

Appendix D

SAR Measurement Data

of

Product Name

MiniPCIexpress 802.11 b/g transceiver

Model

AR5BHB63-L

1. 802.11b SAR measurement Data

SAR Test Report

Report Date : 19-Aug-2008
Measurement Date : 19-Aug-2008

Product Data

Device Name : Lenovo
Serial No. : Caramel
Type : Other
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.07 W
Drift Time : 0 min(s)
Length : 40 mm
Width : 275 mm
Depth : 5 mm
Antenna Type : Internal

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Location : Center

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 19-Aug-2008
Temperature : 22.50 °C
Ambient Temp. : 23.00 °C
Humidity : 60.00 RH%
Epsilon : 50.98 F/m
Sigma : 2.01 S/m
Density : 1000.00 kg/cu. m

Probe Data

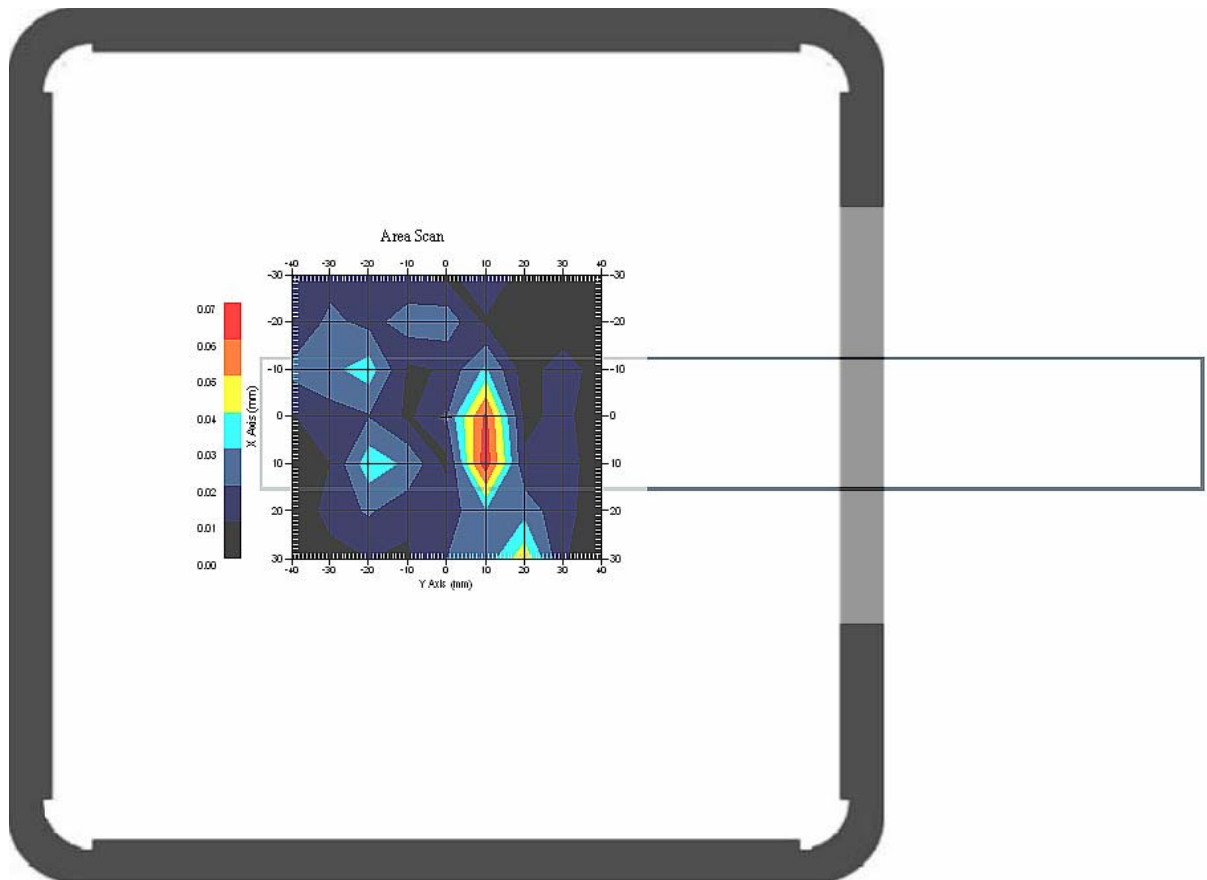
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 10-Jul-2008
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.4
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

1.1 2450.00 MHz, EUT Position: PL

Measurement Data

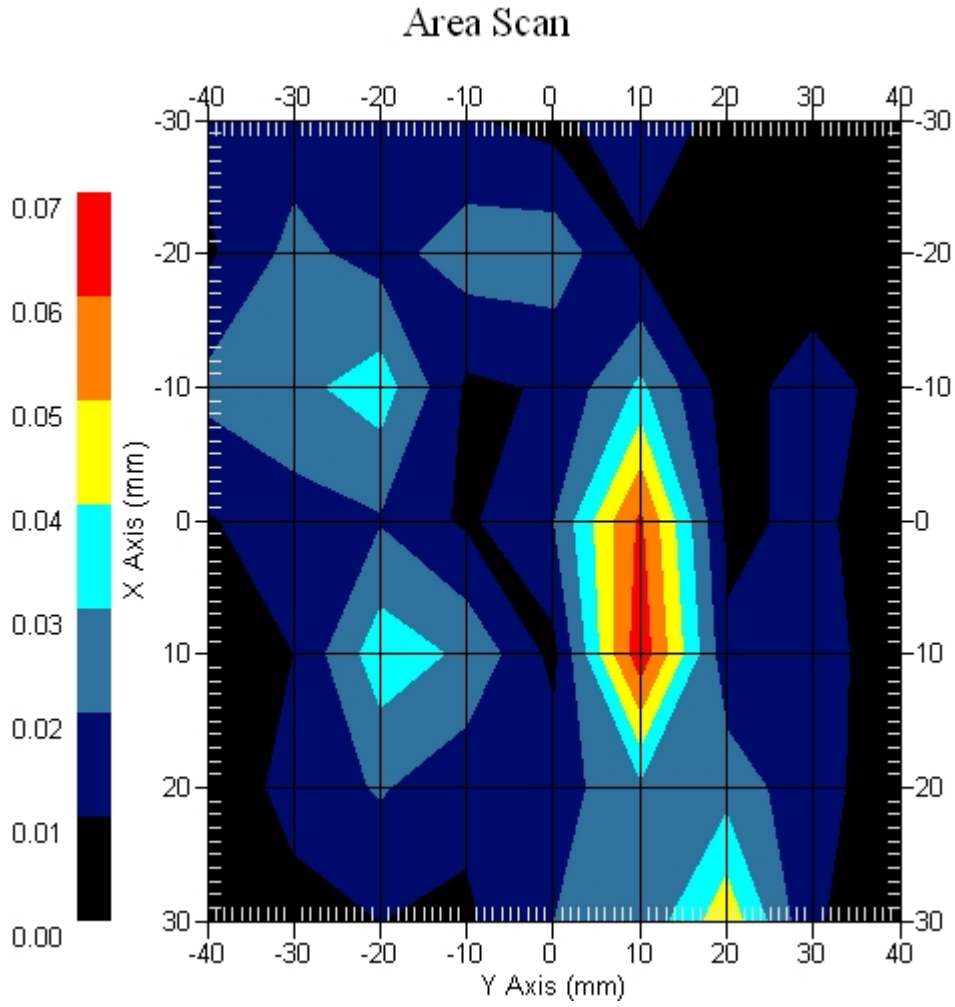
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.015 W/kg
Power Drift-Finish: 0.016 W/kg
Power Drift (%) : 3.007



1 gram SAR value : 0.042 W/kg
10 gram SAR value : 0.016 W/kg
Area Scan Peak SAR : 0.067 W/kg
Zoom Scan Peak SAR : 0.102 W/kg

