

# Appendix D

## SAR measurement Data

*of*

*Product Name*

**Wireless Local Area Network Adapter**

*Model*

**WL-160W**



## 1 802.11b SAR measurement Data

### SAR Test Report

Report Date : 08-Dec-2006  
Measurement Date : 08-Dec-2006

#### Product Data

Device Name : WL-160W  
Type : Other  
Frequency : 2450.00 MHz  
Max. Transmit Pwr : 0.071W  
Drift Time : 0 min(s)  
Length : 80 mm  
Width : 40 mm  
Depth : 10 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. : 2450BODY  
Frequency : 2450.00 MHz  
Last Calib. Date : 08-Dec-2006  
Temperature : 23.10 °C  
Ambient Temp. : 23.50 °C  
Humidity : 50.00 RH%  
Epsilon : 51.02 F/m  
Sigma : 1.97 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 : 2450.00 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 5.02  
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

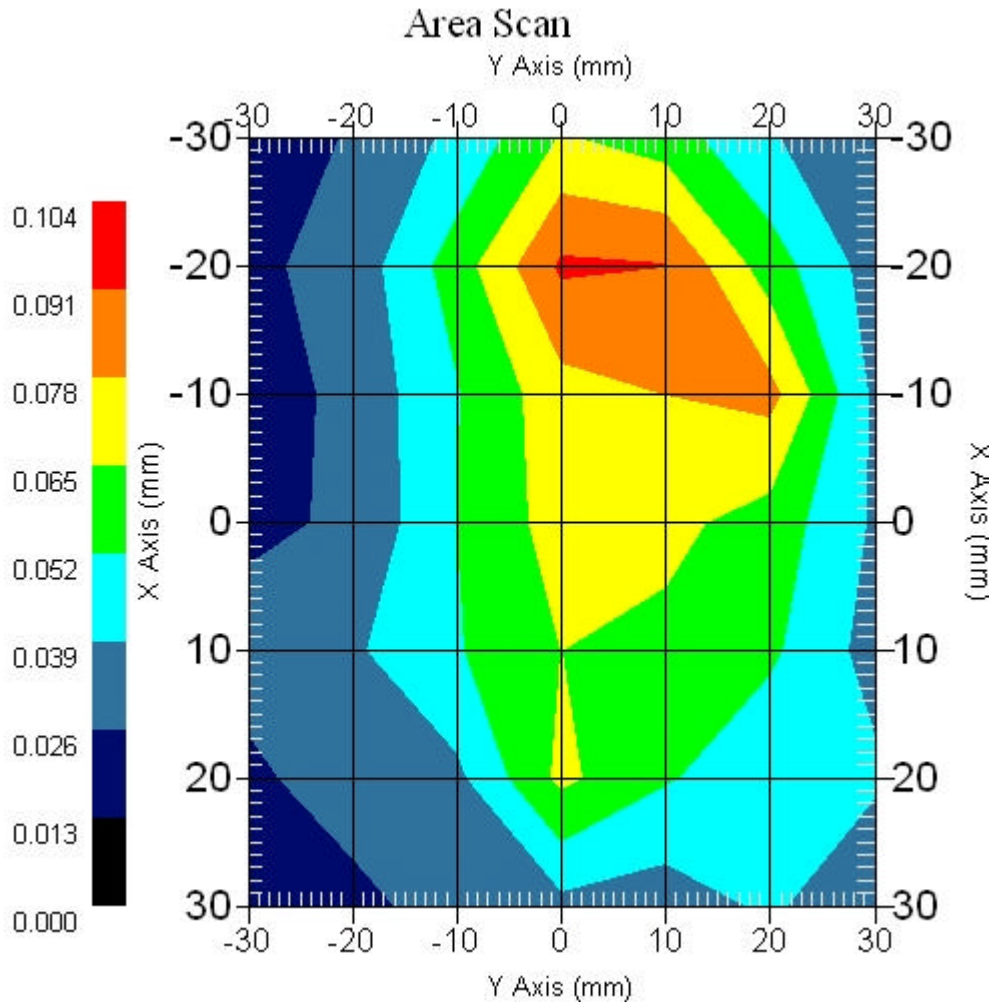
### 1.1 2450 MHz, EUT Position: Front

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.072 W/kg  
Power Drift-Finish: 0.075 W/kg  
Power Drift (%) : 4.000



1 gram SAR value : 0.083 W/kg  
10 gram SAR value : 0.048 W/kg  
Area Scan Peak SAR : 0.093 W/kg  
Zoom Scan Peak SAR : 0.150 W/kg

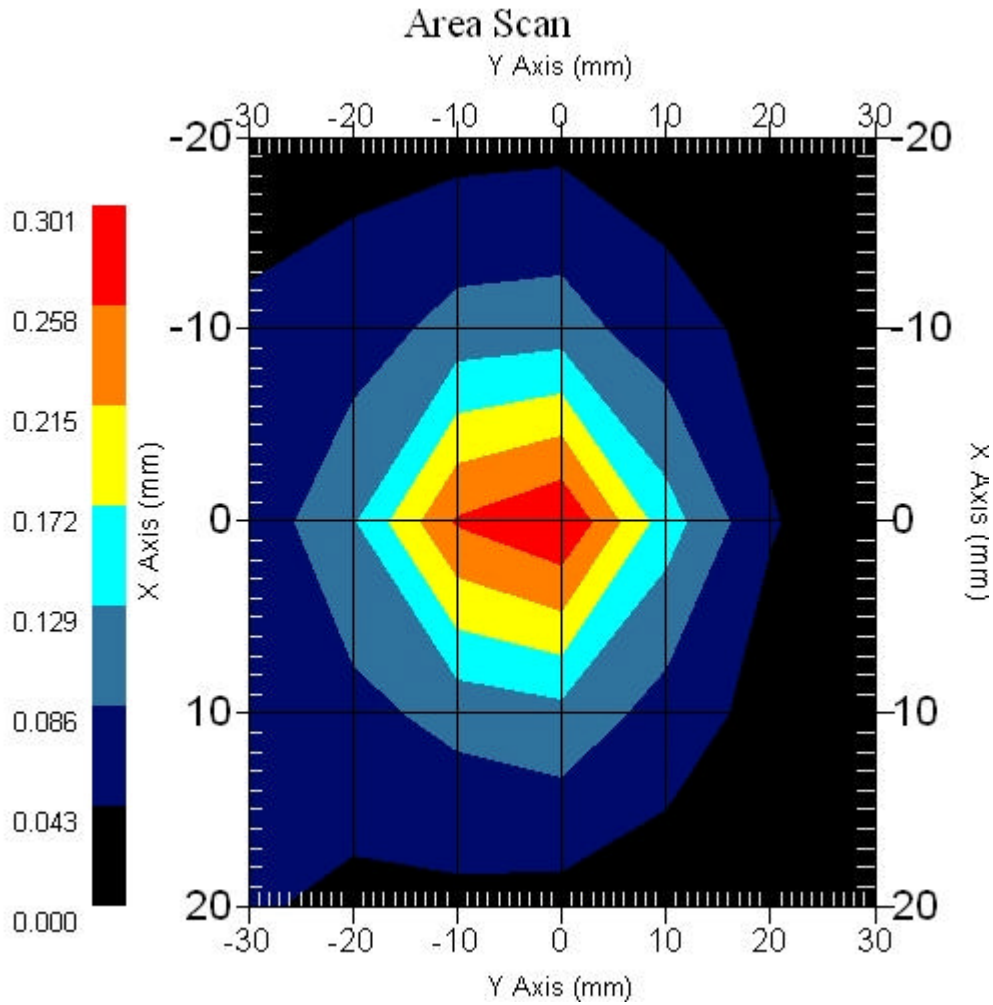
### 1.2 2450 MHz, EUT Position: Top

Measurement Data

Crest Factor : 1  
Area Scan : 5x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.331 W/kg  
Power Drift-Finish: 0.326 W/kg  
Power Drift (%) : -1.510



1 gram SAR value : 0.231 W/kg  
10 gram SAR value : 0.105 W/kg  
Area Scan Peak SAR : 0.300 W/kg  
Zoom Scan Peak SAR : 0.490 W/kg

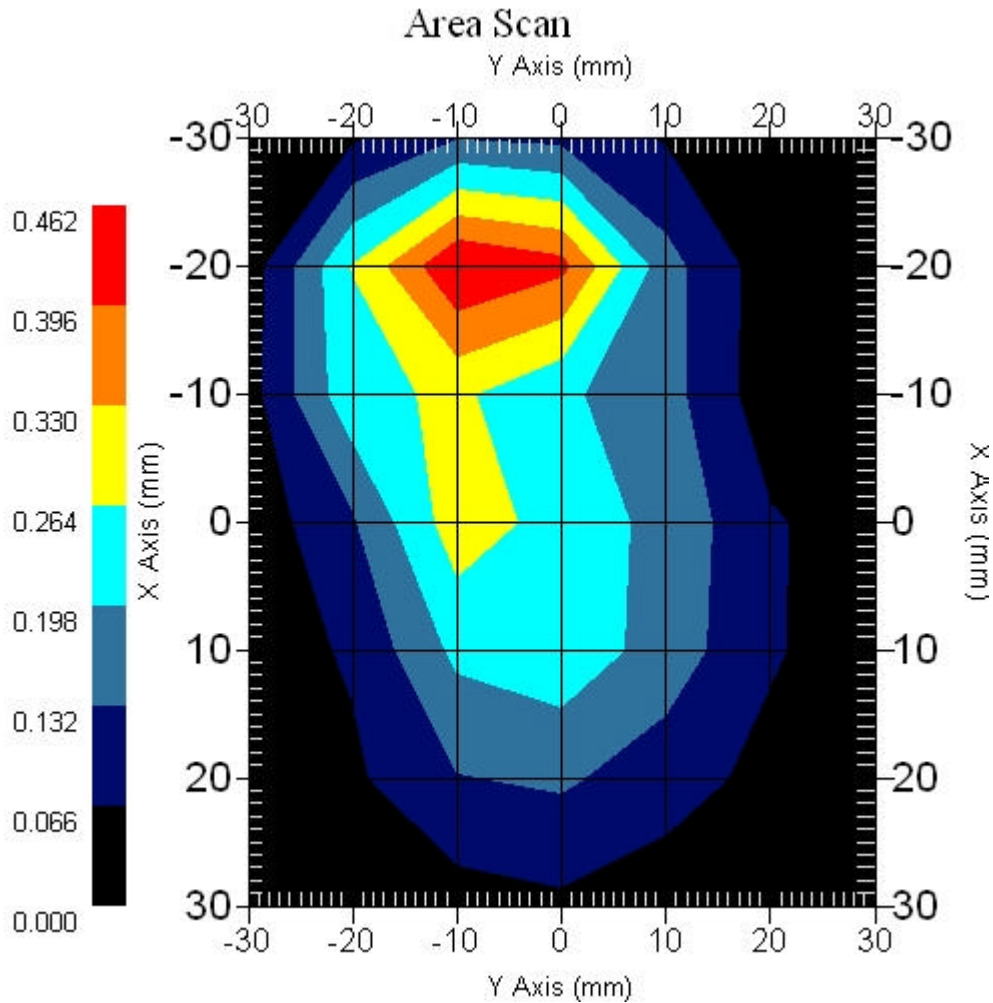
### 1.3 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Low - 2412MHz

