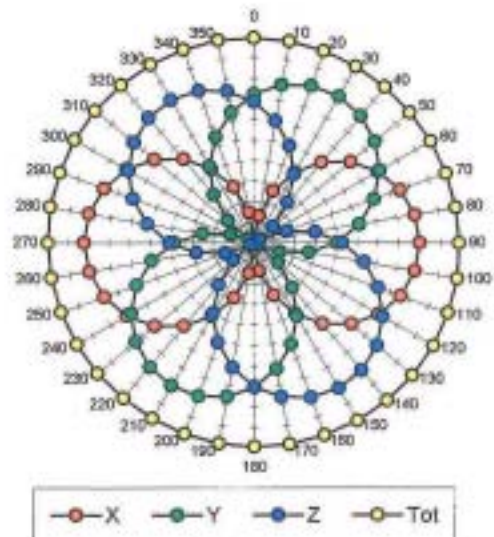
**f = 100 MHz, TEM cell if110**

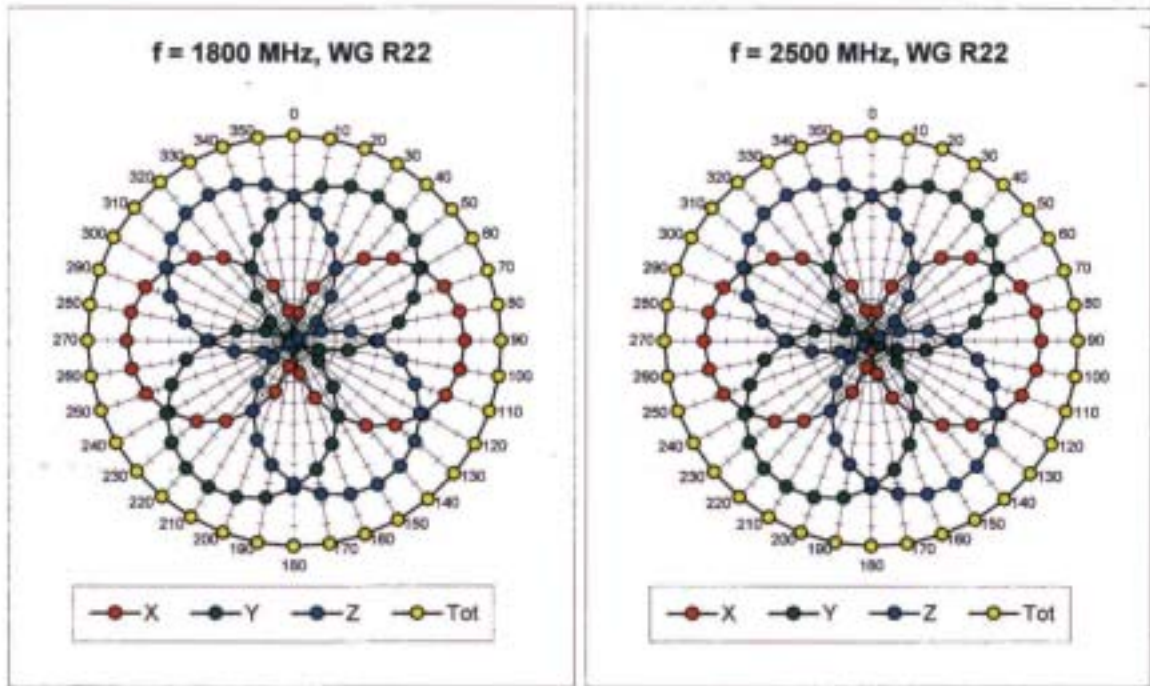


**f = 300 MHz, TEM cell if110**

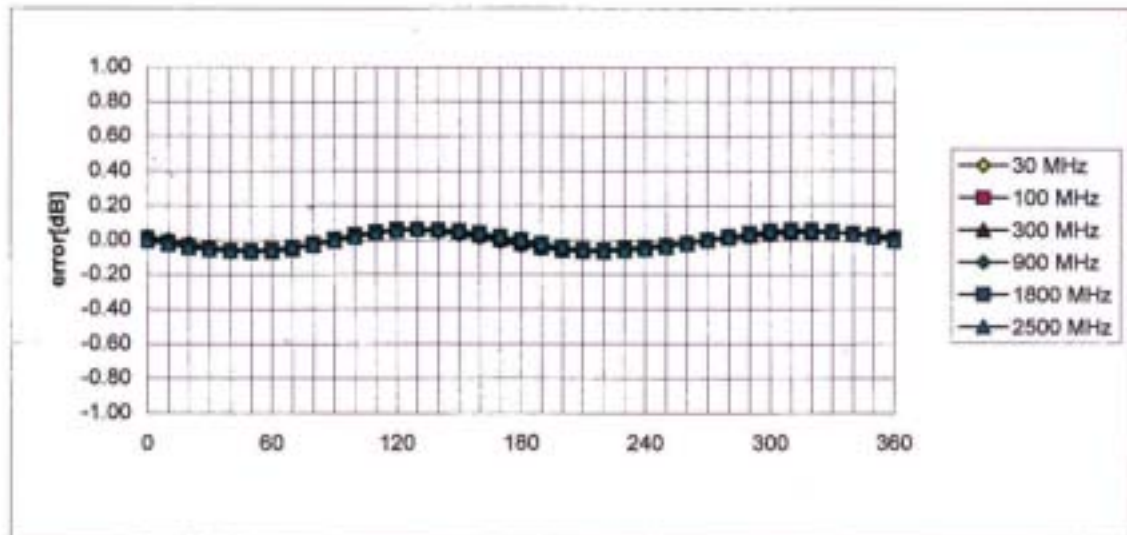


**f = 900 MHz, TEM cell if110**



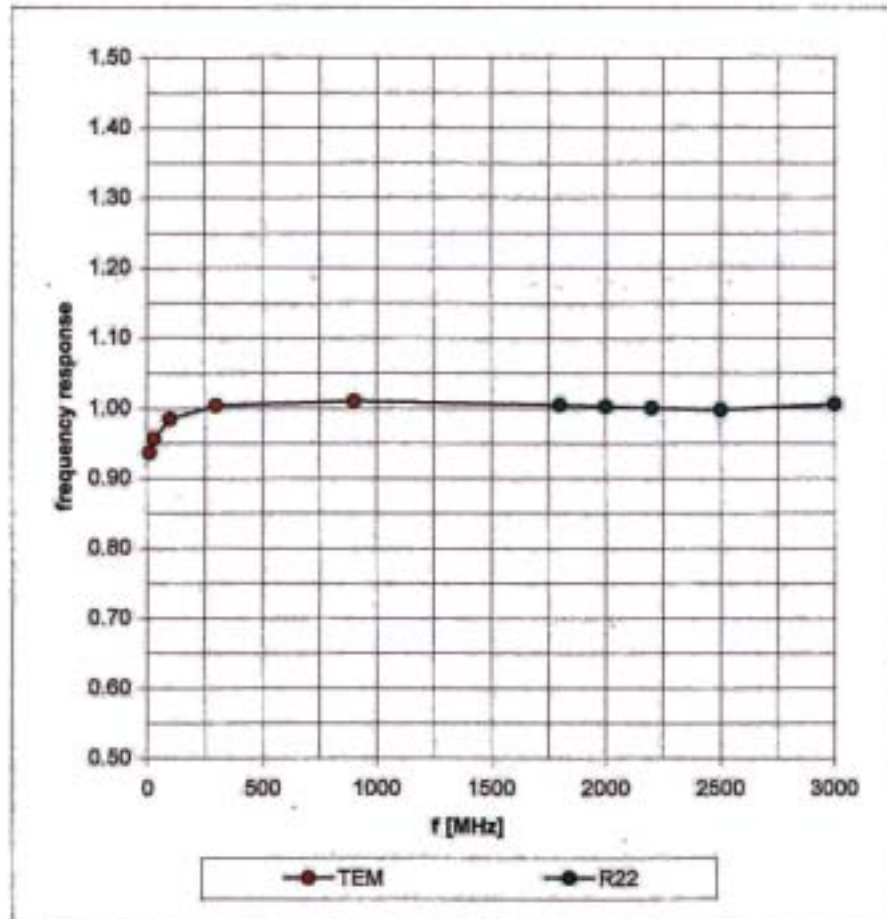


Isotropy Error ( $\phi$ ),  $\theta = 0^\circ$

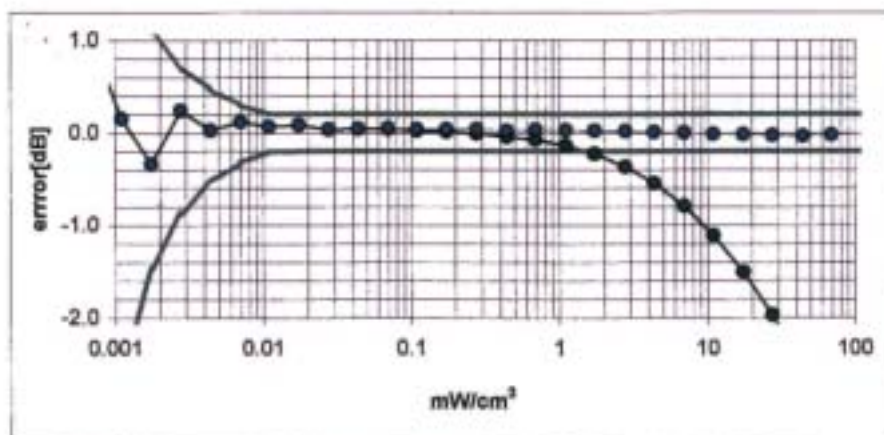
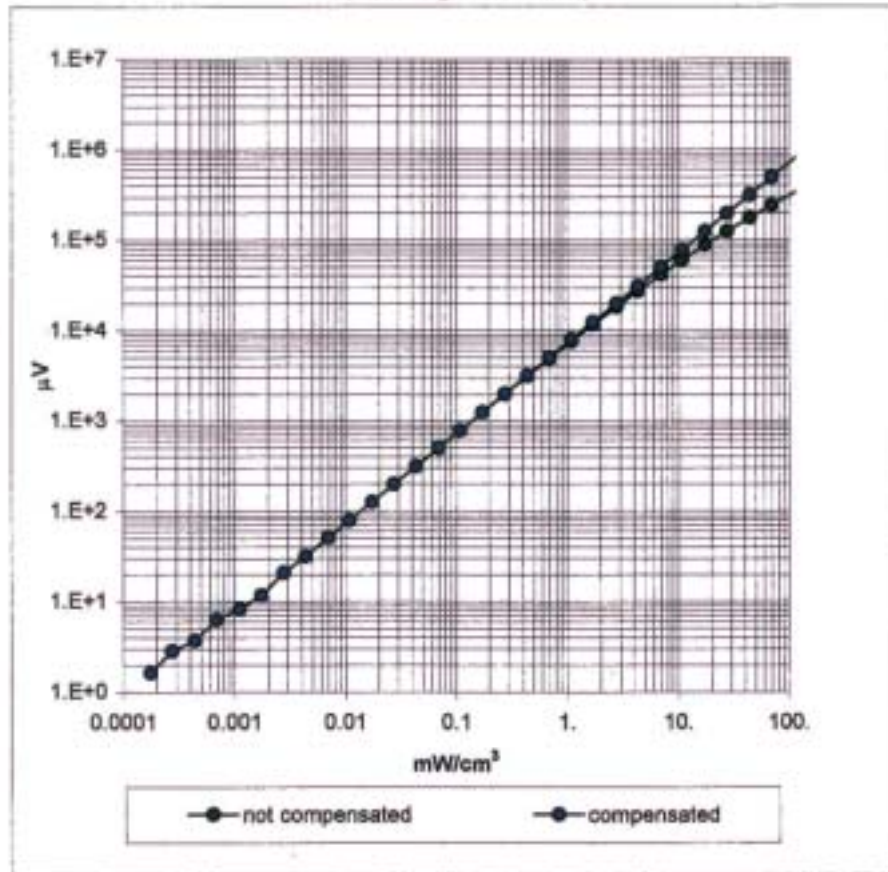


# Frequency Response of E-Field

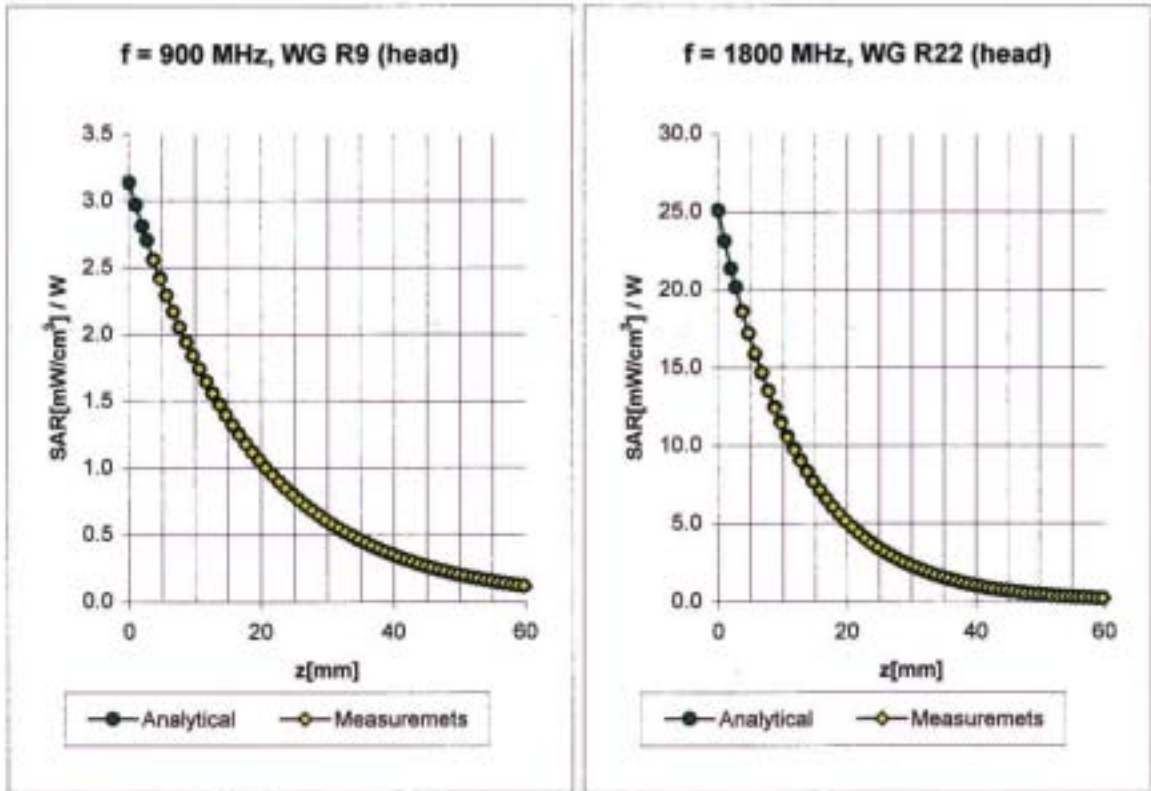
( TEM-Cell:ifi110, Waveguide R22)



