

# Appendix D

## SAR measurement Data

*of*

*Product Name*

**Super Speed N Wireless USB Adapter**

*Model*

**WL-160N**



# 1 802.11b 2450MHz SAR measurement Data

## SAR Test Report

Report Date : 19-Mar-2007  
Measurement Date : 19-Mar-2007

### Product Data

Device Name : WL-160n  
Serial No. :  
Type : Other  
Frequency : 2450.00 MHz  
Max. conducted Transmit Pwr : 18.82dBm  
Drift Time : 0 min(s)  
Length : 80 mm  
Width : 25 mm  
Depth : 2 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-Mar-2007  
Temperature : 21.40 °C  
Ambient Temp. : 21.50 °C  
Humidity : 48.00 RH%  
Epsilon : 53.66 F/m  
Sigma : 1.89 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 : 22-Jun-2006  
Frequency : 1800.00 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 5.4  
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

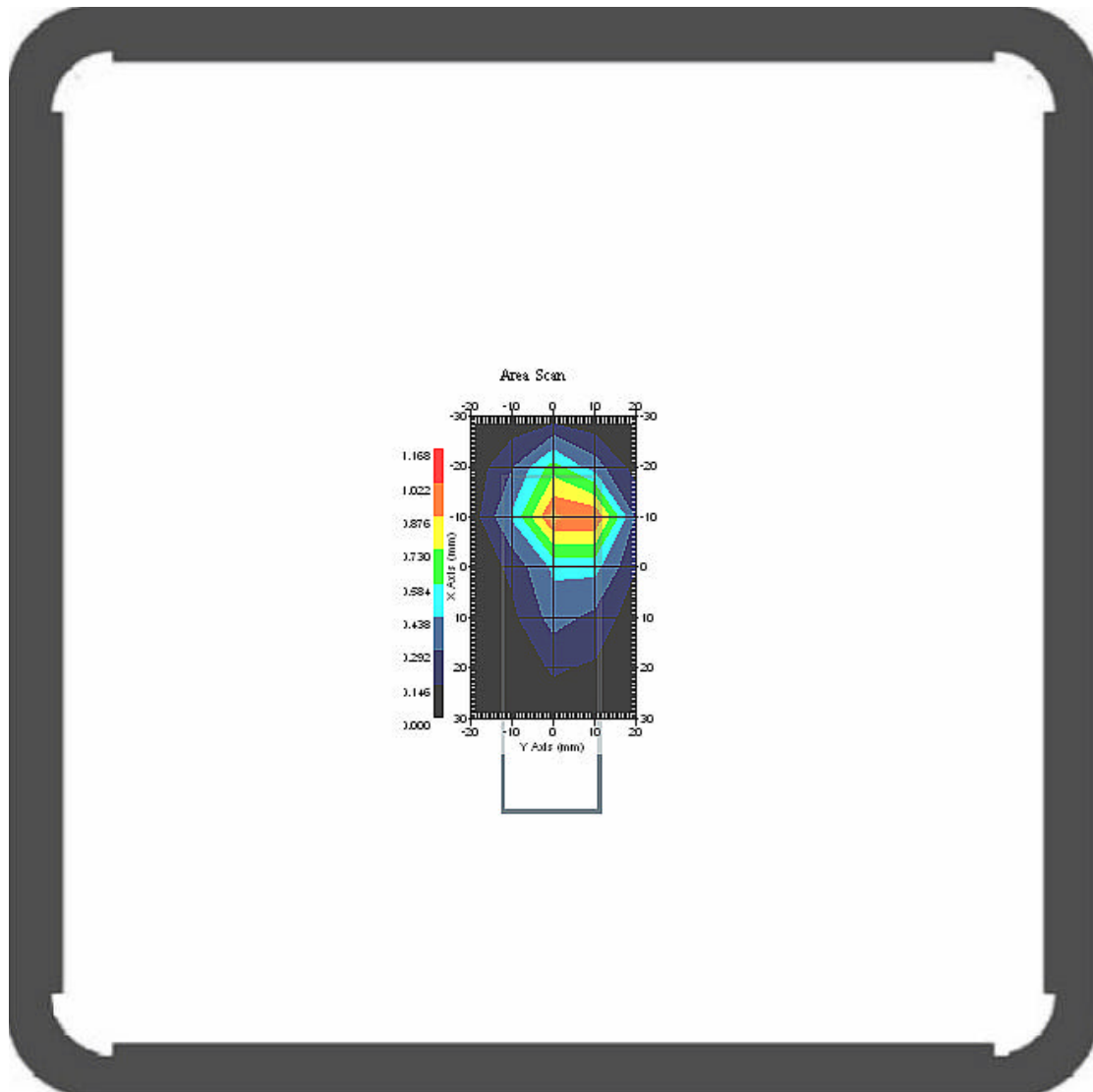
### 1.1 2450 MHz, EUT Position: Bottom

#### Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

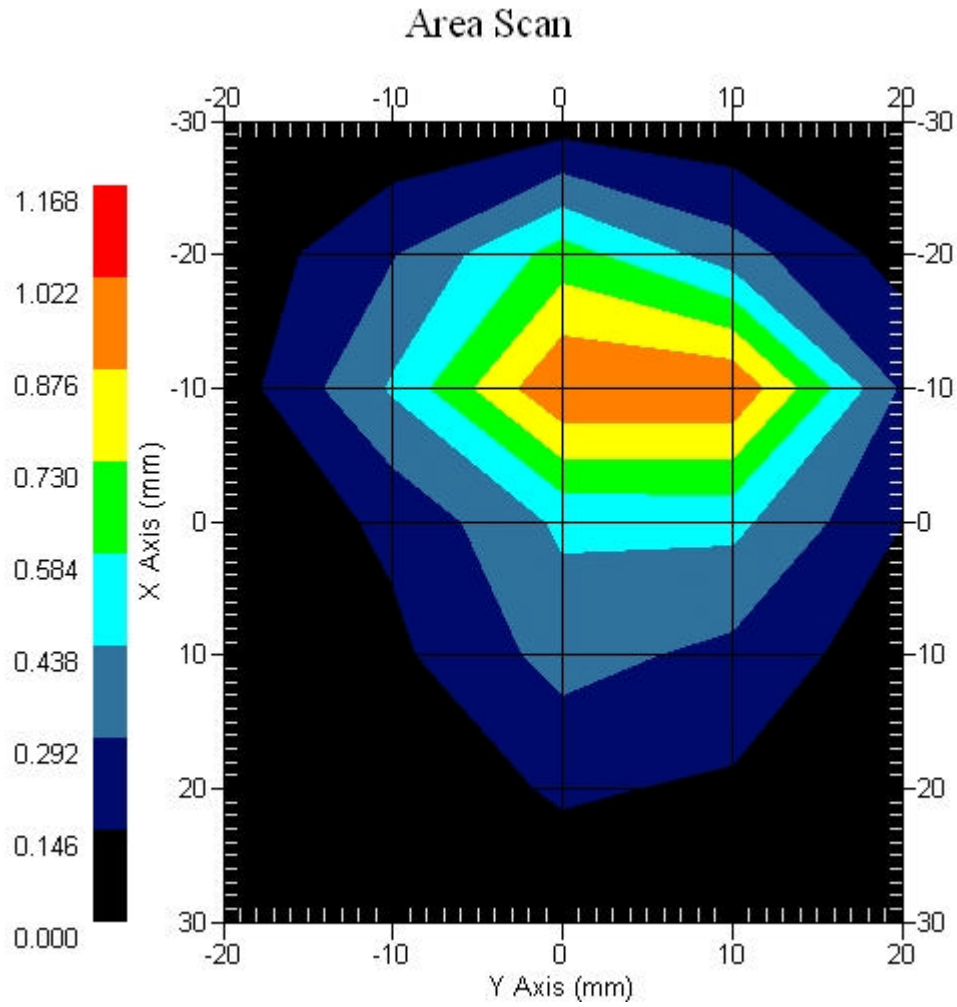
DUT Position : Touch  
Channel : Low

Power Drift-Start : 1.033 W/kg  
Power Drift-Finish: 1.048 W/kg  
Power Drift (%) : 1.431



1 gram SAR value : 0.880 W/kg  
10 gram SAR value : 0.360 W/kg  
Area Scan Peak SAR : 1.023 W/kg  
Zoom Scan Peak SAR : 2.001 W/kg