Power Drift-Start : 0.215 W/kg  
Power Drift-Finish: 0.219 W/kg  
Power Drift (%) : 1.826



1 gram SAR value : 0.366 W/kg  
10 gram SAR value : 0.165 W/kg  
Area Scan Peak SAR : 0.459 W/kg  
Zoom Scan Peak SAR : 0.820 W/kg

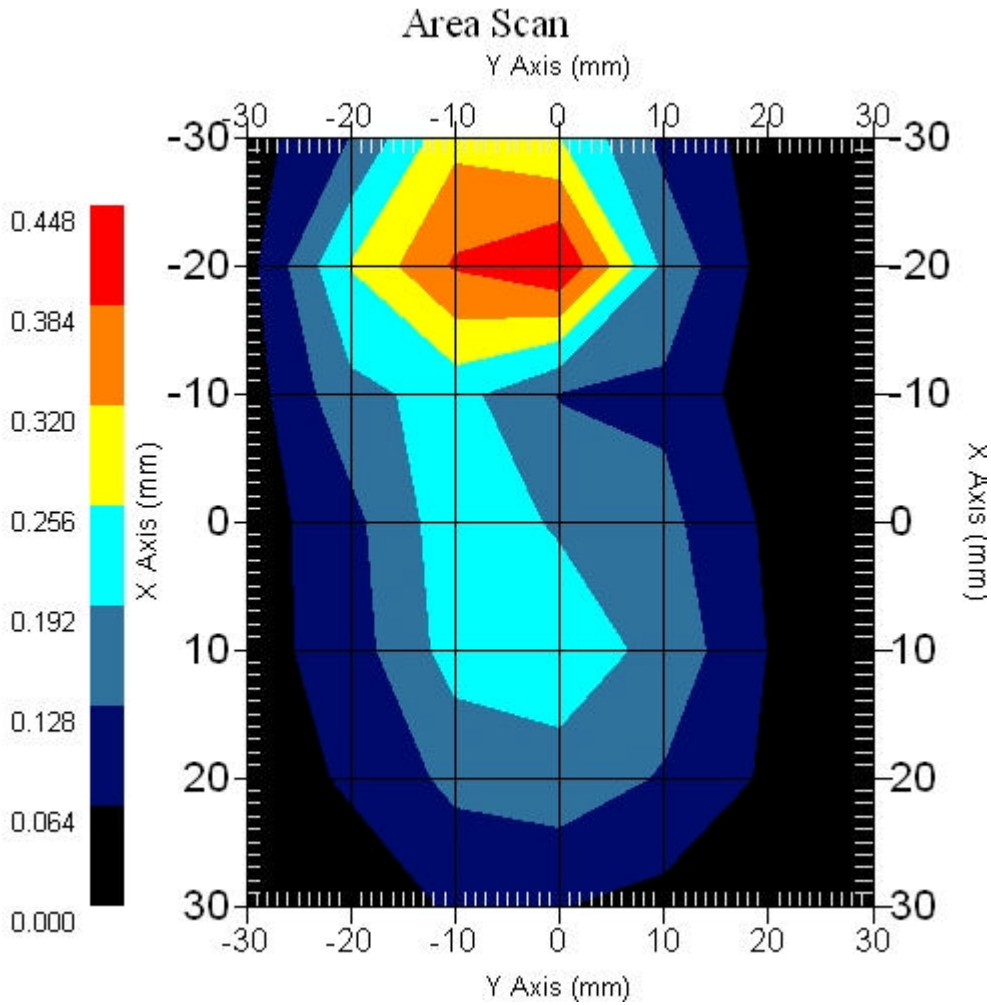
### 1.4 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.212 W/kg  
Power Drift-Finish: 0.208 W/kg  
Power Drift (%) : -1.886



1 gram SAR value : 0.312 W/kg  
10 gram SAR value : 0.150 W/kg  
Area Scan Peak SAR : 0.448 W/kg  
Zoom Scan Peak SAR : 0.650 W/kg

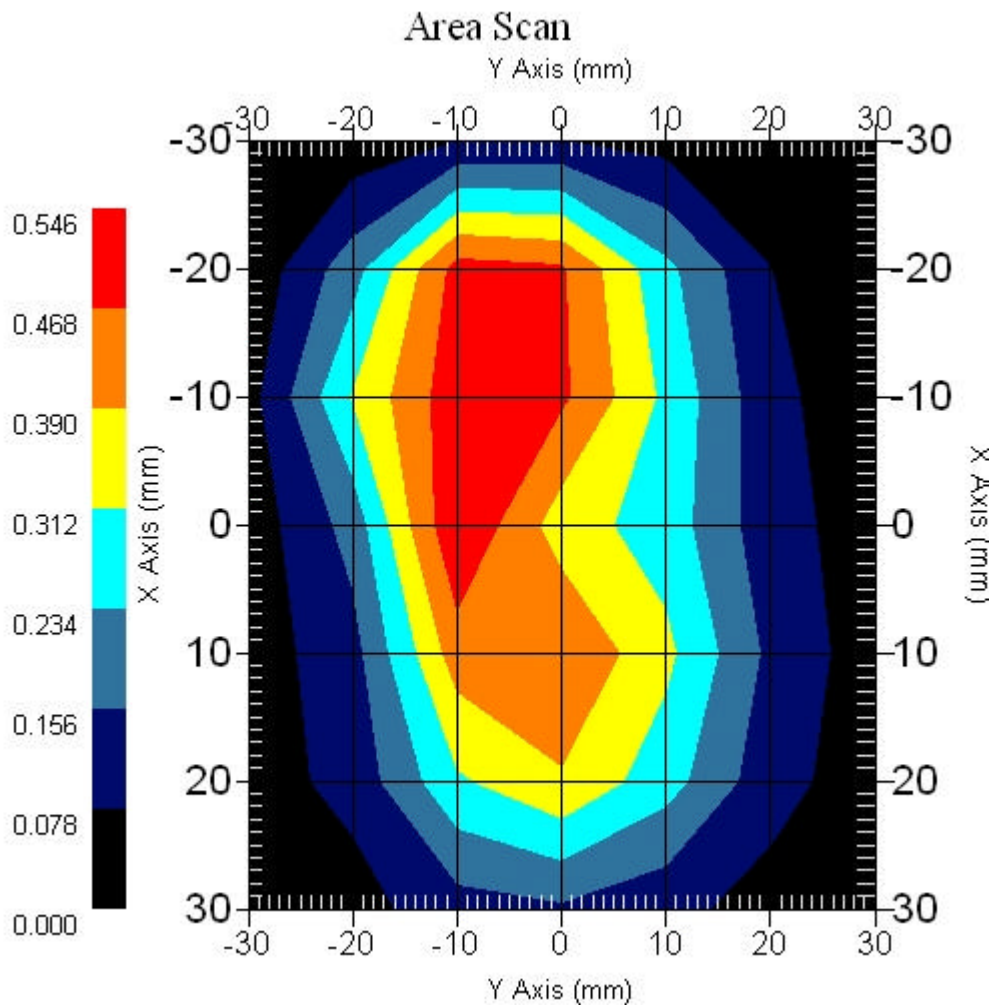
### 1.5 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : High - 2462MHz

Power Drift-Start : 0.332 W/kg  
Power Drift-Finish: 0.338 W/kg  
Power Drift (%) : 1.775

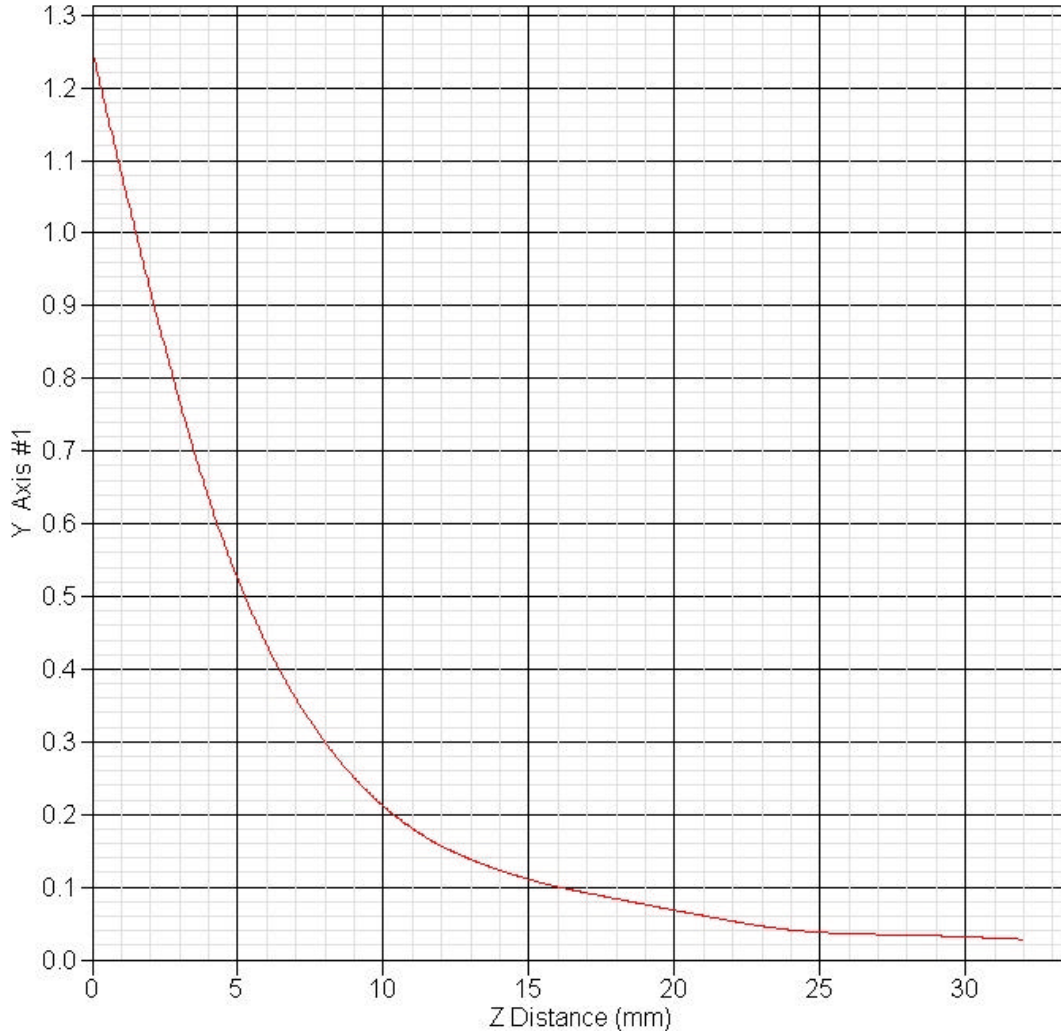


1 gram SAR value : 0.628 W/kg  
10 gram SAR value : 0.326 W/kg  
Area Scan Peak SAR : 0.545 W/kg  
Zoom Scan Peak SAR : 1.251 W/kg