### Dynamic Range f(SAR<sub>brain</sub>) ( Waveguide R22 )

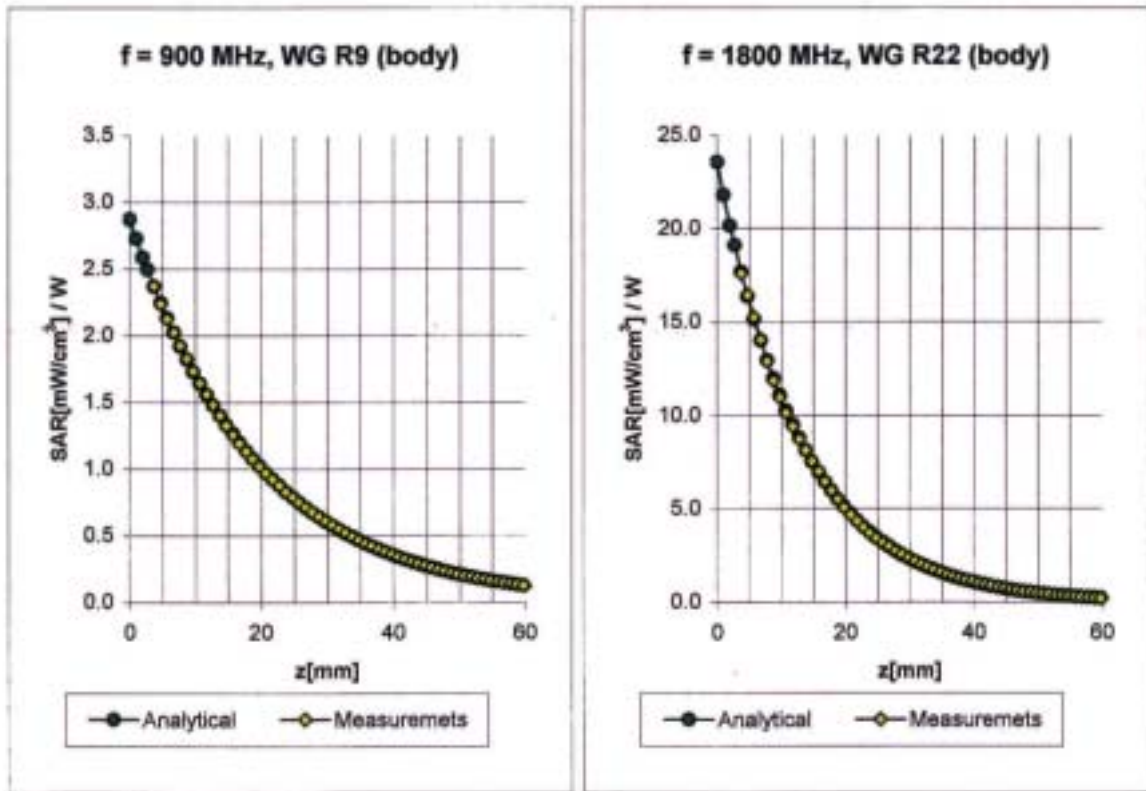


### Conversion Factor Assessment



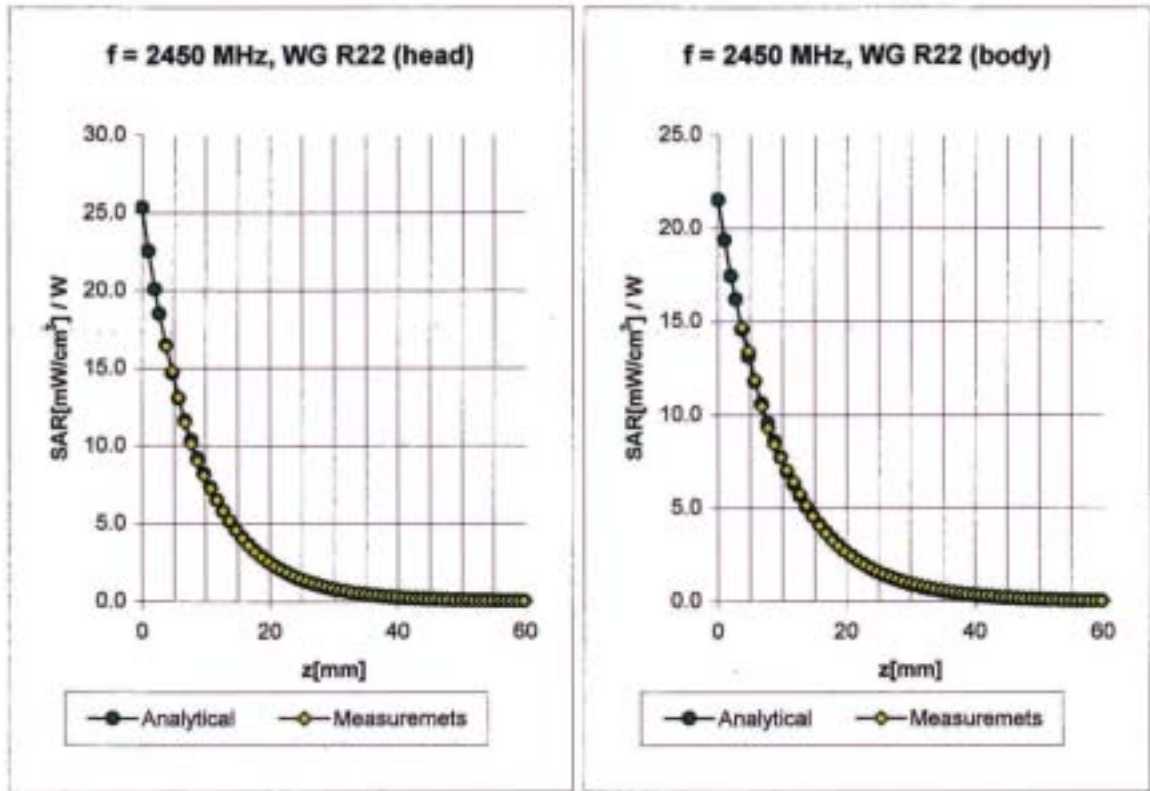
Head	900 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.97 \pm 5\%$ mho/m
Head	835 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\%$ mho/m
	ConvF X	<b>6.7</b> $\pm 9.5\%$ (k=2)	Boundary effect:
	ConvF Y	<b>6.7</b> $\pm 9.5\%$ (k=2)	Alpha <b>0.67</b>
	ConvF Z	<b>6.7</b> $\pm 9.5\%$ (k=2)	Depth <b>1.74</b>
Head	1800 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\%$ mho/m
Head	1900 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\%$ mho/m
	ConvF X	<b>5.4</b> $\pm 9.5\%$ (k=2)	Boundary effect:
	ConvF Y	<b>5.4</b> $\pm 9.5\%$ (k=2)	Alpha <b>0.50</b>
	ConvF Z	<b>5.4</b> $\pm 9.5\%$ (k=2)	Depth <b>2.63</b>

### Conversion Factor Assessment



<b>Body</b>	<b>900 MHz</b>	$\epsilon_r = 55.0 \pm 5\%$	$\sigma = 1.05 \pm 5\% \text{ mho/m}$
<b>Body</b>	<b>835 MHz</b>	$\epsilon_r = 55.2 \pm 5\%$	$\sigma = 0.97 \pm 5\% \text{ mho/m}$
	ConvF X	<b>6.5</b> $\pm 9.5\%$ (k=2)	Boundary effect:
	ConvF Y	<b>6.5</b> $\pm 9.5\%$ (k=2)	Alpha <b>0.43</b>
	ConvF Z	<b>6.5</b> $\pm 9.5\%$ (k=2)	Depth <b>2.34</b>
<b>Body</b>	<b>1800 MHz</b>	$\epsilon_r = 53.3 \pm 5\%$	$\sigma = 1.52 \pm 5\% \text{ mho/m}$
<b>Body</b>	<b>1900 MHz</b>	$\epsilon_r = 53.3 \pm 5\%$	$\sigma = 1.52 \pm 5\% \text{ mho/m}$
	ConvF X	<b>5.0</b> $\pm 9.5\%$ (k=2)	Boundary effect:
	ConvF Y	<b>5.0</b> $\pm 9.5\%$ (k=2)	Alpha <b>0.57</b>
	ConvF Z	<b>5.0</b> $\pm 9.5\%$ (k=2)	Depth <b>2.65</b>

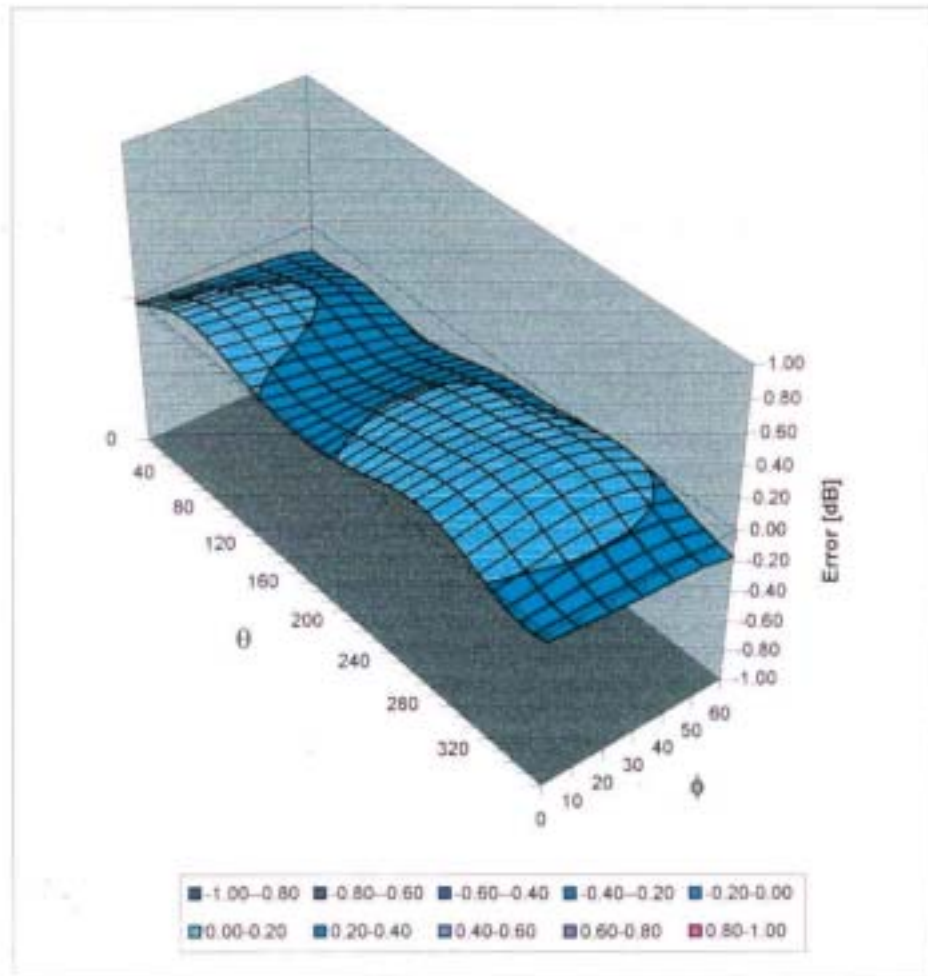
### Conversion Factor Assessment



<b>Head</b>	<b>2450</b>	<b>MHz</b>	$\epsilon_r = 39.2 \pm 5\%$	$\sigma = 1.80 \pm 5\%$ mho/m
	ConvF X		<b>5.1</b> $\pm 8.9\%$ (k=2)	Boundary effect:
	ConvF Y		<b>5.1</b> $\pm 8.9\%$ (k=2)	Alpha <b>1.32</b>
	ConvF Z		<b>5.1</b> $\pm 8.9\%$ (k=2)	Depth <b>1.61</b>
<b>Body</b>	<b>2450</b>	<b>MHz</b>	$\epsilon_r = 52.7 \pm 5\%$	$\sigma = 1.95 \pm 5\%$ mho/m
	ConvF X		<b>4.6</b> $\pm 8.9\%$ (k=2)	Boundary effect:
	ConvF Y		<b>4.6</b> $\pm 8.9\%$ (k=2)	Alpha <b>1.39</b>
	ConvF Z		<b>4.6</b> $\pm 8.9\%$ (k=2)	Depth <b>1.60</b>

### Deviation from Isotropy in HSL

Error ( $\theta, \phi$ ),  $f = 900$  MHz





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.

# 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	<b>37.4</b>	$\pm 5\%$
Conductivity	<b>1.88 mho/m</b>	$\pm 5\%$

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  $250\text{mW} \pm 3\%$ . 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 $1\text{ cm}^3$ (1 g) of tissue:	<b>54.8 mW/g</b> $\pm 16.8\%$ $(k=2)^{\dagger}$
averaged over $10\text{ cm}^3$ (10 g) of tissue:	<b>24.2 mW/g</b> $\pm 16.2\%$ $(k=2)^{\dagger}$

<sup>†</sup> validation uncertainty



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

Test Laboratory: SPEAG, Zurich, Switzerland  
File Name: SN728\_SN3013\_HSL2450\_050303.da4

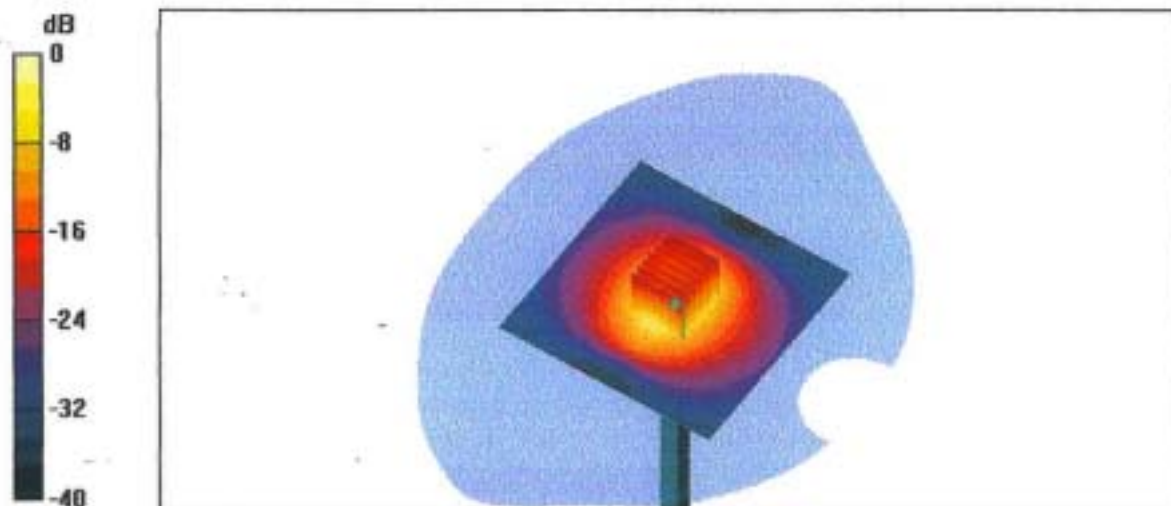
**DUT: Dipole 2450 MHz; Serial: D2450V2 - SN728**  
**Program: Dipole Calibration**

Communication System: CW-2450; Frequency: 2450 MHz; Duty Cycle: 1:1  
Medium: HSL 2450 MHz; ( $\sigma = 1.88$  mho/m,  $\epsilon_r = 37.4$ ,  $\rho = 1000$  kg/m<sup>3</sup>)  
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



CH1 S11 1 U F9

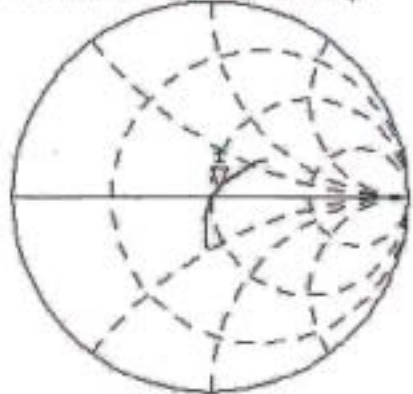
f: 53.662 a 3.8359 a 249.19 pHz

5 Mar 2003 18:02:21

2 450.000 000 MHz

728  
Head

De1



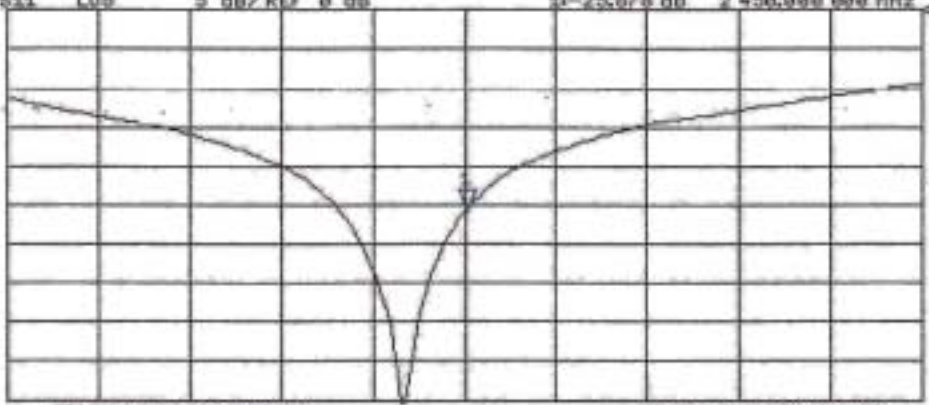
PRn  
Cor  
Avg  
16

CH2 S11 LOG

5 dB/REF 0 dB

f: -25.078 dB 2 450.000 000 MHz

PRn  
Cor



START 2 250.000 000 MHz

STOP 2 650.000 000 MHz

Test Laboratory: The name of your organization

File Name: [D2450V2 SN 728\\_13.9mW.da4](#)

## **D2450V2 SN 728\_13.9mW**

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:728**

**Program: System Performance Check at 2450MHz**

**Ambient Temperature:26.3deg C Liquid Temperature:24.5deg C**

Communication System: CW2450; Frequency: 2450 MHz;Duty Cycle: 1:1

Medium: HSL2450 ( $\sigma = 1.7818$  mho/m,  $\epsilon_r = 39.71$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1762; ConvF(5.1, 5.1, 5.1); 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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Pin=250mW,d=10mm/Area Scan (7x7x1):** Measurement grid: dx=15mm, dy=15mm