Area Scan Plot

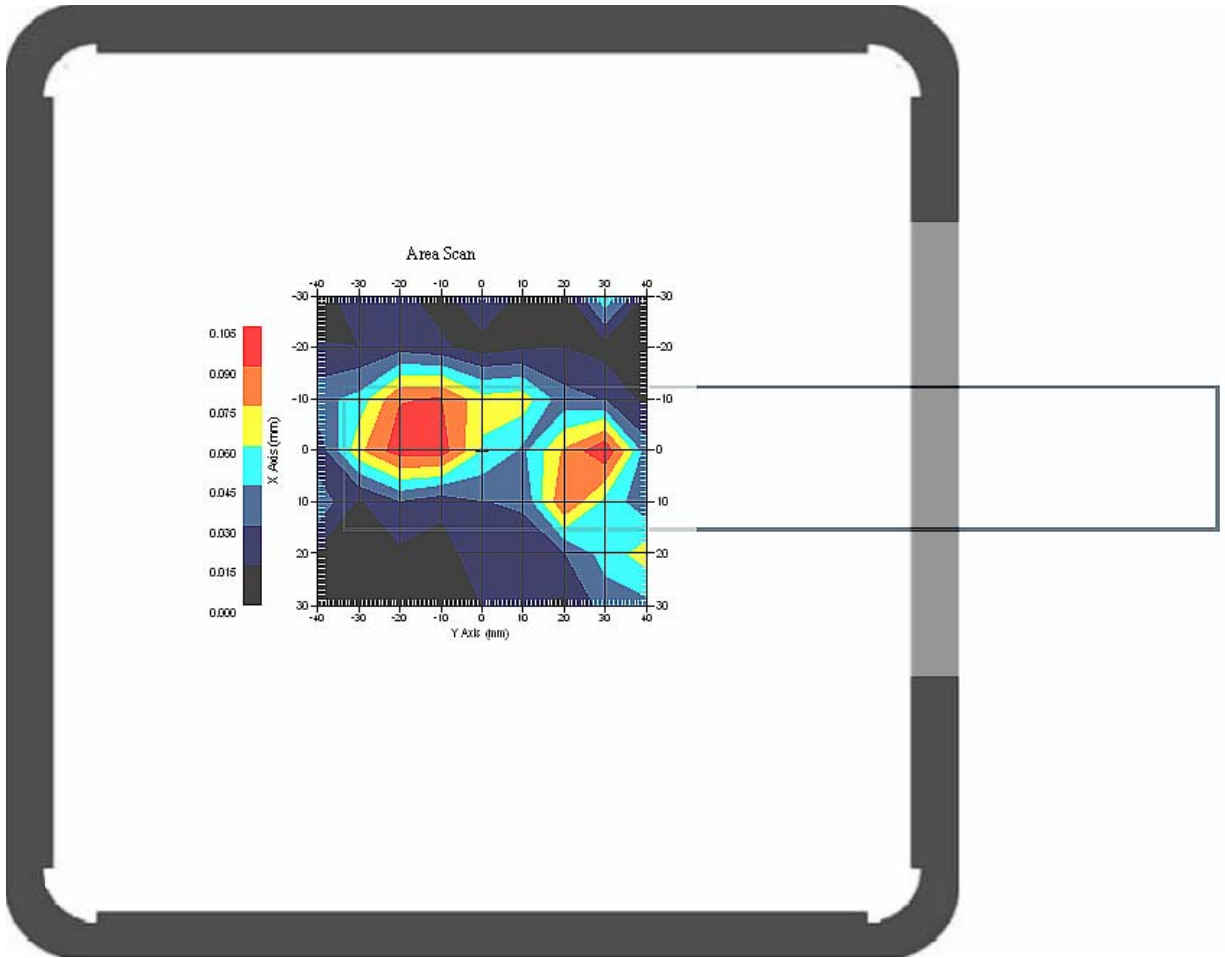


1.2 2450.00 MHz, EUT Position: PP

Measurement Data

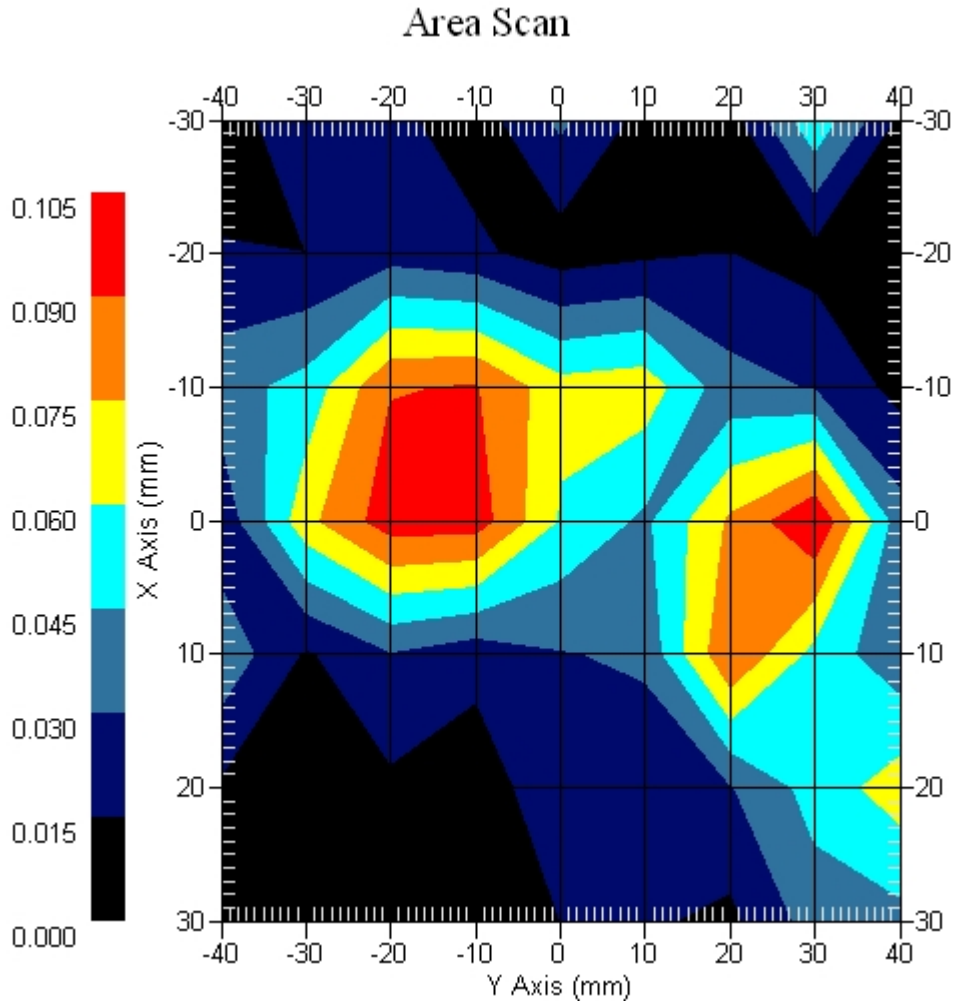
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.055 W/kg
Power Drift-Finish: 0.053 W/kg
Power Drift (%) : -3.886



1 gram SAR value : 0.063 W/kg
10 gram SAR value : 0.030 W/kg
Area Scan Peak SAR : 0.104 W/kg
Zoom Scan Peak SAR : 0.165 W/kg

Area Scan Plot

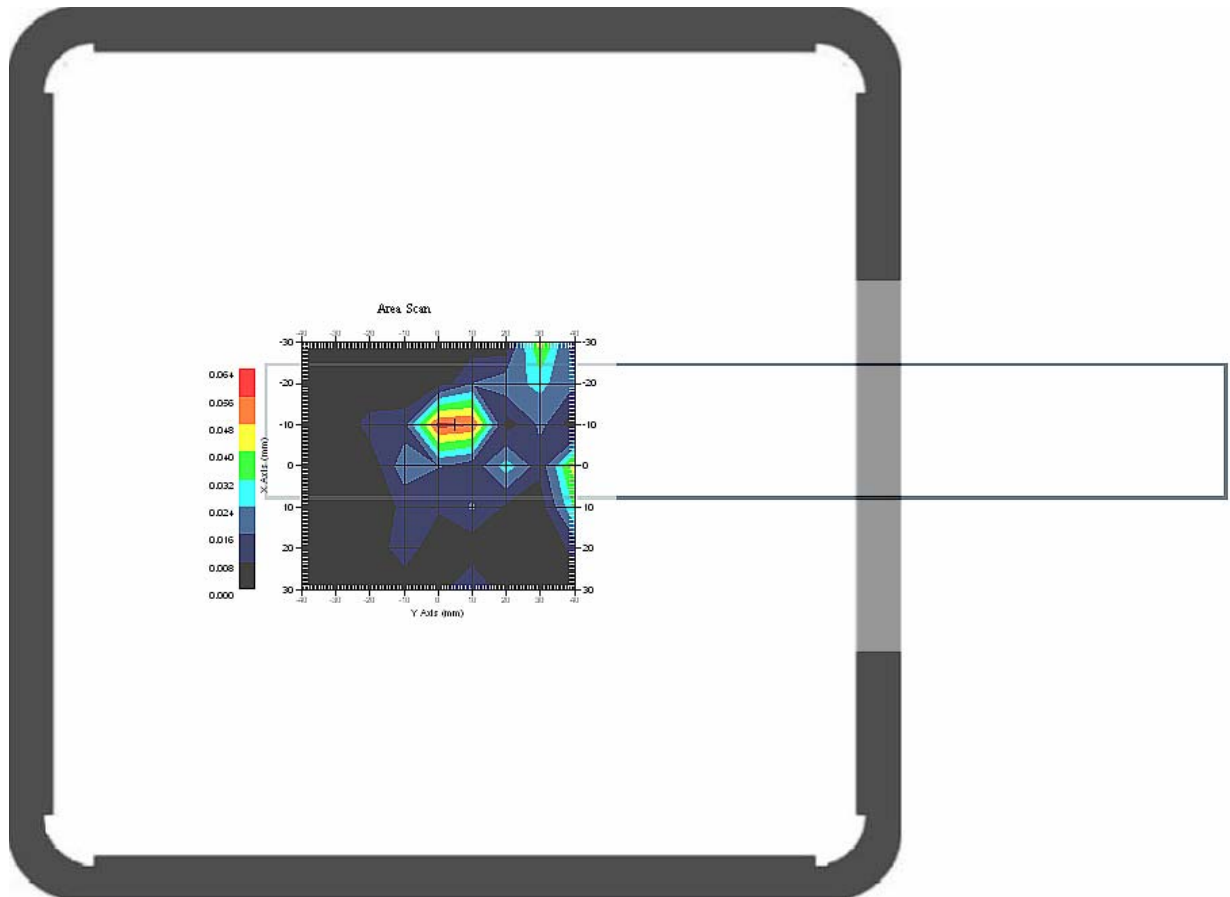


1.3 2450.00 MHz, EUT Position: SL

Measurement Data

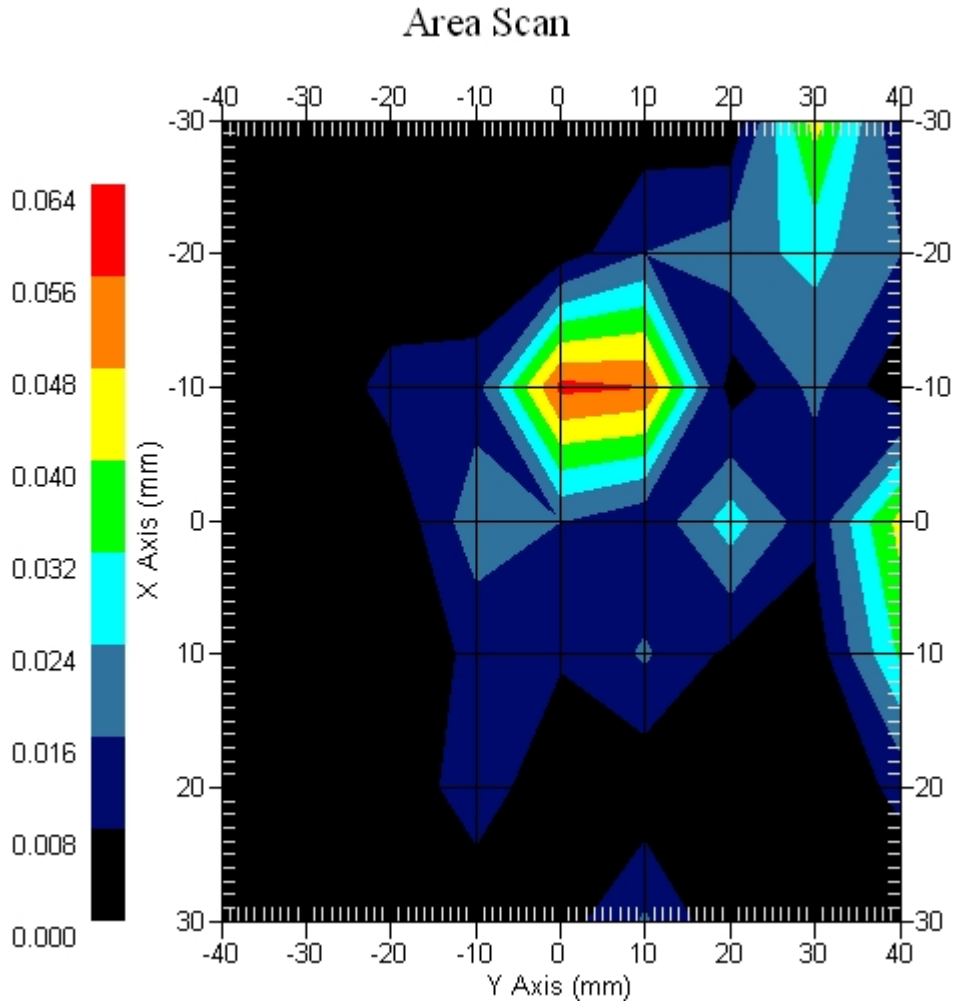
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.013 W/kg
Power Drift-Finish: 0.013 W/kg
Power Drift (%) : 2.324



1 gram SAR value : 0.044 W/kg
10 gram SAR value : 0.016 W/kg
Area Scan Peak SAR : 0.058 W/kg
Zoom Scan Peak SAR : 0.140 W/kg