### 1.6 Z-Axis plot

Frequency: 802.11b 2450 MHz, EUT Bottom

SAR-Z Axis  
at Hotspot x:-15.40 y:-2.10







## 2 802.11g SAR measurement Data

### SAR Test Report

Report Date : 08-Dec-2006  
Measurement Date : 08-Dec-2006

#### Product Data

Device Name : WL-160W  
Serial No. : Front  
Type : Other  
Frequency : 2450.00 MHz  
Max. Transmit Pwr : 0.248W  
Drift Time : 0 min(s)  
Length : 80 mm  
Width : 40 mm  
Depth : 10 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. : 2450BODY  
Frequency : 2450.00 MHz  
Last Calib. Date : 08-Dec-2006  
Temperature : 23.10 °C  
Ambient Temp. : 23.50 °C  
Humidity : 50.00 RH%  
Epsilon : 51.02 F/m  
Sigma : 1.97 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 : 2450.00 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 5.02  
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

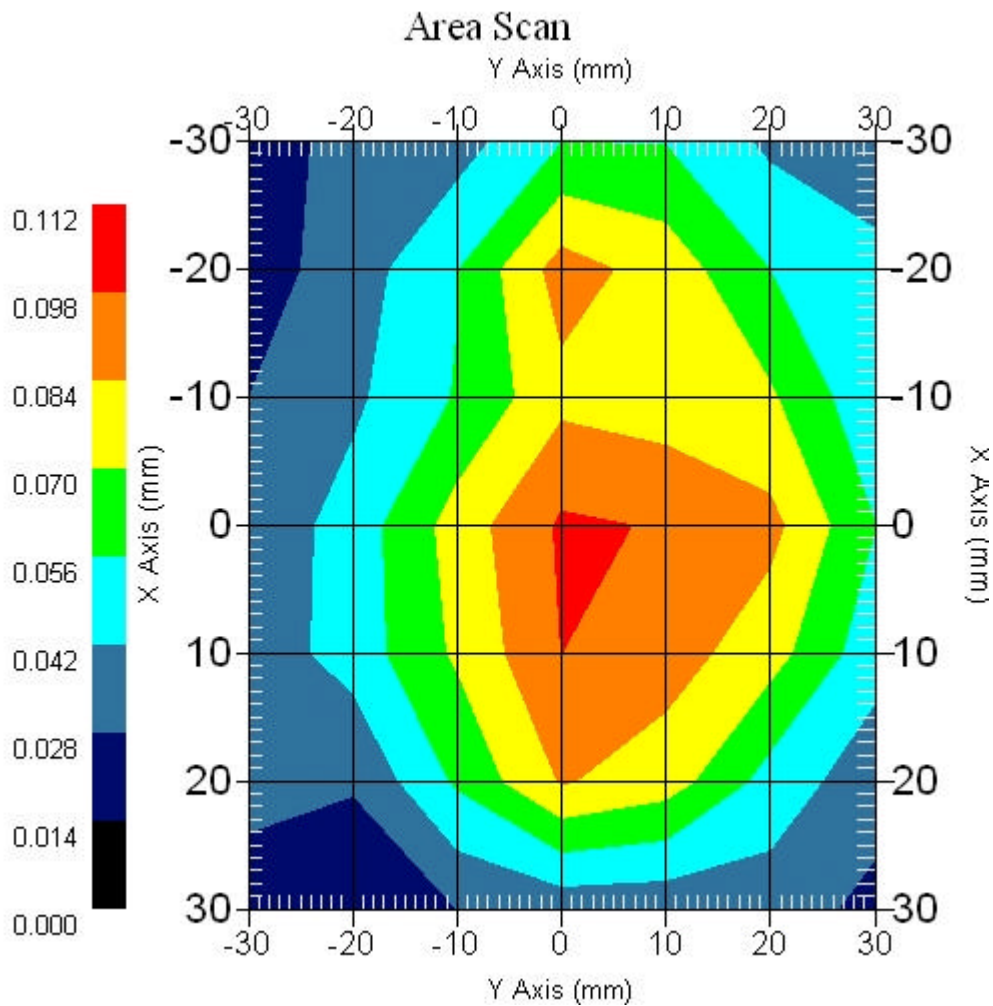
## 2.1 2450 MHz, EUT Position: Front

### Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.110 W/kg  
Power Drift-Finish: 0.108 W/kg  
Power Drift (%) : -1.818



1 gram SAR value : 0.106 W/kg  
10 gram SAR value : 0.060 W/kg  
Area Scan Peak SAR : 0.100 W/kg  
Zoom Scan Peak SAR : 0.210 W/kg

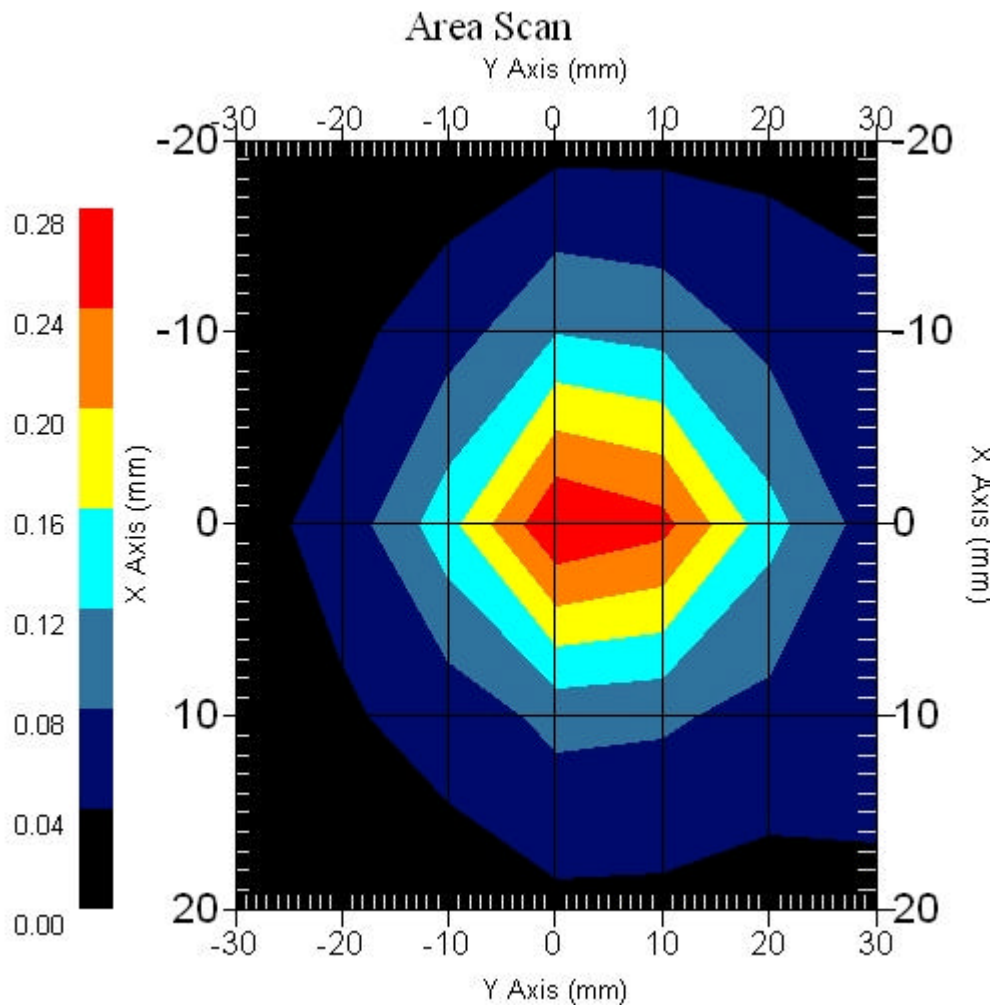
## 2.2 2450 MHz, EUT Position: Top

### Measurement Data

Crest Factor : 1  
Area Scan : 5x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.286 W/kg  
Power Drift-Finish: 0.299 W/kg  
Power Drift (%) : 4.345



1 gram SAR value : 0.230 W/kg  
10 gram SAR value : 0.104 W/kg  
Area Scan Peak SAR : 0.279 W/kg  
Zoom Scan Peak SAR : 0.500 W/kg

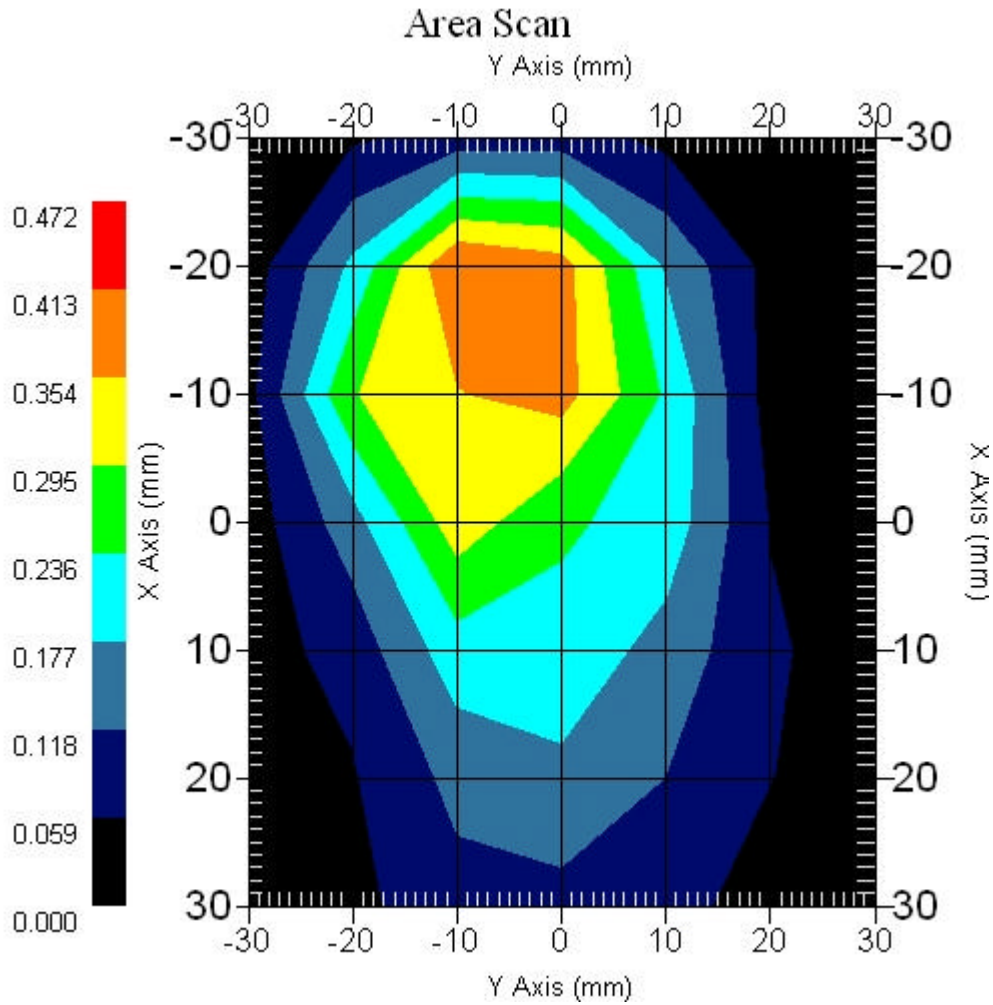
### 2.3 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Low - 2412MHz