Reference Value = 96.4 V/m

Power Drift = 0.01 dB

Maximum value of SAR = 14.6 mW/g

**Pin=250mW,d=10mm/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 28.4 W/kg

SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.44 mW/g

Reference Value = 96.4 V/m

Power Drift = 0.01 dB

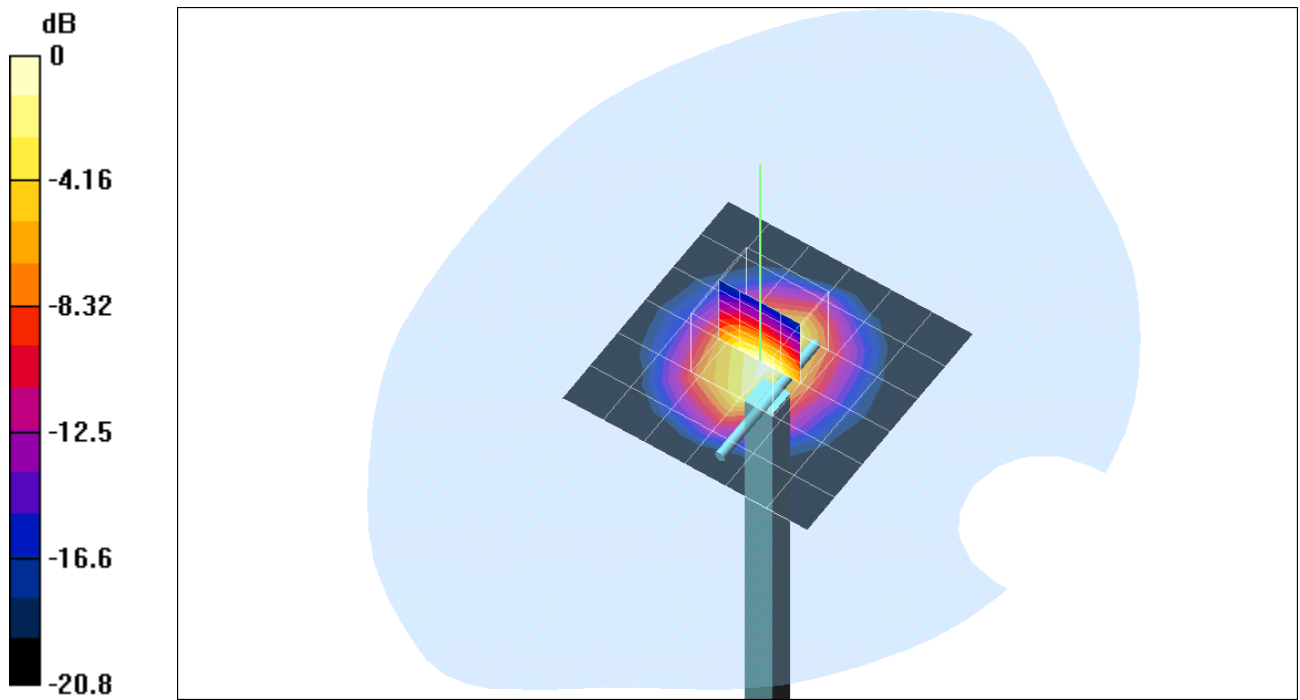
Maximum value of SAR = 15.4 mW/g

**Pin=250mW,d=10mm/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

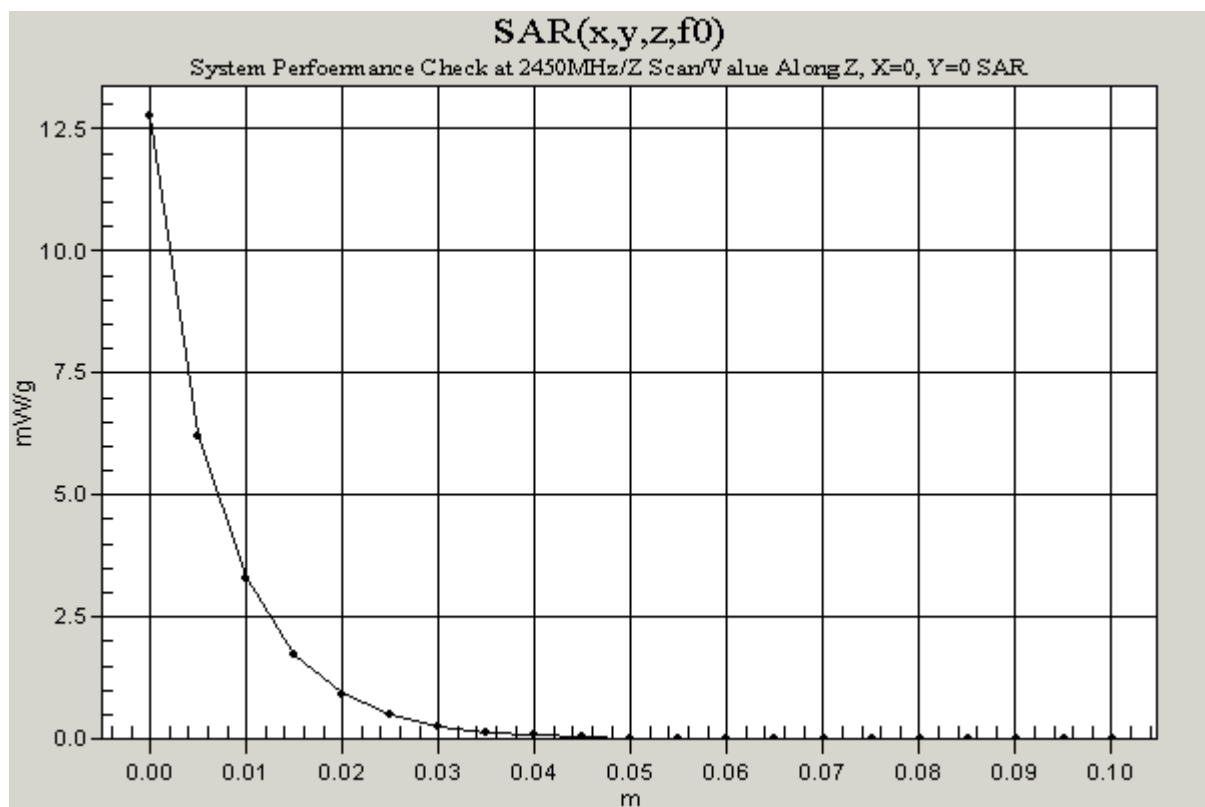
Reference Value = 96.4 V/m

Power Drift = 0.009 dB

Maximum value of SAR = 12.8 mW/g



0 dB = 15.4mW/g





Test Laboratory: The name of your organization

File Name: [D2450V2 SN 728\\_13.8mW.da4](#)

## **D2450V2 SN 728\_13.8mW**

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:728**

**Program: System Performance Check at 2450MHz**

**Ambient Temperature:26deg C Liquid Temperature:24.3deg C**

Communication System: CW2450; Frequency: 2450 MHz;Duty Cycle: 1:1

Medium: HSL2450 ( $\sigma = 1.79$  mho/m,  $\epsilon_r = 39.69$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1762; ConvF(5.1, 5.1, 5.1); 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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Pin=250mW,d=10mm/Area Scan (7x7x1):** Measurement grid: dx=15mm, dy=15mm

Reference Value = 98.5 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 15.1 mW/g

**Pin=250mW,d=10mm/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 28.4 W/kg

SAR(1 g) = 13.8 mW/g; SAR(10 g) = 6.38 mW/g

Reference Value = 98.5 V/m

Power Drift = -0.1 dB

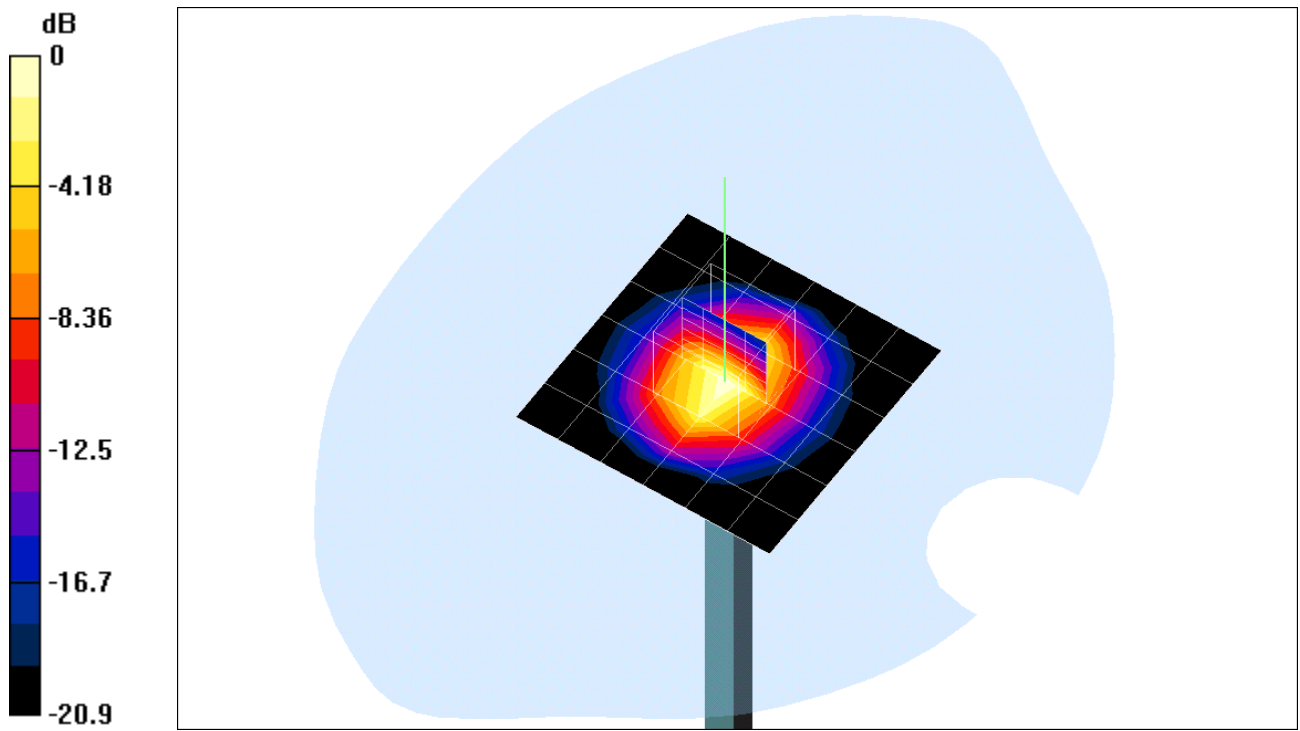
Maximum value of SAR = 15.4 mW/g

**Pin=250mW,d=10mm/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

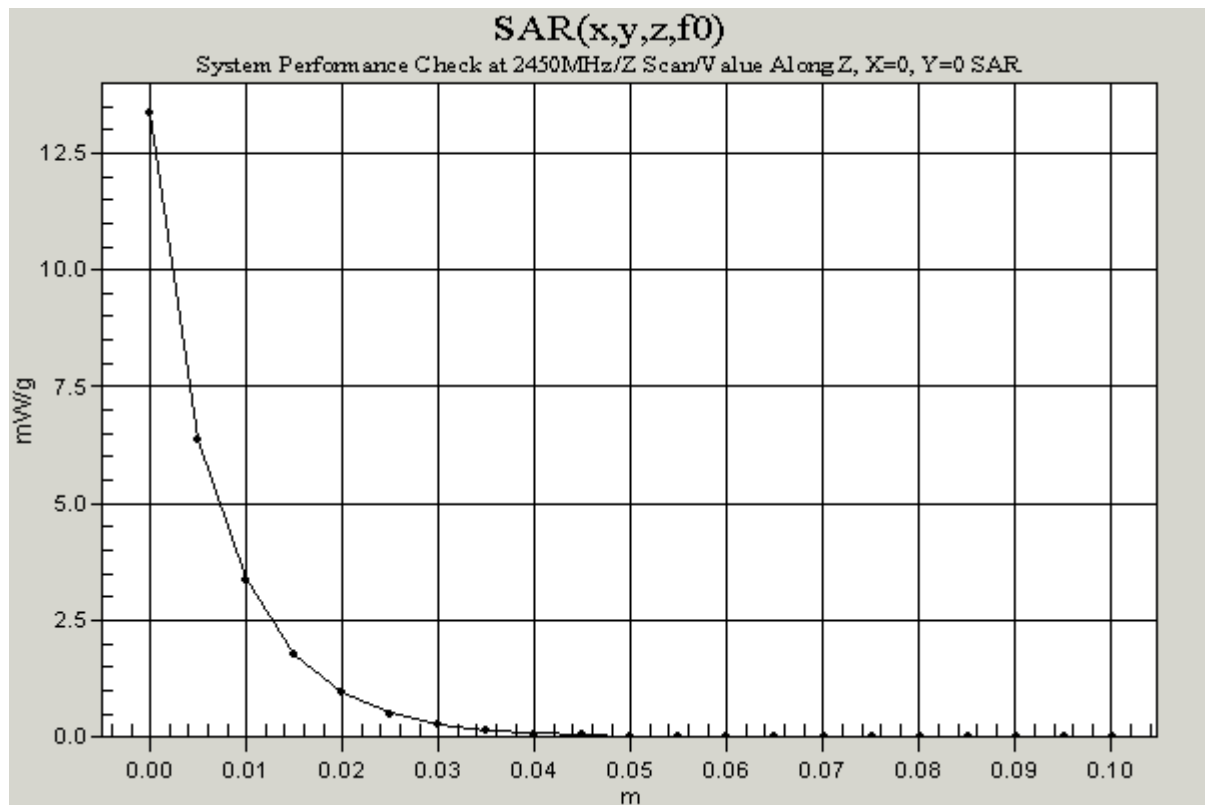
Reference Value = 98.5 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 13.4 mW/g



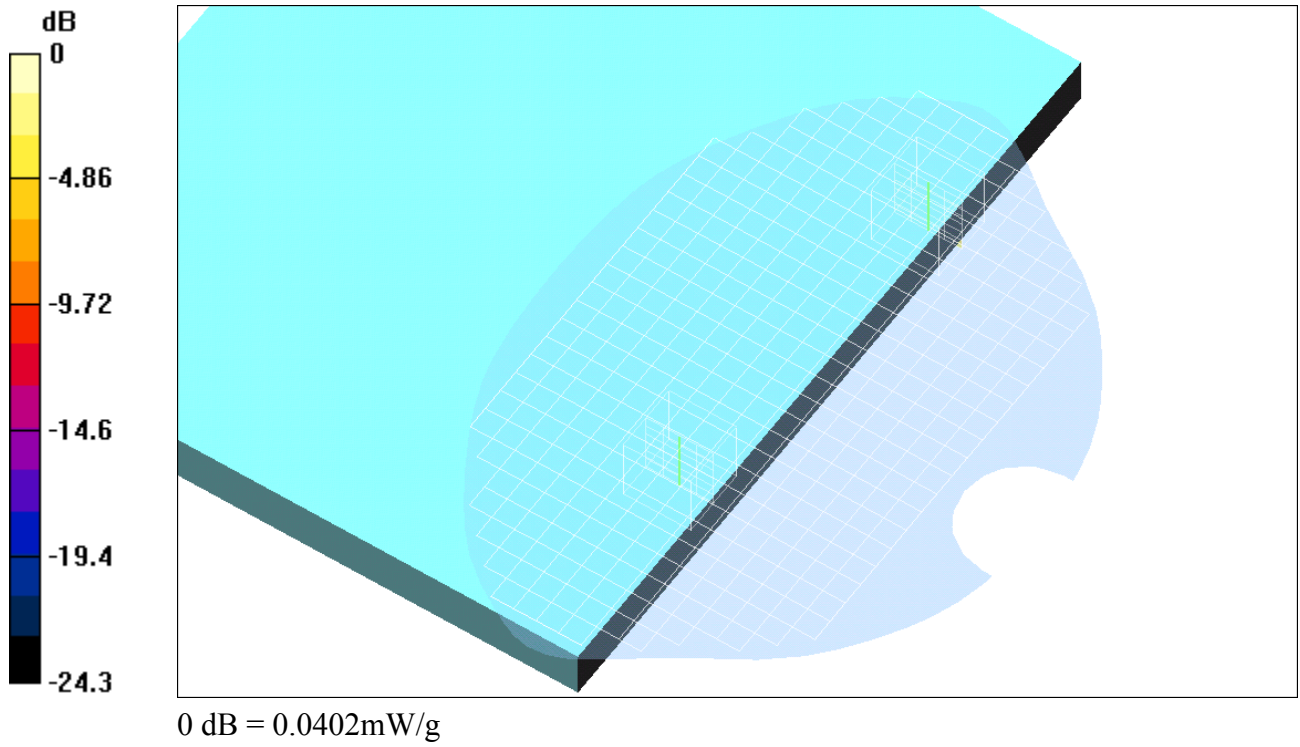
0 dB = 15.4mW/g



Test Laboratory: C&C

File Name: [Antenna 1-05-21\\_0.0438mW.da4](#)

## EUT Setup Configuration 1



Test Laboratory: C&C .