### Area Scan Plot



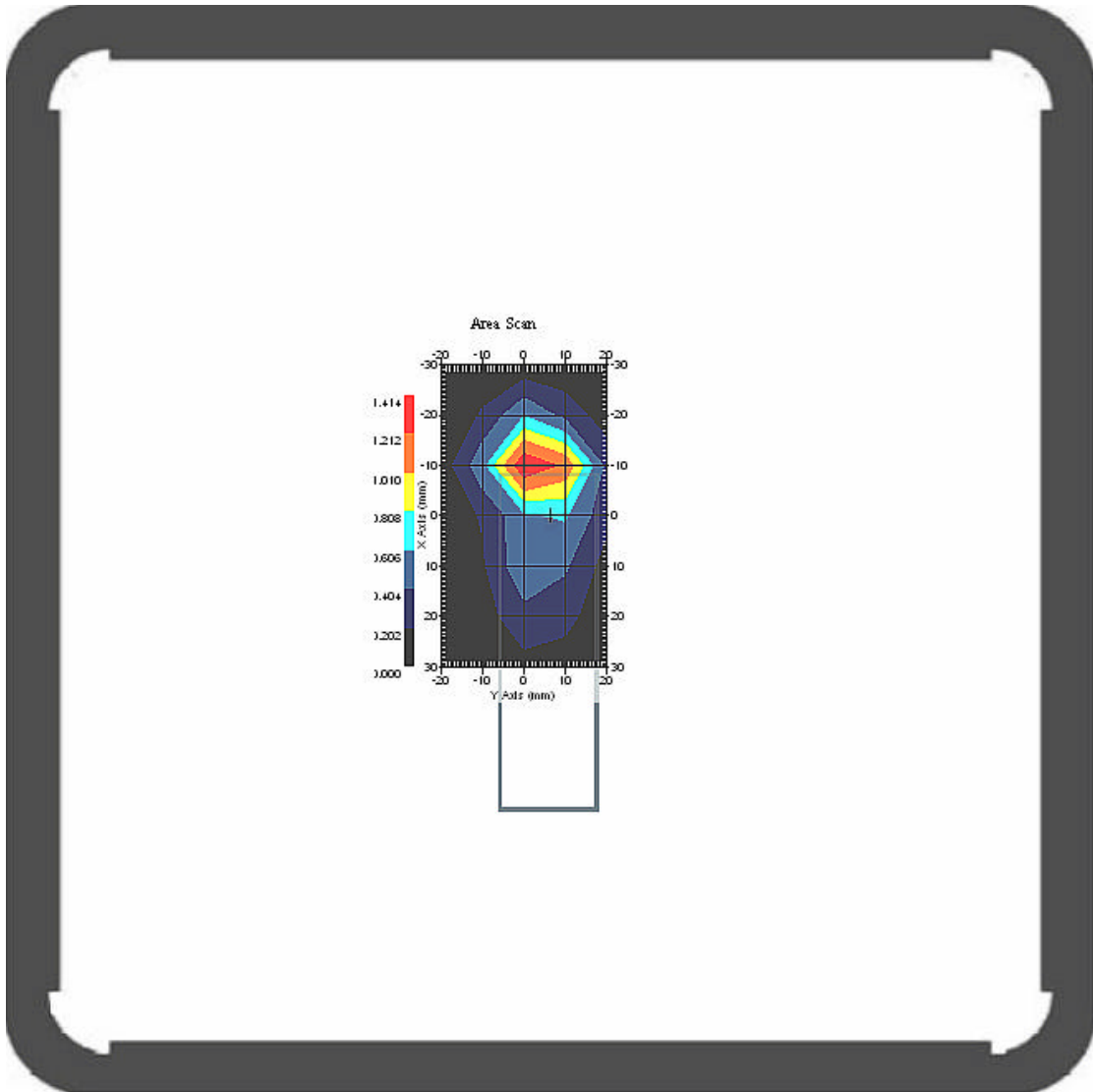
## 1.2 2450 MHz, EUT Position: Bottom

### Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

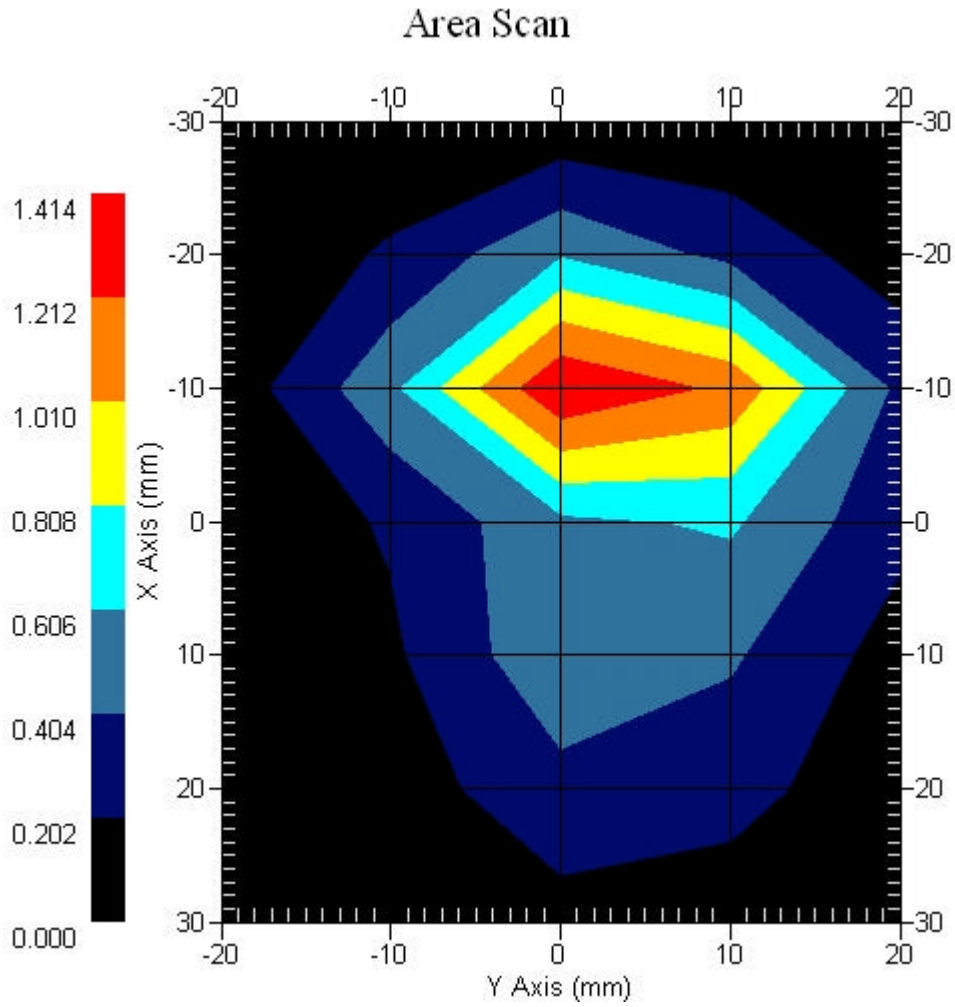
DUT Position : Touch  
Channel : Mid

Power Drift-Start : 1.581 W/kg  
Power Drift-Finish: 1.532 W/kg  
Power Drift (%) : -3.198



1 gram SAR value : 1.008 W/kg  
10 gram SAR value : 0.410 W/kg  
Area Scan Peak SAR : 1.412 W/kg  
Zoom Scan Peak SAR : 2.472 W/kg

### Area Scan Plot



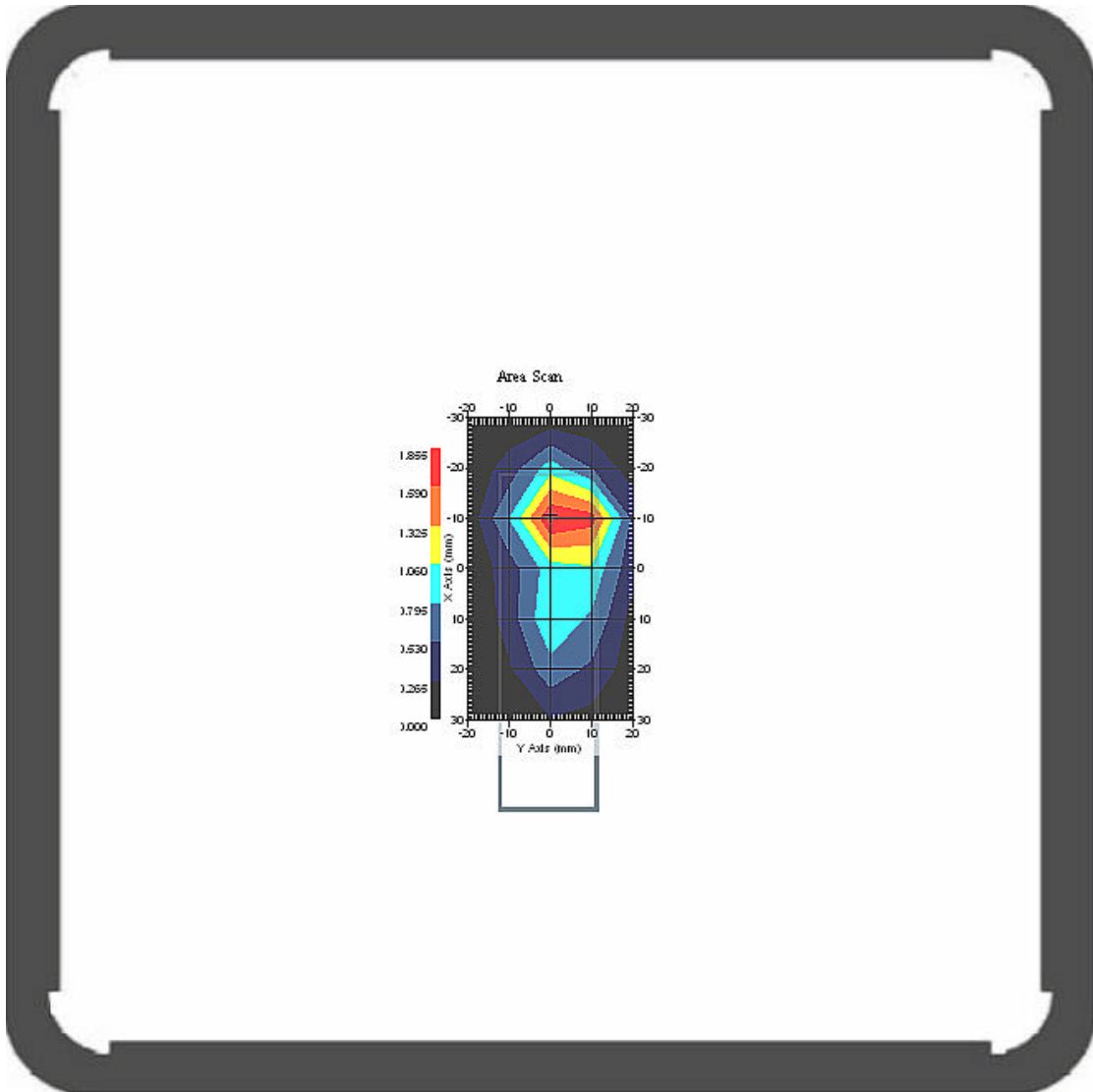
### 1.3 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

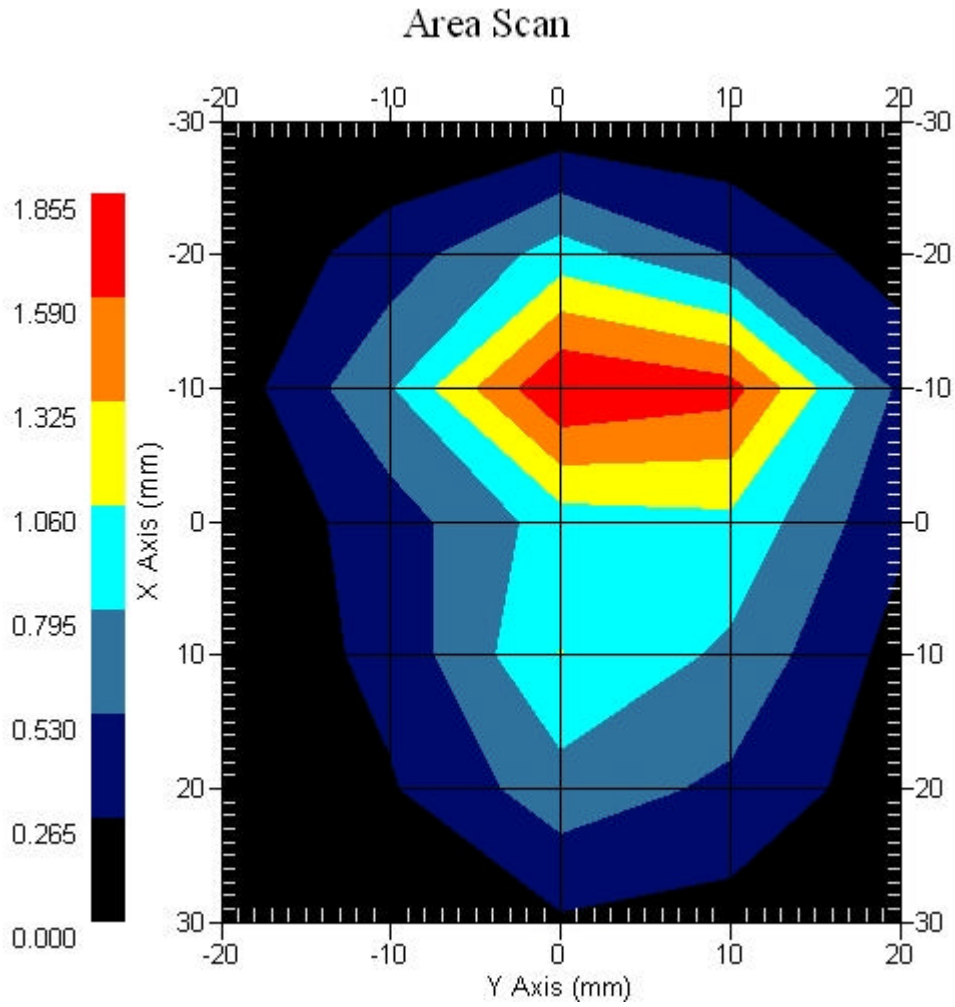
DUT Position : Touch  
Channel : High

Power Drift-Start : 1.886 W/kg  
Power Drift-Finish: 1.881 W/kg  
Power Drift (%) : -0.269



1 gram SAR value : 1.343 W/kg  
10 gram SAR value : 0.581 W/kg  
Area Scan Peak SAR : 1.854 W/kg  
Zoom Scan Peak SAR : 3.362 W/kg