Power Drift-Start : 0.267 W/kg  
Power Drift-Finish: 0.261 W/kg  
Power Drift (%) : -2.247



1 gram SAR value : 0.363 W/kg  
10 gram SAR value : 0.180 W/kg  
Area Scan Peak SAR : 0.414 W/kg  
Zoom Scan Peak SAR : 0.690 W/kg

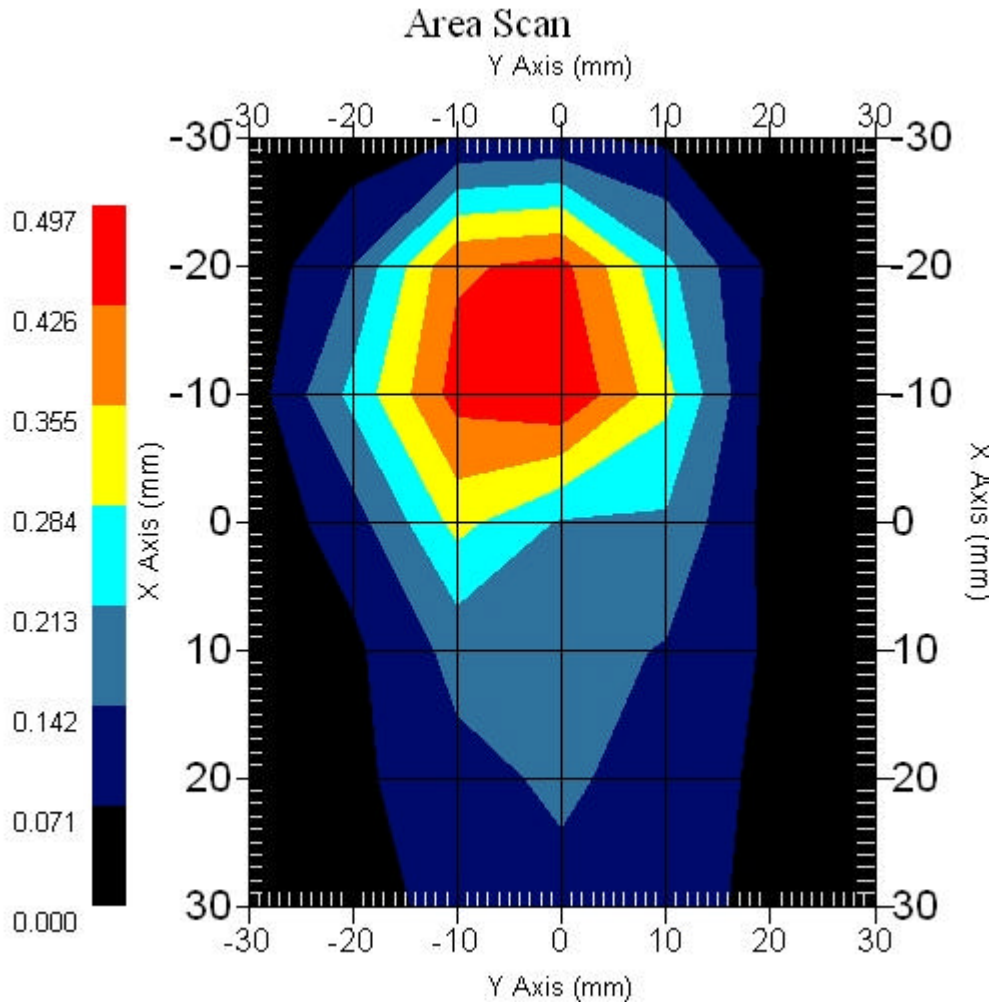
### 2.4 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.227 W/kg  
Power Drift-Finish: 0.221 W/kg  
Power Drift (%) : -2.202



1 gram SAR value : 0.394 W/kg  
10 gram SAR value : 0.194 W/kg  
Area Scan Peak SAR : 0.495 W/kg  
Zoom Scan Peak SAR : 0.800 W/kg

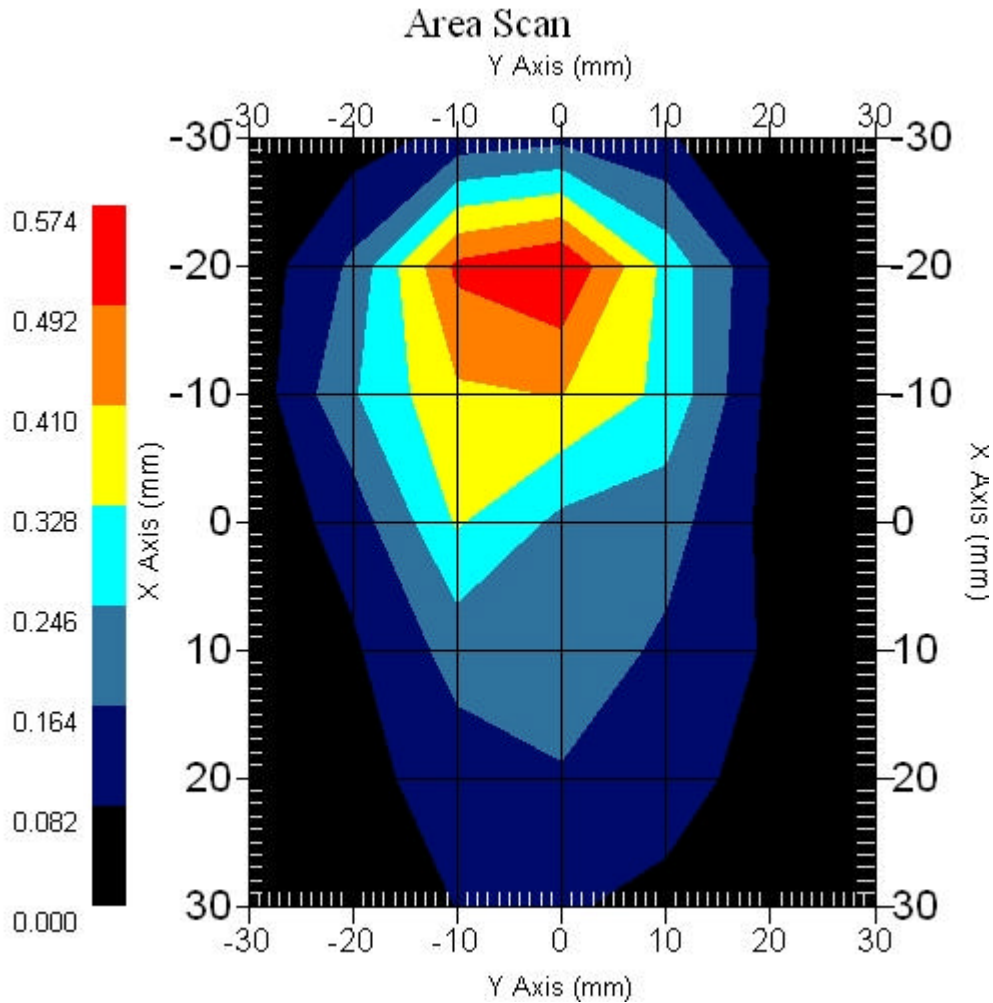
### 2.5 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : High - 2462MHz

Power Drift-Start : 0.256 W/kg  
Power Drift-Finish: 0.251 W/kg  
Power Drift (%) : -1.562



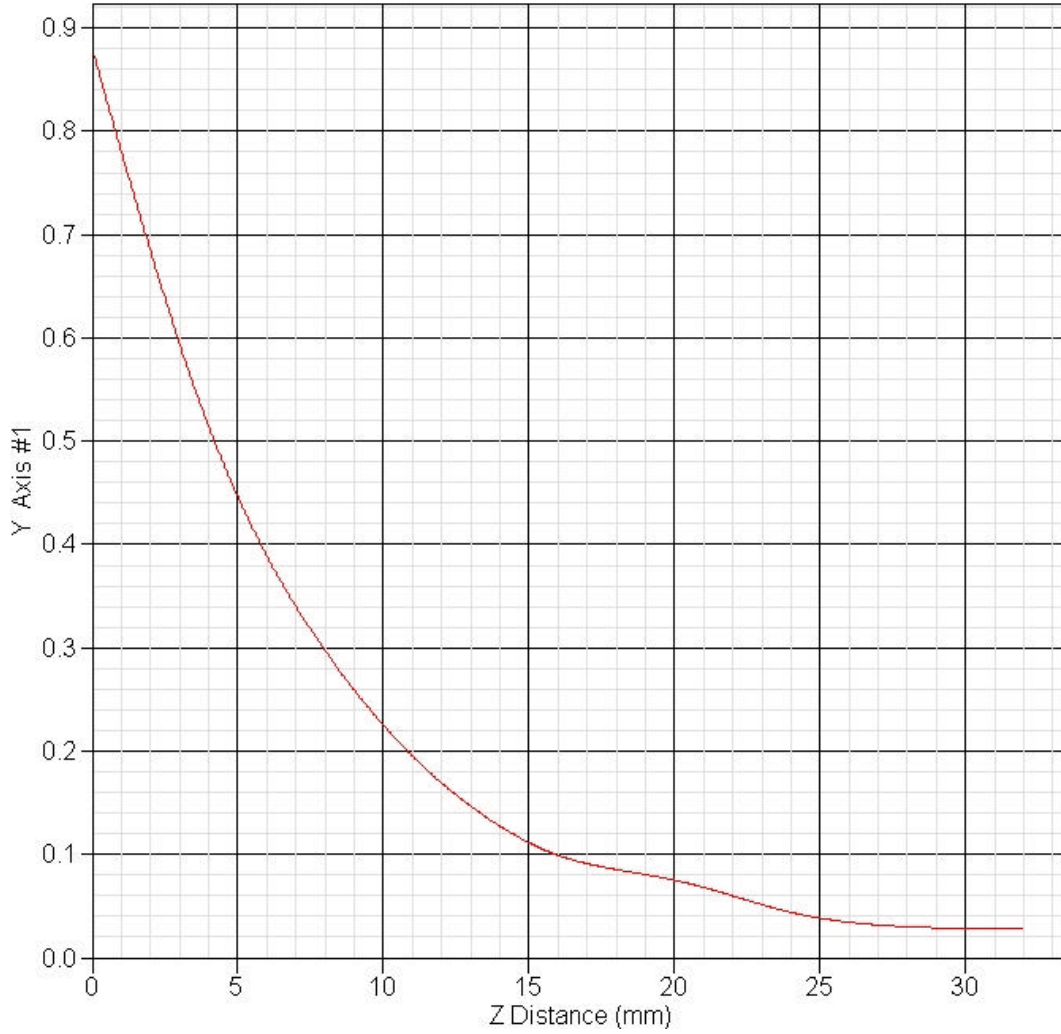
1 gram SAR value : 0.425 W/kg  
10 gram SAR value : 0.200 W/kg  
Area Scan Peak SAR : 0.572 W/kg  
Zoom Scan Peak SAR : 0.880 W/kg