File Name: [Antenna 1-Low Channel\\_0.0438mW.da4](#)

### **Antenna 1-Low Channel\_0.0438mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC ID:HFSZW1LWM3B2100**  
**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2412 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.95551$  mho/m,  $\epsilon_r = 52.9568$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 1-Low Channel(Main port)/Area Scan (17x29x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 2.77 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.0512 mW/g

**Antenna 1-Low Channel(Main port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.107 W/kg

SAR(1 g) = 0.0438 mW/g; SAR(10 g) = 0.0198 mW/g

Reference Value = 2.77 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.054 mW/g

**Antenna 1-Low Channel(Main port)/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0799 W/kg

SAR(1 g) = 0.0367 mW/g; SAR(10 g) = 0.0187 mW/g

Reference Value = 2.77 V/m

Power Drift = -0.2 dB

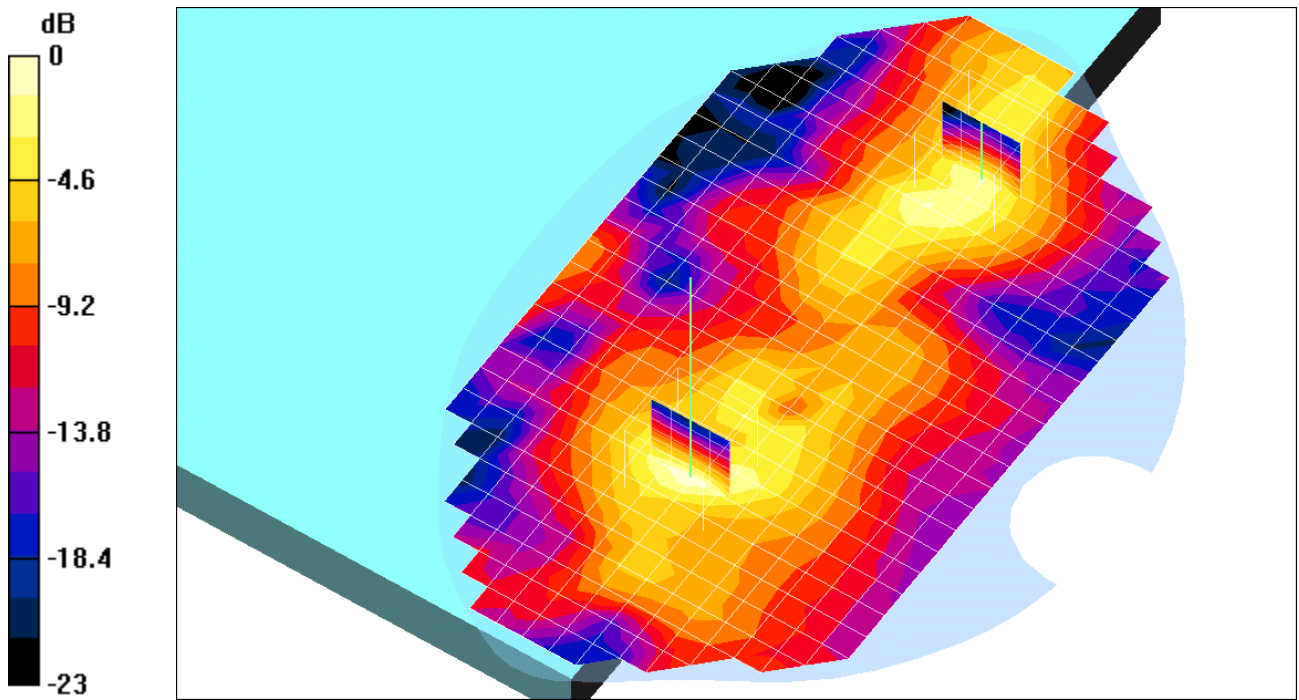
Maximum value of SAR = 0.0402 mW/g

**Antenna 1-Low Channel(Main port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

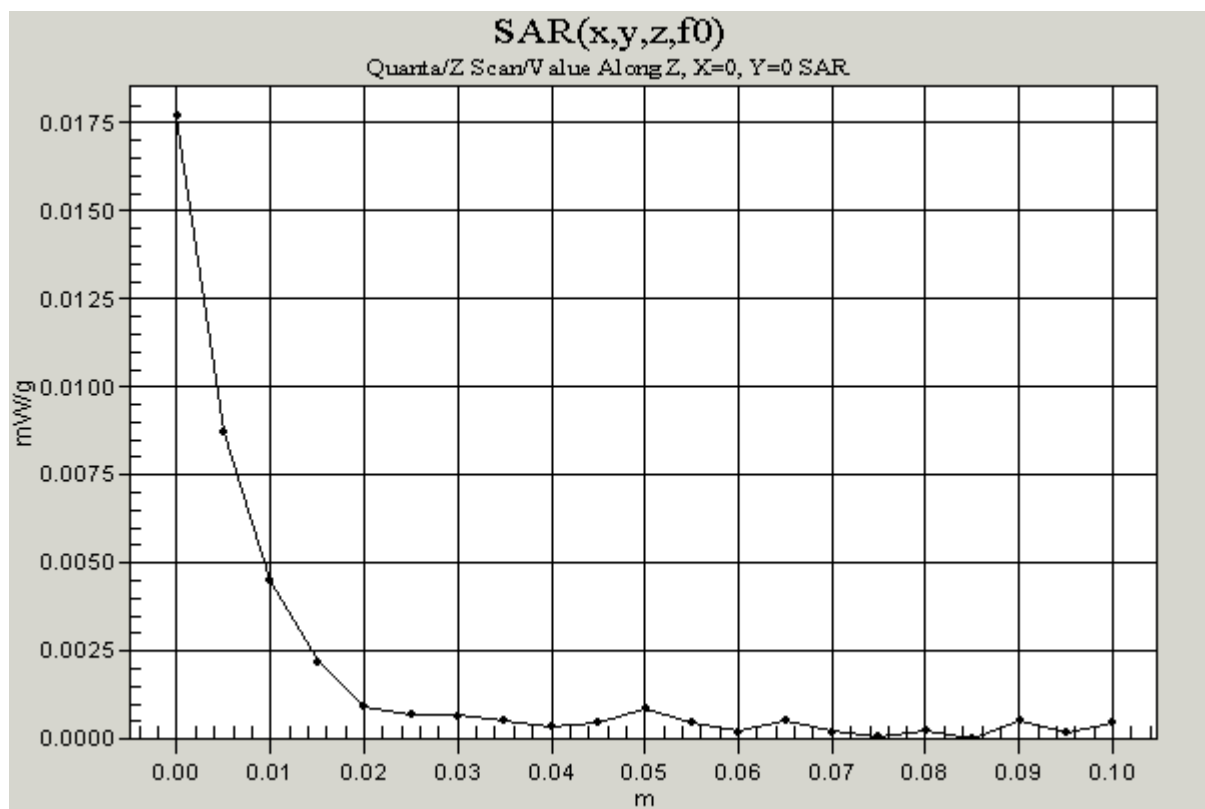
Reference Value = 2.77 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.0177 mW/g



0 dB = 0.054mW/g



Test Laboratory: C&C

File Name: [Antenna 1-Mid Channel\\_0.044mW.da4](#)

### **Antenna 1-Mid Channel\_0.044mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC ID:HFSZW1LWM3B2100**  
**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.95551$  mho/m,  $\epsilon_r = 52.9568$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 1-Mid Channel(Main port)/Area Scan (11x23x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 3.03 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.0475 mW/g

**Antenna 1-Mid Channel(Main port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0957 W/kg

SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.0218 mW/g

Reference Value = 3.03 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.0482 mW/g

**Antenna 1-Mid Channel(Main port)/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0811 W/kg

SAR(1 g) = 0.0369 mW/g; SAR(10 g) = 0.0182 mW/g

Reference Value = 3.03 V/m

Power Drift = -0.09 dB

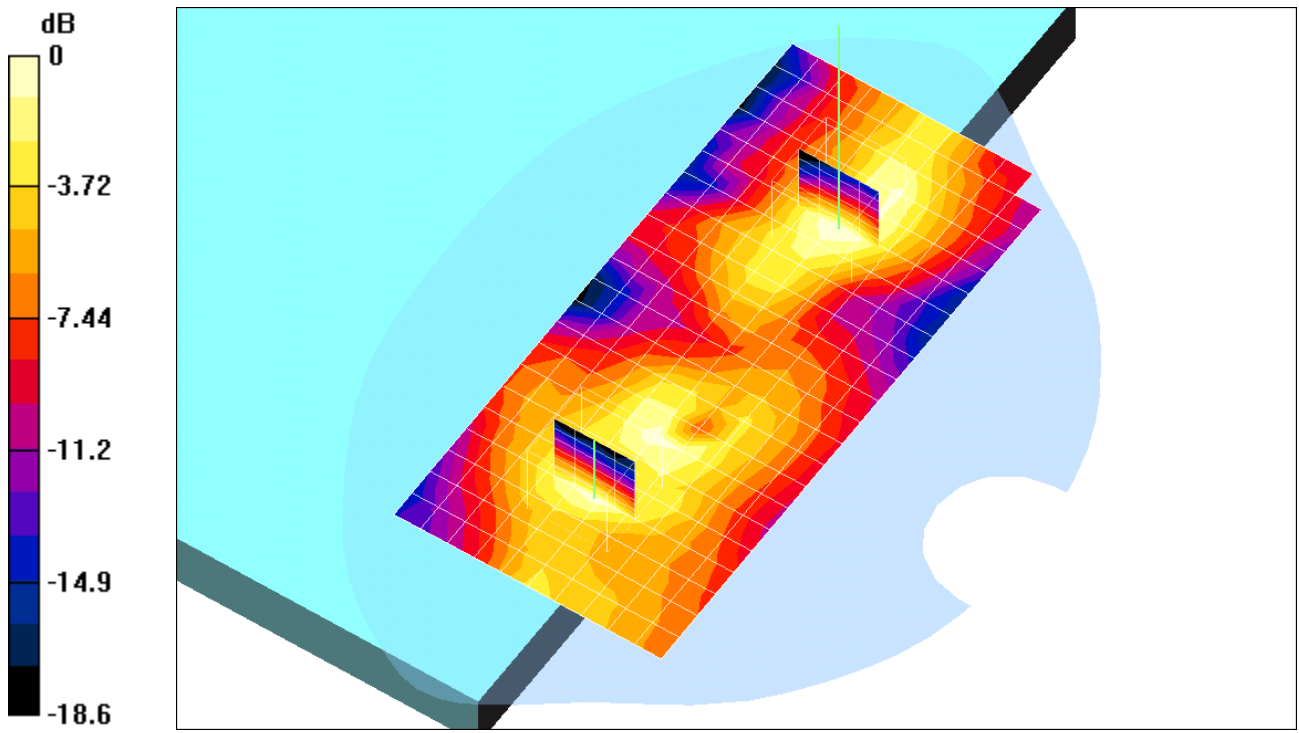
Maximum value of SAR = 0.0441 mW/g

**Antenna 1-Mid Channel(Main port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

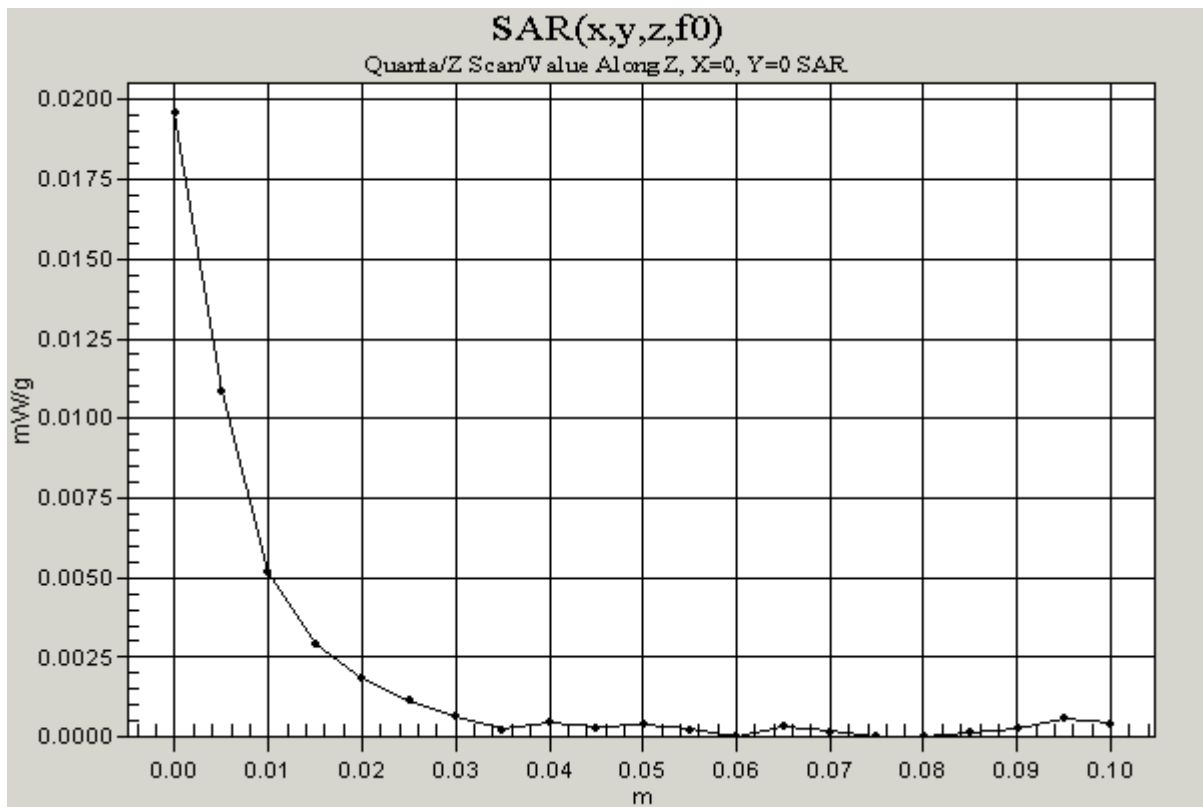
Reference Value = 3.03 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.0196 mW/g



0 dB = 0.0482mW/g



Test Laboratory: C&C .

File Name: [Antenna 1-Low Channel\\_0.0352mW.da4](#)

### **Antenna 1-Low Channel\_0.0352mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC ID:HFSZW1LWM3B2100**  
**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.95551$  mho/m,  $\epsilon_r = 52.9568$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna -High Channel(Main port)/Area Scan (11x23x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 2.45 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0378 mW/g

**Antenna -High Channel(Main port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0725 W/kg

SAR(1 g) = 0.0352 mW/g; SAR(10 g) = 0.017 mW/g

Reference Value = 2.45 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0388 mW/g

**Antenna -High Channel(Main port)/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0696 W/kg

SAR(1 g) = 0.0306 mW/g; SAR(10 g) = 0.0148 mW/g

Reference Value = 2.45 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.033 mW/g

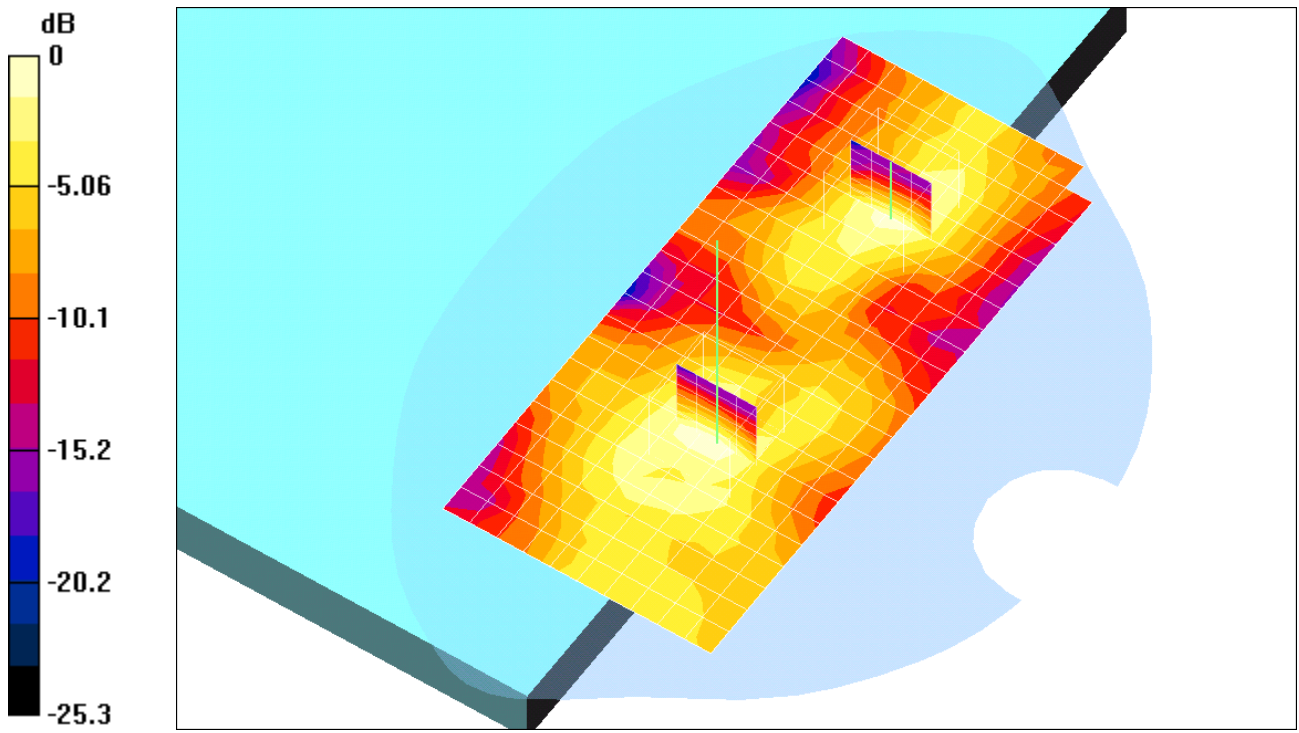
**Antenna -High Channel(Main port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