### Area Scan Plot





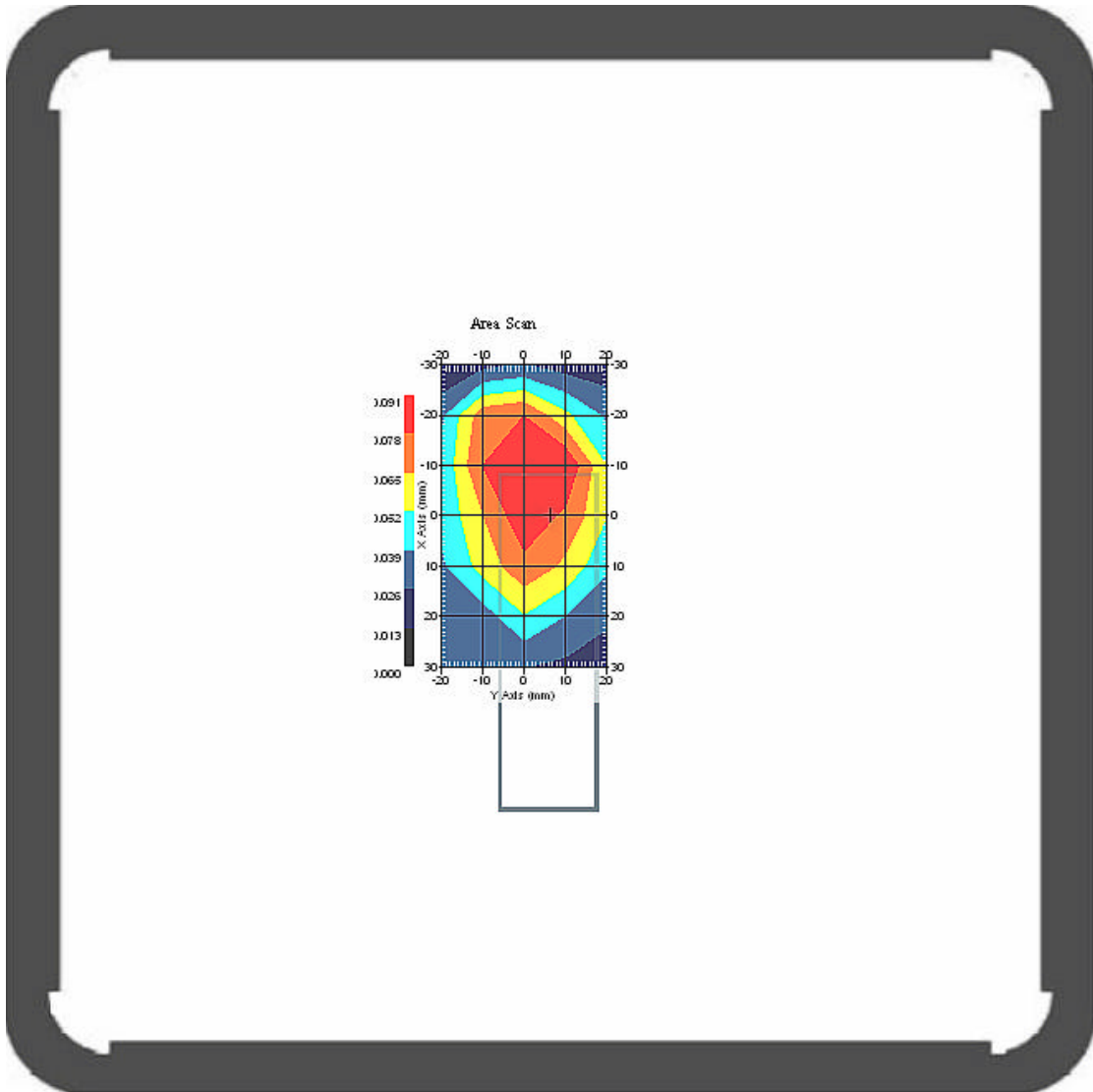
### 1.4 2450 MHz, EUT Position: Front

Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

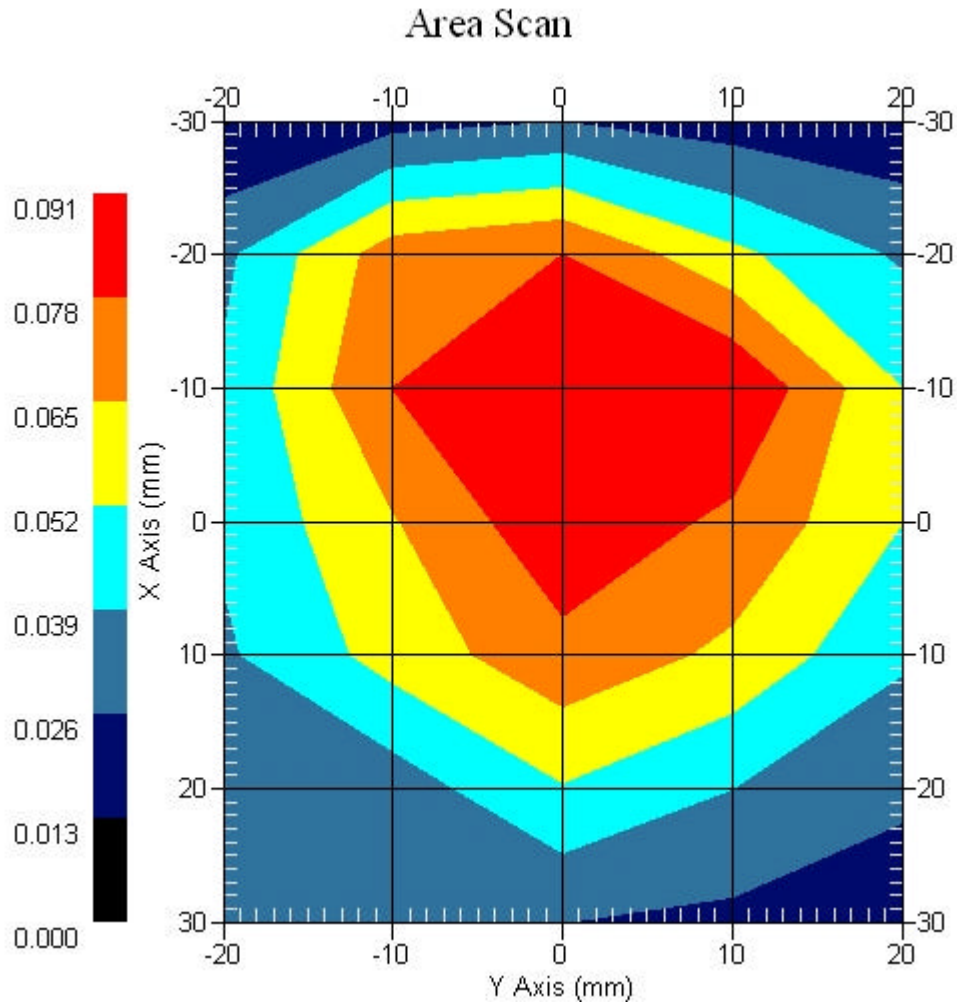
DUT Position : Touch  
Channel : Mid

Power Drift-Start : 0.091 W/kg  
Power Drift-Finish: 0.094 W/kg  
Power Drift (%) : 3.191



1 gram SAR value : 0.083 W/kg  
10 gram SAR value : 0.051 W/kg  
Area Scan Peak SAR : 0.091 W/kg  
Zoom Scan Peak SAR : 0.120 W/kg