Area Scan Plot

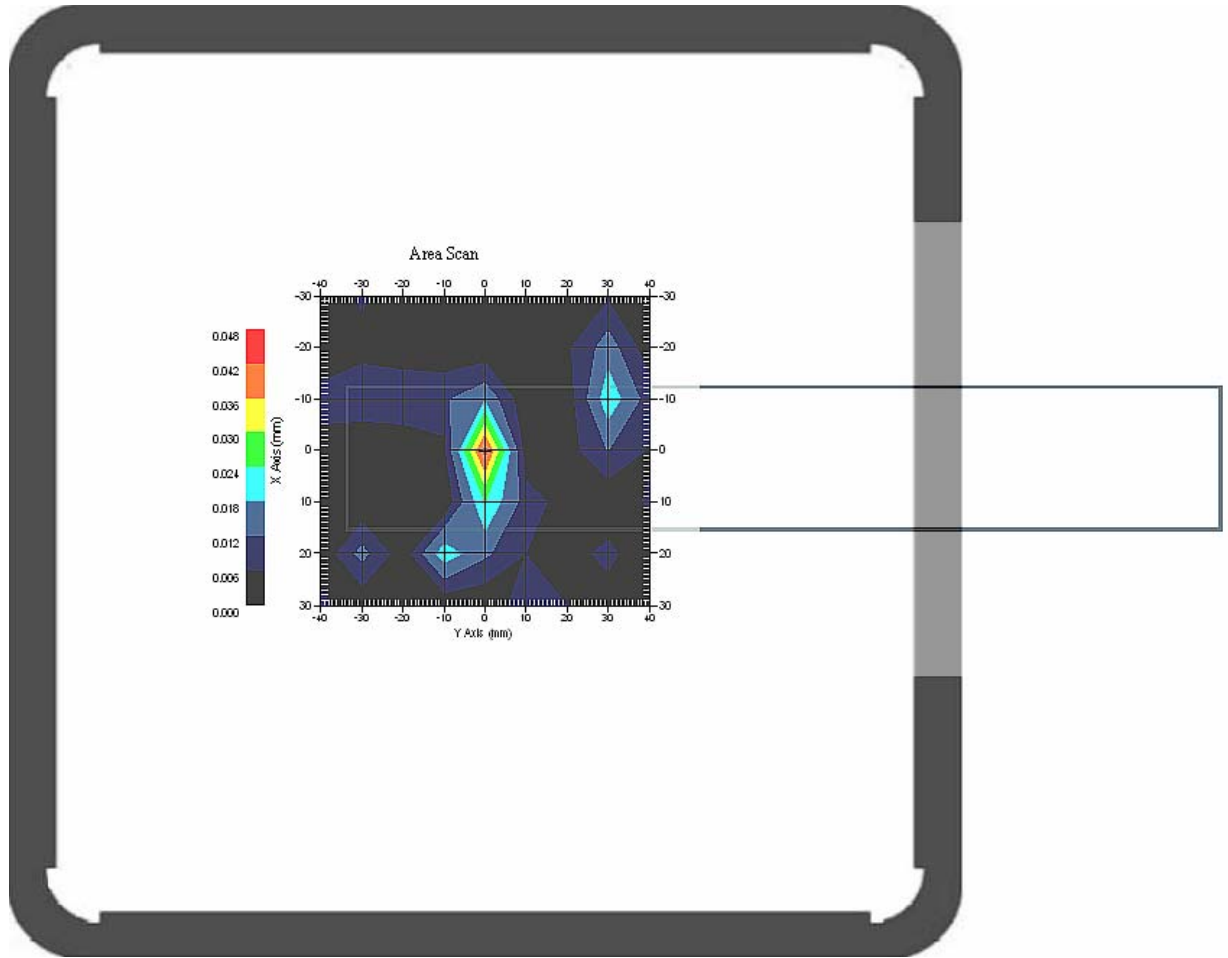


1.4 2450.00 MHz, EUT Position: SP

Measurement Data

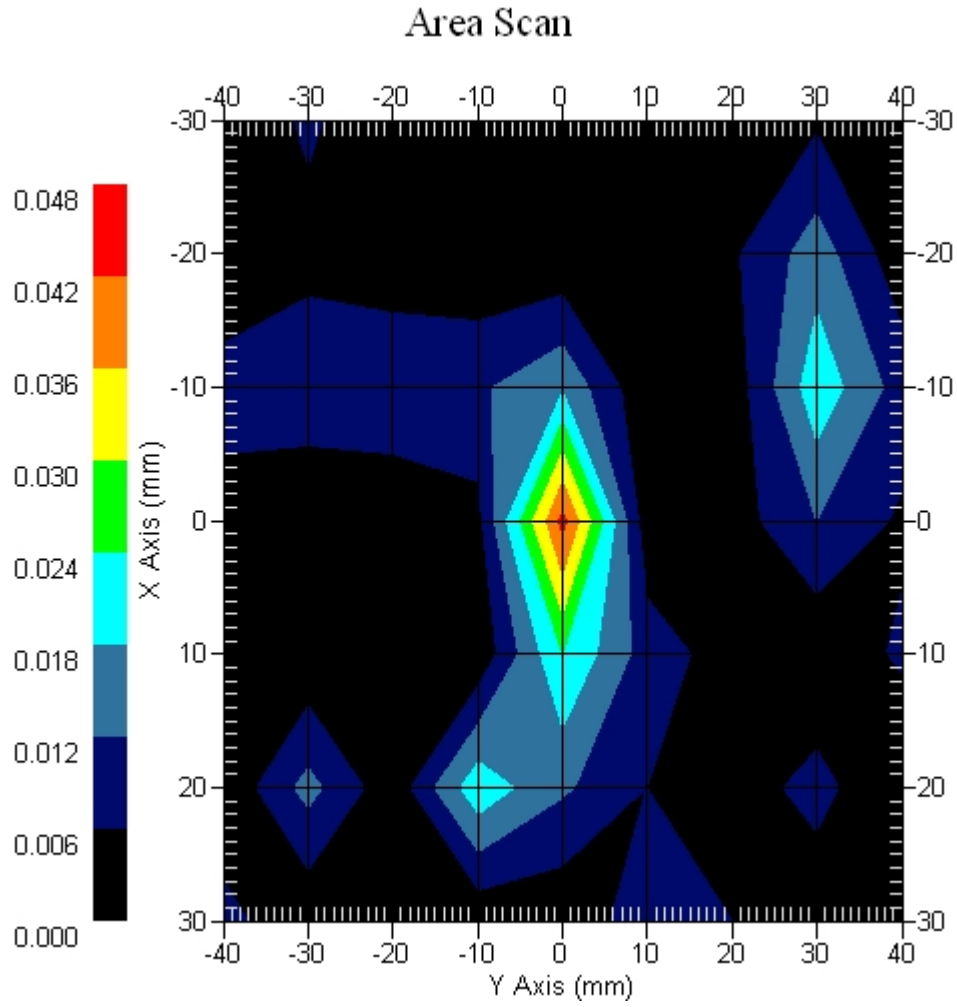
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.038 W/kg
Power Drift-Finish: 0.037 W/kg
Power Drift (%) : -1.270



1 gram SAR value : 0.026 W/kg
10 gram SAR value : 0.017 W/kg
Area Scan Peak SAR : 0.045 W/kg
Zoom Scan Peak SAR : 0.090 W/kg