Reference Value = 2.45 V/m

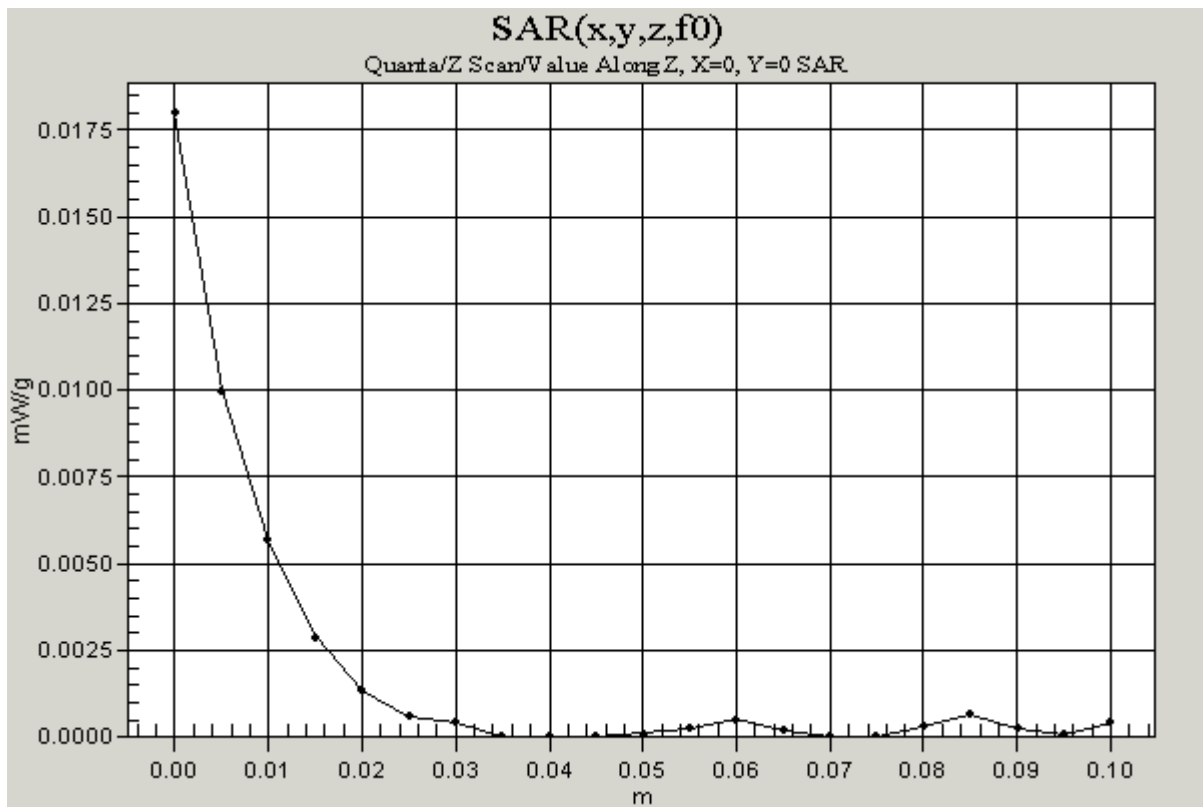
Power Drift = 0.2 dB

Maximum value of SAR = 0.018 mW/g



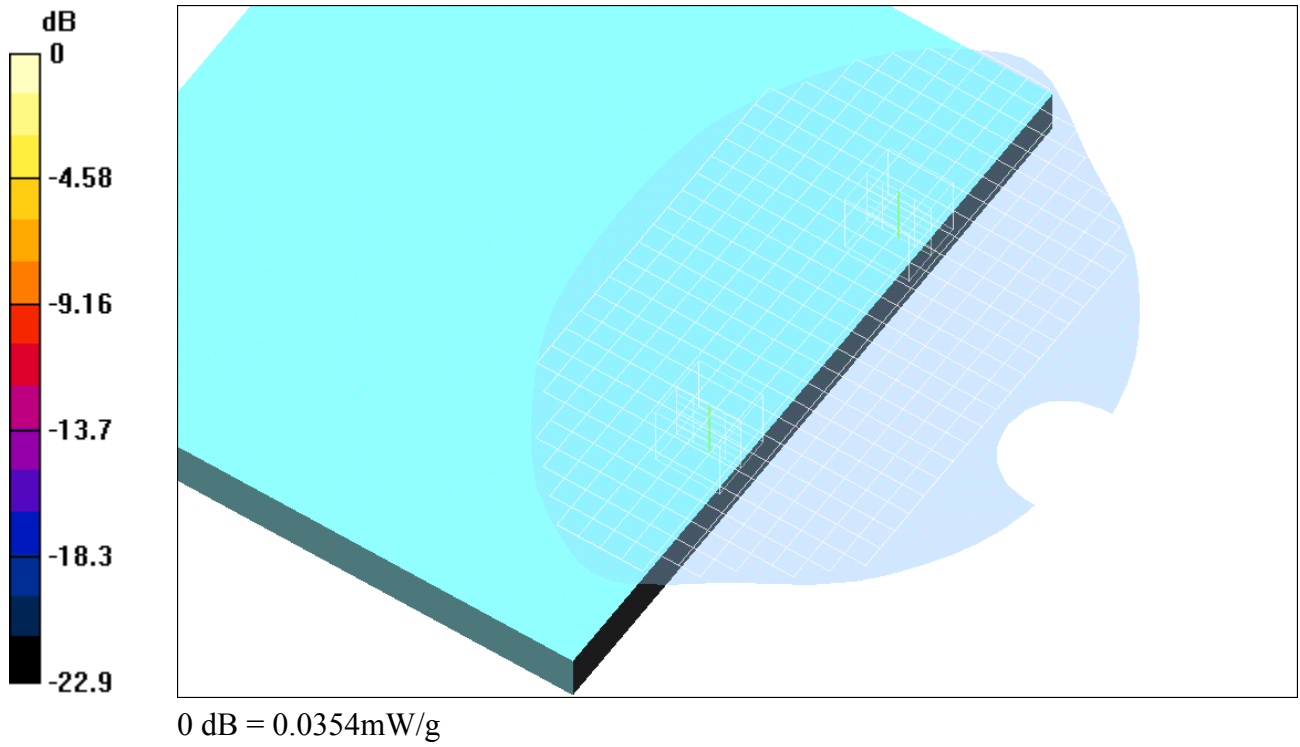


0 dB = 0.0388mW/g



Test Laboratory: The name of your organization  
File Name: [Antenna 2-05-21\\_0.0319mW.da4](#)

## EUT Setup Configuration 2



Test Laboratory: C&C

File Name: [Antenna 2-Low Channel\\_0.0319mW.da4](#)

### **Antenna 2-Low Channel\_0.0319mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC**

**ID:HFSZW1LWM3B2100**

**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2412 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.95551$  mho/m,  $\epsilon_r = 52.9568$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 2-Low Channel(AUX port)/Area Scan (17x29x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 1.6 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.0345 mW/g

**Antenna 2-Low Channel(AUX port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0621 W/kg

SAR(1 g) = 0.0319 mW/g; SAR(10 g) = 0.0165 mW/g

Reference Value = 1.6 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.0354 mW/g

**Antenna 2-Low Channel(AUX port)/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0465 W/kg

SAR(1 g) = 0.0212 mW/g; SAR(10 g) = 0.0108 mW/g

Reference Value = 1.6 V/m

Power Drift = -0.2 dB

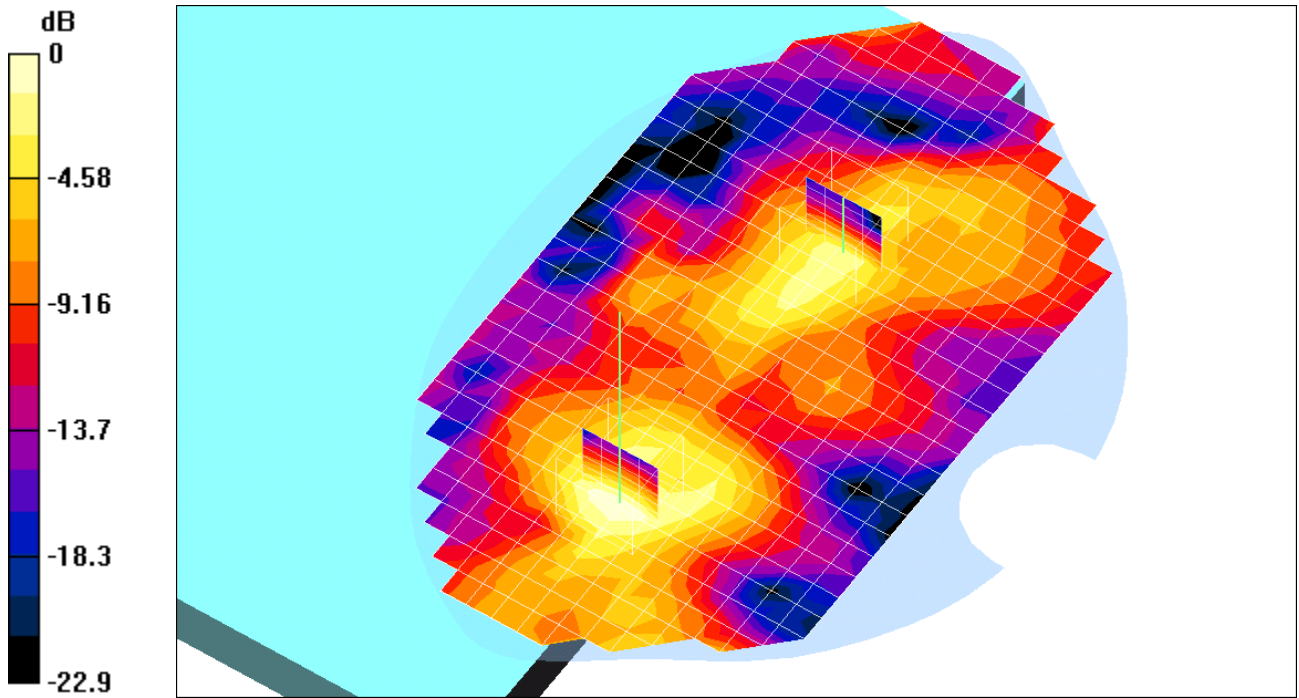
Maximum value of SAR = 0.023 mW/g

**Antenna 2-Low Channel(AUX port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

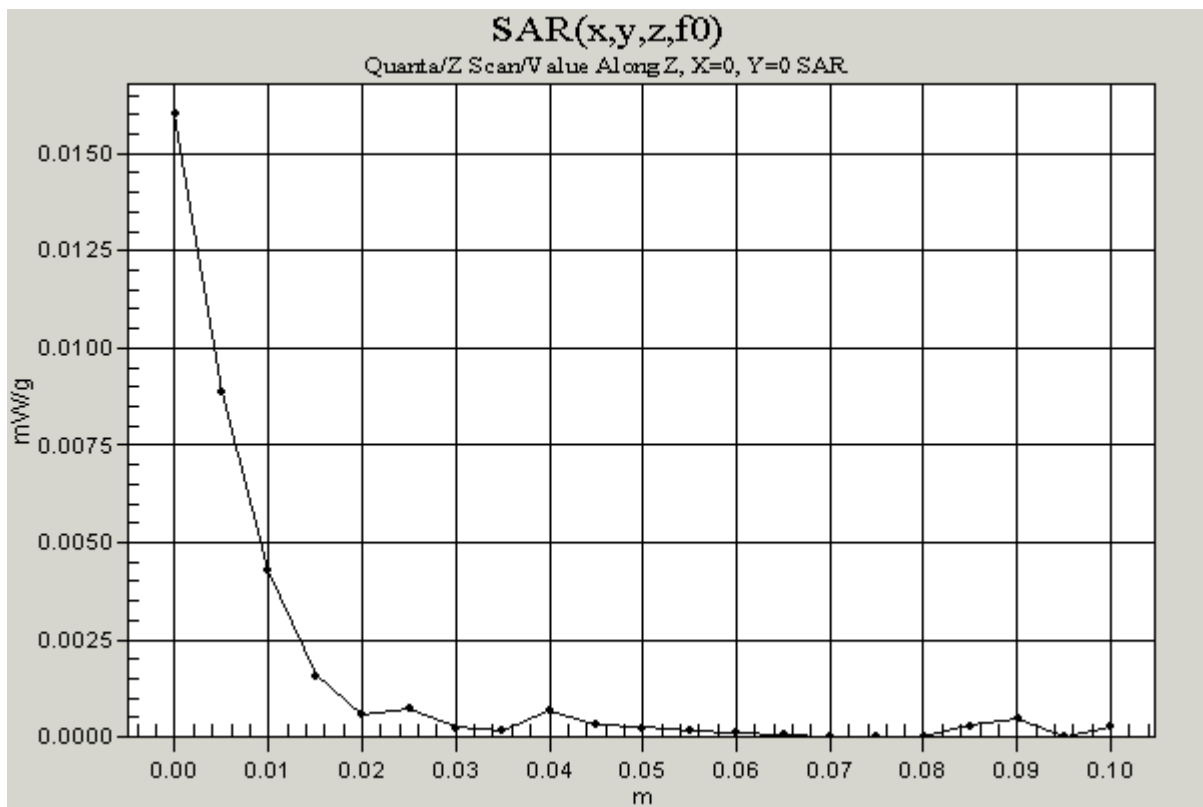
Reference Value = 1.6 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.016 mW/g



0 dB = 0.0354mW/g



Test Laboratory: C&C

File Name: [Antenna 2-Mid Channel\\_0.032mW.da4](#)

**Antenna 2-Mid Channel\_0.032mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC ID:HFSZW1LWM3B2100**  
**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.95551$  mho/m,  $\epsilon_r = 52.9568$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 2-Mid Channel(AUX port)/Area Scan (11x23x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 2.03 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0313 mW/g

**Antenna 2-Mid Channel(AUX port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0684 W/kg

SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.016 mW/g

Reference Value = 2.03 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0349 mW/g

**Antenna 2-Mid Channel(AUX port)/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0626 W/kg

SAR(1 g) = 0.0293 mW/g; SAR(10 g) = 0.015 mW/g

Reference Value = 2.03 V/m

Power Drift = 0.1 dB

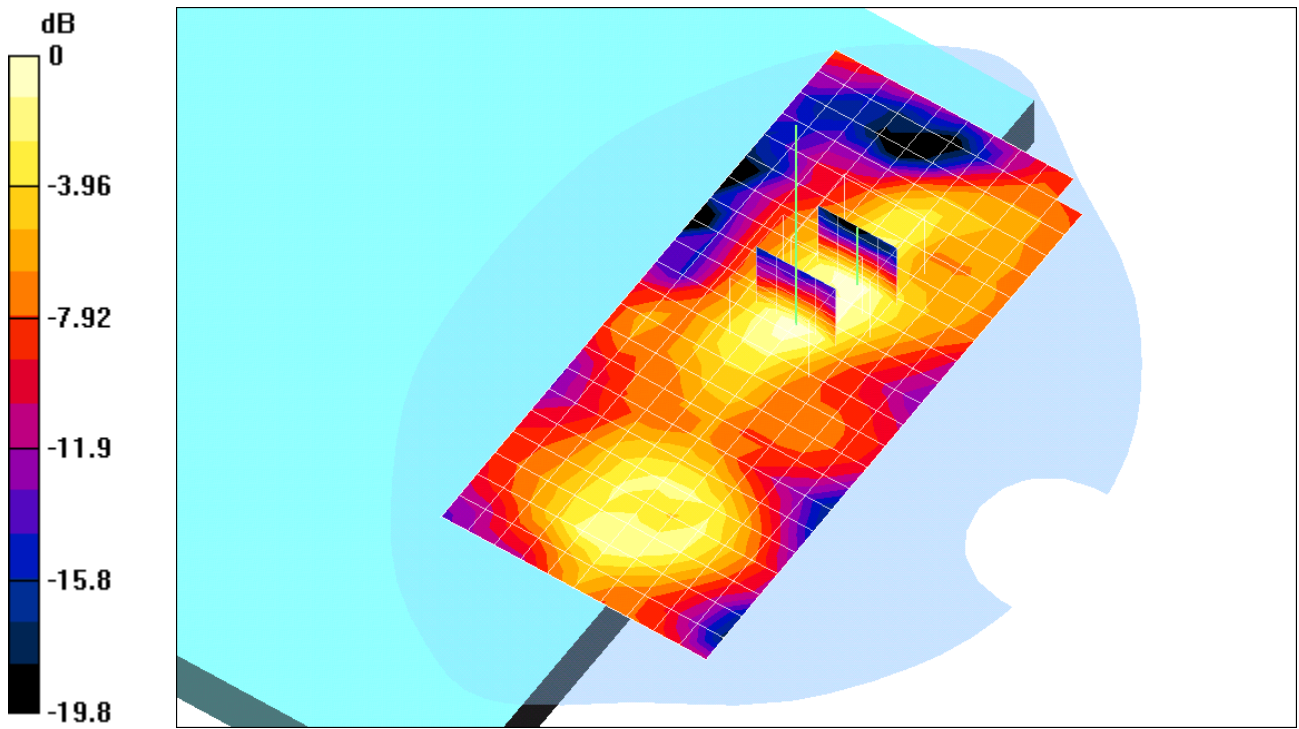
Maximum value of SAR = 0.0328 mW/g

**Antenna 2-Mid Channel(AUX port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

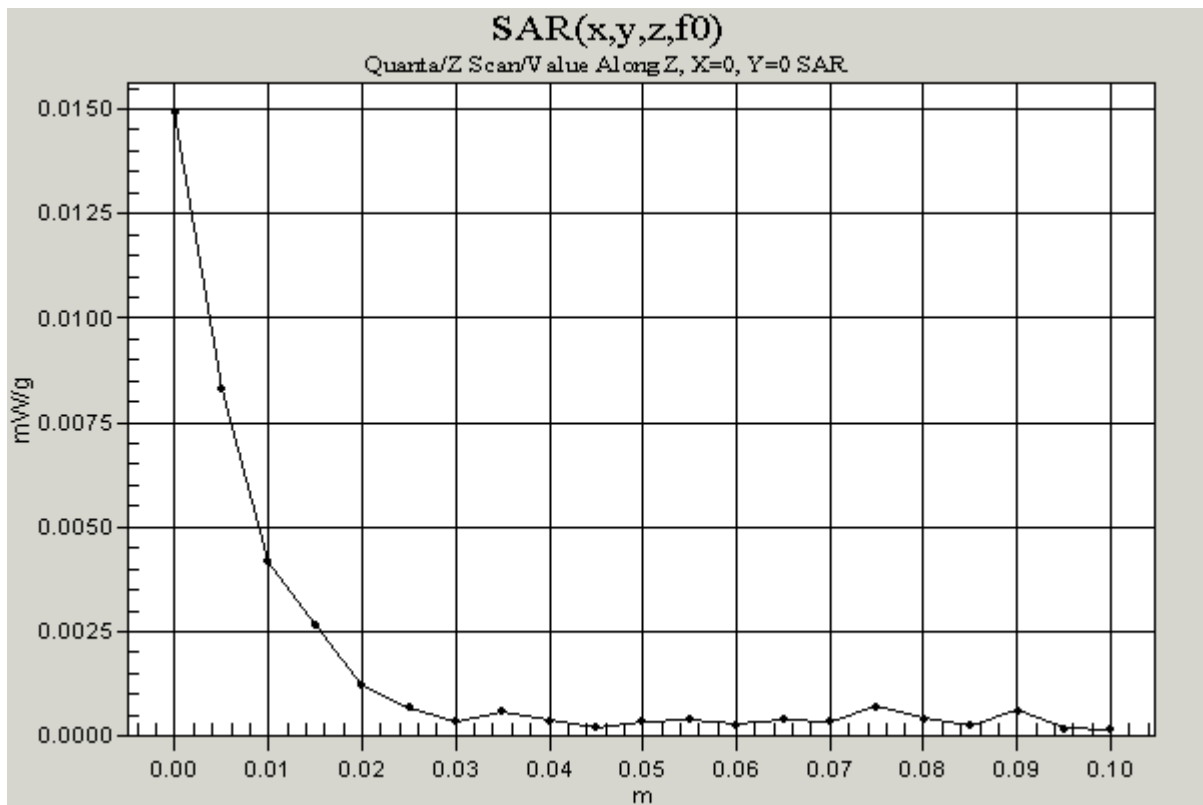
Reference Value = 2.03 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0149 mW/g