### Area Scan Plot



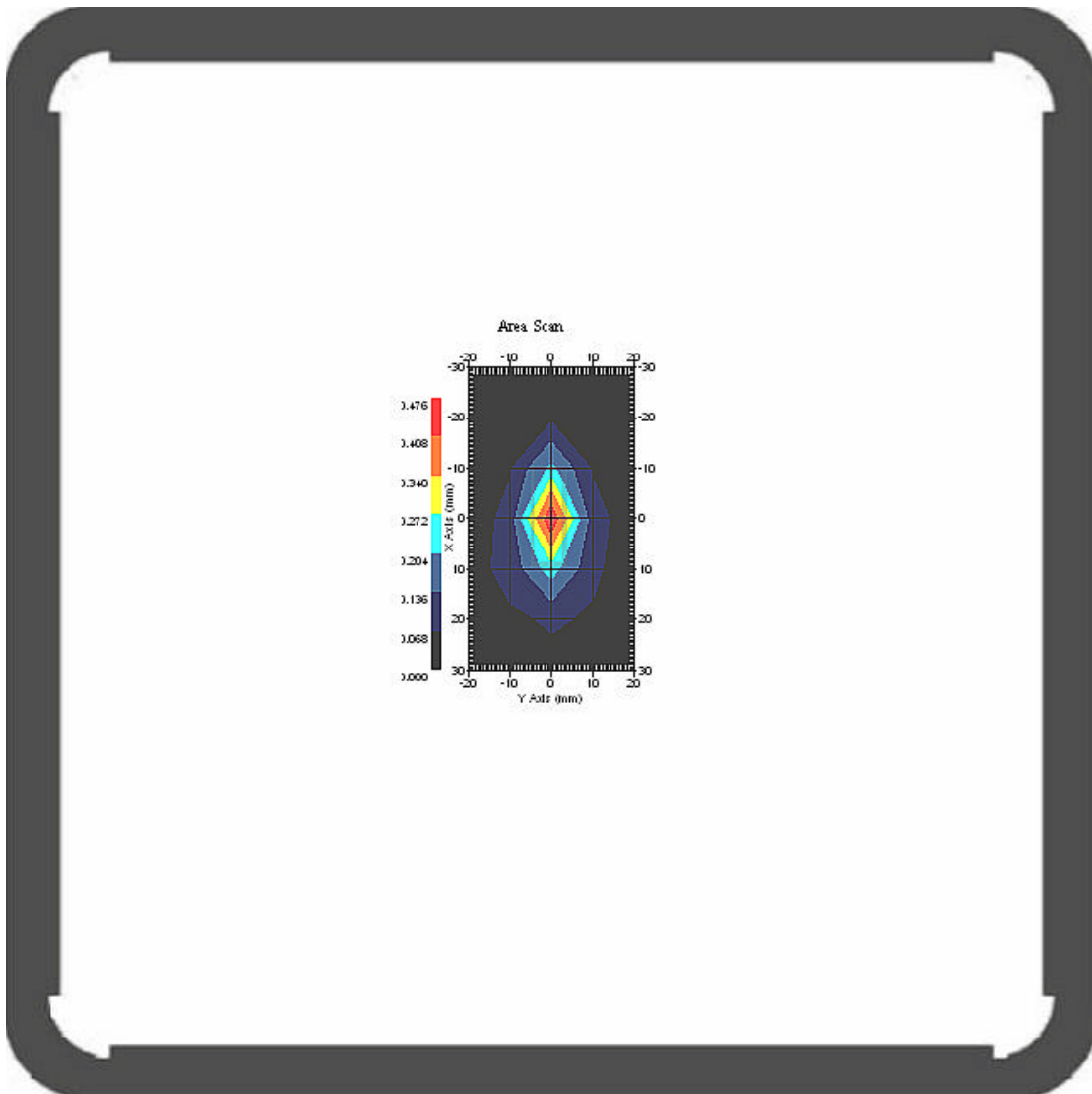
### 1.5 2450 MHz, EUT Position: Top

Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

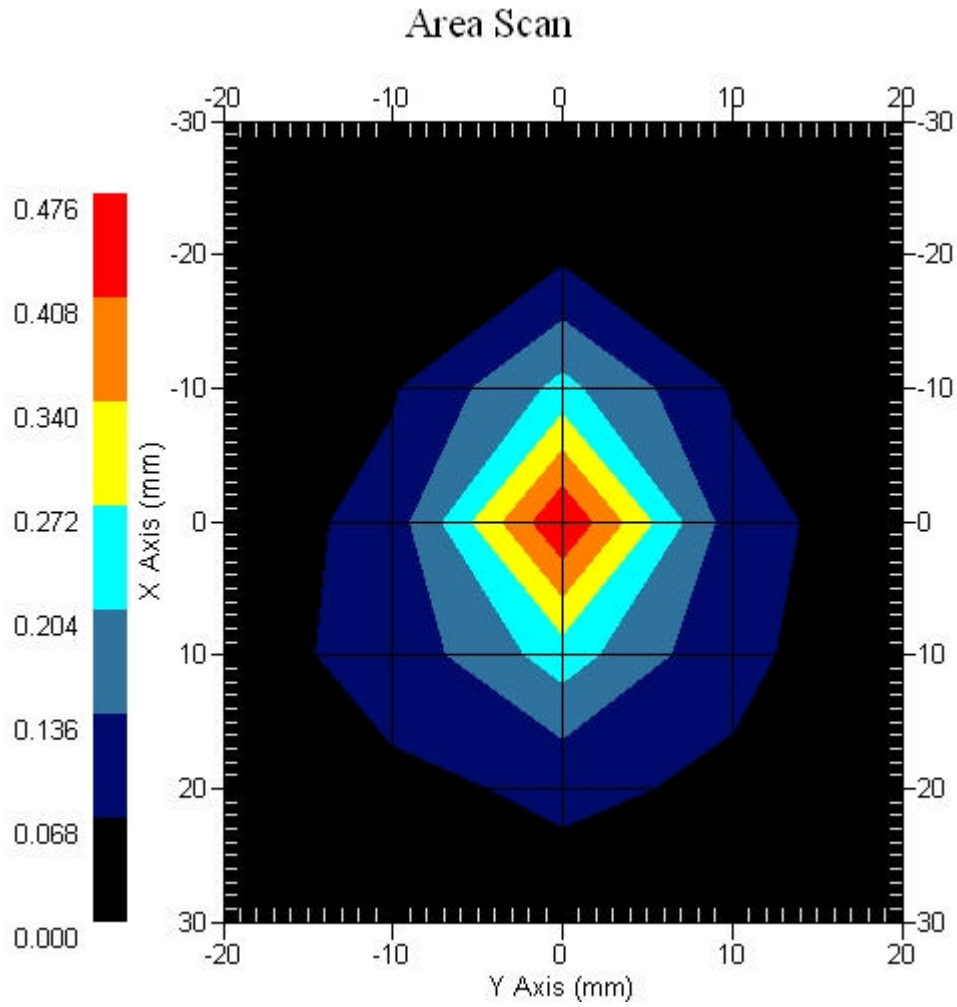
DUT Position : Touch  
Channel : Mid

Power Drift-Start : 0.458 W/kg  
Power Drift-Finish: 0.459 W/kg  
Power Drift (%) : 0.152



1 gram SAR value : 0.339 W/kg  
10 gram SAR value : 0.126 W/kg  
Area Scan Peak SAR : 0.473 W/kg  
Zoom Scan Peak SAR : 0.880 W/kg

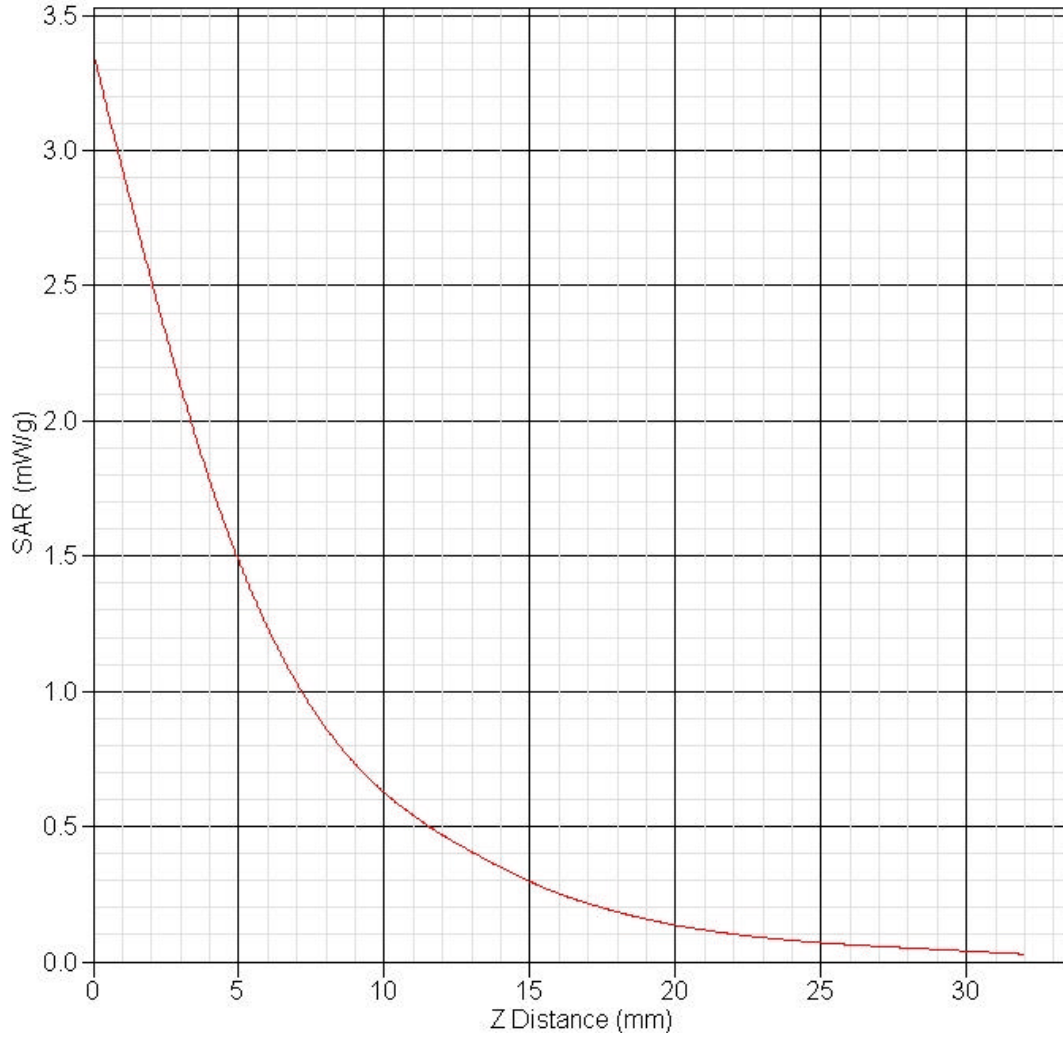
### Area Scan Plot



### 1.6 2450 MHz Z-Axis plot

Frequency: 802.11b 2450 MHz, EUT Bottom

SAR-Z Axis  
at Hotspot x:-9.81 y:7.83





## 2 802.11g 2450 SAR measurement Data

### SAR Test Report

Report Date : 19-Mar-2007  
Measurement Date : 19-Mar-2007

#### Product Data

Device Name : WL-160n  
Serial No. :  
Type : Other  
Frequency : 2450.00 MHz  
Max. conducted Transmit Pwr : 21.36dBm  
Drift Time : 0 min(s)  
Length : 80 mm  
Width : 25 mm  
Depth : 2 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-Mar-2007  
Temperature : 21.40 °C  
Ambient Temp. : 21.50 °C  
Humidity : 48.00 RH%  
Epsilon : 53.66 F/m  
Sigma : 1.89 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 : 22-Jun-2006  
Frequency : 1800.00 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 5.4  
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

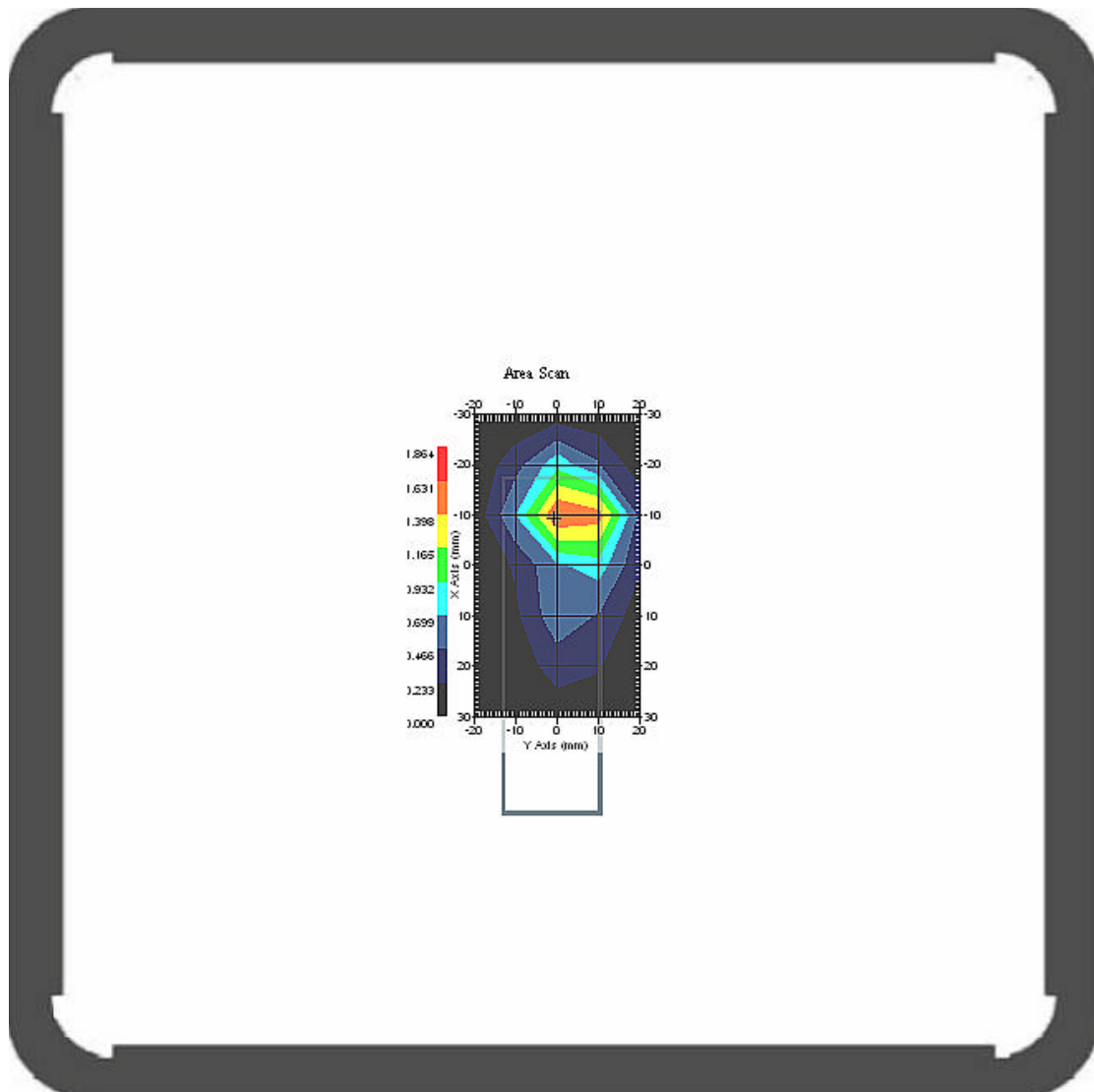
## 2.1 2450 MHz, EUT Position: Bottom

### Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

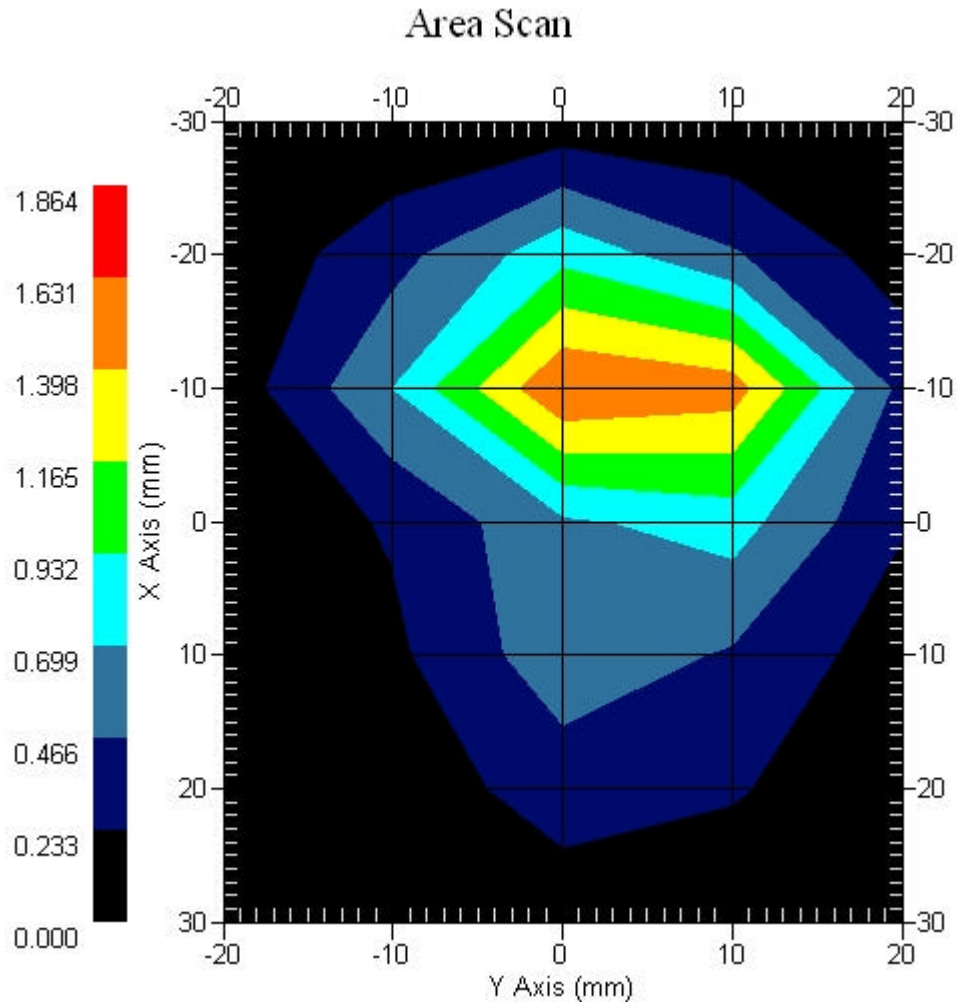
DUT Position : Touch  
Channel : Low

Power Drift-Start : 1.721 W/kg  
Power Drift-Finish: 1.738 W/kg  
Power Drift (%) : 0.978