Area Scan Plot

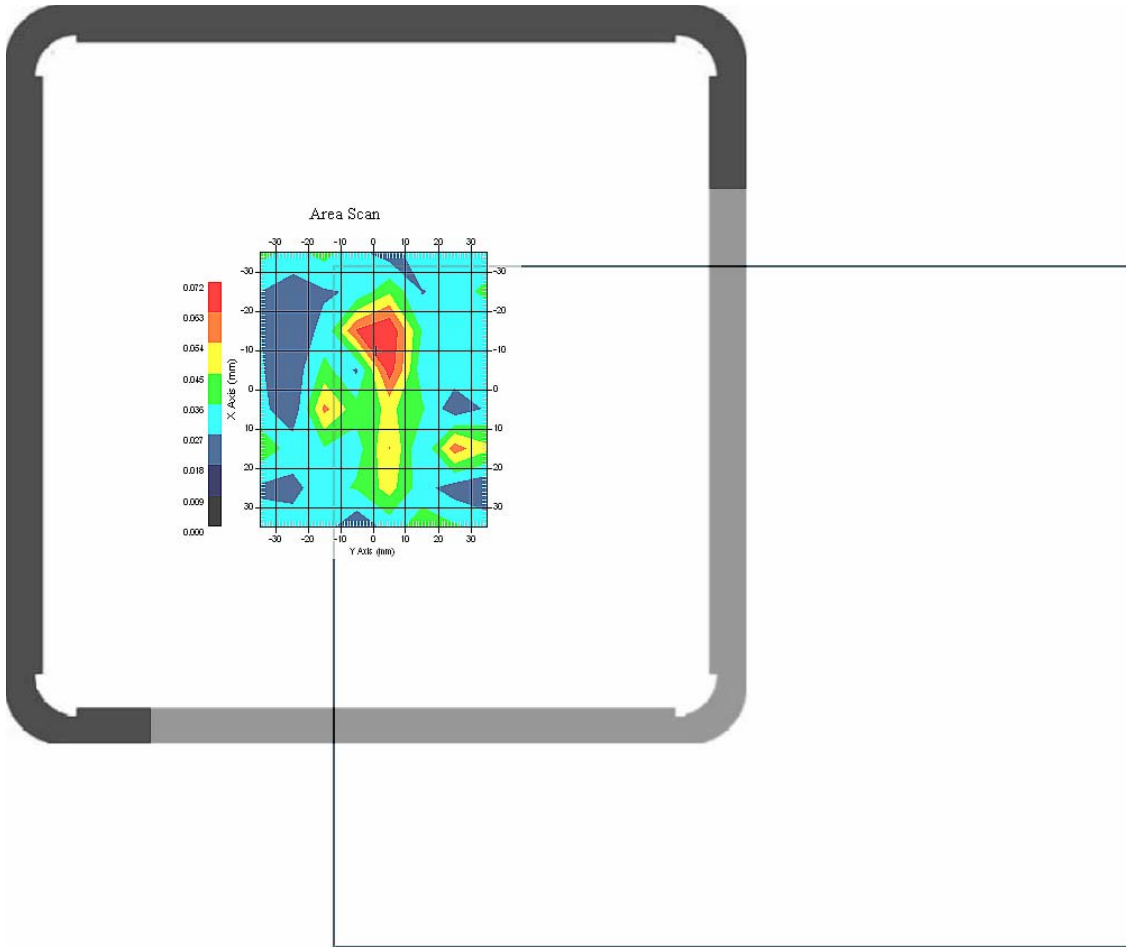


1.5 2450.00 MHz, EUT Position: Laptop Main Antenna

Measurement Data

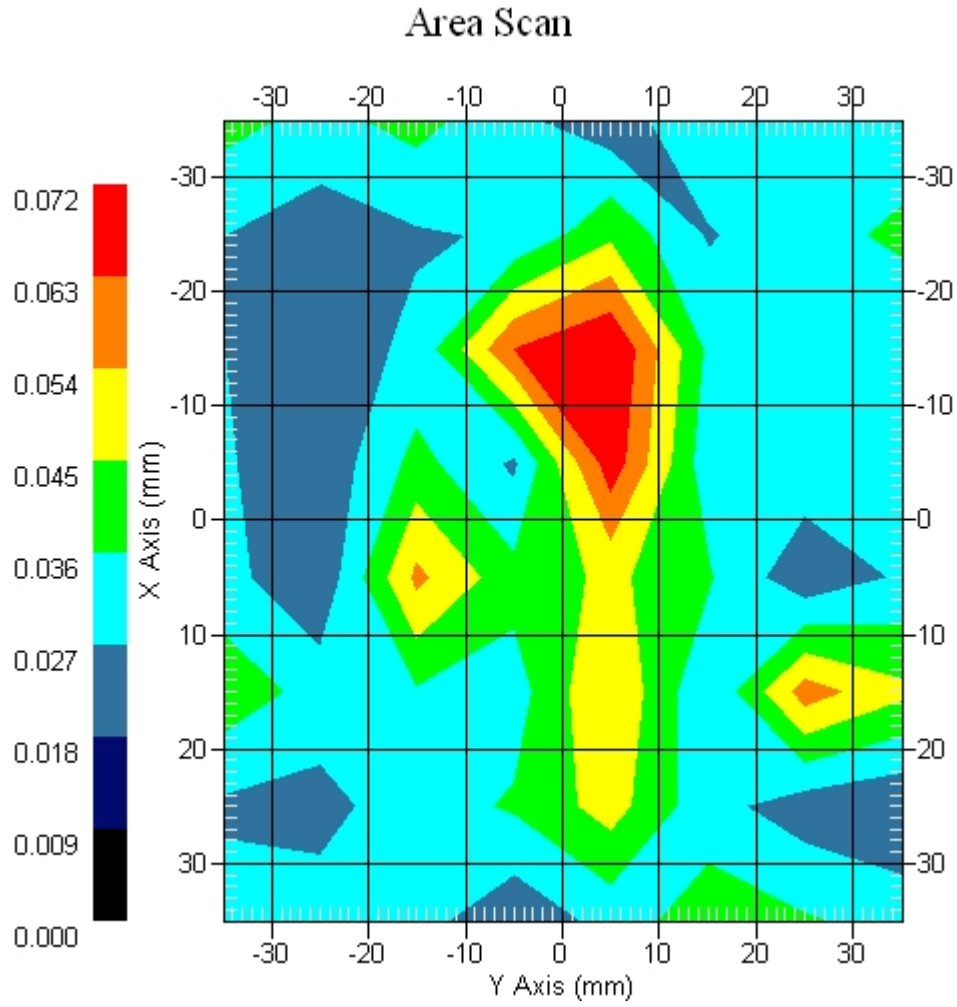
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 8x8x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.032 W/kg
Power Drift-Finish: 0.031 W/kg
Power Drift (%) : -1.330



1 gram SAR value : 0.057 W/kg
10 gram SAR value : 0.050 W/kg
Area Scan Peak SAR : 0.072 W/kg
Zoom Scan Peak SAR : 0.123 W/kg

Area Scan Plot

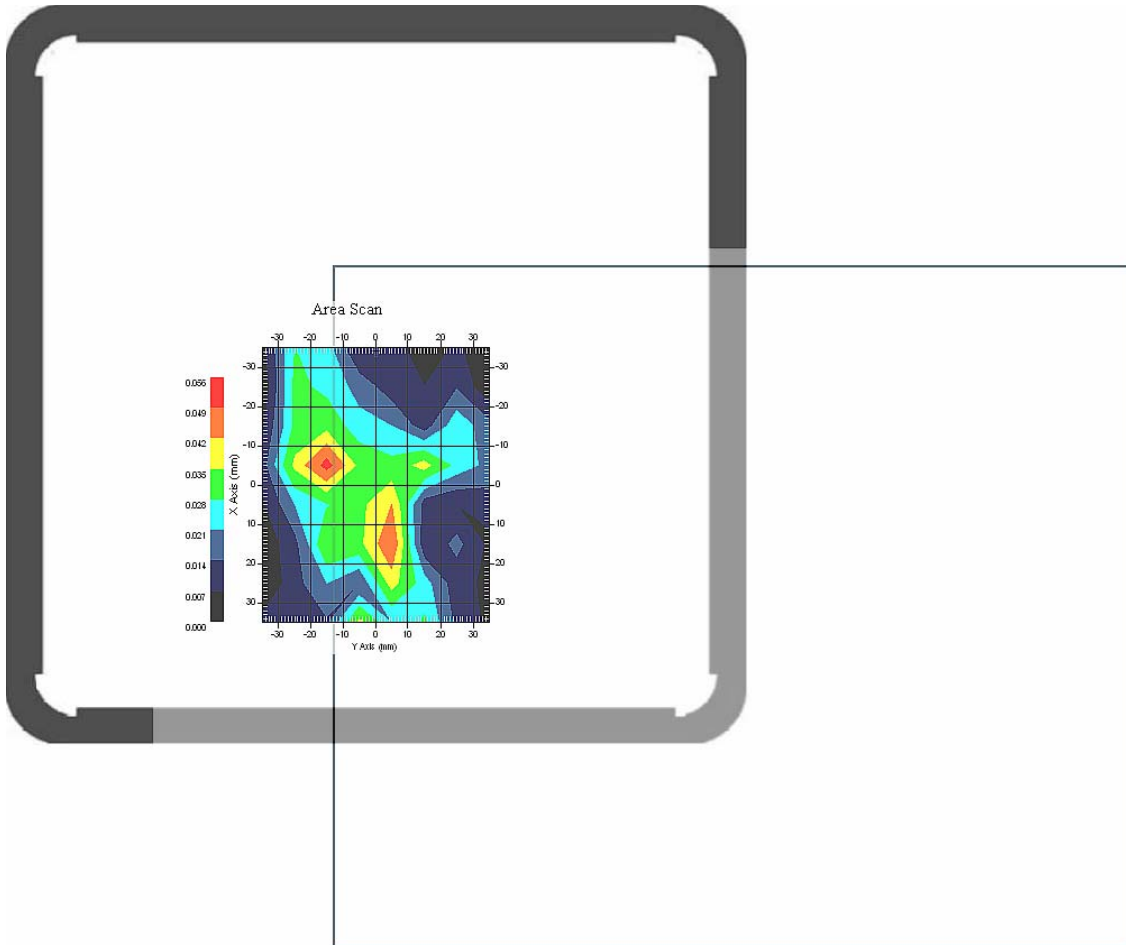


1.6 2450.00 MHz, EUT Position: Laptop Aux. Antenna

Measurement Data

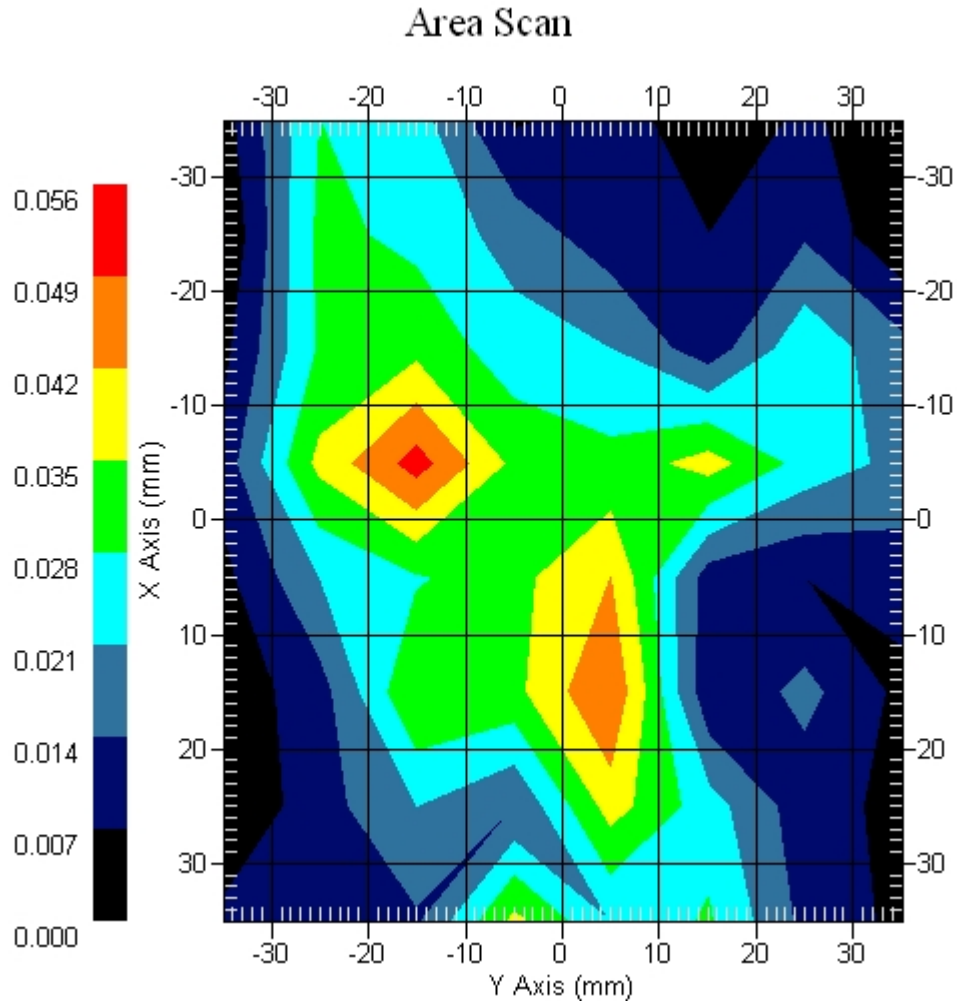
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 8x8x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.043 W/kg
Power Drift-Finish: 0.042 W/kg
Power Drift (%) : -2.381



1 gram SAR value : 0.049 W/kg
10 gram SAR value : 0.043 W/kg
Area Scan Peak SAR : 0.059 W/kg
Zoom Scan Peak SAR : 0.120 W/kg