0 dB = 0.0349mW/g



Test Laboratory: C&C

File Name: [Antenna 2-High Channel\\_0.029mW.da4](#)

### **Antenna 2-High Channel\_0.029mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC ID:HFSZW1LWM3B2100**

**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.95551$  mho/m,  $\epsilon_r = 52.9568$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 2- High Channel(AUX port)/Area Scan (11x23x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 2.04 V/m

Power Drift = 0.06 dB

Maximum value of SAR = 0.0298 mW/g

**Antenna 2- High Channel(AUX port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0633 W/kg

SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.0146 mW/g

Reference Value = 2.04 V/m

Power Drift = 0.06 dB

Maximum value of SAR = 0.0326 mW/g

**Antenna 2- High Channel(AUX port)/Zoom Scan (5x5x7)/Cube 1:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0663 W/kg

SAR(1 g) = 0.0297 mW/g; SAR(10 g) = 0.0147 mW/g

Reference Value = 2.04 V/m

Power Drift = 0.06 dB

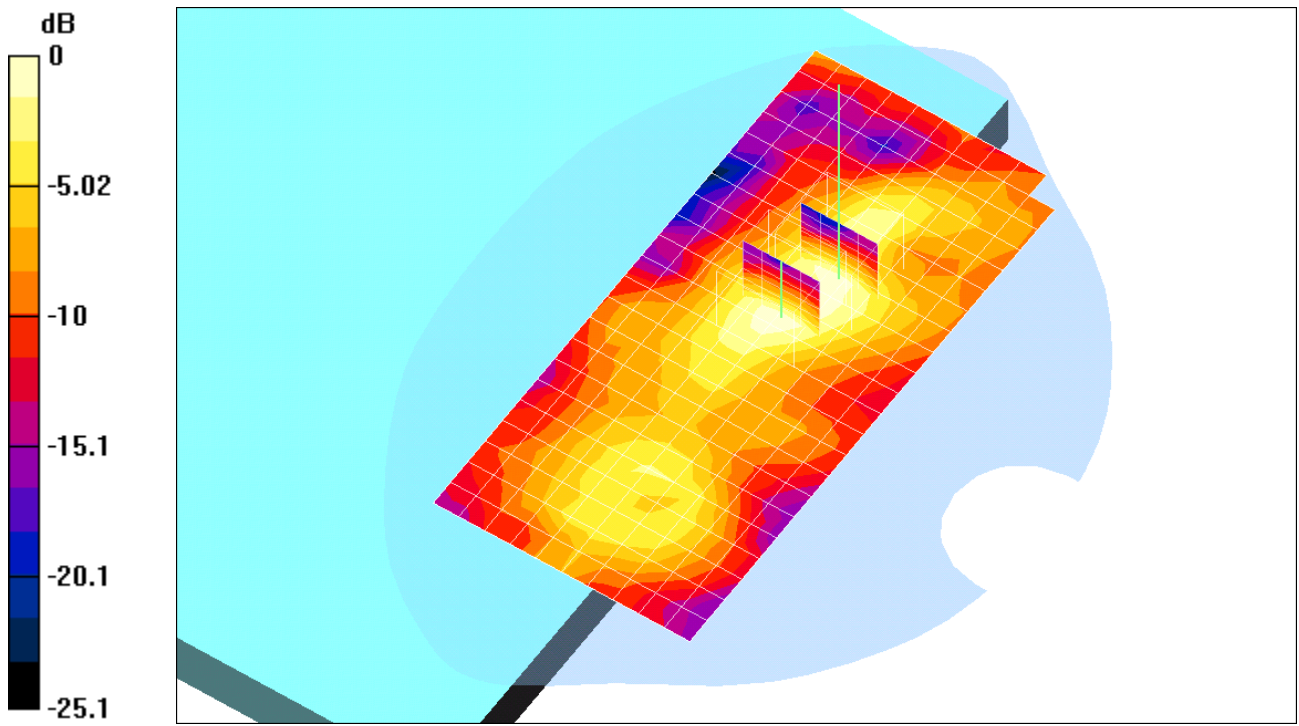
Maximum value of SAR = 0.0338 mW/g

**Antenna 2- High Channel(AUX port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

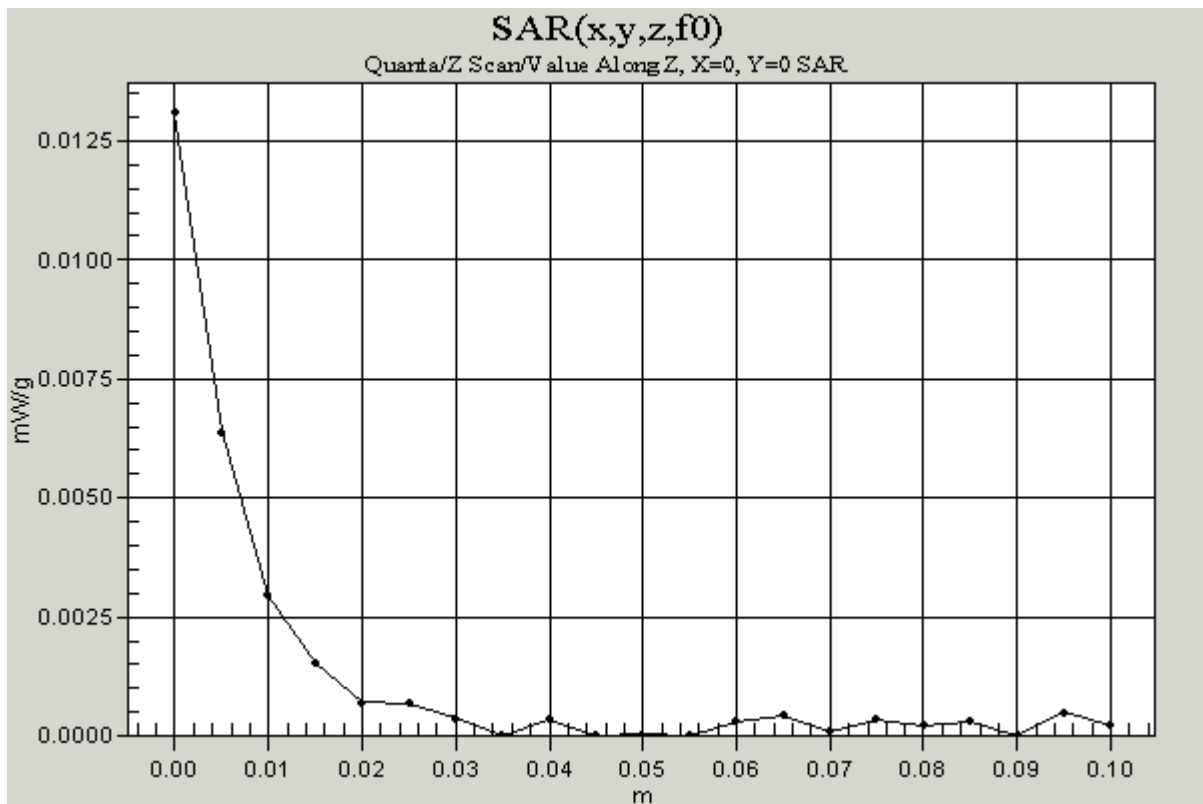
Reference Value = 2.04 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.0131 mW/g



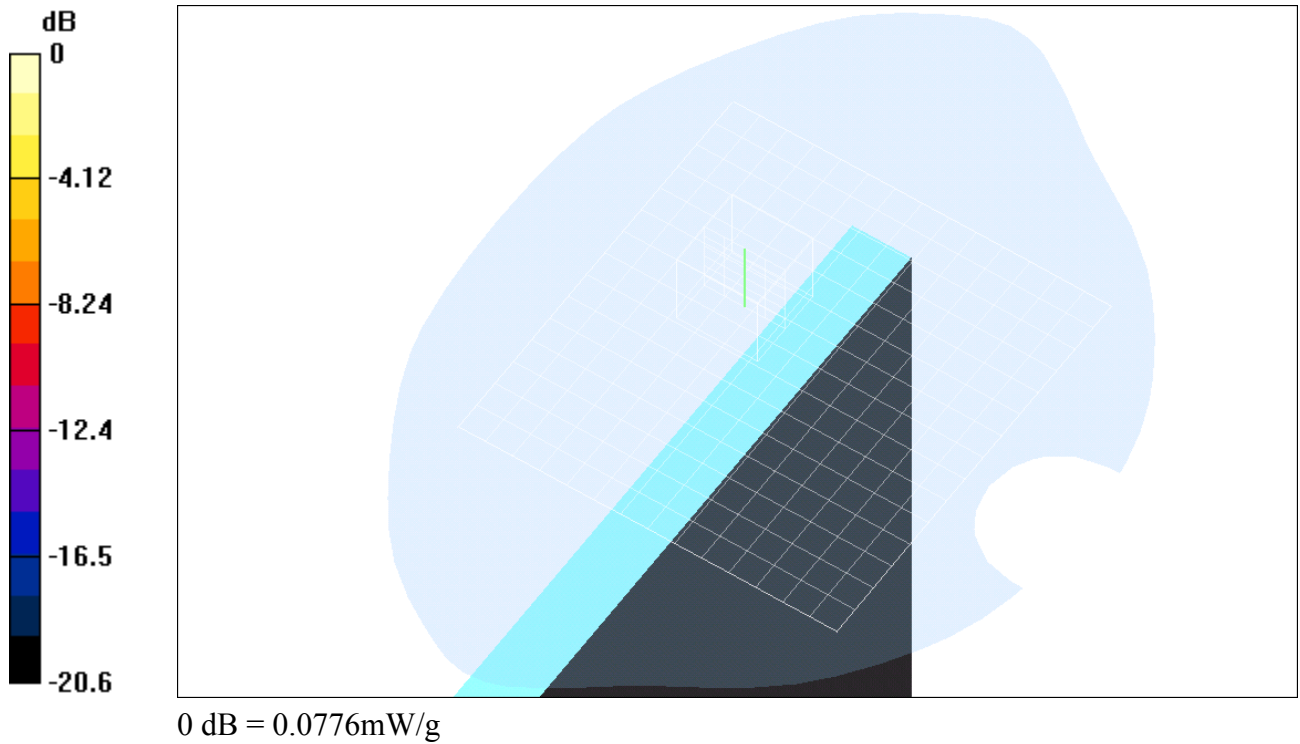
0 dB = 0.0338mW/g





Test Laboratory: The name of your organization  
File Name: [Antenna 1\(15mm\)-05-20\\_0.0738.da4](#)

### EUT Setup Configuration 3



Test Laboratory: C&C

File Name: [Antenna 1\(15mm\)-Low Channel\\_0.0738mW.da4](#)

### **Antenna 1(15mm)-Low Channel\_0.0738mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC**

**ID:HFSZW1LWM3B2100**

**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System:DSSS; Frequency: 2412 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.94942$  mho/m,  $\epsilon_r = 52.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 1-Low Channel(Main port)/Area Scan (15x16x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 3.71 V/m

Power Drift = 0.009 dB

Maximum value of SAR = 0.0728 mW/g

**Antenna 1-Low Channel(Main port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.146 W/kg

**SAR(1 g) = 0.0738 mW/g;** SAR(10 g) = 0.0403 mW/g

Reference Value = 3.71 V/m

Power Drift = 0.009 dB

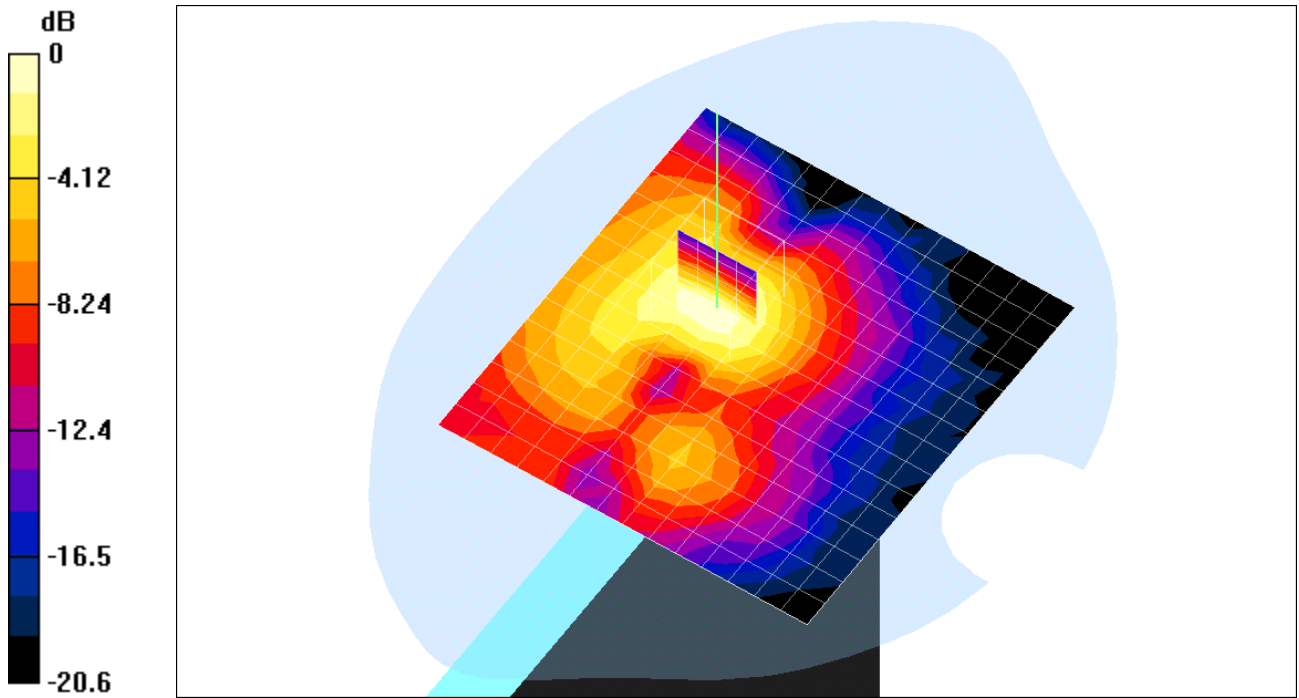
Maximum value of SAR = 0.0776 mW/g

**Antenna 1-Low Channel(Main port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

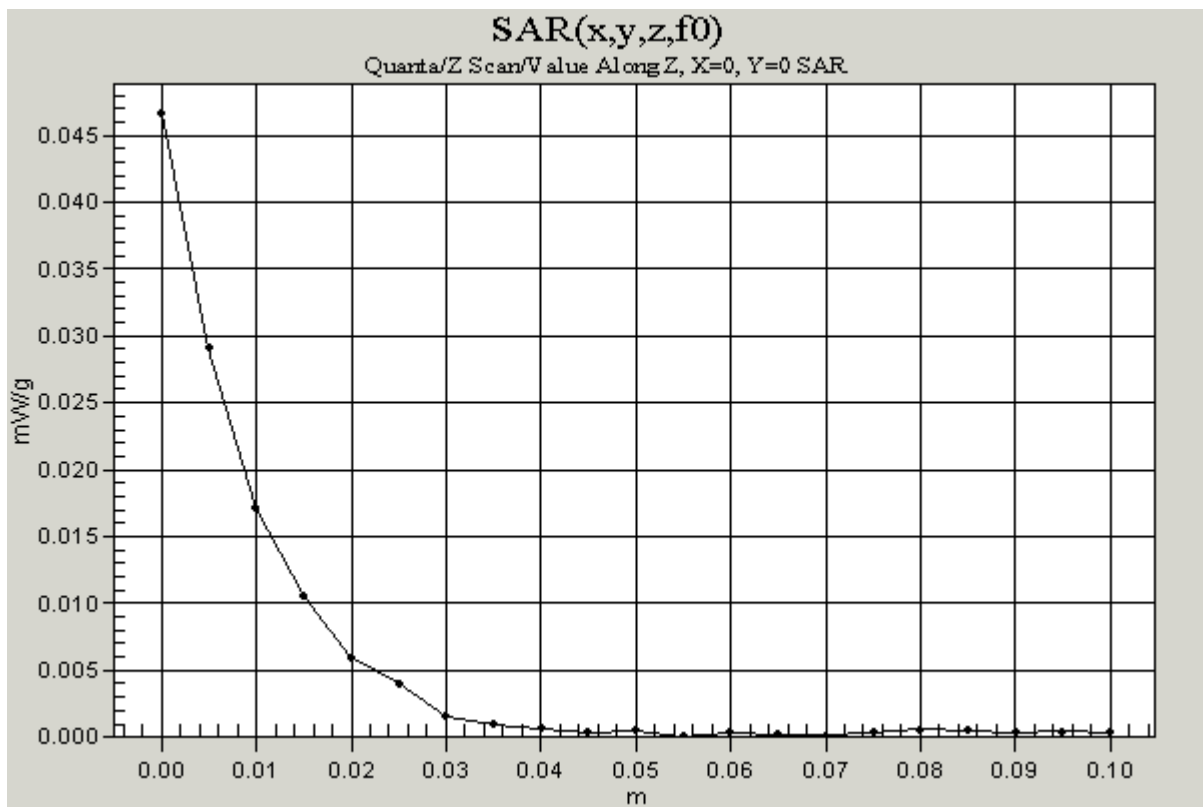
Reference Value = 3.71 V/m

Power Drift = 0.005 dB

Maximum value of SAR = 0.0466 mW/g



0 dB = 0.0776mW/g



Test Laboratory: C&C

File Name: [Antenna 1\(15mm\)-Mid Channel\\_0.077mW.da4](#)