## 2.6 Z-Axis plot

Frequency: 802.11g, 2450 MHz, EUT Bottom

SAR-Z Axis

at Hotspot x:-19.80 y:-0.20



### 3 802.11n 20M SAR measurement Data

#### SAR Test Report

Report Date : 08-Dec-2006  
Measurement Date : 08-Dec-2006

##### Product Data

Device Name : WL-160W  
Serial No. : Front  
Type : Other  
Frequency : 2450.00 MHz  
Max. Transmit Pwr : 0.190W  
Drift Time : 0 min(s)  
Length : 80 mm  
Width : 40 mm  
Depth : 10 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. : 2450BODY  
Frequency : 2450.00 MHz  
Last Calib. Date : 08-Dec-2006  
Temperature : 23.10 °C  
Ambient Temp. : 23.50 °C  
Humidity : 50.00 RH%  
Epsilon : 51.02 F/m  
Sigma : 1.97 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 : 2450.00 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 5.02  
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



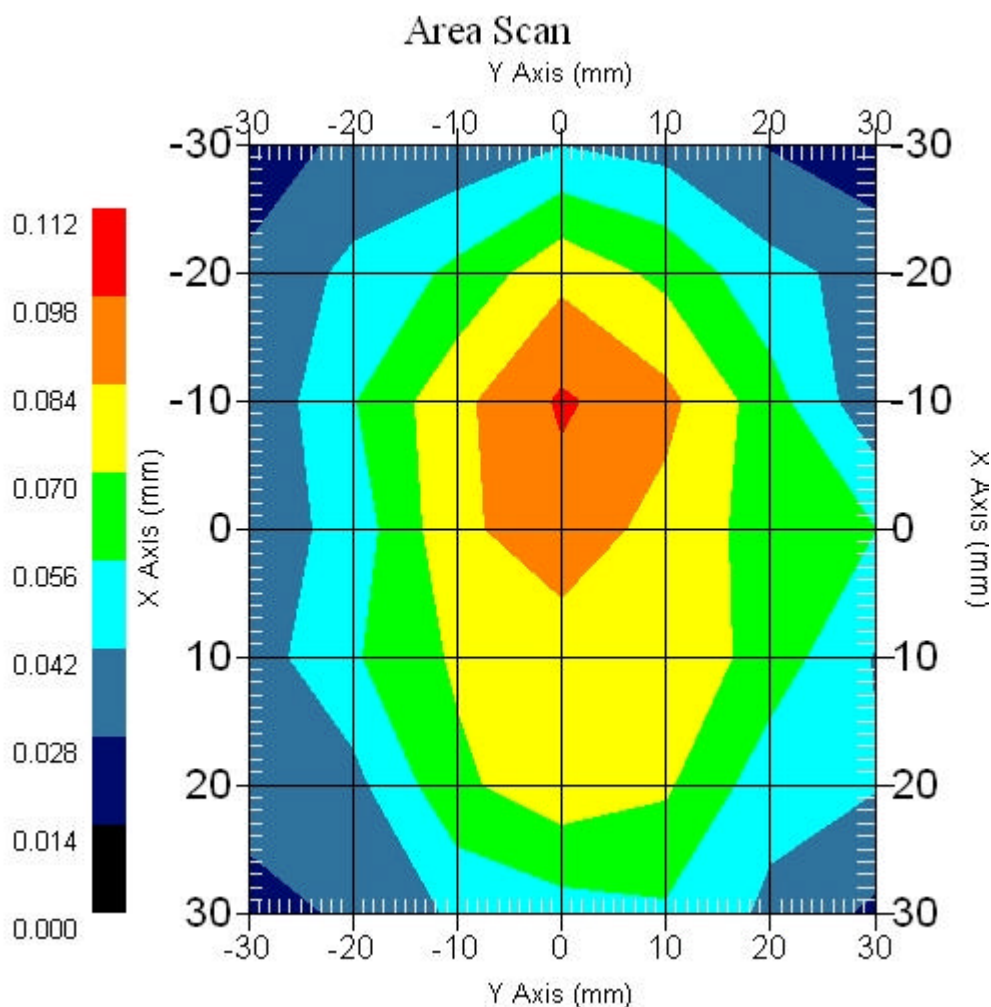
### 3.1 2450 MHz, EUT Position: Front

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.089 W/kg  
Power Drift-Finish: 0.086 W/kg  
Power Drift (%) : -3.370



1 gram SAR value : 0.084 W/kg  
10 gram SAR value : 0.050 W/kg  
Area Scan Peak SAR : 0.100 W/kg  
Zoom Scan Peak SAR : 0.130 W/kg

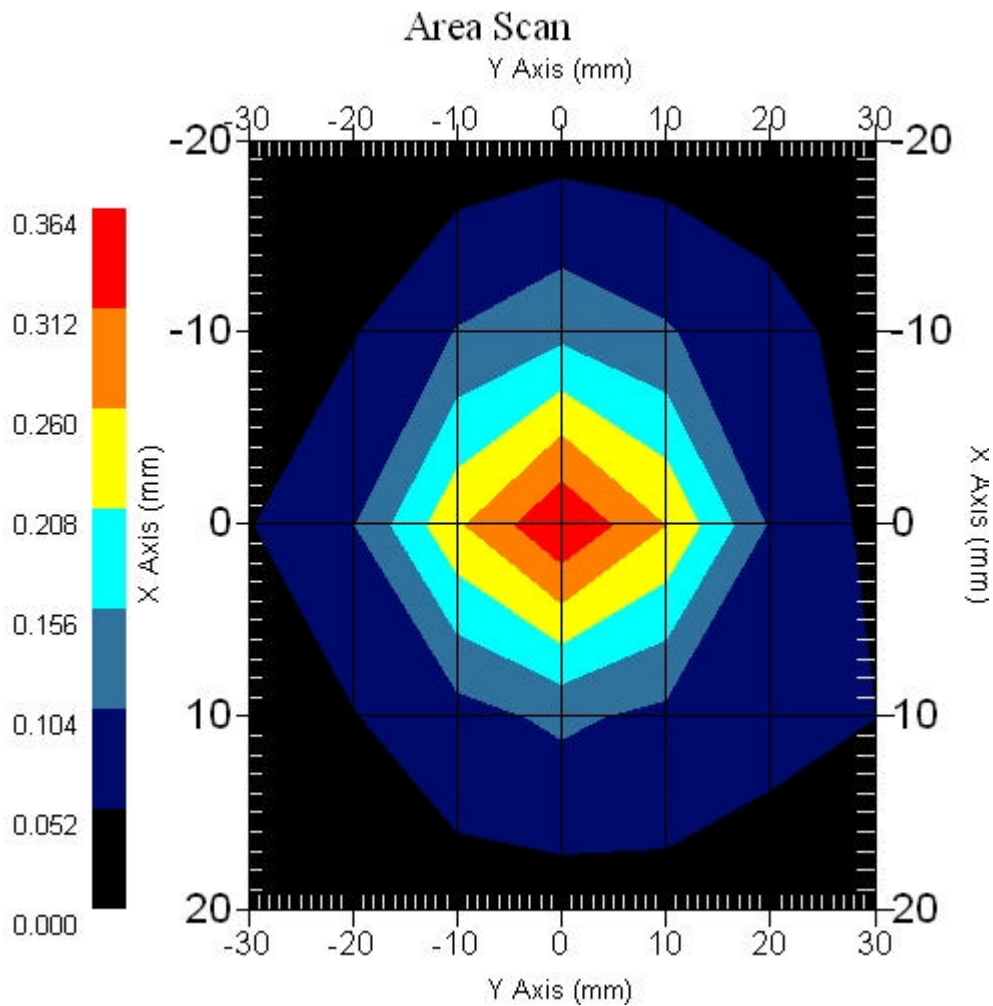
### 3.2 2450 MHz, EUT Position: Top

Measurement Data

Crest Factor : 1  
Area Scan : 5x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.371 W/kg  
Power Drift-Finish: 0.364 W/kg  
Power Drift (%) : -1.796



1 gram SAR value : 0.280 W/kg  
10 gram SAR value : 0.126 W/kg  
Area Scan Peak SAR : 0.362 W/kg  
Zoom Scan Peak SAR : 0.580 W/kg