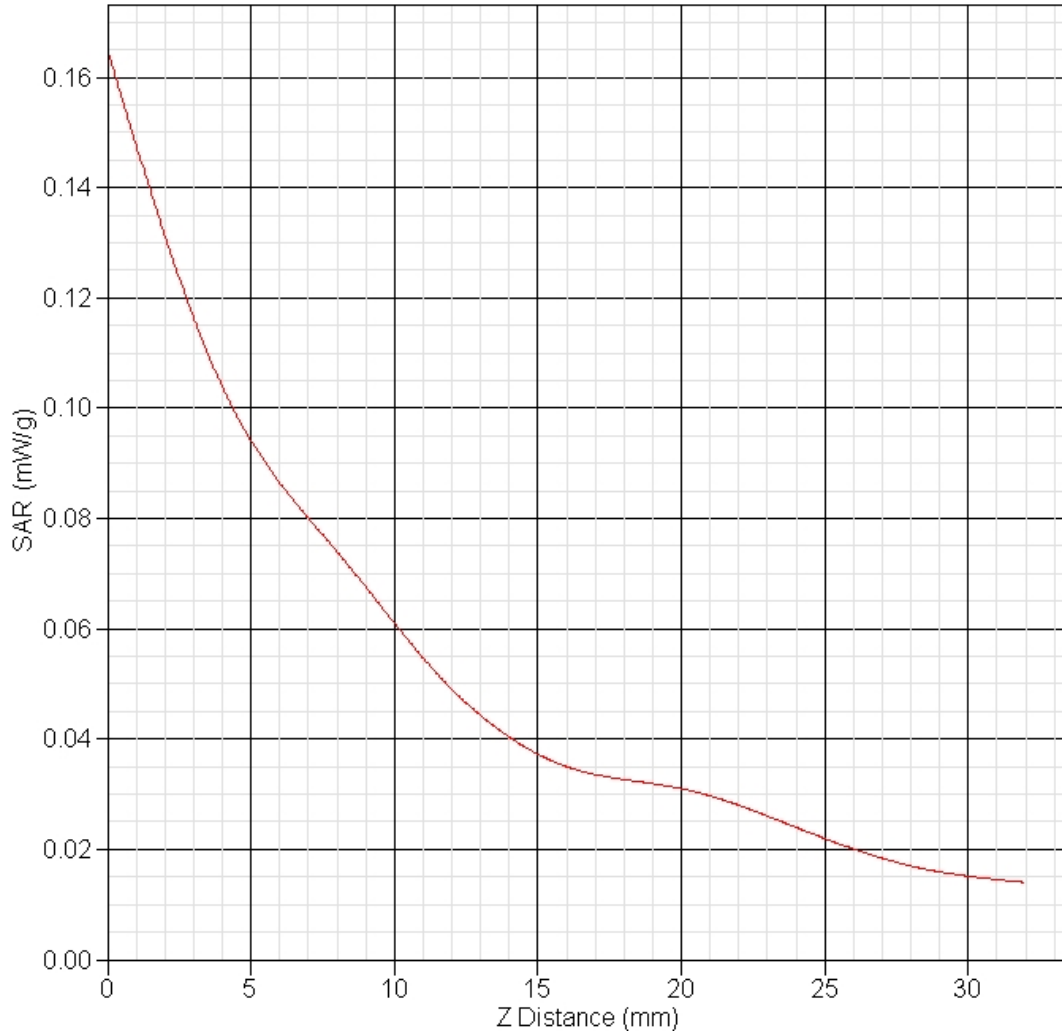
Area Scan Plot



1.7 2450 MHz Z-Axis plot

Frequency: 802.11b 2450 MHz, EUT PP

SAR-Z Axis
at Hotspot x:0.00 y:0.00



2. 802.11g SAR measurement Data

SAR Test Report

Report Date : 19-Aug-2008
Measurement Date : 19-Aug-2008

Product Data

Device Name : Lenovo
Serial No. : Caramel
Type : Other
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.2 W
Drift Time : 0 min(s)
Length : 30 mm
Width : 275 mm
Depth : 5 mm
Antenna Type : Internal

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Location : Center

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 19-Aug-2008
Temperature : 22.50 °C
Ambient Temp. : 23.00 °C
Humidity : 60.00 RH%
Epsilon : 50.98 F/m
Sigma : 2.01 S/m
Density : 1000.00 kg/cu. m

Probe Data

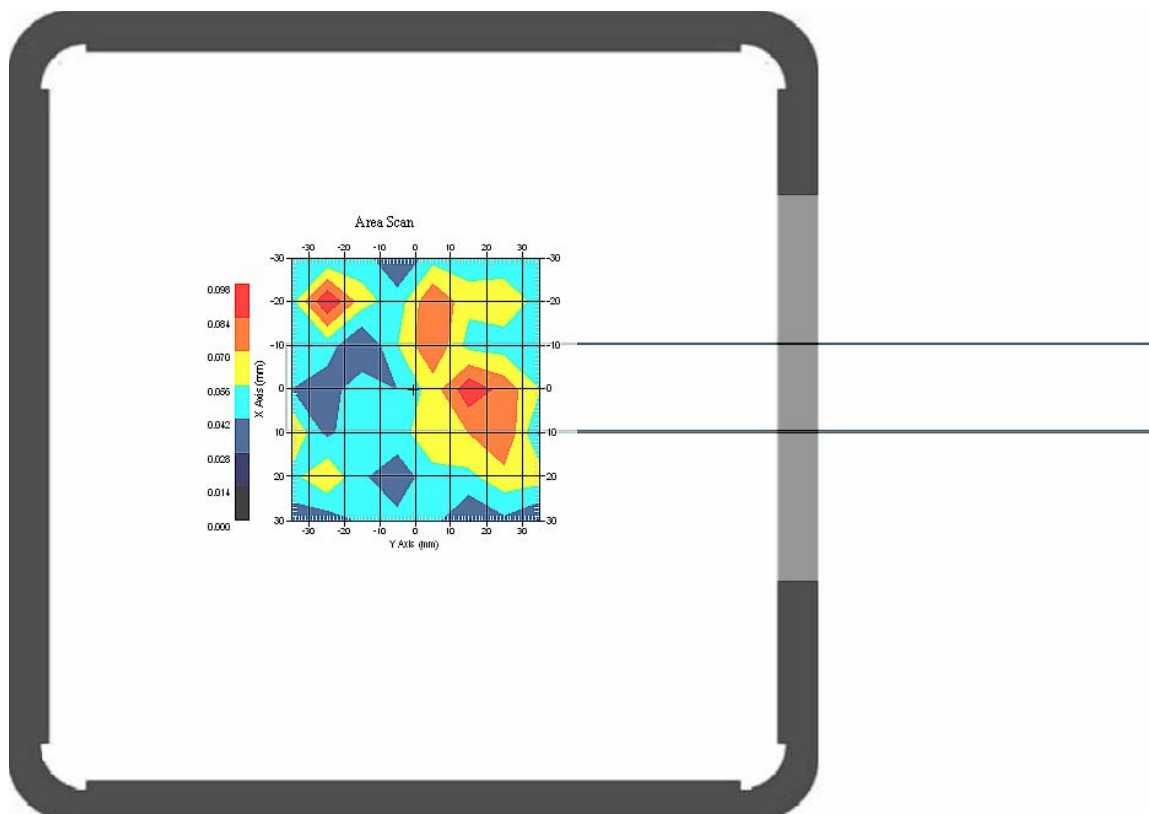
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 10-Jul-2008
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.4
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

2.1 2450 MHz, EUT Position: PL

Measurement Data

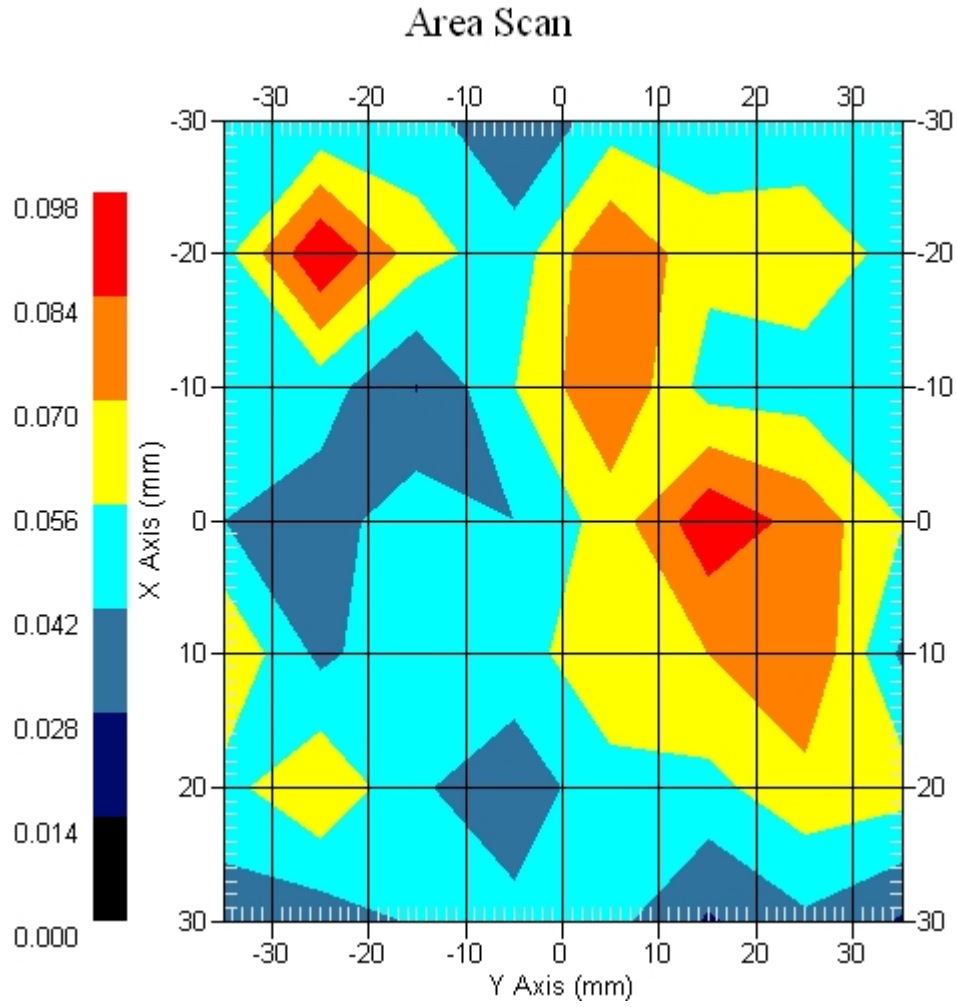
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 7x8x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.043 W/kg
Power Drift-Finish: 0.042 W/kg
Power Drift (%) : -3.271



1 gram SAR value : 0.080 W/kg
10 gram SAR value : 0.064 W/kg
Area Scan Peak SAR : 0.098 W/kg
Zoom Scan Peak SAR : 0.170 W/kg