### **Antenna 1(15mm)-Mid Channel\_0.077mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC**

**ID:HFSZW1LWM3B2100**

**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.94942$  mho/m,  $\epsilon_r = 52.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 1- Mid Channel/Area Scan (13x13x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 3.9 V/m

Power Drift = 0.08 dB

Maximum value of SAR = 0.0744 mW/g

**Antenna 1- Mid Channel/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.155 W/kg

**SAR(1 g) = 0.077 mW/g;** SAR(10 g) = 0.0419 mW/g

Reference Value = 3.9 V/m

Power Drift = 0.08 dB

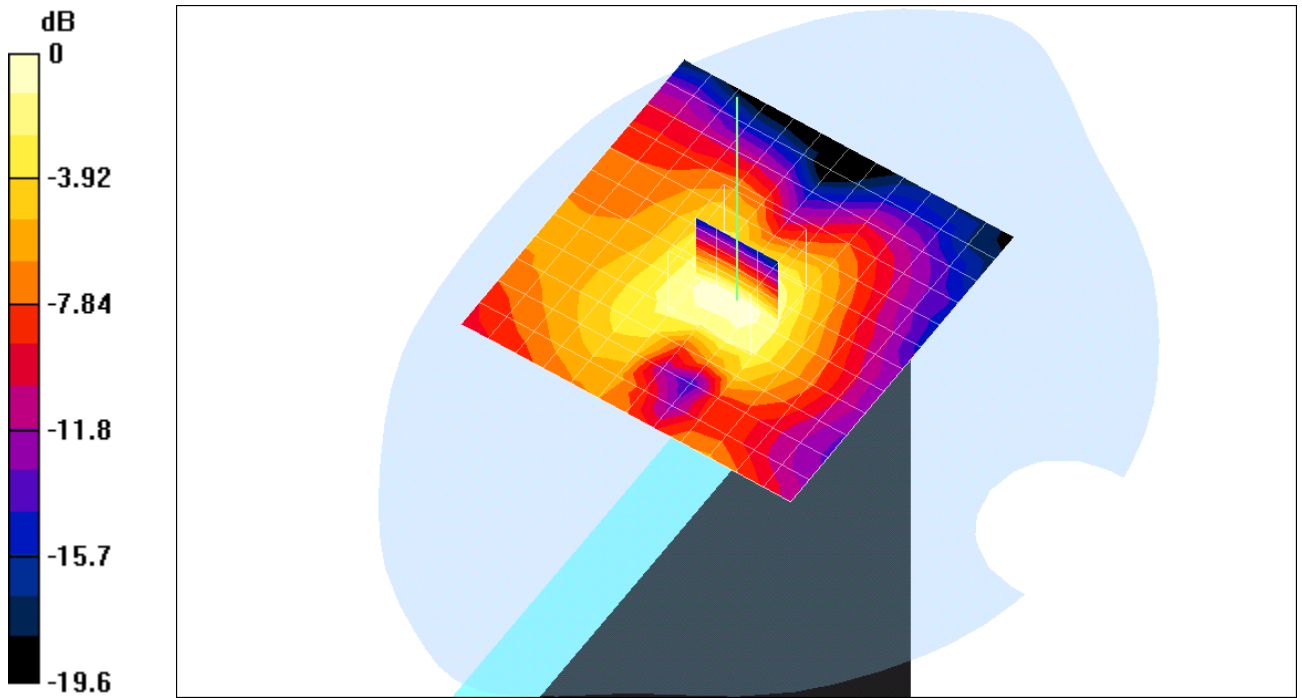
Maximum value of SAR = 0.081 mW/g

**Antenna 1- Mid Channel/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

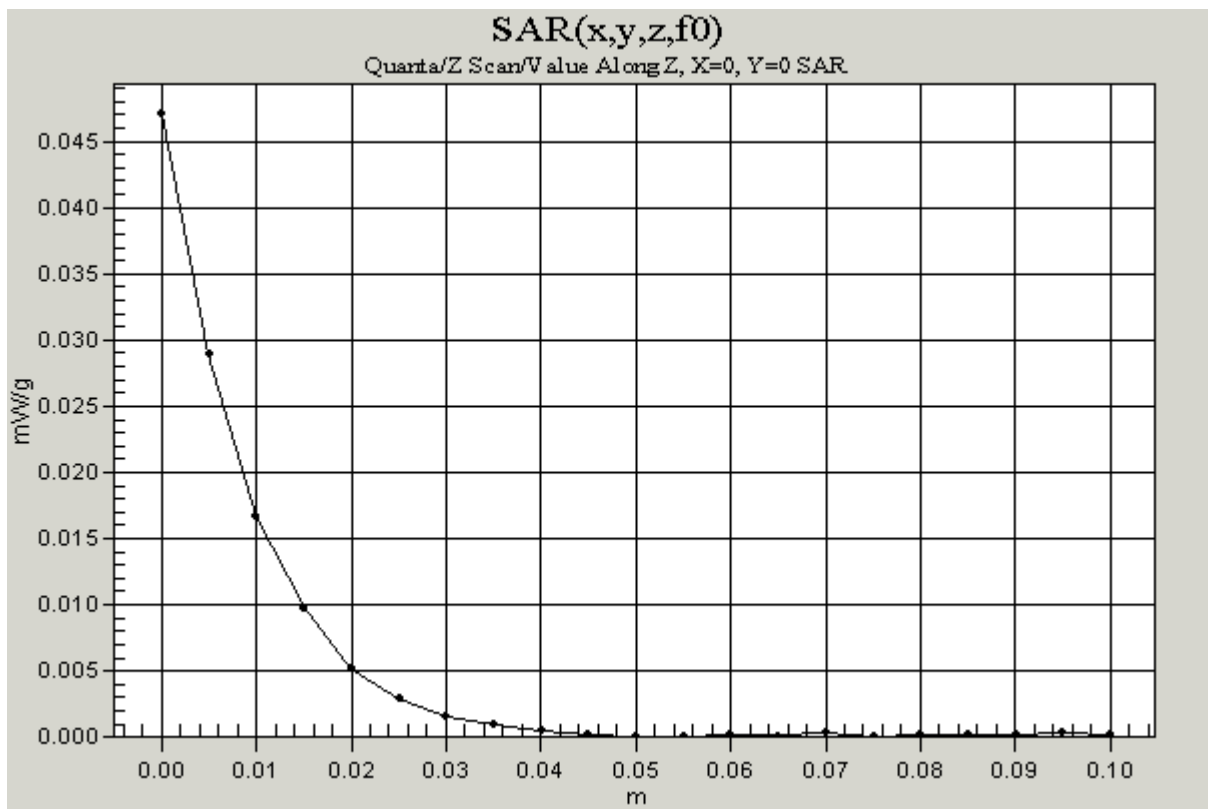
Reference Value = 3.9 V/m

Power Drift = -0.06 dB

Maximum value of SAR = 0.0471 mW/g



0 dB = 0.081mW/g



Test Laboratory: C&C

File Name: [Antenna 1\(15mm\)-High Channel\\_0.0882mW.da4](#)

### **Antenna 1(15mm)-High Channel\_0.0882mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC**

**ID:HFSZW1LWM3B2100**

**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.94942$  mho/m,  $\epsilon_r = 52.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna- High Channel/Area Scan (13x13x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 3.95 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.0847 mW/g

**Antenna -High Channel/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.181 W/kg

**SAR(1 g) = 0.0882 mW/g;** SAR(10 g) = 0.0477 mW/g

Reference Value = 3.95 V/m

Power Drift = 0.2 dB

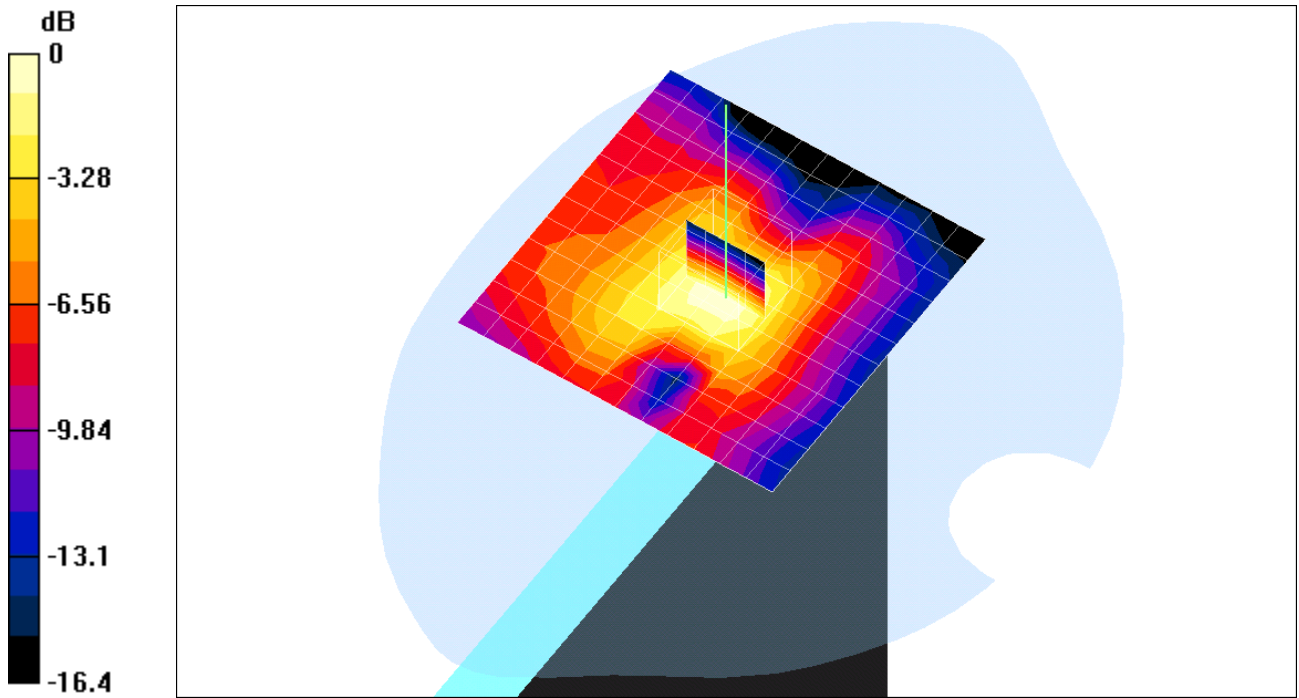
Maximum value of SAR = 0.0926 mW/g

**Antenna -High Channel/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

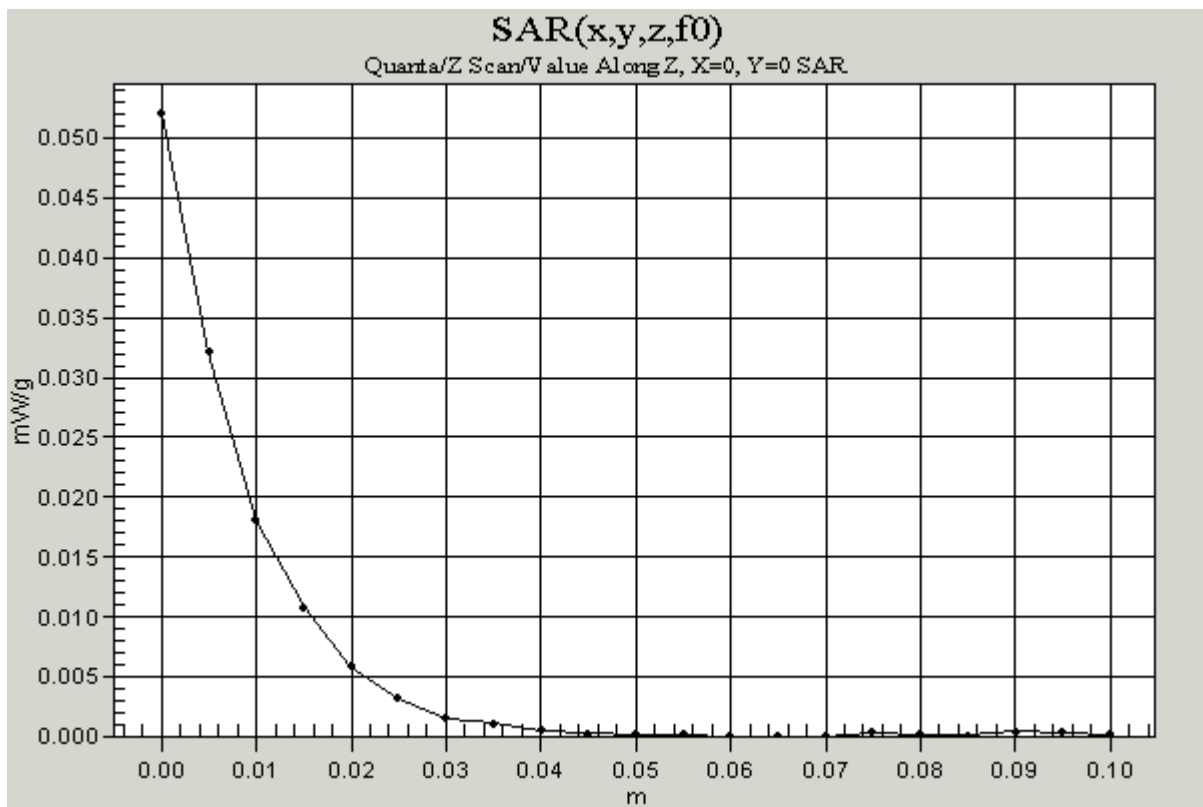
Reference Value = 3.95 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.052 mW/g

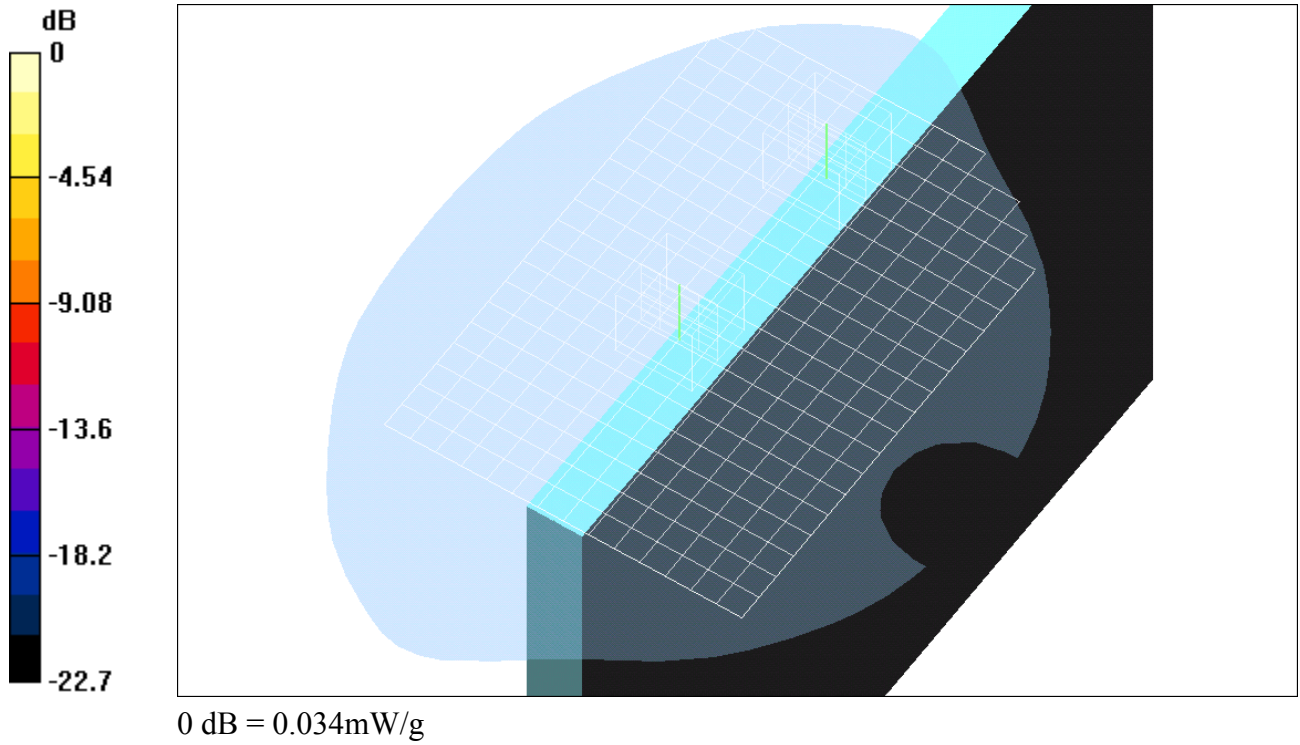


0 dB = 0.0926mW/g



Test Laboratory: The name of your organization  
File Name: [Antenna 2\(15mm\)-05-20\\_0.0316.da4](#)

## EUT Setup Configuration 4





Test Laboratory: C&C

File Name: [Antenna 2\(15mm\)-Low Channel\\_0.0316mW.da4](#)

### **Antenna 2(15mm)-Low Channel\_0.0316mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC**

**ID:HFSZW1LWM3B2100**

**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2412 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.94942$  mho/m,  $\epsilon_r = 52.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 2-Low Channel(Aux port)/Area Scan (15x21x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 3.27 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.0281 mW/g