1 gram SAR value : 1.390 W/kg  
10 gram SAR value : 0.562 W/kg  
Area Scan Peak SAR : 1.633 W/kg  
Zoom Scan Peak SAR : 3.352 W/kg

### Area Scan Plot





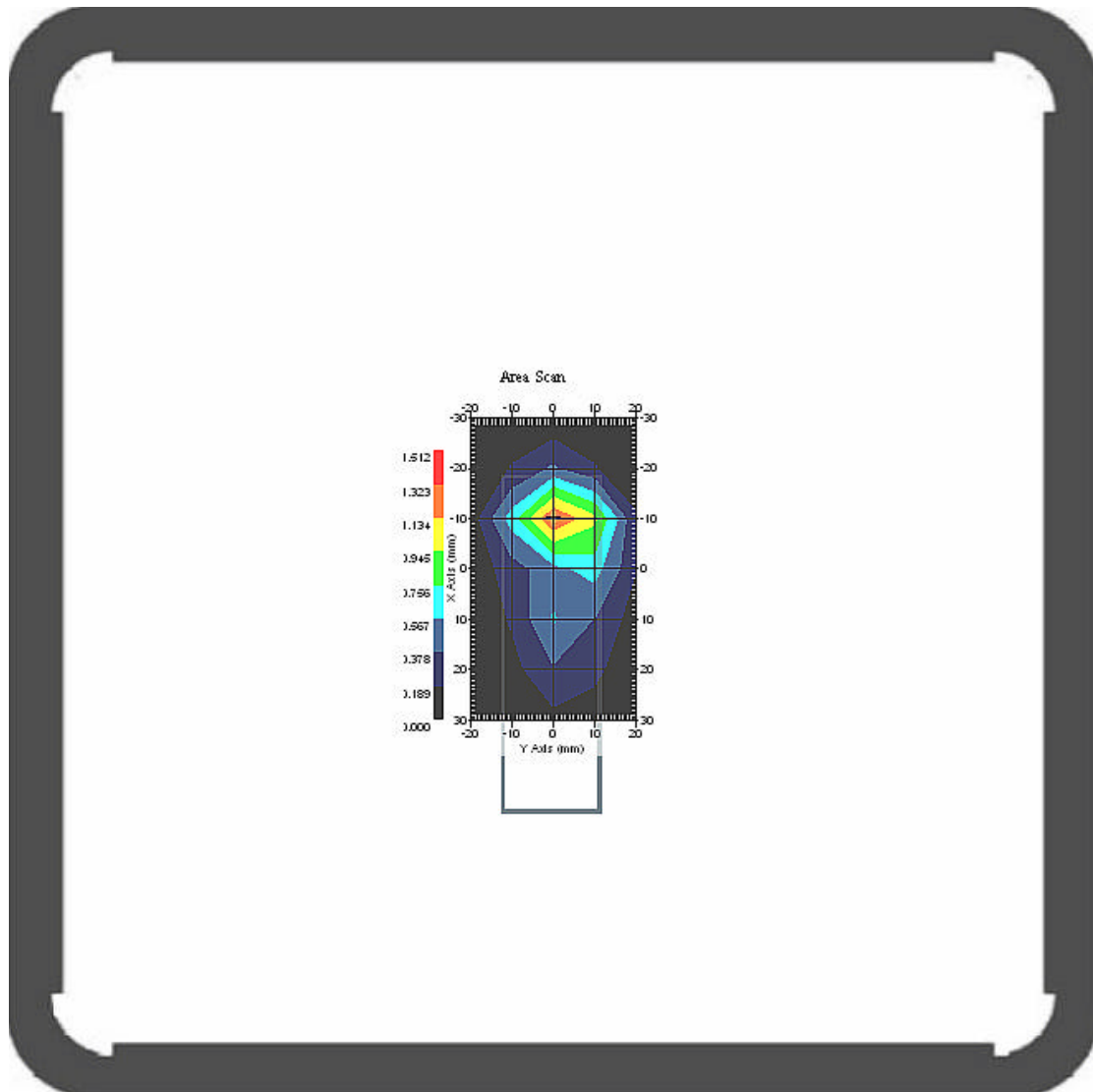
## 2.2 2450 MHz, EUT Position: Bottom

### Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

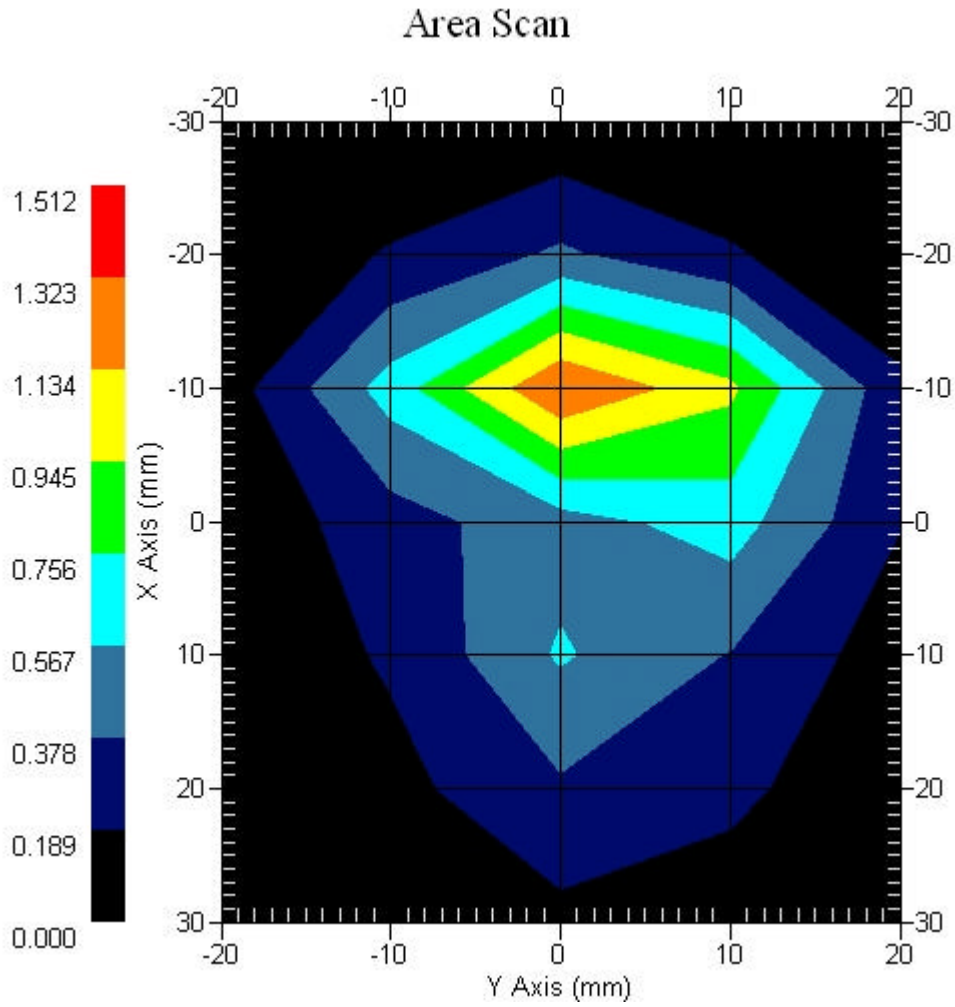
DUT Position : Touch  
Channel : Mid

Power Drift-Start : 1.285 W/kg  
Power Drift-Finish: 1.261 W/kg  
Power Drift (%) : -2.033



1 gram SAR value : 1.028 W/kg  
10 gram SAR value : 0.414 W/kg  
Area Scan Peak SAR : 1.325 W/kg  
Zoom Scan Peak SAR : 2.562 W/kg

### Area Scan Plot



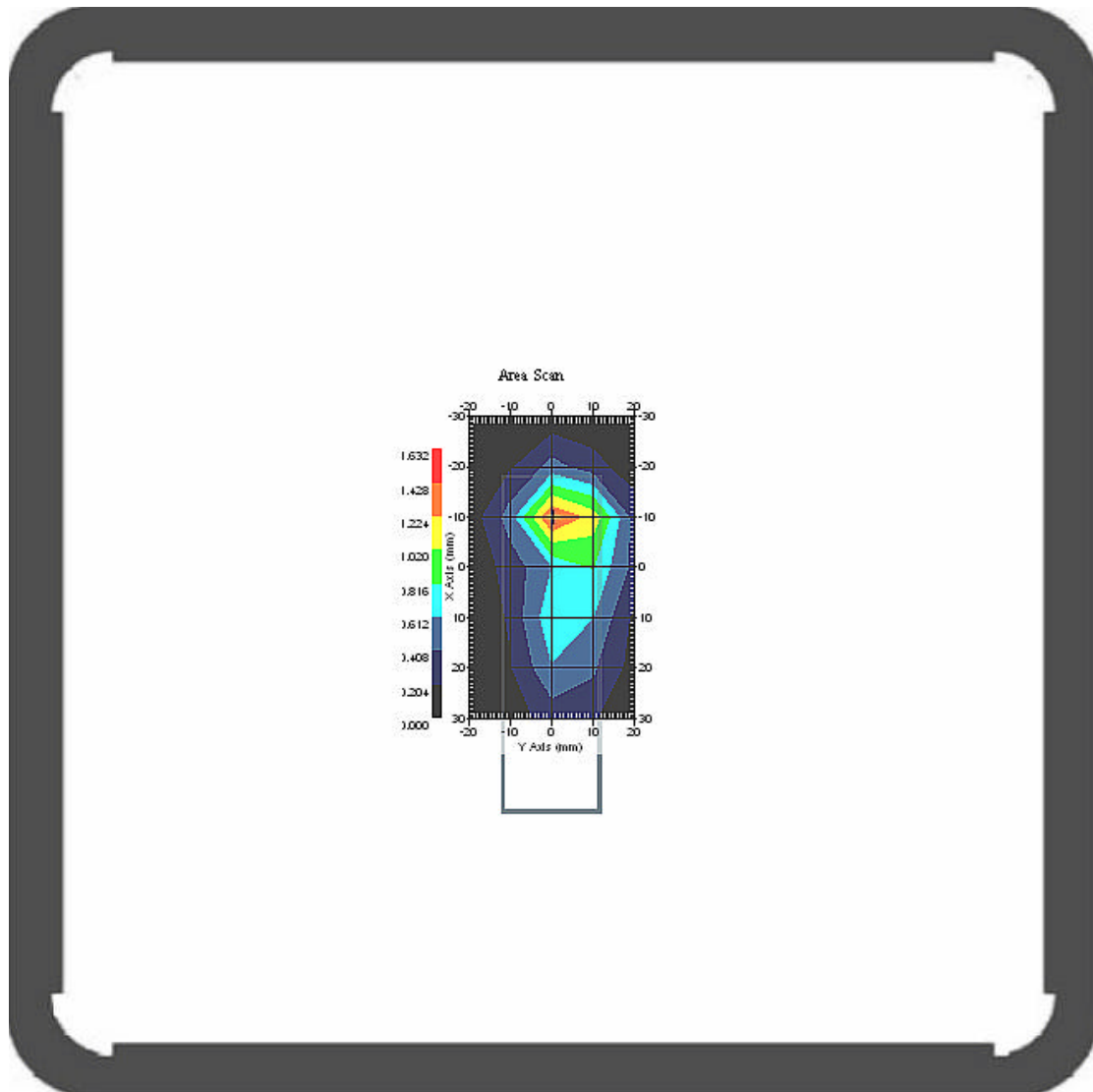
### 2.3 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