Area Scan Plot

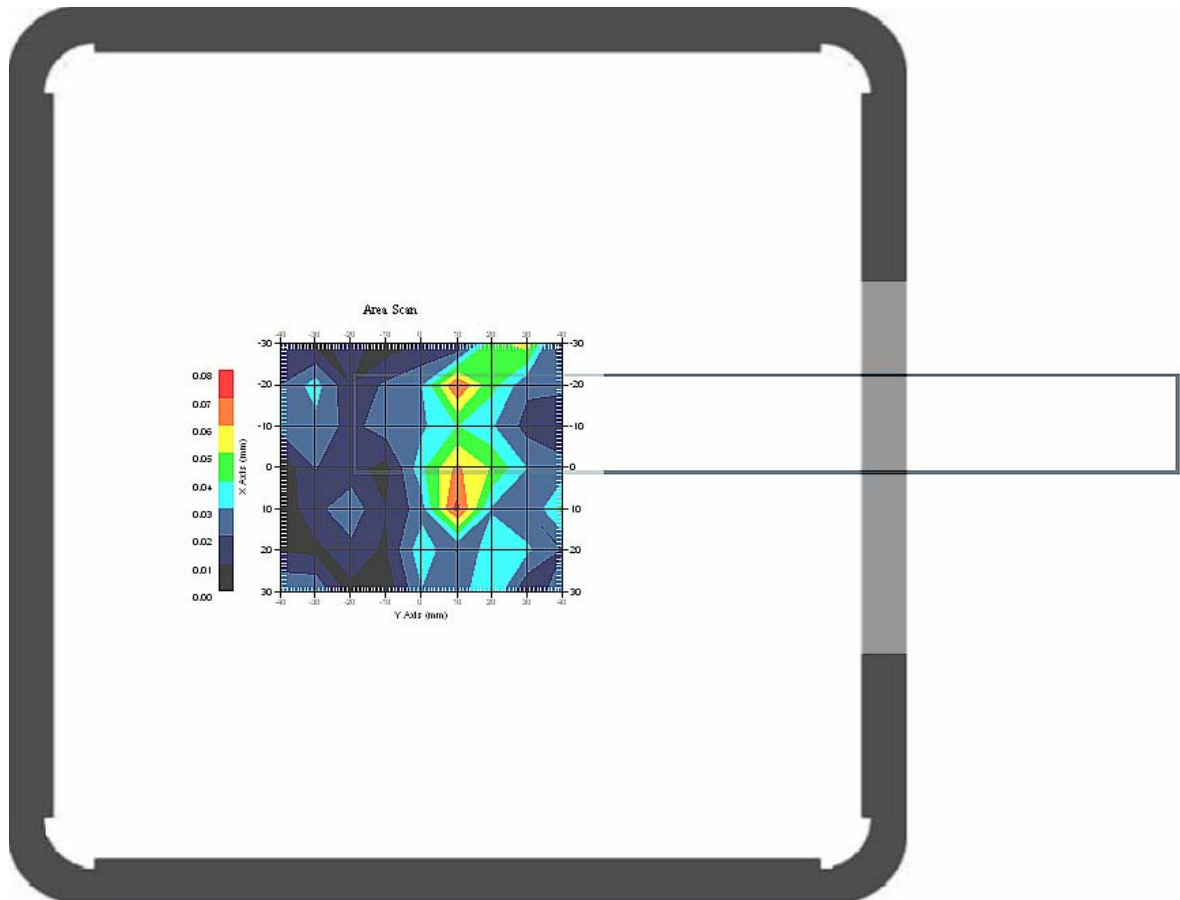


2.2 2450 MHz, EUT Position: PP

Measurement Data

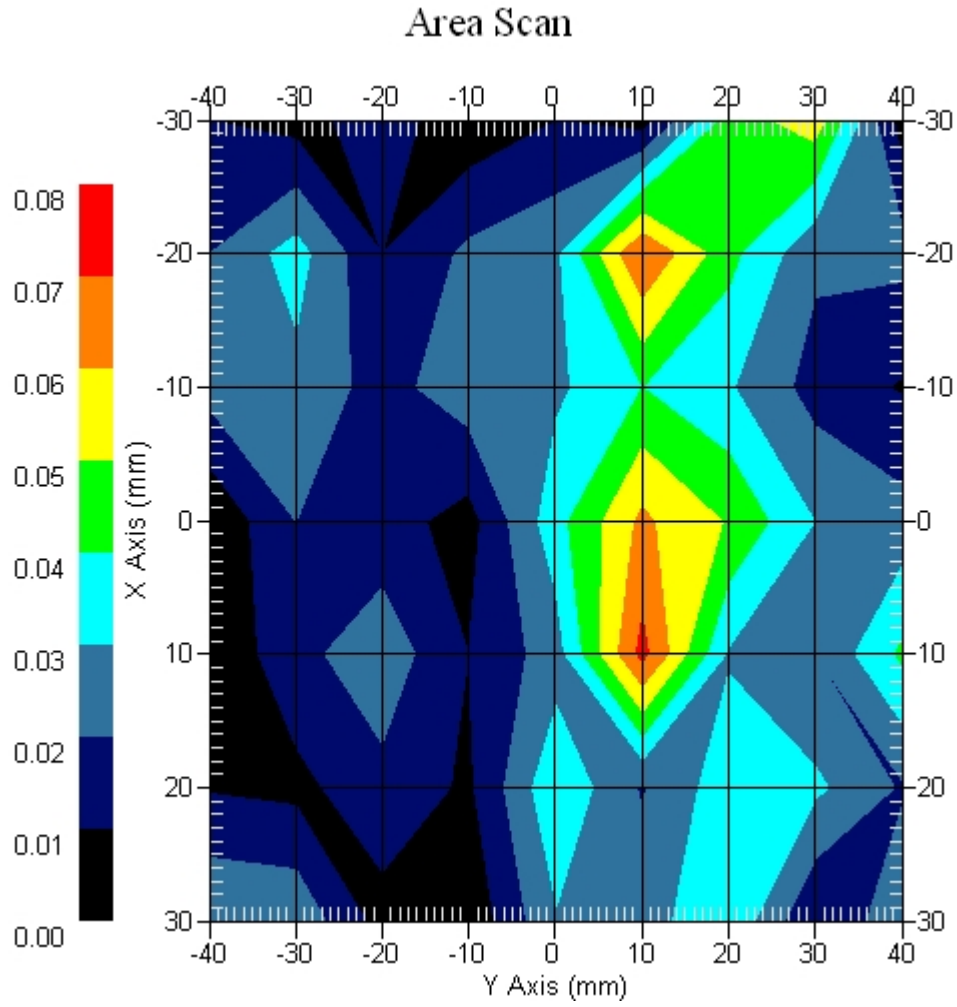
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.054 W/kg
Power Drift-Finish: 0.052 W/kg
Power Drift (%) : -2.448



1 gram SAR value : 0.068 W/kg
10 gram SAR value : 0.029 W/kg
Area Scan Peak SAR : 0.073 W/kg
Zoom Scan Peak SAR : 0.210 W/kg

Area Scan Plot

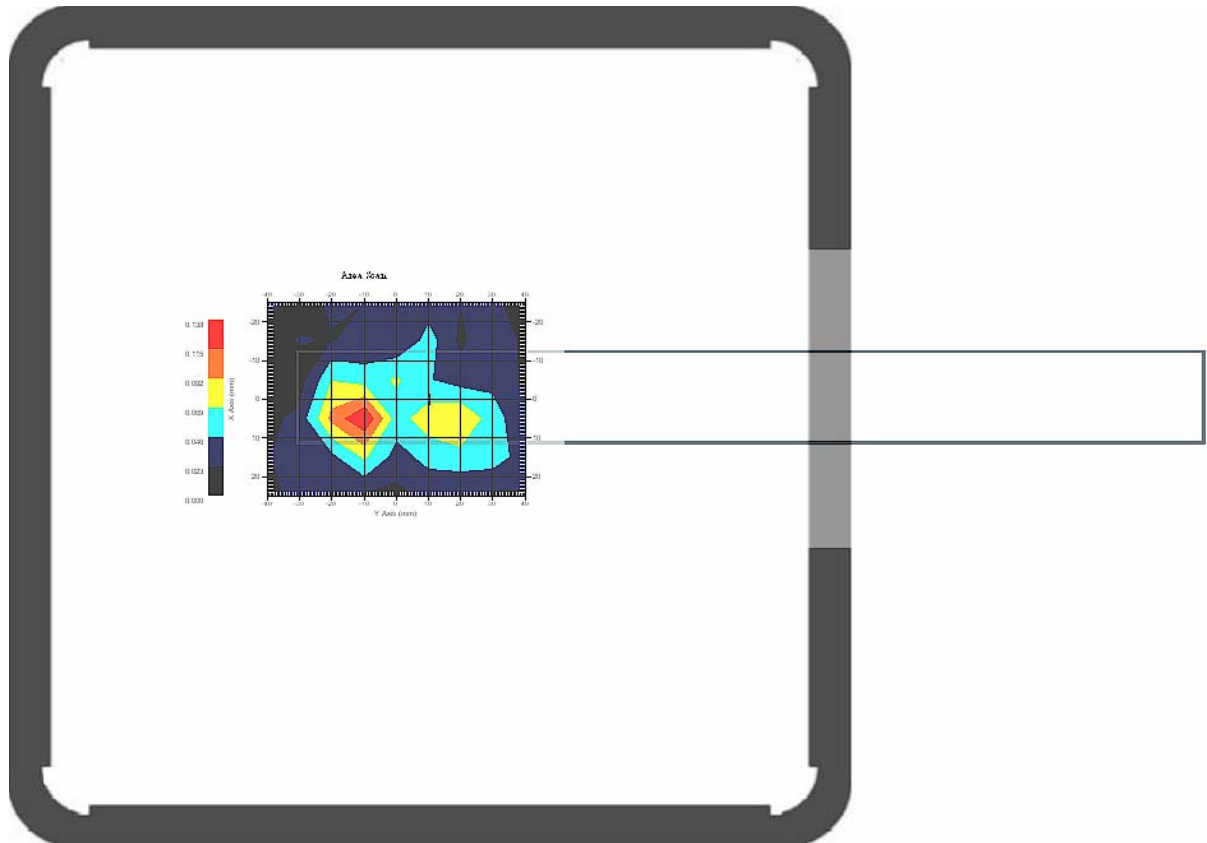


2.3 2450 MHz, EUT Position: SL

Measurement Data

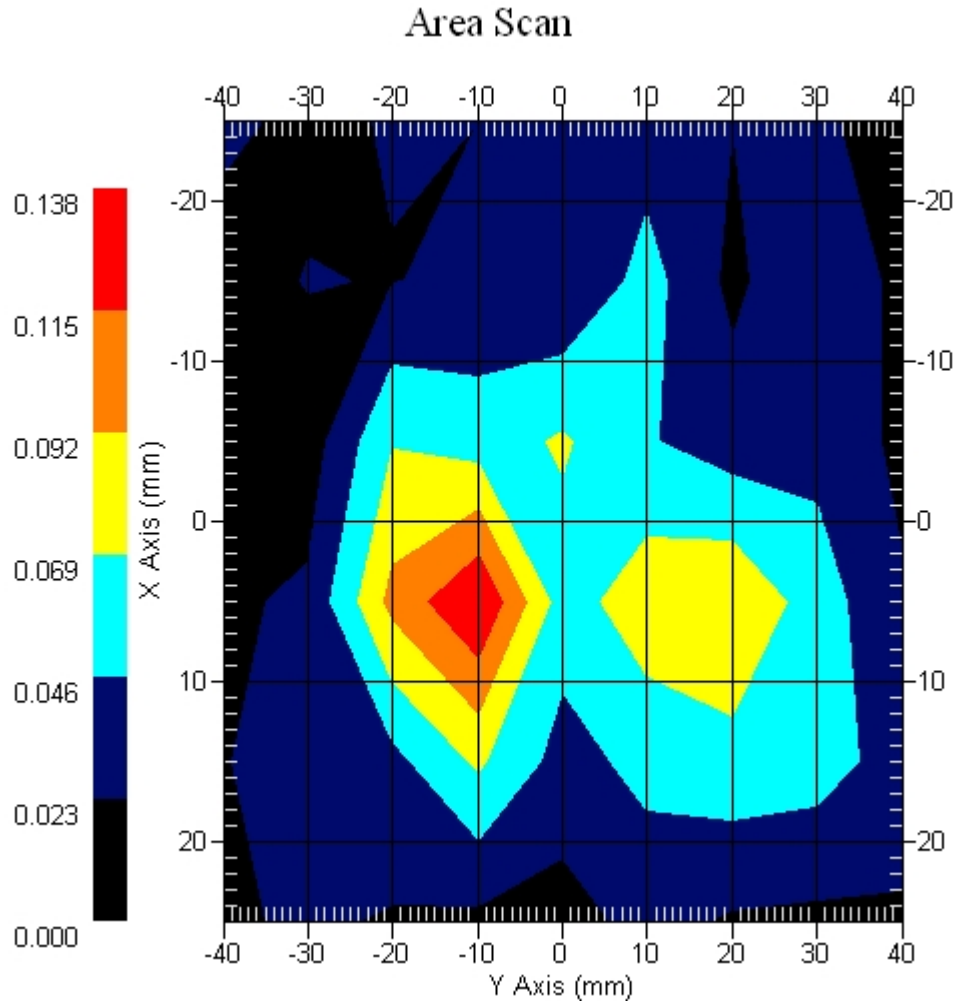
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 6x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.057 W/kg
Power Drift-Finish: 0.059 W/kg
Power Drift (%) : 2.687