**Antenna 2-Low Channel(Aux port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0549 W/kg

SAR(1 g) = 0.0273 mW/g; SAR(10 g) = 0.0146 mW/g

Reference Value = 3.27 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.0281 mW/g

**Antenna 2-Low Channel(Aux port)/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0629 W/kg

**SAR(1 g) = 0.0316 mW/g;** SAR(10 g) = 0.0168 mW/g

Reference Value = 3.27 V/m

Power Drift = -0.05 dB

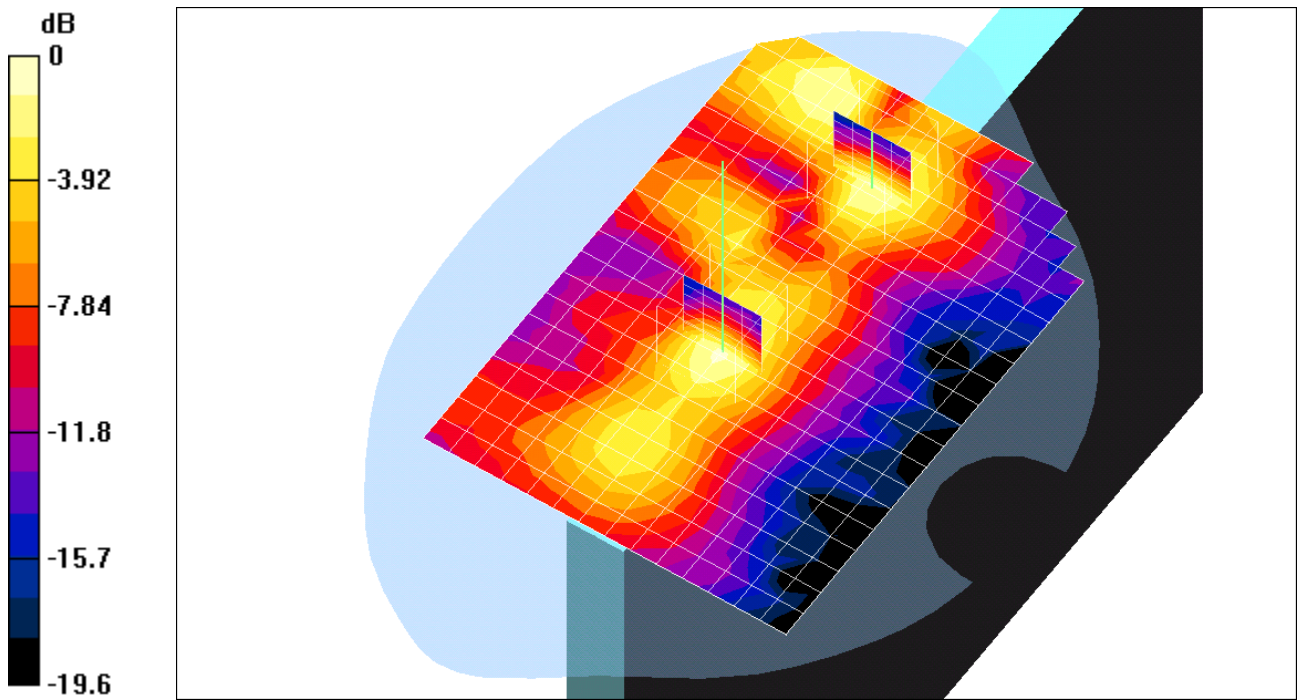
Maximum value of SAR = 0.034 mW/g

**Antenna 2-Low Channel(Aux port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

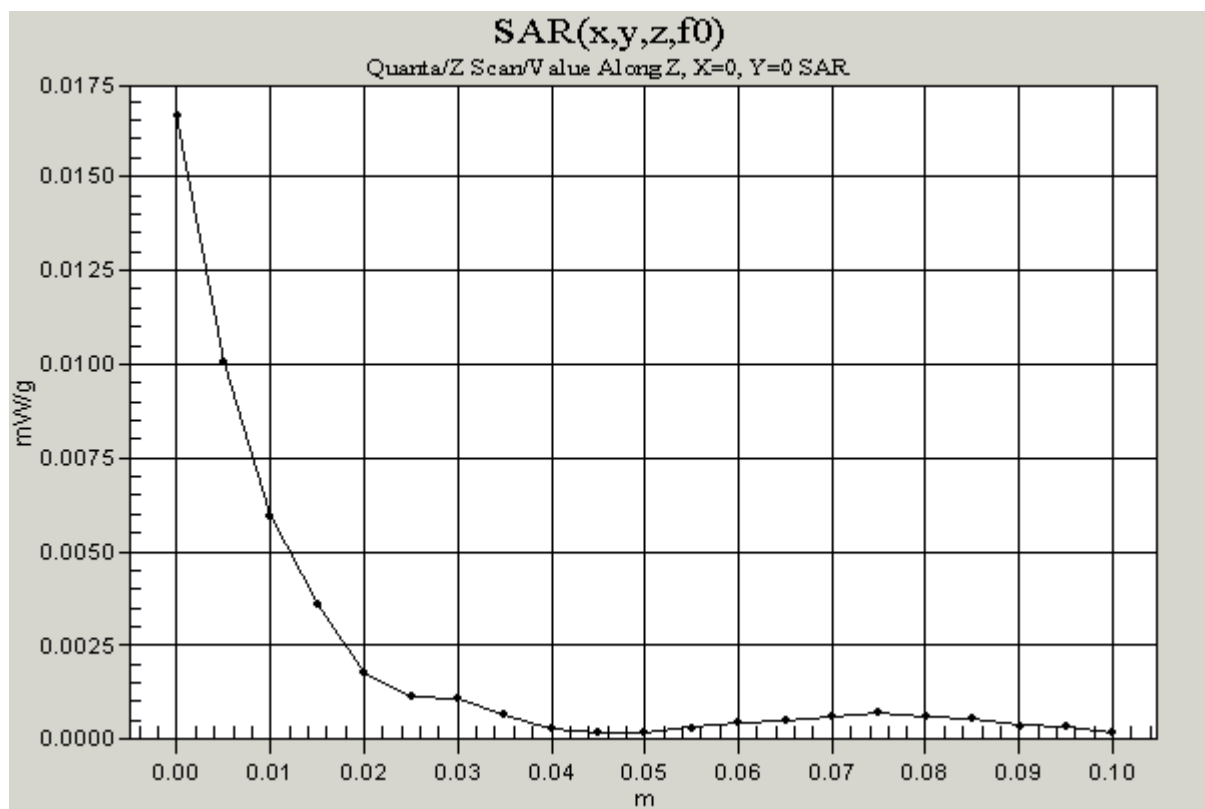
Reference Value = 3.27 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.0166 mW/g



0 dB = 0.034mW/g



Test Laboratory: C&C

File Name: [Antenna 2\(15mm\)-Mid Channel\\_0.0414mW.da4](#)

### **Antenna 2(15mm)-Mid Channel\_0.0414mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC**

**ID:HFSZW1LWM3B2100**

**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.94942$  mho/m,  $\epsilon_r = 52.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 2 -Mid Channel(Aux Port)/Area Scan (11x17x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 2.59 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.0514 mW/g

**Antenna 2 -Mid Channel(Aux Port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0829 W/kg

**SAR(1 g) = 0.0414 mW/g;** SAR(10 g) = 0.0213 mW/g

Reference Value = 2.59 V/m

Power Drift = 0.2 dB

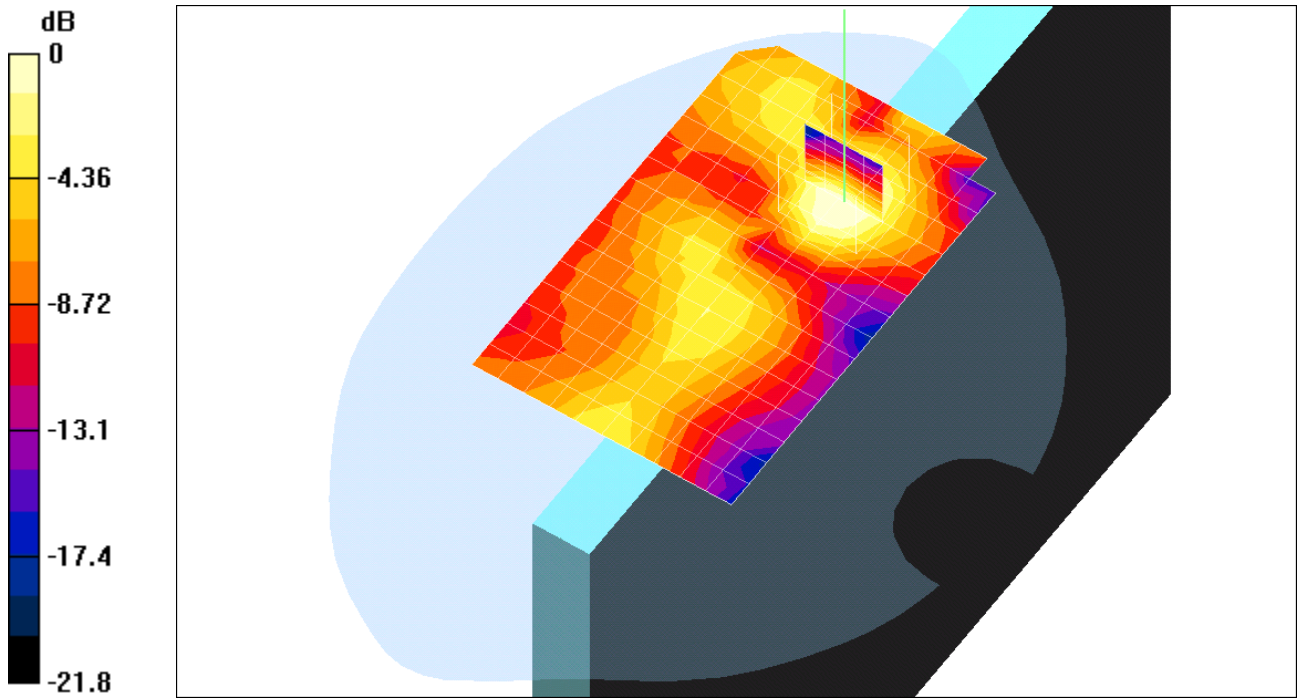
Maximum value of SAR = 0.0438 mW/g

**Antenna 2 -Mid Channel(Aux Port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

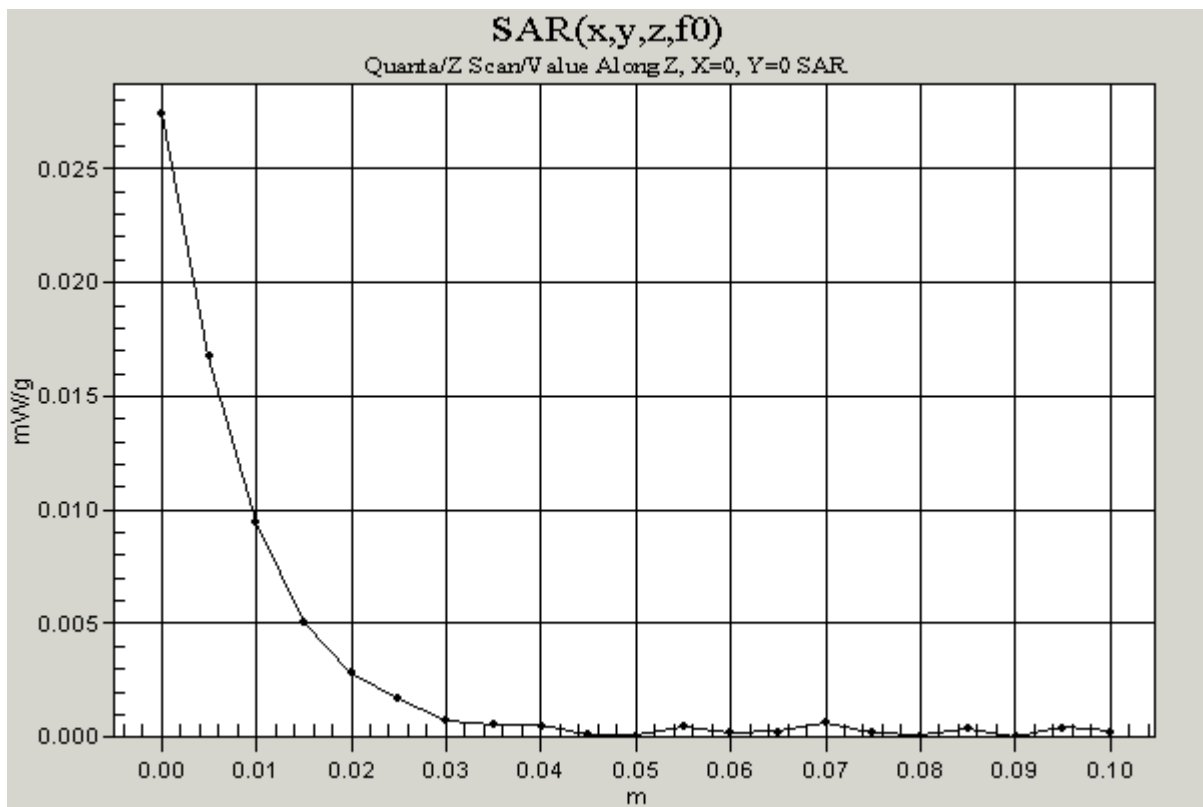
Reference Value = 2.59 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.0275 mW/g



0 dB = 0.0438mW/g



Test Laboratory: C&C

File Name: [Antenna 2\(15mm\)-High Channel\\_0.0396mW.da4](#)

### **Antenna 2(15mm)-High Channel\_0.0396mW**

**DUT: Notebok with 802.11b WLAN; Model: ZW1L; FCC**

**ID:HFSZW1LWM3B2100**

**Program: Quanta Test(Notebook with Intel PRO/Wireless 2100 LAN 3B MiniPCI Adapter)**

Communication System: DSSS; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium: BSL2450 ( $\sigma = 1.94942$  mho/m,  $\epsilon_r = 52.9$ ,  $\rho = 1000$  kg/m<sup>3</sup>)

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 12; Type: SAM V4.0; Serial: TP-1271

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Antenna 2 -High Channel(Aux Port)/Area Scan (11x17x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 2.38 V/m

Power Drift = 0.09 dB

Maximum value of SAR = 0.0427 mW/g

**Antenna 2 -High Channel(Aux Port)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Peak SAR (extrapolated) = 0.0799 W/kg

**SAR(1 g) = 0.0396 mW/g;** SAR(10 g) = 0.0202 mW/g

Reference Value = 2.38 V/m

Power Drift = 0.09 dB

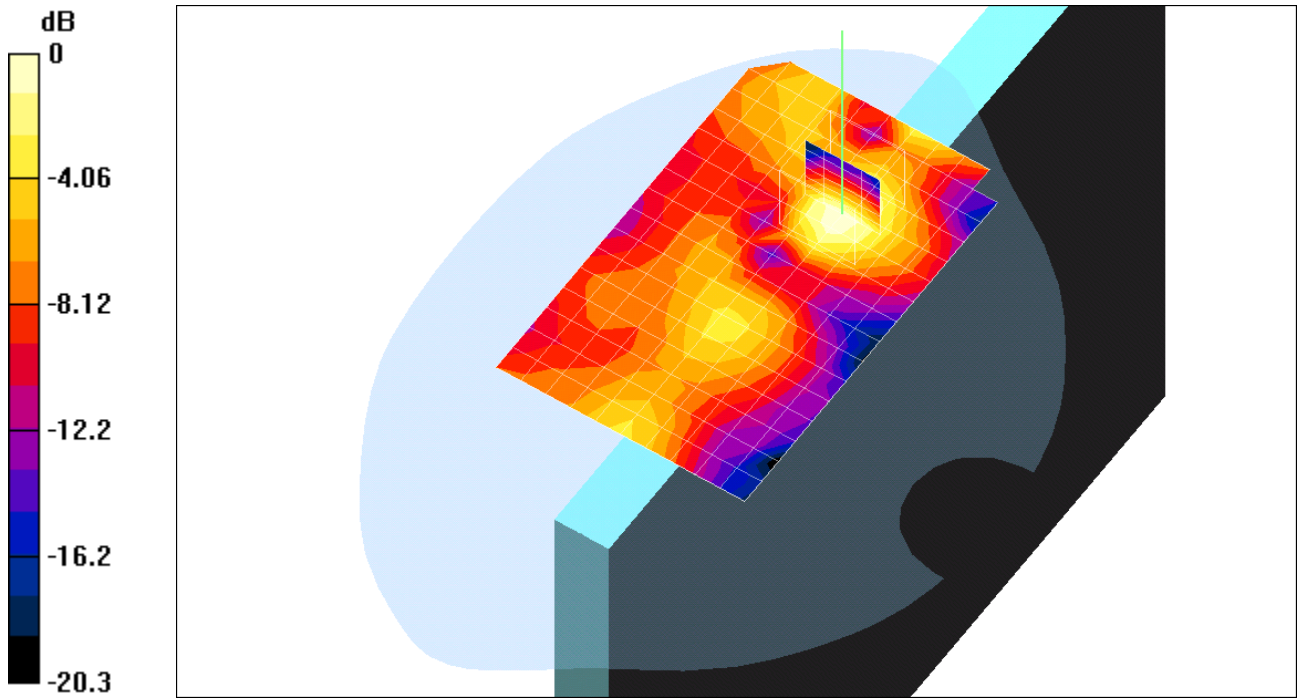
Maximum value of SAR = 0.0418 mW/g

**Antenna 2 -High Channel(Aux Port)/Z Scan (1x1x21):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

Reference Value = 2.38 V/m

Power Drift = 0.06 dB

Maximum value of SAR = 0.025 mW/g



0 dB = 0.0418mW/g