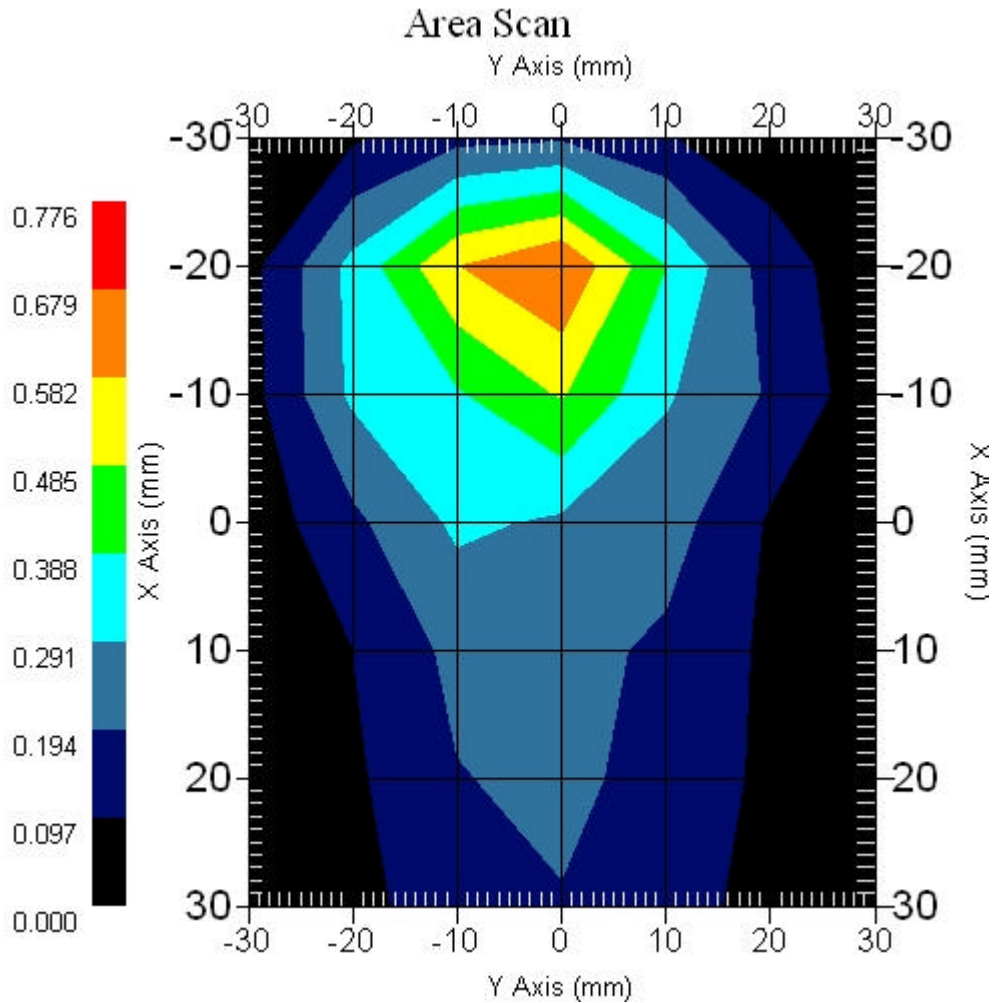
### 3.3 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Low - 2412MHz

Power Drift-Start : 0.293 W/kg  
Power Drift-Finish: 0.287 W/kg  
Power Drift (%) : -2.129



1 gram SAR value : 0.526 W/kg  
10 gram SAR value : 0.241 W/kg  
Area Scan Peak SAR : 0.680 W/kg  
Zoom Scan Peak SAR : 1.090 W/kg

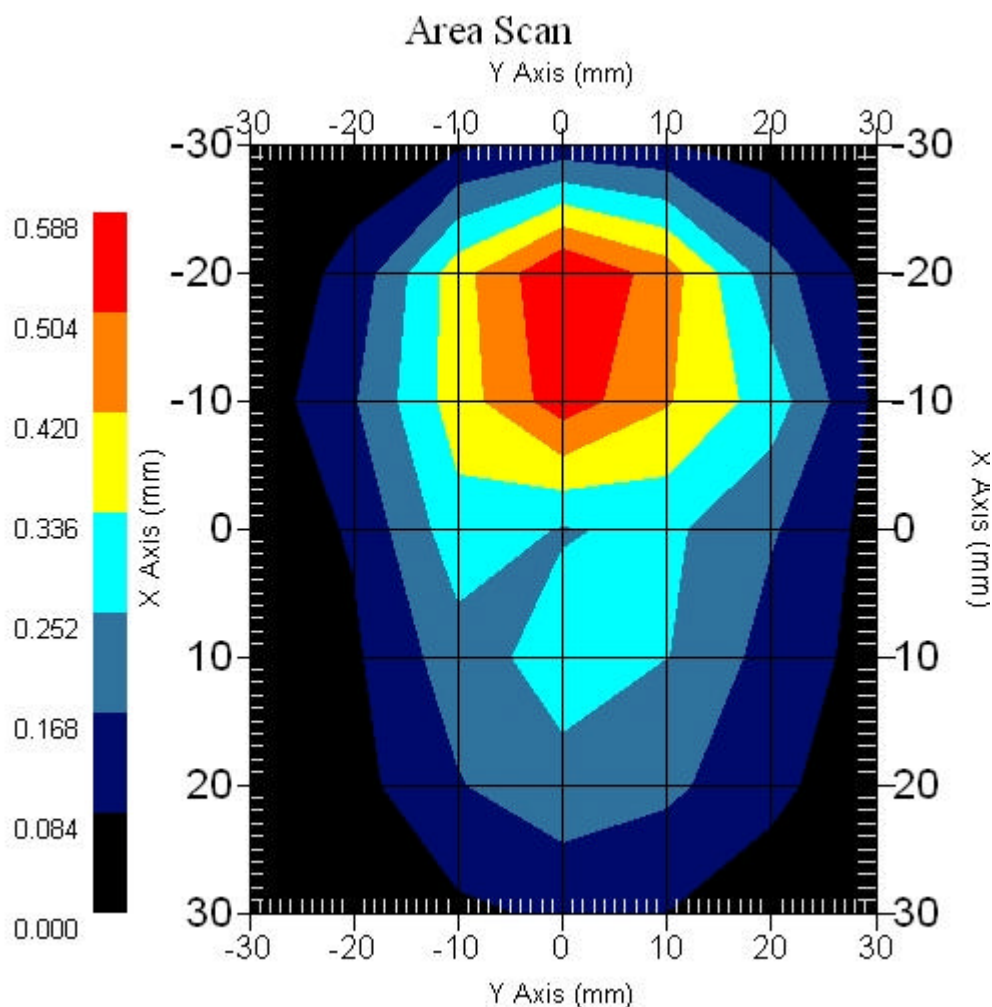
### 3.4 2450 MHz, EUT Position: Bottom

#### Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.270 W/kg  
Power Drift-Finish: 0.264 W/kg  
Power Drift (%) : -2.222



1 gram SAR value : 0.524 W/kg  
10 gram SAR value : 0.241 W/kg  
Area Scan Peak SAR : 0.588 W/kg  
Zoom Scan Peak SAR : 1.120 W/kg

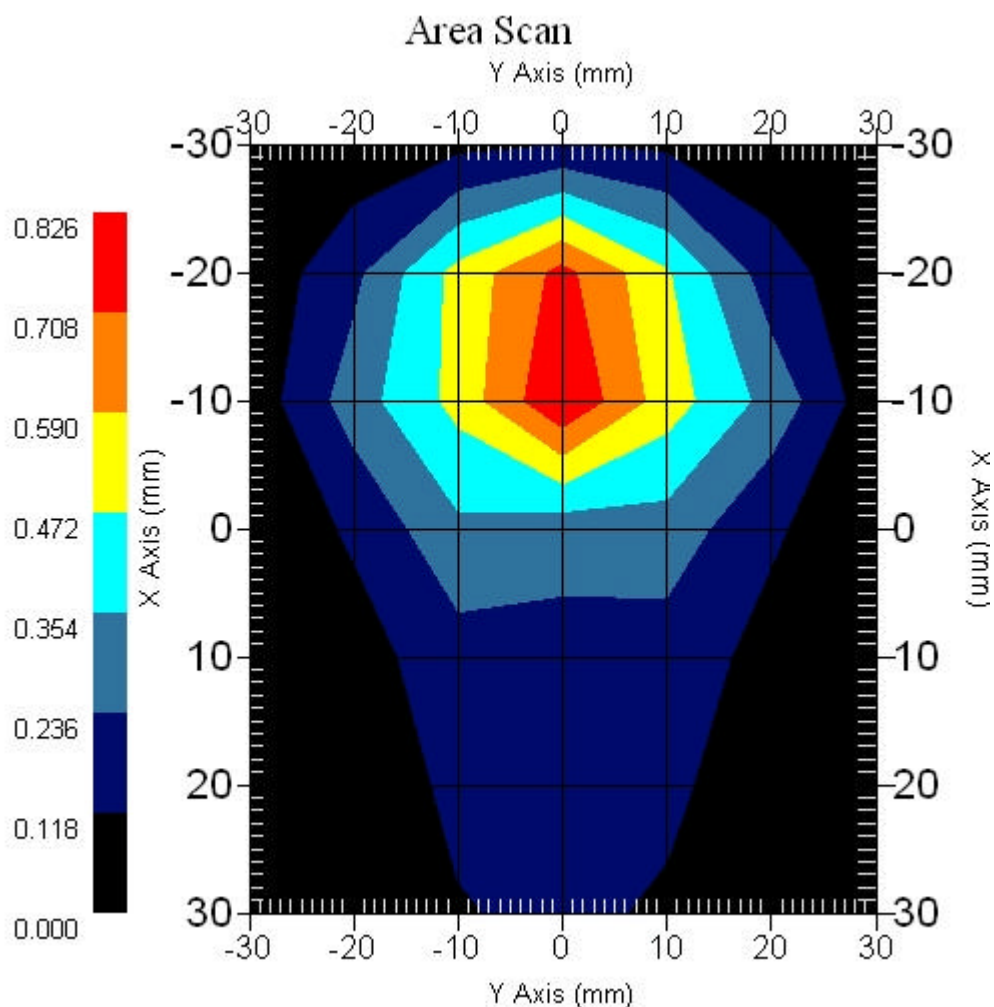
### 3.5 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : High - 2462MHz

Power Drift-Start : 0.288 W/kg  
Power Drift-Finish: 0.277 W/kg  
Power Drift (%) : -3.721