1 gram SAR value : 0.089 W/kg
10 gram SAR value : 0.042 W/kg
Area Scan Peak SAR : 0.138 W/kg
Zoom Scan Peak SAR : 0.200 W/kg

Area Scan Plot

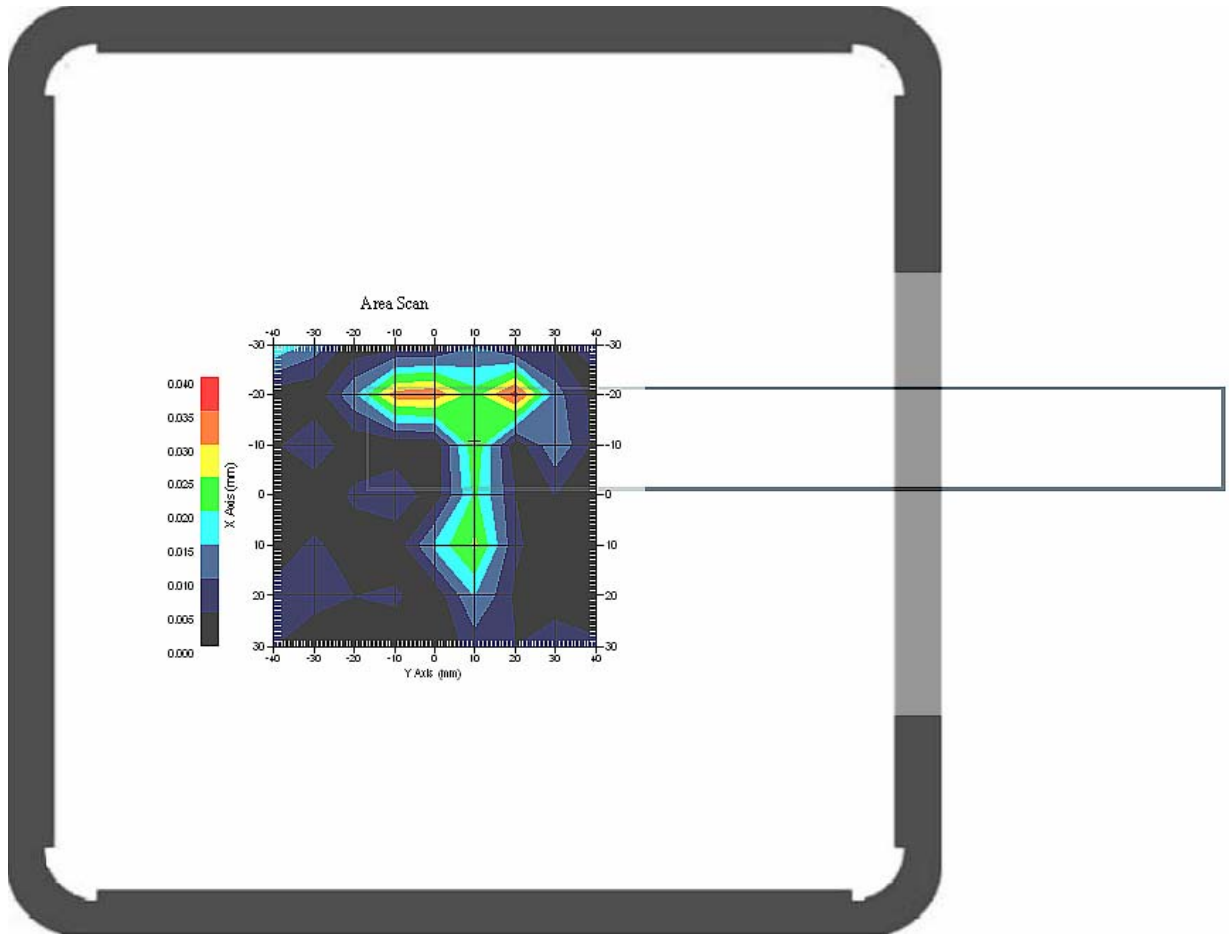


2.4 2450 MHz, EUT Position: SP

Measurement Data

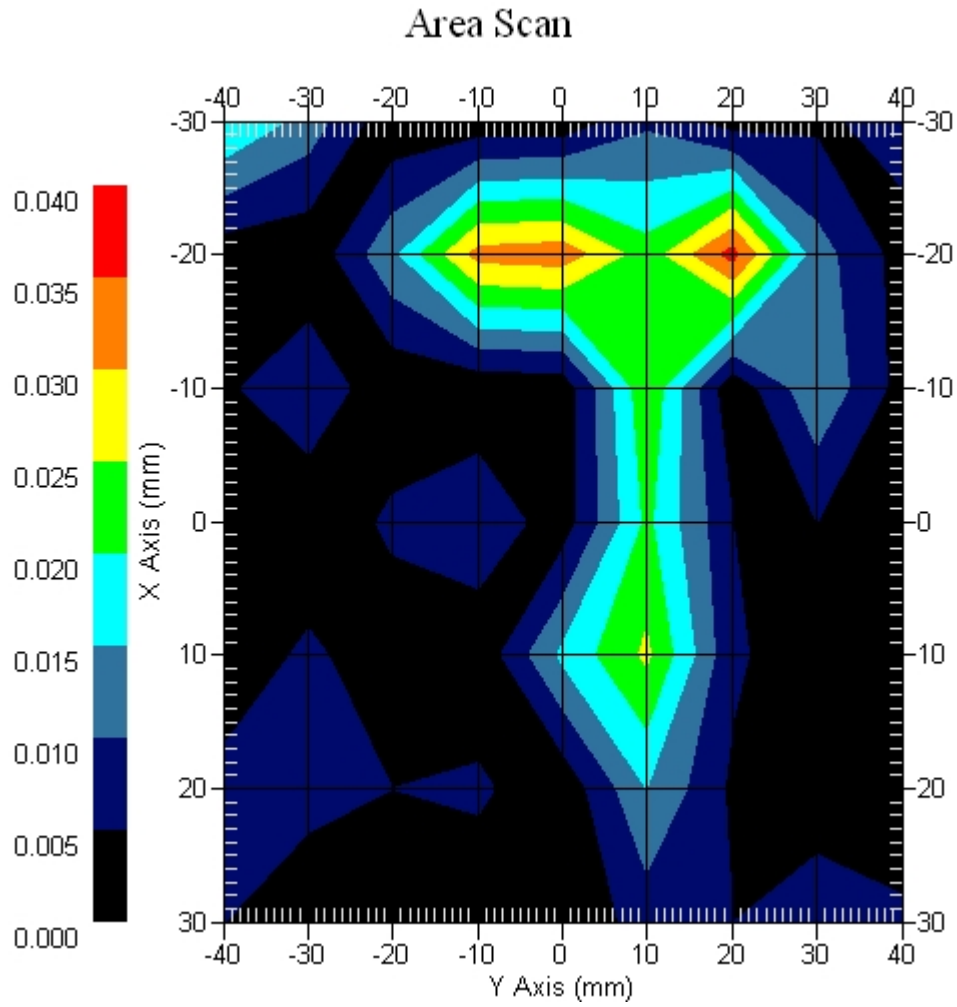
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.005 W/kg
Power Drift-Finish: 0.006 W/kg
Power Drift (%) : 3.749



1 gram SAR value : 0.027 W/kg
10 gram SAR value : 0.015 W/kg
Area Scan Peak SAR : 0.051 W/kg
Zoom Scan Peak SAR : 0.080 W/kg