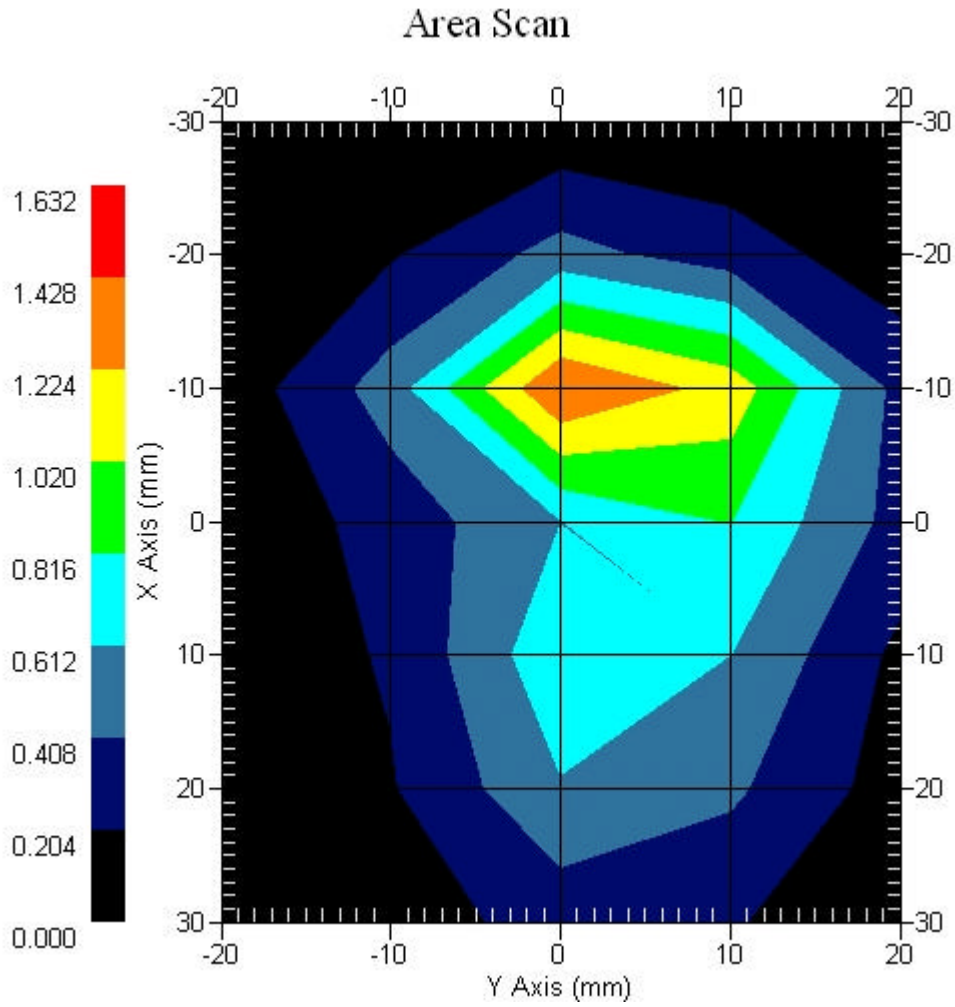
DUT Position : Touch  
Channel : High

Power Drift-Start : 1.357 W/kg  
Power Drift-Finish: 1.382 W/kg  
Power Drift (%) : 1.856



1 gram SAR value : 1.041 W/kg  
10 gram SAR value : 0.423 W/kg  
Area Scan Peak SAR : 1.430 W/kg  
Zoom Scan Peak SAR : 2.492 W/kg

### Area Scan Plot



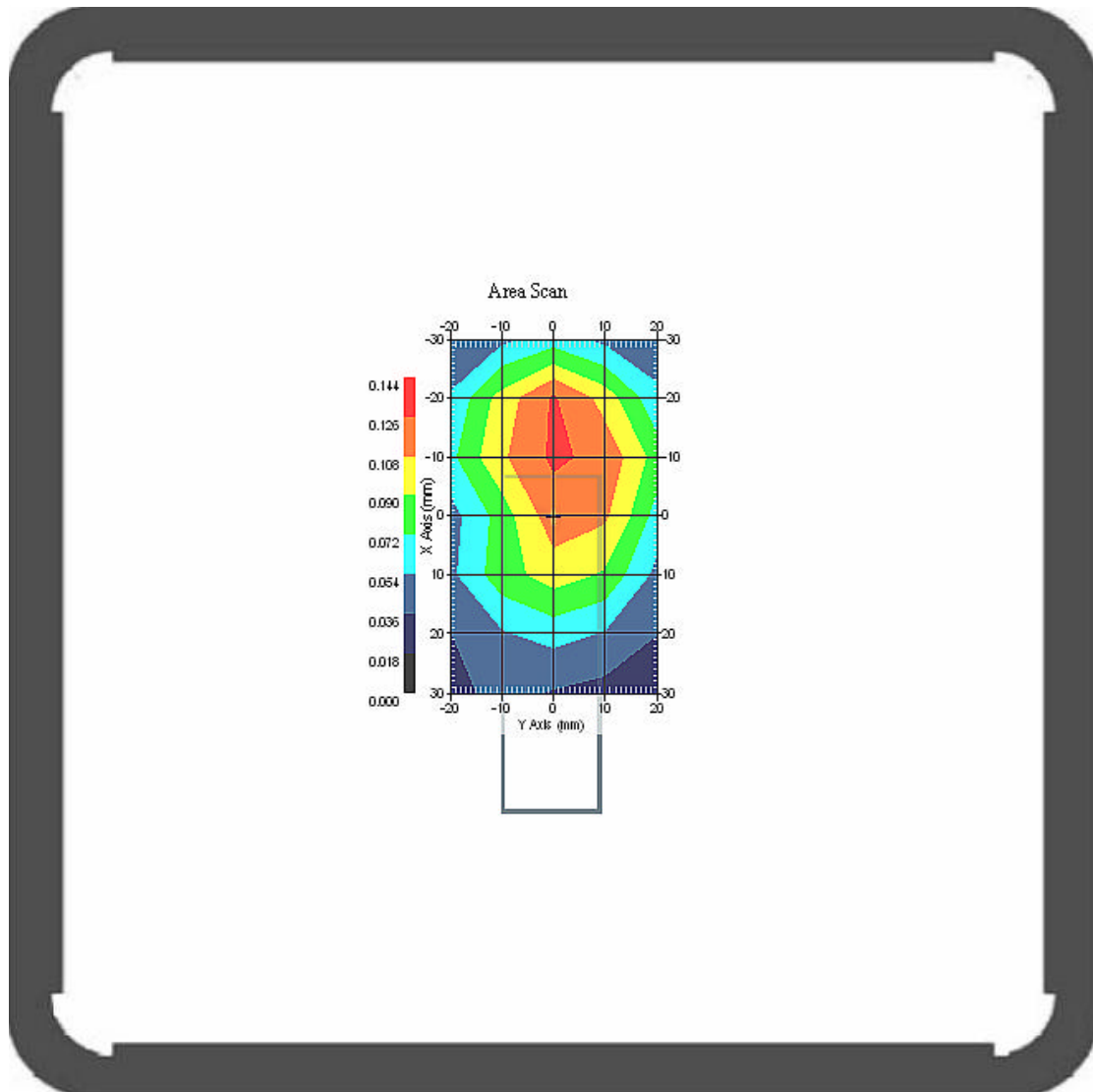
## 2.4 2450 MHz, EUT Position: Front

### Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

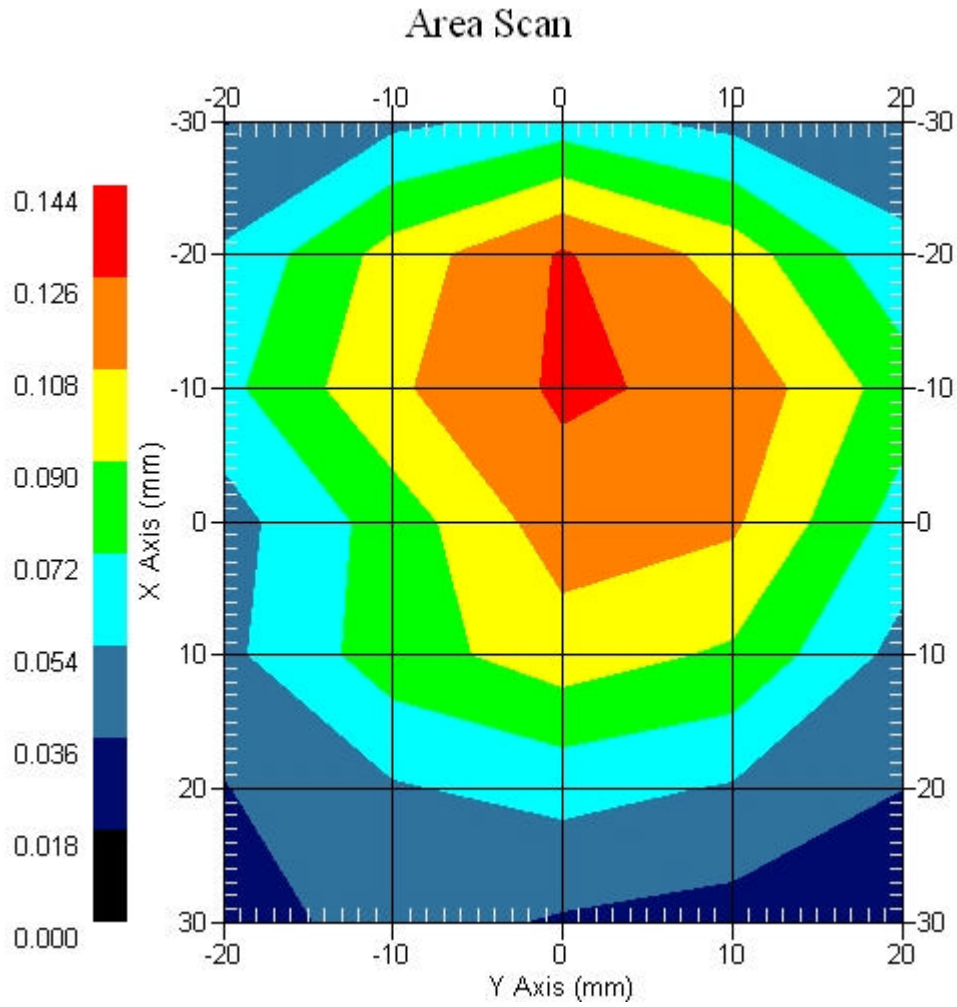
DUT Position : Touch  
Channel : Mid

Power Drift-Start : 0.133 W/kg  
Power Drift-Finish: 0.130 W/kg  
Power Drift (%) : -2.225