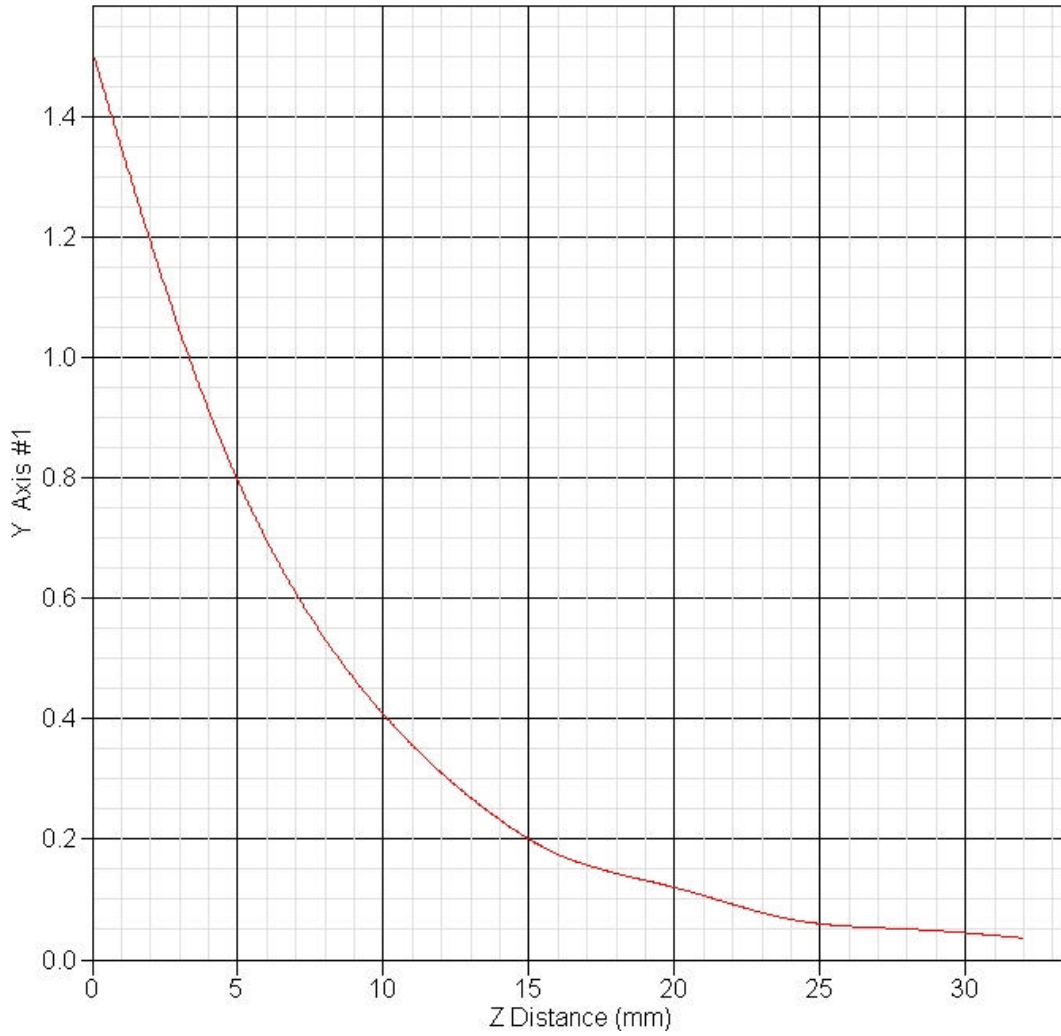
1 gram SAR value : 0.735 W/kg  
10 gram SAR value : 0.319 W/kg  
Area Scan Peak SAR : 0.824 W/kg  
Zoom Scan Peak SAR : 1.511 W/kg

### 3.6 Z-Axis plot

Frequency: 802.11n 20M, 2450 MHz, EUT Bottom

SAR-Z Axis

at Hotspot x:-17.80 y:-0.20



## 4 802.11n 40M SAR measurement Data

### SAR Test Report

Report Date : 08-Dec-2006  
Measurement Date : 08-Dec-2006

#### Product Data

Device Name : WL-160W  
Serial No. : Front  
Type : Other  
Frequency : 2450.00 MHz  
Max. Transmit Pwr : 0.170W  
Drift Time : 0 min(s)  
Length : 80 mm  
Width : 40 mm  
Depth : 10 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. : 2450BODY  
Frequency : 2450.00 MHz  
Last Calib. Date : 08-Dec-2006  
Temperature : 23.10 °C  
Ambient Temp. : 23.50 °C  
Humidity : 50.00 RH%  
Epsilon : 51.02 F/m  
Sigma : 1.97 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 : 2450.00 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 5.02  
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

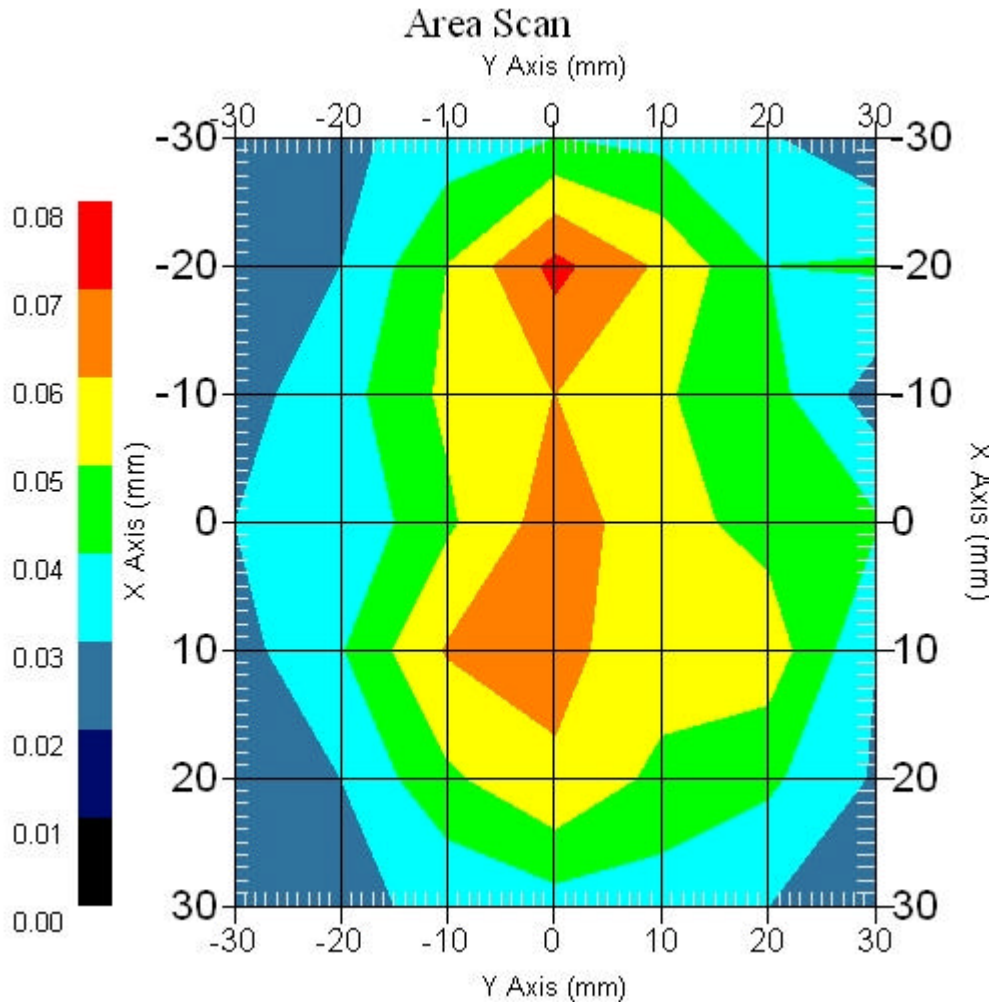
### 4.1 2450 MHz, EUT Position: Front

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.072 W/kg  
Power Drift-Finish: 0.071 W/kg  
Power Drift (%) : -1.388



1 gram SAR value : 0.051 W/kg  
10 gram SAR value : 0.036 W/kg  
Area Scan Peak SAR : 0.073 W/kg  
Zoom Scan Peak SAR : 0.100 W/kg



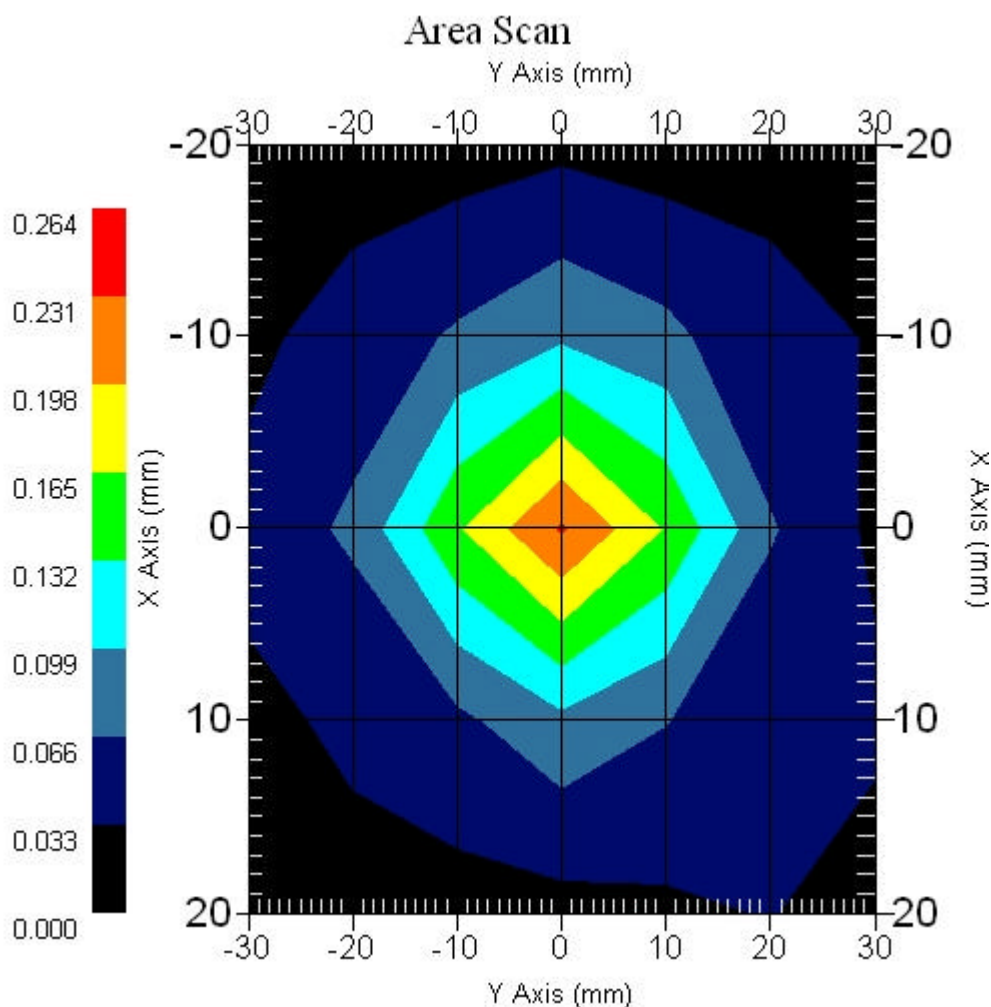
### 4.2 2450 MHz, EUT Position: Top

Measurement Data

Crest Factor : 1  
Area Scan : 5x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.250 W/kg  
Power Drift-Finish: 0.244 W/kg  
Power Drift (%) : -2.597



1 gram SAR value : 0.186 W/kg  
10 gram SAR value : 0.088 W/kg  
Area Scan Peak SAR : 0.234 W/kg  
Zoom Scan Peak SAR : 0.370 W/kg