Area Scan Plot

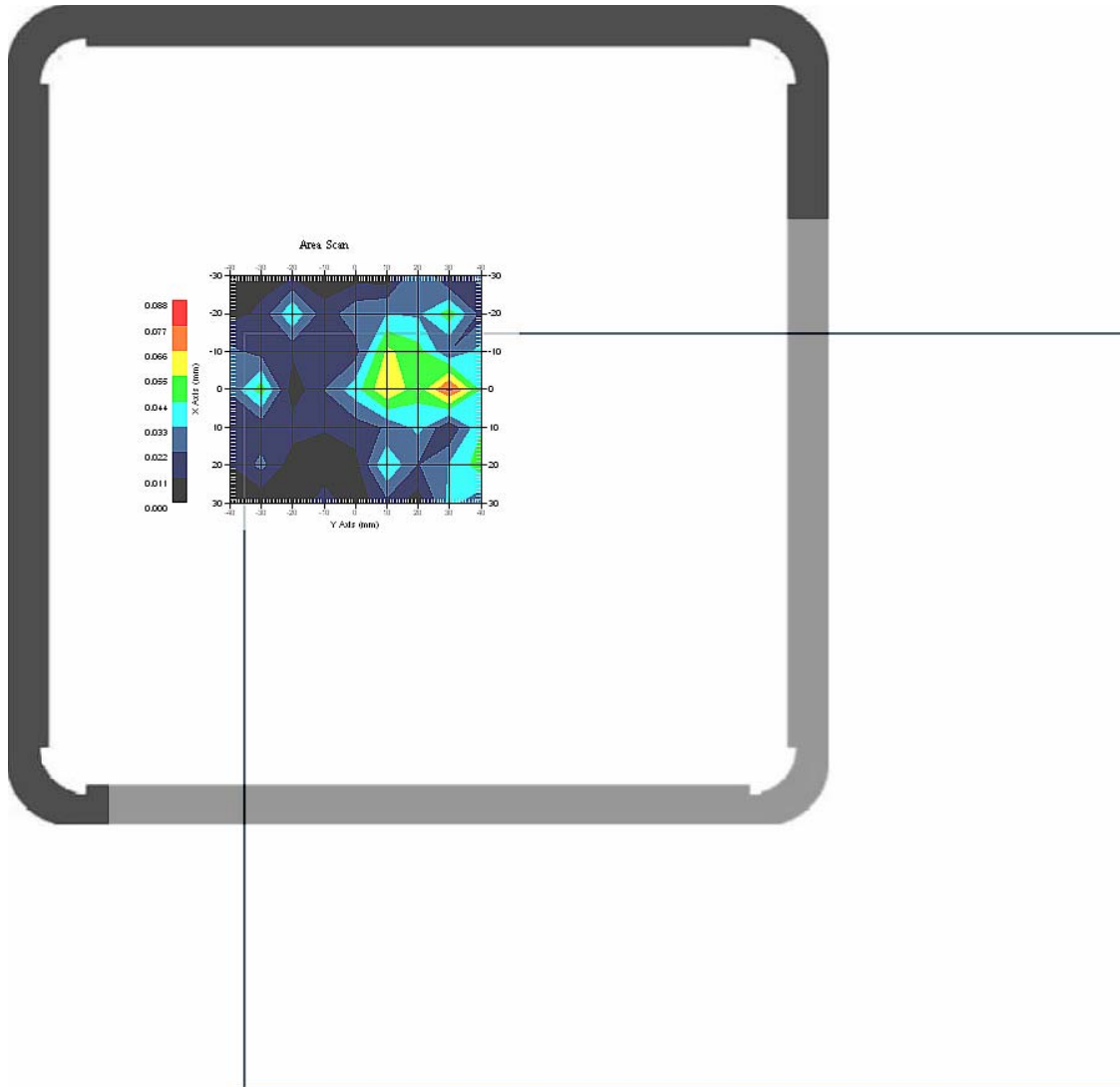


2.5 2450 MHz, EUT Position: Laptop Main Antenna

Measurement Data

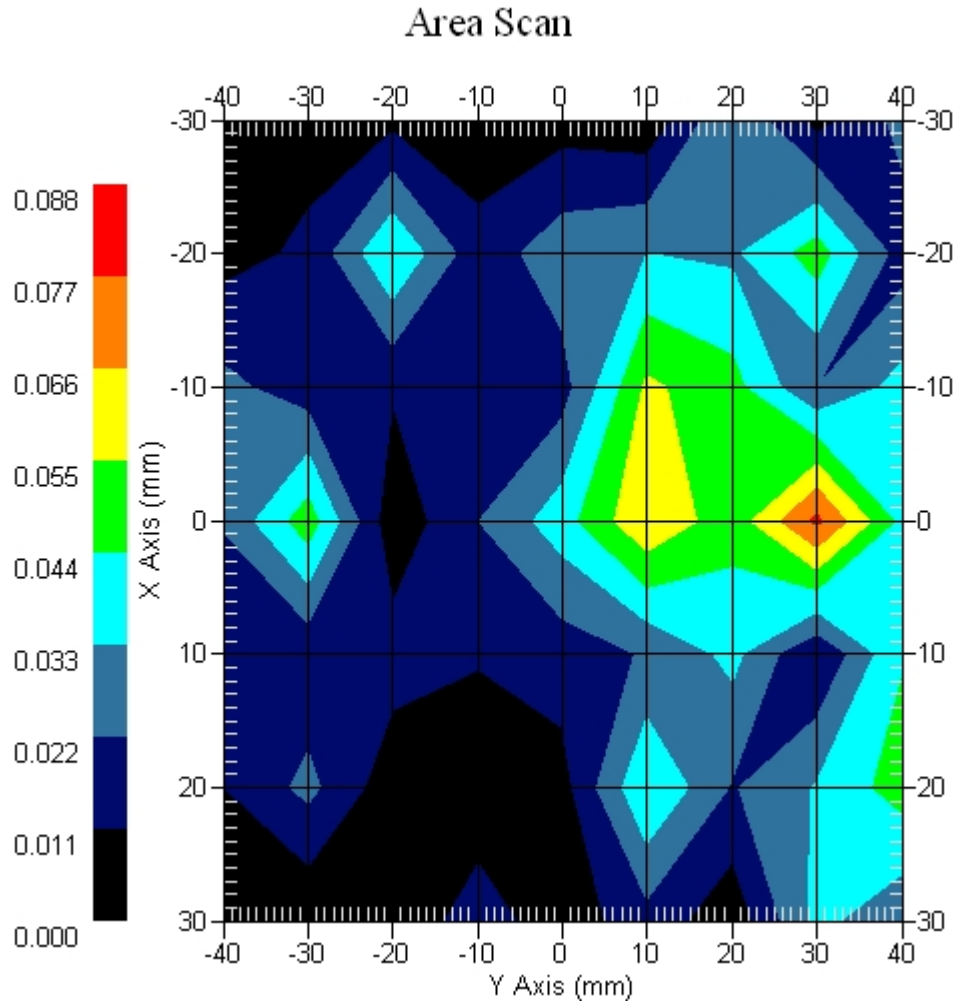
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.010 W/kg
Power Drift-Finish: 0.009 W/kg
Power Drift (%) : -1.417



1 gram SAR value : 0.081 W/kg
10 gram SAR value : 0.066 W/kg
Area Scan Peak SAR : 0.080 W/kg
Zoom Scan Peak SAR : 0.190 W/kg

Area Scan Plot

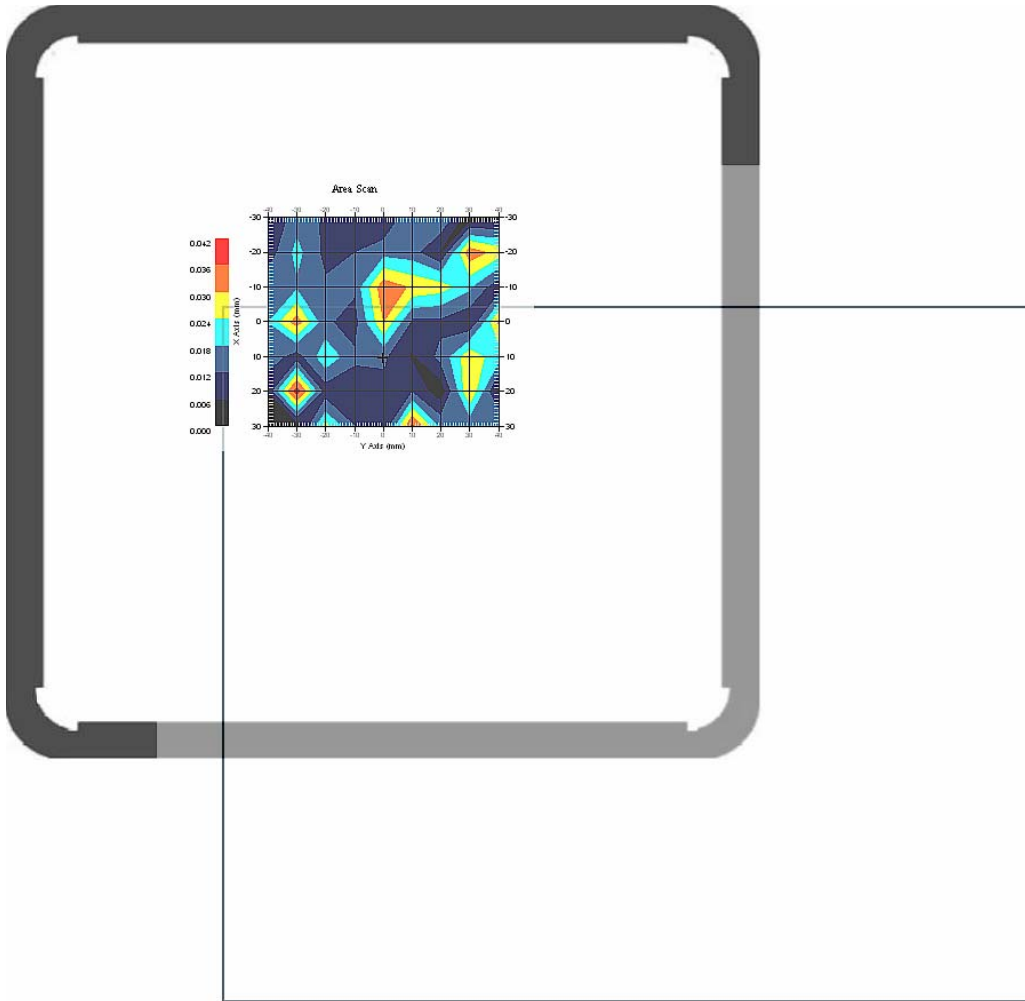


2.6 2450 MHz, EUT Position: Laptop Aux. Antenna

Measurement Data

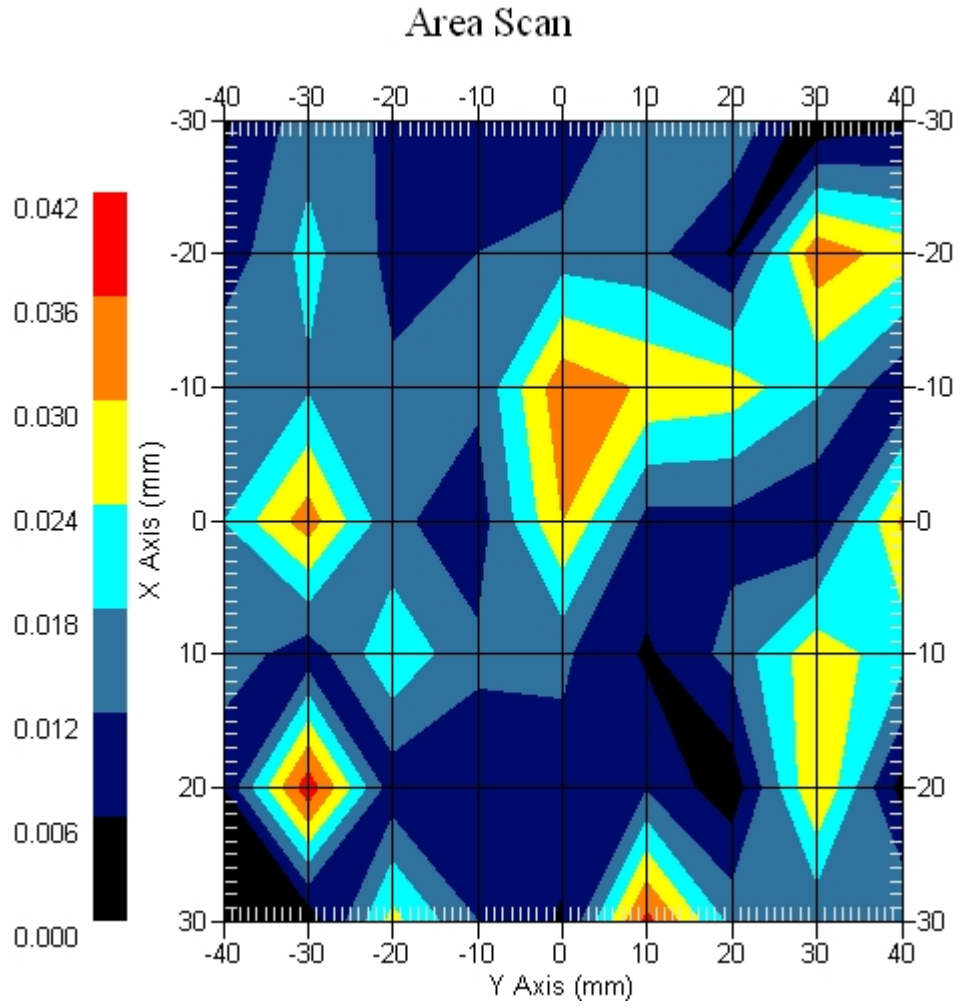
Crest Factor : 1
Set-up Date : 19-Aug-2008
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
DUT Position : Touch
Channel : Mid

Power Drift-Start : 0.015 W/kg
Power Drift-Finish: 0.016 W/kg
Power Drift (%) : 1.767



1 gram SAR value : 0.047 W/kg
10 gram SAR value : 0.032 W/kg
Area Scan Peak SAR : 0.040 W/kg
Zoom Scan Peak SAR : 0.080 W/kg

Area Scan Plot



2.11 2450MHz Z-Axis plot

Frequency: 802.11g, 2450MHz, EUT SL

SAR-Z Axis
at Hotspot x:5.17 y:-10.08