1 gram SAR value : 0.113 W/kg  
10 gram SAR value : 0.064 W/kg  
Area Scan Peak SAR : 0.129 W/kg  
Zoom Scan Peak SAR : 0.190 W/kg

### Area Scan Plot



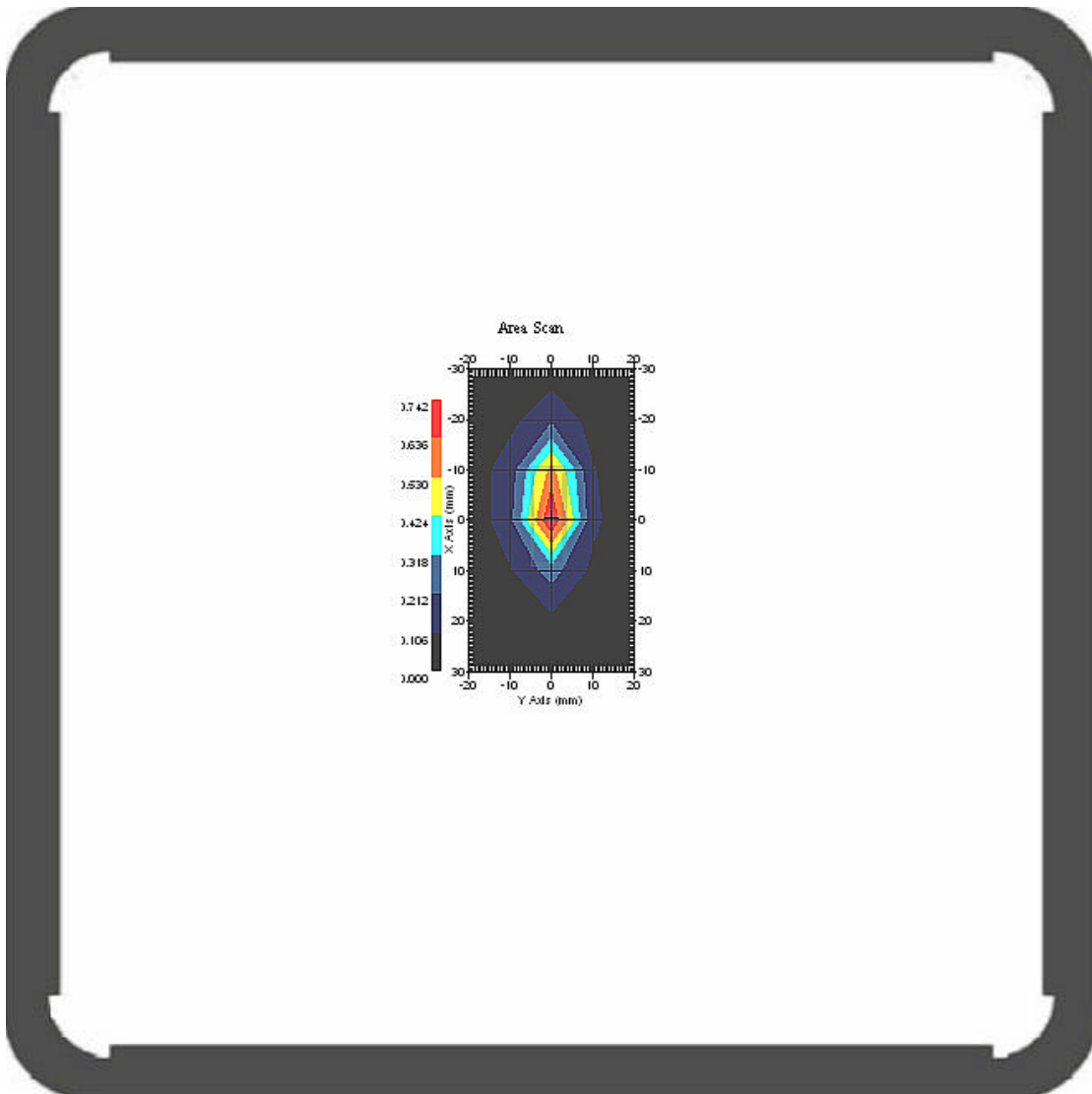
## 2.5 2450 MHz, EUT Position: Top

### Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

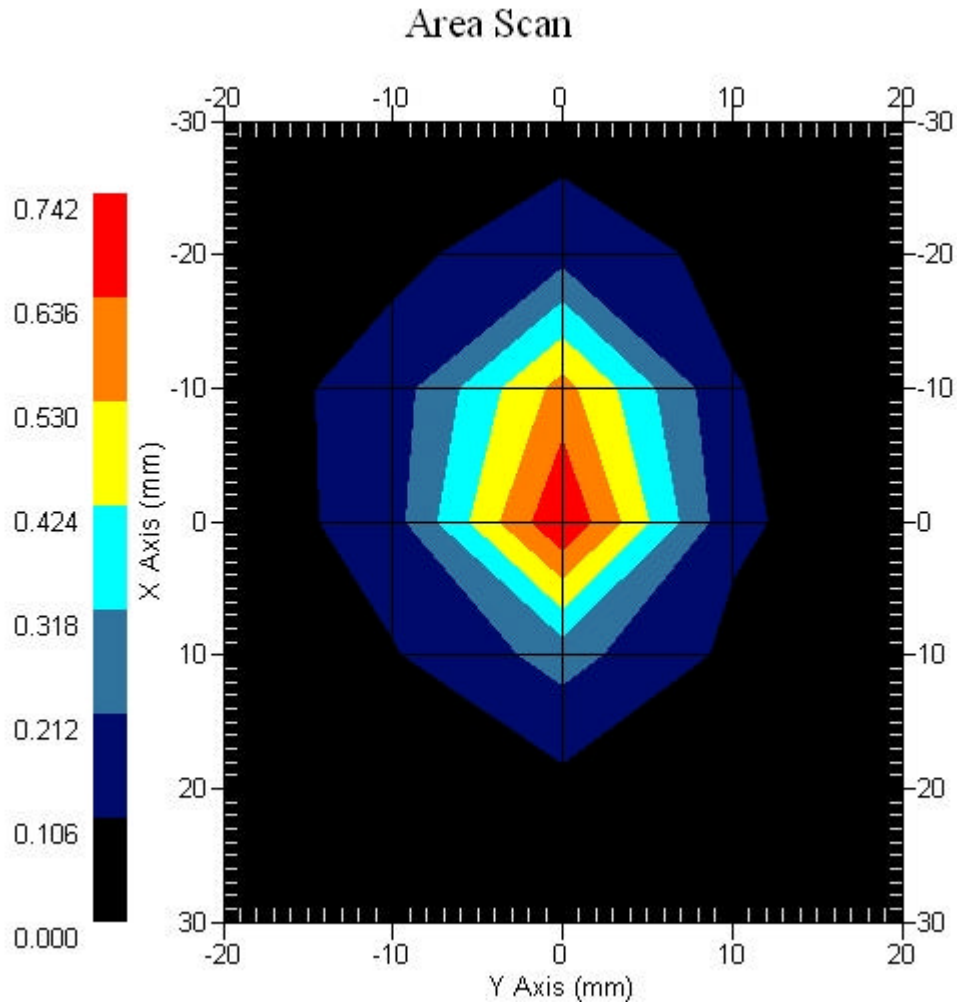
DUT Position : Touch  
Channel : Mid

Power Drift-Start : 0.804 W/kg  
Power Drift-Finish: 0.800 W/kg  
Power Drift (%) : -3.971



1 gram SAR value : 0.517 W/kg  
10 gram SAR value : 0.195 W/kg  
Area Scan Peak SAR : 0.740 W/kg  
Zoom Scan Peak SAR : 1.311 W/kg

### Area Scan Plot



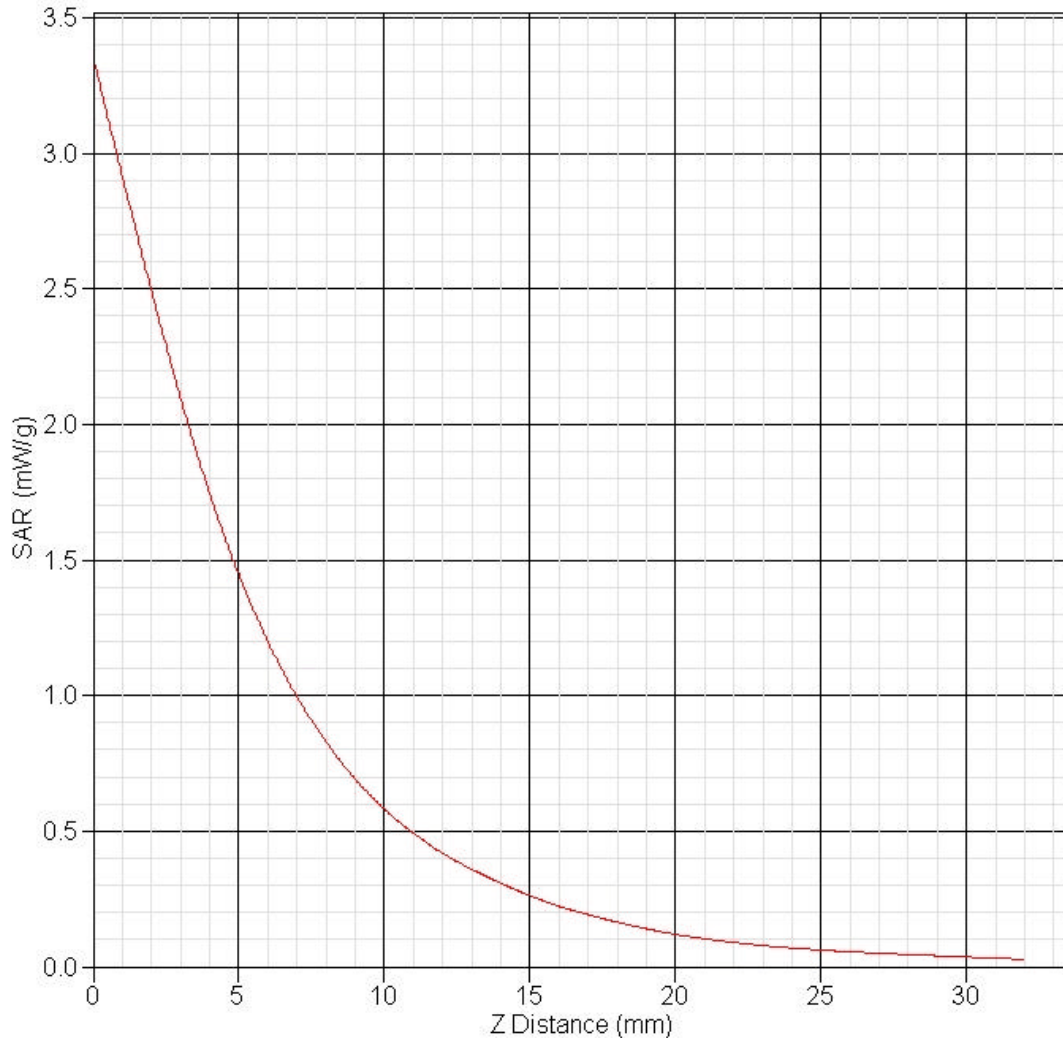


## 2.6 2450MHz Z-Axis plot

Frequency: 802.11g, 2450 MHz, EUT Bottom

SAR-Z Axis

at Hotspot x:-9.86 y:-0.15





### 3 802.11n\_20M 2450HMz SAR measurement Data

#### SAR Test Report

Report Date : 19-Mar-2007  
Measurement Date : 19-Mar-2007

#### Product Data

Device Name : WL-160n  
Serial No. :  
Type : Other  
Frequency : 2450.00 MHz  
Max. conducted Transmit Pwr : 24.33dBm  
Drift Time : 0 min(s)  
Length : 80 mm  
Width : 25 mm  
Depth : 2 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-Mar-2007  
Temperature : 21.40 °C  
Ambient Temp. : 21.50 °C  
Humidity : 48.00 RH%  
Epsilon : 53.66 F/m  
Sigma : 1.89 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 : 22-Jun-2006  
Frequency : 1800.00 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 5.4  
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