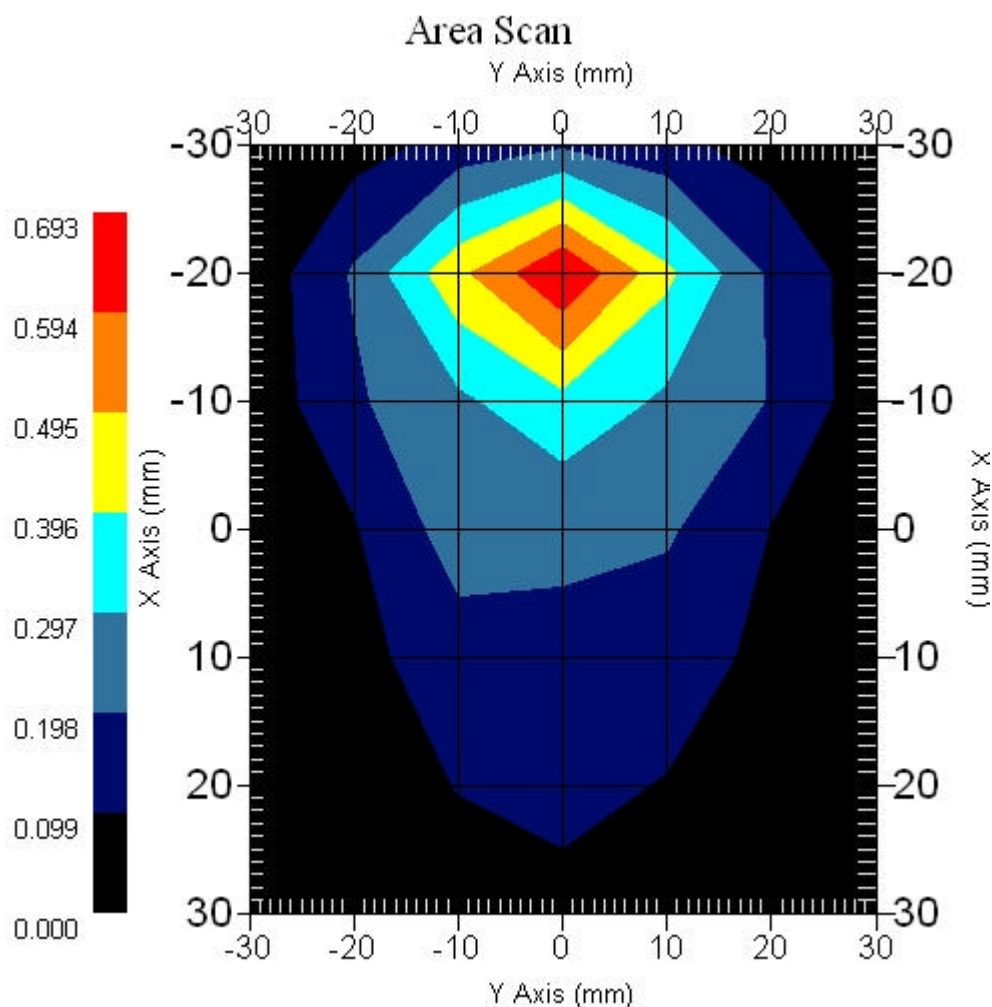
### 4.3 2450 MHz, EUT Position: Bottom

#### Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : High - 2452MHz

Power Drift-Start : 0.229 W/kg  
Power Drift-Finish: 0.221 W/kg  
Power Drift (%) : -3.493



1 gram SAR value : 0.514 W/kg  
10 gram SAR value : 0.229 W/kg  
Area Scan Peak SAR : 0.692 W/kg  
Zoom Scan Peak SAR : 1.090 W/kg

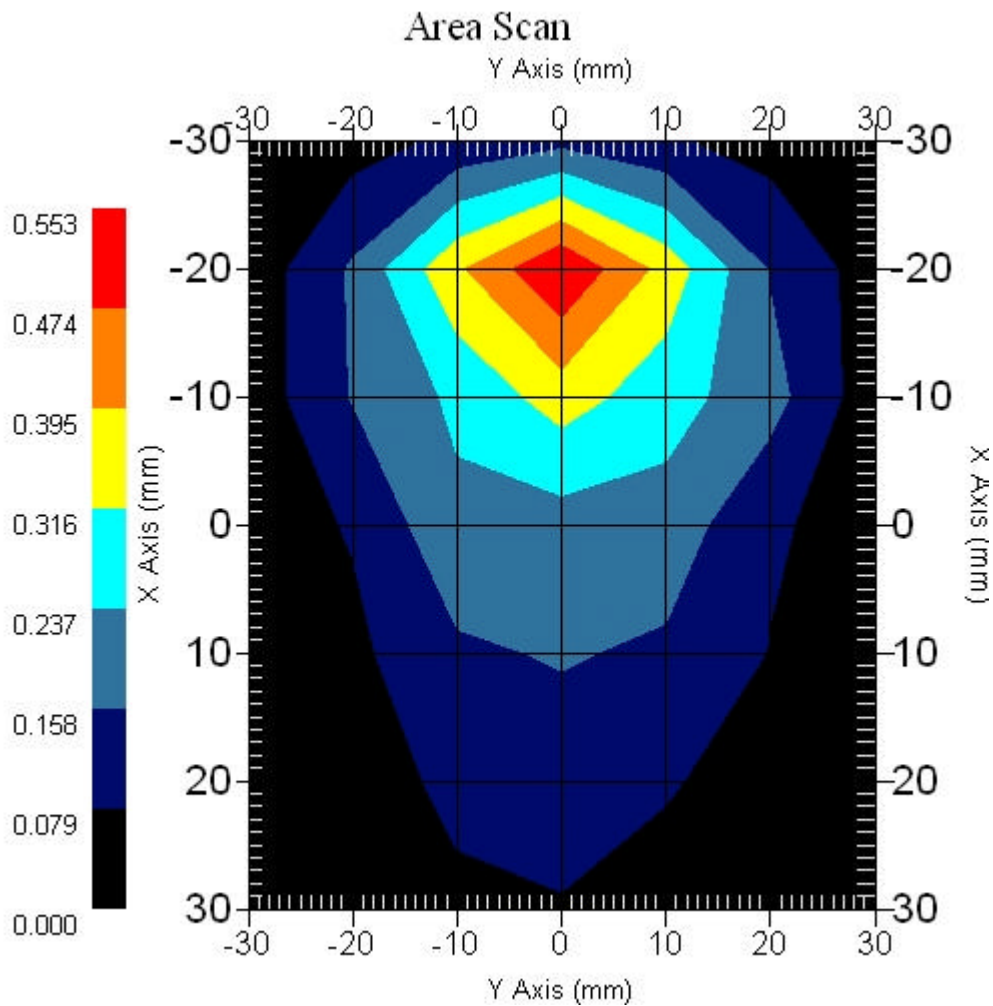
#### 4.4 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Mid - 2437MHz

Power Drift-Start : 0.197 W/kg  
Power Drift-Finish: 0.190 W/kg  
Power Drift (%) : -3.405



1 gram SAR value : 0.436 W/kg  
10 gram SAR value : 0.195 W/kg  
Area Scan Peak SAR : 0.550 W/kg  
Zoom Scan Peak SAR : 0.920 W/kg

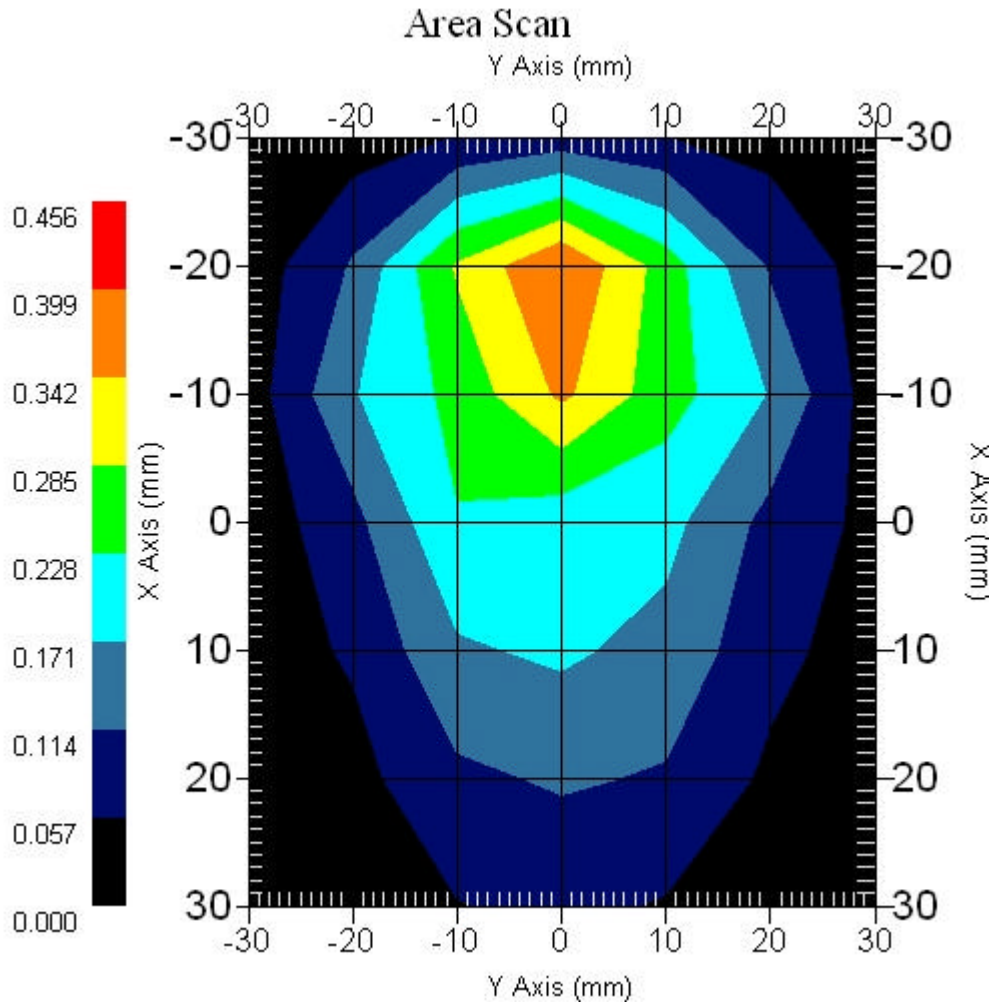
#### 4.5 2450 MHz, EUT Position: Bottom

Measurement Data

Crest Factor : 1  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

DUT Position : Touch  
Channel : Low - 2422MHz

Power Drift-Start : 0.210 W/kg  
Power Drift-Finish: 0.206 W/kg  
Power Drift (%) : -1.904



1 gram SAR value : 0.353 W/kg  
10 gram SAR value : 0.169 W/kg  
Area Scan Peak SAR : 0.400 W/kg  
Zoom Scan Peak SAR : 0.760 W/kg

#### 4.6 Z-Axis plot

Frequency: 802.11n 40M, 2450 MHz, EUT Bottom

SAR-Z Axis

at Hotspot x:-19.70 y:-0.30