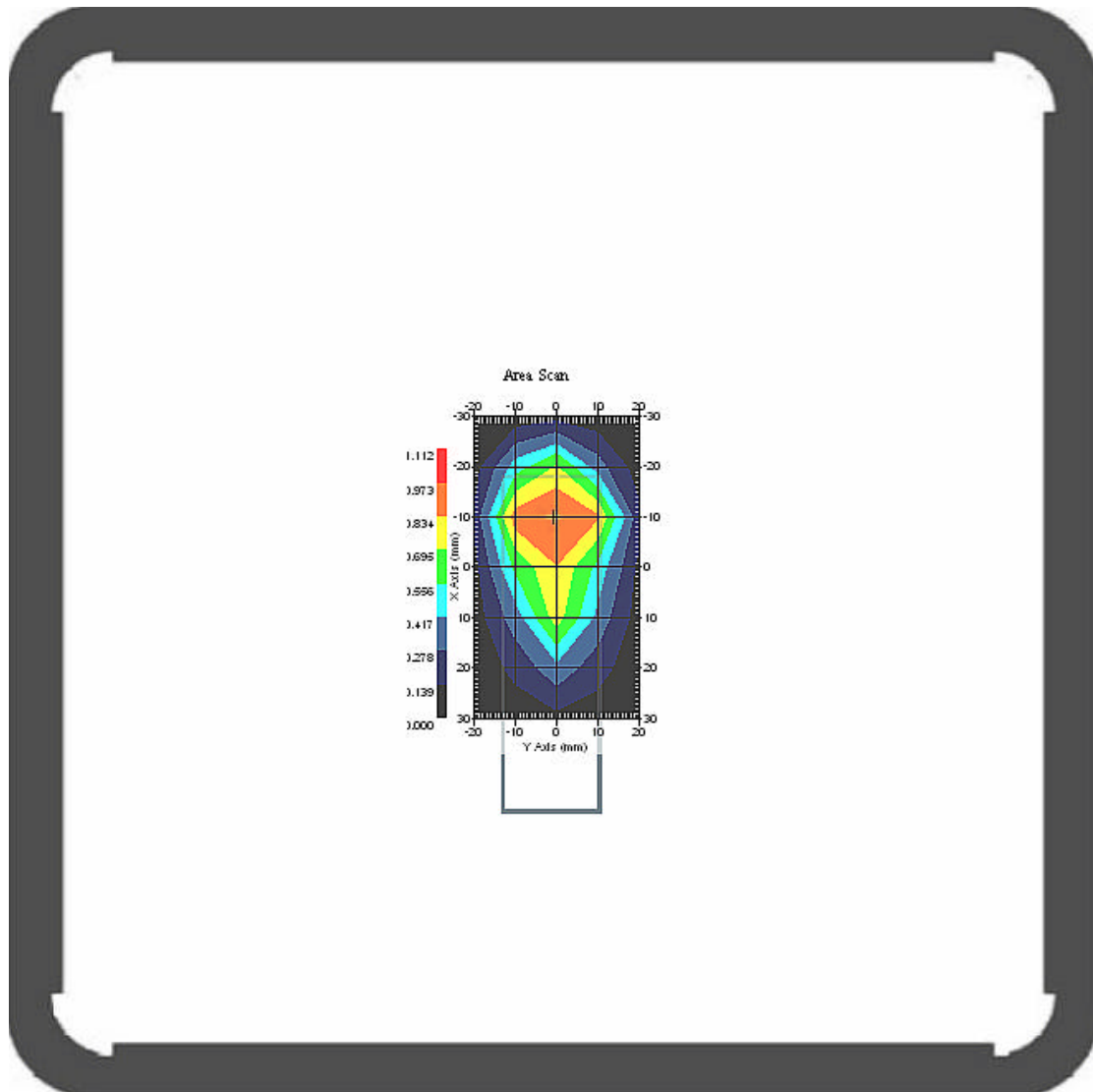
### 3.1 2450 MHz, EUT Position: Bottom

#### Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

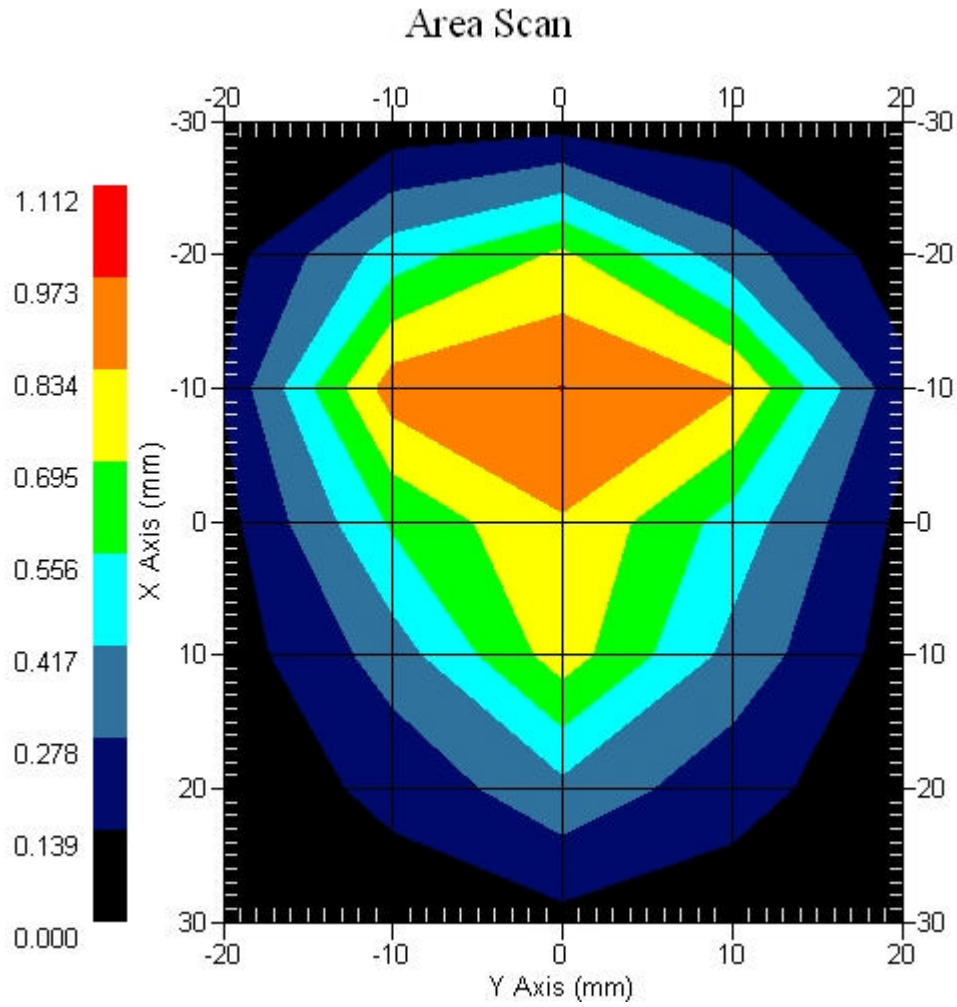
DUT Position : Touch  
Channel : Low

Power Drift-Start : 1.036 W/kg  
Power Drift-Finish: 1.025 W/kg  
Power Drift (%) : -1.107



1 gram SAR value : 0.865 W/kg  
10 gram SAR value : 0.390 W/kg  
Area Scan Peak SAR : 0.976 W/kg  
Zoom Scan Peak SAR : 1.851 W/kg

### Area Scan Plot



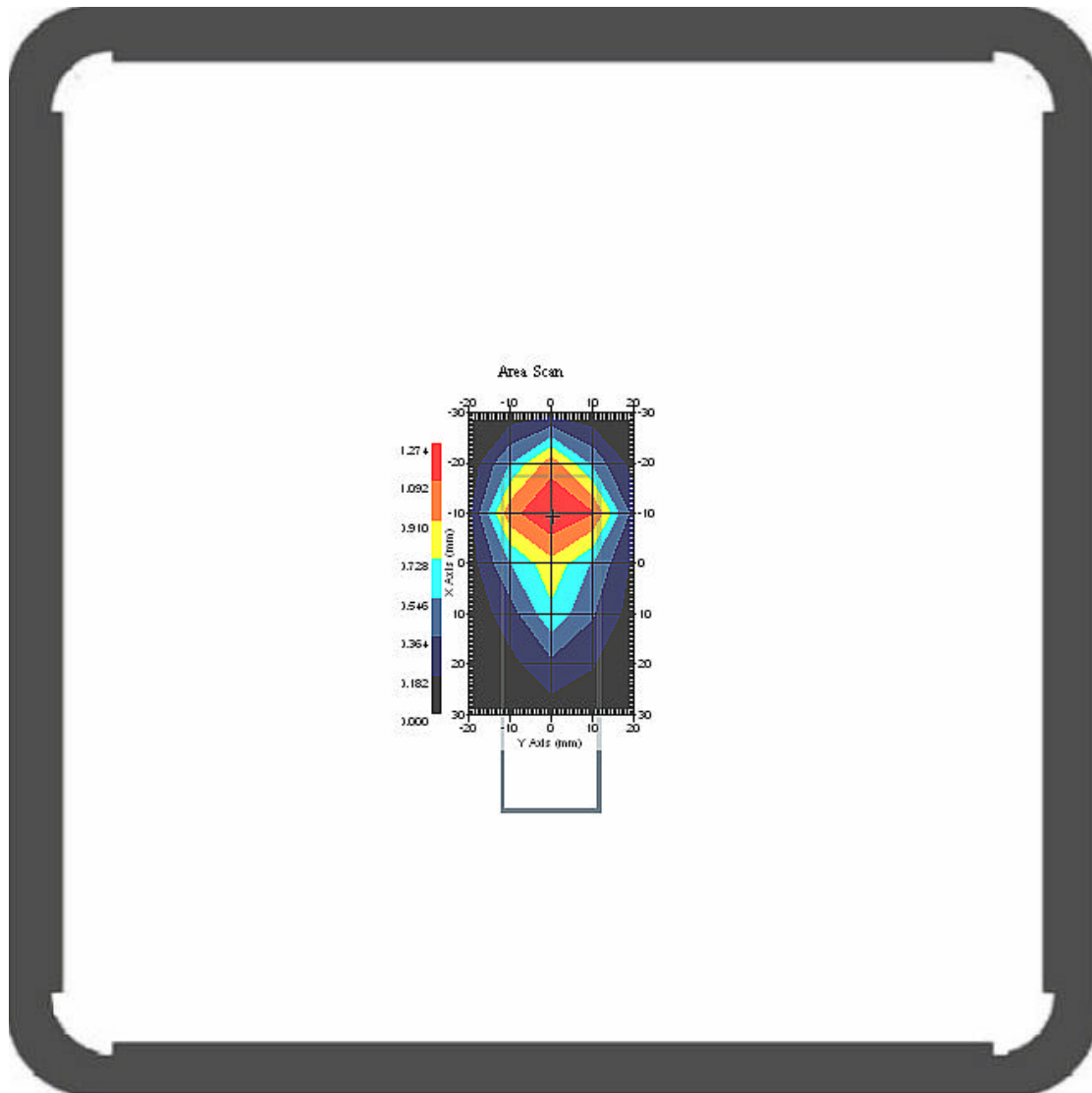
### 3.2 2450 MHz, EUT Position: Bottom

#### Measurement Data

Crest Factor : 1  
Area Scan : 7x5x1 : 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 : 1.222 W/kg  
Power Drift-Finish: 1.237 W/kg  
Power Drift (%) : 1.249



1 gram SAR value : 1.214 W/kg  
10 gram SAR value : 0.550 W/kg  
Area Scan Peak SAR : 1.274 W/kg  
Zoom Scan Peak SAR : 2.322 W/kg

### Area Scan Plot

